



*RCRA Facility Investigation
Work Plan*

Volume III

**General Motors Corporation
NAO Flint Operations Site
Flint, Michigan**

March 30, 2001

BBL[®]
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Consultants with focus

WORK PLAN

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Volume II

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	- Geologic Cross-Section Mapping
	- Historical Monitoring Well Logs

Volume III

Appendix A	Geologic Cross-Section Mapping and Historical Soil Boring and Monitoring Well Logs
	- Historical Soil Boring Logs

Volume IV

Appendix B	Project Management Plan (PMP)
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Volume V

Appendix C Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP)

Volume VI

Appendix D Data Management Plan (DMP)

Appendix E Health and Safety Plan (HASP)

- Excluding Attachment H (Material Safety Data Sheets)

Volume VII

Appendix E Health and Safety Plan (HASP)

- Attachment H (Material Safety Data Sheets)

Volume VIII

Appendix F Community Relations Plan (CRP)

Appendix G Historical Analytical Results

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Historical Soil Borings Logs

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

02-201

Soil Boring: <small>diag 20-1</small>	
Date: 7/29/96	Project #: F174
Drilling Contractor: YECI	Location: Hamilton & Industrial Ave.
Prepared By: JCW	Twp/Sec.:
Time Started: 8:20	Depth Drilled: 21'
Time Completed:	Hole Diameter: 2"
Length Coring Device: 2'	Coring Device: 2"

Boring Methods		Groundwater Information	
Hollow Stem Auger		GW Encountered at 14'	Fluid Used: None
Hand Auger		Monitor Wells Installed	Driller: Ken
X Geoprobe		Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete			
	GP-1	2		Stone			
		3		Sand	Brown, Moist, Fine/Medium		
		4					ND
		5					ND
	GP-2	6					
		7					2.0
		8					
		9					2.0
		10					
		11					3.0
		12					
		13					3.5
	GP-4	14					
	[X]	15	CL	Silty Clay	Gray, Wet		
		16			Medium/Coarse		>1000
		17			Moist, No Fractures		
		18	SM	Silty Sand			
	GP-5	19			Fine/Medium		220
		20			Wet		
		21					380
	[X]	21	E.O.B.	End of Boring 21'			>1000
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: *02-202* Bldg 25-4 Project: GVA GLOB...
 Date: 7/29/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 9:45 Depth Drilled: 6'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	<input type="checkbox"/>	GW Encountered at
<input type="checkbox"/>	Hand Auger	<input type="checkbox"/>	Monitor Wells Installed
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	CL	Concrete	Brown/Black, Moist, No Fractures	ND	
	GP-1	2		Stone			
		3		Clay			
		4					
		5					
	GP-2	6					
	[X]	6	E.O.B.	End of Boring 6'		25.0	
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) PS - Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Boring: 02-203

Date:	7/29/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	9:45	Depth Drilled:	8'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods		Groundwater Information	
	Hollow Stem Auger	GW Encountered at	Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Ken
X	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	CL	Concrete			
	GP-1			Stone			
		2		Sandy Clay	Brown, Moist, No Fractures, <25% Recovery, Wood Chips		
		3				ND	
		4					
		5			Black		
	GP-2	6			Brown	ND	
		7					
		8			Black, Trace of Gravel	>1000	
	[X]	8				>1000	
		9	E.O.B.	End of Boring 8'			
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: 02-204	Bldg 2S-4	Project:	GMI GLOB...
Date:	7/29/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	12:30	Depth Drilled:	12'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods

Groundwater Information

Hollow Stem Auger

GW Encountered at

Fluid Used: None

Hand Auger

Monitor Wells Installed

Driller: Ken

X

Geoprobe

Yes No

Helper: N/A

Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP'	Concrete	Brown, Moist, Fine/Medium	7.0	
	GP-1	2		Stone			
		3		Sand			
		4					
		5					
	GP-2	6					
		7					
		8					
		9					
	GP-3	10					
		11					
	[X]	12					
		13	E.O.B.	End of Boring 12'(Concrete)		>1000	
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **02-105** Bldg 2S-5 Project: **CRK CED**
 Date: 7/29/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 13:15 Depth Drilled: 21'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	19'
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Concrete			
				Stone			
	GP-1		SP	Sand	Brown, Moist, Fine/Medium		
		2					
		3	CL	Sandy Clay	Brown/Black, No Fractures	ND	
		4					
		5				1.0	
	GP-2		CL	Clay	Brown/Gray, Fractures		
		6				1.5	
		7					
		8					
		9				2.0	
	GP-3						
		10				2.0	
		11					
		12					
		13				220	
	GP-4						
		14				680	
		15					
		16					
		17			2" Sand Lens		
		18	SP	Sand	2" Sand Lens	>1000	
	GP-5				Brown		
		19				>1000	
		20			Wet		
	GP-6				Gray		
		21					
		22	E.O.B.	End of Boring 21'		>1000	
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container



BORING LOG

CLIENT ▶ General Motors CLCD

PROJECT NUMBER ▶ 54079400168

BORING NUMBER ▶ PH-4 (67-120)

SITE LOCATION ▶ 902 East Hamilton Power Plant

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
25		5	1.75	11 10	0.0	Coarse SAND, wet, gray SW Hydropunch sample collected	
		6	1.75	10 18	0.0	Coarse SAND, saturated, gray SW	
30		7	1.75	>40 >40	0.0	Coarse SAND, trace gravel, saturated, gray SW	
						SILT, little sand, moist, gray MH	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors CLCD

PROJECT NUMBER ▶ 54079400168

BORING NUMBER ▶ PH-5 (07-12)

SITE LOCATION ▶ 902 East Hamilton Power Plant

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
25		5	2.00	25 27	0.0	SILT, trace gravel, dry, gray MH	
		6	2.00	22 24	0.0	SILT, trace fine sand, trace gravel, damp, gray MH	
30		7	2.00	> 40 > 40	0.0	SILT, trace fine sand, trace gravel, damp, gray MH	
						END OF BORING	

Water levels: ☐ ATD ☐ "Stabilized"



BORING LOG

CLIENT ▶ General Motors CLCD	PROJECT NUMBER ▶ 54079400168
BORING NUMBER ▶ PH-6 (67-122)	SITE LOCATION ▶ 902 East Hamilton Power Plant
DATE ▶ MAR 16 94	WEATHER ▶ 24 Degrees F Clear
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon\Hydropunch
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 30.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A							
5		1	1.75	10 10		0.0	CLAY, little sand, trace gravel, damp, gray Coal fragments	
10		2	2.00	11 10		0.0	SILT, little fine sand, moist, gray MH	
15		3	2.00	6 5		0.0	SILT, little fine sand, moist, gray MH	
		4	2.00	40 R		0.0	SILT, little fine sand, moist, gray MH Woul not yield hydropunch sample	

Water levels: ☒ ATD ☒ "Stabilized"

Continued Next Page



BORING LOG

CLIENT ▶ General Motors CLCD

PROJECT NUMBER ▶ 54079400168

BORING NUMBER ▶ PH-6 (17-122)

SITE LOCATION ▶ 902 East Hamilton Power Plant

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
							continued from previous page	
25		5	2.00	25 27		0.0	SILT, trace gravel, dry, gray MH	
30		6	2.00	22 24		0.0	SILT, trace fine sand, trace gravel, damp, gray MH	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors CLCD	PROJECT NUMBER ▶ 54079400168
BORING NUMBER ▶ PH-7 (07-123)	SITE LOCATION ▶ 902 East Hamilton Power Plant
DATE ▶ MAR 16 94	WEATHER ▶ 22 Degrees F Clear
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon\Hydropunch
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 17.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A						
5		1	2.00	7 7	0.0	CLAY, little sand, trace gravel, damp, brown CL Coal fragments	
10		2	2.00	11 10	0.0	SILT, little fine sand, damp, brown MH	
15		3	2.00	30 21	0.0	SILT, little fine sand, damp, brown MH	
		4	1.75	47 R	0.0	SILT, little fine sand, damp, brown MH	
						END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors CLCD	PROJECT NUMBER ▶ 54079400168
BORING NUMBER ▶ PH-9 (107-125)	SITE LOCATION ▶ 902 East Hamilton Power Plant
DATE ▶ MAR 16 94	WEATHER ▶ 30 Degrees F Clear
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon\Hydropunch
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	TOTAL DEPTH 15.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A						
5		1	1.75	14 12	0.00	Medium to coarse SAND, trace clay, damp, brown to black SW	
10		2	2.00	10 10	0.00	Fine to medium SAND, some clay, moist, gray SW Hydropunch sample collected	
15		3	2.00	30 R	0.00	CLAY, trace fine sand, damp, gray CL	
						END OF BORING	



BORING LOG

CLIENT ▶ General Motors CLCD	PROJECT NUMBER ▶ 54079400168
BORING NUMBER ▶ PH-10 (07-126)	SITE LOCATION ▶ 902 East Hamilton Power Plant
DATE ▶ MAR 16 94	WEATHER ▶ 30 Degrees F Clear
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon\Hydropunch
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 17.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A						
5		1	2.00	11 11	0.0	CLAY, some sand, trace gravel, damp, brown CL	
10		2	2.00	11 10	0.0	CLAY, little sand, trace gravel, moist, gray CL Brick fragments	
15		3	2.00	9 10	0.0	CLAY, little sand, moist, brown CL CLAY and sand, wet, brown CL Hydropunch sample collected	
		4	2.00	28 R	0.0	CLAY, little sand, moist, brown CL	
						CLAY, little sand, damp, brown CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors CLCD	PROJECT NUMBER ▶ 54079400168
BORING NUMBER ▶ PH-2 (67-141)	SITE LOCATION ▶ 902 East Hamilton Power Plant
DATE ▶ MAR 14 94	WEATHER ▶ 33 Degrees F Cloudy
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon\Hydropunch
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A							
5		1	2.00	7 9		0.0	SILT, little medium sand, trace gravel, damp, gray MH	
10		2	2.00	7 9		0.0	SILT, trace medium sand, wet, gray MH Would not yield hydropunch sample	
		3	2.00	7 7		0.0	Fine to medium SAND, damp to dry, gray SW	
		4	1.75	7 7		0.0	Fine to medium SAND, damp to dry, brown to gray SW	
15		5	1.75	14 20		0.0	Fine to medium SAND, damp, gray SW	
		6	2.00	20 22		0.0	SILT, trace gravel, damp, gray MH	



BORING LOG

CLIENT ▶ General Motors CLCD

PROJECT NUMBER ▶ 54079400168

BORING NUMBER ▶ PH-2 (67-141)

SITE LOCATION ▶ 902 East Hamilton Power Plant

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
25		7	2.00			0.0	SILT, some cobble and gravel, damp, gray MH	
							SILT, little gravel, dry, gray MH	
							END OF BORING	



BORING LOG

CLIENT ▶ General Motors CLCD	PROJECT NUMBER ▶ 54079400168
BORING NUMBER ▶ PH-1 (07-142)	SITE LOCATION ▶ 902 East Hamilton Power Plant
DATE ▶ MAR 14 94	WEATHER ▶ 33 Degrees F Cloudy
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon\Hydropunch
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A							
5		1	1.75	12 14		0.0	CLAY, little sand, moist, gray CL Coal fragments	
10		2	1.75	4 4		0.0	Medium sand, moist, brown SW Hydropunch sample collected	
15		3	2.00	4 10		0.0	SILT, trace gravel, damp, gray MH	
		4	2.00	12 10		0.0	Medium SAND, moist, gray SW	

Water levels: ☒ ATD ☒ "Stabilized"

Continued Next Page



BORING LOG

CLIENT ▶ General Motors CLCD

PROJECT NUMBER ▶ 54079400168

BORING NUMBER ▶ PH-1 (67-142)

SITE LOCATION ▶ 902 East Hamilton Power Plant

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
25		5	2.00	13 11	0.0	SILT, trace gravel, damp, gray	
						END OF BORING	

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Co.
 Driller Roger Christensen

Boring Designation Section 1/TB-2 (20-100)

Start Date 10-23-91 Completed 10-23-91

Ground Surface Elevation: 750.5 feet msl based on a U.S.G.S. datum

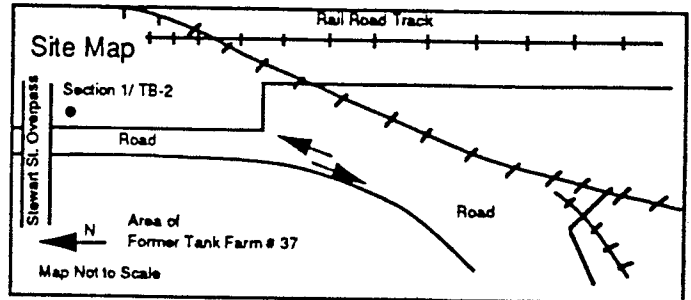
Drilling Method(s) 4 1/2" ID Hollow Stem Auger Depth Range 0 - 15 feet

Ground-Water Data
Groundwater was encountered during drilling at approximately 9.0 feet below ground surface.

Sampling Method(s) 2" O.D. Split-Spoon Depth Range 2.5 feet intervals
 Sampler

General Notes

Monitoring well Section 1/MW-2 installed in borehole with well screen tip at a depth of 12.7 feet.
Refer to Section1/MW-2 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	OVA-Headspace Reading (ppm)	PID-Headspace Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1										
2				3						
3	SS-1	2.5	18	3 3 6	9	0.1	31.9			
4				2						
5	SS-2	5.0	14	1 3	4	0.3	17.4			
6										
7				3						
8	SS-3	7.5	18	6 7	13	0.2	14.5			
9				3					9.0	Very Loose to Loose Light Brown Medium SAND trace gravel, moist
10	SS-4	10.0	18	4 4	8	0.2	140			
11										
12				3						
13	SS-5	12.5	16	4 7	11	8.6	27.1			
14				3						
15	SS-6	15.0	17	4 6	10	8.6	27.1		15.0	Loose to Medium Compact Gray Fine SAND, some silt, wet
										END OF BORING

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer/H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 2/TB-2 (20-101)

Start Date 10/14/91 Completed 10/15/91

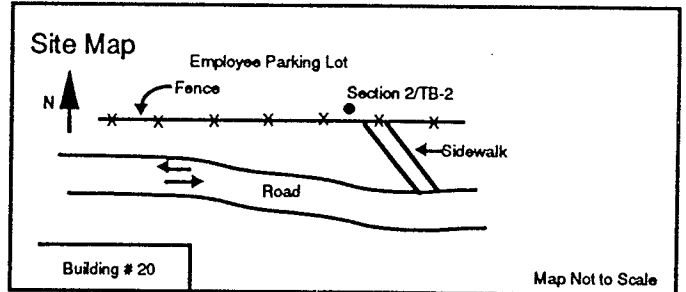
Ground Surface Elevation: 752.6 feet based on a USGS datum

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-25.0 feet

Ground-Water Data
Ground water was encountered during drilling at approximately 10.5 feet below ground surface

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

General Notes
Monitoring Well Section 2/MW-2 installed in borehole with well screen tip at a depth of 20.0 feet.
Refer to Section 2/MW-2 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Subsurface Description
0.0									ASPHALT
1				5					7' Fill: Loose to Medium Compact Dark Brown to black stained SAND and Gravel, some slag, moist
2	SS-1	2.5	18	11	24	ND	1278		
3				13					
4				3					4.0 Medium Stiff Gray to Black (partially stained) SILTY CLAY, moist
5	SS-2	5.0	20	3	7	19	281		
6				4					
7				3	8	1.1	64.1		10.0 Medium Compact Light Gray Fine SILTY SAND, wet
8	SS-3	7.5	12	3					
9				5					
10	SS-4	10.0	10	2	3	9.0	91.4		
11				2					
12				8					
13	SS-5	12.5	12.5	11	24	20	499		
14				13					
15				3					
16	SS-6	15.0		4	10	150	4.0		
17				6			59.6		
18				2					
19	SS-7	17.5	16	4	11	200	587		
20				7					
21				3					
22	SS-8	20.0	20	2	6	12	N/A		
23				4					

Client BOC-Flint Automotive Division

Location Flint, Michigan

Notes _____

Boring Designation Section 2/TB-2 (20-101)

Start Date 10/14/91 Completed 10/15/91

Ground Surface Elevation: 752.6 feet based on a USGS datum

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
21										
22	SS-9	22.5	24	3 4 6	10	5	50		21.0	Medium Compact Light Gray Fine SILTY SAND, wet
23										
24				4 4					22.0	Stiff Light Gray SILTY CLAY, moist
25	SS-10	25.0		5	9					
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
END OF BORING AT 25.0 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Co.
 Driller Roger Christensen

Boring Designation Section 2 / TB -3 (20-102)

Start Date 10/23/91 Completed 10/23/91

Ground Surface Elevation: 752.3 feet msl based on a U.S.G.S. datum

Drilling Method(s) 4 1/2" ID Hollow Stem Auger Depth Range 0-15.0 feet

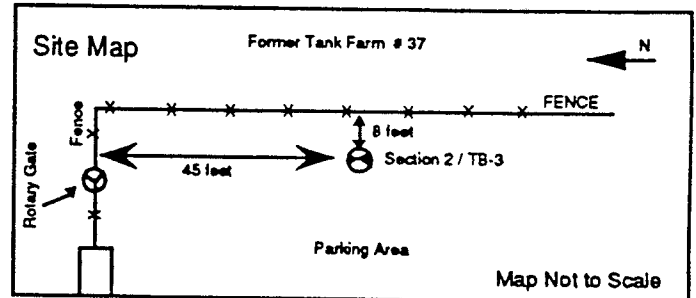
Ground-Water Data
Ground water was encountered during drilling at a depth of approximately 10.5 feet below ground surface.

Sampling Method(s) 2" OD. Split-Spoon Sampler Depth Range 2.5 feet intervals

General Notes

Monitoring well Section 2/MW-3 installed in borehole with well screen tip at a depth of 15.0 feet.

Refer to Section 2/MW-3 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	OVA-Headspace Reading (ppm)	PID-Headspace Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1									3'	ASPHALT
2	SS-1	2.5	18	3 5 8	13	18	107		3.5	Fill: Medium Gray Fine to Medium SAND, little coal, slag, trace silt and clay
4	SS-2	5.0	14	1 2 3	5	2.0	101		5.0	Medium Light Brown SILTY CLAY, moist
7	SS-3	7.5	12	11 7 6	13	1.5	280			
10	SS-4	10.0	17	3 3 3	6	8.0	34.4			
12	SS-5	12.5	16	4 6 8	15	480	32		13.5	Loose to Medium Compact Gray Fine to Medium SAND, heavy staining, wet
15	SS-6	15.0	18	3 3 3	6	3.0	35.9		15.0	Loose Gray to Black SILT, stained, odoriferous, wet
										END OF BORING

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Co.
 Driller Roger Christensen

Boring Designation Section 12 / TB-4 (20-103)

Start Date 10/24/91 Completed 10/25/91

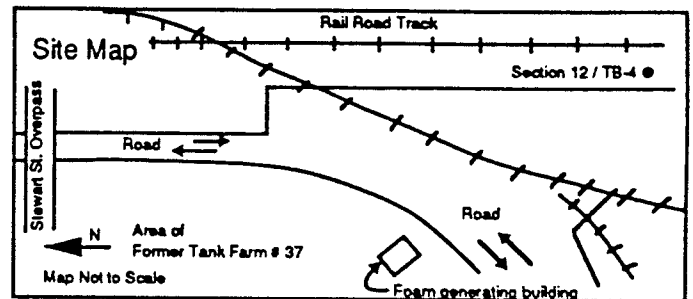
Drilling Method(s) 4 1/2" ID Hollow Stem Auger Depth Range 0-15.0 feet

Ground Surface Elevation: 752.6 feet msl based on a U.S.G.S. datum

Sampling Method(s) 2" OD. Split-Spoon Sampler Depth Range 2.5 feet intervals

Ground-Water Data
Groundwater was encountered during drilling at a depth of approximately 10.5 feet below ground surface.

General Notes
Monitoring well Section 12/MW-4 installed in borehole with well screen tip at a depth of 15.5 feet.
Refer to Section 12/MW-4 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	OVA - Headspace Reading (ppm)	PID-Headspace Reading (ppm)	Graphic Log	Subsurface Description
1									
2									
3	SS-1	2.5	6	4	10	0.7	--	•••••	3.5 Fill: Loose SAND and GRAVEL
4								▨	
5	SS-2	5.0	4	6	10	0.3	--	▨	5.0 Loose Brown SILT, some clay, little fine sand, moist
6									
7									
8	SS-3	7.5	13	4	9	0.3	--	•••••	
9									
10	SS-4	10.0	18	4	13	0.3	--	•••••	
11									
12								⊥	
13	SS-5	12.5	18	5	17	0.4	--	•••••	13.0 Medium Compact Light Brown Fine to Medium SAND, some iron staining, wet
14								▨	
15	SS-6	15.0	18	5	10	0.2	--	•••••	15.5 Stiff Gray SILT, little fine sand, wet
									END OF BORING

Figure A6

Client BOC-Flint Automotive Division - Tank Farm 37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller R. Christensen
 Contractor Stearns Drilling Company

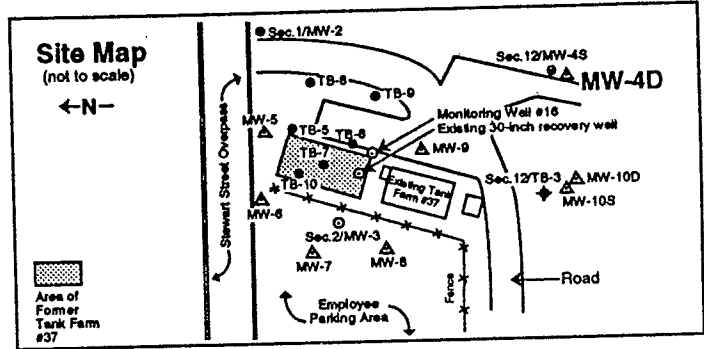
Boring Designation MW-4D (20-103S)
 Start Date 7-21-92 Completed 7-21-92
 Ground Surface Elevation: 752.5 feet msl
 Ground-Water Data
 Ground water encountered at 12.5 feet during drilling.

Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 20.0 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 18.0 - 20.0 feet

Grouting Material/Method
 Monitoring Well MW-4D installed in borehole with well screen tip at 19.3 feet.

General Notes
 No soil sample submitted for laboratory analysis.
 Soil descriptions from 0 to 15.5 feet taken from the Log of Boring, Sec. 12/TB-4. Profile drilling to 15.5 feet. No samples taken.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1							[Pattern]	0.5	GRAVEL (railroad bed) FILL: Loose SAND AND GRAVEL, dry
2							[Pattern]	3.5	Loose Brown SILT, some clay, little fine sand, moist
3							[Pattern]	5.0	Medium Compact Light Brown FINE TO MEDIUM SAND, some iron staining, moist
4							[Pattern]	12.5	Wet
5							[Pattern]	15.5	Stiff Gray SILT, little fine sand, wet
6							[Pattern]	19.5	Medium Gray CLAY, moist
7							[Pattern]	20.0	END OF BORING AT 20.0 FEET
8							[Pattern]		
9							[Pattern]		
10							[Pattern]		
11							[Pattern]		
12							[Pattern]		
13							[Pattern]		
14							[Pattern]		
15							[Pattern]		
16							[Pattern]		
17							[Pattern]		
18							[Pattern]		
19							[Pattern]		
20	SS-1	20.0	24	2 3 3 4	6	0	[Pattern]		

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 11/TB-1 (20-104)

Start Date 10/10/91 Completed 10/10/91

Ground Surface Elevation: 750.9 feet based on a U.S.G.S. datum

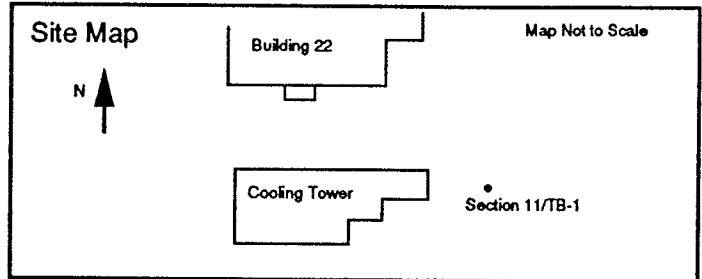
Ground-Water Data
Ground water was encountered during drilling at approximately 9.5 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-20.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 11/MW-1 installed in borehole with well screen tip at a depth of 12.5 feet.
Refer to Section 11/MW-1 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1									0.0	Fill: Loose Dark Brown SAND and SILTY CLAY, some gravel, some staining, dry
2	SS-1	2.5	18	3	7	3.0	5.0			
3				4						
4				3						
5	SS-2	5.0	16	2	2	1.2	4.1			
6				1						
7				4						
8	SS-3	7.5	16	3	7	0.5	5.3			
9				4						
10	SS-4	10.0	18	4	9	0.4	8.1		8.0	Loose Brown Fine to Medium SAND, little silt, preferential iron staining, wet
11				5						
12	SS-5	12.5	18	3	4	2.0	3.9			
13				2						
14				3						
15	SS-6	15.0	18	4	6	1.0	8.6		14.5	Medium Compact Gray Fine to Medium SAND, wet
16				2						
17	SS-7	17.5	18	3	16	7.5	22.2			
18				7						
19				9						
20	SS-8	20.0	18	4	5	20	4.7		19.0	Medium Gray SILTY CLAY, moist
				3						
				2						
END OF BORING AT 20.0 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 4/TB-3^{MW} (20-120)
 Start Date 10/16/91 Completed 10/16/91

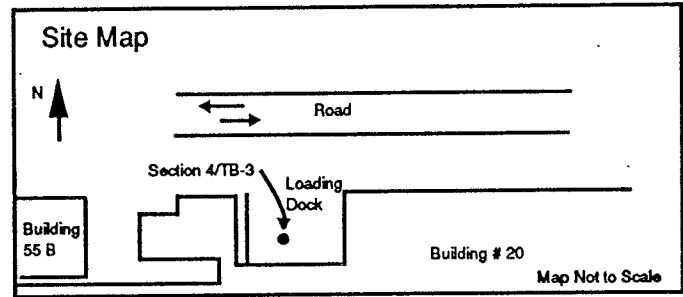
Ground Surface Elevation: 750.5 feet based on a USGS datum

Ground-Water Data
Ground water was encountered during drilling at approximately 7.5 feet below ground surface.

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 4/MW-3 installed in borehole with well screen tip at a depth of 12 feet.
Refer to Section 4/MW-3 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
0									0.0	Concrete
1									6"	Fill: Loose Black Stained Fine to Medium SAND
2	SS-1	2.5	18	4	14	0.3	96.6		2.0	Loose to Medium Compact Light Brown Fine to Medium SAND, trace gravel, some iron, light staining, wet
3				4						
4	SS-2	5.0	16	3	8	1.2	88.5			
5				5						
6				3						
7	SS-3	7.5	14	4	13	2.5	68.0			13.0 Medium to Stiff, Gray SILTY CLAY, wet
8				6						
9	SS-4	10.0	18	2	11	0.5	92.5			
10				5						
11				6						
12	SS-5	12.5	16	4	12	80	61.5			
13				5						
14				7						
15	SS-6	15	18	3	5	60	65.9			
16				3						
17				3						
18				3						
19				3						
20				3						
										END OF BORING AT 15.0 FEET

Log of Boring

Project No. 83106.01

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 6/TB-1^{MW} (20-121)
 Start Date 9/26/91 Completed 9/26/91

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-27.5 feet

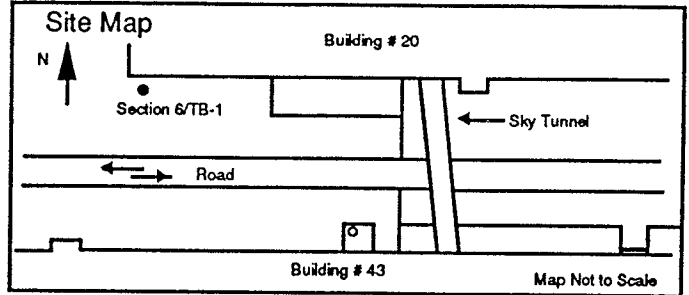
Ground Surface Elevation: 754.0 feet based on a USGS datum

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Ground-Water Data
Ground water was encountered during drilling at approximately 10.0 feet below ground surface.

General Notes

Monitoring well Section 6/MW-1 installed in borehole with well screen tip at a depth of 16.0 feet.
Refer to Section 6/MW-1 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1									0.0	Fill: Loose to Medium Compact Lightly Stained, Light Brown Medium SAND, some clay, trace gravel, trace slag, moist
2	SS-1	2.5	12			13	45			
3										
4				2 6						
5	SS-2	5.0	24	5	11	6	8			
6										
7				2 6					6.0	Loose to Medium Compact Light Brown Medium SAND, little silt, wet
8	SS-3	7.5	18	10	16	1	3			
9				3 3						
10	SS-4	10.0	15	4	7	12	7			
11										
12				5 6						
13	SS-5	12.5	18	6	12	95	3			
14				2 4						
15	SS-6	15.0	16	6	10	30	2			
16										
17				3 4						
18	SS-7	17.5	17	4	8	3	10			
19				3 4						
20	SS-8	20.0	26	7	11	2	5		19.5	Medium Compact Light Gray Very Fine SILTY SAND, wet

Client BOC-Flint Automotive Division

Location Flint, Michigan

Notes _____

Boring Designation Section 6/TB-1 (20-121)

Start Date 9/26/91 Completed 9/26/91

Ground Surface Elevation: 754.0 feet based on a USGS datum

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
21										
22	SS-9	22.5	28	7 11 18	29	-	3			Medium Compact Light Gray Very Fine SILTY SAND, wet
23									22.5	Stiff Gray SILTY CLAY, some sand, moist
24										
25	SS-10	25.0	20	2 4 7	11	-	3			
26										
27										
28	SS-11	27.5	22	3 4 6	10	-	4			
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
END OF BORING AT 27.5 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 6/TB-4 (20-122)

Start Date 10/1/91 Completed 10/1/91

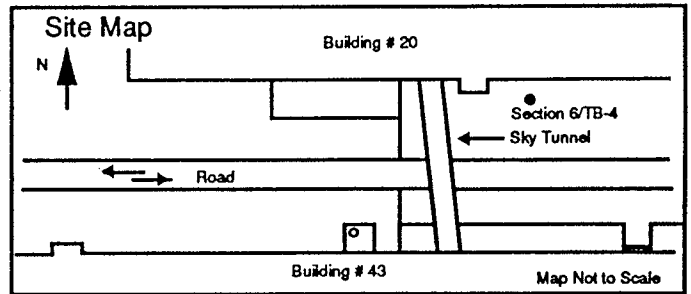
Ground Surface Elevation: 753.6 feet based on a USGS datum

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-25.0 feet

Ground-Water Data
Ground water was encountered during drilling at approximately 12 feet below ground surface.

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

General Notes
Monitoring well Section 6/MW-4 installed in borehole with well screen tip at a depth of 16.5 feet.
Refer to Section 6/MW-4 "Log of Well Installation" for Well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1				5					0.0	Asphalt and Concrete
2	SS-1	2.5	18	3	6	10.7	0.8	.....	1.0	Fill: Very Loose to Medium Compact Brown to Black Stained Medium SAND, moist
3				2				.....	
4	SS-2	5.0	18	10	12	18.8	9.0	.....	
5				6				.....	
6				9				.....	
7	SS-3	7.5	18	11	20	7.5	100	////	6.0	Very Loose to Medium Compact Gray to Brown Fine to Medium SILTY SAND, wet
8				3				////		
9	SS-4	10.0	16	7	11	15	20	////		
10				4				////		
11				5				////		
12	SS-5	12.5	13	9	16	1.2	110	////		
13				7				////		
14	SS-6	15.0	18	4	8	7.1	1000	////		
15				4				////		
16				1				////		
17	SS-7	17.5	18	2	3	26	750	////		
18				1				////		
19				3				////		
20	SS-8	20.0	16	10	18	4.8	290	////		

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 7/TB-3 (20-140)
 Start Date 10/2/91 Completed 10/3/91

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-22.5 feet

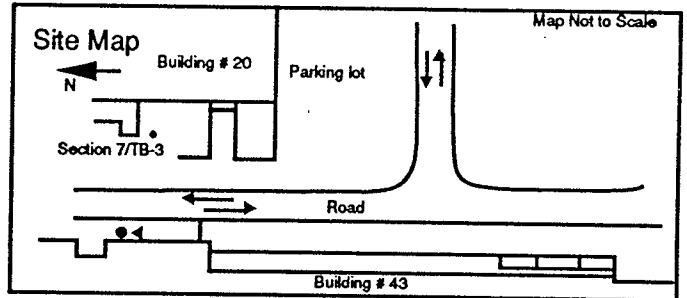
Ground Surface Elevation: 752.8 feet based on a USGS datum

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Ground-Water Data
Ground water was encountered during drilling at approximately 12.5 feet below ground surface.

General Notes

Monitoring well Section 7/MW-3 installed in borehole with well screen tip at a depth of 15.0 feet.
Refer to Section 7/MW-3 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1									0.0	ASPHALT
2	SS-1	2.5	14	5 6 8	14	1.0	6.3	.....	3"	Loose to Medium Compact Light Brown Very Fine to Fine SAND, wet
3								.....	
4								.....	
5	SS-2	5.0	14	3 5 8	13	ND	6.4	.....	
6								.....	
7								.....	
8	SS-3	7.5	16	3 4 4	8	0.6	16.0	.....	
9								.....	
10	SS-4	10.0	12	2 1 2	3	ND	14.0	.....	
11								.....	
12								.....	
13	SS-5	12.5	14	4 4 8	12	25	4.0	.....	
14								.....	
15	SS-6	15.0	12	4 6 7	13	14	5.1	.....	15.0	Medium Compact Brown to Gray Medium to Coarse SAND, wet
16								.....	
17	SS-7	17.5	18	3 5 11	16	6	1.4	.....	
18								.....	
19								.....	
20	SS-8	20.0	24	3 4 7	11	4	1.2	.....	

Client BOC-Flint Automotive Division

Location Flint, Michigan

Notes _____

Boring Designation Section 7/TB-3 (20-140)

Start Date 10/2/91 Completed 10/3/91

Ground Surface Elevation: 752.8 feet based on a USGS datum

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
21										Medium Compact Brown to Gray Medium to Coarse SAND, wet
22	SS-9	22.5	24	3 5 6	11			///	21.3	Stiff Gray SILTY CLAY, moist
23										END OF BORING AT 22.5 FEET
24										
25										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										

Figure

Log of Boring

Client BOC-Flint Automotive Division

Location Flint, Michigan

Logged By D. Kanzer

Contractor Stearns Drilling Company

Driller R. Christensen

Drilling Method(s) 4 1/2 inch I.D. Hollow-Stem Auger Depth Range 0-20.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Depth Range 2.5 foot Intervals

General Notes

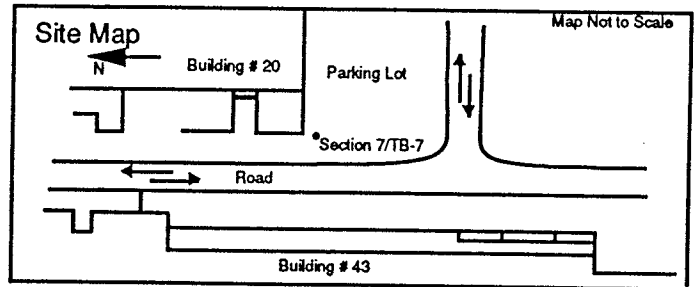
Monitoring well Section 7/MW-7 installed in borehole with well screen tip at a depth of 14.4 feet.
Refer to Section 7/MW-7 "Log of Well Installation" for well construction details.

Boring Designation Section 7/TB-7 (20-141)

Start Date 10/10/91 Completed 10/10/91

Ground Surface Elevation: 750.2 feet based on a USGS datum

Ground-Water Data
Ground water was encountered during drilling at approximately 9.5 feet below ground surface



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1									0.0	Asphalt and Concrete
2				2					0.8	Medium Orange to Brown SILTY CLAY, moist
3	SS-1	2.5	14	3	5	ND	5.0			
4				2						5.0 Loose Orange to Brown Fine to Medium SILTY SAND, wet
5	SS-2	5.0	16	3	5	5	4.1			
6				3						18.5 Medium Stiff Gray SILTY CLAY, moist
7	SS-3	7.5	18	4	7	ND	2.1			
8				4						END OF BORING AT 20.0 FEET
9	SS-4	10.0	18	6	10	ND	ND			
10				3						
11				4						
12	SS-5	12.5	20	5	9	90	ND			
13				3						
14	SS-6	15.0	24	5	9	240	ND			
15				4						
16				5						
17	SS-7	17.5	24	8	13	50	ND			
18				2						
19	SS-8	20.0	24	3	5	25	5.4			
20				2						

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Sterms Drilling Company
 Driller R. Christensen

Boring Designation Section 7/7B-9^{MW} (20-142)
 Start Date 10/18/91 Completed 10/18/91

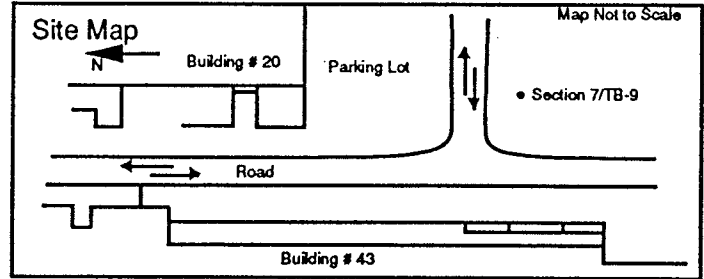
Ground Surface Elevation: 749.6 feet based on a USGS datum

Ground-Water Data
Ground water was encountered during drilling at approximately 7.5 feet below ground surface

Drilling Method(s) 4 1/2 inch I.D. Hollow-Stem Auger Depth Range 0-20.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes
Monitoring well Section 7/MW-9 installed in borehole with well screen tip at a depth of 13.5 feet.
Refer to Section 7/MW-9 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
0.0								0.0	Concrete
1.0							||||	1.0	Fill: Loose Light Brown Sandy SILT and CLAY
2.5	SS-1	2.5	12	3 4 4	8	0.4	||||	2.5	Loose Orange to Light Brown Fine to Medium SAND, little silt, wet
5.0	SS-2	5.0	18	4 6 9	15	ND	.....	
7.5	SS-3	7.5	18	3 3 4	7	ND	.....	7.5	▼ =
10.0	SS-4	10.0	16	3 3 3	6	6.2	.....	
12.5	SS-5	12.5	20	9 7 6	13	200	.....	
15.0	SS-6	15.0	20	3 4 6	10	20	.....	
16.0				3 4 4			||||	16.0	Loose Light Brown Medium SILTY SAND, trace clay, wet
17.5	SS-7	17.5	24		8	4.0	||||	17.5	Stiff, Gray SILTY CLAY, moist
20.0	SS-8	20.0	24	4 5 6	11	0.4	||||		
									END OF BORING AT 20.0 FEET

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 7/TB-6 ^{MW} (20-143)

Start Date 10/4/91 Completed 10/4/91

Ground Surface Elevation: 750.6 feet based on a USGS datum

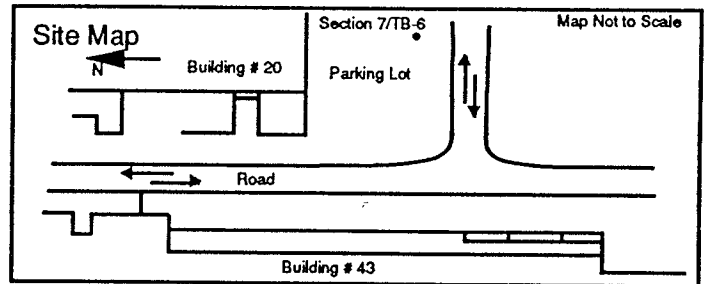
Ground-Water Data
Ground water was encountered during drilling at approximately 9.5 feet below ground surface

Drilling Method(s) 4 1/2 inch I.D. Hollow-Stem Auger Depth Range 0-20.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 7/MW-6 installed in borehole with well screen tip at a depth of 13.0 feet.
Refer to Section 7/MW-6 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1									0.0	Asphalt
2	SS-1	2.5	16	5 7 6	13	2.0	15.5	Diagonal lines	3"	Fill: Medium Compact Brown Fine SILTY SAND, trace gravel
3									2.5	Loose to Medium Compact Medium SAND, wet
4										
5	SS-2	5.0	18	3 3 3	6	0.4	4.2	Dotted pattern		
6										
7										
8	SS-3	7.5	18	3 4 7	11	0.2	4.9	Dotted pattern		
9										
10	SS-4	10.0	14	1 2 4	6	0.1	3.9	Dotted pattern		
11										
12										
13	SS-5	12.5	16	8 9 12	21	0.2	4.4	Dotted pattern		
14										
15	SS-6	15.0	18	2 3 5	8	150	4.6	Dotted pattern		
16										
17										
18	SS-7	17.5	6	2 4 8	12	50	6.3	Dotted pattern		
19										
20	SS-8	20.0	18	1 1 2	3	2.0	5.3	Diagonal lines	18.5	Soft Gray SILTY CLAY, moist
										END OF BORING AT 20.0 FEET

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 8/TB-2 (20-145)
 Start Date 10/8/91 Completed 10/8/91

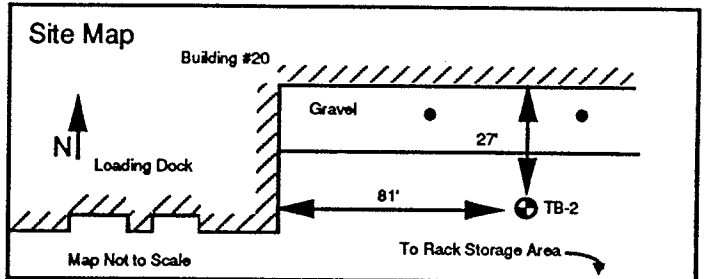
Ground Surface Elevation: 750.4 feet based on a U.S.G.S. datum

Ground-Water Data
Ground water was encountered during drilling at approximately 9.5 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-15.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes
Monitoring well Section 8/TB-2 installed in borehole with well screen tip at a depth of 13.5 feet.
Refer to Section 8/MW-2 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				7				0.0	Fill: Brown Medium to Fine SAND, some organics, silt, some oil and iron staining, little gravel, iron slag, wood chips, moist 9.0 Medium Compact Gray Medium to Fine SAND, some silt, some staining, wet
2	SS-1	2.5	18	9 11	20	50	30	.....	
3								.....	
4				15 9				.....	
5	SS-2	5.0	14	11	20	10	ND	.....	
6				7				.....	
7	SS-3	7.5	12	6 4	10	1.2	ND	.....	
8								.....	
9				17 6				.....	
10	SS-4	10.0	16	7	13	600 70	ND 1.5	.....	
11								.....	
12	SS-5	12.5	18	6 3 8	11	320 >1000	ND ND	.....	
13								.....	
14				3 4				.....	
15	SS-6	15.0	18	7	11	1.2 2	ND ND	.....	
16								END OF BORING AT 15.0 FEET	
17									
18									
19									
20									



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13 A2 (20-1478)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 8 93	WEATHER ▶ Cloudy, Cold
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 21.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						ASPHALT	
5		1	2.0	6 7		0	Fine SAND, little silt, medium dense, damp, tan SW	
10		2	2.0	1 1		0	Fine SAND, little silt, wet, very loose, tan, SW	
15		3	2.0	4 4		0	Fine SAND, little silt, loose, saturated, tan SW	
20		4	2.0	4 4		0	CLAY, some silt, medium, damp to moist, gray CL	
							END OF BORING	

Water levels: ☐ ATD ☒ "Stabilized"

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanian
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 9/TB-2 (20-161)
 Start Date 10/15/91 Completed 10/15/91

Ground Surface Elevation: 751.9 feet based on a U.S.G.S. datum

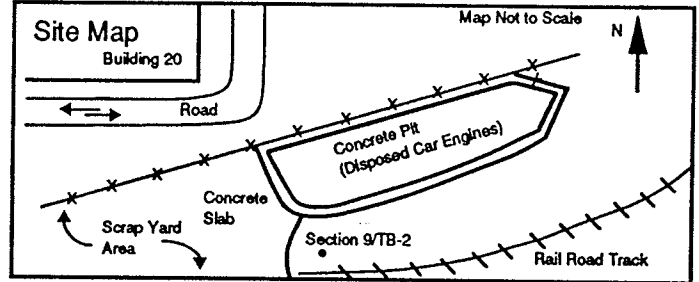
Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-20.0 feet

Ground-Water Data
Ground water was encountered during drilling at approximately 15.4 feet below ground surface.

