REPORT

FINAL

General Motors Corporation Saginaw Malleable Iron Plant Property, and REALM, Inc. Green Point Landfill and Drum Remediation Area Saginaw, Michigan

Remedial Investigation Report Volume IV of V

July 5, 2001

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

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A Geological Boring Logs

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A Geological Boring Logs (continued)
B Geophysical Borehole Logs
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Volume V of V

D Surface Water/Groundwater Interaction Study Data
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II Aboveground Storage Tank Data Tables and Location Figures
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Appendix A
Geological Boring Logs (continued)

Soil Borings
Boring Logs

SB-301
SB-302
SB-304
SB-305
SB-306
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SB-310
SB-311
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SB-313
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SB-315
SB-316
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SB-318
SB-319
SB-320
SB-321
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SB-323
SB-324
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SB-357
SB-358
SB-359
SB-360
SB-361
SB-362
SB-363

Date Start-Finish: 02/02/95 - 02/02/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25-in.
Rig Type: CME 850 ATV
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 54 ft.

Geologist: Ron Kuhn

Well No. SB-301

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.									**GROUND SURFACE**	
	(0-2')		2 3 5 5	8	2.0	0.5			Black fine to medium SAND, little Silt, loose, moist.	8.25" Boring
	(2-4')		1 4 4 4	8	2.0	0.4			Loose, wet.	
5	(4-6')		1 (12") 1 (12")	1	2.0	0.5			Little Silt, very loose, saturated at 4.5' bgs.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 38.4' bgs
	(6-8')		WOH (24")	0	2.0	0.3			Very loose.	
	(8-10')		WOH (24")	0	2.0	0.2				
10	(10-12')		WOH (24")	0	2.0	0.4				
	(12-14')		1 1 2 2	3	1.8	0.9			Gray SILT, some Clay, trace fine to medium Sand and fine Gravel, soft, wet.	
15	(14-16')		WOH (12")	2	1.6	1.4			Gray fine SAND and SILT, trace Clay and shells, very loose, wet.	

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Remarks:
301S143.4 water sample taken from a temporary screened interval of 38.4' to 43.4' bgs. Following the sampling event, the temporary well was removed and the boring was grouted to grade

Water Levels

Date / Time	Elevation	Depth
		▼
		▼
		▽

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. SB-301

Total Depth = 54 ft.

Client:
General Motors Corporation

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	(14-16')		2 2	2	1.6	1.4			Gray fine SAND and SILT, trace Clay and shells, very loose, wet.	
	(16-18')		WOH (24")	0	2.0	0.8			Gray Silty CLAY, trace fine Sand, very soft. wet.	8.25" Boring
	(18-20')		WOH (18") 1	0	2.0	1.0				
20	(20-22')		WOH (12") 2 1	2	2.0	0.9				
	(22-24')		WOH (12") 1 2	1	2.0	0.8			Gray fine to medium SAND, little Silt, trace shells, very loose, saturated. Some Silty Clay, very loose, wet.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 38.4' bgs
25	(24-26')		WOH (18") 2	0	2.0	0.1			Gray Silty CLAY, trace fine to medium Sand, soft, wet.	
	(26-28')		1 2 4 4	6	2.0	0.5			Gray fine to medium SAND, trace Silt and shells, saturated.	
	(28-30')		1 1 2 3	3	2.0	0.2				
30	(30-32')		3 2 4 5	6	2.0	0.2			Trace fine Gravel.	
	(32-34')		3 3 4 5	7	2.0	0.3				
35	(34-36')		4 4	9	1.8	0.4				

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Remarks:
WOH - Weight of hammer.

Water Levels

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. SB-301

Total Depth = 54 ft.

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	(34-36')		5 5	9	1.8	0.4			Gray fine to medium SAND, trace Silt and shells, saturated.	8.25" Boring
	(36-38')		1 4 3 1	7	1.6	0.4				2-in diameter Sch. 40 PVC well casing 1.8' ags to 38.4' bgs
	(38-40')		3 1 3 3	4	1.6	0.4			Gray fine to coarse SAND, trace fine Gravel and Silt, very loose, saturated.	
40	(40-42')		2 2 2 2	4	1.0	0.5			Trace Silt, loose, saturated.	0.01" Sch. 40 PVC screen 38.4' to 43.4' bgs
	(42-44')		50 41 10 10	51	1.8	1.2			Trace Silt, little fine to medium Gravel, trace coarse Gravel, dense.	2-in diameter Sch. 40 PVC sump 43.4' to 43.8' bgs
									Gray Clayey SILT, trace fine Sand, stiff, moist.	Grade #5 silica sand pack 43.8' to 44.0' bgs
45	(44-46')		4 9 11 15	20	1.6	0.8			Gray SILT, some Clay, trace fine Sand and fine Gravel, very stiff, moist.	
	(46-48')		6 10 23 32	33	1.4	0.9				Bentonite seal 44.0' to 54.0' bgs
	(48-50')		4 5 8 13	13	1.6	0.4				
50	(50-52')		4 3 4 4	7	1.6	0.4			Gray Silty CLAY, trace fine Sand and fine Gravel, soft.	
	(52-54')		4 3 4 3	7	2.0	0.4			Very soft, high plasticity, wet.	
55									Total depth of boring 54.0 ft bgs.	

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 02/07/95 - 02/08/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 50 ft.

Descriptions by: Ray R. Moreno

Boring No. SB-302

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										**GROUND SURFACE**	
		(0-2')		9 4 5 12	9	2.0	9.7			Black to reddish brown fine SAND, trace cinders and debris, loose, moist.	
		(2-4')		4 4 17 16	21	2.0	6.1			Medium dense, wet.	
5	-5	(4-6')		25 26 14 12	40	2.0	2.6			Dense.	Type 1 Portland cement/5% bentonite grout 0' to 50' bgs.
		(6-8')		30 50 12 21	17	2.0	4.2			Medium dense.	
		(8-10')		2 2 3 4	5	2.0	2.3			Loose.	
10	-10	(10-12')		1 3 3 4	6	0.5	7.9			Gray Silty CLAY, trace wood fragments, soft.	
		(12-14')		2 3 2 2	5	2.0	3.3				
15	-15	(14-16')		WOH (12")	4	1.0	3.3				

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-302

Total Depth = 50 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-15	(14-16')		2 2	4	1.0	3.3			Gray Silty CLAY, trace wood fragments, soft.	
		(16-18')		1 2 1 1	3	2.0	3.2				
		(18-20')		WOH 1 2 1	3	2.0	3.2				
20	-20	(20-22')		2 3 6 5	9	1.0	0.0			Gray fine SAND, trace shell fragments, very loose. Dark brown SILT, little fine Sand, trace wood and shell fragments, medium stiff.	Type 1 Portland cement/5% bentonite grout 0' to 50' bgs.
		(22-24')		1 1 2 3	3	1.4	0.0			Gray fine SAND, little Silt, very loose.	
25	-25	(24-26')		1 2 2	4	1.5	0.0				
		(26-28')		4 4 8 9	12	1.2	0.0			Gray Silty CLAY. Gray fine SAND, little Silt.	
		(28-30')		3 4 6 9	10	0.7	0.0			Trace Silt, shell fragments, loose.	
30	-30	(30-32')		2 3 4 5	7	NR	NA			No Recovery.	
		(32-34')		3 4 7 8	11	0.5	0.0			Gray fine SAND, little Silt, trace shell fragments, medium dense.	
35	-35	(34-36')		4 5	14	1.0	0.0				

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Remarks:
WOH - Weight of hammer. NR - No recovery. NA - Not available.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-302

Total Depth = 50 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(34-36')		9 13	14	1.0	0.0			Gray fine SAND, little Silt, trace shell fragments, medium dense.	
		(36-38')		3 5 13 28	18	1.4	0.0				
		(38-40')		12 18 22 18	40	0.8	0.0			Gray medium to coarse SAND, some fine to medium gravel, little fine sand, poorly sorted, medium dense. Trace shell fragments.	
40	-40	(40-42')		5 8 8 14	16	0.9	0.0				Type 1 Portland cement/5% bentonite grout 0' to 50' bgs.
		(42-44')		4 6 8 12	14	1.2	0.0				
45	-45	(44-46')		4 8 9 15	17	1.1	0.0				
		(46-48')		5 8 10 11	18	1.4	0.0				
		(48-50')		2 3 3 4	6	2.0	0.0			Grayish brown CLAY, soft, high plasticity.	
50	-50									Total depth of boring 50.0 ft bgs.	
55	-55										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08

Script: GM-bore
Date: 07/26/97

Date Start/Finish: 02/08/95 - 02/08/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 52 ft.

Descriptions by: Ron Kuhn

Boring No. SB-304

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										**GROUND SURFACE**	
		(0-2')		- 15 21 23	44	1.5	1.1			Ground frozen to 0.5' bgs. Dark brown and black fine to medium SAND, trace Silt, fine Gravel, roots, and scrap iron, dense, damp.	
		(2-4')		6 30 39 26	69	2.0	7.0			Trace slag and glass, very dense, damp.	
5	-5	(4-6')		3 6 5 4	11	1.4	1.3			Black and orange fine to medium SAND, trace Silt, fine Gravel, and trace slag, medium dense, damp.	
		(6-8')		5 5 6 4	11	1.6	0.9			Black fine SAND, trace Silt and fine Gravel, medium dense, saturated.	Type 1 Portland cement/5% bentonite 0' to 52.0' bgs
		(8-10')		1 1 6 7	7	1.6	0.9				
10	-10	(10-12')		1 2 4 2	6	1.4	0.8			Little Silt, loose.	
		(12-14')		WOH 1 1 1	1	1.6	0.0			Gray SILT, little fine Sand, trace Clay, very soft, saturated.	
15	-15	(14-16')		WOH (12")	2	1.6	0.0			Gray Clayey SILT, very soft, wet.	

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Remarks:
3040-1 soil sample taken 0'-1' bgs. 3042-4 soil sample taken 2'-4' bgs. 3046-8 soil sample taken 6'-8' bgs. WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-304

Total Depth = 52 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		2 2	2	1.6	0.0			Gray Clayey SILT, very soft, wet.	
		(16-18')		WOH (24")	0	1.4	0.0			Brown PEAT, damp. Gray Clayey SILT, very soft, wet.	
		(18-20')		WOH (24")	0	2.0	0.0			Trace organics, trace shells, very soft, wet.	
20	-20	(20-22')		WOH (24")	0	2.0	0.0				Type 1 Portland cement/5% bentonite 0' to 52.0' bgs
		(22-24')		WOH (24")	0	2.0	0.0				
		(24-26')		WOH (24")	0	2.0	0.0			No shells, no organics, very soft.	
		(26-28')		WOH (24")	0	2.0	0.0				
		(28-30')		WOH (24")	0	2.0	0.0				
30	-30	(30-32')		WOH 1 1 2	2	2.0	0.0			Gray fine to medium SAND, trace Silt and fine Gravel, saturated.	
		(32-34')		1 1 2 3	3	2.0	0.0			Gray Silty CLAY, very soft, wet.	
		(34-36')		2 5	13	1.8	0.0			Gray fine to medium SAND, trace Silt and fine Gravel, saturated.	
35	-35										

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Remarks:
WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-304

Total Depth = 52 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(34-36')		8 14	13	1.8	0.0			@ 34.0', Gray fine to coarse SAND, trace Silt and fine Gravel, medium dense, saturated.
		(36-38')		3 10 16 16	26	1.4	0.0			Gray fine to medium SAND, trace Silt and fine Gravel, medium dense, saturated.
		(38-40')		7 6 8 10	14	1.6	0.0			
40	-40	(40-42')		2 4 7 10	11	1.4	0.0			No fine Gravel, medium dense.
		(42-44')		4 8 12 20	20	2.0	0.0			Trace Silt, little fine to medium Gravel, medium dense, saturated.
45	-45	(44-46')		1 4 9 9	13	1.6	0.0			Grades to trace fine to medium Gravel, medium dense.
		(46-48')		10 8 6 8	14	1.0	0.0			
		(48-50')		16 7 5 3	12	1.6	0.0			Gray fine to coarse SAND and fine to medium GRAVEL, trace Silt, medium dense, saturated.
										Gray CLAY and SILT, soft, wet.
50	-50	(50-52')		WOH (24")	0	2.0	0.0			Gray CLAY, little Silt, very soft, high plasticity, wet.
										Total depth of boring 52.0 ft bgs.
55	-55									

Boring Construction

Type 1 Portland cement/5% bentonite 0' to 52.0' bgs

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 02/08/95 - 02/09/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 52 ft.

Descriptions by: Ray R. Moreno

Boring No. SB-305

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		5 5 6 8	11	2.0	0.9			Brown topsoil, roots. Dark reddish brown to black fine SAND and SILT, medium dense.	
		(2-4')		15 24 25 21	49	2.0	1.3			Little cinders and debris, dense, dry.	
5	-5	(4-6')		14 14 16 41	30	0.6	1.6			Medium dense, moist.	Type 1 Portland cement/5% bentonite grout 0' to 52.0' bgs.
		(6-8')		25 14 12 6	26	1.0	3.0			Dark gray to black Cinders, fine Gravel, fine Sand, Silt, wet.	
		(8-10')		WOH (12") 2 2	3	1.0	3.3			Dark gray to black SILT, little muck, peat, and organic matter, trace cinders and fine Sand, soft.	
10	-10	(10-12')		1 1 2 2	3	1.5	2.0			Dark gray SILT, some muck and organic matter, black staining, soft. Gray SILT, Trace clay.	
		(12-14')		2 2 3 2	5	0.8	2.0			Brown Silty CLAY, soft. Gray Silty CLAY, trace fine Sand, soft.	
15	-15	(14-16')		WOH (12")	2	1.5	2.0			Roots, very soft.	

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Remarks:
3050-1 soil sample taken 0-1' bgs. 3052-4 soil sample taken 2-4' bgs. 3054-6 soil sample taken 4-6' bgs. 3058-10 soil sample taken 8-10' bgs. WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-305

Total Depth = 52 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		1 1	2	1.5	2.0			Gray Silty CLAY, trace fine Sand and roots, very soft.	
		(16-18')		WOH (12")	2	1.7	2.2			Gray Clayey SILT, little fine Sand, trace wood and shell fragments, very soft.	
		(18-20')		WOH (12") 1 (12")	1	2.0	1.1			Gray Silty CLAY, trace fine Sand, wood, and shell fragments, very soft.	
20	-20	(20-22')		WOH (12") 1 (12")	1	2.0	1.4			Gray SILT, little fine Sand and Clay, very soft. Gray Clayey SILT, little fine Sand, trace wood and shell fragments, very soft.	Type 1 Portland cement/5% bentonite grout 0' to 52.0' bgs.
		(22-24')		WOH (12") 1 (12")	1	2.0	1.3			Silty Clay lenses, very soft.	
25	-25	(24-26')		WOH (12") 1 1	2	2.0	0.7			Trace fine Sand, very soft.	
		(26-28')		1 1 2 2	3	2.0	3.4			Gray Silty CLAY, trace fine Sand, wood, soft.	
		(28-30')		1 1 3 5	4	2.0	1.1				
30	-30	(30-32')		5 5 6 6	11	2.0	1.1			Gray SAND and fine GRAVEL, poorly sorted, loose. Gray Silty CLAY, trace fine Sand, soft	
		(32-34')		2 2 3 5	5	2.0	0.1			Gray SILT and fine SAND, trace shell fragments. Gray Clayey SILT to Silty CLAY, trace fine Sand, wood, and shells fragments, soft.	
35	-35	(34-36')		2 3	7	1.0	0.5			Gray fine to medium SAND, trace Silt and shell fragments, loose.	

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Remarks:
WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-305

Total Depth = 52 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(34-36')		4 8	7	1.0	0.5			Gray fine to medium SAND, some Silt and Clay, trace shell fragments.	
		(36-38')		3 4 6 9	10	2.0	0.4			Gray fine to coarse SAND, trace fine Gravel and shell fragments, loose.	
		(38-40')		5 8 9 11	17	1.2	0.1			Gray Clayey SILT, trace fine Sand and shell fragments, medium dense.	
40	-40									Gray SILT and fine SAND.	
		(40-42')		5 6 12 18	18	0.7	1.5			Gray fine to coarse SAND, trace fine Gravel, medium dense.	Type 1 Portland cement/5% bentonite grout 0' to 52.0' bgs.
		(42-44')		5 9 12 14	21	0.7	1.0				
45	-45	(44-46')		7 8 15 19	23	0.4	0.9				
		(46-48')		10 18 31 (4")	28	0.1	0.2			Gray coarse SAND and fine GRAVEL. Refusal.	
		(48-50')		6 12 13	25	0.2	2.4				
50	-50									Grayish brown Silty CLAY, trace fine to coarse Sand and fine Gravel, stiff.	
		(50-52')		NA	NA	1.1	0.5				
										Total depth of boring 52.0 ft bgs.	
55	-55										

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Remarks:
NA - Not available. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 02/09/95 - 02/09/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 48 ft.

Descriptions by: Ron Kuhn

Boring No. SB-306

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		3 4 4 3	8	2.0	1.5			Black fine to medium SAND, little Silt, frozen.	
										Orange fine to medium SAND, damp.	
		(2-4')		4 8 17 22	25	2.0	3.3			Black fine to medium SAND, little Silt, trace fine Gravel, loose, saturated. Some brick 2.8' to 3.0' bgs.	
5	-5	(4-6')		8 9 4 7	13	1.1	2.6			Some fine to medium Gravel, little Silt, medium dense, saturated.	
		(6-8')		4 3 2 1	5	1.8	66.2			Little Silt, trace fine Gravel, loose, saturated.	Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(8-10')		2 1 1 1	2	1.6	11.7				
10	-10	(10-12')		WOH (12") 1 1	1	1.1	10.7			Gray Clayey SILT, very soft, wet.	
		(12-14')		WOH (18") 1	0	1.2	9.3			Trace organics, trace shells, very soft.	
15	-15	(14-16')		WOH (24")	0	1.6	4.2			No organics or shells, very soft.	

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-306

Total Depth = 48 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')			0	1.6	4.2			Gray Clayey SILT, very thin fine sand seams throughout, very soft, wet.	
		(16-18')		1 2 1 1	3	1.8	2.1			High plasticity.	
		(18-20')		1 2 2 2	4	2.0	2.4				
20	-20	(20-22')		1 1 1 1	2	2.0	1.6				Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(22-24')		WOH (18") 4	0	2.0	0.5				
25	-25	(24-26')		WOH (24")	0	0.3	0.5			Gray fine to medium SAND, trace Silt and shells, very loose, saturated.	
		(26-28')		WOH (12") 2 3	2	2.0	0.5			Trace fine Gravel, trace Silt, very loose, saturated.	
		(28-30')		WOH 3 4 6	7	2.0	0.5			Trace shells, loose.	
30	-30	(30-32')		2 4 5 6	9	2.0	0.4				
		(32-34')		7 3 7 2	10	1.8	0.2			Little fine to medium Gravel, trace Silt, loose, saturated.	
35	-35	(34-36')		3 4	11	2.0	0.5			Gray fine to coarse SAND, trace fine Gravel and Silt, medium dense.	

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-306

Total Depth = 48 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(34-36')		7 10	11	2.0	0.5			Gray fine to coarse SAND, trace fine Gravel and Silt, medium dense, saturated.	
		(36-38')		3 6 9 9	15	2.0	0.6				
		(38-40')		WOH 3 5 33	8	2.0	1.0				
40	-40	(40-42')		4 7 10 10	17	2.0	0.8				Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(42-44')		WOH 2 6 7	8	2.0	1.1				
45	-45	(44-46')		6 7 12 9	19	2.0	1.8			Gray fine to coarse SAND, some fine to medium Gravel, trace Silt, medium dense, saturated.	
		(46-48')		4 5 2 2	7	2.0	2.2			Gray Silty CLAY, trace fine Sand, medium stiff, wet.	
50	-50									Total depth of boring 48.0 ft bgs.	
55	-55										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 02/10/95 - 02/10/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 46 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-307

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									**GROUND SURFACE**	
		(0-2')		12 12 10 5	22	2.0	NA			Dark brown and black fine to medium SAND, little Silt, medium dense, frozen to 0.8' bgs. Medium dense, moist.	
		(2-4')		4 9 23 8	32	1.8	NA			Trace brick fragments, dense. Saturated.	
5	-5	(4-6')		3 9 29 23	38	1.6	NA			Trace fine Gravel, no brick fragments, dense.	
		(6-8')		8 13 16 21	29	2.0	NA			Black fine to medium SAND, little Silt, trace fine Gravel, medium dense, saturated.	Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(8-10')		6 16 10 9	26	2.0	NA			Slight sheen, medium dense.	
10	-10	(10-12')		3 6 7 3	13	2.0	NA				
		(12-14')		2 2 2 2	4	1.4	NA			Dark gray Clayey SILT, wet, soft, stained, no sheen.	
15	-15	(14-16')		WOH (24")	0	2.0	NA			Gray Clayey SILT, trace organic material and shell fragments, very	

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Remarks:
WOH - Weight of hammer. NA - Not available. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-307

Total Depth = 48 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-15	(14-16')			0	2.0	NA			soft, wet.	
		(16-18')		WOH (24")	0	1.6	NA				
		(18-20')		WOH (24")	0	2.0	NA			Gray Silty CLAY, trace wood fragments, very soft, wet.	
20	-20	(20-22')		WOH (24")	0	0.4	NA			No wood fragments, very soft.	Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(22-24')		WOH (12") 1 2	2	1.8	NA			Gray fine SAND, trace Silt, very loose, saturated.	
25	-25	(24-26')		1 3 5 7	8	1.6	NA				
		(26-28')		4 4 4 6	8	1.8	NA			Gray fine to medium SAND, trace Silt, loose, saturated.	
		(28-30')		7 3 4 4	7	2.0	NA				
30	-30	(30-32')		WOH (12") 3 5	4	2.0	NA				
		(32-34')		3 10 15 20	25	2.0	NA				
35	-35	(34-36')		4 6	15	1.8	NA				

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Remarks:
WOH - Weight of hammer. NA - Not available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-307

Total Depth = 46 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(34-36')		9 11	15	1.8	NA			Gray fine to medium SAND, trace Silt, loose, saturated.	
		(36-38')		4 9 11 11	20	2.0	NA			Gray fine to coarse SAND, trace fine medium Gravel and Silt, medium dense, saturated.	
		(38-40')		4 7 12 17	19	1.6	NA			Little fine to medium Gravel, medium dense.	
40	-40	(40-42')		2 10 9 12	19	0.8	NA			Gray fine to coarse SAND and fine to medium GRAVEL, trace Silt, medium dense, saturated.	Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(42-44')		4 8 10 9	18	2.0	NA			Gray fine SAND, little Silt, mediun dense.	
45	-45	(44-46')		3 4 5 7	7	2.0	NA			Gray SILT and CLAY, trace fine Gravel, medium stiff, wet.	
										Total depth of boring 46.0 ft bgs.	
50	-50										
55	-55										

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Remarks:
NA - Not available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 02/10/95 - 02/13/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 48 ft.

Descriptions by: Ray R. Moreno

Boring No. SB-308

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		21 8 12 9	20	2.0	1.9			Black fine SAND and SILT, medium dense, dry.	
		(2-4')		3 4 4 6	8	2.0	1.8			Loose, moist.	
5	-5	(4-6')		2 3 3 3	6	2.0	1.5			Moist. Loose, wet.	
		(6-8')		WOH (18") 2	1	2.0	1.5			Very loose.	Type I Portland cement/5% bentonite 0' to 48.0' bgs
		(8-10')		WOH (12") 1 1	2	1.8	1.6				
10	-10	(10-12')		WOH (18") 1	1	1.8	1.1				
		(12-14')		WOH (12") 2 2	2	1.8	1.6			Gray SILT, little fine Sand and Clay, trace wood and shell fragments, very soft.	
15	-15	(14-16')		3 4	9	0.8	1.5				

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-308

Total Depth = 48 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-15	(14-16')		5 5	9	0.8	1.5			At 14.0' bgs., Gray Clayey SILT, trace fine Sand, medium stiff.	
		(16-18')		WOH 1 1 1	2	1.5	1.1			Brownish gray SILT, little fine Sand, trace clay, wood and shell fragments, soft.	
		(18-20')		1 1 1 2	2	0.9	0.7			Gray Silty CLAY, trace fine Sand, wood, and shell fragments, soft. Minor fine Sand seams.	
20	-20	(20-22')		1 2 2 2	4	1.7	1.4			Gray fine SAND, trace Silt, loose.	Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(22-24')		1 1 4 1	5	2.0	1.6			Gray Silty CLAY, trace fine Sand and wood fragments, soft. Gray Clayey SILT, trace fine Sand and wood fragments, loose. Brownish gray SILT, little fine Sand and wood fragments, soft.	
25	-25	(24-26')		3 4 4 5	8	0.9	1.3			Gray fine SAND, trace Silt, trace Silt, wood, and shell fragments, loose. Dark gray SILT, little fine Sand.	
		(26-28')		4 7 9 10	16	1.0	1.2			Grayish brown fine SAND, trace Silt, loose.	
		(28-30')		4 5 7 10	12	1.0	1.4			Gray fine to medium SAND, trace Silt, medium dense. Gray fine to coarse SAND, trace fine Gravel, Silt, and shell fragments, medium dense.	
30	-30	(30-32')		1 2 3 4	5	0.8	1.2			Gray fine to medium SAND, trace coarse Sand and shell fragments, medium dense.	
		(32-34')		2 4 6 7	10	0.1	0.8				
35	-35	(34-36')		4 6	14	0.5	0.4				

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Remarks:
WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-308

Total Depth = 48 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(34-36')		8 9	14	0.5	0.4			Gray fine to medium SAND, trace coarse Sand and shell fragments, medium dense.	
		(36-38')		4 7 10 11	17	0.4	2.1				
		(38-40')		3 6 10 15	16	0.8	2.3				
40	-40	(40-42')		9 12 13 16	25	0.7	2.1			Gray fine to medium SAND, little coarse Sand, trace fine Gravel and shell fragments, medium dense.	Type 1 Portland cement/5% bentonite 0' to 48.0' bgs
		(42-44')		5 12 27 18	39	1.2	1.4			Gray medium to coarse SAND, some fine to medium Gravel, trace shell fragments, dense.	
45	-45	(44-46')		9 12 13 17	25	1.4	2.2			Brown Silty CLAY and medium to coarse GRAVEL, trace medium to coarse Sand, stiff.	
		(46-48')		4 4 8 14	12	1.0	0.6			Brown Silty CLAY, trace Sand and fine Gravel, stiff.	
										Total depth of boring 48.0 ft bgs.	
50	-50										
55	-55										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08

Script: GM-bore
Date: 07/26/97

Date Start/Finish: 02/13/95 - 02/13/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 44 ft.

Descriptions by: James Saxton

Boring No. SB-309

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		15 21 8 7	29	2.0	1.5			Black fine to medium SAND, moist, frozen to 1.0' bgs.	
		(2-4')		9 4 3 4	7	2.0	0.6			Loose, wet.	
5	-5	(4-6')		2 1 1 1	2	1.75	0.5				
		(6-8')		1 1 1 1	2	1.9	1.2				
		(8-10')		WOH (12") 2 1	3	2.0	0.9				
10	-10	(10-12')		WOH (12") 3 2	4	1.7	0.5			Gray SILT and fine SAND, little Clay, soft.	
		(12-14')		WOH 2 3 3	5	1.25	1.6				
15	-15	(14-16')		3 4	8	0.5	0.6			Dark gray SILT, some Clay, medium stiff.	

Type 1 Portland cement/5% bentonite 0' to 44.0' bgs

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-309

Total Depth = 44 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-15	(14-16')		4 4	8	0.5	0.6			Dark gray SILT, some Clay, medium stiff.	
		(16-18')		WOH 2 3 2	5	1.75	1.7			Gray SILT and CLAY, some fine Sand, soft.	
		(18-20')		WOH (12") 1 2	2	1.8	1.2			Gray SAND and CLAY, some Silt, very soft, wet.	
20	-20	(20-22')		WOH (12") 2 1	3	1.6	1.0			SAND, little Clay and Silt, plant material at tip of sampler, very loose.	Type 1 Portland cement/5% bentonite 0' to 44.0' bgs
		(22-24')		WOH (24")	0	1.4	1.0			Gray SILT and fine SAND, trace shell fragments, very soft.	
25	-25	(24-26')		1 1 2 1	3	1.1	0.7				
		(26-28')		WOH (24")	0	1.7	0.5			Brown SILT and fine SAND, very soft, moist.	
		(28-30')		WOH (24")	0	1.8	1.0			PEAT.	
30	-30	(30-32')		WOH 3 2 1	5	1.75	0.8			Gray fine SAND and SILT, very loose.	
		(32-34')		WOH (18") 1	1	1.3	1.0			Grayish brown fine Sand, some Silt, loose.	
		(34-36')		1 1	2	2.0	1.3			Gray medium to coarse SAND, some fine gravel, loose.	
35	-35									Grayish brown fine to medium SAND, trace Silt and fine Gravel, loose.	
										Gray medium to coarse SAND, little fine Sand, trace fine Gravel, very	

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Remarks:
WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-309

Total Depth = 44 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(34-36')		1 2	2	2.0	1.3			loose.	
		(36-38')		1 2 4 7	6	2.0	NA			Gray fine to medium SAND, trace coarse Sand, loose.	
		(38-40')		3 6 11 11	18	1.6	0.5				
40	-40	(40-42')		1 1 3 5	4	0.75	0.6			Gray medium to coarse SAND, some fine Gravel, medium dense.	Type I Portland cement/5% bentonite 0' to 44.0' bgs
		(42-44')		6 7 9 10	16	1.0	0.7			Brown CLAY, some Silt, trace coarse Sand and fine Gravel, stiff.	
45	-45									Total depth of boring 44.0 ft bgs.	
50	-50										
55	-55										

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Remarks:
NA - Not available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/06/95 – 06/06/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 10 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-310

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									GROUND SURFACE	
		(0-2')		4 7 11 10	18	2.0	0.0			Black fine to medium SAND, little Silt, trace fine Gravel, medium dense, damp.	Type 1 Portland cement/5% bentonite grout 0' to 10.0' bgs.
		(2-4')		2 6 7 4	13	2.0	0.0				
5	-5	(4-6')		1 4 4 11	8	1.6	0.0			Black fine to coarse SAND, trace silt, loose. Saturated. Medium dense.	
		(6-8')		2 6 8 5	14	2.0	0.0			Brown fine to medium SAND, slight odor, no sheen. Black fine to coarse SAND, trace silt, loose.	
		(8-10')		5 7 10 5	17	2.0	58.5			Black and brown fine to coarse SAND, trace fine Gravel and brick material, medium dense, saturated, slight odor, no sheen.	
10	-10									Total depth of boring 10.0 ft bgs.	
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08

Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/06/95 - 06/06/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 10 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-311

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	gs elevation ft.										
0										GROUND SURFACE	
		(0-2')		3 4 5 6	9	2.0	0.0			Black fine to medium SAND, little Silt, loose, damp.	
										Brown SILT and CLAY, stiff, damp.	
		(2-4')		2 2 1 2	3	2.0	0.0			Black fine to medium SAND, little Silt, loose, damp to moist.	Type 1 Portland cement/5% bentonite grout 0' to 10.0' bgs.
5	-5	(4-6')		1 1 WOH (12")	1	2.0	0.0			Very loose, saturated.	
		(6-8')		2 (24")	1	2.0	0.0				
		(8-10')		1 WOH (18")	0	2.0	0.0				
10	-10									Total depth of boring 10.0 ft bgs.	
15	-15										

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/06/95 - 06/06/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 10 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-312

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		3 8 9 5	17	2.0	0.0			Black fine to medium SAND, little Silt, trace fine to medium Gravel, medium dense, damp.	
		(2-4')		3 4 3 3	7	2.0	0.0				Type 1 Portland cement/5% bentonite grout 0' to 10.0' bgs.
5	-5	(4-6')		WOH 1 WOH 1	1	2.0	0.0			Loose, moist. Saturated, no sheen. Slight odor.	
		(6-8')		1 1 1 1	2	2.0	0.0				
		(8-10')		4 10 11 13	21	2.0	23.1			Sheen, strong odor.	
10	-10									Total depth of boring 10.0 ft bgs.	
15	-15										

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/07/95 - 06/07/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 10 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-313

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		2 2 4 4	6	2.0	NA			Black fine to medium SAND, little Silt, trace fine Gravel, loose, damp.	
		(2-4')		2 3 5 4	8	2.0	NA			Black fine to medium SAND and fine to medium GLASS, little Silt, loose, damp to moist, slight odor.	Type 1 Portland cement/5% bentonite grout 0' to 10.0' bgs.
5	-5	(4-6')		2 2 3 2	5	1.6	NA			Black fine to medium SAND, trace Silt, loose, saturated, sheen, odor.	
		(6-8')		2 3 3 3	6	1.8	NA			Black fine to coarse SAND, little fine to medium Gravel, trace Silt, loose, saturated, sheen, strong odor.	
		(8-10')		1 2 4 2	6	1.6	NA				
10	-10									Total depth of boring 10.0 ft bgs.	
15	-15										

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Remarks:
Backfilled boring to grade with grout. NA - Not available.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/07/95 - 06/07/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 10 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-314

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		1 4 20 12	24	2.0	NA			Black fine to medium SAND, little Silt, trace fine Gravel, loose, damp.	
										Concrete.	
		(2-4')		2 8 3 1	11	0.6	NA			Black fine to medium SAND, little Silt, trace fine Gravel, damp to moist.	Type 1 Portland cement/5% bentonite grout 0' to 10.0' bgs.
										Little wood, saturated.	
5	-5	(4-6')		3 2 1 16	3	1.2	NA			Sheen, strong odor.	
		(6-8')		2 WOH 1 1	1	1.4	NA			Sheen.	
		(8-10')		2 2 3 1	5	1.6	NA			Brown fine SAND, trace Silt, saturated.	
10	-10									Total depth of boring 10.0 ft bgs.	
15	-15										

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/12/95 - 06/12/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 16 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-315

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		6 7 6 4	13	2.0	0.0			Brown SILT and fine SAND, trace fine Gravel and organic material (roots), medium dense, dry.	
										Black SILT and fine SAND, loose, dry.	
		(2-4')		3 4 6 4	10	1.8	0.0			Dark brown/black SILT and fine SAND, trace cinders, glass, red brick, loose, damp.	
5	-5	(4-6')		1 3 3 2	6	1.2	0.0			Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel, loose, damp, concrete.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
		(6-8')		2 2 8 6	10	1.6	1.2			Brown SILT and CLAY, trace fine to medium Sand, stiff, damp.	
										Black SILT and fine SAND, trace fine Gravel, loose, damp.	
		(8-10')		2 4 4 3	8	1.6	32.4			Brown fine to coarse SAND, little Silt, loose, damp to moist, slight odor.	
10	-10	(10-12')		2 4 33 10	37	1.6	41.3			Black fine to medium SAND, little Silt, cinders, glass, dense, wet to saturated, sheen.	
		(12-14')		2 2 2 4	4	1.4	92.9				
15	-15	(14-16')		2 2	3	1.0	28.4			Black/brown fine to coarse SAND, little fine Gravel, very loose,	

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-315

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-5	(14-16')		1 1	3	1.0	28.4			saturated, sheen.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
										Total depth of boring 16.0 ft bgs.	
20	-20										
25	-25										
30	-30										
35	-35										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Project: 276.08

Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/12/95 - 06/12/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 20 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-316

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		5 9 6 8	15	1.8	0.0			Brown SILT and fine SAND, trace fine Gravel and organic material (roots), medium dense, damp.	
		(2-4')		6 6 6 5	12	1.6	0.0			Dark brown fine to medium SAND, little to trace Silt, trace fine Gravel, medium dense, damp.	
5	-5	(4-6')		3 5 8 6	13	0.8	0.0			Brown SILT and CLAY, little fine to medium Sand, stiff, moist.	Type 1 Portland cement/5% bentonite grout 0' to 20' bgs.
		(6-8')		1 2 5 28	7	1.6	0.0			Dark brown fine to medium SAND, little Silt, trace fine Gravel and wood, loose, wet.	
										Gray fine to coarse SAND, trace fine Gravel, moist.	
		(8-10')		1 5 5 5	10	1.6	0.0			Brown SILT and fine SAND, trace fine Gravel, damp.	
10	-10									Black medium filter media.	
		(10-12')		5 5 3 2	8	1.2	7.3			Black fine to medium SAND, little Silt, loose, moist.	
		(12-14')		2 1 1 1	2	0.4	3.4			Trace porcelain, very loose, wet.	
		(14-16')		1 1	2	0.6	7.5			Brown fine to coarse SAND and GLASS, little Silt and metal scraps,	
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▽
		▽

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-316

Total Depth = 20 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
-5		(14-16')		1 2	2	0.6	7.5			very loose, saturated.	
		(16-18')		2 2 1 2	3	1.2	0.0			Brown SILT and PEAT, soft, wet.	Type 1 Portland cement/5% bentonite grout 0' to 20' bgs.
		(18-20')		3 2 3 3	5	1.9	18.5			Gray fine to medium SAND, trace Silt, loose, saturated.	
20	-20									Total depth of boring 20.0 ft bgs.	
25	-25										
30	-30										
35	-35										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/13/95 - 06/13/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 18 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-317

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		6 9 7 6	16	2.0	0.0			Brown SILT and fine SAND, trace fine Gravel and organic material (roots), medium dense, dry.	
		(2-4')		3 3 3 2	6	1.1	0.0			No organics, damp.	
5	-5	(4-6')		2 3 5 5	8	1.4	0.0			Dark brown fine to medium SAND, little Silt, trace fine Gravel, loose, damp.	Type 1 Portland cement/5% bentonite grout 0' to 18' bgs.
		(6-8')		2 14 40 80	54	2.0	26.4			Trace cinders, dense, slight odor. Trace orange brick fragments.	
		(8-10')		3 7 4 4	11	2.0	12.4				
10	-10	(10-12')		2 3 3 7	6	1.8	0.0			Dark gray SILT and CLAY, little fine to medium Sand, trace fine Gravel, soft, moist to wet. Gray SILT and CLAY, trace fine Sand, medium stiff, moist to wet.	
		(12-14')		3 6 8 9	14	0.6	1.8			Black fine to medium SAND, little Silt, trace metal shavings, loose, saturated. Black/gray fine to medium SAND and CONCRETE, medium dense.	
15	-15	(14-16')		1 2	2	NR	NA			No recovery.	

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Remarks:
Backfilled boring to grade with grout. NR - No Recovery. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-317

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		1 2	2	NR	NA			No recovery.	
		(16-18')		2 7 2 2	9	0.4	6.5			Dark brown fine to medium SAND, GLASS, METAL SHAVINGS, trace porcelain, loose, saturated.	Type 1 Portland cement/5% bentonite grout 0' to 18' bgs.
										Total depth of boring 18.0 ft bgs.	
20	-20										
25	-25										
30	-30										
35	-35										

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Remarks:
NR - No Recovery. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
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		▽

Date Start/Finish: 06/13/95 - 06/13/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 18 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-318

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		4 5 7 4	12	1.4	0.0			Brown fine SAND and SILT, trace fine Gravel, medium dense, damp.	
		(2-4')		3 3 3 5	6	1.6	12.8			Dark brown SILT, little fine Sand, little organic material (roots), trace fine Gravel, medium stiff, damp.	
5	-5	(4-6')		2 3 3 3	6	1.8	20.9			Wood, glass, porcelain.	Type I Portland cement/5% bentonite grout 0' to 18' bgs.
		(6-8')		2 3 5 3	8	2.0	34.6				
		(8-10')		1 1 1 1	2	1.0	29.9			Gray grout-like substance, moist. Dark brown fine to coarse SAND, little Silt, trace porcelain and glass, very loose, wet.	
10	-10	(10-12')		1 1 WOH 1	1	0.3	25.9			Glass. Dark brown fine to coarse SAND, little Silt, very loose, wet. Saturated.	
		(12-14')		2 2 1 2	3	0.2	22.4				
15	-15	(14-16')		1 2	3	0.4	27.6			Brown fine to coarse SAND, little Silt, very loose, saturated.	

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Remarks:
Backfilled boring to grade with grout. WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Boring No. SB-318

Total Depth = 18 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		1 2	3	0.4	27.6			Brown fine to coarse SAND, little Silt, very loose, saturated.	Type 1 Portland cement/5% bentonite grout 0' to 18' bgs.
		(16-18')		WOH 1 2 1	3	1.8	20.1			Dark gray fine SAND and SILT, trace wood, very loose, saturated.	
										Total depth of boring 18.0 ft bgs.	
20	-20										
25	-25										
30	-30										
35	-35										

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Remarks:
WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/13/95 - 06/13/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 16 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-319

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	gs elevation ft.										
0										GROUND SURFACE	
		(0-2')		3 4 5 7	9	1.6	26.3			Brown SILT and fine to medium SAND, little fine to medium Gravel, loose, damp.	
		(2-4')		4 3 3 3	6	1.4	27.9			Brown/black/orange fine to medium SAND, little Silt and glass, loose, damp.	
5	-5	(4-6')		2 7 5 5	12	1.4	31.1			Black fine to medium SAND and SILT, trace fine to medium Gravel, medium dense, damp.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
		(6-8')		3 3 5 6	8	1.4	61.1			Loose, slight odor.	
		(8-10')		4 5 2 2	7	0.2	30.8			Poor recovery, medium Gravel in sampler, slight sheen, odor.	
10	-10	(10-12')		2 1 13 10	2	1.2	117			Dark brown plastic chips, cinders, saturated, sheen.	
		(12-14')		3 1 2 2	3	0.1	46.8			Poor recovery, medium Gravel in sampler, sheen.	
15	-15	(14-16')		3 2	4	1.6	40.1			Black SILT, some fine Sand, loose, saturated, heavy sheen.	

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-319

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		2 1	4	1.6	40.1			Black SILT, some fine Sand, loose, saturated, heavy sheen.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
										Total depth of boring 16.0 ft bgs.	
20	-20										
25	-25										
30	-30										
35	-35										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Date Start/Finish: 06/13/95 - 06/13/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 16 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-320

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		8 8 9 6	17	2.0	0.0			Brown SILT and fine SAND, trace fine Gravel and glass, medium dense, damp. Little glass, trace slag.	
		(2-4')		3 6 5 4	11	1.6	0.0				
5	-5	(4-6')		1 3 2 1	5	1.4	13.9			Brown/black/orange fine to medium SAND, some to little Silt, trace slag, loose, damp.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
		(6-8')		1 2 2 2	4	1.4	448			Orange fine to coarse SAND, little Silt, trace glass, loose, moist.	
		(8-10')		2 6 6 5	12	1.6	72.9			Brown SILT and CLAY, trace fine Sand, loose, damp. Wood. Dark gray fine to medium SAND, trace Silt, loose, wet, sheen, odor.	
10	-10	(10-12')		3 3 1 2	4	NR	NA			No Recovery.	
		(12-14')		3 1 1 1	2	0.4	53.0			Dark gray fine to coarse SAND, little fine to medium Gravel and Silt, very loose, saturated, sheen odor.	
15	-15	(14-16')		1 1	2	1.8	34.0			Dark gray SILT and CLAY, very soft, wet, sheen, odor.	

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Remarks:
Backfilled boring to grade with grout. NR - No Recovery. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-320

Total Depth = 18 ft.

DEPTH / ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	(14-16')		1 1	2	1.8	34.0			PEAT.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
									Total depth of boring 16.0 ft bgs.	

20 -20
25 -25
30 -30
35 -35

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/13/95 - 06/13/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 16 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-321

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									GROUND SURFACE	
		(0-2')		2 3 6 20	9	1.8	32.8			Brown fine to medium SAND, little Silt, trace fine Gravel, loose.	
		(2-4')		4 9 6 3	15	0.4	32.4			Orange brick material, medium dense, dry.	
5	-5	(4-6')		4 4 4 4	8	1.8	14.2			Dark Gray fine to medium SAND, little Silt, trace glass, loose, moist.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
		(6-8')		4 4 4 6	9	1.6	79.2			Black fine to medium SAND, trace Silt, loose, moist.	
										Black fiberous material (degraded).	
		(8-10')		3 5 4 6	9	NR	NA			No recovery.	
10	-10	(10-12')		4 4 4 4	8	2.0	30.6			Black fine to medium SAND, trace Silt, loose, wet to saturated, slight sheen, no odor.	
		(12-14')		2 3 3 2	6	1.8	21.0				
15	-15	(14-16')		17 5	7	1.2	31.4			Orange fine to medium gravel-size brick material.	

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Remarks:
Backfilled boring to grade with grout. NR - No Recovery. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-321

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		2 2	7	1.2	31.4			Black fine to medium SAND, trace Silt, loose, saturated, slight sheen, no odor.	Type 1 Portland cement/5% bentonite grout 0' to 16' bgs.
										Total depth of boring 16.0 ft bgs.	
20	-20										
25	-25										
30	-30										
35	-35										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Date Start/Finish: 06/13/95 - 06/13/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-322

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft											
0										GROUND SURFACE	
		(0-2')		4 7 8 11	15	2.0	15.8			Brown fine to medium SAND, little Silt, trace fine Gravel, medium dense, dry.	
		(2-4')		3 12 9 9	21	1.8	42.3				
5	-5	(4-6')		4 11 8 9	19	1.6	73.1				
		(6-8')		3 8 7 6	15	1.8	26.6			Trace orange brick material.	
		(8-10')		6 15 9 5	24	1.5	13.8			Orange brick material. Black fine to medium SAND, little Silt, loose, saturated.	
10	-10	(10-12')		4 3 2 2	5	1.6	8.1			Dark gray SILT, trace fine Gravel and wood fibers, loose, wet.	
		(12-14')		4 3 4 4	7	1.8	5.2				
15	-15									Total depth of boring 14.0 ft bgs.	

Type 1 Portland cement/5% bentonite grout 0' to 14' bgs.

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/14/95 - 06/14/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-323

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		8 18 24 9	42	2.0	68.4			Brown to black fine to medium SAND, little Silt, trace fine Gravel, concrete, and asphalt, dense, dry. Trace red brick material.	
		(2-4')		3 6 11 7	16	1.2	27.0				
5	-5	(4-6')		3 3 4 3	7	1.4	18.6			Brown SILT, little fine Sand, trace red brick material, loose, moist.	Type 1 Portland cement/5% bentonite grout 0' to 14' bgs.
		(6-8')		4 4 3 3	7	NR	NA			No recovery.	
		(8-10')		1 2 2 3	4	1.6	16.0			Dark gray fine SAND, trace Silt, loose, wet to saturated. Little Silt.	
10	-10	(10-12')		3 2 2 3	4	1.4	21.7				
		(12-14')		2 3 5 3	8	2.0	9.0				
15	-15									Total depth of boring 14.0 ft bgs.	

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Remarks:
Backfilled boring to grade with grout. NR - No Recovery. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/14/95 - 06/14/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-324

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		5 10 10 15	20	2.0	12.8			Brown fine SAND, little Silt, medium dense, dry.	
		(2-4')		3 11 10 5	21	1.6	16.0			Brown fine SAND and SILT, trace fine Gravel, medium dense, dry. Brown/black fine SAND, little Silt, medium dense, damp.	
5	-5	(4-6')		1 6 10 24	16	1.6	44.0			Dark brown fine to medium SAND, little Silt, trace slag, medium dense, damp. Trace glass.	Type 1 Portland cement/5% bentonite grout 0' to 14' bgs.
		(6-8')		4 5 2 2	7	1.6	12.2			Medium gravel-size Concrete. Brown SILT and fine SAND, loose, wet.	
		(8-10')		1 WOH 1 1	1	1.2	9.58			Brown SILT, little fine Sand and organic material (roots), very soft, saturated.	
10	-10	(10-12')		2 2 5 3	7	1.6	5.7			Some to little Clay, trace fine Gravel, moist to wet.	
		(12-14')		1 1 2 2	3	1.4	5.3				
15	-15									Total depth of boring 14.0 ft bgs.	

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Remarks:
Backfilled boring to grade with grout. WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/14/95 - 06/14/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-325

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		11 11 17 22	28	2.0	11.4			Brown fine to coarse SAND and fine to medium GRAVEL, medium dense, dry.	
		(2-4')		3 11 9 5	20	2.0	14.5			Black fine to medium SAND, trace Silt, medium dense, moist, slight sheen and odor. Trace fine Gravel.	
5	-5	(4-6')		4 2 3 5	5	1.6	17.4			Gray and black fine to medium SAND, some to little Silt, trace fine Gravel, loose, moist.	
		(6-8')		2 2 3 1	5	1.2	24.1			Wet, sheen.	
		(8-10')		1 2 2 1	4	1.6	NA			Black fine to medium SAND, loose, saturated, sheen, strong odor.	
10	-10	(10-12')		1 2 2 2	4	1.8	25.1			Gray fine SAND, trace Silt, loose, saturated, sheen, odor.	
		(12-14')		1 1 1 2	2	NR	NA			No recovery.	
15	-15									Total depth of boring 14.0 ft bgs.	

Type 1 Portland cement/5% bentonite grout 0' to 14' bgs.

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Remarks:
Backfilled boring to grade with grout. NR - No Recovery. NA - Not Available. NAPL evident on auger flights as augers were removed.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/14/95 - 06/14/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-328

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	gs elevation 592.34 ft.									GROUND SURFACE	
		(0-2')		NA NA 4 6	10	1.0	8.8			Concrete.	
	590									Dark brown/black fine to medium SAND, trace Silt, loose, damp.	
		(2-4')		1 3 3 3	6	1.6	7.3				
										Black, trace glass.	
5		(4-6')		1 4 5 3	9	1.4	24.3				
										Gray, very loose, sheen, strong odor.	
	585	(6-8')		2 1 2 1	3	1.6	23.1				
										Saturated, sheen and strong odor.	
		(8-10')		1 1 1 1	2	1.6	49.6				
10		(10-12')		1 2 2 2	4	1.4	7.3				
	580									Less sheen and less odor.	
		(12-14')		WOH 1 WOH 1	1	1.8	4.1				
15										Total depth of boring 14.0 ft bgs.	

Type 1 Portland cement/5% bentonite grout 0' to 14' bgs.

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Remarks:
Backfilled boring to grade with grout. WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/15/95 - 06/15/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-327

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	gs elevation 592.76 ft.									GROUND SURFACE	
		(0-2')		6 6 4 3	10	1.8	10.2			Gray fine to medium GRAVEL and fine to coarse SAND, trace Silt, loose, dry.	
										Brown fine to medium SAND, trace Silt, loose, damp.	
	590	(2-4')		4 5 10 16	15	1.2	555			Brown SILT and fine to medium SAND, trace fine Gravel, medium dense, damp, slight odor.	
5		(4-6')		2 2 2 1	4	1.4	271				Type 1 Portland cement/5% bentonite grout 0' to 14' bgs.
		(6-8')		1 1 1 1	2	0.4	196			Black fine to medium SAND, trace Silt, very loose, wet, slight sheen.	
	585	(8-10')		1 1 1 2	2	2.0	23.1			Brown, little Silt, saturated, no sheen.	
10		(10-12')		WOH (12") 1 1	1	2.0	24.3			Gray fine SAND, little Silt, very loose, saturated.	
	580	(12-14')		WOH (24")	0	2.0	29.5			Gray fine SAND and SILT, saturated.	
15										Total depth of boring 14.0 ft bgs.	

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Remarks:
Backfilled boring to grade with grout. WOH - Weight of hammer.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/15/95 - 06/15/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 850 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-328

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									GROUND SURFACE	
		(0-2')		11 9 6 5	15	2.0	15.7			Gray fine to medium GRAVEL and fine to coarse SAND, little Silt, medium dense, dry.	
										Brown fine to medium SAND and SILT, trace fine Gravel, damp.	
		(2-4')		2 2 1 2	3	1.4	31.9				
										Dark gray fine SAND and SILT, very loose, moist.	
5	-5	(4-6')		1 1 1 1	2	1.8	36.1				Type 1 Portland cement/5% bentonite grout 0' to 14' bgs.
		(6-8')		2 6 32 REF	38	1.4	32.7			Concrete.	
										Refusal.	
		(8-10')		1 4 7 2	6	1.0	14.2			Dark gray fine SAND and SILT, loose, saturated, very slight sheen.	
10	-10									Heavy sheen.	
		(10-12')		1 2 3 4	5	2.0	63.7				
										Trace shells.	
		(12-14')		1 1 1 1	2	2.0	NA			Gray SILT and CLAY, soft, wet.	
15	-15									Total depth of boring 14.0 ft bgs.	

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Remarks:
REF - Refusal at 7.4' bgs, drilled to 8.0' bgs. Backfilled boring to grade with grout. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/21/95 - 06/21/95
Drilling Company: Mateco
Driller's Name: James Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 34 ft.

Descriptions by: Timothy R. Osier

Boring No. SB-329

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-1')								Gray CONCRETE.	
		(1-3')		NA	NA	1.6	NA			Black fine to medium SAND, loose, dry.	
		(3-6')								No soil samples obtained from 3.0' to 6.0' bgs.	
5	-5										Type 1 Portland cement/5% bentonite grout 0' to 34' bgs.
		(6-8')		3 1 2 1	3	0.3	NA			Black fine to medium SAND, loose, dry.	
		(8-10')		1 2 2 1	4	1.5	NA			Brown fine to medium SAND, little Silt, loose, wet at 9.0' bgs.	
10	-10									No soil samples obtained from 10.0' to 20.0' bgs.	
		(10-12')									
		(12-14')									
		(14-16')									
15	-15										

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Remarks:
NA - Not Available. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-329

Total Depth = 34 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-5	(14-16')								No soil samples obtained from 10.0' to 20.0' bgs.	
		(16-18')									
		(18-20')									
20	-20	(20-22')		2 3 1 3	4	1.6	NA			Brown fine SAND, some Silt, soft, wet.	Type 1 Portland cement/5% bentonite grout 0' to 34' bgs.
		(22-24')		2 2 3 2	5	1.8	NA				
										Dark brown PEAT.	
										Gray brown SILT and CLAY, trace shells, soft, moist.	
25	-25	(24-26')		1 2 4 5	6	1.0	NA			Brown fine SAND, some Silt, loose, wet.	
										Fine SAND and SILT, hard, moist.	
		(26-28')		3 5 4 5	9	NA	NA			Brown fine to medium SAND, little Silt, loose, wet.	
										Trace fine Gravel.	
		(28-30')		4 8 13 17	21	1.6	NA			Brown SILT, trace fine Gravel, hard, moist.	
30	-30	(30-32')		6 8 13 15	21	1.8	NA				
		(32-34')		11 17 22 24	39	1.8	NA				
35	-35									Total depth of boring 34.0 ft bgs.	

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Remarks:
NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/21/95 - 06/21/95
Drilling Company: Mateco
Driller's Name: James Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 22 ft.

Descriptions by: Timothy R. Osier

Boring No. SB-330

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		13 19 18 13	37	1.7	NA			Gray brown fine to coarse SAND and fine GRAVEL, loose, dry.	
		(2-4')		11 8 19 13	27	0.6	NA			Black fine to medium SAND, some red brick, loose, dry.	
										Red brick material.	
5	-5	(4-6')		5 8 9 11	17	0.2	NA			Tan fine to coarse SAND, little fine to medium gravel-sized slag, loose, dry.	Type 1 Portland cement/5% bentonite grout 0' to 22' bgs.
		(6-8')		6 8 6 3	14	1.3	NA			Grades to Black, some fine to medium Gravel, moist, slight sheen, slight odor.	
		(8-10')		4 3 4 2	7	1.6	NA			Brown fine to medium SAND, little Silt, loose, wet, sheen noticed on water.	
10	-10	(10-12')		3 2 1 3	3	1.6	NA				
		(12-14')		1 1 1 2	2	NA	NA			Brown fine SAND and SILT, loose, wet, very slight sheen.	
		(14-16')		1 (12")	1	NA	NA			No sheen.	
15	-15										

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Remarks:
Backfilled boring to grade with grout. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Boring No. SB-330

Total Depth = 22 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		1 (12")	1	NA	NA			Brown fine to medium SAND, little Silt, loose, wet, very slight sheen.	
		(16-18')		1 1 1 4	2	1.6	NA			Brown fine to coarse SAND, some Silt, loose, wet.	
		(18-20')		1 2 1 1	3	1.5	NA			Brown fine SAND and SILT, loose, soft, moist.	
20	-20									Wet.	
		(20-22')		2 6 7 10	13	2.0	NA			Gray SILT, some Clay, hard, moist.	
										Total depth of boring 22.0 ft bgs.	
25	-25										
30	-30										
35	-35										

Type 1 Portland cement/5% bentonite grout 0' to 22' bgs.

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/21/95 - 06/21/95
Drilling Company: Mateco
Driller's Name: James Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 23 ft.

Descriptions by: Timothy R. Osier

Boring No. SB-331

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 592.18 ft.										**GROUND SURFACE**	
		(0-1')								Gray Concrete.	
	590	(1-3')		4 5 5 5	10	2.0	NA			Black fine to medium SAND, loose, dry.	
		(3-5')		3 3 4 4	7	2.0	NA				
5		(5-7')		3 4 4 3	8	2.0	NA				Type 1 Portland cement/5% bentonite grout 0' to 23' bgs.
	585	(7-9')		1 2 2 4	4	2.0	NA			Brown fine SAND and SILT, loose, wet, slight sheen above the water table.	
10		(9-11')		2 4 5 4	9	1.2	NA			Very slight sheen.	
	580	(11-13')		1 1 1 (12")	2	1.8	NA			No sheen.	
		(13-15')		WOH (18") 1	0	1.9	NA				
15											

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-331

Total Depth = 23 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(15-17')		WOH 1 (12") 1	1	1.6	NA			Brown fine SAND and SILT, loose, wet, grades to with trace shells.	
	575	(17-19')		1 1 (18")	1	1.5	NA			Brown fine to coarse SAND, trace Silt, loose, wet.	
										Brown PEAT.	
20		(19-21')		3 4 4 4	8	1.9	NA			Brown fine SAND and SILT, trace shells, loose, wet.	Type 1 Portland cement/5% bentonite grout 0' to 23' bgs.
	570	(21-23')		2 5 3 6	8	NA	NA			Brown SILT and CLAY, trace fine Gravel, hard, moist.	
										Total depth of boring 23.0 ft bgs.	
25											
	565										
30											
	560										
35											

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Remarks:
WOH - Weight of hammer. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/21/95 - 06/21/95
Drilling Company: Mateco
Driller's Name: James Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 3 ft.

Descriptions by: Timothy R. Osier

Boring No. SB-332

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-1')								Gray Concrete.	Type 1 Portland cement/5% bentonite grout 0' to 3' bgs.
		(1-3')		- 3 50 (0.3')	NA	1.1	0.0			Brown fine to medium SAND, some fine to medium gravel, loose, dry.	
										Auger refusal at 3.0 ft. bgs.	
										Total depth of boring 3.0 ft bgs.	
5	-5										
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/22/95 - 06/22/95
Drilling Company: Mateco
Driller's Name: James Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13 ft.

Descriptions by: Timothy R. Osier

Boring No. SB-333

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	gs elevation 592.24 ft.									**GROUND SURFACE**	
		(0-1')								Gray Concrete.	Type 1 Portland cement/5% bentonite grout 0' to 13' bgs.
	590	(1-3')		5 6 7 7	13	1.8	NA			Black fine to coarse SAND, little Silt, loose, dry.	
		(3-5')		8 10 9 7	19	0.9	NA			Trace concrete.	
5		(5-7')		2 1 (12") 1	1	1.9	NA				
	585	(7-9')		1 (12") 1 (12")	1	1.1	NA			Wet. Some medium Gravel-sized shale pieces.	
10		(9-11')		1 2 2 2	4	0.3	NA				
	580	(11-13')		4 6 12 16	18	1.1	NA			Brown SILT and CLAY, trace fine Gravel, stiff, moist.	
										Total depth of boring 13.0 ft bgs.	
15											

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Remarks:
NA - Not Available. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/21/95 - 06/21/95
Drilling Company: Mateco
Driller's Name: James Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 26 ft.

Descriptions by: Timothy R. Osier

Boring No. SB-334

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		16 34 22 11	56	1.8	NA			Black and brown fine to coarse SAND and fine to medium GRAVEL, trace Silt, loose, dry.	
										Red Slag.	
		(2-4')		3 3 5 4	8	1.1	NA			Brown SILT, some gravel-sized coal pieces, medium stiff, dry.	
5	-5	(4-6')		1 1 3 5	4	1.1	NA			Little Clay.	Type 1 Portland cement/5% bentonite grout 0' to 26' bgs.
		(6-8')		7 8 8 12	16	NR	NA			No Recovery.	
		(8-10')		6 4 6 7	10	1.2	NA			Black fine to coarse SAND, trace fine Gravel, loose, dry.	
										Brown fine SAND and SILT, loose, wet.	
10	-10	(10-12')		5 7 7 5	14	0.8	NA			Trace Shells.	
		(12-14')		WOH (12") 1 1	1	1.6	NA				
		(14-16')		3 2	4	0.5	NA			Dark brown, trace fine Gravel.	
15	-15										

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Remarks:
WOH - Weight of hammer. Backfilled boring to grade with grout. NR - No Recovery. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-334

Total Depth = 26 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	-15	(14-16')		2 2	4	0.5	NA			Dark brown fine SAND and SILT, trace fine Gravel, loose, wet.	
		(16-18')		4 3 3 1	6	0.8	NA				
		(18-20')		1 1 (12") 1	1	1.1	NA				
20	-20	(20-22')		WOH (12") 1 1	1	1.1	NA				Type 1 Portland cement/5% bentonite grout 0' to 26' bgs.
		(22-24')		1 1 1 1	2	1.0	NA			Brown, no gravel.	
25	-25	(24-26')		1 2 3 5	5	NA	NA			Brown SILT and CLAY, stiff, moist.	
										Total depth of boring 26.0 ft bgs.	
30	-30										
35	-35										

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Remarks:
WOH - Weight of hammer. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/22/95 - 06/22/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 20 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-335

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	gs elevation ft.										
	0									**GROUND SURFACE**	
		(0-2')		NA 7 6 7	13	1.5	0.0			Concrete. Brown fine SAND and SILT, trace fine Gravel, medium dense, damp.	
		(2-4')		5 4 4 4	8	0.8	0.0				
5	-5	(4-6')		3 2 1 2	3	0.4	27.9				Type I Portland cement/5% bentonite grout 0' to 20' bgs.
		(6-8')		2 1 1 1	2	2.0	22.4			Dark gray fine SAND, trace Silt, very loose. Wet.	
		(8-10')		3 2 2 4	4	1.2	23.8			Gray, little Silt, saturated.	
10	-10	(10-12')		2 4 3 3	7	1.8	30.4				
		(12-14')		1 1 1 1	2	2.0	31.9			Gray CLAY and SILT, very soft, moist to wet.	
15	-15	(14-16')		1 1	2	2.0	27.7				

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. SB-335

Total Depth = 20 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(14-16')		1 2	2	2.0	27.7			Dark brown SILT and PEAT, little fine Sand, very soft.
		(16-18')		1 2 8 9	10	2.0	24.5			Gray fine SAND, little Silt, trace shells, very loose, wet. Loose.
		(18-20')		7 5 7 12	12	2.0	29.7			
20	-20									Brown SILT and CLAY, trace coarse Sand and fine Gravel, stiff, moist. Total depth of boring 20.0 ft bgs.
25	-25									
30	-30									
35	-35									

Boring Construction

Type I Portland cement/5% bentonite grout 0' to 20' bgs.

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/23/95 - 06/23/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-338

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		6 8 16 27	24	1.7	33.2			Asphalt. Brown fine to medium SAND, trace fine Gravel, medium dense, dry.	
		(2-4')		2 9 12 9	21	1.6	3.3			Black, trace Silt and fine Gravel, medium dense, damp.	Type I Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		9 3 6 3	9	0.4	0.0			Little fine to medium Gravel, loose, saturated.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/23/95 - 06/23/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-337

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		7 5	12	1.0	7.4			Asphalt.	
										Black fine SAND and SILT, medium dense, damp.	
		(2-4')		3 5 5 8	10	1.0	6.5			Black fine SAND, SILT, and fine to medium Gravel, loose.	
5	-5	(4-6')		5 4 4 4	8	1.4	10.3			Black fine to medium SAND, trace fine Gravel and slag, loose, damp.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▽
		▽

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/26/95 - 06/26/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 8 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-338

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		6 6 9 10	15	1.8	0.0			Black fine to medium SAND, medium dense, dry to damp.	
		(2-4')		6 7 6 7	13	2.0	1.9				Type 1 Portland cement/5% bentonite grout 0' to 8.0' bgs.
5	-5	(4-6')		3 4 4 2	8	2.0	0.0			Loose, saturated.	
		(6-8')		2 1 1 1	2	1.8	29.8			Trace to little coarse Sand, very loose, heavy sheen, odor.	
										Total depth of boring 8.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/26/95 - 06/26/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-339

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		9 10 10 14	20	1.6	0.0			Asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, medium dense, damp.	
		(2-4')		15 13 25 24	38	1.6	5.5			Black fine to medium SAND, trace fine Gravel, medium dense, damp. Dense.	
5	-5	(4-6')		8 8 8 9	16	2.0	0.0			Loose, moist.	
										Total depth of boring 6.0 ft bgs.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/26/95 - 06/26/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-340

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		4 8 8 12	16	1.6	1.1			Asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, medium dense.	
		(2-4')		6 9 7 5	16	2.0	6.3			Black fine to medium SAND, medium dense, damp. Black/orange.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		3 5 7 8	12	1.6	2.8			Black, moist to wet.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/26/95 - 06/26/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-341

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		2 2 3 4	5	1.2	0.0			Black SILT and fine SAND, damp.	
		(2-4')		2 2 3 3	5	1.6	0.0			Grades to black SILT, trace fine Sand, medium stiff, damp.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		2 3 5 6	8	2.0	0.0				
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/26/95 - 06/26/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-342

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		2 6 15 13	21	1.4	0.0			Asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, medium dense, damp.	
		(2-4')		4 6 10 8	16	1.8	56.4			Black fine to medium SAND, trace fine Gravel, medium dense, damp. Grades to black fine to coarse SAND, trace fine Gravel, medium dense, damp, odor.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		NA	NA	0.4	142				
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▽
		▽

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/26/95 – 06/26/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-343

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		5 9 10 15	19	1.4	30.2			Asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, medium dense.	
		(2-4')		11 29 19 15	48	1.6	29.6			Black fine to medium SAND, medium dense, damp. Trace orange medium Sand.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		1 1 1 1	2	2.0	0.0			Black fine to medium SAND, loose, damp. Black SILT, little fine Sand, soft, damp to moist.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/26/95 - 06/26/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-344

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		6 26 15 11	41	1.8	9.5			Black fine SAND, damp.	
										Orange and gray brick material.	
		(2-4')		6 10 9 8	19	2.0	6.6			Black fine to medium SAND, medium dense, damp. Wet.	
5	-5	(4-6')		3 12 21 18	33	2.0	0.0			Dense, saturated.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/27/95 - 06/27/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-345

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		5 19 26 29	45	1.4	0.0			Asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, dense, dry.	
		(2-4')		9 8 7 6	15	2.0	4.2			Black fine to medium SAND, trace fine Gravel and rubber, dense, damp. Grades to black fine to medium SAND, medium dense, damp.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		1 3 2 2	5	2.0	0.0			Black SILT and fine SAND, soft, wet.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/27/95 - 06/27/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-346

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		6 10 13 26	23	1.4	9.8			Asphalt. Brown fine to medium SAND and gray fine to medium GRAVEL, medium dense, dry.	
		(2-4')		9 13 10 19	23	2.0	6.3			Black fine to medium SAND, medium dense, damp.	
5	-5	(4-6')		4 5 8 6	13	2.0	0.0			Moist.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/27/95 - 06/27/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-347

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		- - 12 20	32	1.0	0.0			Asphalt. Concrete. Black fine to medium SAND, dense, damp.	
		(2-4')		6 11 11 7	22	2.0	10.5			Medium dense, slight odor.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		5 4 5 5	9	2.0	0.0			Saturated, no odor.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/27/95 – 06/27/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-348

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		4 6 6 12	12	2.0	0.0			Black fine to medium SAND, medium dense, damp.	
		(2-4')		9 16 21 21	37	2.0	0.0			Damp to moist.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		8 10 7 4	17	2.0	0.0			Wet.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/27/95 - 06/27/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 6 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-349

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		2 1 2 2	3	1.6	0.0			Black fine to medium SAND, loose, damp. Black SILT and fine SAND, medium stiff, damp.	
		(2-4')		2 5 9 13	14	2.0	0.0			Black fine to medium SAND, medium dense, moist.	Type 1 Portland cement/5% bentonite grout 0' to 6.0' bgs.
5	-5	(4-6')		NA	NA	2.0	0.0			Saturated.	
										Total depth of boring 6.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/27/95 - 06/27/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 8 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-350

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		3 7 7	10	1.5	0.0			Concrete. Black fine to medium SAND, trace slag, loose, damp.	
		(2-4')		5 4 3 10	7	0.4	0.0			No slag.	Type 1 Portland cement/5% bentonite grout 0' to 8.0' bgs.
5	-5	(4-6')		3 14 11 9	25	1.6	13.6			Little to trace slag, saturated.	
		(6-8')		2 3 4 3	7	1.6	0.0			Wet.	
10	-10									Total depth of boring 8.0 ft bgs.	
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/27/95 - 06/27/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 8 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-351

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		6 5	11	1.0	37.4			Concrete. Black/orange fine to medium SAND, little Silt, trace fine Gravel, medium dense, damp.	
		(2-4')		2 2 4 4	6	1.8	0.0			Brown SILT and CLAY, stiff, moist. Waste material (resembles weathered shale).	Type I Portland cement/5% bentonite grout 0' to 8.0' bgs.
5	-5	(4-6')		4 4 4 3	8	2.0	0.0			Shiny black glass material.	
		(6-8')		1 1 1 1	2	1.6	0.0			Brown fine to medium SAND, trace fine Gravel and shells, saturated.	
10	-10									Total depth of boring 8.0 ft bgs.	
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▽
		▽

Date Start/Finish: 06/28/95 - 06/28/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 8 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-352

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH ft.	ELEVATION gs elevation ft.	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
	0									GROUND SURFACE	
		(0-2')		13 18 10 11	28	1.4	19.4			Asphalt. Brown/black fine to medium SAND, trace Silt and fine Gravel, medium dense.	
		(2-4')		4 4 36 37	40	1.4	24.3			Trace green glass, dense, damp.	Type 1 Portland cement/5% bentonite grout 0' to 8.0' bgs.
5	-5	(4-6')		8 7 7 6	14	2.0	20.2			Black/brown/gray fine to medium SAND, trace brick material, medium dense, damp.	
		(6-8')		1 3 4 4	7	0.6	9.3			Black, loose, damp.	
10	-10									Total depth of boring 8.0 ft bgs.	
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08

Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/28/95 - 06/28/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 8 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-353

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		3 7 26 16	33	2.0	22.6			Brown fine to medium SAND, little metal shavings, trace Silt, dense, damp, odor.	
		(2-4')		10 10 11 11	21	1.2	7.9			Brown SILT and CLAY, trace fine Gravel, stiff , damp.	
5	-5	(4-6')		3 3 5 6	8	2.0	0.0			Trace fine to medium Sand, medium stiff.	Type 1 Portland cement/5% bentonite grout 0' to 8.0' bgs.
		(6-8')		1 2 3 3	5	1.2	0.0			Brown SILT and CLAY, soft, moist.	
										Total depth of boring 8.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/28/95 - 06/28/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 8 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-354

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		4 13 10 10	23	1.4	22.4			Asphalt. Brown fine to medium SAND and gray fine Gravel, medium dense, dry.	
		(2-4')		3 5 5 9	10	1.6	0.0			Black fine to medium SAND, loose, damp.	Type 1 Portland cement/5% bentonite grout 0' to 8.0' bgs.
5	-5	(4-6')		9 6 5 5	11	1.8	0.0			Saturated.	
		(6-8')		2 2 2 2	4	1.0	0.0				
10	-10									Total depth of boring 8.0 ft bgs.	
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▽
		▽

Date Start/Finish: 06/28/95 - 06/28/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 8 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-355

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									GROUND SURFACE	
		(0-2')		6 9	15	1.0	0.0			Asphalt. Concrete. Black fine to medium SAND, trace fine Gravel, medium dense, damp.	
		(2-4')		6 10 7 6	17	1.8	8.8			Trace red brick material, wood.	Type 1 Portland cement/5% bentonite grout 0' to 8.0' bgs.
5	-5	(4-6')		6 9 10 8	19	1.2	0.0			Trace slag and wood.	
		(6-8')		1 2 5 5	7	1.2	0.0			No wood. Saturated.	
										Total depth of boring 8.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/28/95 - 06/26895
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 7 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-358

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
										Augered continuously to 5.0' bgs.	Type 1 Portland cement/5% bentonite grout 0' to 7.0' bgs.
5	-5	(5-7')					0.0			Black fine to medium SAND, saturated, no sheen.	
										Total depth of boring 7.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Oil investigation for Soil Boring SB-338. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/28/95 - 06/26895
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 7 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-357

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
										Augered continuously to 5.0' bgs.	Type 1 Portland cement/5% bentonite grout 0' to 7.0' bgs.
5	-5	(5-7')					6.1			Black fine to medium SAND, saturated, sheen.	
										Total depth of boring 7.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Oil investigation for Soil Boring SB-338. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/28/95 - 06/26895
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 7 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-358

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
										Augered continuously to 5.0' bgs.	Type 1 Portland cement/5% bentonite grout 0' to 7.0' bgs.
5	-5	(5-7')					0.0			Black fine to medium SAND, trace slag, saturated, no sheen.	
										Total depth of boring 7.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Oil investigation for Soil Boring SB-338. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 06/28/95 - 06/26895
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 7 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-359

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
										Augered continuously to 5.0' bgs.	Type I Portland cement/5% bentonite grout 0' to 7.0' bgs.
5	-5	(5-7')					0.0			Black fine to medium SAND, saturated, no sheen.	
										Total depth of boring 7.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Oil investigation for Soil Boring SB-338. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/28/95 - 06/26895
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 7 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-360

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
										Augered continuously to 5.0' bgs.	Type 1 Portland cement/5% bentonite grout 0' to 7.0' bgs.
5	-5	(5-7')					0.0			Black fine to medium SAND, saturated, no sheen.	
										Total depth of boring 7.0 ft bgs.	
10	-10										
15	-15										

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BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
Oil investigation for Soil Boring SB-338. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▽
		▽

Project: 276.08
Script: GM-bore
Date: 07/26/97

Date Start/Finish: 06/28/95 - 06/26895
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 7 ft.

Descriptions by: Ron D. Kuhn

Boring No. SB-361

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
										Augered continuously to 5.0' bgs.	Type 1 Portland cement/5% bentonite grout 0' to 7.0' bgs.
5	-5	(5-7')					0.0			Black fine to medium SAND, saturated, no sheen.	
										Total depth of boring 7.0 ft bgs.	
10	-10										
15	-15										

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Remarks:
Oil investigation for Soil Boring SB-338. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 09/28/95 - 09/28/95
Drilling Company: Mateco
Driller's Name: Steve Rempalski
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 10 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-382

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH / ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 592.54 ft.									GROUND SURFACE	
									Concrete.	
	(0-2')					NA			Brown SILT, little to some Clay, trace fine Sand, damp.	
590	(2-4')					NA			No sample taken - lithology unknown.	
5	(4-6')					NA			Black fine to medium SAND.	Type 1 Portland cement/5% bentonite grout 0' to 10' bgs.
	(6-8')					NA			No sample taken - lithology unknown.	
585	(8-10')					5.1			Gray fine SAND, wet, slight LNAPL noticed, sheen, odor.	
10									Total depth of boring 10.0 ft bgs.	
580										
15										

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Remarks:
Soil samples were taken 0-2', 4-6', 8-10' bgs and analyzed for TAL/TCL. NA - Not available. Backfilled boring to grade with grout.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 09/28/95 - 09/28/95
Drilling Company: Mateco
Driller's Name: Steve Rempalski
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 750 ATV
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 10 ft.

Descriptions by: Ronald D. Kuhn

Boring No. SB-363

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 592.36 ft.										**GROUND SURFACE**	
		(0-2')					NA			Brown fine to medium SAND, little fine to medium Gravel, dry.	Type 1 Portland cement/5% bentonite grout 0' to 10' bgs.
	590	(2-4')					NA			No sample taken - lithology unknown.	
5		(4-6')					NA			Brown fine to medium SAND, little fine to medium Gravel, dry.	
		(6-8')					NA			No sample taken - lithology unknown.	
	585	(8-10')					2.2			Gray fine SAND, wet, LNAPL noticed, sheen, odor.	
10										Total depth of boring 10.0 ft bgs.	
	580										
15											

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Remarks:
Soil samples were taken 0-2', 4-6', 8-10' bgs and analyzed for TAL/TCL. Backfilled boring to grade with grout. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Former HQD Investigation
Well Construction and Boring Logs

HQD-MW1
HQD-SB2
HQD-SB3
HQD10SB1

Date Start-Finish: 08/01/96 - 08/01/96
Drilling Company: Mateco Drilling Company
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25-in.
Rig Type: CME 45A
Spoon Size: 2"-in.
Hammer Weight: 130-lb
Height of Fall: 30-in.

Borehole Depth: 16.0 ft.

Geologist: Scott A. Powlin

Well No. HQD-MW1

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.91 ft.										**GROUND SURFACE**	7-in diameter steel protective curb box, locking well cap
		(0-2')		- 1 2 1	3	1.5	8.0			Concrete. Light brown fine SAND, loose, dry. Black fine SAND, some Silt and coarse Gravel, dense, dry.	Concrete pad; Grade #5 silica sand drain 0.5' to 1.0' bgs
	590	(2-4')		4 5 5 6	10	1.3	10.5			Black to brown fine to medium SAND and fine GRAVEL, dense, dry. Black fine SAND, loose, dry. Mottled light brown to black fine SAND, trace coarse Sand, damp. **Fill/Native Material Boundary**	Bentonite seal 1.0' to 2.0' bgs; 2-in diameter Sch. 40 PVC well casing 0.25' bgs to 3.0' bgs
5		(4-6')		2 1 1 1	2	1.2	4.0			Light to dark gray SILT, some fine Sand, stiff, moist. Trace fine gravel, very slight sheen.	
		(6-8')		8 5 5 9	10	0.3	3.7				
	585	(8-10')		5 8 9 17	17	1.8	4.3			Light brown SILT and CLAY, trace fine Gravel, hard, damp. Very slight sheen.	0.010" slotted Sch. 40 PVC well screen 3.0' to 13.0' bgs
10		(10-12')		4 8 12 16	20	2.0	7.3				
	580	(12-14')		5 11 10 15	21	0.2	7.5				Grade #5 silica sand pack 2.0' to 15.0' bgs
15		(14-16')		4 5	13	0.5	8.3				

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Remarks:
Slight sheens evidenced on soils when mixed with water.

Water Levels

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. HGD-MW1

Total Depth = 16.0 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')		8 12	13	0.5	8.3			Light brown SILT and CLAY, trace fine Gravel, hard, damp.	
										Total depth of boring 16.0 ft. bgs.	
	575										
20											
	570										
25											
	565										
30											
	560										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 08/01/96 - 08/01/96
Drilling Company: Mateco Drilling Company
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45A
Spoon Size: 2"
Hammer Weight: 130-lb
Height of Fall: 30-in.

Borehole Depth: 20.0 ft.

Descriptions by: Scott A. Powlin

Boring No. HQD-SB2

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation 592.74 ft.										**GROUND SURFACE**	
		(0-2')		- 4 17 16	21	1.3	3.2			Concrete. Black fine SAND and SILT, some tan mottling, dry. Gray coarse GRAVEL, loose, dry, slight sheen.	Type I Portland cement/5% bentonite grout 0.0' to 20.0' bgs
	590	(2-4')		8 10 9 10	19	1.2	2.9			Black fine SAND, trace coarse foundry brick, loose, dry. Black fine SAND and fine to coarse Gravel and foundry brick, loose, dry.	
5		(4-6')		2 2 2 3	4	0.5	2.5			Damp. **Fill/Native Material Boundry**	
		(6-8')		3 5 7 4	12	0.3	2.1			Dark gray SILT, some fine Sand, stiff, moist.	
	585	(8-10')		5 7 15 17	22	2.0	3.2			Light brown SILT, some Clay, trace fine Gravel, very stiff, dry.	
10		(10-12')		6 9 12 20	21	2.0	1.7				
	580	(12-14')		5 7 11 19	18	2.0	3.5				
15		(14-16')		3 6	14	2.0	1.6				

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Remarks:
Slight sheens evidenced on soils when mixed with water.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-bore
Date: 01/11/99

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

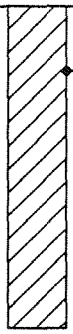
Client:
General Motors Corporation

Boring No. HQD-SB2

Total Depth = 20.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description
		(14-16')		8 15	14	2.0	1.6			Light brown SILT, some Clay, trace fine Gravel, very stiff, dry.
	575	(16-18')		4 5 8 10	13	2.0	2.4			
		(18-20')		3 5 6 9	11	2.0	3.0			Light brown SILT and CLAY, trace fine Gravel, stiff, medium plasticity, damp.
20										Total depth of boring 20.0 ft. bgs.
	570									
25										
	565									
30										
	560									
35										

Boring Construction



Type I Portland cement/5% bentonite grout 0.0' to 20.0' bgs

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 08/01/96 - 08/01/96
Drilling Company: Mateco Drilling Company
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45A
Spoon Size: 2"
Hammer Weight: 130-lb
Height of Fall: 30-in.

Borehole Depth: 20.0 ft.

Descriptions by: Scott A. Powlin

Boring No. HQD-SB3

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		2 3 2 5	5	2.0	10.7			Concrete. Black fine to medium SAND, some fine slag, loose, dry.	Type I Portland cement/5% bentonite grout 0.0' to 20.0' bgs
		(2-4')		5 4 5 4	9	1.5	6.4				
5	-5	(4-6')		5 2 1 4	3	1.3	6.5			**Fill/Native Material Boundary** Light to dark gray fine SAND and SILT, dense, wet, slight sheen.	
		(6-8')		4 5 6 6	11	0.5	4.6			Light brown SILT, some Clay and fine Gravel, stiff, dry.	
		(8-10')		4 3 7 11	10	1.5	4.8				
10	-10	(10-12')		3 9 11 15	20	1.3	4.6				
		(12-14')		4 7 10 14	17	2.0	4.2				
15	-15	(14-16')		3 4	11	2.0	4.0				

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Remarks:
Slight sheens evidenced on soils.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Boring No. HQD-SB3

Total Depth = 20.0 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		7 8	11	2.0	4.0			Light brown SILT, some Clay and fine Gravel, stiff, dry.	
		(16-18')		3 5 8 11	13	2.0	6.1			Trace fine Sand and fine Gravel, stiff, dry.	Type I Portland cement/5% bentonite grout 0.0' to 20.0' bgs
		(18-20')		4 8 8 8	16	2.0	7.3			Light brown SILT and CLAY, trace fine Gravel, very stiff, damp.	
20	-20									Total depth of boring 20.0 ft. bgs.	
25	-25										
30	-30										
35	-35										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08

Script: GM-bore
Date: 01/11/99

Date Start/Finish: 08/27/96 - 08/27/96
Drilling Company: Mateco Drilling Company
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45A
Spoon Size: 2"
Hammer Weight: 130-lb
Height of Fall: 30-in.

Borehole Depth: 16.0 ft.

Descriptions by: Karen A. Goldenberg

Boring No. HQD10-SB1

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		3 3 4 3	7	2.0	0.0			Black SAND.	
		(2-4')		4 4 4 6	8	0.8	0.0			Brown/green CLAY, some Silt, soft, moist, veins of yellow Sand.	Type 1 Portland cement/5% bentonite grout 0' to 16.0' bgs.
5	-5	(4-6')		1 1 2 3	3	1.0	0.0			Brown to Green/brown SILT, some Clay, very soft, moist to damp, spongy black cord.	
		(6-8')		4 5 7 9	12	1.4	0.0			Green SILT, some Clay, soft, moist, thin seams of milky white solid material in milky white liquid.	
		(8-10')		4 8 10 14	18	1.8	0.0			Trace fine Gravel, hard, some milky white seams.	
10	-10	(10-12')		4 8 12 13	20	1.7	0.0			White slag.	
		(12-14')		4 7 10 15	17	1.7	0.0				
15	-15	(14-16')		4 8	18	NA	0.0			Moist.	

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. HGD10-SB1

Total Depth = 16.0 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		10 14	18	NA	0.0			Green SILT, some Clay, soft, moist.	Type 1 Portland cement/5% bentonite grout 0' to 16.0' bgs.
										Total depth of boring 16.0 ft. bgs.	
20	-20										
25	-25										
30	-30										
35	-35										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.12

Script: GM-bore
Date: 01/11/99

Former Tank #7 Investigation
Well Construction and Boring Logs

BBL-MW1
BBL-MW2
BBL-MW3
BBL-MW4
BBL-MW5
BBL-SB1
BBL-SB2
BBL-SB3
BBL-SB4
BBL-SB5
UST7-3R (replacement)

Date Start-Finish: 5/02/96 - 5/02/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25-in.
Rig Type: CME 45C
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14.0 ft.

Geologist: Ronald D. Kuhn

Well No. BBL-MW1

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Former UST-7 Area

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.									**GROUND SURFACE**	8-in diameter steel protective curb box with sand drain, locking well cap; Concrete pad
	(0-2')		- 5 4 4	9	1.3	195			Asphalt. Concrete. Black fine to medium SAND, trace Silt, slag, and red brick, damp, odor.	Grade #5 silica sand drain 0.5' to 1.5' bgs
	(2-4')		4 6 5 6	11	1.8	1212			Trace glass.	Bentonite seal 1.5' to 3.0' bgs
5	(4-6')		5 7 8 21	15	1.8	1390				2-in diameter Sch. 40 PVC well casing 0.2' to 4.2' bgs
	(6-8')		6 8 6 5	14	1.6	1809			Saturated.	0.01" Sch. 40 PVC screen 4.2' to 13.7' bgs
	(8-10')		4 4 3 3	7	NR	1602			No Recovery. **Fill/Native Material Boundary.**	
10	(10-12')		1 1 1 2	2	1.4	1809			Black stained fine to medium SAND, trace Silt and shells, wet, odor.	Grade #5 silica sand pack 3.0' to 14.0' bgs
	(12-14')		2 1 1 3	2	0.6	28.5			Gray CLAY and SILT, trace fine Sand and shell fragments, soft, moist.	
15									Total depth of boring 14.0 ft. bgs.	2-in diameter Sch. 40 PVC sump 13.7' to 14.0' bgs

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Remarks:
Analytical soil sample taken at 4-6' bgs.
Sheen observed during drilling.
NR - No Recovery.

Water Levels

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-well
Date: 11/02/98

Date Start-Finish: 5/02/96 - 5/02/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25-in.
Rig Type: CME 45C
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14.5 ft.

Geologist: Ronald D. Kuhn

Well No. BBL-MW2

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Former UST-7 Area

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.									GROUND SURFACE	8-in diameter steel protective curb box with sand drain, locking well cap; Concrete pad
	(0-2')		1 12 10 7	22	1.4	12.2			Asphalt. Concrete. Dark brown fine to medium SAND, trace Silt, red brick, green glass and slag, damp.	Grade #5 silica sand drain 0.5' to 1.5' bgs
	(2-4')		6 8 8 3	16	1.8	13.4				Bentonite seal 1.5' to 3.0' bgs
5	(4-6')		2 2 2 4	4	0.5	12.7				2-in diameter Sch. 40 PVC well casing 0.2' to 4.7' bgs
	(6-8')		5 3 3 3	6	1.8	744			Odor, saturated.	0.01" Sch. 40 PVC screen 4.7' to 14.2' bgs
	(8-10')		3 2 2 3	4	0.6	834			**Fill/Native Material Boundary** Dark gray fine to medium SAND, trace coarse Sand and shells, loose, saturated, odor.	
10	(10-12')		2 3 2 3	5	2.0	1410				Grade #5 silica sand pack 3.0' to 14.5' bgs
	(12-14')		1 2 3 4	5	2.0	507			@ 14.2', Gray CLAY and SILT, trace fine Sand, shell fragments and natural organics, moist.	2-in diameter Sch. 40 PVC sump 14.2' to 14.5' bgs
	(14-14.5')		4	NA	0.5	29.0			Total depth of boring 14.5 ft. bgs.	
15										

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Remarks:
Analytical soil sample taken at 4-6' bgs.
Sheen observed during drilling.
NA - Not Available.

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 5/02/96 - 5/02/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25-in.
Rig Type: CME 45C
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 15.0 ft.

Geologist: Ronald D. Kuhn

Well No. BBL-MW3

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Former UST-7 Area

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.									GROUND SURFACE	8-in diameter steel protective curb box with sand drain, locking well cap; Concrete pad
	(0-2')		4 6 7	10	1.3	21.8			Concrete.	
									Brown SILT, trace fine Sand, hard, damp.	Grade #5 silica sand drain 0.5' to 1.5' bgs
	(2-4')		6 6 4 6	10	2.0	29.5			Brown fine to medium SAND, trace Silt and brick, damp.	Bentonite seal 1.5' to 3.5' bgs
									Black to brown SILT, trace fine Sand and brick, hard, dry.	
	(4-6')		3 3 3 3	6	1.6	21.3			Brown fine to medium SAND, trace Silt, brick and slag, damp.	2-in diameter Sch. 40 PVC well casing 0.3' to 5.2' bgs
5									Gray Silt-like fill material, dry.	
									Stiff, damp.	
	(6-8')		4 3 3 3	6	1.4	2100			Gray fine to medium SAND, trace shell fragments, moist.	0.01" Sch. 40 PVC screen 5.2' to 14.7' bgs
									Odor, wet.	
	(8-10')		3 1 3 4	4	1.8	1535			Dark gray SILT, trace fine Sand, moist, odor.	
10									Dark gray fine to medium SAND, trace shells, wet, odor.	
	(10-12')		3 3 4 10	7	2.0	1621			Dark gray SILT, trace fine Sand, moist, odor.	Grade #5 silica sand pack 3.5' to 15.0' bgs
									Weathered SHALE.	
	(12-14')		4 4 3 4	7	1.6	85.1			Dark gray fine to medium SAND, odor, wet.	
									Dark gray SILT, trace fine Sand and fine to medium Gravel, moist.	2-in diameter Sch. 40 PVC sump 14.7' to 15.0' bgs
	(14-15')		2 3	5	0.8	6.0			Black weathered SHALE, wet.	
15									Dark gray SILT, trace fine Sand.	

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Remarks:
Analytical soil sample taken at 6-8' bgs.
Sheen observed during drilling.

Water Levels

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-well
Date: 11/02/98

Date Start-Finish: 5/03/96 - 5/03/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25-in.
Rig Type: CME 45C
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 15.0 ft.

Geologist: Ronald D. Kuhn

Well No. BBL-MW4

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Former UST-7 Area

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.									GROUND SURFACE	8-in diameter steel protective curb box with sand drain, locking well cap; Concrete pad
	(0-2')		1 1 1 1	2	1.5	5.4			Concrete. Black fine SAND, loose, damp.	Grade #5 silica sand drain 0.5' to 1.5' bgs
	(2-4')		5 3 2 5	5	1.2	7.0			Gray fine to medium GRAVEL, dry. Black fine SAND, damp. Gray fine to medium SAND, trace fine Gravel, damp.	Bentonite seal 1.5' to 3.5' bgs
5	(4-6')		13 10 9 8	19	1.4	9.7			Black fine SAND, damp. Black fine to medium SAND, trace red brick, damp.	2-in diameter Sch. 40 PVC well casing 0.3' to 5.2' bgs
	(6-8')		9 6 5 5	11	0.6	3.2			Black fine SAND, damp. Gray BRICK material, dry. Black fine to medium SAND and SLAG, damp.	0.01" Sch. 40 PVC screen 5.2' to 14.7' bgs
	(8-10')		9 5 3 3	8	1.8	7.6			Trace brick. Saturated	
10	(10-12')		7 9 10 7	19	1.6	6.9				Grade #5 silica sand pack 3.5' to 15.0' bgs
	(12-14')		4 1 1 1	2	1.8	7.2			**Fill/Native Material Boundary** Gray CLAY and SILT, trace fine Sand, natural organics, soft, moist.	2-in diameter Sch. 40 PVC sump 14.7' to 15.0' bgs
15	(14-15')		2 2	4	1.0	3.1			Total depth of boring 15.0 ft. bgs.	

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Remarks:
Analytical soil sample taken at 4-6' bgs.

Water Levels

Date / Time	Elevation	Depth

Project: 276.08
Script: GM-well
Date: 11/02/98

Date Start-Finish: 5/03/96 - 5/03/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25-in.
Rig Type: CME 45C
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 15.0 ft.

Geologist: Ronald D. Kuhn

Well No. BBL-MW5

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Former UST-7 Area

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.									GROUND SURFACE	8-in diameter steel protective curb box with sand drain, locking well cap; Concrete pad
	(0-2')		1 5 5 5	10	1.2	74.9			Concrete. / Brown fine to medium SAND, trace Silt and slag, damp. / Tan pulverized BRICK material, damp.	Grade #5 silica sand drain 0.5' to 1.5' bgs
	(2-4')		5 4 3 5	7	1.6	170			Black fine to medium SAND, trace slag and red brick, damp, odor.	Hydrated bentonite chip seal 1.5' to 3.5' bgs
5	(4-6')		1 4 2 3	6	1.6	164				2-in diameter Sch. 40 PVC well casing 0.3' to 5.2' bgs
	(6-8')		3 5 3 4	8	1.8	277				0.01" Sch. 40 PVC screen 5.2' to 14.7' bgs
	(8-10')		3 5 6 5	11	1.2	321			Little slag, wet, odor.	
10	(10-12')		2 3 2 5	5	1.6	25.8			Black fine SAND, wood in tip of spoon, saturated.	Grade #5 silica sand pack 3.5' to 15.0' bgs
	(12-14')		2 4 2 4	6	1.0	19.9			Black fine to medium SAND, little slag, saturated, odor.	2-in diameter Sch. 40 PVC sump 14.7' to 15.0' bgs
15	(14-15')		3 3	6	1.0	28.2			Total depth of boring 15.0 ft. bgs.	

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Remarks:
Analytical soil sample taken at 4-6' bgs.
Sheen observed during drilling.

Water Levels

Date / Time	Elevation	Depth

Date Start/Finish: 05/06/96 - 05/06/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. BBL-SB1

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										**GROUND SURFACE**	
		(0-2')		- 2 1 1	4	1.5	0.0			Concrete. Dark brown/black fine to medium SAND, trace fine Gravel and red brick, loose, damp.	
		(2-4')		2 2 2 1	4	1.8	0.0			Trace slag.	
5	-5	(4-6')		1 (12") 1 (12")	1	0.9	0.0			Tan fine SAND, trace Silt, loose, damp.	
		(6-8')		4 4 3 7	7	1.4	2190			Black fine to medium SAND, trace fine Gravel and slag, loose, wet.	
		(8-10')		2 2 6 4	8	0.8	1905			Gray fine to coarse SAND, trace Silt, loose, odor, sheen when mixed with water. Little white brick, saturated.	
10	-10	(10-12')		7 4 2 2	6	1.4	534			Odor.	
		(12-14')		3 5 4 3	9	1.2	236			Total depth of boring 14.0 ft bgs.	
15	-15									Boring was grouted to grade upon completion.	

Type 1 Portland cement/5% bentonite grout 0' to 14.0' bgs

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Remarks:
Analytical soil samples taken at 4-6' bgs and 8-10' bgs. Biological soil sample taken at 8-10' bgs. Sheen observed during drilling.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 05/07/96 - 05/07/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. BBL-SB2

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		12 12 8	24	1.4	38.4			Concrete. Black fine to medium SAND, trace Silt and slag, medium dense, damp.	
		(2-4')								Continuously drilled to 4.0' bgs.	
5	-5	(4-6')		2 2 2 2	4	1.0	NA			Black fine to medium SAND, trace Silt and fine Gravel, loose, damp.	
		(6-8')		5 2 2 3	4	1.8	28.0			Trace red brick material. Saturated.	Type 1 Portland cement/5% bentonite grout 0' to 24.0' bgs
		(8-10')		4 4 5 4	9	0.6	193			Trace white brick, saturated.	
10	-10	(10-12')		3 5 6 6	11	1.0	NA				
		(12-14')		4 4 2 3	6	0.6	10.4			Total depth of boring 14.0 ft bgs.	
15	-15									Boring was grouted to grade upon completion.	

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Remarks:
Analytical soil samples taken at 0-2' bgs and 8-10' bgs.
Geotechnical soil samples taken at 4-6' bgs and 10-12' bgs.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 05/07/96 - 05/07/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. BBL-SB3

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									GROUND SURFACE	
		(0-2')		1 3 6 5	9	1.6	0.0			Concrete. Black fine SAND, trace Silt, loose, damp.	
		(2-4')		3 3 2 4	5	1.8	0.0				
5	-5	(4-6')		3 3 2 2	5	1.3	2.7			Brown fine to medium SAND, trace Silt and fine Gravel, loose, damp to moist.	
		(6-8')		4 2 3 2	5	1.4	427			Black fine SAND, trace Silt and fine Gravel, loose, damp. Black weathered SHALE and SILT, moist.	
		(8-10')		2 2 3 5	5	1.6	1835			Odor, wet.	
10	-10	(10-12')		3 3 3 5	6	0.8	376				
		(12-14')		2 4 4 4	8	2.0	11.5			Total depth of boring 14.0 ft bgs.	
15	-15									Boring was grouted to grade upon completion.	

Type 1 Portland cement/5% bentonite grout 0' to 24.0' bgs

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Remarks:
Analytical soil samples taken at 6-8' bgs and 8-10' bgs.
Geotechnical soil samples taken at 4-6' bgs and 10-12' bgs.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 05/07/96 - 05/07/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 14 ft.

Descriptions by: Ronald D. Kuhn

Boring No. BBL-SB4

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.	0									GROUND SURFACE	
		(0-2')		- - 14 10	24	1.2	2067			Concrete. Black fine to medium SAND, trace Silt and fine Gravel, medium dense, damp, odor.	
		(2-4')		5 2 2 2	4	0.6	1524			Loose, trace slag.	
5	-5	(4-6')		2 3 2 4	5	0.8	635			Black fine to medium SAND and white Brick fragments, trace Silt, fine Gravel, and slag, loose, damp.	
		(6-8')		5 3 2 2	5	0.8	2112			Black fine to medium SAND, trace fine Gravel, Solt, red brick, and slag, loose.	Type 1 Portland cement/5% bentonite grout 0' to 24.0' bgs
		(8-10')		1 1 2 4	3	1.0	1792			Little white brick, very loose, saturated, odor.	
10	-10	(10-12')		2 3 4 3	7	0.4	533			Loose.	
		(12-14')		2 3 3 2	6	0.4	110			Total depth of boring 14.0 ft bgs.	
15	-15									Boring was grouted to grade upon completion.	

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Remarks:
Analytical soil samples taken at 0-2' bgs and 8-10' bgs. Sheen observed during drilling.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 05/06/96 - 05/06/96
Drilling Company: Mateco
Driller's Name: Richard Fair
Drilling Method: Hollow Stem Auger
Auger Size: ID 4.25
Rig Type: CME 45
Spoon Size: 2
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 24 ft.

Descriptions by: Ronald D. Kuhn

Boring No. BBL-SB5

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
gs elevation ft.											
0										GROUND SURFACE	
		(0-2')		5 7 9 10	16	1.3	0.0			Black fine to medium SAND, trace Silt and fine Gravel, damp. Brown CLAY and SILT, trace fine Sand, stiff, damp.	
		(2-4')		6 4 5 4	9	NR	NA			No Recovery.	
5	-5	(4-6')		1 2 2 3	4	0.8	0.0			Brown CLAY and SILT, trace fine Sand and fine Gravel, stiff, wet.	
		(6-8')		7 13 13 17	26	2.0	0.0			Very stiff, damp.	Type 1 Portland cement/5% bentonite grout 0' to 24.0' bgs
		(8-10')		7 11 12 18	23	2.0	0.0				
10	-10	(10-12')		5 11 13 15	23	2.0	0.0				
		(12-14')		8 11 14 20	25	2.0	0.0				
15	-15	(14-16')		2 6	15	2.0	0.0			Moist.	

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Remarks:
Analytical soil samples taken at 0-2' bgs and 20-22' bgs. Biological soil sample taken at 20-22' bgs. NR - No Recovery. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Boring No. BBL-SB5

Total Depth = 24 ft.

DEPTH	ELEVATION	Sample Interval	Spoon Size (in,OD)	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	USCS Code	Geologic Column	Stratigraphic Description	Boring Construction
		(14-16')		9 9	15	2.0	0.0			Gray CLAY and SILT, trace fine Sand and fine Gravel, medium stiff, moist.	
		(16-18')		4 5 7 7	12	2.0	0.0			Soft, wet.	
		(18-20')		1 4 4 6	8	2.0	0.0				
20	-20	(20-22')		2 3 3 5	6	2.0	0.0				Type 1 Portland cement/5% bentonite grout 0' to 24.0' bgs
		(22-24')		2 2 3 4	5	2.0	0.0			Total depth of boring 24.0 ft bgs.	
25	-25										
30	-30										
35	-35										

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Remarks:
Boring was grouted to grade upon completion.

Saturated Zones

Date / Time	Elevation	Depth

Date Start-Finish: 7/13/98 - 7/13/98
Drilling Company: Rau Drilling
Driller's Name: Rick Rau
Drilling Method: Split Spoon
Auger Size: -in.
Rig Type: CME 55
Spoon Size: -in.
Hammer Weight: -lb
Height of Fall: -in.

Borehole Depth: 14.0 ft.

Geologist: Gordon Hotchkiss

Well No. UST7-3R

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Former UST-7 Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	gs elevation 592.33 ft.									**GROUND SURFACE**	2-in diameter PVC well; Riser stick-up 2.5'
		(0-2')		17 23 10 12	33	1.0	4.3			Grey SAND and GRAVEL fill with little to some limestone and concrete fragments from 0.0 to 0.4. Brown to black fine sand fill, poorly graded trace gravel and brick fragments, dry.	Cement pad 0.0' to 1.5' bgs
	590	(2-4')		6 9 7 7	16	1.0	0.9				Bentonite seal 1.5' to 2.5' bgs
5		(4-6')		4 6 5 5	11	1.0	2.7				
	585	(6-8')		2 3 2 3	5	1.3	1.0				0.01" Sch. 40 PVC screen 3.3' to 13.3' bgs
		(8-10')		3 4 8 5	12	0.5	0.9			Black fine SAND poorly graded, trace silt, clay and gravel, saturated. Angular limestone fragments in tip of spoon.	
10		(10-12')		2 7 8 11	15	1.5	2.4			Same as above interbedded with a 1/2" piece of black decaying wood fragment at 0.3, dark brown poorly graded fine saturated sand between 0.3 and 0.6, a 1/4" lense of grey highly plastic silty clay at 0.6 and a 1/2" of synthetic rubber material at 10. Overall organic odor.	Grade #5 silica sand pack 2.5' to 13.3' bgs
	580	(12-14')		5 5 15 10	10	1.5	5.4			Black fine SAND poorly graded, trace silt and clay, saturated.	
15										Total depth of boring 14.0 ft. bgs.	

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Remarks:

Water Levels

Date / Time	Elevation	Depth
7/13/98	582.56	10.77 ▼

Project: 276.12
Script: GM-well
Date: 01/11/99

LNAPL Assessment Area
Well Construction and Soil Boring Logs

RW-1
RW-2
RW-3
RW-4
TPZ-1
TPZ-2

Date Start-Finish: 06/24/96 - 06/24/96
Drilling Company: Raymer
Driller's Name: Rich Bloom and Mike Kats
Drilling Method: Water-rotary
Auger Size: -in.
Rig Type: Ingersoll Rand TH-60
Spoon Size: -in.
Hammer Weight: -lb
Height of Fall: -in.

Borehole Depth: 15.0 ft.

Geologist: Ronald D. Kuhn

Well No. RW-1

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.18 ft.										**GROUND SURFACE**	
		(0-2')								Brown fine to medium SAND.	Concrete pad 0.0'to 1.0' bgs
	590										Topsoil 1.0' to 3.0' bgs
		(2-4')									18-in diameter steel riser 0.6' to 5.0' bgs
5		(4-6')									Filter fabric on top of gravel fill 3.0' bgs
	585	(6-8')									
		(8-10')									18-in diameter steel vertical slot screen, slots are 0.25-in wide with 7 to 8-in vertical spacings and 5.5-in horizontal spacings, 5.0' to 15.0' bgs
10		(10-12')									
	580	(12-14')									Fine to medium angular gravel 3.0' to 15.0' bgs
15		(14-16')									

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Remarks:
Slight sheen observed on soil cuttings.

Water Levels

Date / Time	Elevation	Depth

Project: 48039
Script: GM-well
Date: 01/11/99

Date Start-Finish: 06/26/96 - 06/26/96
Drilling Company: Raymer
Driller's Name: Rich Bloom and Mike Kats
Drilling Method: Water-rotary
Auger Size: -in.
Rig Type: Ingersoll Rand TH-60
Spoon Size: -in.
Hammer Weight: -lb
Height of Fall: -in.

Borehole Depth: 23.0 ft.

Geologist: Ronald D. Kuhn

Well No. RW-2

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.07 ft.										GROUND SURFACE	
		(0-2')								Black fine to medium SAND.	18-in diameter steel riser 0.0' to 5.0' bgs
	590	(2-4')									
5		(4-6')									
	585	(6-8')									18-in diameter, 0.040-in galvanized wire wound Johnson slot screen 5.0' to 15.0' bgs
		(8-10')									
10		(10-12')									
	580	(12-14')									Fine to medium pea gravel 23.0' bgs up to grade
15		(14-16')									

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Remarks:
Soil cuttings had heavy petroleum odor and sheen.
Black fine to medium SAND 0.0' to 23.0' bgs

Water Levels

Date / Time	Elevation	Depth

Project: 48039
Script: GM-well
Date: 01/11/99

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. RW-2

Total Depth = 23.0 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')									
	575	(16-18')									18-in diameter steel sump 15.0' to 20.0' bgs
		(18-20')									
20		(20-22')									
	570	(22-23')								Total depth of boring 23.0 ft bgs.	
25											
	565										
30											
	560										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start–Finish: 06/19/96 – 06/19/96
Drilling Company: Raymer
Driller's Name: Rich Bloom and Mike Kats
Drilling Method: Water–rotary
Auger Size: –in.
Rig Type: Ingersoll Rand TH–60
Spoon Size: –in.
Hammer Weight: –lb
Height of Fall: –in.

Borehole Depth: 23.0 ft.

Geologist: Ronald D. Kuhn

Well No. RW–3

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.32 ft.										**GROUND SURFACE**	
										Concrete slab.	
		(0–2')								Black fine foundry SAND.	18–in diameter steel riser 0.0' to 5.0' bgs
	590	(2–4')									
5		(4–6')									
	585	(6–8')									18–in diameter, 0.040–in galvanized wire wound Johnson slot screen 5.0' to 15.0' bgs
		(8–10')									
10		(10–12')								Gray fine SAND.	
	580	(12–14')									Fine to medium pea gravel 20.0' bgs up to grade
15		(14–16')									

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Remarks:
Sheens evidenced on soil cuttings throughout drilling
Black fine foundry SAND 0.5' to 10.0' bgs
Gray fine SAND 10.0' to 20.0' bgs

Water Levels

Date / Time	Elevation	Depth

Project: 48039
Script: GM–well
Date: 01/11/99

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. RW-3

Total Depth = 23.0 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')									
	575	(16-18')									18-in diameter steel sump 15.0' to 20.0' bgs
		(18-20')									
20		(20-22')								Gray SILT and CLAY.	Fine to medium pea gravel and cave-in 20.0' to 23.0'bgs
	570	(22-23')								Total depth of boring 23.0 ft bgs.	
25											
	565										
30											
	560										
35											

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Remarks:
Gray SILT and CLAY 20.0' to 23.0' bgs

Water Levels

Date / Time	Elevation	Depth

Project: 48039
Script: GM-well
Date: 01/11/99

Date Start-Finish: 06/24/96 - 06/24/96
Drilling Company: Raymer
Driller's Name: Rich Bloom and Mike Kats
Drilling Method: Water-rotary
Auger Size: -in.
Rig Type: Ingersoll Rand TH-60
Spoon Size: -in.
Hammer Weight: -lb
Height of Fall: -in.

Borehole Depth: 21.0 ft.

Geologist: Ronald D. Kuhn

Well No. RW-4

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	gs elevation 592.27 ft.									**GROUND SURFACE**	
		(0-2')								Brown fine to medium SAND.	
	590	(2-4')									
5		(4-6')									
	585	(6-8')									
		(8-10')									
10		(10-12')									
	580	(12-14')									
15		(14-16')									

18-in diameter steel riser 0.0' to 5.0' bgs

18-in diameter, 0.040-in galvanized wire wound Johnson slot screen 5.0' to 15.0' bgs

Fine to medium pea gravel 0.5' to 21.0' bgs

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Remarks:
Slight sheen observed on soil cuttings.
Brown fine to medium SAND 0.0' to 14.0' bgs
Driller indicates CLAY 14.0 to 21.0' bgs

Water Levels

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. RW-4

Total Depth = 21.0 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')								Driller indicates CLAY.	18-in diameter steel sump 15.0' to 20.0' bgs
	575	(16-18')									
		(18-20')									
20		(20-21')									
										Total depth of boring 21.0 ft bgs.	
	570										
25											
	565										
30											
	560										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 04/17/96 - 04/17/96
Drilling Company: Bierlein
Driller's Name:
Drilling Method: Trench
Auger Size: na-in.
Rig Type: CMD Backhoe
Spoon Size: -in.
Hammer Weight: -lb
Height of Fall: -in.

Borehole Depth: 15 ft.

Geologist: Ronald D. Kuhn

Well No. TP-1

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	gs elevation 592.34 ft.									**GROUND SURFACE**	
		(0-2')								Refer to log RW-1 for closest lithologic description.	2-in diameter Sch. 40 PVC riser 0.2' to 5.0' bgs
	590	(2-4')									
5		(4-6')									
	585	(6-8')									2-in diameter, 0.010-in slot screen 5.0' to 15.0' bgs
		(8-10')									
10		(10-12')									
	580	(12-14')									Fine to medium pea gravel 0.0' to 15.0' bgs
15		(14-16')									

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Remarks:
Installed during backfill of sewer excavation.

Water Levels

Date / Time	Elevation	Depth

Project: 48039
Script: GM-well
Date: 01/11/99

Date Start-Finish: 04/17/96 - 04/17/96
Drilling Company: Bierlein
Driller's Name:
Drilling Method: Trench
Auger Size: na-in.
Rig Type: CMD Backhoe
Spoon Size: -in.
Hammer Weight: -lb
Height of Fall: -in.

Borehole Depth: 15 ft.

Geologist: Ronald D. Kuhn

Well No. TP-2

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	gs elevation 592.33 ft.									GROUND SURFACE	
		(0-2')								Refer to log RW-1 for closest lithologic description.	2-in diameter Sch. 40 PVC riser 0.2' to 5.0' bgs
	590	(2-4')									
5		(4-6')									
	585	(6-8')									2-in diameter, 0.010-in slot screen 5.0' to 15.0' bgs
		(8-10')									
10		(10-12')									
	580	(12-14')									Fine to medium pea gravel 0.0' to 15.0' bgs
15		(14-16')									

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Remarks:
Installed during backfill of sewer excavation.

Water Levels

Date / Time	Elevation	Depth

Quench Pit Investigation
Well Construction and Soil Boring Logs

QPTW-1
QPTW-2
QPTW-3
QPTW-4
QPTW-5
QPTW-6
QPTW-7
QPTW-8
QPTW-9
QPTW-10
QPTW-11
QPTW-12
QPTW-13

Date Start-Finish: 3/15/97 - 3/15/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

Geologist: Gordon Hotchkiss

Well No. GPTW-01

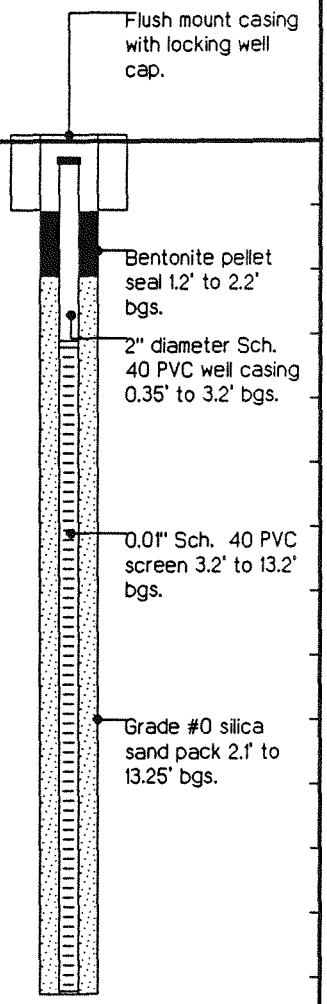
Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

gs elevation 592.3 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
										GROUND SURFACE
				NA	NA	NA	NA			Concrete.
	590	1		7 5 6 6	11	1.2	20	SP Fill		Black medium SAND, poorly graded, dry.
										Black silty CLAY.
		2		3 3 5 5	8	1.2	100	SP Fill		Brown fine Silty SAND, dry.
5		3		1 1 1 1	2	1.5	100	SP Fill		Black fine SAND, poorly graded, dry.
	585	4		2 3 3 5	6	1.8	90	SM		Gray fine SAND, trace to little Silt, saturated.
10		5		3 3 4 2	7	1.5	80	SM		Trace shell fragments.
	580	6		1 1 2 3	3	1.8	80	SM		Increased Silt and Clay content.
										Total depth of boring 13.0' bgs.
15										

Well Construction



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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 3/22/97 - 3/23/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 21.0 ft.

Geologist: Gordon Hotchkiss

Well No. GPTW-02

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.6 ft.										**GROUND SURFACE**	Flush mount casing with locking well cap.
				NA	NA	NA	NA			Concrete.	
		1		2 2 2 3	4	0.5	10.0	SP Fill		Black fine to medium SAND, poorly graded, dry.	Bentonite pellet seal 1.05' to 2.05' bgs.
	590										2" diameter Sch. 40 PVC well casing 0.25' to 3.05' bgs.
		2		3 2 3 2	5	0.5	3.0	SP Fill			
5		3		1 4 4 4	8	1.0	1.0	SP/ SM		Gray fine silty SAND sand, dry. Saturated.	0.01" Sch. 40 PVC screen 3.05' to 13.05' bgs.
	585	4		12 8 8 8	16	1.0	17.0	SM/ CL		Brown silty CLAY, trace gravel, slightly fractured.	
10		5		8 12 14 26	26	1.5	9.0	CL		Very stiff to hard.	Grade #0 silica sand pack 1.3' to 13.1' bgs.
	580	6		4 10 19 23	29	1.8	60	CL			
		7		3 12 18 21	30	1.8	20	CL			Backfilled 12.8' to 21.0' bgs with bentonite chips.
15											

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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property
Quench Pit Investigation

Client:
General Motors Corporation

Well No. GPTW-02

Total Depth = 21.0 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		8		14 12 17 19	29	2.0	110	CL		Gray silt in fractures from 15.0' to 21.0' bgs.	Backfilled 12.8' to 21.0' bgs with bentonite chips.
	575	9		6 8 12 13	20	2.0	120	CL			
20		10		7 8 10 11	18	1.5	140	CL			
										Total depth of boring 21.0' bgs.	
	570										
25											
	565										
30											
	560										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 3/15/97 - 3/15/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

Geologist: Gordon Hotchkiss

Well No. GPTW-03

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	gs elevation 5925 ft.									GROUND SURFACE	Flush mount casing with locking well cap.
										Concrete.	
	590							SP Fill		Light brown fine to medium SAND, poorly graded, dry.	Bentonite pellet seal 1.12' to 2.12' bgs.
5								SP Fill			2" diameter Sch. 40 PVC well casing 0.37' to 3.12' bgs.
								SP Fill		Dark brown fine to medium SAND, slight petroleum odor, moist.	
	585							SP Fill		Saturated, strong petroleum odor.	0.01" Sch. 40 PVC screen 3.12' to 13.12' bgs.
10								SP Fill			Grade #0 silica sand pack 2.12' to 13.17' bgs.
	580							SP Fill			
										Total depth of boring 13.0' bgs.	
15											

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Remarks:
NA - Not Applicable.
Could not mobilize/manuever rig to the selected location.
Therefore, a hand auger was used to extend the borehole.

Water Levels

Date / Time	Elevation	Depth

Project: 276.14
Script: GM-well
Date: 01/11/99

Date Start-Finish: 3/16/97 - 3/16/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

Geologist: Gordon Hotchkiss

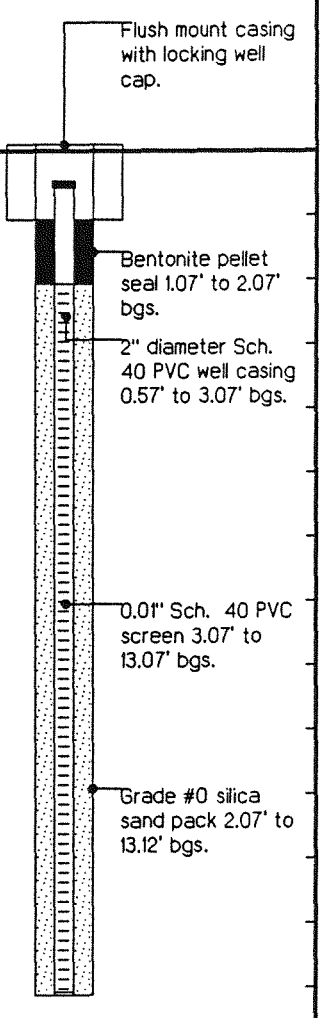
Well No. GPTW-04

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
gs elevation 592.3 ft.										GROUND SURFACE
				NA	NA	NA	NA			Concrete.
	590			NA	NA	NA	NA	SW Fill		Black medium SAND and slag, dry.
		1		1 1 2 2	3	1.0	2.0	SW Fill		
5		2		2 3 4 4	7	2.0	7.0	SW Fill/ SP		Black fine SAND, trace silt, poorly graded, dry.
	585	3		2 1 2 3	3	1.5	13.0	SP		Gray silty SAND, poorly graded, saturated, hydrocarbon odor.
10		4		2 1 2 2	3	1.8	2.0	SM		Trace shell frements.
	580	5		3 2 1 1	2	1.5	2.0	SM		Increasing clay content.
15										Total depth of boring 13.0' bgs.

Well Construction



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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 3/16/97 - 3/16/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

Geologist: Gordon Hotchkiss

Well No. GPTW-05

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.4 ft.										GROUND SURFACE	Flush mount casing with locking well cap.
				NA	NA	NA	NA			Concrete.	
	590	1		1 3 4 5	7	1.5	NA	SW Fill		Black SAND, little Silt, Clay and slag, well graded, dry.	Bentonite pellet seal 0.97' to 1.97' bgs.
		2		3 3 3 3	6	1.8	NA	SW Fill			2" diameter Sch. 40 PVC well casing 0.27' to 2.97' bgs.
5		3		NA	NA	1.8	NA	SW Fill/ SP			
	585	4		2 2 3 4	5	0.8	NA	SP		Black fine SAND, poorly graded, dry. Moist with hydrocarbon odor.	0.01" Sch. 40 PVC screen 2.97' to 12.97' bgs.
10		5		2 3 4 4	7	1.5	NA	SM		Grey fine to medium SAND, trace to little Silt, and shell fragments.	Grade #0 silica sand pack 1.97' to 13.02' bgs.
	580	6		1 1 1 2	2	1.0	NA	SM		1-2" layers of silty Sand and sandy Silt.	
										Total depth of boring 13.0' bgs.	
15											

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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Project: 276.14
Script: GM-well
Date: 01/11/99

Date Start-Finish: 3/31/97 - 3/31/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 21.0 ft.

Geologist: Gordon Hotchkiss

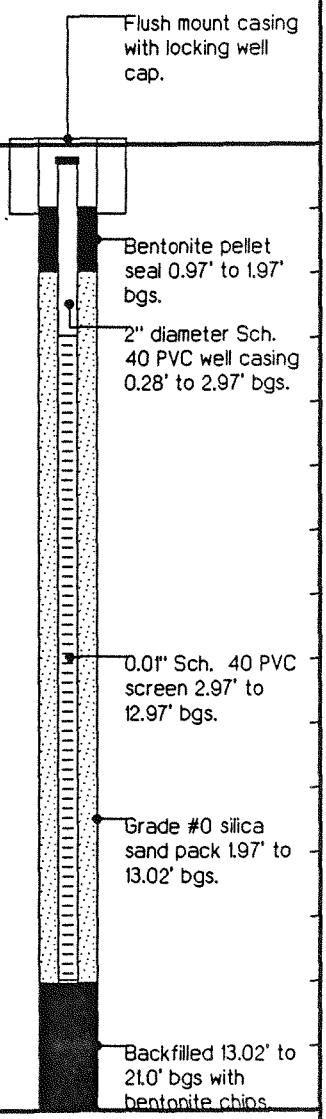
Well No. GPTW-08

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
gs elevation 592.4 ft.									**GROUND SURFACE**
			NA	NA	NA	NA			Concrete.
590	1		3 9 6 6	15	1.0	8	SP Fill		Brown fine to medium SAND, dry, some metal shavings and brick fragments.
	2		2 4 4 6	8	1.0	<1	SW Fill		
5	3		5 3 2 4	5	0.5	<1	SW Fill		2" piece of concrete.
585	4		3 4 3 3	7	1.0	<1	SM		Brown to gray silty SAND, little Clay, poorly graded, saturated.
10	5		2 2 1 2	3	1.5	3	SP/ SC		Gray fine to medium SAND, trace Silt, saturated.
									Dark gray clayey SAND.
									Grades to gray.
580	6		1 1 1 1	2	1.5	3	SC/ CL		Gray silty CLAY, moist, some shell fragments.
15	7		1/2 1/2 1 1	1.5	1.5	<1	CL/ SC		Gray clayey SAND, saturated.

Well Construction



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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property
Quench Pit Investigation

Client:
General Motors Corporation

Well No. GPTW-08

Total Depth = 21.0 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		8		2 2 4 5	6	1.0	3	CL		Gray silty CLAY, little Sand, trace wood and organics, dry to moist.	
	575	9		2 3 3 4	6	1.2	4	CL		Dry.	Backfilled 13.02' to 21.0' bgs with bentonite chips.
20		10		4 5 6 9	11	1.0	4	CL			
										Total depth of boring 21.0' bgs.	
	570										
25											
	565										
30											
	560										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 3/22/97 - 3/22/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 21.0 ft.

Geologist: Gordon Hotchkiss

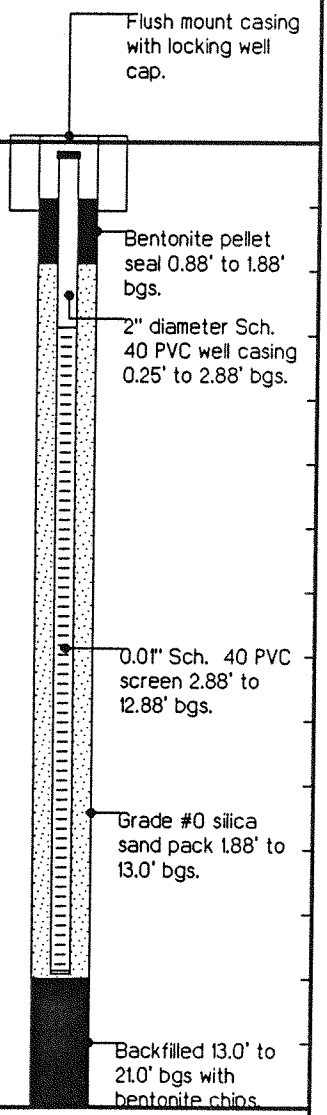
Well No. GPTW-07

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
gs elevation 592.3 ft.										GROUND SURFACE
				NA	NA	NA	NA			Concrete.
	590	1		3 4 4 4	8	1.5	4.0	SP Fill		Black fine to medium SAND, dry, poorly sorted. Black and gray glass and slag.
		2		7 10 5 3	15	1.5	9.0	SP Fill		Alternating horizons (3-4") of black to brown fine to medium SAND, dry.
5		3		2 3 3 2	6	2.0	17.0	SP Fill		Black fine clayey SAND, little Silt, moist.
	585	4		3 2 3 4	5	1.8	8.0	SP/ SM		Black to brown fine to medium SAND, dry. Light gray fine SAND, trace to little Silt, shell fragments, saturated.
10		5		2 2 3 2	5	1.5	8.0	SM		Light gray Silty SAND, saturated.
	580	6		0 0 1 1	1	1.8	11.0	SM		Dark gray.
15		7		0 0 0 1	0	2.0	8.0	SM/ CL		Gray silty CLAY, high plasticity, trace shell fragments, dry to moist.

Well Construction



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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property
Quench Pit Investigation

Client:
General Motors Corporation

Well No. GPTW-07

Total Depth = 21.0 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		8		0 0 1 1	1	2.0	3.0	CL			
	575	9		0 1 1 1	2	2.0	5.0	CL			Backfilled 13.0' to 21.0' bgs with bentonite chips.
20		10		1 2 2 3	4	1.0	< 1.0	SC		Gray clayey SAND, saturated.	
	570									Total depth of boring 21.0' bgs.	
25											
	565										
30											
	560										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Project: 276.14

Script: GM-well
Date: 01/11/99

Date Start-Finish: 3/23/97 - 3/23/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 21 ft.

Geologist: Gordon Hotchkiss

Well No. GPTW-08

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.5 ft.										GROUND SURFACE	Flush mount casing with locking well cap.
				NA	NA	NA	NA			Concrete.	
	590	1		NA	NA	NA	NA				Bentonite pellet seal 0.53' to 1.53' bgs.
		2		1 2 2 2	4	1.2	60	CL		Black and brown sandy Clay, Gravel, and slag, dry.	2" diameter Sch. 40 PVC well casing 0.22' to 2.53' bgs.
5		3		2 3 4 7	7	1.8	130	CL			
	585	4		1 2 2 5	4	1.5	110	SP		Black fine to medium SAND, poorly graded, moist. Gray, trace to little Silt, saturated.	0.01" Sch. 40 PVC screen 3.02' to 13.02' bgs.
10		5		2 5 5 9	10	1.2	100	SP		Trace shell fragments.	Grade #0 silica sand pack 1.53' to 13.07' bgs.
	580	6		NA	NA	1.5	5.0	SP			
15		7		2 3 1 2	4	1.0	40.0	SP			Backfilled 13.07' to 21.0' bgs with native materials.

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engineers & scientists

Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Site:
Malleable Iron Plant Property
Quench Pit Investigation

Client:
General Motors Corporation

Well No. GPTW-08

Total Depth = 21 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
		8		NA	NA	1.5	120.0	SP			
	575	9		NA	NA	1.0	80.0	SP			Backfilled 13.07' to 21.0' bgs with native materials.
20		10		NA	NA	1.0	40.0	SP		0.25" Silt seam.	
										Total depth of boring 21.0' bgs.	
	570										
25											
	565										
30											
	560										
35											

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Remarks:

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 3/23/97 - 3/23/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

Geologist: Gordon Hotchkiss

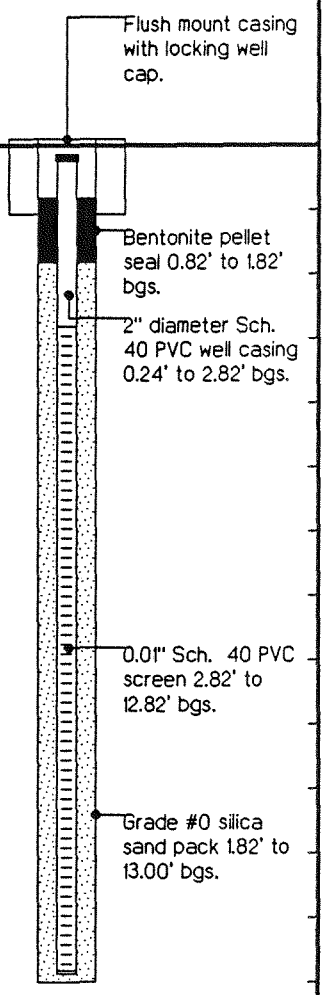
Well No. GPTW-09

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
gs elevation 592.7 ft.										GROUND SURFACE
				NA	NA	NA	NA			Concrete.
	590			NA	NA	NA	NA			Sand backfill.
5		1		2 2 3 5	5	1.8	13	SW		Black fine to medium SAND, some Clay, dry.
	585	2		4 6 2 8	13	1.0	6	SP		Gray to black fine to medium SAND, poorly graded, hydrocarbon odor.
10		3		3 3 3 3	6	1.8	3	SP		3" seam of black sandy Clay. 3" seam of black sandy Clay.
		4		1 1 1 1	2	1.8	4	SP/CL		
	580									Dark gray silty Clay.
15										Total depth of boring 13.0' bgs.

Well Construction



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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 3/28/97 - 3/28/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 15.0 ft.

Geologist: Gordon Hotchkiss

Well No. GPTW-10

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.4 ft.										GROUND SURFACE	Flush mount casing with locking well cap.
				NA	NA	NA	NA			Concrete.	
	590	1		2 3 2 1	5	0.5	2.0	SP Fill		Black fine SAND, dry, poorly graded, trace Silt.	Bentonite pellet seal 0.85' to 1.85' bgs.
		2		NA	NA	1.2	9.0	CL		Brownish black silty CLAY, dry, non-plastic, thin laminations.	2" diameter Sch. 40 PVC well casing 0.25' to 2.85' bgs.
5		3		1 1 2 1	3	1.0	10.0	CL/ SP		Black fine SAND, trace Silt, petroleum staining.	
	585	4		1 2 3 6	5	1.5	5.0	SP		Gray fine to medium SAND, poorly graded, trace Silt, saturated.	0.01" Sch. 40 PVC screen 2.85' to 12.85' bgs.
10		5		2 3 3 6	6	1.2	8.0	SP			Grade #0 silica sand pack 1.85' to 13.0' bgs.
	580	6		3 3 2 2	5	2.0	50.0	SM		Increased Silt, Clay and shell fragments.	
15		7		1/2 1/2 1/2 1/2	1	1.0	13.0	SM			Backfilled 13.0' to 15.0' bgs with native materials.

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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Project: 276.14
Script: GM-well
Date: 01/11/99

Date Start-Finish: 04/05/97 - 04/05/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

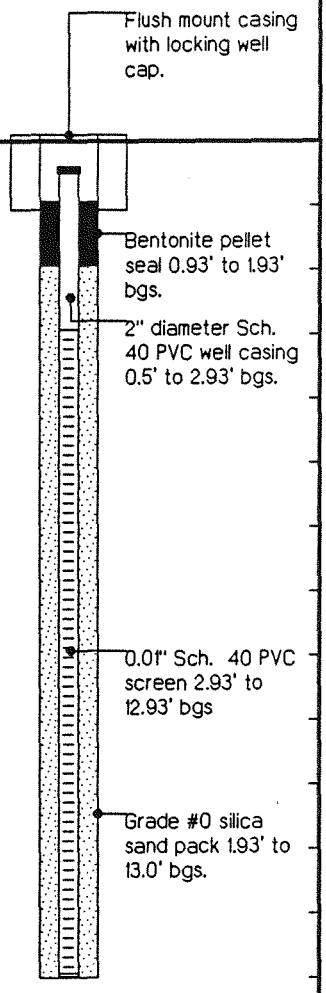
Geologist: Gordon Hotchkiss

Well No. GPTW-11

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
	gs elevation 592.8 ft.									GROUND SURFACE
				NA	NA	NA	NA			Concrete.
	590	1		2 3 2 2	5	1.0	50	CL		Black silty CLAY, non-plastic, dry, thin laminations.
		2		3 3 4 5	7	1.0	17	CL		Seam of brownish black medium Sand.
5		3		2 2 3 4	5	1.3	7.0	CL		Thin Gravel layer.
	585	4		4 3 3 2	6	1.3	30	CL/ SP		Black medium Sand, moist, poorly graded.
10		5		2 3 4 5	7	1.0	20	SP		Dark gray fine to medium Sand, trace Silt, saturated.
		6		4 5 5 5	10	1.5	30	SM		Light gray fine silty Sand, poorly graded, saturated.
	580									Total depth of boring 13.0' bgs.
15										



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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Project: 276.14
Script: GM-well
Date: 01/11/99

Date Start–Finish: 04/05/97 – 04/05/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

Geologist: Gordon Hotchkiss

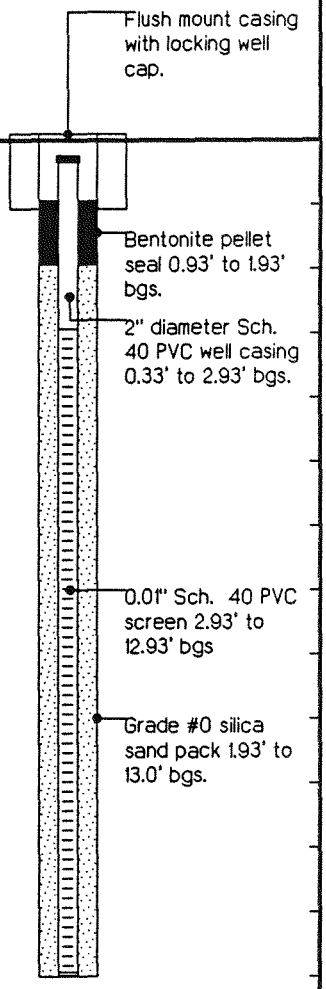
Well No. GPTW-12

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
	gs elevation 592.5 ft.									GROUND SURFACE
				NA		NA	NA	NA		Concrete.
	590	1		5 6 3 3	9	1.2	7.0	SC Fill		Brown to black fine Sand, Silt, and Clay, trace brick fragments, dry.
		2		3 3 3 2	6	1.2	3.0	CL		Black silty Clay, nonplastic, dry, thin laminations.
5		3		3 2 3 3	5	0.0	NA	NA		No recovery.
	585	4		4 5 5 4	10	1.0	20	SM		Dark gray fine Sand, trace to little Silt, poorly graded, saturated.
10		5		2 2 2 2	4	1.2	4.0	SM		Increasing Clay content.
	580	6		2 2 1 1	3	1.5	1.0	SM/ CL		Dark gray silty Clay, highly plastic, moist.
15										Total depth of boring 13.0' bgs.

Well Construction



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Remarks:
NA – Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Date Start-Finish: 04/05/97 - 04/05/97
Drilling Company: Carlo Environmental Tech.
Driller's Name: Paul Libby
Drilling Method: Hollow Stem Auger
Auger Size: 4 1/4-in.
Rig Type: Skid Mounted
Spoon Size: 2-in.
Hammer Weight: 140-lb
Height of Fall: 30-in.

Borehole Depth: 13.0 ft.

Geologist: Gordon Hotchkiss

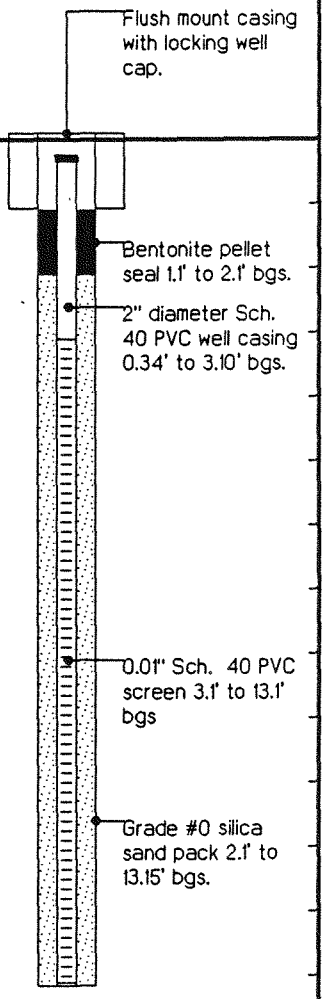
Well No. GPTW-13

Client:
General Motors Corporation

Site:
Malleable Iron Plant Property
Quench Pit Investigation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description
gs elevation 592.7 ft.										GROUND SURFACE
						NA	NA			Concrete.
						NA	NA			
	590	1				1.5	4.0	CL		Black silty CLAY, nonplastic, thin laminations, dry.
5		2				2.0	17	CL		Interbedded with sandy CLAY.
	585	3				1.5	7.0	SC		Increasing Sand and hydrocarbon odors and staining.
10		4				1.5	13	SM		Light gray fine to medium Sand, trace Silt and shell fragments, saturated.
	580	5				2.0	12	SM		Light gray silty Sand, poorly graded, saturated.
15										Total depth of boring 13.0' bgs.

Well Construction



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Remarks:
NA - Not Applicable.

Water Levels

Date / Time	Elevation	Depth

Project: 276.14
Script: GM-well
Date: 01/11/99

Appendix B
Geophysical Borehole Logs

Date Start/Finish: 05/19/95 / 05/19/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: 8.25 in.
Rig Type: CME 850 ATV
Spoon Size: in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 13.4 ft.
Ground Surface: ft.

Geologist: Ronald D. Kuhn

Log Number: B-2R

Client:
General Moters Coprporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
0										GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed.
											Concrete pad ground surface to 1.0' bgs
											Bentonite seal 1.0' to 2.0' bgs
											2-in diameter Sch. 40 PVC well casing 2.5' ags to 3.0' bgs
5	-5										Grade #5 silica sand pack 2.0' to 13.4' bgs
10	-10										0.01" diameter Sch. 40 PVC screen 3.0' to 13.0' bgs
15	-15										2-in diameter Sch. 40 PVC sump 13.0' to 13.4' bgs

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Remarks:
Soil descriptions from 0.0' to 30.0' bgs are given on boring log B-2 by Residuals Management Technology, Inc. on November 28, 1979.

Saturated Zones

Date / Time	Elevation	Depth
		N/A
		N/A
		N/A

Date Start/Finish: 05/30/95 / 05/30/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing: 13227780.1380
Easting: 691312.9822
Well Casing: 596.54 ft.
Corehole Depth: N/A ft.
Borehole Depth: 32 ft.
Ground Surface: 594.02 ft.

Geologist: Ronald D. Kuhn

Log Number: B-3B (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In:	N	Recovery (ft.)	Headspace
gs elevation 594.02 ft.							
0		(0-2')		1 2 2 2	4	1.7	3.4
		(2-4')		5 10 14 17	24	1.5	7.6
	590						
5		(4-6')		4 2 2 6	4	1.4	3.6
		(6-8')		3 4 5 5	9	0.8	4.2
	585	(8-10')		7 10 4 4	14	1.0	48.9
10		(10-12')		1 3 2 2	5	1.5	28.2
		(12-14')		1 1 1 1	2	1.0	3.4
	580						
15		(14-16')		1 2	4	0.5	16.3

Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

GROUND SURFACE

Black fine to medium SAND, trace slag, moist.

Orange fine to medium SAND, some Silt, slightly cohesive, moist.

Trace black, green and red glass.

Black SILT, soft, wet.

Well Construction

- 4-in diameter steel protective casing 2.0' ags, locking well cap installed
- 10-in diameter Sch. 40 PVC surface seal casing ground surface to 16.0' bgs
- Type I portland cement/5% bentonite grout 1.0' to 18.0' bgs
- 2-in diameter Sch. 40 PVC casing 1.8' ags to 22.2' bgs

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Remarks:
Soil descriptions from 0-18' bgs were taken from boring log B-3 (Aug). Apparent Conductivity graph is off-scale from 3.2 to 7.9 feet.

Saturated Zones

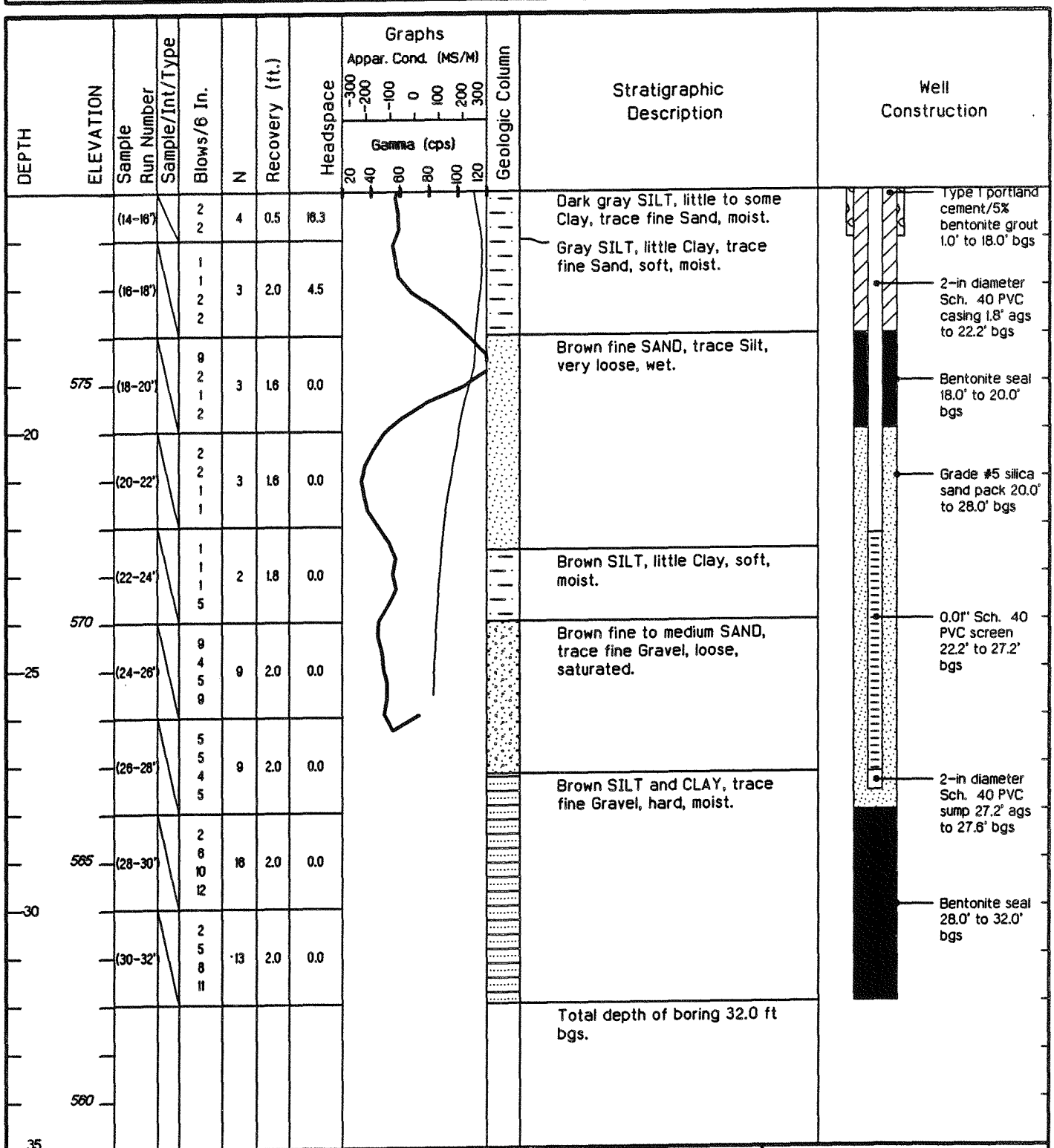
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. B-3B (Aug)

Total Depth = 32 ft.

Client:
General Motors Corporation



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na ▼
		na ▼
		na ▽

Date Start/Finish: 05/23/95 / 05/31/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing: 13229337.1140
Easting: 692488.6879
Well Casing: 609.28 ft.
Corehole Depth: N/A ft.
Borehole Depth: 76 ft.
Ground Surface: 606.96 ft.

Geologist: Ron D. Kuhn

Log Number: B-40 (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 606.96 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed
		(0-2')		3 4 3 6	7	1.8	0.0			Dark brown to black fine SAND, little Silt, trace organic material, grass roots, loose, damp.	Concrete pad ground surface to 2.0' bgs
	605	(2-4')		2 7 12 12	19	1.8	0.6			Trace fine to medium Gravel and brick material, medium dense, damp.	
5		(4-6')		4 7 18 16	25	1.8	17.0			Black fine to medium SAND, little Silt, trace fine Gravel, medium dense, damp.	10-in diameter Sch. 40 PVC surface seal casing ground surface to 32.0' bgs
	600	(6-8')		2 5 5 3	10	2.0	34.3			Medium Gravel-size porous glass-like material.	
		(8-10')		2 4 3 3	7	1.6	19.1			Brown fine to medium SAND, trace Silt and fine Gravel, loose, moist.	Type I Portland cement/5% bentonite grout 2.0' to 60.0' bgs
10		(10-12')		1 2 21 11	23	1.8	4.7			Black fine to medium SAND, little cinders and glass-like fragments, medium dense, damp.	
	595	(12-14')		5 9 4 3	13	1.8	3.5			Brown/orange/black fine to medium SAND, little Silt, medium dense, damp.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 64.5' bgs
15		(14-16')		9 4	7	1.8	2.4			Brown to black fine to medium SAND, little Silt, loose, damp.	

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Remarks:

Saturated Zones

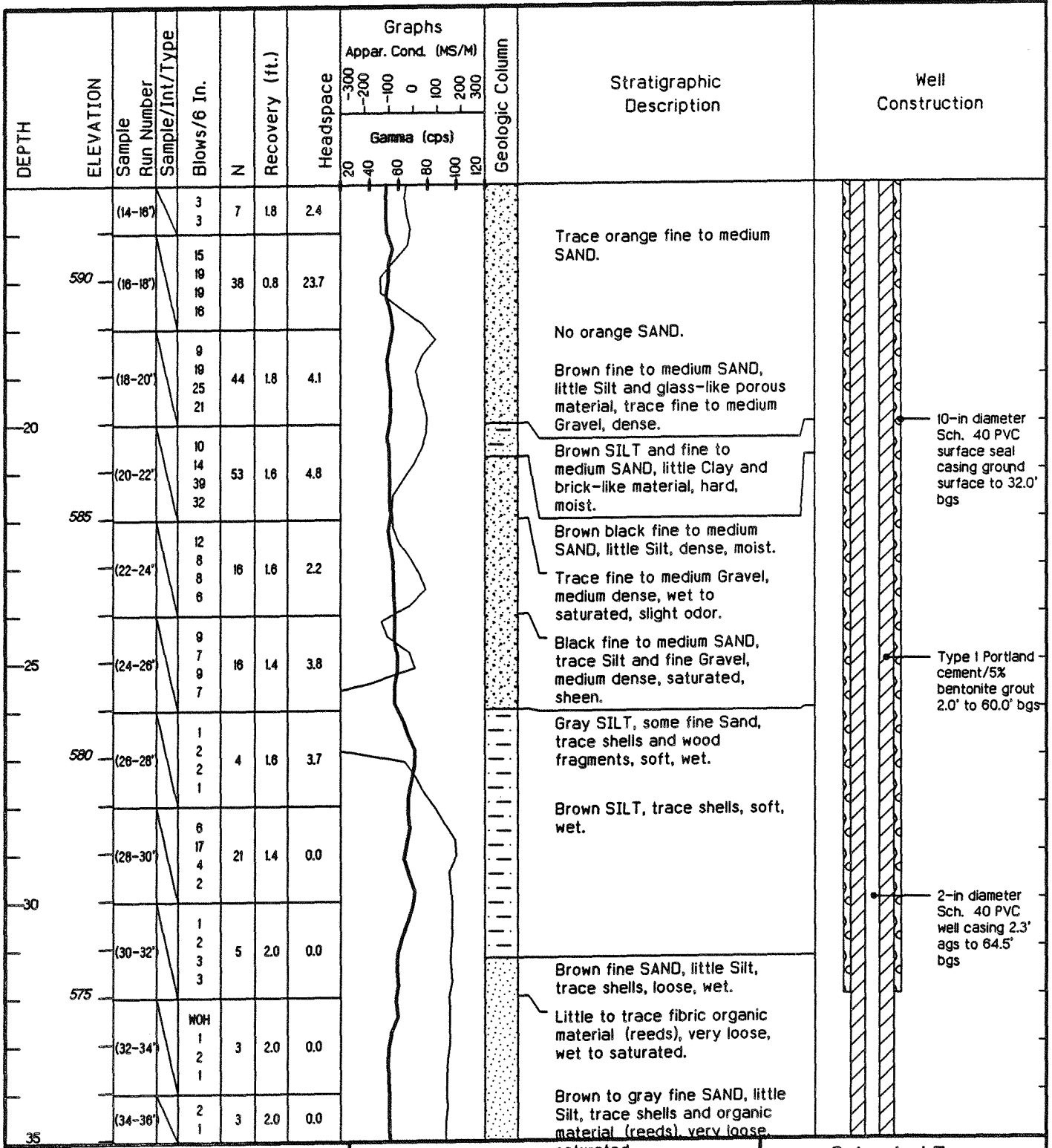
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-4D (Aug)

Total Depth = 78 ft.



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Remarks:

Apparent Conductivity graph is off-scale from 25.7 to 26.9 feet. WOH - Weight of Hammer.

Saturated Zones

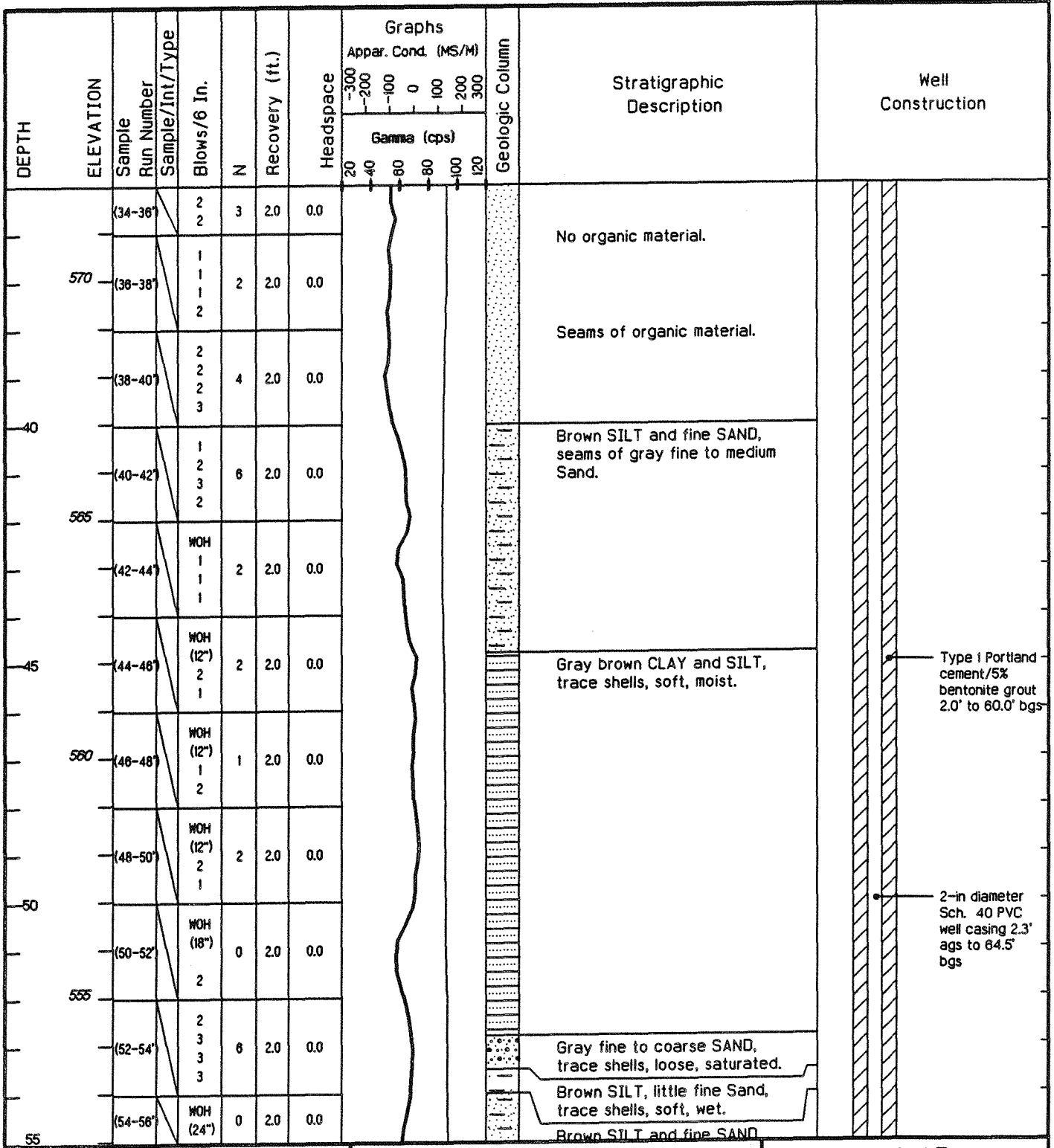
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. B-4D (Aug)

Total Depth = 78 ft.

Client:
General Motors Corporation



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-4D (Aug)

Total Depth = 78 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		WOH (24")	0	2.0	0.0			wet.	Type I Portland cement/5% bentonite grout 2.0' to 60.0' bgs
	550	(56-58')		1 2 1 1	3	2.0	0.0			Brown fine SAND, little Silt, loose, saturated.	
		(58-60')		WOH (24")	0	2.0	0.0			Some to little Silt.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 64.5' bgs
60		(60-62')		WOH 3 3 3	6	1.4	0.0			Little to trace Silt, loose, saturated.	
	545	(62-64')		4 3 2 3	5	2.0	0.0				Bentonite seal 60.0' to 62.5' bgs
65		(64-66')		3 6 8 8	14	2.0	0.0			Some to little Silt.	Grade #5 silica sand pack 62.5' to 70.5' bgs
	540	(66-68')		5 8 8 8	16	2.0	0.0			Little Silt.	0.01" Sch. 40 PVC screen 64.5' to 69.5' bgs
		(68-70')		5 10 5 5	15	2.0	0.0				
70		(70-72')		WOH 1 1 3	2	2.0	0.0			Gray brown CLAY and SILT, very soft, high plasticity, wet.	2-in diameter Sch. 40 PVC sump 69.5' to 69.9' bgs
	535	(72-74')		WOH 1 3 4	4	2.0	0.0				Bentonite seal 70.5' to 74.0' bgs
75		(74-76')		WOH (12")	2	2.0	0.0				

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. B-4D (Aug)

Total Depth = 78 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(74-76')		2 3	2	2.0	0.0			Gray brown CLAY and SILT, very soft, high plasticity, wet.	Bentonite seal 70.5' to 74.0' bgs
										Total depth of boring 76.0 ft. bgs	
	530										
80											
	525										
85											
	520										
90											
	515										
95											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na ▼
		na ▽
		na ▽

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 01/23/95 / 01/23/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing: 13228902.0023
Easting: 693261.7392
Well Casing: 594.23 ft.
Corehole Depth: N/A ft.
Borehole Depth: 48 ft.
Ground Surface: 592.00 ft.

Geologist: Jim Saxton

Log Number: B-5C (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.00 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
		(0-2')		3 4 9 10	13	2.0	7.7			Black fine to medium SAND, moist.	Concrete pad ground surface to 2.0' bgs
	590	(2-4')		3 6 3 4	9	1.5	13.7			Brown to gray SILT, trace Clay and fine Sand, mottled, moist.	
5		(4-6')		2 3 3 4	6	1.6	2.9				Type I Portland cement/5% bentonite grout 2.0' to 38.5' bgs
	585	(6-8')		1 2 3 2	5	1.3	1.6			Black and orange fine to medium SAND, moist. Wet.	
		(8-10')		1 1 (12") 1	1	1.5	2.4				
10		(10-12')		WOH (12") 1 1	1	1.3	7.3				2-in diameter Sch. 40 PVC well casing 1.8' ags to 42.5' bgs
	580	(12-14')		WOH 1 2 1	3	1.6	3.5			Gray fine to medium SAND, wet. Brown SILT, little Peat, wet.	
15		(14-16')		WOH 1	1	0.8	2.3				

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Remarks:
Soil descriptions taken from boring log B-5B (Aug). WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-5C (Aug)

Total Depth = 48 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')		(12") 1	1	0.8	2.3			Brown SILT, mottled, some Clay, trace fine Sand, wet.	
	575	(16-18')		1 (12") 1 1	2	1.6	0.2				
		(18-20')		WOH (18") 1	0	1.7	0.0				
20		(20-22')		WOH (18") 1	0	2.0	0.2				Type I Portland cement/5% bentonite grout 2.0' to 38.5' bgs
	570	(22-24')		WOH (18") 1	0	2.0	0.6				
25		(24-26')		WOH (12") 1 1	1	1.8	0.0				2-in diameter Sch. 40 PVC well casing 1.8' ags to 42.5' bgs
	565	(26-28')		WOH (18") 1	0	2.0	0.0				
		(28-30')		WOH (12") 1 1	1	2.0	0.0				
30		(30-32')		WOH (12") 2 1	2	2.0	0.0				
	560	(32-34')		1 2 3 2	5	0.6	0.4			Gray fine to medium SAND, wet.	
35		(34-36')		WOH 1	2	1.0	0.6			Gray medium to coarse SAND, trace fine Sand, wet.	

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Remarks:
Soil descriptions taken from boring log B-5B (Aug). WOH = Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. B-5C (Aug)

Total Depth = 48 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
		(34-36')		1 2	2	1.0	0.6
	555	(36-38')		1 1 2 3	3	1.5	0.8
		(38-40')		1 (12") 4 5	5	1.5	1.1
40		(40-42')		1 4 7 8	11	1.0	1.1
	550	(42-44')		WOH 3 6 11	9	1.1	1.2
45		(44-46')		3 13 11 9	24	1.0	0.6
	545	(46-48')		4 8 22 12	30	1.5	1.3
50							
	540						
55							

Graphs
Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300
Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

- Gray medium to coarse SAND, trace fine Sand, wet.
- Gray fine to medium SAND, trace coarse Sand, wet.
- Gray coarse SAND, trace medium Sand, wet.
- Gray fine to medium SAND, little medium Gravel, wet.
- Total depth of boring 48.0 ft bgs.

Well Construction

- Type I Portland cement/5% bentonite grout 2.0' to 38.5' bgs
- 2-in diameter Sch. 40 PVC well casing 1.8' ags to 42.5' bgs
- Bentonite seal 38.5' to 40.5' bgs
- Grade #5 silica sand pack 40.5' to 48.0' bgs
- 0.01" Sch. 40 PVC screen 42.5' to 47.5' bgs
- 2-in diameter Sch. 40 PVC sump 47.5' to 47.9' bgs

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Remarks:
Soil descriptions taken from boring log B-5B (Aug). WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 05/25/95 / 05/25/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing: 13228717.7946
Easting: 692965.7022
Well Casing: 595.06 ft.
Corehole Depth: N/A ft.
Borehole Depth: 60 ft.
Ground Surface: 592.20 ft.

Geologist: Ronald D. Kuhn

Log Number: B-6D (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.20 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
0		(0-2')		3 5 7 8	12	2.0	2.0			Black and orange fine to medium SAND, some iron concretions, trace fine to medium Gravel, medium dense.	Concrete pad ground surface to 2.0' bgs
	590	(2-4')		4 14 19 15	33	2.0	6.9				
5		(4-6')		9 11 25 4	40	2.0	37.2			Wet.	Type I Portland cement/5% bentonite grout 2.0' to 40.5' bgs
	585	(6-8')		1 2 1 3	3	1.5	1.0			Brown CLAY and SILT, some medium to coarse Sand, trace fine Gravel, soft.	
		(8-10')		2 4 2 3	6	1.2	3.2			Black fine to medium SAND, loose.	
10		(10-12')		1 2 3 2	5	1.2	2.1				2-in diameter Sch. 40 PVC well casing 1.8' ags to 44.5' bgs
	580	(12-14')		1 2 2 1	4	1.1	1.5			Gray fine SAND, some Silt, trace Clay and shells, loose, wet.	
15		(14-16')		WOH 1	2	1.3	0.5			Gray SILT, some Clay, soft.	

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Remarks:
Soil descriptions from 0.0 to 36.0' bgs were taken from boring log B-6C (Aug). Apparent Conductivity graph is off-scale from 2.1 to 4.2 feet. WOH - Weight of Hammer.

Saturated Zones

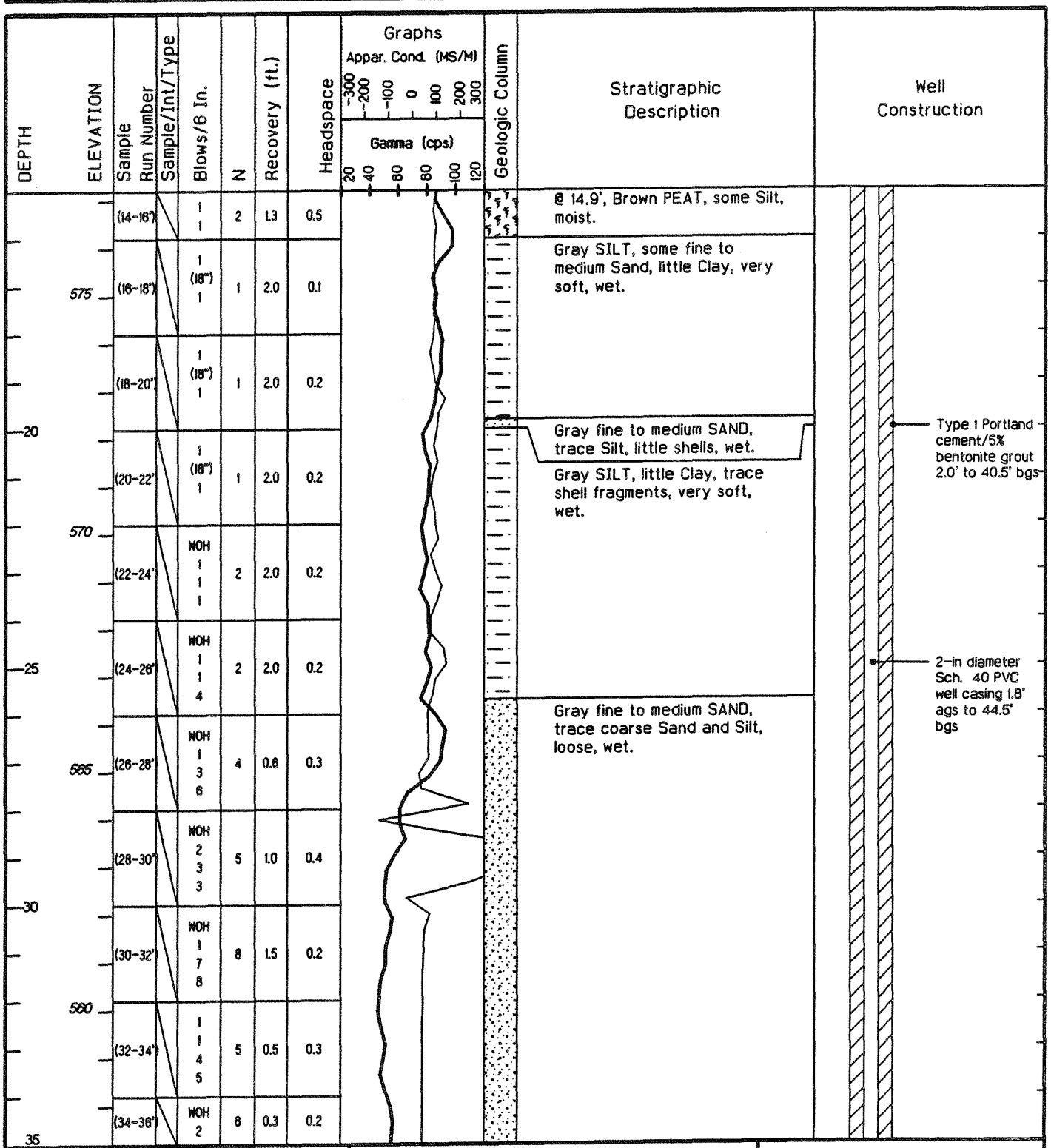
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-6D (Aug)

Total Depth = 60 ft.



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Remarks:

Soil descriptions from 0.0 to 36.0' bgs were taken from boring log B-6C (Aug). Apparent Conductivity graph is off-scale from 28.6 to 29.4 feet. WOH = Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-6D (Aug)

Total Depth = 60 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
1		(34-36')		4 7	6	0.3	0.2
	555	(36-38')		6 4 7 4	11	1.6	0.5
		(38-40')		2 1 1 3	2	1.6	0.0
40		(40-42')		7 13 15 28	28	1.6	0.0
	550	(42-44')		0 2 3 7	5	1.8	0.0
45		(44-46')		6 4 6 7	10	1.8	0.0
	545	(46-48')		18 8 5 4	13	1.8	0.0
		(48-50')		11 4 3 4	7	1.8	0.0
50		(50-52')		1 1 1 2	2	1.6	0.0
	540	(52-54')		WOH (18") 3	0	2.0	0.0
55		(54-56')		WOH (12")	1	2.0	0.0

Graphs
Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300
Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

- Gray fine to medium SAND, trace coarse Sand and Silt, loose, wet.
- Gray fine to coarse SAND, trace Silt and shells, loose, saturated.
- Gray fine to medium SAND, trace coarse Sand and Silt, medium dense, saturated.
- Trace fine Gravel.
- Gray fine to coarse SAND, little fine Gravel, trace Silt, loose, saturated.
- Gray fine to coarse SAND and fine to medium GRAVEL, medium dense, saturated.
- Gray fine to coarse SAND, little fine Gravel, loose, saturated.
- Gray CLAY and SILT, trace fine Gravel, medium stiff, moist.
- Gray CLAY, very soft, wet, high plasticity.

Well Construction

- Type I Portland cement/5% bentonite grout 2.0' to 40.5' bgs
- 2-in diameter Sch. 40 PVC well casing 1.8' ags to 44.5' bgs
- Bentonite seal 40.5' to 42.5' bgs
- Grade 5 silica sand pack 42.5' to 51.0' bgs
- 0.01" Sch. 40 PVC screen 44.5' to 49.5' bgs
- 2-in diameter Sch. 40 PVC sump 49.5' to 49.9' bgs
- Bentonite seal 40.5' to 42.5' bgs

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Remarks:
Soil descriptions from 0.0 to 36.0' bgs were taken from boring log B-6C (Aug). WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. B-60 (Aug)

Total Depth = 60 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		1 3	1	2.0	0.0			Gray CLAY, very soft, wet, high plasticity.	
	535	(56-58')		WOH (12") 3 3	3	2.0	0.0				Bentonite seal 40.5' to 42.5' bgs
		(58-60')		WOH (12") 2 3	2	2.0	0.0				
60										Total depth of boring 60.0 ft bgs.	
	530										
65											
	525										
70											
	520										
75											

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 06/08/95 / 06/08/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: 591.31 ft.
Corehole Depth: N/A ft.
Borehole Depth: 58 ft.
Ground Surface: 589.80 ft.

Geologist: Ronald D. Kuhn

Log Number: B-7C (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 589.80 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 Gamma (cps) 20 40 60 80 100 120		**GROUND SURFACE** Soil descriptions from 0.0' to 32.0' are given on boring log B-7 by Residuals Management Technology, Inc. on November 28, 1979.	4-in diameter steel protective casing 2.0' ags, locking cap installed. Concrete pad ground surface to 2.0' bgs Type I Portland cement/5% bentonite grout 2.0' to 39.8' bgs 2-in diameter Sch. 40 PVC well casing 1.8' ags to 44.3' bgs 10-in diameter Sch. 40 PVC surface seal casing ground surface to 33.0' bgs
0	590										
5	585										
10	580										
15	575										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-7C (Aug)

Total Depth = 58 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
										Soil descriptions from 0.0' to 32.0' are given on boring log B-7 by Residuals Management Technology, Inc. on November 28, 1979.	Type I Portland cement/5% bentonite grout 2.0' to 39.8' bgs; 2-in diameter Sch. 40 PVC well casing 1.8' ags to 44.3' bgs; 10-in diameter Sch. 40 PVC surface seal casing ground surface to 33.0' bgs
20	570										
25	565										
30	560										
		(32-34')		10 20 9 7	29	0.6	6.5			Dark gray CLAY and SILT, trace fine Sand and shells, very soft, wet.	
35	555	(34-36')		3 4	7	1.0	5.1				

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Remarks:

Saturated Zones

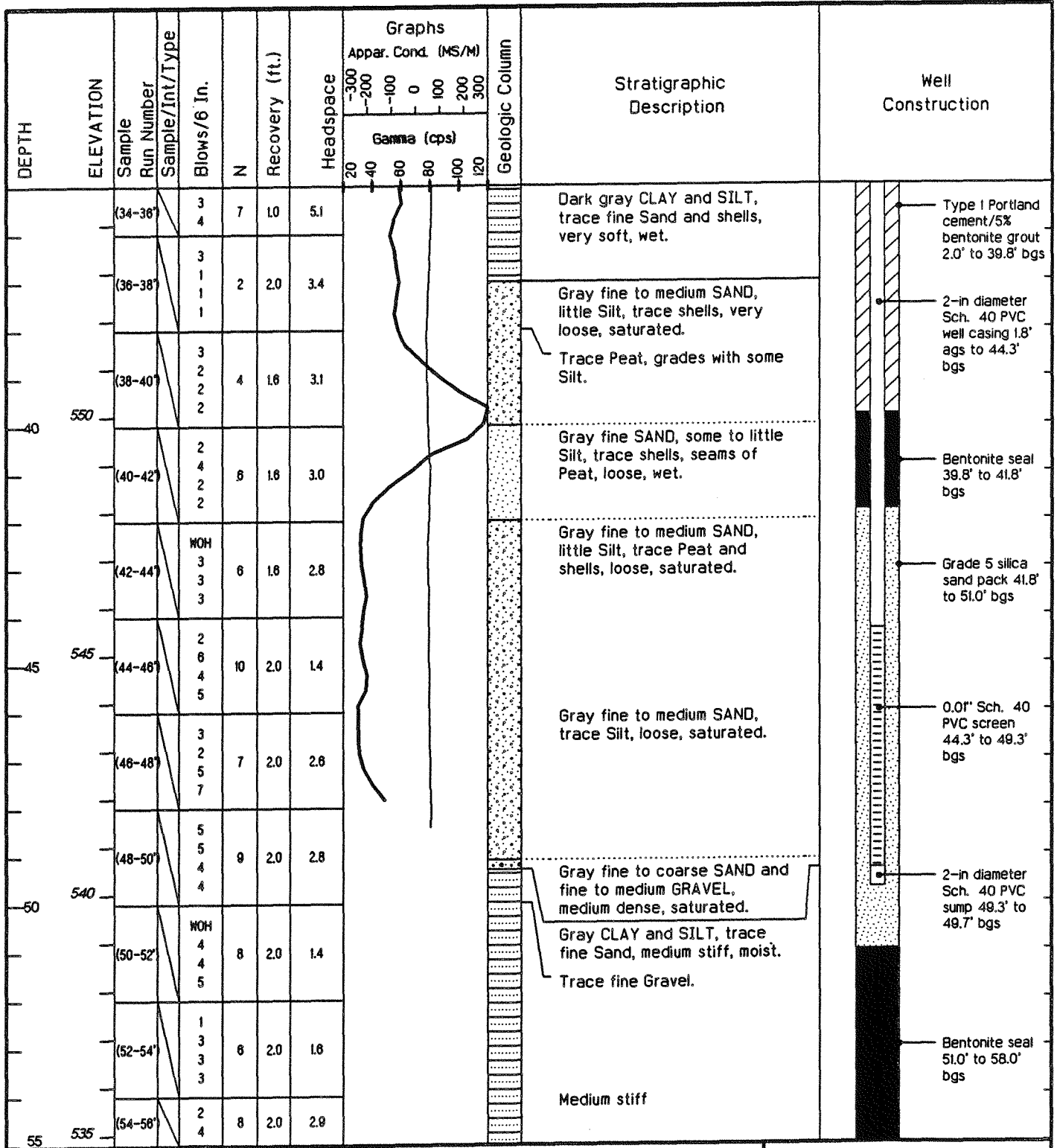
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-7C (Aug)

Total Depth = 58 ft.



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. B-7C (Aug)

Total Depth = 58 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		4 5	8	2.0	2.9			Gray CLAY and SILT, trace fine Sand, medium stiff, moist.	
		(56-58')		6 7 8 9	15	2.0	NA			Stiff.	Bentonite seal 51.0' to 58.0' bgs
										Total depth of boring 58.0 ft bgs.	
60	530										
65	525										
70	520										
75	515										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na ▼
		na ▼
		na ▽

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 01/18/95 / 01/19/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing: 13228502.8686
Easting: 694233.4859
Well Casing: 596.03 ft.
Corehole Depth: N/A ft.
Borehole Depth: 42 ft.
Ground Surface: 593.91 ft.

Geologist: Ron Kuhn

Log Number: MW-102 SI

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 593.91 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing stick-up 2.5' ags, locking cap installed
0		(0-2')		2 4 5 6	9	2.0	1.5			Brown SILT, some fine Sand, trace Clay and organic matter (roots), soft to medium stiff, damp.	Concrete pad ground surface to 1.0'
		(2-4')		2 5 10 9	15	1.0	1.3			Brown fine to medium SAND, little Silt, trace fine to medium Gravel, trace slag, loose, damp.	
	590									Trace clear and brown glass.	
5		(4-6')		2 3 5 7	8	1.4	2.0				Type I Portland cement/5% bentonite grout 1.0' to 23.0' bgs.
		(6-8')		1 3 6 6	9	1.8	1.5			Gray fine to medium SAND, trace fine to medium Gravel and Silt, loose, moist.	
	585	(8-10')		3 4 5 6	9	1.4	2.2			Black fine to medium SAND, trace fine to medium Gravel and Silt, loose, moist to wet.	
10		(10-12')		2 4 5 3	9	1.6	2.2				2-in diameter Sch. 40 PVC well casing 2.3' ags to 27.0' bgs
		(12-14')		1 1 2 1	3	1.6	0.9			Gray fine to medium SAND, little Silt, trace fine to medium Gravel, very loose, saturated.	
	580									Some Silt.	
15		(14-16')		1 (18")	1	0.6	0.8				

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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-102 S1

Total Depth = 42 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')		1	1	0.6	0.8			Gray fine to medium SAND, little Silt, saturated.	Type I Portland cement/5% bentonite grout 1.0' to 23.0' bgs.
		(16-18')		1 2 1 2	3	1.4	0.8			Little medium Sand.	
	575	(18-20')		1 1 1 1	2	1.8	0.6				2-in diameter Sch. 40 PVC well casing 2.3' ags to 27.0' bgs
20		(20-22')		1 2 2 2	4	0.2	0.4			Trace Silt.	
		(22-24')		1 1 1 2	2	1.4	0.7				
	570	(24-26')		0 3 2 1	5	2.0	0.3			Trace shells and wood.	Bentonite seal 23.0' to 25.0' bgs
25		(26-28')		WOH (12') 1 1	1	1.0	0.5			Without trace wood.	
	565	(28-30')		WOH 1 1 3	2	1.6	0.9				0.01" Sch. 40 PVC screen 27.0' to 32.0' bgs
30		(30-32')		1 1 1 2	2	2.0	0.7				Grade #5 silica sand pack 25.0' to 32.5' bgs
		(32-34')		3 4 5 6	9	2.0	0.5			Gray SILT and CLAY, trace fine to medium Gravel, hard, moist to wet.	2-in diameter Sch. 40 PVC sump 32.0' to 32.4' bgs
	560	(34-36')		1 2	8	2.0	0.6				Bentonite seal 32.5' to 42.5' bgs
35											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		⧩
		⧩
		▽

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-102 S1

Total Depth = 42 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(34-36')		6 7	8	2.0	0.6			Gray SILT and CLAY, trace fine to medium Gravel, hard, moist to wet.	Bentonite seal 32.5' to 42.5' bgs
		(36-38')		2 5 8 10	13	2.0	0.5				
	555	(38-40')		4 7 9 11	16	2.0	0.6				
40		(40-42')		3 3 5 7	8	2.0	0.5				
										Total depth of boring 42.0 ft. bgs.	
	550										
45											
	545										
50											
	540										
55											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		⧩
		⧩
		▽

Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 05/17/95 / 05/17/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 750
Spoon Size: 2 in.

Northing: 13228700.7952
Easting: 6939680.0149
Well Casing: 596.34 ft.
Corehole Depth: N/A ft.
Borehole Depth: 64 ft.
Ground Surface: 593.27 ft.

Geologist: Timothy R. Osier

Log Number: MW-103 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 593.27 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			4-in diameter steel protective casing 2.5' ags, locking cap installed
										GROUND SURFACE	
		(0-2')		4 5 6 5	11	1.0	0.0			Dark brown fine SAND and SILT, loose, moist.	Concrete pad ground surface to 2.0' bgs
	590	(2-4')		NA NA NA NA	NA	2.0	0.0			Dark brown fine SAND and SILT, little glass, pottery and wire, moist.	
5		(4-6')		4 8 12 14	20	1.5	0.6			Little red cinders, slag, loose, moist.	10-in diameter Sch. 40 PVC surface seal casing ground surface to 22.0' bgs
		(6-8')		9 11 12 14	23	0.8	1.1				
	585	(8-10')		6 6 2 3	8	0.9	7.5			Little green glass.	Type I Portland cement/5% bentonite grout 2.0' to 44.0' bgs
10		(10-12')		1 2 4 3	6	0.6	7.1			Loose, wet.	
	580	(12-14')		1 3 1 1	4	0.5	3.6				2-in diameter Sch. 40 PVC well casing 2.3' ags to 47.8' bgs
15		(14-16')		1 2	3	NR				No Recovery.	

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Remarks:
Stratigraphic description from 0-22' is from boring log MW-103 WT. NA - Hand augered from 2.0-4.0' bgs. NR - No Recovery.

Saturated Zones

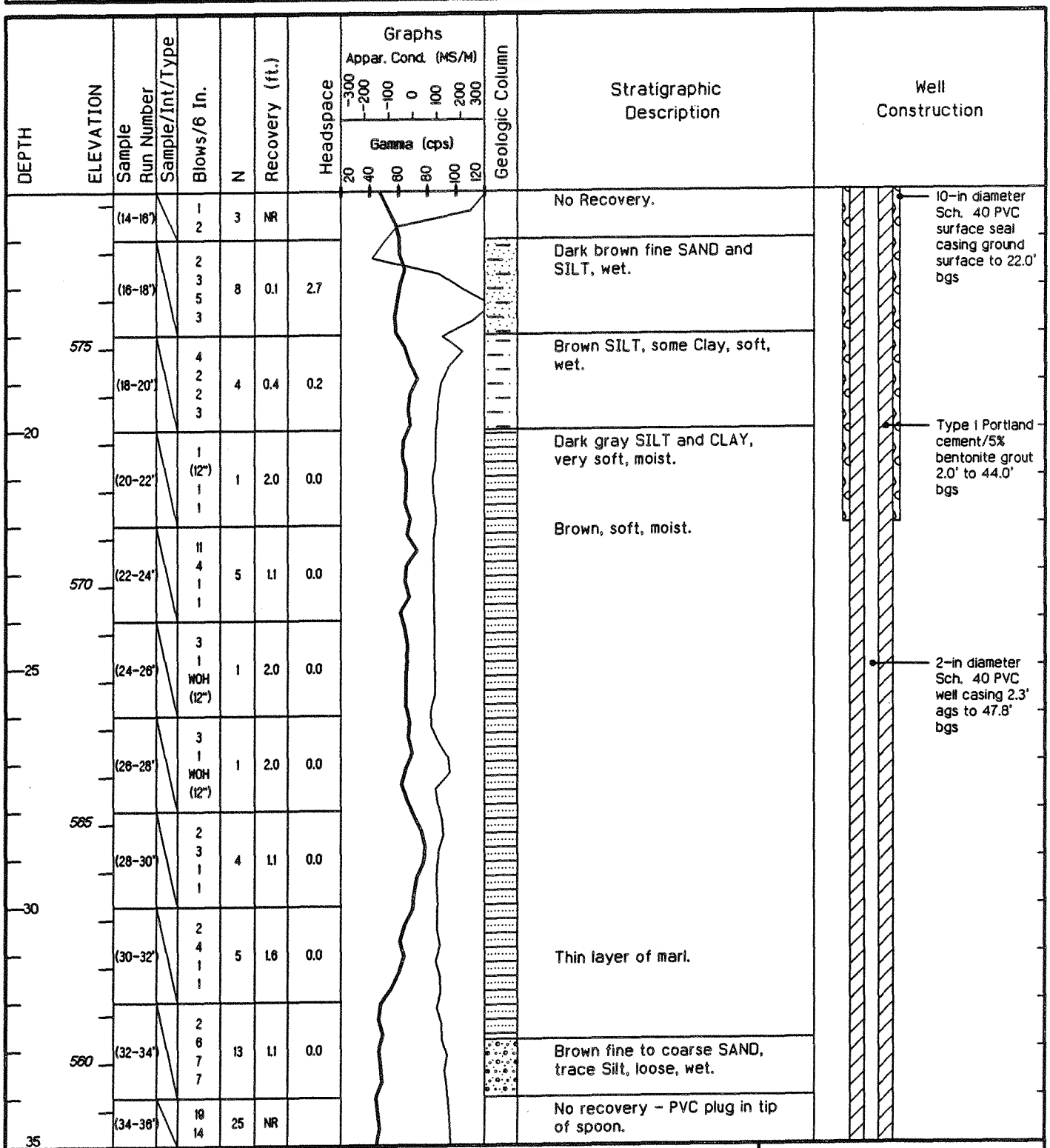
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-103 S2

Total Depth = 64 ft.



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Remarks:

Apparent Conductivity graph is off-scale from 0.0 to 0.6, 5.5 to 6.4, and 9.3 to 15 feet. WOH - Weight of Hammer. NR - No Recovery.

Saturated Zones

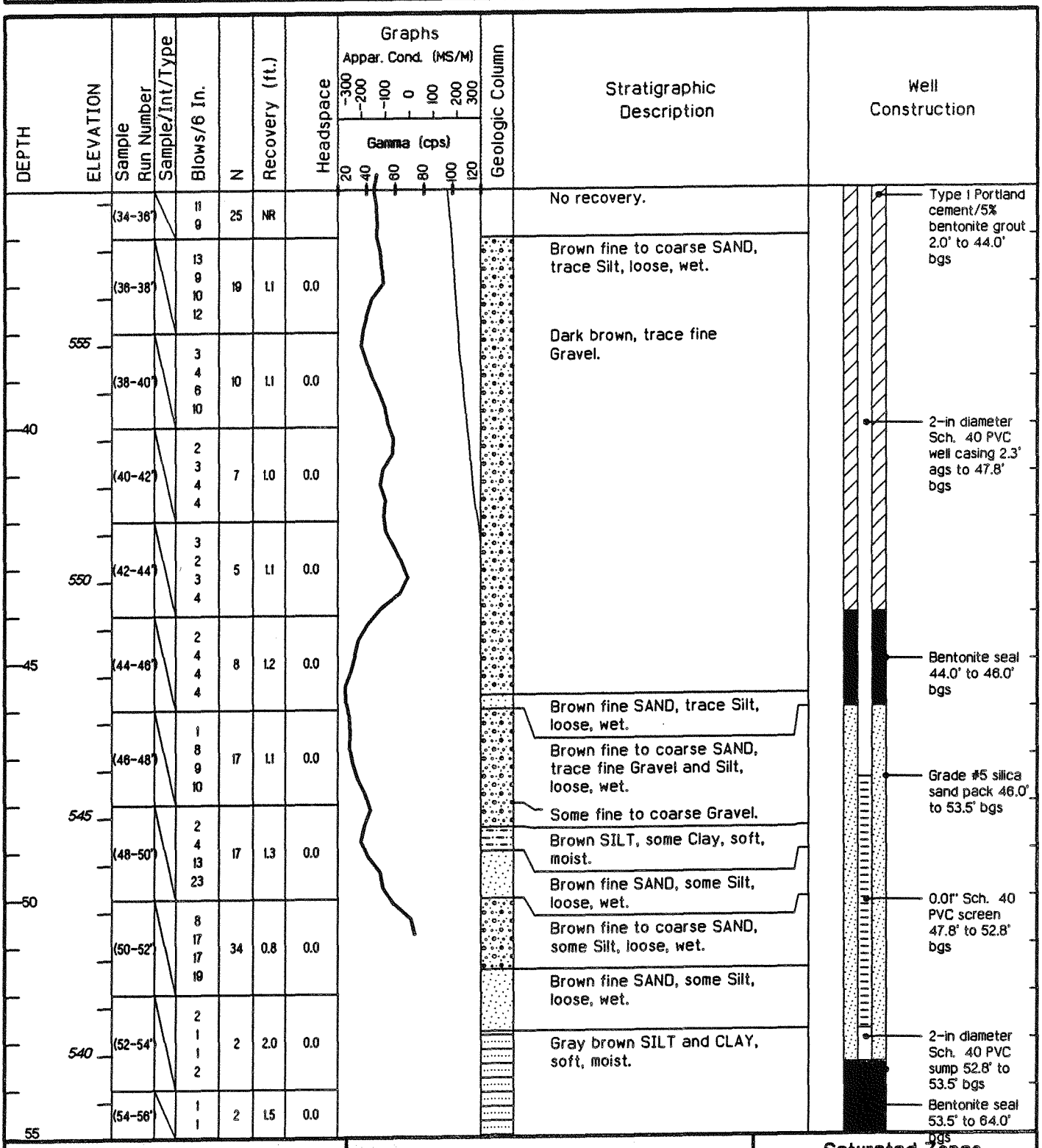
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-103 S2

Total Depth = 64 ft.



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Remarks:
Apparent Conductivity graph is off-scale at 42.5 feet. NR - No Recovery.

Saturated Zones

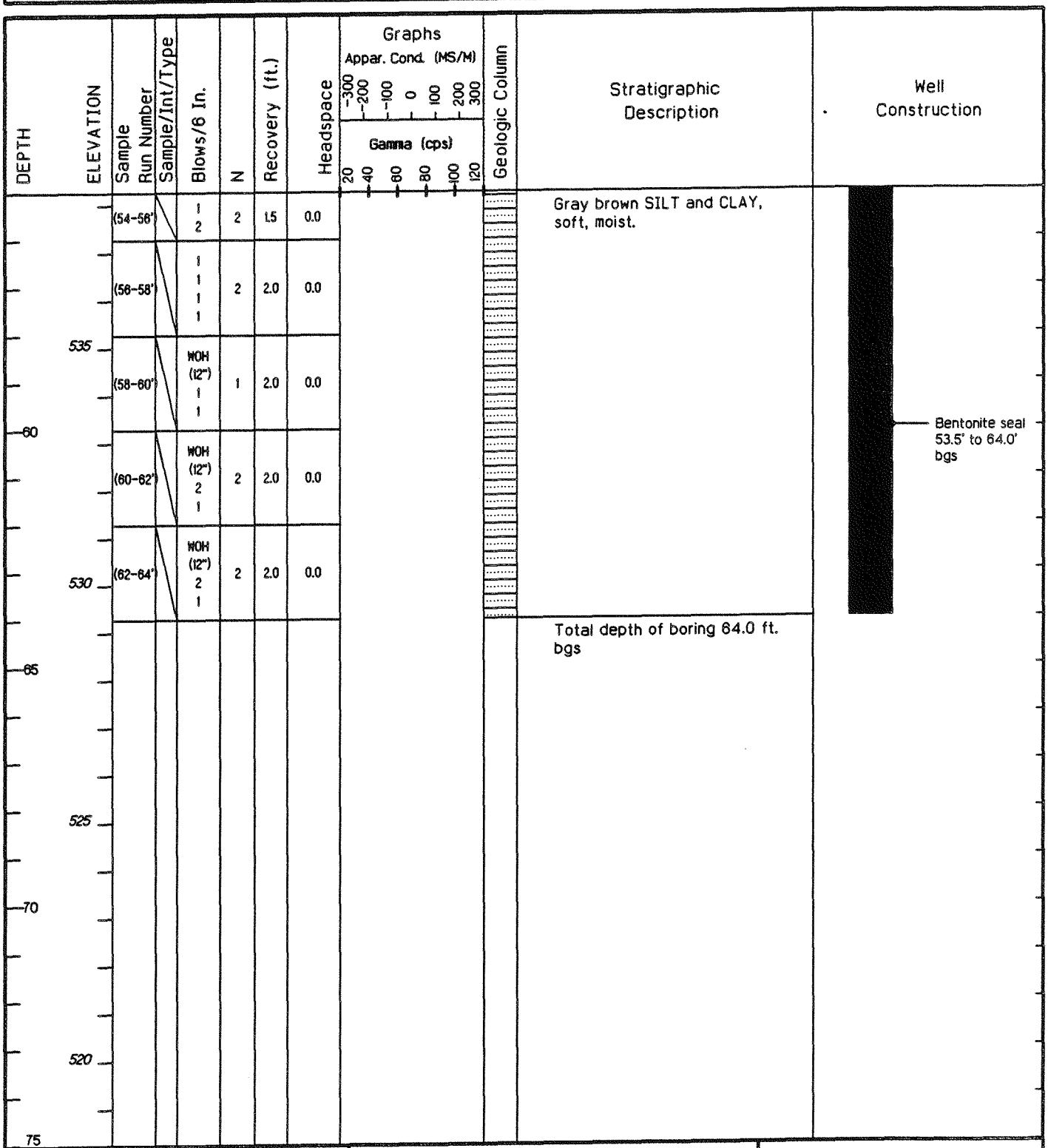
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-103 S2

Total Depth = 64 ft.



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 05/12/95 / 05/12/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 750
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 60 ft.
Ground Surface: 591.67 ft.

Geologist: Tim R. Osier

Log Number: MW-104 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 591.67 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed
0											Concrete pad ground surface to 1.0' bgs
	590	(0-2')		2 5 6 4	11	2.0	2.3			Brown fine to medium SAND, little Silt, trace fine Gravel Clay, and glass, damp.	
		(2-4')		2 3 3 2	6	1.4	4.0			No glass, orange staining, moist.	
5		(4-6')		1 0 1 6	1	NR	NA			No Recovery.	10-in diameter Sch. 40 PVC surface seal casing ground surface to 22.0' bgs
	585	(6-8')		WOH (18") 1	0	0.8	14.2			Black and orange fine to medium SAND, trace Silt, fine Gravel, and glass, damp.	
		(8-10')		0 1 1 1	2	1.8	6.8			Grades to black fine to medium SAND, trace Silt and glass, wet.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 45.0' bgs
10		(10-12')		WOH (12") 1 2	1	1.8	11.2			Saturated.	
	580	(12-14')		0 1 1 1	2	1.6	18.7			Black fine to medium SAND, trace Silt, saturated.	Type I portland cement/5% bentonite grout 1.0' to 41.5' bgs
15		(14-16')		NA	NA	NR	NA			No Recovery.	

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Remarks:
Stratigraphic description from 0-18' bgs is from boring log MW-104 WT. NR - No Recovery. WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

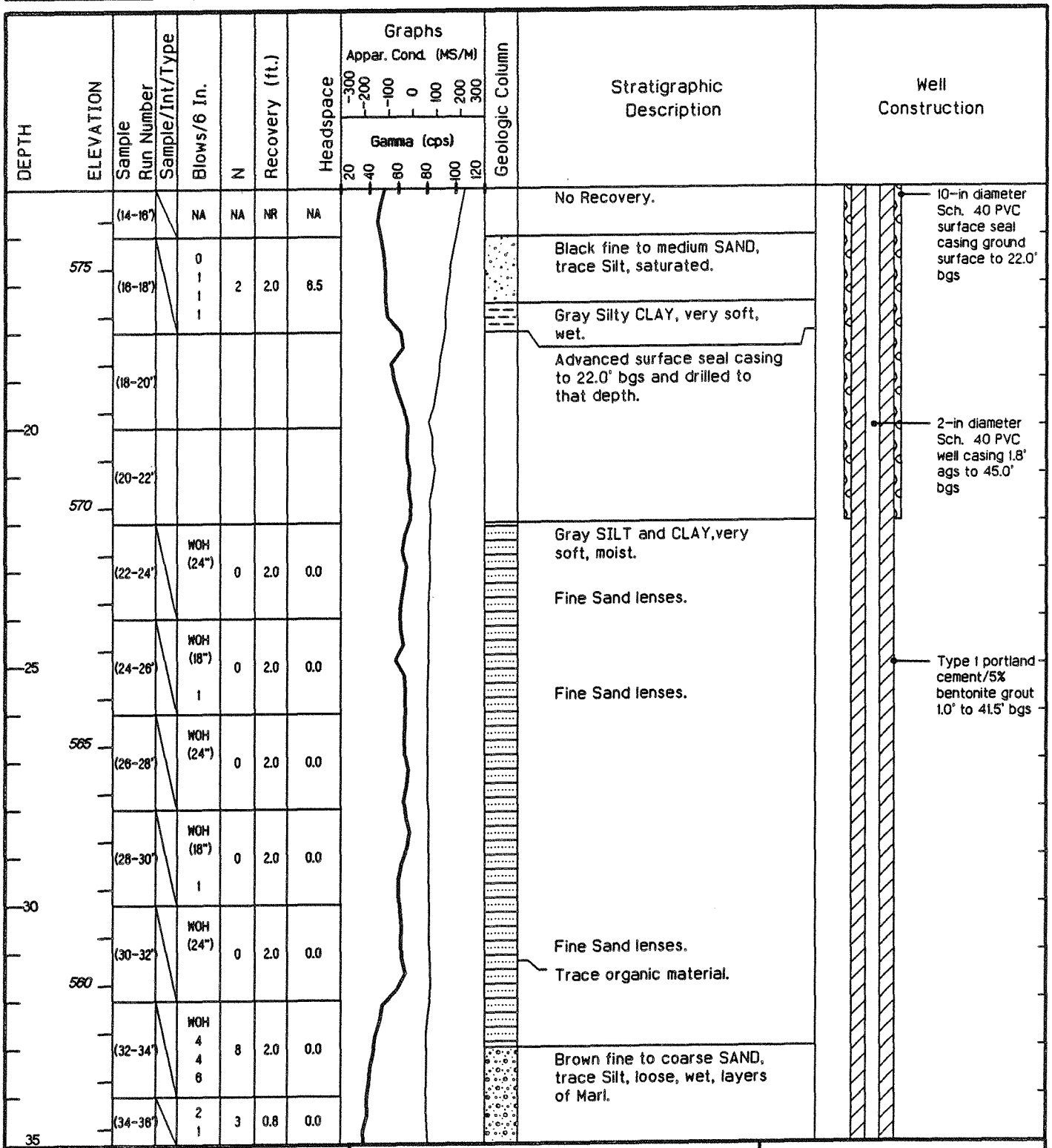
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-104 S2

Total Depth = 60 ft.



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Remarks:

Apparent Conductivity graph is off-scale from 12.1 to 13.5 feet. WOH = Weight of Hammer. NA = Not Available. NR = No Recovery.

Saturated Zones

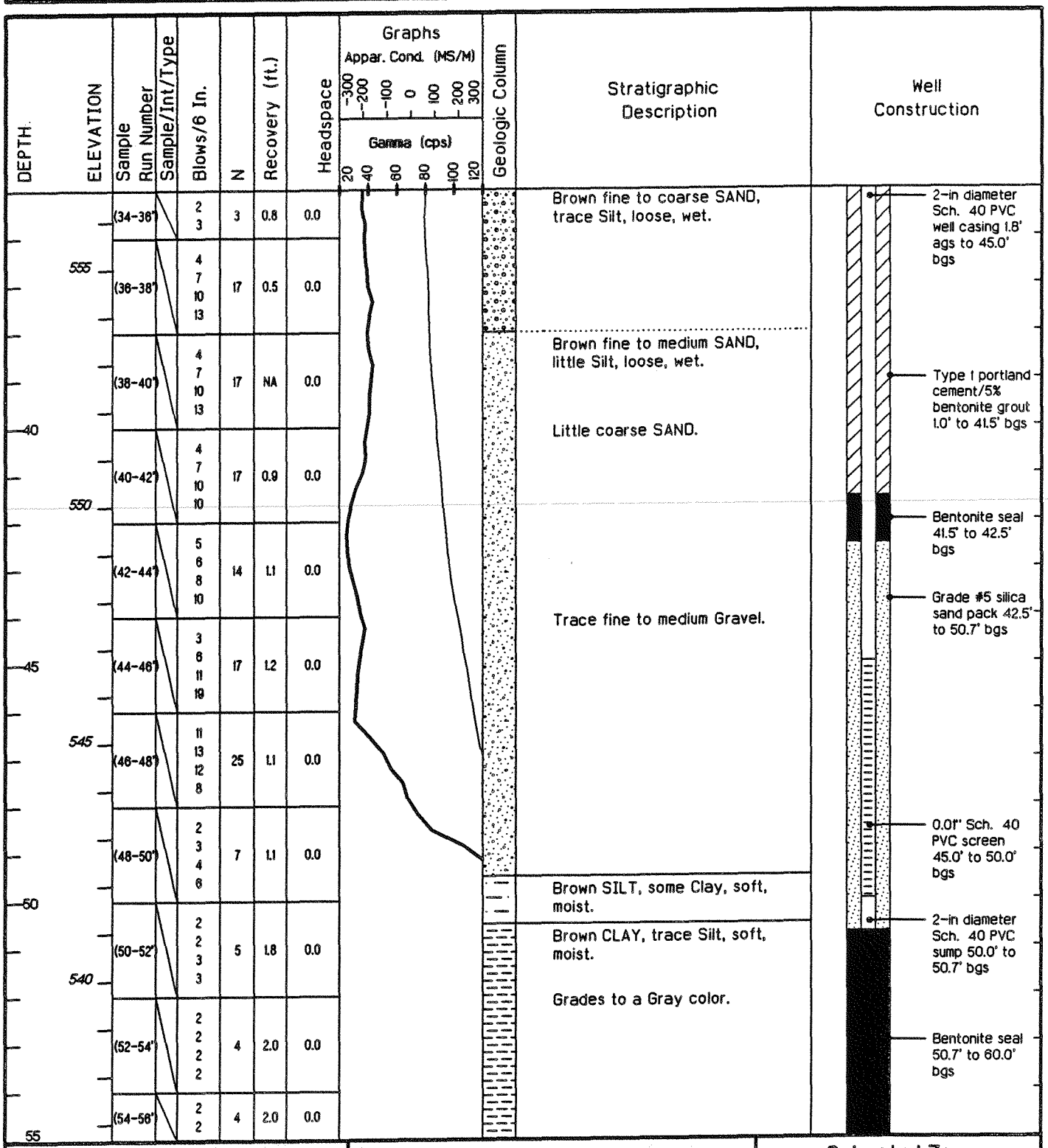
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-104 S2

Total Depth = 60 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-104 S2

Total Depth = 60 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		2 2	4	2.0	0.0			Brown CLAY, trace Silt, soft, moist.	
	535	(56-58')		WOH (12") 2 3	2	2.0	0.0				Bentonite seal 50.7' to 60.0' bgs
		(58-60')		2 1 1 1	2	2.0	0.0				
60										Total depth of boring 60.0 ft bgs.	
	530										
65											
	525										
70											
	520										
75											

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Remarks:

Apparent Conductivity graph is off-scale at 46.4 feet. WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/18/95 / 01/23/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 58 ft.
Ground Surface: 591.63 ft.

Geologist: Ron Kuhn

Log Number: MW-105 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 591.63 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed
0	590	(0-2')		5 2 3 4	5	1.4	0.2			Brown SILT, some fine to medium Sand, trace fine to medium Gravel, trace Clay, soft, damp.	Concrete pad ground surface to 1.0' bgs
		(2-4')		3 7 15 9	22	1.8	15.8				
5		(4-6')		2 2 2 2	4	0.6	0.7			Black SILT, some fine to medium Sand, soft, moist to wet.	Type I Portland cement/5% bentonite 1.0' to 40.5' bgs
	585	(6-8')		1 1 2 3	3	0.6	6.8			Little fine to medium Gravel, trace Clay.	
		(8-10')		3 6 1 1	7	1.2	19.6			Black fine to medium SAND, little Silt, loose, saturated.	
10		(10-12')		1 2 1 1	3	1.6	39.6			Trace shell fragments.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 43.0' bgs
	580	(12-14')		2 6 0 0	6	1.4	25.6			Black SILT, trace fine Sand and fine to medium Gravel, loose, saturated.	
15		(14-16')		1 1	2	1.4	4.3			Gray SILT, some Clay, soft, wet.	

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Remarks:
Apparent Conductivity graph is off-scale at 2, 4, 9, and 13 feet.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-105 S2

Total Depth = 58 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Geologic Column	Stratigraphic Description
		(14-16')		1 2	2	1.4	4.3		Gray SILT, some Clay, soft, wet.
	575	(16-18')		WOH (24")	0	2.0	3.9		Gray SILT and CLAY, trace shell fragments, soft, wet.
		(18-20')		1 1 1 2	2	2.0	2.6		
20		(20-22')		0 1 1 2	2	2.0	1.3		No shell fragments.
	570	(22-24')		WOH (24")	0	2.0	1.2		
25		(24-26')		0 1 1 1	2	2.0	0.6		
	565	(26-28')		1 1 1 2	2	2.0	0.5		
		(28-30')		NA NA NA NA	NA	NR	NA		No Recovery.
30		(30-32')		2 2 2 2	4	1.6	0.0		Dark Brown SILT, trace Clay, trace fine Sand, trace roots, soft, wet.
	560	(32-34')		WOH (12") 2 1	2	2.0	0.0		Gray SILT and CLAY, trace fine Sand, soft, wet.
35		(34-36')		WOH (18")	0	2.0	0.0		

Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Well Construction

- Type I Portland cement/5% bentonite 1.0' to 40.5' bgs
- 2-in diameter Sch. 40 PVC well casing 1.8' ags to 43.0' bgs

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Remarks:
WOH - Weight of Hammer NR - No Recovery NA - Augered from 28.0' TO 30.0' bgs.

Saturated Zones

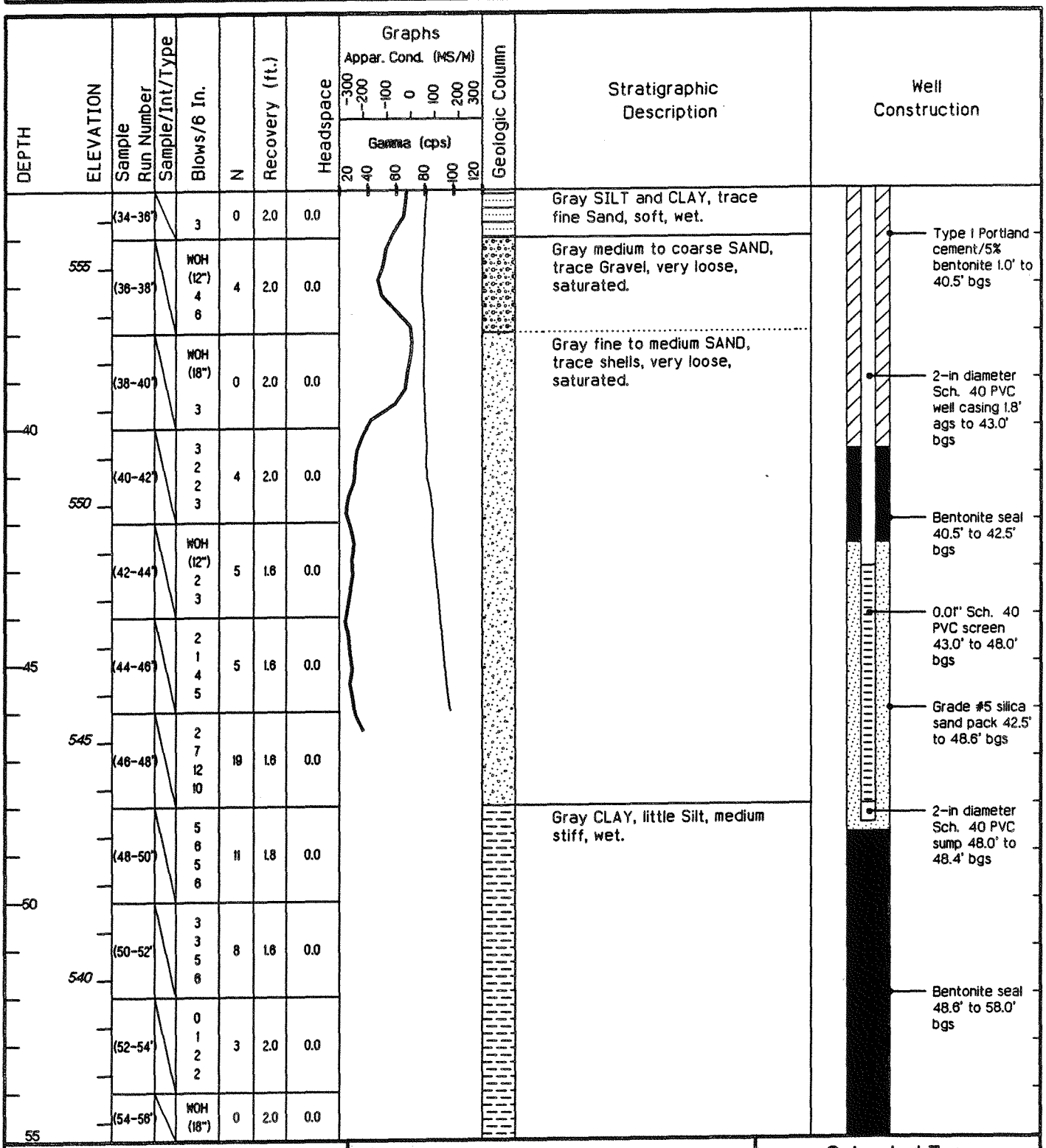
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-105 S2

Total Depth = 58 ft.

Client:
General Motors Corporation



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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-105 S2

Total Depth = 58 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		3	0	2.0	0.0			Gray CLAY, little Silt, medium stiff, wet.	Bentonite seal 48.6' to 58.0' bgs
	535	(56-58')		WOH (18") 3	0	2.0	0.0				
60	530									Total depth of boring 58.0 ft. bgs.	
65	525										
70	520										
75											

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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/17/95 / 01/18/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 36 ft.
Ground Surface: 590.70 ft.

Geologist: Ron Kuhn

Log Number: MW-106 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 590.70 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed
0	590	(0-2')		4 10 14 15	24	2.0	7.1			Black fine to medium SAND, trace Silt and fine Gravel, medium dense, damp.	Concrete pad ground surface to 1.0' bgs
		(2-4')		5 9 13 11	22	2.0	3.0				
		(4-6')		3 4 4 4	8	2.0	2.2			Loose.	Type I Portland cement/5% bentonite grout 1.0' to 20.0' bgs
5	585	(6-8')		2 2 3 2	5	2.0	0.9			Trace shells.	
		(8-10')		0 1 1 2	2	1.8	0.7			Wet.	
10	580	(10-12')		WOH (12") 1 2	1	1.8	0.7			Black fine to medium SAND, little Silt, trace fine Gravel and shells, very loose, saturated.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 23.0' bgs
		(12-14')		1 (12") 1 (12")	1	2.0	0.7			Brown SILT, little fine Sand, trace Clay, very soft, wet.	
15		(14-16')		0 1	2	1.6	0.8				

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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-106 S2

Total Depth = 38 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
	575	(14-16')		1 2	2	1.6	0.8
		(16-18')		1 (18") 1	1	2.0	0.6
		(18-20')		1 (18") 2	1	1.2	0.7
20	570	(20-22')		1 (12") 1 2	1	1.4	0.7
		(22-24')		2 1 3 3	4	1.6	0.6
25		(24-26')		WOH (12") 1 1	1	2.0	0.7
	565	(26-28')		1 1 1 1	2	1.6	0.6
		(28-30')		1 (12") 1 1	1	1.8	0.8
30	560	(30-32')		WOH (24")	0	2.0	0.8
		(32-34')		0 1 1 1	2	2.0	0.8
35		(34-36')		2 2	3	2.0	0.8

Graphs
Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300
Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

- Brown SILT, little fine Sand, trace Clay, very soft, wet.
- Brown fine SAND, some Silt, very loose, saturated.
- Brown fine to medium SAND, little Silt, saturated.
- Brown fine to medium SAND, saturated.
- Trace shells.
- Gray CLAY, some Silt, trace fine Sand, soft, wet.
- No fine Sand.

Well Construction

- Type I Portland cement/5% bentonite grout 1.0' to 20.0' bgs
- 2-in diameter Sch. 40 PVC well casing 2.3' ags to 23.0' bgs
- Bentonite seal 20.0' to 21.0' bgs
- Grade #5 silica sand pack 21.0' to 26.0' bgs
- 0.01" Sch. 40 PVC screen 23.0' to 25.5' bgs
- 2-in diameter Sch. 40 PVC sump 25.5' to 25.9' bgs
- Bentonite seal 26.0' to 36.0' bgs

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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-108 S2

Total Depth = 38 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
	555	(34-36')		1 1	3	2.0	0.8			Gray SILT and CLAY, trace fine Sand, soft, wet.	Bentonite seal 26.0' to 36.0' bgs
										Total depth of boring 36.0 ft. bgs.	
40	550										
45	545										
50	540										
55											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		⧩
		⧩
		▽

Date Start/Finish: 12/22/94 / 12/22/94
Drilling Company: Mateco
Driller's Name: Bob Dreyer
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Borehole Depth: N/A ft.
Borehole Depth: 40 ft.
Ground Surface: 589.02 ft.

Geologist: James Saxton

Log Number: MW-107 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 589.02 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing stick-up 2.5' ags, locking cap installed
		(0-2')		5 7 10 10	17	0.5	NA			Black SILT and fine SAND, trace roots, loose.	Concrete pad ground surface to 2.5' bgs
		(2-4')		6 6 5 5	11	1.2	NA			Black medium to coarse SAND, trace fine to medium Gravel, loose, moist.	
	585									Black and orange very fine SAND, loose, moist.	Type I Portland cement/5% bentonite grout 2.5' to 16.5' bgs
5		(4-6')		5 4 3 2	7	0.25	NA			Black medium SAND, trace fine Gravel, loose, wet at tip of sampler.	
		(6-8')		9 10 13 13	23	2.0	NA			Black medium to coarse SAND, little Silt, medium dense, wet. Slight odor.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 21.33' bgs
	580	(8-10')		4 2 2 1	4	2.0	NA			Gray SILT, some Clay, very soft, slight odor.	
10		(10-12')		2 2 1 1	3	1.0	NA				
		(12-14')		WOH (12") 1 2	1	0.5	NA			Gray fine to medium SAND, some Silt, very loose, wet.	
	575										
15		(14-18')		2 2	4	0.8	NA				

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Remarks:
WOH - Weight of Hammer. NA - Not Available.
Apparent Conductivity graph is off-scale from 0.0 to 1.4 feet.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-107 S2

Total Depth = 40 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')		2 2	4	0.8	NA			Gray fine to medium SAND, some Silt, very loose, wet.	Type I Portland cement/5% bentonite grout 2.5' to 16.5' bgs
		(16-18')		2 3 4 5	7	0.7	NA			Gray fine SAND, trace Silt, very loose, wet.	Bentonite seal 16.5' to 19.0' bgs
	570	(18-20')		2 4 5 6	9	1.0	NA				
20		(20-22')		4 5 7 6	12	1.3	NA			Trace shell fragments.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 21.33' bgs
		(22-24')		3 4 5 7	9	0.7	NA				0.01" slotted Sch. 40 PVC screen 21.33' to 26.33' bgs
	565										Grade #5 silica sand pack 19.0' to 27.0' bgs
25		(24-26')		4 4 5 6	9	1.0	NA				
		(26-28')		WOH 1 1 1	2	2.0	NA			Gray CLAY, some Silt, some very fine Sand, very soft, wet.	2-in diameter Sch. 40 PVC sump 26.33' to 26.58' bgs
	560	(28-30')		WOH (12") 1 1	1	1.0	NA				
30		(30-32')		WOH (24")	0	1.5	NA			Trace very fine Sand.	Bentonite seal 27.0' to 40.0 bgs
		(32-34')		WOH (24")	0	2.0	NA			Occasional 0.12" to 0.25" thick Sand seams, moist.	
	555										
35		(34-36')		WOH (18")	0	2.0	NA				

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Remarks:
WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-107 S2

Total Depth = 40 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(34-36')		2	0	2.0	NA			Gray CLAY, some Silt, some very fine Sand, very soft, wet.	Bentonite seal 27.0' to 40.0 bgs
		(36-38')		WOH (12") 2 2	2	1.5	NA			Little very fine Sand.	
	550	(38-40')		WOH (24")	0	2.0	NA				
40										Total depth of boring 40.0 ft. bgs.	
	545										
45											
	540										
50											
	535										
55											

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Remarks:
WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 06/01/94 / 06/01/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 855 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 60 ft.
Ground Surface: ft.

Geologist: Ronald D. Kuhn

Log Number: MW-108 S4

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH gs elevation ft	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
0								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		**GROUND SURFACE**	4-in diameter steel protective casing stick-up 2.5' ags, locking cap installed
		(0-2')		2 4 7 7	11	0.8	NA			Black SILT, some fine Sand, loose. Black and red very fine SAND, trace slag, loose, moist.	Concrete pad ground surface to 2.0' bgs
		(2-4')		3 2 1 1	3	1.5	NA			Black fine SAND, little Clay, very loose, wet.	
5	-5	(4-6')		1 1 1 1	2	2.0	NA				10-in diameter Sch. 40 PVC surface seal casing ground surface to 26.0' bgs
		(6-8')		2 1 1 1	2	1.3	NA			Light gray SILT, little Clay, very soft, wet.	
		(8-10')		1 1 1 1	2	1.3	NA			Dark gray fine SAND, little Silt, loose, wet.	Type I Portland cement/5% bentonite grout 2.0' to 41.0' bgs
10	-10	(10-12')		WOH 1 1 1	2	0.3	NA				
		(12-14')		WOH (24")	0	1.0	NA				2-in diameter Sch. 40 PVC well casing 2.1' ags to 45.0' bgs
		(14-16')		1 1	2	2.0	NA			Little organic matter.	
15	-15										

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Remarks:
Soil descriptions from 0.0' to 40.0' bgs are taken from boring log MW-108 S2. WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

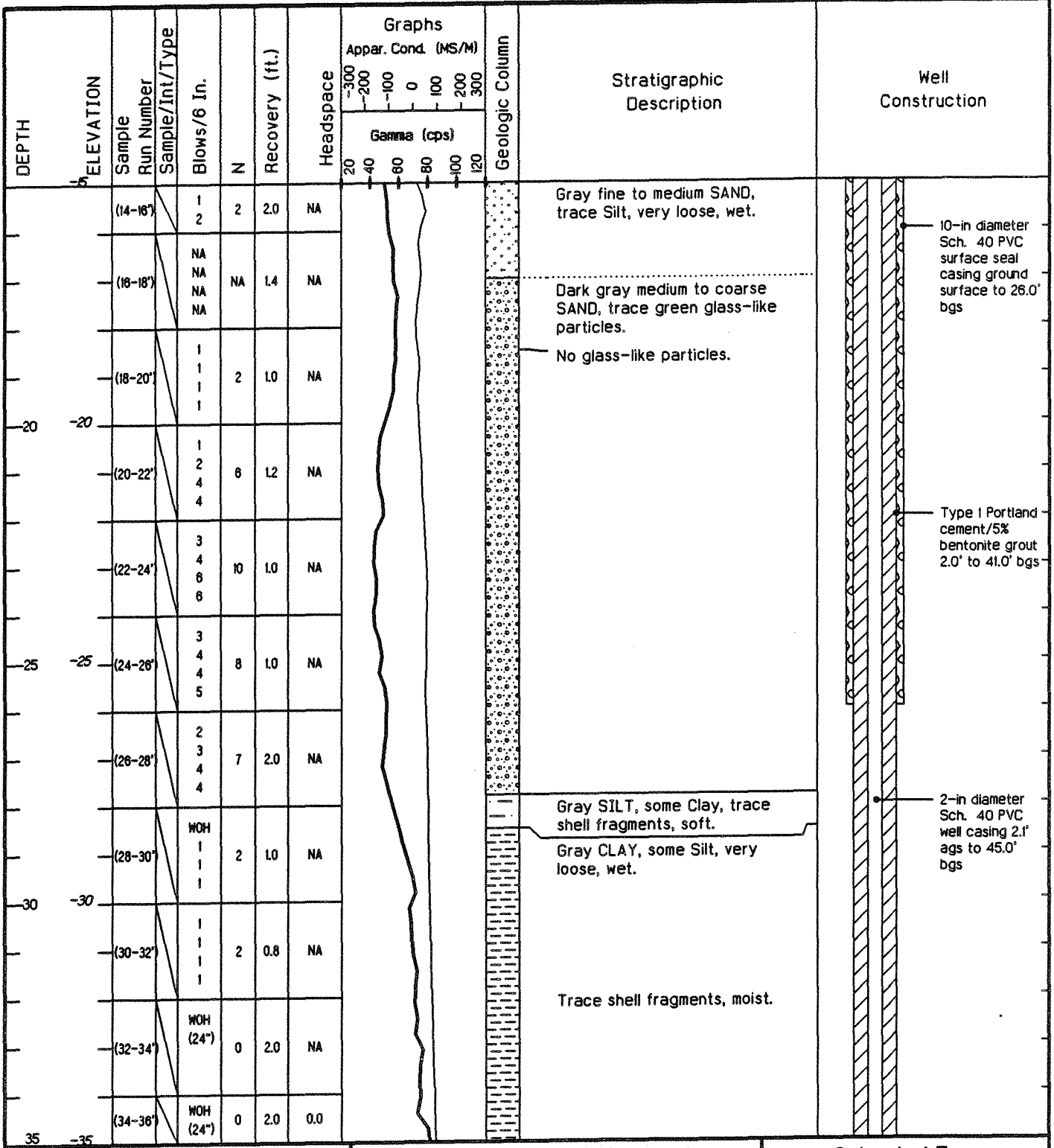
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-108 S4

Total Depth = 80 ft.



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Remarks:
WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-108 S4

Total Depth = 60 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
		(34-36')			0	2.0	0.0
		(36-38')		WOH 1 1 1	2	2.0	0.0
		(38-40')		1 1 1 1	2	2.0	0.0
40	-40	(40-42')		6 4 4 4	8	1.4	0.0
		(42-44')		3 4 3 3	7	1.45	0.0
45	-45	(44-46')		3 1 2 4	3	1.6	0.0
		(46-48')		5 17 18 8	35	1.6	0.0
		(48-50')		6 3 3 4	6	NR	NA
50	-50	(50-52')		3 1 4 4	5	1.6	0.0
		(52-54')		5 3 5 4	8	2.0	0.0
55	-55	(54-56')		1 3	8	1.6	0.0

Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Stratigraphic Description

- Gray CLAY, some Silt, very loose, wet.
- A 0.5" gray fine to medium Sand seam (Does not appear to be water bearing).
- Dark CLAY and SILT, soft, moist.
- Gray fine to medium SAND, trace Silt, loose, saturated.
- Trace shells.
- Trace organic material.
- Gray fine to coarse SAND and fine to medium GRAVEL, trace Silt, dense, saturated.
- No Recovery.
- Gray CLAY and SILT, trace coarse Sand, medium stiff, moist.
- Soft, moist to wet.

Well Construction

- Type I Portland cement/5% bentonite grout 2.0' to 41.0' bgs
- 2-in diameter Sch. 40 PVC well casing 2.1' ags to 45.0' bgs
- Bentonite seal 41.0' to 43.0' bgs
- Grade #5 silica sand pack 43.0' to 51.0' bgs
- 0.01" slotted Sch. 40 PVC screen 45.0' to 50.0' bgs
- 2-in. diameter Sch. 40 PVC sump 50.0' to 50.4' bgs
- Bentonite seal 51.0' to 60.0' bgs

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Remarks:
NR - No Recovery. NA - Not Available.

Saturated Zones

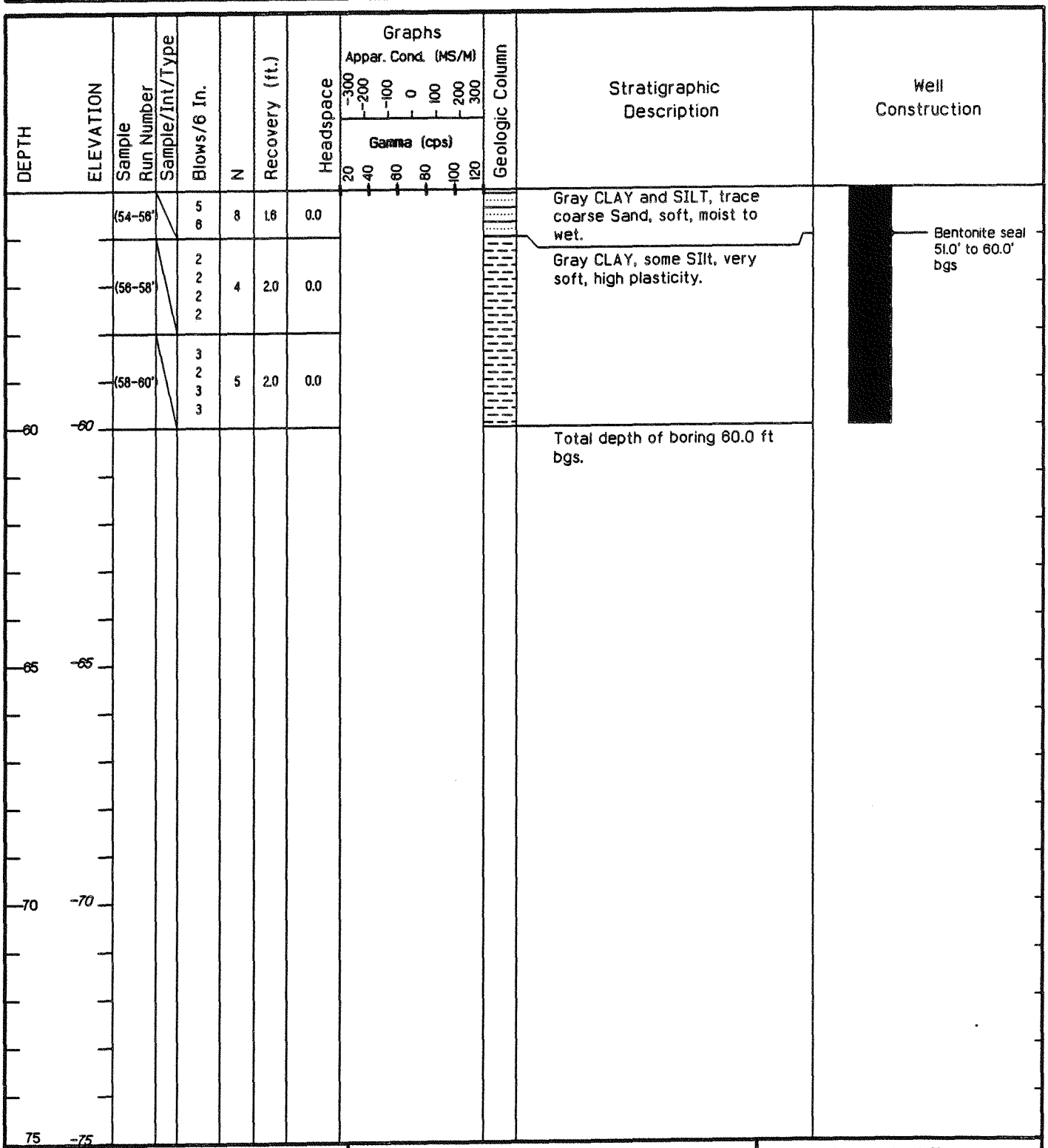
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-108 S4

Total Depth = 60 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 12/21/94 / 12/21/94
Drilling Company: Mateco
Driller's Name: Bob Dryer
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 10 ft.
Ground Surface: 588.57 ft.

Geologist: James Saxton

Log Number: MW-109 WT

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 588.57 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed; Concrete pad ground surface to 1.5'
0		(0-2')		2 3 3 4	6	2.0	NA			Black SILT, some very fine Sand, very loose.	2-in diameter Sch. 40 PVC well casing 1.8'ags to 3.0' bgs
		(2-4')		3 2 2 1	4	1.5	NA			Black very fine Sand. Trace slag and cinders. Orange.	Bentonite seal 1.5' to 2.5' bgs
	585									Trace cinders and glass particles, wet at tip of sampler.	
5		(4-6')		1 2 3 4	5	0.7	NA			Gray coarse SAND, some Clay, very loose.	0.01" slotted Sch. 40 PVC screen 3.0' to 8.0' bgs
		(6-8')		WOH (12") 1 1	1	1.5	NA			Dark gray fine SAND and SILT, loose, wet.	Grade #5 silica sand pack 2.5' to 10.0' bgs
	580	(8-10')		WOH (24")	0	1.7	NA			Dark gray SILT and CLAY, little organic material, very soft.	2-in diameter Sch. 40 PVC sump 8.0'bgs to 8.25' bgs
10										Gray SILT and SAND, little Clay, very soft, wet.	
										End of Boring @ 10 ft. bgs.	
	575										
15											

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Remarks:
WOH - Weight of Hammer. NA - Not Available. MDNR samples taken from 2-4 ft. bgs, 4-6 ft. bgs, and 8-10 ft. bgs. Apparent Conductivity graph is off-scale due to steel surface casing.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 06/02/95 / 06/02/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 51.4 ft.
Ground Surface: 589.94 ft.

Geologist: Ronald D. Kuhn

Log Number: MW-111 S4

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 589.94 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed
		(0-2')		2 3 3 5	6	2.0	NA			Dark brown fine to medium SAND, trace coarse Sand, loose, dry.	Concrete pad ground surface to 2.0' bgs
		(2-4')		3 4 4 2	8	1.4	NA			Dark brown and green fine to coarse SAND, little red brown coarse Sand and fine Gravel, loose, dry.	
5	585	(4-6')		1 2 2 1	4	1.5	NA				10-in diameter Sch. 40 PVC surface seal casing ground surfce to 24.0' bgs
		(6-8')		1 1 1 1	2	1.5	NA			Dark gray SILT, little Clay, trace fine Sand, very soft, moist, wet at tip of sampler.	
		(8-10')		1 (12") WOH 1	1	1.1	NA			A 0.01' lense of fine Sand, moist to wet.	Type I Portland cement/5% bentonite grout 2.0' to 41.5' bgs
10	580	(10-12')		WOH (12") 1 (12")	1	1.9	NA				
		(12-14')		1 (12") 2 1	2	1.8	NA			Dark gray very fine to fine SAND and SILT, trace Clay, very loose, moist to wet.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 46.0' bgs
		(14-16')		WOH (12")	1	1.8	NA			Gray very fine to fine SAND, trace shell fragments, very loose, wet.	
15	575										

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Remarks:
Soil descriptions taken from boring log MW-111 S2. WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-111 S4

Total Depth = 51.4 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Geologic Column	Stratigraphic Description
		(14-16')		1 (12")	1	1.8	NA		@14.0', trace Silt, abundent shell fragments.
		(16-18')		WOH 1 (12") 1	1	1.6	NA		
		(18-20')		WOH (18") 1	0	2.0	NA		
20	570	(20-22')		WOH (18") 2	0	2.0	NA		Trace medium Sand.
		(22-24')		WOH (12") 2 3	2	2.0	NA		Little medium Sand.
25	565	(24-26')		2 2 3 4	5	2.0	NA		
		(26-28')		1 1 2 2	3	2.0	NA		A 0.2' lense of SILT and CLAY.
		(28-30')		1 1 1 2	2	2.0	NA		Nose of sampler contained dark gray SILT, some Clay, trace fine Sand, organic material.
30	560	(30-32')		1 2 2 1	4	1.3	NA		Dark gray SILT and CLAY, black mottling, organic material, soft, moist.
		(32-34')		WOH 1 1 1	2	1.5	NA		Gray fine SAND, little medium Sand, very loose, wet.
		(34-36')		WOH (18")	0	1.5	NA		Dark gray SILT and CLAY, black mottling, organic material, soft, moist. Wet.
35	555								

Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Well Construction

- 10-in diameter Sch. 40 PVC surface seal casing ground surfce to 24.0' bgs
- Type I Portland cement/5% bentonite grout 2.0' to 41.5' bgs
- 2-in diameter Sch. 40 PVC well casing 1.8' ags to 46.0' bgs

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Remarks:
Soil descriptions taken from boring log MW-111 S2. WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

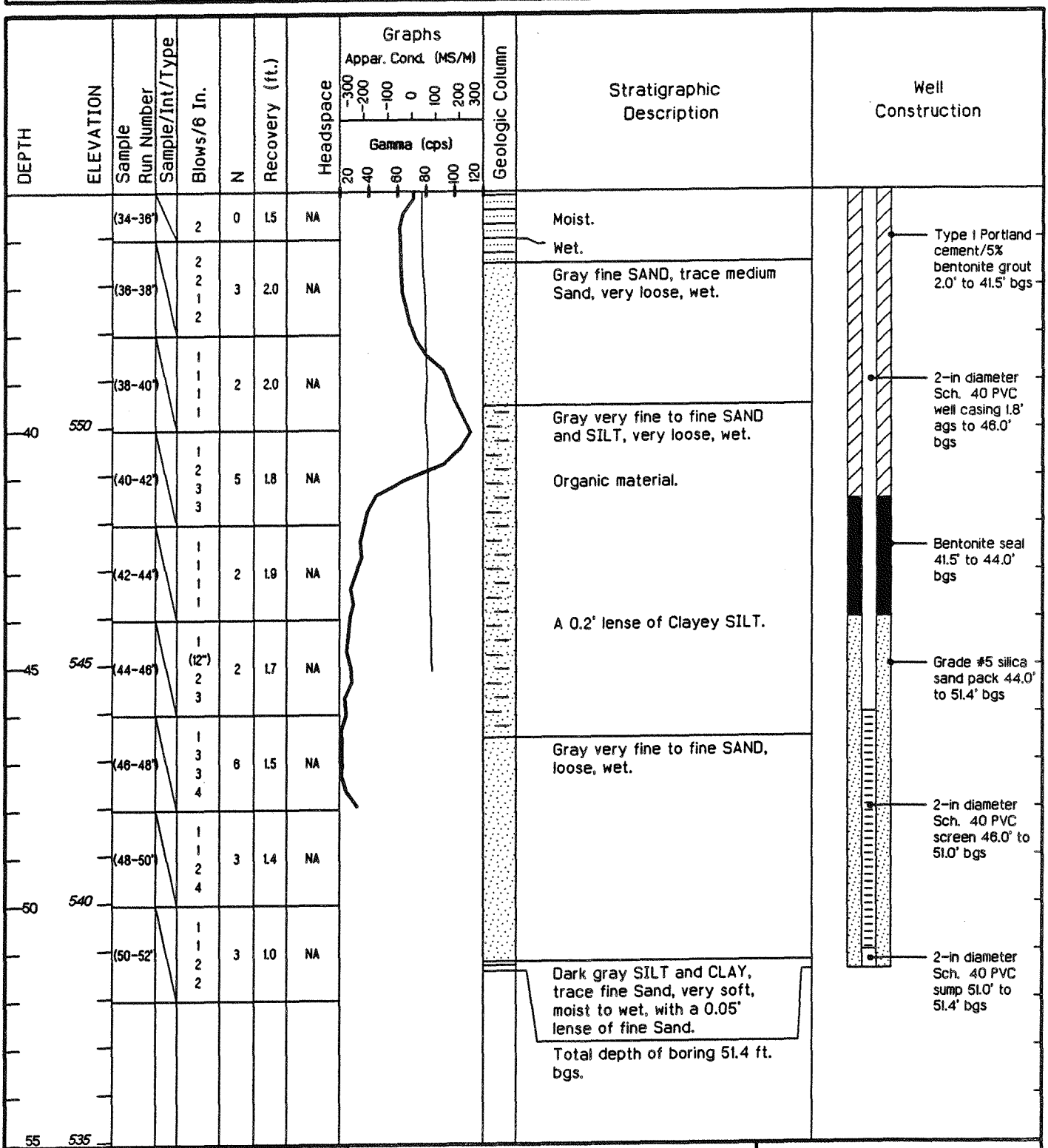
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-111 S4

Total Depth = 51.4 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/09/95 / 01/09/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 12 ft.
Ground Surface: 589.08 ft.

Geologist: Hillary Hollister-Hinge

Log Number: MW-112 WT

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 589.08 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed
											2-in diameter Sch. 40 PVC well casing 1.8' ags to 3.5' bgs
											Concrete surface pad 0.0' to 1.0' bgs
											Cement/5% bentonite grout 1.0' to 1.5' bgs
											Bentonite seal 1.5' to 3.0' bgs
											Grade #7 silica sand 3.0' to 3.2' bgs
	585										
5		(4-6')		10 13 10 6	23	2.0	184.0			Red brown fine to medium Sand, loose, wet at nose of sampler.	
		(6-8')		2 2 2 1	4	2.0	0.0			Very loose, wet.	0.01" Sch. 40 PVC screen 3.5' to 8.5' bgs
											Grade #5 silica sand pack 3.2' to 9.0' bgs
	580	(8-10')		WOH 1 1 1	2	1.1	0.0			Dark gray SILT, little Clay, trace fine Sand and organics, very soft, moist to wet.	Sch. 40 PVC sump 8.5' to 8.9' bgs
10											Bentonite seal 9.0' to 12.0'bgs
		(10-12')		WOH 1 1 1	2	2.0	0.2			Dark gray very fine to fine SAND and SILT, trace Clay, very loose, moist to wet.	
										End of Boring @ 12 ft. bgs.	
	575										
15											

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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/09/95 / 01/09/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 14 ft.
Ground Surface: 588.81 ft.

Geologist: Hillary Hollister-Hinge

Log Number: MW-113 WT

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 588.81 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.2' ags, locking cap installed
											2-in diameter Sch. 40 PVC well casing 2.0' ags to 3.5' bgs
											Concrete surface pad 0.0' to 1.0' bgs
											Cement/5% bentonite 1.0' to 1.5' bgs
											Bentonite seal 1.5' to 3.0' bgs
											Grade #7 silica sand 3.0' to 3.2' bgs
	585										
5		(0-2')		2 3 3 3	6	2.0	3.0			Dark brown fine to coarse SAND, trace fine Gravel, very loose, dry.	
		(2-4')		3 2 2 3	4	1.5	3.0				
		(4-6')		2 2 2 1	4	1.0	14.0			Wet.	
		(6-8')		WOH (18") 1	0	2.0	0.0			Dark gray SILT, little Clay, trace fine to coarse Sand, very soft, moist to wet.	
	580										
		(8-10')		WOH (24")	0	2.0	0.0			Wet.	
10		(10-12')		WOH (18") 1	0	1.9	0.0				
		(12-14')		1 1 1 1	2	1.5	0.0			Dark gray very fine to fine SAND and SILT, trace Clay, very loose, wet.	
	575									Gray very fine to fine SAND, trace medium Sand, very loose, wet.	
15										Total depth of boring 14.0 ft. bgs.	
											0.01" Sch. 40 PVC screen 3.5' to 8.5' bgs
											Grade #5 silica sand pack 3.2' to 9.0' bgs
											2-in diameter Sch. 40 PVC sump 8.5' to 8.9' bgs
											Bentonite seal 9.0' to 14.0'

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Remarks:
WOH - Weight of Hammer Apparent Conductivity graph is off-scale due to steel surface casing.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 01/10/95 / 01/11/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

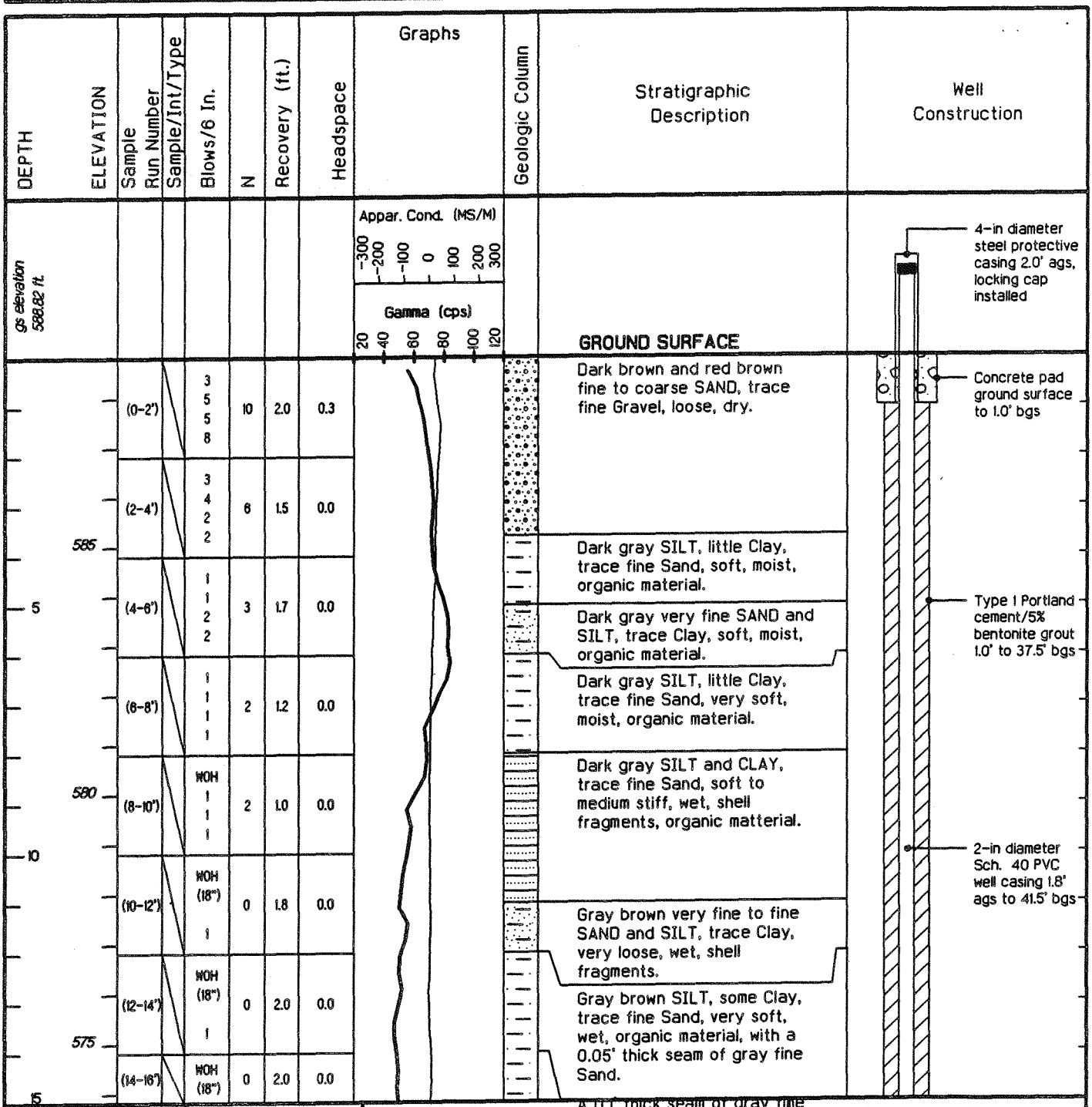
Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 56 ft.
Ground Surface: 588.82 ft.

Geologist: Hillary Hollister-Hinge

Log Number: MW-115 S3

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

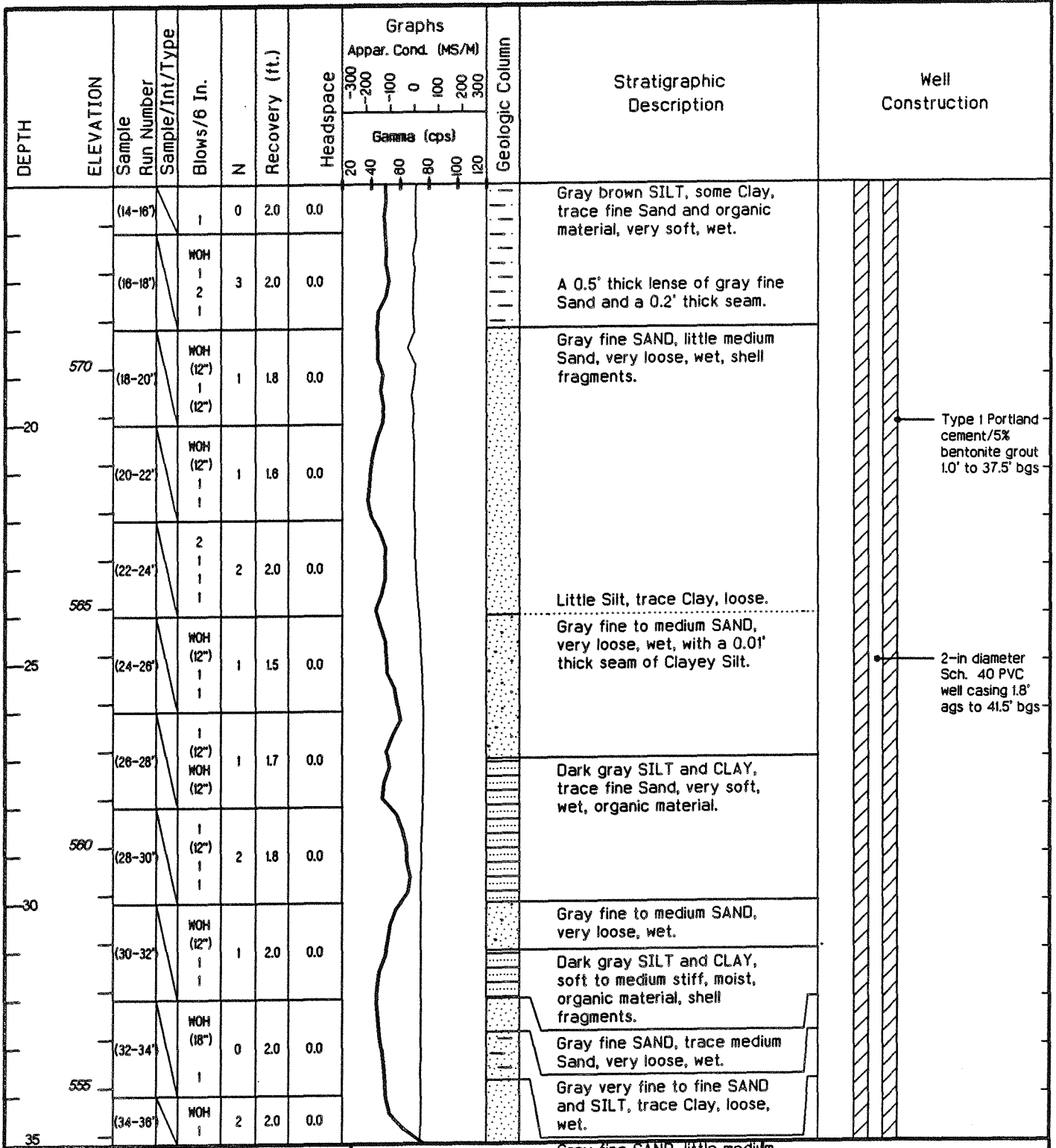
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-115 S3

Total Depth = 58 ft.

Client:
General Motors Corporation



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

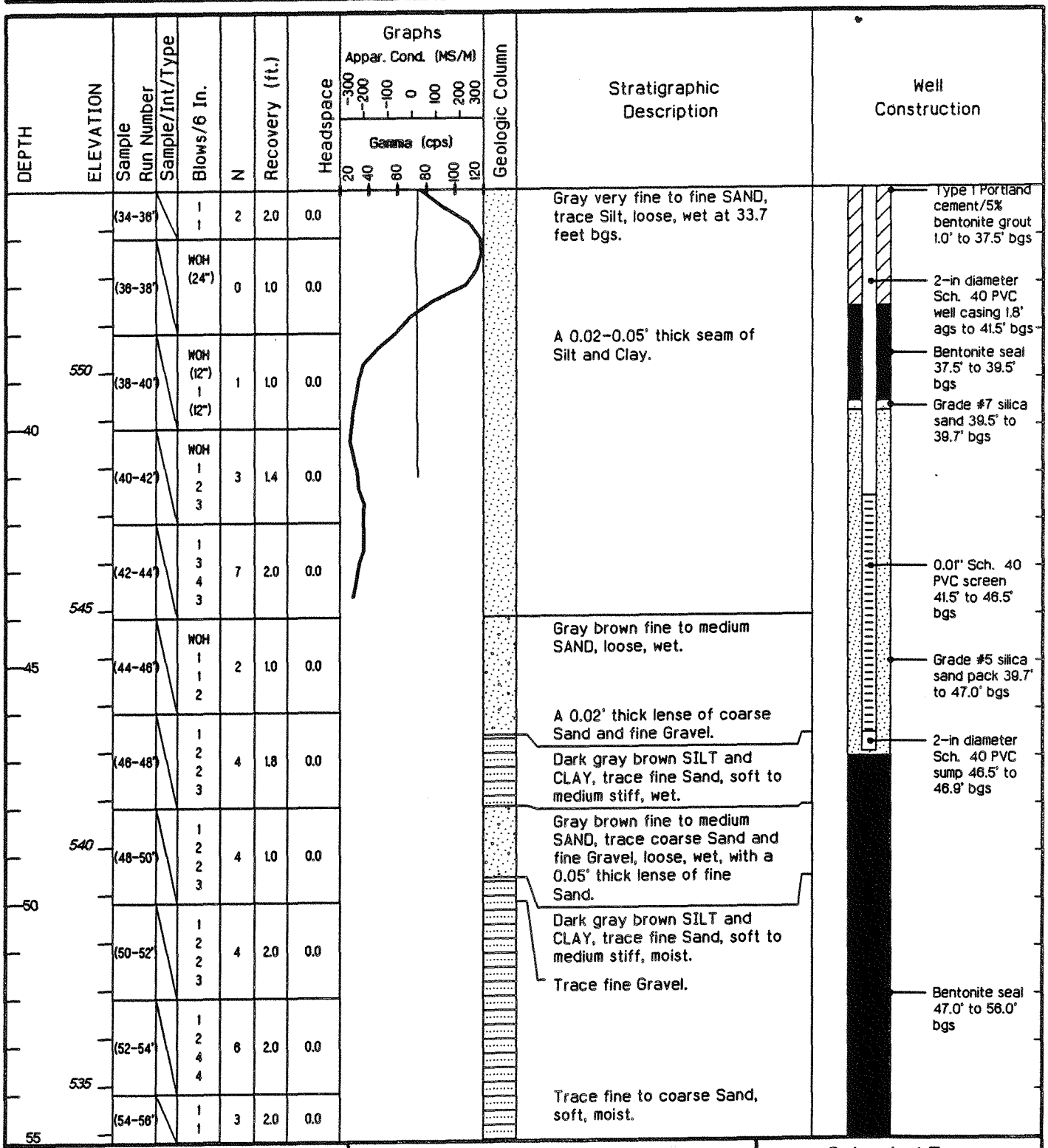
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-115 S3

Total Depth = 58 ft.



BBL
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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-115 S3

Total Depth = 56 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		2 4	3	2.0	0.0			Dark gray brown SILT and CLAY, trace fine Sand, soft to medium stiff, moist.	Bentonite seal 47.0' to 56.0' bgs
										Total depth of boring 56.0 ft. bgs.	
60	530										
65	525										
70	520										
75	515										

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 01/03/95 / 01/09/95
Drilling Company: Mateco
Driller's Name: Bob Dreyer
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 62 ft.
Ground Surface: 590.42 ft.

Geologist: Steve French

Log Number: MW-116 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 590.42 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing stick-up 2.2' ags, locking cap installed.
0	590	(0-2')		4 5 19 10	24	1.5	NA			Light brown SAND. Brown, black, and red SAND, medium dense.	Concrete pad ground surface to 2.0' bgs
		(2-4')		3 4 4 5	8	1.2	NA			Medium to coarse SAND, loose, wet.	
5	585	(4-6')		2 3 3 3	6	1.25	NA			Brown SILT, some fine Sand, soft, wet, seams of medium to coarse Sand.	Type I Portland cement/5% bentonite grout 2.0' to 35.0' bgs
		(6-8')		2 2 2 2	4	1.0	NA			Light gray fine to medium SAND, little to trace coarse Sand, trace Silt, fine Gravel, and shells, very loose, wet.	
		(8-10')		2 2 2 2	4	1.2	NA			Gray SILT, little Clay, little to trace fine Sand, very soft, wet.	
10	580	(10-12')		2 2 2 2	4	0	NA			Gray black SILT, some Clay, trace fine Sand, very soft.	2-in diameter Sch. 40 PVC well casing 2.3'ags to 44.0' bgs
		(12-14')		1 1 1 1	2	1.2	NA			Gray brown CLAY, some Silt, trace fine Sand, very soft, wet.	
15		(14-16')		1 1	2	0	NA			Brown SILT and CLAY, very soft, wet, with a 0.05' thick seam	

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Remarks:
WOH - Weight of Hammer. NA - Not Available. Apparent Conductivity graph is off-scale at 7 and 8 feet.

Saturated Zones

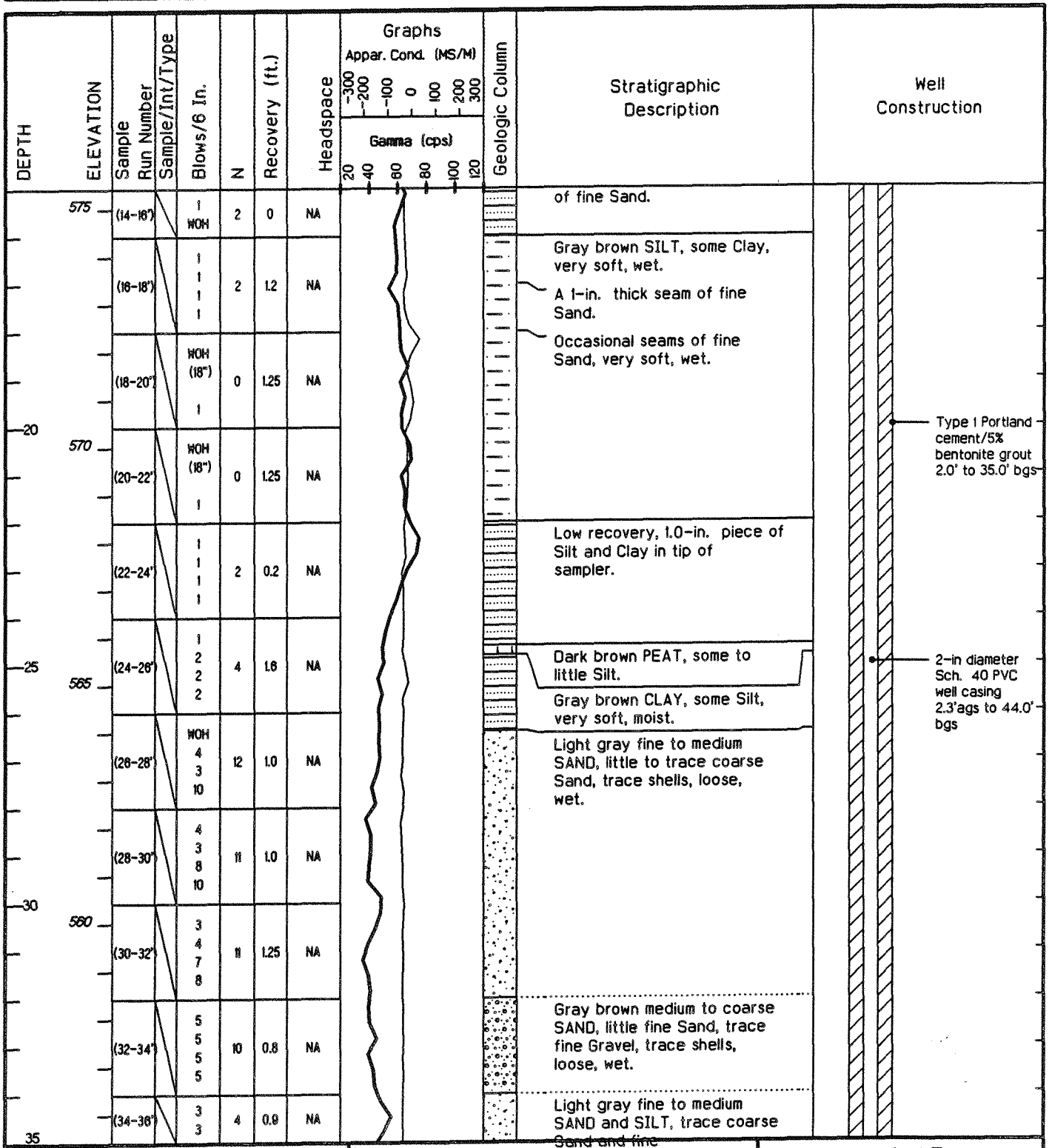
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-118 S2

Total Depth = 82 ft.