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 9/MW-2 installed in borehole with well screen tip at a depth of 19.0 feet.
Refer to Section 9/MW-2 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
0									0.0	Fill: Loose Stained Dark Brown CLAYEY SILT, (unidentified fibrous substance in SS-1 and SS-2), some wood and other debris, moist
2.5	SS-1	2.5	3	6 6 3	9	2.0	19.9	[Hatched Pattern]		
5.0	SS-2	5.0	15	2 1 3	4	30	145	[Hatched Pattern]		
7.5	SS-3	7.5	10	6 5 6	11	25 9	246	[Hatched Pattern]		
10.0	SS-4	10.0		11 17 19	36	15	14.0	[Hatched Pattern]		
12.5	SS-5	12.5		4 3 6	9	2.0	66.9	[Hatched Pattern]		
15.0	SS-6	15.0		3 5 7	12	55		[Dotted Pattern]	12.5	Medium Compact Light Brown Fine SILTY SAND, wet
17.5	SS-7	17.5	25	3 6 8	14	2.0		[Dotted Pattern]		
19.0				1 2 3	5	ND		[Hatched Pattern]	18.0	Stiff Gray SILTY CLAY, moist
20.0	SS-8	20.0						[Hatched Pattern]		
END OF BORING AT 20.0 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 9/TB-1^{MW} (20-171)

Start Date 10/8/91 Completed 10/8/91

Ground Surface Elevation: 748.2 feet based on a U.S.G.S. datum

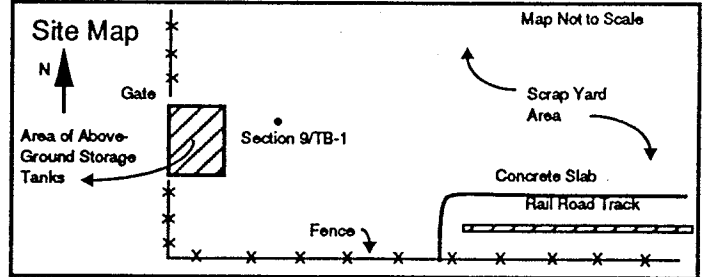
Ground-Water Data
Ground water was encountered during drilling at approximately 8.5 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-15.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 9/MW-1 installed in borehole with sell screen tip at a depth of 14.0 feet.
Refer to Section 9/MW-1 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1									0.0	Fill: Loose Black Medium SAND, some iron slag, little debris, moist
2	SS-1	2.5	10	3 4 5	9	3	3.4			
3										
4										
5	SS-2	5.0	6	3 3	5	ND	3.5			
6										
7	SS-3	7.5	2	2 2	4	12	ND			
8										
9										
10	SS-4	10.0	12	3 3	6	120	ND		8.5	Medium Compact Gray Medium SAND, slightly stained, wet
11										
12	SS-5	12.5	0	4 20	29	-	-			
13										
14										
15	SS-6	15.0	24	3 4 6	10	ND	ND		12.0	Stiff Gray SILTY CLAY, moist
6										
7										
8										
9										
0										
END OF BORING AT 15.0 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Stearns Drilling Co.
 Driller Roger Christensen

Boring Designation Section 1/TB-1 (20-200)

Start Date 10/23/91 Completed 10/23/91

Ground Surface Elevation: 751.1 feet msl based on a U.S.G.S. datum

Drilling Method(s) 4 1/2" ID Hollow Stem Auger Depth Range 0-15.0 feet

Ground-Water Data
Ground water was encountered during drilling at approximately 9.0 feet below ground surface.

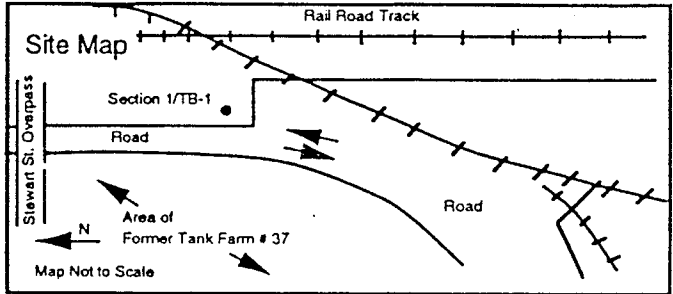
Sampling Method(s) 2" OD. Split-Spoon Depth Range 2.5 feet intervals

Sampler _____

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0 - 15 feet

pressure pumped from bottom of borehole to surface.

General Notes
No monitoring well was installed at this test boring location



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	OVA-Headspace Reading (ppm)	PID-Headspace Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1								•••	3'	Crushed Stone GRAVEL
2	SS-1	2.5	18	3 3 3	6	42	119	||||	2.5	Fill: Medium to Stiff Light Brown to Gray SILTY CLAY, trace gravel
3								•••		
4								•••		
5	SS-2	5.0	14	2 3 5	8	ND	108	•••		
6								•••		
7								•••		
8	SS-3	7.5	20	5 5 6	11	ND	180	•••	7.5	Loose Orange to Brown Medium SAND, trace silt, moist
9								•••		
10	SS-4	10.0	18	2 4 5	9	ND	N/A	•••		
11								•••		
12								•••		
13	SS-5	12.5	18	4 5 7	12	5	N/A	•••		
14								•••		
15	SS-6	15.0	16	3 3 5	8	ND	N/A	||||	14.0	Medium Compact Brown to Gray Medium SAND, trace silt, occasional black stained layers, wet
								||||	15.0	Medium Gray CLAYEY SILT, wet
										END OF BORING

Figure A1

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 12/TB-1 (20-262)
 Start Date 10/10/91 Completed 10/10/91

Ground Surface Elevation: 751.4 feet based on a U.S.G.S. datum

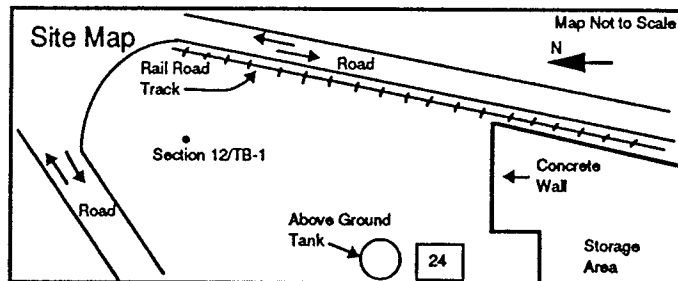
Ground-Water Data
Ground water was encountered during drilling at approximately 10.5 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-20.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0.0-20.0 feet

General Notes
No Monitoring Well was installed at this test boring location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1									0.0	Fill: Medium Compact Gray Medium to Fine SAND, coal chips, some silt, staining, moist
2	SS-1	2.5	12	3 4 7	11	3.0	5.0			
3										
4										
5	SS-2	5.0	18	2 3 5	8	1.2	4.1		4.5	Loose to Medium Compact Light Brown Fine to Medium SAND, little silt, some staining, wet
6										
7	SS-3	7.5	16	4 5 8	13	0.5	5.3			
8										
9										
10	SS-4	10.0	18	5 6 5	11	0.4	8.1			
11										
12	SS-5	12.5	16	4 6 7	13	2.0	3.9			
13									12.0	Medium Stiff Gray Fine SILTY SAND, wet
14										
15	SS-6	15.0	18	2 3 2	5	1.0	8.6			
16										
17	SS-7	17.5	18	3 3 4	7	7.5	22.2			
18										
19										
20	SS-8	20.0	18	2 2 2	4	20	4.7		19.5	Soft Gray SILTY CLAY, moist
END OF BORING AT 20.0 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 3/TB-1 (20-204)
 Start Date 9/20/91 Completed 9/20/91

Ground Surface Elevation: 751.1 feet based on a USGS datum

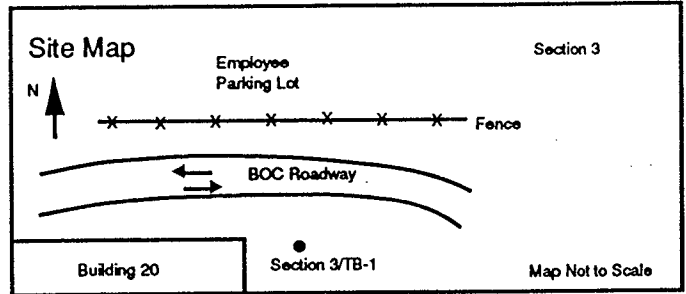
Ground-Water Data
Ground water was encountered during drilling at approximately 9.0 feet below ground surface

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-25.0 feet

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-25 feet
Pressure pumped from bottom of borehole to surface

General Notes
Borehole was grouted with Bentonite/Cement Mix.
No Monitoring Well was installed at this location



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1								•••••	0.0	Crushed Gravel Stone
2				12				•••••	2'	Fill: Very Loose to Medium Compact, Light Gray to Brown Fine to Medium SAND, trace wood, wet
3	SS-1	2.5	19	14 16	30	2.8	2.0	•••••		
4				1				•••••		
5	SS-2	5.0	17	1	2	1.6	0.8	•••••		
6								•••••		
7				7				•••••		
8	SS-3	7.5	17	11 10	21	7.6	55.8	•••••		
9				5				•••••		
10	SS-4	10.0	16	7 9	16	1.6	1.9	•••••		
11								•••••		
12				5				•••••	10.0	
13	SS-5	12.5	18	7 10	17	1.2	1.8	•••••		Loose to Medium Compact Light Gray Fine to Medium SILTY SAND, wet
14				2				•••••		
15	SS-6	15.0	22	2 3	5	0.6	10.0	•••••		
16								•••••		
17				4				•••••		
18	SS-7	17.5	18	5 7	12	1.1	3.3	•••••		
19				4				•••••		
20	SS-8	20.0	21	7 5	12	0.6	11.6	•••••		

Client BOC-Flint Automotive Division

Location Flint, Michigan

Notes _____

Boring Designation Section 3/TB-1 (20-204)

Start Date 9/20/91 Completed 9/20/91

Ground Surface Elevation: 751.1 feet based on a USGS datum

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Subsurface Description
21								Loose to Medium Compact Light Gray Fine to Medium SILTY SAND, wet
22	SS-9	22.5	24	3 4 5	9	6.5	2.2	22.0 Medium Stiff, Light Gray SILTY CLAY, little fine Sand, moist
23								
24				3 4				
25	SS-10	25.0		4	8	1.4	5.0	
6									END OF BORING AT 25.0 FEET
7									
8									
9									
0									
1									
2									
3									
4									
5									
6									
7									
8									
9									
0									

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassani
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 4/TB-1 (20-209)
 Start Date 9/23/91 Completed 9/23/91

Ground Surface Elevation: 753.6 feet based on a USGS datum

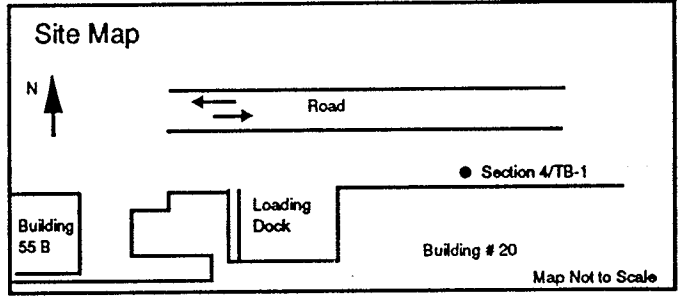
Ground-Water Data
Groundwater was encountered during drilling at approximately 10.5 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-30.0 feet

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-30.0 feet
Pressure pumped from bottom of borehole to surface

General Notes
Test boring was grouted with Bentonite/Cement Slurry.
No Monitoring Well was installed at this location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1									0.0	Fill: Medium Compact, Light Brown to Black Stained Medium SAND, dry
2				7						
3	SS-1	2.5	20	7	15	ND	10			
4			19	8						
5	SS-2	5.0	18	4	18	8	45			
6				8						
7	SS-3	7.5	17	3	8	ND	81			
8				4						
9	SS-4	10.0	16	4	8	ND	10			
10				4						
11				4					10.0	Medium Compact Light Brown, Unstained Medium SAND, wet
12	SS-5	12.5	16	4	17	2	15			
13				7						
14	SS-6	15.0	15	3	11	15	16			
15				5						
16				6						
17	SS-7	17.5	16	3	9	350	15		16.0	Loose Light Gray Fine SILTY SAND, wet
18				3						
19				3						
20	SS-8	20.0	19	2	7	50	26			
				3						
				4						

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 4/TB-2 (20-220)

Start Date 9/24/91 Completed 9/24/91

Ground Surface Elevation: 754.4 feet based on a USGS datum

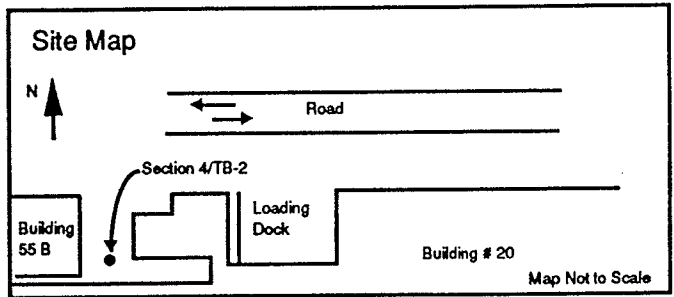
Ground-Water Data
Groundwater was encountered during drilling at approximately 15.0 feet below ground surface.

Drilling Method(s) 4 1/2 inch Hollow Stem Auger Depth Range 0-28.0 feet

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-28.0 feet
Pressure pumped from bottom of borehole to surface.

General Notes
Borehole was grouted with bentonite/cement Slurry.
No monitoring well was installed at this location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
0.0									0.0	Concrete
6"									6"	Fill: Loose to Medium Compact Light Brown-Black Stained Fine to Medium SAND; some silt, trace Clay, moist
1										
2	SS-1	2.5	12	5 5	10	10	5			
3										
4										
5	SS-2	5.0	14	3 4	7	3	14			
6										
7										
8	SS-3	7.5	15	2 8	14	1	16			
9										
10	SS-4	10.0	14	3 3	6	4	16			
11										
12										
13	SS-5	12.5	12	4 7 2	9	12	10			
14										
15	SS-6	15.0	13	2 4 3	7	ND	28		13.8	Medium Compact Light Brown to Black Fine to Medium SILTY SAND, wet
16										
17										
18	SS-7	17.5	18	5 7 7	14	1	88			
19										
20	SS-8	20.0	24	2 3 4	7	2	15			

Client BOC-Flint Automotive Division

Location Flint, Michigan

Notes _____

Boring Designation Section 4/TB-2 (20-220)

Start Date 9/24/91 Completed 9/24/91

Ground Surface Elevation: 754.4 feet based on a USGS datum

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA	Field Data PID	Graphic Log	Depth (feet)	Subsurface Description
21										
22	SS-9	22.5	23	2 3 4	7	9	8			Medium Compact Light Brown to Black Fine to Medium SILTY SAND, wet
23										
24				1 2 2					23.5	Medium to Stiff Light Gray SILTY CLAY, moist
25	SS-10	25.0	26		4	6	1			
26										
27				2 3 3						
28	SS-11	28.0	22		6	10	2			
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
END OF BORING AT 28.0 FEET										

Client BOC-Flint Automotive Division - Tank Farm #37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller D. Decater
 Contractor Stearns Drilling Company

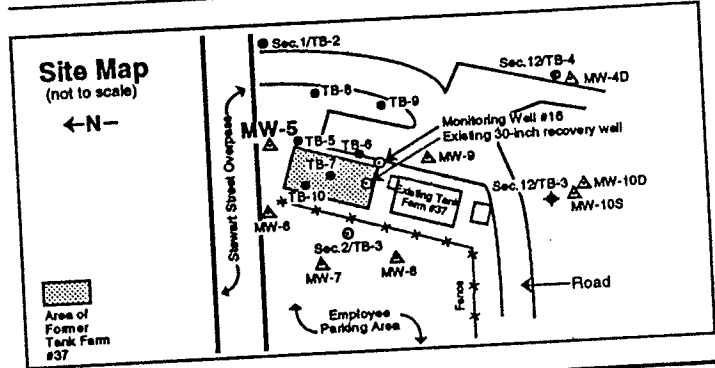
Boring Designation MW-5 (20-560)
 Start Date 7-17-92 Completed 7-17-92
 Ground Surface Elevation: 752.5 feet msl
 Ground-Water Data
Ground water encountered at 10.5 feet during drilling.

Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 18.5 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 14.0 - 18.5 feet
2.5 foot intervals

Grouting Material/Method
Monitoring Well MW-5 installed in borehole with well screen tip at 18.1 feet.

General Notes
Soil sample SS-1 was submitted for laboratory analysis.
Soil descriptions from 0 to 14 feet were taken from the Log of Boring MW-6.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
0								0.0	Concrete
0.8								0.8	Gravel (sub-base)
1.0								1.0	FILL: Straight drill, Medium Compact Light Brown FINE SAND, little silt, trace gravel, dry
3.5								(3.5)	Very Loose
10.5								10.5	Wet
14.0								14.0	Medium Compact Gray SILT, hydrocarbon odor, wet
16.5	SS-1	16.0	24	5	13	45		16.5	No odor
18.5	SS-2	18.5	24	6	14	0		18.5	END OF BORING AT 18.5 FEET

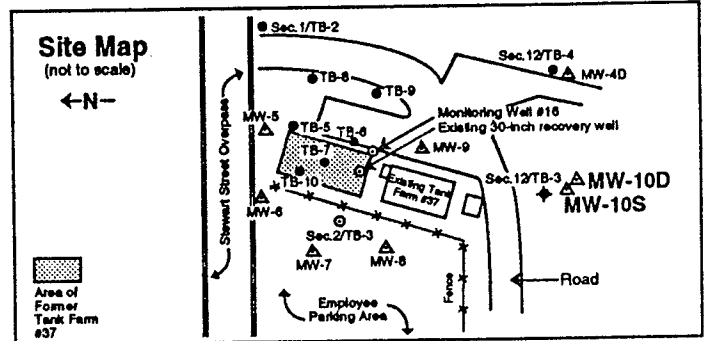
Client BOC-Flint Automotive Division - Tank Farm #37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller R. Christensen
 Contractor Stearns Drilling Company
 Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 20.0 feet

Boring Designation MW-10D (20-505D)
 Start Date 7-23-92 Completed 7-23-92
 Ground Surface Elevation: 752.6 feet msl
 Ground-Water Data
Ground water encountered at 10.0 feet during drilling.

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 1.0 - 20.5 feet
2.5 foot intervals

Grouting Material/Method
Monitoring Well MW-10D installed in borehole with well screen tip at 20.0 feet, and monitoring Well MW-10S installed in nearby borehole with well screen tip at 14.0 feet.

General Notes
Soil sample SS-4 was submitted for laboratory analysis.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				3			[Dotted pattern]	0.0	GRAVEL
2				7	15	18	[Dotted pattern]	1.0	FILL: Medium Compact Light Brown FINE TO MEDIUM SAND, little gravel, stained, no odor, dry
3	SS-1	3.0	20	12			[Dotted pattern]	3.5	Stiff Light Brown SILTY CLAY, some sand, moist
4				3			[Diagonal lines /]	4.8	Medium Compact Light Brown SILT, moist
5				5	12	25	[Diagonal lines /]	5.0	Medium Compact Light Brown FINE TO MEDIUM SAND, moist
6	SS-2	5.5	20	6			[Diagonal lines /]	7.5	Medium Compact Light Brown FINE SILTY SAND, moist
7				4	14		[Diagonal lines /]	(9.5)	Stained, no odor
8	SS-3	8.0	20	11		15	[Diagonal lines /]	(10.0)	Wet
9				3			[Diagonal lines /]	11.0	Loose Light Brown SILT, wet
10	SS-4	10.5	22	7	11	45	[Diagonal lines /]	12.5	Loose Gray FINE TO MEDIUM SAND, wet
11				3			[Diagonal lines /]	13.5	Very Loose Gray SILT, wet
12				3	7	8	[Diagonal lines /]	20.0	Very Soft Gray CLAY, moist
13	SS-5	13.0	22	5			[Diagonal lines /]		
14				2	4	0	[Diagonal lines /]		
15	SS-6	15.5	15	2			[Diagonal lines /]		
16				2	7		[Diagonal lines /]		
17				2			[Diagonal lines /]		
18	SS-7	18.0	24	5		0	[Diagonal lines /]		
19				4			[Diagonal lines /]		
20	SS-8	20.5	20	1	2	0	[Diagonal lines /]		
				1			[Diagonal lines /]		
				1			[Diagonal lines /]		
				2			[Diagonal lines /]		

END OF BORING AT 20.5 FEET

Client BOC-Flint Automotive Division - Tank Farm #37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller R. Christensen
 Contractor Stearns Drilling Company

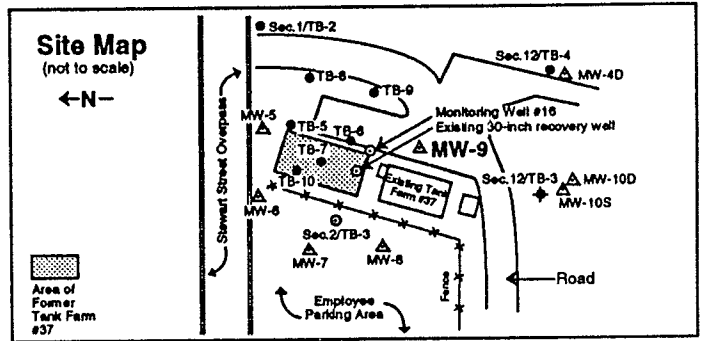
Boring Designation MW-9 (20-506)
 Start Date 7-23-92 Completed 7-23-92
 Ground Surface Elevation: 752.2 feet msl
 Ground-Water Data
 Ground water encountered at 10.0 feet during drilling.

Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 14.9 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 1.0 - 15.5 feet
2.5 foot intervals

Grouting Material/Method
 Monitoring Well MW-9 installed in borehole with well screen tip at 14.9 feet.

General Notes
 Soil sample SS-4 was submitted for laboratory analysis.
 Duplicate sample of SS-4 was also submitted for laboratory analysis.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				5			[Pattern]	0.0	CONCRETE
2				6			[Pattern]	1.0	FILL: Medium Compact Dark Brown-Stained SAND AND GRAVEL, strong hydrocarbon odor, moist
3	SS-1	3.0	20	11	17		[Pattern]	1.5	Very Stiff Light Brown SILTY CLAY, some sand, moist
4				23			[Pattern]	2.8	Medium Compact Stained FINE TO MEDIUM SAND, strong hydrocarbon odor, moist
5				7			[Pattern]	3.5	Asphalt
6	SS-2	5.5	18	5	33		[Pattern]	5.0	COAL SLAG
7				28			[Pattern]	6.5	Very Loose Light Brown to Gray FINE SILTY SAND, stained, hydrocarbon odor, moist
8	SS-3	8.0	20	2	3		[Pattern]	10.0	Very strong hydrocarbon odor, wet
9				2			[Pattern]	15	
10	SS-4	10.5	22	1	9		[Pattern]	45	
11				1			[Pattern]		
12				3			[Pattern]		
13	SS-5	13.0	20	6	3		[Pattern]	8	
14				2			[Pattern]		
15	SS-6	15.5	24	2	6		[Pattern]	14.5	Medium Gray CLAYEY SILT, no odor, wet
16				5			[Pattern]	0	END OF BORING AT 15.5 FEET
17				1			[Pattern]		
18				1			[Pattern]		
19				1			[Pattern]		
20				5			[Pattern]		

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By Hosam Hassani
 Contractor Stearns Drilling Co.
 Driller Roger Christensen

Boring Designation Section 2 / TB -1 (20-701)
 Start Date 9-24-91 Completed 9-24-91

Drilling Method(s) 4 1/2" ID Hollow Steam Auger Depth Range 0-27.5 feet
 Sampler _____

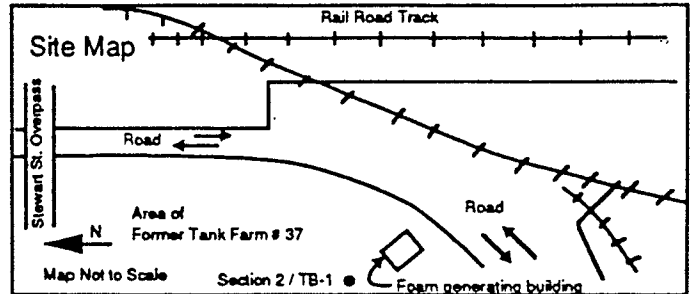
Ground Surface Elevation: 752.5 feet msl based on a U.S.G.S. datum

Sampling Method(s) 2" O.D Split-Spoon Sampler Depth Range 2.5 feet intervals

Ground-Water Data
 Ground water was encountered during drilling at, approximately, 9.5 feet below ground surface.

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-27.5 feet
Pressure pumped from bottom of borehole to surface.

General Notes
No monitoring well was installed at this test boring location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	OVA- Headspace Reading (ppm)	PID-Headspace Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1									6"	Top Soil: CLAY, SILT and SAND, roots
2	SS-1	2.5	15	28	47	20	25		2.5	Fill: Compact Light Brown Medium SAND, some staining, dry to moist
3										
4	SS-2	5.0	15	5	7	ND	13		5.0	Loose Light Brown SANDY CLAY, little gravel, moist
5										
6										
7	SS-3	7.5	18	7	13	ND	11		7.5	Medium Compact Light Brown Medium to Coarse SAND, moist
8										
9	SS-4	10.0	17	4	7	1	6			
10										
11										
12	SS-5	12.5	14	7	16	16	16			
13										
14	SS-6	15.0	15	4	11	74	73			
15										
16										
17	SS-7	17.5	17	4	9	660	14			
18										
19										
20	SS-8	20	25	4	4	40	16			Loose to Medium Compact Light Brown to Light Gray Fine to Medium SAND, wet

(Continued on page 2)

Client BOC-Flint
 Location Flint, Michigan
 Notes _____

Boring Designation Section 2/TB-1 (20-701)
 Start Date 9/24/91 Completed 9/24/91
 Ground Surface Elevation: 752.5 feet msl based on a U.S.G.S. datum





Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	OVA-Headspace Reading (ppm)	PID-Headspace Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
21									21.5	Loose to Medium Compact Light Brown to Light Gray Fine to Medium SAND, wet
22	SS-9	22.5	17	3 3 4	7	11	—			
23										
24										
25	SS-10	25.0	25	2 2 2	4	4	—			
26										
27										
28	SS-11	27.5	26	3 3 4	7	5	—		27.5	Loose Light Gray SILTY CLAY, moist
										END OF BORING

Figure A3b



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13A11 (30-202)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 9 93	WEATHER ▶ Cloudy, Cold
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A LENGTH N/A
		TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5		1	2.0	8 8		2.0	Fine SAND, little silt, medium dense, damp, black SW	
10		2	2.0	5 5		0	Fine SAND, little silt, loose, wet, brown SW	
15		3	2.0	6 7		0	Fine SAND, medium dense, saturated, brown SW	
							CLAY, little silt, stiff, moist, gray CL	
		4	2.0	6 8		0		
							END OF BORING	

Water levels: 2/3 ATD 3/4 "Stabilized"



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13 A7 (30-222)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 9 93	WEATHER ▶ Cloudy, Snow
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5		1	2.0	2 4		0	Fine SAND, little silt, trace clay, loose, moist, brown SW	
10		2	2.0	8 8		0	Fine to medium SAND, little silt, medium dense, saturated, brown SW	
15		3	2.0	4 5		0	Fine SAND, little silt, medium dense, saturated, gray SW	
20		4	2.0	5 8		0	CLAY, little silt, soft, damp, gray CL	
							END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13 A8 (30-223)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 9 93	WEATHER ▶ Cloudy, Snowy
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5		1	2.0	3 5		0	Fine SAND, little silt, loose, damp, dark brown SW	
10		2	2.0	7 7		0	Fine SAND, little silt, medium dense, moist, brown SW	
15							Fine SAND, little silt, medium dense, saturated, gray SW	
20		3	2.0	5 9		0	CLAY, little silt, stiff, moist, gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13A12 (30-224)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 9 93	WEATHER ▶ Cloudy, Cold
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5		1	2.0	9 9		0	Fine SAND, little silt, medium dense, damp, brown to black SW	
10		2	2.0	3 3		0	Fine SAND, little silt, loose, damp to moist, brown SW	
15		3	2.0	6 7		0	Fine SAND, medium dense, saturated, brown SW	
							CLAY, little silt, stiff, moist, gray CL	
		4	2.0	6 8		0		
							END OF BORING	



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13 A9 (30-241)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 9 93	WEATHER ▶ Cloudy
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					CONCRETE	
5		1	2.0	1 1	0	Fine SAND, little silt, loose, damp, dark brown SW	
10		2	2.0	6 7	0	Fine SAND, little silt, medium dense, moist, brown SW	
15		3	2.0	8 6	0	Fine SAND, little silt, medium dense, saturated, gray SW	
20		4	2.0	3 3	0	CLAY, little silt, stiff, moist, gray CL	
						END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13A10 (30-242)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 9 93	WEATHER ▶ Cloudy, Cold
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					ASPHALT	
5		1	2.0	8 8	5.0	Fine SAND, some silt, medium dense, dry, black SW	
10		2	2.0	5 5	0	Fine SAND, loose, wet, gray to black SW	
15		3	2.0	6 7	0	Fine SAND, medium dense, saturated, brown SW	
		4	2.0	6 8	0	CLAY, little silt, stiff, moist, gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ GM-BOC	PROJECT NUMBER ▶ 54079200584
BORING NUMBER ▶ SEC13 A5 (30-243)	SITE LOCATION ▶ Section 7 & 13
DATE ▶ MAR 9 93	WEATHER ▶ Cloudy, Snow
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ Atec Associates
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 15.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	P/D	READING	LITHOLOGY	ELEVATION
	N/A						Coarse GRAVEL	
5		1	2.0	7 5		0	CLAY, some silt, trace sand, stiff, damp, grayish brown CL	
							Fine SAND, little silt, loose, dry to damp, brown SW	
10		2	2.0	3 3		0	Fine SAND, little silt, loose, wet, brown SW	
							Fine SAND, little silt, medium dense, saturated, gray SW	
15		3	2.0	7 11		0	END OF BORING	

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Soil Boring: **31-1** SB-1/MW-1 Project: **GM - Building 31**
 Date: 6/4/97 Project #: F329
 Drilling Contractor: GEEI Location:
 Prepared By: JCW Twp/Sec.:
 Time Started: 8:30 Depth Drilled: 27
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 4' Coring Device: 4.5"

Boring Methods

Groundwater Information

<input checked="" type="checkbox"/> X	Hollow Stem Auger	GW Encountered at	Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Norm
	Geoprobe	Yes <input checked="" type="checkbox"/> X No	Helper: Ash
			Weight/Drop: 140#/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
	SS		CL	Silty Clay	Gray, Moist, No Fractures		
	SS	24			1" Sand Lens	400.0	
	SS						
	SS	25					
	SS		SP	Sand	Wet, Medium/Coarse		
	SS	26					
	SS						
	SS	27		Silty Sand	Fine	840.0	
			E.O.B.	End of Boring 27			
		28					
		29					
		30					
		31					
		32					
		33					
		34					
		35					
		36					
		37					
		38					
		39					
		40					
		41					
		42					
		43					
		44					
		45					
		46					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

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Soil Boring: **31-2** SB-2/MW-2 Project: **GM - Building 31**
 Date: 6/4/97 Project #: F329
 Drilling Contractor: GEEI Location:
 Prepared By: JCW Twp/Sec.:
 Time Started: 11:45 Depth Drilled: 19'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 4' Coring Device: 4.5"

Boring Methods

Groundwater Information

<input checked="" type="checkbox"/> Hollow Stem Auger	GW Encountered at	Fluid Used: None
<input type="checkbox"/> Hand Auger	Monitor Wells Installed	Driller: Norm
<input type="checkbox"/> Geoprobe	Yes <input checked="" type="checkbox"/> No	Helper: Ash
		Weight/Drop: 140lb/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt	Approximately 8"		
	SS		SP	Sand	Brown, Moist, Fine/Medium		
	SS	2					
	SS					3.0	
	SS	3					
	SS						
	SS	4					
	SS						
	SS	5					
	SS						
	SS	6					
	SS						
	SS	7					
	SS-[X]						
	SS-[X]	8			Wet		
	SS-[X]				Black		
	SS-[X]	9	CL	Silty Clay	Brown, Moist, No Fractures	>1000	
	SS						
	SS	10			Gray, Trace of Gravel		
	SS						
	SS	11					
	SS						
	SS	12					
	SS						
	SS	13			3" Gray Sand Lens, Wet		
	SS				2" Sand Lens, Wet		
	SS	14					
	SS						
	SS	15					
	SS						
	SS	16			Gray, Moist, No Fractures, 2" Silt Lens, Wet		
	SS						
	SS	17					
	SS						
	SS-[X]						
	SS-[X]	18					
	SS-[X]						
	SS-[X]	19					
		20	E.O.B.	End of Boring 19'			
		21					
		22					
		23					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

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Soil Boring: **31-3** SB-3/MW-3 Project: **GM - Building 31**
 Date: 6/4/97 Project #: F329
 Drilling Contractor: GEEI Location:
 Prepared By: JCW Twp/Sec.:
 Time Started: 16:15 Depth Drilled: 21'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 4' Coring Device: 4.5"

Boring Methods

Groundwater Information

<input checked="" type="checkbox"/> Hollow Stem Auger	GW Encountered at	Fluid Used: None
Hand Auger	Monitor Wells Installed	Driller: Norm
Geoprobe	Yes <input checked="" type="checkbox"/> No	Helper: Ash
		Weight/Drop: 140lb/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	SS		SP	Sand	Brown, Moist, Fine/Medium	6.0	
	SS	2					
	SS	3					
	SS						
	SS	4	CL	Silty Clay	Brown/Gray, Fractures	22.0	
	SS	5					
	SS	6					
	SS	7				200.0	
	SS	8					
	SS	9			3" Sand Lens, Wet 2" Sand Lens, Wet	>1000	
	SS	10					
	SS	11			Gray, No Fractures	260.0	
	SS	12					
	SS	13					
	SS		SP	Sand	Wet, Fine/Medium	26.0	
	SS	14					
	SS		CL	Silty Clay	Moist	>1000	
	SS-[X]		SP	Sand	Gray, Wet	-	
	SS-[X]	16					
	SS-[X]						
	SS-[X]	17	CL	Silty Clay	Moist	>1000	
	SS						
	SS	18					
	SS						
	SS	19				100.0	
	SS-[X]						
	SS-[X]	20					
	SS-[X]						
	SS-[X]	21				56.0	
			E.O.B.	End of Boring 21'			
		22					
		23					

IS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

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Soil Boring: **31-4** SB-4/MW-4S Project: **GM - Building 31**
 Date: **6/5/97** Project #: **F329**
 Drilling Contractor: **GEEI** Location:
 Prepared By: **JCW** Twp/Sec.:
 Time Started: **8:20** Depth Drilled: **21'**
 Time Completed: Hole Diameter: **8.25"**
 Length Coring Device: **4'** Coring Device: **4.5"**

Boring Methods

Groundwater Information

X Hollow Stem Auger
 Hand Auger
 Geoprobe

Fluid Used: None
 Driller: Norm
 Helper: Ash
 Weight/Drop: 140lb/30"

GW Encountered at
 Monitor Wells Installed
 Yes **X** No

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1.		Asphalt	Approximately 9"		
	SS		SP	Sand	Brown, Moist, Fine/Medium		
	SS	2.					
	SS					3.0	
	SS	3.					
	SS						
	SS	4.	CL	Silty Clay	Brown/Gray, Fractures		
	SS					ND	
	SS	5.					
	SS						
	SS	6.					
	SS					1.0	
	SS	7.					
	SS						
	SS	8.			Wet		
	SS						
	SS	9.				3.0	
	SS						
	SS	10.					
	SS						
	SS	11.				28.0	
	SS						
	SS	12.					
	SS						
	SS	13.				720.0	
	SS						
	SS	14.			Black		
	SS					>1000	
	SS	15.					
	SS						
	SS	16.					
	SS						
	SS-[X]	17.	CL	Silty Clay	Gray, Moist, No Fractures		
	SS					>1000	
	SS	18.					
	SS						
	SS	19.				300.0	
	SS						
	SS	20.					
	SS						
	SS-[X]	21.					
						180.0	
		22.	E.O.B.	End of Boring 21'			
		23.					

3-Split Spoon
 R-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

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Soil Boring: 31-10 Bldg 31-1 Project: GM CLCD North US1 Closure
 Date: 7/30/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 9:20 Depth Drilled: 19'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq. Ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1		SP	Stone			
		2		Sand	Brown, Moist, Fine/Medium		
		3					
		4					
		5				ND	
	GP-2	6					
		7				ND	
		8					
		9				1.0	
	GP-3	10					
		11					
		12					
	[X]	13				56.0	
	GP-4				Wet, <25% Recovery	NA	
		14					
		15					
		16					
		17	CL	Clay	Gray, Moist	+320.0	
		18			"	88.0	
		19					
		20	E.O.B	End of Boring 19'			
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

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Soil Boring: 31-102 Bldg 31-2 Project: GM CLCD North US1 Closure
 Date: 7/30/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 10:45 Depth Drilled: 19'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2" Coring Device: 2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	13'
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq. ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1		SP	Stone			
		2		Sand	Brown, Moist, Fine/Medium		
		3				ND	
		4					
		5				1.0	
	GP-2						
		6					
		7				125.0	
		8					
		9				380.0	
	GP-3						
		10					
		11				430.0	
		12					
		13			Wet	500	
	GP-4						
		14					
	[X]	15			Gray	<1000	
	GP-5						
		16					
		17	CL	Silty Clay	Moist, No Fractures	200	
	GP-6						
		18					
	[X]	19				61.0	
		20	E.O.B	End of Boring 19'			
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

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Soil Boring: **31-103** Bldg 31-3 Project: GM CLCD North UST Closure
 Date: 7/30/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 13:00 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2" Coring Device: 2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	<input type="checkbox"/>	Fluid Used: None
<input type="checkbox"/>	Hand Auger	<input type="checkbox"/>	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	<input type="checkbox"/>	Helper: N/A
		<input type="checkbox"/>	Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1			Stone			
		2		Sandy Clay	Brown, Moist, No Fractures		
		3	CL	Clay		ND	
		4	SP	Sand			
		5	CL	Clay		ND	
	GP-2	6	SP	Sand			
		7	CL	Clay	Brown/Gray	125	
		8		Silty Clay	Brown/Green Green/Gray		
	[X]	9			3" Sandy Gravel Lens	680	
	GP-3	10			Gray		
		11				72.0	
	GP-4	12					
		13				13.0	
	GP-5	14					
	[X]	15				ND	
		16	E.O.B	End of Boring 15'			
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

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Soil Boring: **31-104** Bldg 31-4 Project: **GM CLCD North UST Closure**
 Date: 7/30/96 Project #: **FL74**
 Drilling Contractor: **YECI** Location: **Hamilton & Industrial Ave.**
 Prepared By: **JCW** Twp/Sec.:
 Time Started: **14:20** Depth Drilled: **17'**
 Time Completed: Hole Diameter: **2"**
 Length Coring Device: **2'** Coring Device: **2"**

Boring Methods

Hollow Stem Auger
 Hand Auger
 Geoprobe

Groundwater Information

GW Encountered at **12'**
 Monitor Wells Installed
 Yes No

Fluid Used: **None**
 Driller: **Ken**
 Helper: **N/A**
 Weight/Drop: **N/A**

Penetration Tons/Sq ft	Sample Type	Depth (ft)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC		
		1	SP	Sand	Brown, Moist, Fine/Medium				
	GP-1	2							
		3						ND	
		4							
		5							ND
	GP-2	6							
		7							ND
		8							
		9							4.0
	GP-3	10							
		11				560			
		12							
		13			Gray, Wet	>1000			
	GP-4	14							
		15	CL	Silty Clay	Moist, No Fractures	125.0			
		16							
	[X]	17				26.0			
		18	E.O.B	End of Boring 17'					
		19							
		20							
		21							
		22							
		23							
		24							
		25							

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

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Soil Boring: 31-105 Bldg 31-5 Project: GM CLCD North UST Closure
 Date: 7/30/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 15:20 Depth Drilled: 17'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Boring Methods		Groundwater Information	
	Hollow Stem Auger	GW Encountered at	11'
	Hand Auger	Monitor Wells Installed	
X	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1		SP	Stone			
		2		Sand	Brown, Moist, Fine/Medium		
		3				ND	
		4					
		5				2.0	
	GP-2						
		6					
		7				12.0	
		8					
		9				24.0	
	GP-3						
		10					
		11			Wet	102	
		12					
	[X]	13			Gray	320.0	
	GP-4						
		14					
		15	CL	Silty Clay	Moist, No Fractures	320	
	GP-5						
		16					
	[X]	17				32.0	
		18	E.O.B	End of Boring 17'			
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

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Soil Boring: **31-106** Bldg 31-6 Project: **GM CLCD North UST Closure**
 Date: 7/31/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec: _____
 Time Started: 8:30 Depth Drilled: 17'
 Time Completed: _____ Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	13.5'
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq. ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Asphalt			
	GP-1	2		Stone			
		3		Sand	Brown, Moist, Fine/Medium		
		4					ND
		5					2.5
	GP-2	6					
		7				22.0	
		8			2" Black Lens		
		9			1" Black Lens		
	GP-3	10	CL	Clay	Brown/Gray, Fractures	70.0	
		11				10.0	
		12					
		13					
	GP-4	14	SP	Sand	Wet	4.0	
	[X]	15				>1000	
		16	CL	Silty Clay	Moist	125.0	
	GP-5	17				22.0	
	[X]	18	E.O.B	End of Boring 17'	"		
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: 31-107	Bldg 31-7	Project: GM CLCD North US1 Closure
Date: 7/31/96	Project #: F174	
Drilling Contractor: YECI	Location: Hamilton & Industrial Ave.	
Prepared By: JCW	Twp/Sec.:	
Time Started: 9:45	Depth Drilled: 21'	
Time Completed:	Hole Diameter: 2"	
Length Coring Device: 2'	Coring Device: 2"	

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at 15'	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1		SP	Stone			
		2	CL	Sand	Brown, Moist, Fine/Medium		
				Clay	Brown/Gray, Fractures		
		3				ND	
		4					
		5				5.0	
	GP-2						
		6					
		7				5.0	
		8					
		9		Silty Clay	Gray/Brown	4.0	
	GP-3				Gray		
		10				10.0	
		11					
		12					
		13			2" Brown Sand Lens	125.0	
	GP-4						
	[X]	14					
		15				240.0	
	GP-5		SM	Silty Sand	Gray, Wet		
		16	CL	Silty Clay	No Fractures		
	[X]	17				>1000	
		18	SM	Silty Sand	Fine/Medium		
		19				400.0	
		20			Wet		
	[X]	21	CL	Clay	Moist, No Fractures	>1000	
			E.O.B	End of Boring 21'			
		22					
		23					
		24					
		25					

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **31-108** Bldg 31-8 Project: **GM CLCD North UST Closure**
 Date: 7/31/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 11:45 Depth Drilled: 19'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	11'
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Asphalt Stone Sand	Brown, Moist, Fine/Medium	ND	
	GP-1	2					
		3					
		4	CL	Clay	Brown/Gray, Fractures	58.0	
		5					
	GP-2	6					
		7					
		8					
		9					
	GP-3	10	SP	Sand	Brown	120.0	
		11					
		12					
		13	CL	Clay	Brown/Gray, Moist, No Fractures	78.0	
	GP-4	14	SP	Sand	Gray Wet		
	[X]	15	CL	Silty Clay	Gray, Moist	>1000	
	GP-5	16					
		17					
	GP-6	18					
	[X]	19	E.O.B	End of Boring 19'	3" Silty Sand Lens, Wet	420.0	
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **31-109** Bldg.31-9 Project: **GMCLCD N. - UST Closures**
 Date: 11/12/96 Project #: F174
 Drilling Contractor: YECI Location: Building 31
 Prepared By: JCW Twp/Sec.:
 Time Started: 13:00 Depth Drilled: 21'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 5' Coring Device: 2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	<input type="checkbox"/>	GW Encountered at
<input type="checkbox"/>	Hand Auger	<input type="checkbox"/>	Monitor Wells Installed
<input checked="" type="checkbox"/>	Geoprobe	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		Fluid Used:	None
		Driller:	Scott
		Helper:	NA
		Weight/Drop:	NA

Penetration Tons/Sq. ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1		Stone			
	GP-1	2	SP	Sand	Brown, Moist, Fine/Medium		
		3	CL	Sandy Clay	Brown/Gray, No Fractures	3.0	
		4					
		5		Clay	Fractures	2.0	
	GP-2	6	SM	Silty Sand	Brown, Wet, Fine		
		7	CL	Silty Clay	Brown/Red, Moist, No Fractures	3.0	
		8					
	[X] GP-3	9				2.0	
		10			Gray, Trace of Gravel		
		11				5.0	
	GP-4	12	SP	Sand	Fine/Medium		
		13				400	
	GP-5	14					
		15	CL	Silty Clay	No Fractures	240	
	GP-6	16					
	[X]	17	SP	Sand	Gray, Moist	550	
	GP-7	18					
		19	CL	Clay		>1000	
	[X] GP-8	20					
		21				520	
	[X]	22	E.O.B.	End of Boring 21'			
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc. 5467 Hill 23 Dr., Suite B Flint, Michigan 48507 Tel: (810) 238-9190 Fax: (810) 238-9195	Soil Boring: 31-110	Bldg: 31-10	Project: GMCLCD N. - UST Closures
	Date: 11/13/96	Project #: F174	
	Drilling Contractor: YECI	Location: Building 31	
	Prepared By: JCW	Twp/Sec.:	
	Time Started: 10:45	Depth Drilled: 21'	
	Time Completed:	Hole Diameter: 2"	

Boring Methods		Groundwater Information	
Hollow Stem Auger	GW Encountered at	Fluid Used: None	Driller: Scott
Hand Auger	Monitor Wells Installed	Helper: NA	Weight/Drop: NA
X Geoprobe	Yes No		

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC	
		1	CL	Asphalt Stone Sandy Clay	Brown, Moist, No Fractures			
	GP-1	2						
		3					ND	
		4						
		5				Brown/Gray, Moist, Fractures		ND
	GP-2	6						
		7				3" Silty Sand Lense, Wet 1" Black Clay Lense		4.0
		8						
	[X] GP-3	9				No Recovery 9'-12.5'		22.0
		10						
		11					NA	
		12						
		13					NA	
	GP-4	14		Silty Clay	Gray, Moist, No Fractures			
		15					8.0	
		16						
	[X] GP-5	17			No Recovery 17'-21'		66.0	
		18						
		19						
		20						
		21						
		22	E.O.B.	End of Boring 21'				
		23						
		24						
		25						

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
 5467 Hill 23 Dr., Suite B
 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **31-111** Bldg 31-11 Project: **GMCLCD N. - UST Closures**
 Date: 11/13/96 Project #: **F174**
 Drilling Contractor: **YECI** Location: **Building 31**
 Prepared By: **JCW** Twp/Sec.:
 Time Started: 13:00 Depth Drilled: **20'**
 Time Completed: Hole Diameter: **2"**
 Length Coring Device: **5'** Coring Device: **2"**

Boring Methods

Groundwater Information

Fluid Used: **None**
 Driller: **Scott**
 Helper: **NA**
 Weight/Drop: **NA**

Hollow Stem Auger
 Hand Auger
 Geoprobe
 Monitor Wells Installed
 Yes No

Penetration Tons/Sq ft. Sample Type Depth (ft.) USCS Code SOIL DESCRIPTION REMARKS OVA GC

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1		Asphalt			
	GP-1		SP	Stone			
		2	CL	Sand	Brown, Moist, Fine/Medium		
				Clay	Brown/Gray, Fractures	ND	
		3					
		4				ND	
		5		Sandy Clay	Brown/Red, Mottled		
	GP-2					2.0	
		6					
		7					
		8				3.0	
	[X]	9		Silty Clay	Gray		
	GP-3			Sandy Clay	Brown		
		10			Dry, Hard, Trace of Gravel	2.0	
	GP-4						
		11					
		12				4.0	
	GP-5						
		13					
		14		Silty Clay			
	GP-6		SP	Sand	Gray, Moist, Fine	42.0	
		15					
	[X]	16	CL	Silty Clay	No Fractures	620	
	GP-7						
		17					
		18				540	
	GP-8		SM	Silty Sand	Gray, Moist, Fine		
		19					
	[X]	20	CL	Silty Clay	Gray, Moist, Fine	880	
			E.O.B.	End of Boring 20'			
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Contain

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F001
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: NA
 Property Owner/Contact: GENERAL MOTORS
 Date(s) Drilled: 10/11/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NON
 Depth to Water: NA Total Depth: 1.5'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0								
5								
10								
15								
20								
25								
								SOIL BORING WAS ABANDONED DUE TO STEEL OBSTRUCTION AT 1.5'

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F001
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: NA
 Property Owner/Contact: GENERAL MOTORS

Date(s) Drilled: 10/11/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-2.5			5YR 4/4	ND	S-1	100	SP	2.0-2.5': SAND AND GRAVEL, BROWN.
2.5-6.0			5YR 4/4	ND	S-2	60	SM	2.5-6.0': SAND AND SILT WITH TRACE CLAY, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
6.0-8.0			5YR 4/4	ND	S-3	80		6.0-8.0': S.A.A.: BROWN/GRAY WITH BLACK STAINING AND SHEEN, WET AT 7.0'.
8.0-9.2			N1	ND	S-4	70	ML	8.0-9.2': SILT, OLIVE, MOIST.
9.2-10.0							OH	9.2-10.0': CLAY WITH ORGANIC MATERIAL, BLACK, SLIGHTLY MOIST.
10.0-16.1			5YR 4/4	1.2	S-5	75		
10.0-16.1			5YR 4/4	4.3	S-6	30	SP	10.0-16.1': SAND, BROWN, MOIST TO WET (WET AT 11.0'), FINE GRAINED. RAINBOW COLOR ON WATER AT 14.0'.
16.1-20.0			5YR 4/4	ND	S-7	75		
16.1-20.0			N5	ND	S-8	100		
16.1-20.0			N5	ND	S-9	100	CL	16.1-20.0': CLAY WITH TRACE SILT, GRAY, SLIGHTLY MOIST. WET SILT SEAM AT 17.3' (0.5" THICK).
TOTAL DEPTH DRILLED = 20.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Location B.O.C. Flint Automotive Division - Tank Farm #37
Flint, MI.
 Logged By G. Schmalz
 Driller D. Decater
 Contractor Stearns Drilling Company

Boring Designation TB-5 (37-101)
 Start Date 7-15-92 Completed 7-15-92
 Ground Surface Elevation: 752.2 feet msl
 Ground-Water Data
 Ground water encountered at 16.0 feet during drilling.