Client:
General Motors Corporation



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Remarks:
WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

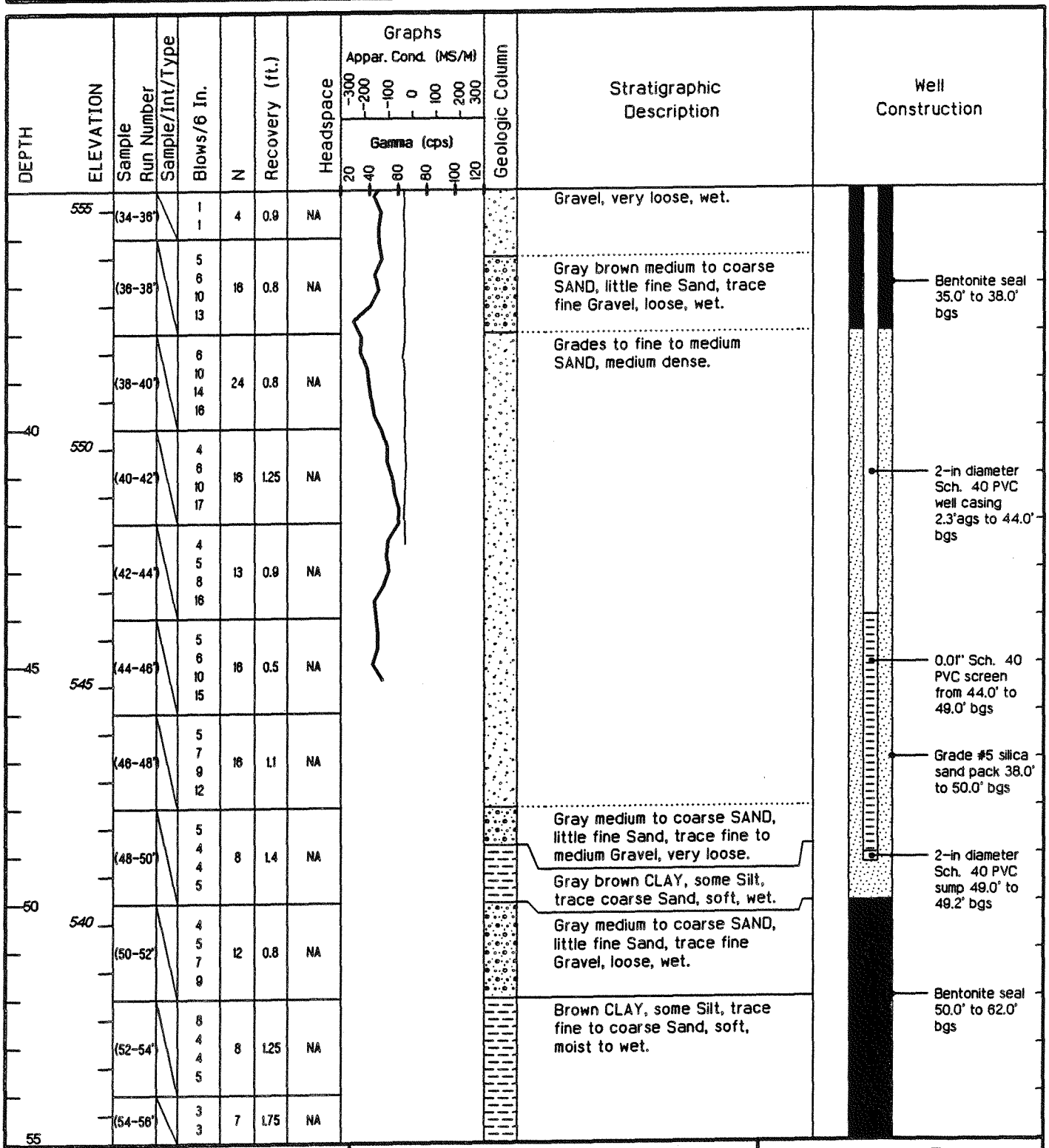
Date / Time	Elevation	Depth
		▽
		▽
		▽

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-118 S2

Total Depth = 62 ft.



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Remarks:
NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-116 S2

Total Depth = 62 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
	535	(54-56')		4 4	7	1.75	NA			Brown CLAY, some Silt, trace fine to coarse Sand, soft, moist to wet.	
		(56-58')		2 3 3 4	6	1.75	NA				
		(58-60')		4 4 5 6	9	1.9	NA				Bentonite seal 50.0' to 62.0' bgs
60	530	(60-62')		4 6 9 12	15	1.25	NA			Gark gray CLAY, little Silt, trace fine to coarse Sand and fine to medium Gravel, medium stiff, moist.	
										Total depth of boring 62.0 ft. bgs.	
65	525										
70	520										
75											

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Remarks:
NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 05/02/95 / 05/03/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 50 ft.
Ground Surface: 581.23 ft.

Geologist: Tim R. Osier

Log Number: MW-117 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 581.23 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
										Dark brown SILT and CLAY, soft, moist.	Concrete pad ground surface to 1.0' bgs
	580	(0-2')		2 2 3 4	5	L1	0.0			Color grades to a green.	
		(2-4')		1 2 2 2	4	L3	0.0				
5		(4-6')		WOH 1 WOH (12")	1	L3	0.0			Dark gray fine SAND and SILT, some Clay, very soft, moist.	Type I Portland cement/5% bentonite 1.0' to 31.5' bgs
	575	(6-8')		WOH (12") 2 1	2	L1	0.0			Gray fine SAND, some Silt, very loose, wet.	
		(8-10')		1 1 1 1	2	L2	0.0			Gray fine SAND and SILT, some Clay, soft, wet.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 35.0' bgs
10	570	(10-12')		2 WOH 1 1	1	L3	0.0			Gray fine SAND, some Silt, very loose, wet.	
		(12-14')		WOH (18") 1	0	L1	0.0				
15		(14-16')		2 1	1	L2	0.0			Lenses of Silt and Clay throughout.	

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Remarks:
WOH - Weight of Hammer

Saturated Zones

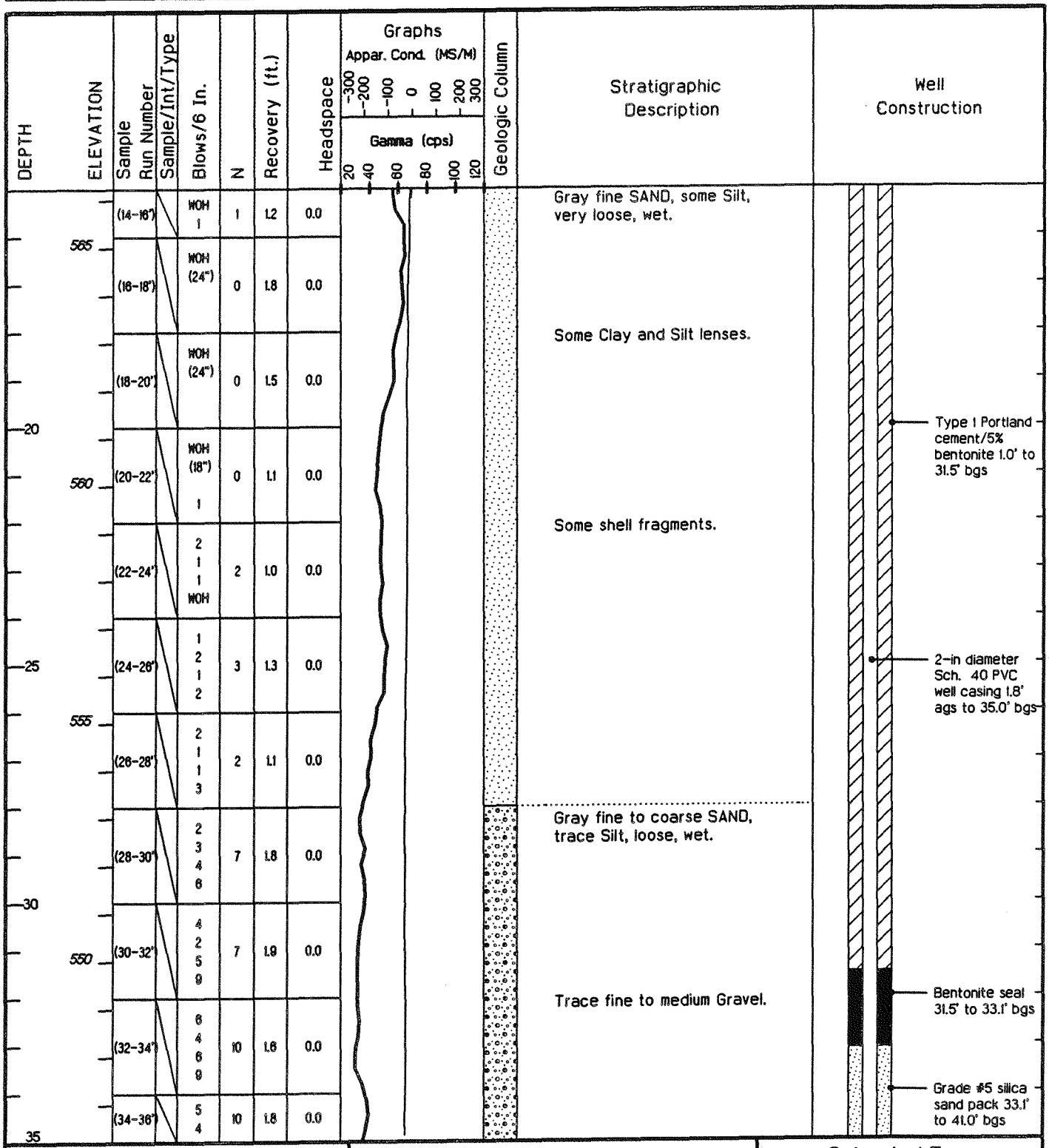
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-117 S2

Total Depth = 50 ft.



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Remarks:
WOH - Weight of Hammer

Saturated Zones

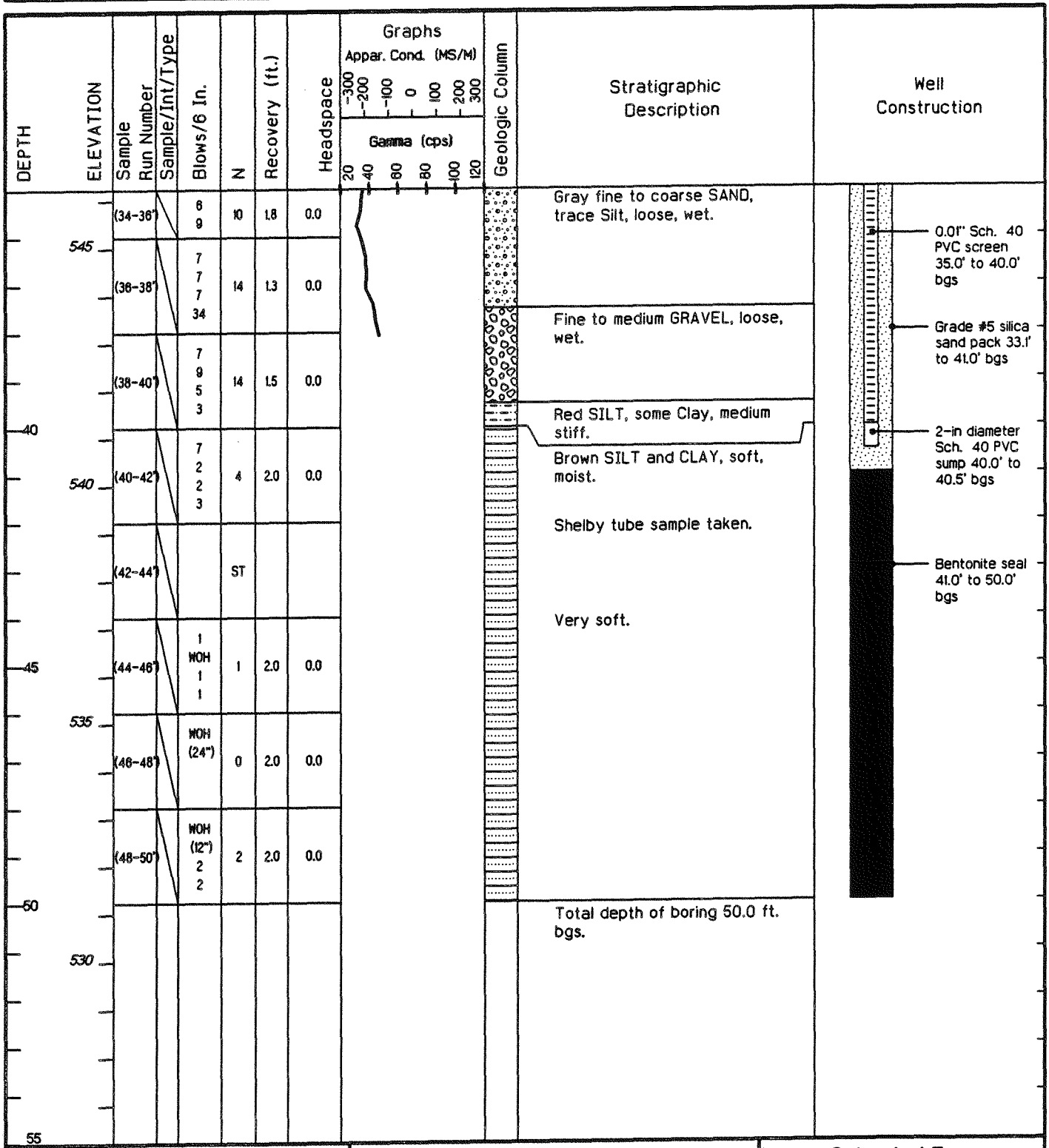
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-117 S2

Total Depth = 50 ft.



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Remarks:
WOH - Weight of Hammer ST - Shelby tube sample taken.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 05/02/95 / 05/02/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 54 ft.
Ground Surface: 581.34 ft.

Geologist: Timothy R. Osier

Log Number: MW-118 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 581.34 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
											Concrete pad ground surface to 1.0' bgs
	580	(0-2')		WOH 2 5 7	7	1.1	0.0			Dark brown fine to course SAND and SILT, some Clay, stiff, moist.	
		(2-4')		1 2 2 3	4	1.3	0.0			Gray SILT and CLAY, soft, moist.	
5		(4-6')		1 1 1 WOH	2	1.1	0.0			Gray fine SAND, some Silt and wood, loose, wet.	Type I Portland cement/5% bentonite 1.0' to 34.5' bgs
	575	(6-8')		WOH (12") 1 2	1	1.2	0.0				
		(8-10')		1 WOH (12") 1	0	1.1	0.0				
10		(10-12')		WOH 1 1 WOH	2	0.8	0.0				2-in diameter Sch. 40 PVC well casing 1.8' ags to 38.5' bgs
	570	(12-14')		1 WOH 1 2	1	0.9	0.0			Gray brown SILT, some Clay, soft, wet. Brown fine SAND, some Silt, loose, wet. Clay lenses, some shells.	
15		(14-16')		2 1	2	1.8	0.0				

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Remarks:
WOH - Weight of Hammer

Saturated Zones

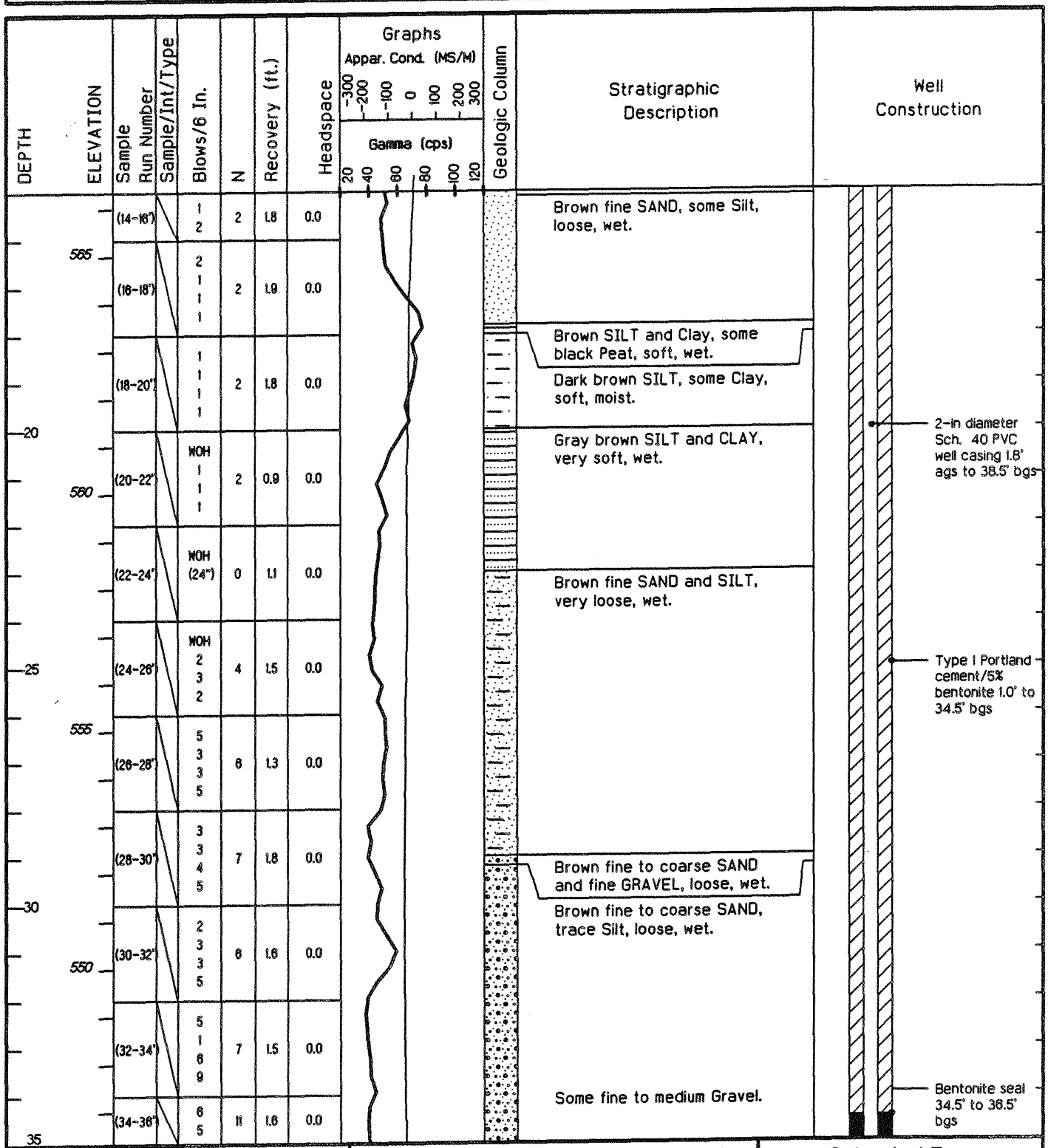
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-118 S2

Total Depth = 54 ft.



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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-118 S2

Total Depth = 54 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Geologic Column	Stratigraphic Description
		(34-36')		6 8	11	1.6	0.0		Brown fine to coarse SAND, some fine to medium Gravel, trace Silt, loose, wet.
	545	(36-38')		5 2 2 7	4	1.6	0.0		
		(38-40')		8 6 7 9	13	1.8	0.0		
40									
	540	(40-42')		11 8 6 4	14	1.8	0.0		
		(42-44')		6 3 3 3	6	1.6	0.0		
									Brown SILT and CLAY, soft, wet.
45		(44-46')		4 1 2 2	3	1.5	0.0		
	535	(46-48')		4 4 2 2	6	1.1	0.0		
									Grades with trace fine Gravel.
		(48-50')		2 2 1 2	3	1.8	0.0		
50									Brown SILT, some Clay, moist, soft.
	530	(50-52')		WOH (12") 3 3	3	2.0	0.0		
		(52-54')		2 1 3 3	4	2.0	0.0		
55									Total depth of boring 54.0 ft. bgs.

Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Well Construction

- Bentonite seal 34.5' to 36.5' bgs
- 2-in diameter Sch. 40 PVC well casing 1.8' ags to 38.5' bgs
- 0.01" Sch. 40 PVC screen 38.5' to 43.5' bgs
- Grade #5 silica sand pack 36.5' to 45.0' bgs
- 2-in diameter Sch. 40 PVC sump 43.5' to 44.0' bgs
- Bentonite seal 45.0' to 54.0' bgs

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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/12/95 / 01/13/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 52 ft.
Ground Surface: 581.65 ft.

Geologist: James Saxton

Log Number: MW-119 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 581.65 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
		(0-2')		1 2 2 2	4	1.2	0.0			Brown SILT, some Clay, trace fine Sand, soft, moist.	Concrete pad ground surface to 2.0' bgs
	580	(2-4')		WOH 1 1 1	2	1.7	0.0			Brown SILT and CLAY, some fine Sand, very soft, wet.	
5		(4-6')		WOH (12") 1 1	1	0.25	12.8				Type I Portland cement/5% bentonite grout 2.0' to 29.0' bgs
	575	(6-8')		WOH 1 1 (12")	1	1.3	2.0			Gray fine to medium SAND, very loose.	
		(8-10')		1 (18") 1	1	1.25	3.1			Gray SILT and CLAY, very soft.	
10										Gray fine to medium SAND, very loose.	
										Gray CLAY, some Silt, very soft.	
		(10-12')		1 (12") 1 1	1	2.0	19.1			Gray fine to medium SAND, trace Silt, very loose.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 36.5' bgs
	570										
		(12-14')		WOH (18") 2	1	1.4	15.2			Little Silt.	
15		(14-16')		WOH 1	2	1.4	7.8			Trace Clay.	

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-119 S2

Total Depth = 52 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
		(14-16')		1 2	2	1.4	7.8
	565	(16-18')		1 1 1 1	2	1.5	10.1
		(18-20')		WOH (24")	0	1.4	NA
20		(20-22')		WOH (24")	0	1.6	3.8
	560	(22-24')		WOH (24")	0	2.0	5.4
25		(24-26')		1 (24")	1	2.0	32.5
	555	(26-28')		3 1 3 6	4	2.0	5.9
		(28-30')		1 1 2 3	3	2.0	15.5
30		(30-32')		2 2 2 4	4	2.0	9.6
	550	(32-34')		3 1 1 2	2	2.0	16.4
35		(34-36')		5 3	9	1.7	12.1

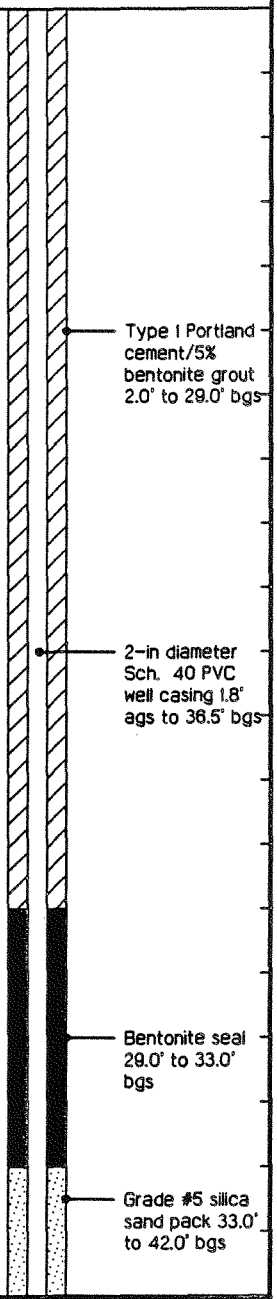
Graphs
Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300
Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

- Gray fine to medium SAND, trace Silt, very loose.
- Dark gray SILT and CLAY, trace fine Gravel, very soft, moist.
- Gray fine to medium SAND, trace Silt, very loose.
- Brown SILT and SAND, trace Clay.
- Black PEAT
- Gray CLAY, some Silt, moist, very loose
- Gray to brown CLAY, some Silt, trace shells, wet, very soft
- Gray fine to medium SAND, trace Silt and shells
- Trace coarse Sand
- Gray medium to coarse SAND, little fine Gravel, trace fine Sand, very loose
- Gray fine to medium SAND, little coarse Sand, trace Silt, very loose
- Gray coarse SAND and fine GRAVEL, trace medium Sand, very loose

Well Construction



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Remarks:
WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

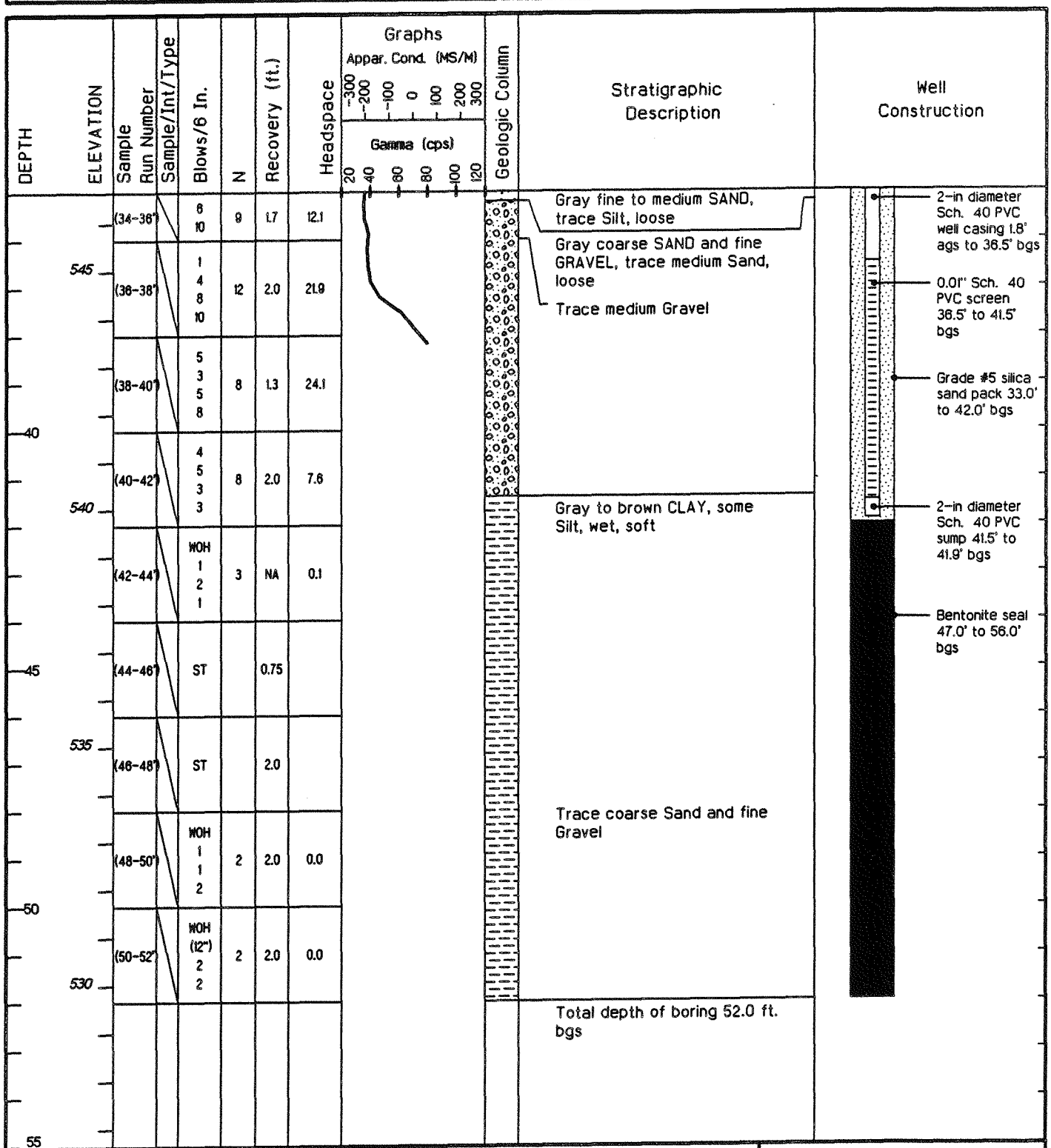
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-119 S2

Total Depth = 52 ft.



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Remarks:
ST - Shelby tube sample from 44' to 48' bgs.
NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 01/16/95 / 01/17/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 52 ft.
Ground Surface: 582.59 ft.

Geologist: Sabrina T. Hesford

Log Number: MW-120 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 582.59 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
		(0-2')		3 2 2 2	4	1.6	10.1			Dark brown SILT, trace fine Sand, very soft, damp to moist.	Concrete pad ground surface to 2.5' bgs
	580	(2-4')		1 1 2 1	3	0.5	2.6				
5		(4-6')		1 1 2 1	3	0.9	2.5			SILT, trace fine Sand, very soft, moist, trace wood, 0.2' layer of gray fine to medium Sand.	Type I Portland cement/5% bentonite grout 2.5' to 30.5' bgs
		(6-8')		1 2 2 2	4	1.3	3.3			Grades to gray SILT and fine SAND, trace Clay, soft, moist, organic material.	
	575	(8-10')		1 1 1 1	2	0.8	2.5			Gray fine to medium SAND, wet.	
10		(10-12')		1 2 2 1	4	1.2	0.4			Gray fine SAND and SILT, trace to little Clay, wet.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 36.0' bgs
										Gray fine to medium SAND, wet.	
										Seam of dark brown fine SAND and SILT.	
	570	(12-14')		1 1 1 1	2	0.7	0.7			A 0.4' layer of gray fine Sand and Silt, trace Clay, wet, plant material and wood.	
15		(14-16')		2 1	2	0.8	0.7				

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Remarks:
Apparent Conductivity graph is off-scale.

Saturated Zones

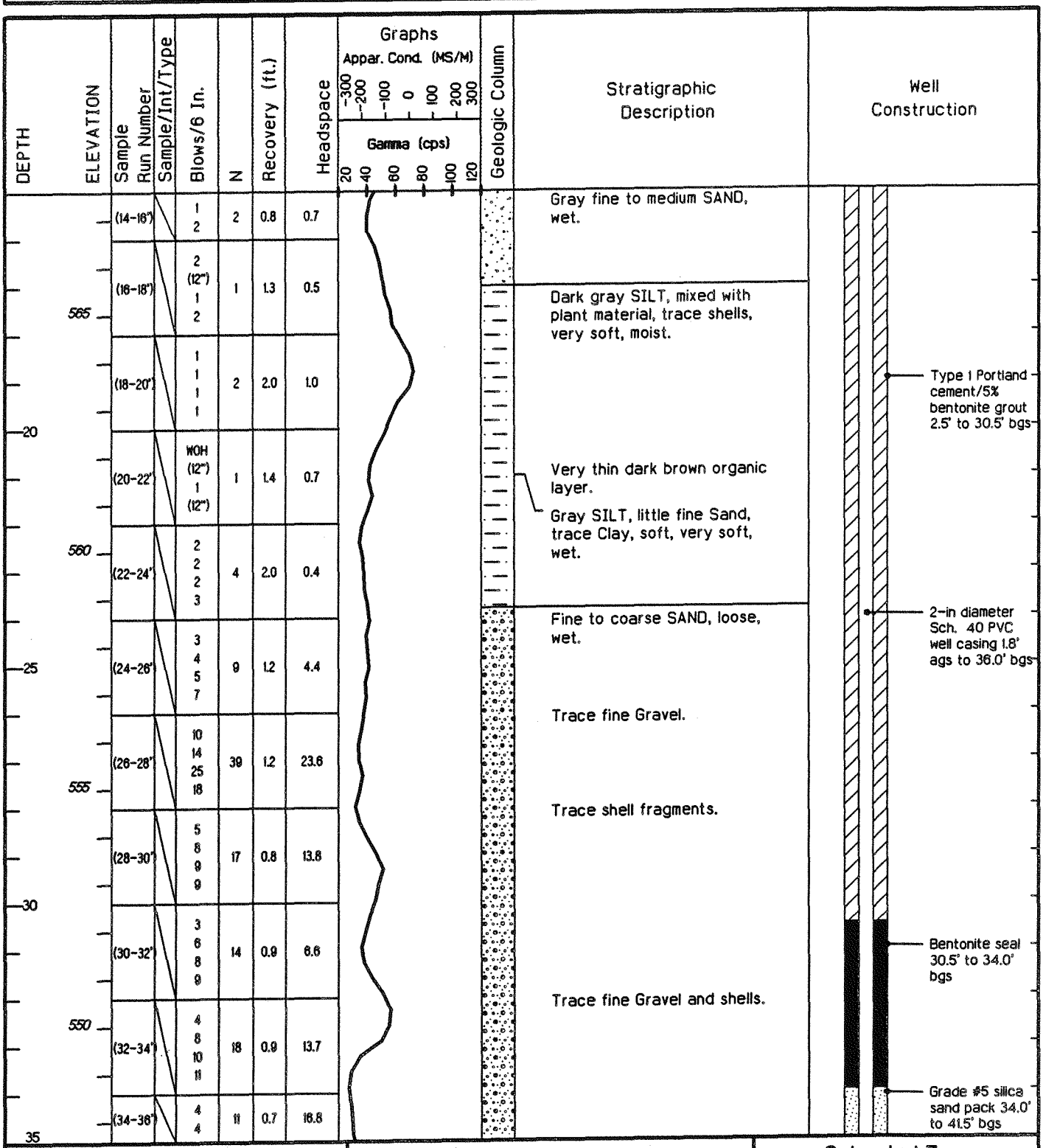
Date / Time	Elevation	Depth
01/17/95		7.0 ▼
		na ▼
		na ▽

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-120 S2

Total Depth = 52 ft.



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Remarks:
WOH - Weight of Hammer. Apparent Conductivity graph is off-scale.

Saturated Zones

Date / Time	Elevation	Depth
01/17/95		7.0 ▼
		na ▼
		na ▼

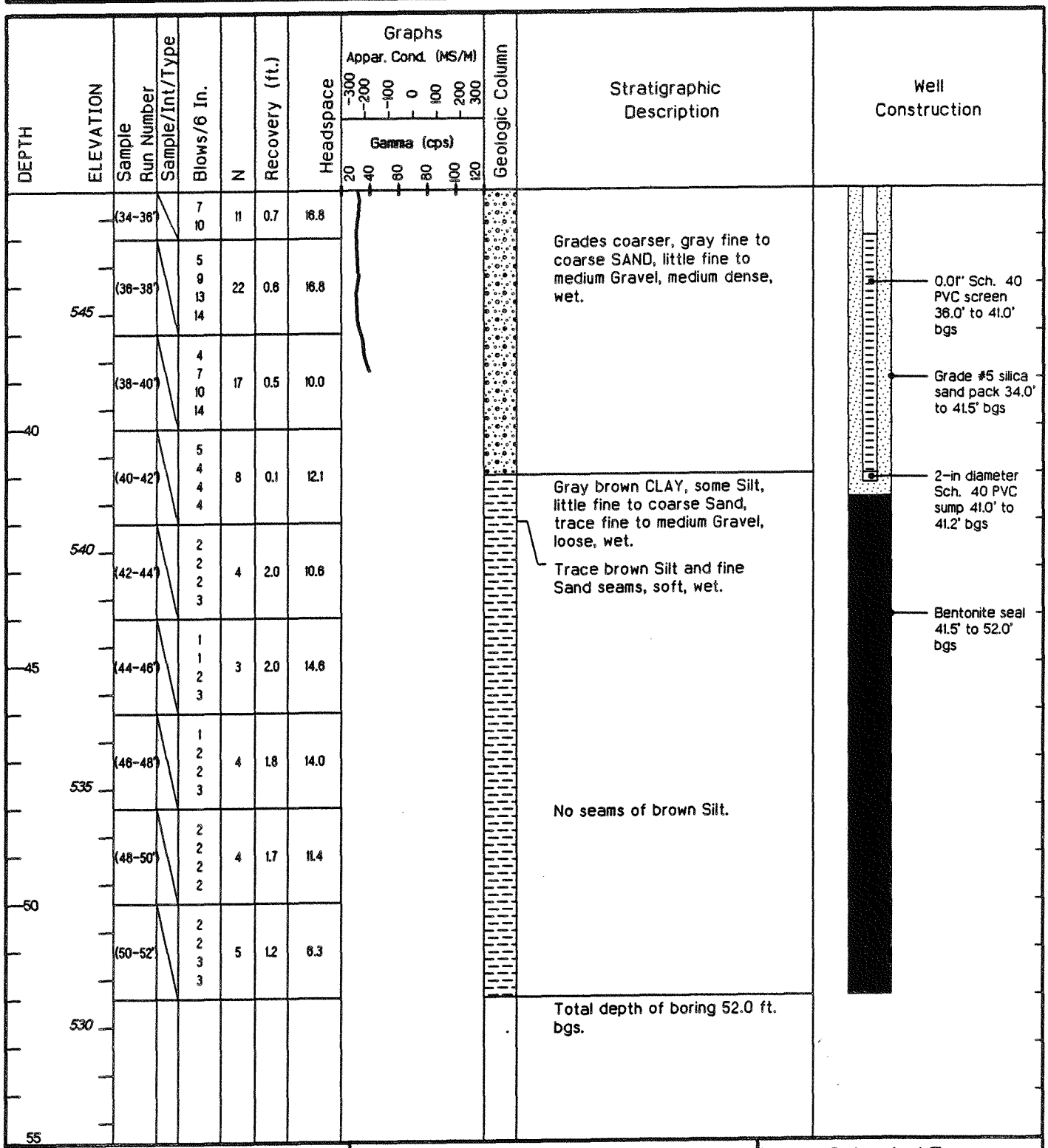
Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-120 S2

Total Depth = 52 ft.



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Remarks:
Apparent Conductivity graph is off-scale.

Saturated Zones

Date / Time	Elevation	Depth
01/17/95		7.0 ▼
		na ▼
		na ▽

Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 01/12/95 / 01/12/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 50 ft.
Ground Surface: 582.23 ft.

Geologist: Sabrina T. Hesford

Log Number: MW-121 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

gs elevation 582.23 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
		(0-2')				1.2	67.7			Dark brown SILT, trace Clay, soft, roots.	Concrete pad ground surface to 2.5' bgs
	580	(2-4')		2 2 1 1	3	0.6	15.1				
5		(4-6')		1 (12") 2 (12")	1	1.5	22.6			A 1" seam of gray fine Sand and Silt, trace wood and plant fibers.	Type I Portland cement/5% bentonite grout 2.5' to 31.0' bgs
	575	(6-8')		1 1 3 3	4	1.5	11.6			Gray fine SAND, little Silt, trace shells, very loose, wet.	
		(8-10')		1 2 2 3	4	1.0	5.1				
10		(10-12')		1 1 1 2	2	1.1	8.6			Seams of brown Silt, very soft, moist.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 34.8' bgs
	570	(12-14')		1 2 1 2	3	1.0	7.1			Seams of brown Silt, very soft, wet.	
15		(14-16')		WOH (12")	1	1.0	4.5			Gray fine Sand, little shell fragments and whole small shells, trace wood and plant material.	

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Remarks:
WOH - Weight of Hammer. Apparent Conductivity graph is off-scale.

Saturated Zones

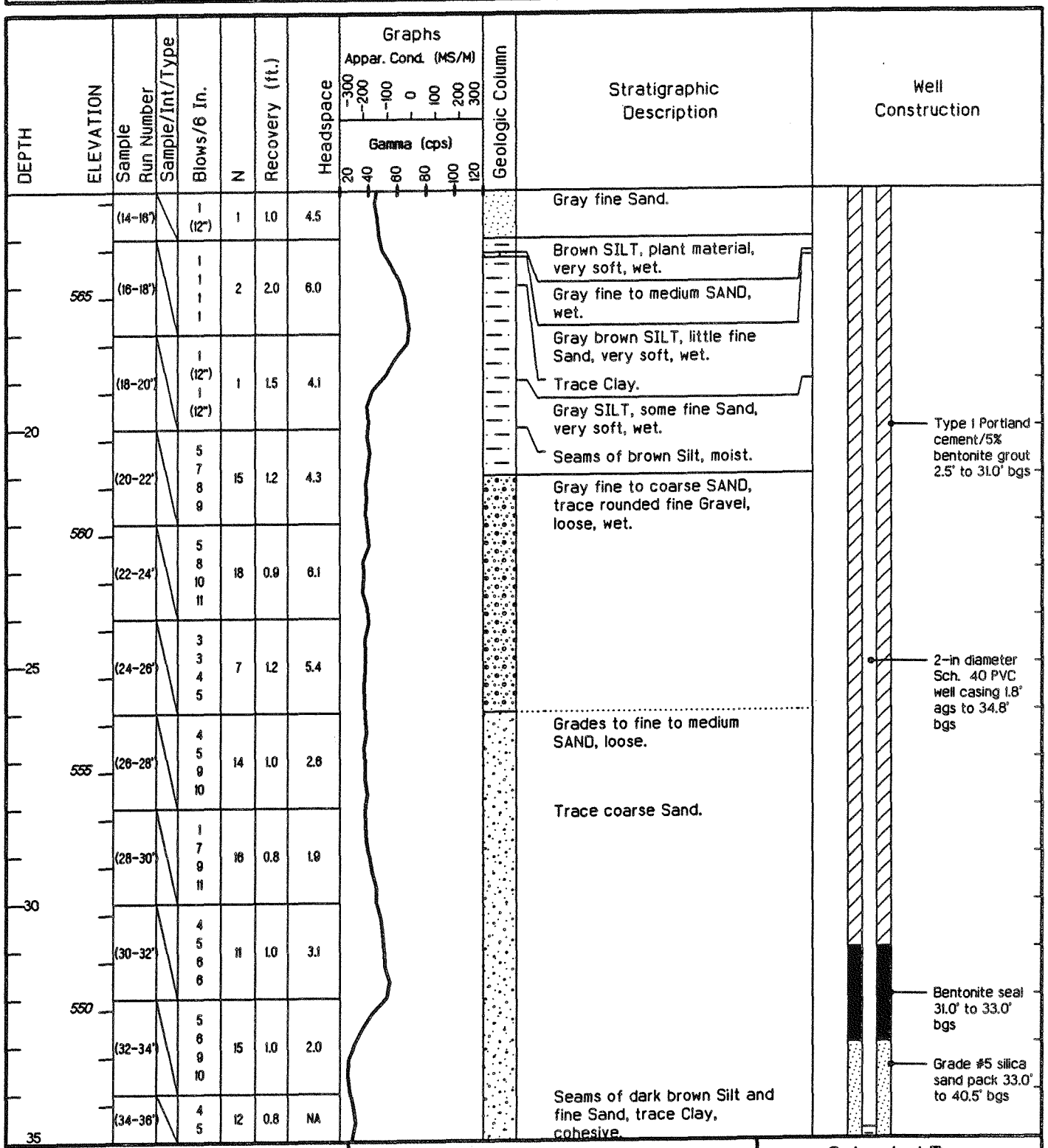
Date / Time	Elevation	Depth
01/12/95		5.5 ▼
		na ▼
		na ▽

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-121 S2

Total Depth = 50 ft.



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Remarks:
Apparent Conductivity graph is off-scale.

Saturated Zones

Date / Time	Elevation	Depth
01/12/95		5.5 ▽
		na ▽
		na ▽

Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-121 S2

Total Depth = 50 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
		(34-36')		7 9	12	0.8	NA
	545	(36-38')		3 3 6 9	9	1.0	3.2
		(38-40')		2 2 2 3	4	0.6	3.0
40		(40-42')		1 1 1 1	2	1.25	3.0
	540	(42-44')		2 3 1 2	4	1.8	2.4
45		(44-46')		1 (24")	0.25	2.0	2.4
	535	(46-48')		NA	NA	1.6	2.1
		(48-50')		1 1 2 2	3	2.0	2.0
50							
	530						
55							

Graphs
Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300
Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

Fine to medium SAND, loose.

Grades with two 1" seams of Silt and fine to coarse Sand, little rounded Gravel.

Gray brown CLAY, very soft,wet.

Total depth of boring 50.0 ft. bgs.

Well Construction

- 0.01" Sch. 40 PVC screen 34.8' to 39.8' bgs
- Grade #5 silica sand pack 33.0' to 40.5' bgs
- 2-in diameter Sch. 40 PVC sump 39.8' to 40.0' bgs
- Bentonite seal 40.5' to 50.0' bgs

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Remarks:
NA - Not available. Apparent Conductivity graph is off-scale.

Saturated Zones

Date / Time	Elevation	Depth
01/12/95		5.5 ▼
		na ▼
		na ▽

Date Start/Finish: 01/10/95 / 01/11/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 42 ft.
Ground Surface: 583.07 ft.

Geologist: Sabrina T. Hesford

Log Number: MW-122 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 583.07 ft.								Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing stick-up 2.5' ags, locking cap installed.
		(0-2')		2 2 2 2	4	0.3	0.4			Dark brown fine SAND and SILT, trace Clay, loose/soft, moist to wet.	Concrete pad ground surface to 2.5'
	580	(2-4')		1 1 1 1	2	1.4	0.3			Grades with little gray fine Sand, trace shells, wood, and plant material, very soft, wet.	
5		(4-6')		WOH (12") 1 1	1	1.7	0.9			Brown fine SAND and SILT, very soft, wet. From 4.0' to 10.0' there are 1" thick peat layers every 1.0'.	Type I Portland cement/5% bentonite grout 2.5' to 21.5' bgs
		(6-8')		1 (24")	1	1.75	1.1			Dark gray SILT, little to trace Clay, trace fine Sand, very soft, wet.	
	575	(8-10')		1 (24")	1	2.0	0.8			Trace shells.	
10		(10-12')		1 (24")	1	1.0	0.8				2-in diameter Sch. 40 PVC well casing 2.5' ags to 25.8' bgs
										Peat.	
	570	(12-14')		WOH 1 1	2	1.0	0.7			Brown fine to medium SAND, some Silt, very loose, wet.	
15		(14-16')		1 1	3	1.5	0.8			A 0.5' layer of fine to medium Sand.	

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

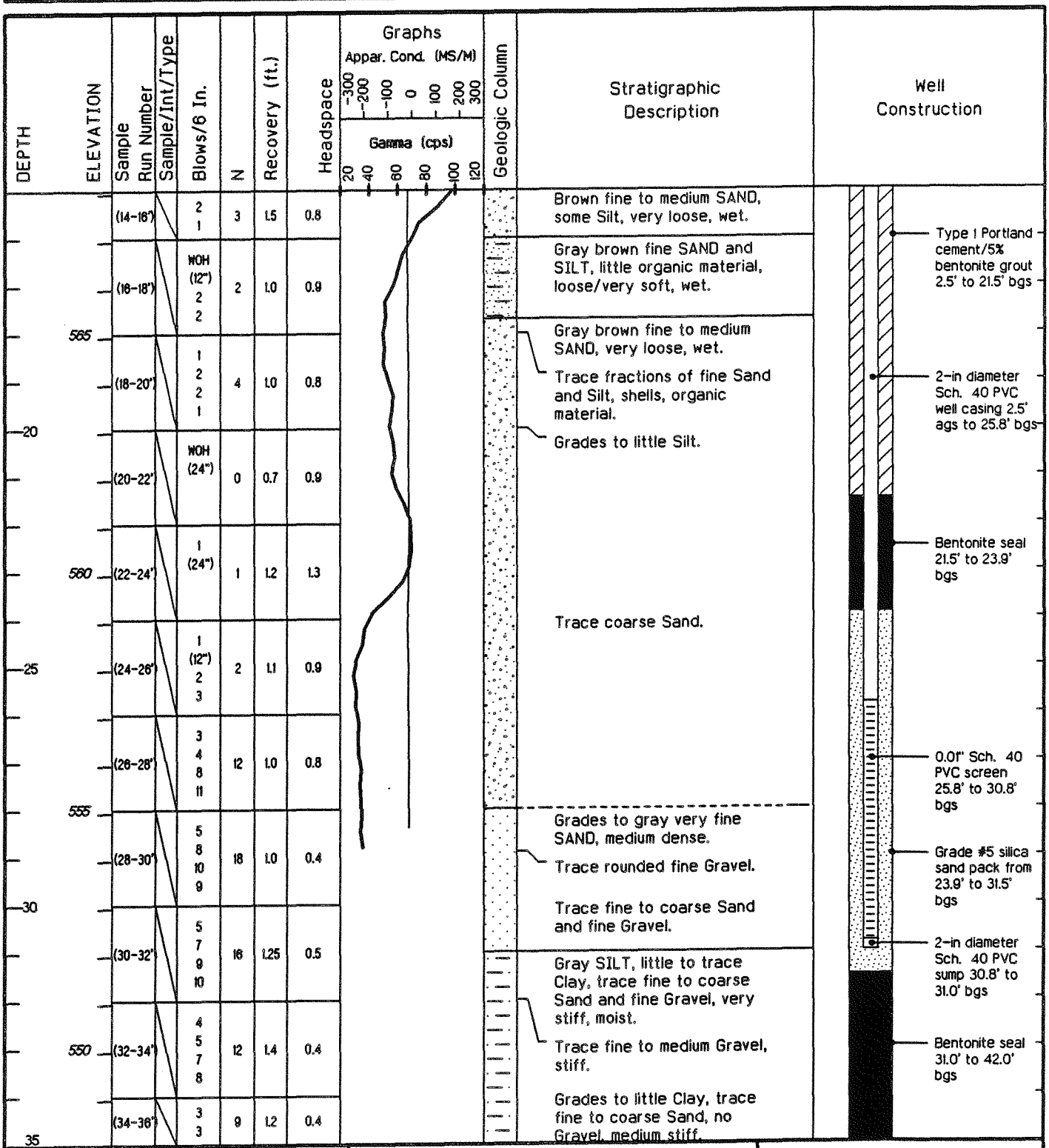
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-122 S2

Total Depth = 42 ft.



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-122 S2

Total Depth = 42 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(34-36")		6 8	9	1.2	0.4				
		(36-38")		3 3 2 3	5	2.0	0.6			Gray brown SILT, some Clay, trace coarse Sand, soft, wet.	
	545									Soft, moist.	
		(38-40")		1 1 3 4	4	2.0	0.6				
40										Very soft, wet.	
		(40-42")		WOH (12") 2 1	2	1.8	0.6				
										Total depth of boring 42.0 ft. bgs.	
	540										
45											
	535										
50											
	530										
55											

Bentonite seal 31.0' to 42.0' bgs

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		▽
		▽
		▽

Date Start/Finish: 01/09/95 / 01/09/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 30 ft.
Ground Surface: 583.51 ft.

Geologist: James Saxton

Log Number: MW-123 SI

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 583.51 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			4-in diameter steel protective casing 2.1' ags, locking cap installed.
										GROUND SURFACE	
0		(0-2')		1 2 3 2	5	1.25	NA			Dark brown SILT, little fine to medium Sand, trace fine Gravel, soft, moist, roots.	Concrete pad ground surface to 2.0' bgs
		(2-4')		1 1 1 1	2	NR	NA			Brown SILT, little Clay, trace fine Sand, soft, wet @ 2.5'.	
	580										
5		(4-6')		1 (12") 1 (12")	1	2.0	NA			Dark brown PEAT, very soft.	Type I cement/5% bentonite grout 2.0' to 13.5' bgs
										Brown CLAY, some Silt, trace fine Sand, very soft, wet.	
		(6-8')		WOH (24")	0	2.0	NA				
	575										
		(8-10')		WOH (18") 1	0	2.0	NA				
10										Dark gray fine to medium SAND, some Silt, little Clay and shell fragments, very loose, wet.	2-in diameter Sch. 40 PVC well casing 2.1' ags to 16.5' bgs
		(10-12')		1 (24")	1	1.4	NA			Gray CLAY and fine SAND, little Silt, very soft, wet, trace shell fragments	
		(12-14')		WOH (12") 1 1	1	1.6	NA				
	570										
15		(14-16')		1 3	6	1.75	NA				Bentonite seal 13.5' to 15.7' bgs

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Remarks:
WOH - Weight of Hammer. NA - Not Available. NR - No recovery, redrove sampler. Apparent Conductivity graph is off-scale. .test, 2 NA - Not Available. NR - No recovery, redrove sampler. Apparent Conductivity graph is off-scale.

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-123 S1

Total Depth = 30 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')		3 5	6	1.75	NA			Gray SILT, some fine Sand, soft, moist.	2-in diameter Sch. 40 PVC well casing 2.1' ags to 16.5' bgs
		(16-18')		1 4 4 41	8	2.0	NA			Gray fine to medium SAND, little Silt, loose, wet.	0.01" Sch. 40 PVC screen 16.5' to 21.5' bgs
	565	(18-20')		2 4 6 5	10	1.5	NA			Little fine to medium Gravel, wet.	Grade #5 silica sand pack 15.7' to 22.0' bgs
20		(20-22')		3 4 8 10	12	1.2	NA			Gray CLAY and SILT, little medium to coarse Sand, soft, wet. Trace fine Sand and fine Gravel, moist.	2-in diameter Sch. 40 PVC sump 21.5' to 21.9' bgs
		(22-24')		3 6 10 13	16	NR	NA				
	560										Bentonite seal 22.0' to 30.0' bgs
25		(24-26')		3 2 7 12	9	1.25	NA				
		(26-28')		4 7 12 13	19	1.6	NA				
	555	(28-30')		3 6 11 11	17	1.5	NA				
30										Total depth of boring 30.0 ft. bgs.	
	550										
35											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 01/06/95 / 01/06/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Borehole Depth: 28 ft.
Ground Surface: 583.83 ft.

Geologist: James Saxton

Log Number: MW-124 S1

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

gs elevation 583.83 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing 2.1' ags, locking cap installed.
		(0-2')		3 3 3 3	6	1.1	NA			Brown SILT, some fine Sand, soft, trace roots.	Concrete pad ground surface to 2.0' bgs
		(2-4')		8 5 6 5	22	0.8	NA			Brown fine to medium SAND, little Silt, very loose, moist. Wet.	
	580										Type I cement/5% bentonite grout 2.0' to 7.5' bgs
5		(4-6')		2 2 1 1	3	1.25	NA			Dark gray fine to medium SAND, little Silt, trace shell fragments, very loose, wet.	2-in diameter Sch. 40 PVC well casing 2.1' ags to 11.5' bgs
		(6-8')		2 3 WOH 1	3	1.2	NA				
	575	(8-10')		1 (12") 1 1	2	NR	NA			No Recovery.	Bentonite seal 7.5' to 9.5' bgs
10		(10-12')		WOH (18") 2	0	1.75	NA			Dark gray fine to medium SAND, little Silt, trace shell fragments, very loose, wet. Little Clay.	0.01" Sch. 40 PVC screen 11.5' to 16.5' bgs
		(12-14')		3 2 2 4	4	1.0	NA				Grade #5 sand pack 9.5' to 17.0' bgs
	570										
15		(14-16')		3 2	4	1.5	NA			Brown fine SAND and CLAY, trace fine Gravel, very loose, wet.	

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engineers & scientists

Remarks:
WOH - Weight of Hammer. NA - Not Available.
NR - No Recovery. Apparent Conductivity graph is off-scale.

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-124 SI

Total Depth = 28 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(14-16')		3 4	4	1.5	NA			Brown fine SAND and CLAY, trace fine Gravel, very loose, wet.	0.01" Sch. 40 PVC screen 11.5' to 16.5' bgs
		(16-18')		4 7 10 10	17	1.5	NA			Brown CLAY, some SILT, little fine Sand, trace Gravel, medium stiff, moist.	2-in. diameter Sch. 40 PVC sump 16.5' to 16.9' bgs
	565	(18-20')		2 4 5 8	9	1.0	NA				
20		(20-22')		3 8 10 11	18	2.0	NA				Bentonite seal 17.0' to 28.0' bgs
		(22-24')		4 6 8 9	14	1.9	NA				
	560	(24-26')		4 4 8 10	13	2.0	NA				
25		(26-28')		4 6 7 7	13	0.9	NA				
	555									Total depth of boring 28.0 ft. bgs.	
30											
	550										
35											

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engineers & scientists

Remarks:
NA - Not Available. Apparent Conductivity graph is off-scale.

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 01/11/95 / 01/12/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 34 ft.
Ground Surface: 581.56 ft.

Geologist: James Saxton

Log Number: MW-127 SI

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 581.56 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed.
										Dark brown SILT, little Clay, trace fine Sand, soft.	Concrete pad ground surface to 2.0' bgs
	580	(0-2')		0 1 2 3	3	L.7	0.1			Brown fine to medium SAND, some Silt, very loose.	
		(2-4')		WOH 1 (12") 1	1	NA	0.2			Dark gray fine to medium SAND, some Silt, very loose, wet.	
5		(4-6')		1 (24")	1	NA	0.1			Gray fine SAND and CLAY, several thin peat layers, very loose, wet.	Type I Portland cement/5% bentonite grout 2.0' to 14.0' bgs
	575	(6-8')		WOH (24")	0	L.3	0.1			No peat layers.	
		(8-10')		WOH (24")	0	L.2	0.0			Gray fine to medium SAND, little Silt, some shells, very loose.	
10		(10-12')		WOH (24")	0	L.4	0.1			Gray SILT, little Clay, some fine Sand.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 16.5' bgs
	570	(12-14')		1 (18") 2	1	L.1	0.0			Gray SAND and SILT, stringers of gray Clay, very loose/very soft, wet.	
15		(14-16')		1 1	2	L.3	0.1				Bentonite seal 14.0' to 16.0' bgs

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Remarks:
NA - Not Available. WOH - Weight of Hammer.

Saturated Zones

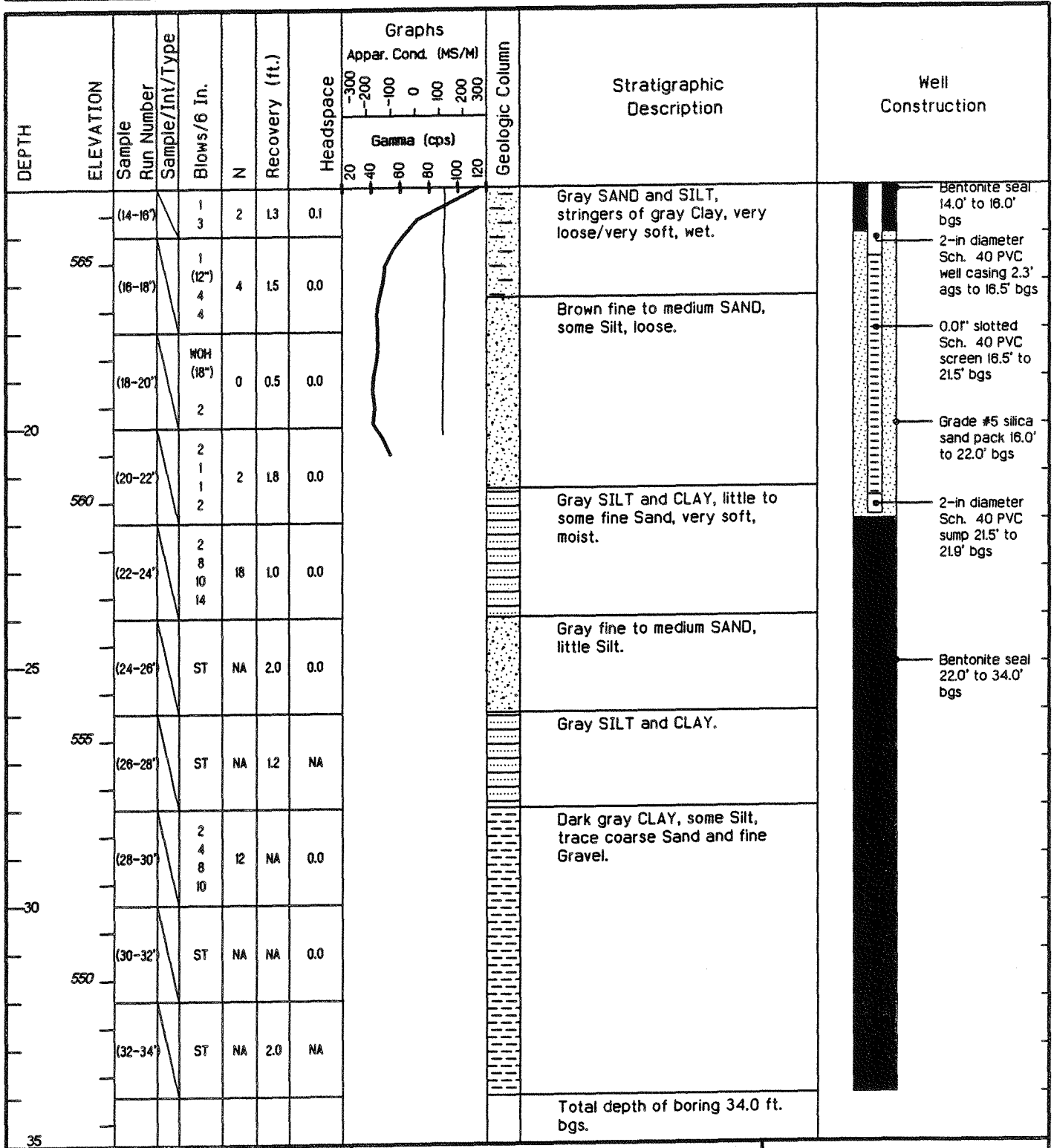
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-127 SI

Total Depth = 34 ft.



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Remarks:
NA – Not Available. WOH – Weight of Hammer.
ST – Shelby tube sample taken 24' to 28' bgs and 30' to 34' bgs.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/11/95 / 01/11/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

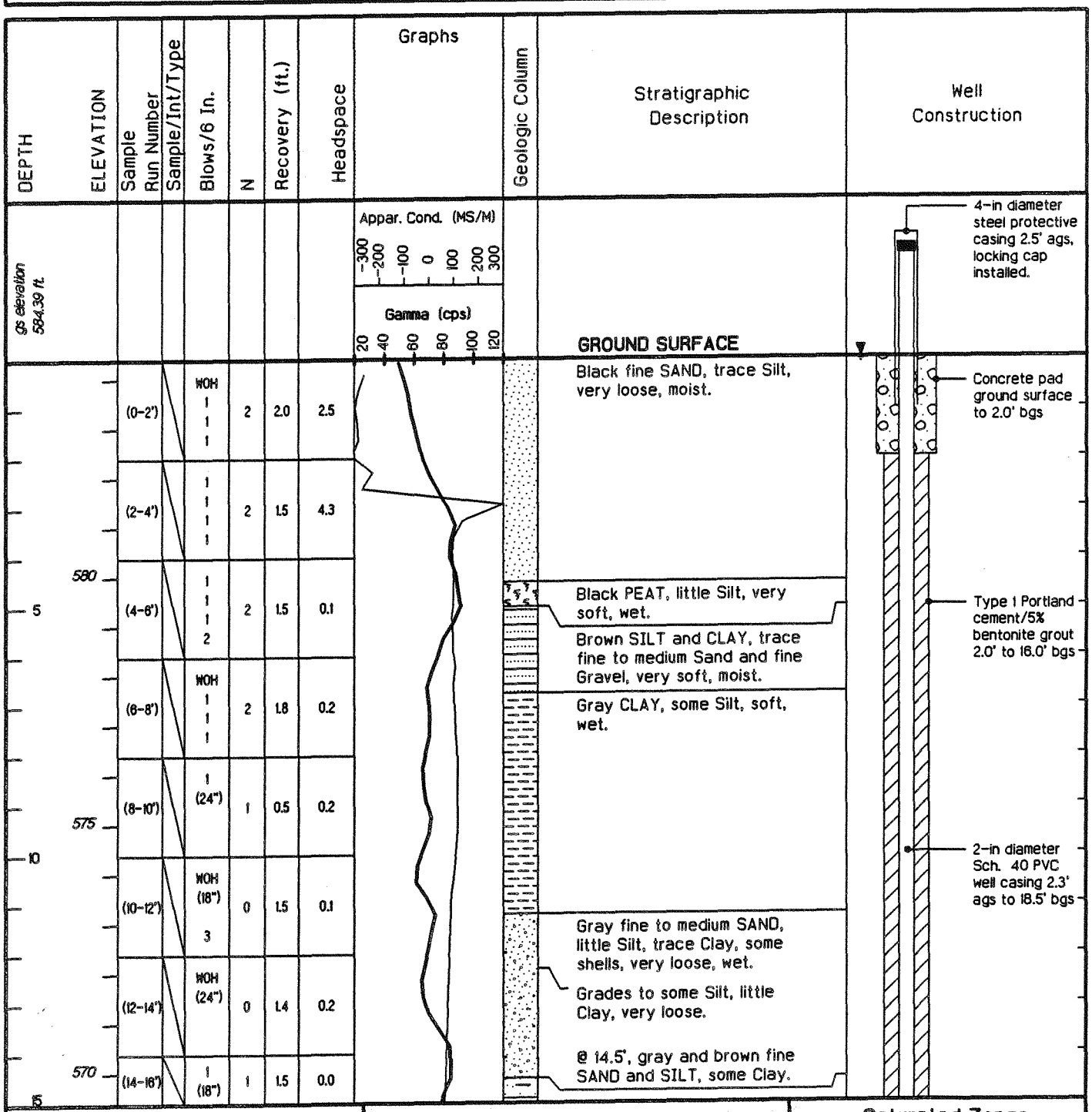
Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 34 ft.
Ground Surface: 584.39 ft.

Geologist: James Saxton

Log Number: MW-128 S1

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-128 S1

Total Depth = 34 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Apper. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description
		(14-16')		1	1	1.5	0.0			Gray CLAY, little fine Sand and Silt, very soft.
		(16-18')		WOH (12") 1 2	1	1.2	0.1			Gray and brown SILT and CLAY, some fine Sand.
	565	(18-20')		1 1 1 1	2	1.5	0.0			Alternating 4" thick layers of gray Clay, some Silt, little fine Sand.
20		(20-22')		WOH 1 3 13	4	2.0	0.0			Gray fine to medium SAND, little Silt, trace coarse Sand.
		(22-24')		WOH 3 5 6	8	2.0	0.0			Coarse SAND, some fine Gravel.
	560	(24-26')		3 8 13 15	21	1.1	0.0			Brown SILT and CLAY, trace fine Sand.
25		(26-28')		2 3 5 9	8	1.4	0.0			
		(28-30')		1 4 9 11	13	1.5	0.0			
	555	(30-32')		WOH 2 8 11	10	1.7	0.0			
30		(32-34')		2 3 4 4	7	1.7	0.0			
	550									Total depth of boring 34.0 ft. bgs.
35										

Well Construction

- 2-in diameter Sch. 40 PVC well casing 2.3' ags to 18.5' bgs
- Bentonite seal 16.0' to 18.0' bgs
- 0.01" slotted Sch. 40 PVC screen 18.5' to 23.5' bgs
- Grade #5 silica sand pack 18.0' to 24.0' bgs
- 2-in diameter Sch. 40 PVC sump 23.5' to 23.9' bgs
- Bentonite seal 24.0' to 34.0' bgs

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 01/16/95 / 01/16/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing: 13228686.7766
Easting: 692134.7526
Well Casing: 593.06 ft.
Corehole Depth: N/A ft.
Borehole Depth: 62 ft.
Ground Surface: 590.75 ft.

Geologist: James Saxton

Log Number: MW-130 S3

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 590.75 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE	4-in diameter steel protective casing 2.6' ags, locking cap installed.
	590	(0-2')		8 8 21 13	29	1.5	33.7			ASPHALT and SUBBASE	Concrete pad ground surface to 2.0' bgs
		(2-4')		14 9 17 17	26	1.8	10.2			Black very fine to medium SAND, trace Silt, faint petroluem odor, loose.	
5		(4-6')		4 11 18 18	29	1.7	2.8			No odor, medium dense.	
	585	(6-8')		2 1 2 1	3	1.5	2.3			Green glass fragments, medium dense.	Type I Portland cement/5% bentonite grout 2.0' to 42.0' bgs
		(8-10')		1 1 (12") 1	1	1.8	0.3			Very loose, wet.	
10	580	(10-12')		WOH 1 (18") 1	1	1.3	0.4				2-in diameter Sch. 40 PVC well casing 2.3' ags to 46.0' bgs
		(12-14')		WOH 1 (12") 1	1	1.7	1.5			Petroleum odor, very loose.	
15		(14-16')		WOH 1	1	1.5	3.0			Black SILT, trace fine Sand.	

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-130 S3

Total Depth = 82 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Geologic Column	Stratigraphic Description
	575	(14-16')		(12") 1	1	1.5	3.0		Gray CLAY and SILT, very soft.
		(16-18')		WOH (12") 2 (12")	2	1.2	0.0		Gray SILT and fine SAND, with peaty layers.
		(18-20')		WOH 1 1	2	1.8	0.0		Gray SILT, some fine Sand, very soft, moist.
20	570	(20-22')		WOH (12") 1 (12")	1	2.0	0.0		Gray SILT and CLAY, very soft, moist.
		(22-24')		WOH (12") 1 (12")	1	2.0	0.0		
		(24-26')		1 (12") 1 1	1	2.0	0.0		
25	565	(26-28')		WOH (24")	0	0.5	0.0		Medium to coarse SAND, trace fine gravel, very loose, wet.
		(28-30')		WOH (12") 1 1	1	1.2	0.0		Gray brown fine to medium SAND, trace Silt and shells, very loose.
30	560	(30-32')		WOH (12") 1 3	1	1.5	0.0		
		(32-34')		WOH 1 3 1	4	1.5	0.0		
35		(34-36')		WOH 2	3	1.8	0.0		

Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Well Construction:
- Type I Portland cement/5% bentonite grout 2.0' to 42.0' bgs
- 2-in diameter Sch. 40 PVC well casing 2.3' ags to 46.0' bgs

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-130 S3

Total Depth = 62 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
	555	(34-36')		1 3	3	1.8	0.0
		(36-38')		WOH 1 4 4	5	1.5	0.0
		(38-40')		WOH 1 5 5	6	0.5	0.0
40	550	(40-42')		WOH 8 12 16	20	1.0	0.0
		(42-44')		1 6 8 8	14	1.5	0.0
45	545	(44-46')		1 4 5 6	9	1.7	0.0
		(46-48')		WOH 3 8 8	11	1.7	0.0
		(48-50')		WOH 6 7 10	13	1.2	0.0
50	540	(50-52')		1 4 4 5	8	1.7	2.2
		(52-54')		1 1 2 2	3	1.5	7.7
55		(54-56')		WOH (12")	2	1.5	4.7

Graphs
Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300
Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

Trace fine gravel in last 2" of sampler.

Gray coarse SAND and fine GRAVEL.

Some fine to medium Sand.

Brown SILT and CLAY, soft, wet.

Well Construction

- Type I Portland cement/5% bentonite grout 2.0' to 42.0' bgs
- 2-in diameter Sch. 40 PVC well casing 2.3' ags to 46.0' bgs
- Bentonite seal 42.0' to 44.0' bgs
- 0.01" Sch. 40 PVC screen 46.0' to 51.0' bgs
- Grade #5 silica sand pack 44.0' to 51.5' bgs
- 2-in diameter Sch. 40 PVC sump 51.0' to 51.4' bgs
- Bentonite seal 51.5' to 62.0' bgs

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-130 S3

Total Depth = 62 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
	535	(54-56')		2 2	2	1.5	4.7			Brown SILT and CLAY, soft, wet.	Bentonite seal 51.5' to 62.0' bgs
		(56-58')		WOH 1 1 1	2	2.0	0.0				
		(58-60')		WOH 1 2 3	3	2.0	1.1			Trace coarse Sand.	
60	530	(60-62')		WOH (12") 2 2	2	2.0	0.0			Total depth of boring 62.0 ft. bgs.	
65	525										
70	520										
75											

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/12/95 / 01/13/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing: 13229234.7616
Easting: 691901.0914
Well Casing: 592.39 ft.
Corehole Depth: N/A ft.
Borehole Depth: 62 ft.
Ground Surface: 590.05 ft.

Geologist: Hillary Hollister-Hinge

Log Number: MW-131 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 590.05 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
0	590									**GROUND SURFACE**	4-in diameter steel protective casing 2.5' ags, locking cap installed.
		(0-2')		2 4 4 4	8	1.7	0.2			Dark brown and red brown fine to coarse SAND, trace fine Gravel, loose, dry, organic material.	Concrete pad ground surface to 1.0' bgs
		(2-4')		1 4 5 5	9	1.4	11.1			Wet, no organic material.	
5	585	(4-6')		1 3 2 2	5	1.3	9.5				Type I Portland cement/5% bentonite grout 1.0' to 45.5' bgs
		(6-8')		2 2 2 3	4	1.0	0.6			Dark gray to black SILT, some Clay, trace fine to coarse Sand and fine Gravel, soft, moist.	
		(8-10')		2 2 2 2	4	1.0	0.4			Soft to medium stiff, organic material.	
10	580	(10-12')		1 1 1 1	2	1.2	0.2			Trace fine to medium Sand, no fine Gravel, trace shell fragments.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 49.5' bgs
		(12-14')		1 (12") 1 (12")	1	1.4	0.0			No organic material.	
		(14-16')		WOH (12")	1	1.4	0.0			Light gray very fine to fine SAND, some Silt, trace Clay, trace shell fragments, very loose, wet.	
15										Dark gray brown SILT, some Clay, trace fine Sand, very soft, moist.	

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Remarks:
WOH - Weight of Hammer

Saturated Zones

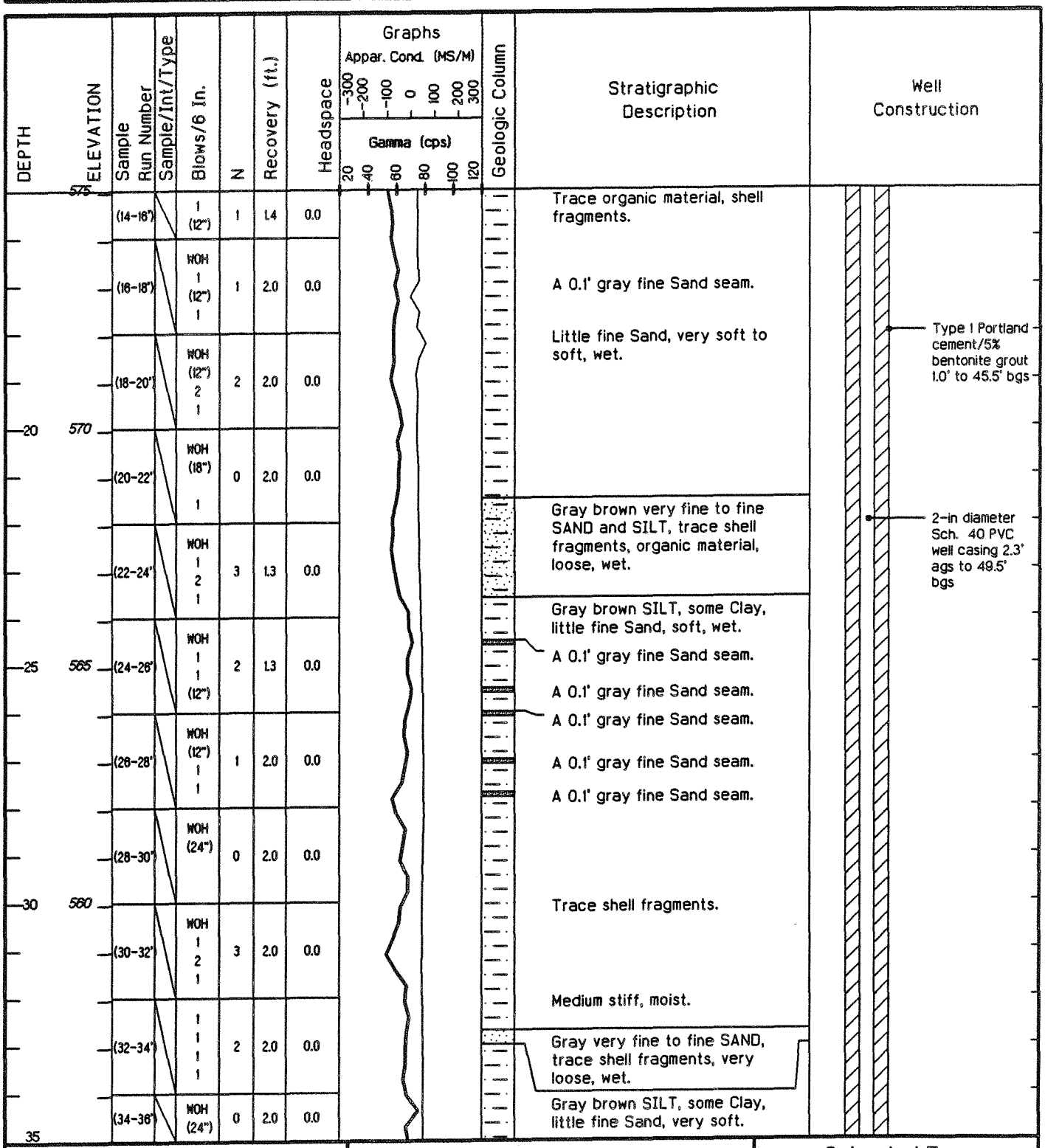
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-131 S2

Total Depth = 82 ft.



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Remarks:

Saturated Zones

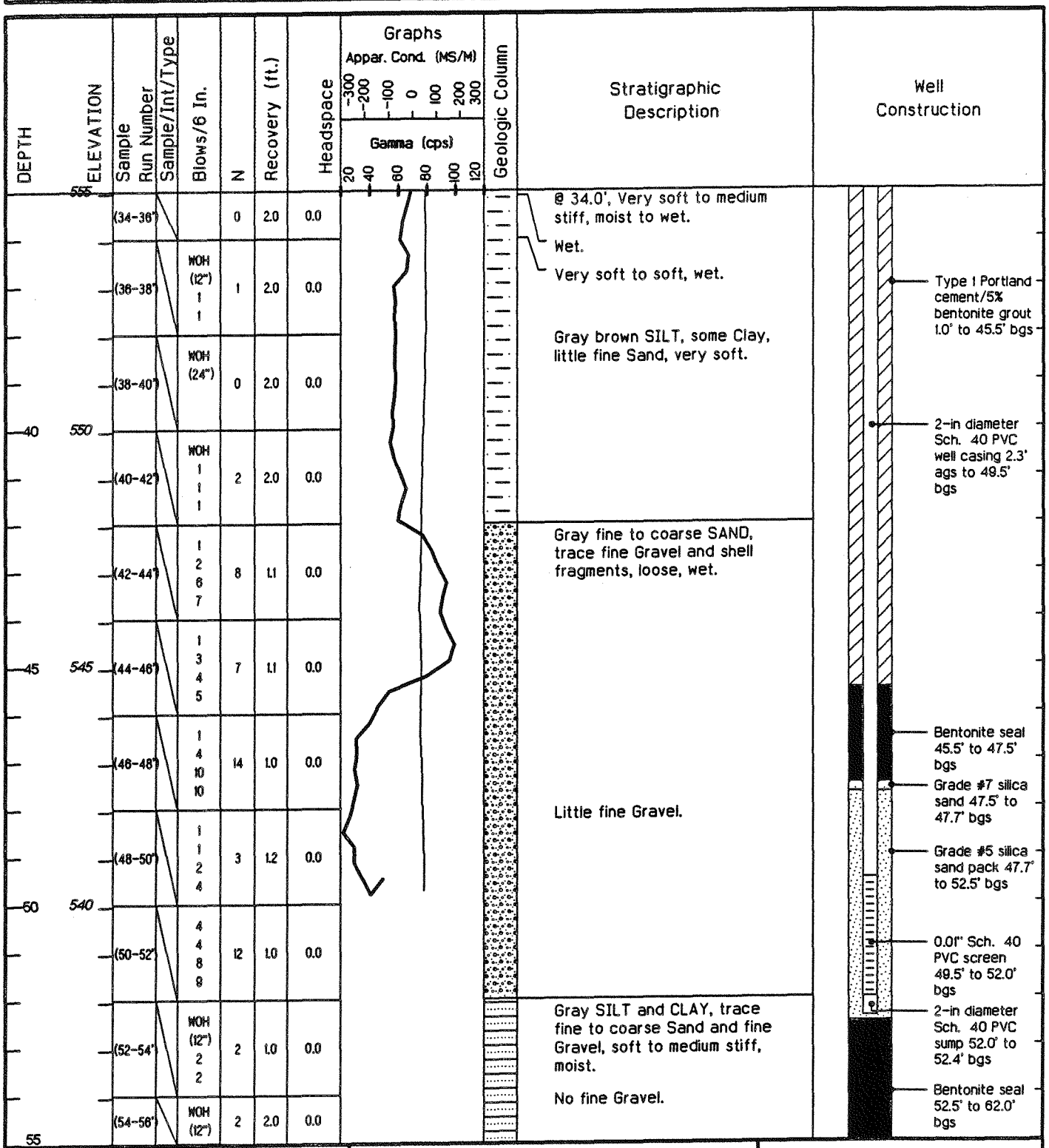
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-131 S2

Total Depth = 62 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-131 S2

Total Depth = 62 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
	535	(54-56')		2 2	2	2.0	0.0			Gray SILT and CLAY, trace fine to coarse Sand, soft to medium stiff, moist.	Bentonite seal 52.5' to 62.0' bgs
		(56-58')		2 4 5 4	9	2.0	0.0				
		(58-60')		1 2 3 4	5	2.0	0.0				
60	530	(60-62')		3 3 4 8	7	2.0	0.0			Total depth of boring 62.0 ft. bgs.	
65	525										
70	520										
75											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▽
		▽

Date Start/Finish: 01/19/95 / 01/20/95
Drilling Company: Stearns
Driller's Name: Bryan Marshall
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing: 13227789.7252
Easting: 692264.6975
Well Casing: 594.18 ft.
Corehole Depth: N/A ft.
Borehole Depth: 38.0 ft.
Ground Surface: 592.00 ft.

Geologist: James Saxton

Log Number: MW-132 S1

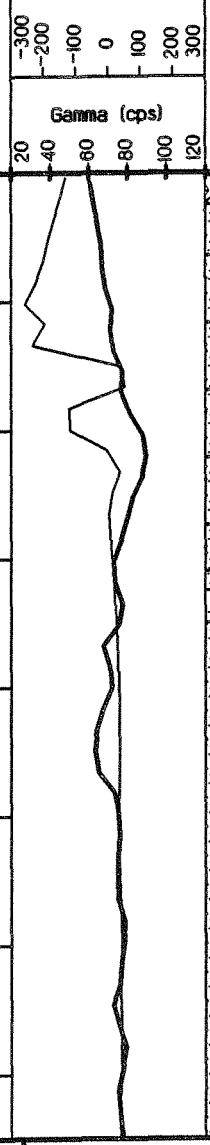
Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

gs elevation 592.00 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
0		(0-2')		NA 1 3 4	4	1.5	0.0
	590	(2-4')		WOH 1 1 1	2	2.0	0.0
5		(4-6')		WOH 1 2 2	3	1.5	0.7
	585	(6-8')		WOH 1 2 2	3	1.5	0.7
		(8-10')		WOH 3 5 6	8	1.5	0.3
10		(10-12')		WOH 1 2 2	3	1.5	0.4
	580	(12-14')		WOH 1 (12") 1	1	1.0	0.2
15		(14-16')		WOH 1	1	1.0	0.3

Graphs



Geologic Column

Stratigraphic Description

GROUND SURFACE

Gray concrete.

Black and brown fine to medium SAND, trace Silt, moist.

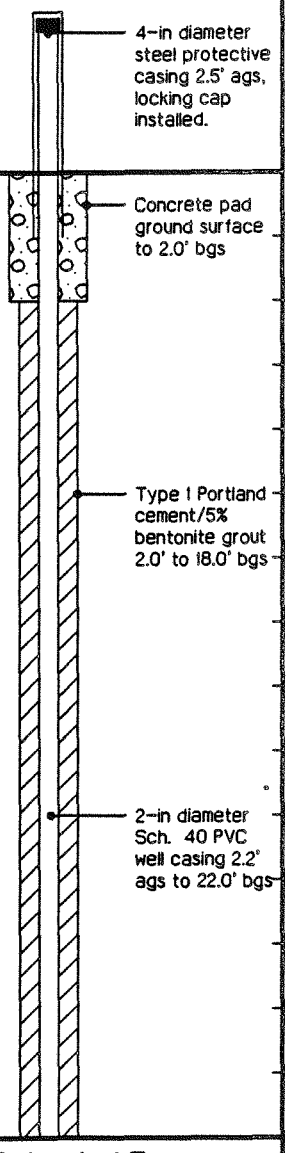
Black SILT, some fine Sand, trace roots, moist.

Gray fine SAND, trace Silt, wet.

Gray fine SAND, trace Silt and fine Gravel, wet.

Trace shells.

Well Construction



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Remarks:
WOH - Weight of Hammer

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-132 S1

Total Depth = 38.0 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
		(14-16')		(12") 1	1	1.0	0.3
	575	(16-18')		WOH (18") 1	0	2.0	0.3
		(18-20')		WOH 1 (12") 1	1	2.0	0.1
20		(20-22')		WOH 1 1 1	2	2.0	0.4
	570	(22-24')		WOH 1 2 1	3	1.5	0.8
25		(24-26')		WOH 2 2 3	4	1.5	0.4
	565	(26-28')		1 4 5 7	9	1.7	0.2
		(28-30')		2 6 9 14	15	1.5	0.3
30		(30-32')		2 8 15 15	23	1.0	0.4
	560	(32-34')		3 9 11 13	20	1.5	2.7
35		(34-36')		3 5	12	2.0	0.6

Graphs
Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300
Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

- Gray fine SAND, trace Silt, fine Gravel, and shells, wet.
- Brown to black PEAT, some Silt, moist.
- Gray CLAY and SILT, moist.
- Brown fine to medium SAND, some Silt, wet.
- Gray CLAY and SILT, moist.
- Brown fine to medium SAND, some Silt, wet.
- Brown CLAY, some SILT, trace fine Gravel, moist.

Well Construction

- Type I Portland cement/5% bentonite grout 2.0' to 18.0' bgs
- 2-in diameter Sch. 40 PVC well casing 2.2' ags to 22.0' bgs
- Bentonite seal 18.0' to 20.0' bgs
- 0.01" Sch. 40 PVC screen 22.0' to 27.0' bgs
- Grade #5 silica sand pack 20.0' to 28.0' bgs
- 2-in diameter Sch. 40 PVC sump 27.0' to 27.4' bgs
- Bentonite seal 28.0' to 38.0' bgs.

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-132 S1

Total Depth = 38.0 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(34-36")		7 7	12	2.0	0.6			Brown CLAY, some SILT, trace fine Gravel, moist.	Bentonite seal 28.0' to 38.0' bgs.
	555	(36-38")		4 5 7 8	12	2.0	7.8				
40										Total depth of boring 38.0 ft bgs.	
	550										
45											
	545										
50											
	540										
55											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na ▼
		na ▼
		na ▽

Date Start/Finish: 01/10/95 / 01/11/95
Drilling Company: Mateco
Driller's Name: Bob Dreyer
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 64 ft.
Ground Surface: 592.40 ft.

Geologist: Steve French

Log Number: MW-133 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.40 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
0		(0-2')		5 3 12 17	15	1.9	7.0			Dark brown to black fine to medium SAND, moist.	Concrete pad ground surface to 2.0' bgs
	590	(2-4')		10 12 15 28	27	1.8	170.0			Yellow and black discoloration, trace slag.	
5		(4-6')		2 2 2 2	4	1.1	102.0			Grades to black fine to medium SAND, trace glass, moist.	Type I Portland cement/5% bentonite grout 2.0' to 44.0' bgs
	585	(6-8')		3 4 4 5	8	0.7	140.0				
		(8-10')		NA	NA	1.4	90.0			Black fine to medium SAND, little Silt, wet.	
10		(10-12')		4 4 4 3	8	0.4	130.0				2-in diameter Sch. 40 PVC well casing 1.8' ags to 49.0' bgs
	580	(12-14')		WOH (12") 1 1	1	1.2	8.5			Gray black SILT and CLAY, moist to wet.	
15		(14-16')		WOH (24")	0	0.1	NA			0.2' gray fine Sand lense.	

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Remarks:
WOH - Weight of Hammer. Apparent Conductivity graph is off-scale from 2.5 to 9.8 feet.

Saturated Zones

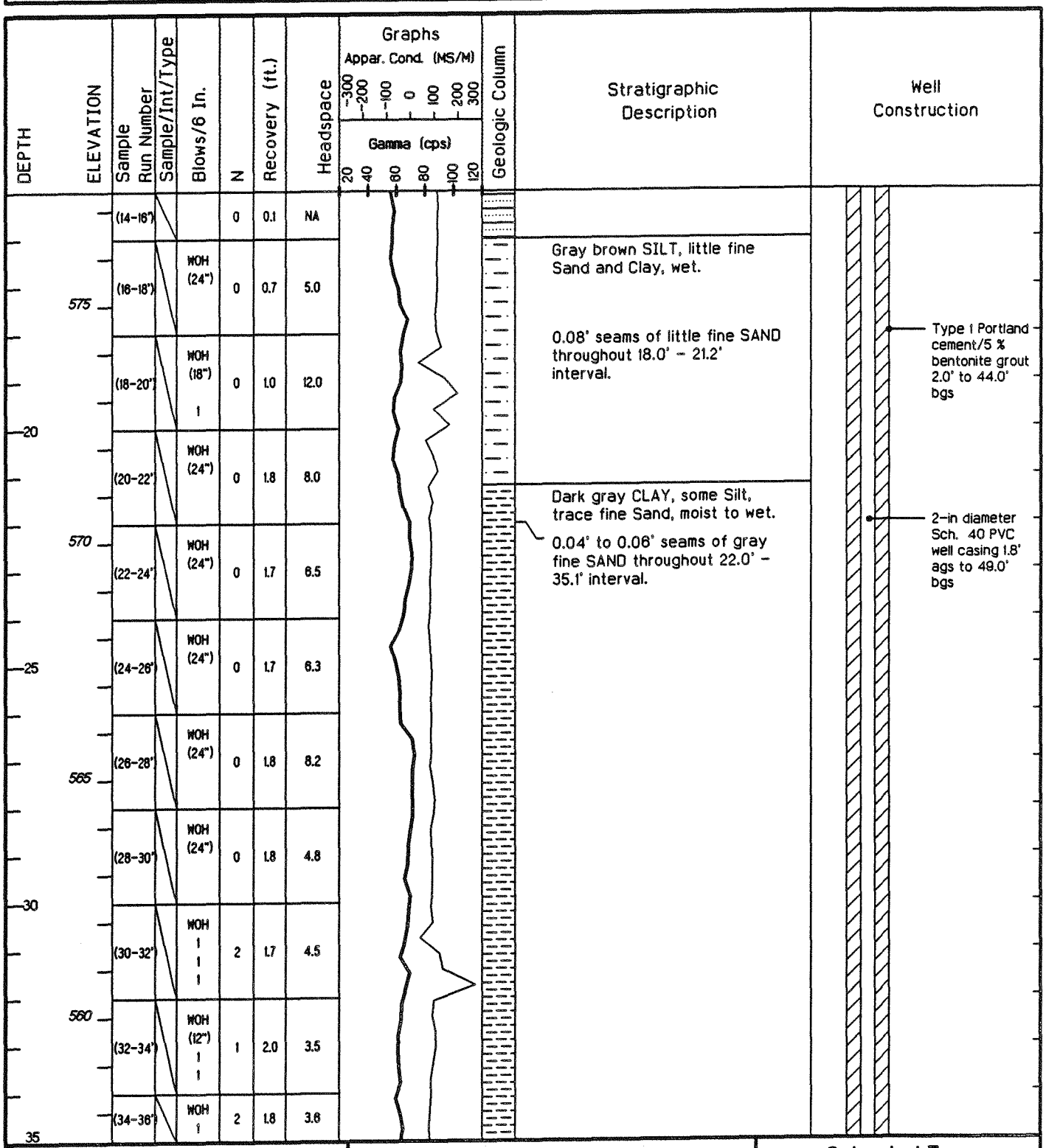
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-133 S2

Total Depth = 64 ft.



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

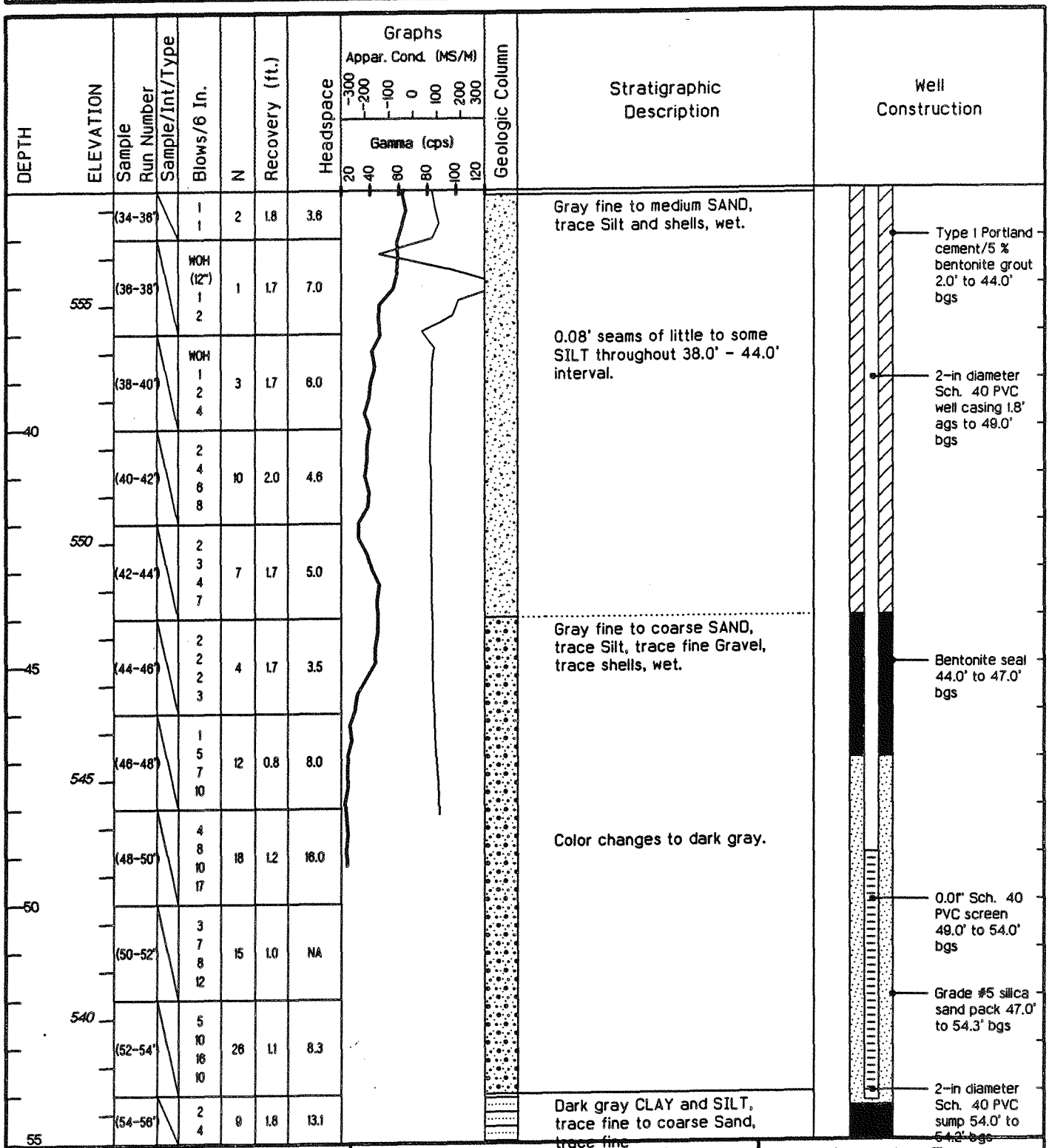
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-133 S2

Total Depth = 84 ft.



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-133 S2

Total Depth = 64 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		5 8	9	1.8	13.1			Gravel, moist to wet. Grades to some Silt.	
	535	(56-58')		5 6 9 12	15	1.0	6.3				
		(58-60')		5 6 7 8	13	1.8	6.7				
60		(60-62')		WOH (12") 3 3	3	1.8	6.7			Dark gray CLAY, some Silt, moist to wet.	
	530	(62-64')		WOH (12") 3 4	3	1.8	6.8				
65										Total depth of boring 64.0 ft. bgs	
	525										
70											
	520										
75											

Bentonite seal 54.3' to 64.0' bgs

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 01/04/95 / 01/09/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 62 ft.
Ground Surface: 590.83 ft.

Geologist: Sabrina Hesford

Log Number: MW-134 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
gs elevation 590.83 ft.							
0	590	(0-2')		2 2 3 4	5	1.8	NA
		(2-4')		12 17 26 25	43	2.0	NA
5	585	(4-6')		6 7 12 3	19	1.2	NA
		(6-8')		6 4 3 3	7	0.5	NA
		(8-10')		3 4 3 3	7	1.8	NA
10	580	(10-12')		3 3 3 3	6	1.0	NA
		(12-14')		2 2 3 3	5	1.9	NA
15		(14-16')		1 2	4	1.6	NA

Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

GROUND SURFACE

Dark brown to black fine to coarse SAND, trace green glass, trace iron material, damp to moist.

Gray to dark gray SILT, little Clay, moist.

Black fine to coarse SAND, little Silt, trace slag, wet.

Black PEAT and SILT, soft, moist.

Gray fine to medium SAND, little Silt, trace shells, wet.

Dark gray Clayey SILT, wet.

Well Construction

- 4-in diameter steel protective casing 2.0' ags, locking cap installed.
- Concrete pad ground surface to 4.0' bgs
- Type I Portland cement/5% bentonite grout 4.0' to 38.0' bgs
- 2-in diameter Sch. 40 PVC well casing 2.1' ags to 46.4' bgs

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Remarks:
NA - Not Available. WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-134 S2

Total Depth = 82 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
	575	(14-16')		2 2	4	1.6	NA			Dark gray Clayey SILT, wet.	
		(16-18')		1 (12") 2 2	2	1.5	NA				
		(18-20')		WOH 1 2 2	3	0.5	NA				
20	570	(20-22')		WOH (24")	0	2.0	NA			Dark gray Clayey SILT, wet.	Type I Portland cement/5% bentonite grout 4.0' to 38.0' bgs
		(22-24')		WOH (24")	0	1.8	NA				
25		(24-26')		WOH (24")	0	1.8	NA				
	565	(26-28')		WOH (24")	0	2.0	NA				2-in diameter Sch. 40 PVC well casing 2.1' ags to 46.4' bgs
		(28-30')		WOH (18") 2	0	2.0	NA				
30	560	(30-32')		NA NA NA NA	NA	NA	NA				
		(32-34')		WOH 1 2 1	3	1.8	NA				
35		(34-36')		2 3	6	0.8	NA			Dark gray fine to medium SAND, little Silt, loose, wet.	

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Remarks:
NA - Not Available. WOH - Weight of Hammer.

Saturated Zones

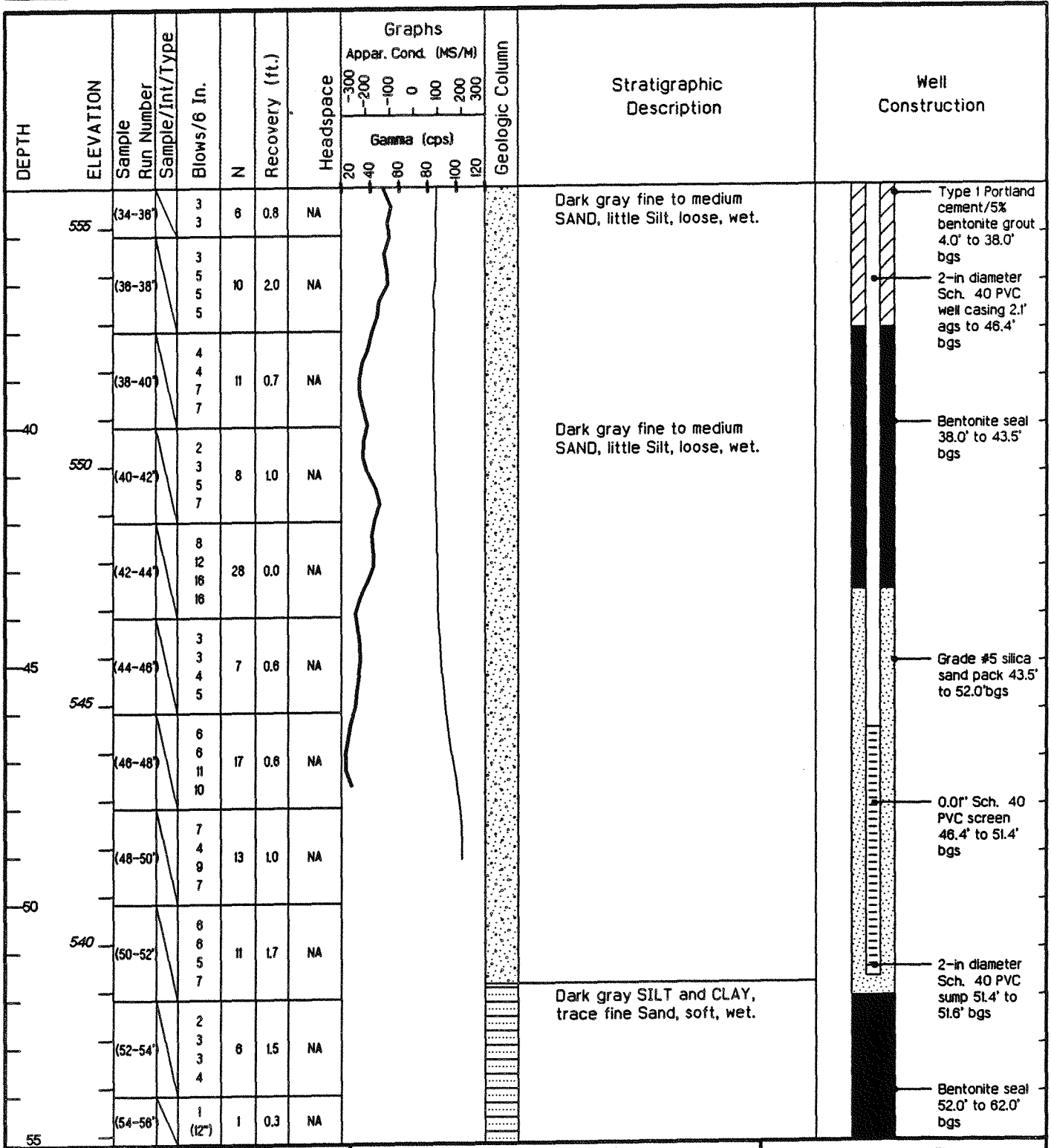
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-134 S2

Total Depth = 62 ft.



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Remarks:
NA - Not Available. WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-134 S2

Total Depth = 82 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
	535	(54-56')		1 1	1	0.3	NA			Dark gray SILT and CLAY, trace fine Sand, soft, wet.	Bentonite seal 52.0' to 62.0' bgs
		(56-58')		WOH (12") 2 2	2	1.5	NA				
		(58-60')		WOH (12") 2 2	2	2.0	NA				
60	530	(60-62')		WOH (24")	0	2.0	NA			Total depth of boring 62.0 ft. bgs	
65	525										
70	520										
75											

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Remarks:
NA - Not Available. WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 02/03/95 / 02/07/95
Drilling Company: Mateco
Driller's Name: Bob Dreyer
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 58 ft.
Ground Surface: 592.74 ft.

Geologist: Hillary Hollister-Hinge

Log Number: MW-135 S3

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 592.74 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
		(0-2')		6 10 20 21	30	1.6	60.2			Brown fine to coarse SAND, some fine Gravel, loose, dry.	Concrete pad ground surface to 1.0' bgs
	590	(2-4')		4 4 1 3	5	0.8	0.6			Dark brown to black fine to medium SAND, some slag, trace metal pieces, loose, dry.	
5		(4-6')		10 18 1 1	19	0.3	83.9			Grades to tan, with some coal and slag. Dark brown fine to coarse SAND, some Silt, little coal, slag, and glass, loose, dry.	Type I Portland cement/5% bentonite grout 1.0' to 38.5' bgs
		(6-8')		6 8 7 6	15	1.8	2.7			Brown fine SAND, some red staining.	
	585	(8-10')		6 6 3 3	9	1.0	5.2			Brown to black fine to coarse SAND, some Silt, little coal and slag, loose, moist.	
10		(10-12')		4 4 3 1	7	1.8	0.1			Some fine Gravel, trace Silt, wet. Black fine to medium SAND, some Silt, loose, wet.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 42.5' bgs
	580	(12-14')		1 1 2 3	3	1.1	1.1			Dark gray fine SAND and SILT, some Clay, soft, moist, organic material.	
15		(14-16')		1 2	4	1.5	1.2			Black staining at 14' to 14.5' bgs.	

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Remarks:
Apparent Conductivity graph is off-scale from 3 to 8 feet.

Saturated Zones

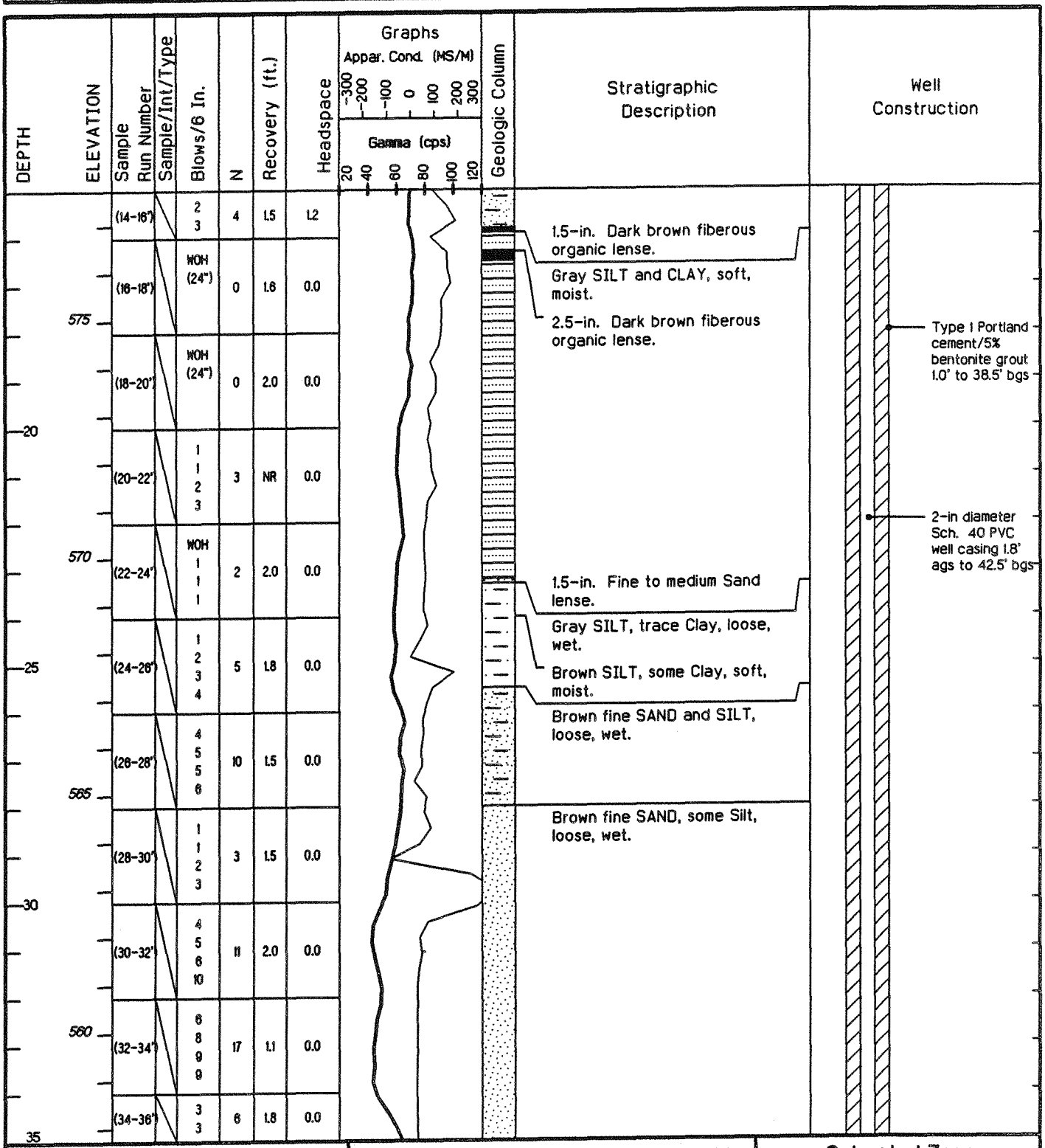
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. MW-135 S3

Total Depth = 58 ft.

Client:
General Motors Corporation



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-135 S3

Total Depth = 58 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(34-36')		3 3	6	1.8	0.0			Brown fine SAND, some Silt, loose, wet.	Type I Portland cement/5% bentonite grout 1.0' to 38.5' bgs
	555	(36-38')		2 3 4 5	7	1.6	0.0			Black stained streak at 37.5' bgs.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 42.5' bgs
		(38-40')		3 3 2 4	5	1.6	0.0				Bentonite seal 38.5' to 40.5' bgs
40		(40-42')		3 2 4 6	6	2.0	0.0				Grade #7 silica sand 40.5' to 40.7' bgs
	550	(42-44')		4 5 6 6	11	2.0	0.5				0.01" Sch. 40 PVC screen 42.5' to 47.5' bgs
45		(44-46')		4 5 5 10	10	2.0	0.8				Grade #5 silica sand pack 40.7' to 48.0' bgs
		(46-48')		1 1 2 3	3	2.0	0.0			Gray SILT and CLAY, some fine sand, soft, moist, some red staining.	
	545	(48-50')		2 2 2 2	4	2.0	0.0			Brown. Trace fine Gravel.	2-in diameter Sch. 40 PVC sump 47.5' to 47.9' bgs
50		(50-52')		1 2 2 2	4	2.0	0.0				
	540	(52-54')		1 1 2 2	3	2.0	0.1				Bentonite seal 48.0' to 58.0' bgs
55		(54-56')		2 2	4	2.0	0.0				

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08
Script: ngm-asc4
Date: 10/08/97

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-135 S3

Total Depth = 58 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56'		2 2	4	2.0	0.0			Gray SILT and CLAY, some fine sand, trace fine Gravel, soft, moist, some red staining.	Bentonite seal 48.0' to 58.0' bgs
		(56-58'		2 2 2 2	4	2.0	0.0				
	535									Total depth of boring 58.0 ft. bgs.	
60											
	530										
65											
	525										
70											
	520										
75											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 01/16/95 / 01/17/95
Drilling Company: Mateco
Driller's Name: Bob Dreyer
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

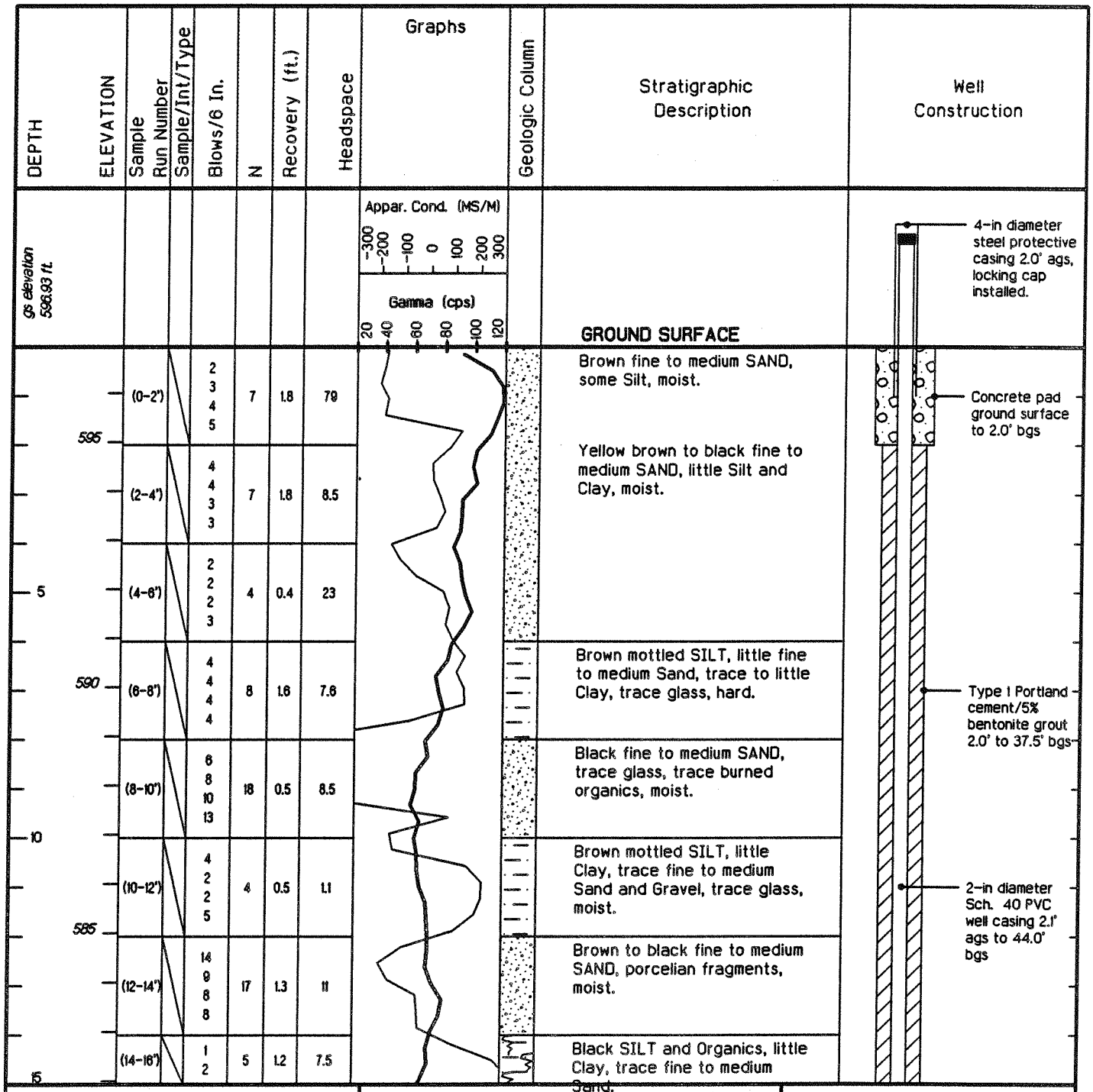
Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 58 ft.
Ground Surface: 596.93 ft.

Geologist: Steve French

Log Number: MW-136 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area



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Remarks:
Apparent Conductivity graph is off-scale from 7.8 to 9.2 feet.

Saturated Zones

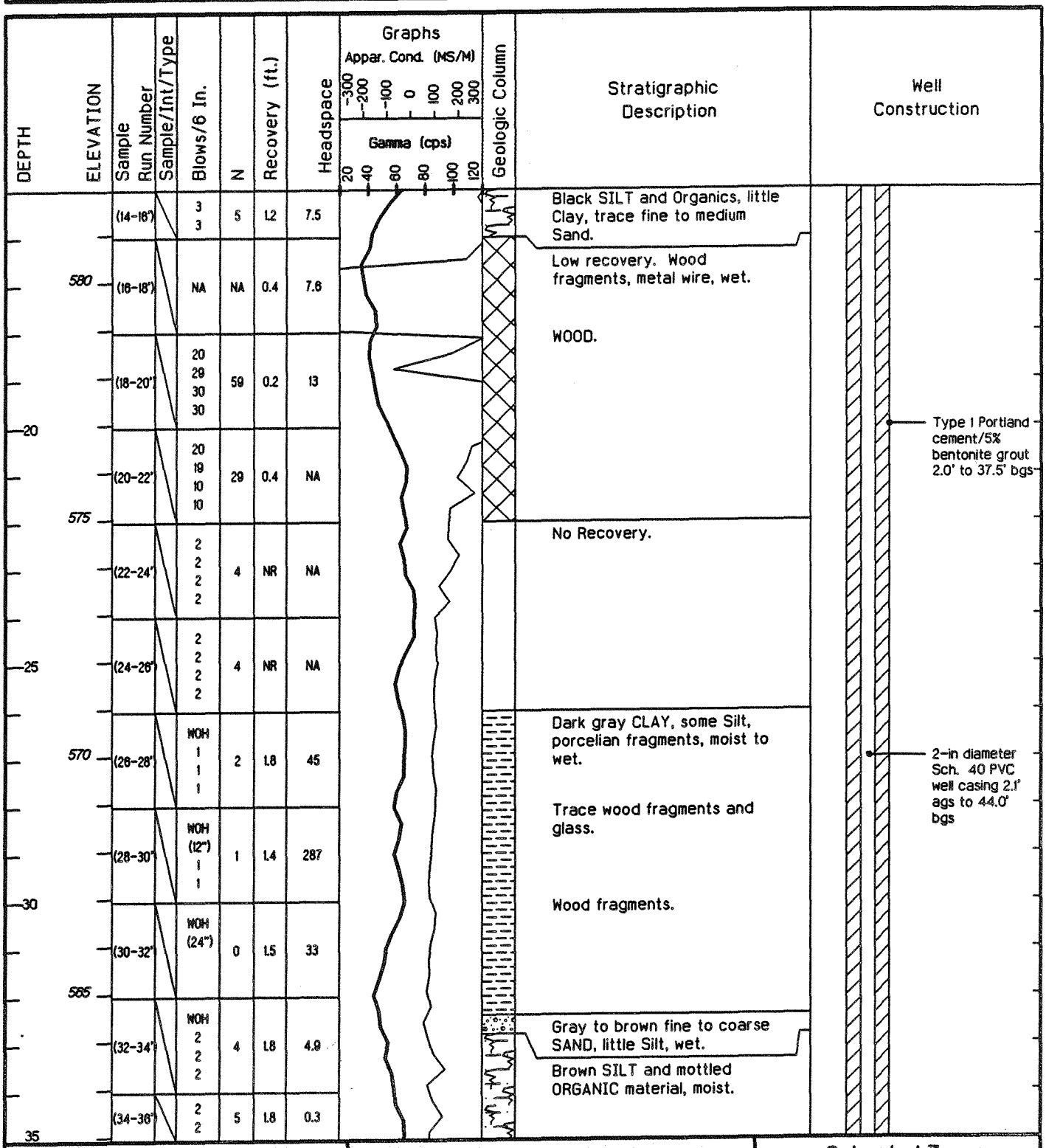
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-136 S2

Total Depth = 58 ft.



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Remarks:
WOH - Weight of Hammer. NA - Not Available.
NR - No Recovery. Apparent Conductivity graph is off-scale from 16.5 to 18.0 feet.

Saturated Zones

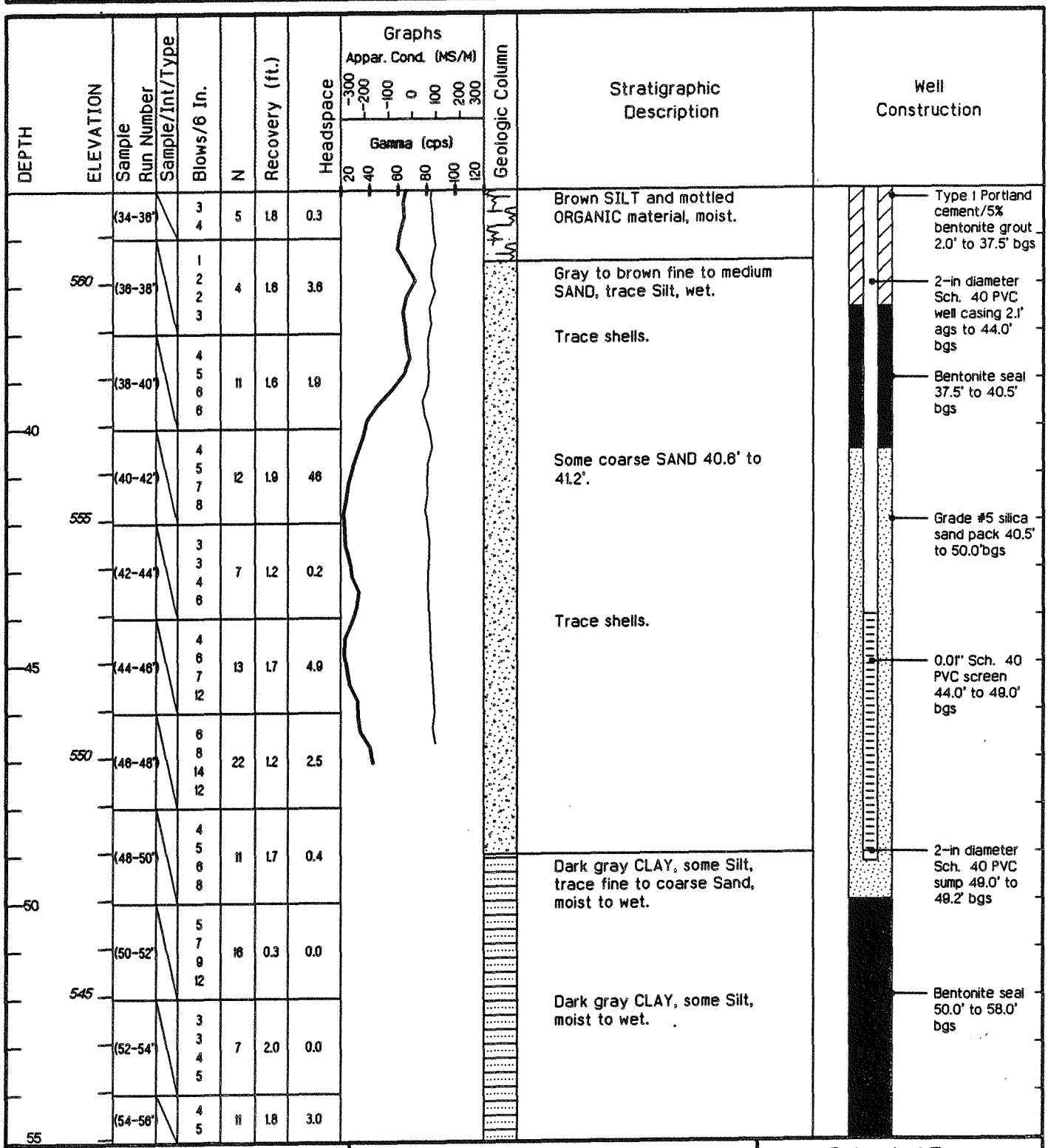
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-136 S2

Total Depth = 58 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-136 S2

Total Depth = 58 ft.

Client:
General Motors Corporation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		6 7	11	1.8	3.0			Dark gray CLAY, some Silt, moist to wet.	
	540									Trace coarse Gravel.	Bentonite seal 50.0' to 58.0' bgs
		(56-58')		4 3 5 6	8	1.7	3.3				
60										Total depth of boring 58.0 ft. bgs.	
	535										
65											
	530										
70											
	525										
75											

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na ▼
		na ▼
		na ▽

Date Start/Finish: 02/24/95 / 02/24/95
Drilling Company: Mateco
Driller's Name:
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 95
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Borehole Depth: N/A ft.
Borehole Depth: 23.3 ft.
Ground Surface: 598.37 ft.

Geologist: Ron Kuhn

Log Number: MW-139 WT

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace
gs elevation 598.37 ft.							
0		(0-2')		- - 5 13	5	0.7	0.0
	595	(2-4')		3 3 3 3	6	1.2	0.1
5		(4-6')		3 9 12 14	21	1.7	0.0
		(6-8')		5 10 12 14	22	1.8	0.0
	590	(8-10')		4 6 9 10	15	1.5	0.2
10		(10-12')		4 6 8 8	14	1.6	0.1
	585	(12-14')		5 5 6 8	11	1.8	0.0
15		(14-16')		2 3	6	2.0	0.1

Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

Geologic Column

Stratigraphic Description

GROUND SURFACE

Black ASPHALT.

Wood.

Gray and brown mottled SILT, damp.

Black fine to medium SAND, damp.

Brown and gray mottled CLAY, some Silt, trace coarse Sand and fine Gravel, occasional vertical fractures, moist.

Fewer fractures.

No mottling, Clay becomes wetter.

Well Construction

- 4-in diameter steel protective casing 2.5' ags, locking cap installed
- Concrete pad ground surface to 1.0' bgs
- 2-in diameter Sch. 40 PVC well casing 2.1' ags to 13.0' bgs
- Type I Portland cement/5% bentonite grout 1.0' to 9.0' bgs
- Bentonite seal 9.0' to 11.0' bgs
- Grade #5 silica sand pack 11.0' to 23.3' bgs
- 0.01" Sch. 40 PVC screen 13.0' to 23.0' bgs

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Remarks:
Soil descriptions taken from 139 boring log.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

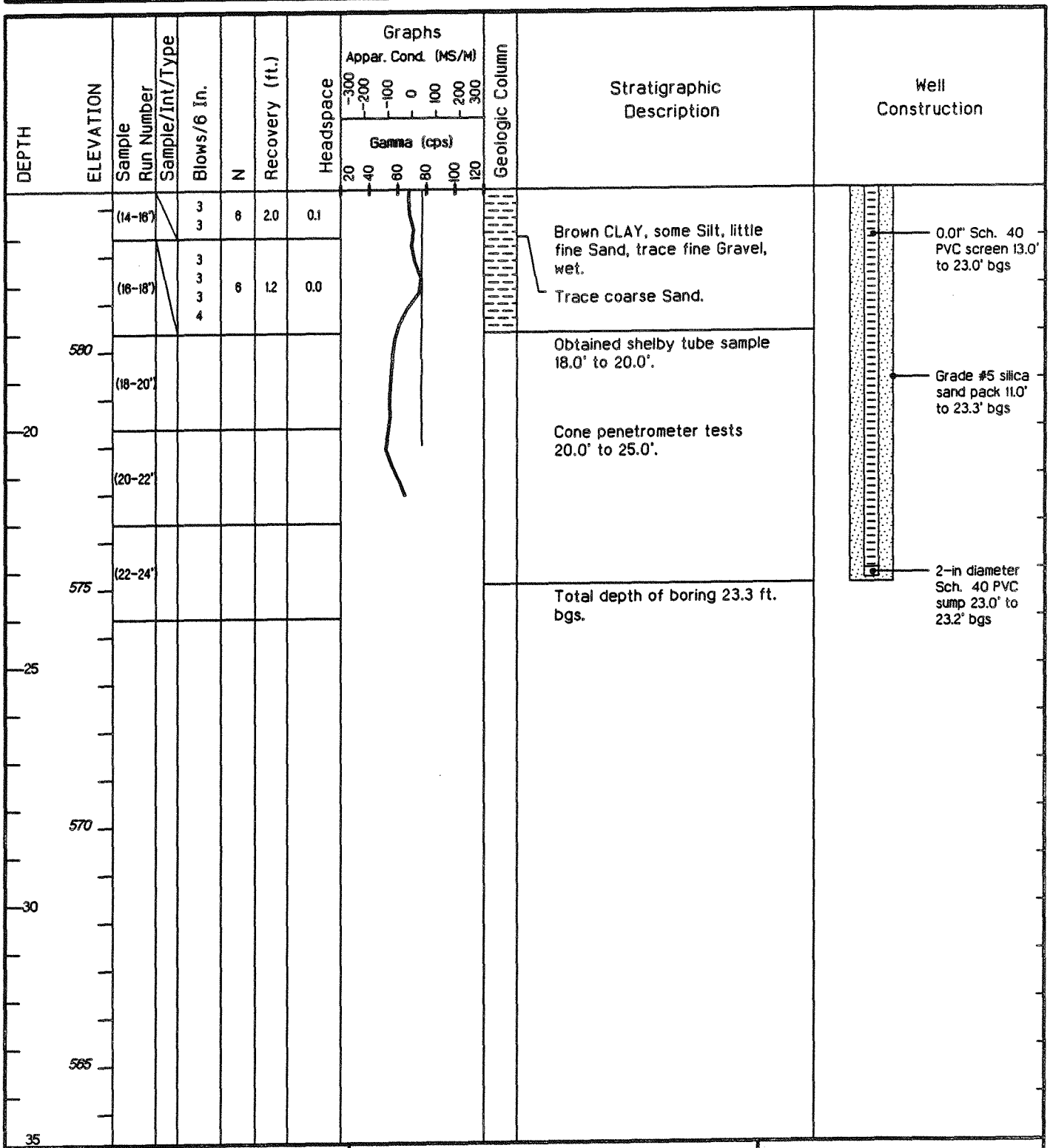
Project: 276.08
Script: ngm-asc4
Date: 10/09/97

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-139 WT

Total Depth = 23.3 ft.