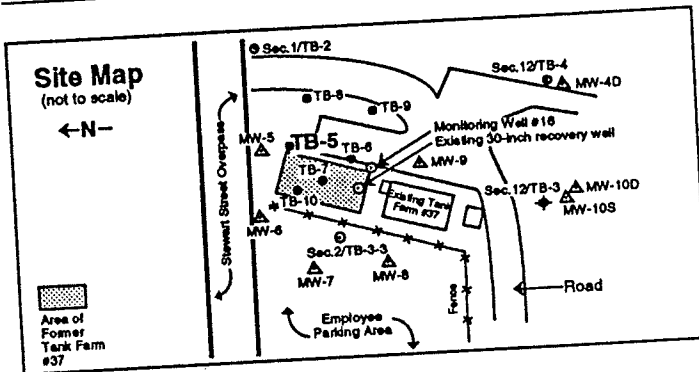
Drilling Method(s) 25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 23.5 feet

Sampling Method(s) 0 Inch O.D. Split Spoon Depth Range 1.0 - 25.5 feet
2.5 foot intervals

Grouting Material/Method Cement/Bentonite Slurry Depth Range 0.0 - 25.5 feet

General Notes

Soil samples SS-5 and SS-10 were submitted for laboratory analysis.
 No monitoring well was installed at this location.



Whole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				4				1.0	GRAVEL (parking lot)
2				5	14				FILL: Medium Compact Brown FINE TO MEDIUM SAND, trace gravel, no odor, moist
3	SS-1	3.0	22	18		0			
4				2					(7.5) Stained, strong hydrocarbon odor
5	SS-2	5.5	22	6	6	0			
6				2					(11.0) Very stained, very strong hydrocarbon odor
7				5					
8	SS-3	8.0	22	3		140			
9				2					(11.0) Very stained, very strong hydrocarbon odor
10				3	5	140			
11	SS-4	10.5	18	2					
12				2					CONCRETE
13	SS-5	13.0	18	2		100		13.5	
14									Very Loose Gray FINE SILTY SAND, slight hydrocarbon odor ≈ (16.0) Wet
15	SS-6	15.5	0	100/1"				15.0	
16				1					Loose Gray SILT, lenses of clayey silt, slight hydrocarbon odor, wet
17				0		0			
18	SS-7	18.0	22	1					
19				2					Loose Gray SILT, lenses of clayey silt, slight hydrocarbon odor, wet
20	SS-8	20.5	24	2		4		18.5	

Client B.O.C. Flint Automotive Division - Tank Farm #37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller D. Decater
 Contractor Stearns Drilling Company

Boring Designation TB-6 (37-102)
 Start Date 7-16-92 Completed 7-16-92
 Ground Surface Elevation: 751.9 feet msl
 Ground-Water Data
 Ground water encountered at 14.0 feet during drilling.

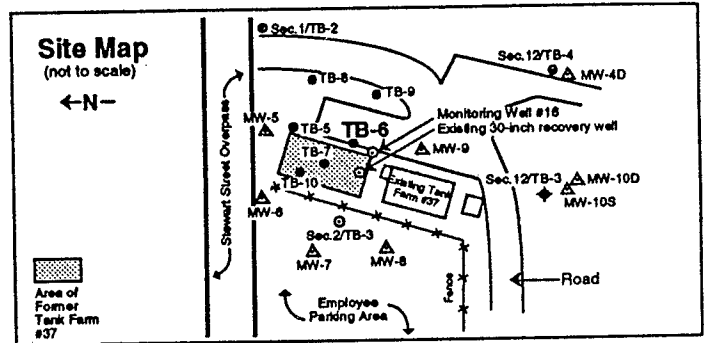
Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 24.0 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 14.0 - 26.0 feet
2.5 foot intervals

Grouting Material/Method Cement/Bentonite slurry Depth Range 0.0 - 26.0 feet

General Notes

Soil samples SS-1 and SS-5 were submitted for laboratory analysis.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1							CONCRETE		
2							◆◆◆◆ 0.8 GRAVEL (sub-base)		
3								1.0	Straight drill through fill materials previously placed within the former UST excavated area.
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16	SS-1	16.0	24	2 3 4 6	7	0		14.0	Loose Gray FINE SILTY SAND, slight hydrocarbon odor, wet
17									
18	SS-2	18.5	24	2 3 6	6	0		16.5	Loose Gray SILT, no odor, wet
19									
20	SS-3	21.0	24	0 2 3	5	0		20.9	Loose Gray SILT, little clay, wet

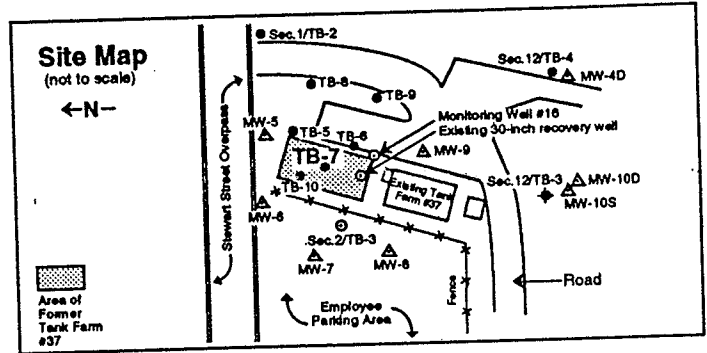
Client B.O.C. Flint Automotive Division - Tank Farm #37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller D. Decater
 Contractor Stearns Drilling Company

Boring Designation TB-7 (37-103)
 Start Date 7-16-92 Completed 7-16-92
 Ground Surface Elevation 752.1 feet msl
 Ground-Water Data
Ground water encountered at 14.0 feet during drilling.

Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 24.0 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 14.0 - 26.0 feet
2.5 foot intervals

Grouting Material/Method Cement/Bentonite Slurry Depth Range 0.0 - 26.0 feet



General Notes
 Soil samples SS-1 and SS-5 were submitted for laboratory analysis.

No monitoring well was installed at this location.

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	HNU (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1							GRAVEL	1.0	Straight drill through fill materials previously placed within the former UST excavated area
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14				2				14.0	Loose Brown FINE TO MEDIUM SAND, little gravel, slight hydrocarbon odor, wet
15				3	7				
16	SS-1	16.0	2	2		9			
17				5				16.5	Medium Compact Gray FINE SILTY SAND, slight hydrocarbon odor, wet
18				8	12				
19	SS-2	18.5	4	2		3			
20				3					
21				1					
22				1	2			19.0	Very Loose Gray SILT, no odor, wet
23	SS-3	21.0	1	2		0			

Client B.O.C. Flint Automotive Division - Tank Farm #37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller D. Decater
 Contractor Stearns Drilling Company

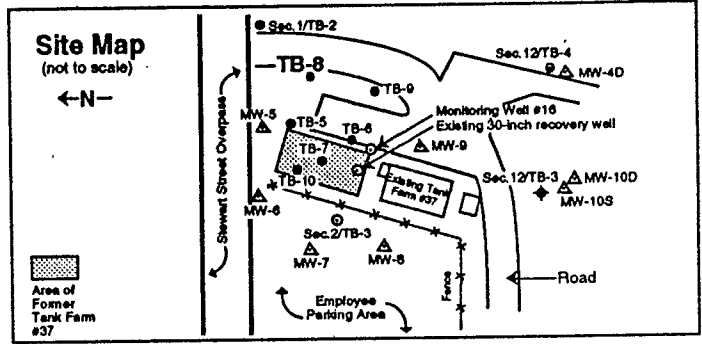
Boring Designation TB-8 (37-104)
 Start Date 7-16-92 Completed 7-16-92
 Ground Surface Elevation: 752.5 feet msl
 Ground-Water Data
 Ground water encountered at 10.0 feet during drilling.

Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 18.5 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 1.0 - 20.5 feet
2.5 foot intervals

Grouting Material/Method Cement/Bentonite Slurry Depth Range 0.0 - 20.5 feet

General Notes
Soil sample SS-4 was submitted for laboratory analysis.
No monitoring well was installed at this borehole



Location.										Subsurface Description	
Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)			
1				4			[Cobbles symbol]		COBBLES		
2				4	9		[Fill symbol]	1.0	FILL: Medium Compact Brown FINE TO MEDIUM SAND, little silt and gravel, no odor, moist		
3	SS-1	3.0	22	7		0	[Fill symbol]				
4				3			[Clay symbol]	3.5	Medium Brown SILTY CLAY, some sand, no odor, dry		
5				3	6	0	[Clay symbol]	4.5	Medium Brown CLAYEY SILT, some sand, no odor, moist		
6	SS-2	5.5	24	3			[Clay symbol]				
7				2			[Clay symbol]				
8	SS-3	8.0	24	4	7	0	[Clay symbol]				
9				1			[Clay symbol]	8.5	Soft Brown SILTY CLAY, no odor, moist		
10	SS-4	10.5	22	2	4	0	[Sand symbol]	9.5	Loose Dark Gray FINE SILTY SAND, no odor, moist (10.0) Wet		
11				2			[Sand symbol]				
12				3	6	0	[Sand symbol]	11.0	Loose Brown FINE TO MEDIUM SAND, no odor, wet		
13	SS-5	13.0	24	4		0	[Sand symbol]				
14				3			[Sand symbol]	13.5	Medium Compact Brown FINE SILTY SAND, wet		
15	SS-6	15.5	24	5	10	0	[Sand symbol]	14.5	Medium Compact Brown SILT, no odor, wet		
16				5			[Sand symbol]				
17				4	11	0	[Sand symbol]				
18	SS-7	18.0	24	7		0	[Sand symbol]				
19				10			[Sand symbol]				
20	SS-8	20.5	24	14	24	0	[Clay symbol]	20.0	Stiff Gray CLAY, no odor, moist		
				6			[Clay symbol]				

END OF BORING AT 20.5 FEET

Client B.O.C. Flint Automotive Division - Tank Farm #37
 Location Flint, MI.
 Logged By G. Schmalz
 Driller D. Decater
 Contractor Stearns Drilling Company

Boring Designation TB-9 (37-105)

Start Date 7-21-92 Completed 7-21-92

Ground Surface Elevation: 752.8 feet msl

Ground-Water Data

Ground water encountered at 10.0 feet during drilling.

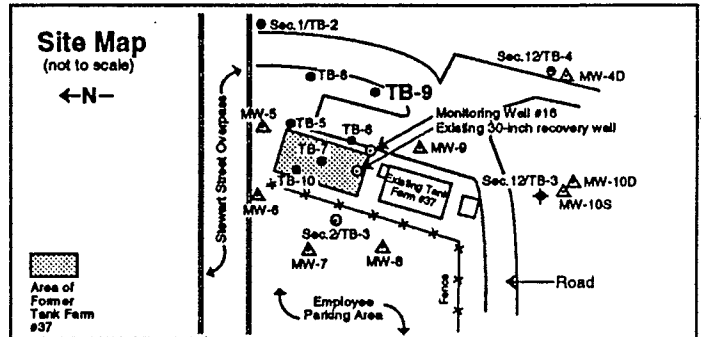
Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 21.0 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 0.0 - 23.0 feet
2.5 foot intervals

Grouting Material/Method Cement/Bentonite Slurry Depth Range 0.0 - 23.0 feet

General Notes

Soil sample SS-4 was submitted for laboratory analysis.
 No monitoring well was installed at this borehole location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				3			GRAVEL (road median)		
2	SS-1	2.0	20	2	4	0		1.0	FILL: Very Loose Brown SILTY CLAY, some sand, moist
3				2					
4				2				3.0	Loose Brown SILT, moist
5	SS-2	5.5	22	3	5	0		3.5	Loose, FINE SILTY SAND, moist to dry
6				4					
7				4					
8	SS-3	8.0	20	4	8	0			
9				2					
10	SS-4	10.5	20	3	6	0			☞ (10.0) Wet
11				2					
12				2				11.0	Very Loose Brown FINE TO MEDIUM SAND, wet
13	SS-5	13.0	22	2	4	0			
14				2					
15	SS-6	15.5	24	3	6	0			
16				6					
17				8					
18	SS-7	18.0	12	11	23	0			
19				12					
20	SS-8	20.5	20	13	17	0		13.5	Loose Brown SILT, wet
				6					
				6					
				11					
				17					

Client B.O.C. Flint Automotive Division - Tank Farm #37

Location Flint, MI.

Logged By G. Schmalz

Driller R. Christensen

Contractor Stearns Drilling Company

Boring Designation TB-10 (137-106)

Start Date 7-21-92 Completed 7-21-92

Ground Surface Elevation: 752.0 feet msl

Ground-Water Data

Ground water encountered at 16.0 feet during drilling.

Drilling Method(s) 4.25 Inch I.D. Hollow Stem Auger Depth Range 0.0 - 26.0 feet

Sampling Method(s) 2.0 Inch O.D. Split Spoon Depth Range 14.0 - 26.0 feet

Shelby Tube Depth Range 26.0 - 28.0 feet

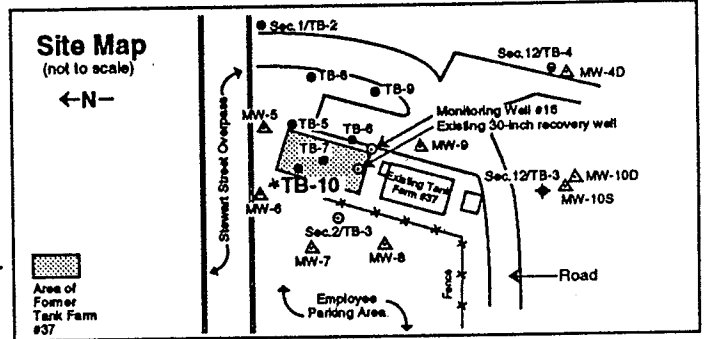
Grouting Material/Method Cement/Bentonite Slurry Depth Range 0.0 - 28.0 feet

General Notes

Soil sample SS-1 and SS-5 submitted for laboratory analysis.

Shelby Tube sample was taken at 26.0 - 28.0 foot interval

and sent to the laboratory for hydraulic conductivity analysis.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	HNu (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1							◆◆◆◆	1.0	GRAVEL
2									Straight drill through fill materials previously placed within the former UST excavated area
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14				3			▨	14.0		Medium Compact Brown FINE SILTY SAND, slight hydrocarbon odor, wet
15				6	12				
16	SS-1	16.0	22	4		2	▨	16.0	Wet
17				2					Very Loose Brown SILT, slight hydrocarbon odor, wet
18	SS-2	18.5	20	3	4	0	▨	18.0	
19				2					
20				2					
21				2					
22				2					
23				2					
24				2					
25				2					
26	SS-3	21.0	20	4		0	▨		

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
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 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: Bldg 38-1 Project: GM CLCD North UST Closure
 Date: 7/31/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 14:15 Depth Drilled: 17'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Boring Methods

Groundwater Information

Hollow Stem Auger	GW Encountered at 1.5'	Fluid Used: None
Hand Auger	Monitor Wells Installed	Driller: Ken
X Geoprobe	Yes No	Helper: N/A
		Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Concrete			
	GP-1	2	SC	Clayey Sand	Dark Brown, Wet, Fine/Medium		
		3				12.0	
		4					
	[X] GP-2	5				26.0	
		6					
		7	SP	Sand	Brown, Moist		
		8				14.0	
		9					
	GP-3	10				4.0	
		11					
		12				4.0	
		13			Brownish/Red		
	GP-4	14				4.0	
		15					
		16			Light Brown		
	[X]	17					
		18	E.O.B	End of Boring 17'		3.0	
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon
 NR - No Recovery

HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)

AL - Acetate Liner
 FS - Field Screening Container

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Soil Boring: Bldg 38-2 Project: GM CLCD North UST Closure
 Date: 7/31/96 Project #: F174
 Drilling Contractor: YICI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 14:50 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2" Coring Device: 2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq. ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1	2	SP	Sand	Brown, Moist, Fine/Medium		
		3	CL	Sandy Clay		ND	
		4					
	[X] GP-2	5	SP	Sand		5.0	
		6	CL	Sandy Clay			
		7				3.0	
		8					
		9					
	GP-3	10	SP	Sand		2.0	
		11				2.0	
		12					
		13					
	GP-4	14				3.0	
	[X]	15					
		16	E.O.B	End of Boring 15'		2.0	
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

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Soil Boring: Bldg 38-3 Project: GM CLCD North UST Closure
 Date: 7/31/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 15:15 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
X	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq Ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1	2	CL	Sandy Clay	Dark Brown, Wet, No Fractures		
		3					
		4					
	[X] GP-2	5				5.0	
		6					
		7					
		8					
	GP-3	9	SP	Sand	Brown, Moist, Fine/Medium	4.0	
		10					
		11					
		12					
	GP-4	13				2.0	
		14					
	[X]	15					
		16	E.O.B	End of Boring 15'		ND	
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
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Soil Boring: Bldg 38-4 Project: GM CLCD North UST Closure
 Date: 8/2/96 Project #: P174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 8:05 Depth Drilled: 9'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete			
	GP-1	2		Sand	Brown, Moist, Fine/Medium		
		3					ND
		4					
	[X]	5					ND
	GP-2	6					
		7					ND
		8					
	[X]	9					ND
		10					
		11					
		12					
		13					2.0
		14					
		15		E.O.B	End of Boring 15'		ND
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 R - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

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Soil Boring: Bldg 38-5 Project: GM CLCD North UST Closure
 Date: 8/2/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 9:20 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods

Groundwater Information

Fluid Used: None
 GW Encountered at 14'
 Driller: Ken
 Monitor Wells Installed
 Helper: N/A
 Yes No Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
				Concrete			
	GP-1	1	CL	Clay	Brown, Moist, No Fractures		
		2					
		3	SP	Sand	Brown, Fine/Medium	ND	
		4					
		5				ND	
	GP-2	6					
		7				ND	
		8					
		9				ND	
	GP-3	10					
		11				ND	
		12					
	[X] GP-4	13				ND	
		14					
		15			Gray, Wet		
		16	E.O.B	End of Boring 15'		ND	
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
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Soil Boring: Bldg 38-6 Project: GM CLCD North UST Closure
 Date: 8/2/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 9:55 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Asphalt			
	GP-1	2		Sand	Brown, Moist, Fine/Medium		
		3					ND
		4					
		5					ND
	GP-2	6					
		7					ND
		8					
		9					ND
	GP-3	10					
		11					ND
		12					
	[X] GP-4	13					ND
		14					
		15					ND
		16	E.O.B	End of Boring 15'			
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

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Soil Boring: Bldg 38-7 Project: GM CLCD North UST Closure
 Date: 8/2/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 10:25 Depth Drilled: 9'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at 8'	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete			
	GP-1	2		Sand	Brown, Moist		
		3					ND
		4					
	[X]	5	CL	Sandy Clay	Dark Gray, Wet	620	
	GP-2	6					
		7					
		8					
	[X]	9					
		10					
		11	E.O.B	End of Boring 9'		>1000	
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

Global Environmental Engineering, Inc.
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Soil Boring: Bldg 38-8 Project: GM CLCD North UST Closure
 Date: 8/2/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 10:50 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	<input type="checkbox"/>	GW Encountered at
<input type="checkbox"/>	Hand Auger	<input type="checkbox"/>	Monitor Wells Installed
<input checked="" type="checkbox"/>	Geoprobe	<input type="checkbox"/>	Yes
		<input type="checkbox"/>	No
		<input type="checkbox"/>	Fluid Used: None
		<input type="checkbox"/>	Driller: Ken
		<input type="checkbox"/>	Helper: N/A
		<input type="checkbox"/>	Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	CL	Concrete	Brown, Moist, No Fractures		
	GP-1	2		Clay			
		3	SP	Sand		ND	
		4					
		5					
	GP-2	6					
		7					
		8					
	GP-3	9					
		10					
		11					
		12					
	[X] GP-4	13					
		14					
	[X]	15					
		16	E.O.B	End of Boring 15'		ND	
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
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Soil Boring: Bldg 38-9 Project: GM CLCD North UST Closure
 Date: 8/2/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 11:15 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	CL	Concrete	Brown, Moist, No Fractures	ND	
	GP-1	2		Sandy Clay			
		3					
		4					
		5	SP	Sand	Fine/Medium	ND	
	GP-2	6					
		7					
		8					
	GP-3	9					
		10					
		11					
		12	E.O.B	End of Boring 15'		ND	
	[X] GP-4	13					
		14					
	[X]	15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 IR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
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Soil Boring: Bldg 38-10 Project: GM CLCD North UST Closure
 Date: 8/2/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 11:50 Depth Drilled: 15'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Groundwater Information
 Fluid Used: None
 GW Encountered at
 Driller: Ken
 Monitor Wells Installed
 Helper: N/A
 Yes No
 Weight/Drop: N/A

Boring Methods				USCS Code		SOIL DESCRIPTION	REMARKS	FID	GC
Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	Hollow Stem Auger	Hand Auger	Geoprobe				
		1				Concrete			
	GP-1	2			SP	Sand	Brown, Moist, Fine/Medium		
		3						ND	
		4							
		5							
	GP-2	6						ND	
		7							
		8						ND	
		9							
	GP-3	10						ND	
		11							
		12						ND	
	[X] GP-4	13						ND	
		14							
	[X]	15							
		16			E.O.B	End of Boring 15'		ND	
		17							
		18							
		19							
		20							
		21							
		22							
		23							
		24							
		25							

SS - Split Spoon
 NR - No Recovery

HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)

AL - Acetate Liner
 FS - Field Screening Container

Global Environmental Engineering, Inc.
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 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **40-1** SB1/MW1 Project: **GMCLCD N.**
 Date: 11/8/96 Project #: F174
 Drilling Contractor: GEEI Location: Building 40/02 South
 Prepared By: JCW Twp/Sec.:
 Time Started: 12:45 Depth Drilled: 12'
 Time Completed: Hole Diameter: 4.5"
 Length Coring Device: 5' Coring Device: 8.25"

Boring Methods		Groundwater Information		Fluid Used: None	
<input checked="" type="checkbox"/>	Hollow Stem Auger	GW Encountered at		Driller:	Elroy
	Hand Auger	Monitor Wells Installed		Helper:	NA
	Geoprobe	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Weight/Drop:	140#/30'

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1					
		2					
	SS		SP	Sand	Brown, Moist, Fine/Medium		
	SS	3					
	SS						
	SS	4				ND	
	SS						
	SS	5			Wet		
	SS						
	SS	6				520	
	SS						
	SS	7					
	SS						
	SS	8				12.0	
	SS						
	SS	9					
	SS						
	SS	10	CL	Clay	No Fractures, Trace of Gravel	4.0	
	SS						
	SS	11					
	SS						
	SS	12				4.0	
			E.O.B.	End of Boring 12'			
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc. 5467 Hill 23 Dr., Suite B Flint, Michigan 48507 Tel: (810) 238-9190 Fax: (810) 238-9195	Soil Boring: 40-2 SB2/MW2	Project: GMCLCD N.
	Date: 11/8/96	Project #: F174
	Drilling Contractor: GEEI	Location: Building 40/02 South
	Prepared By: JCW	Twp/Sec.:
	Time Started: 14:50	Depth Drilled: 16'
	Time Completed:	Hole Diameter: 4.5"
	Length Coring Device: 5'	Coring Device: 8.25"

Boring Methods		Groundwater Information		Fluid Used: None
X	Hollow Stem Auger	GW Encountered at		Driller: Elroy
	Hand Auger	Monitor Wells Installed		Helper: NA
	Geoprobe	Yes X	No	Weight/Drop: 140#/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1.					
		2.					
	SS		CL	Sandy Clay	Brown, Moist, No Fractures		
	SS	3.					
	SS						
	SS	4.					
				Clay	Brown/Gray, Fractures	ND	
	SS	5.			Wet		
	SS	6.				8.0	
	SS			Sandy Clay			
	SS	7.					
	SS						
	SS	8.				>1000	
	SS						
	SS	9.					
	SS-[X]	10.		Clay	Some Silt	>1000	
	SS						
	SS	11.					
	SS						
	SS	12.			Gray, No Fractures	NA	
	SS	13.					
	SS	14.				NA	
	SS						
	SS	15.					
	SS						
	SS-[x]	16.				NA	
			E.O.B.	End of Boring 16'			
		17.					
		18.					
		19.					
		20.					
		21.					
		22.					
		23.					

SS-Split Spoon NR-No Recovery	HA-Hand Auger Sample [X]-Laboratory/Jar Sample	PID-Photoionization Detector (ppm) GC-Gas Chromatograph (ppb)	AL-Acetate Liner FS-Field Screening Container
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Global Environmental Engineering, Inc. 352 South Saginaw St., Suite 600 Flint, Michigan 48502 Tel: (810) 238-9190 Fax: (810) 238-9195	Soil Boring:	2S/GP1/MW3	Project:	GM-Tanks
	Date:	12/10/96	Project #:	F174
	Drilling Contractor:	YECI	Location:	Building 02 South
	Prepared By:	JCW	Twp/Sec.:	
	Time Started:	14:15	Depth Drilled:	21'
	Time Completed:		Hole Diameter:	2"
	Length Coring Device:	5'	Coring Device:	2"

Boring Methods		Groundwater Information	
	Hollow Stem Auger	GW Encountered at	Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Scott
X	Geoprobe	Yes X No	Helper: NA
			Weight/Drop: NA

Penetration Tons/Sq. ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
				Concrete			
	GP-1	1	SP	Sand	Black, Moist, Fine/Medium		
		2			Brown		
		3				1.0	
		4					
	GP-2	5	CL	Sandy Clay	Brown/Gray, Moist		
		6		Clay		1.5	
		7					
		8				1.5	
	GP-3	9		Sandy Clay	Brown		
		10			Moist, 2" Sand Lens	1.5	
		11					
		12			Moist, 3" Silt Lens	2.0	
	GP-4	13		Silty Clay			
		14	ML	Sandy Silt	Brown/Gray, Wet, 4" Silty Sand Lens	1.5	
		15			Gray		
		16			G Gray, Moist	3.0	
	GP-5	17		Silt	Wet	56.0	
		18					
	GP-6	19	SP	Sand	Brown, Moist	62.0	
		20			Black		
		21				680.0	
		22	E.O.B.	End of Boring 21'			
		23					

SS-Split Spoon	HA-Hand Auger Sample	PID-Photoionization Detector (ppm)	AL-Acetate Liner
NR-No Recovery	[X]-Laboratory/Jar Sample	GC-Gas Chromatograph (ppb)	FS-Field Screening Container

40-201

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring:	Bldg 40-1	Project:	GM CLCD North UST Closure
Date:	7/24/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	8:30	Depth Drilled:	21'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	<input type="checkbox"/>	GW Encountered at
<input type="checkbox"/>	Hand Auger	<input type="checkbox"/>	Monitor Wells Installed
<input checked="" type="checkbox"/>	Geoprobe	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Concrete			
	GP-1	2	SP	Stone	Black, Moist, Fine/Medium		
		3		Sand		>1000	
		4					
		5				>1000	
	GP-2	6					
		7				820	
		8			3" Brown Clay Lens		
		9			1" Clay Lens	>1000	
	GP-3	10	CL	Clay	Brown, No Fractures		
		11				400.00	
		12					
		13				120.0	
	GP-4	14			Brown/Gray, Fractures		
		15				240	
		16			Gray, Moist, No Fractures		
		17		Sandy Clay		>1000	
	GP-5	18	SP	Sand	Black, Fine/Medium		
		19				>1000	
	GP-6[X]	20			Wet		
		21				>1000	
		22	E.O.B	End of Boring 21'			
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

40-202

Soil Boring:	Bldg 40-2	Project:	GM CLCD North UST Closure
Date:	7/24/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	10:15	Depth Drilled:	15'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used:	None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller:	Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper:	N/A
			Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete	Black, Moist, Fine/Medium	ND	
	GP-1	2		Stone			
		3		Sand			
		4					
	[X] GP-2	5	CL	Clay	Brown, No Fractures	4.0	
		6					
		7					
		8					
		9					
	GP-3	10					
		11					
		12					
		13					
	GP-4	14					
	[X]	15	E.O.B	End of Boring 15'	Gray	ND	
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc. 352 South Saginaw St., Suite 600 Flint, Michigan 48502 Tel: (810) 238-9190 Fax: (810) 238-9195	Soil Boring: Bldg 40-3	Project: GM CLCD North US1 Closure
	Date: 7/24/96	Project #: F174
	Drilling Contractor: YECI	Location: Hamilton & Industrial Ave.
	Prepared By: JCW	Twp/Sec.:
	Time Started: 11:15	Depth Drilled: 21'
	Time Completed:	Hole Diameter: 2"
	Length Coring Device: 2'	Coring Device: 2"

Boring Methods		Groundwater Information	
<input type="checkbox"/> Hollow Stem Auger	<input type="checkbox"/> Hand Auger	<input type="checkbox"/> Geoprobe	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Fluid Used: None	Driller: Ken
		Monitor Wells Installed:	Helper: N/A
		Weight/Drop: N/A	

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete			
	GP-1	2		Stone	Black, Moist, Fine/Medium		
		3		Sand		ND	
		4					
		5		ND			
	GP-2	6					
		7		ND			
		8					
		9		ND			
	GP-3	10					
		11		ND			
		12					
		13	CL	Clay		Gray	160
	GP-4	14			No Fractures		
		15	ML	Clayee Silt		14.0	
	GP-5	16					
		17				16.0	
	GP-6	18					
		19				55.0	
	GP-7	20					
		21	E.O.B	End of Boring 21'		16.0	
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

40-204

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: Bldg 40-4 Project: GM CLCD North US1 Closure
 Date: 7/24/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp./Sec.:
 Time Started: 14:00 Depth Drilled: 16'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	<input type="checkbox"/>	GW Encountered at
<input type="checkbox"/>	Hand Auger	<input type="checkbox"/>	Monitor Wells Installed
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
			Fluid Used: None
			Driller: Ken
			Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete			
	GP-1			Stone			
		2		Sand	Black, Moist, Fine/Medium		
		3					ND
		4					
		5					1.0
	GP-2						
		6					
		7					ND
		8					
		9					ND
	GP-3						
		10					
		11					ND
		12					
		13				4.0	
	GP-4						
		14					
		15			Black, Wet		
	[X]					>1000	
		16					
		17	E.O.B	End of Boring 16'			
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc. 5467 Hill 23 Dr., Suite B Flint, Michigan 48507 Tel: (810) 238-9190 Fax: (810) 238-9195	Soil Boring:	Bldg.40-5	Project:	GMCLCD N. - UST Closures
	Date:	11/12/96	Project #:	F174
	Drilling Contractor:	YECI	Location:	Building 40
	Prepared By:	JCW	Twp/Sec.:	
	Time Started:	10:45	Depth Drilled:	17'
	Time Completed:		Hole Diameter:	2"
	Length Coring Device:	5'	Coring Device:	2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	
<input checked="" type="checkbox"/>	Geoprobe	Yes	No
		Fluid Used:	None
		Driller:	Scott
		Helper:	NA
		Weight/Drop:	NA

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC			
		1	SP	Sand	Black, Moist, Fine/Medium Brown					
	GP-1	2		SC	Clayee Sand	2" Clay Lense	ND			
		3	SP		Sand	Fine/Medium				
		4		Wet						
		5			3.0					
	GP-2	6								
		7								
		8								
		9		CL				Clay	Moist	
	[X]	10			Sandy Clay					3.0
	GP-3	11							2.0	
		12			Clay		Brown/Gray			
		13	Sandy Clay				1.0			
	GP-4	14		Clay		Brown, Some Gravel No Fractures				
		15	Gray				3.0			
	GP-5	16		Moist, No Fractures, Trace of Gravel						
		17	SP		Sand	Brown, Wet, Fine/Medium	2.0			
	[X]	18		E.O.B.	End of Boring 17'					
		19								
		20								
		21								
		22								
		23								
		24								
		25								

SS - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 NR - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

SOIL BORING LOG -- B-1/MW-1 (40-301)

Advanced Environmental, Inc.
 22 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (313) 238-9190
 Fax: (313) 238-9195

Date: 12/16/93 Project: GM CLCD B40 No: 31431E
 Drilling Contractor: Young's Location:
 Prepared By: JLW Twp/Sec.:
 Time Started: 9:10 Total Depth Drilled: 17'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Dia. Coring Device: 4.5"

Boring Methods		Ground Water Observations	
<input checked="" type="checkbox"/> Hollow Stem Auger		GW Encountered at	Drilling Fluid Used: None
<input type="checkbox"/> Hand Auger		Monitor Wells Installed	Driller: Scott Smith
<input type="checkbox"/> Other		Yes <input checked="" type="checkbox"/> See Monitoring Well Log	Helper: Ken Scholls
		No	Hammer Weight: 140 lbs.
			Hammer Drop: 30"

Penetration Blows per 5'	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1					
		2					
		3					
		4					
3	SS		SW	Sand	Brown, Moist, Fine/Medium		
2	SS	5					
3	SS		CL	Clay	Mixed Fill	ND	
3	SS	6					
	SS	7					
	SS	8					
4	SS					ND	
		9					
2	SS-[X]				Gray/Brown		
2	SS-[X]	10					
3	SS-[X]						
3	SS-[X]	11			Tar like substance mixed in cuttings	5	
3	SS	12					
	SS						
	SS	13			Black, Wet	3	
	SS						
		14					
1	SS-[X]					ND	
1	SS-[X]	15					
1	SS-[X]						
2	SS-[X]	16					
	SS	17					
			E.O.B.	End of Boring 17'			
		18					
		19					
		20					

S - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample
 PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (313) 238-9190
 Fax: (313) 238-9195

SOIL BORING LOG - B-2/MW-2 (40-302)

Date: 12/16/93 Project: GM CLCD B40 No: 3143IE
 Drilling Contractor: Young's Location:
 Prepared By: JLW Twp/Sec.:
 Time Started: 1:35 Total Depth Drilled: 16'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Dia. Coring Device: 4.5"

Boring Methods		Ground Water Observations	
X	Hollow Stem Auger	GW Encountered at	Drilling Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Scott Smith
	Other	Yes <input checked="" type="checkbox"/> See Monitoring Well Log	Helper: Ken Scholls
		No	Hammer Weight: 140 lbs.
			Hammer Drop: 30"

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1					
		2					
		3					
		4					
4	SS		SW	Sand	Brown, Moist, Fine/Medium		
5	SS	5					
6	SS		SC	Sandy Clay		ND	
6	SS	6					
	SS	7					
5	SS						
	SS	8					
	SS		CL	Clay		ND	
		9					
4	SS-[X]		SC	Sandy Clay	Brown/Gray, Wet, Strong Odor		
5	SS-[X]	10					
7	SS-[X]		CL	Clay	Gray	7	
8	SS-[X]	11					
	SS-[X]	12					
18	SS-[X]						
20	SS-[X]	13					
	SS-[X]						
		14				20	
30	SS						
40+	SS	15					
	SS						
	SS	16					
			E.O.B.	End of Boring 16'		ND	
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - B-3/MW-3 (40-303)

Invanced Environmental, Inc.
 52 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (313) 238-9190
 Fax: (313) 238-9195

Date: 12/17/93 Project: GM CLCD B40 No: 31431E
 Drilling Contractor: Young's Location:
 Prepared By: JLW Twp/Sec.:
 Time Started: 7:50 Total Depth Drilled: 13'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Dia. Coring Device: 4.5"

Boring Methods		Ground Water Observations	
X	Hollow Stem Auger	GW Encountered at	Drilling Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Scott Smith
	Other	Yes <input checked="" type="checkbox"/> See Monitoring Well Log	Helper: Ken Scholls
		No	Hammer Weight: 140 lbs.
			Hammer Drop: 30"

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1		Limestone	Railroad Ballast		
	SS	2	SW	Sand	Brown, Moist, Fine/Medium		
4	SS	3	SC	Sandy Clay		ND	
	SS	4					
4	SS	5	CL	Clay	Brown/Gray		
5	SS	5					
7	SS	6				ND	
8	SS	7					
	SS	7			Gray		
10	SS	8					
	SS	9	GP	Sand & Gravel	Brown, Very Moist, Coarse/Medium	ND	
12	SS	10	SC	Silty Clay			
18	SS	11	CL	Clay	Moist		
27	SS	11			Gray	ND	
40+	SS	12					
	SS	13					
40+	SS	13					
		14	E.O.B.	End of Boring 13'			
		15					
		16					
		17					
		18					
		19					
		20					

S - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample
 PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - B-4/MW-4 (40-304)

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (313) 238-9190
 Fax: (313) 238-9195

Date: 12/17/93 Project: GM CLCD B40 No: 3143IE
 Drilling Contractor: Young's Location:
 Prepared By: JLW Twp./Sec.:
 Time Started: Total Depth Drilled: 11'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Dia. Coring Device: 4.5"

Boring Methods		Ground Water Observations	
<input checked="" type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Drilling Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Scott Smith
	Other	Yes <input checked="" type="checkbox"/> See Monitoring Well Log	Helper: Ken Scholls
		No	Hammer Weight: 140 lbs.
			Hammer Drop: 30"

Penetration blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1		Concrete			
		2		No Recovery			
		3					
		4					
4	SS		GP	Sand & Gravel	Brown, Wet, Coarse, Strong Odor		
5	SS	5					
7	SS						
3	SS	6					
	SS-[X]	7			Very little recovery (strong Odor)		
5	SS-[X]						
	SS-[X]	8					
7	SS-[X]		CL	Clay	Gray, Moist		
		9					
28	SS-[X]						
30	SS-[X]	10					
35	SS-[X]						
40+	SS-[X]	11					
			E.O.B.	End of Boring 11'			
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS-Split Spoon
 NR-No Recovery
 RB-Rock Bit

E.O.B.-End of Boring
 HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)
 FS-Field Screening Container

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (313) 238-9190
 Fax: (313) 238-9195

SOIL BORING LOG - B-5/MW-5 (40-305)

Date:	12/17/93	Project:	GM CLCD B40	No:	3143IE
Drilling Contractor:	Young's	Location:			
Prepared By:	JLW	Twp/Sec.:			
Time Started:	12:45	Total Depth Drilled:	13.5'		
Time Completed:		Hole Diameter:	8.25"		
Length Coring Device:	5'	Dia. Coring Device:	4.5"		

Boring Methods

Ground Water Observations

<input checked="" type="checkbox"/> Hollow Stem Auger	GW Encountered at	Drilling Fluid Used:	None
<input type="checkbox"/> Hand Auger	Monitor Wells Installed	Driller:	Scott Smith
<input type="checkbox"/> Other	Yes <input checked="" type="checkbox"/> See Monitoring Well Log	Helper:	Ken Scholls
	No	Hammer Weight:	140 lbs.
		Hammer Drop:	30"

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1	GP	Gravel	Black, Moist, Coarse		
	SS-[X]						
	SS-[X]	2	SC	Sandy Clay	Brown, Moist		
	SS						
	SS	3					
	SS						
		4					
	SS		CL	Clay	Gray/Green, Odor		
	SS	5					
	SS						
	SS	6					
	SS-[X]						
	SS-[X]	7			Wet		
	SS-[X]						
	SS-[X]	8			Brown/Gray, Moist		
	SS-[X]						
		9					
	SS						
	SS	10					
	SS						
	SS	11					
	SS						
	SS	12			Gray/Brown, Fractured		
	SS						
	SS	13					
	SS						
		14	E.O.B.	End of Boring 13.5'			
		15					
		16					
		17					
		18					
		19					
		20					

SS-Split Spoon
 NR-No Recovery
 RB-Rock Bit

E.O.B.-End of Boring
 HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)
 FS-Field Screening Container

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 5/TB-1 (43-100)
 Start Date 9/25/91 Completed 9/25/91

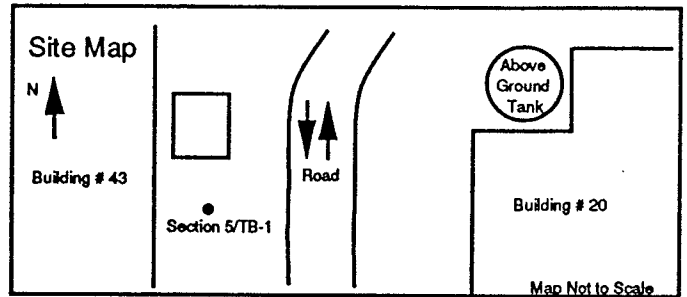
Ground Surface Elevation: 754.0 feet based on a USGS datum

Ground-Water Data
Ground water was encountered during drilling at approximately 11.0 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-22.5 feet

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals


General Notes
Monitoring well Section 5/MW-1 installed in borehole with well screen tip at a depth of 15.5 feet.
Refer to Section 5/MW-1 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
0.0									0.0	Asphalt
1									4"	FILL: Loose to Medium Compact Black Stained Medium SAND, dry
2	SS-1	2.5	20	5 6	12	6	1			
3										
4				4 4						
5	SS-2	5.0	17	6	10	6	2			
6										
7				3 2						
8	SS-3	7.5	16	2 2	4	5	1			
9				1 2					8.0	Soft yellow to brown medium CLAYEY SAND, moist
10	SS-4	10.0	20	2 2		ND	7			
11										
12				1 1						
13	SS-5	12.5	19	1 1	2	ND	8			
14				3 4						
15	SS-6	15.0	8	7	11	1	5			
16										
17				3 3						
18	SS-7	17.5	15	6	9	1	3			
19				4 3					19.6	Very Loose to Medium Compact Light Brown Medium SAND, some silt, wet
20	SS-8	20.0	25	6	9	2	3		20.0	Stiff Light Gray SILTY CLAY, moist

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Notes _____

Boring Designation Section 5/TB-1 (43-100)
 Start Date 9/25/91 Completed 9/25/91
 Ground Surface Elevation: 754.0 feet based on a USGS datum

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
21										
22	SS-9	22.5	26	2 4 5	9					Stiff Light Gray SILTY CLAY, moist
23										
4										
5										
6										
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
										END OF BORING AT 22.5 FEET

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 6/TB-2^{MW} (43-101)
 Start Date 9/27/91 Completed 9/27/91

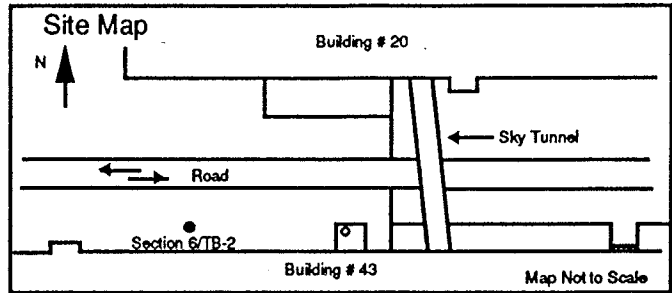
Ground Surface Elevation: 753.5 feet based on a USGS datum

Ground-Water Data
Ground water was encountered during drilling at approximately 11.0 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-20.0 feet

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

General Notes
Monitoring well Section 6/MW-2 installed in borehole with will screen tip at a depth of 15.5 feet.
Refer to Section 6/MW-2 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
0.0									0.0	Fill: Very Loose to Medium Compact, Stained Brown to Black Medium SAND with silt, oily, moist
2.5	SS-1	2.5	21	9 10 10	20	3	3			
5.0	SS-2	5.0	16	1 1 1	2	4	1			
7.5	SS-3	7.5	17	3 3 4	7	2	2			
10.0	SS-4	10.0	20	2 2 2	4	4	3		9.5	Soft Stained SANDY CLAY, moist
12.5	SS-5	12.5	13	3 4 7	11	1	300		10.0	Loose to Medium Compact Light Brown Fine to Medium SAND, little silt, wet
15.0	SS-6	15.0	18	3 3 4	7	1	2			
17.5	SS-7	17.5	18	2 3 5	8	ND	ND			
20.0	SS-8	20.0	23	4 9 13	22	ND	4			
END OF BORING AT 20.0 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 6/TB-3 (43-102)

Start Date 9/30/91 Completed 9/30/91

Ground Surface Elevation: 754.4 feet based on a USGS datum

Ground-Water Data
Ground water was encountered during drilling at approximately 11.5 feet below ground surface.

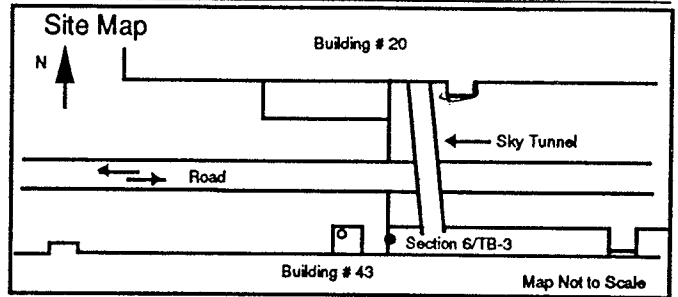
Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-22.5 feet

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-22.5 feet
Pressure pumped from bottom of borehole to surface

General Notes

Temporary Monitoring Well was installed at this test boring location for ground water sampling with well screen tip at a depth of 15.0 feet below ground surface



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1									0.0	Fill: Loose to Medium Compact, Stained SILTY SAND
2	SS-1	2.5	18	7 9 9	18	0.8	ND			
3										
4	SS-2	5.0	16	2 4 5	9	1.0	ND			
5									5.0	Medium Compact, Light Brown CLAYEY SAND, dry
6										
7	SS-3	7.5	17	3 5 7	12	1.4	ND			
8										
9	SS-4	10.0	15	2 2 3	5	2.9	ND			
10										
11										
12	SS-5	12.5	15	2 2 3	5	2.4	ND			
13										
14	SS-6	15.0	16	3 3 3	6	3.1	11			
15										
16										
17	SS-7	17.5	25	2 3 2	5	9.1	1.0			
18										
19										
20	SS-8	20.0	15	2 3 4	7	3.5	5.0			

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 7/TB-8 (43-163)
 Start Date 10/16/91 Completed 10/17/91

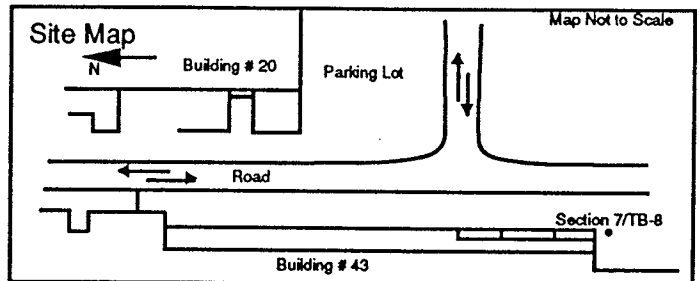
Ground Surface Elevation: 750.6 feet based on a USGS datum

Ground-Water Data
Ground water was encountered during drilling at approximately 10.0 feet below ground surface

Drilling Method(s) 4 1/2 inch I.D. Hollow-Stem Auger Depth Range 0-17.5 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes
Monitoring well Section 7/MW-8 installed in borehole with well screen tip at a depth of 13.5 feet.
Refer to Section 7/MW-8 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1								•••	0.0	Crushed Stone Gravel
2	SS-1	2.5	14	3 2 3	5	68	97	•••	0.8	Fill: Loose to Medium Compact Brown to Black Stained Fine to Medium SAND, some slag, some clay, moist, petroleum odor
3								•••		
4								•••		
5	SS-2	5.0	12	4 6 9	15	50	133	•••		
6								•••		
7								•••		
8	SS-3	7.5	18	3 3 5	8	290	67	•••	7.5	Loose to Medium Compact Gray to Brown Fine to Medium SILTY SAND, wet, petroleum odor
9								•••		
10	SS-4	10.0	18	3 2 3	5	>1000	58.4	•••		
11								•••		
12								•••		
13	SS-5	12.5	12	4 4 6	10	90	48.7	•••		
14								•••		
15	SS-6	15.0	20	4 5 9	14	45	57	•••		
16								•••		
17	SS-7	17.5	24	6 8 10	18	100	144	•••		
18										
19										
20										
END OF BORING AT 17.5 FEET										

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 5/TB-2 (43-204)
 Start Date 9/26/91 Completed 9/26/91

Ground Surface Elevation: 753.8 feet based on a USGS datum

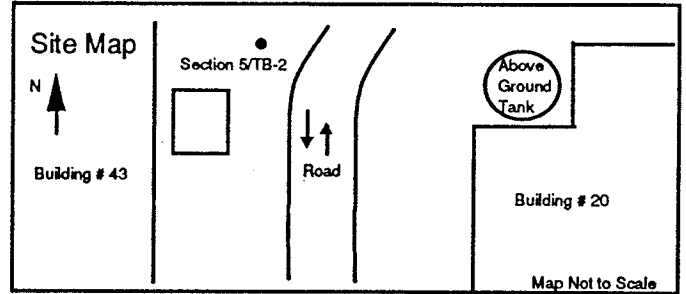
Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-30.0 feet

Ground-Water Data
Ground water was encountered during drilling at approximately 11.0 feet below ground surface.

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-30.0 feet
Pressure pumped from bottom of borehole to surface.

General Notes
Borehole was grouted with Bentonite/Cement Slurry.
No Monitoring Well installed at this location



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
0.0									0.0	Concrete
1				4					8"	Fill: Stiff Light Brown SANDY CLAY, little gravel, moist
2	SS-1	2.5	14	4	10	>1000	7			
3				4						
4				4					3.0	Medium Compact to Stiff Light Brown Medium SANDY CLAY, moist
5	SS-2	5.0	17	4	11	200	8			
6				7						
7				2						
8	SS-3	7.5	14	3	7	240	7			
9				4						
10	SS-4	10.0	16	4	9	60	6			
11				5					10.0	Very Loose to Loose Light Brown to Gray Medium SAND, little silt, wet
12				4						
13	SS-5	12.5	13	5	11	76	5			
14				6						
15	SS-6	15.0	16	1	3	3	3			
16				2						
17				2						
18	SS-7	17.5	24	3	5	2	2			
19				4						
20	SS-8	20.0		3	9	12	3			



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43 PROJECT NUMBER ▶ 54079400324

BORING NUMBER ▶ SB-43-9 (43-207) SITE LOCATION ▶ Plant 05 902 East Hamilton

DATE ▶ MAY 13 94 WEATHER ▶ Indoor Boring

LOGGED BY ▶ Kwiecinski DRILLED BY ▶ ATEC Associates, Inc

DRILLING METHOD ▶ Hollow Stem Auger SAMPLING METHOD ▶ Split Spoon

GRAVEL PACK ▶ N/A SEAL ▶ N/A

CASING ▶ TYPE N/A DIAMETER N/A LENGTH N/A HOLE DIA. 6.25"

SCREEN ▶ TYPE N/A SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
5	N/A	1	2.00	4 5		ND	Fine SAND, damp, brown SW	
10		2	2.00	5 5		ND	Fine SAND, little clay, damp, brown SW	
15		3	2.00	8 10		ND	Fine SAND, wet, brown SW	
							Hydropunch Sample Collected	
20		4	2.00	12 10		ND	Fine SAND, saturated, brown SW	
25							Fine SAND, saturated, grey SW	
							Very fine SAND and silt, moist, grey SM	
							END OF BORING	

water levels: ☞ ATD ☞ "Stabilized"



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43	PROJECT NUMBER ▶ 54079400324
BORING NUMBER ▶ SB-43-8 (43-208)	SITE LOCATION ▶ Plant 05 902 East Hamilton
DATE ▶ MAY 13 94	WEATHER ▶ Indoor Boring
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						Concrete	
5		1	1.75	9 9		ND	Fine SAND, damp, brown	
10								
15		2	2.00	7 7		ND	Fine SAND, little clay, damp, brown SW	
							Fine SAND, wet, brown SW	
							Hydropunch Sample Collected	
20		3	2.00	8 6		ND	Fine SAND, saturated, brown SW	
25		4	2.00	9 13		ND	Fine SAND, saturated, brown SW	
							Fine SAND, saturated, brown SW	
							Hydropunch Sample Collected	
							Fine SAND, saturated, grey SW	
							Very fine SAND to silt, moist, grey SM	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43

PROJECT NUMBER ▶ 54079400324

BORING NUMBER ▶ SB-43-1 (43-241)

SITE LOCATION ▶ Plant 05 902 East Hamilton

ATE ▶ MAY 9 94

WEATHER ▶ Indoor Boring

LOGGED BY ▶ Kwiecinski

DRILLED BY ▶ ATEC Associates, Inc

DRILLING METHOD ▶ Hollow Stem Auger

SAMPLING METHOD ▶ Split Spoon

GRAVEL PACK ▶ N/A

SEAL ▶ N/A

CASING ▶ TYPE N/A

DIAMETER N/A LENGTH N/A

HOLE DIA. 6.25"

SCREEN ▶ TYPE N/A

SLOT N/A

DIAMETER N/A LENGTH N/A

TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					Concrete	
1		1	1.75	3 3	5	Fine SAND, little clay, trace gravel, damp, brown SW	
2		2	2.00	7 7	5		
3		3	1.75	4 5	6	CLAY, little fine sand, damp, grey CL	
4		4	1.75	6 5	ND	Fine SAND, moist, brown SW	
5		5	2.00	7 10	ND	Fine SAND, wet to saturated, black SW Hydropunch Sample Collected	
6		6	2.00	10 10	ND	Fine SAND, saturated, brown SW	
7		7	2.00	10 10	ND	Fine SAND, saturated, brown SW	
						END OF BORING	

Water levels: ATD *Stabilized*



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43

PROJECT NUMBER ▶ 54079400324

BORING NUMBER ▶ SB-43-3 (43-243)

SITE LOCATION ▶ Plant 05 902 East Hamilton

DATE ▶ MAY 10 94

WEATHER ▶ Indoor Boring

LOGGED BY ▶ Kwiecinski

DRILLED BY ▶ ATEC Associates, Inc

DRILLING METHOD ▶ Hollow Stem Auger

SAMPLING METHOD ▶ Split Spoon

GRAVEL PACK ▶ N/A

SEAL ▶ N/A

CASING ▶ TYPE N/A

DIAMETER N/A LENGTH N/A

HOLE DIA. 6.25"

SCREEN ▶ TYPE N/A

SLOT N/A

DIAMETER N/A LENGTH N/A

TOTAL DEPTH 26.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					Concrete	
5						Fine SAND, damp, brown SW	
12		1	2.00	7 9	ND	Fine SAND, wet, brown to grey SW Hydropunch Sample Collected	
24		2	2.00	10 9	ND	CLAY little fine sand, moist, grey	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43 PROJECT NUMBER ▶ 54079400324

BORING NUMBER ▶ SB-43-4 (43-244) SITE LOCATION ▶ Plant 05 902 East Hamilton

DATE ▶ MAY 11 94 WEATHER ▶ Indoor Boring

LOGGED BY ▶ Kwiecinski DRILLED BY ▶ ATEC Associates, Inc

DRILLING METHOD ▶ Hollow Stem Auger SAMPLING METHOD ▶ Split Spoon

GRAVEL PACK ▶ N/A SEAL ▶ N/A

CASING ▶ TYPE N/A DIAMETER N/A LENGTH N/A HOLE DIA. 6.25"

SCREEN ▶ TYPE N/A SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 21.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						Concrete	
5		1	1.75	5 7		ND	Fine SAND, damp, brown SW	
10		2	2.00	7 7		ND	Fine SAND, damp, black SW	
15		3	2.00	8 8		2	Fine SAND, little clay, moist, gray SW	
		4	2.00	13 15		ND	Fine SAND, little clay, moist, dark brown SW	
20		5	2.00	15 15		ND	Hydropunch Sample Collected CLAY trace fine sand, damp, grey CL	
							END OF BORING	

ater levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43	PROJECT NUMBER ▶ 54079400324
BORING NUMBER ▶ SB-43-5 (43-267)	SITE LOCATION ▶ Plant 05 902 East Hamilton
DATE ▶ MAY 11 94	WEATHER ▶ Indoor Boring
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A							
5		1	1.75	3 3		ND	Fine SAND, damp, brown SW	
10		2	2.00	4 3		ND		
15		3	2.00	6 7		ND	Fine SAND, damp, brown SW	
		4	2.00	8 7		ND	CLAY, little fine sand, damp, grey CL	
		5	2.00	9 8		ND	CLAY, little fine sand, damp, black CL	
							Hydropunch Sample Collected Fine SAND, damp, grey SW	
20		6	2.00	8 8		ND		
							Fine SAND and silt, wet, grey SW	
25		7	2.00	10 15		ND	CLAY, damp, grey	
							END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43	PROJECT NUMBER ▶ 54079400324
BORING NUMBER ▶ SB-43-6 (43-268)	SITE LOCATION ▶ Plant 05 902 East Hamilton
DATE ▶ MAY 12 94	WEATHER ▶ Indoor Boring
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 23.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						Concrete	
5		1	1.75	58		ND	Fine SAND, damp, brown SW	
10		2	2.00	87		ND	Fine SAND, damp, brown SW	
15		3	2.00	108		ND	Fine SAND, damp, brown SW Fine to very fine SAND, wet, grey SW Hydropunch Sample Collected	
20		4	2.00	110		ND	Coarse SAND, saturated, brown SW Hydropunch Sample Collected	
							CLAY, moist, grey CL END OF BORING	

water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ G.M.-Powertrain-Building #43	PROJECT NUMBER ▶ 54079400324
BORING NUMBER ▶ SB-43-7 (43-269)	SITE LOCATION ▶ Plant 05 902 East Hamilton
DATE ▶ MAY 12 94	WEATHER ▶ Indoor Boring
LOGGED BY ▶ Kwiecinski	DRILLED BY ▶ ATEC Associates, Inc
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 6.25"
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					Concrete	
5		1	2.00	7 8	ND	Fine SAND, damp, brown	
10							
15		2	2.00	9 9	ND	Fine SAND, wet, brown Hydropunch Sample Collected	
20							
25		3	2.00	12 11	ND	Coarse SAND, wet, brown Hydropunch Sample Collected	
		4	1.75	13 12	ND	END OF BORING	

Water levels: ATD "Stabilized"

43-301

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

SOIL BORING LOG - G-1

Date:	6/8/94	Project:	Tank Farm #37	No:	40721Q
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	8:40	Total Depth Drilled:	12'		
Time Completed:	10:00	Hole Diameter:	2" & 1 3/8"		
Length Coring Device:	2' & 4'	Dia. Coring Device:	1 1/2" & 1 1/8"		

Boring Methods		Ground Water Observations	
	Hollow Stem Auger	GW Encountered at	Drilling Fluid Used: N/A
	Hand Auger	Monitor Wells Installed	Driller: Matt Fogo
X	Geoprobe	Yes See Monitoring Well Log	Helper: N/A
		No X	Hammer Weight: N/A
			Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1	1	PT	Asphalt			
		2	SM	Stone	Black/Brown, Moist, Fine	2.1	
		3		Silty Sand	Odor at 2'		
		4				2.1	
	GP-2	5			50% Sample Recovery		
		6	PT	Concrete			
		7	SM	Silty Sand	Black/Brown, Moist, Fine	3.8	
		8					
	GP-3[X]	9	SC	Clayey Sand	Brown, Moist, Fine, 25% Recovery (Soil Sample)	5.7	
		10					
	GP-4[X]	11	SM	Silty Sand	Brown, Moist, Fine, (Soil Sample)	5.6	
		12			Wet, Groundwater Encountered at 11.5'		
		13	E.O.B.	Sandy Silt			
		14		End of Boring 12'			
		15					
		16					
		17					
		18					
		19					
		20					

Split Spoon
 - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

43-302

Advanced Environmental, Inc. 352 South Saginaw Street Suite 600 Flint, Michigan 48502 Tel: (810) 238-9190 Fax: (810) 238-9195	SOIL BORING LOG - G-2					
	Date:	6/8/94	Project:	Tank Farm #37	No:	4072IQ
	Drilling Contractor:	EQL	Location:	GM/CLCD/North		
	Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
	Time Started:	10:00	Total Depth Drilled:	12'		
	Time Completed:	11:45	Hole Diameter:	2" & 1 3/8"		
Length Coring Device:	2' & 4'	Dia. Coring Device:	1 1/2" & 1 1/8"			

Boring Methods	Ground Water Observations	Drilling Fluid Used:	N/A
Hollow Stem Auger	GW Encountered at 10'	Driller:	Matt Fogo
Hand Auger	Monitor Wells Installed	Helper:	N/A
X Geoprobe	Yes ___ See Monitoring Well Log	Hammer Weight:	N/A
	No X	Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1	1	PT	Asphalt	50% Recovery		
		2	SW	Stone			
		3		Sand	Brown, Moist, Fine		
		4	SM	Silty Sand	2" Layer of Fill, Glass Black/Brown, Moist Fine	1.2	
	GP-2	5			25% Recovery		
		6	PT	Concrete			
		7					
		8	SC	Silty Clay Sand	Brown, Moist, Fractures, Recovered Bottom 12"	0.0	
	GP-3	9	SM	Sandy Silt	50% Recovery		
		10			Wet	2	
	GP-4[X]	11			Black, (Soil Sample), Groundwater Encountered at 10'		
		12			Gray	7.4	
		13	E.O.B.	End of Boring 12'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon E.O.B. - End of Boring PID - Photoionization Detector (ppm)
 NR - No Recovery HA - Hand Auger Sample GC - Gas Chromatograph (ppb)
 RB - Rock Bit [X] - Laboratory/Jar Sample FS - Field Screening Container
 AL - Acetate Liner

43-303

SOIL BORING LOG - G-3

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/8/94 Project: Tank Farm #37 No: 4072IQ
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 12:15 Total Depth Drilled: 3'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 4' Dia. Coring Device: 1 1/2"

Boring Methods		Ground Water Observations		Drilling Fluid Used: N/A	
	Hollow Stem Auger	GW Encountered at		Driller:	Matt Fogo
	Hand Auger	Monitor Wells Installed		Helper:	N/A
X	Geoprobe	Yes ___ See Monitoring Well Log		Hammer Weight:	N/A
		No X		Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1		PT	Asphalt			
		1		Stone			
		2	SM	Silty Sand	Black		
		3			Refusal - hit concrete		
		4	E.O.B.	End of Boring 3'			
		5					
		6					
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

13-304

SOIL BORING LOG - G-4

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/8/94 Project: Tank Farm #37 No: 4072IQ
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 12:45 Total Depth Drilled: 5'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 4' Dia. Coring Device: 1 1/2"

Boring Methods	Ground Water Observations	Drilling Fluid Used:
Hollow Stem Auger	GW Encountered at	N/A
Hand Auger	Monitor Wells Installed	Driller: Matt Fogo
X Geoprobe	Yes See Monitoring Well Log	Helper: N/A
	No X	Hammer Weight: N/A
		Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1	1	PT	Asphalt			
		2	SM	Stone	Brown		
		3		Silty Sand	Black		
		4			4" Lens of Brown Clay		
	GP-2	5				2.7	
		6	E.O.B.	End of Boring 5'	Refusal - Obstruction 5'		
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

- Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

43-305

SOIL BORING LOG - G-5

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date:	6/8/94	Project:	Tank Farm #37	No:	40721Q
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	13:05	Total Depth Drilled:	5'		
Time Completed:		Hole Diameter:	2"		
Length Coring Device:	4'	Dia. Coring Device:	1 1/2"		

Boring Methods		Ground Water Observations	
	Hollow Stem Auger	GW Encountered at	Drilling Fluid Used: N/A
	Hand Auger	Monitor Wells Installed	Driller: Matt Fogo
X	Geoprobe	Yes <input type="checkbox"/> See Monitoring Well Log	Helper: N/A
		No <input checked="" type="checkbox"/>	Hammer Weight: N/A
			Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1	1	PT	Asphalt			
		2	SM	Stone	Black, Moist, Fine		
		3		Silty Sand			
		4				12.7	
	GP-2	5					
		6	E.O.B.	End of Boring 5'	Refusal - Obstruction 5'		
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

43-306

Advanced Environmental, Inc. 352 South Saginaw Street Suite 600 Flint, Michigan 48502 Tel: (810) 238-9190 Fax: (810) 238-9195	SOIL BORING LOG - G-6					
	Date:	6/8/94	Project:	Tank Farm #37	No:	4072IQ
	Drilling Contractor:	EQL	Location:	GM/CLCD/North		
	Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
	Time Started:	13:30	Total Depth Drilled:	12'		
	Time Completed:	14:30	Hole Diameter:	2" & 1 3/8"		
Length Coring Device:	2' & 4'	Dia. Coring Device:	1 1/2" & 1 1/8"			

Boring Methods		Ground Water Observations		Drilling Fluid Used:	N/A
	Hollow Stem Auger	GW Encountered at	11'	Driller:	Matt Fogo
	Hand Auger	Monitor Wells Installed		Helper:	N/A
X	Geoprobe	Yes	See Monitoring Well Log	Hammer Weight:	N/A
		No X		Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1	1	PT	Concrete	50% Recovery		
		2	SM	Silty Sand	Black, Moist, Fine		
		3					
		4				3.4	
	GP-2	5					
		6	CL	Clay	Brown, Moist, No Fractures, 8" Clay Lens		
		7	SM	Silty Sand	Brown, Moist, Fine		
		8				2.8	
	GP-3	9					
		10				2.7	
	GP-4[X]	11			Gray, (Soil Sample) Wet, Groundwater Encountered at 11'		
		12					
		13	E.O.B.	End of Boring 12'		1.3	
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner
 E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample
 PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

O'BRIEN & GERE ENGINEERS, INC.			43-401 SOIL BORING LOG			LOG NUMBER: GB-1 SHEET 1 OF 1				
CLIENT General Motors Corporation PROJECT LOCATION CLCD North Trench Area, Flint, MI			GROUNDWATER DATE DEPTH ELEVATION Approximately 9 fbg			FILE No.: 5975.001 DRILLING METHOD: Geoprobe SAMPLER TYPE: 2" steel sampler(1 3/8" dia.) Hydraulically powered probe				
O'BRIEN & GERE GEOLOGIST: Michael B. Robison BORING CO.: Environmental Quality Laboratories FOREMAN: Pat Fogo			BORING LOCATION: Approximately 64' south of Well #1 GROUND ELEVATION: 99.66' DATES: STARTED: 7/20/94 ENDED: 7/20/94							
DEPTH	SAMPLE			SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	EQUIPMENT INSTALLED	FIELD TESTING			R M K S*
	No.	DEPTH	BLOWS /6"				PENETRATION RECOVERY	*N* VALUE	SAL. /100		SP. COND.	PID
0	1	0'-2'			Gravel(2" dia.)					0.0
					Brown, damp, medium-fine SAND	1'				
	2	2'-4'			Brown, damp, medium-fine SAND	2'				300
					Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	3'				
	3	4'-6'			Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	4'				1,700
5										
	4	6'-8'			Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	6'				2,100
	5	8'-10'			Olive-brown, moist, silty SAND, free product(oil based), odor	8'				1,900
					Olive-brown, moist, silty SAND, free product(oil based), odor	9'				
					Olive-brown, wet, silty SAND, free product(oil based), odor	9'6"				
10	6	10'-12'			Brown, wet, medium SAND, odor	10'				2,400
	7	12'-14'			Brown, wet, medium SAND, odor	12'				300
	8	14'-16'			Brown, wet, medium SAND, odor	14'				90
15										
		16'-18'			Brown, wet, medium SAND, odor	16'				10
		18'-20'			Grey, moist, CLAY, plastic, no odor	17'6"				
					E.O.B. @ 18 fbg					
20		20'-22'								

NOTES:

PID readings (shown in parts per million) are estimated due to possible PID malfunction.

Following soil sampling activities GB-1 was grouted to surface.

"*" denotes top of 24" discrete soil sample interval.

O'BRIEN & GERE ENGINEERS, INC.					43-402 SOIL BORING LOG					LOG NUMBER: GB-2 SHEET 1 OF 1				
CLIENT General Motors Corporation PROJECT LOCATION CLCD North Trench Area, Flint, MI					DATE GROUNDWATER DEPTH ELEVATION Approximately 9 fbg					FILE No.: 5975.001 DRILLING METHOD: Gooprobe SAMPLER TYPE: 2' steel sampler(1 3/8" dia.) Hydraulically powered probe				
O'BRIEN & GERE GEOLOGIST: Michael B. Robison BORING CO.: Environmental Quality Laboratories FOREMAN: Pat Fogo					BORING LOCATION: Approximately 20' south of Well #1 GROUND ELEVATION: 99.56' DATES: STARTED: 7/20/94 ENDED: 7/20/94									
DEPTH	No.	DEPTH	SAMPLE BLOWS /6"	PENETRATION RECOVERY	*N* VALUE	SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	EQUIPMENT INSTALLED	FIELD TESTING			R M K S*		
									SAL. 0/00	SP. COND.	PID			
0	1	0'-2'				Gravel(2"dia.)						0.0		
						Brown, damp, medium-fine SAND	1'							
	2	2'-4'				Brown, damp, medium-fine SAND	2'					230		
						Black(stained), damp, silty SAND, little gravel(1/4"dia.), odor	3'						*	
	3	4'-6'				Black(stained), damp, silty SAND, little gravel(1/4"dia.), odor	4'					1,800		
5														
	4	6'-8'				Black(stained), damp, silty SAND, little gravel(1/4"dia.), odor	6'					1,900		
						Olive-brown, moist, silty SAND, odor	7'							
	5	8'-10'				Olive-brown, moist, silty SAND, odor	8'					2,500		
						Olive-brown, moist, silty SAND, free product(oil based), odor	9'							
10	6	10'-12'				Olive-brown, moist, silty SAND, free product(oil based), odor	10'					2,000		
	7	12'-14'				Brown, wet, medium SAND, odor	11'6"					200		
	8	14'-16'				Brown, wet, medium SAND, odor	14'					50	*	
15														
		16'-18'				Brown, wet, medium SAND, odor	16'					5		
						Grey, moist, CLAY, plastic, no odor	16'6"							
		18'-20'				E.O.B. @ 18 fbg								
20		20'-22'												

NOTES:

PID readings (shown in parts per million) are estimated due to possible PID malfunction.
 Following soil sampling activities GB-2 was grouted to surface.
 "*" denotes top of 24" discrete soil sample interval.

O'BRIEN & GERE ENGINEERS, INC.					43-403 SOIL BORING LOG					LOG NUMBER: GB-3 SHEET 1 OF 1				
CLIENT General Motors Corporation PROJECT LOCATION CLCD North Trench Area, Flint, MI					GROUNDWATER DATE DEPTH ELEVATION Approximately 9 fbg					FILE No.: 5975.001 DRILLING METHOD: Geoprobe SAMPLER TYPE: 2" steel sampler(1 3/8" dia.) Hydraulically powered probe				
O'BRIEN & GERE GEOLOGIST: Michael B. Robison BORING CO.: Environmental Quality Laboratories FOREMAN: Pat Fogo					BORING LOCATION: Approximately 33' north of Well #1 GROUND ELEVATION: 99.62' DATES: STARTED: 7/20/94 ENDED: 7/20/94									
DEPTH	SAMPLE				SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	EQUIPMENT INSTALLED	FIELD TESTING			R M K S*			
	No.	DEPTH	BLOWS /6"	PENETRATION RECOVERY				"N" VALUE	SAL. 0/00	SP. COND.		PID		
0	1	0'-2'			Gravel(2" dia.)						0.0			
					Brown, damp, medium-fine SAND	1'								
	2	2'-4'			Brown, damp, medium-fine SAND	2'					200			
					Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	3'								
	3	4'-6'			Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	4'					2,000			
	5													
	4	6'-8'			Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	6'					3,000			
					Olive-brown, moist, silty SAND, odor	7'								
	5	8'-10'			Olive-brown, moist, silty SAND, odor	8'					2,300			
					Olive-brown, wet, silty SAND, free product(oil based), odor	9'								
	10	10'-12'			Olive-brown, wet, silty SAND, free product(oil based), odor	10'					1,400			
	7	12'-14'			Brown, wet, medium SAND, odor	12'					900			
	8	14'-16'			Brown, wet, medium-fine SAND, odor	14'					100			
	15													
		16'-18'			Brown, wet, medium-fine SAND, odor	16'					12			
					Grey, moist, CLAY, plastic, no odor	17'								
		18'-20'			E.O.B. @ 18 fbg									
	20	20'-22'												

NOTES:
 PID readings (shown in parts per million) are estimated due to possible PID malfunction.
 Following soil sampling activities GB-3 was grouted to surface.
 "*" denotes top of 24" discrete soil sample interval.

O'BRIEN & GERE ENGINEERS, INC.			43-404 SOIL BORING LOG			LOG NUMBER: GB-4 SHEET 1 OF 1							
CLIENT General Motors Corporation PROJECT LOCATION CLCD North Trench Area, Flint, MI			GROUNDWATER DATE DEPTH ELEVATION Approximately 10 fbg			FILE No.: 5975.001 DRILLING METHOD: Geoprobe SAMPLER TYPE: 2' steel sampler(1 3/8" dia.) Hydraulically powered probe							
O'BRIEN & GERE GEOLOGIST: Michael B. Robison BORING CO.: Environmental Quality Laboratories FOREMAN: Pat Fogo			BORING LOCATION: Approximately 45' south of Well #2 GROUND ELEVATION: 100.13' DATES: STARTED: 7/21/94 ENDED: 7/21/94										
DEPTH	SAMPLE					SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	EQUIPMENT INSTALLED	FIELD TESTING			R M K S*	
	No.	DEPTH	BLOWS /6"	PENETRATION RECOVERY	"N" VALUE				SAL. Q/00	SP. COND.	PID		
0	1	0'-2'				Gravel(2" dia.)						0.0	
						Brown, damp, medium-fine SAND	1'						
	2	2'-4'				Brown, damp, medium-fine SAND Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	2' 2'6"					150	
	3	4'-6'				Black(stained), damp, silty SAND, little gravel(1/4" dia.), odor	4'					2,100	*
5													
	4	6'-8'				Olive-brown, damp, silty SAND, odor	6'					2,900	
	5	8'-10'				Olive-brown, damp, silty SAND, odor	8'					2,300	
10	6	10'-12'				Olive-brown, wet, silty SAND, free product(oil based), odor	10'					1,100	
	7	12'-14'				Olive-brown, wet, silty SAND, free product(oil based), odor	12'					700	
						Brown, wet, medium-fine SAND, odor	13'						
	8	14'-16'				Brown, wet, medium-fine SAND, odor	14'					80	
15													
		16'-18'				Brown, wet, medium-fine SAND, odor	16'					9	
						Grey, moist, CLAY, plastic, no odor	17'						
		18'-20'				E.O.B. @ 18 fbg							
20		20'-22'											

NOTES:

PID readings (shown in parts per million) are estimated due to possible PID malfunction.

Following soil sampling activities GB-4 was grouted to surface.

"**" denotes top of 24" discrete soil sample interval.

O'BRIEN & GERE ENGINEERS, INC.		43-405		SOIL BORING LOG		LOG NUMBER: GB-5					
CLIENT General Motors Corporation PROJECT LOCATION CLCD North Trench Area, Flint, MI		DATE		GROUNDWATER DEPTH Approximately 10 fbg		ELEVATION					
O'BRIEN & GERE GEOLOGIST: Michael B. Robison BORING CO.: Environmental Quality Laboratories FOREMAN: Pat Fogo		BORING LOCATION: Approximately 99' north of Well #2 GROUND ELEVATION: 100.42' DATES: STARTED: 7/21/94 ENDED: 7/21/94		FILE No.: 5975.001		DRILLING METHOD: Geoprobe SAMPLER TYPE: 2" steel sampler(1 3/8" dia.) Hydraulically powered probe					
DEPTH	SAMPLE				SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	EQUIPMENT INSTALLED	FIELD TESTING			R M K S*
	No.	DEPTH	BLOWS /6"	PENETRATION RECOVERY				"N" VALUE	SAL. /100	SP. COND.		PID
0	1	0'-2'			Gravel(2"dia.)						0.0
					Brown, damp, medium-fine SAND	1'					
	2	2'-4'			Brown, damp, medium-fine SAND Black(stained), damp, silty SAND, little gravel(1/4"dia.), odor	2' 2'6"					180
	3	4'-6'			Black(stained), damp, silty SAND, little gravel(1/4"dia.), odor	4'					1,200
5					Olive-brown, damp, silty SAND, odor	5'					
	4	6'-8'			Olive-brown, damp, silty SAND, odor	6'					2,000
	5	8'-10'			Olive-brown, damp, silty SAND, odor	8'					1,900
10	6	10'-12'			Olive-brown, damp, silty SAND, odor	10'					1,200
					Olive-brown, wet, silty SAND, free product(oil based), odor	11'					
	7	12'-14'			Olive-brown, wet, silty SAND, free product(oil based), odor	12'					400
					Brown, wet, medium-fine SAND, odor	13'					
	8	14'-16'			Brown, wet, medium-fine SAND, odor	14'					90
15											
		16'-18'			Brown, wet, medium-fine SAND, odor	16'					4
		18'-20'			Grey, moist, CLAY, plastic, no odor	17'10"					
					E.O.B. @ 18 fbg						
20		20'-22'									

NOTES:

PID readings (shown in parts per million) are estimated due to possible PID malfunction.
 Following soil sampling activities GB-5 was grouted to surface.
 "*" denotes top of 24" discrete soil sample interval.

O'BRIEN & GERE ENGINEERS, INC.		43-406 SOIL BORING LOG				LOG NUMBER: GB-6 SHEET 1 OF 1							
CLIENT General Motors Corporation PROJECT LOCATION CLCD North Trench Area, Flint, MI		GROUNDWATER DATE DEPTH ELEVATION Approximately 10 fbg				FILE No.: 5975.001 DRILLING METHOD: Geoprobe SAMPLER TYPE: 2' steel sampler(1 3/8" dia.) Hydraulically powered probe							
O'BRIEN & GERE GEOLOGIST: Michael B. Robison BORING CO.: Environmental Quality Laboratories FOREMAN: Pat Fogo		BORING LOCATION: Approximately 49' north of Well #3 GROUND ELEVATION: 100.24' DATES: STARTED: 7/21/94 ENDED: 7/21/94											
DEPTH	No.	DEPTH	SAMPLE			SAMPLE DESCRIPTION	STRATUM CHANGE DEPTH	EQUIPMENT INSTALLED	FIELD TESTING			R M K S*	
			BLOWS /6"	PENETRATION RECOVERY	"N" VALUE				SAL. /100	SP. COND.	PID		
0	1	0'-2'				Gravel(2"dia.)						0.0	
						Brown, damp, medium-fine SAND	1'						
	2	2'-4'				Olive-brown, damp, clayey SILT, odor	2'					200	*
						Olive-brown, damp, clayey SILT, odor	3'						
	3	4'-6'				Olive-brown, damp, clayey SILT, odor	4'					300	
5													
	4	6'-8'				Olive-brown, damp, silty SAND, odor	6'					400	
						Olive-brown, damp, silty SAND, odor	7'						
	5	8'-10'				Olive-brown, damp, silty SAND, odor	8'					300	
10	6	10'-12'				Olive-brown, damp, silty SAND, odor	10'					400	
						Olive-brown, damp, silty SAND, odor	11'						
	7	12'-14'				Brown, wet, medium-fine SAND, odor	12'					100	
	8	14'-16'				Brown, wet, medium-fine SAND, odor	14'					20	
15													
		16'-18'				Brown, wet, medium-fine SAND, odor	16'					5	
						Grey, moist, CLAY, plastic, no odor	17'						
		18'-20'				E.O.B. @ 18 fbg							
20		20'-22'											

NOTES:

PID readings (shown in parts per million) are estimated due to possible PID malfunction.

Following soil sampling activities GB-6 was grouted to surface.

"*" denotes top of 24" discrete soil sample interval.

Log of Boring

Project No. 83106.01

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 17/TB-1 (170-160)
 Start Date 9/18/91 Completed 9/18/91

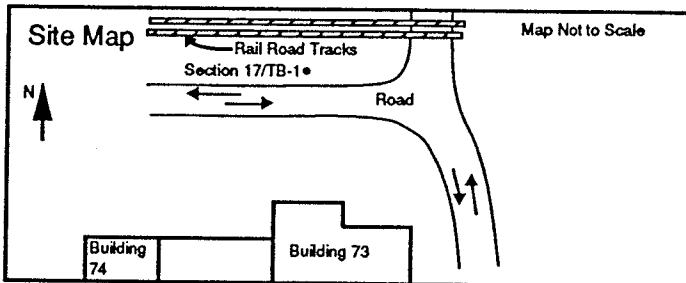
Ground Surface Elevation: 743.4 feet based on a U.S.G.S. datum

Ground-Water Data
Ground water was encountered during drilling at approximately 5.0 and 20.5 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-30.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes
Monitoring well Section 17/MW-1 installed in borehole with well screen tip at a depth of 25.0 feet.
Refer to Section 17/MW-1 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1									0.0	Crushed Stone
2	SS-1	2.5	17	9 15 15	30	ND	18.8	1.0	Fill: Loose Light Brown Fine to Medium SAND and SILT, some gravel, little organics, stained and oderiferous, wet
3								.....	
4				4 4 4				.....	
5	SS-2	5.0	14	2 2 4	8	2	6.6	.....	
6								.....	
7	SS-3	7.5	18	4 2 6	6	12	ND	.....	
8								.....	
9				4 2 6				.....	
10	SS-4	10.0	16		8	190	ND	10.0	Stiff Gray SILTY CLAY, little gravel, moist
11								.....	
12	SS-5	12.5	16	8 9 9	18			.....	
13								.....	
14				4 8 9				.....	
15	SS-6	15.0			15	90	ND	.....	
16								.....	
17	SS-7	17.5		4 6 10	16	52	ND	.....	
18								.....	
19				3 3 6				.....	
20	SS-8	20.0			9	20	ND	.....	

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 17/TB-3 (70-106)

Start Date 10/17/91 Completed 10/17/91

Ground Surface Elevation: 743.6 feet based on a U.S.G.S. datum

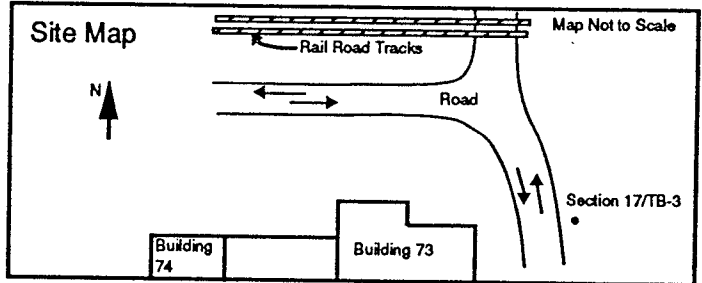
Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-12.5 feet

Ground-Water Data
Ground water was encountered during drilling at approximately 10.0 feet below ground surface.

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 17/MW-3 installed in borehole with well screen tip at a depth of 9.5 feet.
Refer to Section 17/MW-3 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				20				///	0.0	Fill: Compact Gray SILTY SAND, little gravel, iron slag, stained, moist, light hydrocarbon odors
2	SS-1	2.5	17	35	>1000	137	///			
3							///			
4			3				///			
5	SS-2	5.0	4	8	>1000	258	///			
6			3				///	5.0	Medium Stiff Dark Brown SILTY CLAY, some sand, iron slag, heavy staining, moist, light hydrocarbon odors	
7			4				///			
8	SS-3	7.5	6	10	>1000	208	///	7.5	Medium Compact Stained Gray to Black Medium SAND, little gravel, wet	
9			3				///			
10	SS-4	10.0	5	9	650		///			
11			4				///		END OF BORING AT 12.5 FEET	
12	SS-5	12.5	8	15	40		///			
13			5				///			
14			7				///			
15			8				///			

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 20/^{MW}TB-2 70-107

Start Date 9/17/91 Completed 9/17/91

Ground Surface Elevation: 743.7 feet based on a U.S.G.S. datum

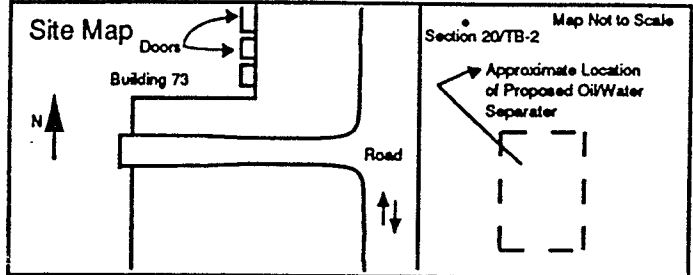
Ground-Water Data
Ground water was encountered during drilling at depths approximately 11.0 and 19.0 feet below ground surface.

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-25.0 feet

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 20/MW-2 installed in borehole with well screen tip at a depth of 20.0 feet.
Refer to Section 20/MW-2 "Log of Well Installation" for well construction details.



rehoie Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1								.....	0.0	Fill: Compact Brown SAND and SILT, gravel, moist
2	SS-1	2.5	15	16 24 27	51	40	ND	.....	
3								|||||	2.9	Medium Stiff to Stiff Gray SILT and CLAY, some sand, light petroleum odor, moist
4				2 4 5	9	300	12.8	|||||		
5	SS-2	5.0	18					|||||		
6				3 2 3	5	>1000	13.9	|||||		
7	SS-3	7.5	16					.....	7.5	Loose to Medium Compact Yellow to Light Gray Medium SAND, light hydrocarbon odors, wet
8				2 1 1	2	>1000	ND	.....	
9	SS-4	10.0	18					.....	
10				6 9 9	18	150	10.8	.....	
11	SS-5	12.5	18.5					.....	
12				3 5 8	13	>1000	ND	|||||	12.8	Stiff Gray SILTY CLAY, some sand, moist
13	SS-6	15.0	16					|||||		
14				6 9 12	21	80	ND	|||||		
15	SS-7	15.0	17					.....	
16				5 6 8	14	100	ND	.....	19.0	Medium Compact Light Gray Fine to Medium SAND, some silt, wet
17	SS-8	15.0	16.5					|||||	20.0	Very Hard Light Gray SILTY CLAY, little gravel, dry

Log of Boring

Project No. 83106.01

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassani
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 17/TB-2 (70-108)
 Start Date 9/18/91 Completed 9/19/91

Ground Surface Elevation: 745.0 feet based on a U.S.G.S. datum

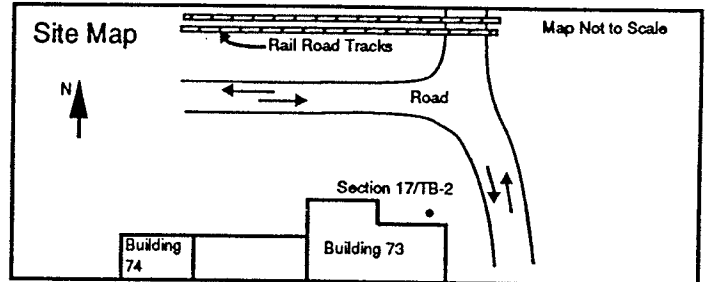
Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-17.5 feet

Ground-Water Data
Ground water was encountered during drilling at approximately 11.5 feet below ground surface.