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Remarks:
Soil descriptions taken from 139 boring log. Shelby tube sample taken 18.0'-20.0' bgs. Cone penetrometer tests from 20.0'- 25.0' bgs.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08
Script: ngm-asc4
Date: 10/09/97

Date Start/Finish: 01/18/95 / 01/19/95
Drilling Company: Mateco
Driller's Name: Bob Dreyer
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 75
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 60 ft.
Ground Surface: 593.28 ft.

Geologist: Stephen D. French

Log Number: MW-140 S2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 593.28 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed.
		(0-2')		4 6 12 4	18	1.1	10			Dark brown SILT, little fine Sand, trace coarse Sand and fine Gravel, stiff, moist.	Concrete pad ground surface to 2.0' bgs
										Red brown, moist.	
	590	(2-4')		3 4 8 9	12	1.2	7.8			Dark brown with red mottling, trace Clay, stiff.	
5		(4-6')		2 3 4 4	7	1.8	7.9			Red brown fine to medium SAND, trace Silt, loose.	Type I Portland cement/5% bentonite grout 2.0' to 41.0' bgs
										Gray fine to medium SAND, little Silt, loose.	
		(6-8')		1 1 2 2	3	2.0	3.2			Gray to brown fine to medium SAND, very loose, moist, black discoloration, 2" Silt seam.	
	585	(8-10')		1 2 3 4	5	2.0	0.0			Less black discoloration, moist.	
10										Trace organics.	2-in diameter Sch. 40 PVC well casing 2.3' ags to 45.5' bgs
		(10-12')		2 4 5 6	9	1.2	0.0				
										A 2" seam of Silt.	
	580	(12-14')		2 2 3 4	5	1.5	0.0				
15		(14-16')		1 2	5	2.0	0.0			Dark gray CLAY, some Silt, little fine Sand, medium stiff.	

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Remarks:

Saturated Zones

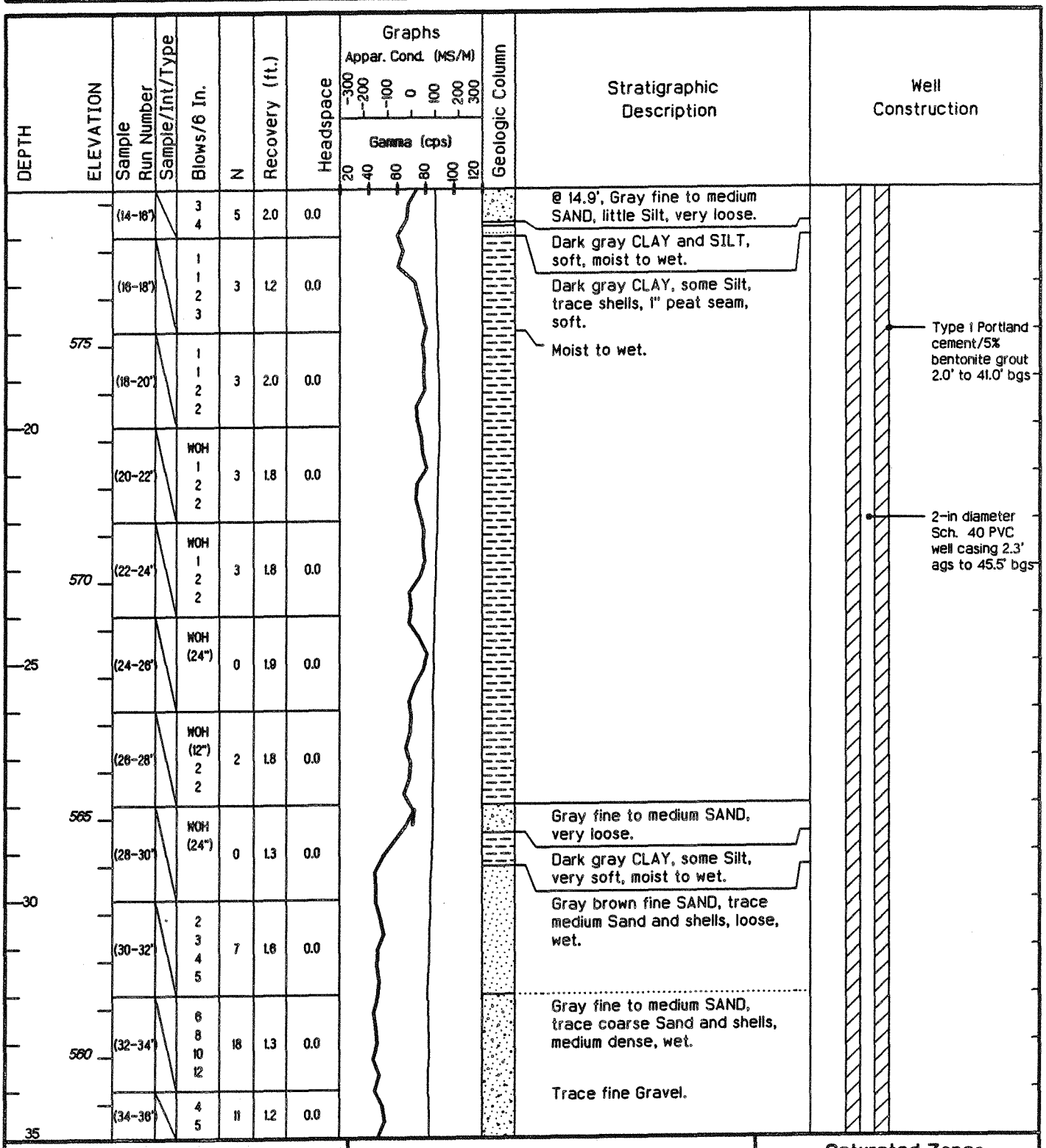
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-140 S2

Total Depth = 60 ft.



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-140 S2

Total Depth = 60 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(34-36')		6 6	11	1.2	0.0			Gray fine to medium SAND, trace coarse Sand and shells, medium dense, wet.	Type I Portland cement/5% bentonite grout 2.0' to 41.0' bgs
		(36-38')		WOH 2 3 2	5	1.6	0.0				
	555	(38-40')		6 8 10 12	18	1.8	0.0				2-in diameter Sch. 40 PVC well casing 2.3' ags to 45.5' bgs
40		(40-42')		3 6 8 12	14	1.6	0.0			Grades with little to trace fine Gravel.	
	550	(42-44')		8 4 8 11	12	1.1	0.0				Bentonite seal 41.0' to 43.0' bgs
45		(44-46')		8 10 13 14	23	1.0	0.0				
		(46-48')		2 4 7 8	11	1.0	0.0				0.01" slotted Sch. 40 PVC screen 45.5' to 50.5' bgs
	545	(48-50')		6 4 4 4	8	0.8	0.0				Grade #5 silica sand pack 43.0' to 51.0' bgs
50		(50-52')		3 2 2 4	4	1.9	0.0			Dark gray CLAY, some Silt, trace fine to coarse Sand, soft, moist to wet. No Sand.	2-in diameter Sch. 40 PVC sump 50.5' to 50.7' bgs
	540	(52-54')		1 1 1 1	2	1.8	0.0				
55		(54-56')		WOH 2	4	2.0	0.0				Bentonite seal 51.0' to 60.0' bgs

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-140 S2

Total Depth = 60 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56'		2 3	4	2.0	0.0			Dark gray CLAY, some Silt, soft, moist to wet.	Bentonite seal 51.0' to 60.0' bgs
		(56-58'		WOH 2 2 2	4	2.0	0.0				
	535	(58-60'		2 2 2 3	4	2.0	0.0			Little Silt, very cohesive.	
60										Total depth of boring 60.0 ft. bgs.	
	530										
65											
	525										
70											
	520										
75											

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Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 05/04/95 / 05/04/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 45 ft.
Ground Surface: 582.98 ft.

Geologist: Tim R. Osier

Log Number: MW-1C (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 582.98 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300 Gamma (cps) 20 40 60 80 100 120		**GROUND SURFACE** Soil descriptions from 0 – 25.0' are given on test boring log MW-1B by Residuals Management Technology, Inc. (RMT) on March 23, 1988.	4-in diameter steel protective casing 2.0' ags, locking cap installed. Concrete pad ground surface to 2.5' bgs Type I Portland cement/5% bentonite grout 2.5' to 32.3' bgs 2-in diameter Sch. 40 PVC well casing 1.8' ags to 37.5' bgs
0	580										
5	575										
10	570										
15											

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Remarks:

Saturated Zones

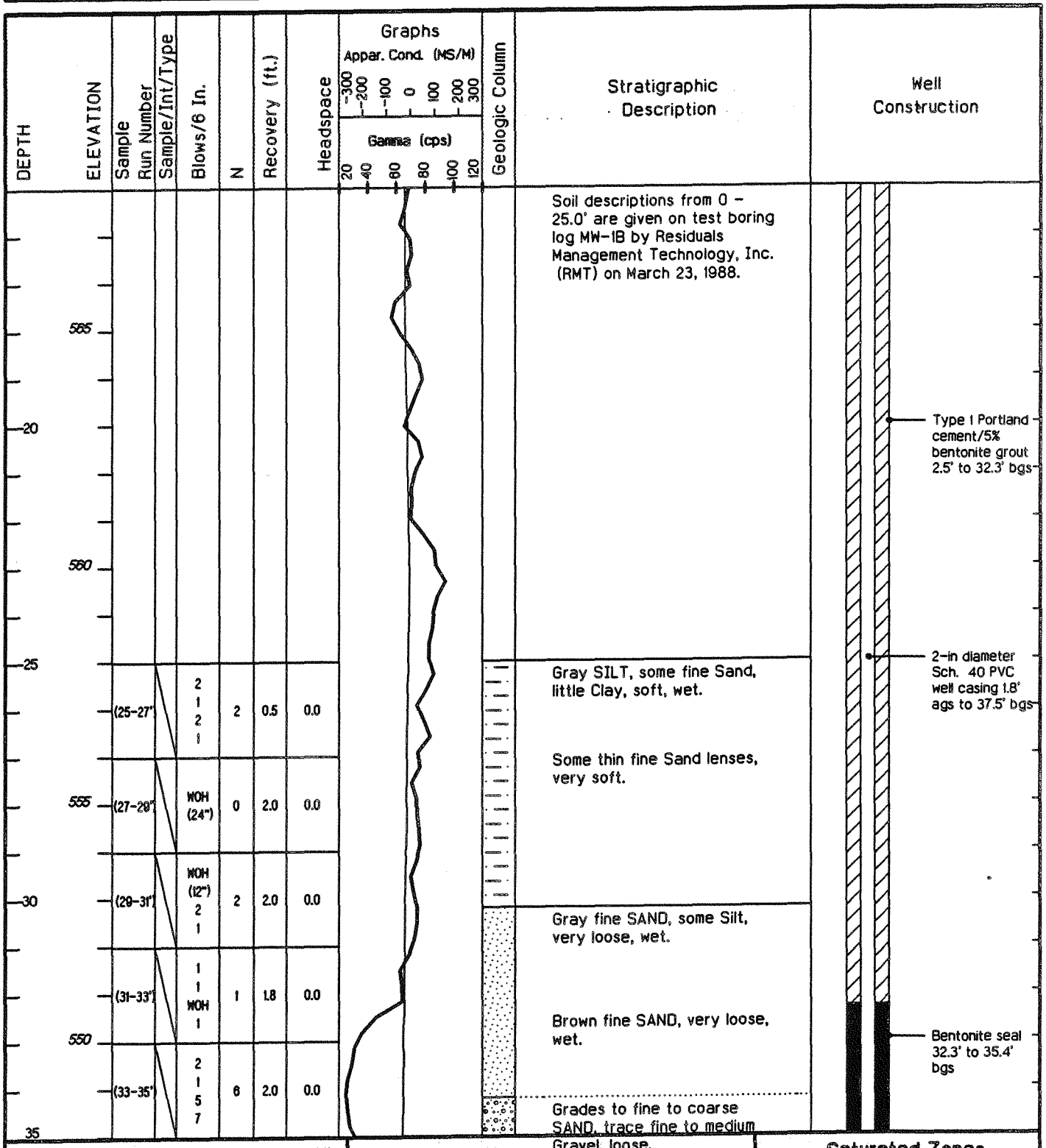
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-1C (Aug)

Total Depth = 45 ft.

Client:
General Motors Corporation



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Remarks:
WOH - Weight of Hammer.

Saturated Zones

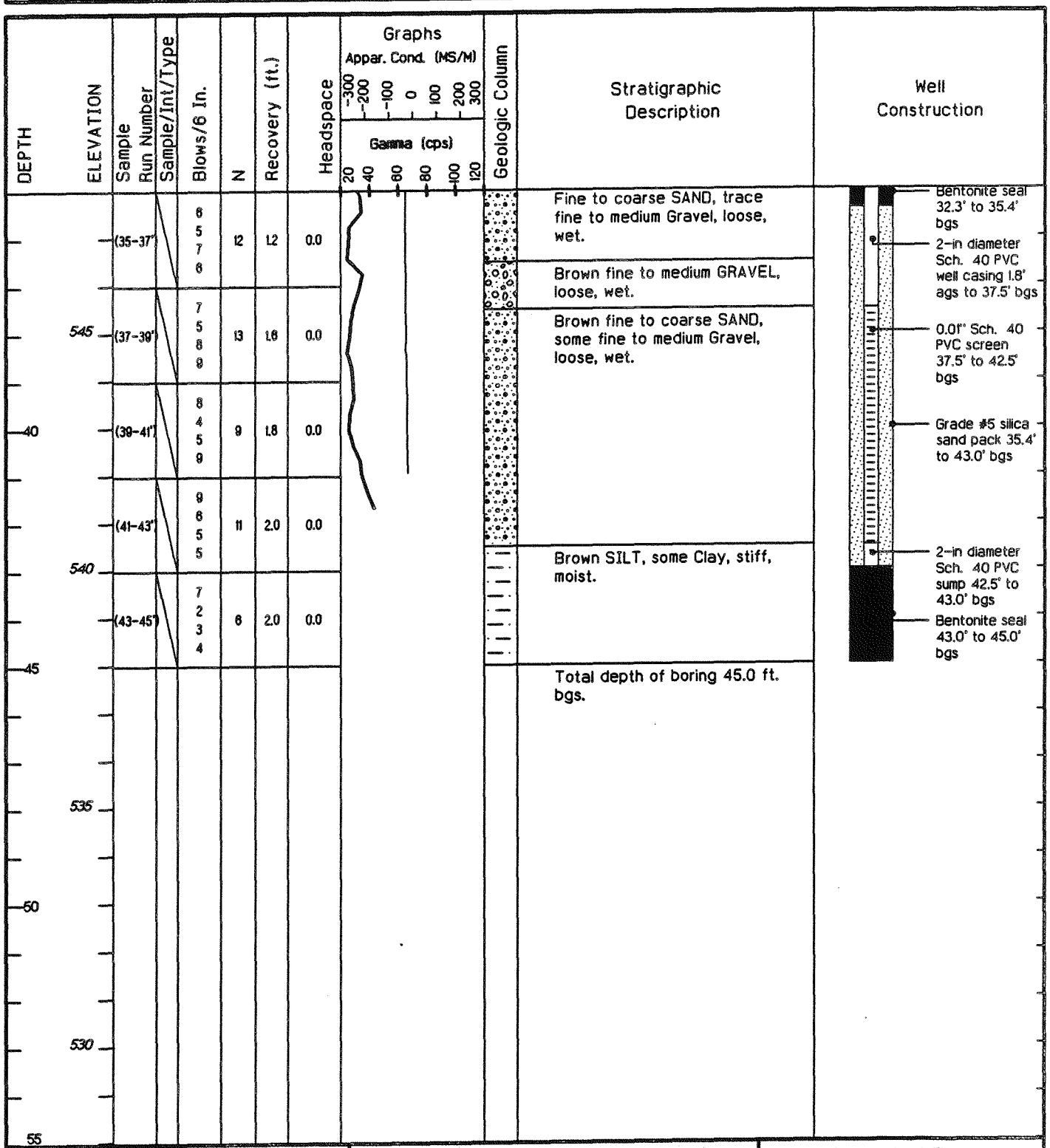
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-1C (Aug)

Total Depth = 45 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 06/05/95 / 06/05/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 62 ft.
Ground Surface: 588.44 ft.

Geologist: Ron Kuhn

Log Number: MW-8D (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 588.44 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		**GROUND SURFACE**	4-in diameter steel protective casing 2.0' ags, locking cap installed.
										Soil descriptions from 0.0 to 36.0' bgs are given on boring log MW-6B by Residuals Management Technology, Inc. on March 22, 1988.	Concrete pad ground surface to 1.0' bgs
585											10-in diameter Sch. 40 PVC surface seal casing ground surface to 36.0' bgs
5											
580											Type I Portland cement/5% bentonite grout 1.0' to 43.0' bgs
10											2-in diameter Sch. 40 PVC well casing 1.8' ags to 47.8' bgs
575											
15											

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Remarks:

Saturated Zones

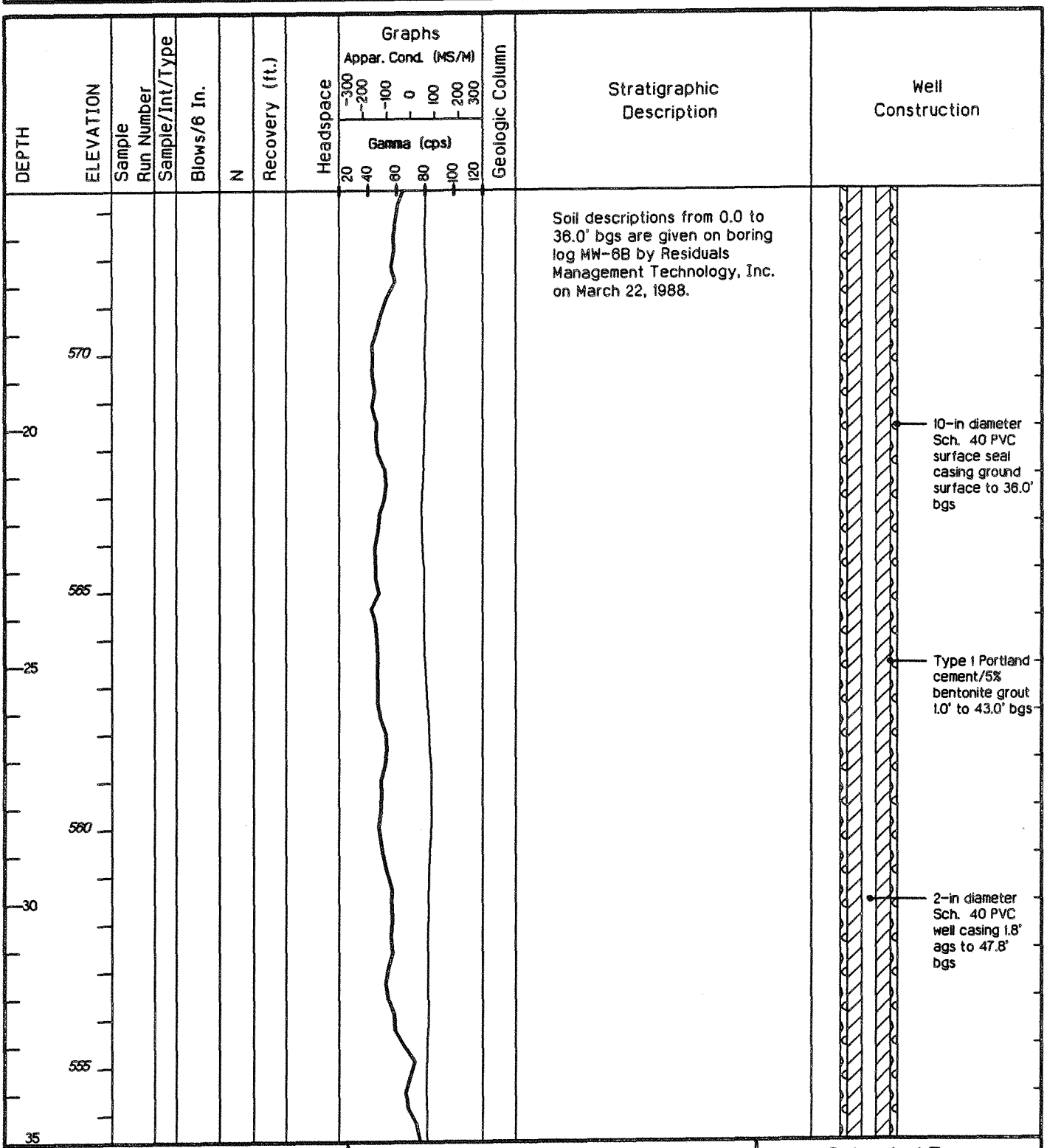
Date / Time	Elevation	Depth
		na ▽
		na ▽
		na ▽

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-6D (Aug)

Total Depth = 62 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08

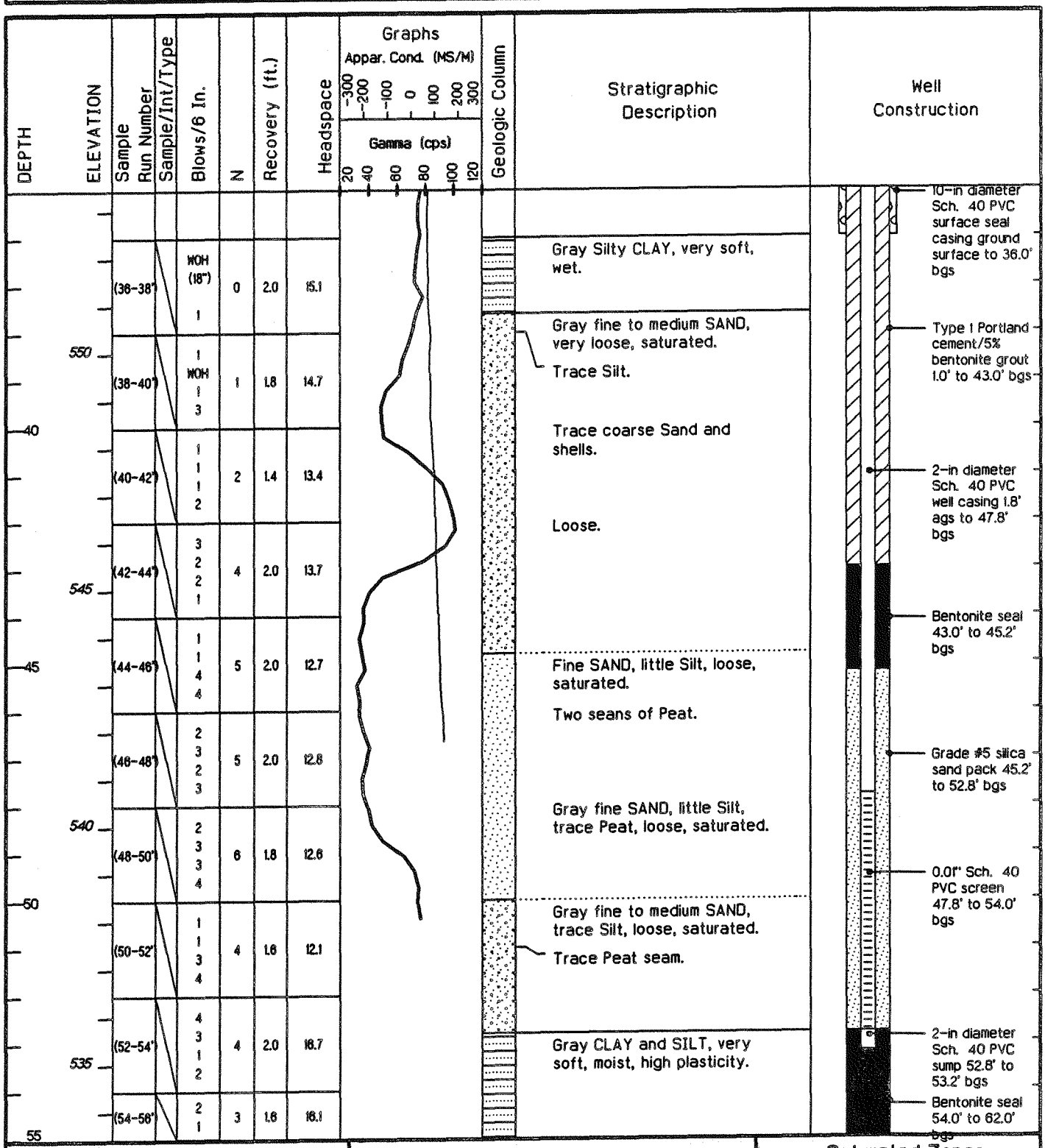
Script: ngm-asc4
Date: 10/08/97

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. MW-6D (Aug)

Total Depth = 62 ft.



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Remarks:
WOH - Weight of Hammer

Saturated Zones

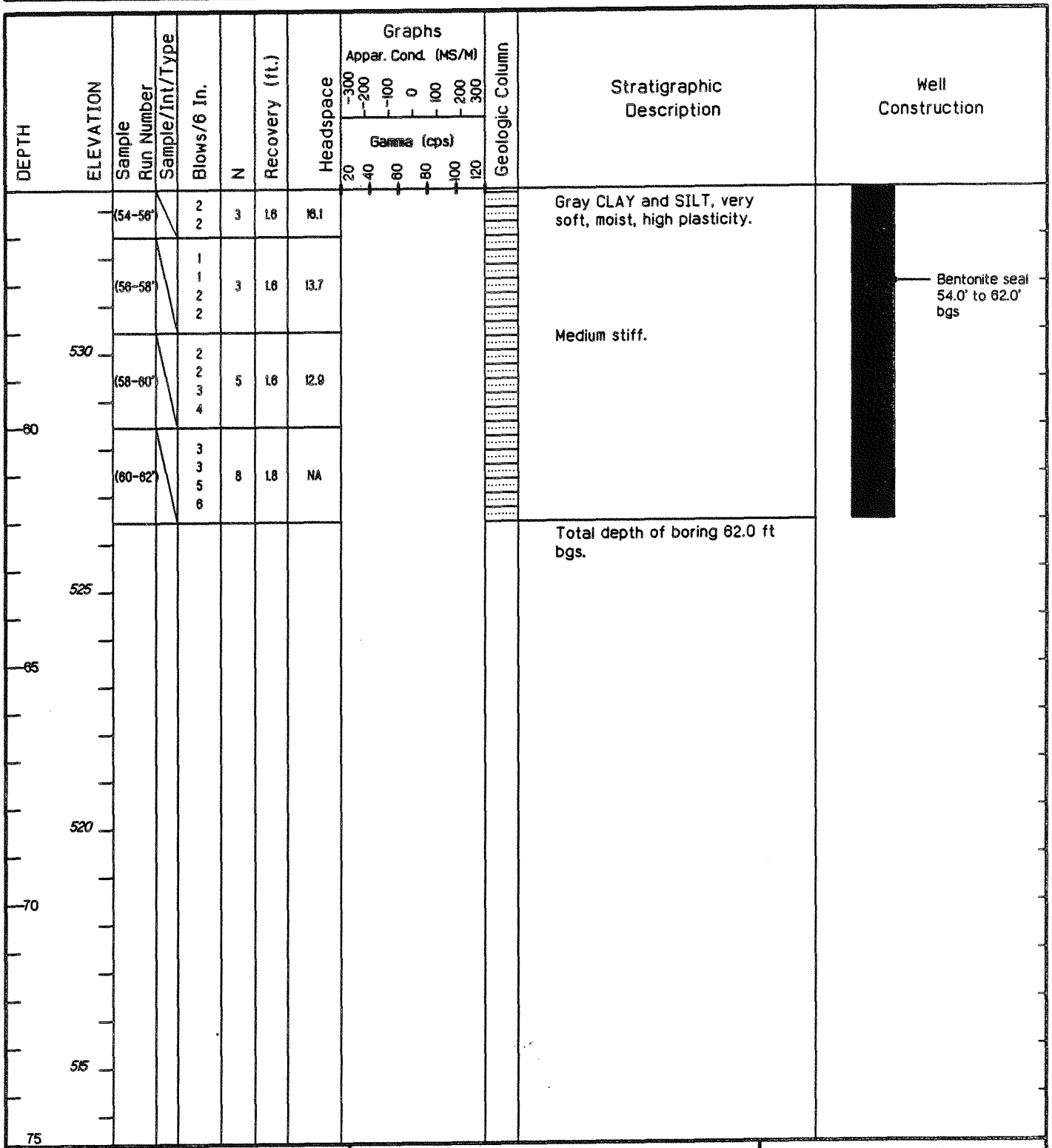
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Well No. MW-6D (Aug)

Total Depth = 62 ft.

Client:
General Motors Corporation



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Remarks:
NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 05/18/95 / 05/18/95
Drilling Company: Mateco
Driller's Name: Jim Page
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 750
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 56 ft.
Ground Surface: 594.07 ft.

Geologist: Tim R. Osier

Log Number: UST-MWS2

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 594.07 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	7-in Diameter steel protective curb box with sand drain, locking well cap installed
										4-in Asphalt.	
										Crushed stone subbase fill.	
		(0-2')		6 7 6	13	1.2	0.1			Brown medium SAND, trace fine Sand, loose, dry.	10-in diameter Sch. 40 PVC surface seal casing ground surface to 22.0' bgs
		(2-4')		3 4 5 4	9	1.3	0.0				
	590										
5		(4-6')		1 4 4 5	8	1.25	0.0				Type I Portland cement/5% bentonite grout 0.8' to 36.5' bgs
		(6-8')		3 4 3 3	7	1.7	0.0			Gray fine GRAVEL and fine to medium SAND, loose.	
										Black fine to medium SAND, loose, moist.	
	585	(8-10')		2 2 2 18	4	1.8	0.0				
10										Sampler hit an obstruction. Drilled to 12'.	2-in diameter Sch. 40 PVC well casing 0.4' to 40.1' bgs
		(10-12')		REF	NA	NA	NA				
		(12-14')		5 2 1 1	3	0.8	1.8			Dark brown SILT and fine to medium SAND, trace Clay, soft, moist.	
	580										
15		(14-16')		1 WOH	1	NR	NA			No Recovery.	

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Remarks:
Soil descriptions from 0-20' bgs were taken from boring log UST-MWS1. NR - No Recovery. REF - Refusal. NA - Not Available. WOH - Weight of Hammer.

Saturated Zones

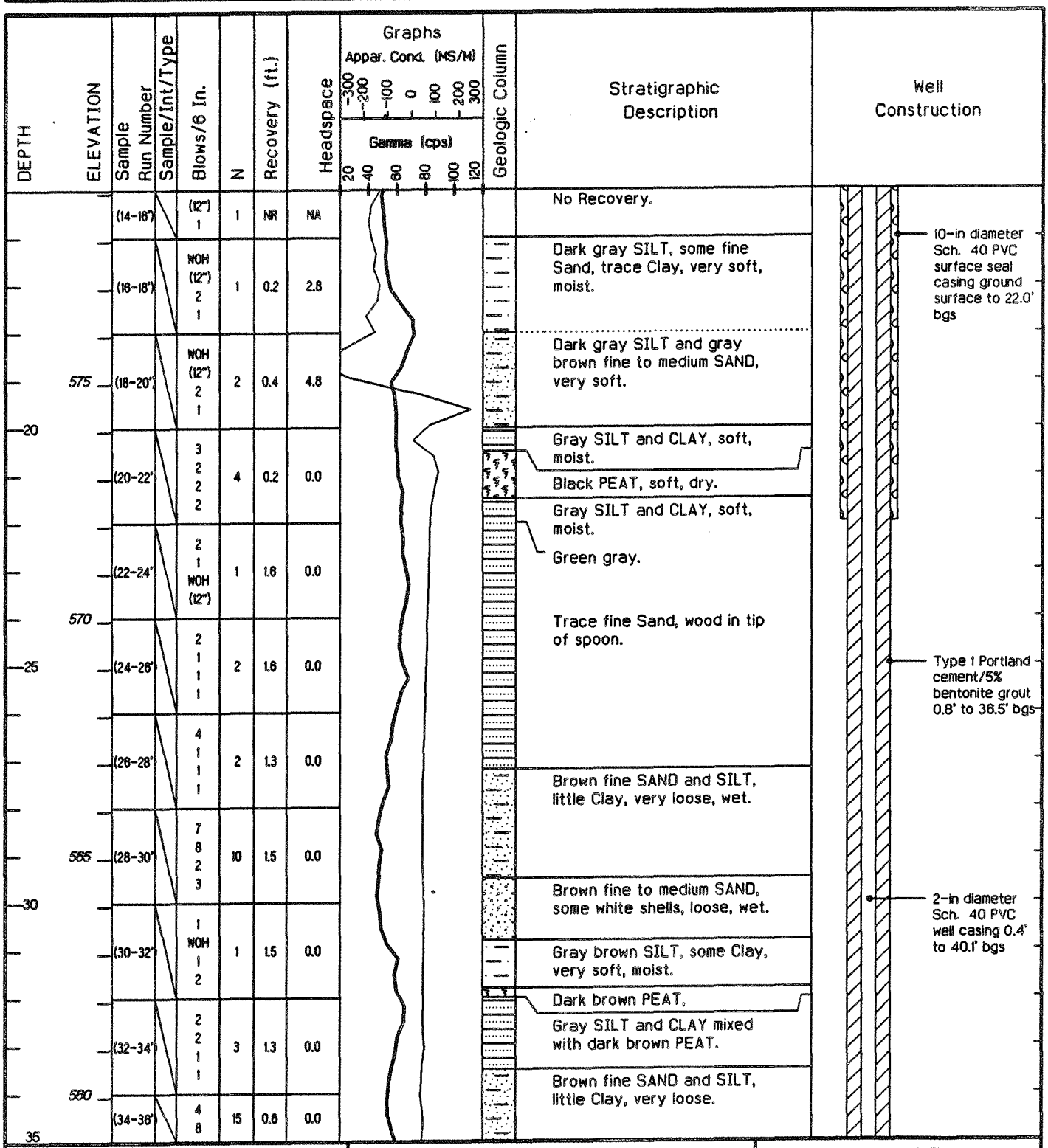
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. UST-MWS2

Total Depth = 56 ft.



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Remarks:

Soil descriptions from 0-20' bgs were taken from boring log UST-MWS1. NR - No Recovery. NA - Not Available. WOH - Weight of Hammer.

Saturated Zones

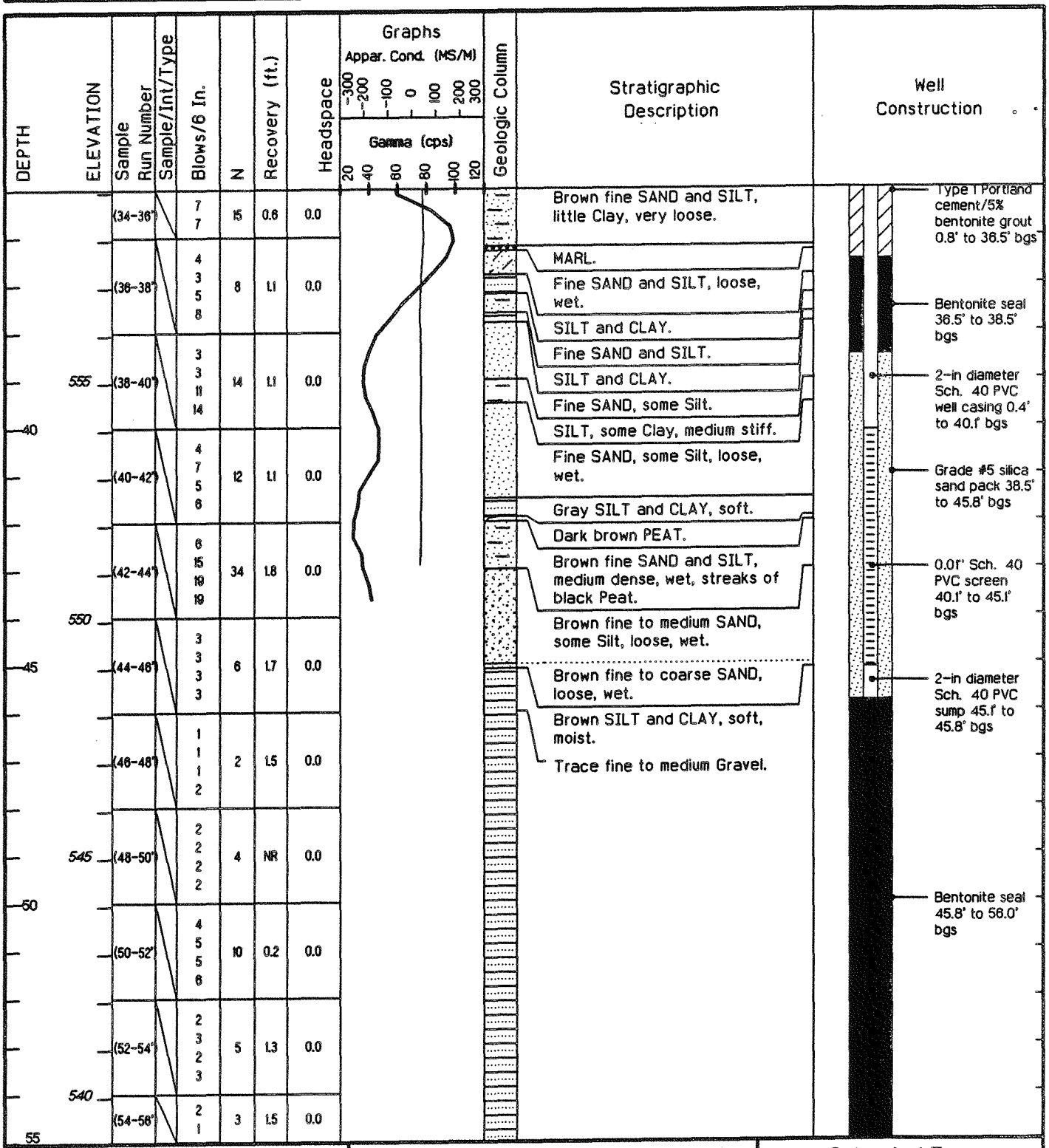
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. UST-MWS2

Total Depth = 56 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		▼
		▼
		▽

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. UST-MWS2

Total Depth = 58 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300 / Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(54-56')		2 4	3	1.5	0.0			Brown SILT and CLAY, trace fine to medium Gravel, soft, moist.	Bentonite seal 45.8' to 56.0' bgs
										Total depth of boring 56.0 ft bgs.	
60	535										
65	530										
70	525										
75	520										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 05/26/95 / 05/26/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: 8.25 in.
Rig Type: CME 850 ATV
Spoon Size: in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 49.1 ft.
Ground Surface: ft.

Geologist: Ronald D. Kuhn

Log Number: X-1CR2 (replacement)

Client:
General Moters Coprporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
0										GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed.
											Concrete pad ground surface to 2.0' bgs.
5	-5										
10	-10										2-in diameter Sch. 40 PVC well casing 2.5' ags to 43.7' bgs.
15	-15										

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Remarks:
Soil descriptions from 0.0' to 50.0' bgs are given on boring log X-1 by Residuals Management Technology, Inc. on June 02, 1980.

Saturated Zones

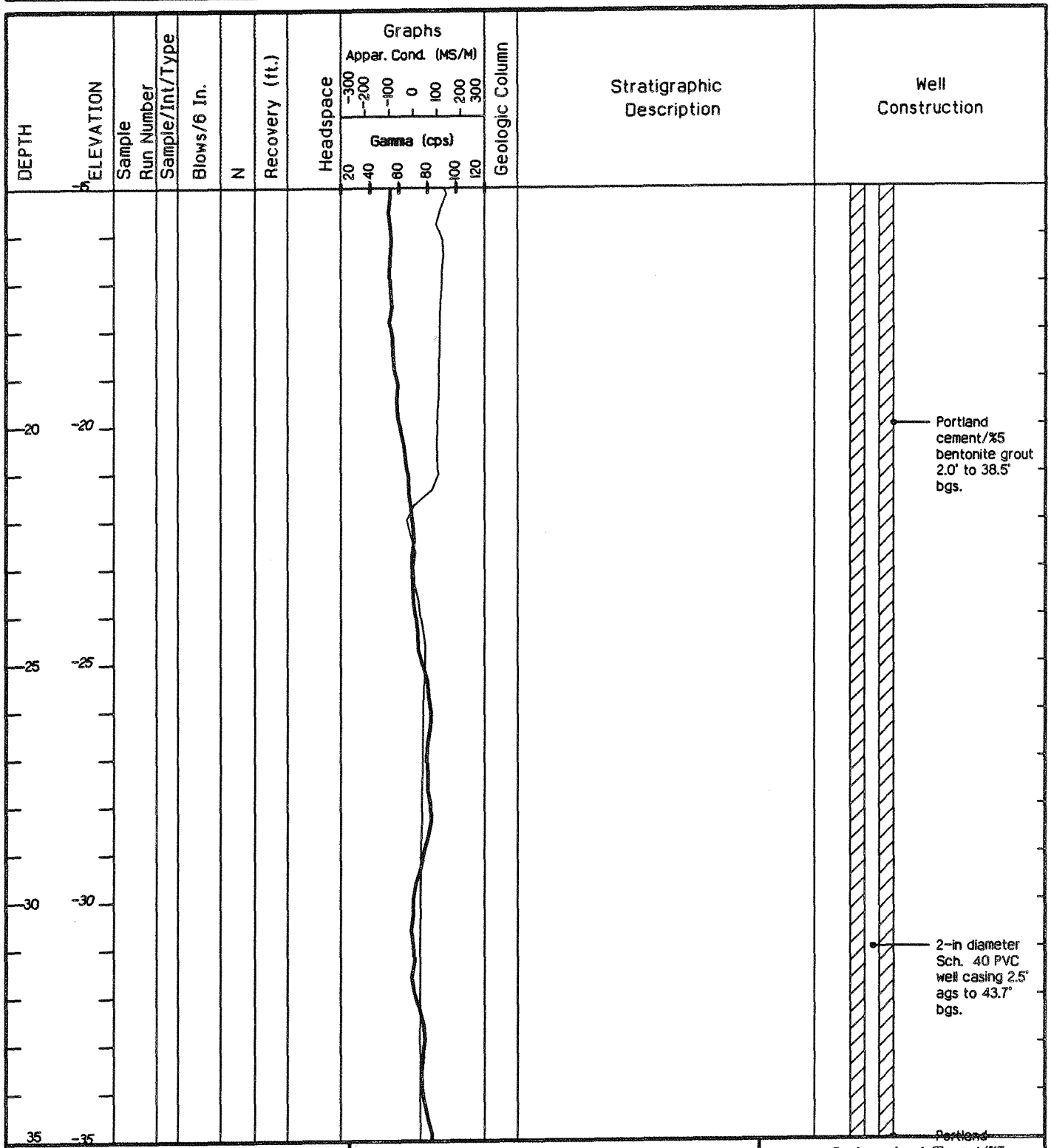
Date / Time	Elevation	Depth
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		N/A ▽
		N/A ▽

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Moters Coprporation

Well No. X-1CR2 (replacement)

Total Depth = 49.1 ft.



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Remarks:

Saturated Zones:

Date / Time	Elevation	Depth
		N/A ▽
		N/A ▽
		N/A ▽

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Moters Coprporation

Well No. X-1CR2 (replacement)

Total Depth = 49.1 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
40	-40										
45	-45										
50	-50										
55	-55										

Well Construction:
- Bentonite seal 38.5' to 41.5' bgs.
- Grade #5 silica sand pack 41.5' to 49.1' bgs.
- 0.01" diameter Sch. 40 PVC screen 43.7' to 48.7' bgs.
- 2-in diameter Sch. 40 PVC sump 48.7' to 49.1' bgs.

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		N/A
		N/A
		N/A

Date Start/Finish: 05/16/95 / 05/16/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 54 ft.
Ground Surface: 593.23 ft.

Geologist: Ron Kuhn

Log Number: X-3C (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 593.23 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		**GROUND SURFACE**	4-in diameter steel protective casing 2.0' ags, locking cap installed.
0	590									Soil descriptions from 0.0 to 40.0' bgs are given on boring log X-3A by Residuals Management Technology, Inc. on June 03, 1980.	Concrete pad ground surface to 1.0' bgs
5	585										Type I Portland cement/5% bentonite grout 1.0' to 40.5' bgs
10	580										2-in diameter Sch. 40 PVC well casing 1.8' ags to 46.5' bgs
15											

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Remarks:
Apparent Conductivity graph is off-scale from 14.0 to 20.0 feet.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-3C (Aug)

Total Depth = 54 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
0	575									Soil descriptions from 0.0 to 40.0' bgs are given on boring log X-3A by Residuals Management Technology, Inc. on June 03, 1980.	Type I Portland cement/5% bentonite grout 1.0' to 40.5' bgs
20	570										
25	565										
30	560										2-in diameter Sch. 40 PVC well casing 1.8' ags to 46.5' bgs
35											

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Remarks:
Apparent Conductivity graph is off-scale from 14.0 to 20.0 feet.

Saturated Zones

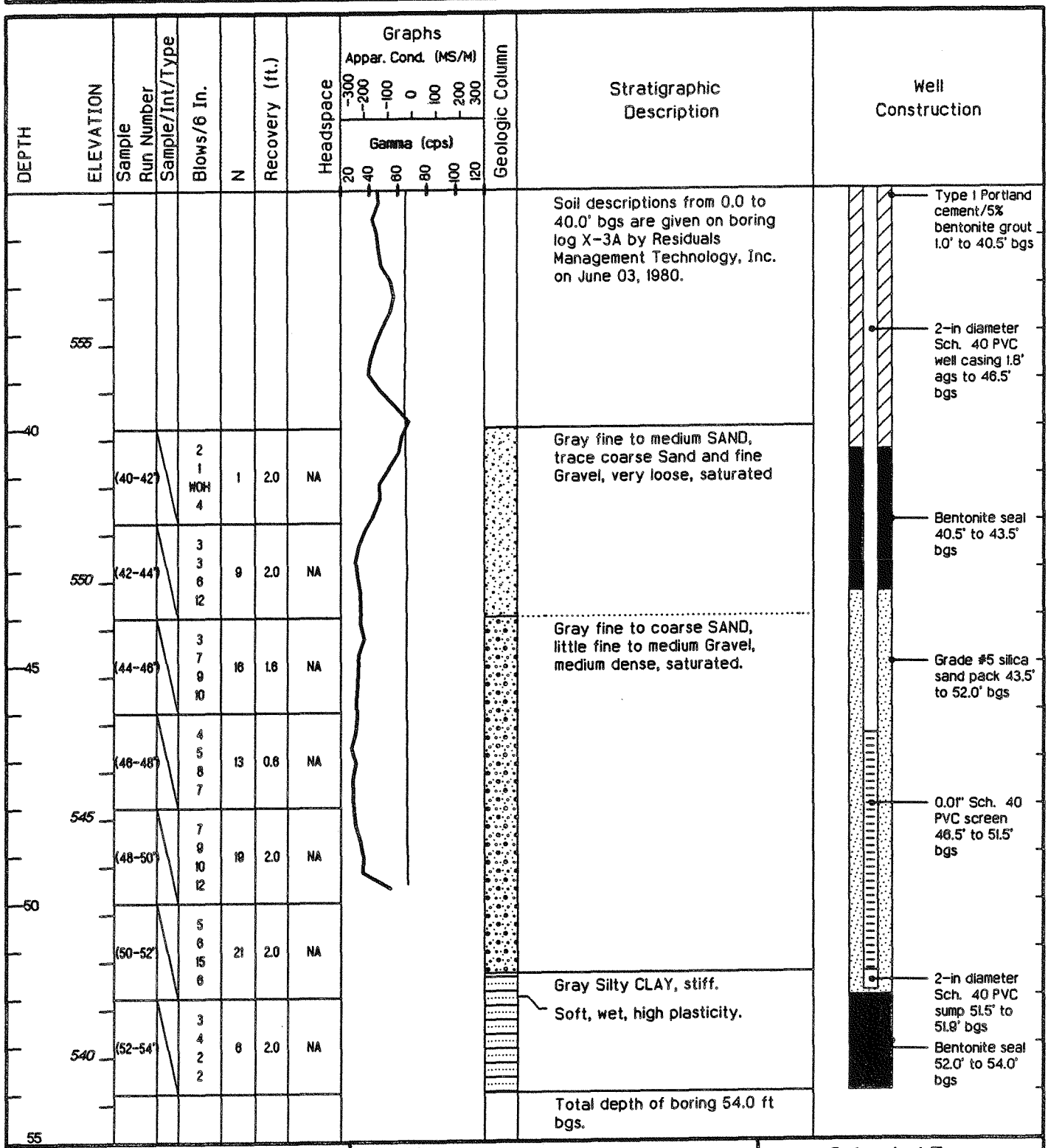
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-3C (Aug)

Total Depth = 54 ft.



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Remarks:
WOH - Weight of Hammer. NA - Not Available.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 05/05/95 / 05/05/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 25 ft.
Ground Surface: 583.66 ft.

Geologist: Tim R. Osier

Log Number: X-4C (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

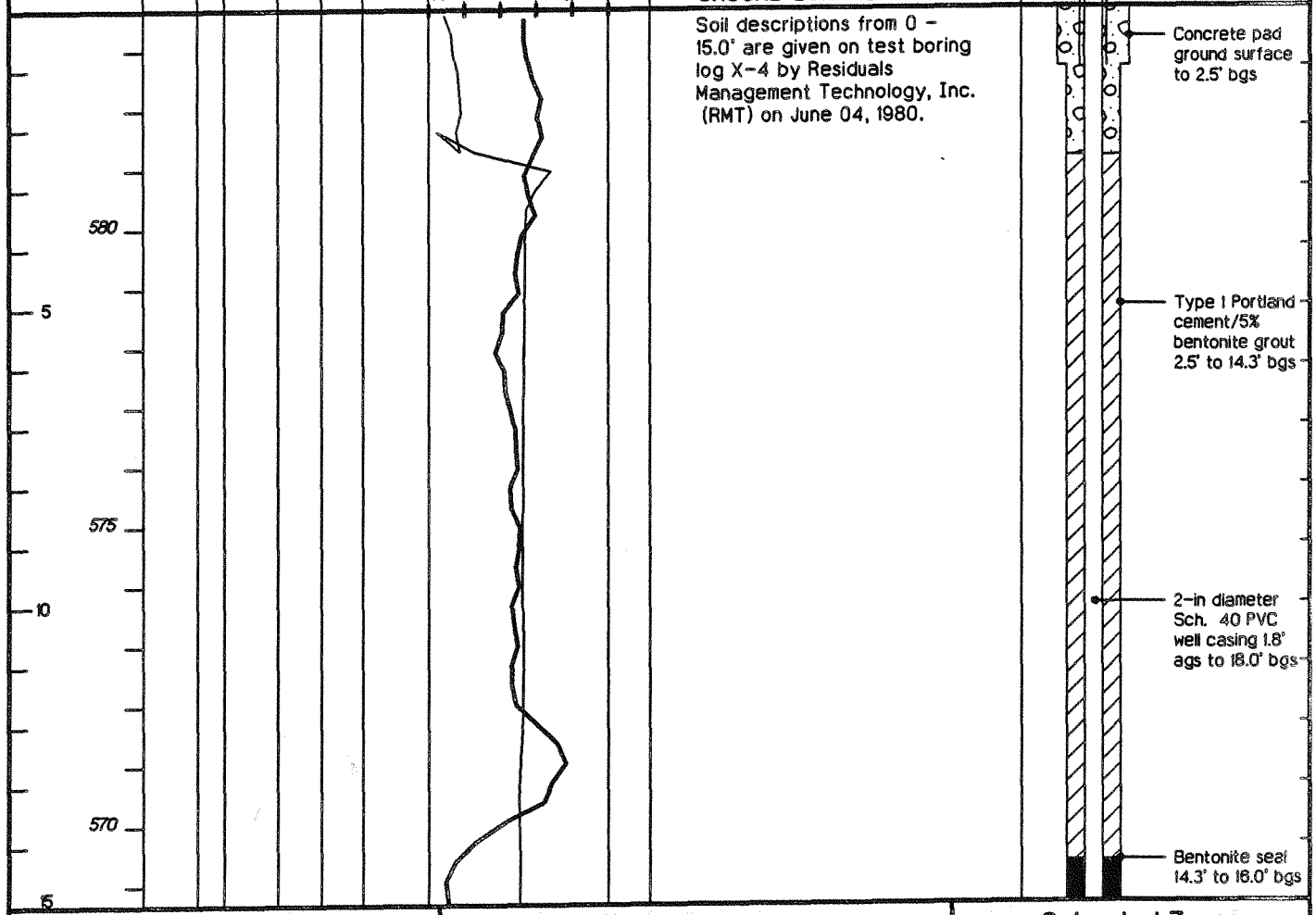
DEPTH | ELEVATION | Sample Run Number | Sample/Int/Type | Blows/6 In. | N | Recovery (ft.) | Headspace | Graphs | Geologic Column | Stratigraphic Description | Well Construction

gs elevation 583.66 ft.

Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120

GROUND SURFACE

Soil descriptions from 0 - 15.0' are given on test boring log X-4 by Residuals Management Technology, Inc. (RMT) on June 04, 1980.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-4C (Aug)

Total Depth = 25 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(15-17')		2 WOH 1 1	1	1.5	0.0			Brown fine SAND, some Silt, very loose, wet.	Bentonite seal 14.3' to 16.0' bgs
		(17-19')		2 1 WOH 1	1	1.6	0.0			Trace shells.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 18.0' bgs
20	565	(19-21')		1 3 4 4	7	1.6	0.0				0.01" Sch. 40 PVC screen 18.0' to 23.0' bgs
		(21-23')		8 6 3 1	9	1.6	0.0				Grade #5 silica sand pack 16.0' to 23.5' bgs
25	560	(23-25')		2 1 WOH 1	1	1.8	0.0			Gray SILT, some Clay, soft, wet.	2-in diameter Sch. 40 PVC sump 23.0' to 23.5' bgs
										Total depth of boring 25.0 ft. bgs.	Bentonite seal 23.5' to 25.0' bgs
30	555										
35	550										

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na ▽
		na ▽
		na ▽

Date Start/Finish: 05/05/95 / 05/05/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 54 ft.
Ground Surface: 593.26 ft.

Geologist: Tim R. Osier

Log Number: X-7D (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 593.26 ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120		GROUND SURFACE Soil descriptions from 0 - 38.0' are given on test boring log X-7B by Residuals Management Technology, Inc. (RMT) on June 10, 1980.	4-in diameter steel protective casing 2.0' ags, locking cap installed. Concrete pad ground surface to 2.5' bgs Type I Portland cement/5% bentonite grout 2.5' to 41.0' bgs 2-in diameter Sch. 40 PVC well casing 1.8' ags to 46.0' bgs
590											
5											
585											
10											
580											
15											

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Remarks:

Saturated Zones

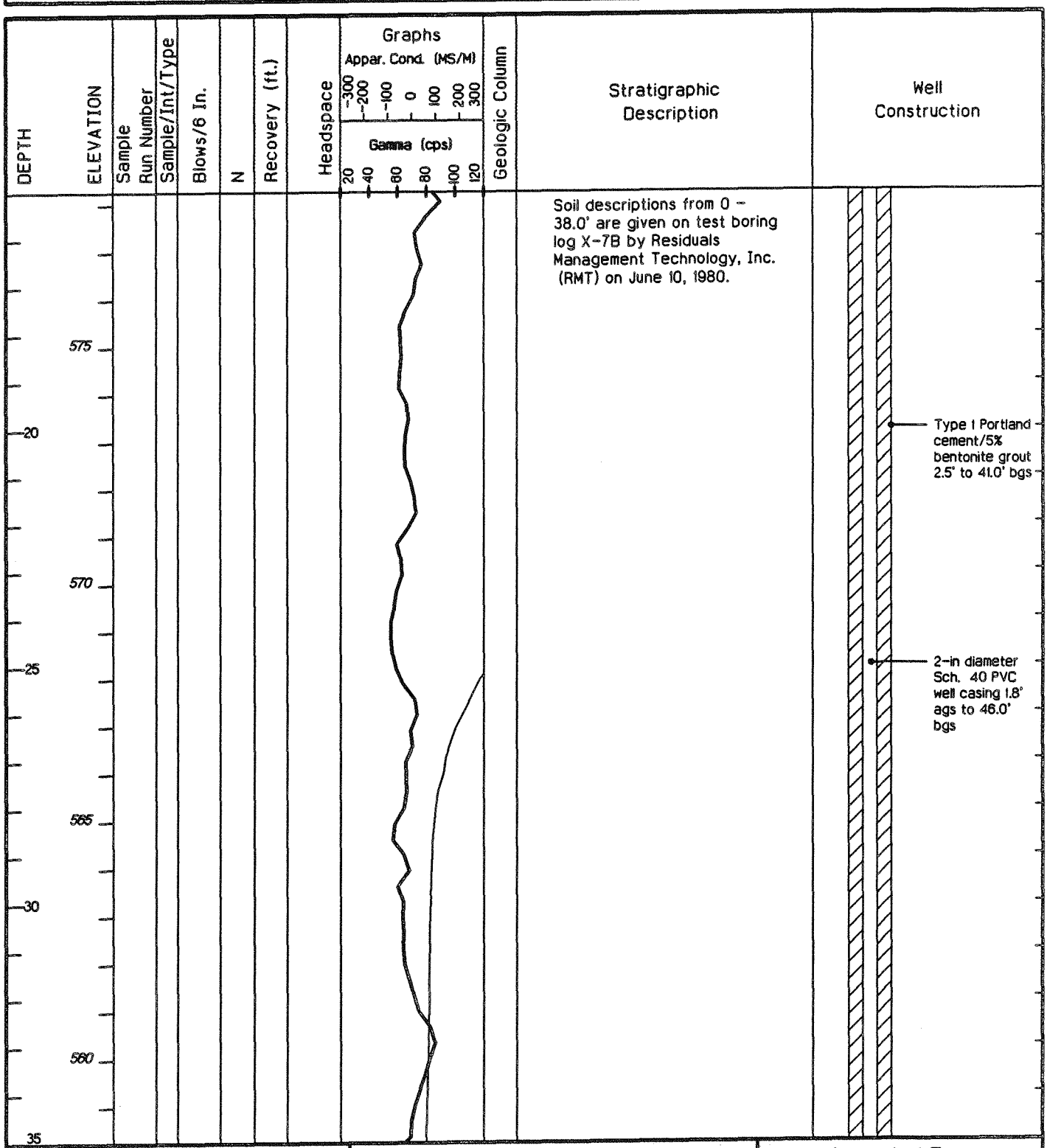
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-7D (Aug)

Total Depth = 54 ft.



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Remarks:
Apparent Conductivity graph is off-scale from 13.0 to 25.0 feet.

Saturated Zones

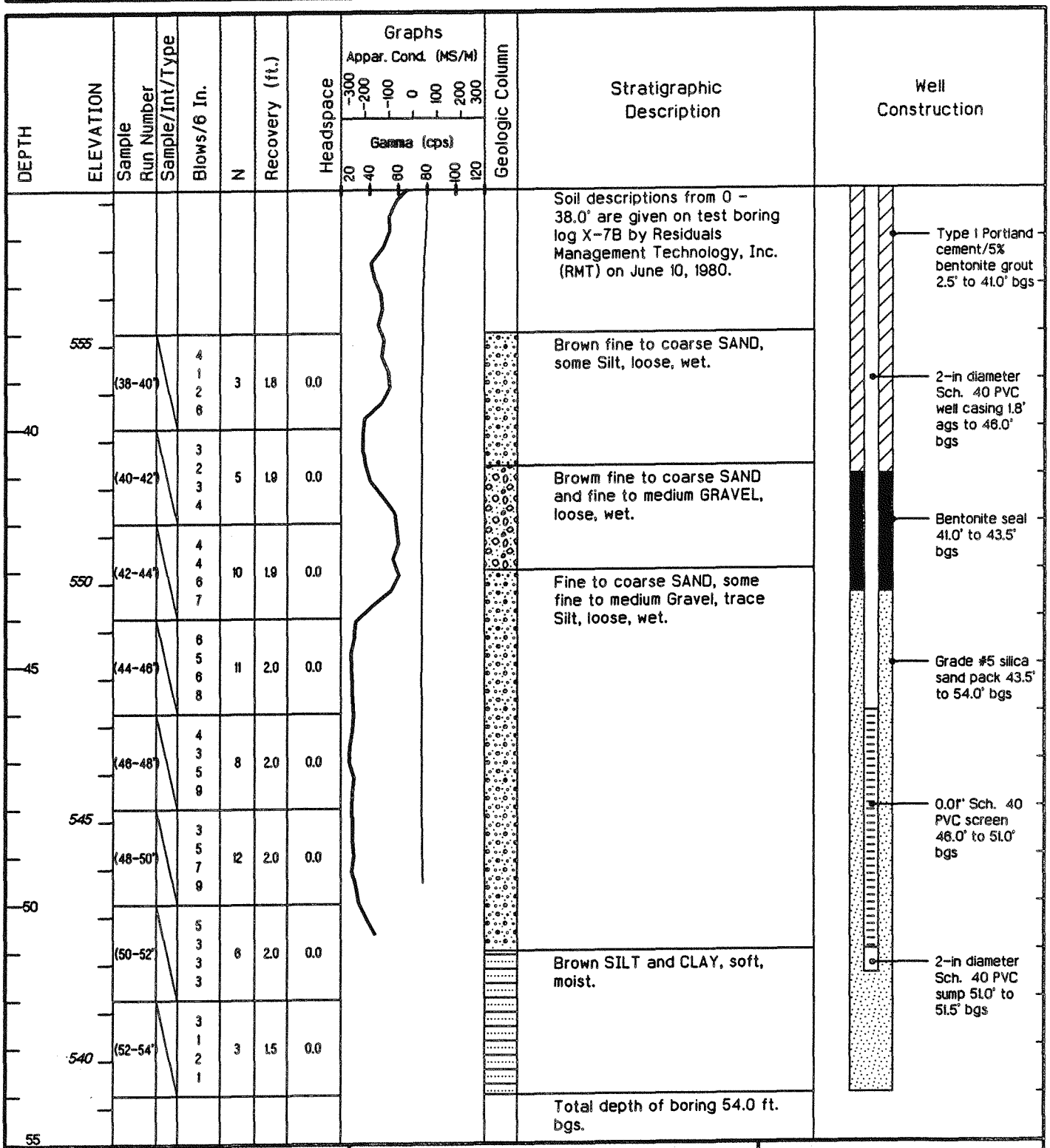
Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-7D (Aug)

Total Depth = 54 ft.



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Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Date Start/Finish: 05/17/95 / 05/17/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: 8.25 in.
Rig Type: CME 850 ATV
Spoon Size: in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 31.4 ft.
Ground Surface: ft.

Geologist: Ronald D. Kuhn

Log Number: X-9BR (replacement)

Client:
General Moters Coprporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
0										GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed.
											Concrete pad ground surface to 2.0' bgs.
5	-5										
10	-10										2-in diameter Sch. 40 PVC well casing 2.5' ags to 26.0 bgs.
15	-15										

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engineers & scientists

Remarks:

Soil descriptions from 0.0' to 50.0' bgs are given on boring log X-9 by Residuals Management Technology, Inc. on June 03, 1980.

Saturated Zones

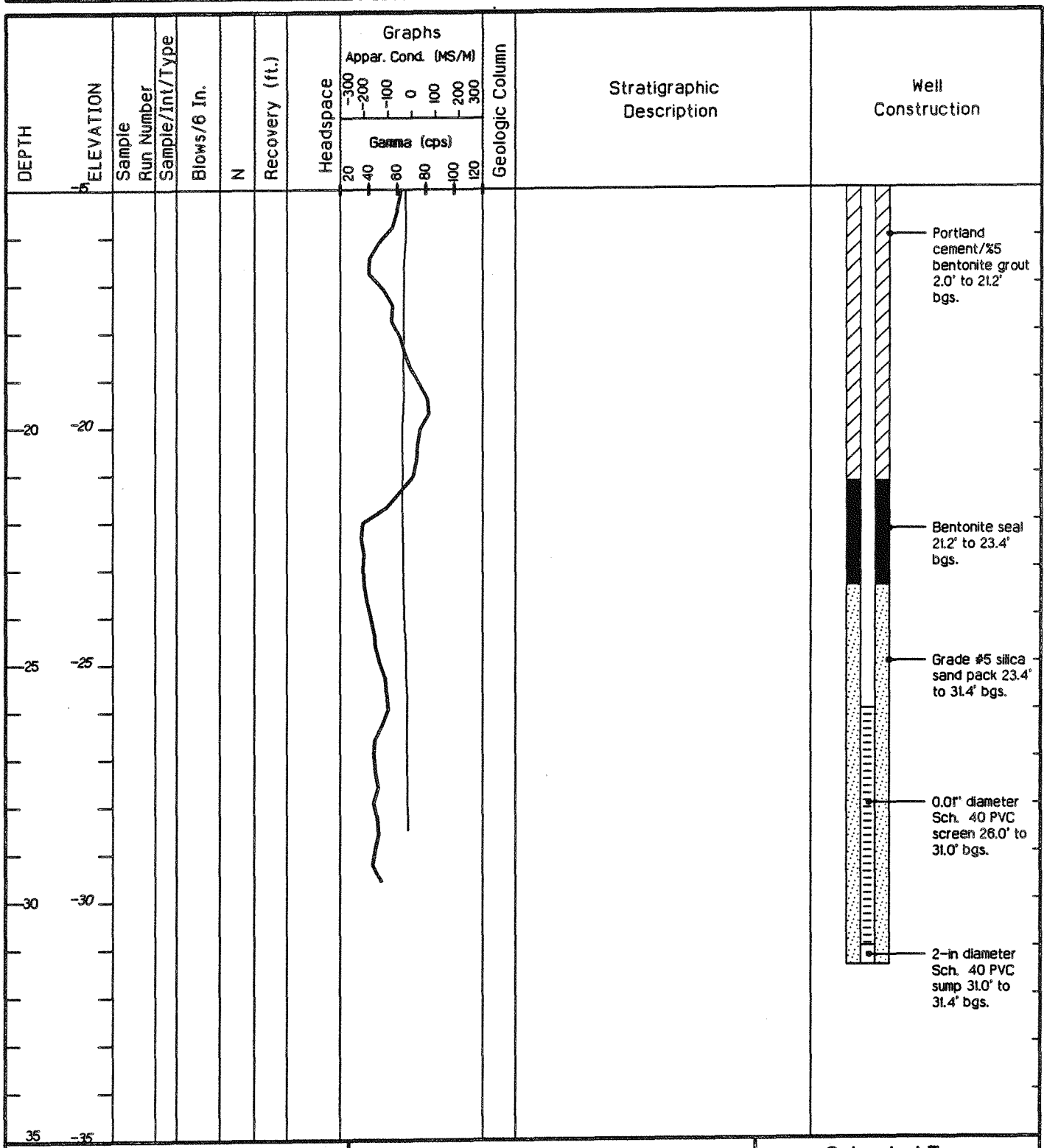
Date / Time	Elevation	Depth
		N/A
		N/A
		N/A

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. X-9BR (replacement)

Total Depth = 31.4 ft.

Client:
General Moters Coprporation



BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		N/A
		N/A
		N/A

Date Start/Finish: 01/19/95 / 01/20/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 44 ft.
Ground Surface: ft.

Geologist: Sabrina Hesford

Log Number: X-10CR

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
0										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
		(0-2')		1 2 3 5	5	2.0	0.2			Black very fine to fine SAND, trace Clay, loose, moist.	Concrete pad ground surface to 2.5' bgs
		(2-4')		3 4 5 5	9	2.0	0.8			Black and orange medium SAND, trace slag and glass, loose.	
5	-5	(4-6')		3 6 8 10	14	2.0	0.2				Type I Portland cement/5% bentonite grout 2.5' to 32.6' bgs
		(6-8')		WOH 1 1 1	2	1.8	0.3			Very loose, moist.	
		(8-10')		1 2 2 2	4	1.5	0.2				
10	-10	(10-12')		2 2 3 4	5	1.1	0.3				2-in diameter Sch. 40 PVC well casing 1.8' ags to 36.4' bgs
		(12-14')		2 3 2 2	5	1.4	0.1			Gray SILT, little Clay, damp.	
		(14-16')		1 1	2	1.2	0.3			Gray CLAY, little Silt, little fine Sand and shells, soft, moist.	
15	-15									Some Silt and fine Sand, little shells and wood, soft, moist.	

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Remarks:
WOH - Weight of Hammer

Saturated Zones

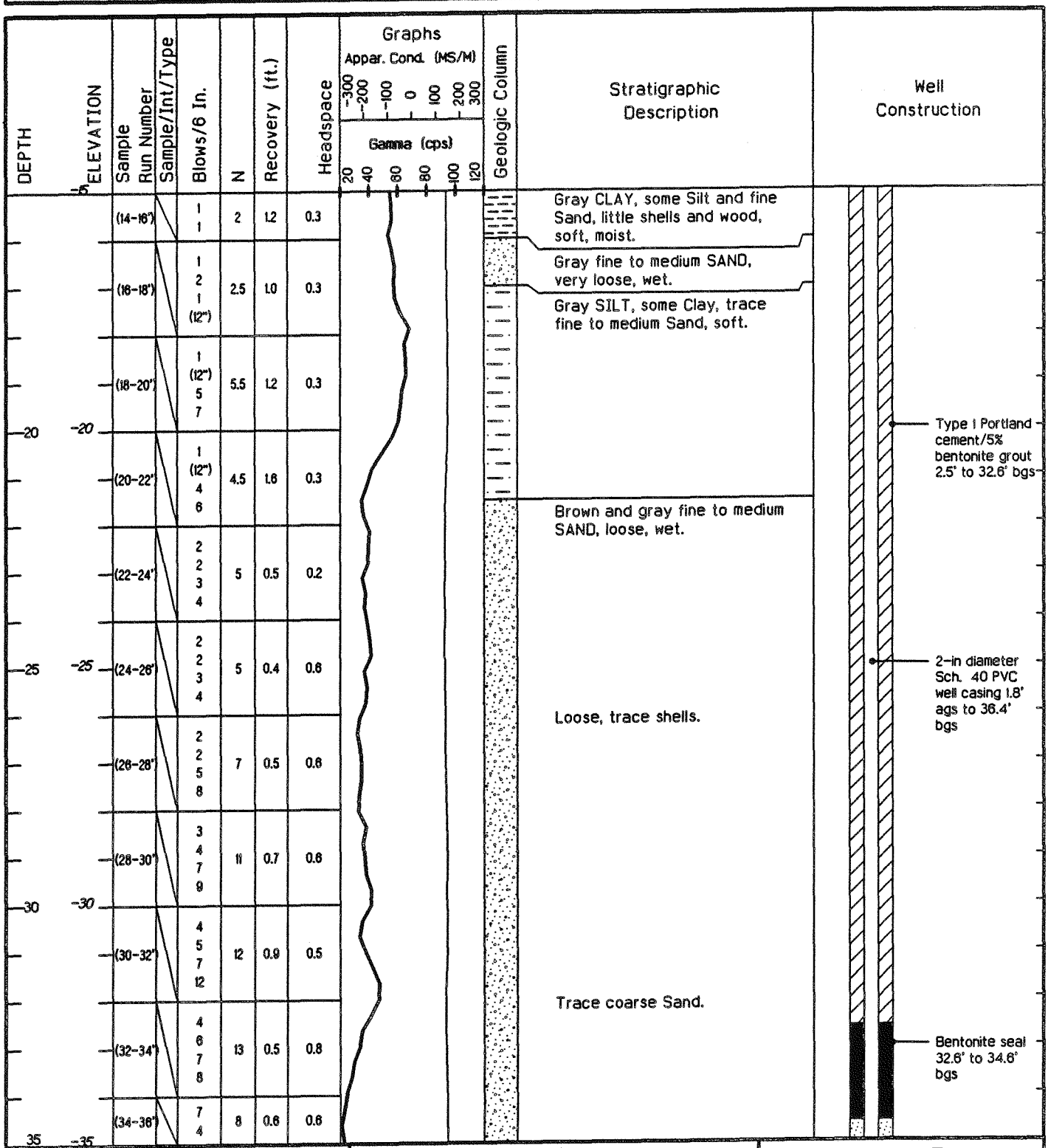
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-10CR

Total Depth = 44 ft.



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Remarks:

Saturated Zones

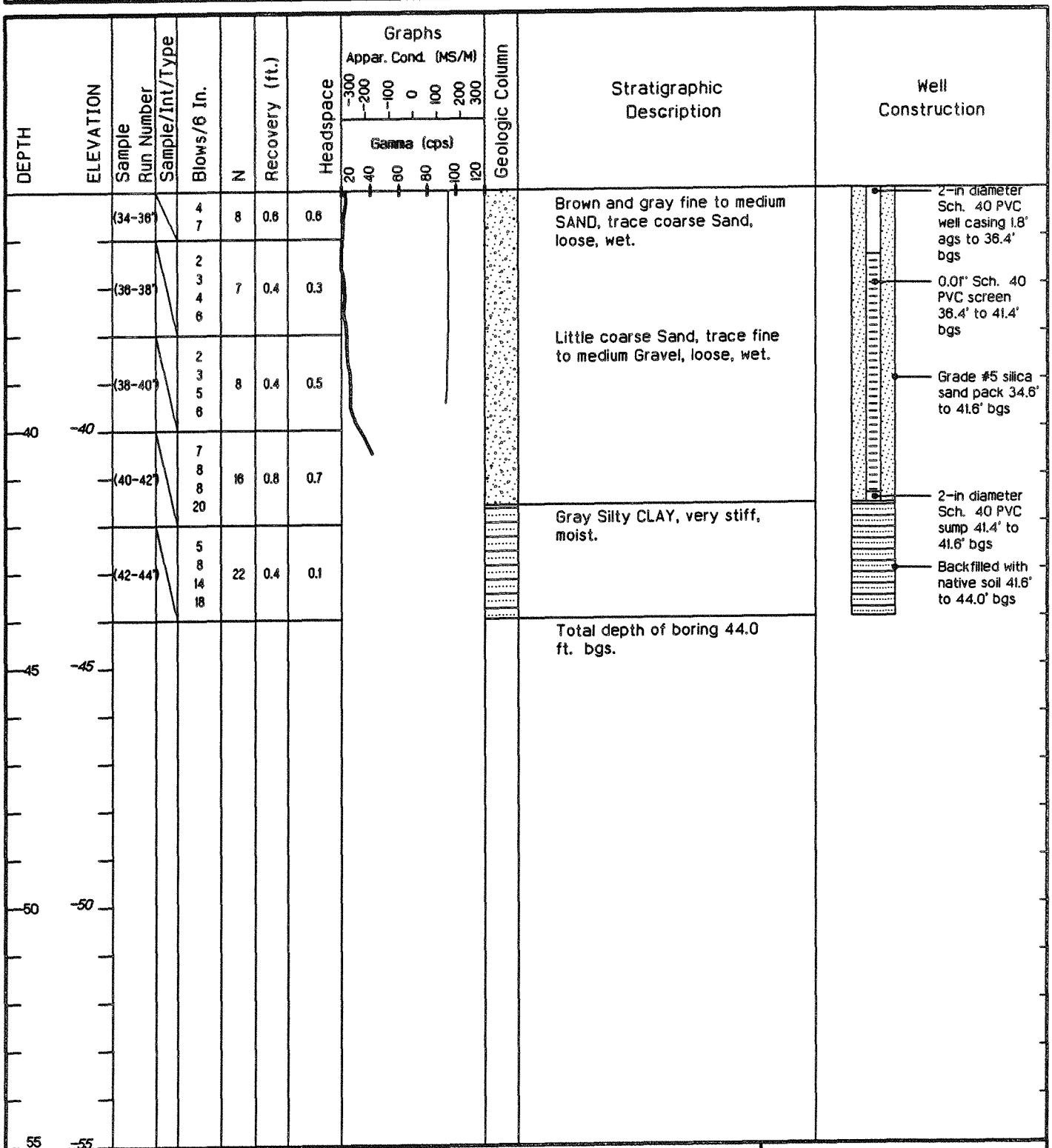
Date / Time	Elevation	Depth

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-10CR

Total Depth = 44 ft.



BBL
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engineers & scientists

Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 01/23/95 / 01/24/95
Drilling Company: Mateco
Driller's Name: Norm Forner
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: ID 4.25 in.
Rig Type: CME 850 ATV
Spoon Size: 2 in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 44 ft.
Ground Surface: 581.68 ft.

Geologist: Sabrina Hesford

Log Number: X-13C (Aug)

Client:
General Motors Corporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 581.68 ft.								Appar. Cond. (MS/M) −300 −200 −100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
										GROUND SURFACE	4-in diameter steel protective casing 2.0' ags, locking cap installed.
0		(0-2')		2 2 2 2	4	1.0	0.3			Dark brown SILT, little Clay, soft, moist.	Concrete pad ground surface to 2.5' bgs
	580	(2-4')		1 1 2 2	3	1.0	0.3			Gray to brown fine to medium SAND, trace shells, loose, moist.	
5		(4-6')		1 (12") 1 2	1	1.6	0.6			Dark brown SILT, little fine Sand, trace organics, very soft, wet.	Type I Portland cement/5% bentonite grout 2.5' to 31.8' bgs
	575	(6-8')		2 1 2 1	3	1.1	0.4			Dark gray fine SAND, little to some Silt, very loose, wet.	
		(8-10')		2 1 1 1	2	1.3	0.4				
10		(10-12')		1 1 1 1	2	1.0	0.6				2-in diameter Sch. 40 PVC well casing 1.8' ags to 36.2' bgs
	570	(12-14')		1 1 2 2	3	1.1	0.6			Trace Clay, very loose.	
15		(14-16')		1 (12")	1	1.4	0.5			Dark gray very fine to fine SAND, little Silt, trace Clay, trace	

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Remarks:

Saturated Zones

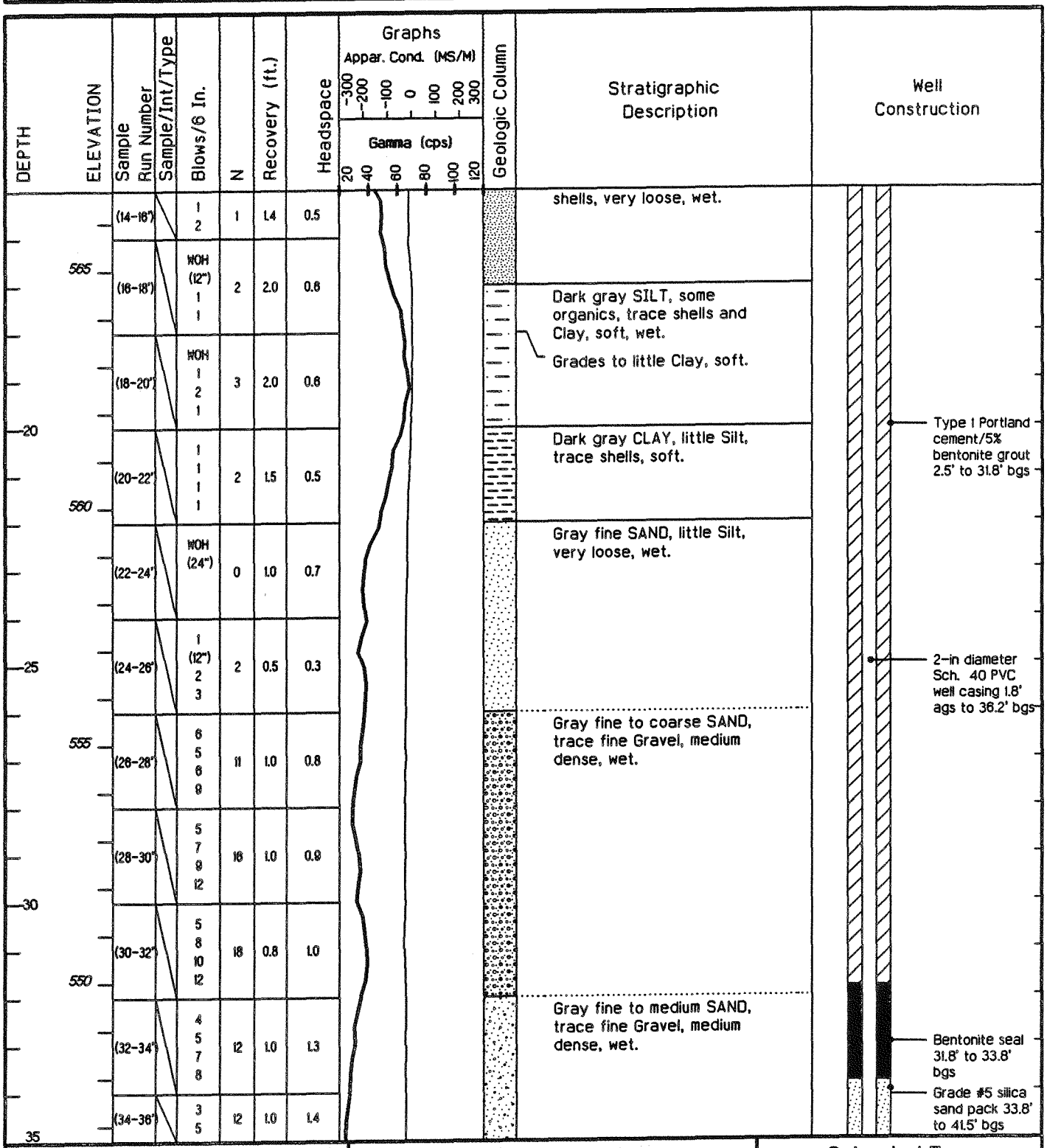
Date / Time	Elevation	Depth
		na ▼
		na ▼
		na ▽

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-13C (Aug)

Total Depth = 44 ft.



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engineers & scientists

Remarks:
WOH - Weight of Hammer.

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Motors Corporation

Well No. X-13C (Aug)

Total Depth = 44 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
		(34-36')		7 9	12	1.0	1.4			Gray fine to medium SAND, trace fine to medium Gravel, medium dense, wet.	2-in diameter Sch. 40 PVC well casing 1.8' ags to 36.2' bgs
	545	(36-38')		4 5 6 6	11	0.9	1.2				0.01" Sch. 40 PVC screen 36.2' to 41.2' bgs
		(38-40')		5 8 10 12	18	1.0	1.5			Little fine to medium Gravel, medium dense.	Grade #5 silica sand pack 33.8' to 41.5' bgs
40		(40-42')		5 8 9 4	17	0.8	1.6				2-in diameter Sch. 40 PVC sump 41.2' to 41.4' bgs
	540	(42-44')		1 1 1 2	2	2.0	0.7			Gray CLAY, little Silt, soft, wet.	Backfilled with native soils 41.5' to 44.0' bgs
45										Total depth of boring 44.0 ft. bgs.	
	535										
50											
	530										
55											

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engineers & scientists

Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		na
		na
		na

Project: 276.08

Script: ngm-asc4
Date: 10/08/97

Date Start/Finish: 06/19/95 / 06/19/95
Drilling Company: Stearns
Driller's Name: Rich Bennett
Drilling Method: Hollow Stem Auger
Bit Size: N/A in.
Auger Size: 8.25 in.
Rig Type: CME 850 ATV
Spoon Size: in.

Northing:
Easting:
Well Casing: ft.
Corehole Depth: N/A ft.
Borehole Depth: 40.4 ft.
Ground Surface: ft.

Geologist: Ronald D. Kuhn

Log Number: X-15BR (replacement)

Client:
General Moters Coprporation

Location:
Malleable Iron Plant Property, Green Pt. Landfill and Drum Remediation Area

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 in.	N	Recovery (ft.)	Headspace	Graphs	Geologic Column	Stratigraphic Description	Well Construction
gs elevation ft.								Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120			
0										GROUND SURFACE	4-in diameter steel protective casing 2.5' ags, locking cap installed.
											Concrete pad ground surface to 2.0' bgs.
5	-5										
10	-10										2-in diameter Sch. 40 PVC well casing 2.5' ags to 35.0' bgs.
15	-15										

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Remarks:

Soil descriptions from 0.0' to 50.0' bgs are given on boring log X-15 by Residuals Management Technology, Inc. on June 05, 1980.

Saturated Zones

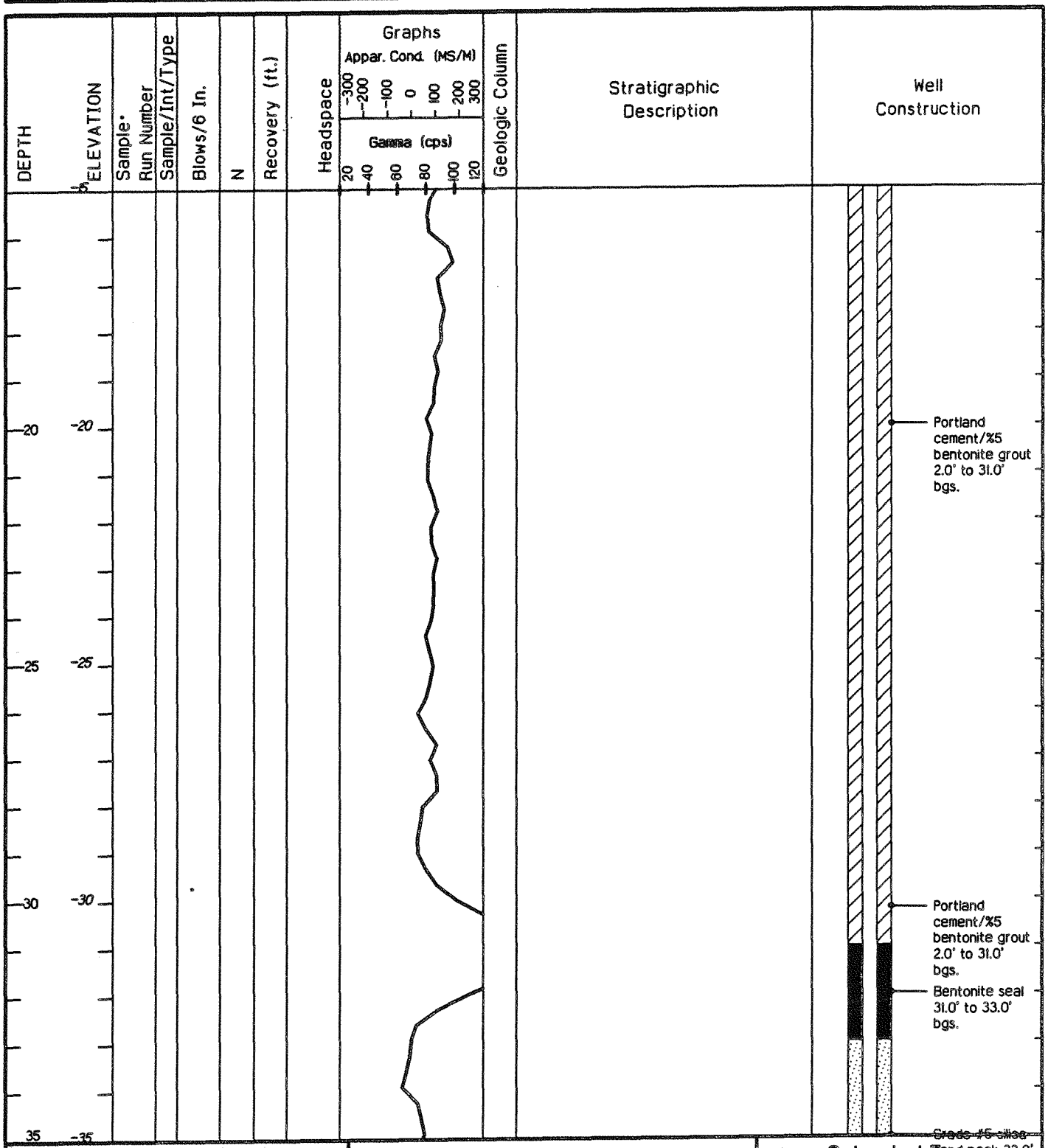
Date / Time	Elevation	Depth
		N/A ▽
		N/A ▽
		N/A ▽

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Well No. X-15BR (replacement)

Total Depth = 40.4 ft.

Client:
General Moters Coprporation



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BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		N/A
		N/A
		N/A

Location:
Malleable Iron Plant Property, Green
Pt. Landfill and Drum Remediation Area

Client:
General Moters Coprporation

Well No. X-15BR (replacement)

Total Depth = 40.4 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	Headspace	Graphs: Appar. Cond. (MS/M) -300 -200 -100 0 100 200 300; Gamma (cps) 20 40 60 80 100 120	Geologic Column	Stratigraphic Description	Well Construction
40	-40										0.01" diameter Sch. 40 PVC screen 35.0' to 40.0' bgs.
45	-45										2-in diameter Sch. 40 PVC sump 40.0' to 40.4' bgs.
50	-50										
55	-55										

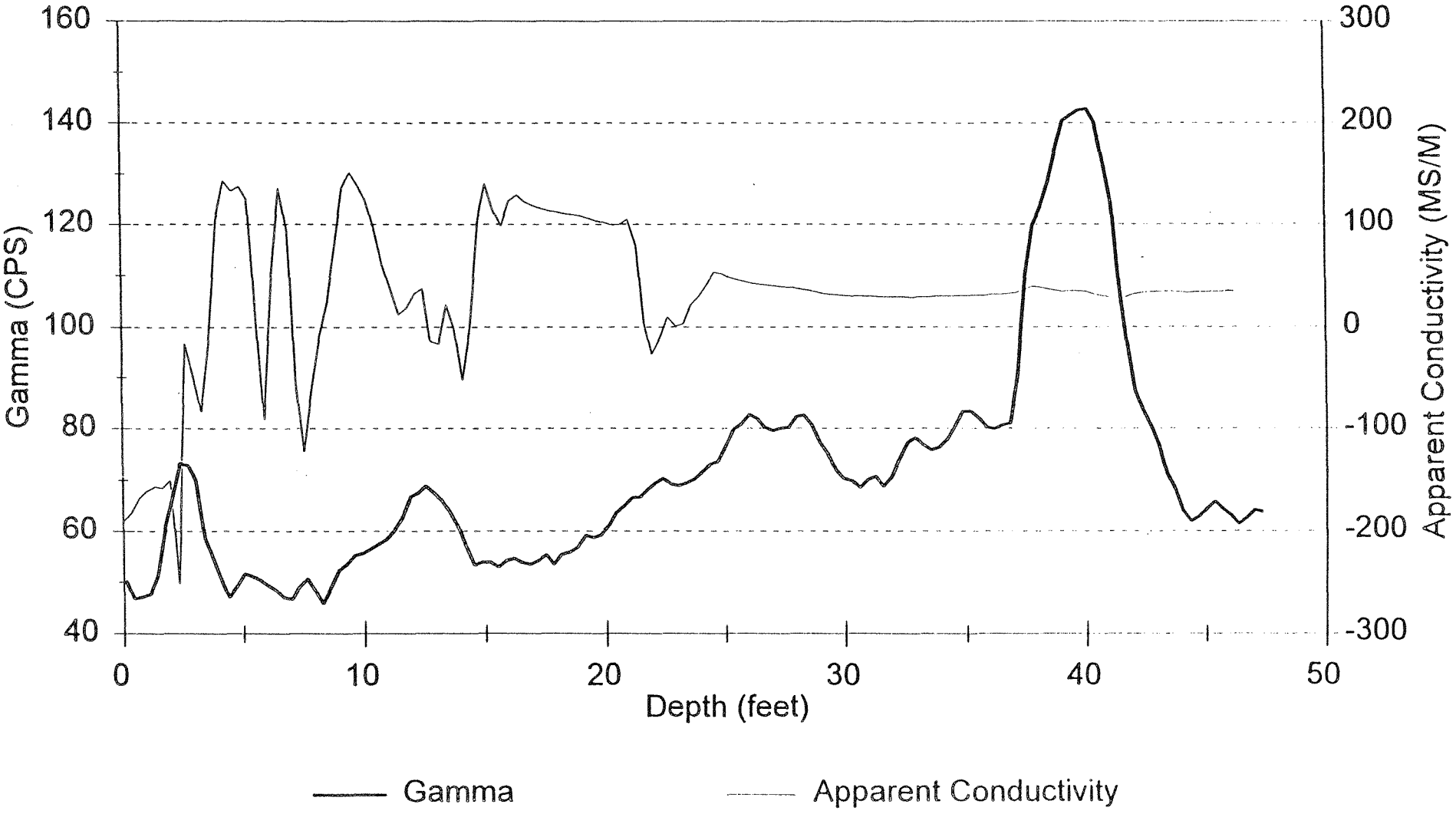
BBL
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engineers & scientists

Remarks:

Saturated Zones

Date / Time	Elevation	Depth
		N/A ▼
		N/A ▽
		N/A ▽

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-1CR2
Geophysical Borehole Logging Results



LOCATION: Saginaw , Michigan
DRILLED BY: Soil & Materials Engineers

SURFACE ELEV.: 590.7
SHEET NO.: 1/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
Recovery			Moisture			
No.	Type			N	Depth	
1	SS	X	M	11		Black & Brown, Loose to Medium Dense, Mixed FILL, Foundry Sand, Slag, Cinders, Metal, Wood, Miscellaneous Organics
2	SS	X	M	6	5	
3	SS	X	M	5	10	
* 4	SS	X	W	4	15	OK Brown, Loose to Medium Dense, Fine SAND, Trace Silt (SP)
5	SS	X	W	9	20	
6	SS	X	M	44	25	Brown, Hard, Silty CLAY, Trace Sand and Gravel (CL)
7	SS	X	M	25	30	
8	SS	X	M	9	35	Brown, Stiff, Silty CLAY, Trace Sand and Gravel (CL)
9	SS	X	M	9	40	(CONTINUED)

GENERAL NOTES

START: 6-2-80
COMPLETE: 6-2-80
RIG: 35
CREW CHIEF: J.H.
DRILLING METHOD: HSA 0-50'

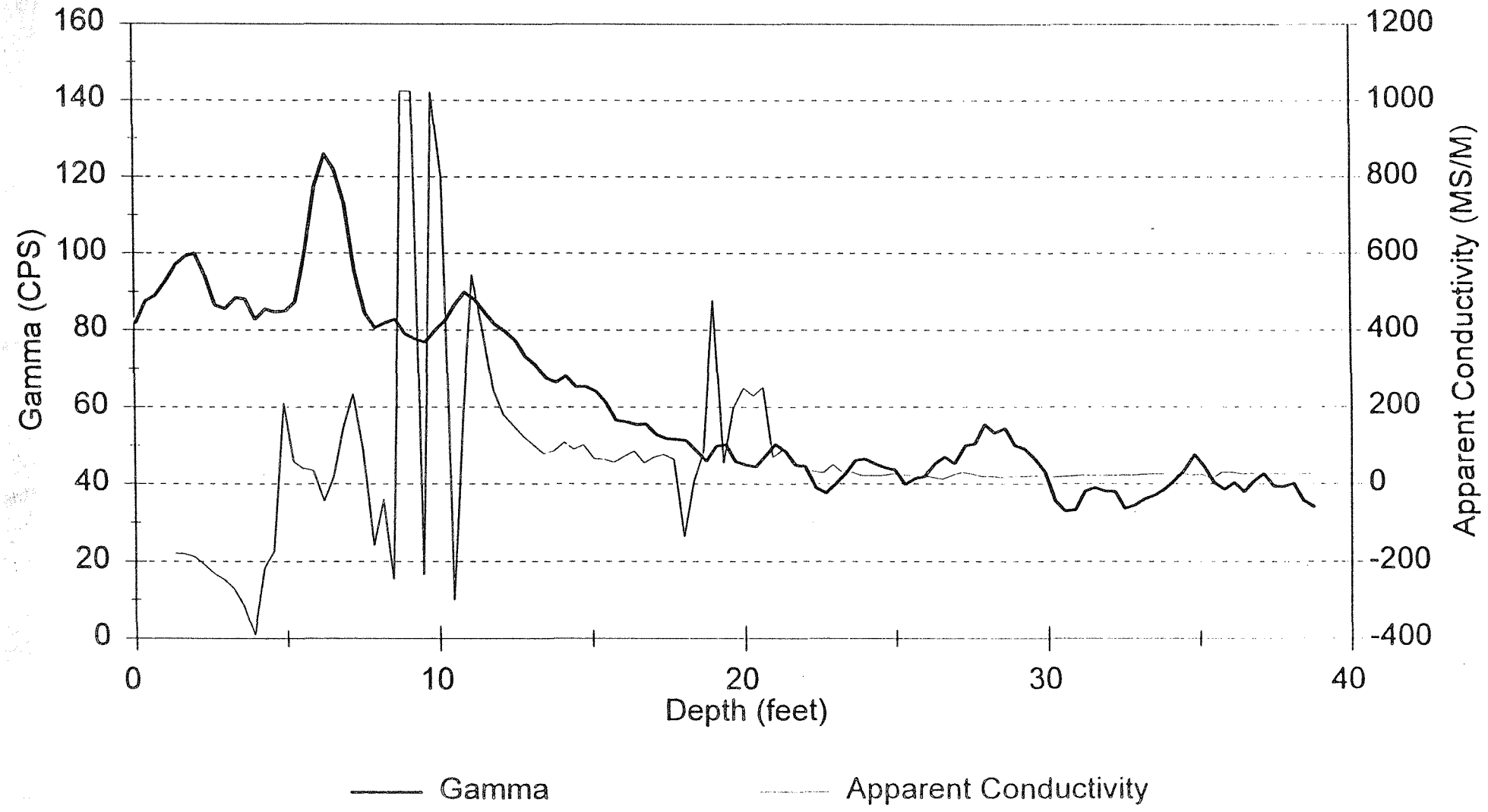
WATER LEVEL OBSERVATIONS

WHILE DRILLING: 10'
UPON COMPLETION: 30'
TIME AFTER DRILLING:
DEPTH OF WATER:
DEPTH OF CAVE-IN:

DRILLED BY: Soil & Materials Engineers | SHEET NO.: 2/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
Recovery			Moisture			
No.	Type			N	Depth	
10	SS	X	M	9	45	Brown, Stiff, Silty CLAY, Trace Sand and Gravel (CL)
11	SS	X	M	8	50	
						End Boring at 50'
					55	
					60	
					65	
					70	
					75	
					80	
					85	

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-2C
Geophysical Borehole Logging Results



LOG OF TEST BORING

RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PROJECT: G.M. Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

JOB NO.: 1016X-7300
BORING NO.: X2
SURFACE ELEV.: 592.1
SHEET NO.: 1/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
Recovery		Moisture				
No.	Type			N	Depth	
1	SS	X	M	7	5	Black & Brown, Loose to Medium Dense, Mixed FILL, Foundry Sand, Slag, Cinders, Metal, Wood, Miscellaneous Organics
2	SS	X	W	15	10	12'
3	SS	X	M	4	15	Brown, Loose or Soft, Interbedded Thin Layers ("2 to 12") Very Fine Silty SAND and Silty CLAY (SM&CL)
4	SS	X	W	13	20	5'
5	SS	X	W	21	25	Brown, Loose to Medium Dense, Fine SAND, Trace Silt (SP)
6	SS	X	W	31	30	17
7	SS	X	W	34	35	Brown, Dense, Fine to Coarse SAND ~~Trace~~ Some Fine Gravel (SW)
8	SS	X	W	37	40	(CONT.

GENERAL NOTES

START: 6-2-80
COMPLETE: 6-2-80
RIG: 54
CREW CHIEF: SC
DRILLING METHOD: HSA 0-50'

WATER LEVEL

WHILE DRILLING:
UPON COMPLETION:
TIME AFTER DRILLING:
DEPTH OF WATER:
DEPTH OF CAVE-IN:

MATERIALS MANAGEMENT TECHNOLOGY, INC.

PROJECT: G.M. Central Foundry Division

LOCATION: Saginaw, Michigan

DRILLED BY: Soil & Materials Engineers

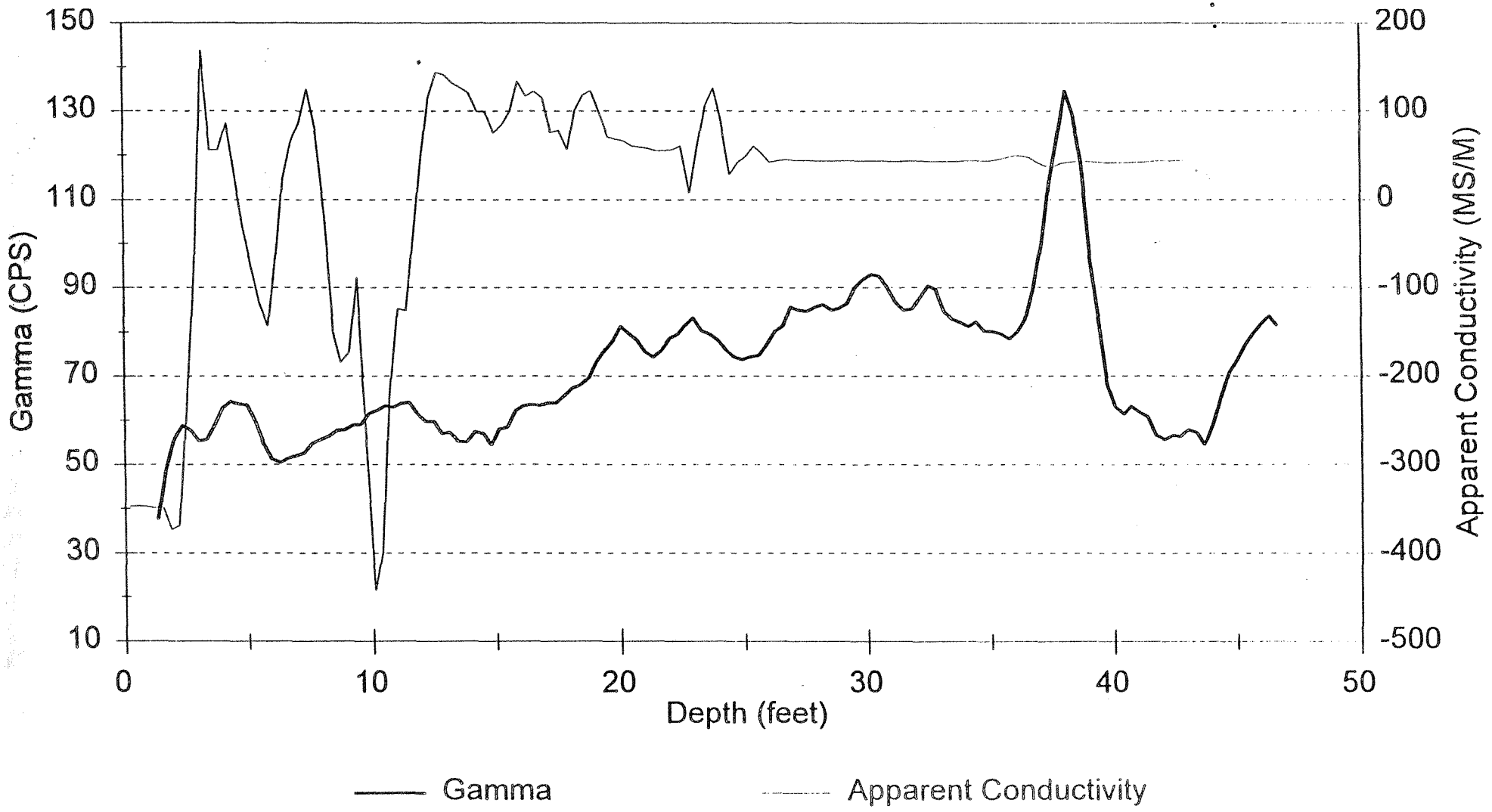
BORING NO.: X2

SURFACE ELEV.: 592.1

SHEET NO.: 2/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
No.	Type	Recovery		Moisture	N	Depth
						11' Brown, Dense, Fine to Coarse SAND, Trace Fine Gravel (SW)
9	SS	X		W	42	45
						Brown, Soft to Medium Stiff Silty CLAY (CL)
10	SS	X		M	9	50
						End Boring at 50'
						55
						60
						65
						70
						75
						80
						85

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-5C
Geophysical Borehole Logging Results



RESIDUALS MANAGEMENT TECHNOLOGY, INC.

PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

SURFACE ELEV.: 595.9
SHEET NO.: 1/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
	Recovery		Moisture			
No.	Type			N	Depth	
						Black & Brown, Loose to Medium Dense, Mixed FILL, Foundry Sand, Slag, Cinders, Metal, Wood, Miscellaneous Organics
1	SS	X	M	21	5	
2	SS	X	M	3	10	
3	SS	X	M	18	15	
4	2"ST	X	M	—	20	Brown, Loose to Medium Dense, Fine SAND, Trace Silt (SP)
5	SS	X	M	27	25	Brown, Hard, Silty CLAY, Trace Sand and Gravel (CL)
6	SS	X	M	45	30	
7	SS	X	M	51	35	
8	SS	X	M	18	40	Brown, Stiff, Silty CLAY, Trace Sand and Gravel (CL) (CONTINUED)

GENERAL NOTES

START: 6-3-80
COMPLETE: 6-3-80
RIG: 54
CREW CHIEF: DL
DRILLING METHOD: HSA 0-45'

WATER LEVEL OBSERVATIONS

WHILE DRILLING: 8.5'
UPON COMPLETION:
TIME AFTER DRILLING:
DEPTH OF WATER:
DEPTH OF CAVE-IN:

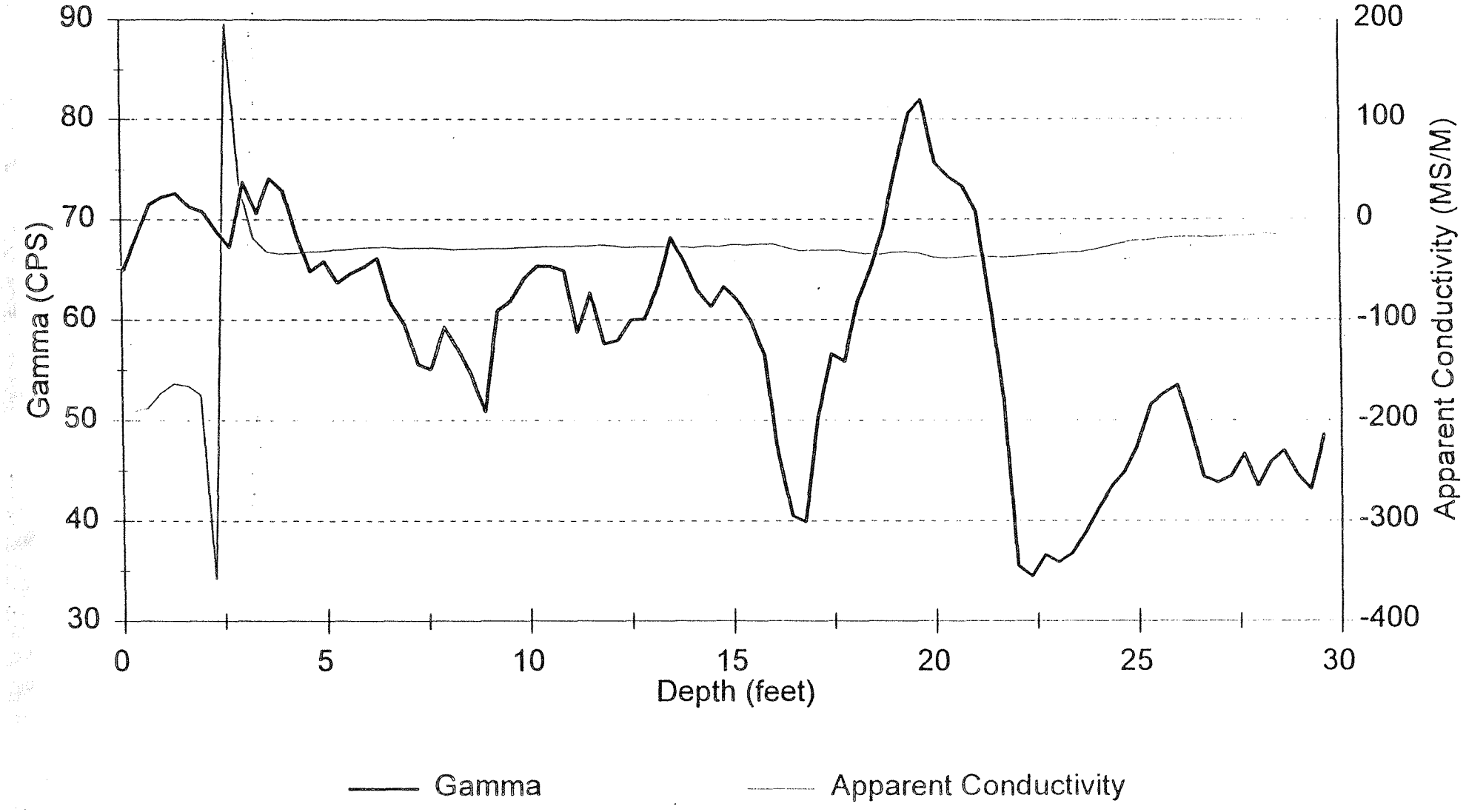
LOG OF TEST BORING

RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

JOB NO.: 1016X-7300
BORING NO.: X5
SURFACE ELEV.: 595.9
SHEET NO.: 2/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
Recovery		Moisture				
No.	Type			N	Depth	
						Brown, Stiff, Silty CLAY, Trace Sand and Gravel (CL)
9	SS	X	M	22	45	End Boring At 45'
					50	
					55	
					60	
					65	
					70	
					75	
					80	
					85	

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-9BR
Geophysical Borehole Logging Results



RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

BORING NO.: X9
SURFACE ELEV.: 585.1
SHEET NO.: 1/1

SAMPLE No.	Type	Recovery	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks
						Driller Notes Black Sandy Topsoil
1	AS	X	M	--	5	Brown, Loose, Clayey SILT, Trace Sand (ML)
2	SS	X	M	8	10	
* 3	SS	X	M	1	15	Brown, Loose to Medium Dense, Fine SAND, Trace Silt (SP) DR (Occasional Thin (2-12") Layers Organic Silty Clay)
4	SS	X	M	10	20	
5	SS	X	M	12	25	
* 6	SS	X	W	4	30	DR
7	SS	X	M	6	35	Gray, Soft, Silty CLAY, Trace Sand, With Shell Fragments, and Occasional (2") Layers Fine to Medium Sand (CL)
8	SS	X	M	25	40	End Boring At 40'

GENERAL NOTES

START: 6-3-80
COMPLETE: 6-3-80
RIG: 35
CREW CHIEF: JH
DRILLING METHOD: HSA 0-40

WATER LEVEL OBSERVATIONS

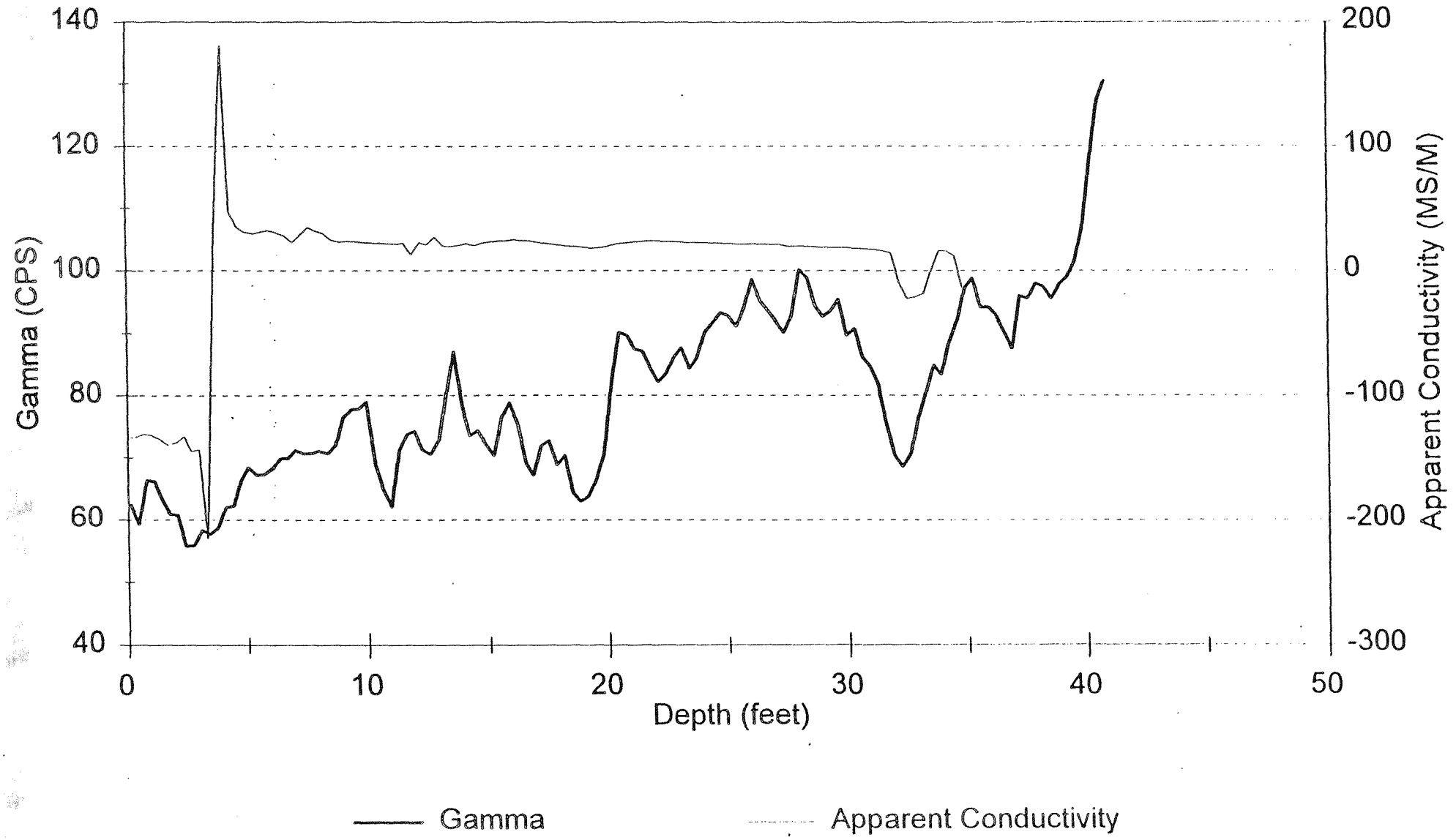
WHILE DRILLING: 7.5'
UPON COMPLETION:
TIME AFTER DRILLING:
DEPTH OF WATER:
DEPTH OF CAVE-IN:

General Motors Corporation

Saginaw Mallable Iron Plant Property, Greenpoint Landfill, and Drum Remediation Area

X-12B

Geophysical Borehole Logging Results



LOG OF TEST BORING

RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

JOB NO.: 1016X-7300
BORING NO.: X12
SURFACE ELEV.: 582.7
SHEET NO.: 1/2

SAMPLE No.	Type	Recovery	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks
						Driller Notes Sandy Topsoil
1	SS	X	W	2	5	Gray, Loose, Clayey SILT, Trace Sand Occasional (2-12") Organic Lenses (ML)
2	SS	X	W	1	10	Fine SAND, trace silt & clay
3	SS	X	W	6	15	Brown, Loose to Medium Dense, Fine SAND, Trace Silt (SP) (Occasional Shell Fragments)
4	SS	X	W	25	20	
5	SS	X	M	36	25	Brown, Hard, Silty CLAY, Trace Sand and Gravel (CL)
6	SS	X	M	175/9"	30	
7	SS	X	M	11	35	Brown, Stiff, Silty CLAY, Trace Sand and Gravel (CL)
8	3"ST	X	M	--	40	(CONTINUED)

GENERAL NOTES

START: 6-4-80
COMPLETE: 6-4-80
RIG: 54
CREW CHIEF: DL
DRILLING METHOD: HSA 0-50'

WATER LEVEL OBSERVATIONS

WHILE DRILLING: 3.5'
UPON COMPLETION:
TIME AFTER DRILLING:
DEPTH OF WATER:
DEPTH OF CAVE-IN:

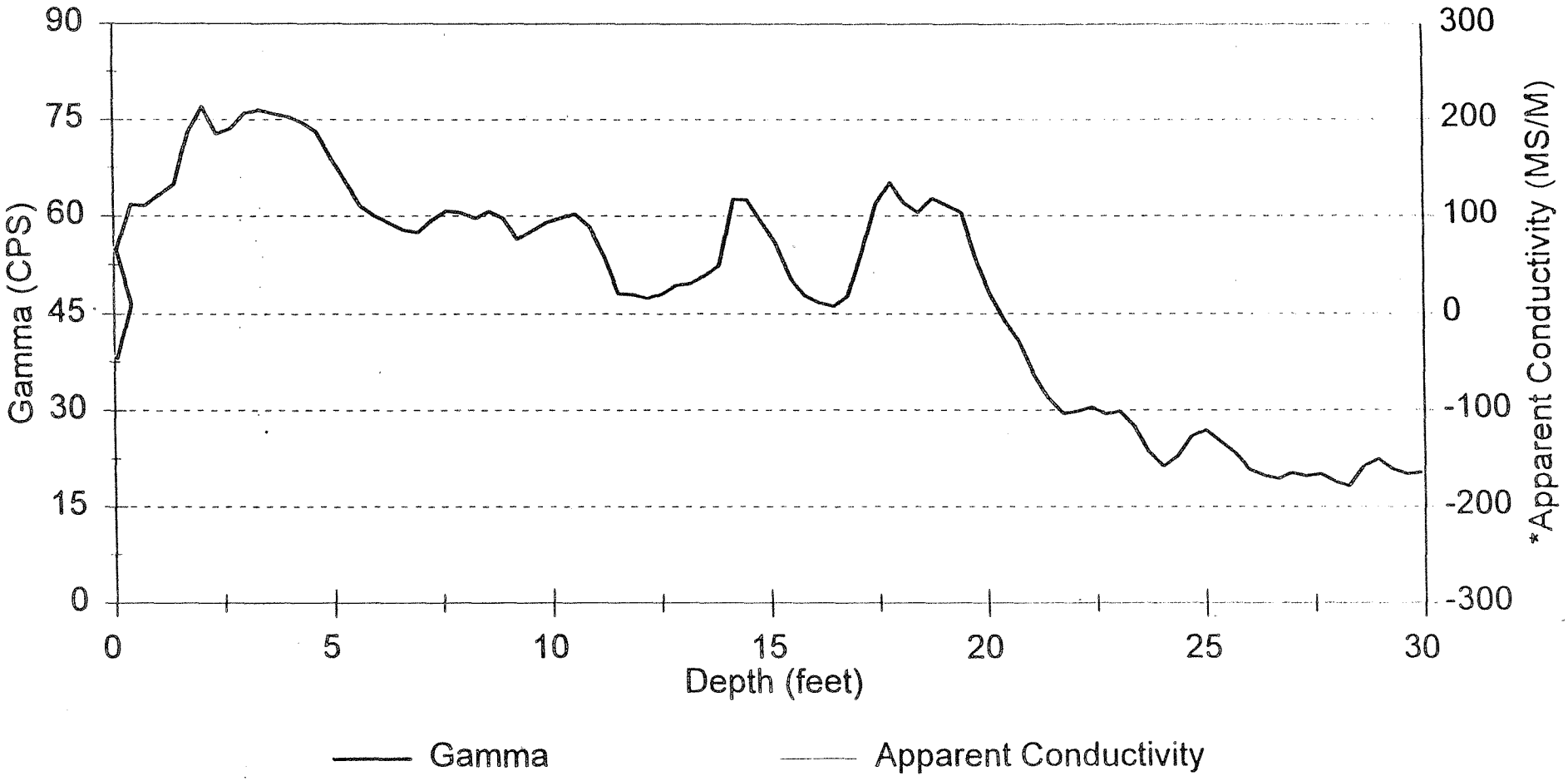
LOG OF TEST BORING

RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

JOB NO.: 1016X-7300
BORING NO.: X12
SURFACE ELEV.: 582.7
SHEET NO.: 2/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
Recovery			Moisture			
No.	Type			N	Depth	
						Brown, Stiff, Silty CLAY, Trace Sand and Gravel (CL)
9	3"ST	X	M	--	45	
						Brown, Soft to Medium Stiff, Silty CLAY (CL)
10	SS	X	M	7	50	
						End Boring At 50'
					55	
					60	
					65	
					70	
					75	
					80	
					85	

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-14C
Geophysical Borehole Logging Results



Note: * = Apparent conductivity values are off-scale at current range.

RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

BORING NO.: X14
SURFACE ELEV.: 582.3
SHEET NO.: 1/2

SAMPLE No.	Type	Recovery	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks
						Driller Notes Clayey Topsoil
1	2"ST	X	W	--	5	
2	SS	X	W	2	10	Brown, Loose to Medium Dense, Fine SAND, Trace Silt (SP)
3	SS	X	W	1	15	
4	2"ST	X	M	--	20	
5	SS	X	M	16	25	Brown, Medium Dense to Dense, Fine to Medium SAND, Trace Silt and Clay (SP)
6	SS	X	M	20	30	
7	SS	X	M	42	35	Brown, Hard, Silty CLAY, Trace Sand and Gravel (CL)
8	SS	X	M	6	40	Brown, Soft to Medium Stiff, Silty CLAY (CL) (CONTINUED)

GENERAL NOTES

START: 6-5-80
COMPLETE: 6-5-80
RIG: 54
CREW CHIEF: DL
DRILLING METHOD: HSA 0-50'

WATER LEVEL OBSERVATIONS

WHILE DRILLING: 3'0"
UPON COMPLETION:
TIME AFTER DRILLING:
DEPTH OF WATER:
DEPTH OF CAVE-IN:

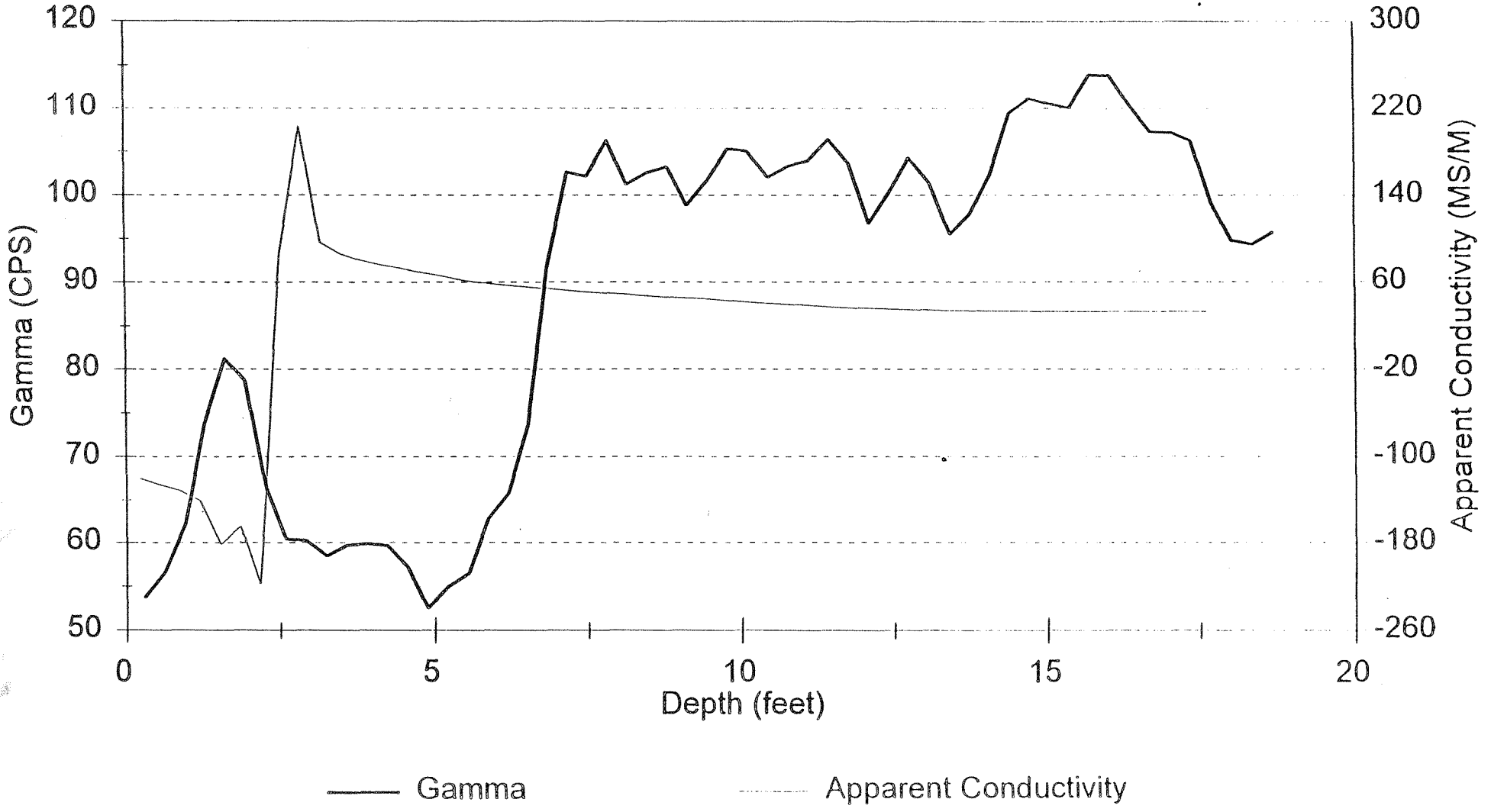
TECHNOLOGY, INC.

PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soils & Materials Engineers

BORING NO.: X14
SURFACE ELEV.: 582.3
SHEET NO.: 2/2

SAMPLE						VISUAL CLASSIFICATION and Remarks
Recovery			Moisture			
No.	Type			N	Depth	
9	SS	X	M	5	45	Brown, Soft to Medium Stiff, Silty CLAY (CL)
10	SS	X	M	7	50	
						End Boring At 50'
					55	
					60	
					65	
					70	
					75	
					80	
					85	

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-16B
Geophysical Borehole Logging Results



Residual Management Technology

LOCATION Saginaw, Michigan

PROJECT NAME G.M. Central Foundry Landfill

X-16

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE	DEPTH IN FEET	DESCRIPTION OF MATERIAL	UNIT DRY WT. LBS/FT³
				SURFACE ELEVATION 585.8	
				Driller Reported Black Organic Topsoil	
				9'	
1	SS		5	Fine Sand - Trace Silt -Trace Clay-Trace Organic Matter-Trace Shell Fragments - Wet-Loose (SP-SM)	
2	SS		10		
3	SS		15	Silty Clay- Some Sand - Occ. Gravel - Rose Brown Changing to Rose Gray @ 21' (CL)	
4	SS		20		
5	SS		25		
				END OF BORING	

LEGEND

STANDARD PENETRATION, "N" (BLOWS/FT.)