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

General Notes

Monitoring well Section 17/MW-2 installed in borehole with well screen tip at a depth of 15.0 feet.
Refer to Section 17/MW-2 "Log of Well Installation" for well construction details.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1									0.0	TOPSOIL
2	SS-1	2.5	7	38	38	6	3.9		0.3	Fill: Stiff Gray Black SILTY CLAY, moist
3									2.7	Medium Compact Heavily Stained Black SILTY SAND, some clay, moist, very strong hydrocarbon odors
4				4						
5	SS-2	5.0	14	6	12	>1000	>9999			
6				6						
7	SS-3	7.5		4	9	>1000	>9999			
8				5						
9				2						
10	SS-4	10.0	16	1	2	350	62.7			
11										
12	SS-5	12.5	15.5	10	21	610	437		10.5	Medium Compact Stained Gray to Black Medium SAND, little gravel, wet, strong hydrocarbon odors
13				11						
14				3						
15	SS-6	15.0	17.5	4	12	486	190		14.0	Stiff Light Gray SILTY CLAY, little sand and gravel, moist, light hydrocarbon odors
16				8						
17	SS-7	17.5	20.0	5	19	100	245			
18				8						
19				11						
20										END OF BORING AT 17.5 FEET

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 20/TB-1 (70-260)

Start Date 9/16/91 Completed 9/16/91

Ground Surface Elevation: 740.9 feet based on a U.S.G.S. datum

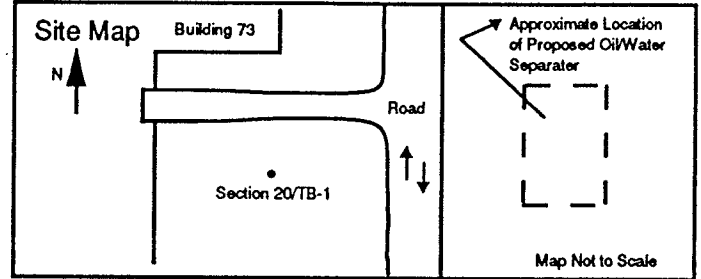
Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-30.0 feet

Ground-Water Data
No ground water was encountered during drilling.

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0.0-30.0 feet

General Notes
No Monitoring Well was installed at this test boring location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				12				[Diagonal Hatching]	0.0	Fill: Compact Fine to Medium SILTY SAND, some gravel, coal, iron slag, black staining, moist
2	SS-1	2.5	19	15 28	43	200	22			
3				4				[Diagonal Hatching]		
4				4						
5	SS-2	5.0		3	7	110	4.9	[Dotted Pattern]	5.0	Medium Compact Black Medium Foundry SAND, trace iron slag, coal, moist
6				3						
7	SS-3	7.5	6	2 2	4	120	20.2	[Dotted Pattern]		
8				3						
9				2				[Dotted Pattern]		
10	SS-4	10.0	17	7	9	600	11.5			
11				8				[Dotted Pattern]		
12				12						
13	SS-5	12.5	20	17	29	>1000	17	[Dotted Pattern]		
14				2						
15	SS-6	15.0	18	3 4	7	260	2.0	[Diagonal Hatching]	14.8	Stiff Gray SILT grading to silty clay, little sand and gravel, moist to dry
16				2						
17	SS-7	15.0	17	3 8	11	ND	4.6	[Diagonal Hatching]		
18				4						
19				5				[Diagonal Hatching]		
20	SS-8	15.0	19.5	7	12	ND	ND			

86-1

Global Environmental Engineering, Inc. 5467 Hill 23 Dr., Suite B Flint, Michigan 48507 Tel: (810) 238-9190 Fax: (810) 238-9195	Soil Boring:	SB-1/MW-1	Project:	GM - Building 86
	Date:	6/2/97	Project #:	F329
	Drilling Contractor:	GEEI	Location:	
	Prepared By:	JCW	Twp/Sec.:	
	Time Started:	16:00	Depth Drilled:	11'
	Time Completed:		Hole Diameter:	8.25"
	Length Coring Device:	4'	Coring Device:	4.5"

Boring Methods		Groundwater Information		Fluid Used:	None
X	Hollow Stem Auger	GW Encountered at		Driller:	Norm
	Hand Auger	Monitor Wells Installed		Helper:	Ash
	Geoprobe	Yes X	No	Weight/Drop:	140lb/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
				Concrete			
	SS	1.	SP	Sand	Black, Moist, Fine/Medium, Slag fill	2.0	
	SS	2.					
	SS	3.					
	SS	4.					
	SS	5.					
	SS	6.	SM	Sandy Silt	Wet	10.0	
	SS	7.					
	SS	8.					
	SS	9.					
	SS-[X]	10.	E.O.B.	End of Boring 11'		220.0	
	SS	11.					
	SS-[x]	12.					
		13.	E.O.B.	End of Boring 11'		125.0	
		14.					
		15.					
		16.					
		17.					
		18.					
		19.					
		20.					
		21.					
		22.					
		23.					

SS-Split Spoon	HA-Hand Auger Sample	PID-Photoionization Detector (ppm)	AL-Acetate Liner
NR-No Recovery	[X]-Laboratory/Jar Sample	GC-Gas Chromatograph (ppb)	FS-Field Screening Container

Global Environmental Engineering, Inc.
 5467 Hill 23 Dr., Suite B
 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **86-2** SB-2/MW-2 Project: **GM - Building 86**
 Date: 6/3/97 Project #: F329
 Drilling Contractor: GEEI Location:
 Prepared By: ICW Twp/Sec.:
 Time Started: 8:25 Depth Drilled: 11'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 4' Coring Device: 4.5"

Boring Methods		Groundwater Information		Fluid Used: None	
X	Hollow Stem Auger	GW Encountered at		Driller:	Norm
	Hand Auger	Monitor Wells Installed		Helper:	Ash
	Geoprobe	Yes X	No	Weight/Drop:	140lb/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
				Concrete 10"			
	SS	1	SP	Sand	Black, Moist, Fine/Medium	ND	
	SS	2					
	SS	3					
	SS	4					
	SS	5					
	SS-[X]		SM	Silty Sand	Brown Wet	ND	1.0
	SS-[X]	6					
	SS-[X]	7					
	SS	8	CL	Sandy Clay	Moist, No Fractures 2" Silty Sand Lens, Wet	1.0	ND
	SS	9					
	SS-[X]	10					
	SS-[X]	11					
			E.O.B.	End of Boring 11'			
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc. 5467 Hill 23 Dr., Suite B Flint, Michigan 48507 Tel: (810) 238-9190 Fax: (810) 238-9195				Soil Boring: 86-3 SB-3/MW-3	Project: GM - Building 86		
				Date: 6/3/97	Project #: F329		
				Drilling Contractor: GEEI	Location:		
				Prepared By: JCW	Twp/Sec.:		
				Time Started:	Depth Drilled: 21'		
				Time Completed:	Hole Diameter: 8.25"		
Length Coring Device: 4'		Coring Device: 4.5"					
Boring Methods			Groundwater Information		Fluid Used: None		
X	Hollow Stem Auger	GW Encountered at		Driller: Norm			
	Hand Auger	Monitor Wells Installed		Helper: Ash			
	Geoprobe	Yes X	No	Weight/Drop: 140lb/30"			
Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
				Concrete 10"			
	SS	1.	SP	Sand	Black, Moist, Fine/Medium, Fill	ND	
	SS	2.					
	SS	3.					
	SS	4.					
	SS	5.					
	SS	6.					
	SS	7.					
	SS	8.	SM	Silty Sand	Gray, Wet		
	SS	9.	CL	Silty Clay	Greenish, Moist, No Fractures No Recovery 9'-10.5'	26.0	
	SS	10.					
	SS	11.					
	SS	12.					
	SS	13.					
	SS	14.					
	SS	15.					
	SS	16.						SP	Sand	Gray, Wet, Fine/Medium
	SS-[X]	17.	SP	Sand	Moist, No Fractures Brown, Wet, Fine/Medium	580.0	
	SS	18.					
	SS	19.					
	SS	20.					
	SS-[X]	21.					
		22.	E.O.B.	End of Boring 21'			
		23.					
SS-Split Spoon NR-No Recovery	HA-Hand Auger Sample [X]-Laboratory/Jar Sample		PID-Photoionization Detector (ppm) GC-Gas Chromatograph (ppb)		AL-Acetate Liner FS-Field Screening Container		

86-101

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: Bldg 86-1 Project: GM CLCD North UST Closure
 Date: 7/23/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: Depth Drilled: 10'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used: None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes No	Helper: N/A
			Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete	Brown, Moist, Fine/Medium		
	GP-1	2		Stone			
		3		Sand		ND	
		4					
		5				ND	
	GP-2	6					
		7				ND	
		8					
	[X]	9				1.0	
	GP-3	10				30.0	
	[X]		E.O.B	End of Boring 10'	Sample Refusal		
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring:	Bldg 86-2	Project:	GM CLCD North UST Closure
Date:	7/23/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	9:20	Depth Drilled:	19'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods		Groundwater Information	
Hollow Stem Auger	Hand Auger	GW Encountered at	Monitor Wells Installed
X Geoprobe		Yes	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration lbs/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC	
		1	SP	Concrete/Asphalt Stone Sand	Dark Brown, Moist, Fine/Medium			
	GP-1	2						
		3						ND
		4						
		5						ND
	GP-2	6						
		7						ND
		8						
		9						ND
	GP-3	10	CL	Sandy Clay	No Fractures			
		11		Clay	Brown/Gray, Fractures		10	
		12						
	[X] GP-4	13	SM	Silty Sand	Black/Gray, Moist, Fine/Medium		820	
		14		ML	Silt	Gray		
		15	SM	Silty Sand	Black/Gray		20	
	GP-5	16	SP	Sand	Brown			
		17						20.0
	GP-6	18						
	[X]	19	E.O.B	End of Boring 19'			8.0	
		20						
		21						
		22						
		23						
		24						
		25						

SS Split Spoon
 NI No Recovery
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample
 PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 AL - Acetate Liner
 FS - Field Screening Container

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring:	Bldg 86-3	Project:	GM CLCD North UST Closure
Date:	7/23/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	11:00	Depth Drilled:	21'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods	
Hollow Stem Auger	
Hand Auger	
Geoprobe	

Groundwater Information	
GW Encountered at	14'
Monitor Wells Installed	
Yes	No
Fluid Used:	None
Driller:	Ken
Helper:	N/A
Weight/Drop:	N/A

Duration ms/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete/Asphalt			
	GP-1	2		Stone			
		3		Sand	Dark Brown, Moist, Fine/Medium	6.0	
		4					
		5				8.0	
	GP-2	6					
		7				28.0	
		8					
		9				4.0	
	GP-3	10					
		11			Brown	3.0	
		12					
		13	CL	Clay	Brown/Gray, Fractures	32.0	
	GP-4	14			Brown/Green, Fine/Medium		
		15			Brown/Gray, 3" Silty Sand, Wet	7.0	
		16					
	[X]	17			2" Black Sand Lens, Wet	>1000	
		18		SP	Sand	Brown	
		19				26.0	
		20	ML		Silt	Gray, Moist	
	[X]	21				ND	
		22	E.O.B	End of Boring 21'			
		23					
		24					
		25					

SS - 1/2 Lit Spoon
 NI - No Recovery
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample
 PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 AL - Acetate Liner
 FS - Field Screening Container

86-104

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring:	Bldg 86-4	Project:	GM CLCD North UST Closure
Date:	7/23/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	13:00	Depth Drilled:	23'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods		Groundwater Information	
Hollow Stem Auger		Fluid Used:	None
Hand Auger		Driller:	Ken
<input checked="" type="checkbox"/> Geoprobe		Helper:	N/A
		Weight/Drop:	N/A

Penetration inches/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Asphalt			
	GP-1	2	SP	Sand	Dark Brown, Moist, Fine/Medium		
		3				ND	
		4					
		5				ND	
	GP-2	6					
		7				ND	
		8					
		9				ND	
	GP-3	10			Brown		
		11				ND	
		12	SM	Sandy Silt	Brown/Gray, No Fractures, Mottled		
		13					
	GP-4	14	CL	Silty Sand Clay	Brown, Fine/Medium No Fractures	8.0	
		15				7.0	
		16	SP	Sand			
	[X]	17	CL	Clay		>1000	
	GP-5	18	SM	Silty Sand	Wet		
		19	ML	Silt	Moist	42.0	
	GP-6	20			Gray		
		21				18.0	
	GP-7	22					
	[X]	23				ND	
		24	E.O.B	End of Boring 23'			
		25					

Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 -No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

86-105

Global Environmental Engineering, Inc.
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 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring:	Bldg 86-5	Project:	GM CLCD North UST Closure
Date:	7/23/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	14:55	Depth Drilled:	21'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods

Groundwater Information

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	Fluid Used:	None
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller:	Ken
<input checked="" type="checkbox"/>	Geoprobe	Yes <input type="checkbox"/> No <input type="checkbox"/>	Helper:	N/A
			Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1		Concrete			
	GP-1	2	SP	Sand	Dark Brown, Moist, Fine/Medium	ND	
		3					
		4					
		5			Brown	ND	
	GP-2	6			Dark Brown		
		7				ND	
		8					
		9				ND	
	GP-3	10			Brown		
		11				ND	
		12					
		13				ND	
	GP-4	14					
	[X]	15				>1000	
		16	CL	Clay	Brown/Gray, Moist, Fractures		
		17				620	
	GP-5	18	SM	Silty Sand	Brown, Fine/Medium		
		19	ML	Silt	Gray	28.0	
	GP-6	20			Gray		
	[X]	21				3.0	
		22	E.O.B	End of Boring 21'			
		23				ND	
		24					
		25					

- Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Log of Boring

Client BOC-Flint Automotive Division

Location Flint, Michigan

Logged By C. Kingma

Contractor Stearns Drilling Company

Driller R. Christensen

Drilling Method(s) 4 1/2" I.D. Hollow Stem Auger

Depth Range 0-53.0 feet

Sampling Method(s) 2" O.D. Split Spoon Sampler

Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry

Depth Range 0-53.0 feet

Pressure pumped from bottom of borehole

to surface.

General Notes

A monitoring well was not installed at this test

boring location.

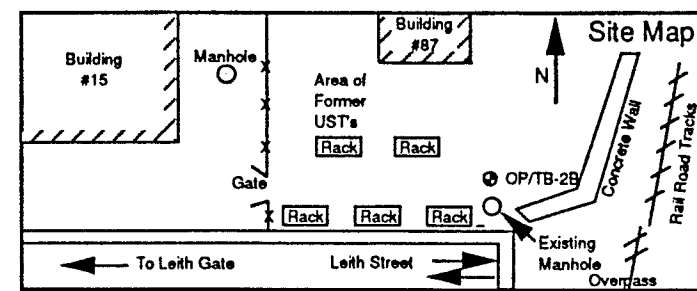
Boring Designation OP/TB-2B (87-102)

Start Date 10/29/91 Completed 10/30/91

Ground Surface Elevation: 741.61 feet based on a USGS datum.

Ground-Water Data

Ground water was encountered during drilling at a depth of approximately 29.5 feet below ground surface.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1							[Hatched]	0.0	CONCRETE
2	SS-1	2.0	12	4 7		ND	[Dotted]	1.0	Fill: Loose Brown Medium SAND, moist
3							[Hatched]	2.0	CONCRETE
4							[Dotted]	2.5	Loose to Medium Compact Brown Medium SAND, trace silt, clay, gravel, slight petroleum odor, moist
5	SS-2	5.0	24	2 3 4 5	7	ND	[Dotted]		
6							[Dotted]		
7							[Dotted]		
8	SS-3	8.0	17	4 4 4	9	3	[Dotted]		
9							[Dotted]		
10	SS-4	10.5	18	3 4 4	7	41	[Dotted]		
11							[Dotted]		
12							[Dotted]		
13	SS-5	13.0	19	3 8 9	19	110	[Dotted]		
14							[Dotted]		
15	SS-6	15.5	24	5 9 11	20	>1000	[Dotted]		
16							[Dotted]		
17							[Dotted]		
18	SS-7	18.0	24	9 12 13 15	25	>1000	[Dotted]		
19							[Dotted]		
20	SS-8	20.5	24	2 3 5 5	8	>1000	[Diagonal Lines]	18.8	Medium to Stiff Gray SILTY CLAY, some sand, moist

Client BOC-Flint Automotive Division

Location Flint, Michigan

Notes _____

Boring Designation OP/TB-2B **(87-102)**

Start Date 10/29/91 Completed 10/30/91

Ground Surface Elevation: 741.61 feet based on a USGS datum.

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
21				3					Medium to Stiff Gray SILTY CLAY, some sand, moist
22				2					
23	SS-9	23.0	24	4 3	6	>1000			
24				2 3 6					
25	SS-10	25.5	24	11	9	>1000		25.0	Medium Compact Gray Medium to Coarse SAND, little gravel, heavy staining, wet
26				6 8					
27				13					
28	SS-11	28.0	16	11	21	>1000			
29				7 9					
30	SS-12	30.5	16	2 8	11	>1000			
31									
32				3 4 5					
33	SS-13	33.0	24	5	9	>1000			
34				3 5 7					
35	SS-14	35.5	19	7	12	65			
36									
37				4 6					
38	SS-15	38.0	17	9	12	53			
39									
40				4 5					
41	SS-16	40.5	16	7 1	12	80			
42									
43	SS-17	43.0		19 6 5 7	11	45			
44									
45	SS-18	45.5		9 22 24 42	46	90		45.0	Very Compact Gray SILTY CLAY, some sand and gravel, wet
46									
47									
48	SS-19	48.0		28 38 61	99	45			
49									
50	SS-20	50.0		24 23 41	64				

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Notes _____

Boring Designation OP/TB-2B (87-102)
 Start Date 10/29/91 Completed 10/30/91
 Ground Surface Elevation: 741.61 feet based on a USGS datum.

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
51	SS-21	53.0	0	58	67		//		Very Compact Gray SILTY CLAY, some sand and gravel, wet
52				38					
53				51					
24									END OF BORING AT 53.0 FEET
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									

Log of Boring

Client BOC-Flint Automotive Division

Location Flint, Michigan

Logged By D. Kanzer

Contractor Stearns Drilling Company

Driller R. Christensen

Drilling Method(s) Depth Range

4 1/2" I.D. Hollow Stem Auger 0-18.0 feet

Sampling Method(s) Depth Range

2" O.D. Split Spoon Sampler 2.5 foot Intervals

Grouting Material/Method Depth Range

Bentonite/Cement Slurry 0-18.0 feet

Pressure pumped from bottom of borehole to surface.

General Notes

Temporary monitoring well was installed at this test boring location. Ground water sample was collected from a depth range of 14.0-18.0 feet below ground surface.

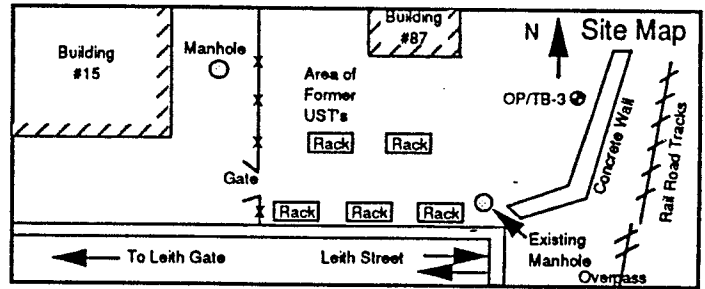
Boring Designation OP/TB-3 (87-103)

Start Date 10/31/91 Completed 10/31/91

Ground Surface Elevation: 742.88 feet based on a USGS datum.

Ground-Water Data

Ground water was encountered during drilling at a depth of approximately 13.6 feet below ground surface..



Subsurface Description

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Description
1				2			[Hatched Box]	0.0	CONCRETE
2				1			[Dotted Box]	1.0	Fill: Loose Light Brown Medium to Coarse SAND, some gravel, trace wood, concrete debris, some staining, moist
3	SS-1	3.0	24	1	2	ND	[Dotted Box]		
4				4			[Dotted Box]		
5				2			[Dotted Box]		
6	SS-2	5.5	18	1	4	7.8	[Dotted Box]		
7				7			[Dotted Box]		
8	SS-3	8.0	8	14	26	68.0	[Dotted Box]		
9				12			[Dotted Box]		
10	SS-4	10.5	24	5	14	4.0	[Dotted Box]	10.0	Medium Compact Gray to Black Medium to Coarse SAND, some clay, heavy staining, sheen, strong hydrocarbon odor, wet
11				4			[Dotted Box]		
12				7			[Dotted Box]		
13	SS-5	13.0	22	4	11	10	[Dotted Box]		
14				6			[Dotted Box]		
15	SS-6	15.5	24	3	8	>1000	[Dotted Box]		
16				3			[Dotted Box]		
17				5			[Dotted Box]		
18	SS-7	18.0	24	5	13	>1000	[Dotted Box]		END OF BORING AT 18.0 FEET
19				8			[Dotted Box]		
20				10			[Dotted Box]		

Log of Boring

Client BOC-Flint Automotive Division

Location Flint, Michigan

Logged By D. Kanzer

Contractor Stearns Drilling Company

Driller R. Christensen

Drilling Method(s) 4 1/2" I.D. Hollow Stem Auger Depth Range 0-18.0 feet

Sampling Method(s) 2" O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-18.0 feet

Pressure pumped from bottom of borehole to surface.

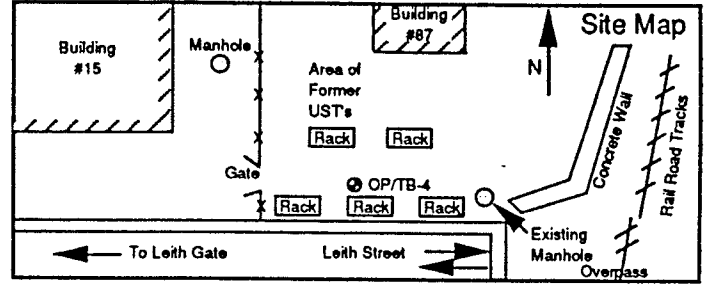
General Notes
A monitoring well was not installed at this test boring location.

Boring Designation OP/TB-4 (87-104)

Start Date 10/31/91 Completed 10/31/91

Ground Surface Elevation: 741.21 feet based on a USGS datum.

Ground-Water Data
Ground water was encountered during drilling at a depth of approximately 14.5 feet below ground surface..



Subsurface Description

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Description
0.0								0.0	CONCRETE
0.8								0.8	Loose to Very Loose Medium SAND, with silt, heavy staining, sheen, hydrocarbon odors, wet
1				4					
2				5					
3	SS-1	3.0	24	4	9	ND			
4				3					
5				3					
5.5	SS-2	5.5	24	4	6	0.1			
6				4					
7				4					
8	SS-3	8.0	24	4	8	0.3			
9				1					
10				1					
10.5	SS-4	10.5	24	3	2	2.2			
11				4					
12				6					
13	SS-5	13.0	24	5	11	10			
14				4					
15	SS-6	15.5	20	2/24		700			
16				3					
17				2					
18	SS-7	18.0	24	1	3	>1000			
19									
20									
									END OF BORING AT 18.0 FEET

Log of Boring

Client BOC-Flint Automotive Division

Location Flint, Michigan

Logged By C. Kingma

Contractor Stearns Drilling Company

Driller R. Christensen

Drilling Method(s) 4 1/2" I.D. Hollow Stem Auger

Depth Range 0-15.0 feet

Sampling Method(s) 2" O.D. Split Spoon Sampler

Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry

Depth Range 0-15.0 feet

Pressure pumped from bottom of borehole

to surface.

General Notes A monitoring well was not installed at this test

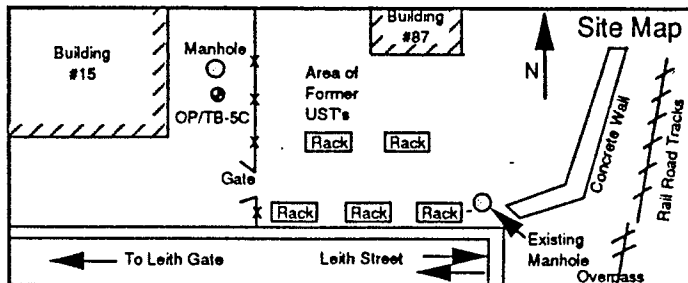
boring location.

Boring Designation OP/TB-5C (87-105)

Start Date 11/4/91 Completed 11/4/91

Ground Surface Elevation: 742.71 feet based on a USGS datum.

Ground-Water Data
Ground water was encountered during drilling at a depth of approximately 12.5 feet below ground surface.



Subsurface Description

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				5			[Pattern]	0.0	CONCRETE
2				4			[Pattern]	1.0	Fill: Loose Brown Medium SAND, trace gravel, iron slag, isolated dark brown staining, moist
3	SS-1	3.0	18	3	8	8	[Pattern]	3.0	Medium to Stiff Brown Mottled SILT and CLAY, some lenses of silt, moist
4				3			[Pattern]		
5	SS-2	5.0	19	3	7	0.2	[Pattern]	5.0	Loose Brown Medium SAND, slight preferential iron staining, isolated dark staining, extensive petroleum staining, sheen, hydrocarbon odor, wet
6				4			[Pattern]		
7	SS-3	7.5	12	4	9	5.2	[Pattern]		
8				2			[Pattern]		
9				2			[Pattern]		
10	SS-4	10.0	20	3	4	8.8	[Pattern]		
11				2			[Pattern]		
12	SS-5	12.5	18	4	6	1.0	[Pattern]		
13				2			[Pattern]		
14				2			[Pattern]		
15	SS-6	15.0	16	5	7	720	[Pattern]		
16				9			[Pattern]		
17							[Pattern]		
18							[Pattern]		
19							[Pattern]		
20							[Pattern]		
END OF BORING AT 15.0 FEET									

Log of Boring

Client BOC-Flint Automotive Division

Location Flint, Michigan

Logged By D. Kanzer

Contractor Stearns Drilling Company

Driller R. Christensen

Drilling Method(s) Depth Range

4 1/2" I.D. Hollow Stem Auger 0-25.5 feet

Sampling Method(s) Depth Range

2" O.D. Split Spoon Sampler 2.5 foot Intervals

Grouting Material/Method Depth Range

Bentonite/Cement Slurry 0-25.5 feet

Pressure pumped from bottom of borehole to surface.

General Notes

Temporary monitoring well was installed at this test boring location. Groundwater sample was collected from a depth range of 22.0 to 25.5 feet below ground surface.

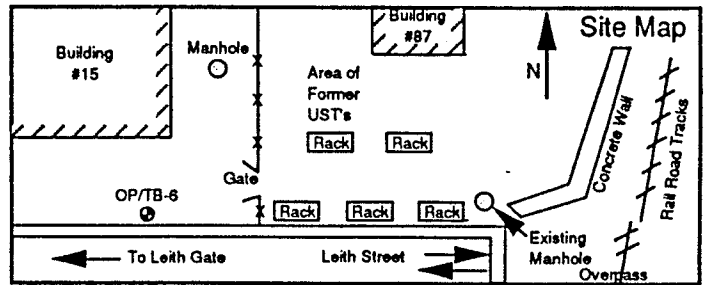
Boring Designation OP/TB-6 (87-106)

Start Date 11/5/91 Completed 11/5/91

Ground Surface Elevation: 743.28 feet based on a USGS datum.

Ground-Water Data


Ground water was encountered during drilling at a depth of approximately 22.0 feet below ground surface.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1								0.0	CONCRETE
2				4				0.8	Fill: Medium Compact to Very Loose Light Brown Medium SAND, trace silt, gravel, petroleum staining, isolated prominent staining, sheen, wet
3	SS-1	2.0	24	4	9	1.0			
4				6					
5	SS-2	5.0	24	6	12	0.4			
6				3					
7				3					
8	SS-3	8.0	24	2	5	0.2			
9				3					
10	SS-4	10.5	24	3/24		0.2			
11				2					
12				2					
13	SS-5	13.0	4/18	2	4	0.3			
14				3					
15	SS-6	15.5	20	1	2	0.3			
16				2					
17				1					
18	SS-7	18.0	20	1	2	0.2			
19				1					
20	SS-8	20.5	20	1	2	0.2			

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Notes _____

Boring Designation OP/TB-6 (87-106)
 Start Date 11/5/91 Completed 11/5/91
 Ground Surface Elevation: 743.28 feet based on a USGS datum.

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-Inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
21							•••••	Fill: Medium Compact to Very Loose Light Brown Medium SAND, trace silt, gravel, petroleum staining, isolated prominent staining, sheen, wet 	
22							•••••		
23	SS-9	23.0	22	1/24		50	•••••		
24							•••••		
25	SS-10	25.5	20	1/24		40	•••••		
								END OF BORING AT 25.5 FEET	

Log of Boring

Client BOC-Flint Automotive Division

Location Flint, Michigan

Logged By C. Kingma

Contractor Stearns Drilling Company

Driller R. Christensen

Drilling Method(s) 4 1/2" I.D. Hollow Stem Auger Depth Range 0-30.0 feet

Sampling Method(s) 2" O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-30.0 feet
Pressure pumped from bottom of borehole to surface.

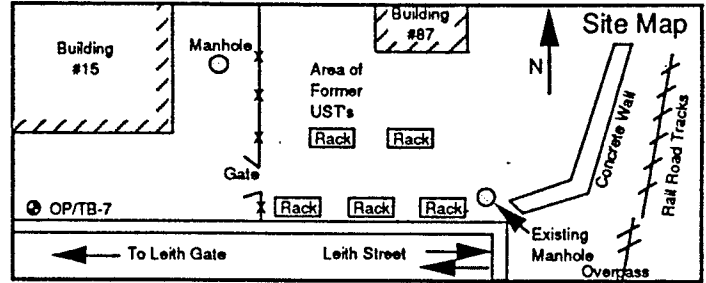
General Notes
Temporary monitoring well was installed at this test boring location. Groundwater sample was collected from a depth range of 20.0 to 25.0 feet below ground surface.

Boring Designation OP/TB-7 (87-107)

Start Date 11/6/91 Completed 11/6/91

Ground Surface Elevation: 745.03 feet based on a USGS datum.

Ground-Water Data
Ground water was encountered during drilling at a depth of approximately 20.0 feet below ground surface.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
0.0							[Hatched]	0.0	CONCRETE
1.0							[Dotted]	1.0	Fill: Loose Dark Brown Medium SAND, heavy staining, moist
2.0							[Dotted]	2.0	Fill: Medium Compact to Very Loose Light Brown Medium SAND, trace iron, iron slag, gravel, wood chips, possible petroleum staining, wet
3	SS-1	3.0	24	5 5 6 7	11	ND	[Dotted]		
4				5 7 9			[Dotted]		
5	SS-2	5.0	24	9	16	8	[Dotted]		
6				4 4 5			[Dotted]		
7				7			[Dotted]		
8	SS-3	8.0	24	4 6 7	9	1	[Dotted]		
9				4 6 7			[Dotted]		
10	SS-4	10.0	24	8	13	0.5	[Dotted]		
11				3 3 2			[Dotted]		
12				3			[Dotted]		
13	SS-5	13.0	19	3	5	ND	[Dotted]		
14				1 2 1			[Dotted]		
15	SS-6	15.5	24	2	3	ND	[Dotted]		
16				2 1 2			[Dotted]		
17				1 2 4			[Dotted]		
18	SS-7	18.0	24	3	3	ND	[Dotted]		
19				2 1 2			[Dotted]		
20	SS-8	20.0		1	3	ND	[Dotted]		

Client BOC-Flint Automotive Division

Location Flint, Michigan

Notes _____

Boring Designation OP/TB-7 (87-107)

Start Date 11/6/91 Completed 11/6/91

Ground Surface Elevation: 745.03 feet based on a USGS datum.

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Readings (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
21								Fill: Medium Compact to Very Loose Light Brown Medium SAND, trace iron, iron slag, gravel, wood chips, slight petroleum staining, wet
22							.....	
23	SS-9	23.0	24	1/24		6	.....	
24				2			.....	
25	SS-10	25.0	13	2	4	100	.....	
26				2			.....	
27				4			.....	
28	SS-11	28.0	14	20	11	20	////	27.5 Very Compact Gray SILTY CLAY, some sand, gravel, wet	
29				13			////		
30	SS-12	30.0		28		10	////		
				36	64				
				83					
									END OF BORING AT 30.0 FEET

Global Environmental Engineering, Inc.
 352 South Saginaw St., Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **89-1 (SBI/MW1)** Project: **GMCLCD N. - UST Closures**
 Date: 11/6/96 Project #: F174
 Drilling Contractor: GEEI Location: Building 88
 Prepared By: JCW Twp/Sec.:
 Time Started: 8:30 Depth Drilled: 17'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Coring Device: 4.5"

Boring Methods

Groundwater Information

Hollow Stem Auger

GW Encountered at

Fluid Used: None

Hand Auger

Monitor Wells Installed

Driller: Lisa

X Geoprobe

Yes X No

Helper: NA

Weight/Drop: 140#/30"

Penetration Cons/Sq. ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1					
		2					
		3					
		4					
		5					
	SS		SP	Sand	Black, Moist, Fine/Medium		
	SS	6					
	SS						
	SS-[X]	7	SM	Silt	Gray	>1000	
	SS						
	SS	8					
	SS						
	SS	9				200	
	SS						
	SS	10					
	SS						
	SS	11					
	SS		CL	Silty Clay		100	
	SS	12					
	SS		SM	Silt	Wet		
	SS	13				8.0	
	SS						
	SS	14					
	SS						
	SS-[X]	15				8.0	
		16					
		17					
		18	E.O.B.	End of Boring 17'			
		19					
		20					
		21					
		22					
		23					
		24					
		25					

-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 -No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc.
 5467 Hill 23 Dr., Suite B
 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **88-2** (SB2/MW2) Project: GMCLCD N. - UST Closures
 Date: 11/6/96 Project #: F174
 Drilling Contractor: GEEI Location: Building 88
 Prepared By: JCW Twp/Sec.:
 Time Started: 11:45 Depth Drilled: 16'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Coring Device: 4.5"

Boring Methods		Groundwater Information	
X	Hollow Stem Auger	GW Encountered at	Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Lisa
	Geoprobe	Yes X No	Helper: NA
			Weight/Drop: 140#/30"

Penetration Tons/Sq.ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1					
		2					
	SS		SP	Sand	Brown, Moist, Fine/Medium		
	SS	3					
	SS					500	
	SS	4					
	SS						
	SS	5			Black		
	SS						
	SS-[X]	6				>1000	
	SS						
	SS	7					
	SS					>1000	
	SS	8					
	SS				Brown		
	SS	9					
	SS						
	SS	10				280	
	SS						
	SS	11					
	SS						
	SS	12				320	
	SS				Wet		
	SS	13					
	SS						
	SS	14					
	SS						
	SS	15					
	SS						
	SS-[X]	16					
			E.O.B.	End of Boring 16'			
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

-Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 3 - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
 5467 Hill 23 Dr., Suite B
 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **88-2 (SB3/MW3)** Project: **GMCLCD N. - UST Closures**
 Date: 11/7/96 Project #: F174
 Drilling Contractor: GEEI Location: Building 88
 Prepared By: JCW Twp/Sec.:
 Time Started: 11:45 Depth Drilled: 15'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Coring Device: 4.5'

Boring Methods		Groundwater Information	
X	Hollow Stem Auger	GW Encountered at	Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Lisa
	Geoprobe	Yes X No	Helper: NA
			Weight/Drop: 140#/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1					
		2					
	SS	3	SP	Sand	Brown, Moist, Fine/Medium		
	SS	4			Brown	2.0	
	SS	5					
	SS	6				2.0	
	SS	7					
	SS	8				>1000 2.0	
	SS	9					
	SS	10				ND	
	SS	11					
	SS	12			Wet	3.0	
	SS	13					
	SS	14				2.0	
	SS-[X]	15					
		16	E.O.B.	End of Boring 15'			
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

- Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 } - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
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 Fax: (810) 238-9195

Soil Boring: 88-4 (SB4/MW4) Project: GMCLCD N. - UST Closures
 Date: 11/18/96 Project #: F174
 Drilling Contractor: GEEI Location: Building 88
 Prepared By: JCW Twp/Sec.:
 Time Started: 8:25 Depth Drilled: 12'
 Time Completed: Hole Diameter: 8.25"
 Length Coring Device: 5' Coring Device: 4.5"

Boring Methods		Groundwater Information	
X	Hollow Stem Auger	GW Encountered at	Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Lisa
	Geoprobe	Yes X No	Helper: NA
			Weight/Drop: 140#/30"

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC
		1					
		2					
	SS	3	SP	Sand	Brown, Moist, Fine/Medium		
	SS	4				ND	
	SS	5			Trace of Gravel	1.0	
	SS	6					
	SS	7					
	SS	8				12.0	
	SS	9			Wet		
	SS-[X]	10				750	
	SS	11					
	SS	12				>1000	
		13	E.O.B.	End of Boring 12'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc.
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 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Soil Boring: **88-5(SB-5/MW-5)** Project: **GM - Building 88**
 Date: **6/2/97** Project #: **F329**
 Drilling Contractor: **GEEI** Location:
 Prepared By: **JCW** Twp/Sec.:
 Time Started: **11:30** Depth Drilled: **12'**
 Time Completed: Hole Diameter: **8.25"**
 Length Coring Device: **4'** Coring Device: **4.5"**

Boring Methods		Groundwater Information		Fluid Used: None	
<input checked="" type="checkbox"/>	Hollow Stem Auger	GW Encountered at		Driller: Norm	
	Hand Auger	Monitor Wells Installed		Helper: Ash	
	Geoprobe	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Weight/Drop: 140lb/30"	

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1.		Concrete			
		2.					
	SS			Stone			
	SS	3.	SP	Sand	Black, Moist, Fine/Medium		
	SS						
	SS-[X]	4.			Brown	10.0	
	SS						
	SS	5.					
	SS						
	SS	6.				6.0	
	SS						
	SS	7.					
	SS						
	SS	8.				2.0	
	SS						
	SS	9.			Wet Greenish		
	SS						
	SS-[X]	10.				5.0	
	SS						
	SS	11.			Gray		
	SS						
	SS	12.			<25% Recovery	ND	
			E.O.B.	End of Boring 12'			
		13.					
		14.					
		15.					
		16.					
		17.					
		18.					
		19.					
		20.					
		21.					
		22.					
		23.					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc. 5467 Hill 23 Dr., Suite B Flint, Michigan 48507 Tel: (810) 238-9190 Fax: (810) 238-9195	Soil Boring: 88-6(SB-6/MW-6)	Project: GM - Building 88
	Date: 6/2/97	Project #: F329
	Drilling Contractor: GBEI	Location:
	Prepared By: JCW	Twp/Sec.:
	Time Started: 14:00	Depth Drilled: 13'
	Time Completed:	Hole Diameter: 8.25"
	Length Coring Device: 4'	Coring Device: 4.5"

Boring Methods		Groundwater Information	
X	Hollow Stem Auger	GW Encountered at	Fluid Used: None
	Hand Auger	Monitor Wells Installed	Driller: Norm
	Geoprobe	Yes X No	Helper: Ash
			Weight/Drop: 140lb/30'

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1		Concrete			
	SS		SP	Sand	Brown, Moist, Fine/Medium		
	SS	2					
	SS						
	SS	3			1" Slag	6.0	
	SS						
	SS	4					
	SS						
	SS	5				5.0	
	SS						
	SS	6					
	SS						
	SS	7				3.0	
	SS						
	SS	8					
	SS						
	SS-[X]	9			Wet	8.0	
	SS				Gray		
	SS	10					
	SS						
	SS-[X]	11				11.0	
	SS						
	SS	12					
	SS						
	SS	13			>25% Recovery	ND	
			E.O.B.	End of Boring 13'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					

SS-Split Spoon NR-No Recovery	HA-Hand Auger Sample [X]-Laboratory/Jar Sample	PID-Photionization Detector (ppm) GC-Gas Chromatograph (ppb)	AL-Acetate Liner FS-Field Screening Container
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Global Environmental Engineering, Inc.
 5467 Hill 23 Dr., Suite B
 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

88-16 88-101

Soil Boring:	Bldg 88-1	Project:	GM CLCD North USA Closure
Date:	7/22/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp/Sec.:	
Time Started:	9:30	Depth Drilled:	14'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods		Groundwater Information	
<input type="checkbox"/>	Hollow Stem Auger	<input type="checkbox"/>	GW Encountered at
<input type="checkbox"/>	Hand Auger	<input type="checkbox"/>	Monitor Wells Installed
<input checked="" type="checkbox"/>	Geoprobe	<input type="checkbox"/>	Yes
		<input type="checkbox"/>	No
		Fluid Used:	None
		Driller:	Ken
		Helper:	N/A
		Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete			
	GP-1	2		Stone	Brown, Moist, Fine/Medium		
		3		Sand			ND
		4					
		5					ND
	GP-2	6					
		7					ND
		8					
	[X]	9				Wet	95.0
	GP-3	10					
		11					ND
		12					
		13					ND
	GP-4	14				Sample Refusal (Concrete)	ND
		15	E.O.B	End of Boring 14'			
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laborator/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Global Environmental Engineering, Inc.
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Soil Boring: **17-26** Bldg 88-2 Project: **88-102** GM CLCD North USA Closure
 Date: 7/22/96 Project #: F174
 Drilling Contractor: YECI Location: Hamilton & Industrial Ave.
 Prepared By: JCW Twp/Sec.:
 Time Started: 10:25 Depth Drilled: 17'
 Time Completed: Hole Diameter: 2"
 Length Coring Device: 2' Coring Device: 2'

Boring Methods

Groundwater Information

Hollow Stem Auger
 Hand Auger
 Geoprobe

GW Encountered at
 Monitor Wells Installed
 Yes No

Fluid Used: None
 Driller: Ken
 Helper: N/A
 Weight/Drop: N/A

Penetration Tons/Sq.ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete			
	GP-1			Stone			
		2		Sand/Coal	Brown/Black, Moist, Fine/Medium		
		3					
		4		Sand	Brown	ND	
		5					
	GP-2					ND	
		6					
		7					
		8				ND	
	[X]	9				75.0	
	GP-3						
		10					
		11				50.0	
		12					
		13				65.0	
	GP-4		SM	Sandy Silt	Gray		
		14					
		15				75.0	
		16					
	[X]	17				125.0	
		18	E.O.B	End of Boring 17'			
		19					
		20					
		21					
		22					
		23					
		24					
		25					

S - Split Spoon HA - Hand Auger Sample PID - Photoionization Detector (ppm) AL - Acetate Liner
 R - No Recovery [X] - Laboratory/Jar Sample GC - Gas Chromatograph (ppb) FS - Field Screening Container

Global Environmental Engineering, Inc.
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 Fax: (810) 238-9195

Soil Boring: 88-36	Bldg 88-3	Project: 88-103	GM CLUD NORTH EAST CLOSURE
Date: 7/22/96	Project #: F174		
Drilling Contractor: YECI	Location: Hamilton & Industrial Ave.		
Prepared By: JCW	Twp/Soc.:		
Time Started: 13:20	Depth Drilled: 21'		
Time Completed:	Hole Diameter: 2"		
Length Coring Device: 2'	Coring Device: 2"		

Boring Methods

Groundwater Information

Hollow Stem Auger

GW Encountered at

Fluid Used: None

Hand Auger

Monitor Wells Installed

Driller: Ken

Helper: N/A

X

Geoprobe

Yes

No

Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC	
		1	SP	Concrete				
	GP-1			Stone				
		2		Sand	Brown, Moist, Fine/Medium			
		3						
		4			Sand	Brown	ND	
		5						
	GP-2	6					ND	
		7						
		8				Wet	75	
	[X]	9						
	GP-3	10						
		11					180	
		12						
		13					250	
	GP-4	14						
		15	SM	Sandy Silt	Gray, Moist	>1000		
	[X]							
	GP-5	16		Silty Sand	Wet			
					No Recovery (16'-18')			
		17				NA		
	[X]							
	GP-6	18						
		19				150		
		20	CL	Clay	Moist			
	GP-7							
	[X]	21	E.O.B	End of Boring 21'		ND		
		22						
		23						
		24						
		25						

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

Global Environmental Engineering, Inc.
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 Fax: (810) 238-9195

88-76 88-104

Soil Boring:	Bldg 88-4	Project:	GM CLCD North US1 Closure
Date:	7/22/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Hamilton & Industrial Ave.
Prepared By:	JCW	Twp./Sec.:	
Time Started:	13:20	Depth Drilled:	13'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	2'	Coring Device:	2"

Boring Methods

Groundwater Information

Hollow Stem Auger

GW Encountered at

Fluid Used: None

Hand Auger

Monitor Wells Installed

Driller: Ken

X

Geoprobe

Yes No

Helper: N/A

Weight/Drop: N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	FID	GC
		1	SP	Concrete	Black, Moist, Fine/Medium	ND	
	GP-1			Stone			
		2		Sand			
		3					
		4					
		5					
	GP-2						
		6					
		7					
		8					
		9					
	GP-3[X]						
		10					
		11					
		12					
	[X]	13					
		14	E.O.B	End of Boring 13'		>1000	
		15				>1000	
		16					
		17					
		18					
		19					
		20					
		21					
		22					
		23					
		24					
		25					

SS-Split Spoon
 NR-No Recovery

HA-Hand Auger Sample
 [X]-Laboratory Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)

AL-Acetate Liner
 FS-Field Screening Container

88-66 88-106

Global Environmental Engineering Inc.
 5467 Hill 23 Dr., Suite B
 Flint, Michigan 48507
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date:	11/12/96	Project #:	F174
Drilling Contractor:	YECI	Location:	Building 88
Prepared By:	JCW	Twp/Sec.:	
Time Started:	9:05	Total Depth Drilled:	13'
Time Completed:		Hole Diameter:	2"
Length Coring Device:	5'	Dia. Coring Device:	2"

Boring Methods		Ground Water Observations		Drilling Fluid Used:	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at		None	
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed		Driller:	Scott
<input checked="" type="checkbox"/>	Geoprobe	Yes	No	Helper:	N/A
				Hammer Weight/Drop:	N/A

Penetration Tons/Sq ft.	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	OVA	GC		
				Concrete					
	GP-1	1.	SP	Sand	Brown, Moist, Fine/Medium				
		2.							
		3.						ND	
		4.							8.0
		5.							
	GP-2	6.							125.0
		7.							
		8.							
	[X] GP-3	9.					Black, Wet		>1000
		10.							
		11.					Brown/Gray		
		12.							
	[X]	13.							
		14.	E.O.B.	End of Boring 13'		>1000			
		15.							
		16.							
		17.							
		18.							
		19.							
		20.							
		21.							
		22.							
		23.							

SS-Split Spoon HA-Hand Auger Sample PID-Photoionization Detector (ppm) AL-Acetate Liner
 NR-No Recovery [X]-Laboratory/Jar Sample GC-Gas Chromatograph (ppb) FS-Field Screening Container

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation OP/TB-2A

Start Date 10/29/91 Completed 10/29/91

Drilling Method(s) 4 1/2" I.D. Hollow Stem Auger Depth Range 0-6.5 feet

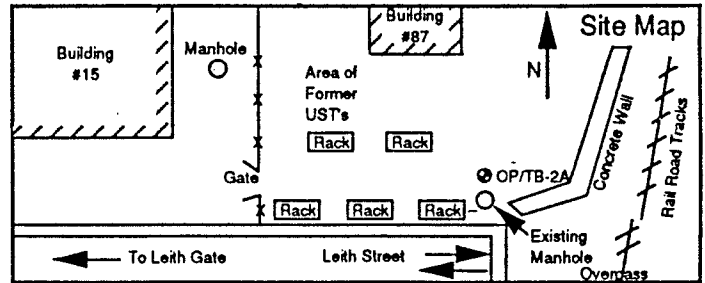
Ground Surface Elevation: 741.32 feet based on a USGS datum.

Sampling Method(s) 2" O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

Ground-Water Data
Ground water was not encountered during drilling.

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-6.5 feet
Pressure pumped from bottom of borehole to surface.

General Notes
Obstruction was encountered at a depth of approximately 6.5 feet below ground surface.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
0								[Hatched Box]	0.0	CONCRETE
1				2				[Dotted Box]	1.0	Fill: Loose Brown Medium SAND, moist
2	SS-1	2.5	9	2		ND	ND	[Hatched Box]	2.0	CONCRETE
3				3				[Dotted Box]	2.5	Loose Brown Medium SAND, moist
4				4				[Dotted Box]		
5	SS-2	5.0	24	5	7	ND	ND	[Dotted Box]		
6	SS-3	6.5	6	23		ND	ND	[Dotted Box]		
7										
8										
9										
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
0										
END OF BORING AT 6.5 FEET										

Log of Boring

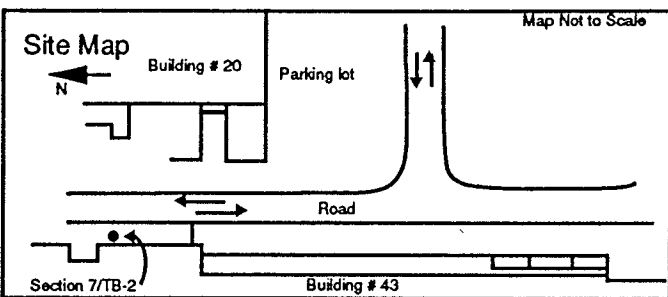
Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By C. Kingma
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 7/TB-2

Start Date 10/2/91 Completed 10/2/91

Ground Surface Elevation: 756.6 feet based on a USGS datum

Ground-Water Data
Obstruction at 6.9 feet below grade, required slight horizontal shifting of borehole and introduction of drilling water and thus obscured ground water observations.



Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0-22.5 feet

Sampling Method(s) 2 inch O.D. Split-Spoon Sampler Depth Range 2.5 foot Intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0 -22.5 feet

General Notes
No Monitoring Well was installed at this borehole location.

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (Inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1				7				0.0	Fill: Medium Compact Brown, Fine to Coarse SAND, some gravel, coal, cinders, stained, moist
2	SS-1	2.5	18	7	15	ND	3.8	.....	
3				1				3.0	Very Loose to Medium Compact Brown Medium SAND, little gravel, wet
4				3				.....	
5	SS-2	5.0	18	3	6	0.4	6.0	.....	
6								.....	
7	SS-3	6.9	9	5	12	0.1	1.6	.....	
8				7				.....	
9	SS-4	9.5	18	1	2	1.0	12.8	.....	
10				1				.....	
11				1				.....	
12	SS-5	12.5	18	1	3	9.0	6.7	.....	
13				2				.....	
14								.....	
15				3				.....	
16	SS-6	16.0	18	4	11	7.0	6.8	.....	
17				7				.....	
18	SS-7	17.5	12	3	14	ND	ND	.....	
19				4				.....	
20	SS-8	20.0	6	4	8	ND	ND	.....	

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By H. Hassanien
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 10/TB-1
 Start Date 9/19/91 Completed 9/19/91

Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-22.5 feet

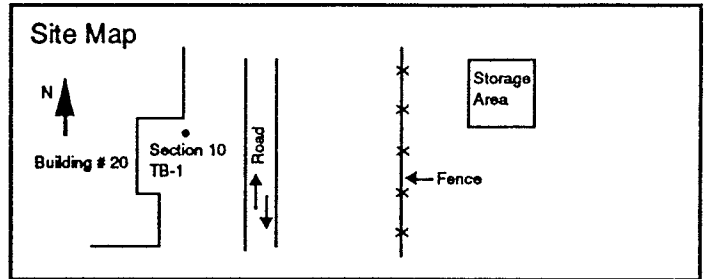
Ground Surface Elevation: 751.0 feet based on a U.S.G.S. datum

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

Ground-Water Data
Ground water was encountered during drilling at approximately 10.0 feet below ground surface.

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0.0-22.5 feet
Pressure pumped from bottom of borehole to surface.

General Notes
No Monitoring Well was installed at this test boring location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	Field Data OVA Reading (ppm)	Field Data PID Reading (ppm)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
0.0									0.0	ASPHALT and CONCRETE
1				2				.....	6"	Fill: Loose Light Brown Medium SAND, staining, moist
2	SS-1	2.5	22.0	3	6	4	4.5	.....	
3								.....	
4				2				.....	
5	SS-2	5.0	21.5	2	3	ND	2.1	.....	
6								.....	5.0	Loose Light Brown Fine to Medium SAND, little silt, wet
7	SS-3	7.5	20.5	3	10	0.2	1.0	.....	
8				4				.....	
9				6				.....	
10	SS-4	10.0	18	3	5	0.3	ND	.....	
11								.....	
12	SS-5	12.5	20	3	2	0.2	0.6	.....	
13				2				.....	
14				1				.....	
15	SS-6	15.0	24	1	5	7	3.5	.....	
16				4				.....	
17	SS-7	17.5	24	2	3	6.5	ND	.....	
18				1				.....	
19				7				.....	
20	SS-8	20.0	22	11	27	3.8	2.2	.....	
				16				.....	

Log of Boring

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Stearns Drilling Company
 Driller R. Christensen

Boring Designation Section 10/TB-2
 Start Date 10/14/91 Completed 10/14/91

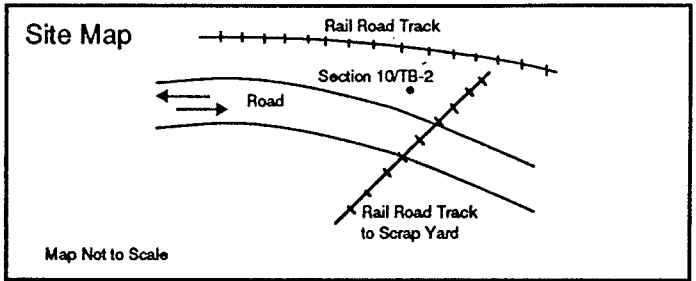
Drilling Method(s) 4 1/2 inch I.D. Hollow Stem Auger Depth Range 0.0-19.5 feet

Ground Surface Elevation: 750.5 feet based on a U.S.G.S. datum

Sampling Method(s) 2 inch O.D. Split Spoon Sampler Depth Range 2.5 foot Intervals

Ground-Water Data
Groundwater was encountered during drilling at approximately 9.0 feet below ground surface.

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0.0-19.5 feet



General Notes
No Monitoring Well was installed at this test boring location.

Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch Intervals)	Standard Penetration (N)	Field Data (OVA)	Field Data (PID)	Graphic Log	Depth Below Ground Surface (feet)	Subsurface Description
1				7				0.0	Loose to Medium Compact Light Brown Fine to Medium SAND, little silt, trace gravel, wet
2	SS-1	2.5	16	8 10	18	0.2	10.2	.....	
3								.....	
4				2 2				.....	
5	SS-2	5.0	12	3	5	0.1	8.7	.....	
6				5				.....	
7	SS-3	7.5	18	9 10	19	0.2		.....	
8								.....	
9				3 4				.....	
10	SS-4	10.0	18	5	9	0.15		.....	
11								.....	
12	SS-5	12.5	6	4 5	9	ND		.....	
13								.....	
14				1 2				.....	
15	SS-6	15.0	20	4	6	0.1		.....	
16								.....	
17	SS-7	17.5	24	3 3 7	10	0.05		.....	
18								||||	17.5	Stiff Gray SILTY CLAY, moist
19								||||		
20								||||		
END OF BORING AT 19.5 FEET										

Log of Boring

Project No. 83106.00

Client BOC-Flint Automotive Division
 Location Flint, Michigan
 Logged By D. Kanzer
 Contractor Stearns Drilling Co.
 Driller Roger Christensen

Boring Designation Section 12 / TB-3

Start Date 10/24/91 Completed 10/24/91

Ground Surface Elevation: 751.6 feet msl based on a U.S.G.S. datum

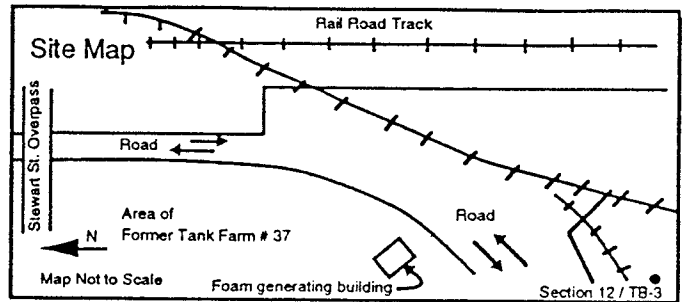
Drilling Method(s) 4.5 Inch ID Hollow Stem Auger Depth Range 0-15.0 feet

Ground-Water Data
Groundwater was encountered during drilling at a depth of approximately 9.5 feet below ground surface.

Sampling Method(s) 2.0 Inch OD Split Spoon Depth Range 2.5 feet intervals

Grouting Material/Method Bentonite/Cement Slurry Depth Range 0-15.0 feet
pressure pumped from bottom of borehole to surface.

General Notes
No monitoring well installed at this test boring location.



Borehole Depth (feet)	Sample Type and Number	Depth of Sample Tip (feet)	Sample Recovered (inches)	Hammer Blows (6-inch intervals)	Standard Penetration (N)	OVA Headspace Reading (ppm)	PID Headspace Reading (ppm)	Graphic Log	Depth (feet)	Subsurface Description
1								•••••		
2				2				•••••	2.5	Fill: Loose Black Stained Medium SAND, with slag, concrete and gravel
3	SS-1	3.5	14	2	4	2.0	47.7	//		
4				3				//		
5	SS-2	5.0	14	2	6	ND	36.1	//		
6				4				//	6.0	Medium to Stiff Gray SILTY CLAY, some sand, moist
7				7				•••••		
8	SS-3	7.5	18	4	17	ND	47.0	•••••		
9				7				•••••		
10	SS-4	10.0	18	4	15	0.8	17.0	•••••		
11				6				•••••		
12				9				•••••		
13	SS-5	12.5	18	5	15	1.3	19.7	•••••		
14				7				•••••		
15	SS-6	15.0	18	4		3.5	9.5	•••••		Medium Compact Brown Fine to Medium SAND, little silt, some staining, wet
				6				•••••		
				7				•••••		
								•••••		END OF BORING

Figure A5



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-1	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 degrees, Rain
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
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SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A	TOTAL DEPTH 28.0'
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DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					ASPHALT	
		1	2.0	4 4	0.0	Fine SAND, dry, brown SW	
5		2	2.0	4 4	0.0	Fine SAND, dry, brown SW	
		3	2.0	5 5	0.0	2" moist CLAY, little silt CL	
10		4	2.0	12 14	0.0	Fine SAND, dry, brown SW 1" CLAY lens	
		5	2.0	2 1	0.0	Fine SAND, dry to damp, brown SW	
15							
		6	2.0	4 4	0.0	Fine SAND, little silt, wet, brown SW (Soil/HP)	
20							
		7	2.0	2 2	0.0	Fine SAND, saturated, gray SW (Soil/HP)	
25							
		8	2.0	4 4	0.0	CLAY, some silt, moist, gray CL	
						END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-1 (SB-1A)	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
0	N/A						GRAVEL	
5							Fine SAND moist to wet, brown SW	
10		1	1.75	4		0.0	Fine SAND saturated, brown SW (Soil/HP)	
15							Silty, fine SAND and clay SC	
20		2	2.0	5		0.0	Silty CLAY, little fine sand, gray SC (Soil/HP)	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-2	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 14 93	WEATHER ▶ 80 degrees, Rain
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
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SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A	TOTAL DEPTH 29.0'
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DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					Sandy CLAY, dark grey	
5		1	1.5	4 4		Medium SAND with little clay, moist, brown SC	
		2	1.5	4 5		same as above, SAND	
		3	1.0	4 4		same as above	
10							
15		4	1.5	12 15		same as above, very dense	
20		5	1.5	6 7		same as above, medium dense, saturated (Soil/HP)	
25		6	1.0	3 9		same as above, grey (Soil/HP)	
		7	2.0	4 4		Silty CLAY, stiff, grey	
						End of Boring	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-2 (SB-2A)	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 18.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5						Fine SAND, wet, brown SW	
10		1	2.0	4 6	0.0	Fine SAND, wet, brown SW (Soil/HP)	
15		2	2.0	5 5	0.0	Silty CLAY, moist, gray CL (Soil/HP)	
						END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-3	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 27.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5		1	2.0	11 12	0.0	Fine to medium SAND, little clay, dry, brown SW	
10		2	2.0	2 2	0.0	Fine SAND, little silt, dry to damp, brown SW	
15		3	2.0	2 2	0.0	Fine SAND, little silt, dry to damp, brown SW	
20		4	2.0	3 2	0.0	Fine SAND, little silt, damp, brown SW	
20		5	2.0	3 3	0.0	Fine SAND, saturated, brown SW (Soil/HP)	
25						Silty CLAY CL END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-3 (SB-3A)	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
							Sandy CLAY, brown SC	
5							Fine SAND, some silt, damp SW-SM	
10		1	2.0	4 6		0.0	Fine SAND, wet, brown SW (Soil/HP)	
15							Fine SAND, wet, brown SW	
20		2	2.0	3 3		0.0	Silty CLAY damp, gray SM	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-4	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 degrees
LOGGED BY ▶ Greg Azzoli	DRILLED BY ▶ ATEC R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 27.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
0	N/A					ASPHALT	
0 - 5						Fine to medium SAND, some silt and clay, damp, black to brown SW	
5 - 10		1	2.0	4 4	0.0	CLAY, some fine to medium sand, damp, brown CL	
10 - 20						Fine to medium SAND, trace slag, damp, black to brown SW	
20 - 25		2	2.0	7 6	0.0	Fine to medium SAND, trace slag, damp, black to brown SW (Soil/HP)	
25 - 27.0'		3	2.0	4 4	0.0	Fine to medium SAND, trace slag, damp black to brown SW (Soil/HP)	
						CLAY, some silt, moist, gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-4A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
0	N/A						CONCRETE	
5							Sandy CLAY CL	
10		1	1.75	4 4		0.0	Fine SAND damp, gray to brown SW	
15							Silty, fine SAND saturated, brown to gray SM	
20		2	1.0	6 6		0.0	Silty CLAY, little fine sand, saturated, gray CL	
							END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-5	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A	TOTAL DEPTH 27.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					ASPHALT	
5		1	1.0	11 12	0.0	SAND, medium grained, dark SW	
						Coarse gravel, cobbles (slag)	
10		2	2.0	2 2	0.0	SAND, with a trace of slag, medium grained, loose, dark brown, moist	
15		3	2.0	2 3	0.0		
20		4	1.0	3 2	0.0	SAND, medium grained, medium dense, brown, saturated (Soil/HP)	
		5	1.5	3 3	0.0		
25						same as above, grey (Soil/HP)	
						Silty CLAY saturated, gray CL	
						End of Boring	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-5A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					CONCRETE	
5						Fine SAND moist, brown SW	
10		1	1.75	4 5	0.0	Fine SAND saturated, brown SW (Soil/HP)	
15						Silty, fine SAND with clay, saturated, gray SC	
20		2	1.0	4 3	0.0	Silty CLAY gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-6	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 27.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					ASPHALT	
5						Fine to medium SAND, dry, black SW	
10		1	2.0	2 1	0.0	Fine SAND, moist, brown SW	
15							
20		2	2.0	2 2	0.0	Fine SAND, saturated, brown SW (Soil/HP)	
25							
		3	2.0	2 2	0.0	Fine SAND, saturated, gray SW	
		4	2.0	2 2	0.0	Same as Above (Soil/HP)	
						Silty CLAY, some fine sand, wet, gray SP-SC	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-6 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5							Fine SAND, dry, brown SW	
10		1	2.0	7 6		0.0	Fine SAND, little silt, moist, brown SW (Soil/HP)	
15		2	2.0	5 6		0.0	Fine SAND, little silt, saturated, gray SW (Soil/HP)	
20							Silty CLAY gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-6A	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ OCT 5 93	WEATHER ▶ 65 Degrees
LOGGED BY ▶ J. Farkas	DRILLED BY ▶ ATEC
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 27.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						ASPHALT	
5							Fine to Medium SAND, dry, brown to black, SW	
10							Fine SAND, damp to moist, brown SW	
15		1	2.0	7 7		0.0	Fine SAND, wet, brown, SW Same, saturated	
20							Fine SAND, saturated, gray SW	
25		2	2.0	6 6		0.0	Same as above	
							Silty CLAY, with a little silt, damp, gray SP-SC END OF BORING	

Water levels: $\frac{7}{2}$ ATD $\frac{7}{2}$ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-7	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						ASPHALT	
							Fine SAND, dry, brown to black SW	
5							CLAY with some sand, moist, brown CL	
		1	2.0	3 3		0.0	Fine SAND, dry to damp, brown SW	
10								
15		2	2.0	7 7		0.0	Fine SAND, saturated, brown to gray, SW (Soil/HP)	
20								
		3	2.0	6 5		0.0	Same as above (Soil/HP)	
25							Silty CLAY with some clay, grey	
							End of Boring	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-7A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
0	N/A					GRAVEL	
0 - 10						Fine SAND moist, black SW	
5						Fine SAND moist, brown SW	
10		1	1.75	3 5	0.0	Fine SAND saturated, brown SW	
15		2	1.0	6 5	0.0	Fine SAND saturated, brown to gray SW (Soil/HP)	
20						Silty CLAY gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-8	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 27.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						ASPHALT	
5							Fine to medium SAND, moist, brown to black SW	
10							Fine SAND, moist, brown to black SW	
15		1	2.0	6 8		0.0	Fine SAND, saturated, gray SW (Soil/HP)	
20							Fine SAND, saturated, gray SW	
25		2	2.0	2 2		0.0	Same as Above (Soil/HP)	
							Silty CLAY, wet, gray CL	
							END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-8A	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ OCT 5 93	WEATHER ▶ 65 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 27.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					ASPHALT	
5						Fine to Medium SAND, dry, brown, SW	
10						Fine SAND, damp to moist, brown SW	
15		1	2.0	6 6	0.0	Fine SAND, wet, brown, SW	
20						Fine SAND, saturated, gray SW	
25		2	2.0	5 3	0.0	Same as above	
						Silty CLAY, with a little silt, damp, gray SP-SC	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-8A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 18 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 18.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5							Fine SAND moist, brown SW	
10		1	1.75	3 4		0.0	Fine SAND saturated, brown SW (Soil/HP)	
15		2	1.75	4 4		0.0	Fine SAND saturated, gray SW (Soil/HP)	
							Silty CLAY with fine sand, gray ML END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-9	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 15 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 22.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
0	N/A					ASPHALT	
5							
8		1	2.0	6 6	0.0	Fine SAND, dry, brown SW	
10							
13		2	2.0	1 4	0.0	Fine SAND, moist to wet brown SW (Soil/HP)	
15							
20		3	2.0	1 4	0.0	Same as above (Soil/HP)	
21						Silty CLAY, gray	
22						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-9A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 18.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PI	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5							Fine SAND, moist, black SW	
10		1	2.0	1 1		0.0	Fine SAND, little silt, wet, brown SW (Soil/HP)	
15		2	2.0	3 3		0.0	Fine SAND, little silt, saturated, brown SW	
							Silty CLAY gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-11A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 17.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5						Fine SAND moist, brown SW	
10		1	1.75	3 4	0.0	Fine SAND saturated, brown SW (Soil/HP)	
15		2	1.75	4 4	0.0	Fine SAND saturated, brown SW	
						Silty CLAY with fine sand, little clay, gray ML	
						END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-12	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 16 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					ASPHALT	
5							
10						Fine SAND, dry, brown SW	
13		1	2.0	2 2	0.0	Fine SAND, wet, brown SW (Soil/HP)	
15							
20							
23		2	2.0	4 5	0.0	Fine SAND, saturated, gray SW (Soil/HP)	
25						Silty CLAY, saturated, gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-13 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 15.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5						Fine SAND moist, brown SW	
10		1	1.75	2 2	0.0	Fine SAND saturated, brown SW (Soil/HP)	
15		2	1.75	3 2	0.0	Silty CLAY with fine sand and clay, gray ML	
						END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-14	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 16 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 24.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5						Fine to medium SAND moist, brown to gray SW	
10		1	2.0	3 6	0.0	Fine SAND saturated, brown to gray SW (Soil/HP)	
15							
20		2	2.0	7 9	0.0	Fine SAND saturated, brown to gray SW (Soil/HP)	
						Silty CLAY gray CL	
						END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-14A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 15.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5							Fine SAND, dry, brown SW	
7		1	2.0	6 7		0.0	Fine SAND, saturated, brown SW (Soil/HP)	
10								
13		2	2.0	4 4		0.0	CLAY, little silt, moist, gray CL	
15							END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-15A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 14.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5						Fine SAND, dry to damp, brown SW	
10		1	2.0	5 6	0.0	Fine SAND, saturated, brown SW (Soil/HP)	
						CLAY, little silt, moist, gray CL	
		2	1.0	3 4	0.0	END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-16	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 16 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 24.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					CONCRETE	
5							
10		1	1.0	7 8	0.0	Fine to medium SAND moist, brown SW (Soil/HP)	
12.5		2	1.75	9 6	0.0	Fine SAND saturated, brown SW	
15							
20		3	2.0	5 6	0.0	Fine SAND saturated, brown SW (Soil/HP)	
						Silty CLAY gray END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-16A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 14.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5		1	1.75	4 5	0.0	Medium to fine SAND moist, brown to gray SW	
						Fine SAND wet to sturated, black staining SW (Soil/HP)	
		2	1.75	7 10	0.0	Fine SAND saturated, brown SW	
10							
		3	1.75	5 6	0.0	Silty CLAY, little fine sand, gray ML	
						END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-17	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 16 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 21.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5		1	1.0	7 8		0.0	Fine to medium SAND saturated, brown SW	
10		2	1.75	9 6		0.0	Fine SAND saturated, brown SW (Soil/HP)	
15		3	1.75	9 6		0.0	Fine SAND saturated, brown SW (Soil/HP)	
20							Silty CLAY gray END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-17A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R. Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5		1	1.75	3 3		0.0	Fine SAND moist to wet, brown to gray SW (Soil/HP)	
10		2	2.0	4 3		0.0	Fine SAND saturated, brown to gray SW	
							Silty CLAY little sand, gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-18	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 17 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A	TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
							CLAY, some sand, damp, brown CL	
5							Fine SAND, dry, brown SW	
10		1	2.0	3 3		0.0	Fine SAND, damp to moist, brown SW (Soil/HP)	
15								
20		2	2.0	5 5		0.0	Fine SAND, saturated, gray SW (Soil/HP)	
							Silty CLAY gray	
							END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-18A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PI	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5		1	2.0	3 2		0.0	Fine to medium SAND, moist to wet, brown to gray SW Fine SAND, wet to saturated, orange-rust stained SW (Soil/HP)	
10		2	1.75	4 3		0.0	Fine SAND, saturated, brown to gray, rust stained SW	
							Silty CLAY, gray CL END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-19	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 17 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5							Fine to medium SAND moist, brown SW	
10		1	1.0	57		0.0	Fine to medium SAND wet, brown SW	
12		2	1.75	57		0.0	Fine to medium SAND saturated, brown SW (Soil/HP)	
15								
20		3	2.0	57		0.0	Silty, fine, SAND saturated, gray SW	
25							Silty CLAY gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-19 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 15.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						Sandy GRAVEL	
5							Fine SAND, little silt, dry, brown SW	
10		1	2.0	6 7		0.0	Fine SAND, little silt, saturated, brown SW (Soil/HP)	
							Fine SAND, little silt, saturated, brown SW	
15		2	2.0	6 7		0.0	CLAY, little silt, moist, gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-20	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 17 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
							Sandy CLAY, damp brown CL	
5								
10		1	2.0	4		0.0	Fine SAND wet, brown SW (Soil/HP)	
				4				
15		2	2.0	4		0.0	Fine SAND wet, gray SW	
				4				
20								
							Silty CLAY gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-20A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A LENGTH N/A
		TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5		1	2.0	2 2		0.0	Fine SAND, dry, brown SW	
							Fine SAND, saturated, brownish gray SW some staining (Soil/HP)	
10		2	2.0	3 4		0.0	Fine SAND, saturated, brown SW rusty stripes (Soil/HP)	
							CLAY, little silt, moist, gray CL END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-21 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 21 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5		1	2.0	5 5		0.0	Fine SAND, little silt, wet to saturated, brown SW (Soil/HP)	
10		2	2.0	4 4		0.0	Fine SAND, little silt, saturated, gray SW (Soil/HP)	
							CLAY gray CL END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-22	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 17 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 22.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						CONCRETE	
5		1	2.0	3 3		0.0	Fine SAND dry to damp, greenish gray SW	
10		2	2.0	4 6		0.0	Fine SAND moist, greenish gray SW (Soil/HP)	
15		3	2.0	3 5		0.0	Fine SAND wet, greenish gray SW (Soil/HP)	
20		4	2.0	6 6		0.0	Silty CLAY damp, gray CL	
							END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-22A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5		1	2.0	4 4	0.0	Fine SAND, little silt, saturated, brown SW (Soil/HP)	
10		2	2.0	4 5	0.0	Fine SAND, saturated, gray SW	
						CLAY, little silt, moist, gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-23	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 17 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
0	N/A						CONCRETE	
7.5		1	1.75	77		0.0	Silty, fine SAND saturated, brown SM	
14.5		2	1.75	67		0.0	Silty, fine SAND saturated, brown SM (Soil/HP)	
25.0							Silty CLAY gray CL END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

General Motors Corp.- CLCD		PROJECT NUMBER ▶ 54079300251	
BORING NUMBER ▶ SB-23 A		SITE LOCATION ▶ Leith Street to Stewart Avenue	
DATE ▶ JUN 22 93		WEATHER ▶ 75 Degrees	
DRILLED BY ▶ Jim Farkas		DRILLED BY ▶ ATEC R.Stock	
DRILLING METHOD ▶ Hollow Stem Auger		SAMPLING METHOD ▶ Split Spoon	
WELL SEAL ▶ N/A		SEAL ▶ N/A	

BORING TYPE ▶ N/A	DIAMETER ▶ N/A	LENGTH ▶ N/A	HOLE DIA. ▶ 8.25
OPENING TYPE ▶ N/A	SLOT ▶ N/A	DIAMETER ▶ N/A	LENGTH ▶ N/A
			TOTAL DEPTH ▶ 12.0'

DEPTH (ft)	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
0	N/A					GRAVEL	
1		1	2.0	3 4	0.0	Fine SAND, dry, brown SW	
2		2	2.0	3 2	0.0	Fine SAND, little silt, wet, gray SW (Soil/HP)	
3						Fine SAND, saturated, gray SW	
4						CLAY, little silt, moist, gray CL	
5						END OF BORING	



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-24	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 17 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 25.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5							Fine SAND moist, brown SW	
10		1	2.0	5 5		0.0	Silty, fine SAND, some clay, saturated, brown to gray SM (Soil/HP)	
15								
20		2	2.0	2 3		0.0	Silty, fine SAND, some clay, saturated, gray SM (Soil/HP)	
							Silty CLAY gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-24	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A						
5		1	2.0	4 5	0.0	Fine SAND, little silt, dry, brown SW	
7						Fine SAND, little silt, wet, brown SW (Soil/HP)	
10						Fine SAND, little silt, saturated, gray SW	
		2	2.0	5 5	0.0	CLAY, trace silt, moist, gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-25	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 23 93	WEATHER ▶ 90 degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; J.Owen
DRILLING METHOD ▶ Hand Auger	SAMPLING METHOD ▶ Bucket Auger
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 4.00
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A	TOTAL DEPTH 4.5'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
0	N/A						GRAVEL	
		1	N/A	R R		0.0	Coarse SAND wet to saturated, black SW some slag (Soil/HP)	
							END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-25 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5		1	1.75	3 2	0.0	Fine to medium SAND, moist, brown SW	
						Fine SAND, moist, brown with black staining SW (Soil/HP)	
10		2	1.75	3 3	0.0	Fine SAND, saturated, brown, SW	
						Silty CLAY, gray CL	
						END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-26	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 23 93	WEATHER ▶ 90 degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; J.Owen
DRILLING METHOD ▶ Hand Auger	SAMPLING METHOD ▶ Bucket Auger
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 4.00
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 10.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5							Medium SAND dry, brown SW	
7							Medium SAND wet, brown SW (Soil/HP)	
10							Silty CLAY gray CL (Soil/HP)	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-26 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5		1	1.75	3 2		0.0	Fine SAND saturated, brown SW	
7							Silty fine SAND moist to wet, gray SM (Soil/HP)	
10		2	1.00	3 3		0.0	Fine SAND saturated, brown SW	
							Silty CLAY, little fine sand, gray ML	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300250
BORING NUMBER ▶ SB-27	SITE LOCATION ▶ Stewart Avenue to Pierson Road
DATE ▶ JUN 23 93	WEATHER ▶ 90 degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; J.Owen
DRILLING METHOD ▶ Hand Auger	SAMPLING METHOD ▶ Bucket Auger
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A	LENGTH N/A	HOLE DIA. 4.00
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A	LENGTH N/A
			TOTAL DEPTH 10.5'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5						Medium SAND dry, brown SW	
10						Medium SAND wet, brown SW (Soil/HP)	
						Silty CLAY gray CL END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-31A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 23 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A	TOTAL DEPTH 15.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
5	N/A	1	2.0	7 7		0.0	Fine SAND, little silt, damp, brown SW	
10		2	1.0	22 R		0.0		
15		3	2.0	6 8		0.0		CLAY, little silt, damp, gray CL
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-32 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 23 93	WEATHER ▶ 70 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; J.Owen
DRILLING METHOD ▶ Hand Auger	SAMPLING METHOD ▶ Bucket Auger
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 4.00
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A	TOTAL DEPTH 10.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						TOPSOIL	
							Fine SAND wet, brown to black SW	
							SAND and clay, wet, gray to black SC Black slag	
5		1	2.0	N/A		0.0	SAND and clay moist to wet, gray to black SC	
							Fine SAND, some clay, saturated, gray SC (Soil/HP)	
10							END OF BORING	

Water levels: ▼ ATD ▼ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-33 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 75 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A LENGTH N/A
		TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						TOPSOIL	
5		1	2.0	4 4		0.0	Fine SAND, little silt, wet, brown to black SW (Soil/HP)	
10		2	2.0	5 6		0.0	CLAY, trace silt, dry, grayish white CL	
							END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-34 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
5		1	2.0	4 3		0.0	Fine SAND, dry, brown SW	
10		2	2.0	4 5		0.0	Gravelly SAND, wet, black GP (Soil/HP)	
							CLAY, little silt, damp, gray CL	
							END OF BORING	

Water levels: ☒ ATD ☒ "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-35 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 80 Degrees
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A

CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A	TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION
	N/A						GRAVEL	
							Fine SAND, damp, brown SW	
5		1	2.0	6 6		0.0	Gravelly SAND, wet, black GP (Soil/HP)	
10		2	2.0	7 7		0.0	Silty CLAY damp, gray CL	
							END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251
BORING NUMBER ▶ SB-36 A	SITE LOCATION ▶ Leith Street to Stewart Avenue
DATE ▶ JUN 22 93	WEATHER ▶ 85 Degrees
LOGGED BY ▶ John Owen	DRILLED BY ▶ ATEC; R.Stock
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon
GRAVEL PACK ▶ N/A	SEAL ▶ N/A
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A HOLE DIA. 8.25
SCREEN ▶ TYPE N/A	SLOT N/A DIAMETER N/A LENGTH N/A TOTAL DEPTH 12.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID READING	LITHOLOGY	ELEVATION
	N/A					GRAVEL	
5		1	1.0	11 13	0.0	Fine SAND moist, brown to gray SW	
7						COBBLE	
10		2	1.00	7 10	0.0	Fine SAND saturated, gray SW (Soil/HP)	
						Silty CLAY moist, gray CL	
						END OF BORING	

Water levels: ATD "Stabilized"



BORING LOG

CLIENT ▶ General Motors Corp.- CLCD	PROJECT NUMBER ▶ 54079300251		
BORING NUMBER ▶ SB-39 A	SITE LOCATION ▶ Leith Street to Stewart Avenue		
DATE ▶ JUN 23 93	WEATHER ▶ 85 Degrees		
LOGGED BY ▶ Jim Farkas	DRILLED BY ▶ ATEC; R.Stock		
DRILLING METHOD ▶ Hollow Stem Auger	SAMPLING METHOD ▶ Split Spoon		
GRAVEL PACK ▶ N/A	SEAL ▶ N/A		
CASING ▶ TYPE N/A	DIAMETER N/A LENGTH N/A	HOLE DIA. 8.25	
SCREEN ▶ TYPE N/A	SLOT N/A	DIAMETER N/A LENGTH N/A	TOTAL DEPTH 20.0'

DEPTH BELOW SURFACE	WELL COMPLETION	SAMPLE NO.	SAMPLE RECOVERY	PENETRATION RESISTANCE	PID	READING	LITHOLOGY	ELEVATION	
5 10 15	N/A						Fine SAND, moist, brown SW		
		1	2.0	4 4		0.0			
								CLAY, little silt, dry to damp, gray CLAYST	
		2	2.0	2 3		0.0		Fine SAND, little clay, saturated, brown SW (Soil/HP)	
		3	2.0	5 5		0.0		Fine SAND, little clay, saturated, brown SW (Soil/HP)	
								CLAY, little silt, damp, gray CLAYST END OF BORING	

Water levels: ∇ ATD ∇ "Stabilized"

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 751.04
 Property Owner/Contact: CSX

Date(s) Drilled: 9/14/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 25.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
			5YR 4/4	ND	S-1	50	GP	0.0-1.0': GRAVEL
			5YR 4/4	ND	S-2	50	SC	1.0-4.0': SAND WITH SOME SILT AND CLAY, TRACE FINE GRAVEL, BROWN/BLACK TO BROWN, DRY.
5			5YR 4/4	ND	S-3	65		
			5YR 4/4	ND	S-4	60	SP	4.0-8.8': SAND WITH GRAVEL AND SILTY CLAY LENSES. BROWN TO BLACK, DRY TO SLIGHTLY MOIST.
			5YR 4/4	ND	S-5	85	SC	8.8-10.0': SAND WITH SOME CLAY AND TRACE GRAVEL, BROWN.
10			N1	ND	S-6	95	SP	10.0-11.0': SAND, BLACK, DRY.
			5YR 4/4	ND	S-7	60		
15			5YR 4/4	ND	S-8	100		
			5YR 4/4	ND	S-9	90	SM	11.0-19.3': SAND WITH SOME SILT, BROWN, WET, FINE GRAINED.
			5YR 4/4	ND	S-10	100		
20			5YR 4/4	ND	S-11	85	MH	19.3-22.6': SILT WITH TRACE CLAY, BROWN TO GRAY, WET.
			N5	ND	S-12	80		
25			N5	ND	S-13	75	CH	22.6-25.0': CLAY WITH SOME SILT, GRAY, MOIST TO WET, VERY SOFT. TOTAL DEPTH DRILLED = 25.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 13.0-18.0'. GROUNDWATER SAMPLE COLLECTED FROM 20.0-25.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 750.83
 Property Owner/Contact: CSX

Date(s) Drilled: 9/14/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-0.5'			5YR 4/4	ND	S-1	50	GP	0.0-0.5': GRAVEL
0.5-4.0'			5YR 4/4	ND	S-2	10	CL	0.5-4.0': CLAY WITH SOME SAND AND GRAVEL, BROWN, DRY.
4.0-5.6'			5YR 4/4	ND	S-3	55		4.0-5.6': CLAY WITH SOME SILT, LIGHT BROWN, DRY TO SLIGHTLY MOIST, STIFF.
5.6-7.2'			5YR 4/4	ND	S-4	50	SP	5.6-7.2': SAND WITH SOME ROUNDED GRAVEL/CINDER, BLACK.
7.2-8.0'			5YR 4/4	ND	S-5	75	CL	7.2-8.0': CLAY WITH SOME SAND, SILT, AND ROUNDED GRAVEL, BROWN, SLIGHTLY MOIST.
8.0-10.5'			5YR 4/4	ND	S-6	80	SC	8.0-10.5': SAND WITH SOME CLAY AND FINE TO COARSE GRAVEL, BROWN/BLACK.
10.5-18.5'			5YR 4/4	ND	S-7	90		
10.5-18.5'			5YR 4/4	ND	S-8	75	SW	10.5-18.5': SAND, BROWN TO GRAY, DRY TO WET, FINE GRAINED. 1" SILT LENS AT 10.75'. WET AT 12.0'. GRADING TO GRAY AT 16.0'.
18.5-20.0'			N5	ND	S-9	100		
18.5-20.0'			N5	ND	S-10	95		18.5-20.0': SILT, GRAY, WET.
20.0-22.0'			N5	ND	S-11	75	MH	20.0-22.0': SILT WITH SOME CLAY, GRAY, WET.
22.0-24.0'			N5	ND	S-12	95	CH	22.0-24.0': CLAY WITH SOME SILT, GRAY, MOIST TO WET.
TOTAL DEPTH DRILLED = 24.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 11.0-16.0'								
GROUNDWATER SAMPLE COLLECTED FROM 19.0-24.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 750.72
 Property Owner/Contact: CSX

Date(s) Drilled: 9/14/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 25.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
			5YR 4/4	ND	S-1	100	GP	0.0-1.0': BERM STONE
			5YR 4/4	ND	S-2	70	SC	1.0-5.2': SAND WITH SOME CLAY AND GRAVEL/CINDER, BROWN, DRY. 1" OF ROCK AND STEEL AT 3.5'.
5			5YR 4/4	ND	S-3	65	SP	5.2-6.0': SAND WITH SMALL GRAVEL, BLACK, DRY, FINE GRAINED.
			5YR 4/4	ND	S-4	50	SC	6.0-7.2': SAND WITH SOME CLAY AND GRAVEL, BROWN/BLACK, DRY, FINE GRAINED.
			5YR 4/4	ND	S-5	95	CL	7.2-8.0': CLAY WITH SOME SAND, BROWN WITH GREEN, DRY.
			5YR 4/4	ND	S-6	85	SW	8.0-10.0': SAND, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
10			5YR 4/4	ND	S-7	80	SM	10.0-12.0': SAND AND SILT, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
			5YR 4/4	ND	S-8	90	SP	12.0-16.0': SAND, BROWN, MOIST TO WET (14.0'), FINE GRAINED.
			-	-	S-9	-		16.0-20.0': UNABLE TO OBTAIN SAMPLE
			-	-	S-10	-		
20			5YR 4/4	ND	S-11	70	SP	20.0-23.0': SAND, BROWN, WET, FINE GRAINED.
			N5	ND	S-12	70	CH	23.0-24.0': CLAY WITH SOME SILT, GRAY, WET.
25								TOTAL DEPTH DRILLED = 25.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 11.0-16.0'. GROUNDWATER SAMPLE COLLECTED FROM 20.0-25.0'.

Comments: COLOR CODE - GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/15/95
 Project Number: 041057F002 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 751.14 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 26.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0-4.8			5YR 4/4	ND	S-1	50		0.0-4.8': SAND WITH TRACE CLAY AND FINE TO MEDIUM GRAVEL, BROWN BLACK, DRY.
			5YR 4/4	ND	S-2	75		
5			5YR 4/4	ND	S-3	75		
			5YR 4/4	ND	S-4	20		
			5YR 4/4	ND	S-5	85	SP	
10			5YR 4/4	ND	S-6	85		
			5YR 4/4	ND	S-7	100		
15			5YR 4/4	ND	S-8	60		
16.0-22.0								16.0-22.0': UNABLE TO OBTAIN SAMPLES
22.0-26.0			5YR 4/4	ND	S-9	70		22.0-26.0': SAND, BROWN/GRAY, WET, FINE GRAINED.
25			5YR 4/4	ND	S-10	100	SP	
								TOTAL DEPTH DRILLED = 26.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 11.0-16.0' GROUNDWATER SAMPLE COLLECTED FROM 21.0-26.0'

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/15/95
 Project Number: 041057F002 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 751.13 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 26.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.7'			5YR 4/4	ND	S-1	40	SC	SAND WITH SOME CLAY AND FINE TO MEDIUM GRAVEL, BROWN/BLACK, DRY.
2.7-3.8'			5YR 4/4	ND	S-2	80	CL	CLAY WITH SOME SILT AND COARSE SAND, BROWN, DRY.
3.8-8.0'			5YR 4/4	ND	S-3	90	SM	SAND WITH SOME SILT, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
			5YR 4/4	ND	S-4	75		
8.0-12.0'			5YR 4/4	ND	S-5	80	MH	SILT WITH SOME SAND, BROWN, SLIGHTLY MOIST TO MOIST.
			5YR 4/4	ND	S-6	80		
			5YR 4/4	ND	S-7	75		
12.0-20.0'			5YR 4/4	ND	S-8	100	SM	SAND WITH SOME SILT, BROWN, WET, FINE GRAINED. GRAY AT 17.0'.
			5YR 4/4	ND	S-9	90		
20.0-24.0'			N5	ND	S-10	50		UNABLE TO OBTAIN SAMPLES
24.0-26.0'			N5	-	S-11	0	CL	CLAY WITH SOME SILT, GRAY (UNABLE TO OBTAIN SAMPLE. SPLIT SPOON WAS COATED WITH THE CLAY DESCRIBED).
TOTAL DEPTH DRILLED = 26.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 9.0-14.0'.								
GROUNDWATER SAMPLE COLLECTED FROM 21.0-26.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 751.11
 Property Owner/Contact: CSX









Date(s) Drilled: 10/11/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.0'			-	-	S-1	0	GP	0.0-2.0': GRAVEL.
2.0-4.4'			5YR 4/4	ND	S-2	30		2.0-4.4': SAND WITH TRACE SILT, CLAY, GRAVEL, BROWN (BLACK STAINED), DRY TO SLIGHTLY MOIST.
4.4-6.5'			5YR 4/4	ND	S-3	100		4.4-6.5': SAND WITH TRACE SILT, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
6.5-8.0'			5YR 4/4	ND	S-4	75		
8.0-12.0'			5YR 4/4	ND	S-5	80		8.0-12.0': S.A.A.: SLIGHTLY MOIST TO MOIST.
12.0-14.0'			5YR 4/4	ND	S-6	100	SM	12.0-14.0': S.A.A.: MOIST.
14.0-20.0'			5YR 4/4	ND	S-7	100		14.0-20.0': S.A.A.: WET.
20.0-22.0'			5YR 4/4	ND	S-8	70		
22.0-23.8'			5YR 4/4	ND	S-9	80		20.0-22.0': SAND, BROWN, WET, FINE GRAINED.
23.8-24.0'			N5	ND	S-10	100		22.0-23.8': S.A.A.: BROWN TO GRAY.
					S-11	100	CL	23.8-24.0': CLAY WITH TRACE SILT, GRAY, SLIGHTLY MOIST.
					S-12	100		TOTAL DEPTH DRILLED = 24.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'. GROUNDWATER SAMPLE COLLECTED FROM 19.0 TO 24.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 751.24
 Property Owner/Contact: CSX

Date(s) Drilled: 10/11/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-5.2'			5YR 4/4	ND	S-1	90	CL	CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST.
5.2-8.0'			5YR 4/4	ND	S-2	100		SAND, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
8.0-12.0'			5YR 4/4	ND	S-3	100		S.A.A.: SLIGHTLY MOIST.
12.0-13.5'			5YR 4/4	ND	S-4	100		S.A.A.: MOIST.
13.5-19.5'			5YR 4/4	ND	S-5	100	SP	S.A.A.: WET.
19.5-21.6'			5YR 4/4	ND	S-6	90		SAND WITH TRACE SILT, GRAY, WET, FINE GRAINED.
21.6-23.5'			N5	ND	S-7	90	MH	SILT WITH SOME CLAY, GRAY, WET.
23.5-24.0'			N5	ND	S-8	90	CL	CLAY WITH SOME SILT, GRAY.
					S-9	70		TOTAL DEPTH DRILLED = 24.0 FEET
					S-10	100		GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'
					S-11	100		GROUNDWATER SAMPLE COLLECTED FROM 19.0 TO 24.0'

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 751.11
 Property Owner/Contact: CSX

Date(s) Drilled: 10/12/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 22.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-5.0	[Hatched]		5YR 4/4	ND	S-2	100	CL	2.0-5.0': CLAY WITH TRACE SILT, SAND, AND GRAVEL, BROWN, DRY.
5.0-6.0	[Dotted]		5YR 4/4	ND	S-3	100	SP	5.0-6.0': SAND, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
6.0-8.0	[Hatched]		5YR 4/4	ND	S-4	75	SC	6.0-8.0': S.A.A.: TRACE CLAY.
8.0-13.0	[Dotted]		5YR 4/4	ND	S-5	100	SP	8.0-13.0': S.A.A.: NO CLAY.
13.0-14.0	[Dotted]		5YR 4/4	ND	S-6	75		13.0-14.0': SAND WITH TRACE SILT AND CLAY, BROWN, MOIST TO WET, FINE GRAINED.
14.0-19.0	[Vertical Lines]		5YR 4/4	ND	S-7	100	SM	14.0-19.0': S.A.A.: WET, NO CLAY.
19.0-20.0	[Vertical Lines]		5YR 4/4	ND	S-9	70		19.0-20.0': S.A.A.: GRAY.
20.0-20.4	[Vertical Lines]		5YR 4/4	ND	S-10	75		20.0-20.4': SAND, GRAY, WET.
20.4-20.8	[Vertical Lines]		N5	ND	S-11	100	SP	20.4-20.8': SILT WITH SOME SAND, GRAY, WET.
20.8-21.9	[Vertical Lines]						MH	20.8-21.9': SILT WITH SOME CLAY, GRAY, WET.
21.9-22.0	[Vertical Lines]						CL	21.9-22.0': CLAY, GRAY, SLIGHTLY MOIST TO MOIST.
TOTAL DEPTH DRILLED = 22.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'								
GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/12/95
 Project Number: 041057F002 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 751.23 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 22.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0			5YR 4/4	ND	S-1	30	CL	0.0-3.8': CLAY WITH SOME SAND, SILT, AND GRAVEL, BROWN, SLIGHTLY MOIST.
3.8			5YR 4/4	ND	S-2	100		
5.0			5YR 4/4	ND	S-3	100	SP	3.8-8.0': SAND WITH TRACE SILT AND CLAY, BROWN, SLIGHTLY MOIST.
6.0			5YR 4/4	ND	S-4	100		
7.0			5YR 4/4	ND	S-5	100		
8.0			5YR 4/4	ND	S-6	90		
9.0			5YR 4/4	ND	S-7	75		
11.0			5YR 4/4	-	S-8	80	MH	8.0-13.0': S.A.A.: NO CLAY. 13.0-14.0': S.A.A.: MOIST TO WET. 14.0-15.5': SAND WITH TRACE SILT AND CLAY, BROWN, WET, FINE GRAINED. 15.5-18.5': SAND WITH TRACE SILT, GRAY, WET, FINE GRAINED.
15.5			-	-	S-9	0		
18.5			N5	-	S-10	100		
21.6			N5	-	S-11	-	CL	18.5-21.6': SILT WITH TRACE CLAY, GRAY, WET. 21.6-22.0': CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST.
22.0							TOTAL DEPTH DRILLED = 22.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'. GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'.	