NATURAL WATER CONTENT, %

ATTERBERG LIMITS P.L. % L.L. %

UNCONFINED COMPRESSIVE STRENGTH (tsf)

CALIBRATED HAND PENETROMETER STRENGTH (tsf)

SCALE

* 1 2 3 4 5 tsf

10 20 30 40 50 %, N

NOTE: The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.

MINERAL WELL PERMIT NO. 581-782-173

WATER LEVEL OBSERVATIONS

2' WHILE SAMPLING OR WHILE DRILLING

8' IMMEDIATELY AFTER COMPLETION

AFTER COMPLETION

BORING STARTED 2/20/79

BORING COMPLETED 2/20/79

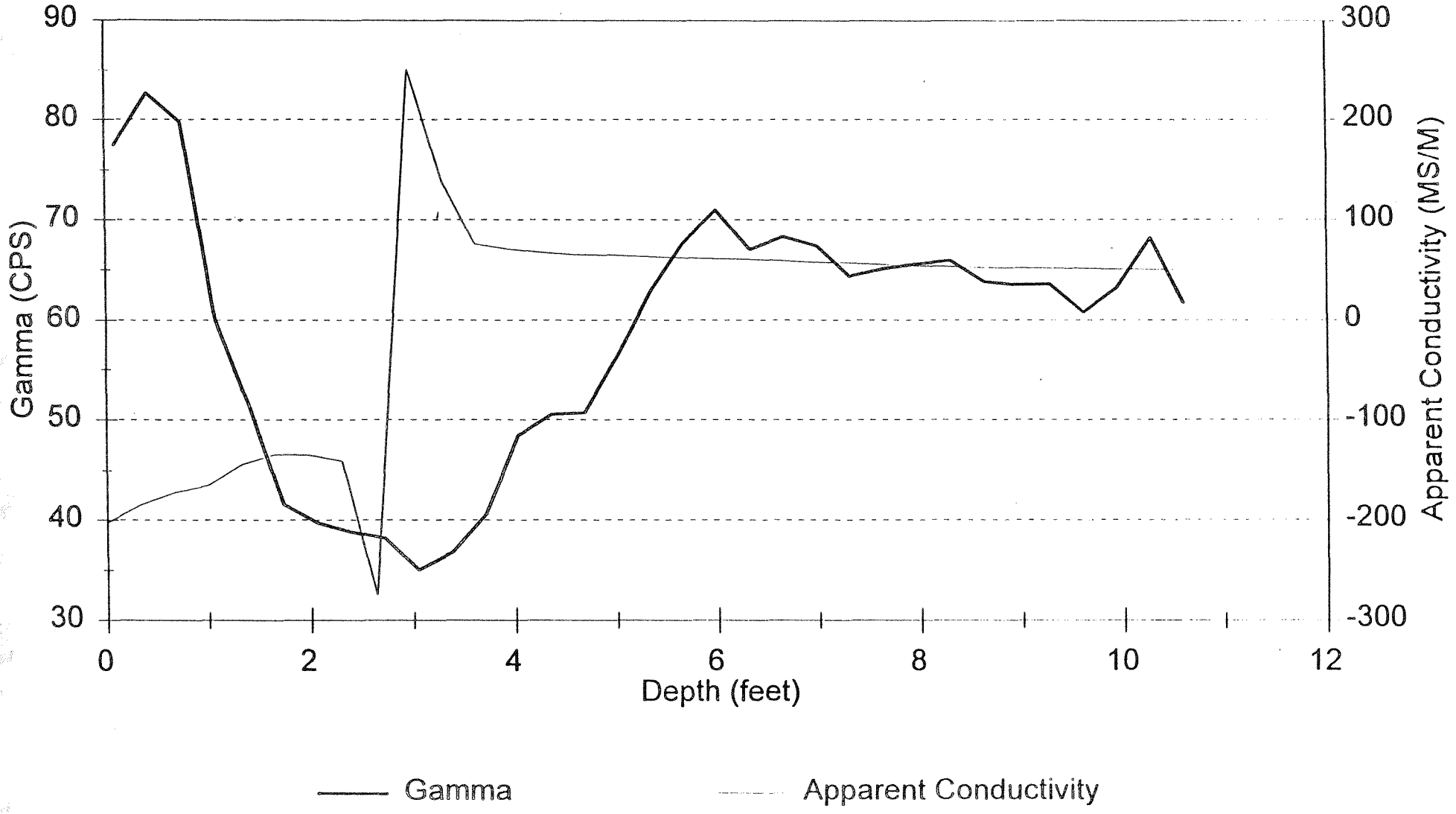
RIG: BOMB DRAWN BY: LE

FOREMAN: JH APPROVED HB/RMH

JOB: BC/5434 SHEET: 1 of 1

soil and materials engineers, inc

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-19R
Geophysical Borehole Logging Results



BORING LOG NO. B-19

OWNER General Motors Corporation

ARCHITECT / ENGINEER
Residual Management Technology

LOCATION Saginaw, Michigan

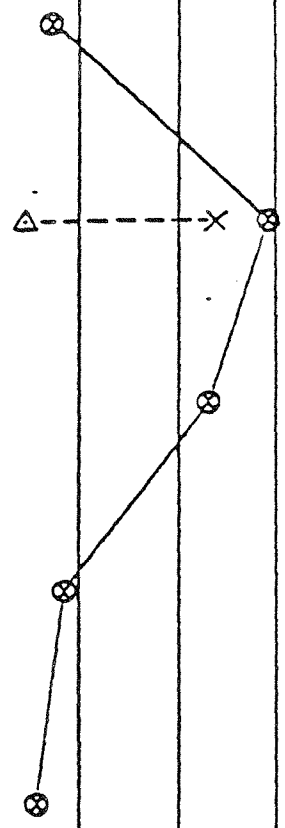
PROJECT NAME
G.M. Central Foundry Landfill

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE	DEPTH IN FEET	DESCRIPTION OF MATERIAL
				SURFACE ELEVATION 586.7
				Driller Reported Black Organic Topsoil
				Driller Reported Fine to Medium Brown Sand
1	SS		5	
2	SS		10	
				Silty Clay - Trace to Some Sand-Occ. Gravel-Brown Changing to Gray @ 17' (CL)
3	SS		15	
4	SS		20	
5	SS		25	
				END OF BORING

UNIT DRY WT. LBS/FT³

LEGEND
- STANDARD PENETRATION, "N" (BLOWS/FT.)
- NATURAL WATER CONTENT, %
- ATTERBERG LIMITS — P.L. % — L.L. %
- UNCONFINED COMPRESSIVE STRENGTH (tsf)
- CALIBRATED HAND PENETROMETER STRENGTH (tsf)

SCALE
* ○ ○ 1 2 3 4 5 tsf
● ⊗ 10 20 30 40 50 %, N



NOTE: The indicated stratification lines are approximate. In situ, the transition between materials may be gradual.

MINERAL WELL PERMIT NO. 581-782-173

WATER LEVEL OBSERVATIONS

1.5' WHILE SAMPLING OR WHILE DRILLING
1.5' IMMEDIATELY AFTER COMPLETION
—— —— AFTER COMPLETION

BORING STARTED	2/21/79
BORING COMPLETED	2/21/79

RIG: BOMB DRAWN BY: LE
FOREMAN: JH APPROVED: HB/RH
JOB: BC/5434 SHEET: 1 of 1

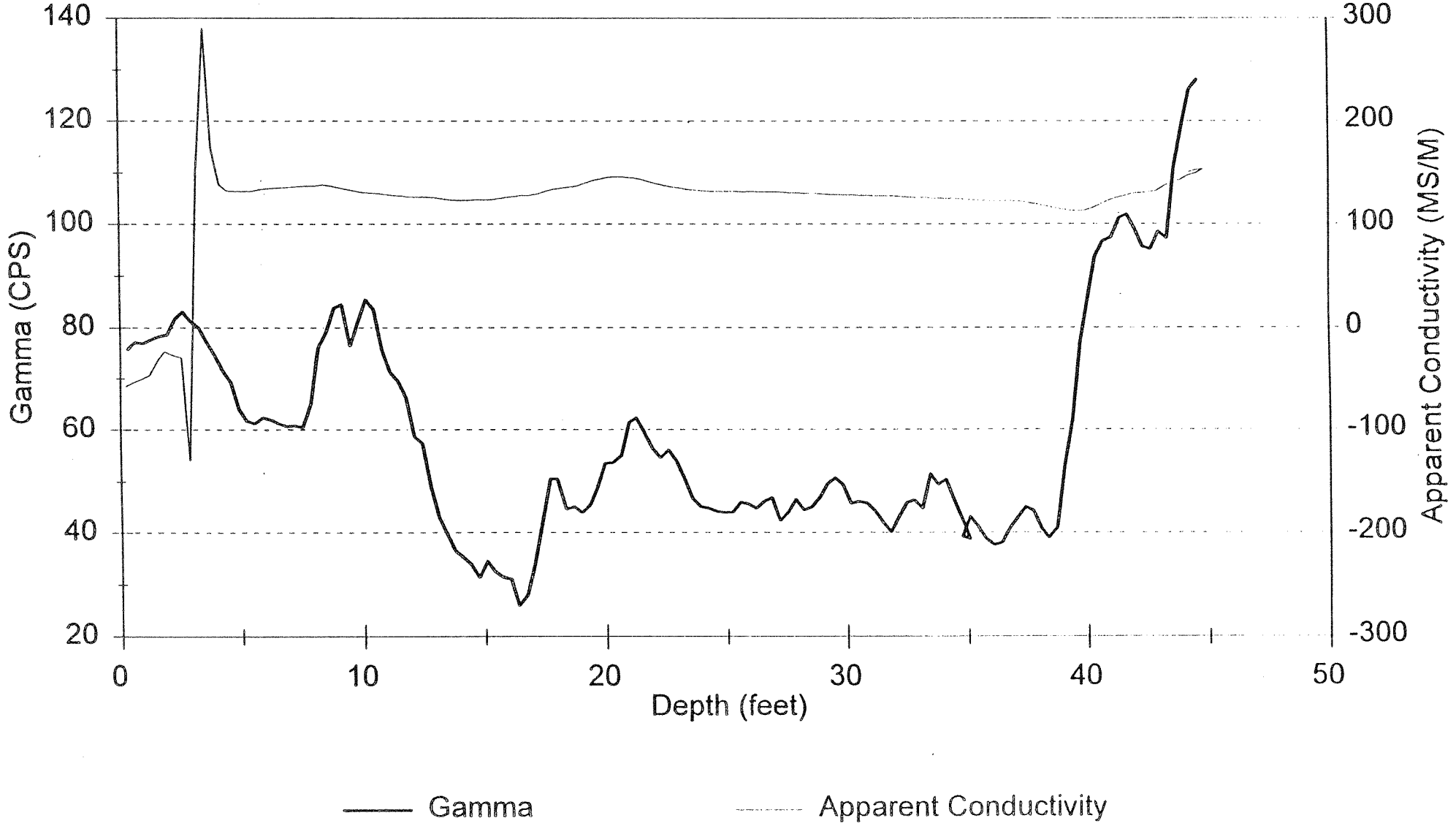
soil and materials engineers, inc

General Motor Corporation

Saginaw Mallable Iron Plant Property, Greenpoint Landfill, and Drum Remediation Area

MW-2B

Geophysical Borehole Logging Results



LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-2B
SHEET NO. 1 OF 2

PROJECT NAME GMC - CFD SMI
LOCATION SAGINAW - MALLEABLE
CONTRACTOR STEARNS DRILLING
DRILLING METHOD HSA

PROJECT NO. 1258.05
INSTALLATION
SURFACE ELEV.
BOREHOLE DIA. 6 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL		RECOVERY		MOISTURE			
NO.	TYPE	N	IN		DEPTH		
1	SS					SILT.	
2	SS				5	Some sand, SILT.	
3	SS			W	10	Sandy SILT.	
4	SS			W	15	SAND, some silt.	
5	SS			W	20	Silty SAND, some silt.	
6	SS			W	25	Silty SAND.	
7	SS			W	30	As above.	
8	SS				35	Fine SAND.	
						SAND, some gravel.	

GENERAL NOTES

DATE STARTED 28 APR 88
DATE COMPLETED 28 APR 88
RIG CME-45
CREW CHIEF RC
LOGGED ALB CHECKED

WATER LEVEL OBSERVATIONS

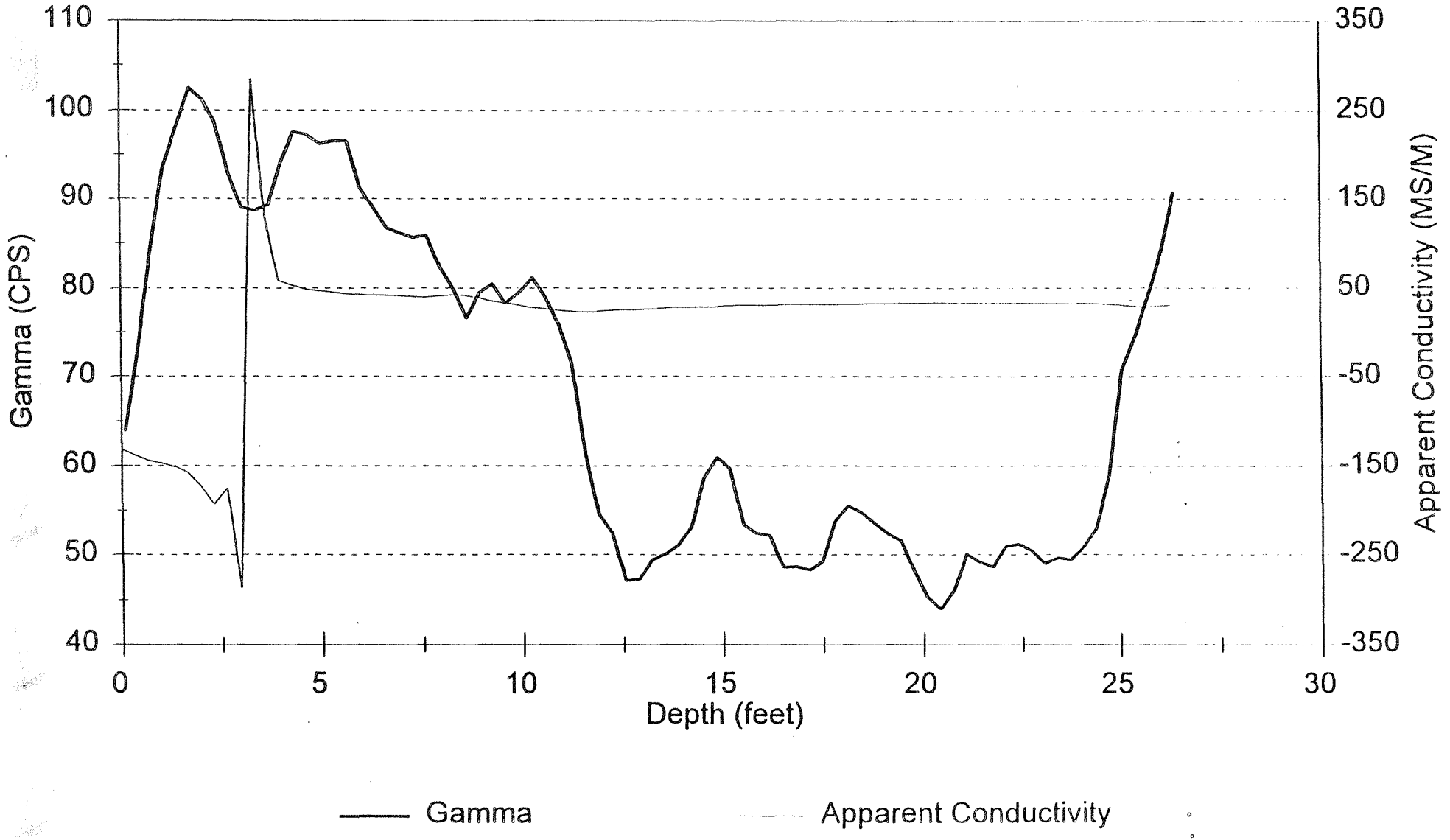
WHILE DRILLING ▽ 7.0 FT.
AT COMPLETION ▽
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

PROJECT NAME GMC - CFD SMI
LOCATION SAGINAW - MALLEABLE
CONTRACTOR STEARNS DRILLING
DRILLING METHOD HSA

SHEET NO. 2 OF 2
PROJECT NO. 1258.05
INSTALLATION
SURFACE ELEV.
BOREHOLE DIA. 6 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH		
9	SS				45	CLAY.	
						CLAY.	
						EOB at 47.0 ft.	
					50		
					55		
					60		
					65		
					70		
					75		
					80		
					85		

General Motors Corporation
Saginaw Mallable Iron Plant Property, Greenpoint Landfill, and Drum Remediation Area
MW-3B
Geophysical Borehole Logging Results



F-203 (R 01-87)

LOG OF TEST BORING

SHEET NO. 1 OF 1

PROJECT NAME GMC - CFD SMI
PROJECT NO. 1258.05
LOCATION SAGINAW - MALLEABLE
INSTALLATION
CONTRACTOR STEARNS DRILLING
SURFACE ELEV.
DRILLING METHOD HSA
BOREHOLE DIA. 6 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL NO.	TYPE	RECOVERY N	RECOVERY IN	MOISTURE	DEPTH		
1	SS	8	12			Black foundry SAND. Brown fine-grained SAND.	
2	SS	3	4	M	5	Gray silty CLAY, trace to little organic matter.	
3	SS	2	10	W	10	Gray fine SAND, some clay, trace shell fragments. A 1 in. black organic layer. Gray fine SAND, trace silt, trace clay.	
4	SS	2		S	15	Gray fine SAND, trace silt.	
5	SS	12	14		20	As above.	
6	SS	16	12	S	25	Gray fine SAND, with trace clayey silt stringer. Driller noted change to coarser sand at 26 ft.	
7	SS	31	4		30	Medium to coarse SAND.	
						Gray stiff silty CLAY.	
					35	EOB at 30.0 ft.	

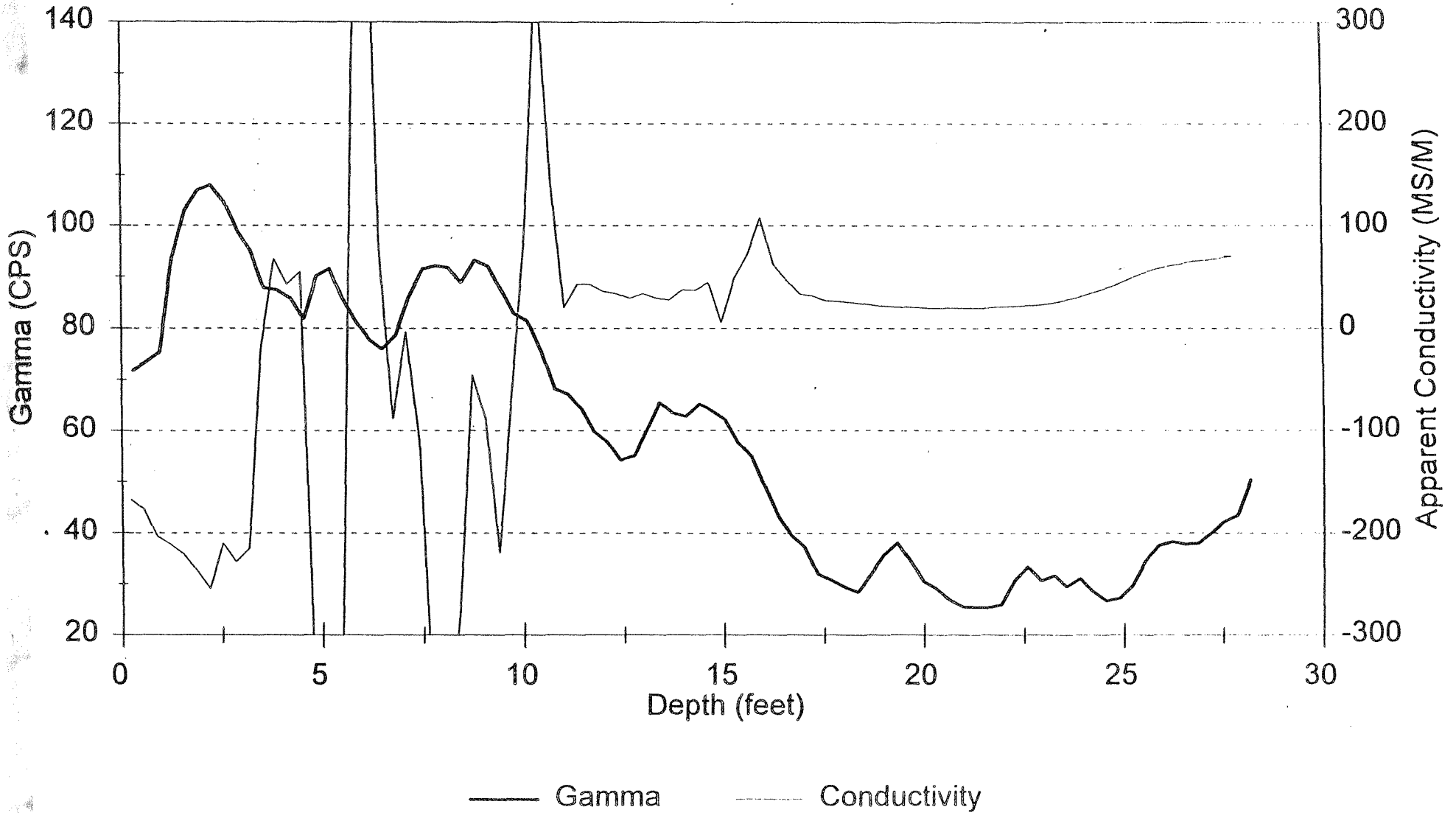
GENERAL NOTES

DATE STARTED 24 MAR 88
DATE COMPLETED 24 MAR 88
RIG CME-45
CREW CHIEF RC
LOGGED ALB CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 6.0 FT.
AT COMPLETION ▽
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH
WATER: DATE/TIME DEPTH

General Motors Corporation
Saginaw Mallable Iron Plant Property, Greenpoint Landfill, and Drum Remediation Area
MW-5B
Geophysical Borehole Logging Results



LOG OF TEST BORING

F-203 (R 01-87)

BORING NO. MW-5B
SHEET NO. 1 OF 1
PROJECT NAME GMC - CFD SMI
PROJECT NO. 1258.05
LOCATION SAGINAW - MALLEABLE
INSTALLATION
CONTRACTOR STEARNS DRILLING
SURFACE ELEV.
DRILLING METHOD HSA
BOREHOLE DIA. 6 IN.

SAMPLING NOTES						VISUAL CLASSIFICATION AND GENERAL OBSERVATIONS	GENERAL WELL CONSTRUCT.
INTERVAL NO.	TYPE	RECOVERY N	IN	MOISTURE	DEPTH		
1	SS	13	12			Brownish black foundry SAND, mixed with brick red sands.	
2	SS	4	8	D	5	Brick red SAND: black foundry SAND. Driller noted change in drilling at 7 ft.	
3	SS	3	18	M	10	Gray to green SILT, oily sheen.	
4	SS	3	18	M	15	Gray to brown fine SAND, some silt, trace to little organic matter.	
5	SS	10	16	W	20	Fine to medium gray SAND, trace silt, trace to little shell fragments.	
6	SS	11	7	M	25	Fine to medium gray SAND.	
7	SS	2	18	W	30	Gray fine SAND, grading into gray silty CLAY.	
8	SS	4			35	Gray silty CLAY, trace shell fragments. EOB at 35.0 ft.	

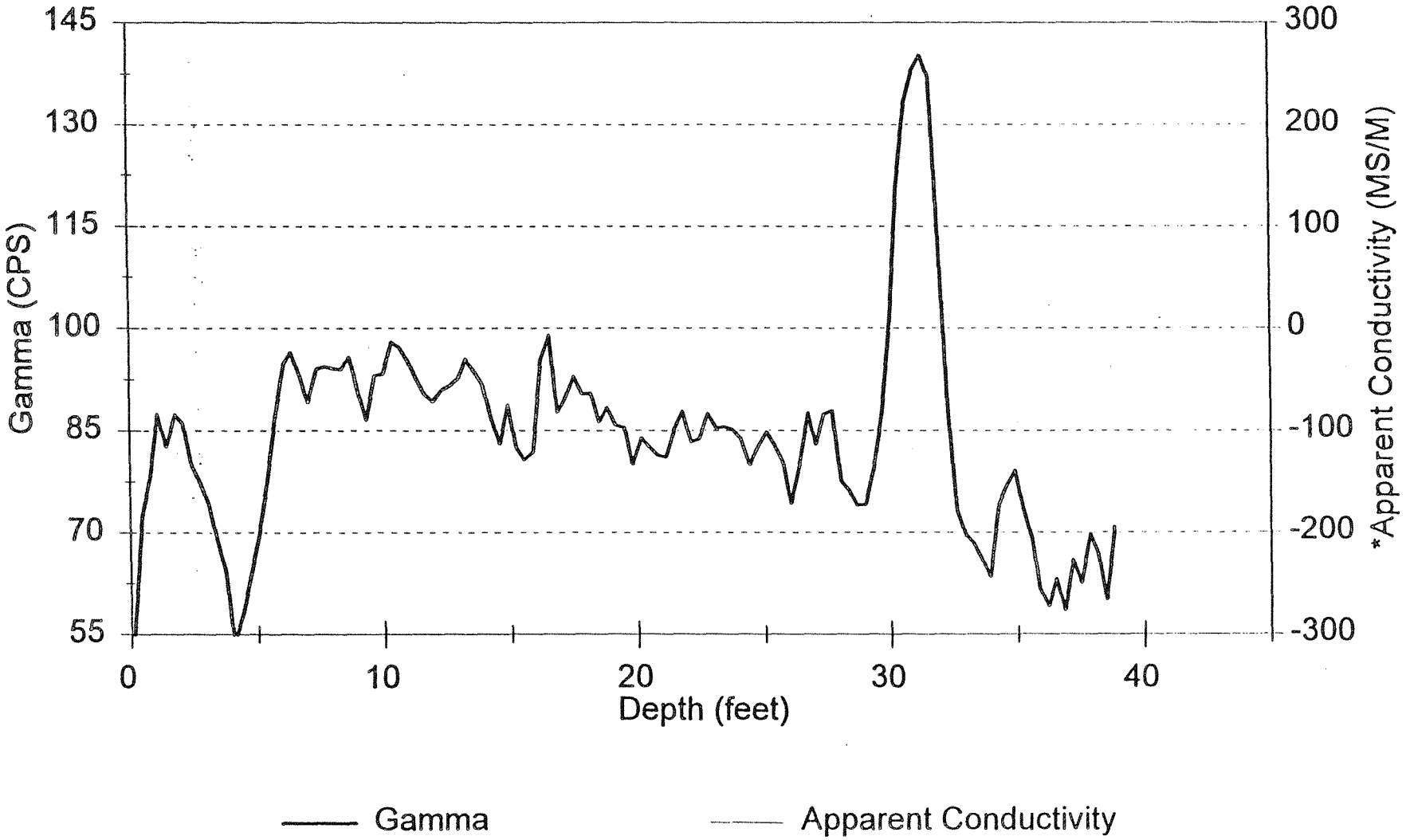
GENERAL NOTES

DATE STARTED 23 MAR 88
DATE COMPLETED 23 MAR 88
RIG CME-45
CREW CHIEF RC
LOGGED ALB CHECKED

WATER LEVEL OBSERVATIONS

WHILE DRILLING ▽ 8.5 FT.
AT COMPLETION ▼
AFTER DRILLING
CAVE-IN: DATE/TIME DEPTH 5.0 FT.
WATER: DATE/TIME DEPTH

General Motors Corporation
Saginaw Mallable Iron Plant Property,
Greenpoint Landfill, and Drum Remediation Area
X-15BR
Geophysical Borehole Logging Results



Note: * = Apparent conductivity values are off-scale at the current range.

RESIDUALS MANAGEMENT TECHNOLOGY, INC.
PROJECT: GM Central Foundry Division
LOCATION: Saginaw, Michigan
DRILLED BY: Soil & Materials Engineers

BORING NO.: X15
SURFACE ELEV.: 583.8
SHEET NO.: 1/1

SAMPLE No.	SAMPLE Type	Recovery	Moisture	N	Depth	VISUAL CLASSIFICATION and Remarks
						Driller Notes Clayey Topsoil
						Brown, Hard, Silty CLAY, Trace Sand and Gravel (CL)
1	2"ST	X	M	—	5	
						Brown, Medium Dense to Dense, Fine to Medium SAND, Trace Silt and Clay (SP)
2	SS	X	M	26	10	
						Brown, Hard, Silty CLAY, Trace Sand and Gravel (CL)
3	SS	X	M	29	15	
4	SS	X	M	19	20	
						Brown, Soft to Medium Stiff, Silty CLAY, Trace Sand and Gravel (CL)
5	2"ST	X	M	—	25	
6	SS	X	M	7	30	
7	SS	X	M	7	35	
8	SS	X	M	8	40	End Boring At 40'

GENERAL NOTES

START: 6-5-80
COMPLETE: 6-5-80
RIG: 35
CREW CHIEF: JH
DRILLING METHOD: HSA 0-40

WATER LEVEL OBSERVATIONS

WHILE DRILLING: 5'
UPON COMPLETION:
TIME AFTER DRILLING:
DEPTH OF WATER:
DEPTH OF CAVE-IN:

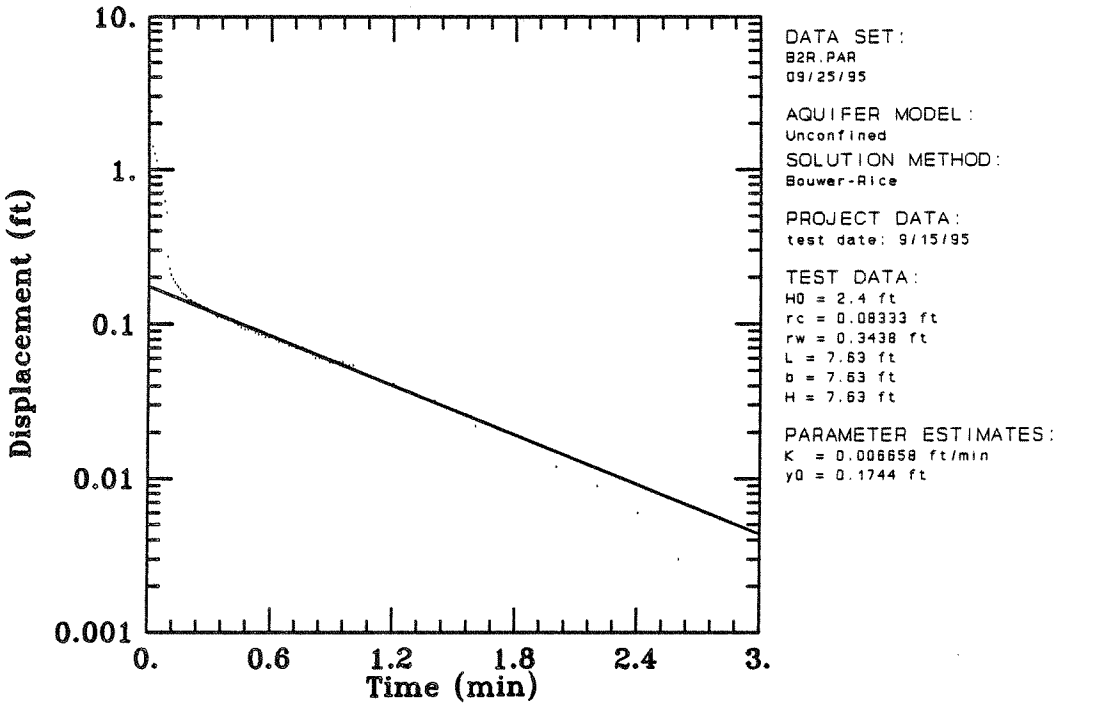
Appendix C
Hydraulic Conductivity Data

General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-2R - Fine Sand



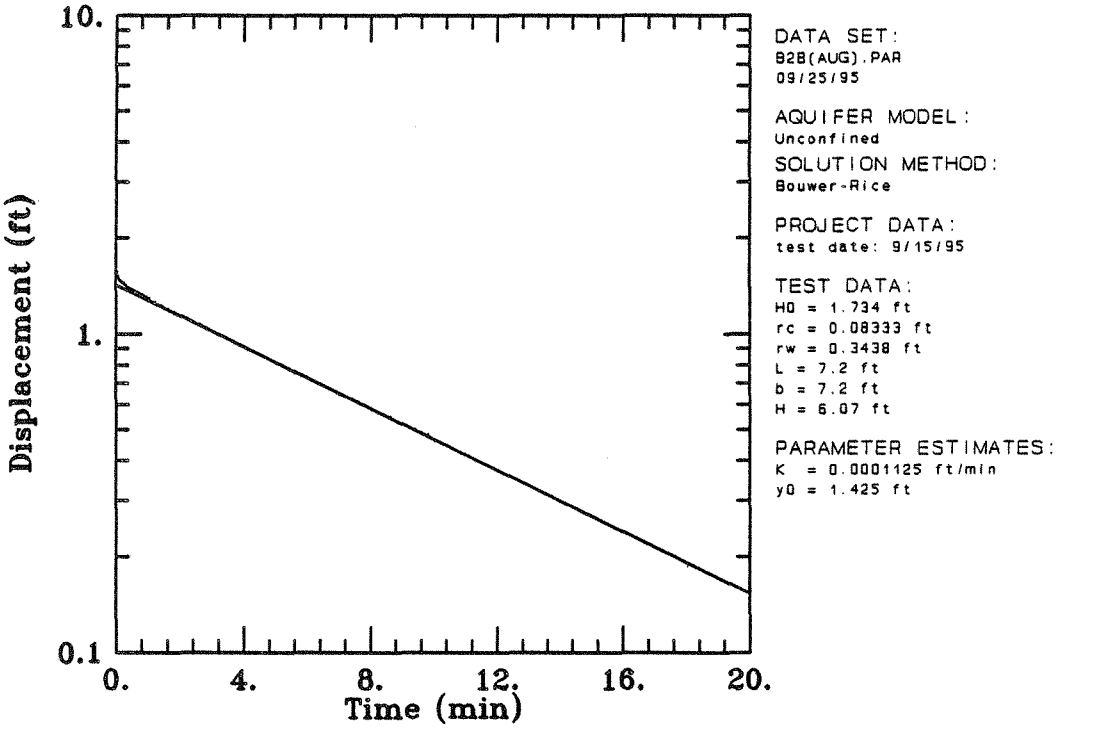
AQTESOLV

General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-2B(AUG) - Medium to Fine Sand, Little Silt

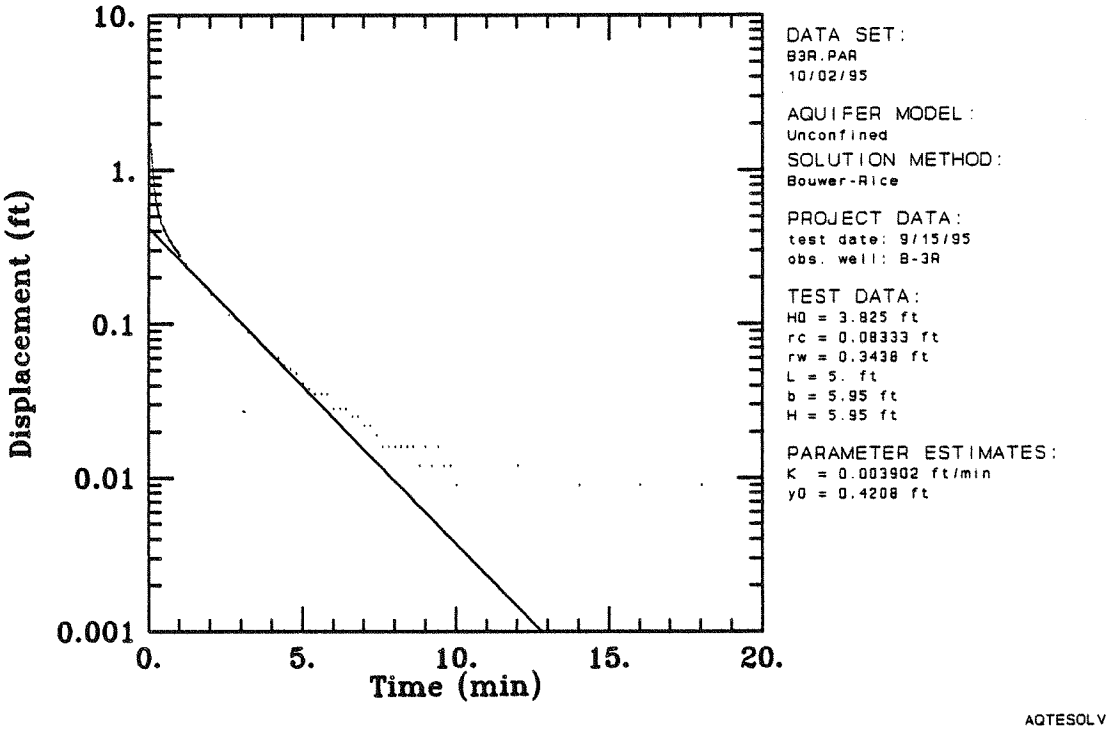


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
Saginaw, Michigan

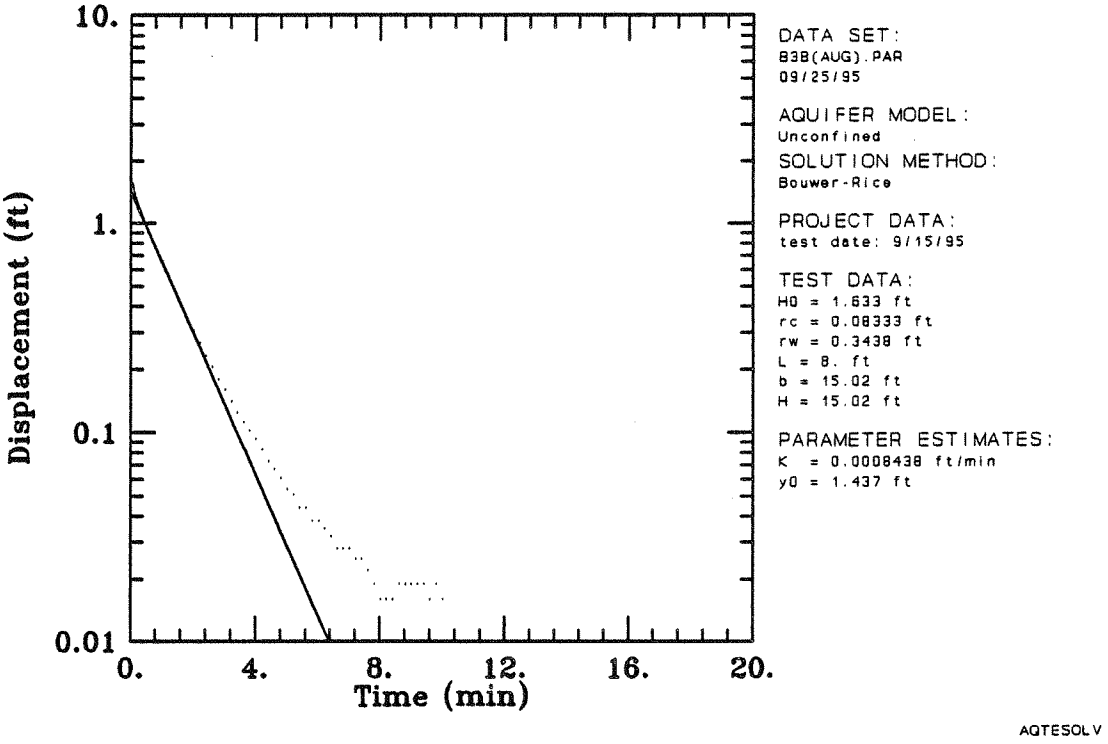
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-3R - Fine Sand and Silt



B-3B(AUG) - Fine Sand with Trace Silt, Little Clay, then Medium to Fine Sand, Trace Fine Gravel

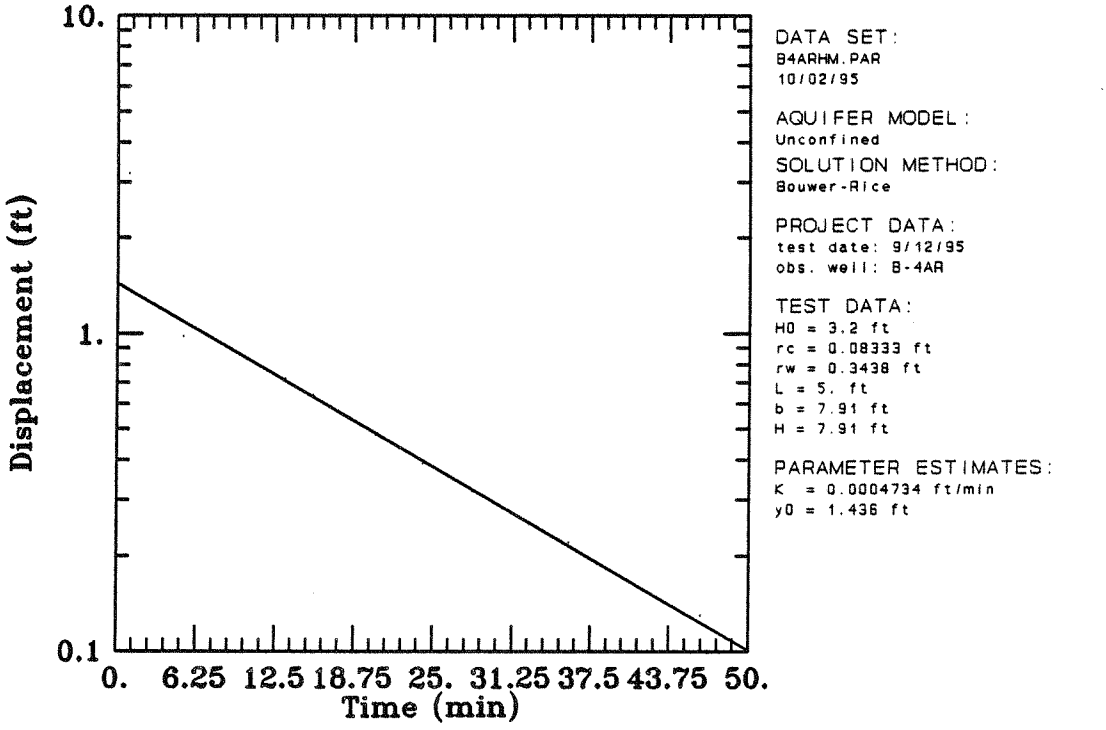


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill, and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-4AR (Hand Measured) - Silt

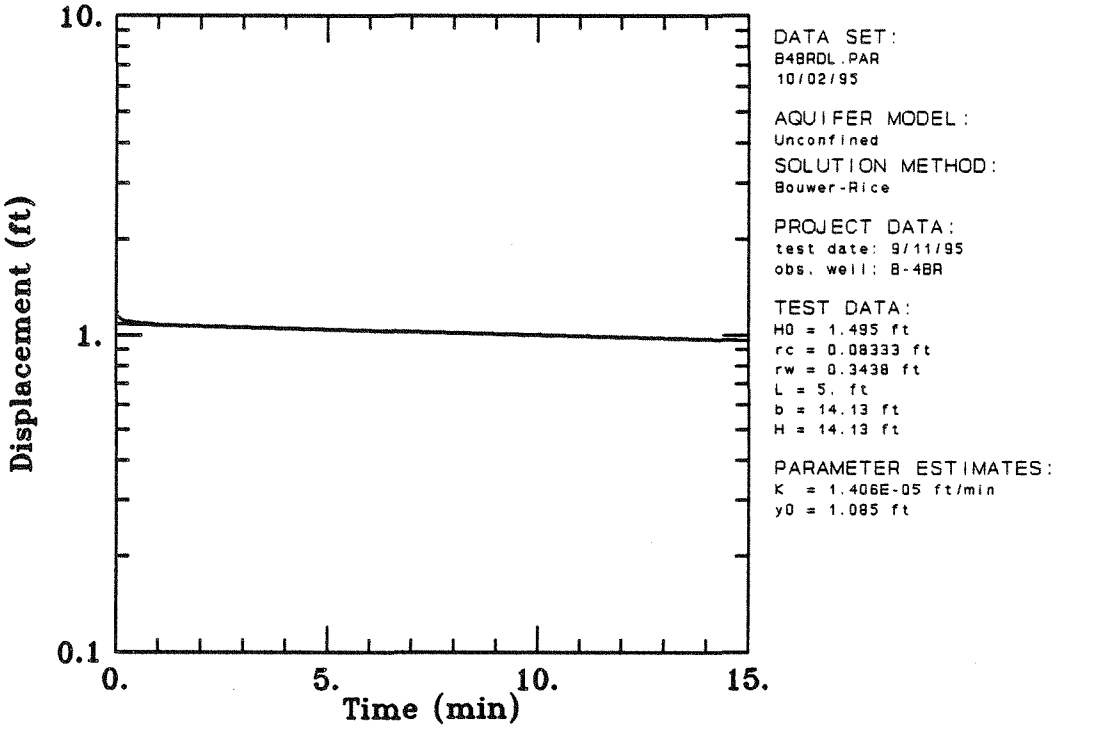


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
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Saginaw, Michigan .

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-4BR (Hermit) - Medium to Fine Sand, Some Silt

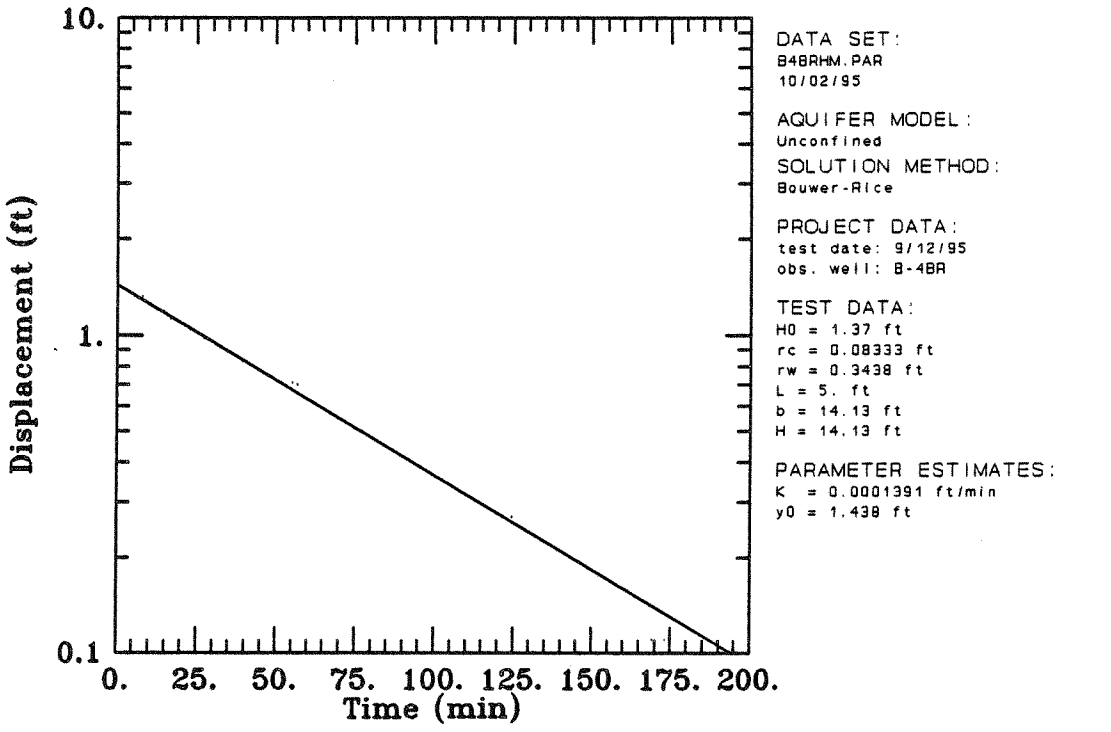


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
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Saginaw, Michigan

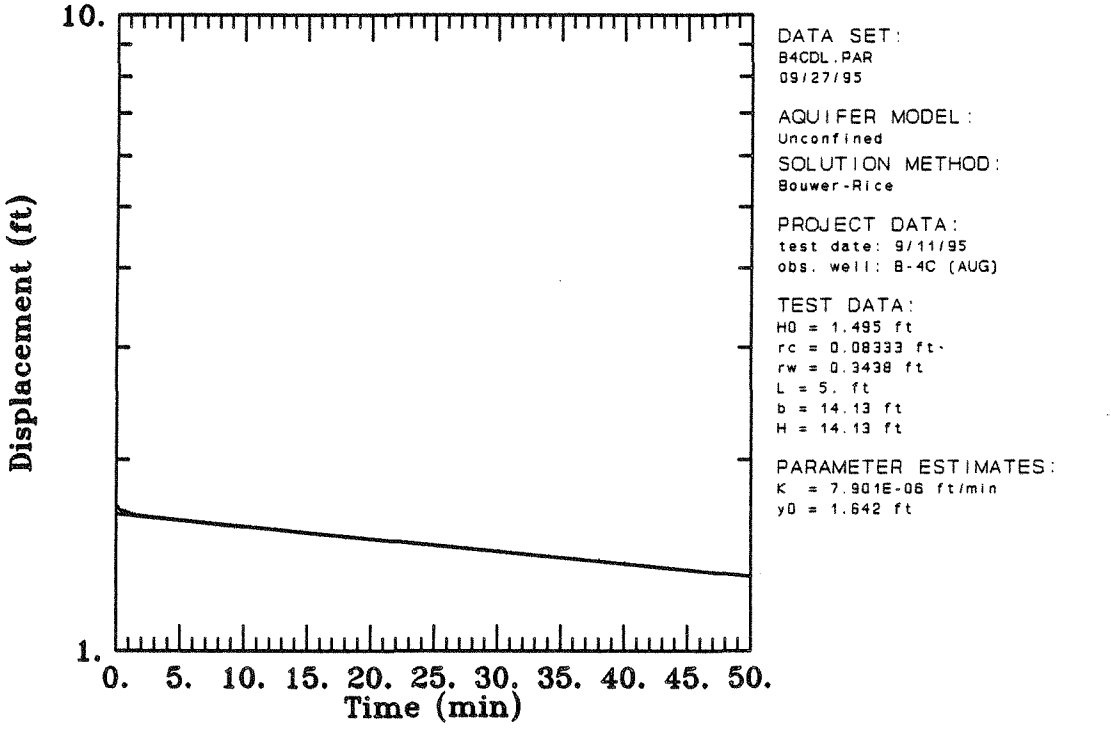
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-4BR (Hand Measured) - Medium to Fine Sand



B-4C(AUG) (Hermit) - Silt and Clay

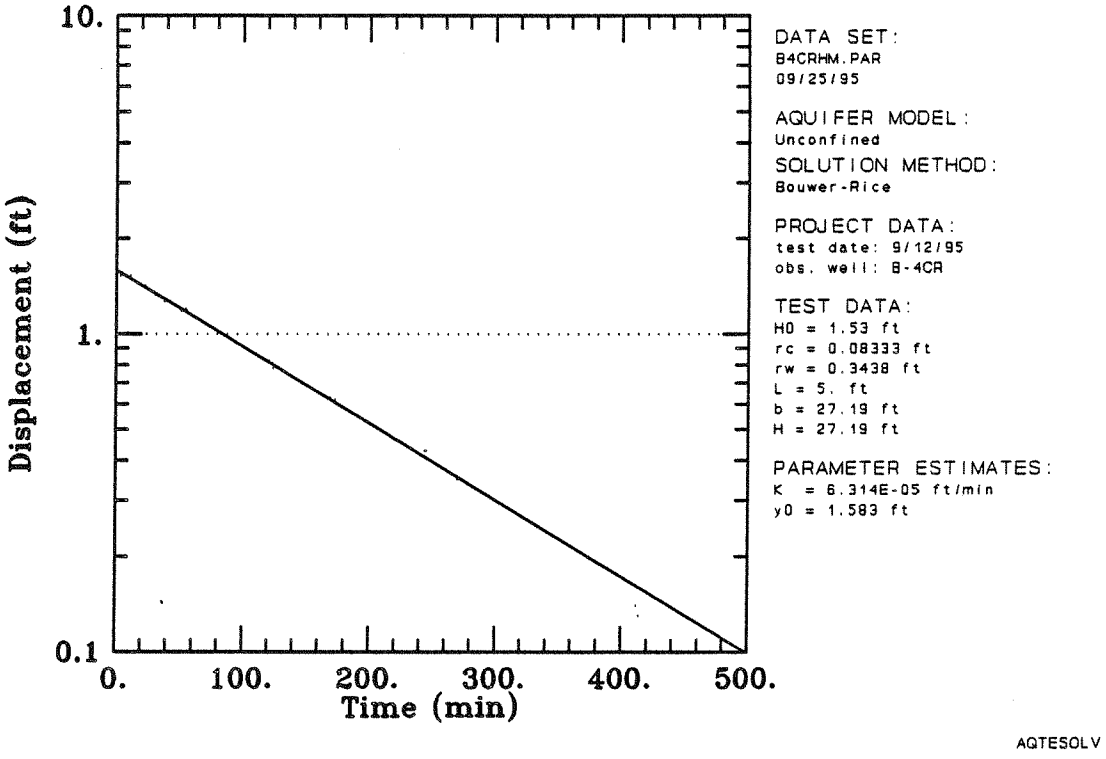


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
Saginaw, Michigan

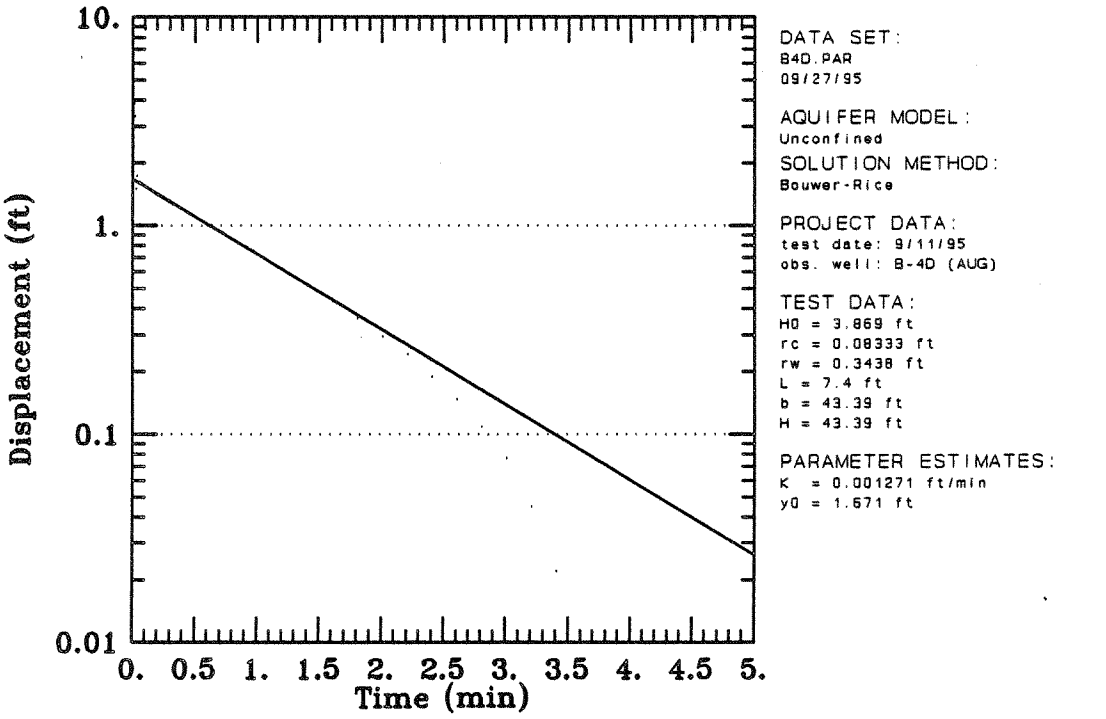
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-4C(AUG) (Hand Measured) - Silt and Clay



B-4D(AUG) - Fine Sand with Some Silt



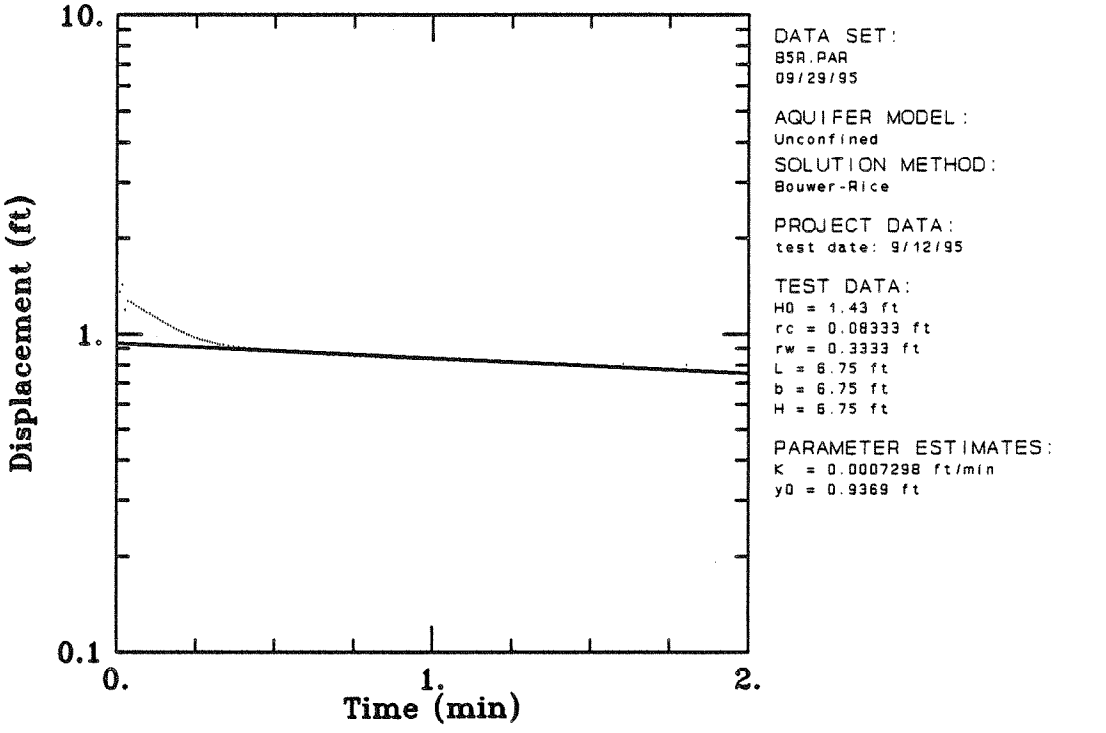
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General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-5R - Clay

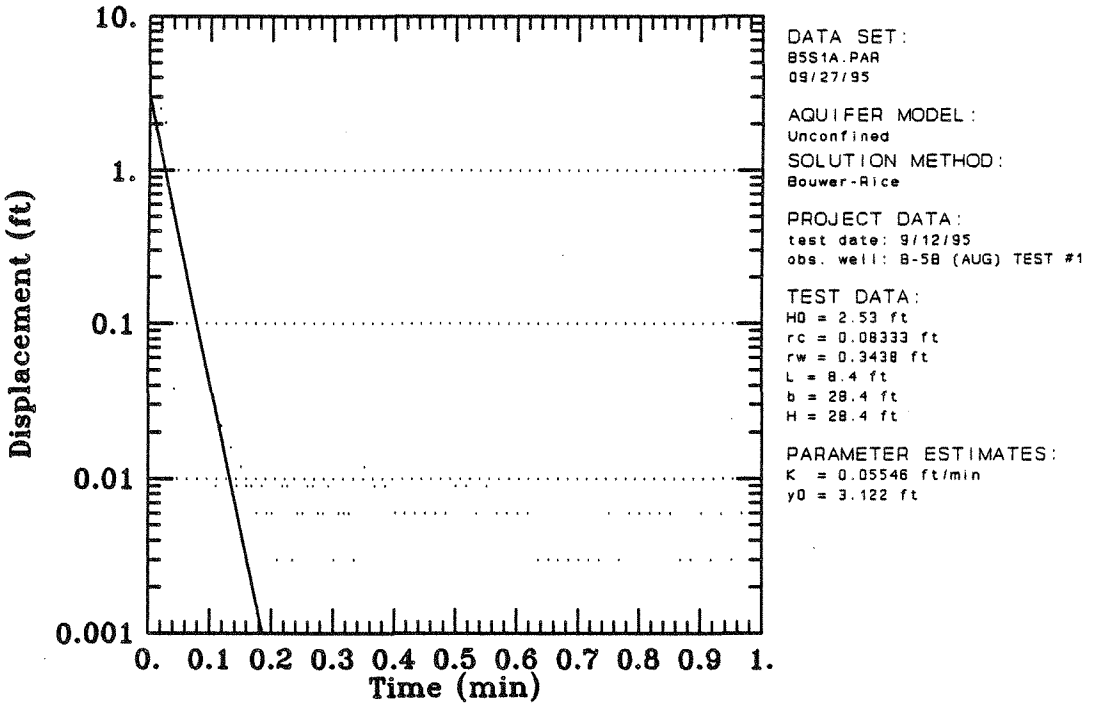


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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-5B(AUG) (Test #1) - Coarse, Medium, and Fine Sand

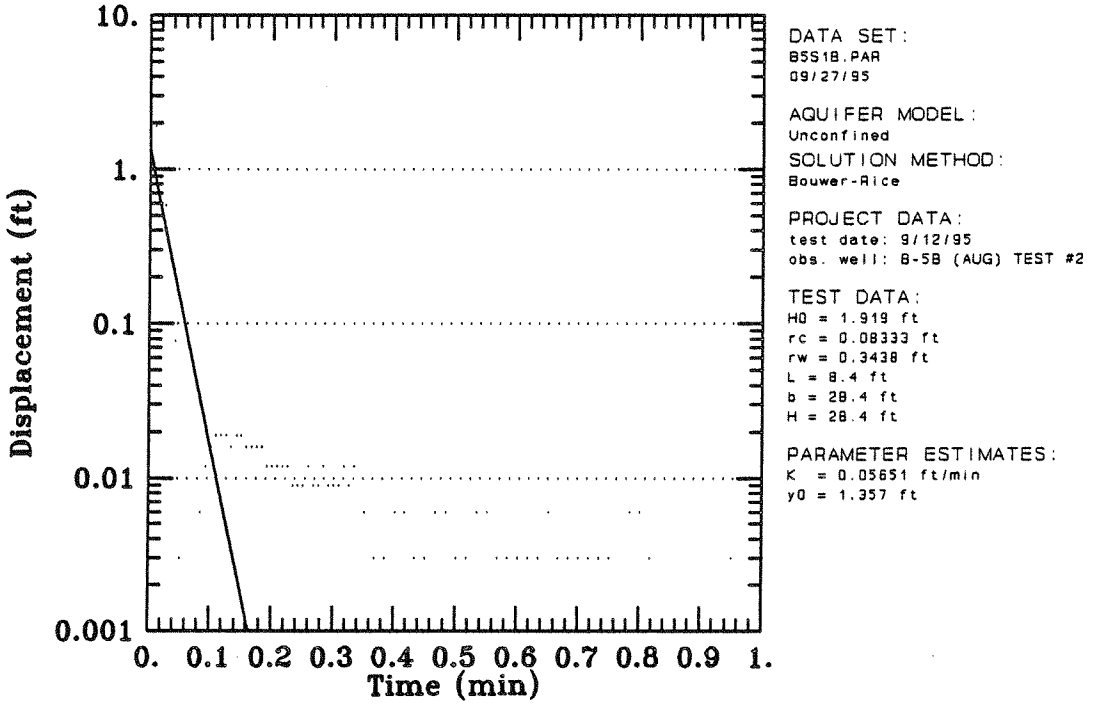


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill, and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-5B(AUG) (Test #2) - Coarse, Medium, and Fine Sand

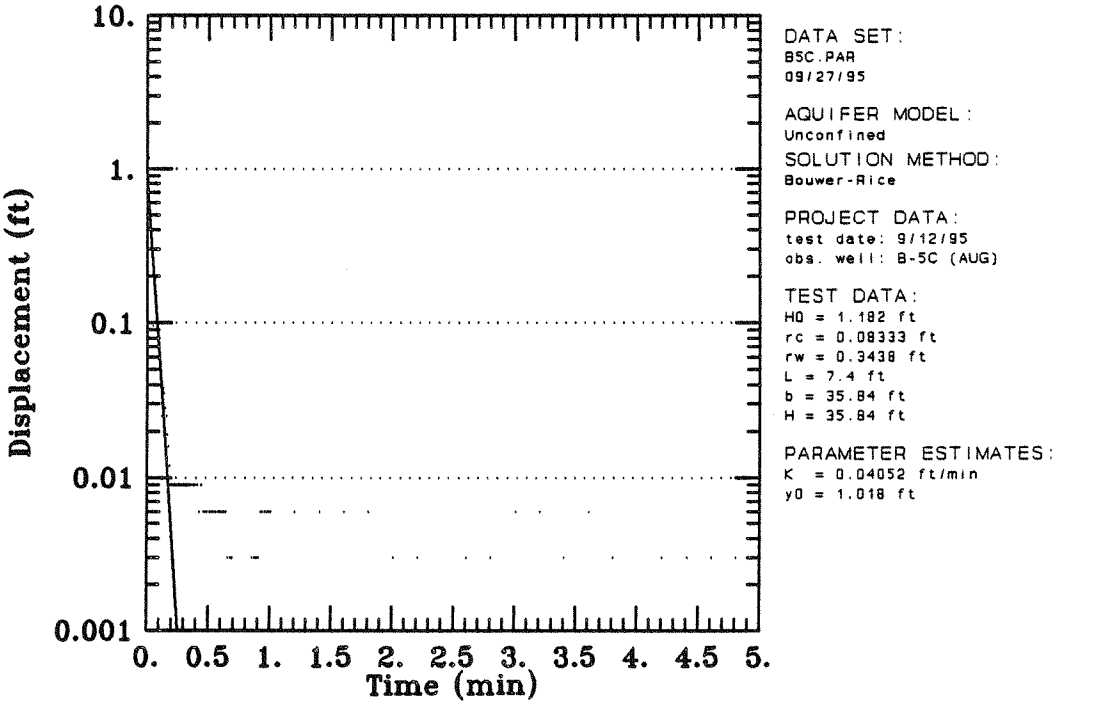


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
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Saginaw, Michigan

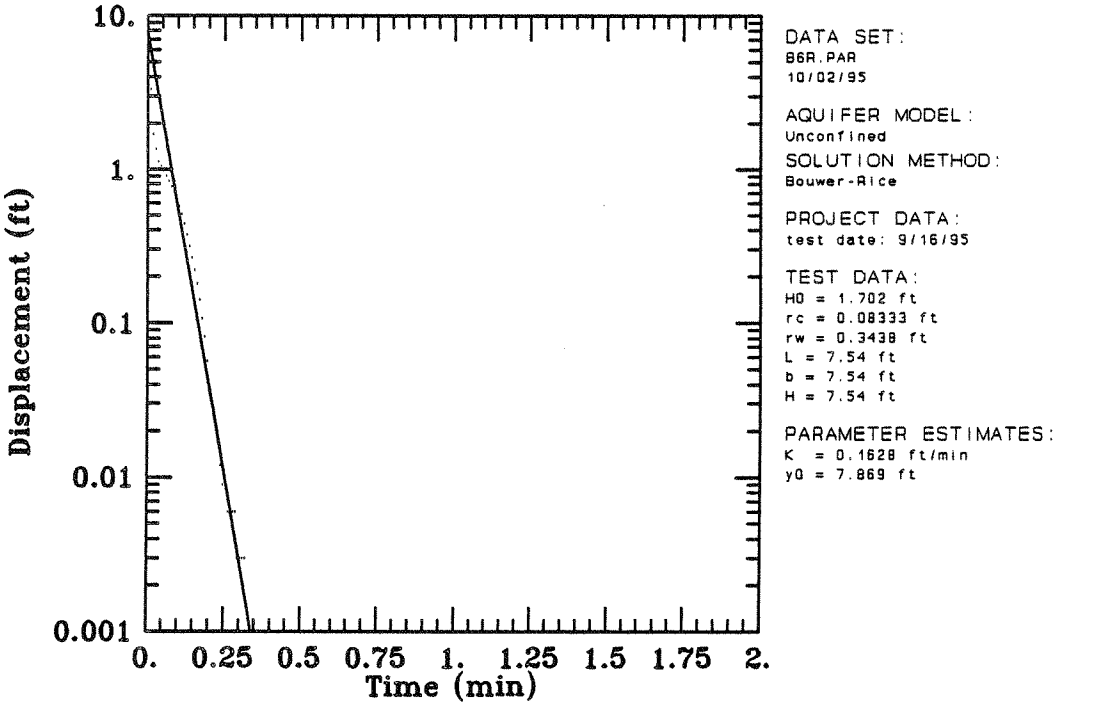
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

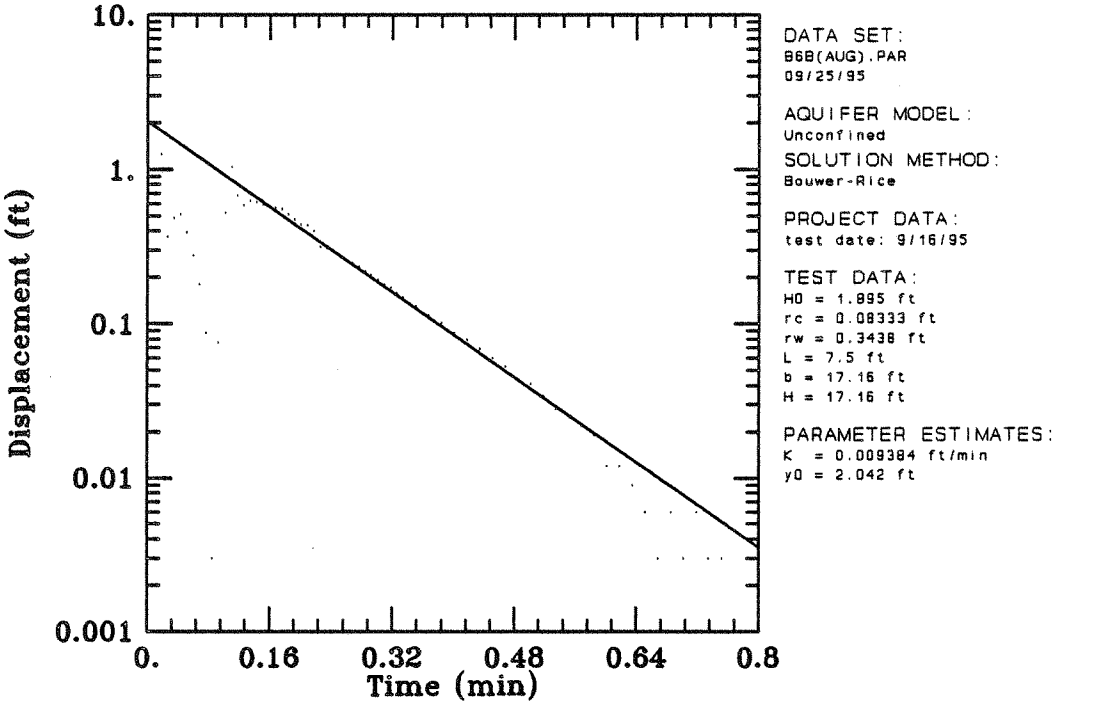
B-5C(AUG) - Coarse Sand, Trace Medium Sand



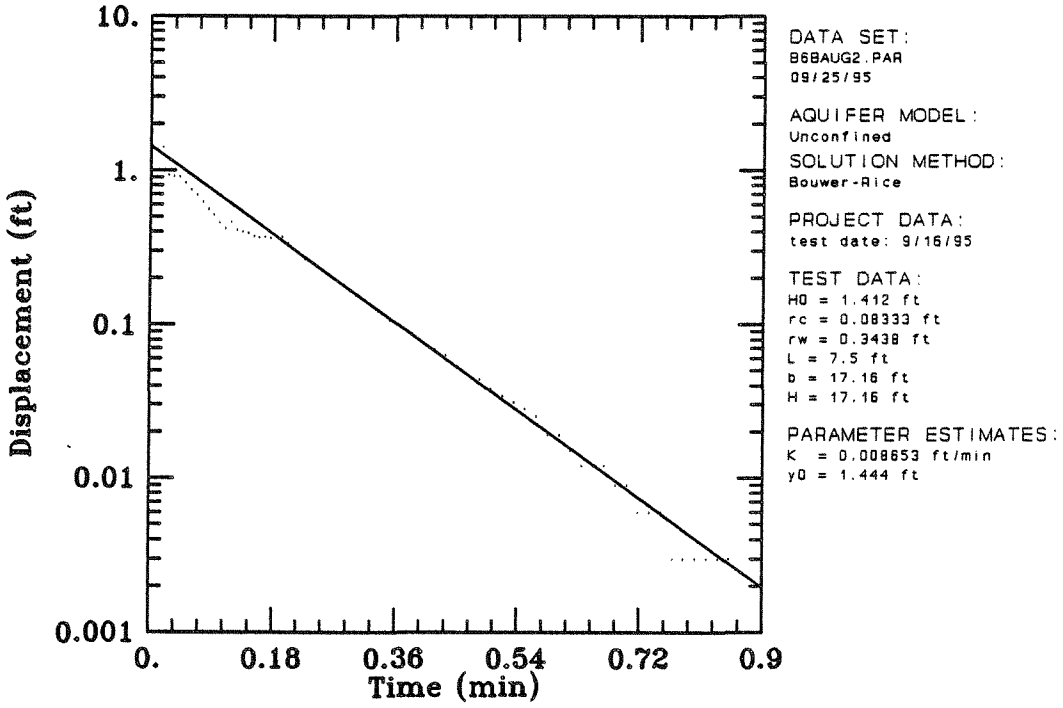
B-6R - Fine Sand (Fill and Rubble)



B-6B(AUG) (Test #1) - Silt with Little Clay, then Medium to Fine Sand



B-6B(AUG) (Test #2) - Silt with Little Clay, then Medium Sand

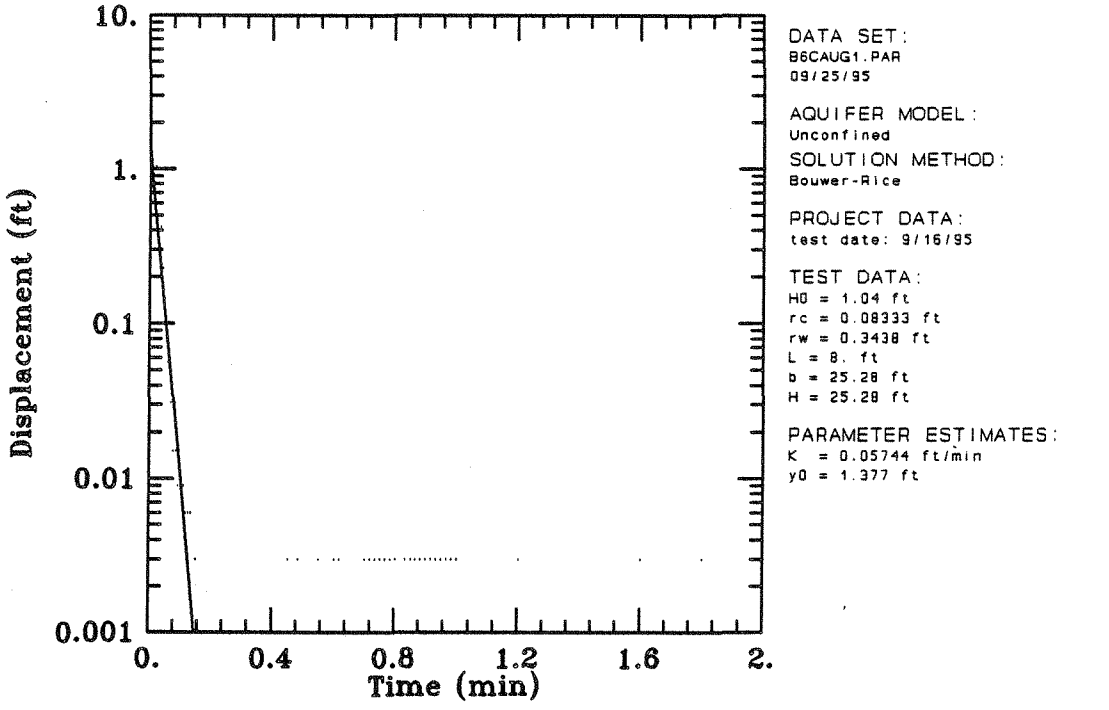


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Saginaw Malleable Iron Plant Property, Green Point Landfill,
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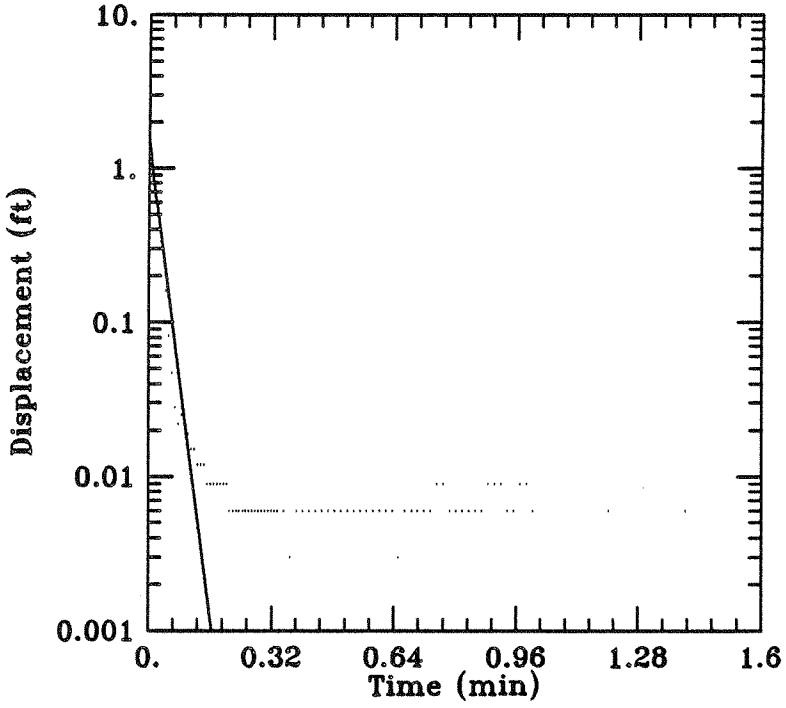
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-6C(AUG) (Test #1) - Medium to Fine Sand



B-6C(AUG) (Test #2) - Medium to Fine Sand



DATA SET:
B6CAUG2.PAR
09/25/95

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Bouwer-Rice

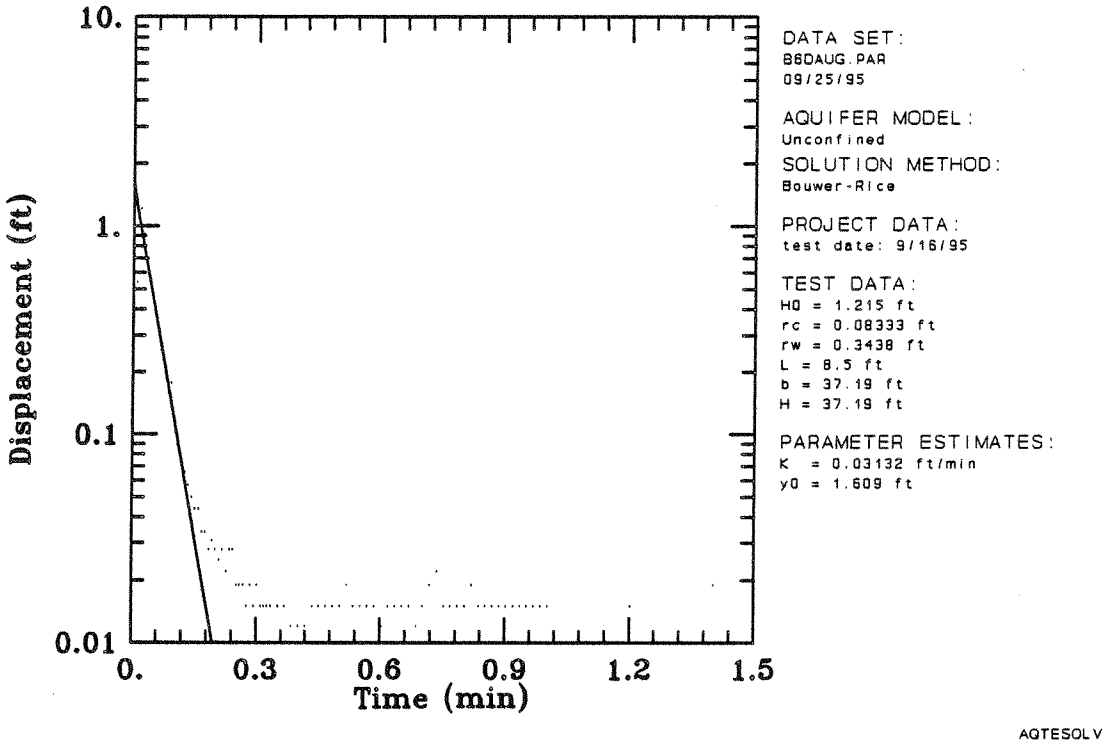
PROJECT DATA:
test date: 9/16/95

TEST DATA:
H0 = 0.952 ft
rc = 0.08333 ft
rw = 0.3438 ft
L = 8. ft
b = 25.28 ft
H = 25.28 ft

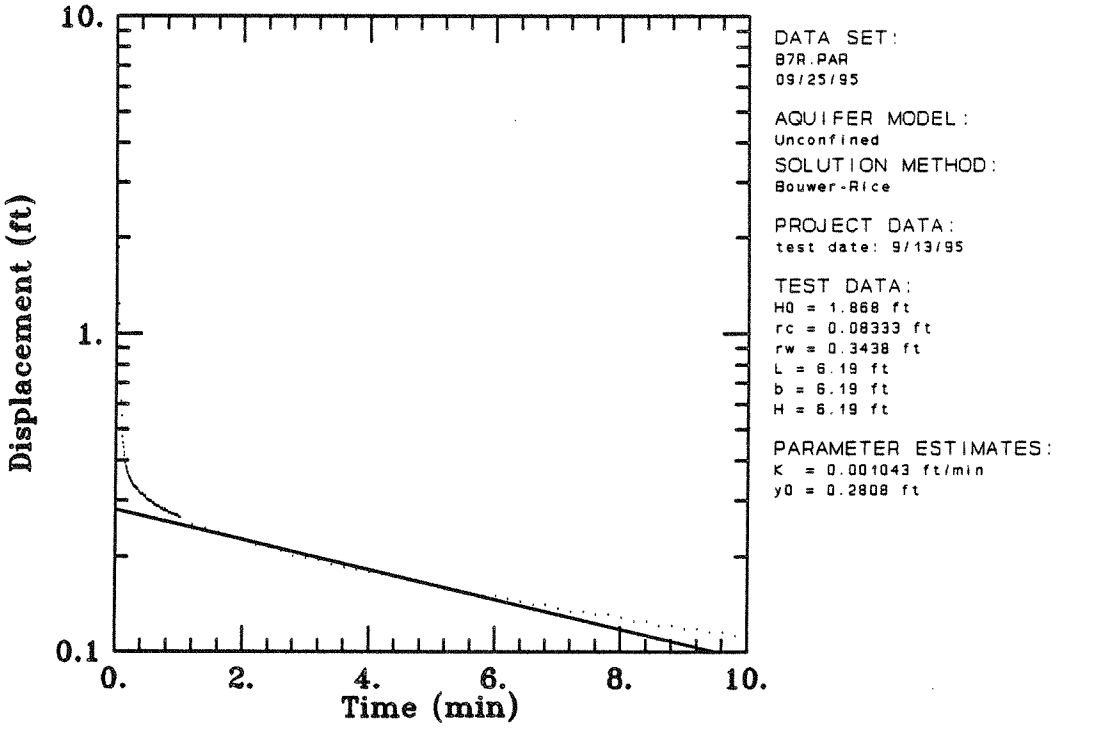
PARAMETER ESTIMATES:
K = 0.05337 ft/min
y0 = 1.523 ft

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B-6D(AUG) - Coarse to Fine Sand



B-7R - Fine Sand and Silt, then Medium to Fine Sand

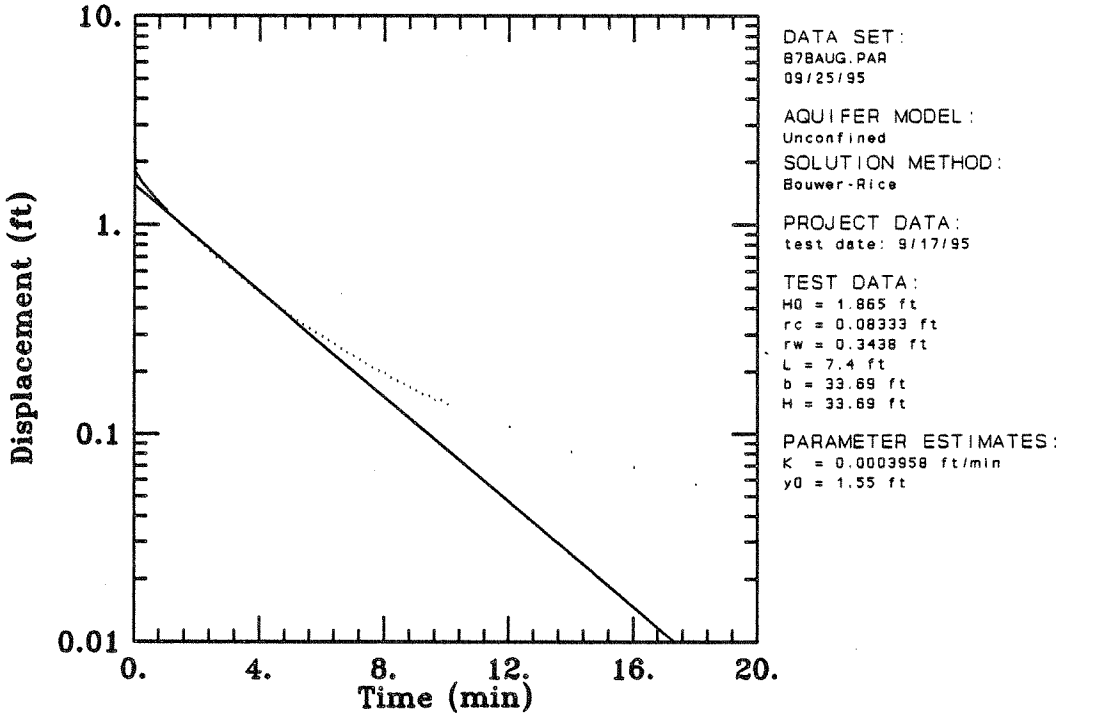


General Motors Corporation
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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-7B(AUG) - Medium to Fine Sand



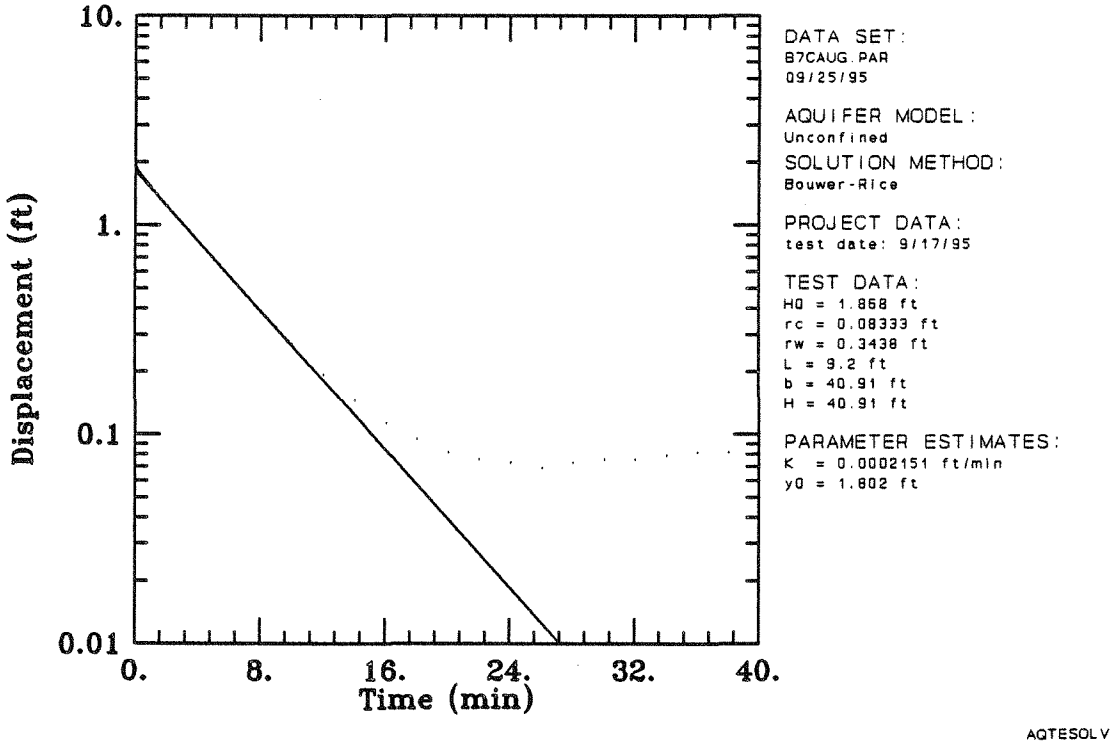
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General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill, and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

B-7C(AUG) - Medium to Fine Sand

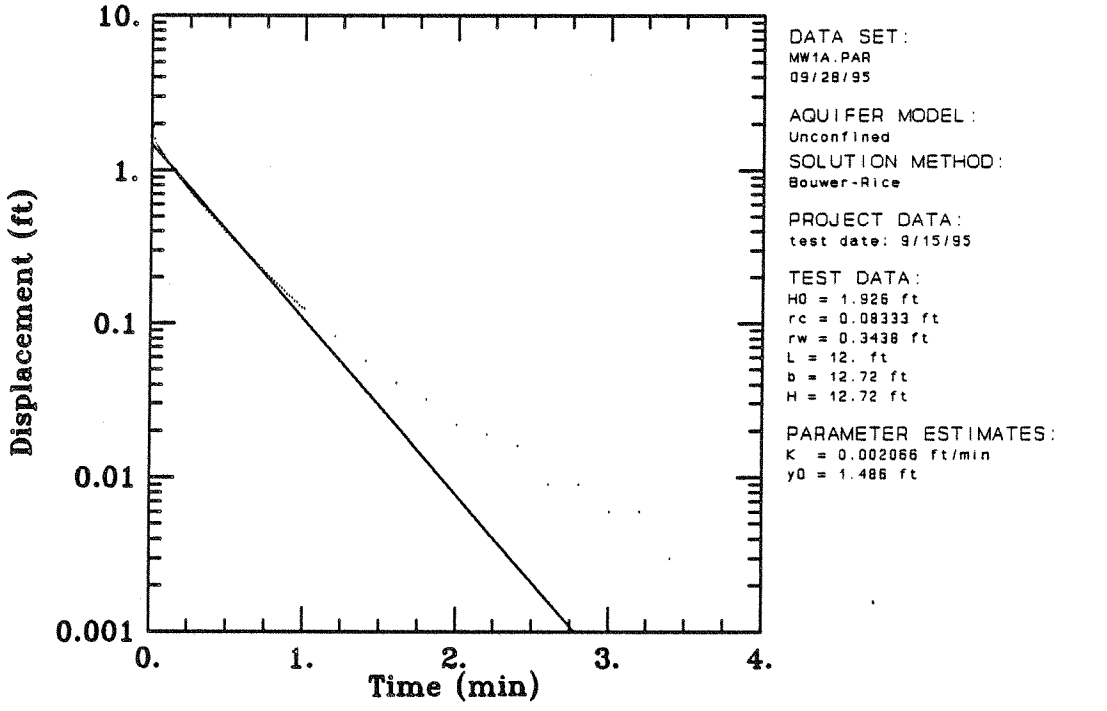


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-1A - Fine Sand to Clayey Sand

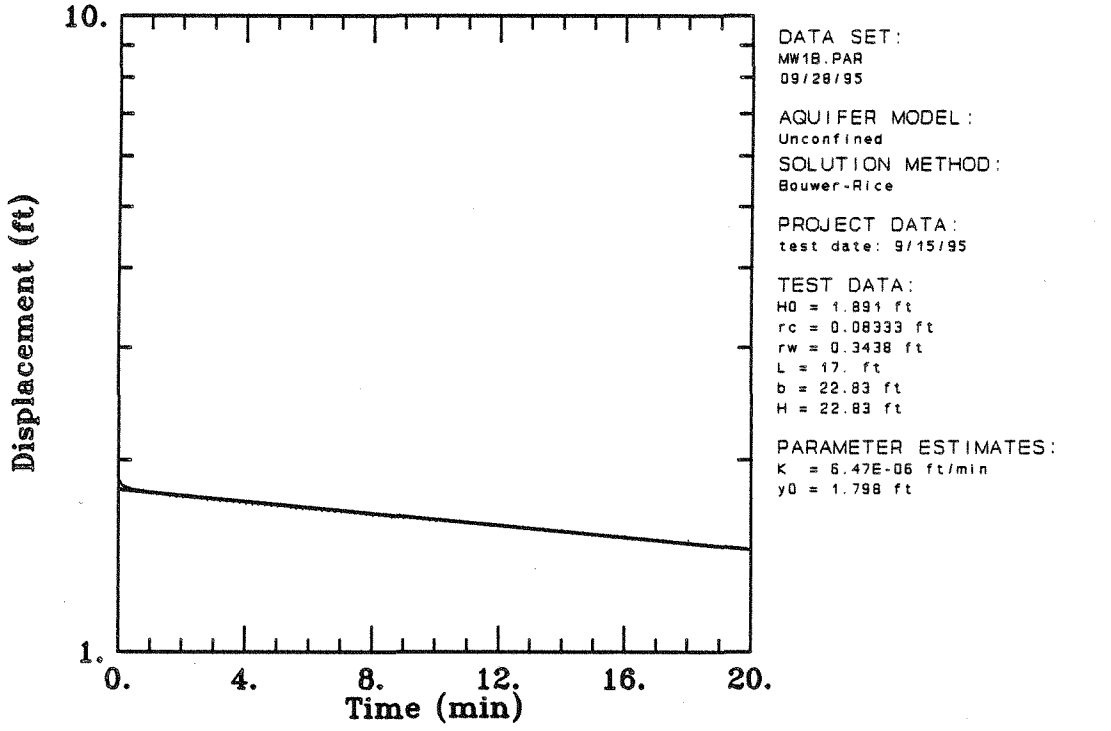


General Motors Corporation
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and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-1B (Hermit) - Silt with Some Clay



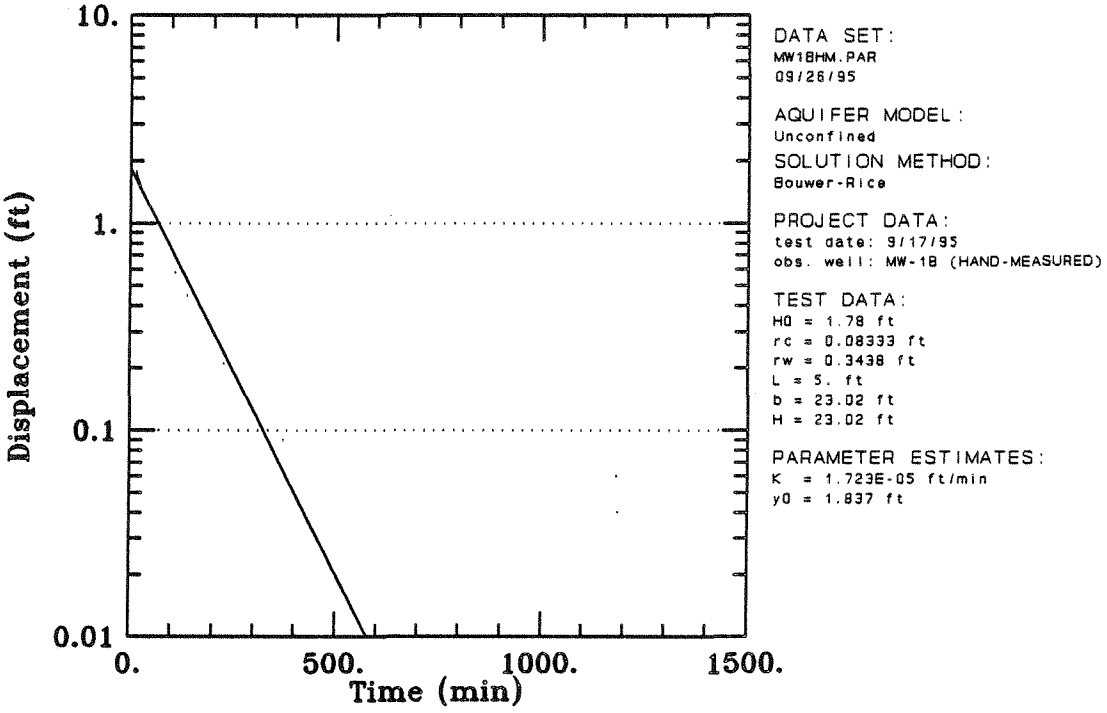
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General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-1B (Hand Measured) - Silt with Some Clay

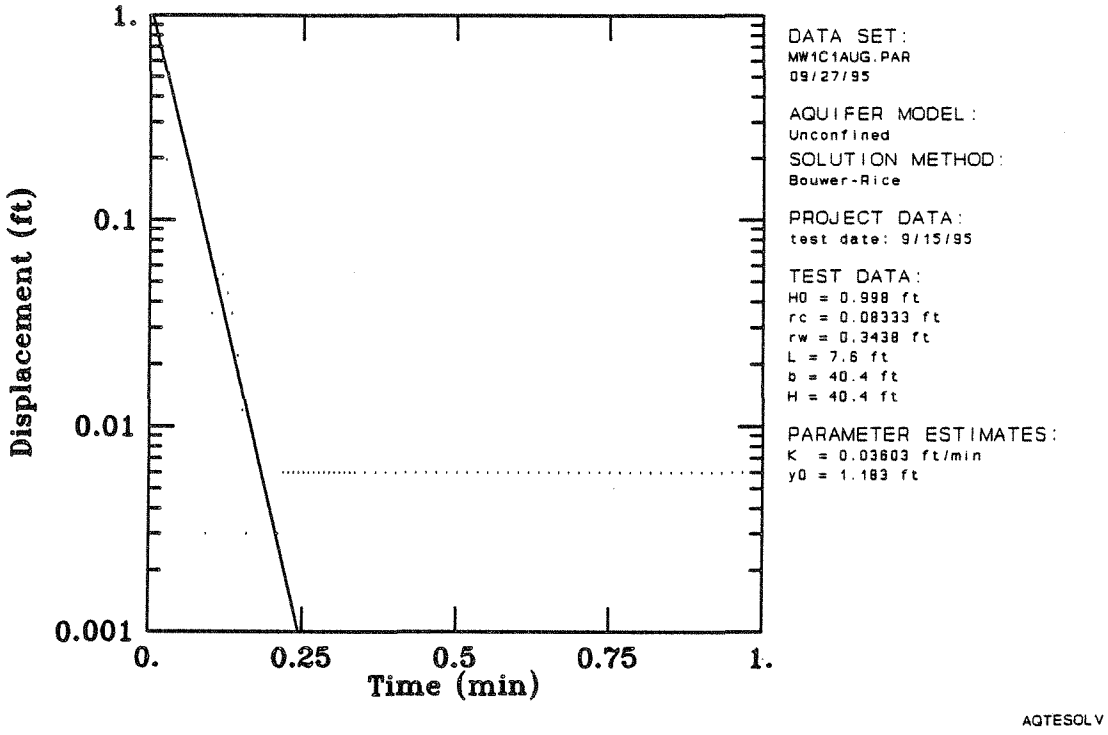


General Motors Corporation
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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-1C(AUG) (Test #1) - Coarse to Fine Sand

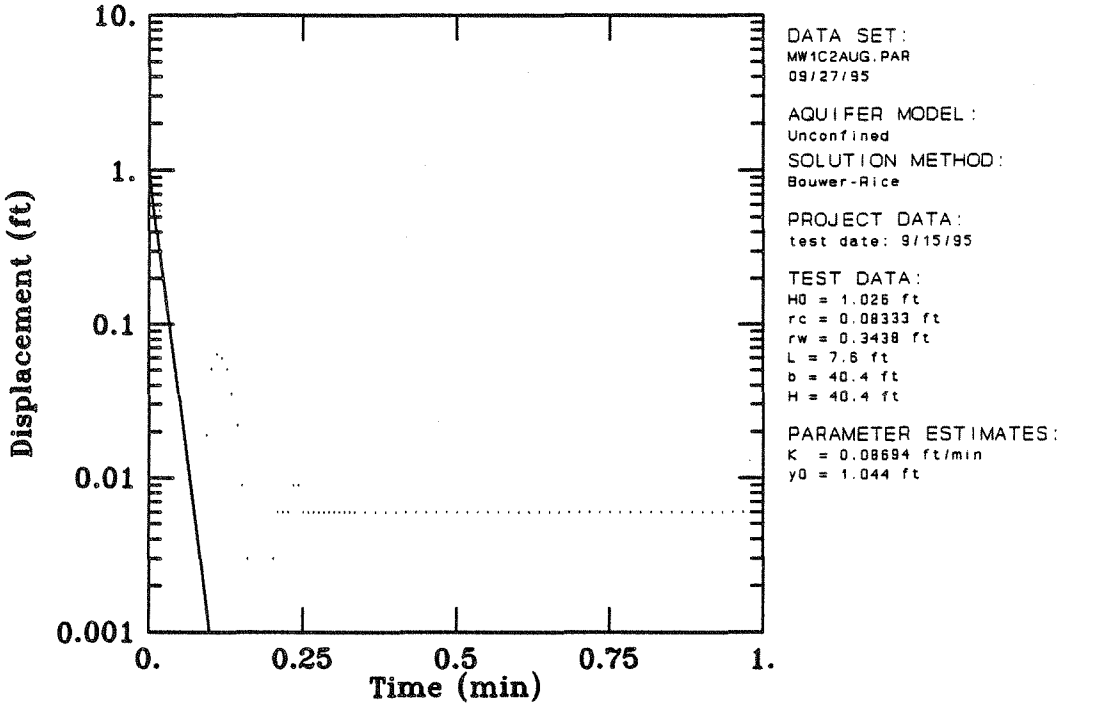


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
Saginaw, Michigan

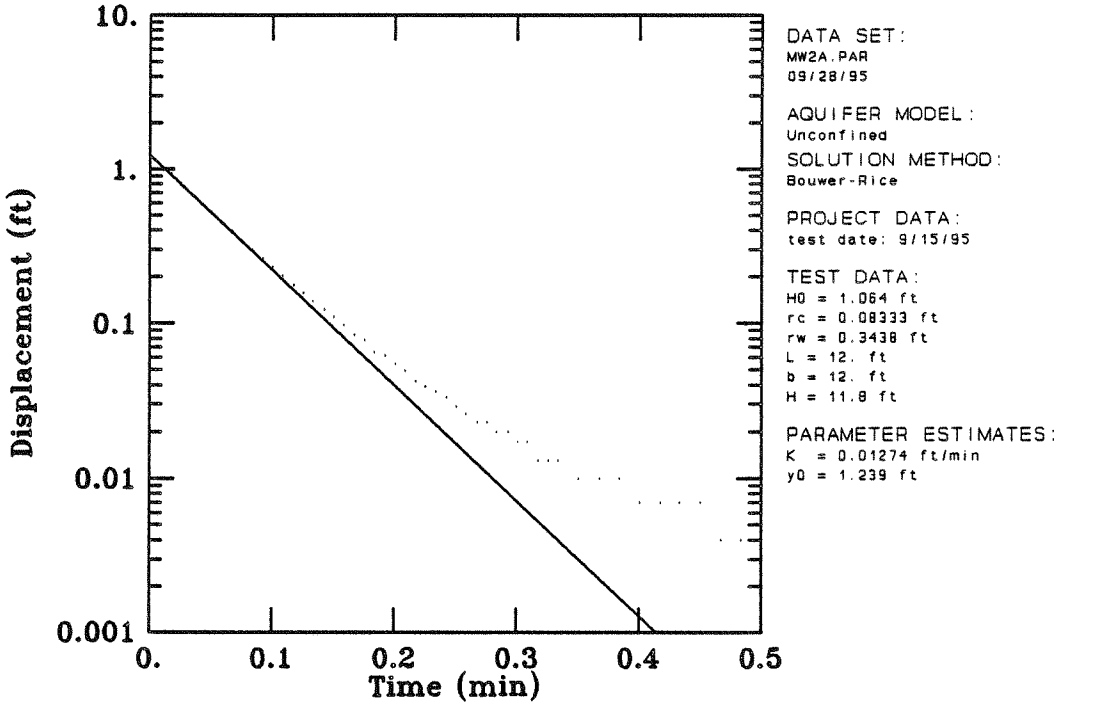
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-1C(AUG) (Test #2) - Coarse to Fine Sand



MW-2A - Sand, Some Gravel, Little Clay

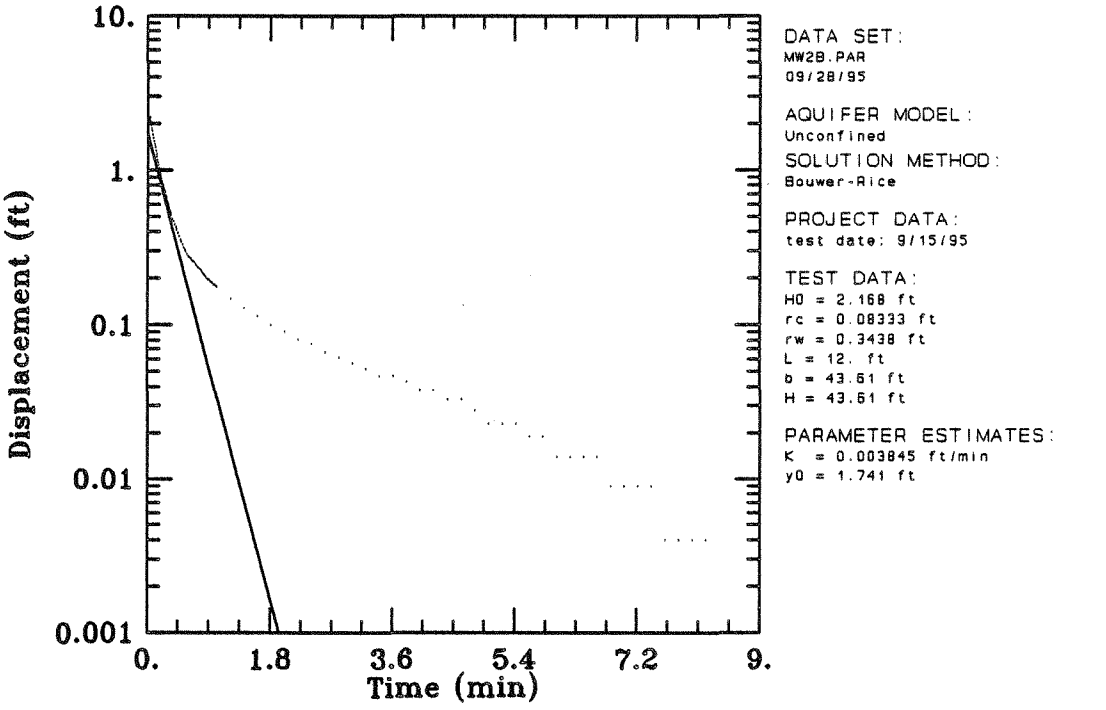


General Motors Corporation
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and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-2B - Sand, Some Gravel, Little Clay

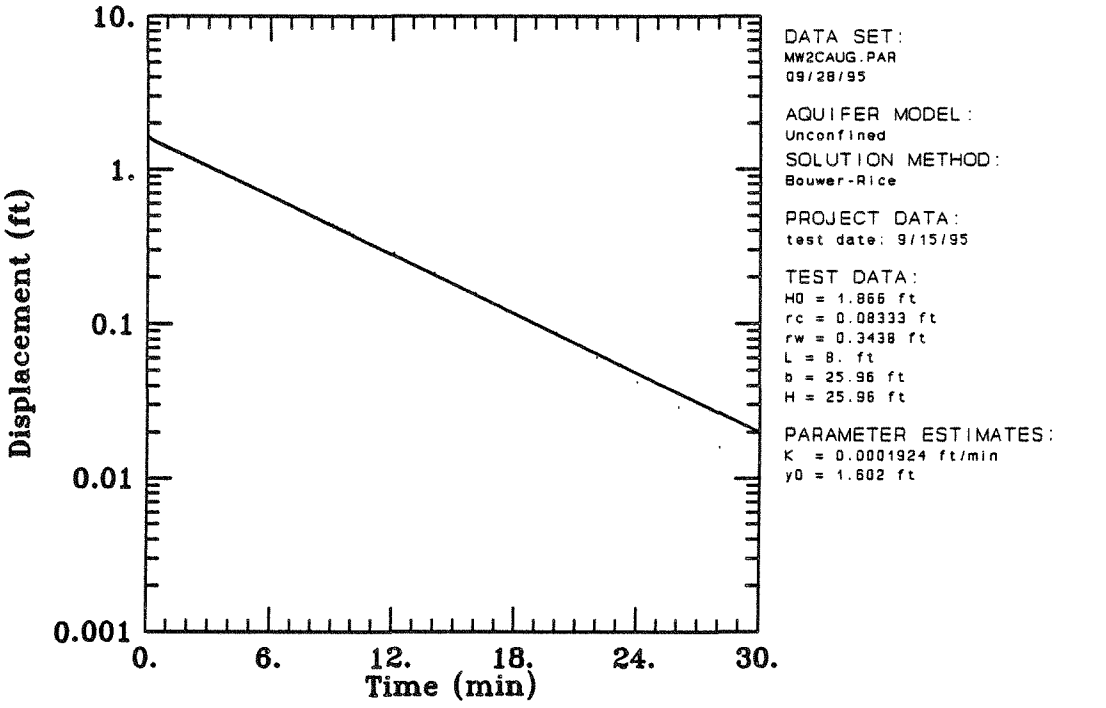


General Motors Corporation
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and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-2C(AUG) - Fine Sand, Some Silt

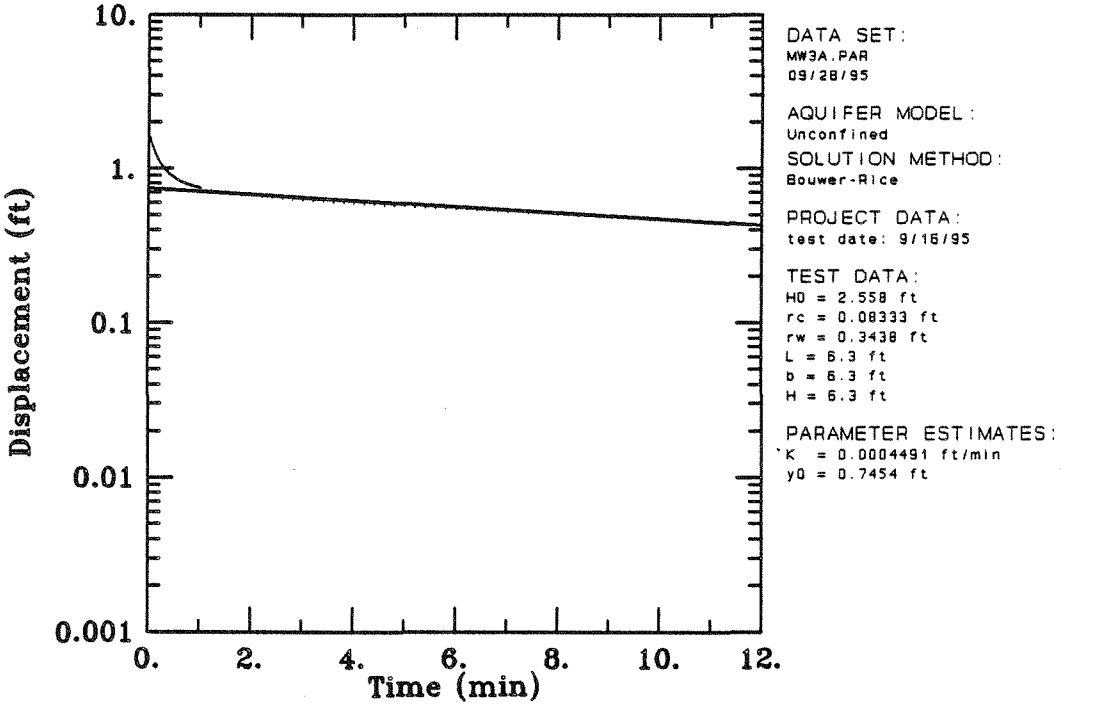


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
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Saginaw, Michigan

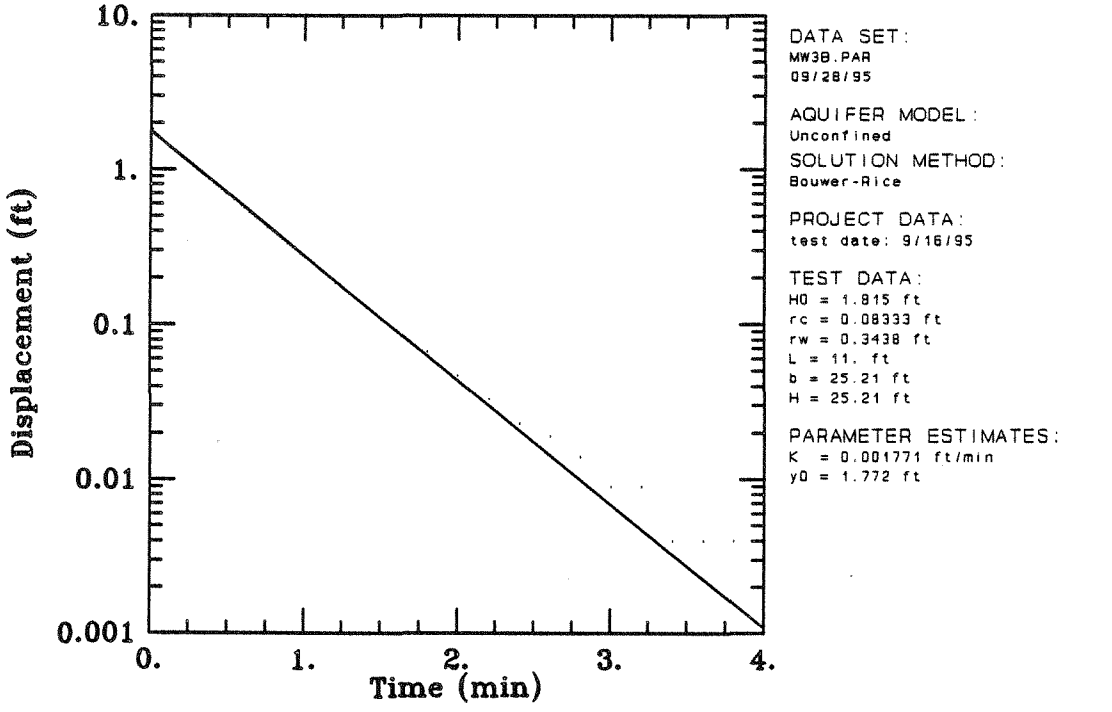
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-3A - Fine Sand to Silty Clay



MW-3B - Fine Sand

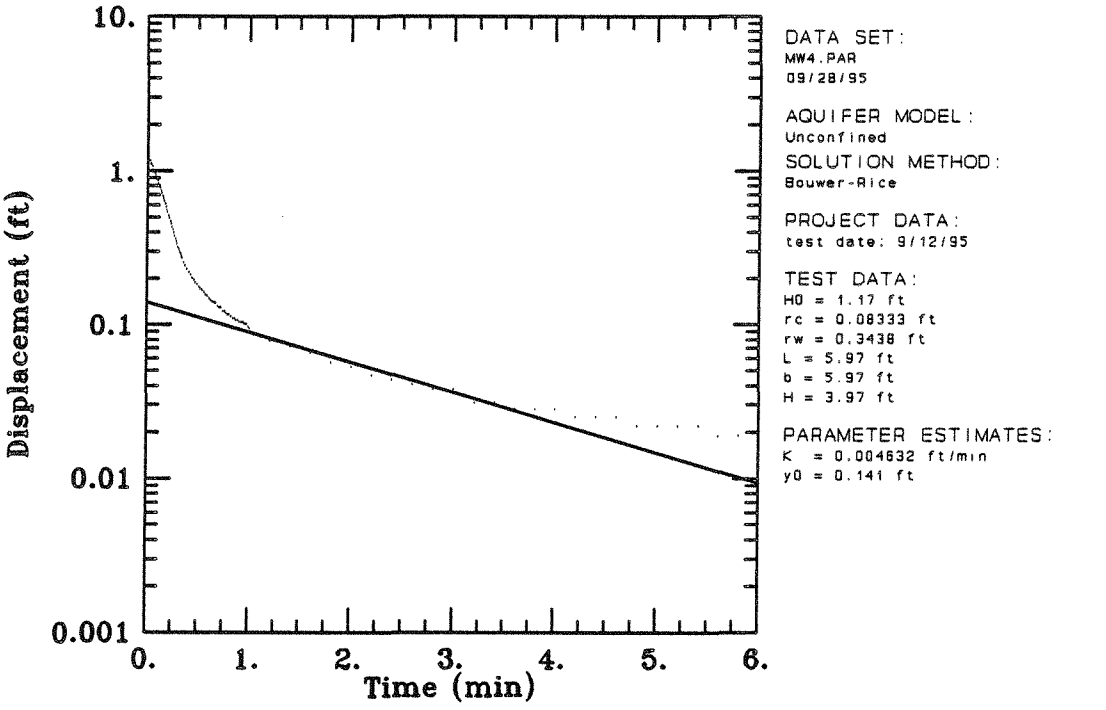


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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-4 - Fine Sand and Silt, Little Clay

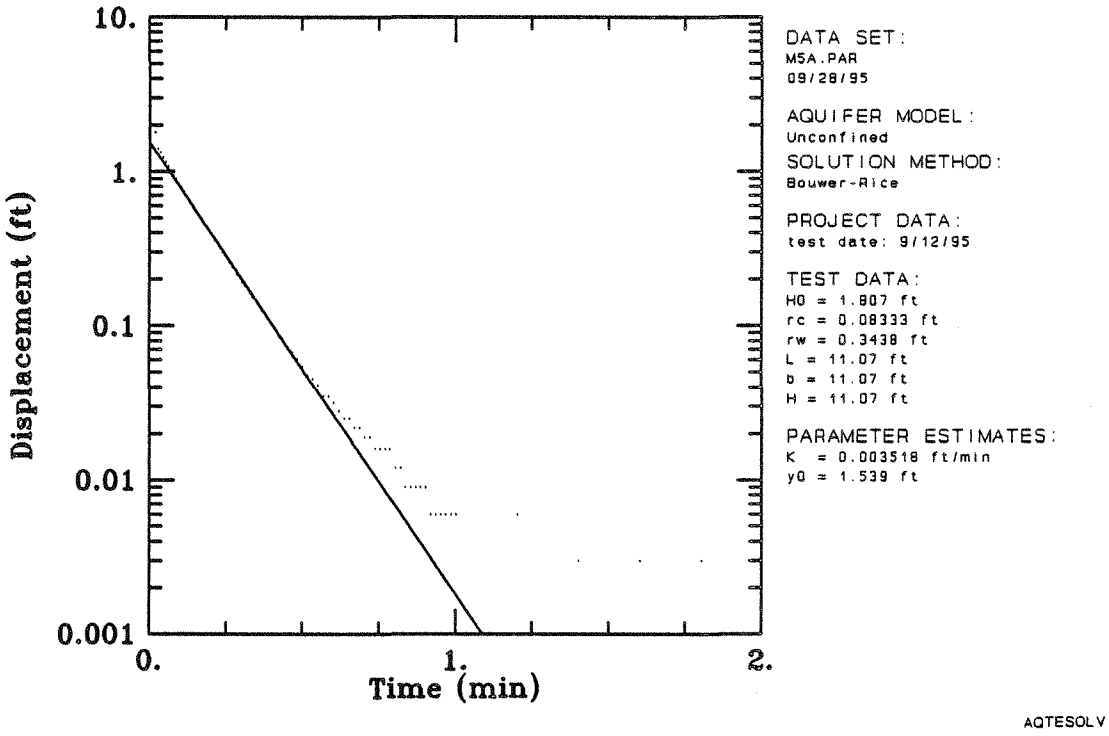


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill, and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-5A - Fine Sand, Some Silt

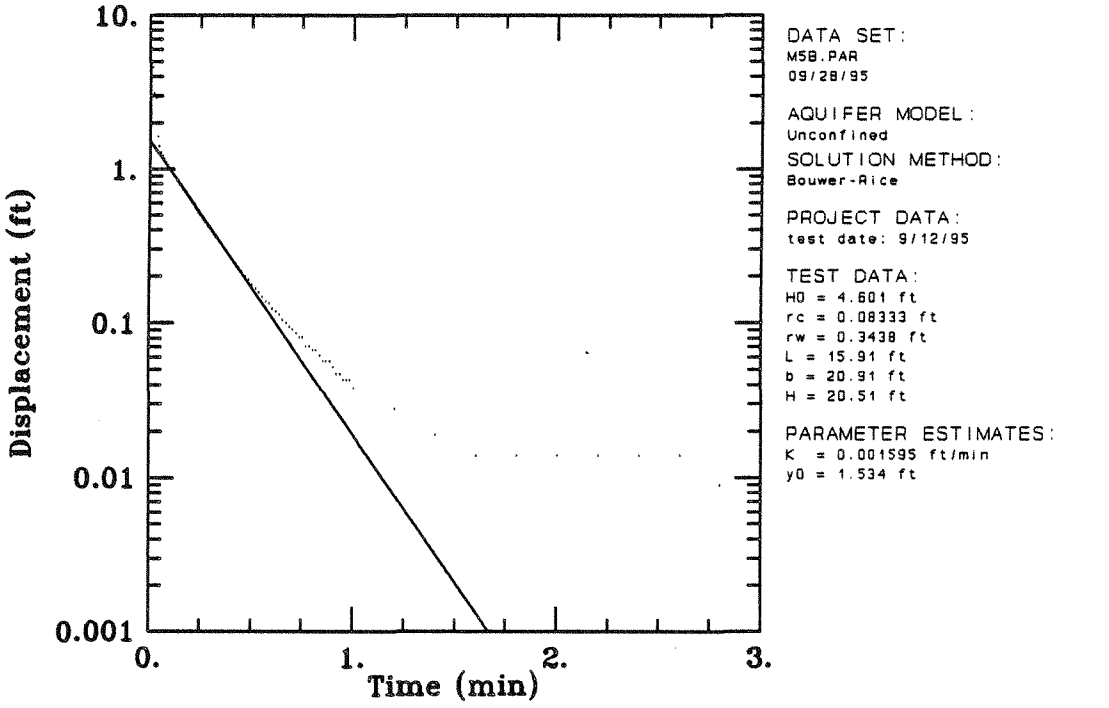


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-5B - Medium to Fine Sand

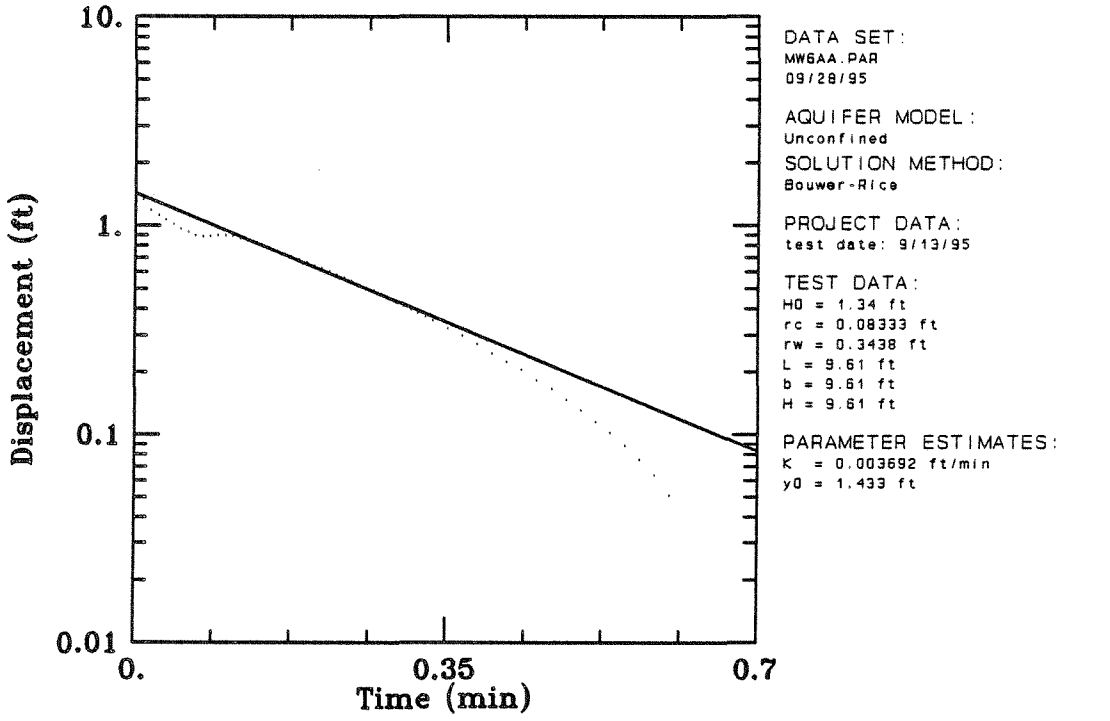


General Motors Corporation
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and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-6A (Test #1) - Fine Sand and Silt