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 751.14
 Property Owner/Contact: CSX

Date(s) Drilled: 10/12/95
 Logged By: DARRYL BARRICKLOW
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.0	Gravel, Sand, and Clay		-	-	S-1	40	GP	0.0-2.0': GRAVEL, SAND, AND CLAY.
2.0-3.4	Clay with some silt, trace sand and gravel, brown, dry to slightly moist.		5YR 4/4	ND	S-2	100	CL	2.0-3.4': CLAY WITH SOME SILT, TRACE SAND AND GRAVEL, BROWN, DRY TO SLIGHTLY MOIST.
3.4-4.0	Sand, brown, slightly moist, fine grained.		5YR 4/4	ND	S-3	100		3.4-4.0': SAND, BROWN, SLIGHTLY MOIST, FINE GRAINED.
4.0-8.0	S.A.A. with trace clay.		5YR 4/4	ND	S-4	100	SP	4.0-8.0': S.A.A.: WITH TRACE CLAY.
8.0-10.75	S.A.A. with trace silt, no clay, wet at 10.0'.		5YR 4/4	ND	S-5	100		8.0-10.75': S.A.A.: WITH TRACE SILT, NO CLAY, WET AT 10.0'.
10.75-11.75	Clay with some silt and trace sand, brown, wet seams.		5YR 4/4	ND	S-6	85	CL	10.75-11.75': CLAY WITH SOME SILT AND TRACE SAND, BROWN, WET SEAMS.
11.75-13.75	Sand, brown, moist, fine grained.		5YR 4/4	ND	S-7	60		11.75-13.75': SAND, BROWN, MOIST, FINE GRAINED.
13.75-16.0	Sand, gray, wet, fine grained.		N5	11	S-8	95	SP	13.75-16.0': SAND, GRAY, WET, FINE GRAINED.
16.0-20.0	S.A.A. trace clay.		N5	33	S-9	100		16.0-20.0': S.A.A.: TRACE CLAY.
20.0-22.0	No recovery.		-	-	S-11	0		20.0-22.0': NO RECOVERY.
22.0-22.7	Sand with trace silt and clay, gray, wet, fine grained.		N5	3.9	S-12	100	SP	22.0-22.7': SAND WITH TRACE SILT AND CLAY, GRAY, WET, FINE GRAINED.
22.7-24.0	Clay with some silt, gray, moist to slightly moist.		-	-			CL	22.7-24.0': CLAY WITH SOME SILT, GRAY, MOIST TO SLIGHTLY MOIST.
TOTAL DEPTH DRILLED = 24.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'								
GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/13/95
 Project Number: 041057F002 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 751.04 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.0'			5YR 4/4	-	S-1	30	GP	0.0-2.0': GRAVEL, SAND, AND CLAY, DARK BROWN.
2.0-4.5'			5YR 4/4	ND	S-2	50	CL	2.0-4.5': CLAY WITH SOME SILT AND GRAVEL, TRACE SAND, BROWN, DRY TO SLIGHTLY MOIST.
4.5-6.0'			5YR 4/4	ND	S-3	100		4.5-6.0': SAND WITH TRACE SILT, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
6.0-9.0'			5YR 4/4	ND	S-4	90	SP	6.0-9.0': S.A.A.: WITH TRACE CLAY.
9.0-10.0'			5YR 4/4	ND	S-5	100	MH	9.0-10.0': SAND WITH SOME SILT AND TRACE CLAY, BROWN, MOIST TO WET, FINE GRAINED.
10.0-15.0'			5YR 4/4	ND	S-6	75		
10.0-15.0'			5YR 4/4	ND	S-7	90	SC	10.0-15.0': SAND AND CLAY, BROWN, WET.
15.0-15.2'			N5	ND	S-8	100	MH	15.0-15.2': SILT, GRAY, WET.
15.2-18.0'			N5	ND	S-9	100	CL	15.2-18.0': CLAY WITH TRACE SILT, GRAY, SLIGHTLY MOIST. WET SILT SEAMS.
18.0-19.2'			5YR 4/4	ND	S-10	80	MH	18.0-19.2': SILT WITH SOME CLAY, GRAY TO BROWN, WET.
19.2-19.8'			5YR 4/4	ND	S-10	80	SP	19.2-19.8': SAND, BROWN, WET.
19.8-21.0'			N5	ND	S-11	100	MH	19.8-21.0': SILT WITH SOME CLAY, GRAY, WET.
21.0-24.0'			N5	ND	S-12	100	CL	21.0-24.0': CLAY WITH SOME SILT, GRAY, DRY TO SLIGHTLY MOIST. WET SILT SEAMS.
TOTAL DEPTH DRILLED = 24.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'.								
GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/13/95
 Project Number: 041057F002 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 750.33 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 22.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.5'	Gravel, Sand, and Clay		-	-	S-1	-	GP	0.0-2.5': GRAVEL, SAND, AND CLAY.
2.5-4.0'	Sand, Brown, Dry, Fine Grained		5YR 4/4	ND	S-2	90		2.5-4.0': SAND, BROWN, DRY, FINE GRAINED.
4.0-6.0'	Sand with trace silt, Brown, Dry to slightly moist, fine grained		5YR 4/4	ND	S-3	85	SP	4.0-6.0': SAND WITH TRACE SILT, BROWN, DRY TO SLIGHTLY MOIST, FINE GRAINED.
6.0-8.0'	S.A.A. with trace clay, moist		5YR 4/4	ND	S-4	85		6.0-8.0': S.A.A.: WITH TRACE CLAY, MOIST.
8.0-10.0'	S.A.A. wet at 9.0'		5YR 4/4	ND	S-5	75		8.0-10.0': S.A.A.: WET AT 9.0'.
10.0-14.5'	Sand and silt, Brown, wet, fine grained		5YR 4/4	ND	S-6	90	SM	10.0-14.5': SAND AND SILT, BROWN, WET, FINE GRAINED.
14.5-17.8'	Silt with some clay, gray, wet		N5	ND	S-8	100	MH	14.5-17.8': SILT WITH SOME CLAY, GRAY, WET.
17.8-21.3'	Clay with some silt, gray, wet		N5	ND	S-9	100		17.8-21.3': SILT WITH SOME CLAY, GRAY, WET.
21.3-22.0'	Clay with trace silt, gray, dry to slightly moist		N5	ND	S-10	100	CH	17.8-21.3': CLAY WITH SOME SILT, GRAY, WET.
21.3-22.0'	Clay with trace silt, gray, dry to slightly moist		N5	ND	S-11	100	CL	21.3-22.0': CLAY WITH TRACE SILT, GRAY, DRY TO SLIGHTLY MOIST.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/16/95
 Project Number: 041057F002 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 749.90 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 22.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-4.7'	CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, PLASTIC.		5YR 4/4	ND	S-1	90	CL	
4.7-6.0'	SAND, YELLOW-ORANGE, SLIGHTLY MOIST, FINE GRAINED.		10YR 8/6	ND	S-2	100		
6.0-8.0'	S.A.A.: MOIST.		10YR 8/6	ND	S-3	100		
8.0-12.0'	S.A.A.: WET.		10YR 8/6	ND	S-4	50	SP	
12.0-14.0'	NO SAMPLE.		10YR 8/6	ND	S-5	100		
14.0-18.7'	SAND AND SILT, GRAY, WET, FINE GRAINED.		N5	ND	S-7	75		
			N5	-	S-8	100	SM	
			N5	ND	S-9	50		
18.7-22.0'	CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.		N5	ND	S-10	100	CH	
TOTAL DEPTH DRILLED = 22.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 7.0 TO 12.0'. GROUNDWATER SAMPLE COLLECTED FROM 15.0 TO 20.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 749.17
 Property Owner/Contact: CSX

Date(s) Drilled: 10/16/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	90		2.0-6.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST, FINE GRAINED. 6.0-8.0': S.A.A.: SLIGHTLY MOIST TO MOIST. 8.0-11.4': S.A.A.: WET. 11.4-12.0': SILT WITH SOME CLAY, GRAY, WET. 12.0-15.4': SAND AND SILT, GRAY, WET, FINE GRAINED. 15.4-17.8': SILT WITH SOME CLAY, GRAY, WET. 17.8-20.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC. TOTAL DEPTH DRILLED = 20.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'. GROUNDWATER SAMPLE COLLECTED FROM 13.0-18.0'.
			10YR 8/6	ND	S-2	100		
			10YR 8/6	ND	S-3	100	SP	
			10YR 8/6	ND	S-4	50		
10			N5	ND	S-5	100	MH	
			N5	ND	S-7	75		
			N5	ND	S-8	100	SM	
15			N5	ND	S-9	100	MH	
			N5	-	S-10	100	CH	
20								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 748.77
 Property Owner/Contact: CSX

Date(s) Drilled: 10/16/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-2.4'			10YR 8/6	ND	S-1	100	CL	CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
2.4-6.0'			10YR 8/6	ND	S-2	90		SAND, YELLOW-ORANGE, SLIGHTLY MOIST, FINE GRAINED.
6.0-11.6'			10YR 8/6	ND	S-3	50	SP	S.A.A.: WET.
11.6-12.0'			10YR 8/6	ND	S-4	75		S.A.A.: GRAY.
12.0-16.0'			N5	ND	S-7	100		
12.0-16.0'			N5	ND	S-8	100	SM	SAND AND SILT WITH SOME CLAY, GRAY, WET, FINE GRAINED.
16.0-17.0'			N5	ND	S-9	100		
16.0-17.0'			N5	ND	S-10	75	MH	SILT WITH SOME CLAY, GRAY, WET.
17.0-20.0'			N5	ND	S-11	75	CH	CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
TOTAL DEPTH DRILLED = 20.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'. GROUNDWATER SAMPLE COLLECTED FROM 13.0 TO 18.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 748.46
 Property Owner/Contact: CSX

Date(s) Drilled: 10/17/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	50		2.0-5.7': SAND, YELLOW-ORANGE, SLIGHTLY MOIST, FINE GRAINED.
			10YR 8/6	ND	S-2	75		5.7-6.0': S.A.A.: MOIST.
			10YR 8/6	ND	S-3	75	SP	6.0-11.3': S.A.A.: WET.
			10YR 8/6	ND	S-4	100		11.3-12.0': S.A.A.: GRAY.
			10YR 8/6	ND	S-6	100		
15			N5	ND	S-7	100		
			N5	ND	S-8	75	MH	12.0-17.2': SILT AND CLAY WITH SOME FINE SAND, GRAY, WET.
			N5	ND	S-9	100		
			N5	ND	S-10	80	CH	17.2-20.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
20								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 747.85
 Property Owner/Contact: CSX

Date(s) Drilled: 10/17/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	100		2.0-6.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO MOIST, FINE GRAINED.
			10YR 8/6	ND	S-2	100		
			10YR 8/6	ND	S-3	75		
			10YR 8/6	ND	S-4	80	SP	
10			10YR 8/6	ND	S-6	100		
			10YR 8/6	ND	S-7	100		
			N5	ND	S-8	100	MH	
			N5	ND	S-9	75		13.0-15.2': S.A.A.: GRAY.
			N5	ND	S-10	75	CH	15.2-15.6': SILT WITH SOME CLAY, GRAY, WET.
20								15.6-20.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
25								TOTAL DEPTH DRILLED = 20.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'. GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/17/95
 Project Number: 041057F002 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 747.37 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 18.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	50		2.0-6.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO MOIST, FINE GRAINED. 6.0-8.2': S.A.A.: WET. 8.2-12.0': SILT AND FINE SAND WITH SOME CLAY, GRAY, WET. 12.0-14.0': SAND, GRAY, WET, FINE GRAINED. 14.0-18.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC. TOTAL DEPTH DRILLED = 18.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'. GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'.
			10YR 8/6	ND	S-2	100	SP	
			10YR 8/6	ND	S-3	75		
			N5	ND	S-4	100	MH	
			N5	ND	S-6	50		
			N5	ND	S-7	100	SP	
			N5	ND	S-8	100		
			N5	ND	S-9	100	CH	
			N5	ND				

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 746.97
 Property Owner/Contact: CSX

Date(s) Drilled: 10/18/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 18.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	50		2.0-9.5': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO WET, FINE GRAINED. WET AT 6.0'. 9.5-10.0': SILT WITH TRACE CLAY, GRAY, WET. 10.0-12.5': SILT WITH SOME CLAY AND TRACE FINE SAND, GRAY, WET. 12.5-18.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC. TOTAL DEPTH DRILLED = 18.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'. GROUNDWATER SAMPLE COLLECTED FROM 11.0 TO 16.0'.
			10YR 8/6	ND	S-2	100	SP	
			10YR 8/6	ND	S-3	100		
			10YR 8/6	ND	S-4	100		
10			N5	ND	S-6	50	MH	
			N5	ND	S-7	30		
15			N5	ND	S-8	100	CH	
			N5	ND	S-9	100		
20								
25								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/17/95
 Project Number: 041057F002 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 745.38 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 18.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	40	SP	2.0-6.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO MOIST, FINE GRAINED.
			10YR 8/6	ND	S-2	100		
			10YR 8/6	ND	S-3	100		
			10YR 8/6	ND	S-4	100		
10			10YR 8/6	ND	S-5	100		
			10YR 8/6	ND	S-6	100		
15			N5	ND	S-7	100	CH	13.6-18.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
			N5	ND	S-8	50		
20								TOTAL DEPTH DRILLED = 18.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 3.0 TO 8.0'. GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'.
25								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 745.17
 Property Owner/Contact: CSX




Date(s) Drilled: 10/17/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 16.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0 - 4.2	[Diagonal Hatching]		5YR 4/4	ND	S-1	100	CL	2.0-4.2': CLAY WITH SOME SILT AND SAND, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
4.2 - 5.4	[Dotted]		10YR 8/6	ND	S-2	100	SP	4.2-11.5': SAND, YELLOW-ORANGE, MOIST TO WET, FINE GRAINED. WET AT 5.4'.
5.4 - 6.6	[Dotted]		10YR 8/6	ND	S-3	100		
6.6 - 7.8	[Dotted]		10YR 8/6	ND	S-5	100		
7.8 - 9.0	[Dotted]		10YR 8/6	ND	S-6	100		
9.0 - 11.5	[Diagonal Hatching]		N5	ND	S-7	75	CH	11.5-16.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
11.5 - 16.0	[Diagonal Hatching]		N5	ND	S-8	50		
TOTAL DEPTH DRILLED = 16.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 3.0 TO 8.0'. GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 744.89
 Property Owner/Contact: CSX

Date(s) Drilled: 10/18/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 16.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-3.3'			5YR 4/4	ND	S-1	100	CL	2.0-3.3': CLAY WITH SOME SILT AND SAND, BROWN, SLIGHTLY MOIST, PLASTIC.
3.3-10.0'			10YR 8/6	ND	S-2	50	SP	3.3-10.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO WET, FINE GRAINED. WET AT 4.0'.
			10YR 8/6	ND	S-3	100		
			10YR 8/6	ND	S-5	100		
			10YR 8/6	ND	S-6	100		
10.0-11.9'			N5	ND	S-7	80	CH	10.0-11.9': S.A.A.: FINE TO MEDIUM GRAINED.
11.9-16.0'			N5	ND	S-9	75			11.9-16.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
TOTAL DEPTH DRILLED = 16.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 3.0 TO 8.0'. GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/18/95
 Project Number: 041057F002 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 744.36 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 16.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	60		2.0-10.7': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO WET, FINE GRAINED. WET AT 4.7'. 10.7-16.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC. TOTAL DEPTH DRILLED = 16.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 3.0 TO 8.0'. GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'.
			10YR 8/6	ND	S-2	100		
			10YR 8/6	ND	S-3	100	SP	
			10YR 8/6	ND	S-5	100		
10			N5	ND	S-6	100		
			N5	ND	S-7	100	CH	
15			N5	ND	S-8	-		

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/18/95
 Project Number: 041057F002 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 743.98 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 16.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	75		2.0-11.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO WET, FINE GRAINED. WET AT 4.0'.
			10YR 8/6	ND	S-2	75		
			10YR 8/6	ND	S-3	40	SP	
			10YR 8/6	ND	S-5	100		
10			10YR 8/6	ND	S-6	100		
				N5	ND	S-7	50		CH
15			N5	ND	S-8	50		11.0-16.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
20								TOTAL DEPTH DRILLED = 16.0 FEET
								GROUNDWATER SAMPLE COLLECTED FROM 3.0 TO 8.0'
								GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'
25								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F002
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 743.57
 Property Owner/Contact: CSX

Date(s) Drilled: 10/18/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 16.0'
 Application: SOIL BORING INSTALLATION

Depth (Ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			10YR 8/6	ND	S-1	50		2.0-12.9': SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO WET, FINE GRAINED. WET AT 5.0'.
			10YR 8/6	ND	S-2	100		
			10YR 8/6	ND	S-3	100	SP	
			10YR 8/6	ND	S-5	100		
			10YR 8/6	ND	S-6	100		
10			N5	ND	S-7	100		
			N5	ND	S-8	100	CH	
15								
20								
25								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/14/95
 Project Number: 041057F002 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 741.32 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: CSX Depth to Water: NA Total Depth: 10.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-1.5'	Gravel with some sand		5YR 4/4	ND	S-1	80	GP	0.0-1.5': GRAVEL WITH SOME SAND, BROWN/BLACK, DRY.
1.5-2.9'	Clay with some sand		5YR 4/4	ND	S-2	60	CL	1.5-2.9': CLAY WITH SOME SAND, BROWN, DRY.
2.9-3.8'	Sand		5YR 4/4	ND	S-3	75	SW	2.9-3.8': SAND, BROWN, DRY, FINE GRAINED.
3.8-6.0'	Sand with some silt and clay		5YR 4/4	ND	S-4	90	SC	3.8-6.0': SAND WITH SOME SILT AND CLAY, BROWN, SLIGHTLY MOIST TO MOIST.
6.0-7.6'	Sand		5YR 4/4	ND	S-5	100	SW	6.0-7.6': SAND, DARK BROWN, WET, FINE GRAINED.
7.6-10.0'	Clay with some silt		N5	ND			CL	7.6-10.0': CLAY WITH SOME SILT, BROWN/GRAY, SLIGHTLY MOIST TO DRY. TOTAL DEPTH DRILLED = 10.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 3.0-8.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/13/95
 Project Number: 041057F002 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 739.61 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 14.0'
 Property Owner/Contact: CSX Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0			5YR 4/4	ND	S-1	75		0.0-5.1': FILL WITH SOME CINDER, BROWN/BLACK, DRY. 5.1-5.8': SAND WITH SOME SILT AND CLAY, BROWN, DRY, FINE GRAINED. 5.8-9.1': SAND, CLAY, GRAVEL, CINDER MIXTURE, BROWN/BLACK, DRY. 3" OF GRAY CLAY AT 7.1'. 9.1-9.7': CLAY AND SILT, BROWN/BLACK, WET. 9.7-14.0': CLAY WITH SOME SILT, BROWN AND OLIVE GRAY, SLIGHTLY MOIST TO DRY. WET, BLACK SILT LENSES AT 9.5' AND 11.5', MOIST. TOTAL DEPTH DRILLED = 14.0 FEET
5.1			5YR 4/4	ND	S-2	50	GM	
5.8			5YR 4/4	ND	S-3	70	SM	
7.1			5YR 4/4	ND	S-4	75	GC	
9.1			5YR 4/4	ND	S-5	50		
9.7			5Y 4/1	ND	S-6	100		
14.0			5YR 4/4	ND	S-7	100	CL	

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/20/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 722.88 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-5.0	SAND		5YR 4/4	ND	S-1	30		0.0-5.0': SAND, BROWN TO YELLOW-ORANGE, DRY TO SLIGHTLY MOIST, FINE GRAINED. 5.0-6.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC. 6.0-6.4': SAND, YELLOW-ORANGE, SLIGHTLY MOIST, FINE GRAINED. 6.4-6.6': SILT, BROWN, MOIST. 6.6-11.3': CLAY WITH SOME SILT, BROWN, DRY, STIFF. 11.3-18.2': CLAY WITH SOME SILT, GRAY, DRY, STIFF. 18.2-20.0': SAND AND SILT, GRAY, SLIGHTLY MOIST, FINE GRAINED. 20.0-22.1': SILT, GRAY, SLIGHTLY MOIST. 22.1-24.0': CLAY WITH SOME SILT, GRAY, DRY. TOTAL DEPTH DRILLED = 24.0 FEET
5.0-6.0	CLAY		5YR 4/4	ND	S-2	100	SP	
6.0-6.4	SAND		10YR 6/6	ND	S-3	100	CL	
6.4-6.6	SILT		5YR 4/4	ND	S-4	100	SP ML	
6.6-11.3	CLAY		5YR 4/4	ND	S-5	100		
11.3-18.2	CLAY		5YR 4/4	ND	S-6	100		
18.2-20.0	SAND AND SILT		N5	ND	S-7	100	CL	
20.0-22.1	SILT		N5	ND	S-8	100		
22.1-24.0	CLAY		N5	ND	S-9	100		
			N5	ND	S-10	100	SM	
			N5	ND	S-11	100	ML	
			N5	ND	S-12	100	CL	

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/26/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 721.93 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 26.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-0.3'			5YR 4/4	ND	S-1	95		GRASS
0.3-4.0'			5YR 4/4	ND	S-2	95	SP	SAND AND GRAVEL, BROWN, DRY.
4.0-7.0'			5YR 4/4	ND	S-3	100		S.A.A.: SOME CLAY AND ROCK.
7.0-8.8'			5YR 4/4	ND	S-4	80	CL	CLAY WITH SOME SILT AND SAND, TRACE FINE GRAVEL, BROWN, SLIGHTLY MOIST.
8.8-10.0'			5YR 4/4	ND	S-5	75	MH	SILT WITH SOME SAND AND CLAY, BLACK TO GREEN, SLIGHTLY MOIST TO WET.
10.0-12.0'			5YR 4/4	ND	S-6	100		CLAY WITH TRACE MEDIUM TO COARSE SAND, BROWN, DRY, STIFF.
12.0-18.0'			5YR 4/4	-	S-7	90		CLAY WITH SOME SILT AND TRACE GRAVEL, BROWN/GRAY, DRY, STIFF.
18.0-20.0'			5YR 4/4	-	S-8	80		CLAY WITH SOME SILT AND TRACE GRAVEL, BROWN/GRAY, DRY, STIFF.
20.0-26.0'			N5	-	S-9	-	CL	S.A.A.: SOME COARSE GRAVEL, DRY.
			N5	-	S-10	100		CLAY WITH SOME SILT AND TRACE COARSE GRAVEL, GRAY, DRY TO SLIGHTLY MOIST.
			N5	-	S-11	100		
			N5	-	S-12	100		
			N5	-	S-13	90		
TOTAL DEPTH DRILLED = 26.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F001
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 722.34
 Property Owner/Contact: GENERAL MOTORS

Date(s) Drilled: 10/24/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 20.0
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-5.0'			5YR 4/4	ND	S-1	10	SP	2.0-5.0': SAND, DARK BROWN TO DARK ORANGE-BROWN, SLIGHTLY MOIST, FINE GRAINED.
5.0-8.0'			5YR 4/4	ND	S-2	75		5.0-8.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
8.0-9.6'			N5	ND	S-4	100	SP	8.0-9.6': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
9.6-9.8'			N5	ND	S-5	10		9.6-9.8': SAND, GRAY, WET, FINE GRAINED.
9.8-14.0'			N5	ND	S-7	100	CL	9.8-14.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
14.0-16.0'			-	-	S-8	0		14.0-16.0': NO RECOVERY.
16.0-18.3'			N5	ND	S-9	100	CL	16.0-18.3': CLAY WITH SOME SILT, GRAY, DRY, STIFF. MOIST, GRAY SILT FRACTURE AT 16.2'.
18.3-20.0'			N5	NO	S-10	50		18.3-20.0': CLAY WITH SOME SAND AND SILT, GRAY, SLIGHTLY MOIST TO MOIST. TOTAL DEPTH DRILLED = 20.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 7.0 TO 12.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/24/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 722.86 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-4.0'			5YR 4/4	ND	S-1	40	SP	SAND, DARK BROWN, SLIGHTLY MOIST, FINE GRAINED.
4.0-8.0'			5YR 4/4	ND	S-2	20		CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
8.0-11.1'			5YR 4/4	ND	S-3	100		CLAY WITH SOME SILT, BROWN, DRY, STIFF.
11.1-16.0'			5YR 4/4	ND	S-4	100		
16.0-18.0'			5YR 4/4	ND	S-5	100		
18.0-21.5'			N5	ND	S-6	75	CL	S.A.A.: GRAY, WITH TRACE GRAVEL.
21.5-24.0'			N5	ND	S-7	100		
			N5	ND	S-8	100		CLAY WITH SOME SAND AND SILT, GRAY, DRY TO SLIGHTLY MOIST.
			N5	ND	S-9	100		
			N5	ND	S-10	100		S.A.A.: SLIGHTLY MOIST TO MOIST, WITH TRACE GRAVEL.
			N5	ND	S-11	100		CLAY WITH SOME SILT, GRAY, DRY, STIFF. WET, MEDIUM GRAINED, GRAY SAND FRACTURE AT 21.6'. TOTAL DEPTH DRILLED = 24.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F001
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 720.66
 Property Owner/Contact: GENERAL MOTORS

Date(s) Drilled: 10/24/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5			5YR 4/4	ND	S-1	75		2.0-6.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC. 6.0-10.0': S.A.A.: DRY, STIFF. 10.0-17.8': S.A.A.: GRAY. 17.8-18.0': SAND, GRAY, MOIST, FINE GRAINED. 18.0-18.4': CLAY WITH SOME SILT AND SAND, GRAY, DRY. 18.4-18.6': SAND WITH SOME CLAY, GRAY, MOIST, FINE GRAINED. 18.6-20.2': CLAY WITH SOME SILT AND SAND, GRAY, DRY. 20.2-20.3': SAND, GRAY, WET, COARSE GRAINED. 20.3-21.7': CLAY WITH SOME SILT AND SAND, GRAY, DRY. 21.7-24.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF. TOTAL DEPTH DRILLED = 24.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'.
			5YR 4/4	ND	S-2	75		
			5YR 4/4	ND	S-3	100		
			5YR 4/4	ND	S-4	100	CL	
10			N5	ND	S-5	20		
			N5	ND	S-6	50		
15			N5	ND	S-7	100		
			N5	ND	S-8	100		
			N5	ND	S-9	100	SP CL SC	
20			N5	ND	S-10	100	CL SP	
			N5	ND	S-11	75	CL	

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/23/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 719.54 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 22.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
2.0-4.0			5YR 4/4	ND	S-1	20		2.0-4.0': CLAY WITH SOME SILT AND SAND, BROWN, SLIGHTLY MOIST, PLASTICITY.
4.0-6.0			5YR 4/4	ND	S-2	100		4.0-6.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
6.0-9.1			5YR 4/4	ND	S-3	100		6.0-9.1': CLAY WITH SOME SILT, BROWN, DRY, STIFF.
9.1-14.0			5YR 4/4	ND	S-4	100		9.1-14.0': S.A.A.: GRAY.
			N5	ND	S-5	100	CL	
			N5	ND	S-6	100		14.0-18.0': CLAY WITH SOME SAND AND SILT, TRACE GRAVEL, GRAY, DRY, STIFF. MOIST SILT FRACTURE AT 16.5'.
			N5	ND	S-7	100		
			N5	ND	S-8	100		18.0-22.0': CLAY WITH SOME SILT AND SAND, GRAY, DRY.
			N5	ND	S-10	100		
			N5	ND	S-11	100		TOTAL DEPTH DRILLED = 22.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 13.0 TO 18.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F001
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 720.44
 Property Owner/Contact: GENERAL MOTORS

Date(s) Drilled: 10/20/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
			5YR 4/4	ND	S-1	90		
			5YR 4/4	ND	S-2	75	CL	0.0-6.0': CLAY WITH SOME SILT AND SAND, BROWN, SLIGHTLY MOIST, PLASTIC.
5			5YR 4/4	ND	S-3	20		
			5YR 4/4	ND	S-4	100	CH	6.0-8.2': CLAY WITH SOME SILT AND SAND, DARK BROWN TO BROWN, MOIST, PLASTIC.
			5YR 4/4	ND	S-5	80		8.2-10.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
10			5YR 4/4	ND	S-6	100	CL	10.0-12.1': CLAY WITH SOME SILT, BROWN, DRY, STIFF.
			N5	ND	S-7	100	ML	12.1-12.4': S.A.A.: GRAY. 12.4-13.1': SILT, GRAY, DRY.
15			N5	ND	S-8	100		13.1-14.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
			N5	ND	S-9	100	CL	14.0-16.0': CLAY WITH SOME SILT AND SAND, TRACE PEBBLES, GRAY, DRY.
			N5	ND	S-10	100	SP	16.0-18.6': S.A.A.: NO PEBBLES.
20			N5	ND	S-11	100	CL	18.6-18.8': SAND, GRAY, WET, COARSE GRAINED. 18.8-19.2': CLAY WITH SOME SILT AND SAND, GRAY, DRY. 19.2-19.3': SAND, GRAY, WET, COARSE GRAINED.
			N5	ND	S-12	100	SP	19.3-21.3': CLAY WITH SOME SILT, GRAY, DRY TO MOIST.
			N5	ND			CL	21.3-22.7': SAND, GRAY, WET, FINE GRAINED.
25								22.7-24.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
								TOTAL DEPTH DRILLED = 24.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/26/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 720.20 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 26.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
			5YR 4/4	ND	S-1	75	SP	0.0-1.0': SAND AND GRAVEL, DARK BROWN, SLIGHTLY MOIST.
			5YR 4/4	ND	S-2	75	CL	1.0-2.9': CLAY AND SILT, LIGHT BROWN, SLIGHTLY MOIST.
			5YR 4/4	ND	S-3	85	MH	2.9-3.1': SILT, BROWN, WET.
5			5YR 4/4	ND	S-3	85		3.1-6.7': CLAY WITH SOME SILT AND TRACE GRAVEL, BROWN, SLIGHTLY MOIST TO DRY, HARD.
			N5	ND	S-4	100		
			N5	ND	S-5	100	CL	6.7-13.25': S.A.A.: GRAY.
10			N5	ND	S-6	100		
			N5	ND	S-7	100		
			N5	ND	S-8	100	SP	13.25-15.0': S.A.A.: SOME FINE GRAVEL, SLIGHTLY MOIST.
15			N5	ND	S-8	100		15.0-15.2': SAND, WET, FINE GRAINED.
			N5	ND	S-9	100	CL	15.2-17.9': CLAY WITH SOME SILT, SAND, AND FINE TO COARSE GRAVEL GRAY, SLIGHTLY MOIST.
			N5	ND	S-10	100	SM	17.9-18.0': SAND AND SILT, GRAY, WET.
20			N5	ND	S-10	100	CL	18.0-20.0': CLAY WITH SOME SAND, SILT, AND COARSE GRAVEL, GRAY, SLIGHTLY MOIST TO MOIST. WET SILT LENS FROM 18.5 TO 18.8'.
			5YR 4/4	ND	S-11	100	SM	20.0-20.5': SILT AND FINE TO COARSE SAND, BROWN, WET.
			N5	ND	S-12	100		20.5-21.7': CLAY WITH SOME SILT, COARSE SAND, AND FINE GRAVEL, BROWN/GRAY, SLIGHTLY MOIST.
			N5	ND	S-12	100	CL	21.7-26.0': CLAY WITH SOME SILT AND FINE GRAVEL, GRAY, DRY, HARD.
25			N5	ND	S-13	100		
								TOTAL DEPTH DRILLED = 26.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 15.0-20.0'

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/25/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 721.62 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 16.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-0.4'	Asphalt		5YR 4/4	ND	S-1	85	SP	0.0-0.4': ASPHALT
0.4-1.5'	Sand, silt, and gravel		5YR 4/4	ND	S-2	85	ML	0.4-1.5': SAND, SILT, AND GRAVEL, BROWN, DRY TO SLIGHTLY MOIST, FILL. 1" OF ASPHALT AT 1.0'. 1.5-3.0': SILT, BROWN, SLIGHTLY MOIST.
3.0-5.5'	Clay with some silt and trace coarse sand		5YR 4/4	ND	S-3	75	CL	3.0-5.5': CLAY WITH SOME SILT AND TRACE COARSE SAND, BROWN, STIFF.
5.5-8.0'	Clay and silt		5YR 4/4	ND	S-4	100		5.5-8.0': CLAY AND SILT, BROWN, SLIGHTLY MOIST TO MOIST, STIFF.
8.0-10.5'	Clay with some silt		5YR 4/4	ND	S-5	100	MH	8.0-10.5': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST TO DRY.
10.5-11.5'	Silt, fine to medium sand, and clay		5YR 4/4	ND	S-6	85		10.5-11.5': SILT, FINE TO MEDIUM SAND, AND CLAY, BROWN, WET.
11.5-12.0'	Clay with some silt and sand		5YR 4/4	-	S-7	100	CL	11.5-12.0': CLAY WITH SOME SILT AND SAND, TRACE FINE GRAVEL, GRAY, DRY TO SLIGHTLY MOIST.
12.0-14.0'	S.A.A. (No sand)		5YR 4/4	-	S-7	100		12.0-14.0': S.A.A.: NO SAND, STIFF.
14.0-16.0'	S.A.A. (No gravel)		N5	-	S-8	100	CL	14.0-16.0': S.A.A.: NO GRAVEL, FINE TO COARSE SAND.
TOTAL DEPTH DRILLED = 16.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 7.0-12.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/25/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 721.06 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 22.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Drg. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
			5YR 5/6	ND	S-1	25		0.0-0.6': ASPHALT
			5YR 5/6	ND	S-2	25		0.6-4.0': SAND, LIGHT BROWN, DRY, FINE GRAINED. SOME GRAVEL FROM 2.0 TO 4.0'.
5			5YR 4/4	ND	S-3	90	SP	4.0-6.0': SAND WITH SOME CLAY, BROWN, SLIGHTLY MOIST, FINE GRAINED.
			5YR 4/4	ND	S-4	30		6.0-7.8': SAND, BROWN, FINE GRAINED.
10			5YR 4/4	ND	S-5	50	CL	7.8-10.0': CLAY AND SAND WITH TRACE GRAVEL, BROWN, SLIGHTLY MOIST.
			5YR 4/4	ND	S-6	85	SP	10.0-12.0": SAND AND GRAVEL, BROWN/GRAY, DRY, FINE TO COARSE GRAINED. DRY TO WET AT 11.8'.
			5YR 4/4	ND	S-7	80	CL PI	12.0-13.5': CLAY, WITH SOME SILT AND SAND, BROWN, SLIGHTLY MOIST TO MOIST. 13.5-14.0': ORGANICS, BLACK.
15			N1	ND	S-8	85	CL	14.0-18.0': CLAY AND SILT, BLACK TO BLACK/GREEN, SLIGHTLY MOIST TO MOIST.
			N1	-	S-9	75		
20			5G 5/6	ND	S-10	60	MH	18.0-19.8': SILT WITH SOME CLAY AND GRAVEL, WET GREEN/BROWN/GRAY; 2nd ATTEMPT TO SAMPLE- DRAGDOWN.
			N5	ND	S-11	80	CL	19.8-22.0': CLAY WITH SOME SILT AND MEDIUM TO COARSE SAND, GRAY, DRY, STIFF.
25								TOTAL DEPTH DRILLED = 22.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 11.0-16.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/25/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 722.06 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-0.4'			5YR 4/4	ND	S-1	75		ASPHALT
0.4-4.0'			5YR 4/4	ND	S-2	25	GP	SAND AND GRAVEL WITH RED BRICK DEBRIS, DARK BROWN, DRY, FILL MATERIAL.
4.0-5.2'			5YR 4/4	ND	S-3	75	SP	SAND, BROWN, SLIGHTLY MOIST, FINE GRAINED.
5.2-8.0'			5YR 4/4	ND	S-4	100	CL	CLAY WITH SOME SILT, BROWN, DRY TO SLIGHTLY MOIST.
8.0-11.5'			5YR 4/4	ND	S-5	75		
8.0-11.5'			5YR 4/4	ND	S-6	80	MH	FINES, BROWN, MOIST TO WET.
11.5-14.0'			5YR 4/4	-	S-7	20	CL	CLAY WITH SOME SILT AND SAND, BROWN, SLIGHTLY MOIST TO MOIST.
14.0-16.5'			N5	-	S-8	5	SP	SAND WITH SOME SILT AND GRAVEL, GRAY TO BROWN/GRAY, WET, FINE GRAINED.
16.5-20.0'			5YR 4/4	ND	S-9	90		
16.5-20.0'			5YR 4/4	ND	S-10	90	CL	CLAY WITH SOME SILT AND GRAVEL, BROWN/GRAY, DRY TO SLIGHTLY MOIST, STIFF.
TOTAL DEPTH DRILLED = 20.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 11.0-16.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/29/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 737.14 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.0'				ND	S-1	5	GP	0.0-2.0': GRAVEL.
2.0-3.0'			5YR 4/4	ND	S-2	60	SP	2.0-3.0': SAND AND GRAVEL, BRWON, COARSE GRAINED.
3.0-7.0'			5YR 4/4	ND	S-3	75	SM	3.0-7.0': SAND AND SILT, BROWN/OLIVE, SLIGHTLY MOIST TO DRY, FINE GRAINED.
7.0-7.7'			5YR 4/4	ND	S-4	85	CL	7.0-7.7': S.A.A.: WITH TRACE CLAY, SLIGHTLY MOIST TO WET.
7.7-7.8'			5YR 4/4	ND	S-5	90		7.7-7.8': CLAY, BROWN, SLIGHTLY MOIST.
7.8-15.7'			5YR 4/4	ND	S-6	80	SP	7.8-15.7': SAND, BROWN, WET, FINE GRAINED.
15.7-16.0'			5YR 4/4	ND	S-7	90		
16.0-17.3'			5YR 4/4	ND	S-8	90	CL	15.7-16.0': CLAY AND SILT, BROWN, MOIST TO SLIGHTLY MOIST.
17.3-20.0'			5YR 4/4	ND	S-9	100	SP	16.0-17.3': SAND, BROWN, WET, FINE GRAINED.
17.5'			N5	ND	S-10	100	CL	17.3-20.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST. GRAY AT 17.5'.
TOTAL DEPTH DRILLED = 20.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 7.0-12.0'.								
GROUNDWATER SAMPLE COLLECTED FROM 15.0-20.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/27/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 736.14 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 18.0'
 Property Owner/Contact: GENERAL MOTORS Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
			N1	ND	S-1	75	SC	0.0-1.75': GRAVEL AND CLAYEY SAND, BLACK, DRY.
			5YR 4/4	ND	S-2	40		
5			5YR 4/4	ND	S-3	80	CL	1.75-7.5': CLAY WITH SOME SILT, BROWN WITH GRAY MOTTLING, DRY. SLIGHTLY MOIST AND SOFT AT 7.0'.
			5YR 4/4	ND	S-4	95		
			5YR 4/4	ND	S-5	80	SM	7.5-10.6': SILT AND SAND, BROWN/GRAY, MOIST TO WET.
10			N5	ND	S-6	80		
			5YR 4/4	ND	S-7	90	CL	10.6-12.0': CLAY WITH SOME SAND AND SILT, TRACE GRAVEL, GRAY, SLIGHTLY MOIST.
15			N5	ND	S-8	100		
			N5	ND	S-9	90		
								TOTAL DEPTH DRILLED = 18.0 FEET
								GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/27/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 736.06 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 26.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-1.7'			N1	ND	S-1	100	SP	SAND AND GRAVEL, BLACK, DRY.
1.7-3.0'			5YR 4/4	3.9	S-2	100	SM	FINES, BLACK, SLIGHTLY MOIST.
3.0-3.7'							CL	CLAY WITH SOME SILT, BROWN.
3.7-4.8'			N1	ND	S-3	95	SM	SAND, GRAVEL, AND SLAG, BLACK, SLIGHTLY MOIST.
4.8-5.5'								SAND AND SILT, BLACK AND OLIVE, FINE GRAINED.
5.5-6.0'			5Y 4/1	ND	S-4	100	CL	CLAY WITH SOME SILT AND ORGANICS, BLACK AND OLIVE, SLIGHTLY MOIST TO MOIST.
6.0-9.0'			5YR 4/4	ND	S-5	90	SM	CLAY WITH SOME SILT, OLIVE/GRAY/BROWN, DRY TO SLIGHTLY MOIST. 1" BLACK SAND SEAM AT 6.0'.
9.0-10.0'			5YR 4/4	ND	S-6	100		SILT AND FINE SAND WITH TRACE GRAVEL, BROWN, MOIST TO WET.
10.0-13.5'			5YR 4/4	-	S-7	100		CLAY WITH SOME SILT, TRACE COARSE SAND AND FINE GRAVEL, BROWN, DRY.
13.5-22.9'			N5	-	S-8	100		S.A.A.: GRAY, HARD.
22.9-24.0'			N5	-	S-9	100	CL	
24.0-25.0'			N5	-	S-10	100		
25.0-26.0'			N5	-	S-11	100		
			N5	-	S-12	100	SM	SAND (FINE TO COARSE GRAINED) AND SILT WITH TRACE CLAY, GRAY, WET.
			N5	-	S-13	100	CH	CLAY WITH SOME SAND, SILT, AND GRAVEL, GRAY, MOIST TO WET.
							CL	CLAY WITH TRACE SILT, GRAY.
								TOTAL DEPTH DRILLED = 26.0 FEET
								GROUNDWATER SAMPLE COLLECTED FROM 6.0 TO 11.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/27/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 735.68 Borehole Diam: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 16.0'
 Property Owner/Contact: GENERAL MOTORS Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.0'			N1	ND	S-1	25		SAND AND GRAVEL, BLACK, DRY, STAINED.
2.0-4.0'			5YR 4/4	ND	S-2	25	SP	S.A.A.: WITH BROWN SILTY CLAY, SLIGHTLY MOIST, CONCRETE IN SPOON.
4.0-4.75'			5YR 5/6	ND	S-3	95	ML	SAND, LIGHT BROWN, SLIGHTLY MOIST, FINE GRAINED.
4.75-5.0'			N1	ND	S-4	100	CL	SILT WITH SOME CLAY, BROWN, SLIGHTLY MOIST.
5.0-5.5'			5YR 4/4	ND	S-5	10	ML	CLAY WITH SOME SILT, OLIVE GREEN/GRAY, SLIGHTLY MOIST.
5.5-6.0'			5YR 4/4	ND	S-6	100	ML	CLAY WITH SOME SILT, OLIVE GREEN/GRAY, SLIGHTLY MOIST.
6.0-7.75'			-	-	S-7	0	CH	CLAY WITH SOME SILT AND SAND, TRACE GRAVEL, OLIVE/BROWN, MOIST TO WET.
7.75-10.0'			N5	ND	S-8	90	CL	CLAY WITH SOME SILT, BROWN/GRAY, DRY TO WET.
10.0-12.0'			-	-				CLAY WITH SOME SILT, TRACE SAND AND GRAVEL, BROWN, SLIGHTLY MOIST. WET TO 10.2'.
12.0-14.0'								COULD NOT COLLECT SAMPLE.
14.0-16.0'								S.A.A.: GRAY, DRY.
TOTAL DEPTH DRILLED = 16.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 4.0 TO 9.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/27/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 735.48 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 26.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-1.7'			5YR 4/4	ND	S-1	100	SP	0.0-1.7': SAND AND GRAVEL, BROWN/BLACK (STAINED), SLIGHTLY MOIST.
1.7-1.9'							SC	1.7-1.9': SAND AND SILT WITH SOME CLAY, OLIVE GREEN, S. MOIST.
1.9-4.0'			5G 5/6	ND	S-2	100	CL	1.9-4.0': CLAY WITH SOME SILT, TRACE SAND AND GRAVEL, OLIVE GREEN/GRAY, SLIGHTLY MOIST. 1" SAND SEAM AT 3.8'.
4.0-5.0'			5G 5/6	ND	S-3	100	MH	4.0-5.0': CLAY WITH SOME SAND, OLIVE GREEN/BLACK, SLIGHTLY MOIST, ORGANIC.
5.0-6.8'			5YR 4/4	ND	S-4	100	CL	5.0-6.8': SILT WITH SOME CLAY AND TRACE SAND, OLIVE GREEN, WET.
6.8-7.1'			5YR 4/4	ND	S-5	100	MH	6.8-7.1': CLAY WITH SOME SILT, OLIVE GRAY, MEDIUM STIFFNESS.
7.1-8.0'			5YR 4/4	ND	S-6	100	MH	7.1-8.0': SILT AND FINE TO MEDIUM GRAINED SAND, BROWN, WET.
8.0-10.2'			5YR 4/4	ND	S-7	100	CL	8.0-10.2': CLAY WITH SOME SILT AND TRACE COARSE SAND, BROWN, SLIGHTLY MOIST.
10.2-11.3'			5YR 4/4	ND	S-8	85	ML	10.2-11.3': FINES, BROWN, SLIGHTLY MOIST.
11.3-19.8'			N5	ND	S-9	100	CL	11.3-19.8': CLAY WITH SOME SILT, TRACE COARSE SAND AND FINE GRAVEL, GRAY, DRY, HARD.
19.8-22.0'			N5	ND	S-10	100	CL	
19.8-22.0'			-	-	S-11	0	CH	19.8-22.0': S.A.A.: MOIST AND SOFT.
22.0-26.0'			N5	ND	S-12	100	CL	22.0-26.0': CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST TO DRY. 1" WET CLAYEY SILT AND SAND SEAM AT 22.0'.
22.0-26.0'			N5	ND	S-13	100	CL	

TOTAL DEPTH DRILLED = 26.0 FEET

GROUNDWATER SAMPLE COLLECTED FROM 4.0 TO 9.0'

GROUNDWATER SAMPLE COLLECTED FROM 19.0 TO 24.0'

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART





Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/28/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 735.14 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 26.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0			5YR 4/4	ND	S-1	70	SP	0.0-1.8': SAND, BROWN/BLACK.
1.8			5G 5/6	ND	S-2	85	CL	1.8-4.0': CLAY WITH SOME SILT AND TRACE COARSE SAND, OLIVE GREEN/GRAY, SLIGHTLY MOIST.
4.0			10Y 5/4	ND	S-3	80	CH	4.0-7.2': S.A.A.: MOIST TO WET.
7.2			5YR 4/4	ND	S-4	85	CL	7.2-9.3': CLAY WITH SOME SILT, BROWN/BLACK, SLIGHTLY MOIST.
9.3			10Y 5/4	ND	S-5	50	MH	9.3-9.8': SAND, SILT, AND CLAY WITH TRACE GRAVEL, OLIVE, WET.
9.8							CL	9.8-10.2': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST.
10.2			5YR 4/4	ND	S-6	95	SP	10.2-10.6': QUARTZ (FRAGMENTED) AND MEDIUM SAND, SLIGHTLY MOIST.
10.6							CL	10.6-12.0': CLAY WITH SOME SILT, TRACE SAND AND GRAVEL, BROWN, DRY. GRAY AT 11.7'.
18.0			N5	ND	S-7	100		
23.8			N5	ND	S-8	100	CL	18.0-23.8': CLAY WITH SOME SILT, TRACE COARSE SAND AND FINE GRAVEL, GRAY, DRY, HARD.
25.6			N5	ND	S-9	100		
25.6			N5	ND	S-10	100	MH	23.8-25.6': SILT WITH FINE TO COARSE SAND AND CLAY, GRAY, WET.
26.0							CL	25.6-26.0': CLAY WITH SOME SILT, TRACE FINE SAND AND FINE GRAVEL, GRAY.
TOTAL DEPTH DRILLED = 26.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'.								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/28/95
 Project Number: 041057F001 Logged By: DARRYL BARRICKLOW
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 733.02 Borehole Diam: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 36.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-1.75'			5YR 4/4	NA	S-1	75	GP	0.0-1.75': GRAVEL AND RAILROAD TIE.
1.75-1.8'							SP	1.75-1.8': FINE SAND AND FINE GRAVEL, BROWN, SLIGHTLY MOIST.
1.8-2.0'			10Y 5/4	ND	S-2	90	CL	1.8-2.0': CLAY WITH SOME SILT, OLIVE, SLIGHTLY MOIST.
2.0-3.4'							ML	2.0-3.4': SILT WITH SOME SAND AND CLAY, DARK BROWN/BLACK, MOIST.
3.4-3.7'							SM	3.4-3.7': SAND AND SILT, OLIVE GREEN/BROWN, MOIST, FINE GRAINED.
3.7-6.0'			5YR 4/4	ND	S-3	70		3.7-6.0': CLAY WITH SOME SILT, TRACE GRAVEL AND ORGANICS, BROWN WITH GRAY MOTTLING, SLIGHTLY MOIST TO DRY.
6.0-9.0'			5YR 4/4	ND	S-4	100	CL	6.0-9.0': CLAY WITH TRACE SILT, BROWN, DRY.
9.0-10.3'			5YR 4/4	ND	S-5	100		9.0-10.3': S.A.A.: WITH LITTLE COARSE SAND.
10.3-11.7'			N5	ND	S-6	100		10.3-11.7': CLAY WITH TRACE FINE TO COARSE SAND AND SILT, GRAY, DRY.
11.7-15.2'			N5	ND	S-7	100	ML	11.7-15.2': SILT WITH SOME CLAY, GRAY, DRY.
15.2-16.0'			N5	ND	S-8	100	CL	15.2-16.0': CLAY WITH SOME SILT AND TRACE COARSE SAND, GRAY, DRY.
16.0-19.7'			N5	ND	S-9	100	MH	16.0-19.7': SILT WITH SOME CLAY, GRAY, SLIGHTLY MOIST TO WET. 1" CLAY SEAM AT 18.9'.
19.7-22.0'			5YR 4/4	126	S-11	100		19.7-22.0': SAND, BROWN, WET, FINE TO COARSE GRAINED.
22.0-24.0'			5YR 4/4	277	S-12	100		22.0-24.0': S.A.A.: WITH TRACE CLAY.
24.0-28.0'			5YR 4/4	13	S-13	100	SP	24.0-28.0': S.A.A.: WITH FINE GRAVEL.
			5YR 4/4	6	S-14	80		
			-	ND	S-15	85		

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
35		  	- - NS	ND ND ND	S-16 S-17 S-18	75 100 100	SP CL	28.0-35.2': SAND AND GRAVEL, WET. 35.2-36.0': CLAY WITH SOME SILT, TRACE SAND AND GRAVEL, GRAY, SLIGHTLY MOIST.
40								TOTAL DEPTH DRILLED = 36.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'. GROUNDWATER SAMPLE COLLECTED FROM 31.0 TO 36.0'.
45								
50								
55								
60								
65								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/2/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 731.94 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 24.0'
 Property Owner/Contact: GENERAL MOTORS Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-0.6'			10YR 8/6	ND	S-1	60		CONCRETE
0.6-0.7'			10YR 8/6	ND	S-2	100		SAND, DARK BROWN, DRY, FINE GRAINED.
0.7-6.0'			10YR 8/6	ND	S-3	100	SP	SAND, YELLOW-ORANGE, SLIGHTLY MOIST TO MOIST, FINE TO MEDIUM GRAINED. 2" BROWN, SILTY CLAY SEAM AT 5.2'.
6.0-10.0'			5YR 4/4	ND	S-4	75		CLAY WITH SOME SILT, BROWN, MOIST TO SLIGHTLY MOIST, PLASTIC TO SLIGHTLY PLASTIC. WET CLAYEY SILT AT 8.2'.
			5YR 4/4	ND	S-5	100		
			N5	ND	S-7	75		
			N5	ND	S-8	75		
			N5	ND	S-9	100	CL	
			N5	ND	S-10	100		10.0-24.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
			N5	ND	S-11	100		
			N5	ND	S-12	100		
			N5	ND	S-13	100		
								TOTAL DEPTH DRILLED = 24.0 FEET
								GROUNDWATER SAMPLE COLLECTED FROM 5.0 TO 10.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F001
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 730.64
 Property Owner/Contact: GENERAL MOTORS

Date(s) Drilled: 10/2/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 6.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-0.5'			5YR 4/4	ND	S-1	60	SP	0.0-0.5': CONCRETE
0.5-1.1'			10YR 8/6	ND	S-2	75		0.5-1.1': SAND, DARK BROWN, FINE GRAINED.
1.1-4.0'								1.1-4.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST, FINE TO MEDIUM GRAINED.
6.0'								HIT SANITARY SEWER AT 6.0'. SOIL BORING ABORTED AT 6.0 FEET

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 10/3/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 730.04 Borehole Diam: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 28.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
5								
6.0-6.9'			10YR 8/6	ND	S-4	75	SP	SAND, YELLOW-ORANGE, MOIST, FINE TO MEDIUM GRAINED.
6.9-8.0'			N5	ND	S-5	100		CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
8.0-12.0'			N5	ND	S-6	5	CL	CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
12.0-14.3'			N5	ND	S-8	50		CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST, STIFF.
14.3-17.8'			N5	ND	S-9	100	ML	SILT, GRAY, SLIGHTLY MOIST.
17.8-18.0'			N5	ND	S-10	100		SILT WITH SOME CLAY, GRAY, SLIGHTLY MOIST, PLASTIC.
18.0-18.2'			N5	ND	S-11	75	SP MH	SAND, GRAY, WET, FINE GRAINED.
18.2-19.0'			N5	ND	S-13	20	SP	SILT, GRAY, WET.
19.0-22.2'			N5	ND	S-14	50	CL	SAND AND GRAVEL, GRAY, WET, COARSE GRAINED.
22.2-22.4'			N5	ND	S-15	100	ML	CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
22.4-26.0'			N5	ND	S-16	50	CL	SILT, GRAY, SLIGHTLY MOIST.
26.0-28.0'			N5	ND				CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
TOTAL DEPTH DRILLED = 28.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 15.0 TO 20.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/20/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 729.70 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-2.2'			5YR 4/4	ND	S-1	75		SAND, DARK BROWN, DRY, FINE GRAINED.
2.2-3.1'			10YR 6/6	ND	S-2	100		S.A.A.: GRAY.
3.1-6.0'			10YR 6/6	ND	S-3	50	SP	S.A.A.: YELLOW-ORANGE, SLIGHTLY MOIST. DARK BROWN FROM 4.3 TO 4.8'.
6.0-7.9'			5YR 4/4	ND	S-4	50		SAND, BROWN, SLIGHTLY MOIST, FINE TO COARSE GRAINED.
7.9-8.2'			5YR 4/4	ND	S-5	100	ML CL	SILT, BROWN, MOIST. CLAY WITH SOME SILT, BROWN.
9.0-13.0'			N5	ND	S-6	75	CH	CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC. WET SILT FRACTURES THROUGHOUT INTERVAL.
13.0-14.0'			N5	ND	S-7	100	ML	SILT AND SAND, GRAY, SLIGHTLY MOIST, FINE GRAINED.
14.0-16.0'			N5	ND	S-8	100	CL	CLAY WITH SOME SILT, GRAY, DRY TO SLIGHTLY MOIST, STIFF.
16.0-18.0'			N5	ND	S-9	100	ML	SILT, GRAY, SLIGHTLY MOIST TO MOIST.
18.0-19.4'			N5	ND	S-10	100	SP	SAND, GRAY, WET, COARSE GRAINED.
19.4-22.0'			N5	ND	S-11	75	CL	CLAY WITH SOME SILT, GRAY, DRY, STIFF.
								TOTAL DEPTH DRILLED = 22.0 FEET
								GROUNDWATER SAMPLE COLLECTED FROM 15.0 TO 20.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/19/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 729.00 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-4.0'			5YR 4/4	ND	S-1	20		0.0-4.0': SAND, DARK BROWN; DRY TO SLIGHTLY MOIST, FINE GRAINED.
4.0-6.0'			5YR 4/4	ND	S-2	60	SP	4.0-6.0': SAND, YELLOW-ORANGE, SLIGHTLY MOIST, FINE TO MEDIUM GRAINED.
6.0-8.0'			10YR 6/6	ND	S-3	10		6.0-8.0': SILT, BROWN, SLIGHTLY MOIST.
8.0-9.7'			5YR 4/4	ND	S-4	100	ML	8.0-9.7': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
9.7-10.0'			5YR 4/4	ND	S-5	100	CL	9.7-10.0': SILT WITH SOME CLAY, BROWN, MOIST, PLASTIC.
10.0-14.0'			N5	ND	S-6	100	MH	10.0-14.0': CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
14.0-15.5'			N5	68.9	S-7	75	CL	14.0-15.5': CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST, SLIGHTLY PLASTIC. MOIST SILT FRACTURES THROUGHOUT INTERVAL.
15.5-16.4'			N5	9.8	S-9	100	SM	15.5-16.4': SAND AND SILT, GRAY, WET, FINE GRAINED.
16.4-19.0'			N5	7.8	S-10	100	CL	16.4-19.0': CLAY WITH SOME SILT AND PEBBLES, GRAY, SLIGHTLY MOIST, STIFF.
19.0-19.7'			N5	5.8	S-11	100	SP	19.0-19.7': SILT, GRAY, WET.
19.7-24.0'			N5	ND	S-12	20	MH	19.7-24.0': SAND, GRAY, WET, COARSE GRAINED.
			N5	ND	S-13	20	CL	19.7-24.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
TOTAL DEPTH DRILLED = 24.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'								
GROUNDWATER SAMPLE COLLECTED FROM 17.0 TO 22.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/19/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 728.56 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 20.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0			5YR 4/4	ND	S-1	90		
0-7.0			5YR 4/4	ND	S-2	100	SP	0.0-7.0': SAND, BROWN/YELLOW-ORANGE. DRY TO SLIGHTLY MOIST, FINE GRAINED.
0-7.0			5YR 4/4	ND	S-3	100		
0-7.0			5YR 4/4	ND	S-4	100		
7.0-10.0			5YR 4/4	ND	S-5	100	CL	7.0-10.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST. SILT FRACTURES AT 8.7' AND 9.1'.
10.0-13.0			N5	ND	S-6	100		10.0-13.0': CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST, SLIGHTLY PLASTIC. MOIST SILT FRACTURES AT 10.1', 10.9', AND 11.5'. INTERMITTENT SILT LENSES FROM 12.0-13.0'.
10.0-13.0			N5	19.6	S-7	80		
13.0-14.7			N5	13.7	S-8	80	SM	13.0-14.7': SAND AND SILT, GRAY, WET, FINE GRAINED.
14.7-16.0			N5	ND	S-10	100		14.7-16.0': SAND AND SILT WITH SOME CLAY, GRAY, WET, FINE GRAINED.
16.0-18.0			N5	ND	S-11	50	CL	16.0-18.0': SAND AND SILT WITH TRACE PEBBLES, GRAY, WET, FINE GRAINED.
18.0-20.0			N5	ND				18.0-20.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
TOTAL DEPTH DRILLED = 20.0 FEET								
GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'								
GROUNDWATER SAMPLE COLLECTED FROM 15.0 TO 20.0'								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS
 Project Number: 041057F001
 Location: T.7N R.7E 7
 T R SEC QTR QTR
 Northing: _____ Easting: _____
 Ground Surface Elev.: 726.14
 Property Owner/Contact: GENERAL MOTORS

Date(s) Drilled: 9/19/95
 Logged By: BRIAN BOKOVOY
 Contractor: SOMAT ENGINEERING
 Drill Rig/Method: HOLLOW STEM AUGER
 Sampling Method: SPLIT SPOON
 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 18.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-1.5'			5YR 4/4	ND	S-1	100	SP	0.0-1.5': SAND, DARK BROWN, SLIGHTLY MOIST, FINE GRAINED.
1.5-6.0'			5Y 4/1	ND	S-2	100		1.5-6.0': CLAY WITH SOME SILT AND SAND, OLIVE GRAY, SLIGHTLY MOIST TO MOIST, PLASTIC.
6.0-9.0'			5Y 4/1	ND	S-3	100		6.0-9.0': CLAY WITH SOME TO TRACE SILT, OLIVE GRAY, SLIGHTLY MOIST. SILT SEAM AT 8.3'.
9.0-10.8'			5Y 4/1	ND	S-4	100		9.0-10.8': CLAY WITH SOME SILT, GRAY, SLIGHTLY MOIST TO MOIST, PLASTIC. MOIST, BLACK, SILT FRACTURE AT 10.2'.
10.8-12.0'			N5	ND	S-5	100	CL	10.8-12.0': SILT WITH SOME CLAY, GRAY, WET. 2" SILT SEAM AT 11.5'.
12.0-14.0'			N5	ND	S-6	100	MH	12.0-14.0': CLAY WITH TRACE SANDS AND SILTS, GRAY, MOIST, PLASTIC. SILT FRACTURES THROUGHOUT INTERVAL.
14.0-18.0'			N5	ND	S-7	50		14.0-18.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
			N5	ND	S-9	5	CL	
			N5	ND	S-10	-		
								TOTAL DEPTH DRILLED = 18.0 FEET
								GROUNDWATER SAMPLE COLLECTED FROM 9.0 TO 14.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/19/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
 T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 726.44 Borehole Diam.: 8" Drilling Fluid: NONE
 Depth to Water: NA Total Depth: 16.0'
 Property Owner/Contact: GENERAL MOTORS Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Drg. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
0.0-4.2'			5YR 4/4	ND	S-1	30	SP	0.0-4.2': SAND, BROWN TO YELLOW-ORANGE, DRY TO SLIGHTLY MOIST, FINE GRAINED.
			10YR 6/6	ND	S-2	80		
5			5YR 4/4	ND	S-3	100		
			5YR 4/4	ND	S-4	100	CL	4.2-9.5': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC. SILT FRACTURES AT 9.0'.
			5YR 4/4	ND	S-5	100		
10			N5	ND	S-6	100	CH	9.5-11.5': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
			5YR 4/4	ND	S-7	75	SP ML	11.5-12.7': SAND, BROWN, SLIGHTLY MOIST, FINE TO COARSE GRAINED. 12.7-13.3': SILT, BROWN, MOIST.
15			N5	ND	S-8	100	CL	13.3-16.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
								TOTAL DEPTH DRILLED = 16.0 FEET
20								
25								

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

Project Name: GM-NAO FLINT OPERATIONS Date(s) Drilled: 9/18/95
 Project Number: 041057F001 Logged By: BRIAN BOKOVOY
 Location: T.7N R.7E 7 Contractor: SOMAT ENGINEERING
T R SEC QTR QTR Drill Rig/Method: HOLLOW STEM AUGER
 Northing: _____ Easting: _____ Sampling Method: SPLIT SPOON
 Ground Surface Elev.: 726.60 Borehole Diam.: 8" Drilling Fluid: NONE
 Property Owner/Contact: GENERAL MOTORS Depth to Water: NA Total Depth: 24.0'
 Application: SOIL BORING INSTALLATION

Depth (ft)	Lithology	Samples	Color	Org. Vapor (ppm)	Sample ID	Recovery %	USCS Code	Lithologic Description
			5YR 4/4	ND	S-1	70		
			10YR 6/6	ND	S-2	50	SP	0.0-5.0': SAND, BROWN TO YELLOW-ORANGE, DRY TO SLIGHTLY MOIST, FINE GRAINED. SILT FROM 4.0-4.8'.
5			10YR 6/6	ND	S-3	75	CL	5.0-6.0': CLAY WITH SOME SILT, BROWN, SLIGHTLY MOIST, SLIGHTLY PLASTIC.
			5YR 4/4	ND	S-4	25	MH	6.0-8.2': SILT WITH SOME CLAY, BROWN, WET, PLASTIC.
			N5	ND	S-6	50		
10			N5	ND	S-8	10	CH	8.2-12.0': CLAY WITH SOME SILT, GRAY, MOIST, PLASTIC.
			5YR 4/4	ND	S-9	30		
			5YR 4/4	ND	S-10	75		12.0-15.6': SAND WITH TRACE COBBLES, BROWN, DRY TO SLIGHTLY MOIST, MEDIUM TO COARSE GRAINED.
15			5YR 4/4	ND	S-11	100	SP	
			5YR 4/4	ND	S-13	50		15.6-22.8': SAND, BROWN, WET, MEDIUM TO COARSE GRAINED.
20			5YR 4/4	ND	S-14	50		
			5YR 4/4	ND	S-15	50	CL	22.8-24.0': CLAY WITH SOME SILT, GRAY, DRY, STIFF.
25								TOTAL DEPTH DRILLED = 24.0 FEET GROUNDWATER SAMPLE COLLECTED FROM 13.0 TO 18.0'. GROUNDWATER SAMPLE COLLECTED FROM 19.0 TO 24.0'.

Comments: COLOR CODE- GEOLOGICAL SOCIETY OF AMERICA ROCK COLOR CHART

SOIL BORING LOG - G-7

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date:	6/8/94	Project:	Tank Farm #37	No:	4072IQ
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	15:00	Total Depth Drilled:	6.5'		
Time Completed:	15:21	Hole Diameter:	2"		
Length Coring Device:	4'	Dia. Coring Device:	1 1/2"		

Boring Methods		Ground Water Observations	
	Hollow Stem Auger	GW Encountered at	Drilling Fluid Used: N/A
	Hand Auger	Monitor Wells Installed	Driller: Matt Fogo
X	Geoprobe	Yes ___ See Monitoring Well Log	Helper: N/A
		No X	Hammer Weight: N/A
			Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1	1	PT	Asphalt Stone	50% Recovery		
		2			1 - 2' No Recovery		
		3	SM	Silty Sand	Black, Moist, Fine, Sandy Fill	.8	
		4					
	GP-2	5					
		6					
		7	E.O.B.	End of Boring 6.5'	Refusal - Obstruction 6.5'	1.5	
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon	E.O.B. - End of Boring	PID - Photoionization Detector (ppm)
NR - No Recovery	HA - Hand Auger Sample	GC - Gas Chromatograph (ppb)
RB - Rock Bit	[X] - Laboratory/Jar Sample	FS - Field Screening Container
AL - Acetate Liner		

SOIL BORING LOG - G-8

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/8/94 Project: Tank Farm #37 No: 40721Q
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: Total Depth Drilled: 10'
 Time Completed: Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods		Ground Water Observations	
	Hollow Stem Auger	GW Encountered at 10'	Drilling Fluid Used: N/A
	Hand Auger	Monitor Wells Installed	Driller: Matt Fogo
X	Geoprobe	Yes See Monitoring Well Log	Helper: N/A
		No X	Hammer Weight: N/A
			Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
	GP-1	1	PT	Asphalt	>25% Recovery	1.9	
		-	SM	Stone			
		2		Silty Sand	Black, Moist, Fine		
	GP-2	3			>25% Recovery		
		4				1.7	
	GP-3	5					
		6				5.1	
	GP-4	7	SW	Sand	Gray, >25% Recovery (Backfill)		
		8				2.0	
	GP-5	9					
		10			Wet, (Water Sample Collected at 10')	1.5	
		11	E.O.B.	End of Boring 10'			
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-9

Advanced Environmental, Inc.

352 South Saginaw Street
Suite 600
Flint, Michigan 48502
Tel: (810) 238-9190
Fax: (810) 238-9195

Date:	6/8/94	Project:	Tank Farm #37	No:	4072IQ
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	16:50	Total Depth Drilled:	12'		
Time Completed:		Hole Diameter:	1 3/8"		
Length Coring Device:	2'	Dia. Coring Device:	1 1/8"		

Boring Methods		Ground Water Observations		Drilling Fluid Used:	N/A
	Hollow Stem Auger	GW Encountered at	10.5'	Driller:	Matt Fogo
	Hand Auger	Monitor Wells Installed		Helper:	N/A
X	Geoprobe	Yes <input type="checkbox"/> See Monitoring Well Log		Hammer Weight:	N/A
		No <input checked="" type="checkbox"/>		Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1					
		2					
	GP-1		SW	Sand	Brown, Moist, Fine 3" Black Layer		
		3					
		4				ND	
	GP-2				6" Brown Silty Sand		
		5					
		6				ND	
	GP-3		SM	Sandy Silt	Brown, Moist, Fine		
		7					
		8				5.7	
	GP-4						
		9					
		10				.8	
	GP-5[X]				Wet, (Soil Sample) (Water Sample) Black, Odor		
		11					
		12					
		13	E.O.B.	End of Boring 12'		7.6	
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
NR - No Recovery
RB - Rock Bit
AL - Acetate Liner

E.O.B. - End of Boring
HA - Hand Auger Sample
[X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
GC - Gas Chromatograph (ppb)
FS - Field Screening Container

SOIL BORING LOG - G-10

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/9/94 Project: Tank Farm #37 No: 40721Q
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 8:20 Total Depth Drilled: 5'
 Time Completed: 8:45 Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods		Ground Water Observations	
Hollow Stem Auger		GW Encountered at 10.5'	Drilling Fluid Used: N/A
Hand Auger		Monitor Wells Installed	Driller: Matt Fogo
X Geoprobe		Yes See Monitoring Well Log	Helper: N/A
		No X	Hammer Weight: N/A
			Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill			
		1					
		2			No Soil Samples Collected		
		3					
		4					
	GP-1	5					
			E.O.B.	End of Boring 5'	Refusal - hit concrete at 5'		
		6					
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon E.O.B. - End of Boring PID - Photoionization Detector (ppm)
 NR - No Recovery HA - Hand Auger Sample GC - Gas Chromatograph (ppb)
 RB - Rock Bit [X] - Laboratory/Jar Sample FS - Field Screening Container
 AL - Acetate Liner

SOIL BORING LOG - G-11

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date:	6/9/94	Project:	Tank Farm #37	No:	40721Q
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	9:05	Total Depth Drilled:	2.5'		
Time Completed:	9:20	Hole Diameter:	1 3/8"		
Length Coring Device:	2'	Dia. Coring Device:	1 1/8"		

Boring Methods

Ground Water Observations

Drilling Fluid Used:	N/A
Driller:	Matt Fogo
Helper:	N/A
Hammer Weight:	N/A
Hammer Drop:	N/A

<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed
<input checked="" type="checkbox"/>	Geoprobe	Yes <input type="checkbox"/> See Monitoring Well Log
<input type="checkbox"/>		No <input checked="" type="checkbox"/>

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill			
		1					
		-					
		2			No Soil Samples Collected		
		3	E.O.B.	End of Boring 2.5'	Refusal - hit concrete at 2.5'		
		4					
		5					
		6					
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-12

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date:	6/9/94	Project:	Tank Farm #37	No:	4072IQ
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	10:00	Total Depth Drilled:	14'		
Time Completed:	11:00	Hole Diameter:	1 3/8"		
Length Coring Device:	2'	Dia. Coring Device:	1 1/8"		

Boring Methods		Ground Water Observations	
	Hollow Stem Auger	GW Encountered at	11'
	Hand Auger	Monitor Wells Installed	
X	Geoprobe	Yes	See Monitoring Well Log
		No	X
		Drilling Fluid Used:	N/A
		Driller:	Matt Fogo
		Helper:	N/A
		Hammer Weight:	N/A
		Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected Above 8' Below Grade		
		1					
		2					
		3					
		4					
		5					
		6					
		7					
		8					
	GP-1		SW	Sand	Brown, Moist, Fine/Medium, Fill, >25% Recovery	0.2	
		9					
		10					
	GP-2						
		11			Greenish, Wet, Groundwater Encountered at 11'		
		12			Odor - 4" of Brown Sand Returning to Greenish Color Darker with Depth	2.2	
	GP-3[X]				(Soil Sample Collected)		
		13					
		14				.6	
		15	E.O.B.	End of Boring 14'	Refusal - hit concrete		
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon E.O.B. - End of Boring PID - Photoionization Detector (ppm)
 NR - No Recovery HA - Hand Auger Sample GC - Gas Chromatograph (ppb)
 RB - Rock Bit [X] - Laboratory/Jar Sample FS - Field Screening Container
 AL - Acetate Liner

SOIL BORING LOG - G-13

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date:	6/8/94	Project:	Tank Farm #37	No:	40721Q
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	11:00	Total Depth Drilled:	13.5'		
Time Completed:		Hole Diameter:	1 3/8"		
Length Coring Device:	2'	Dia. Coring Device:	1 1/8"		

Boring Methods		Ground Water Observations	
	Hollow Stem Auger	GW Encountered at	10'
	Hand Auger	Monitor Wells Installed	
X	Geoprobe	Yes <input type="checkbox"/> See Monitoring Well Log	
		No <input checked="" type="checkbox"/>	

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected Above 8' Below Grade		
		1					
		2					
		3					
		4					
		5					
		6					
		7					
		8					
	GP-1	9	SW	Sand	Brown, Moist, Fine/Medium		
		10	PT	Stone	Gray, Wet		
	GP-2	11	SW	Sand	Brown, Groundwater Encountered at 10'	ND	
		12			11' Black Stained Area Approx. 1"		
	GP-3[X]	13			Greenish, (Soil Sample Collected from 12 - 13.5')	ND	
		14	E.O.B.	End of Boring 13.5'	2" Black Staining, Refusal - hit concrete	4	
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

Advanced Environmental, Inc. 352 South Saginaw Street Suite 600 Flint, Michigan 48502 Tel: (810) 238-9190 Fax: (810) 238-9195	SOIL BORING LOG - G-14		
	Date: 6/9/94	Project: Tank Farm #37	No: 40721Q
	Drilling Contractor: EQL	Location: GM/CLCD/North	
	Prepared By: JCW	Twp/Sec.: Flint, Michigan	
	Time Started: 13:00	Total Depth Drilled: 12'	
	Time Completed: 14:00	Hole Diameter: 1 3/8"	
	Length Coring Device: 2'	Dia. Coring Device: 1 1/8"	

Boring Methods		Ground Water Observations		Drilling Fluid Used: N/A
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at 10.5'	Driller: Matt Fogo	
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Helper: N/A	
X	Geoprobe	Yes See Monitoring Well Log	Hammer Weight: N/A	
		No X	Hammer Drop: N/A	

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected		
		1					
		2					
		3					
		4					
		5					
		6					
		7					
		8					
	GP-1[X]	9	SM	Sandy Silt	Gray, Moist, Fine, Slight Petroleum Odor (Soil Sample Collected From 8'-10')	22.1	
		10					
	GP-2	11			Wet, Fine, (Water Sample Collected)		
		12					
		13	E.O.B.	End of Boring 12'		0.1	
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner
 E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample
 PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-15

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/9/94 Project: Tank Farm #37 No: 40721Q
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 14:00 Total Depth Drilled: 12'
 Time Completed: 16:00 Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods

Ground Water Observations

Drilling Fluid Used: N/A

Hollow Stem Auger

GW Encountered at 10.5'

Driller: Matt Fogo

Hand Auger

Monitor Wells Installed

Helper: N/A

X Geoprobe

Yes See Monitoring Well Log

Hammer Weight: N/A

No X

Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected Above 6' Below Grade		
		1					
		2					
		3					
		4					
		5					
		6					
	GP-1	7	SM	Sandy Silt	Gray, Moist, Fine, >50% Recovery		
		8			(Soil Sample Collected From 8'-10') > 50% Recovery	1608	
	GP-2[X]	9			2" Black Lens		
		10				>2500	
	GP-3[X]	11			Wet, (Water Sample Collected)		
		12			3" Black Lens, (Soil Sample Collected)	2434	
		13	E.O.B.	End of Boring 12'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-16

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/9/94 Project: Tank Farm #37 No: 4072IQ
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 9:15 Total Depth Drilled: 3.5'
 Time Completed: 9:45 Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods		Ground Water Observations		Drilling Fluid Used: N/A	
	Hollow Stem Auger	GW Encountered at	10.5'	Driller:	Matt Fogo
	Hand Auger	Monitor Wells Installed		Helper:	N/A
X	Geoprobe	Yes	See Monitoring Well Log	Hammer Weight:	N/A
		No	X	Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected		
		1					
		2					
		3					
		4	E.O.B.	End of Boring 3.5'	Refusal - Obstruction at 3.5'		
		5					
		6					
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-17

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/10/94 Project: Tank Farm #37 No: 40721Q
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 10:00 Total Depth Drilled: 4.5'
 Time Completed: 10:40 Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods		Ground Water Observations		Drilling Fluid Used: N/A	
	Hollow Stem Auger		GW Encountered at	Driller:	Matt Fogo
	Hand Auger		Monitor Wells Installed	Helper:	N/A
X	Geoprobe		Yes <input type="checkbox"/> See Monitoring Well Log	Hammer Weight:	N/A
			No X	Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1	PT	Fill	No Samples Collected		
		2					
		3					
		4					
		5	E.O.B.	End of Boring 4.5'	Refusal - Obstruction at 4.5'		
		6					
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-18

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/16/94 Project: Tank Farm #37 No: 4072IQ
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 8:15 Total Depth Drilled: 5'
 Time Completed: Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods		Ground Water Observations	
Hollow Stem Auger		GW Encountered at	Drilling Fluid Used: N/A
Hand Auger		Monitor Wells Installed	Driller: Pat Fogo
X Geoprobe		Yes <input type="checkbox"/> See Monitoring Well Log	Helper: N/A
		No <input checked="" type="checkbox"/>	Hammer Weight: N/A
			Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1	PT	Fill	No Samples Collected		
		2					
		3					
		4					
		5					
		6	E.O.B.	End of Boring 5'	Refusal - Obstruction at 5'		
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-19

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/16/94 Project: Tank Farm #37 No: 4072IQ
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 8:50 Total Depth Drilled: 3'
 Time Completed: Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods

Ground Water Observations

Drilling Fluid Used: N/A

Hollow Stem Auger

GW Encountered at

Driller: Pat Fogo

Hand Auger

Monitor Wells Installed

Helper: N/A

X

Geoprobe

Yes See Monitoring Well Log

Hammer Weight: N/A

No X

Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected		
		1					
		2					
		3					
		4	E.O.B.	End of Boring 3'	Refusal - Obstruction at 3'		
		5					
		6					
		7					
		8					
		9					
		10					
		11					
		12					
		13					
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-20

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date:	6/16/94	Project:	Tank Farm #37	No:	4072IQ
Drilling Contractor:	EQL	Location:	GM/CLCD/North		
Prepared By:	JCW	Twp/Sec.:	Flint, Michigan		
Time Started:	9:05	Total Depth Drilled:	12'		
Time Completed:		Hole Diameter:	1 3/8"		
Length Coring Device:	2'	Dia. Coring Device:	1 1/8"		

Boring Methods		Ground Water Observations		Drilling Fluid Used:	N/A
	Hollow Stem Auger	GW Encountered at	11'	Driller:	Pat Fogo
	Hand Auger	Monitor Wells Installed		Helper:	N/A
X	Geoprobe	Yes	See Monitoring Well Log	Hammer Weight:	N/A
		No X		Hammer Drop:	N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected		
		1					
		2					
		3					
		4					
		5					
		6					
	GP-1		SC	Sandy Clay	Brown, Moist, Fractures		
		7	SW	Sand	Brown, Fine		
		8			Black, Moist, (Soil Sample Collected From 8'-10')	5.4	
	GP-2[X]				Brown		
		9					
		10			Black, (Soil Sample Collected From 10'-12')	8.7	
	GP-3[X]						
		11					
		12			Wet, (Water Sample Collected)		
		13	E.O.B.	End of Boring 12'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

Advanced Environmental, Inc. 352 South Saginaw Street Suite 600 Flint, Michigan 48502 Tel: (810) 238-9190 Fax: (810) 238-9195	SOIL BORING LOG - G-21		
	Date: 6/16/94	Project: Tank Farm #37	No: 40721Q
	Drilling Contractor: EQL	Location: GM/CLCD/North	
	Prepared By: JCW	Twp./Sec.: Flint, Michigan	
	Time Started: 10:05	Total Depth Drilled: 12'	
	Time Completed: 11:30	Hole Diameter: 1 3/8"	
Length Coring Device: 2'	Dia. Coring Device: 1 1/8"		

Boring Methods		Ground Water Observations	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at 10.9'	Drilling Fluid Used: N/A
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	Driller: Pat Fogo
<input checked="" type="checkbox"/>	Geoprobe	Yes <input type="checkbox"/> See Monitoring Well Log	Helper: N/A
		No <input checked="" type="checkbox"/>	Hammer Weight: N/A
			Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1	PT	Fill	No Samples Collected Above 6' Below Grade		
		2					
		3					
		4					
		5					
		6					
	GP-1	7	SP	Sandy Gravel	<50% Recovery Black, Moist, Coarse		
		8	SW	Sand	Brown/Gray, Moist, Fine, Slight Odor		
	GP-2[X]	9			(Soil Sample Collected From 8'-10')	16.5	
		10					
	GP-3[X]	11			Oil Odor, (Soil Sample Collected From 10'-12')	966	
		12			Water at 10.5'		
					Wet, (Water Sample Collected)	18.2	
		13	E.O.B.	End of Boring 12'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon E.O.B. - End of Boring PID - Photoionization Detector (ppm)
 NR - No Recovery HA - Hand Auger Sample GC - Gas Chromatograph (ppb)
 RB - Rock Bit [X] - Laboratory/Jar Sample FS - Field Screening Container
 AL - Acetate Liner

SOIL BORING LOG - G-22

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/16/94 Project: Tank Farm #37 No: 40721Q
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 12:00 Total Depth Drilled: 12'
 Time Completed: 13:40 Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods

Ground Water Observations

Drilling Fluid Used: N/A

Hollow Stem Auger

GW Encountered at 10.5'

Driller: Pat Fogo

Hand Auger

Monitor Wells Installed

Helper: N/A

X Geoprobe

Yes See Monitoring Well Log

Hammer Weight: N/A

No X

Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected Above 6' Below Grade		
		1					
		2					
		3					
		4					
		5					
		6					
	GP-1[X]	7	SW	Sand	Green/Black, Moist, Fine, 25% Recovery (Soil Sample Collected From 6'-8')	ND	
		8					
	GP-2[X]	9			Brown, (Soil Sample Collected From 8'-10')		
		10					
	GP-3[X]	11			Wet, (Soil Sample Collected From 10'-12')	ND	
		12			(Water Sample Collected)	ND	
		13	E.O.B.	End of Boring 12'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

SOIL BORING LOG - G-23

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/16/94 Project: Tank Farm #37 No: 4072IQ
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 14:05 Total Depth Drilled: 12'
 Time Completed: Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods

Ground Water Observations

Drilling Fluid Used: N/A

Hollow Stem Auger

GW Encountered at 11.5'

Driller: Pat Fogo

Hand Auger

Monitor Wells Installed

Helper: N/A

X Geoprobe

Yes See Monitoring Well Log

Hammer Weight: N/A

No X

Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected Above 6' Below Grade		
		1					
		2					
		3					
		4					
		5					
		6					
	GP-1[X]	7	SM	Silty Sand	Brown, Moist, Fine/Medium, (Soil Sample Collected From 6'-8')		
		8				ND	
	GP-2[X]	9			Black, 50% Recovery, (Soil Sample Collected From 8'-10')		
		10			Odor		
	GP-3[X]	11			Brown, 50% Recovery, (Soil Sample Collected From 10'-12')	1029	
		12			Black, Wet, Fine/Medium		26
		13	E.O.B.	End of Boring 12'			
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS-Split Spoon
 NR-No Recovery
 RB-Rock Bit
 AL-Acetate Liner

E.O.B.-End of Boring
 HA-Hand Auger Sample
 [X]-Laboratory/Jar Sample

PID-Photoionization Detector (ppm)
 GC-Gas Chromatograph (ppb)
 FS-Field Screening Container

SOIL BORING LOG - G-24

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/16/94 Project: Tank Farm #37 No: 40721Q
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 15:45 Total Depth Drilled: 14'
 Time Completed: Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods		Ground Water Observations	
<input type="checkbox"/>	Hollow Stem Auger	GW Encountered at	12.5'
<input type="checkbox"/>	Hand Auger	Monitor Wells Installed	
<input checked="" type="checkbox"/>	Geoprobe	Yes <input type="checkbox"/> See Monitoring Well Log	
		No <input checked="" type="checkbox"/>	

Drilling Fluid Used: N/A
 Driller: Pat Fogo
 Helper: N/A
 Hammer Weight: N/A
 Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1	PT	Fill	No Samples Collected Above 8' Below Grade		
		2					
		3					
		4					
		5					
		6					
		7					
		8					
	GP-1	9			25% Recovery		
		10	SW	Sand	Brown, Moist, Fine/Medium Black, Kept Acetate Liner	ND	
	GP-2[X]	11			50% Recovery, (Soil Sample Collected From 10'-12') Oil Odor		
	[X]	12	SM	Silty Sand	Gray, Moist, Fine/Medium, Last 4" Starts to Grade into Gray (Soil Sample Collected From 12'-14')	ND	
	GP-3[X]	13				ND	
	[X]	14					
		15	E.O.B.	End of Boring 14'			
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon E.O.B. - End of Boring PID - Photoionization Detector (ppm)
 NR - No Recovery HA - Hand Auger Sample GC - Gas Chromatograph (ppb)
 RB - Rock Bit [X] - Laboratory/Jar Sample FS - Field Screening Container
 AL - Acetate Liner

SOIL BORING LOG - G-25

Advanced Environmental, Inc.
 352 South Saginaw Street
 Suite 600
 Flint, Michigan 48502
 Tel: (810) 238-9190
 Fax: (810) 238-9195

Date: 6/16/94 Project: Tank Farm #37 No: 40721Q
 Drilling Contractor: EQL Location: GM/CLCD/North
 Prepared By: JCW Twp/Sec.: Flint, Michigan
 Time Started: 17:10 Total Depth Drilled: 12'
 Time Completed: Hole Diameter: 1 3/8"
 Length Coring Device: 2' Dia. Coring Device: 1 1/8"

Boring Methods

Ground Water Observations

Drilling Fluid Used: N/A

Hollow Stem Auger

GW Encountered at 9.5'

Driller: Pat Fogo

Hand Auger

Monitor Wells Installed

Helper: N/A

X Geoprobe

Yes See Monitoring Well Log

Hammer Weight: N/A

No X

Hammer Drop: N/A

Penetration Blows per 6'	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
			PT	Fill	No Samples Collected Above 6' Below Grade		
		1					
		2					
		3					
		4					
		5					
		6					
	GP-1[X]	7	SM	Silty Sand	Brown, Moist, Fine/Medium, (Soil Sample Collected From 6'-8')		
		8				4.6	
	GP-2[X]	9			(Soil Sample Collected From 8'-10')		
		10			Wet		
		11			(Soil Sample Collected From 10'-12')	11.3	
	GP-3[X]	12					
		13	E.O.B.	End of Boring 12'		ND	
		14					
		15					
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner

E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample

PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container

Advanced Environmental, Inc. 352 South Saginaw Street Suite 600 Flint, Michigan 48502 Tel: (810) 238-9190 Fax: (810) 238-9195	SOIL BORING LOG - G-26		
	Date: 6/16/94	Project: Tank Farm #37	No: 40721Q
	Drilling Contractor: EQL	Location: GM/CLCD/North	
	Prepared By: JCW	Twp/Sec.: Flint, Michigan	
	Time Started: 18:20	Total Depth Drilled: 14'	
	Time Completed: 19:10	Hole Diameter: 1 3/8"	
Length Coring Device: 2'	Dia. Coring Device: 1 1/8"		

Boring Methods		Ground Water Observations	Drilling Fluid Used: N/A
	Hollow Stem Auger	GW Encountered at 10'	Driller: Pat Fogo
	Hand Auger	Monitor Wells Installed	Helper: N/A
X	Geoprobe	Yes <input type="checkbox"/> See Monitoring Well Log	Hammer Weight: N/A
		No <input checked="" type="checkbox"/>	Hammer Drop: N/A

Penetration Blows per 6"	Sample Type	Depth (ft.)	USCS Code	SOIL DESCRIPTION	REMARKS	PID	GC
		1	PT	Fill	No Samples Collected Above 6' Below Grade		
		2					
		3					
		4					
		5					
		6					
	GP-1[X]	7	SM	Silty Sand	Brown, Moist, Fine, (Soil Sample Collected From 6'-8')	6.3	
	[X]	8					
	[X]	9			(Soil Sample Collected From 8'-10')		
	GP-2[X]	10				13.6	
	[X]	11			Wet, (Soil Sample Collected From 10'-12')		
	[X]	12			(Water Sample Collected)		
	GP-3	13			Gray	14.3	
		14					
		15	E.O.B.	End of Boring 14'		ND	
		16					
		17					
		18					
		19					
		20					

SS - Split Spoon
 NR - No Recovery
 RB - Rock Bit
 AL - Acetate Liner
 E.O.B. - End of Boring
 HA - Hand Auger Sample
 [X] - Laboratory/Jar Sample
 PID - Photoionization Detector (ppm)
 GC - Gas Chromatograph (ppb)
 FS - Field Screening Container