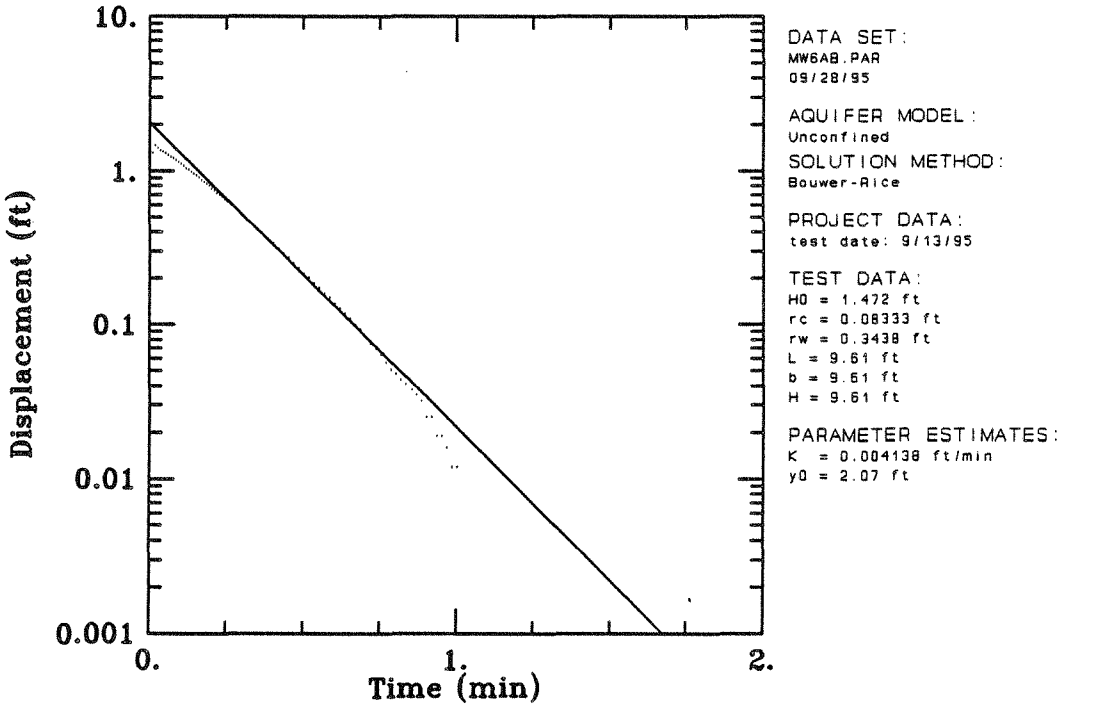


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and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-6A (Test #2) - Fine Sand and Silt

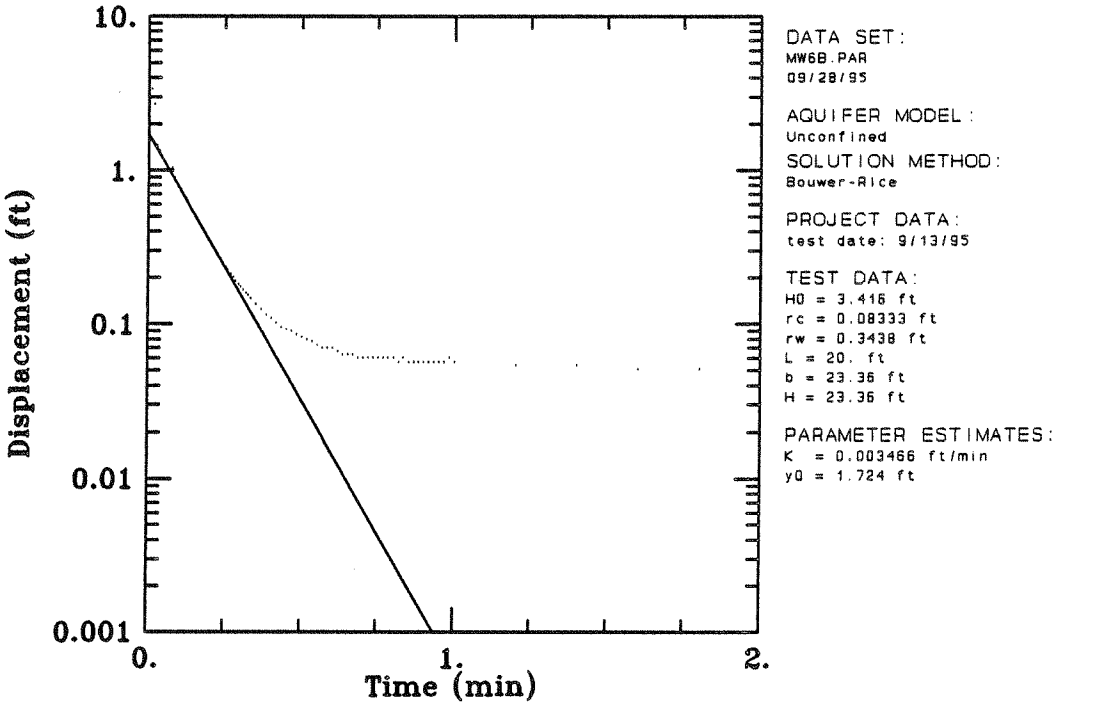


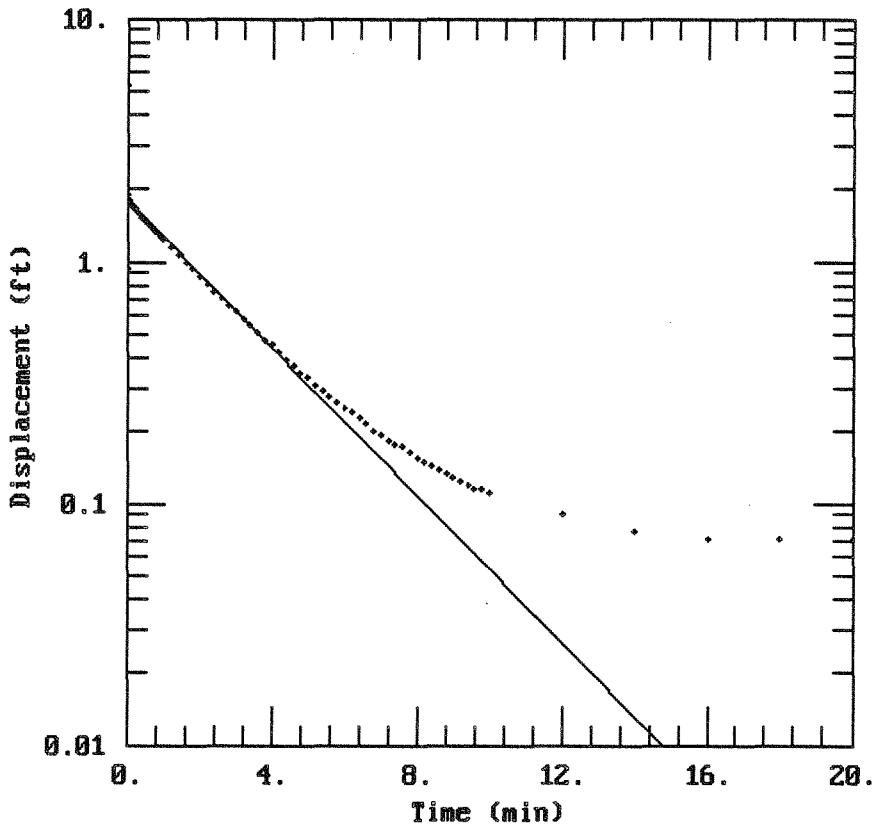
General Motors Corporation
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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-6B - Medium Sand with Trace Fine Gravel





DATA SET:
MW6C.PAR
01/09/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

PROJECT DATA:
test date: 09/13/95
test well: MW-6C
obs. well: MW-6C

TEST DATA:
H0= 5.317 ft
r_c= 0.08333 ft
r_w= 0.3438 ft
L = 3. ft
b = 7.24 ft
H = 7.24 ft

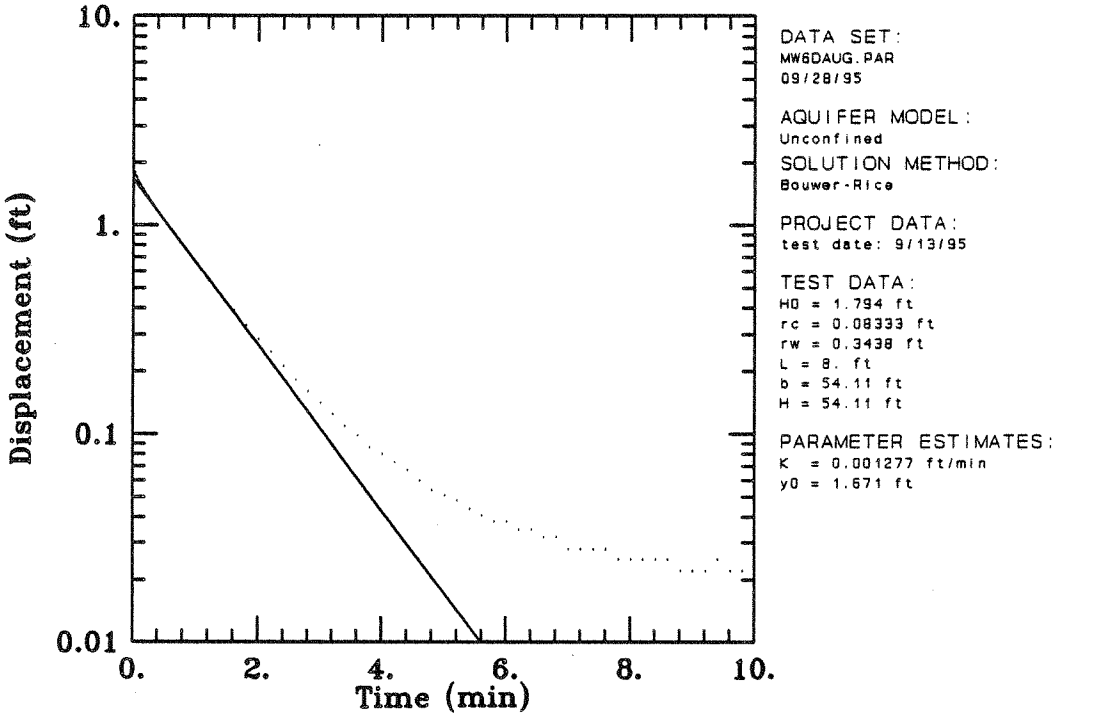
PARAMETER ESTIMATES:
K = 0.004719 ft/min
y0 = 1.779 ft

General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill, and Drum Remediation Area
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Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-6D(AUG) - Medium to Fine Sand

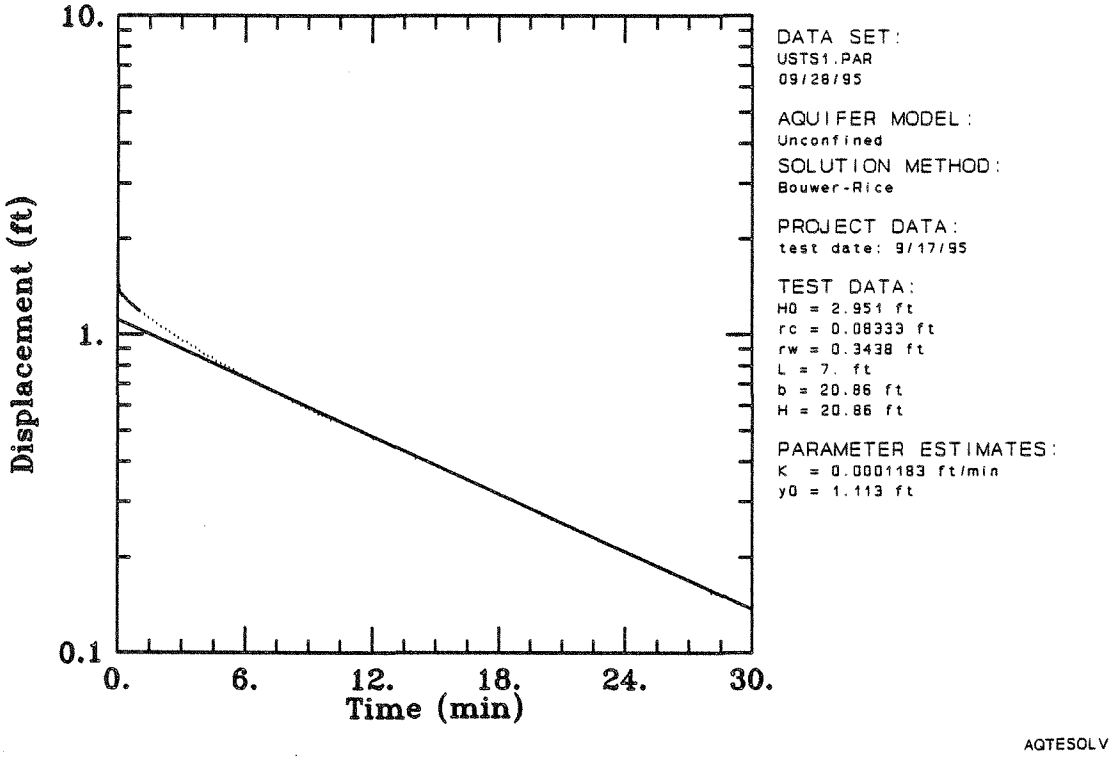


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Hydraulic Conductivity Testing Results

USTS1 - Medium Sand

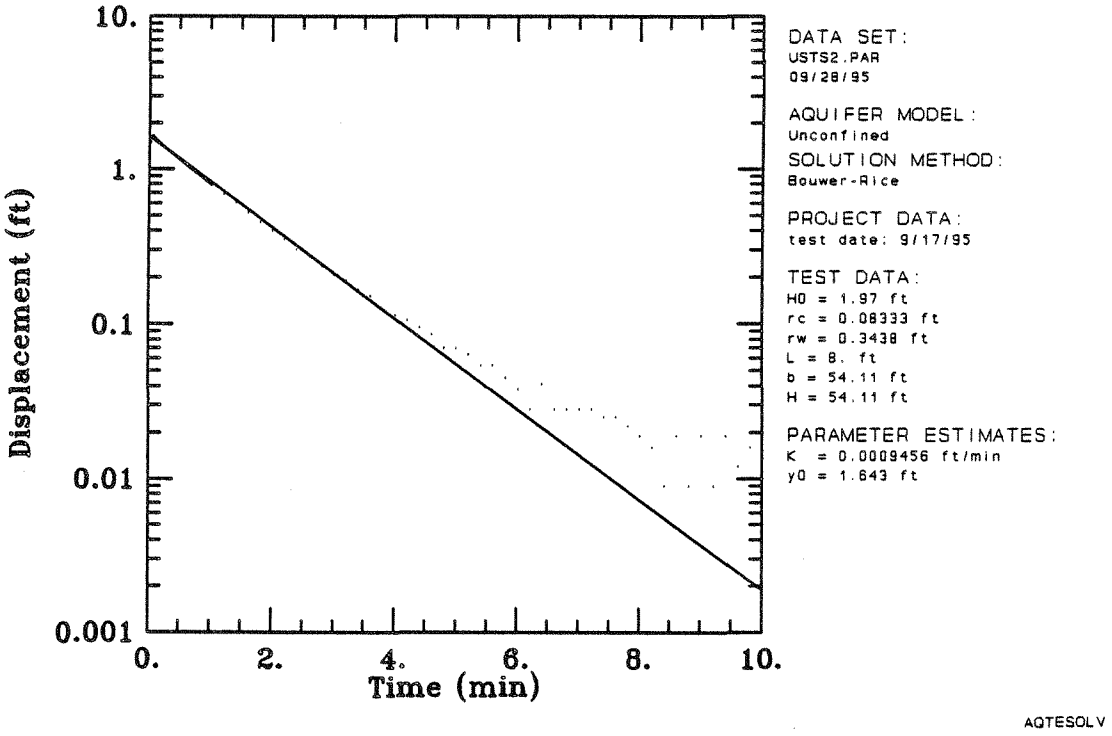


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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

USTS2 - Silt, then Medium Sand

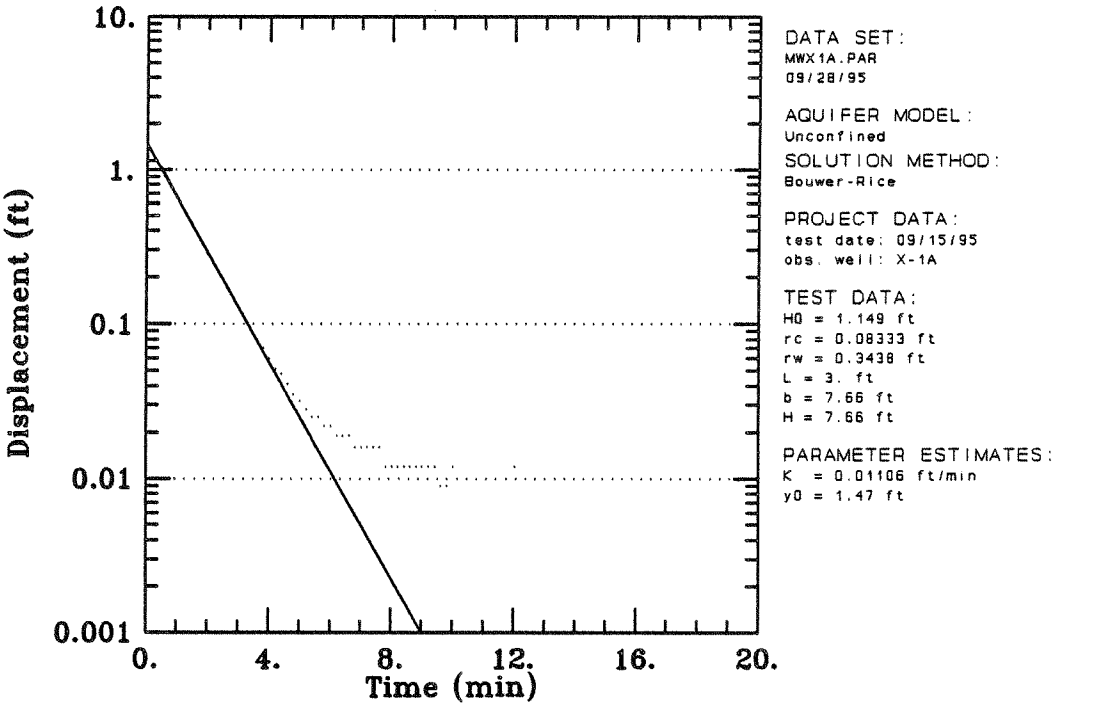


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and Drum Remediation Area
Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-1A - Fill (Unknown)

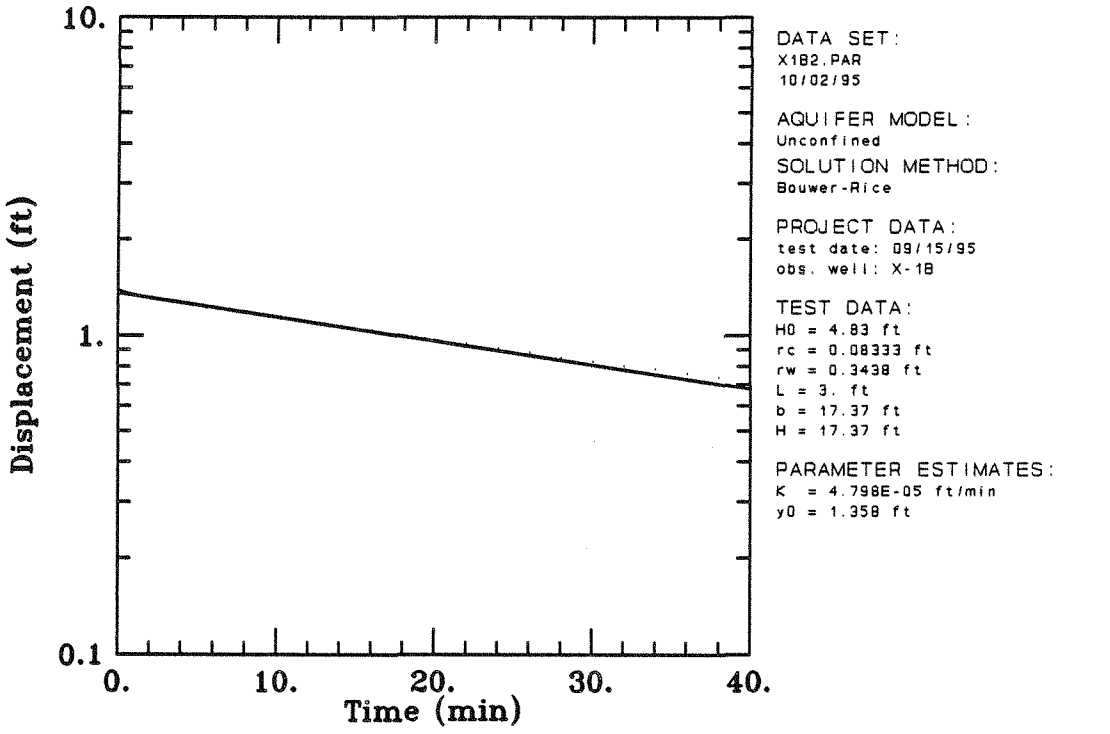


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and Drum Remediation Area
Saginaw, Michigan

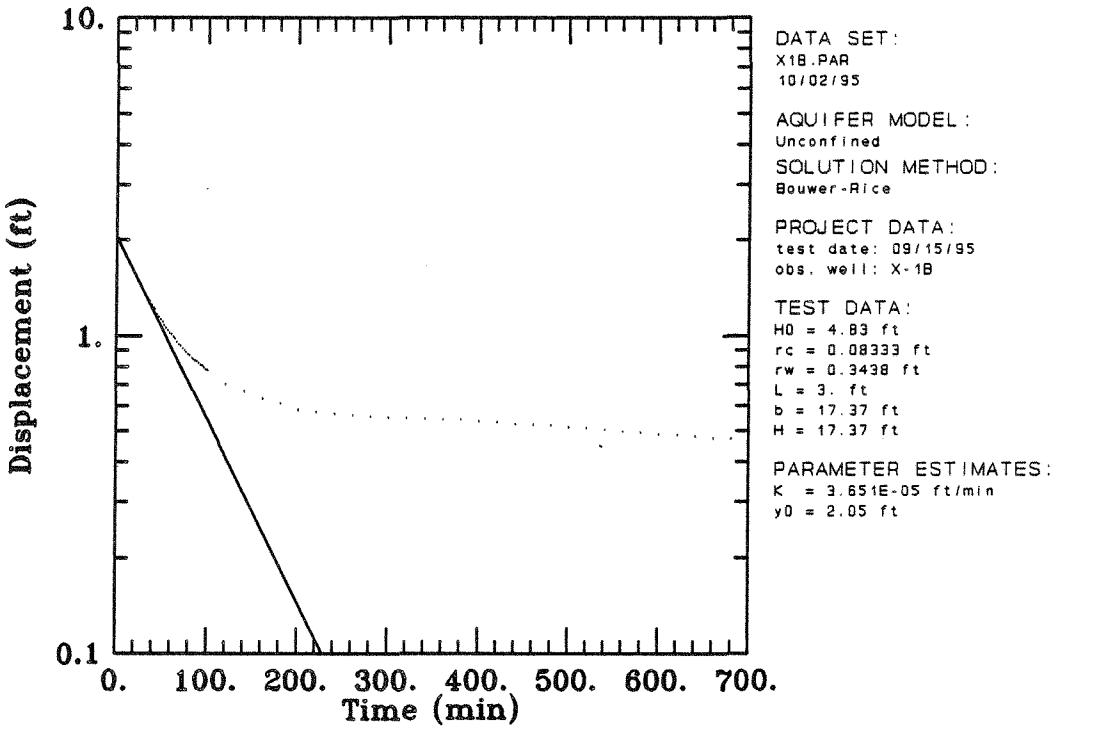
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

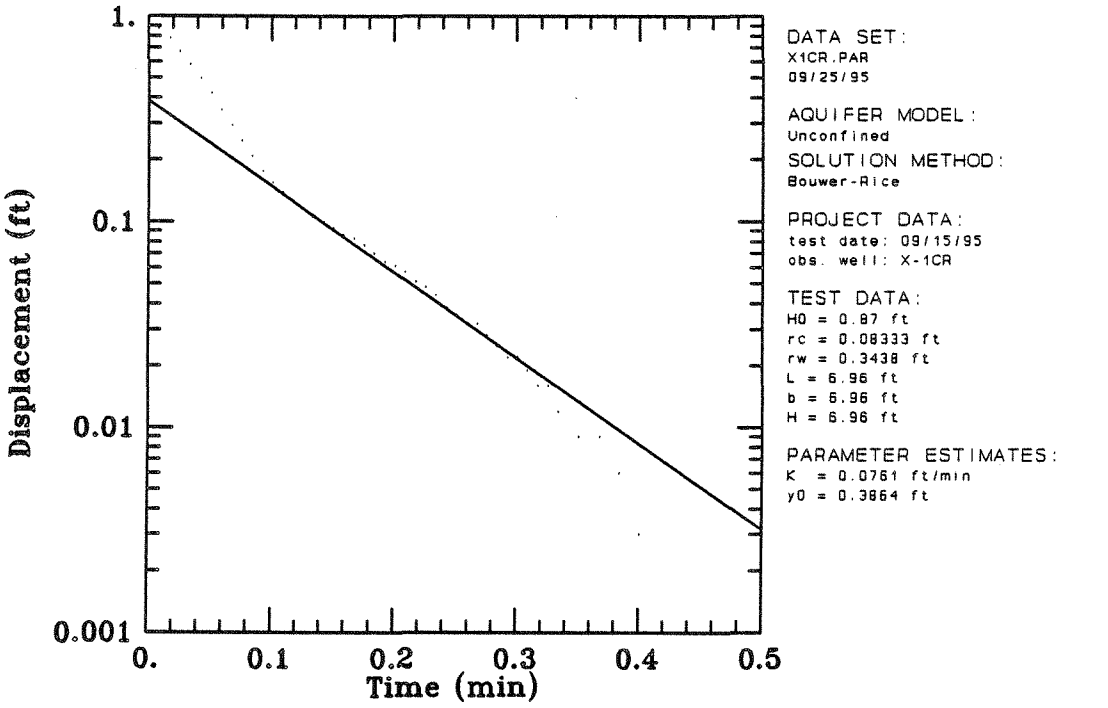
X-1B (Test #1) - Silty Clay with Trace Sand and Gravel



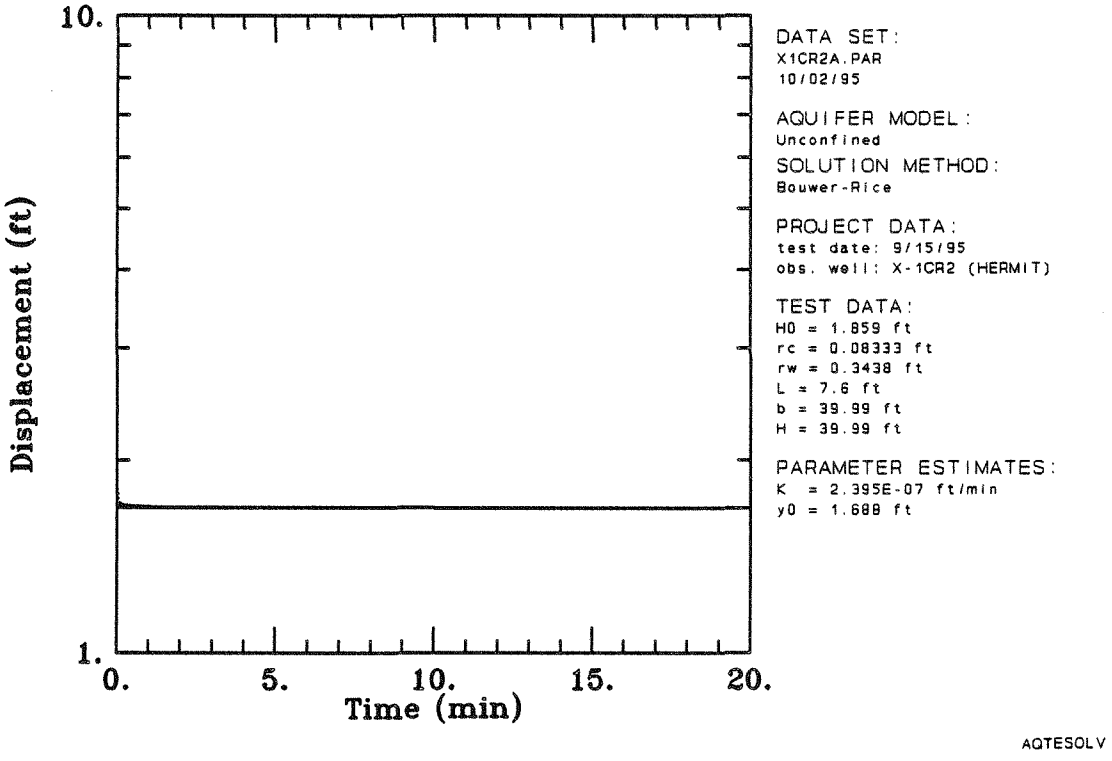
X-1B (Test #2) - Silty Clay with Trace Sand and Gravel



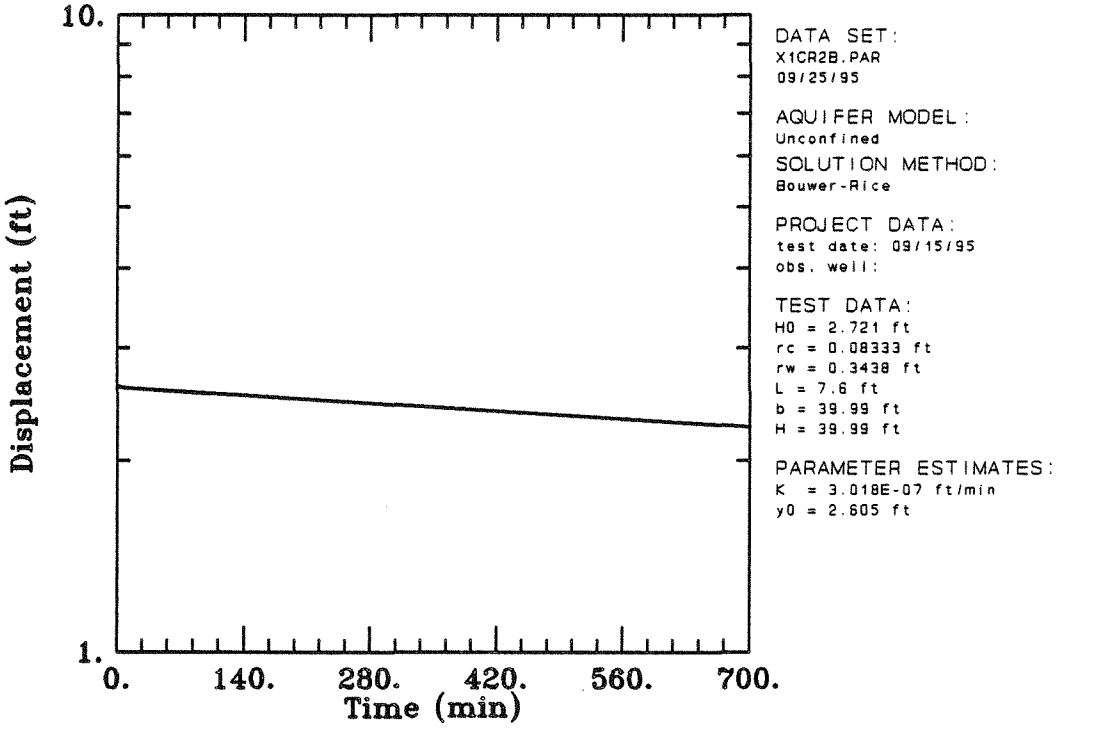
X-1CR - Silty Clay with Trace Sand and Gravel



X-1CR2 (Hermit) (Test #1) - Silty Clay with Trace Sand and Gravel



X-1CR2 (Hermit) (Test #2) - Silty Clay with Trace Sand and Gravel

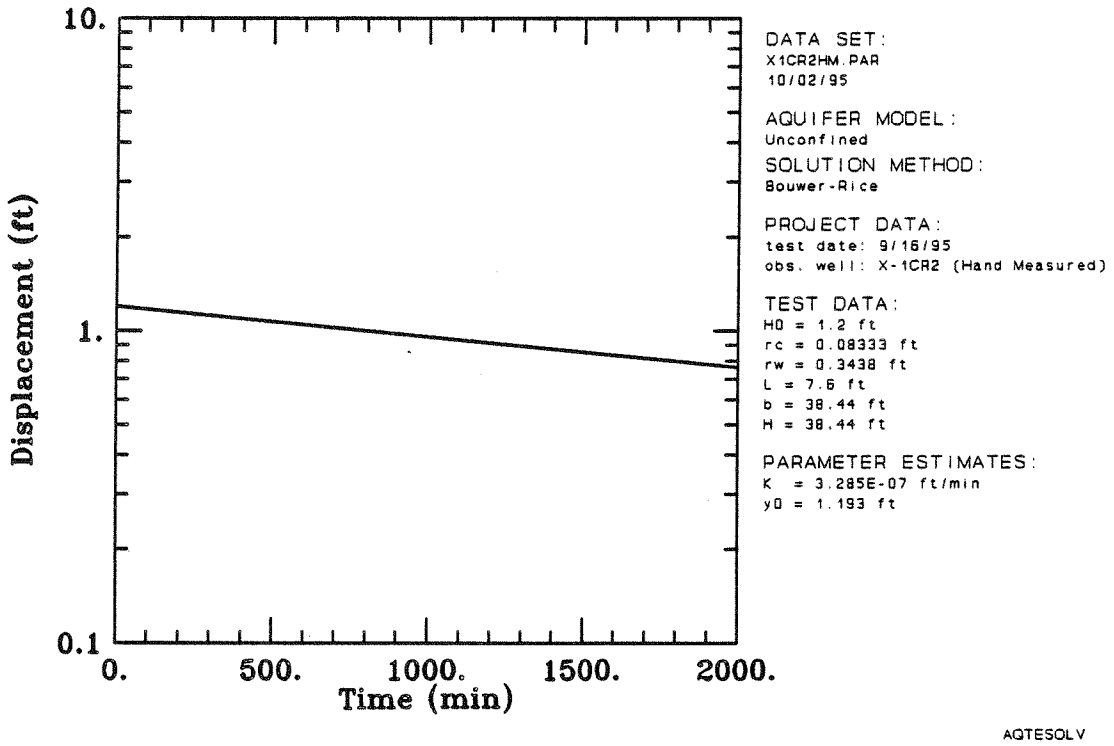


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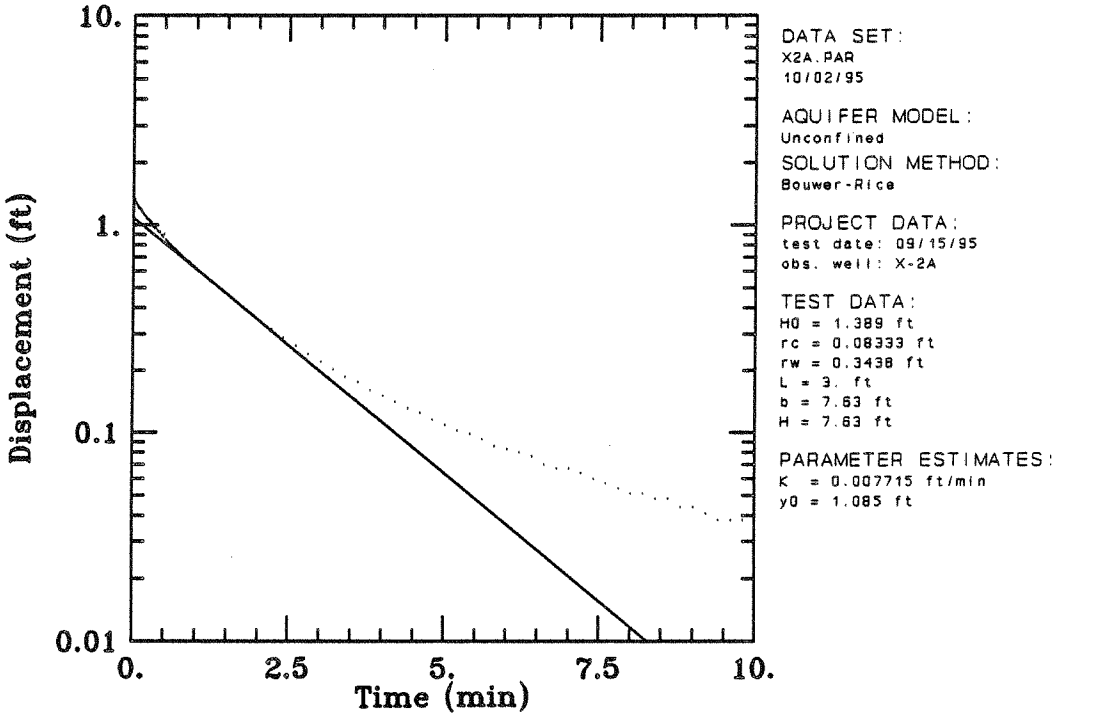
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-1CR2 (Hand Measured) - Silty Clay with Trace Sand and Gravel



X-2A - Silty Sand and Clay



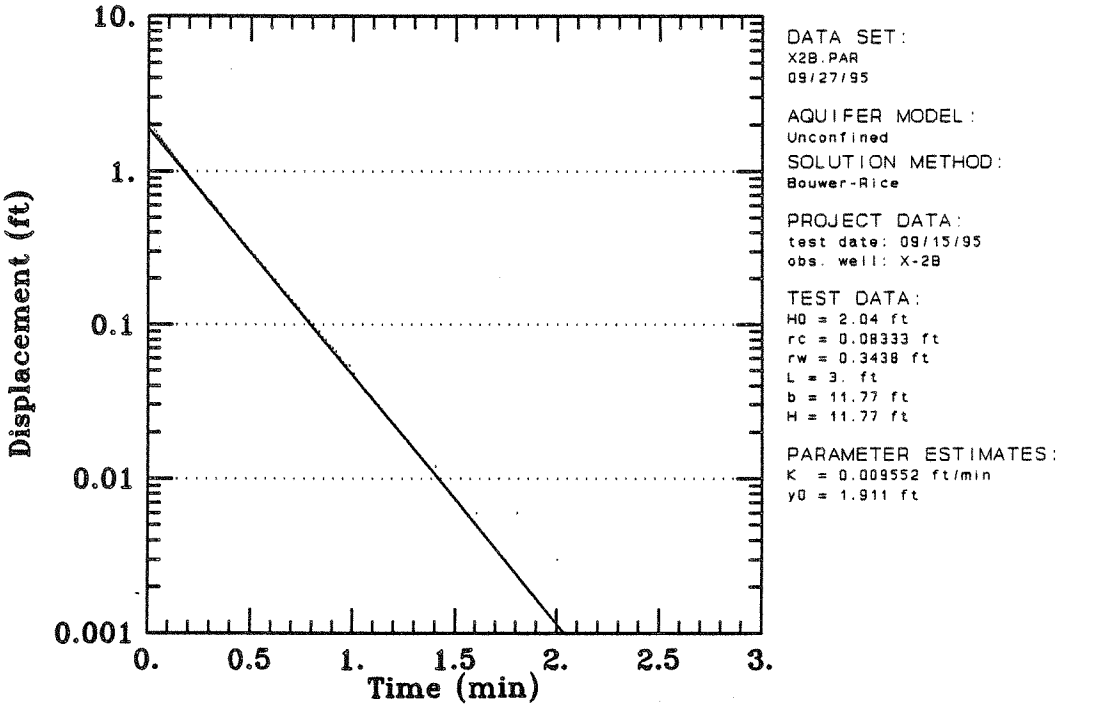
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Saginaw, Michigan

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Hydraulic Conductivity Testing Results

X-2B - Fine Sand with Trace Silt

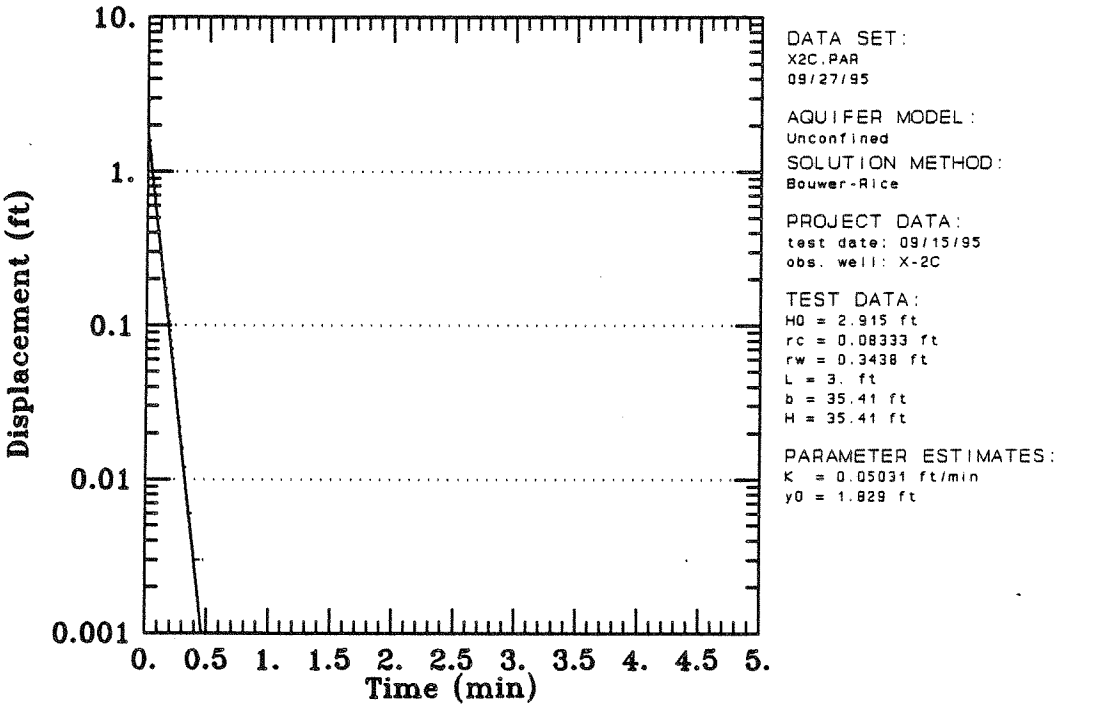


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X-2C - Coarse to Fine Sand

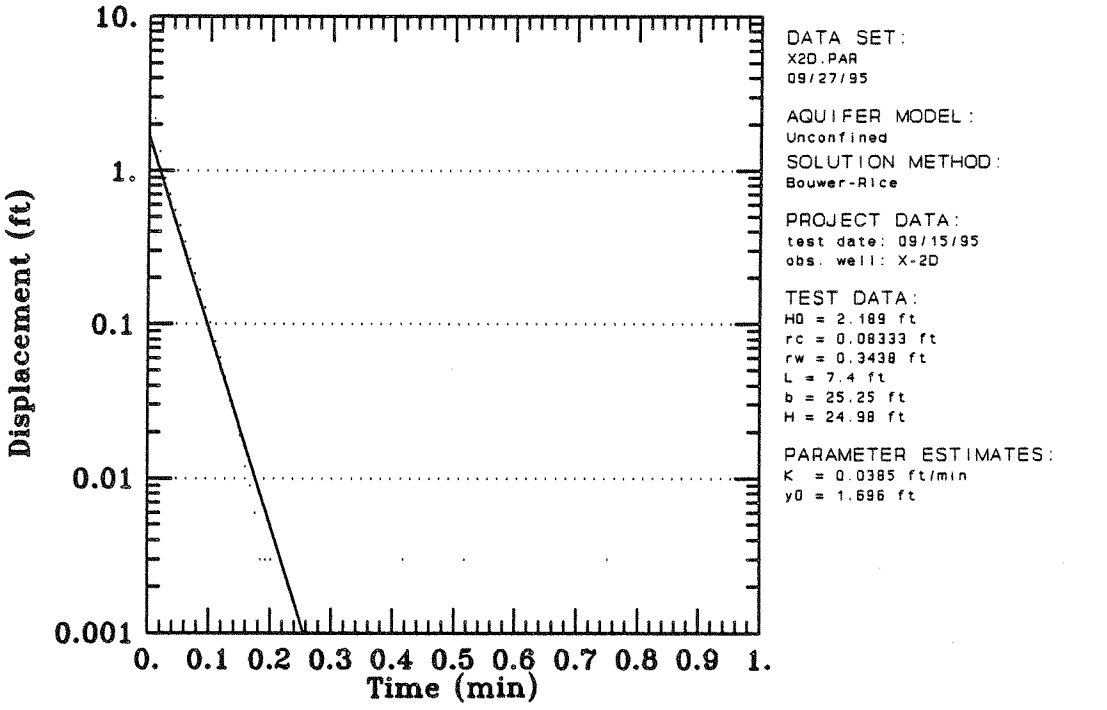


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Saginaw, Michigan

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X-2D(AUG) - Fine Sand

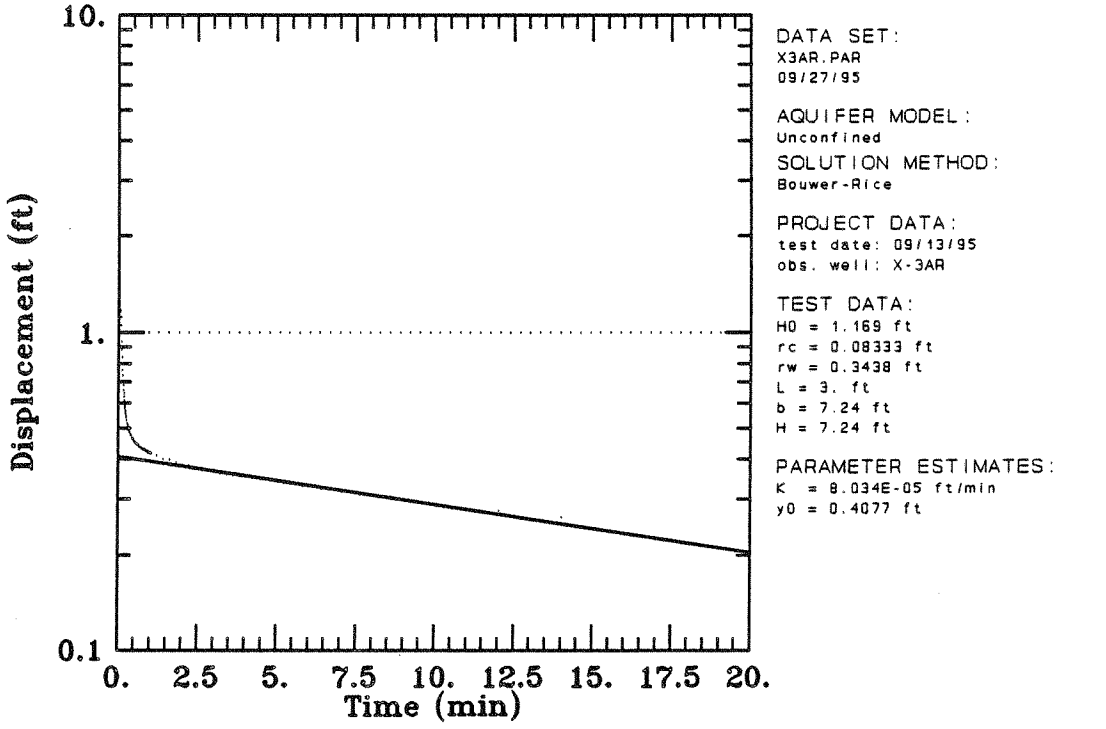


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X-3AR (Test #1) - Silty Clay with Trace Sand

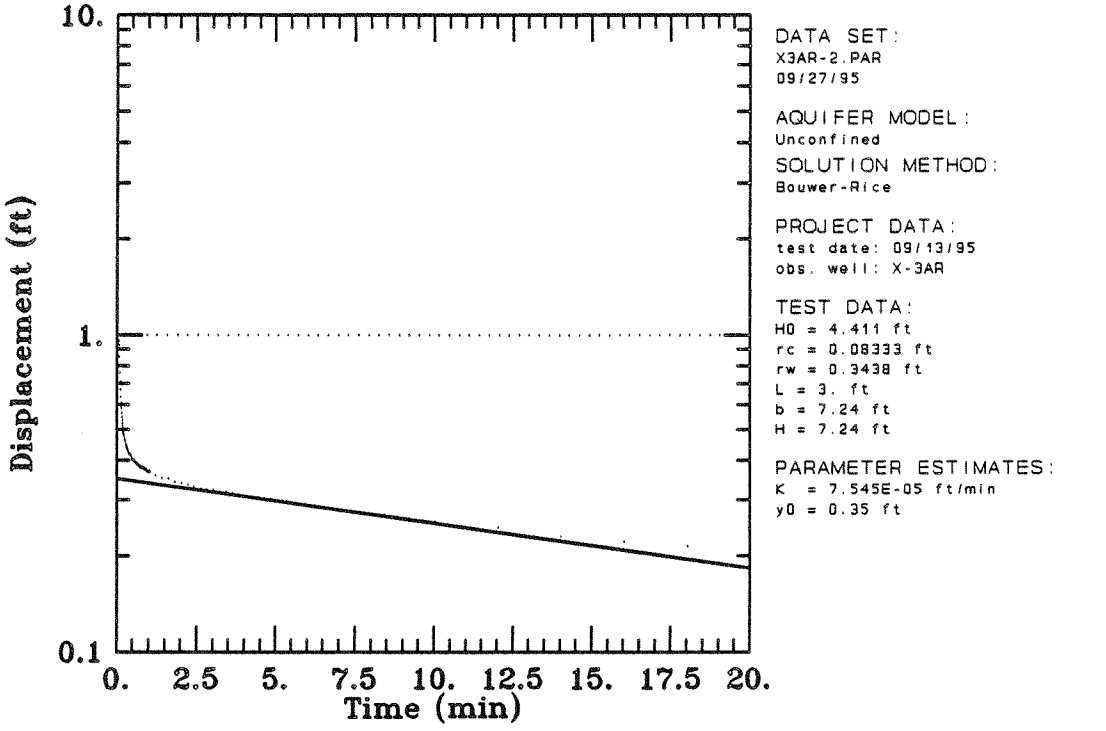


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X-3AR (Test #2) - Silty Clay with Trace Sand



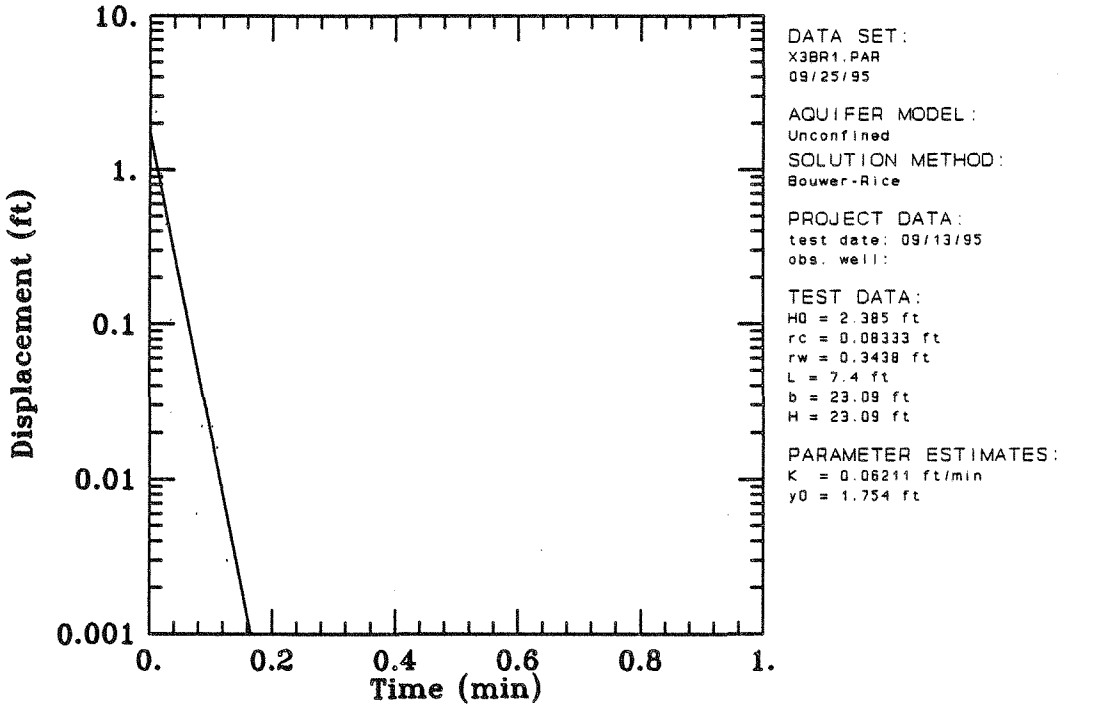
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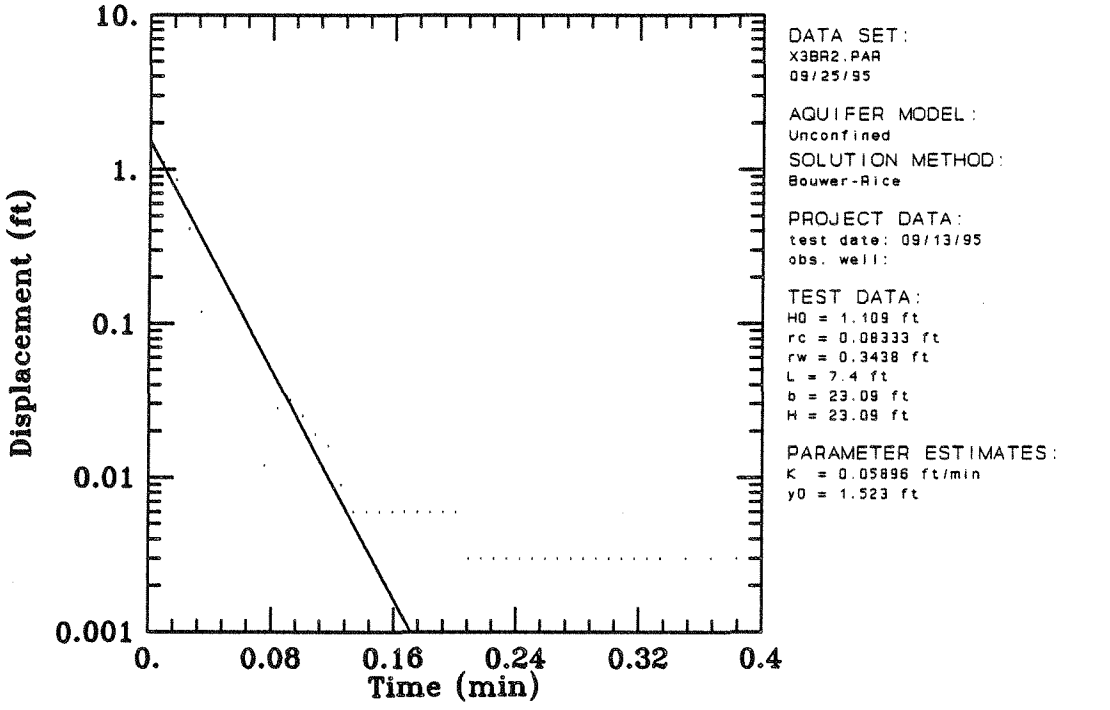
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-3BR (Test #1) - Medium to Fine Sand, Trace Silt



X-3BR (Test #2) - Medium to Fine Sand, Trace Silt

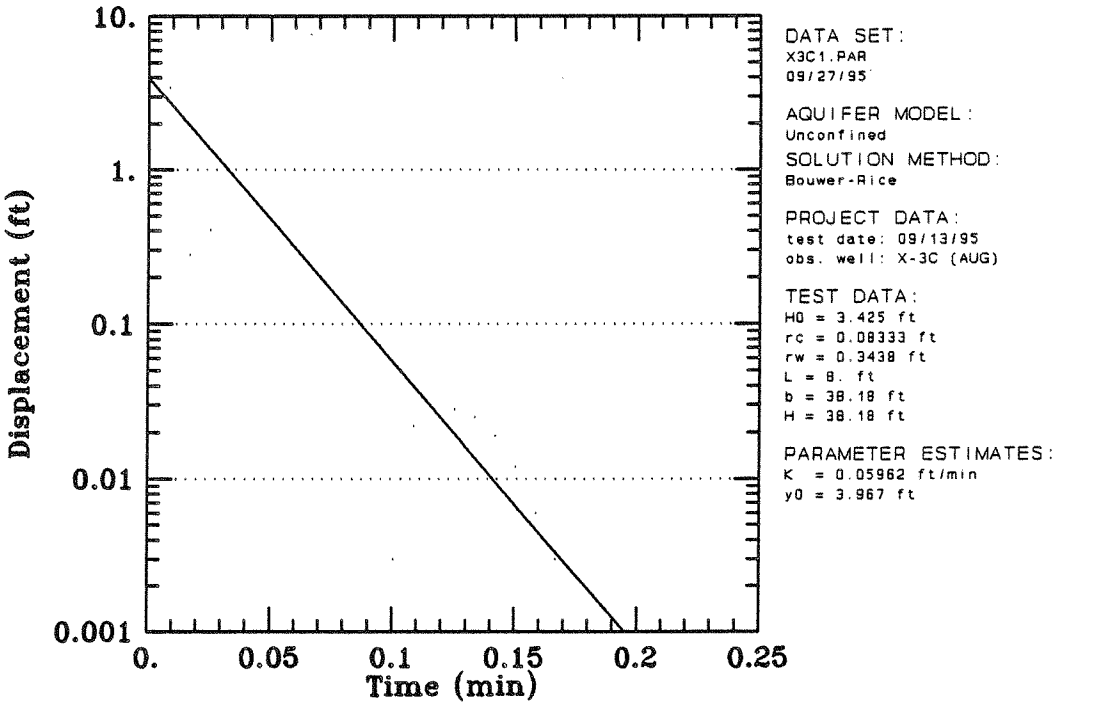


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Hydraulic Conductivity Testing Results

X-3C(AUG) (Test #1) - Fine Sand, Some Silt

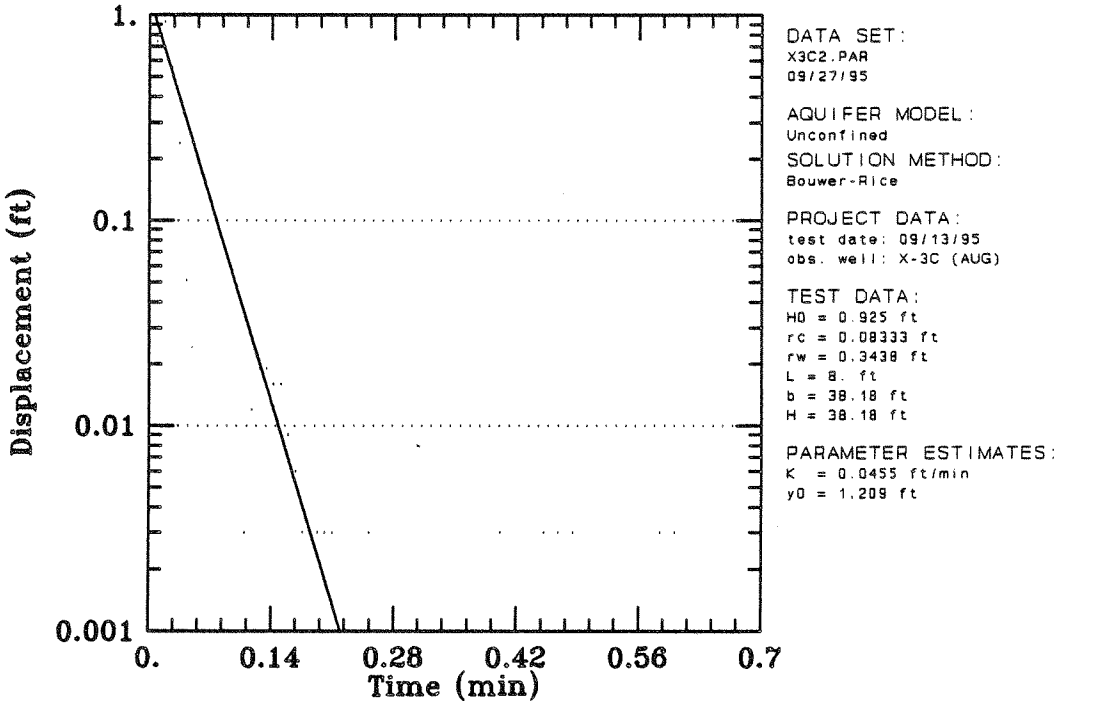


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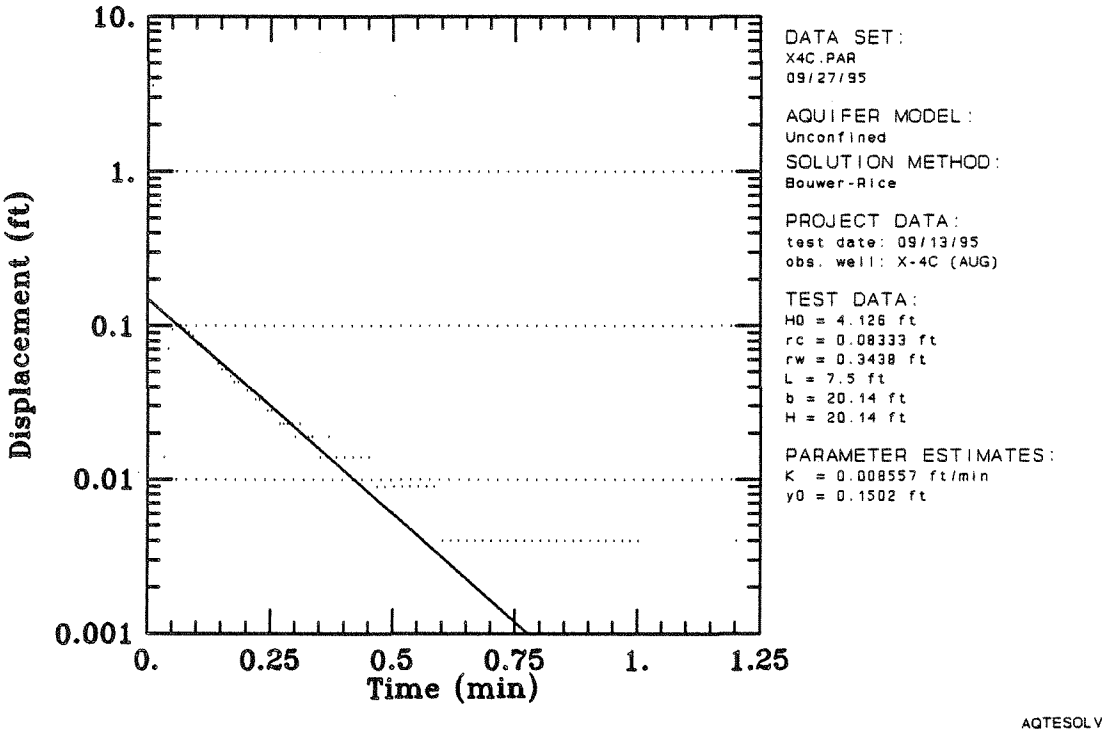
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-3C(AUG) (Test #2) - Fine Sand, Some Silt



X-4C(AUG) (Test #1) - Fine Sand

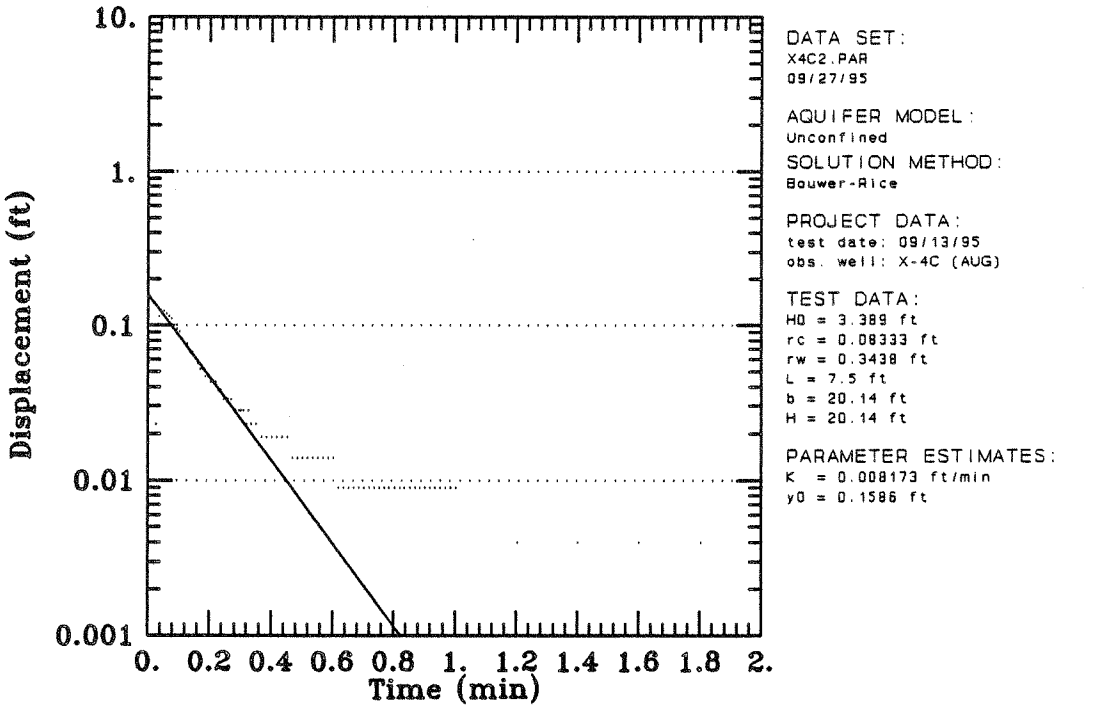


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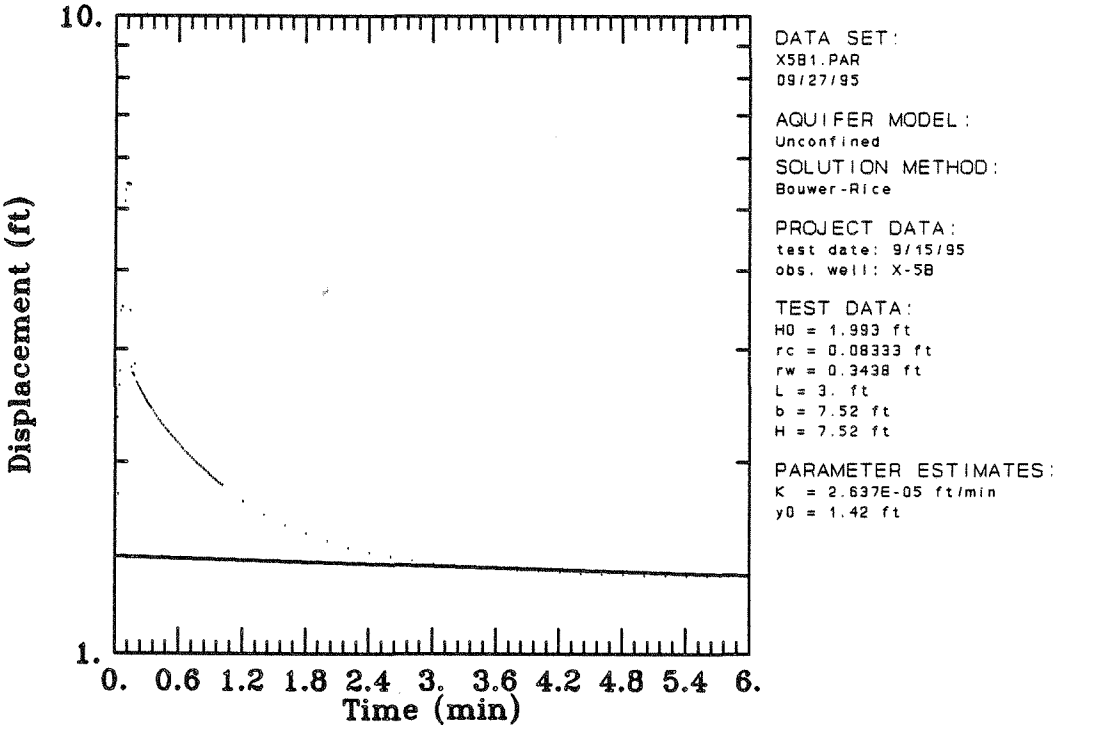
Hydraulic Conductivity Testing Results

X-4C(AUG) (Test #2) - Fine Sand

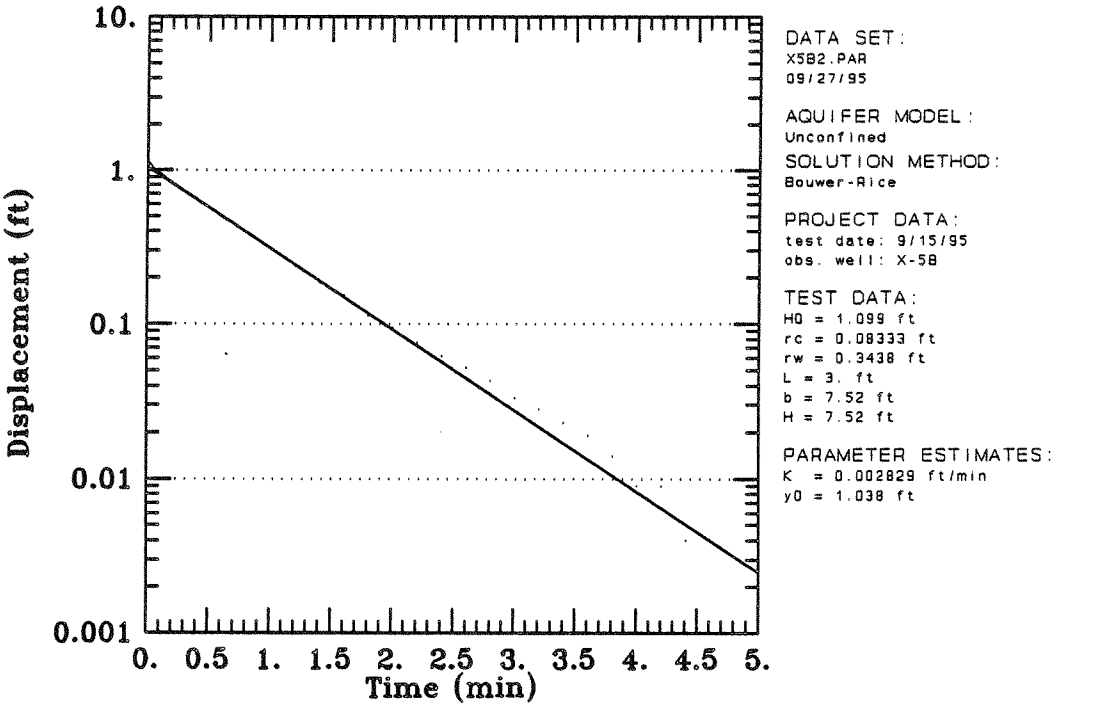


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X-5B(AUG) (Test #1) - Sand, Trace Silt



X-5B(AUG) (Test #2) - Sand, Trace Silt



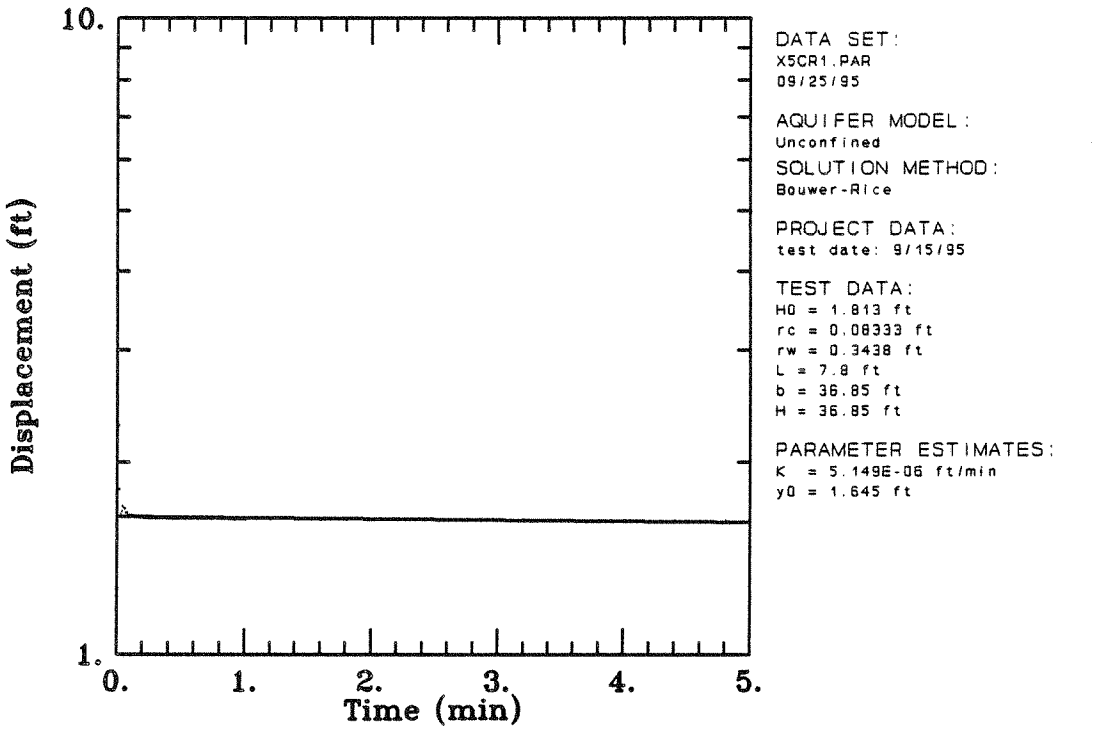
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Hydraulic Conductivity Testing Results

X-5CR (Test #1) - Silty Clay with Trace Sand and Gravel

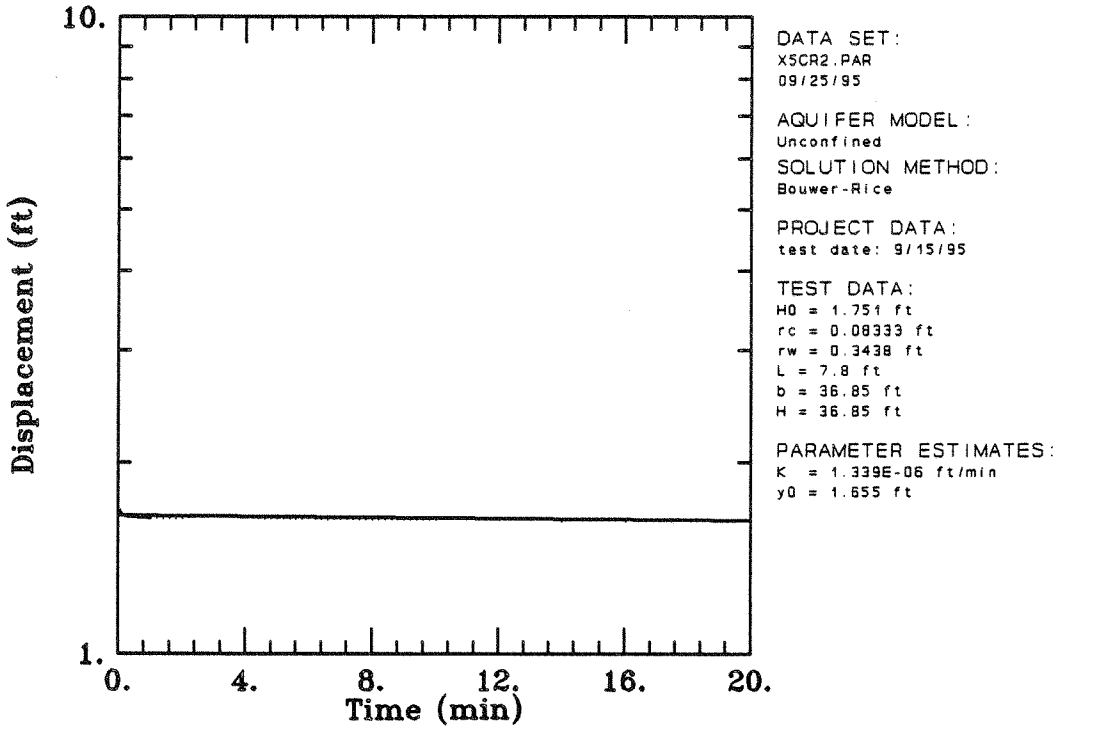


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X-5CR (Test #2) - Silty Clay with Trace Sand and Gravel

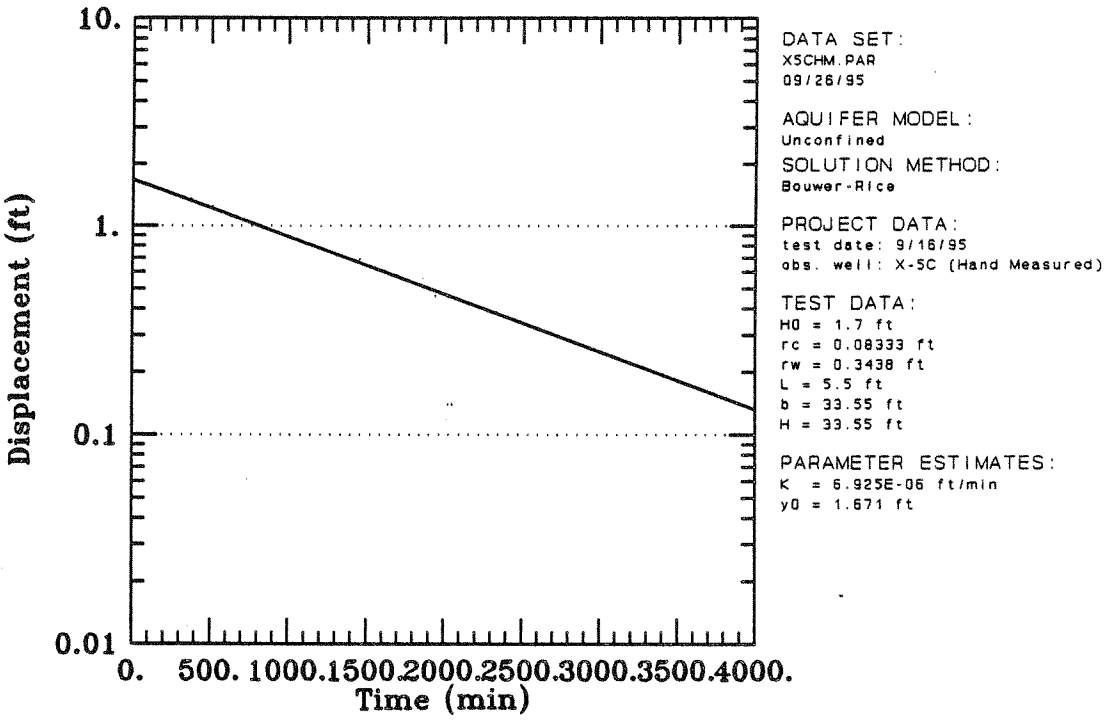


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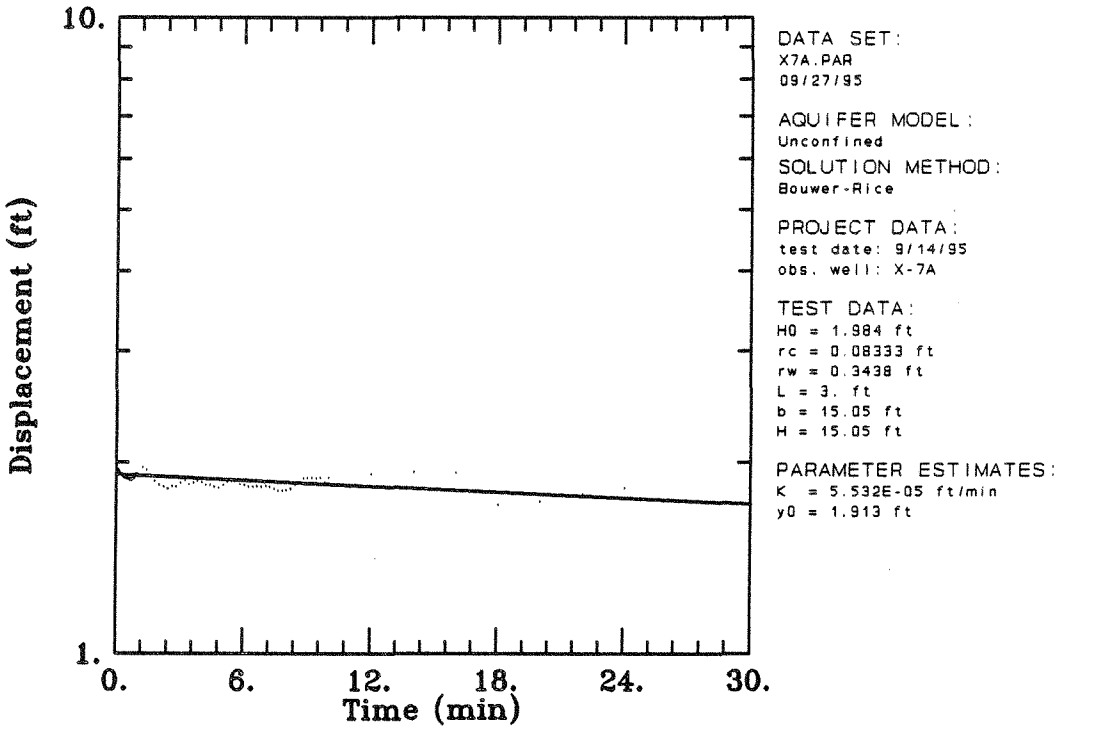
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

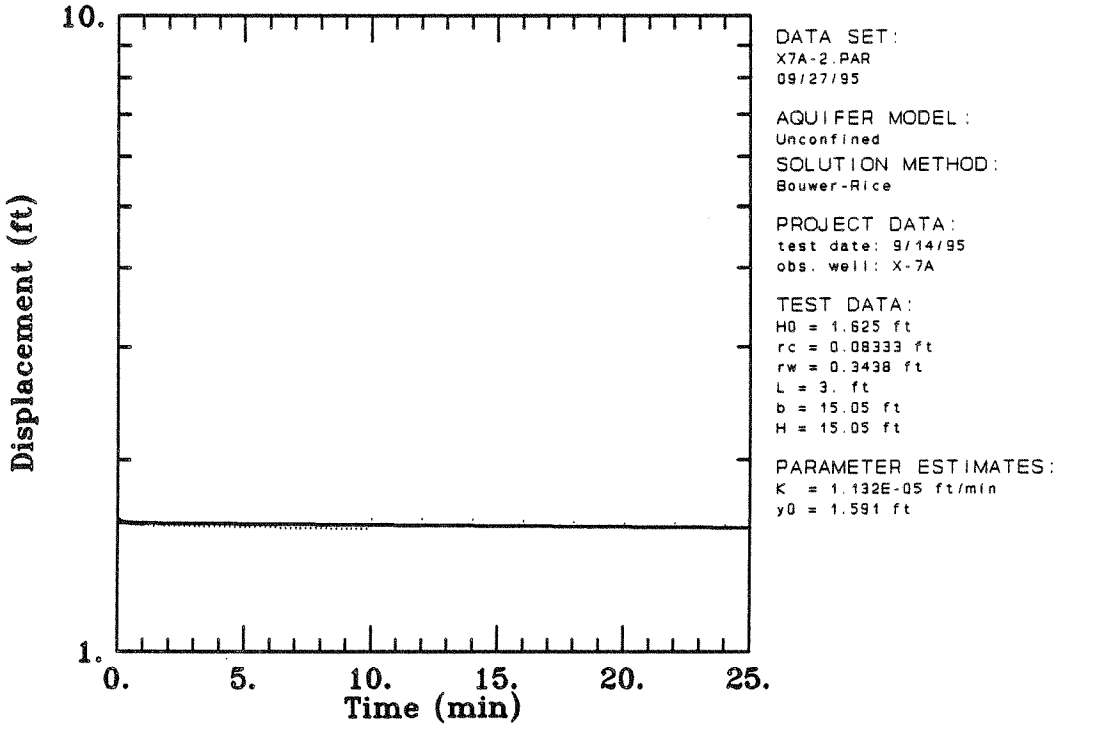
X-5C (Hand Measured) - Silty Clay with Trace Sand and Gravel



X-7A (Test #1) - Silty Clay with Trace Sand



X-7A (Test #2) - Silty Clay with Trace Sand

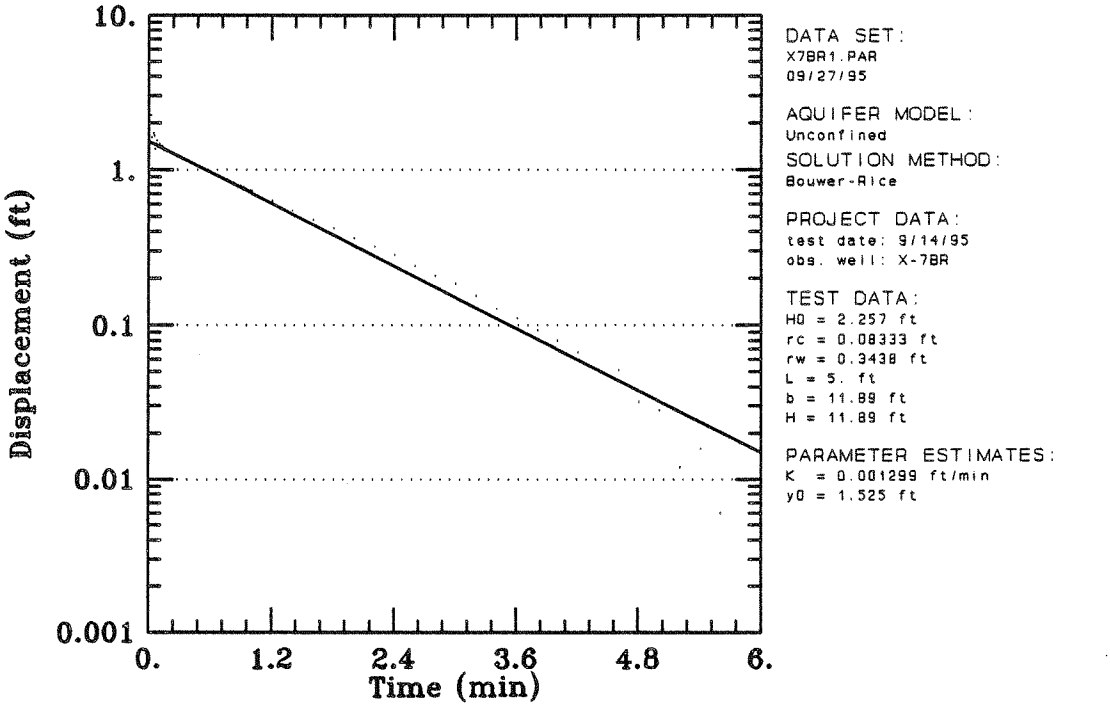


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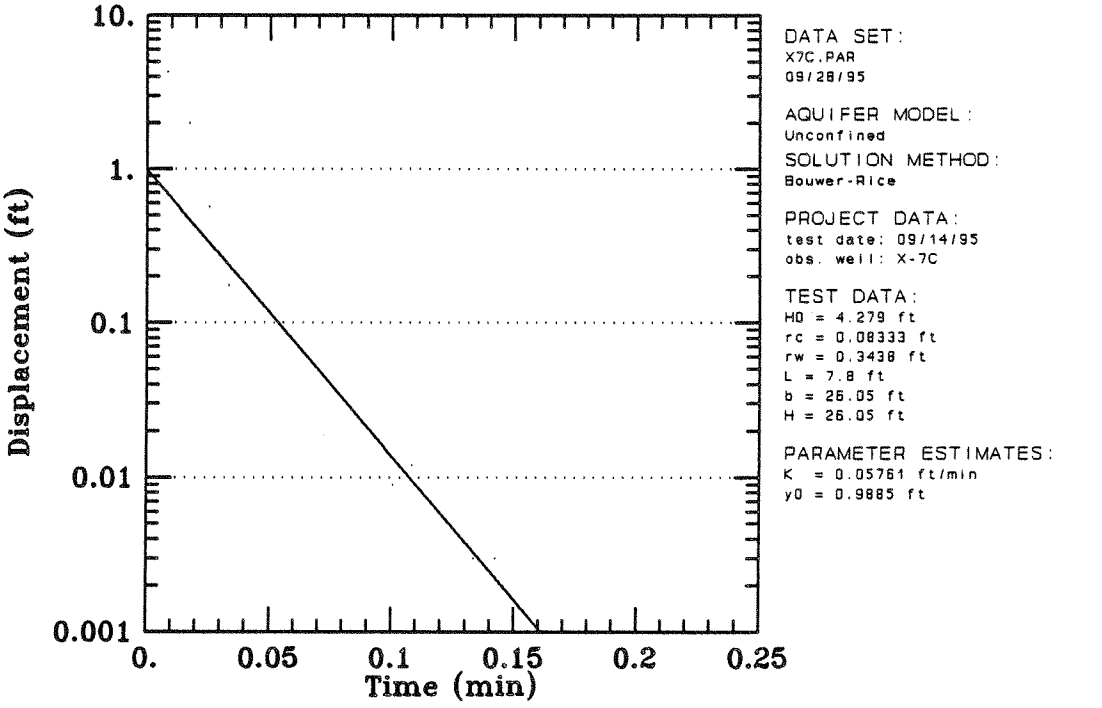
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-7BR ~~(Test #1)~~ - Fine Sand with Trace Silt



X-7C(AUG) - Coarse to Fine Sand

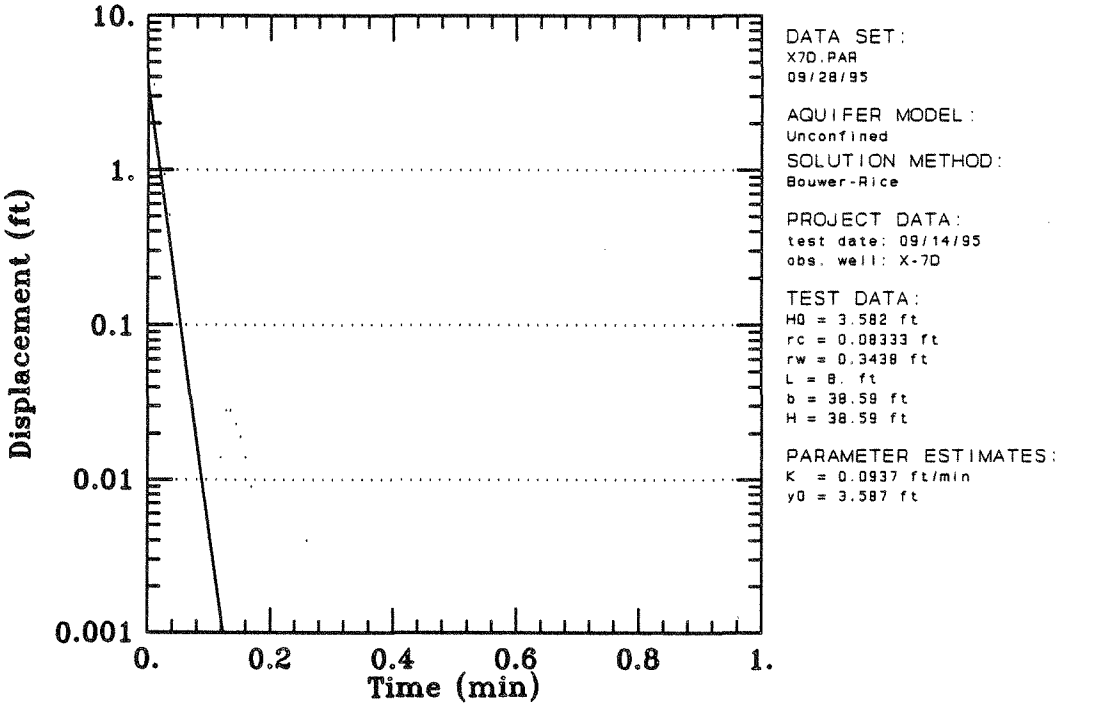


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Hydraulic Conductivity Testing Results

X-7D(AUG) - Coarse to Fine Sand

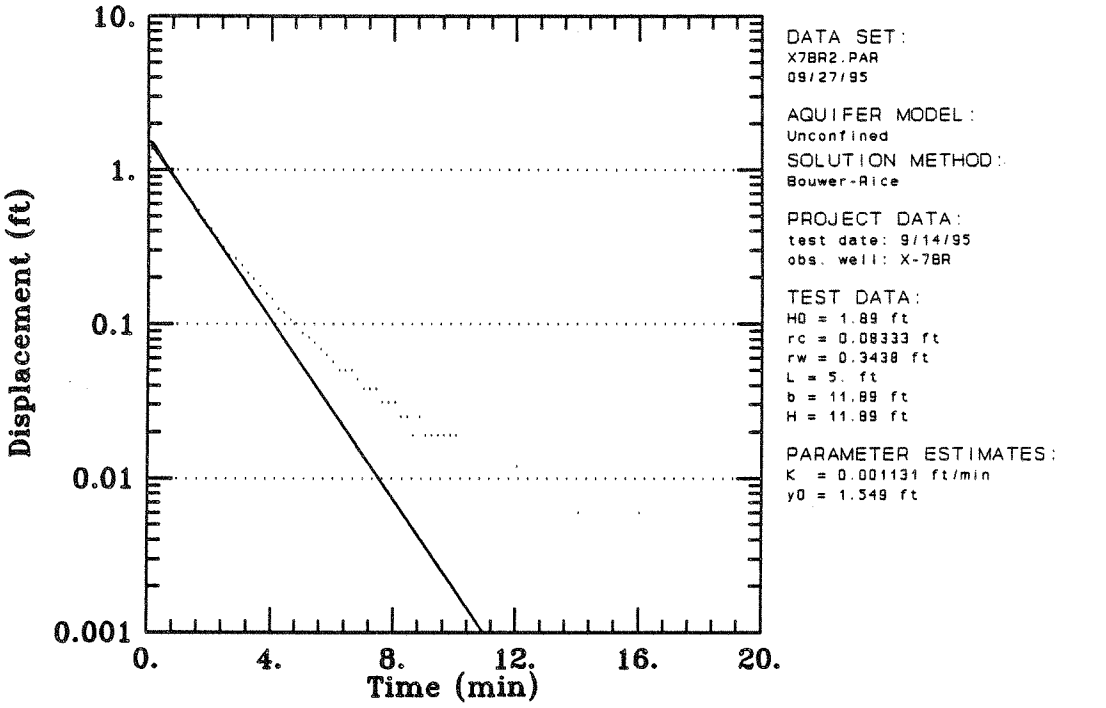


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Hydraulic Conductivity Testing Results

X-7BR (Test #2) - Fine Sand with Trace Silt

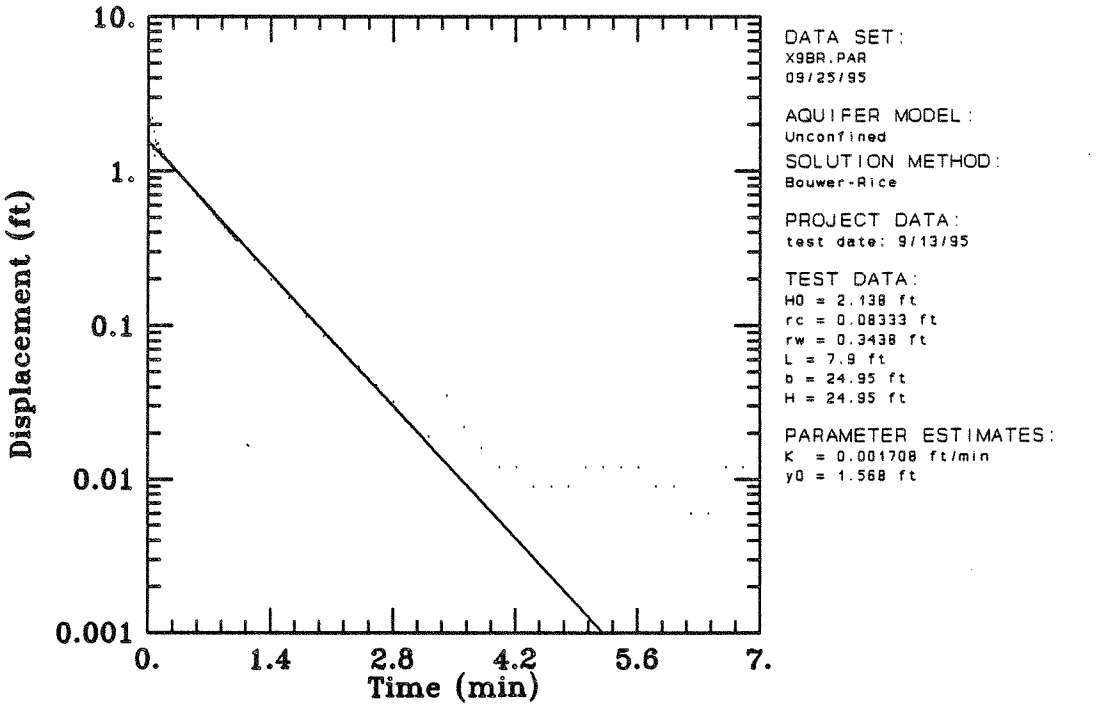


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Saginaw, Michigan

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X-9BR - Silty Clay with Trace Sand



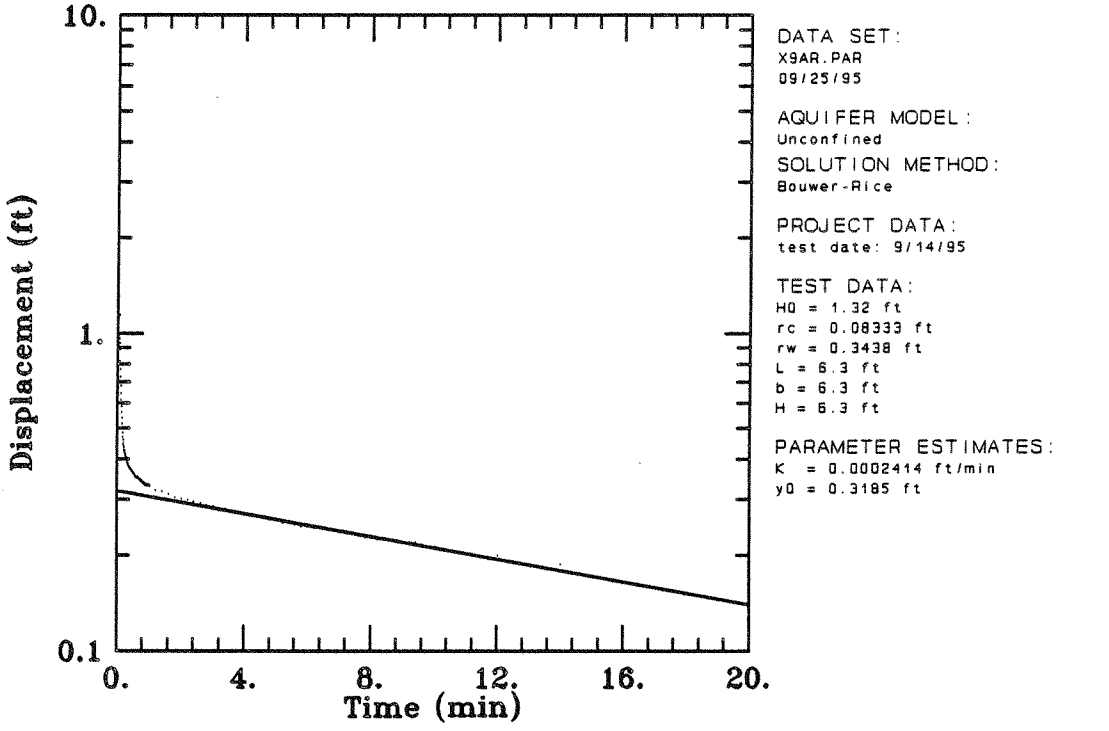
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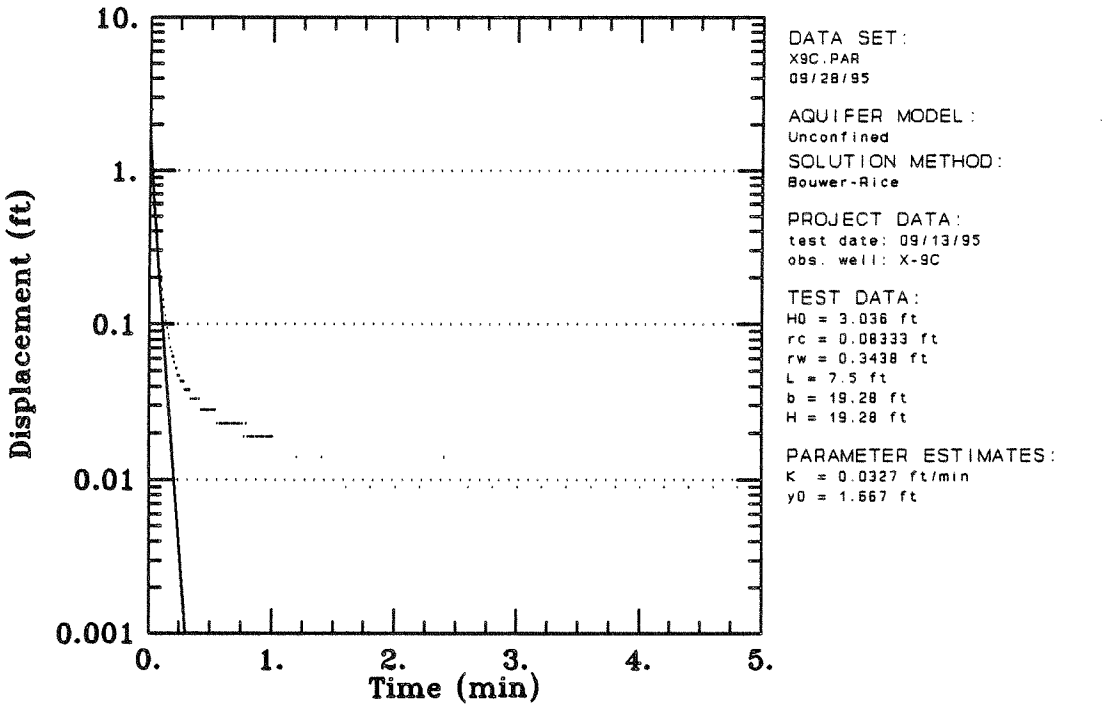
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

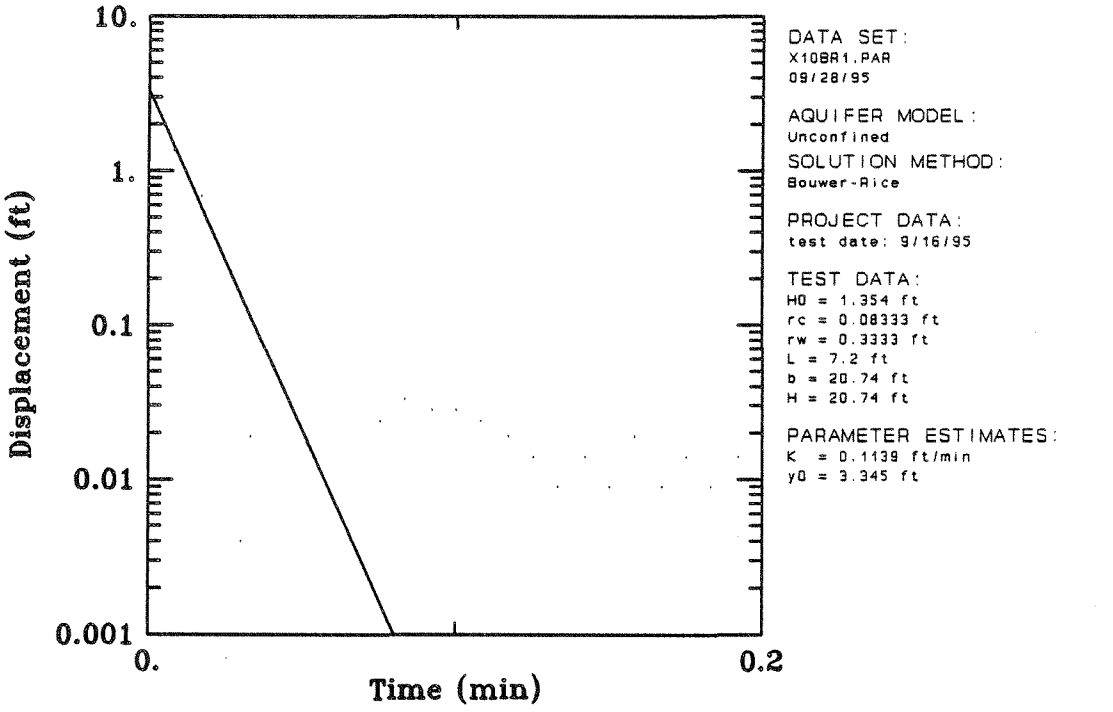
X-9AR - Fine Sand with Trace Silt



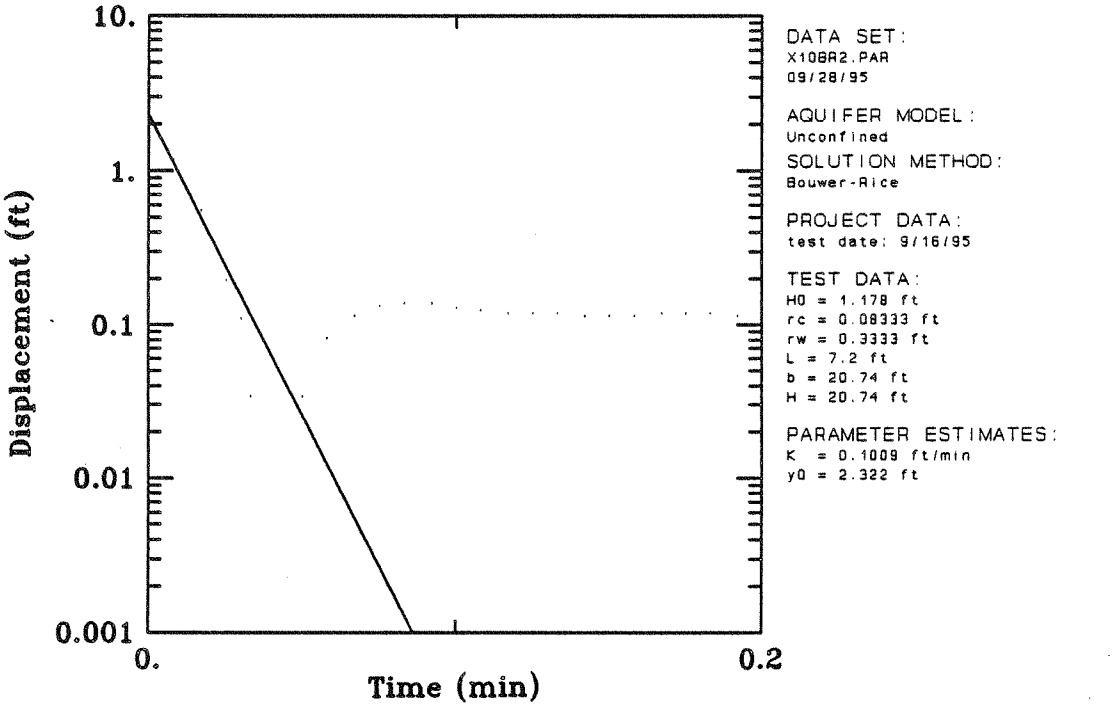
X-9C(AUG) - Fine Sand



X-10BR (Test #1) - Medium to Fine Sand, Little Clay, Trace Gravel and Silt



X10BR (Test #2) - Medium to Fine Sand, Little Clay, Trace Gravel and Silt

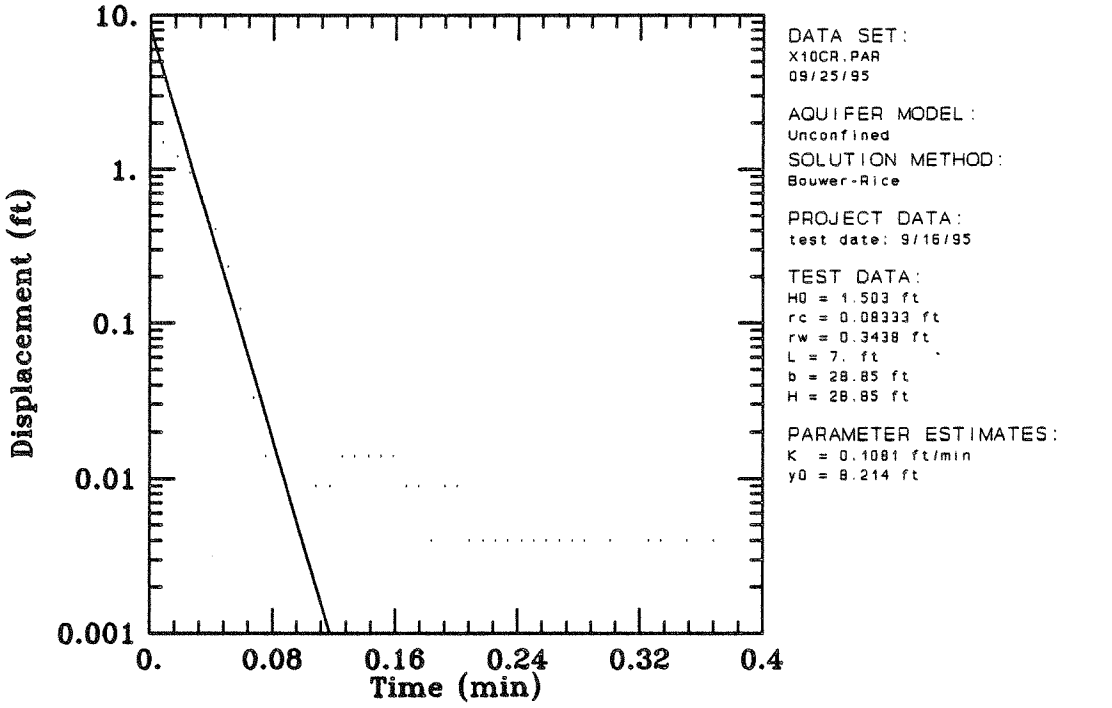


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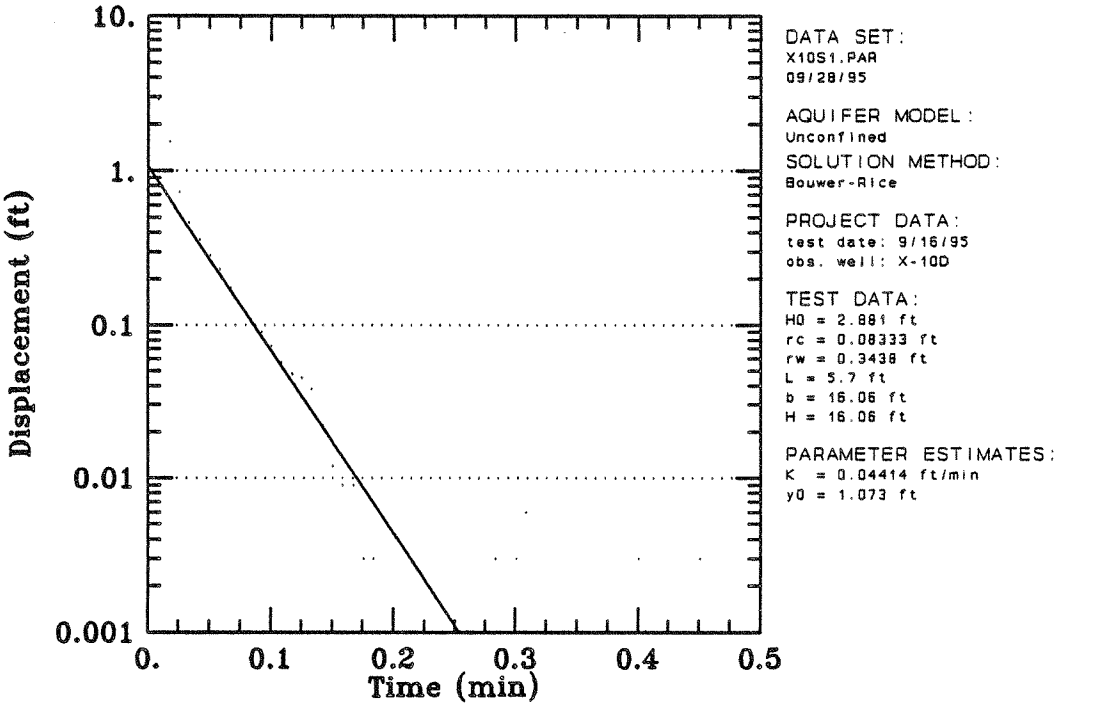
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-10CR - Medium to Fine Sand



X-10D(AUG) - Medium to Fine Sand

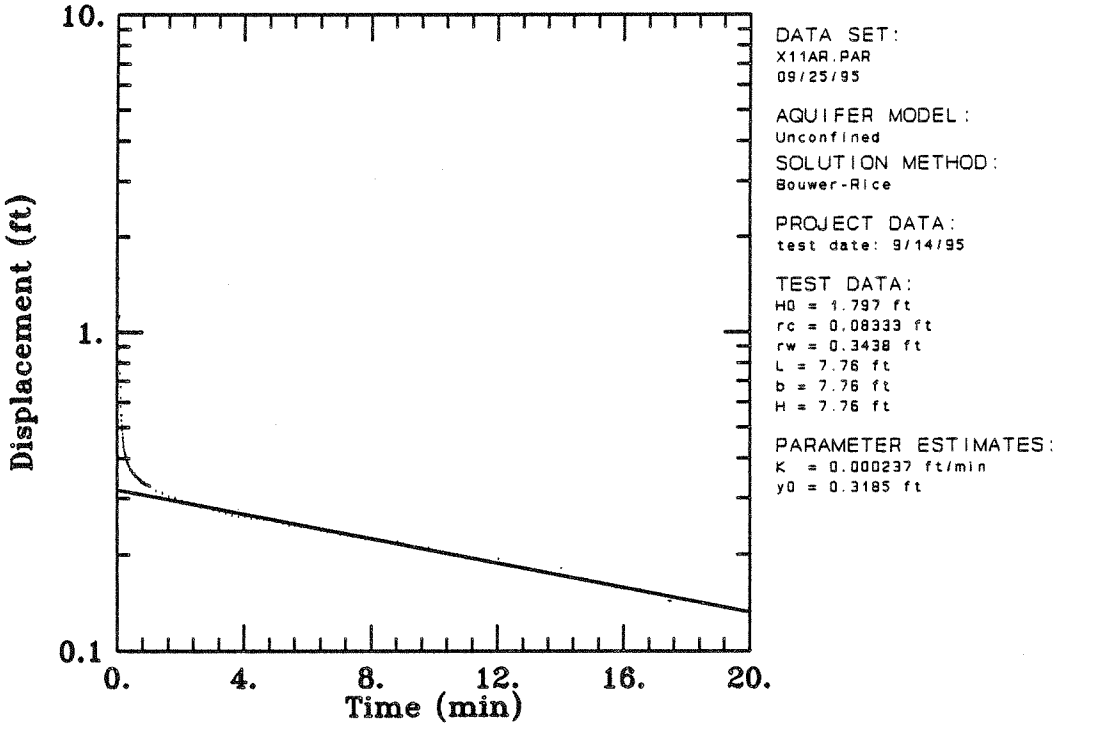


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X-11AR - Fine Sand and Clay

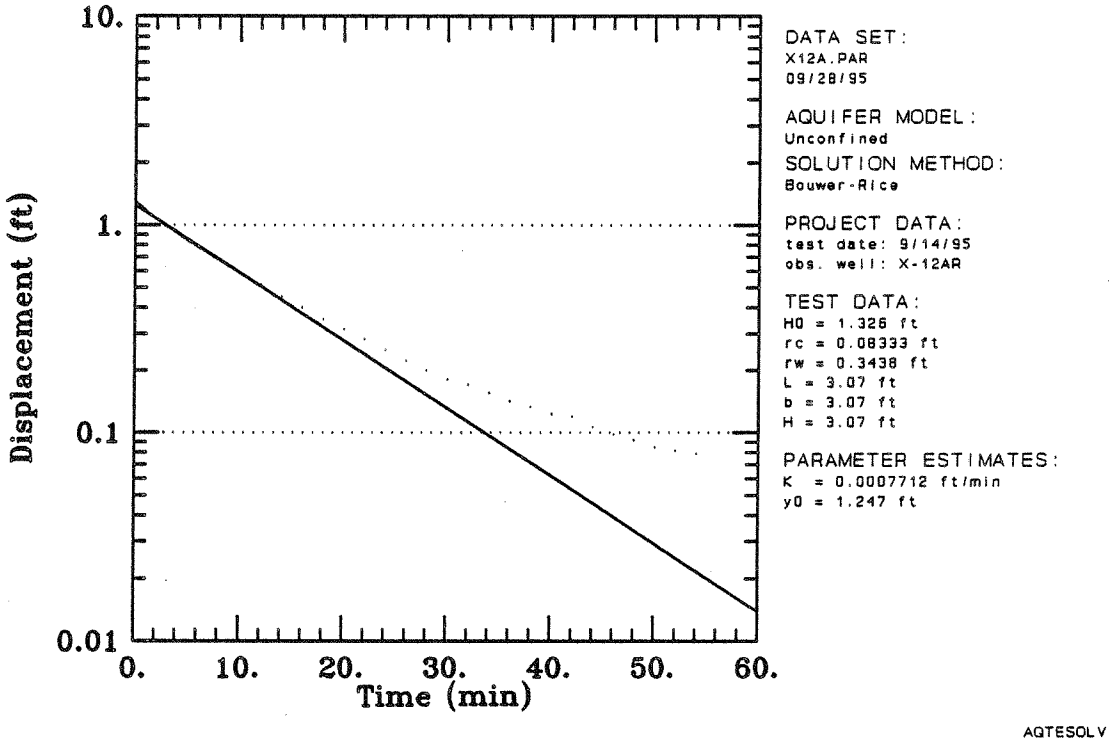


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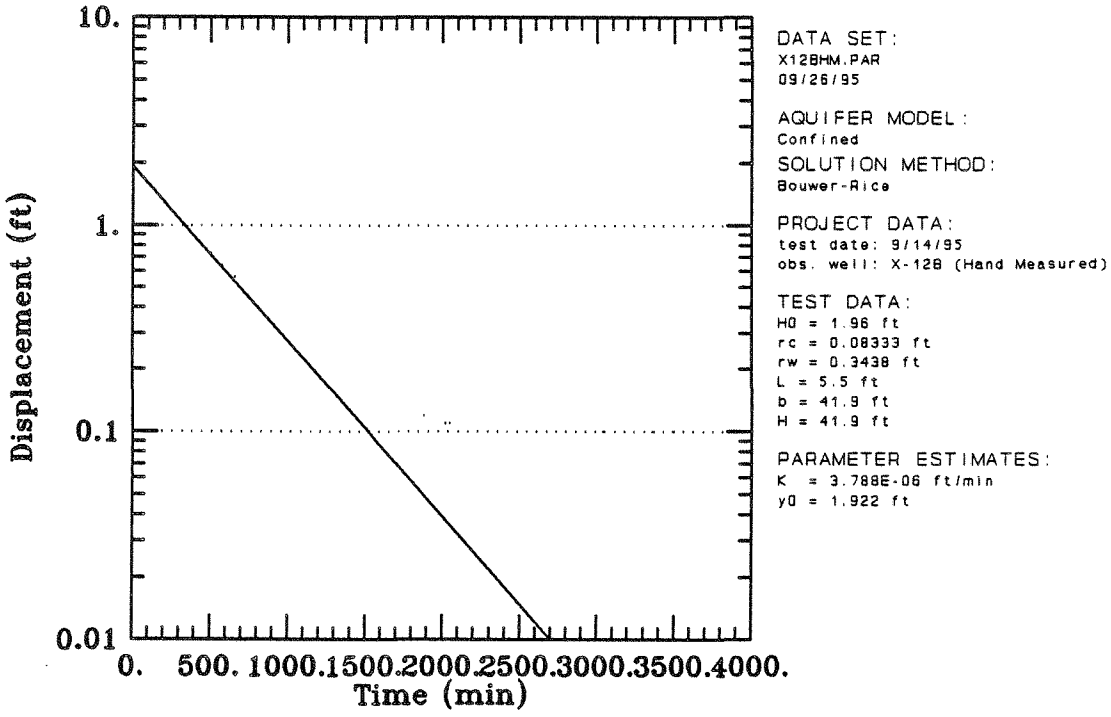
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-12AR - Fine Sand



X-12B (Hand Measured) - Silty Clay with Trace Sand

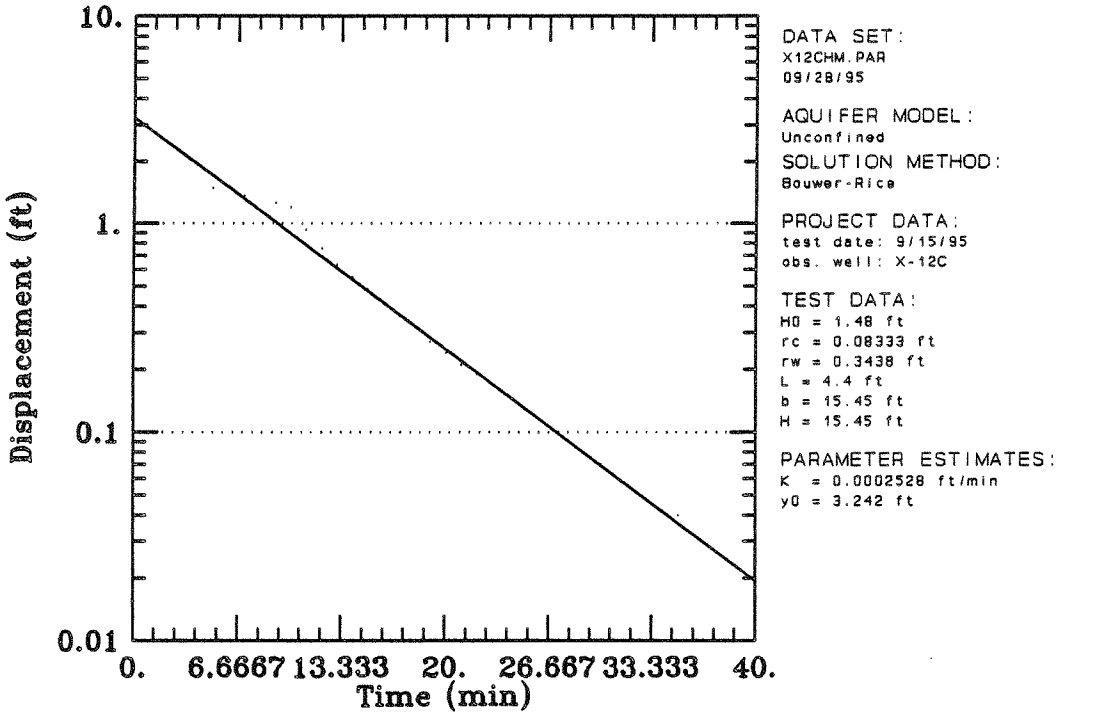


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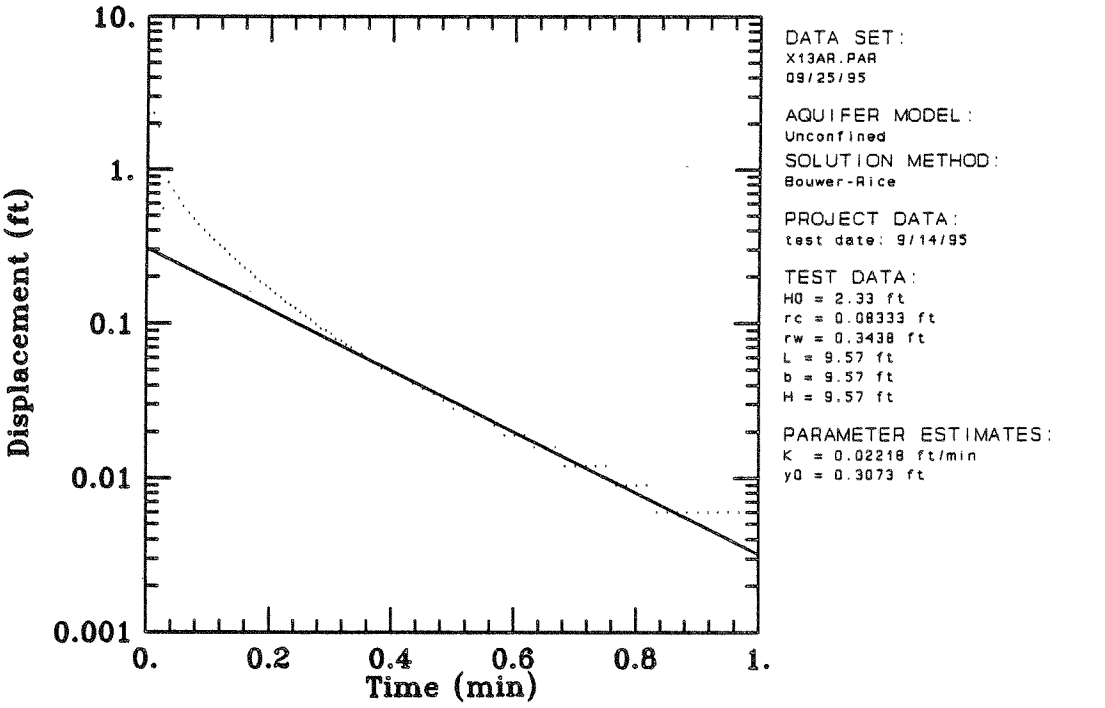
Hydraulic Conductivity Testing Results

X-12C - (Hand Measured) - Coarse to Fine Sand



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X-13AR - Fine Sand, Trace Silt with Clay Lenses



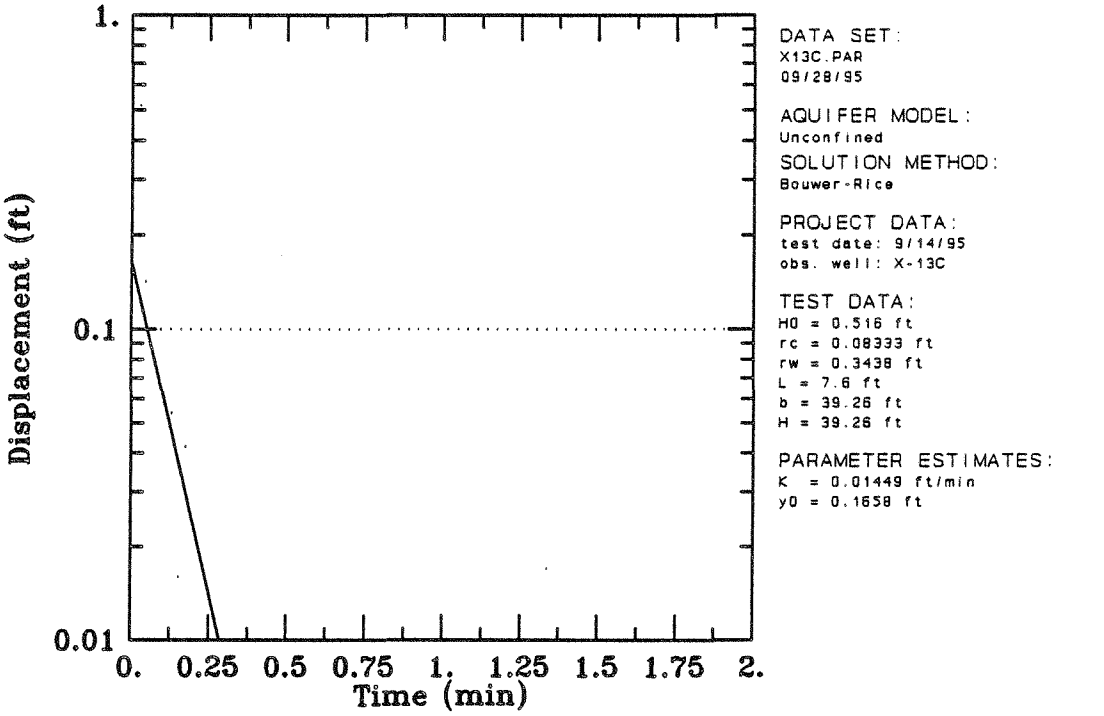
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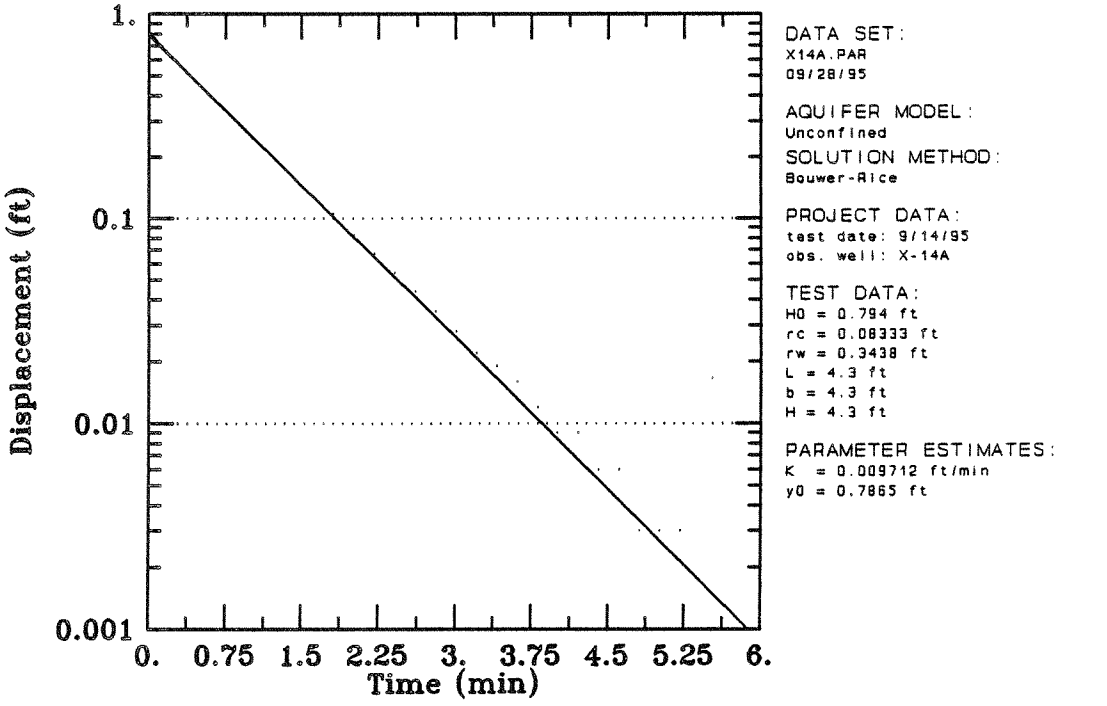
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-13C - Medium to Fine Sand



X-14A - Fine Sand and Clay

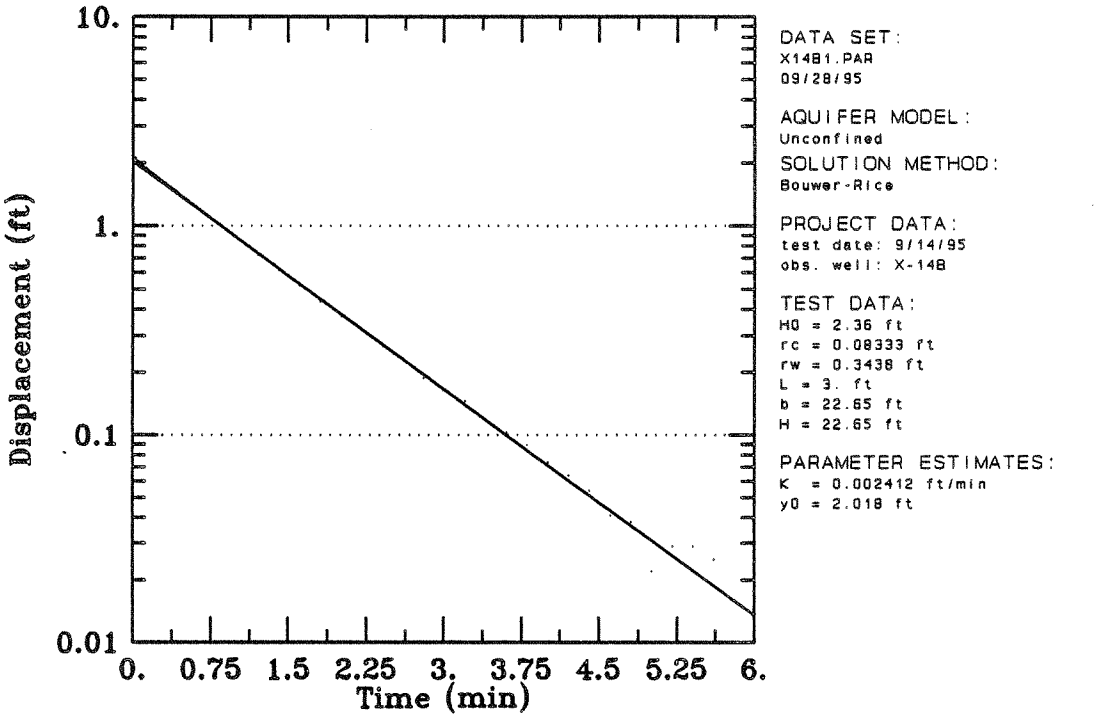


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Hydraulic Conductivity Testing Results

X-14B (Test #1) - Medium to Fine Sand

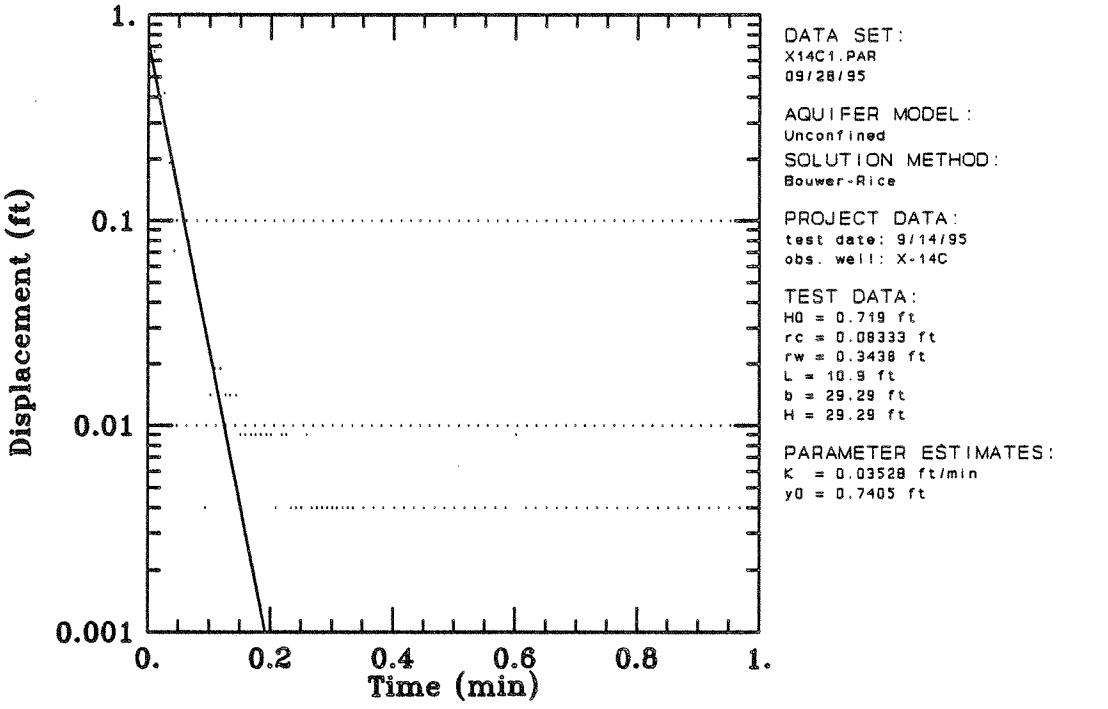


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill, and Drum Remediation Area
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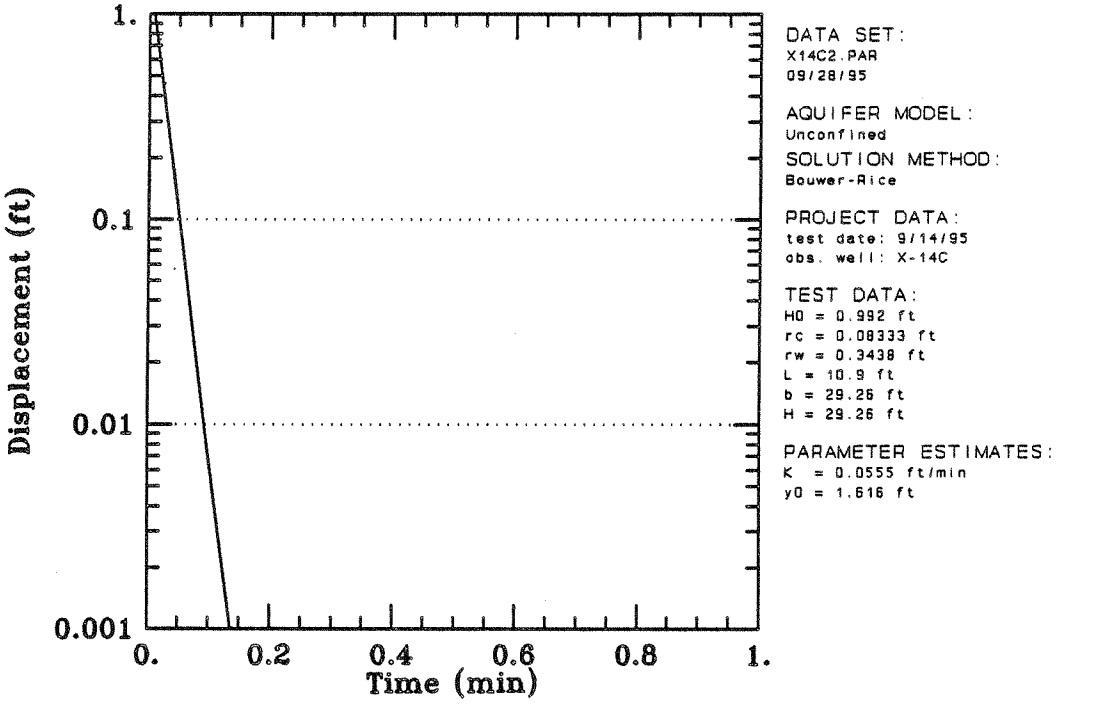
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-14C (Test #1) - No Soil Description Available



X-14C (Test # 2) - No Soil Description Available

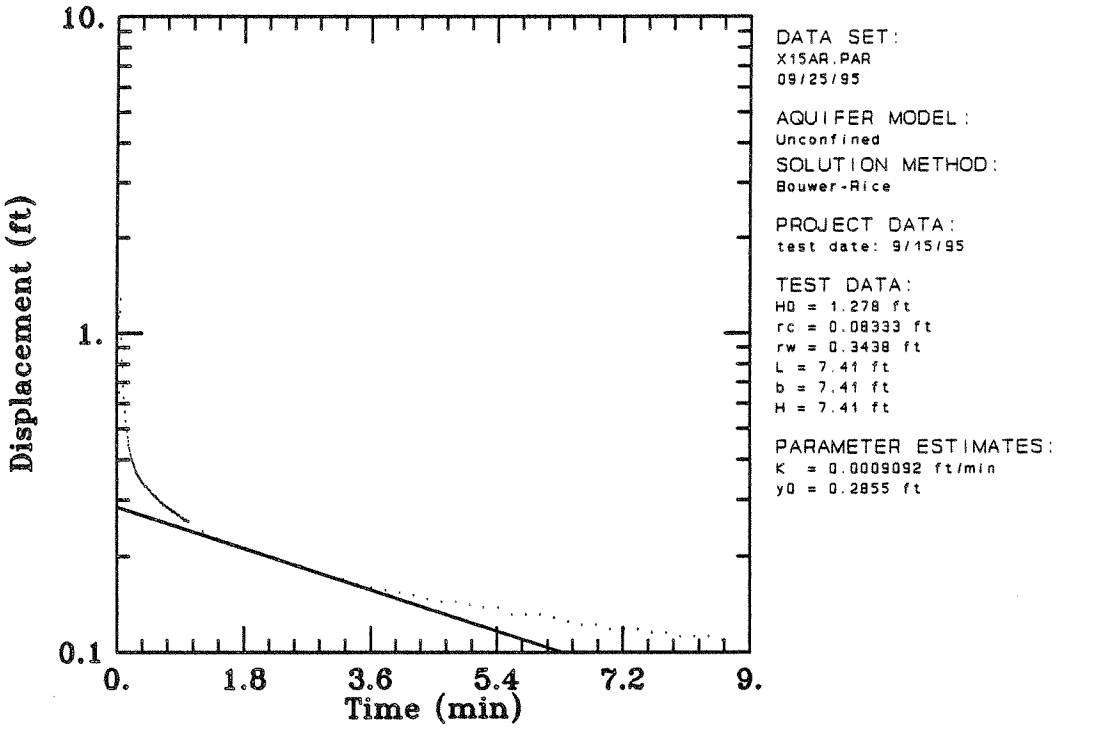


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and Drum Remediation Area
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Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-15AR - Medium to Fine Sand, then Silty Clay

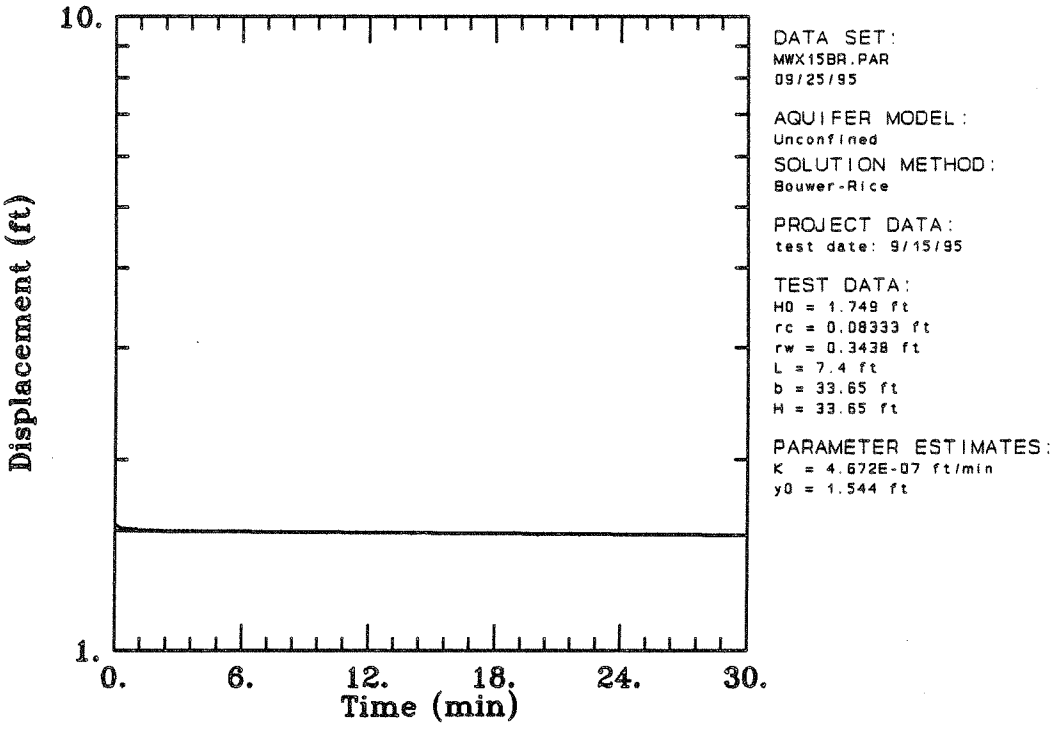


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Saginaw Malleable Iron Plant Property, Green Point Landfill, and Drum Remediation Area
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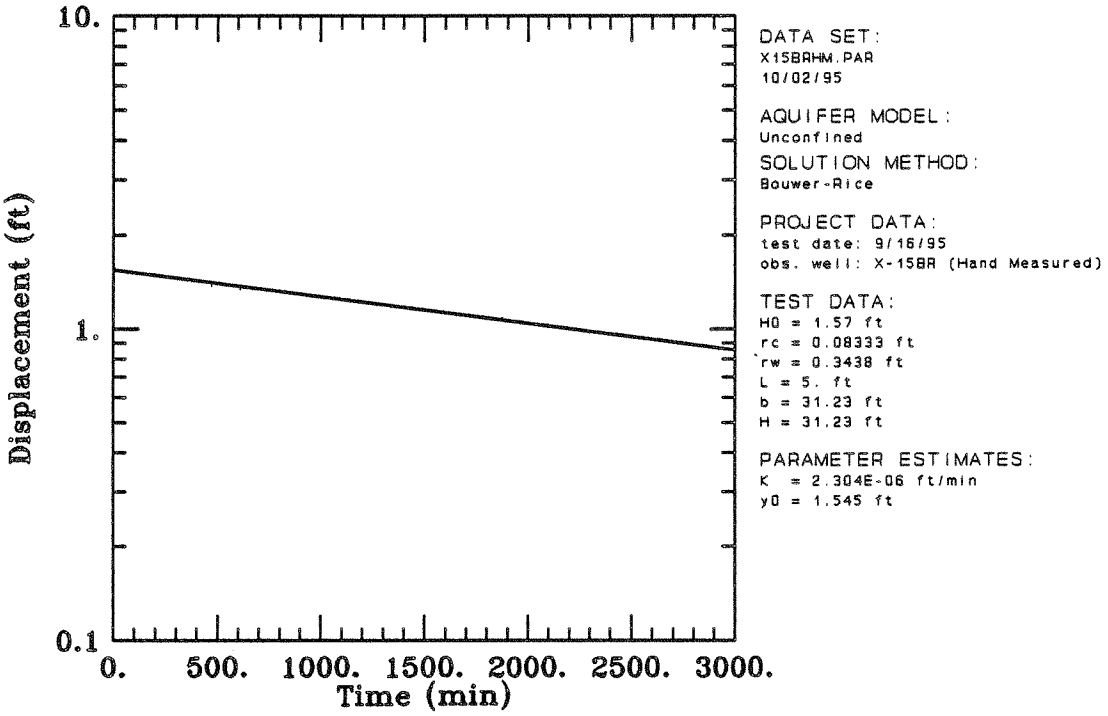
Hydraulic Conductivity Testing Results

X-15BR (Hermit) - Silty Clay



AQTESOLV

X-15BR (Hand Measured) - Silty Clay

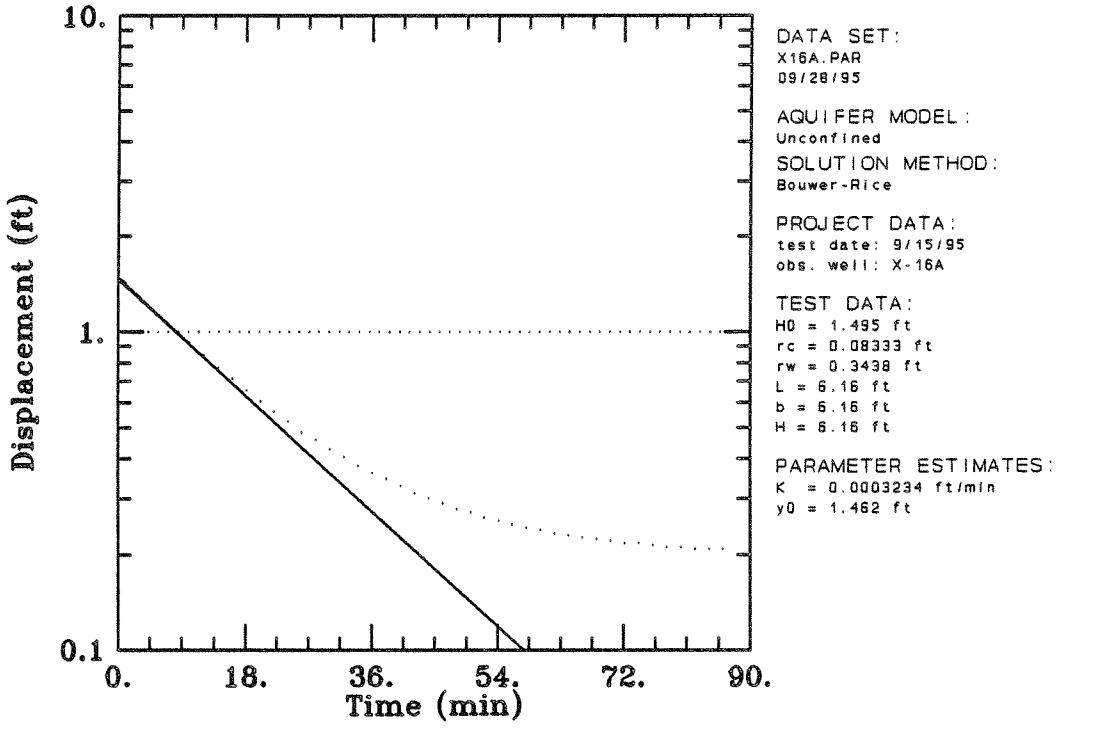


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Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-16A - Fine Sand with Trace Silt

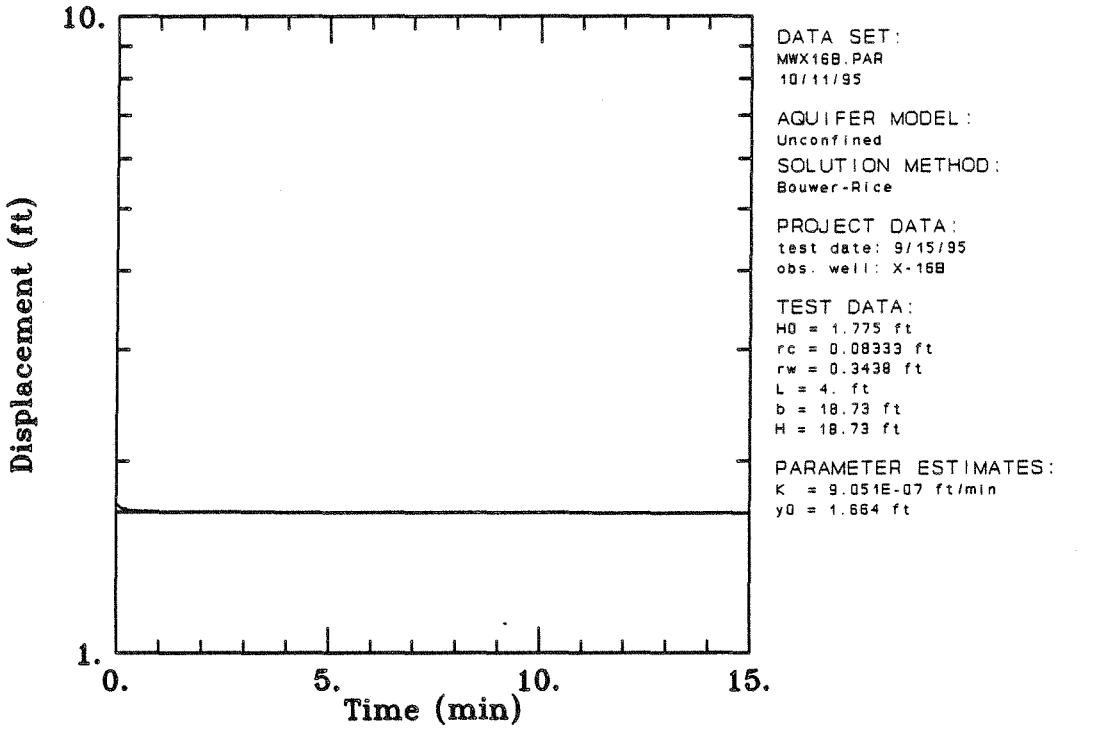


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Hydraulic Conductivity Testing Results

X-16B (Hermit) - Fine Sand with Trace Silt

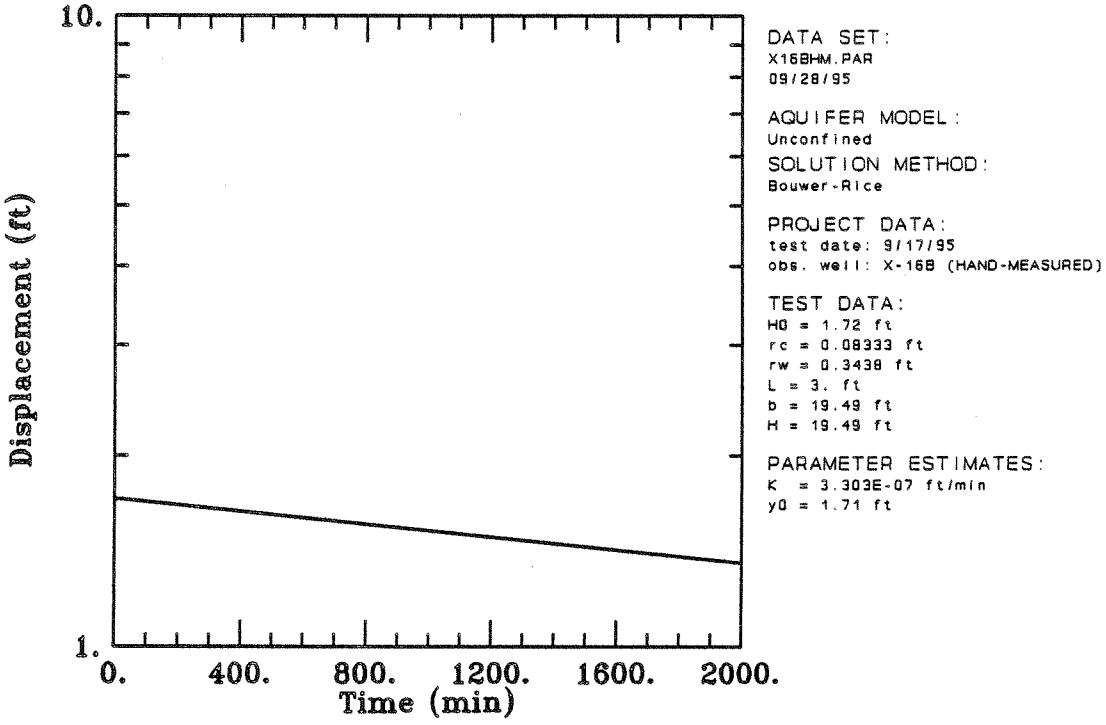


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Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-16B (Hand Measured) - Fine Sand with Trace Silt



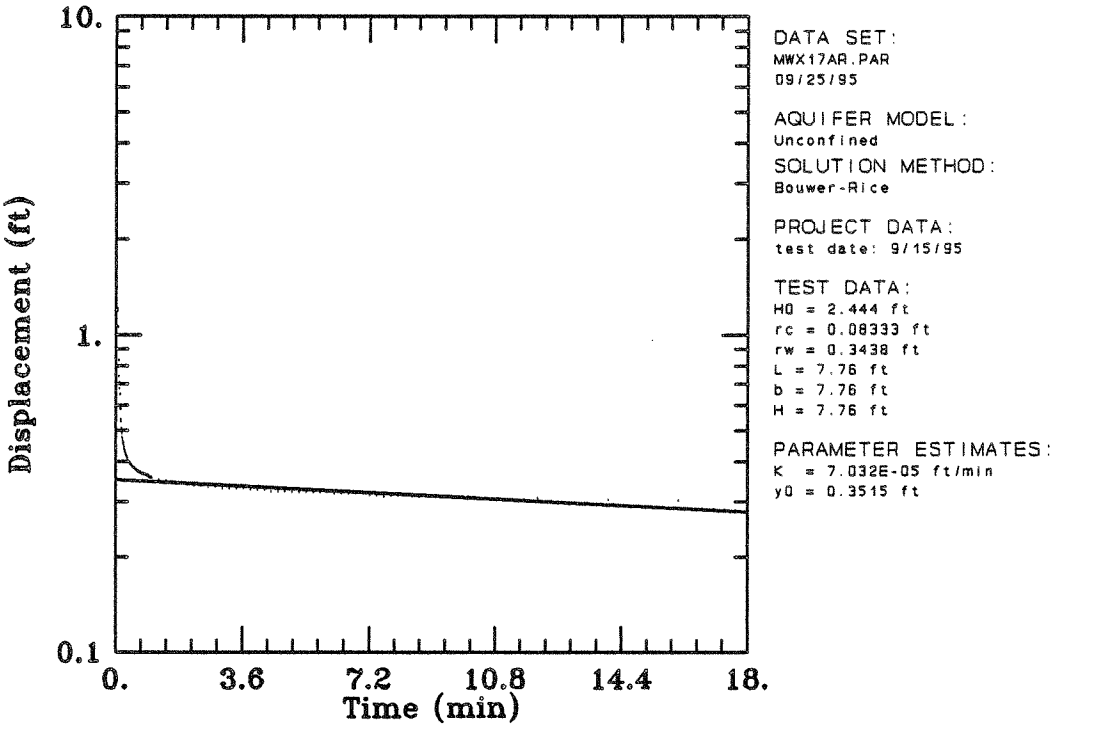
AQTESOLV

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Hydraulic Conductivity Testing Results

X-17AR - Silty Clay, Some Sand

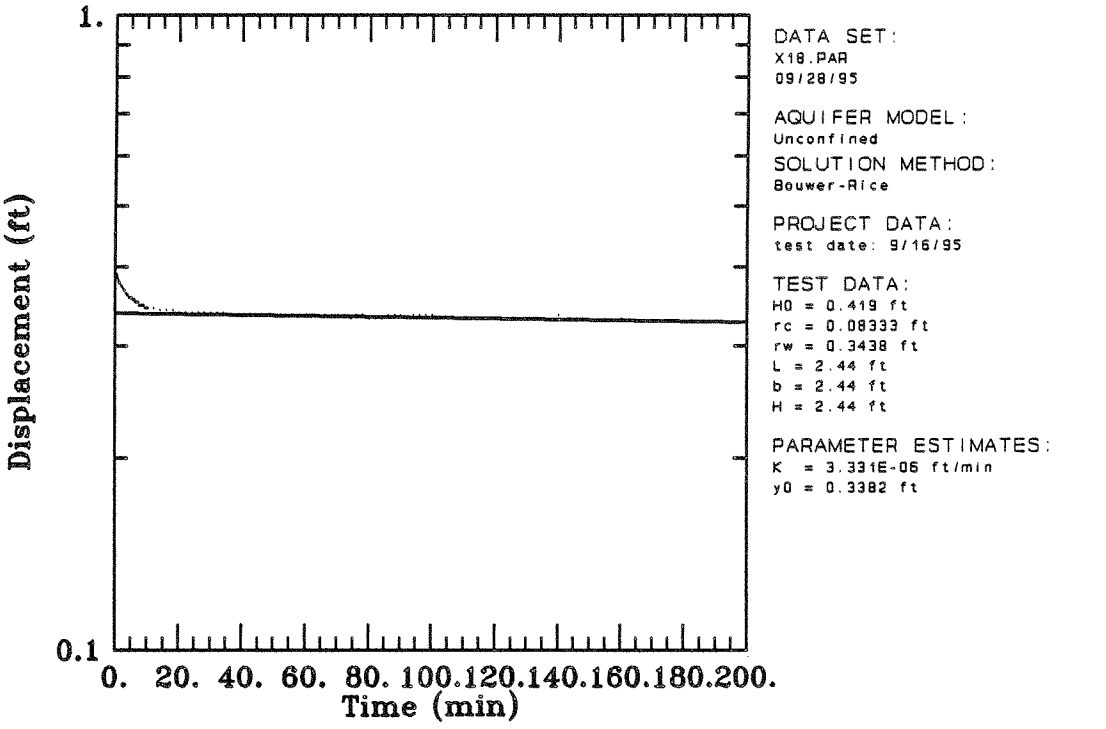


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Hydraulic Conductivity Testing Results

X-18 - Sandy Clay



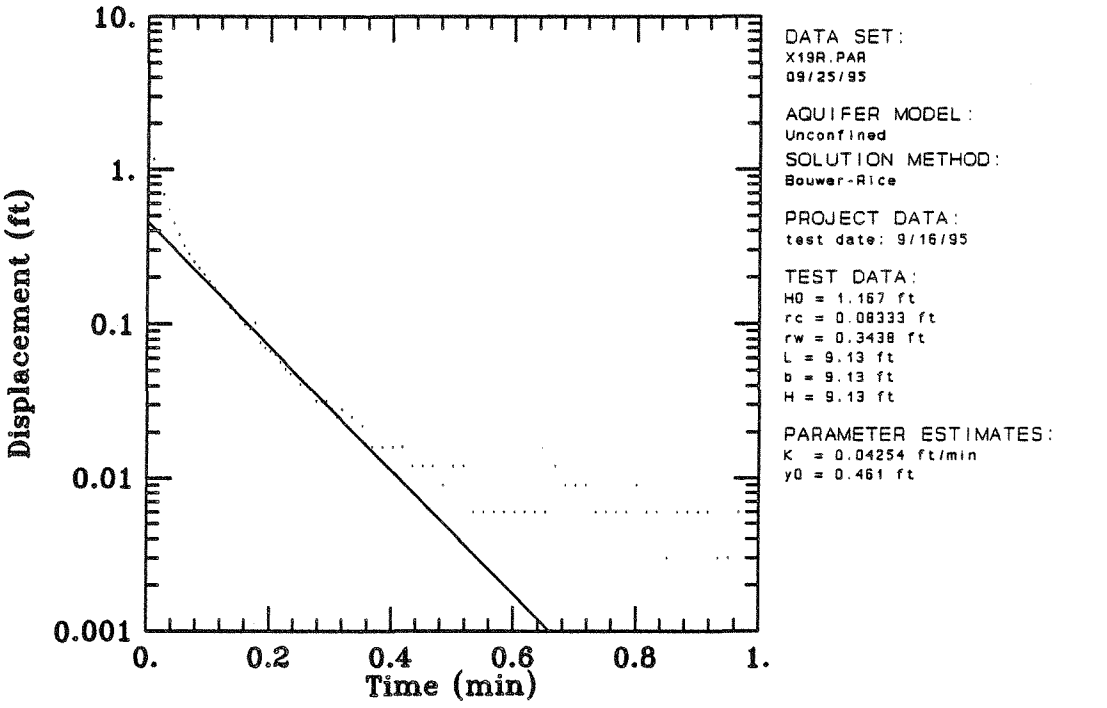
AQTESOLV

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Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

X-19AR - Silty Clay, Some Sand

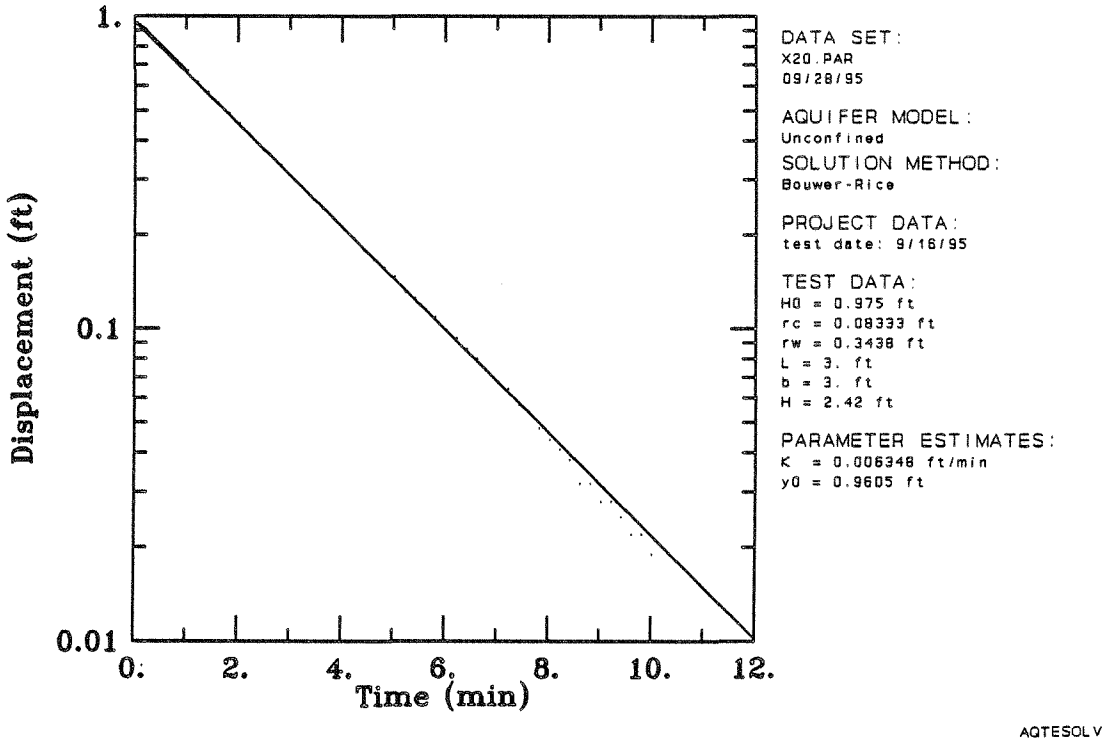


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and Drum Remediation Area
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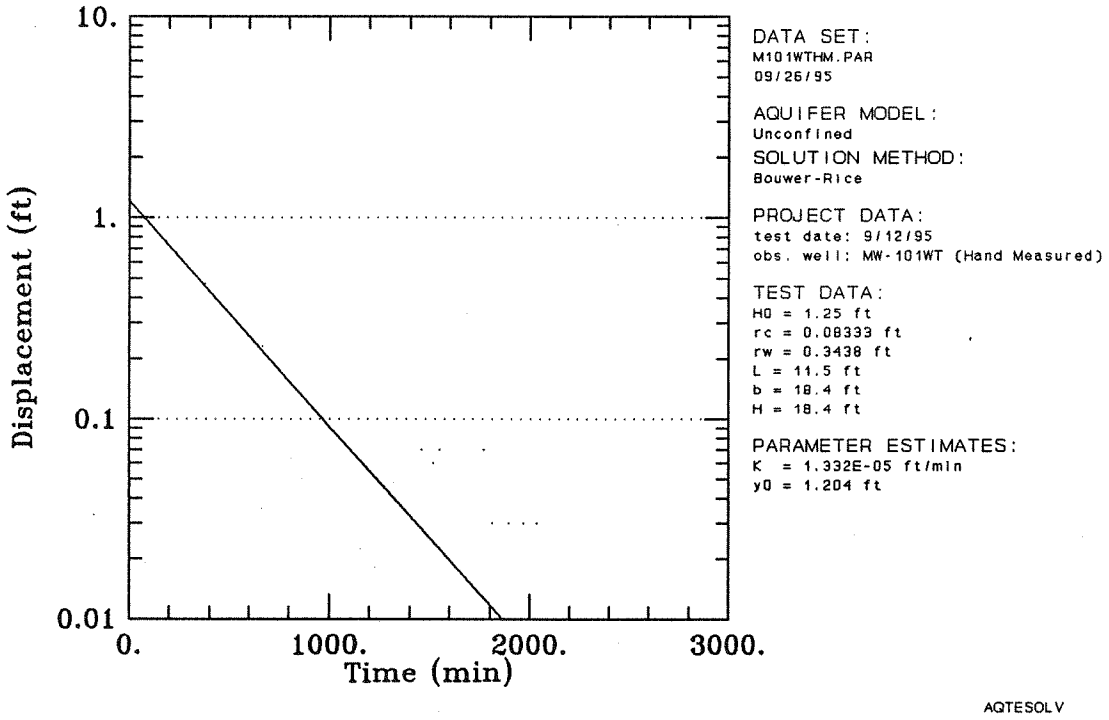
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

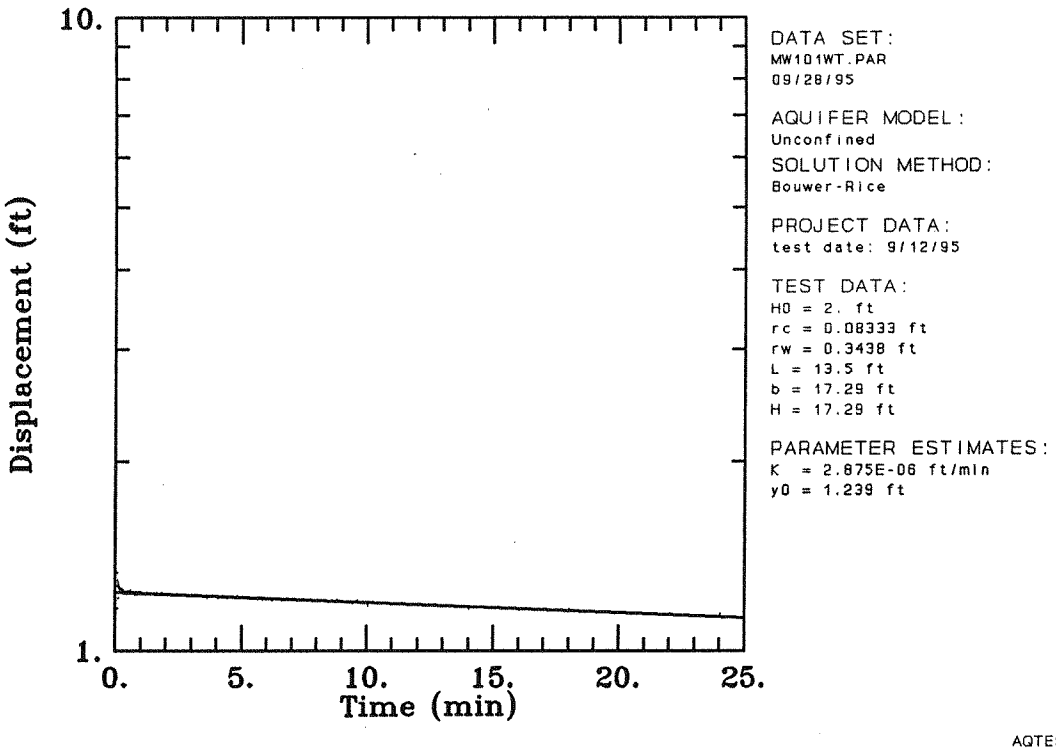
X-20 - Fine Sand



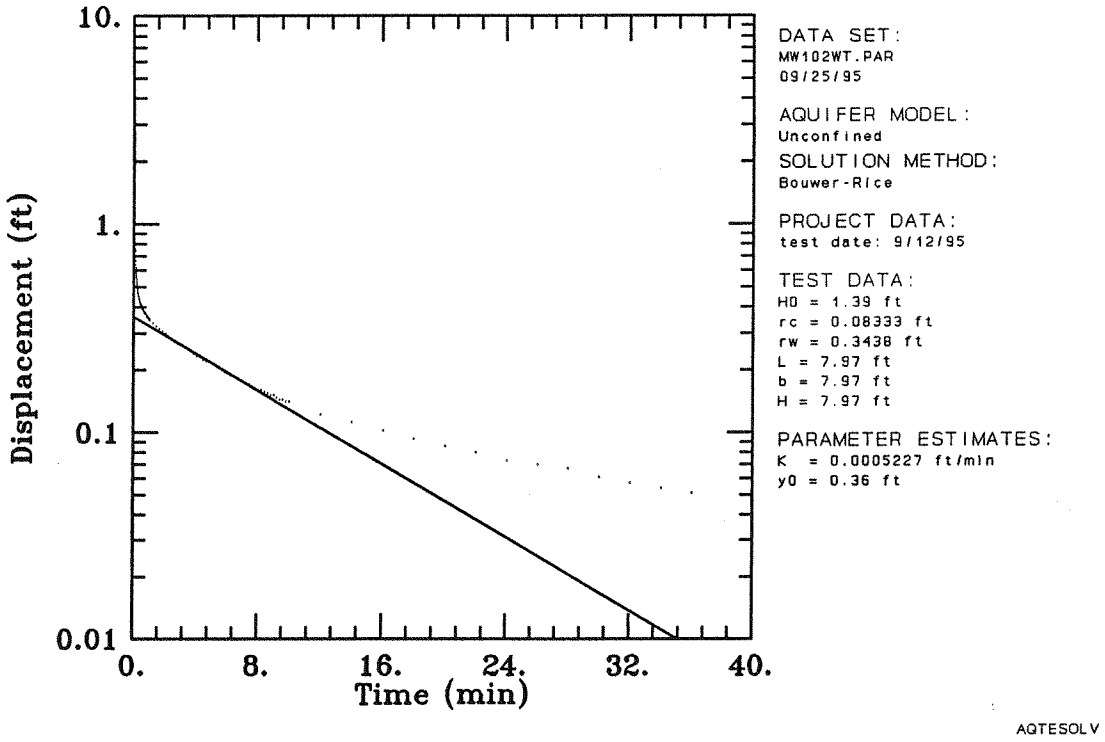
MW-101WT (Hand Measured) - Clay, Some Silt, then Silt and Clay, Some Fine Sand, Trace Fine Gravel



MW-101WT (Hermit) - Clay, Some Silt, then Silt and Clay, Some Fine Sand, Trace Fine Gravel



MW-102WT - Medium to Fine Sand, Little Silt, Trace Medium to Fine Gravel

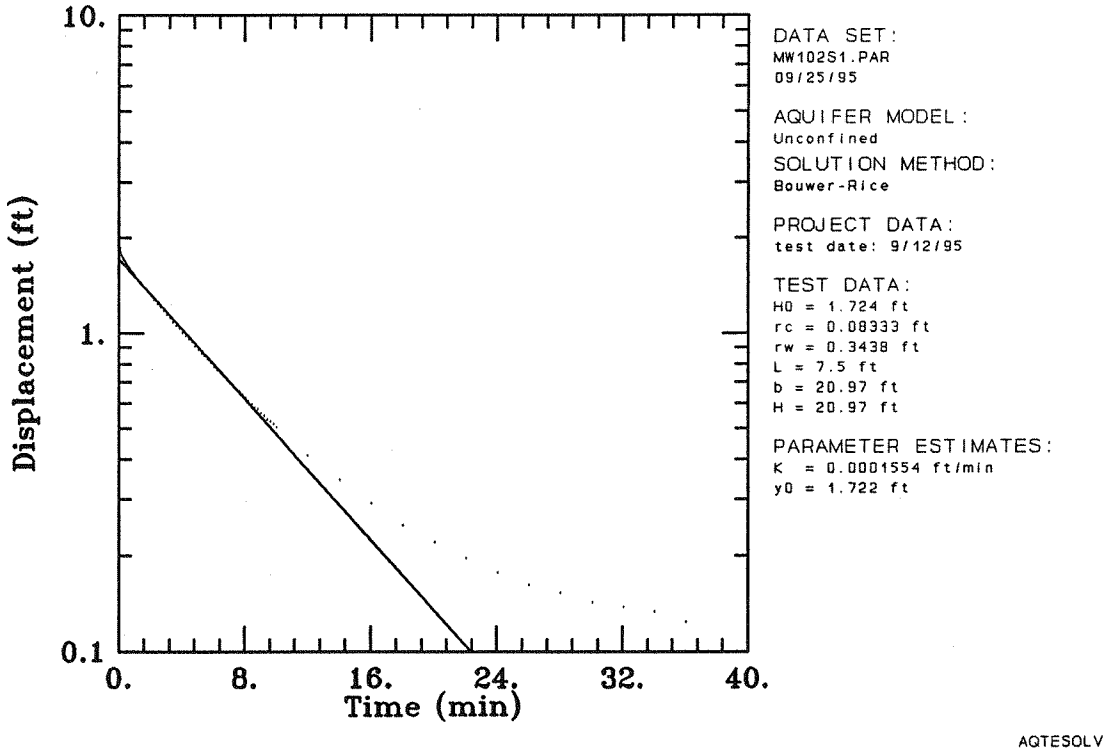


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Hydraulic Conductivity Testing Results

MW-102S1 - Medium to Fine Sand, Little Silt

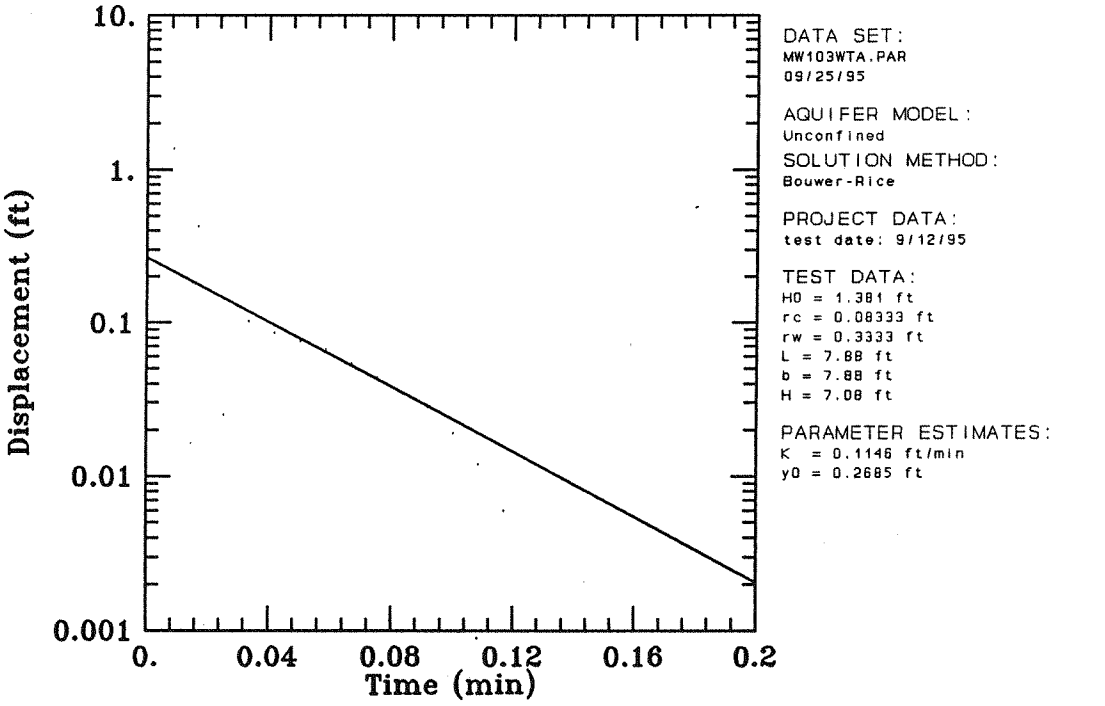


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MW-103WTA (Test #1) - Fine Sand and Silt

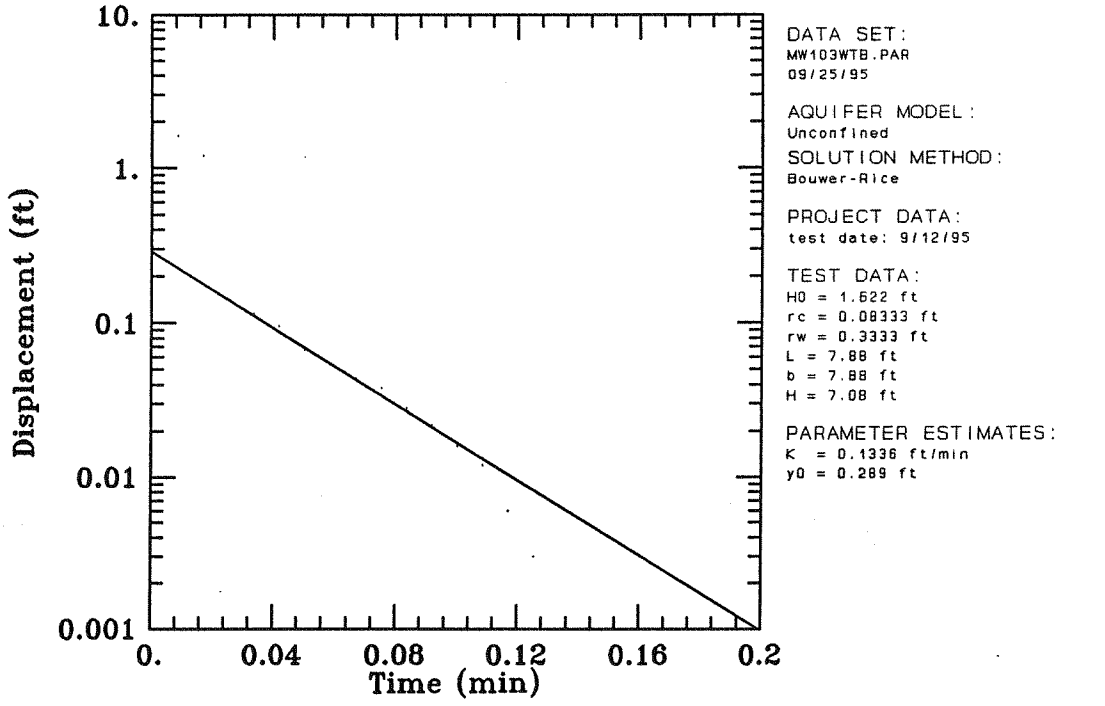


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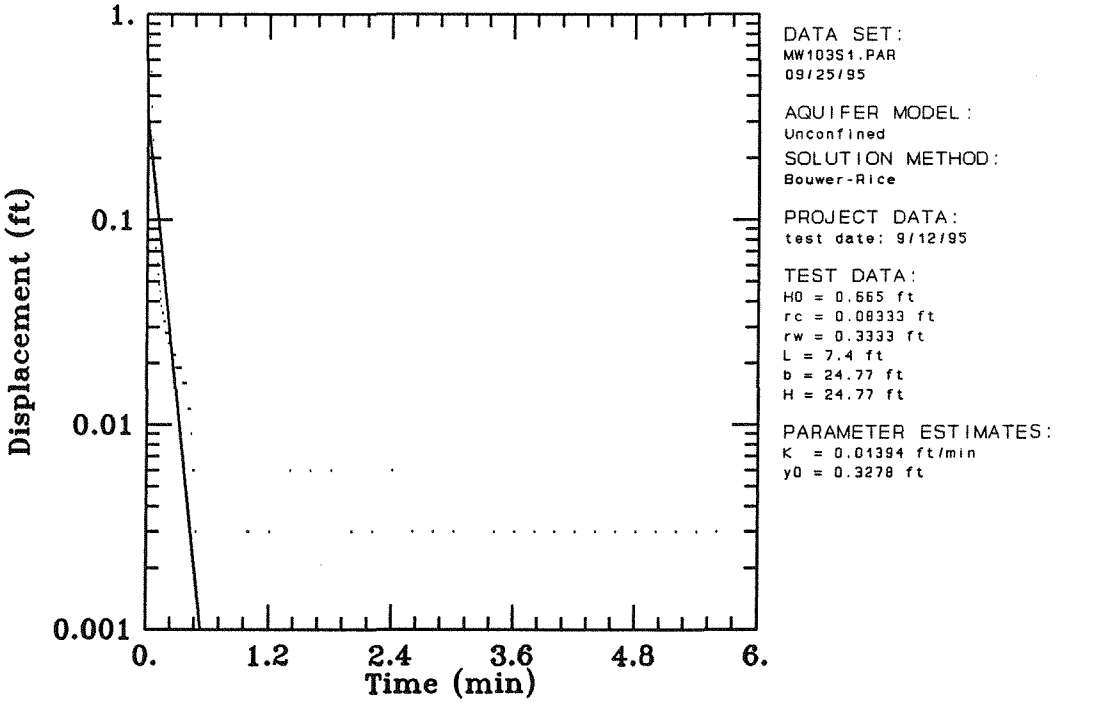
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-103WTB (Test #2) - Fine Sand and Silt



MW-103S1 - Coarse to Fine Sand, Trace Silt

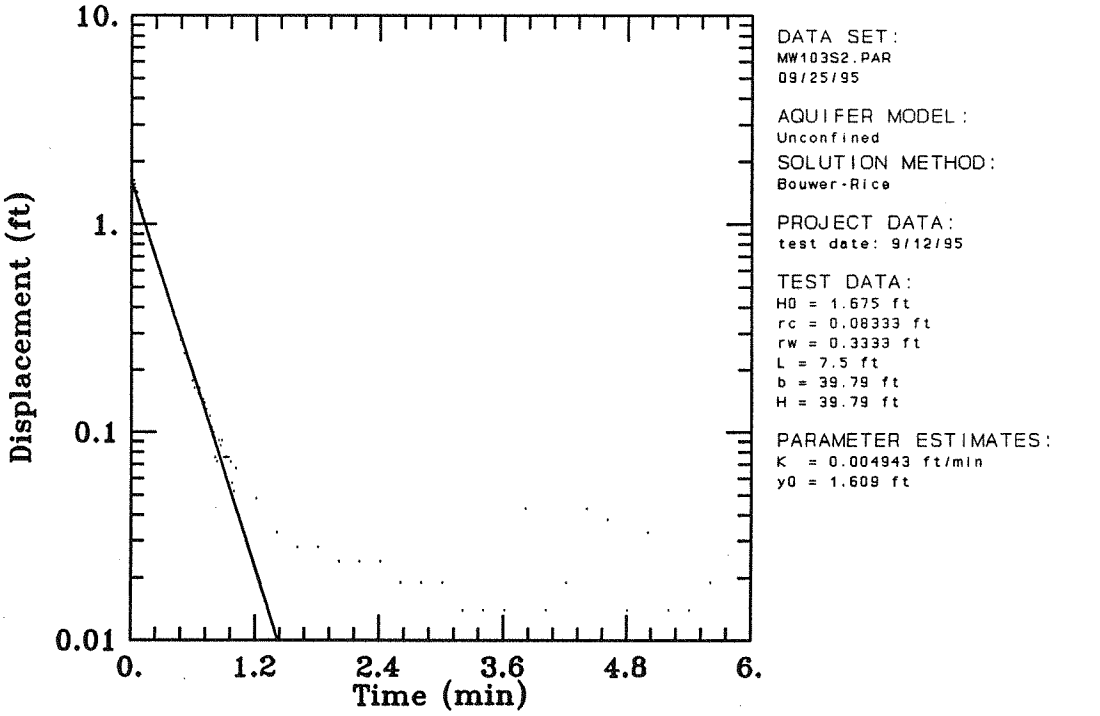


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Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-103S2 - Coarse to Fine Sand, Some Silt, Trace Fine Gravel

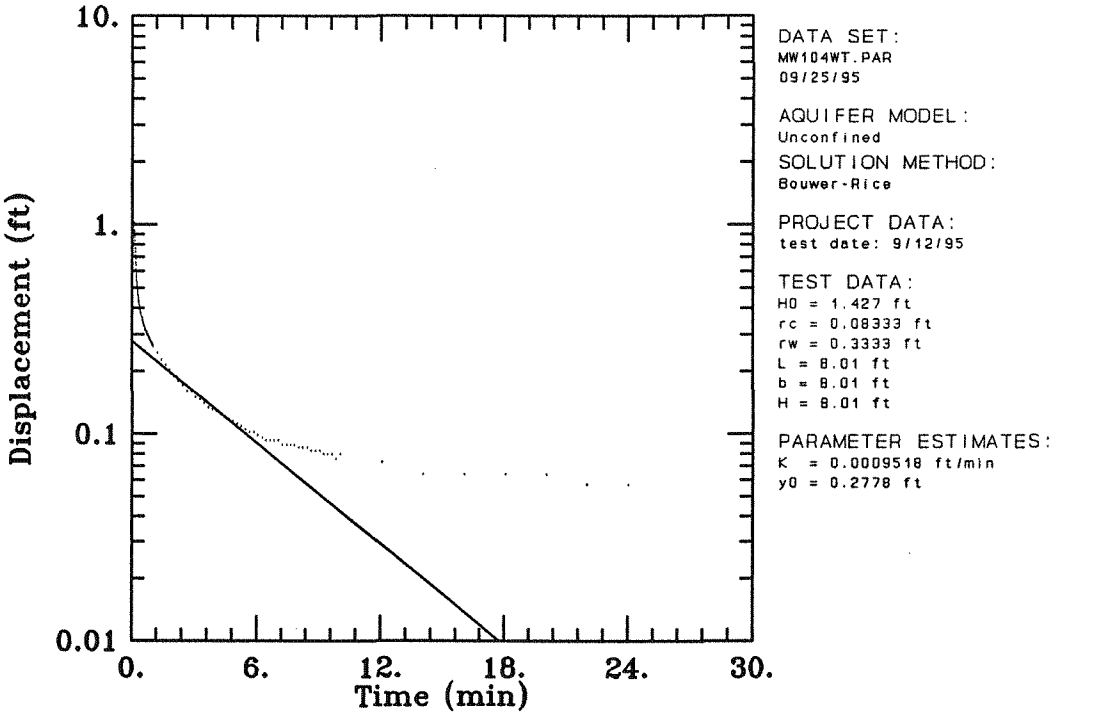


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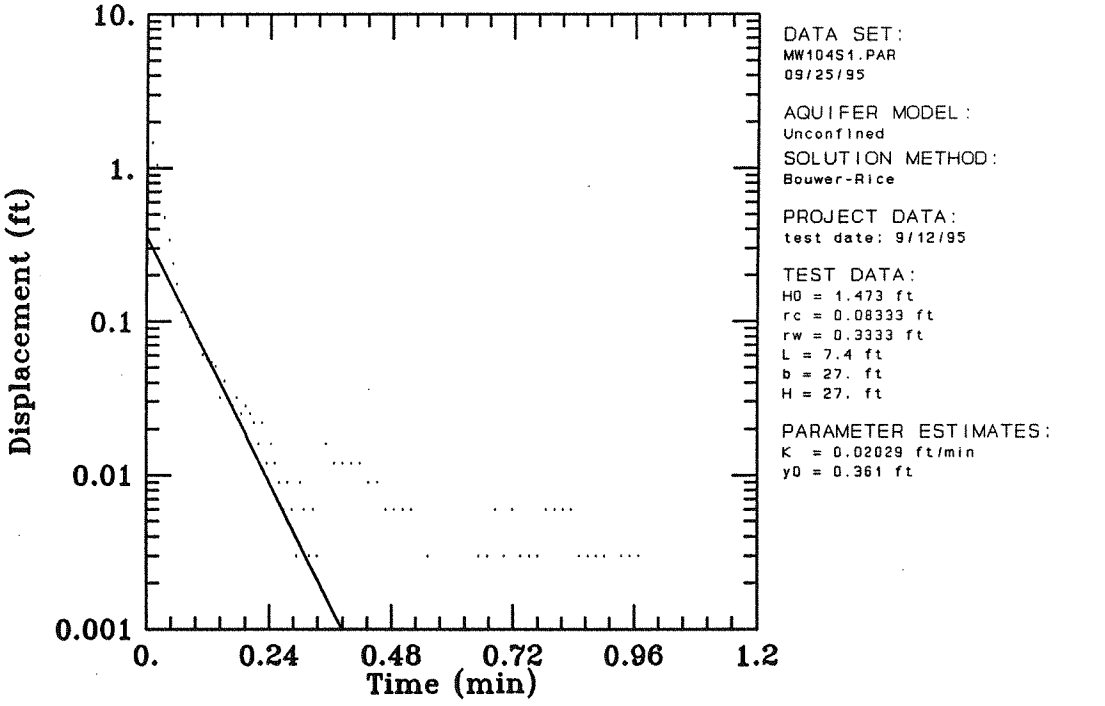
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-104WT - Medium to Fine Sand, Trace Silt



MW-104S1 - Coarse to Fine Sand, Trace Silt

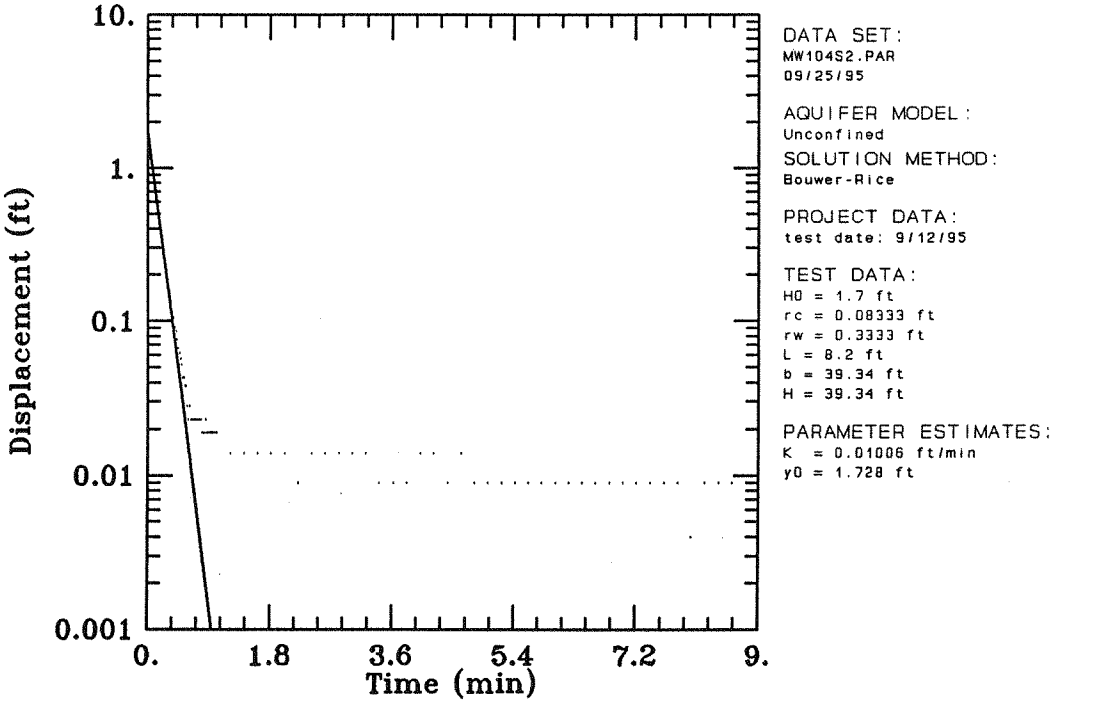


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and Drum Remediation Area
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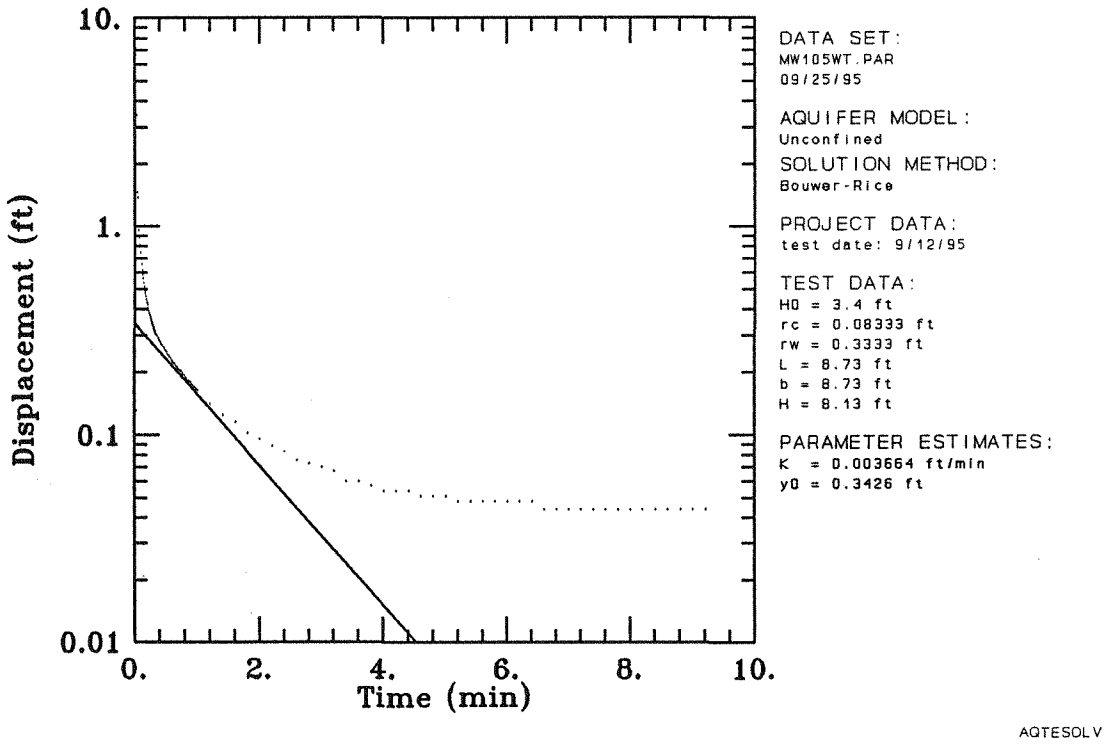
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-104S2 - Medium to Fine Sand



MW-105WT - Silt, Little Medium to Fine Gravel, Trace Clay, then Medium to Fine Sand, Little Silt, then Silt, Little Fine Sand, Trace Medium to Fine Gravel

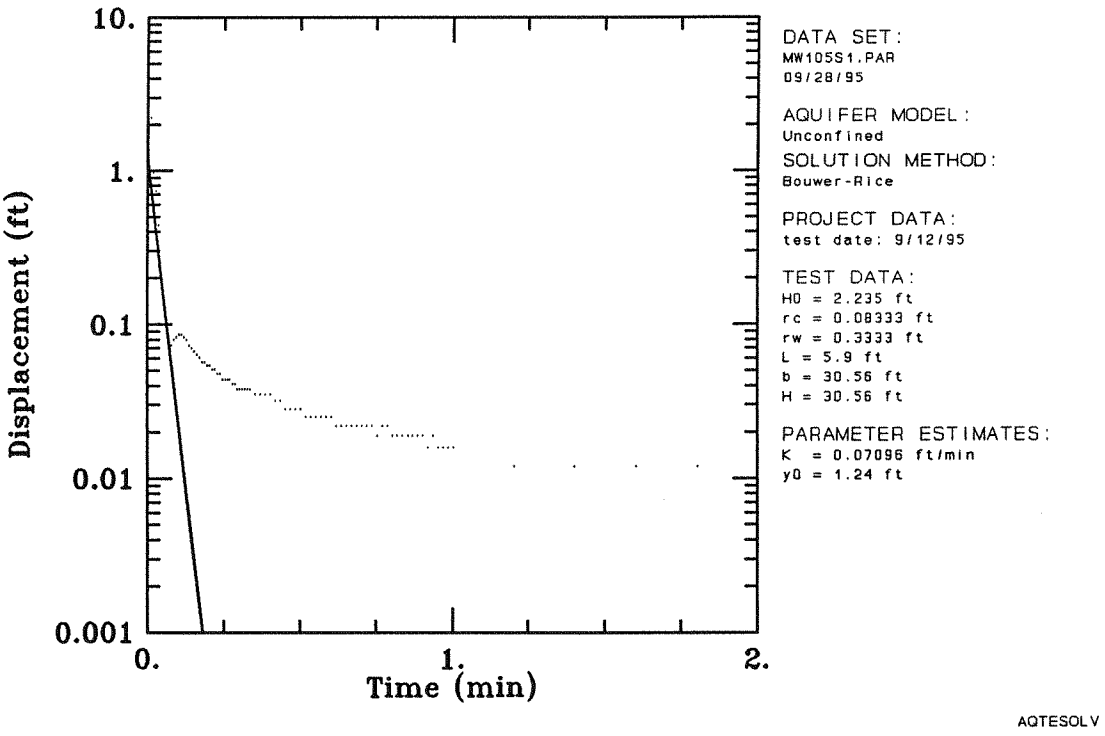


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Hydraulic Conductivity Testing Results

MW-105S1 - Coarse to Medium Sand, Trace Gravel, then Medium to Fine Sand, Trace Shells

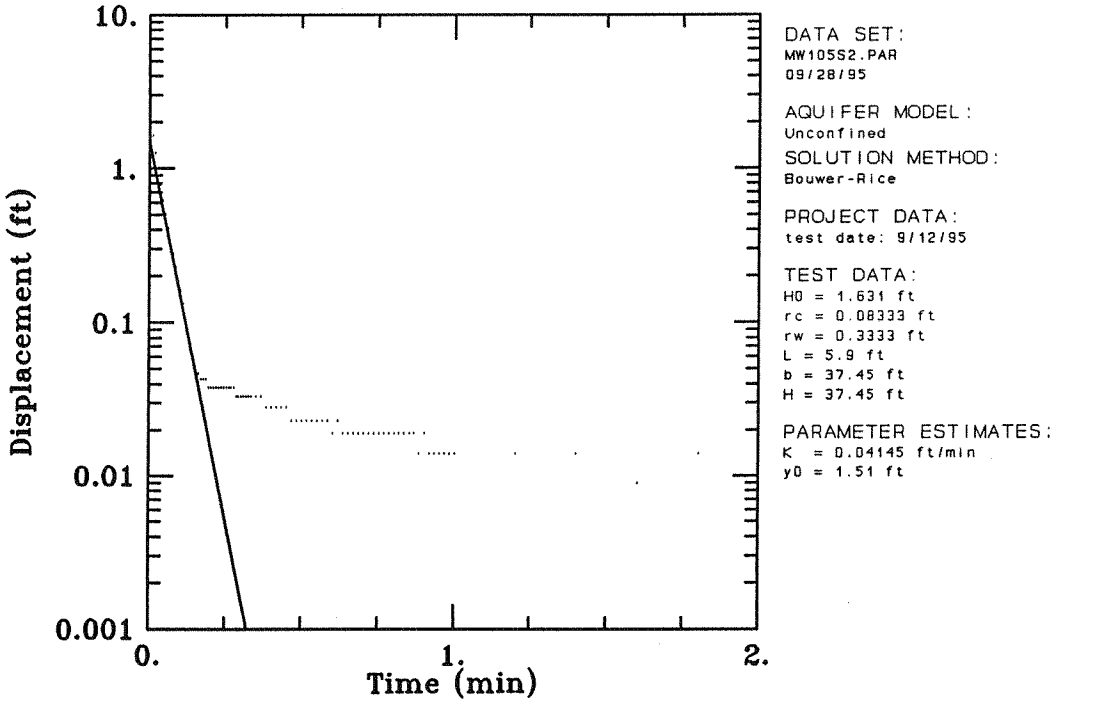


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Remedial Investigation/Feasibility Study
Saginaw, Michigan

Hydraulic Conductivity Testing Results

MW-105S2 - Medium to Fine Sand, Trace Shells

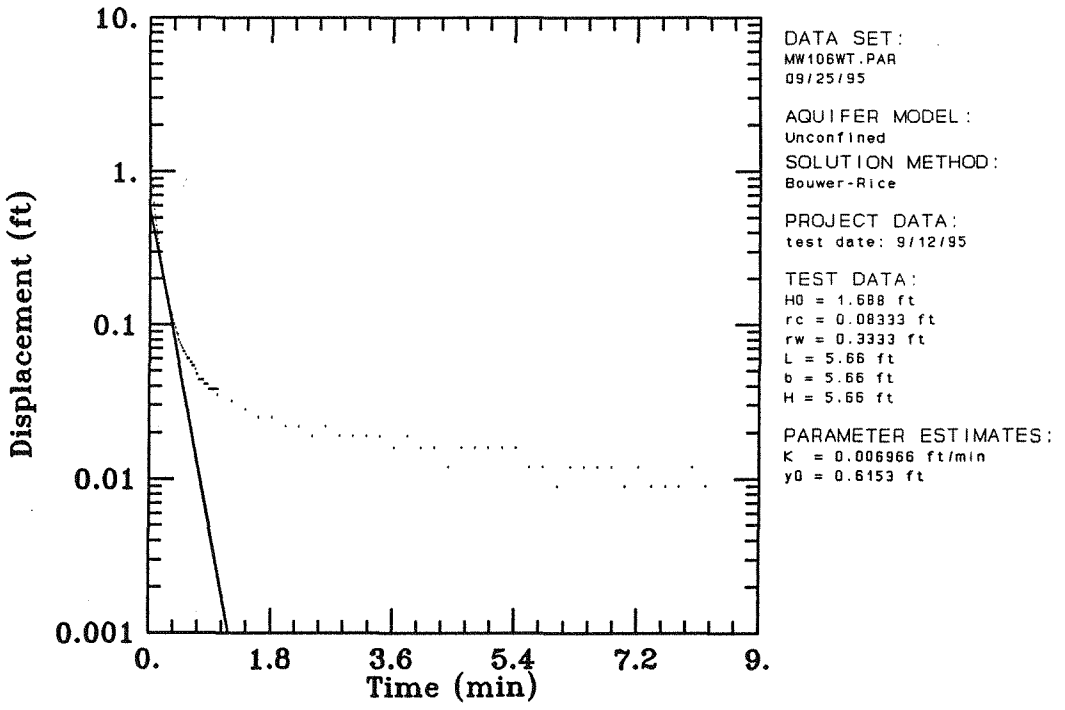


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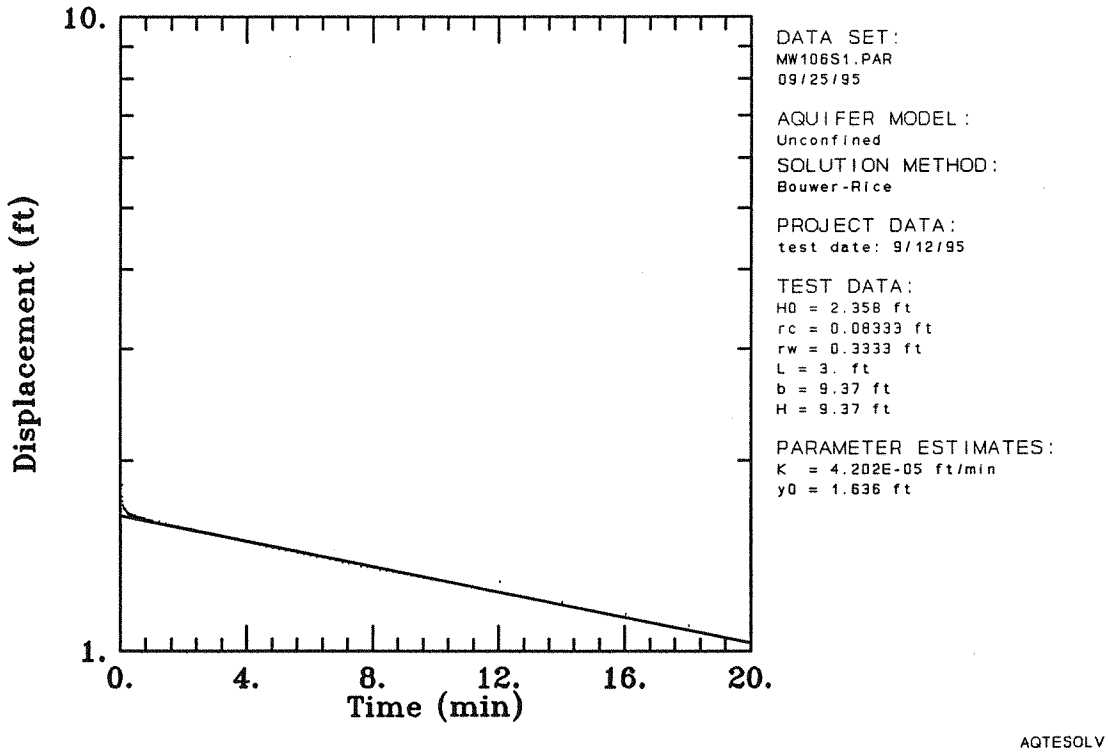
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Hydraulic Conductivity Testing Results

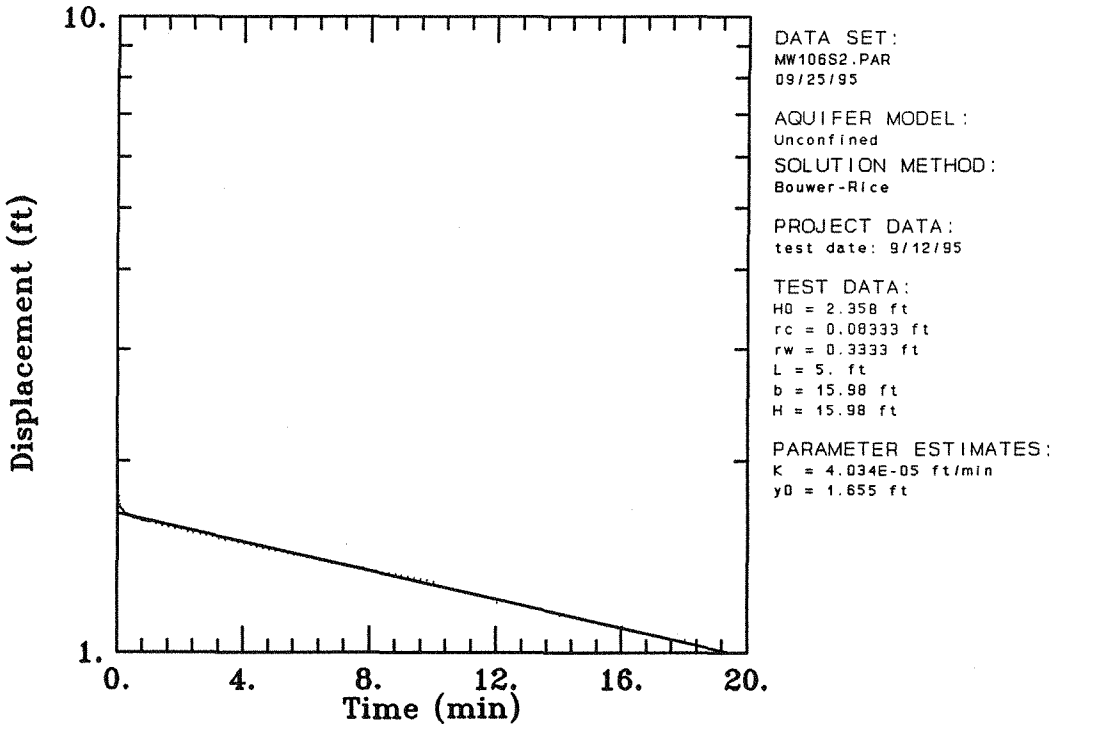
MW-106WT - Medium to Fine Sand, Little Silt, Trace Fine Gravel, Trace Shells, Then Silt, Little Fine Sand, Trace Clay



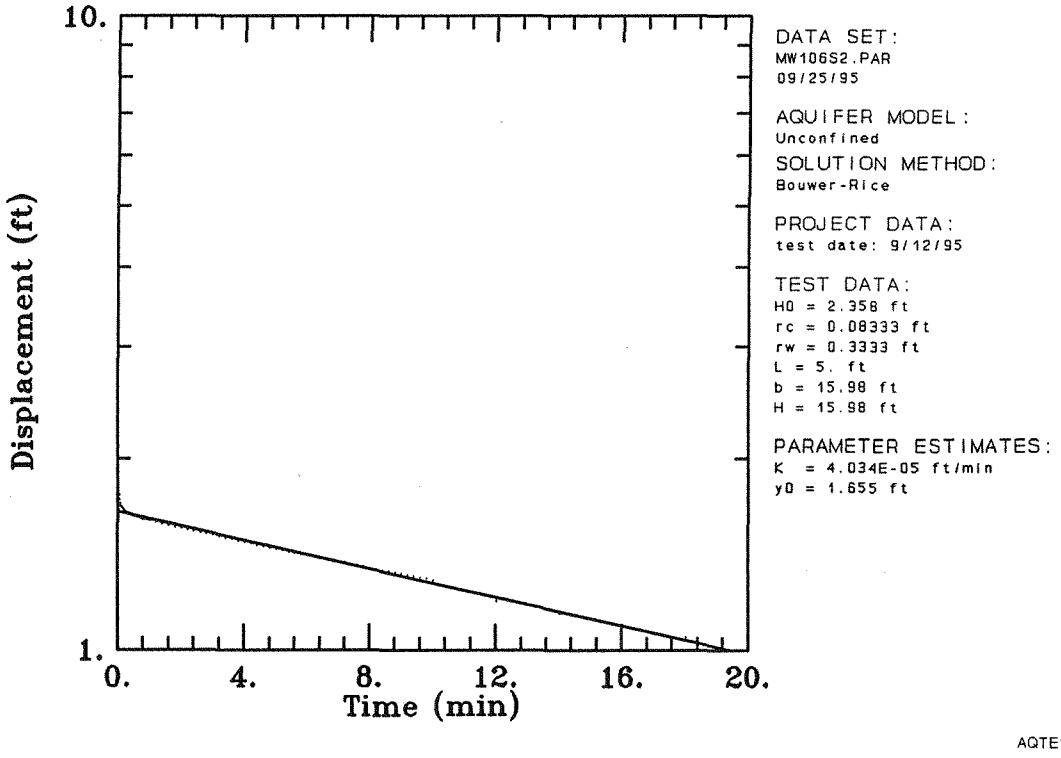
MW-106S1 - Fine Sand, Some Silt, then Medium to Fine Sand, Little Silt



MW-106S2 (Hermit) - Medium to Fine Sand, Little Silt



MW-106S2 (Hand Measured) - Medium to Fine Sand, Little Silt, then Silt and Clay, Trace Fine Sand

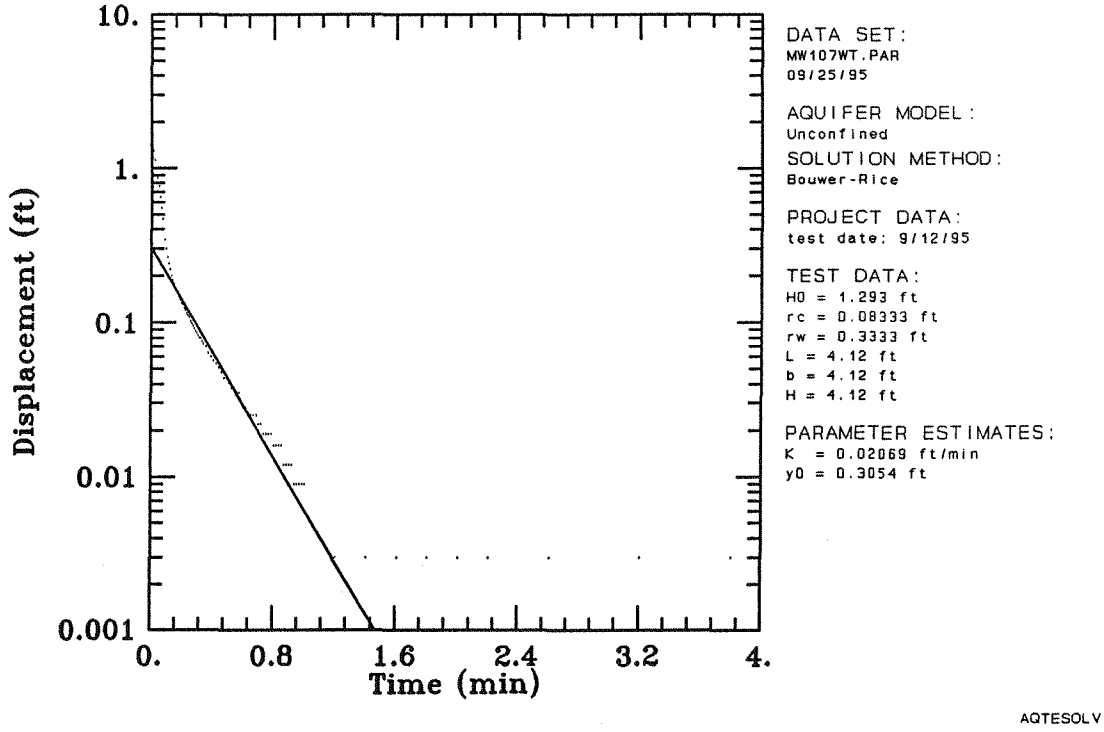


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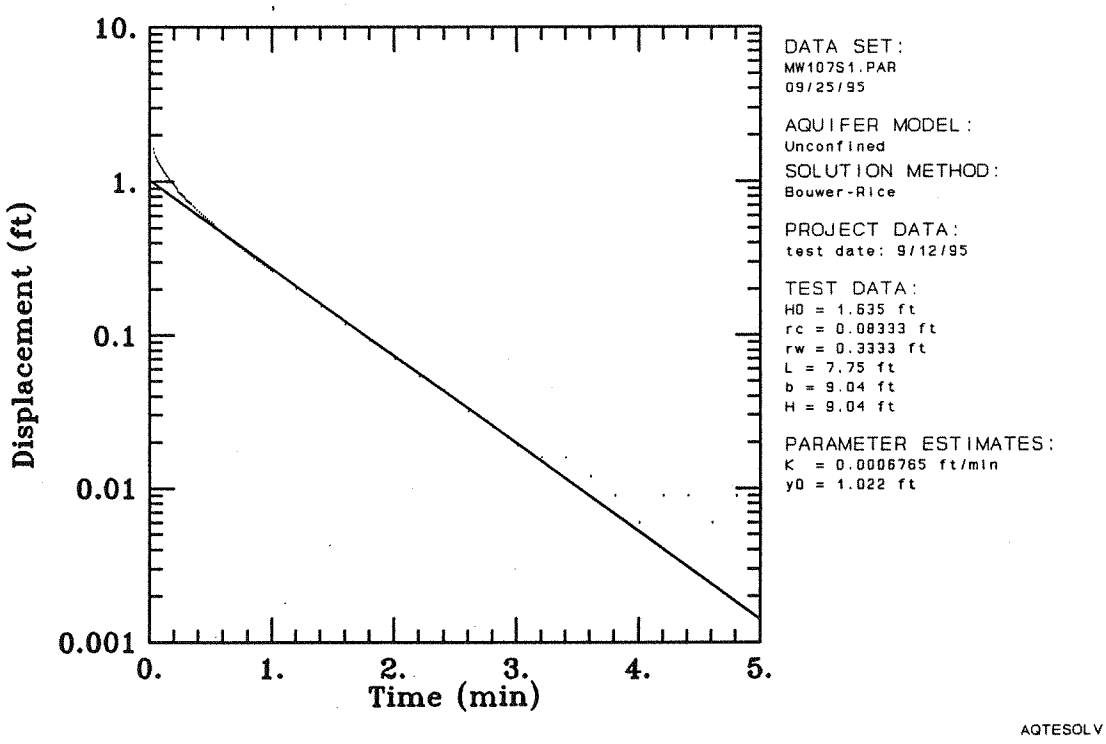
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Hydraulic Conductivity Testing Results

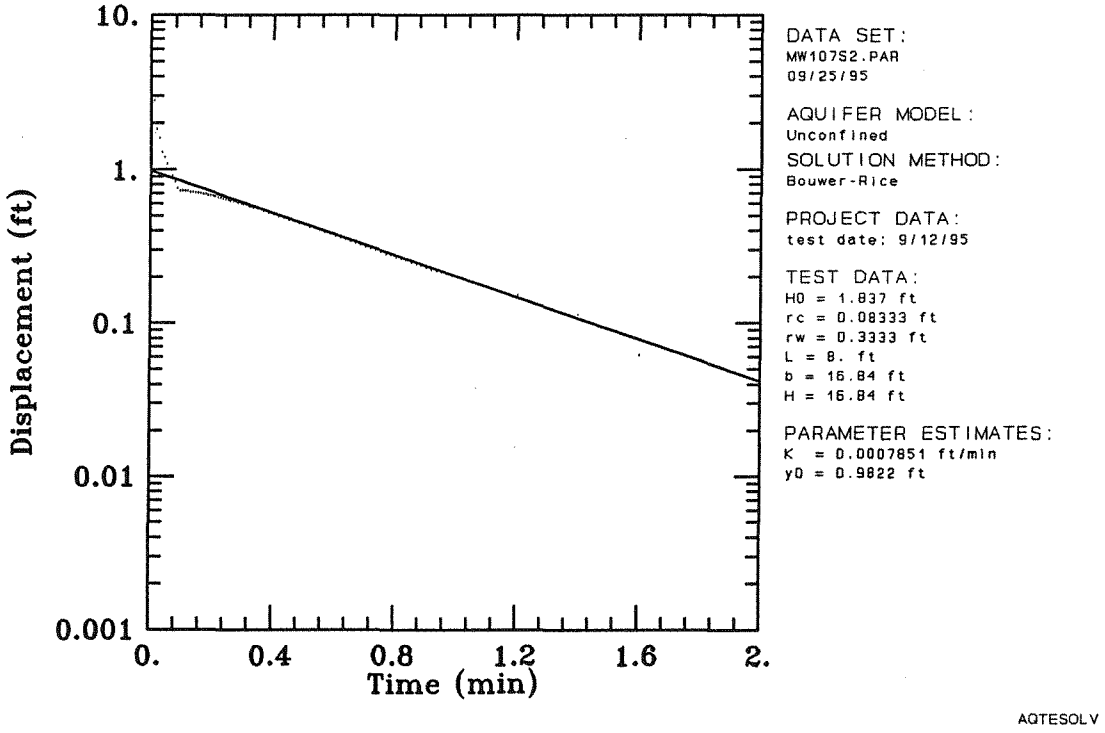
MW-107WT - Medium Sand, Trace Fine Gravel, then Coarse to Medium Sand, Little Silt



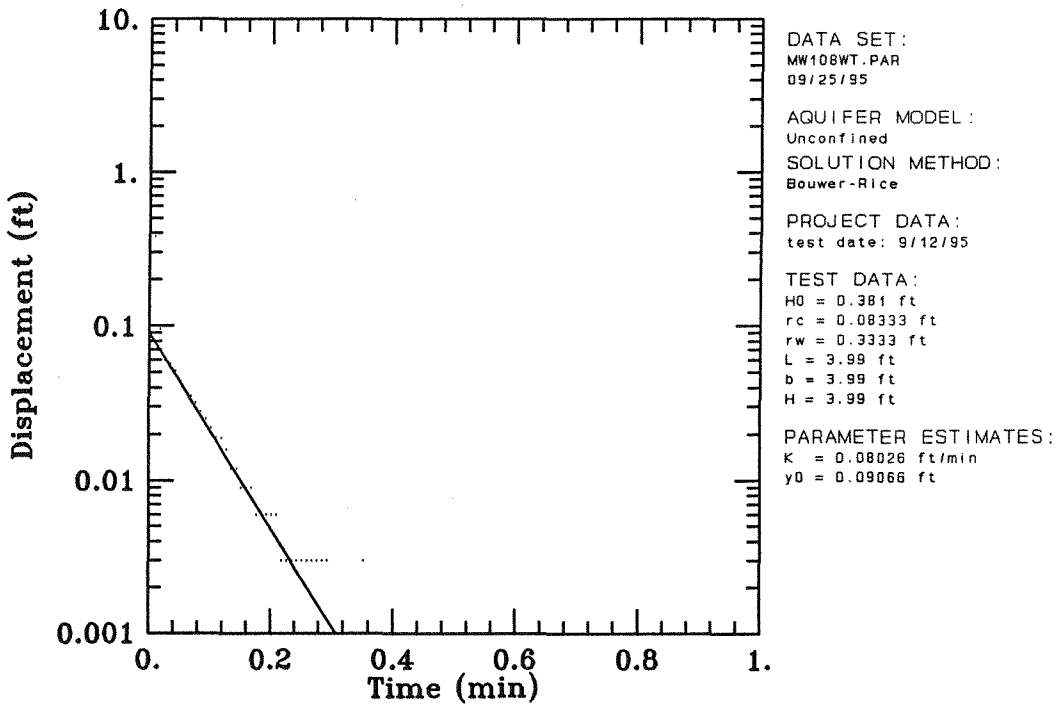
MW-107S1 - Silt, Some Clay, then Medium to Fine Sand, Some Silt, then Fine Sand, Trace Silt



MW-107S2 - Fine Sand, Trace Silt, then Clay, Some Silt



MW-108WT - Fine Sand, Little Clay, then Silt, Little Clay

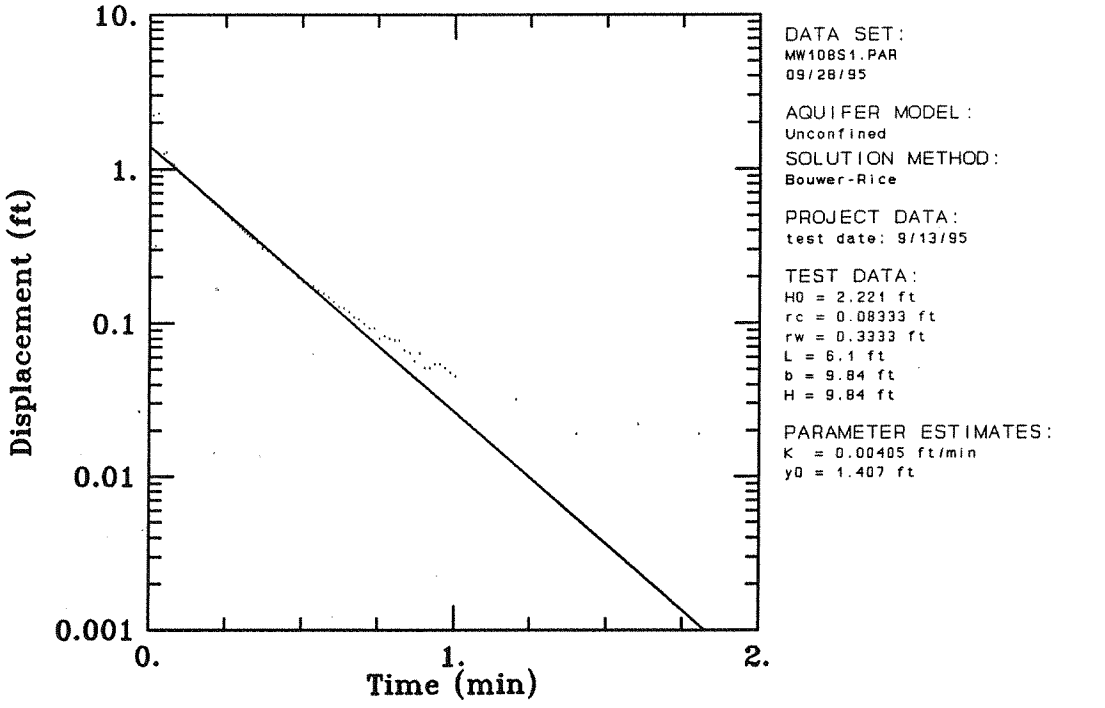


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MW-108S1 - Fine Sand, Little Silt

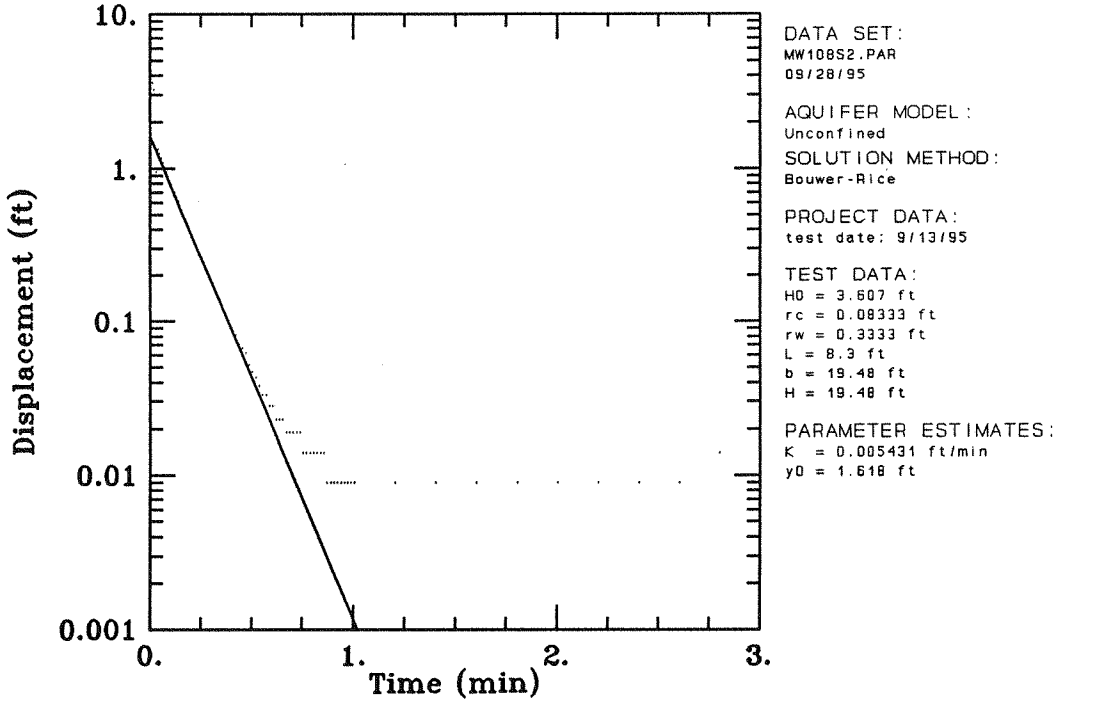


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and Drum Remediation Area
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Hydraulic Conductivity Testing Results

MW-108S2 - Coarse to Medium Sand

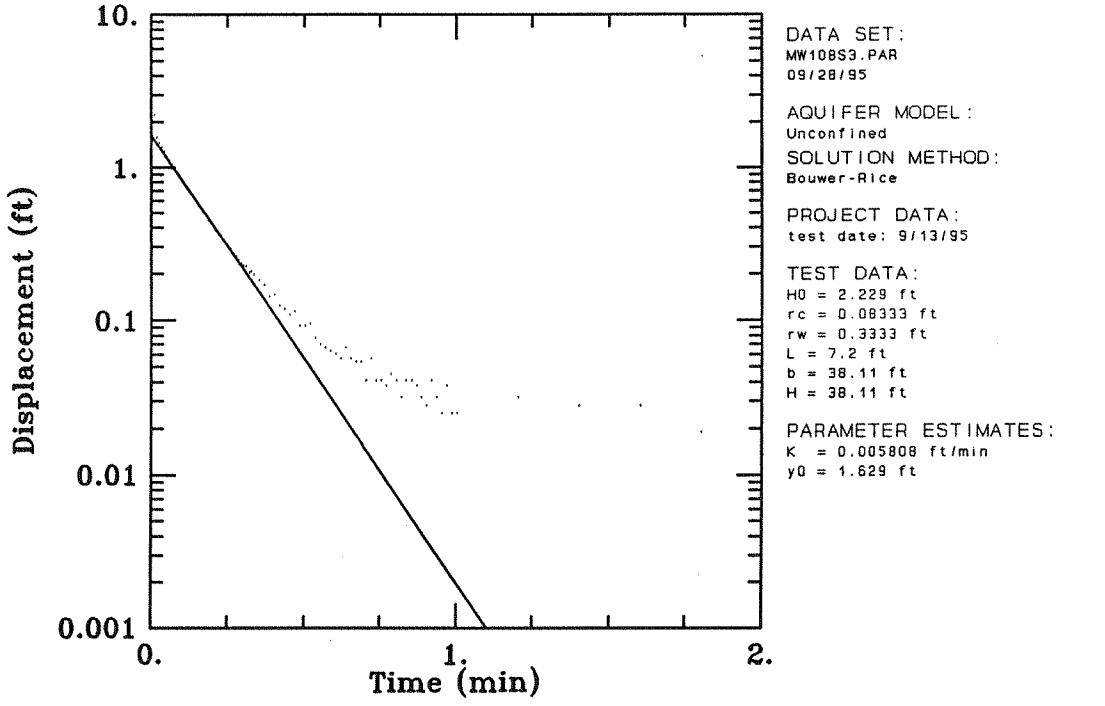


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Hydraulic Conductivity Testing Results

MW-108S3 - Medium Sand, Little Medium Gravel

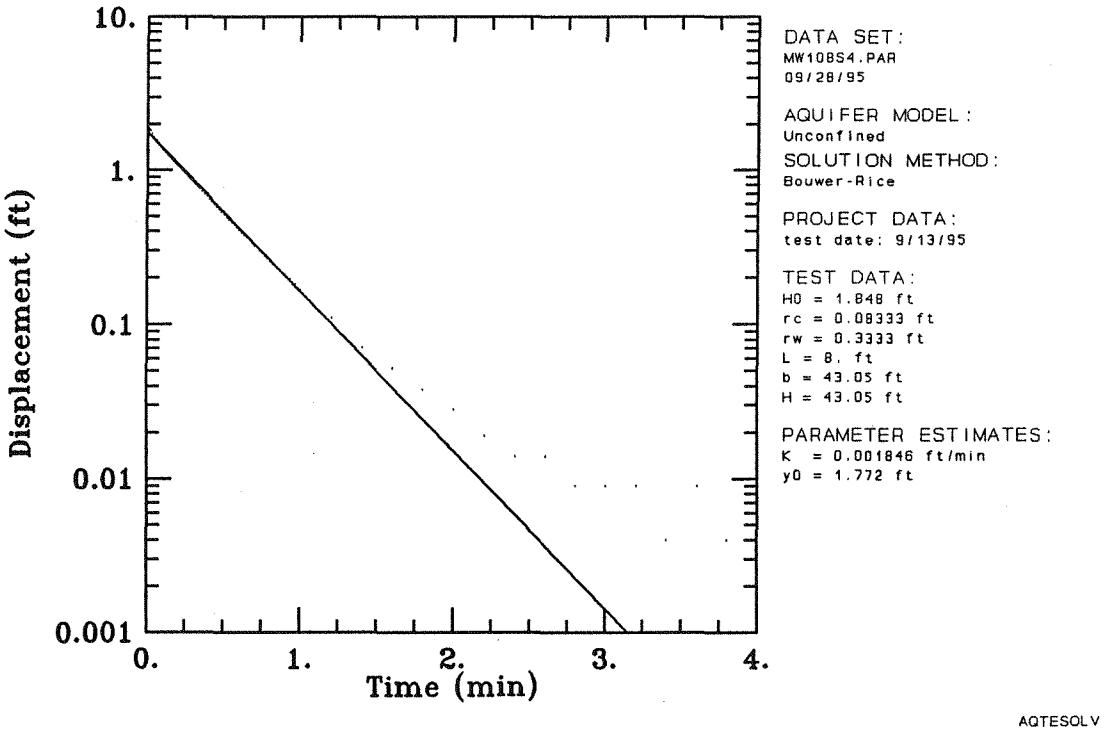


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Hydraulic Conductivity Testing Results

MW-108S4 - Medium to Fine Sand, Trace Silt, then Coarse to Fine Sand and Medium to Fine Gravel, Trace Silt

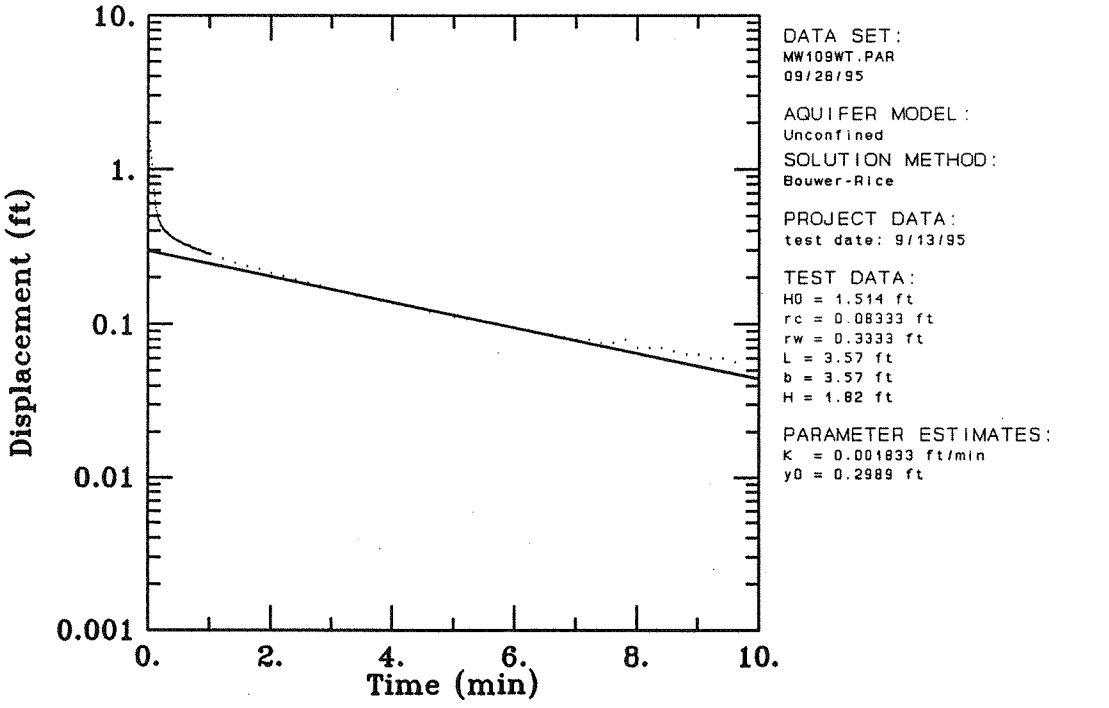


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and Drum Remediation Area
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Hydraulic Conductivity Testing Results

MW-109WT - Very Fine Sand, then Coarse Sand, Some Clay

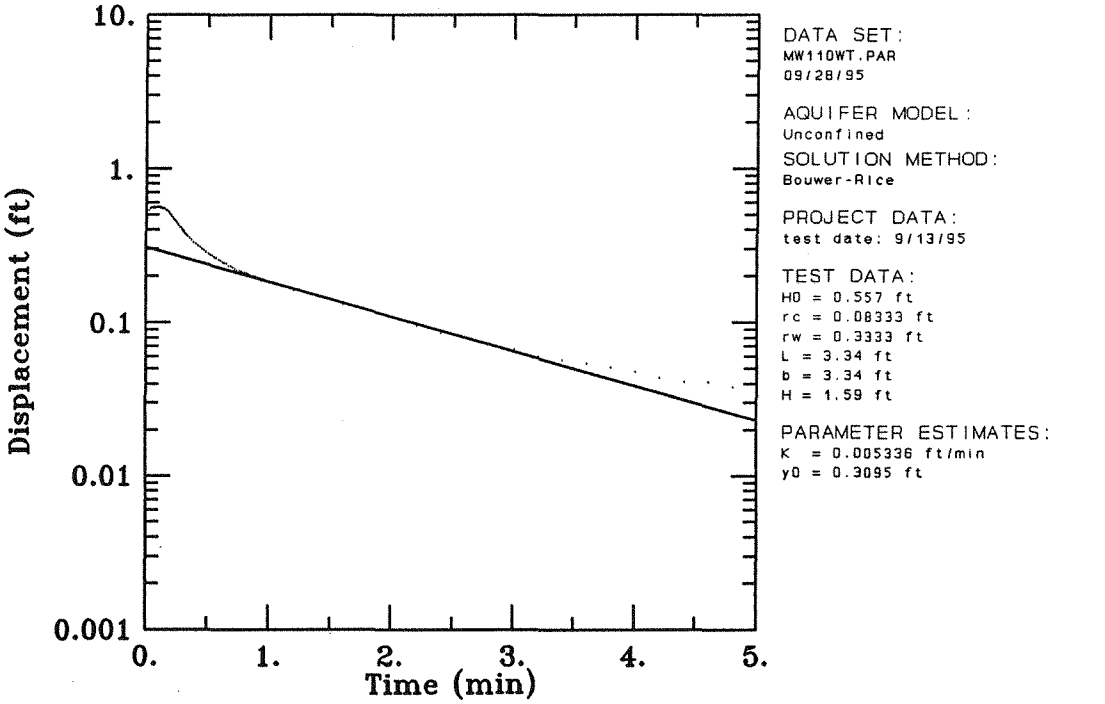


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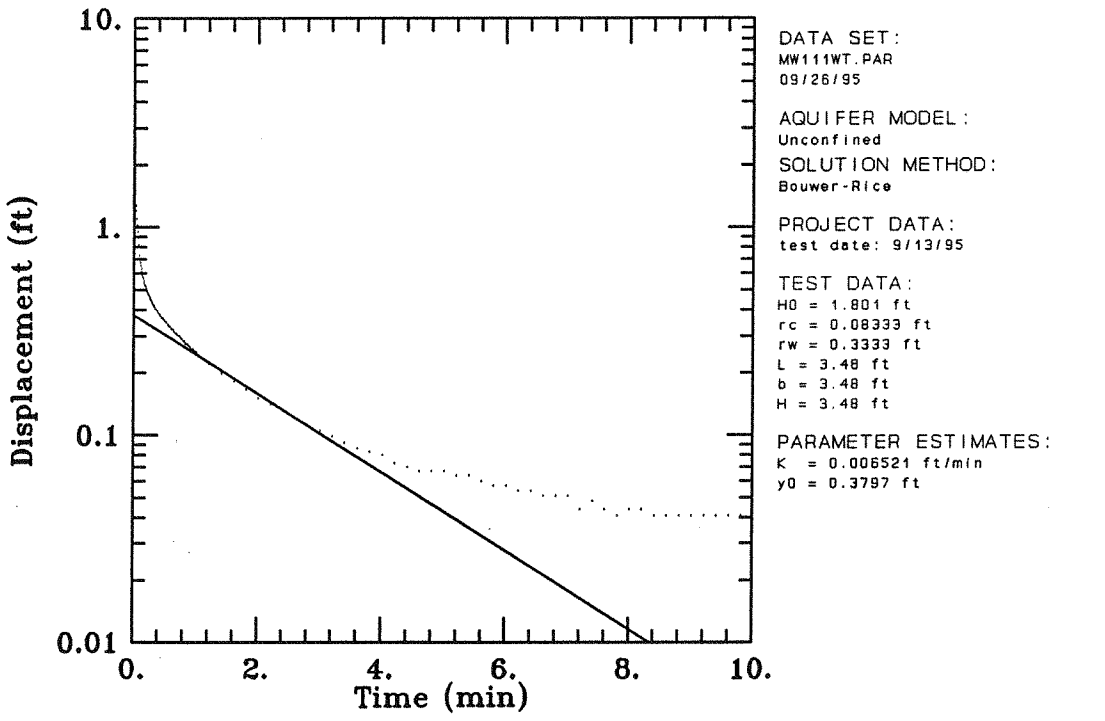
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

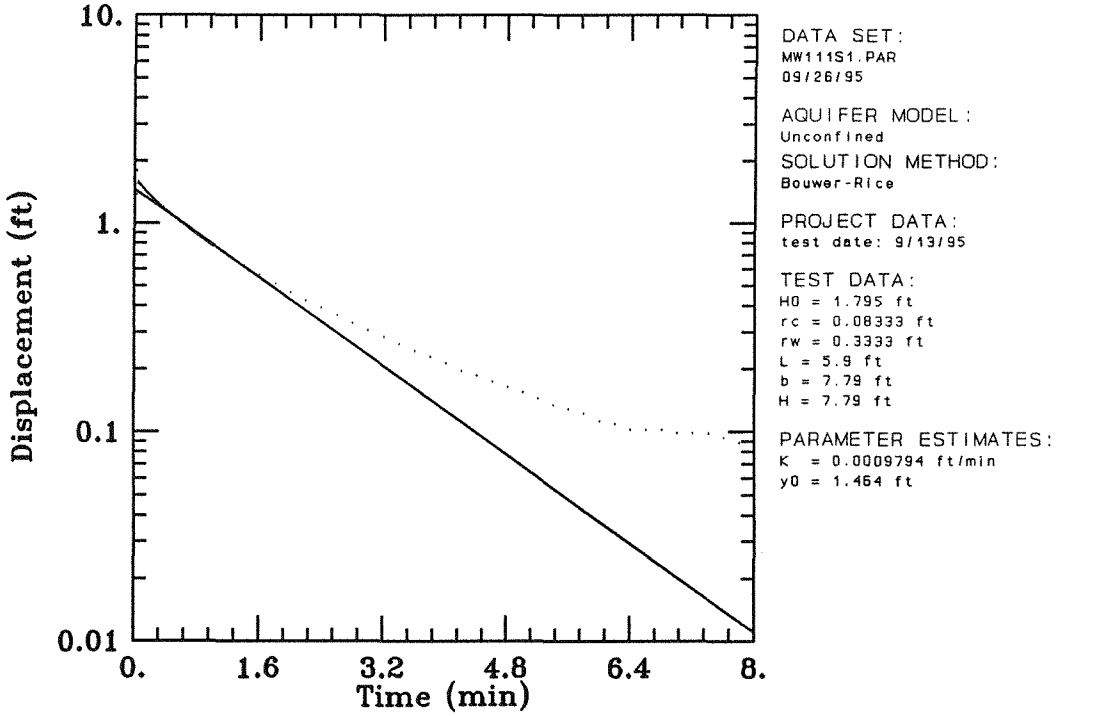
MW-110WT - Fine Sand, then Silt, Little Sand



MW-111WT - Coarse to Fine Sand, Little Fine Gravel, then Silt, Little Clay, Trace Fine Sand



MW-111S1 - Fine to Very Fine Sand and Silt, Trace Clay

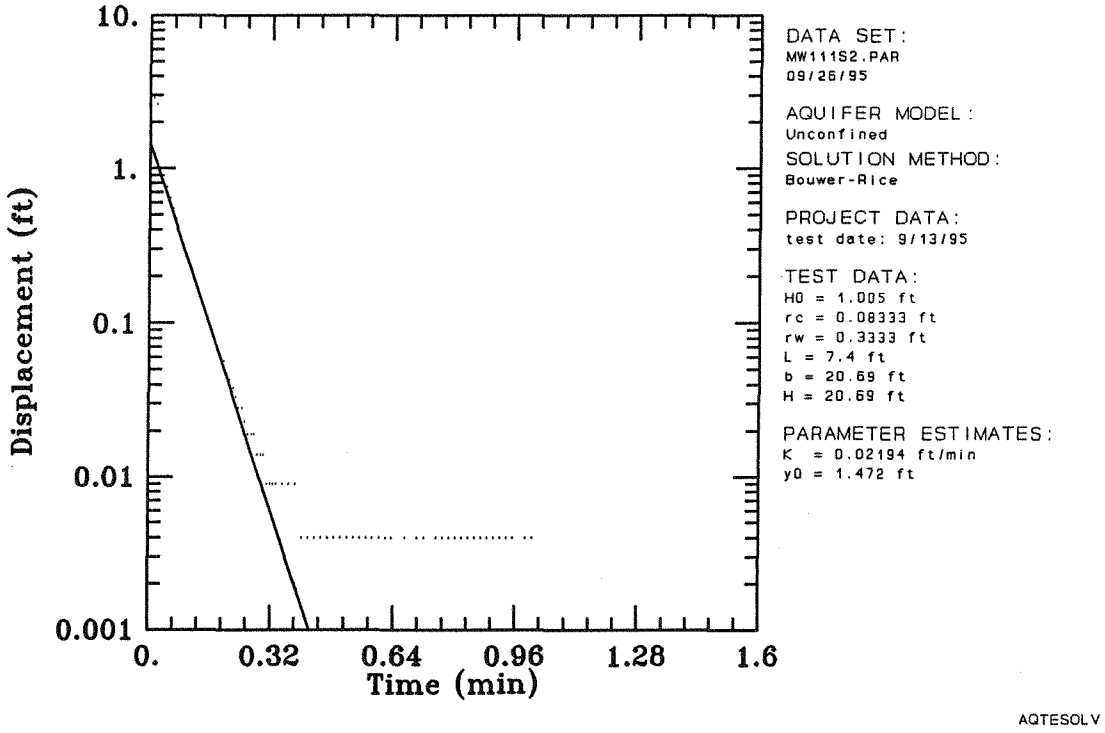


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Hydraulic Conductivity Testing Results

MW-111S2 - Fine to Very Fine Sand, then Silt and Clay

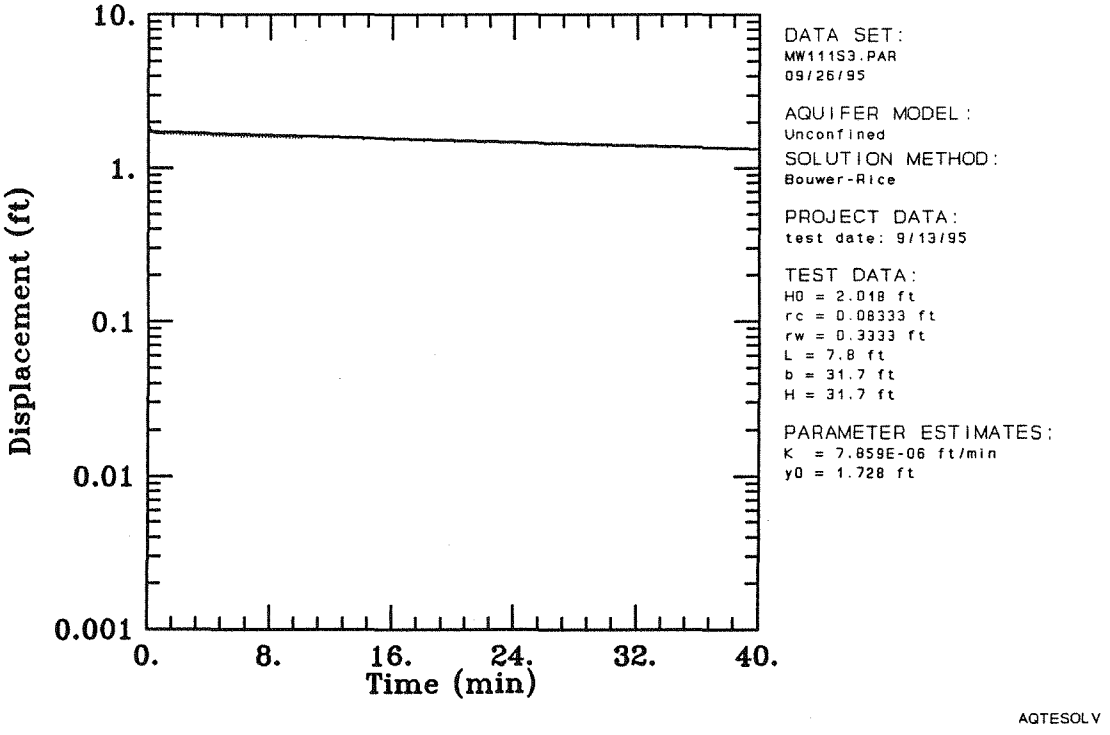


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
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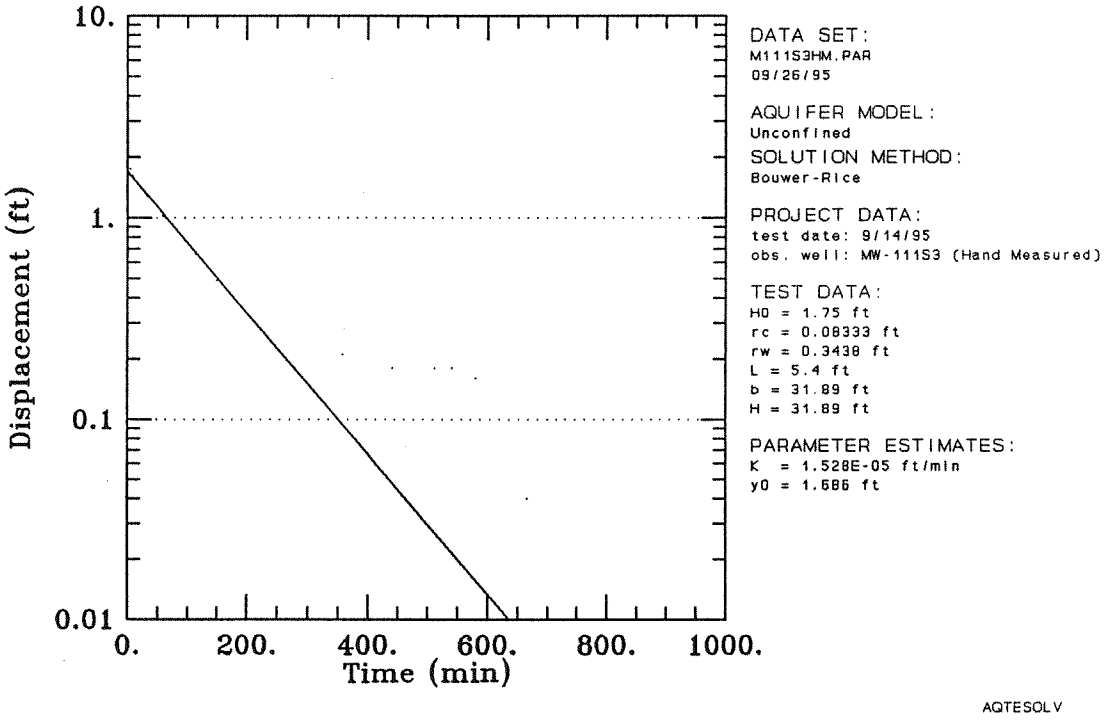
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-111S3 (Hermit) - Silt and Clay, then Very Fine Sand and Silt



MW-111S3 (Hand Measured) - Silt and Clay, then Very Fine Sand and Silt

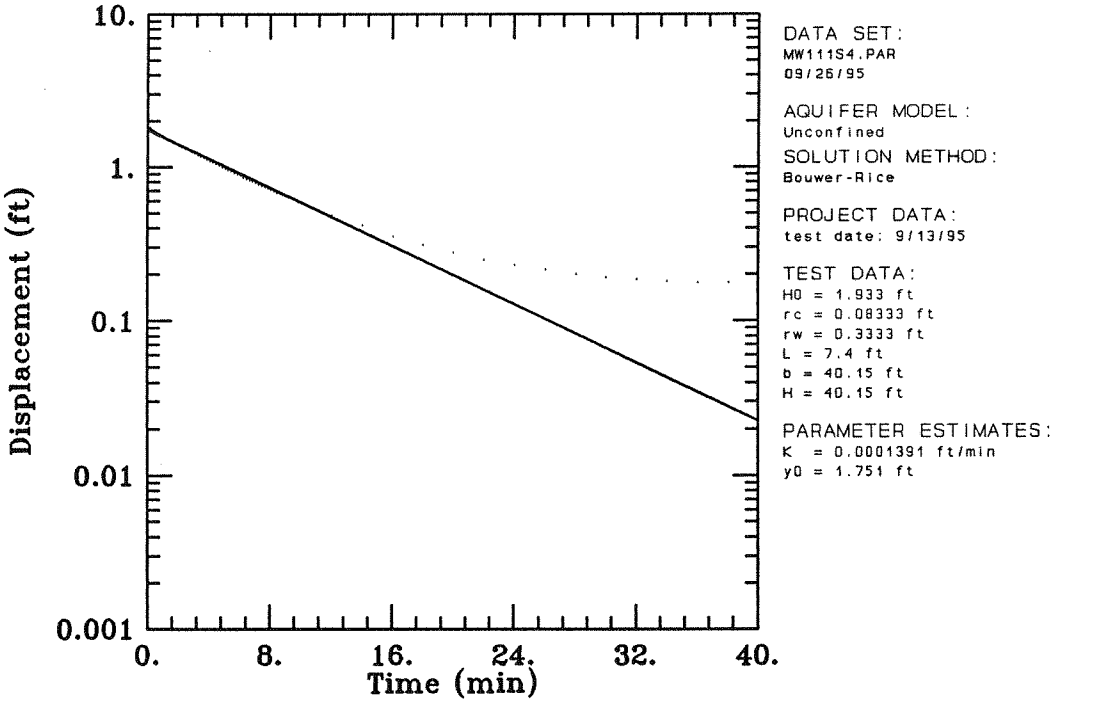


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Saginaw, Michigan

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Hydraulic Conductivity Testing Results

MW-111S4 - Very Fine Sand and Silt

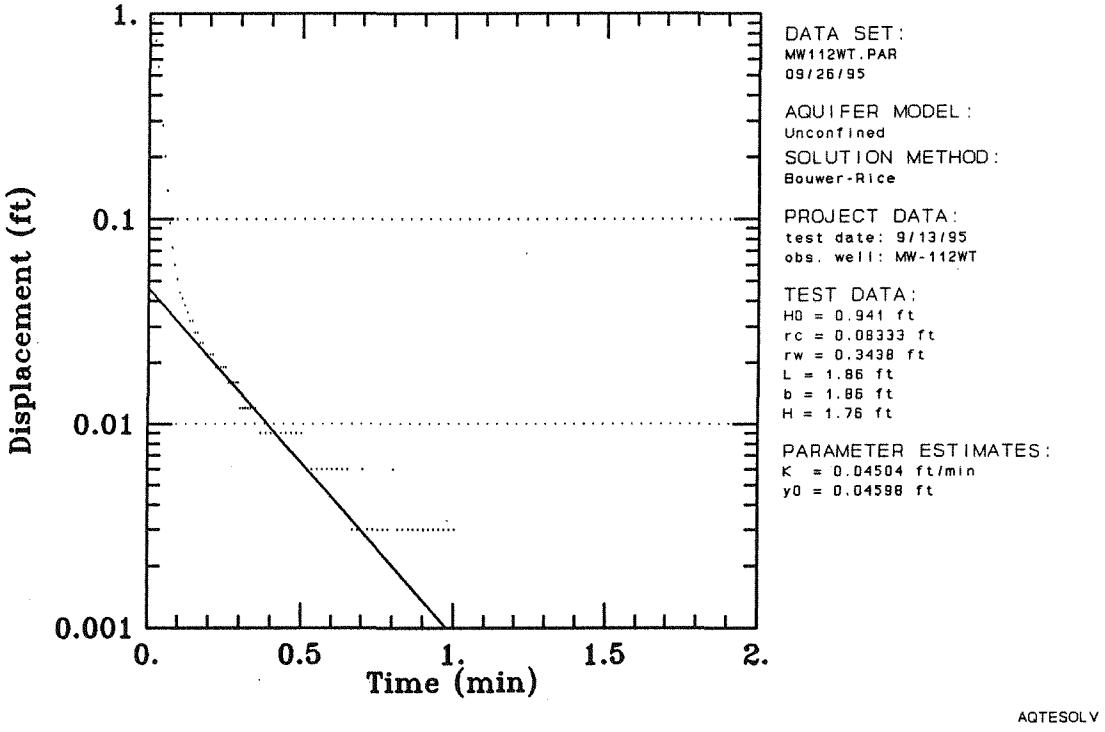


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Hydraulic Conductivity Testing Results

MW-112WT - Medium to Fine Sand

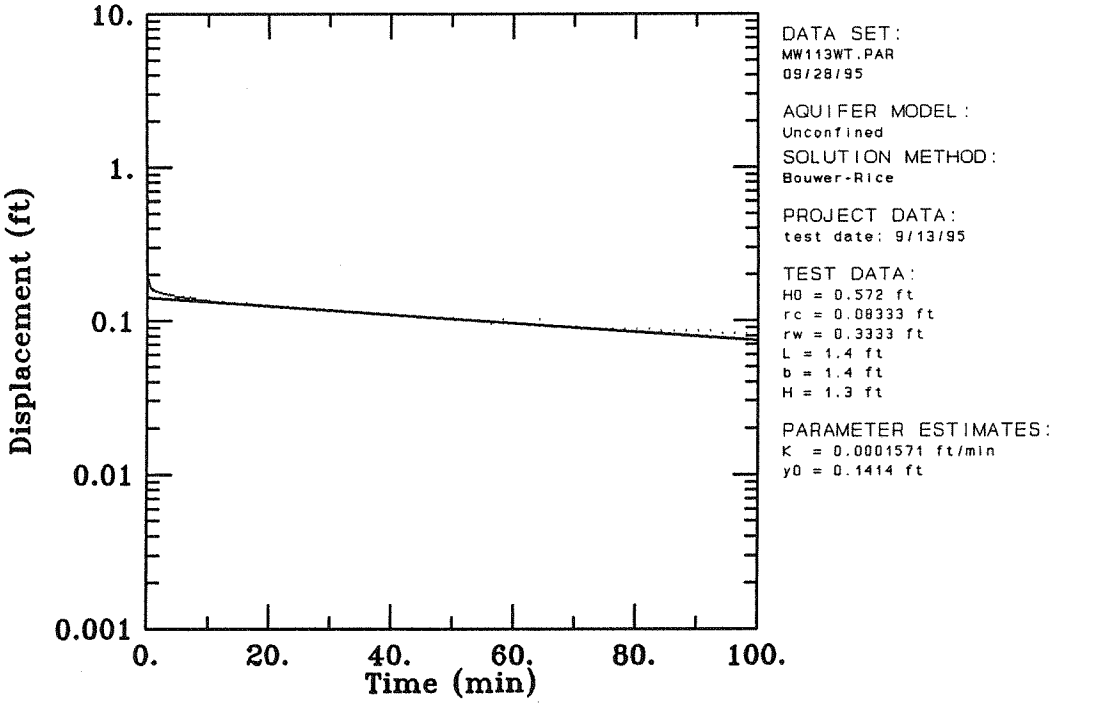


General Motors Corporation
Saginaw Malleable Iron Plant Property, Green Point Landfill,
and Drum Remediation Area
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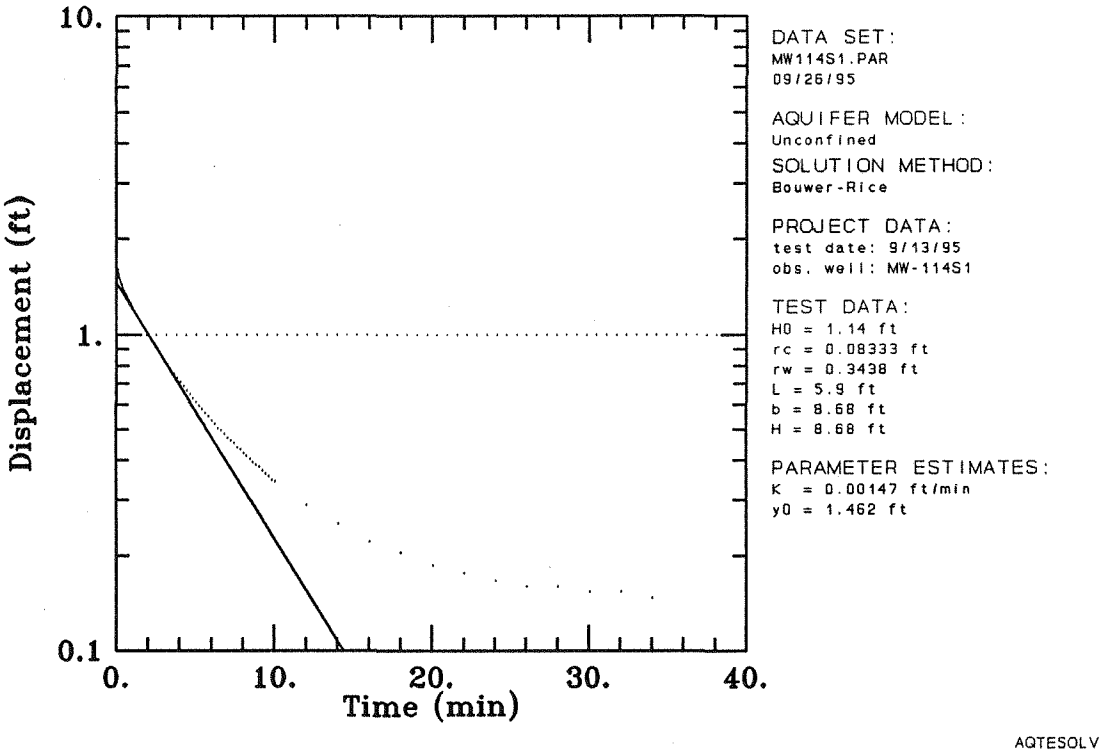
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-113WT - Silt, Little Clay, Trace Coarse to Fine Sand



MW-114S1 - Fine and Very Fine Sand, Trace Shell Fragments

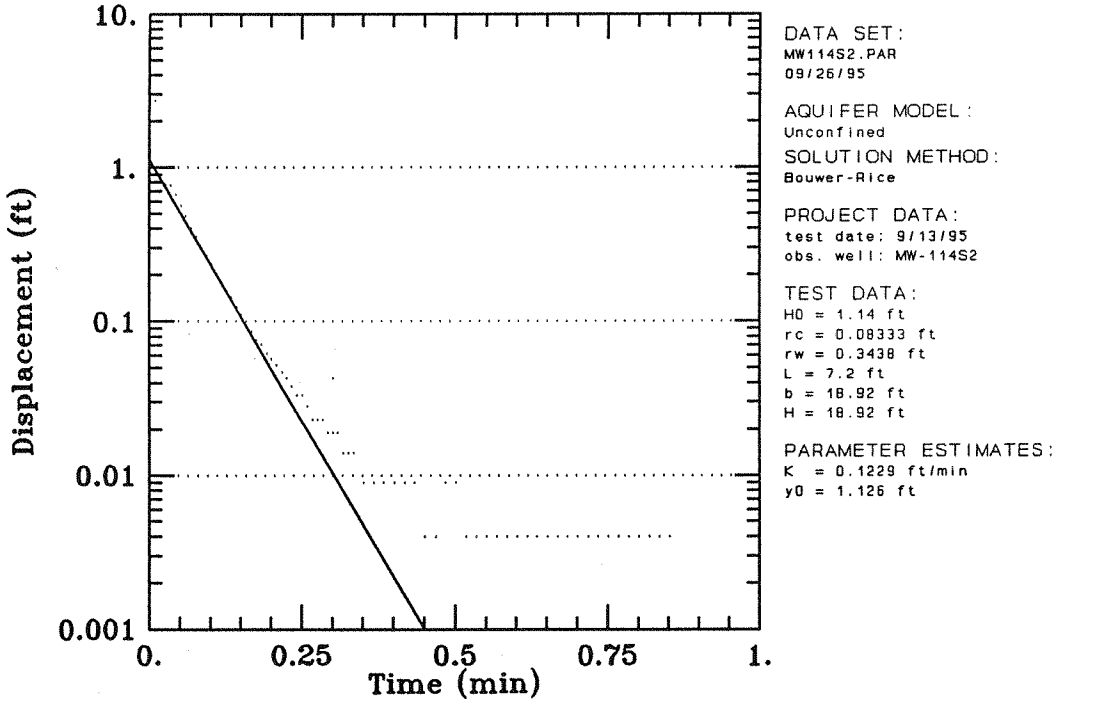


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Saginaw, Michigan

Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-114S2 - Medium to Fine Sand, Lens of Silt, Some Clay

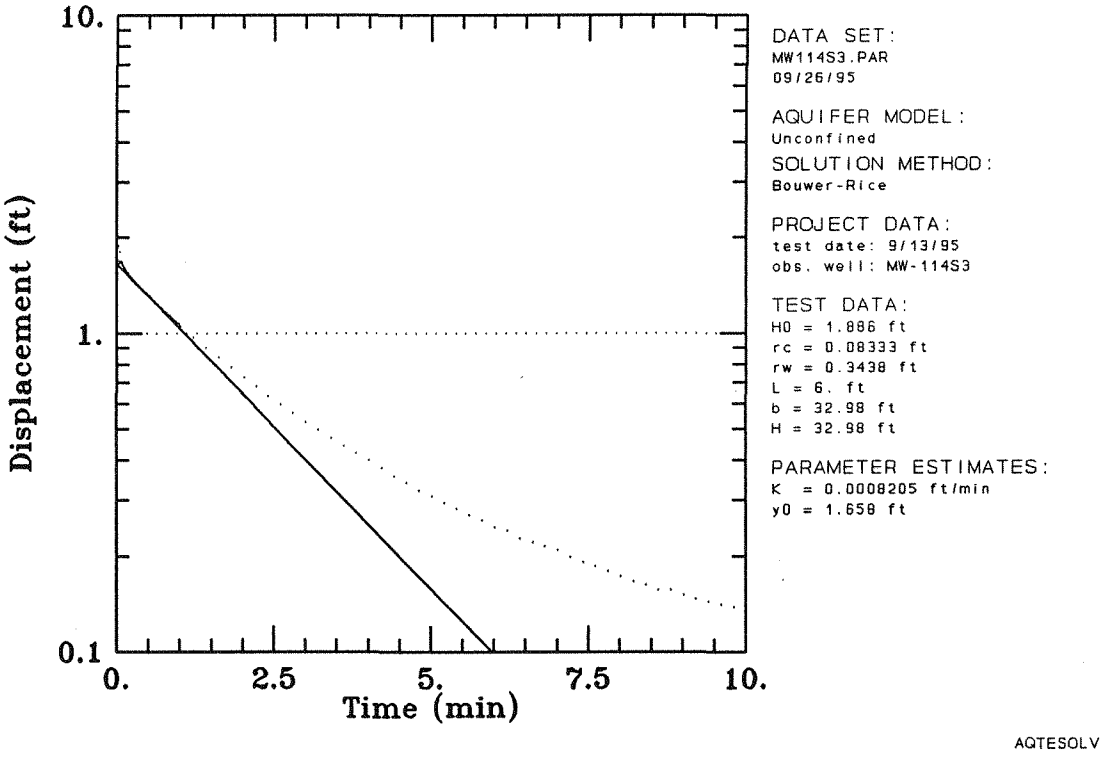


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MW-114S3 - Fine Sand, Trace Silt

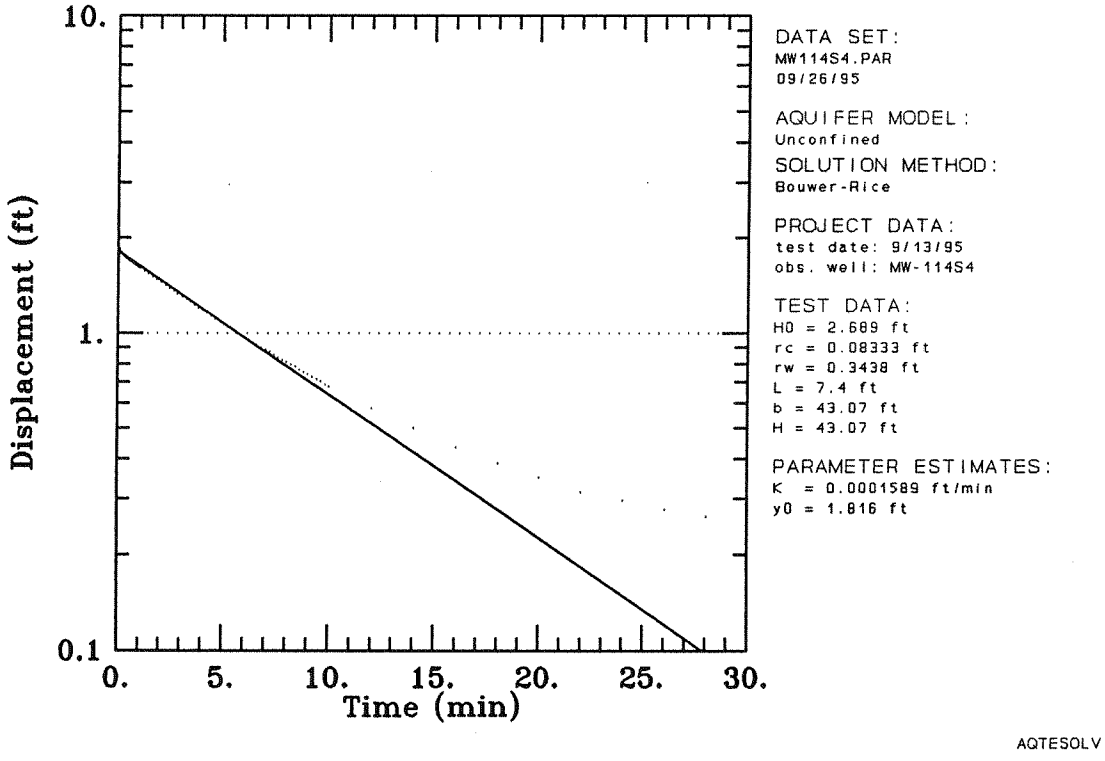


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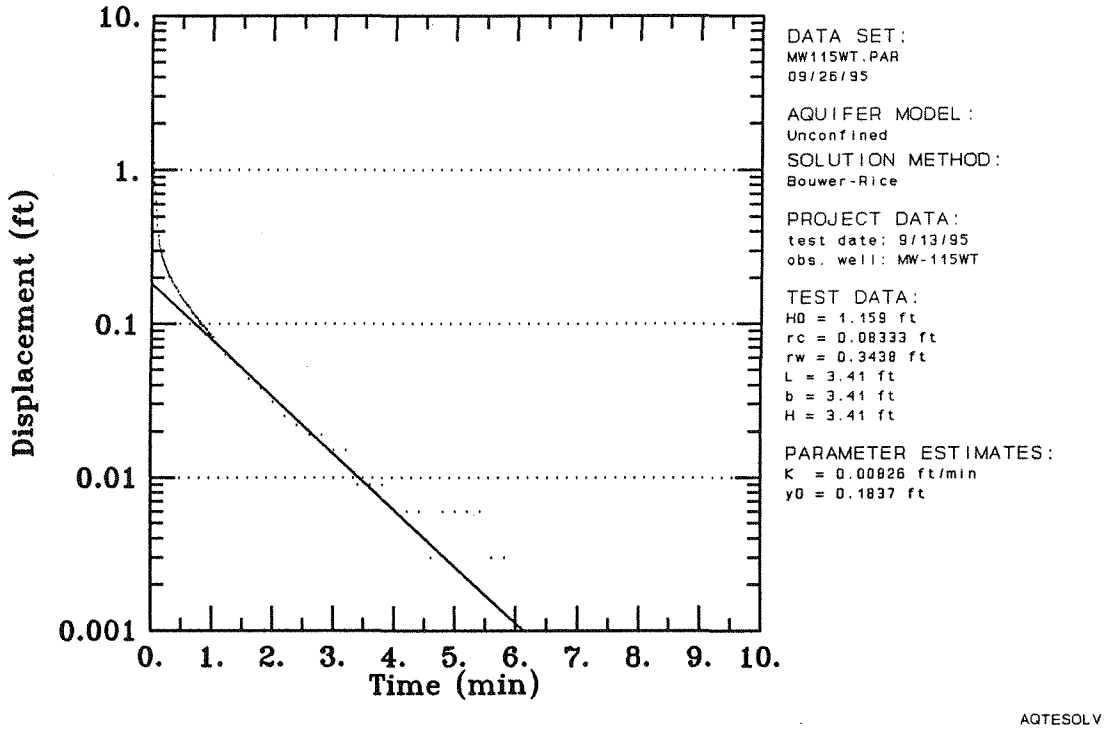
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

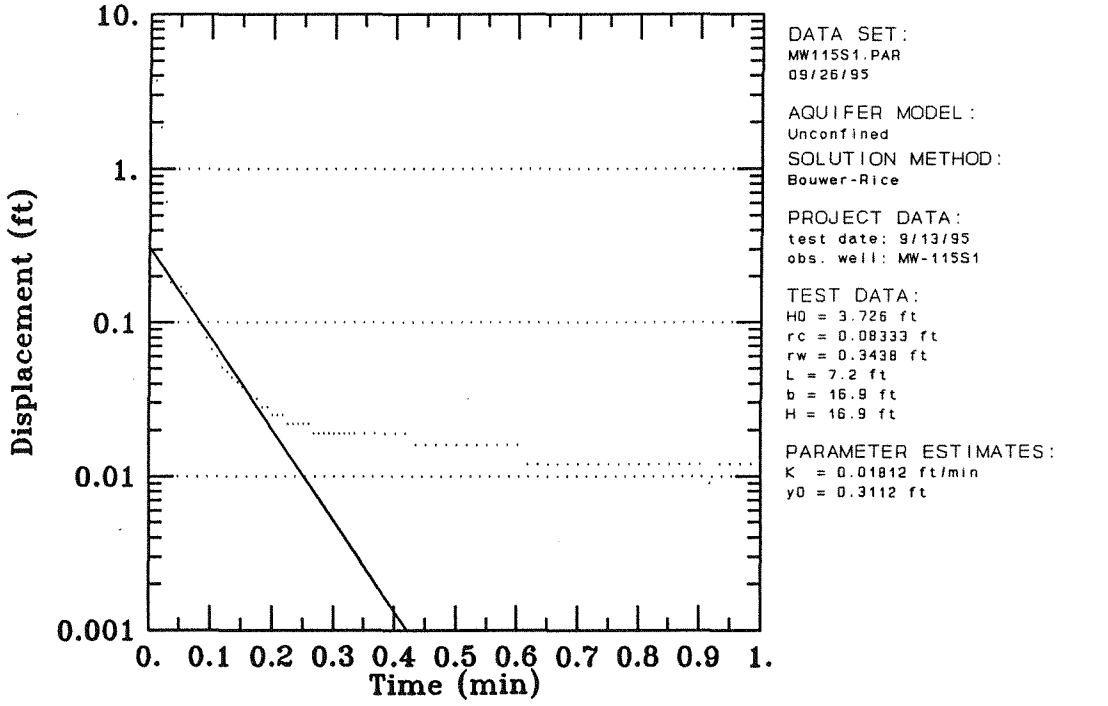
MW-114S4 - Fine Sand, Trace Silt



MW-115WT - Silt, Some Clay, then Very Fine Sand and Silt, Trace Clay



MW-115S1 - Fine Sand, Little Medium Sand, Trace Shell Fragments

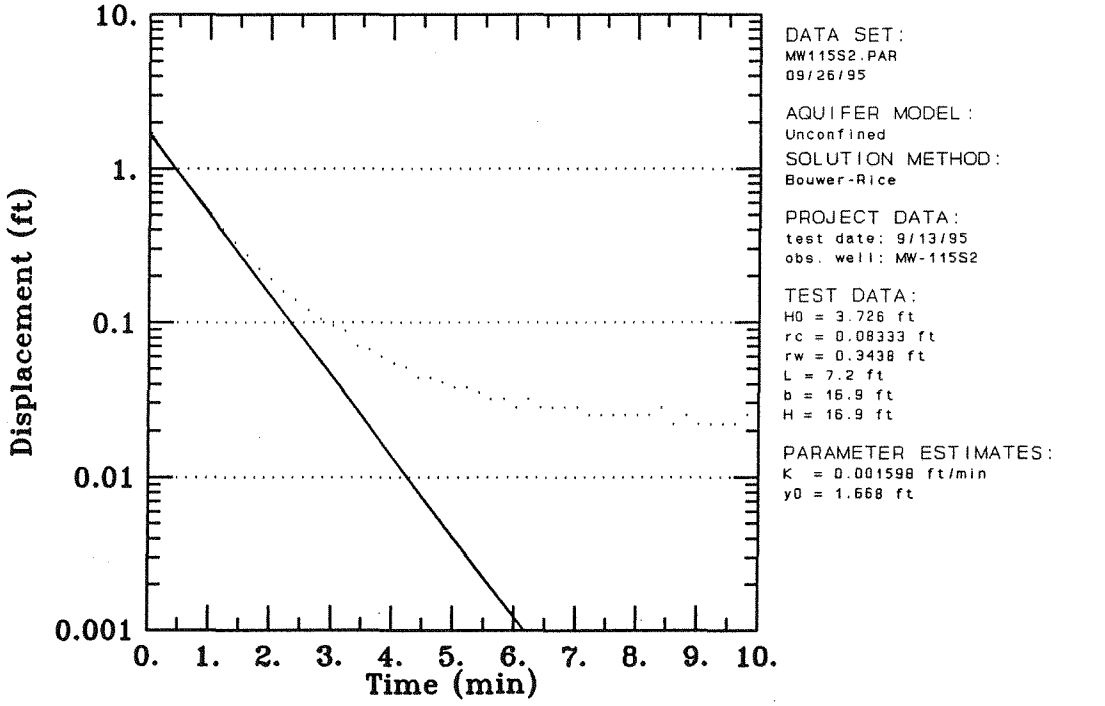


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Hydraulic Conductivity Testing Results

MW-115S2 - Fine to Very Fine Sand

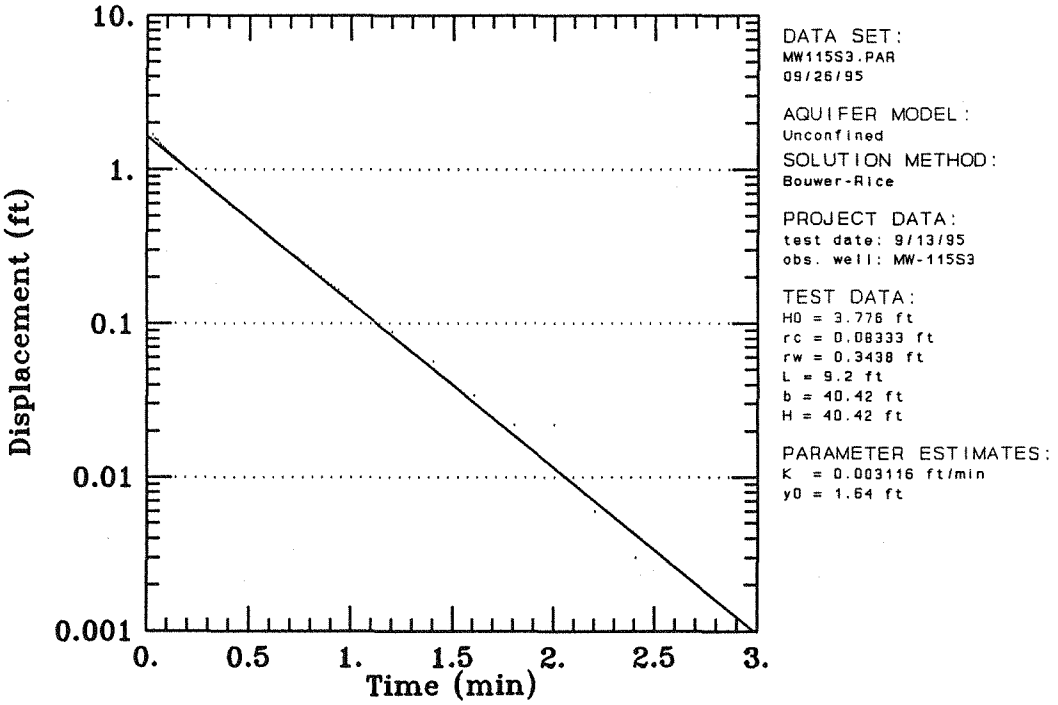


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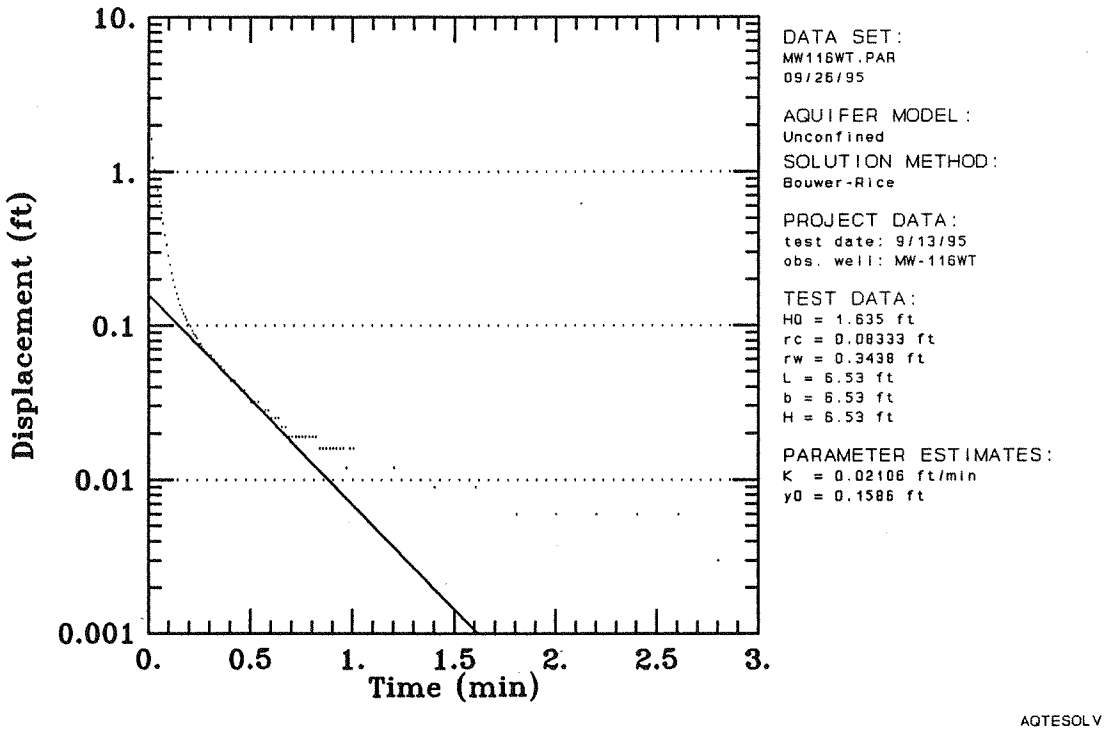
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

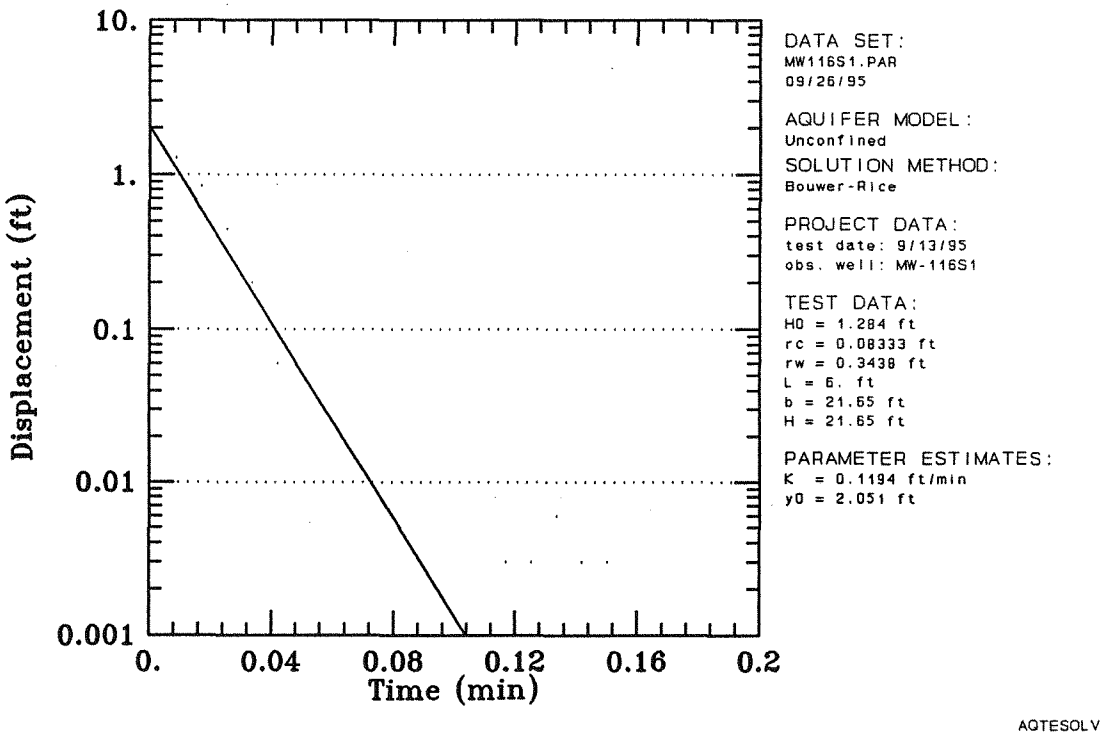
MW-115S3 - Fine to Very Fine Sand, Trace Silt



MW-116WT - Medium to Fine Sand, Little Coarse Sand, Trace Fine Gravel, Trace Shells and Trace Silt



MW-116S1 - Medium to Fine Sand, Little Coarse Sand, Trace Shells

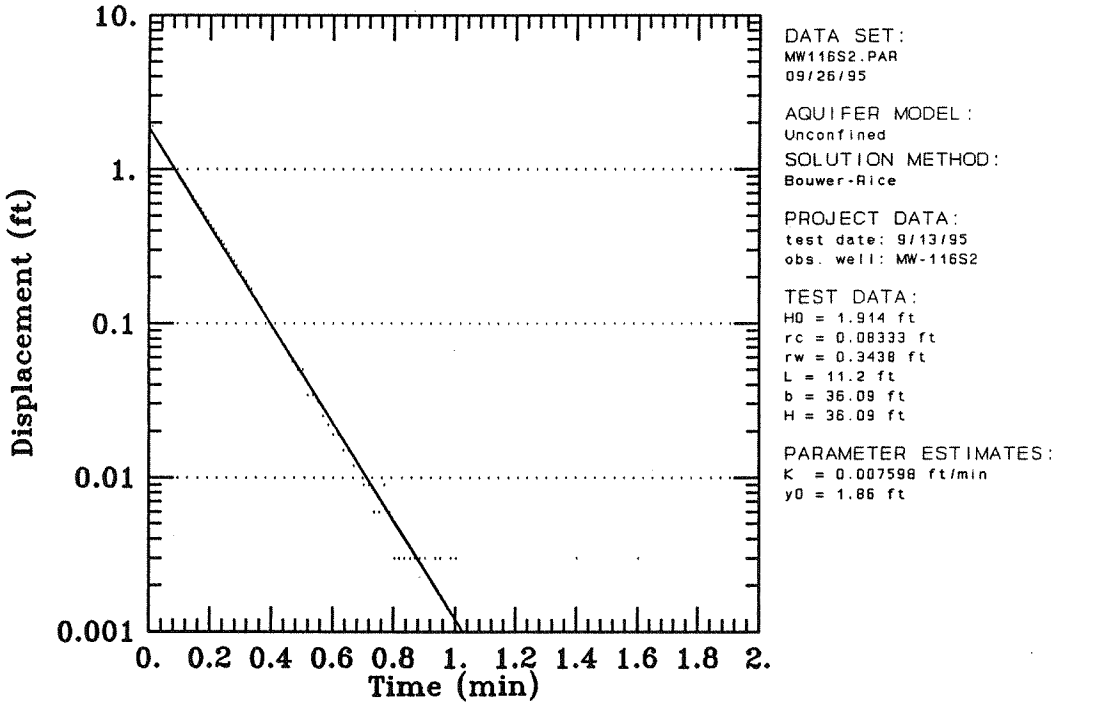


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and Drum Remediation Area
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MW-116S2 - Medium to Fine Sand

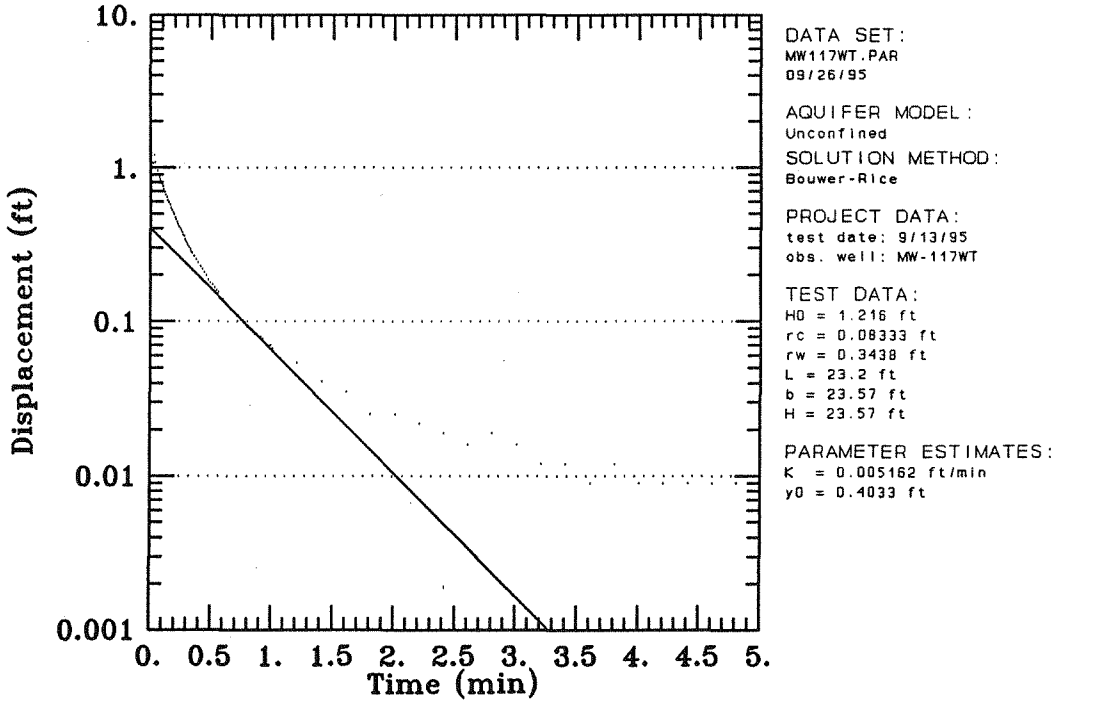


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and Drum Remediation Area
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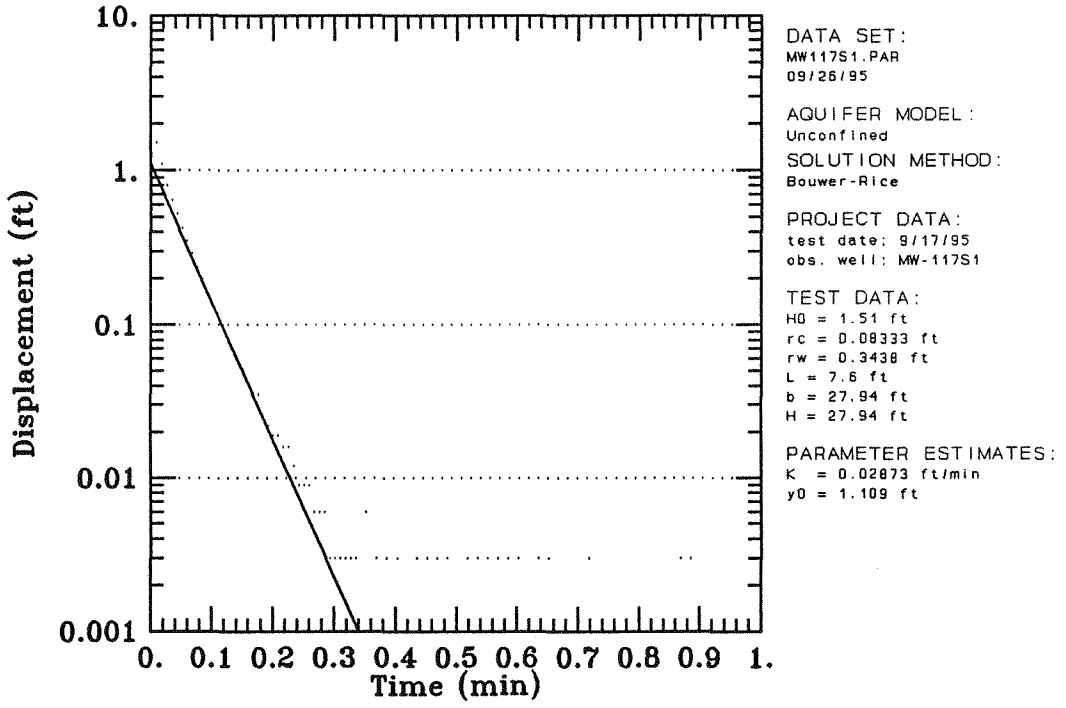
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

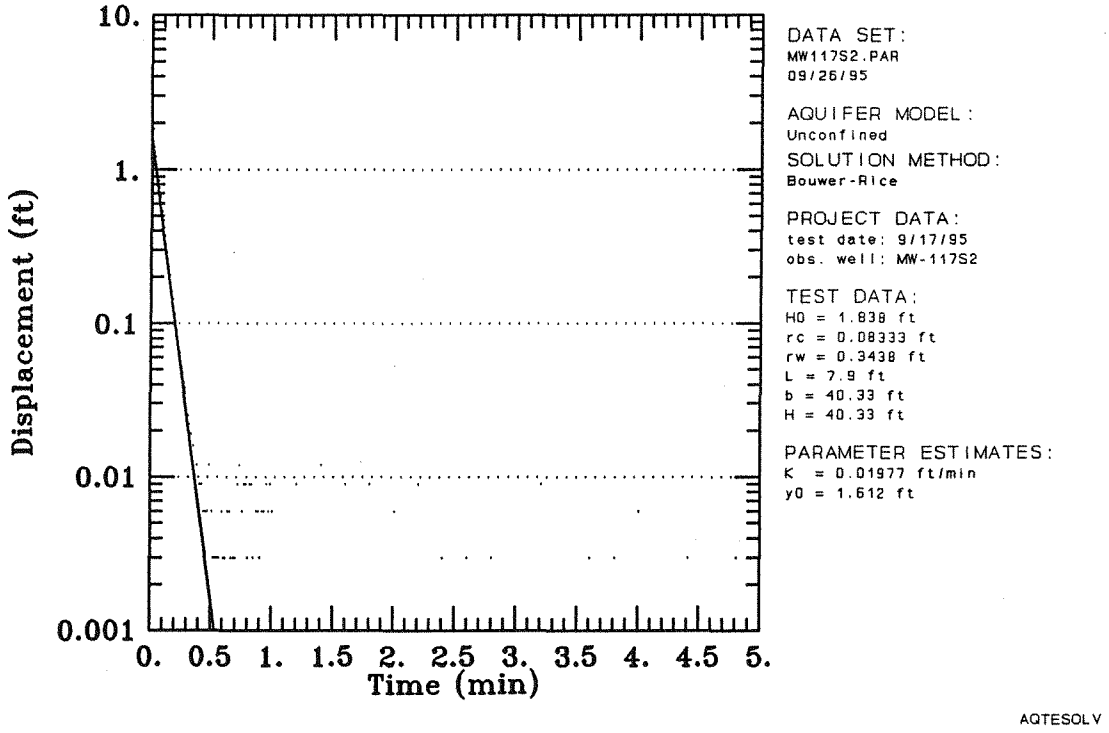
MW-117WT - Fine Sand and Silt, Some Clay



MW-117S1 - Fine Sand, Some Silt, Some Shell Fragments



MW-117S2 - Coarse Sand, Trace Silt, Trace Medium to Fine Gravel

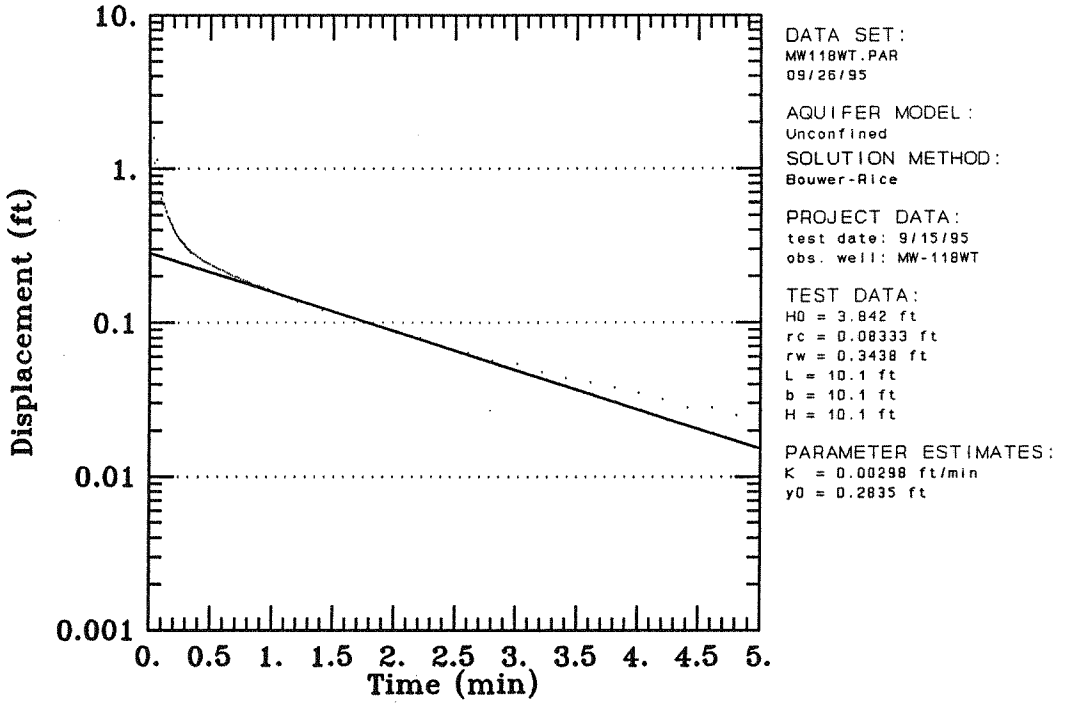


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and Drum Remediation Area
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Hydraulic Conductivity Testing Results

MW-118WT (Test #1) - Coarse to Fine Sand, Some Silt

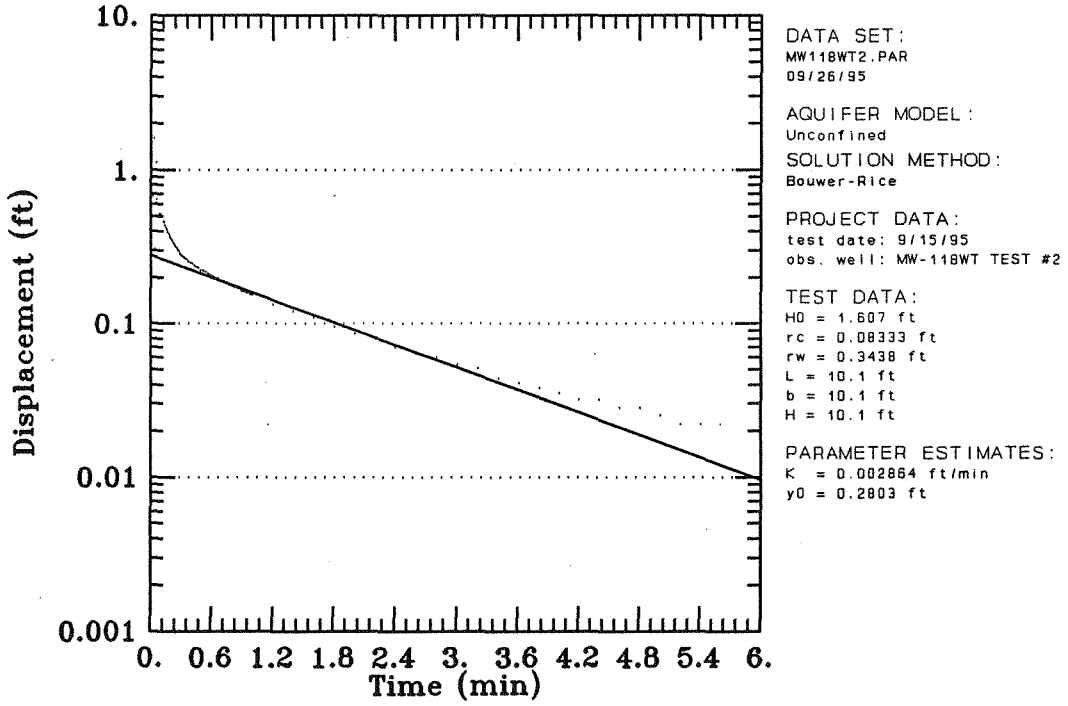


General Motors Corporation
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and Drum Remediation Area
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Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-118WT (Test #2) - Coarse to Fine Sand, Some Silt



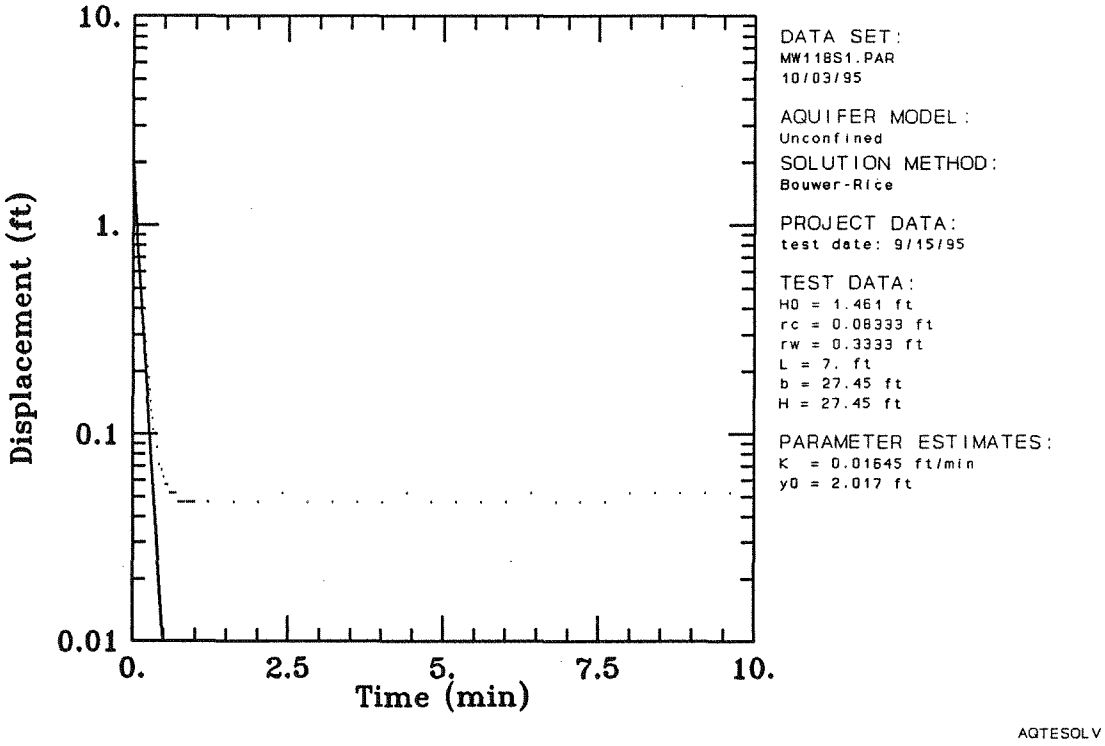
General Motors Corporation
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and Drum Remediation Area
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Hydraulic Conductivity Testing Results

(Test #1)

MW-118S1 - Fine Sand and Silt

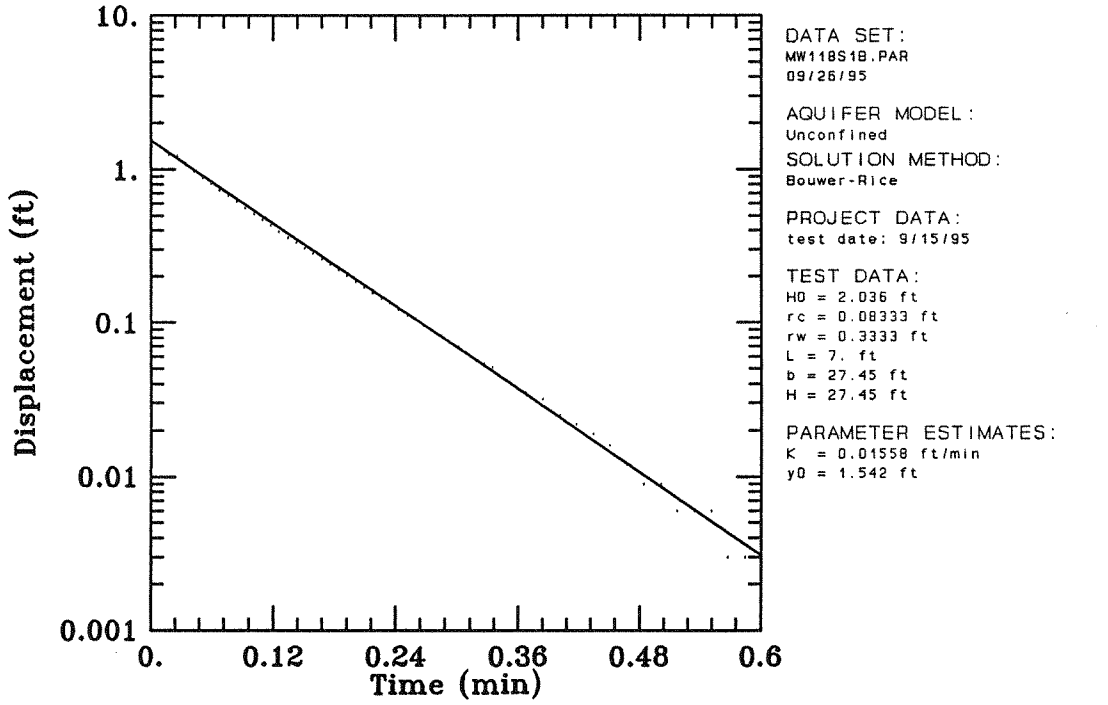


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Hydraulic Conductivity Testing Results

MW-118S1B (Test #2) - Fine Sand and Silt

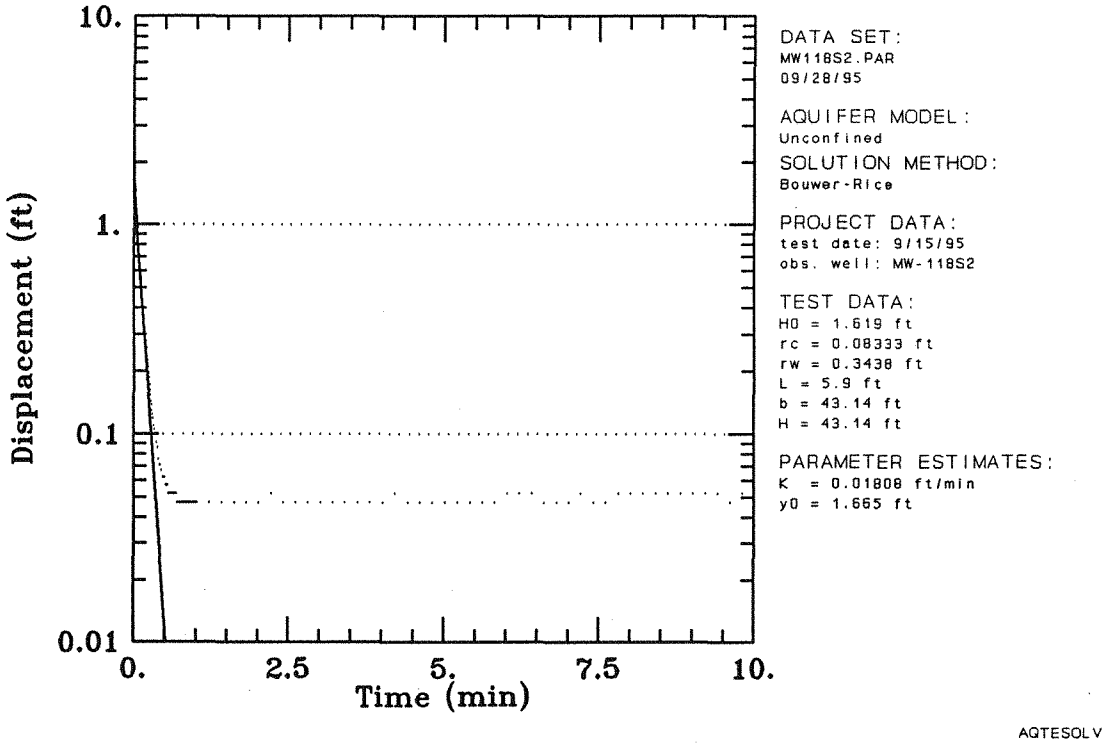


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MW-118S2 - Coarse to Fine Sand, then Silt and Clay

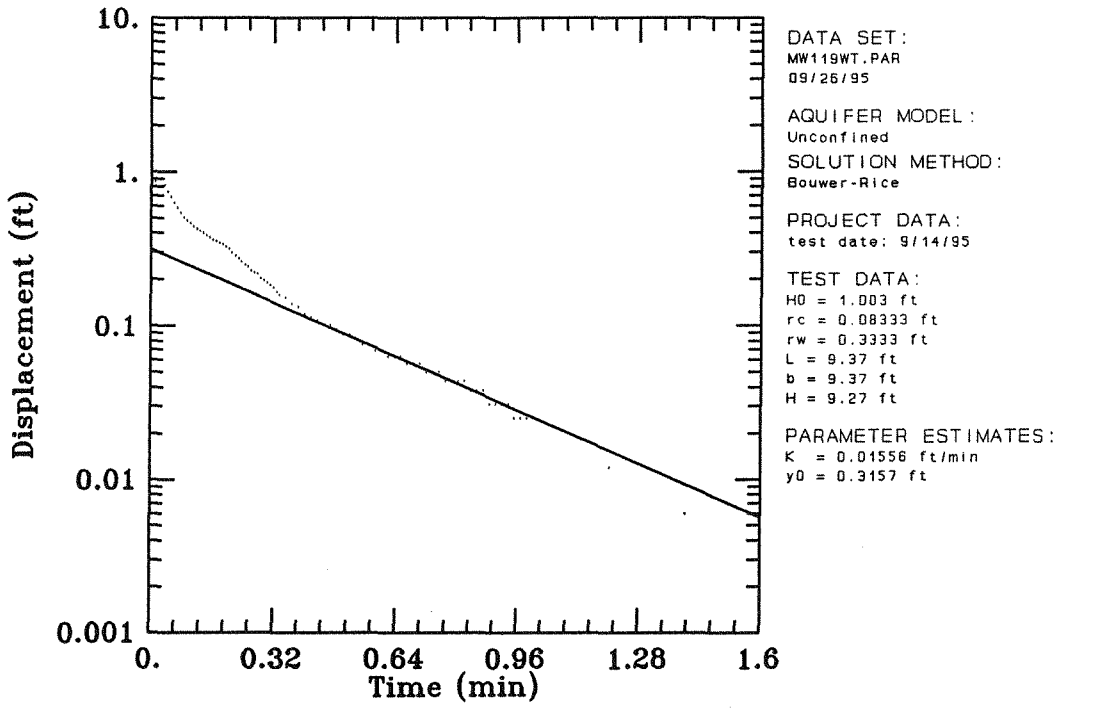


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MW-119WT - Medium to Fine Sand, Trace Silt

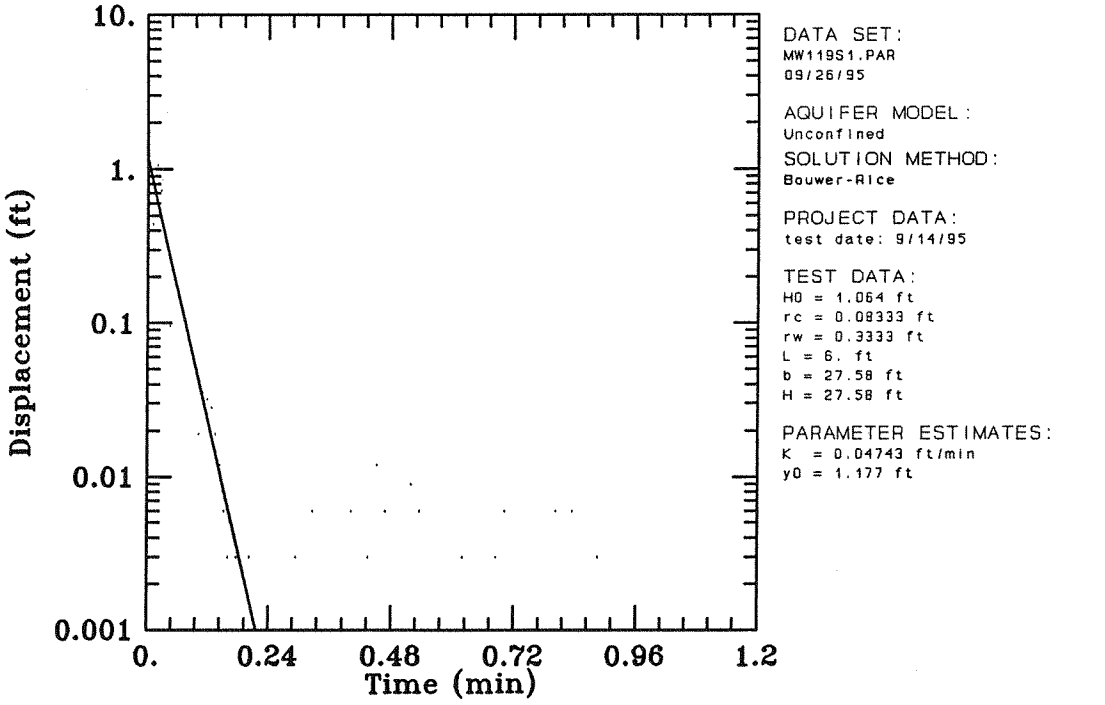


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MW-119S1 - Coarse, Medium, and Fine Sand

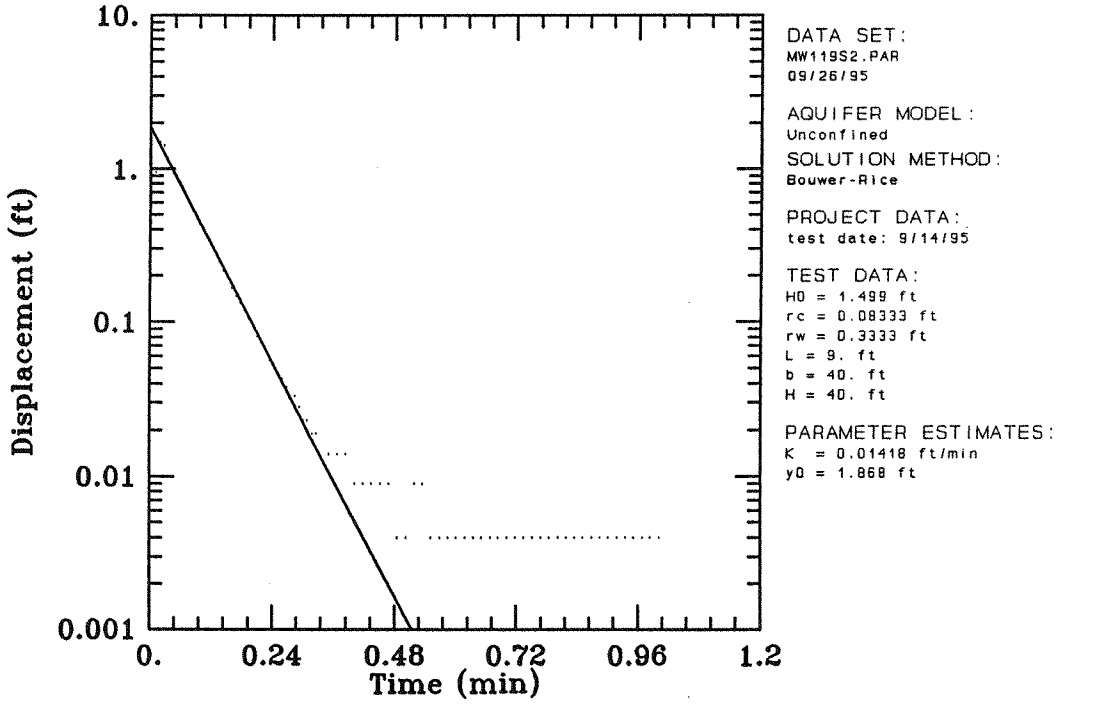


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MW-119S2 - Coarse Sand and Fine Gravel

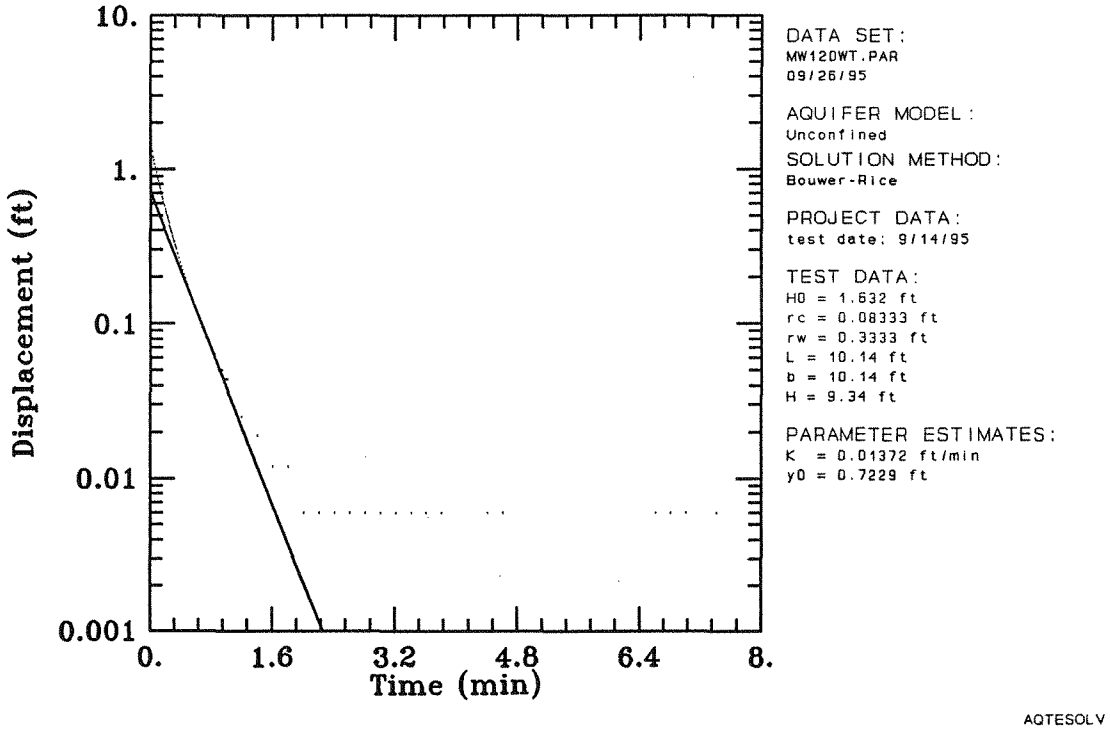


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and Drum Remediation Area
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MW-120WT - Fine Sand and Silt

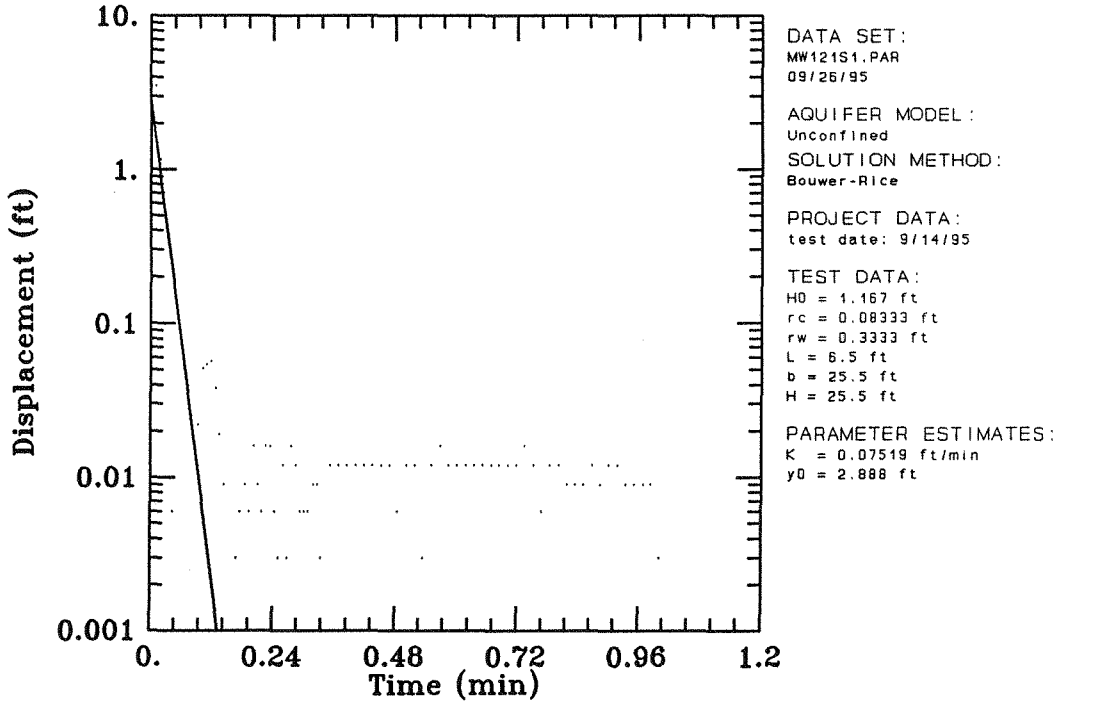


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and Drum Remediation Area
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Hydraulic Conductivity Testing Results

MW-120S1 - Coarse, Medium, and Fine Sand

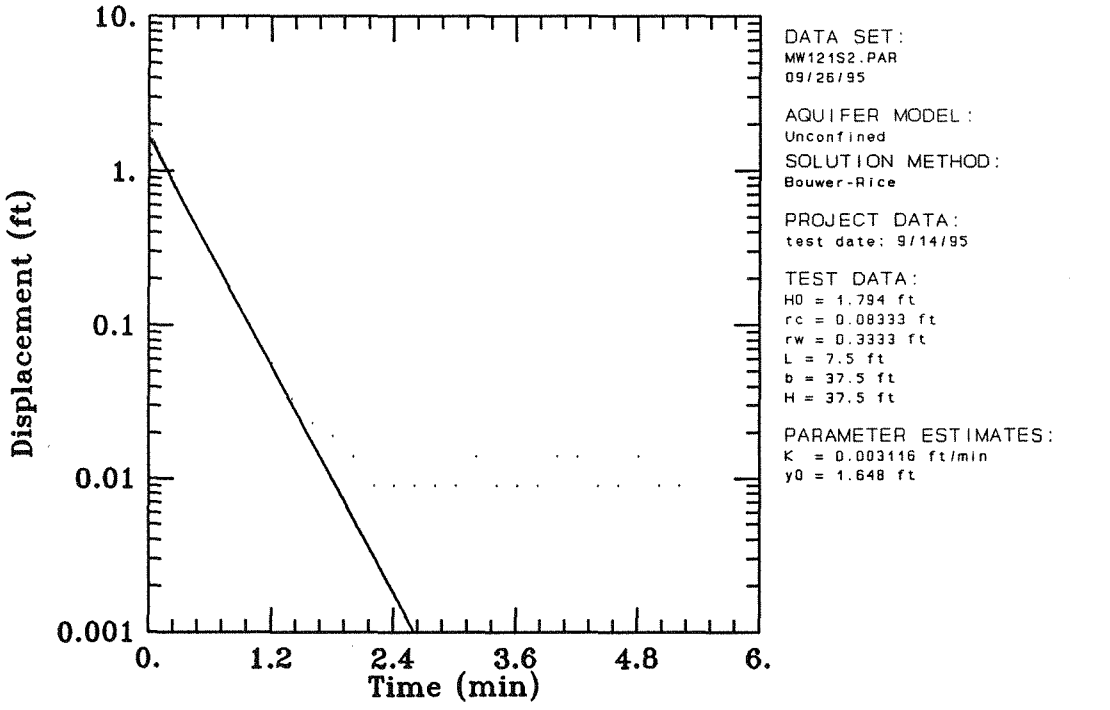


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and Drum Remediation Area
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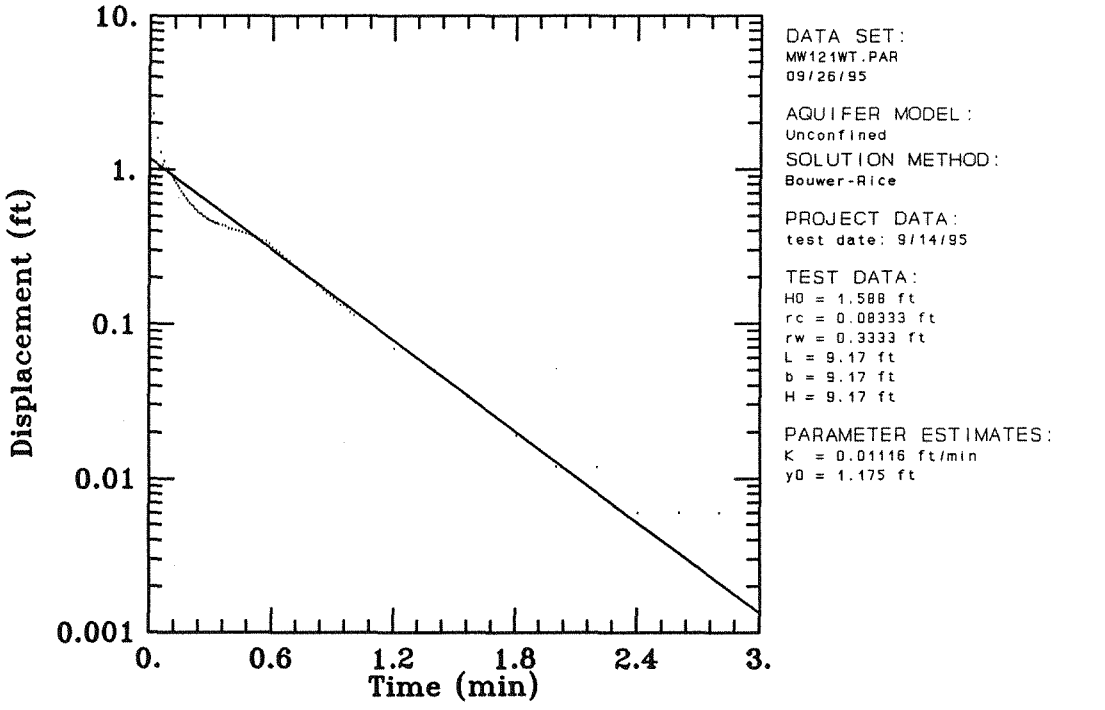
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-120S2 - Coarse, Medium, and Fine Sand



MW-121WT - Fine Sand, Little Silt, Trace Shells

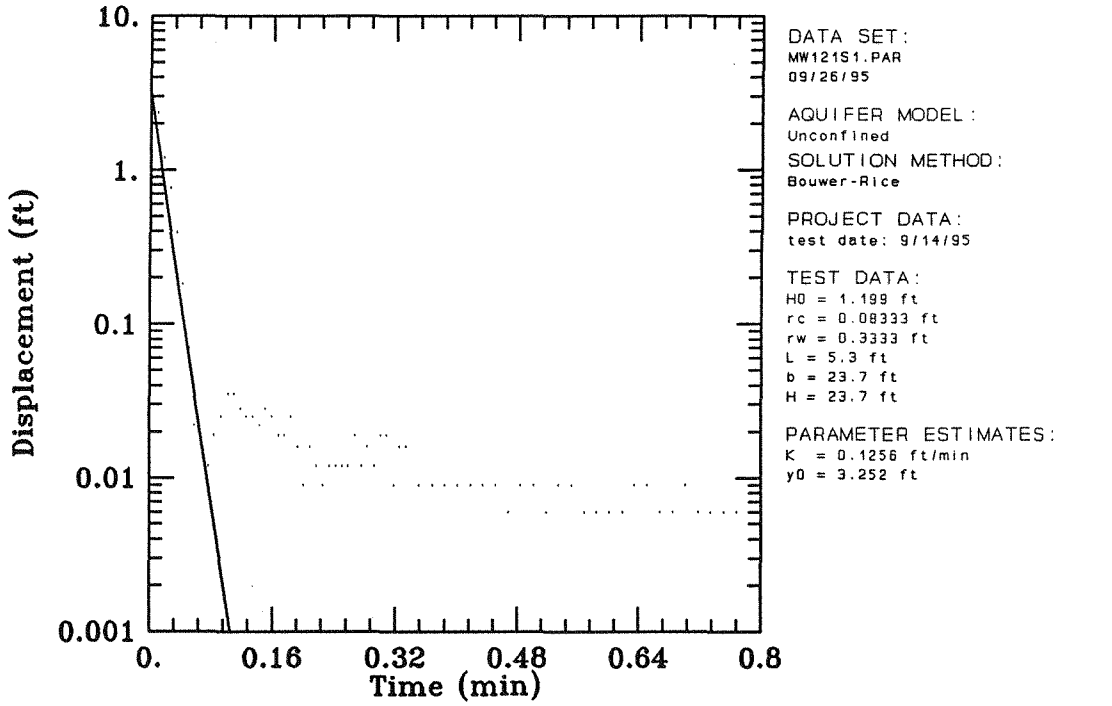


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and Drum Remediation Area
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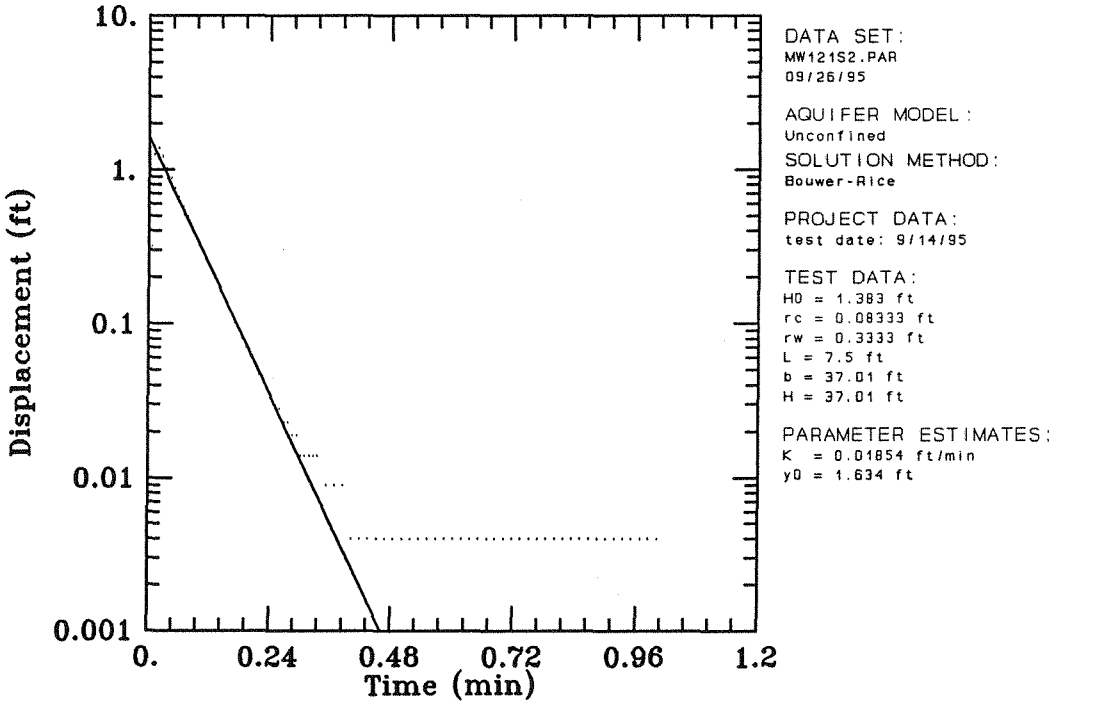
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-121S1 - Coarse Sand, Trace Fine Gravel



MW-121S2 - Medium to Fine Sand, Little Gravel

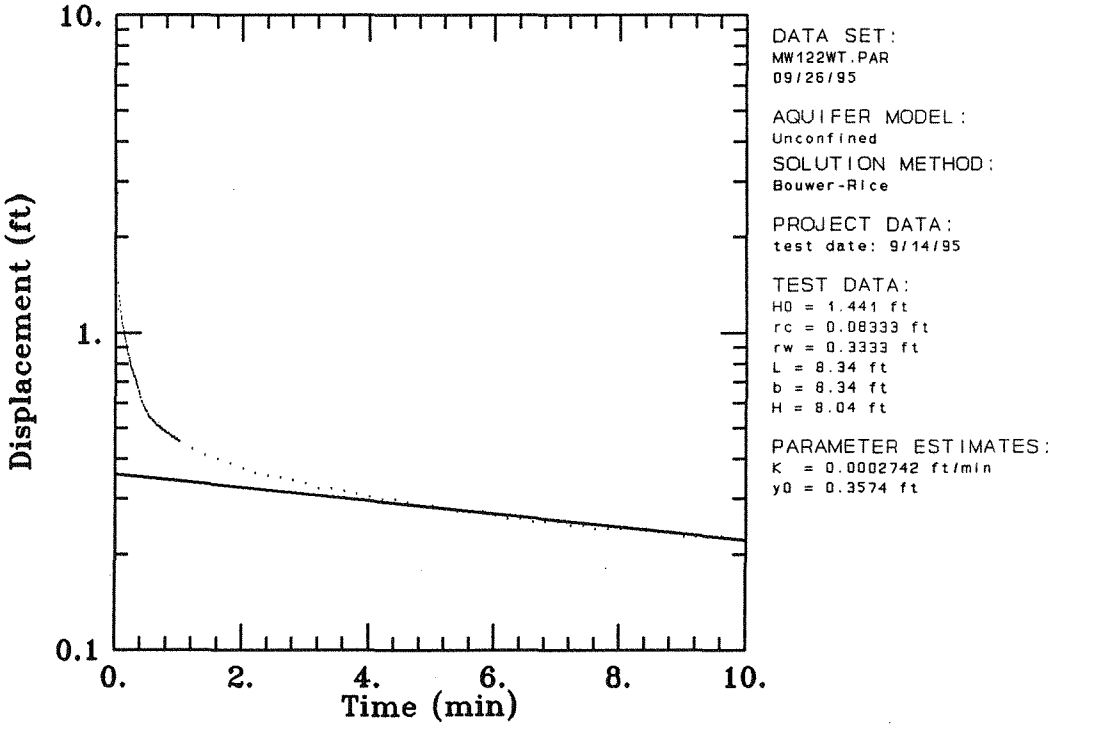


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MW-122WT - Fine Sand and Silt, Trace Shells, Trace Clay

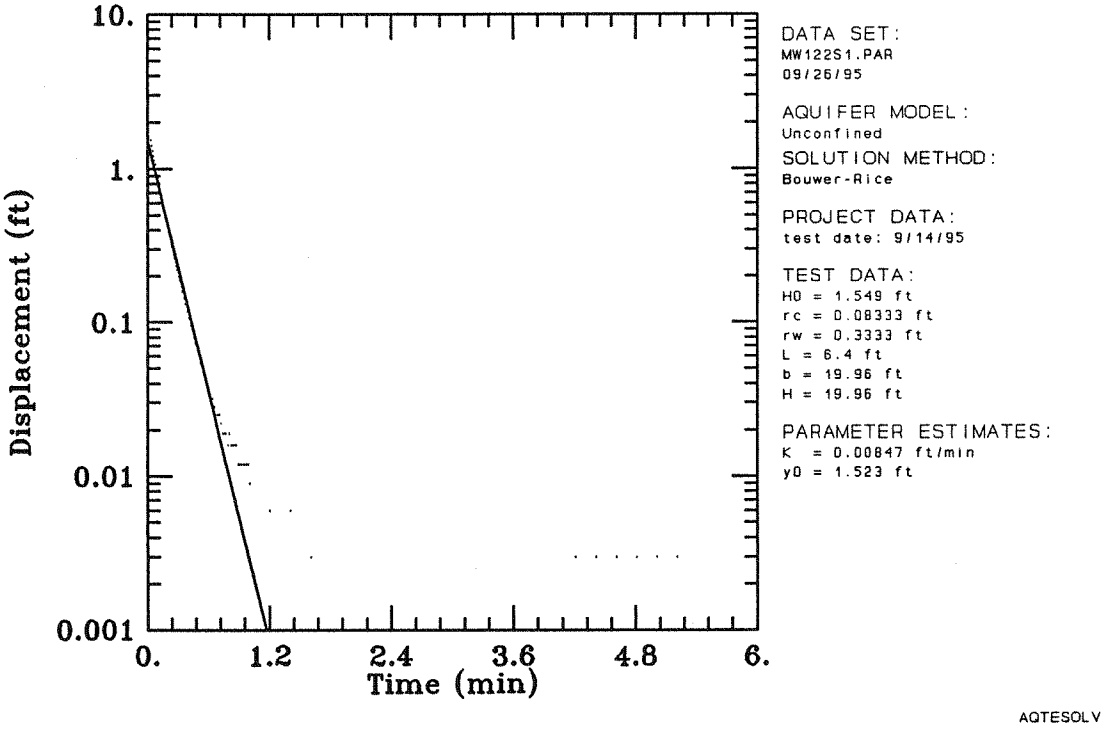


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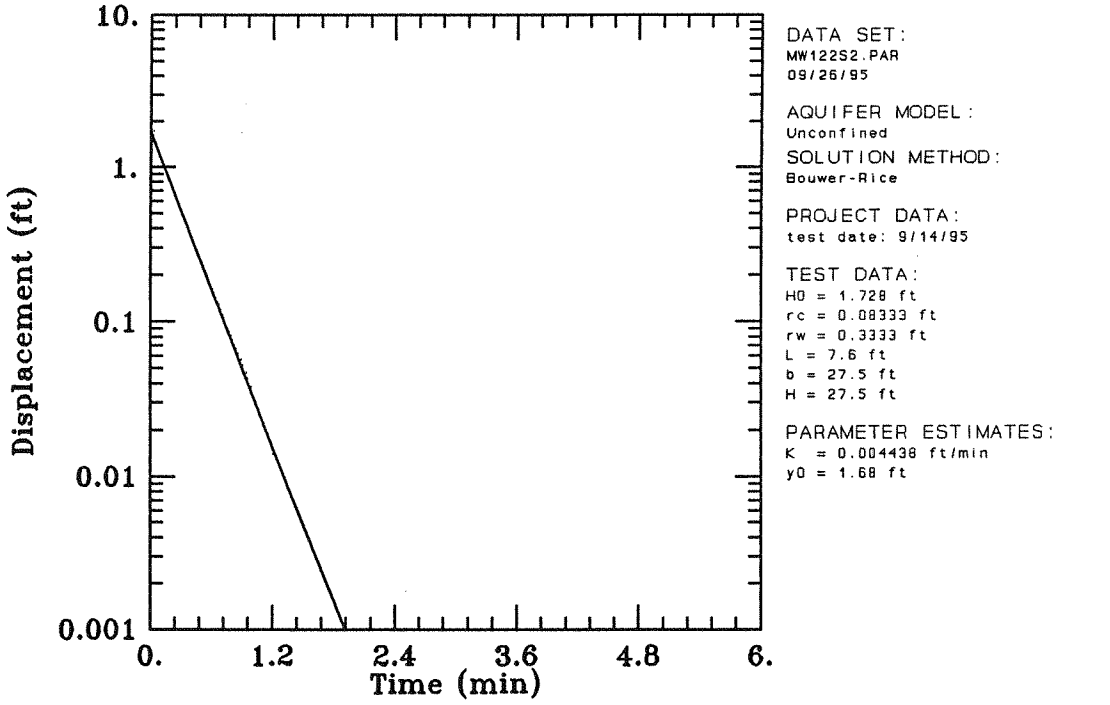
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

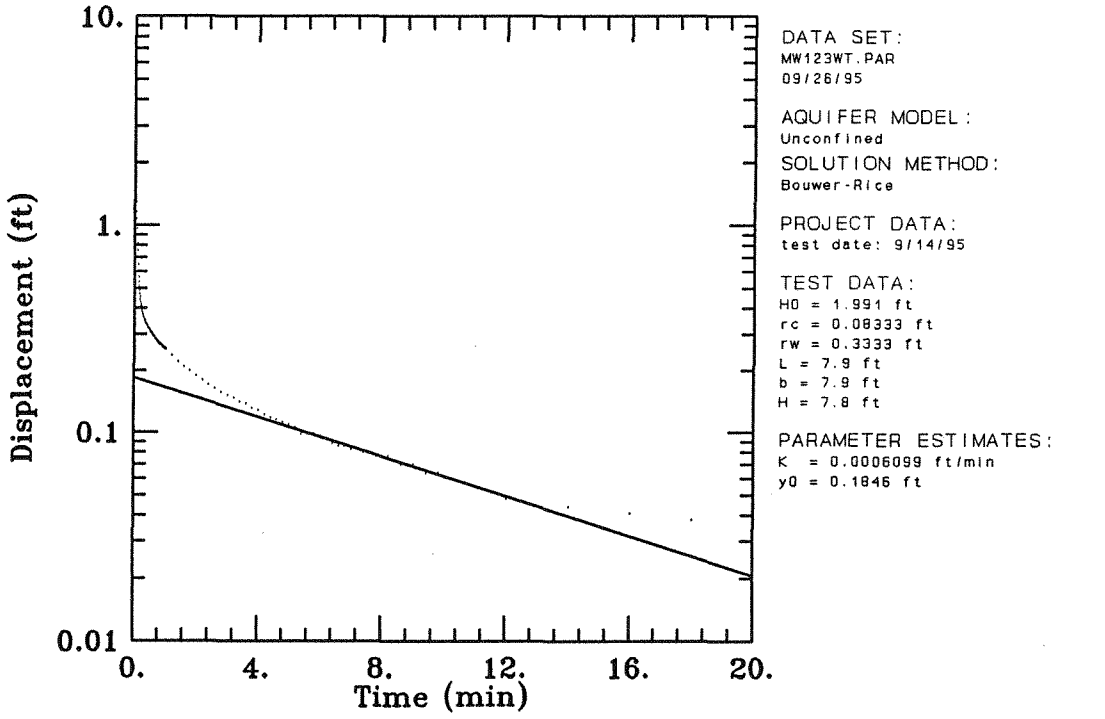
MW-122S1 - Medium to Fine Sand



MW-122S2 - Medium to Fine Sand, then Very Fine Sand



MW-123WT - Silt with Little Clay, then Clay with Some Silt, then Fine Sand and Clay

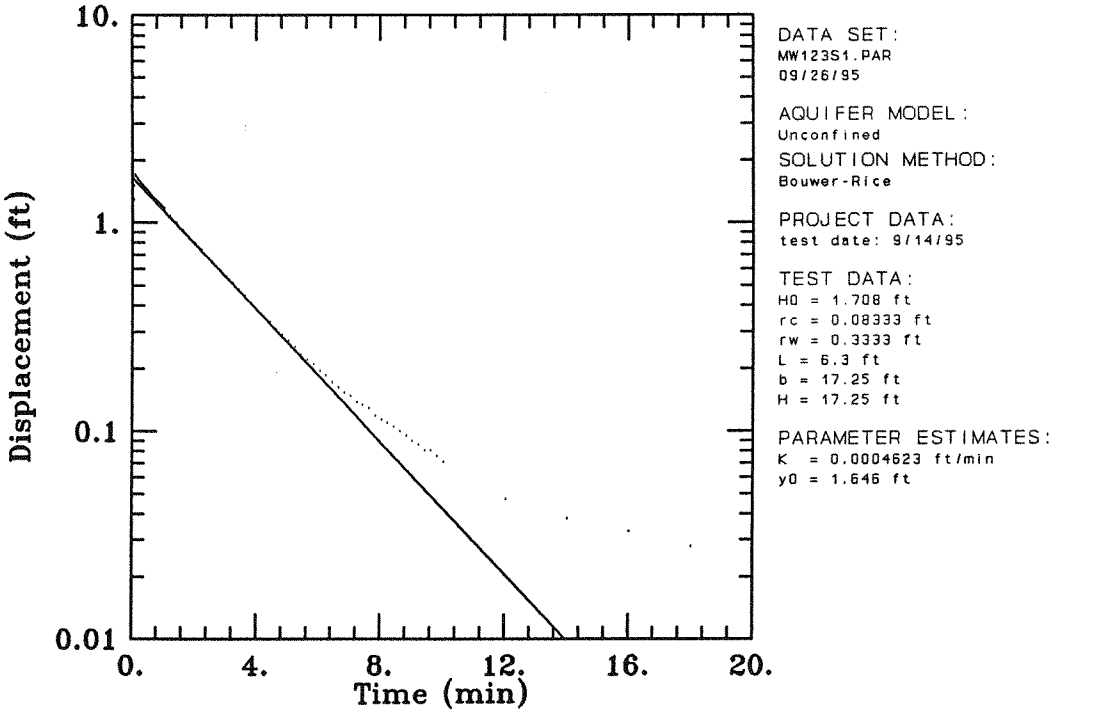


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Hydraulic Conductivity Testing Results

MW-123S1 - Medium to Fine Sand, then Silt and Clay

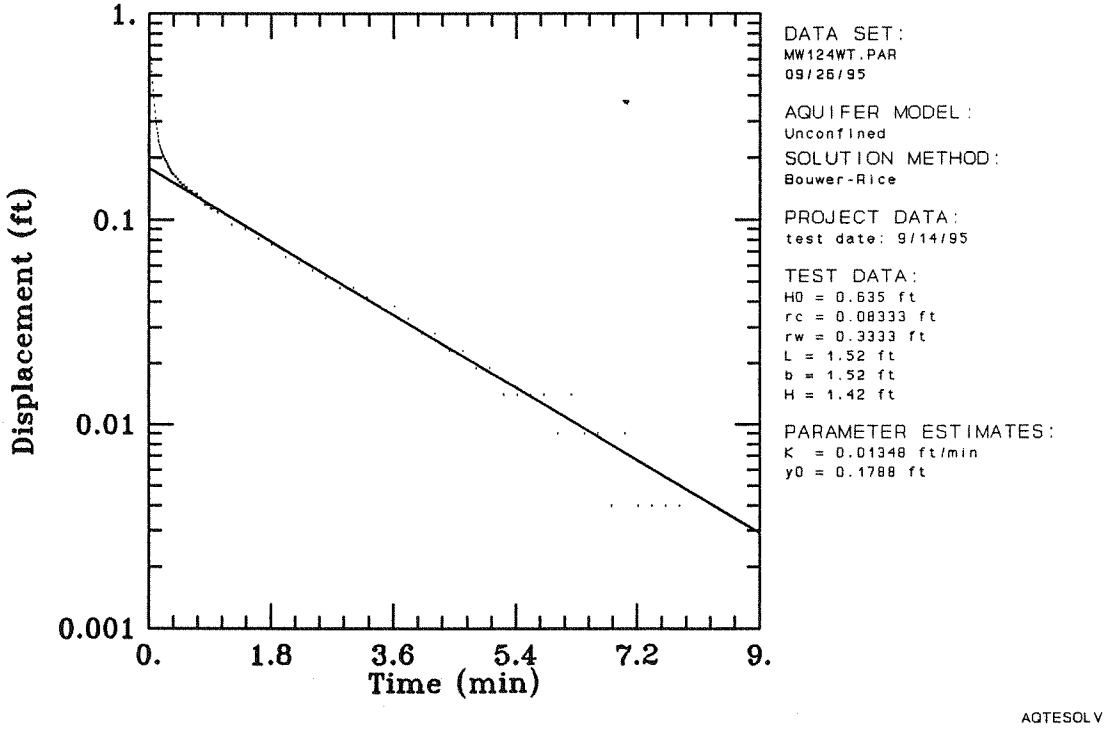


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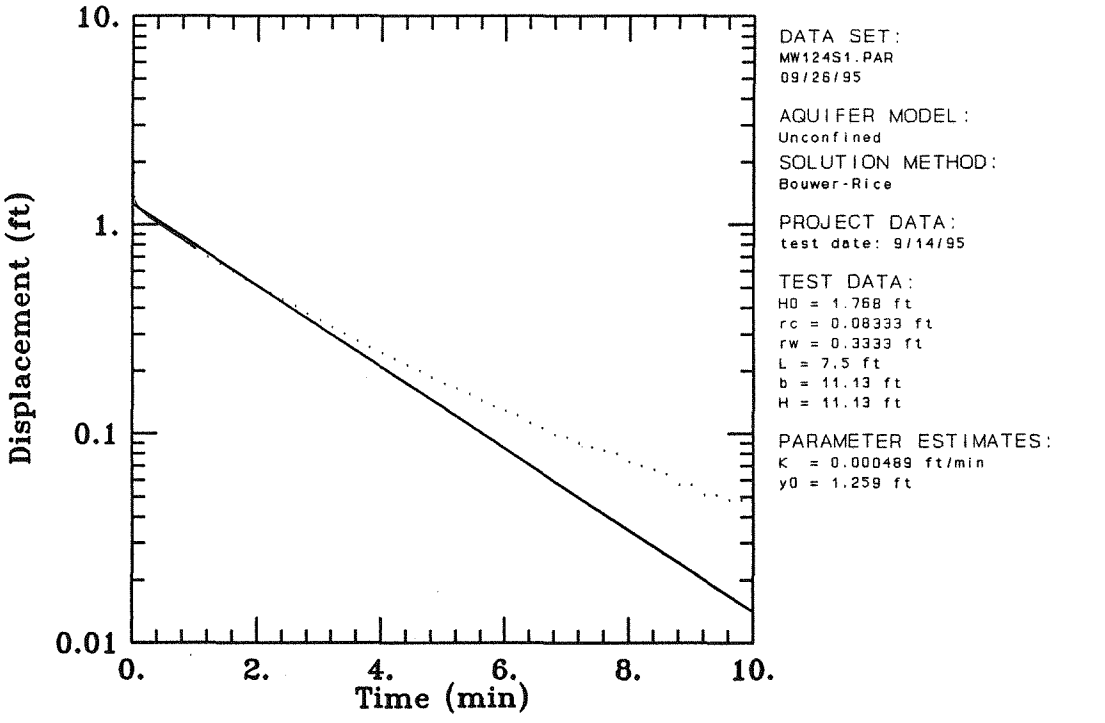
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

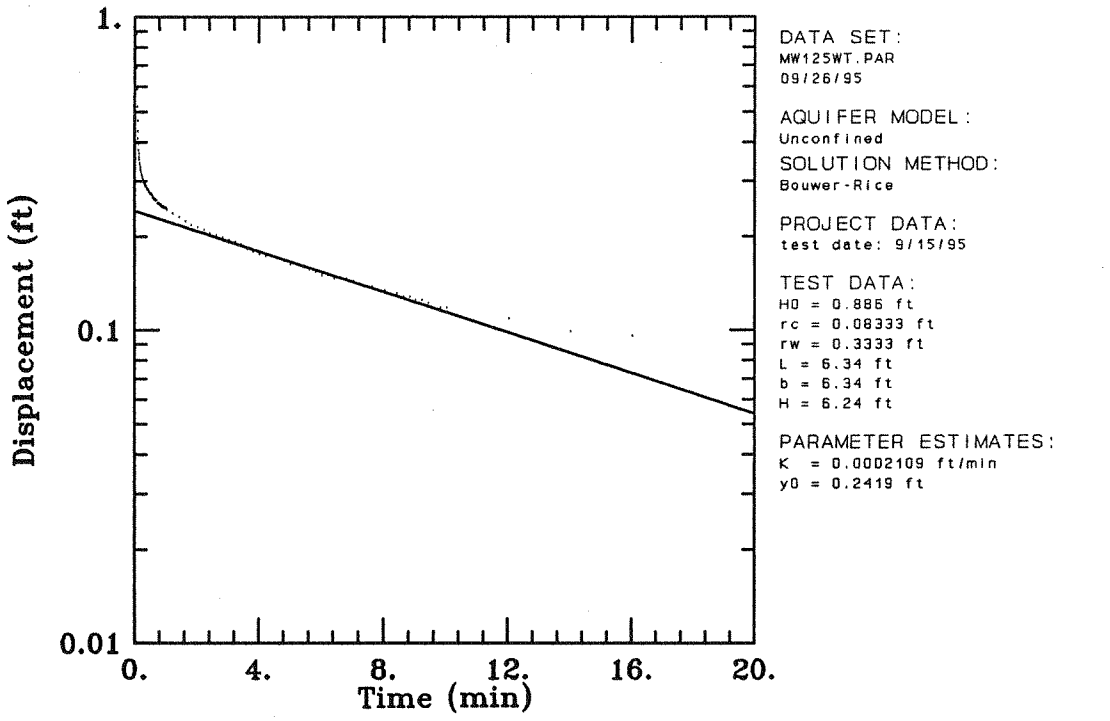
MW-124WT - Medium to Fine Sand



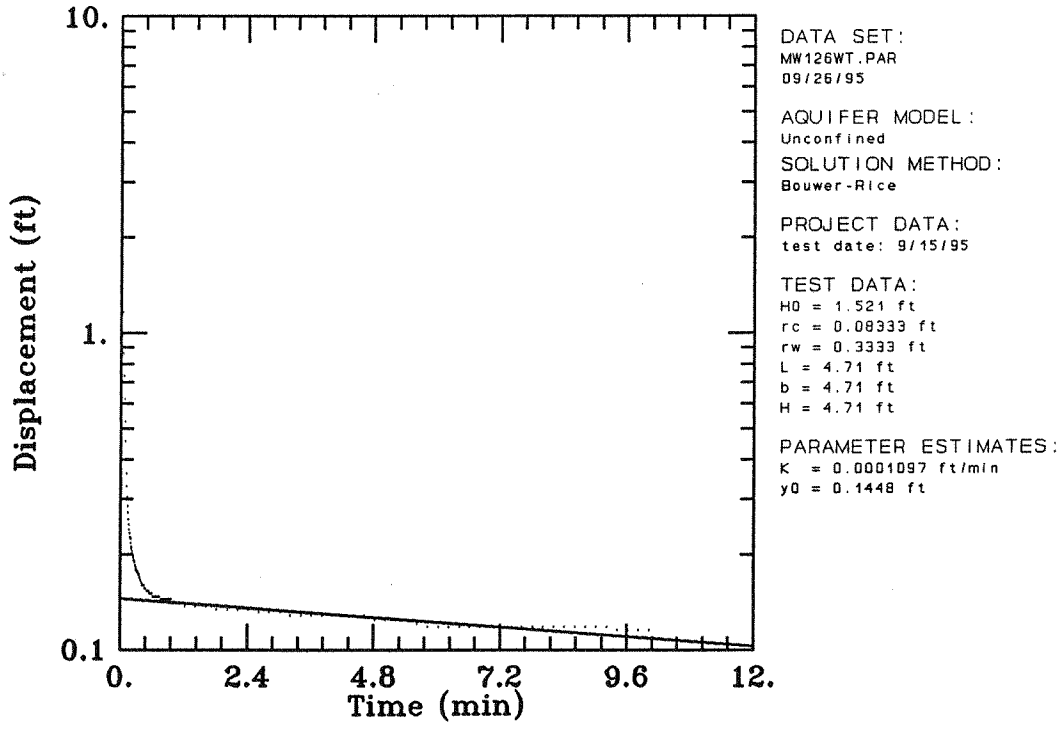
MW-124S1 - Medium to Fine Sand, Some Clay



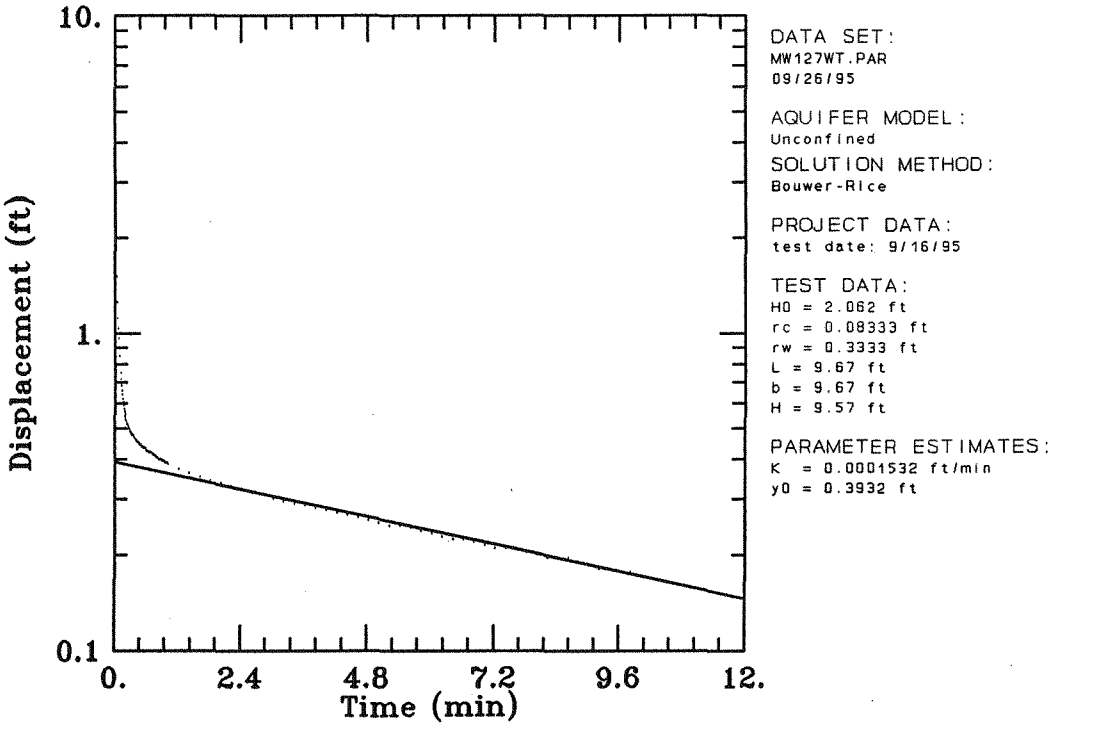
MW-125WT - Silt with Some Clay, then Clay



MW-126WT - Silt and Clay, then Medium to Fine Sand, Some Clay



MW-127WT - Medium to Fine Sand and Clay, then Sand and Silt

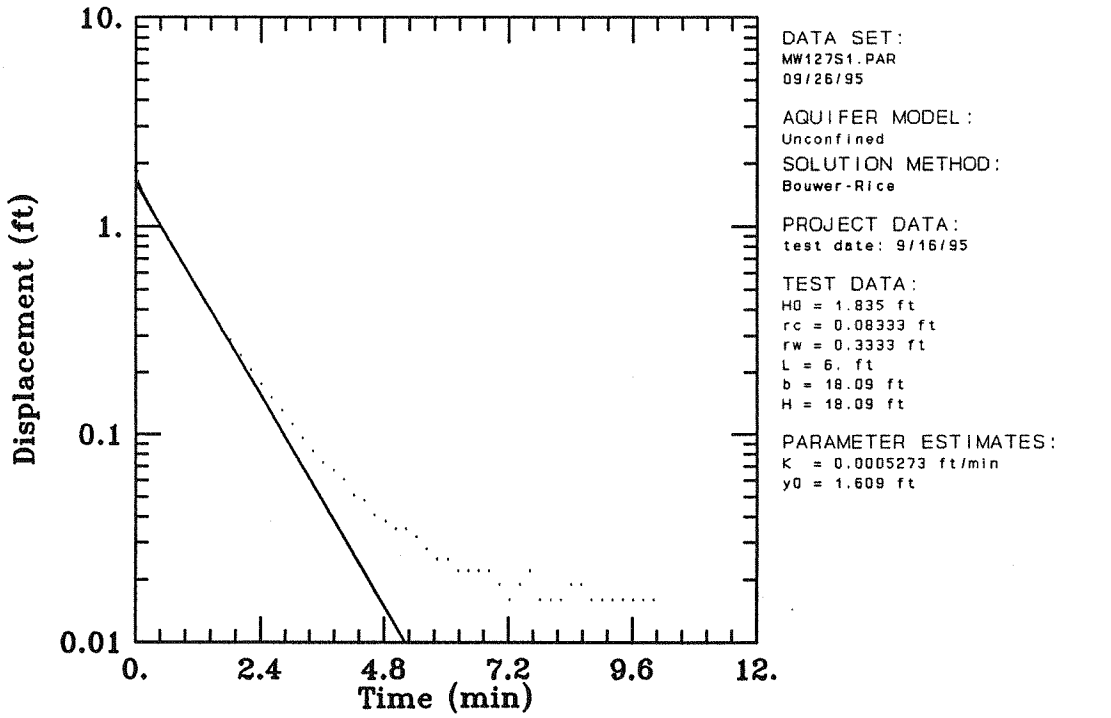


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MW-127S1 - Medium to Fine Sand

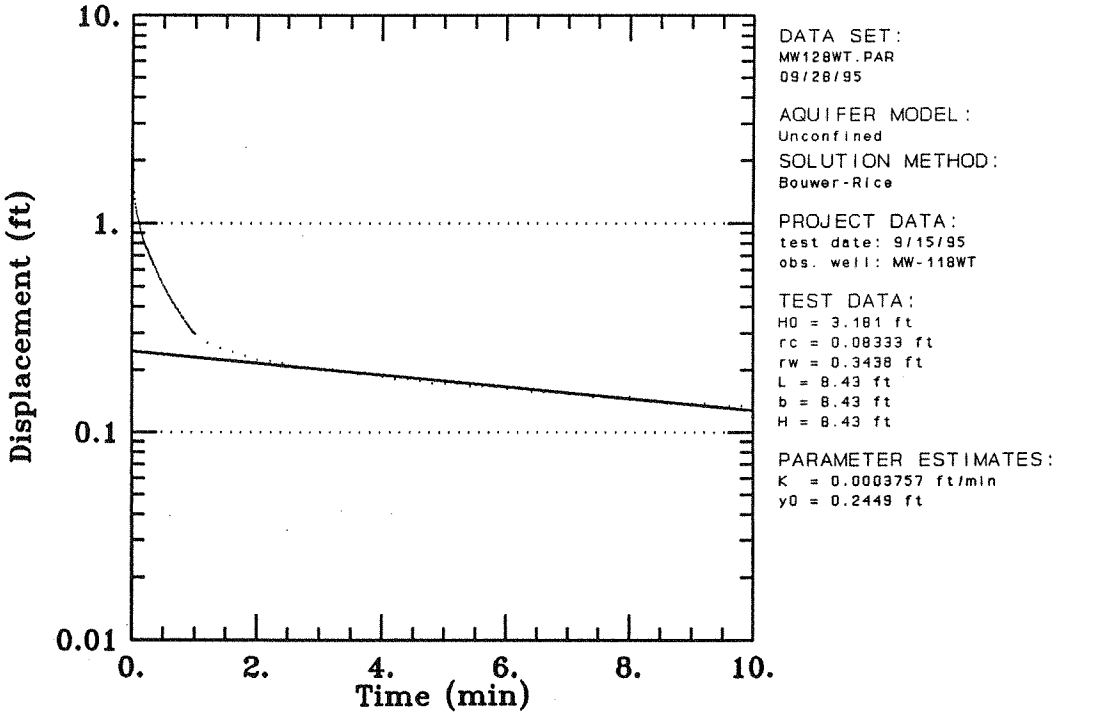


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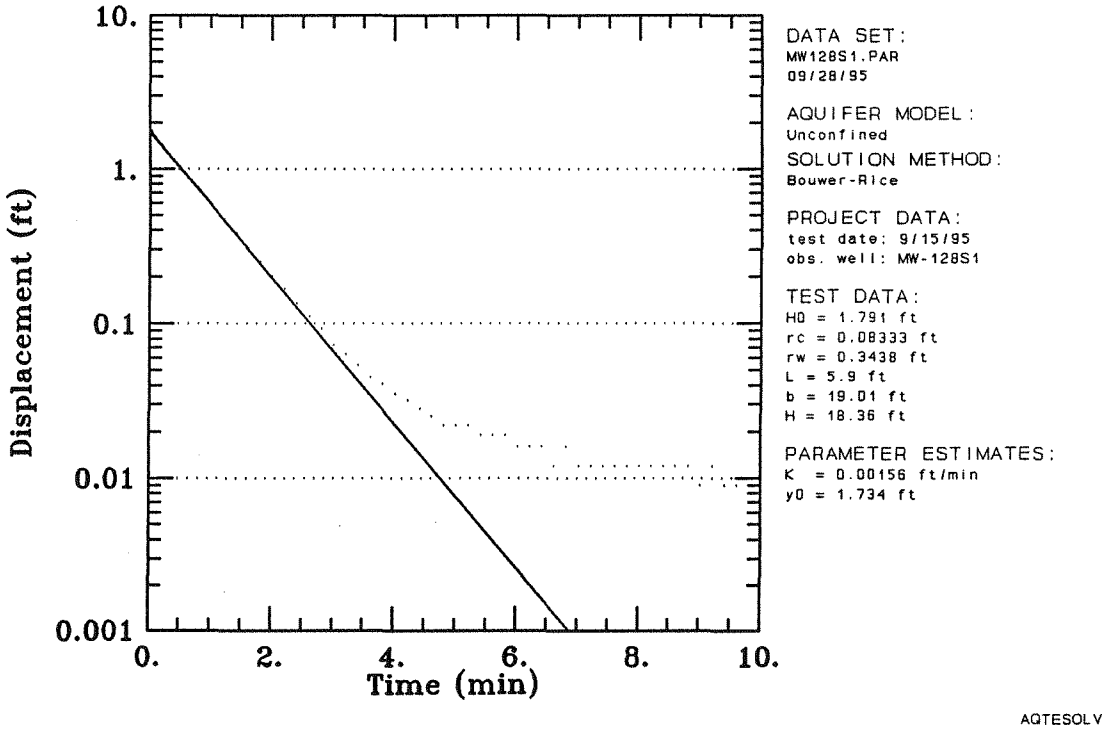
Hydraulic Conductivity Testing Results

MW-128WT - Fine Sand, Some Silt and Clay



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MW-128S1 - Medium to Fine Sand, then Coarse Sand, Some Fine Gravel

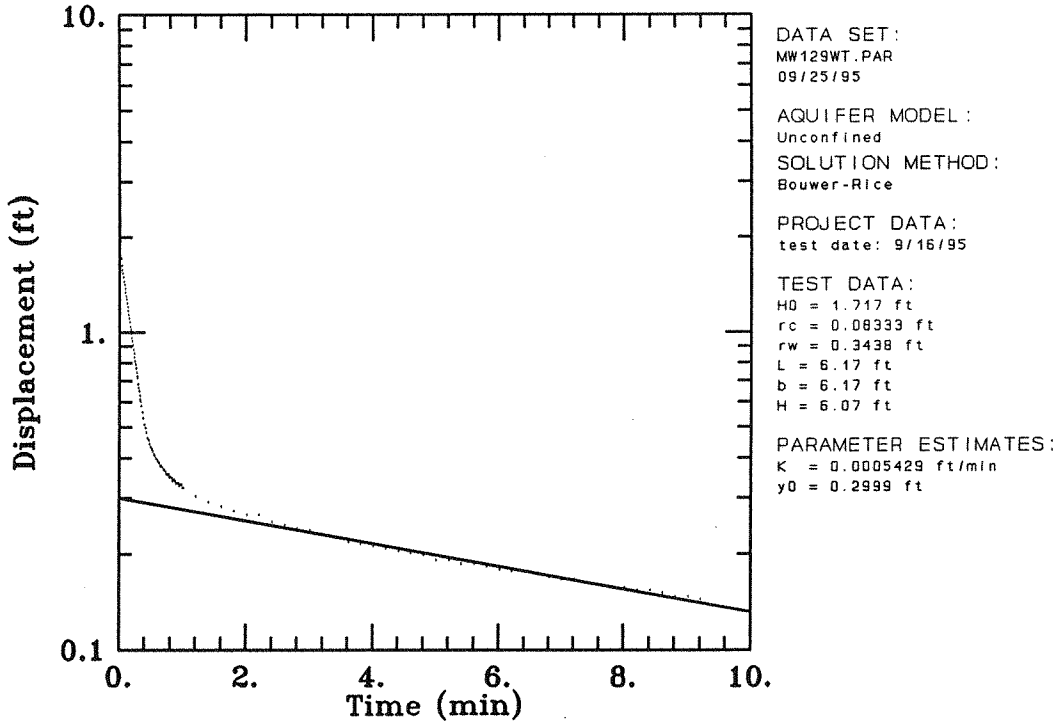


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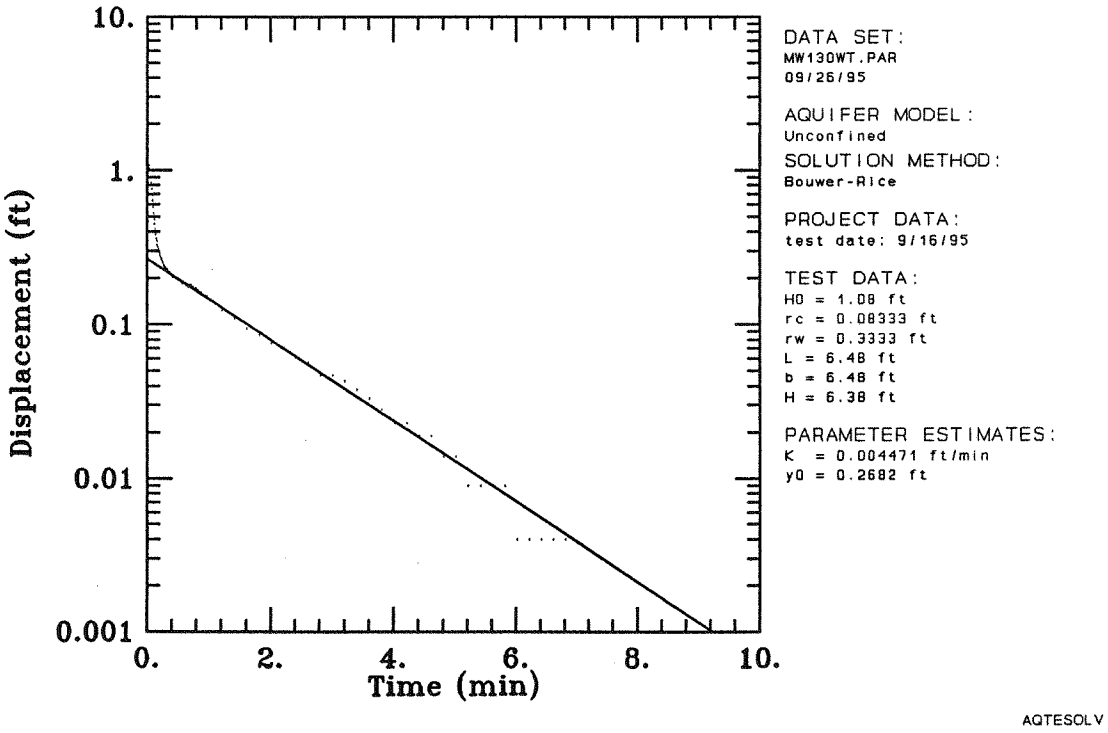
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

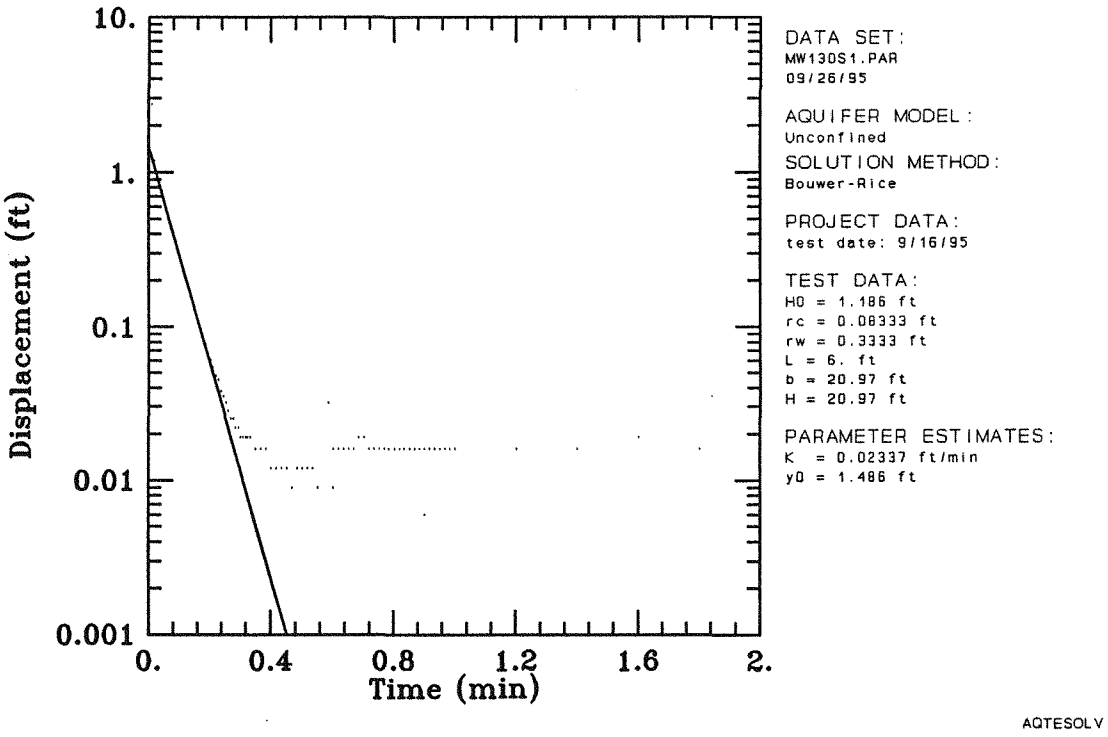
MW-129WT - Medium to Fine Sand and Silt



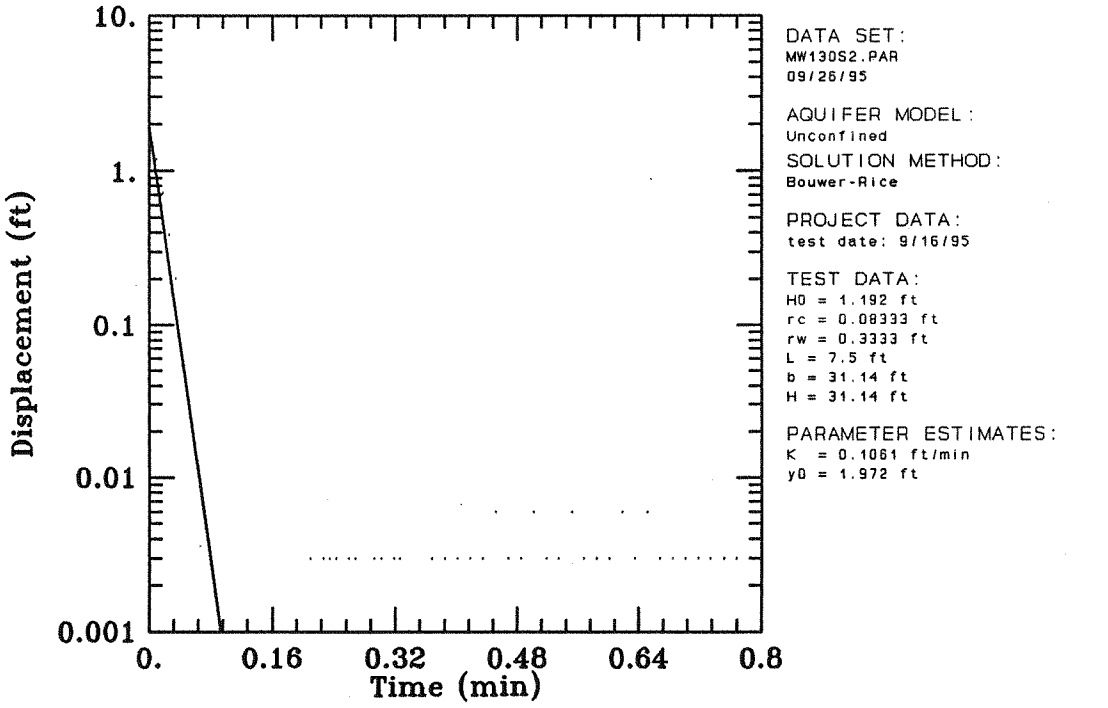
MW-130WT - Medium to Fine Sand



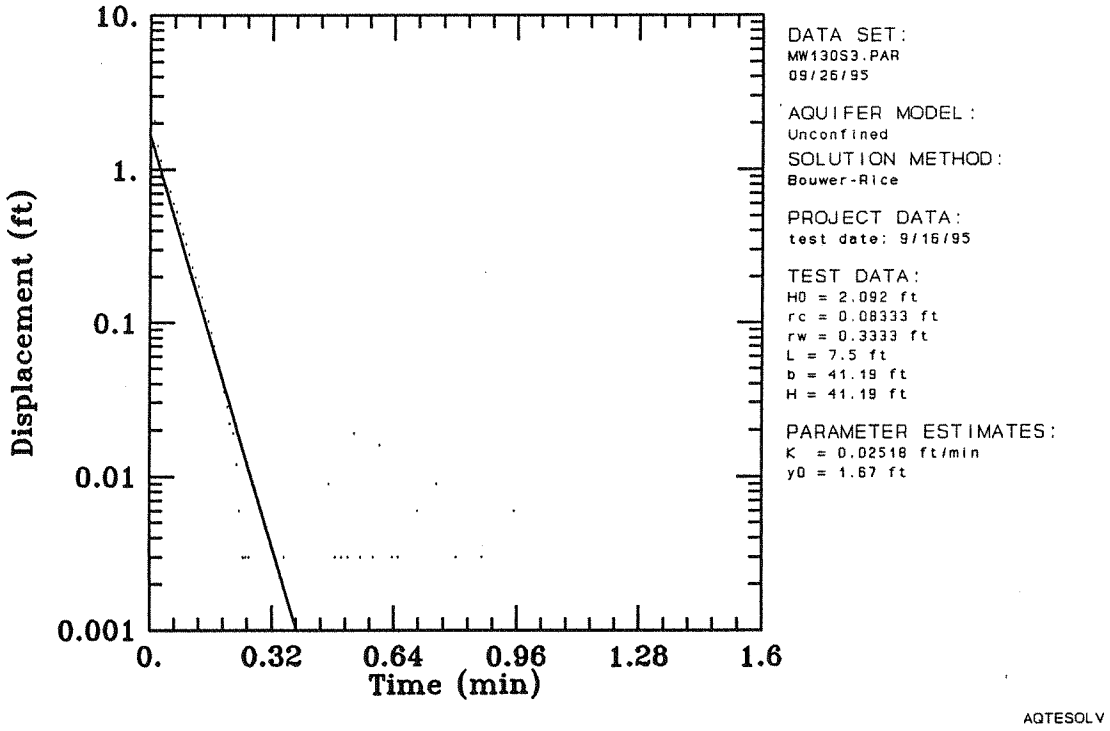
MW-130S1 - Coarse to Medium Sand, then Medium to Fine Sand



MW-130S2 - Fine Gravel and Coarse Sand



MW-130S3 - Fine Gravel and Coarse Sand

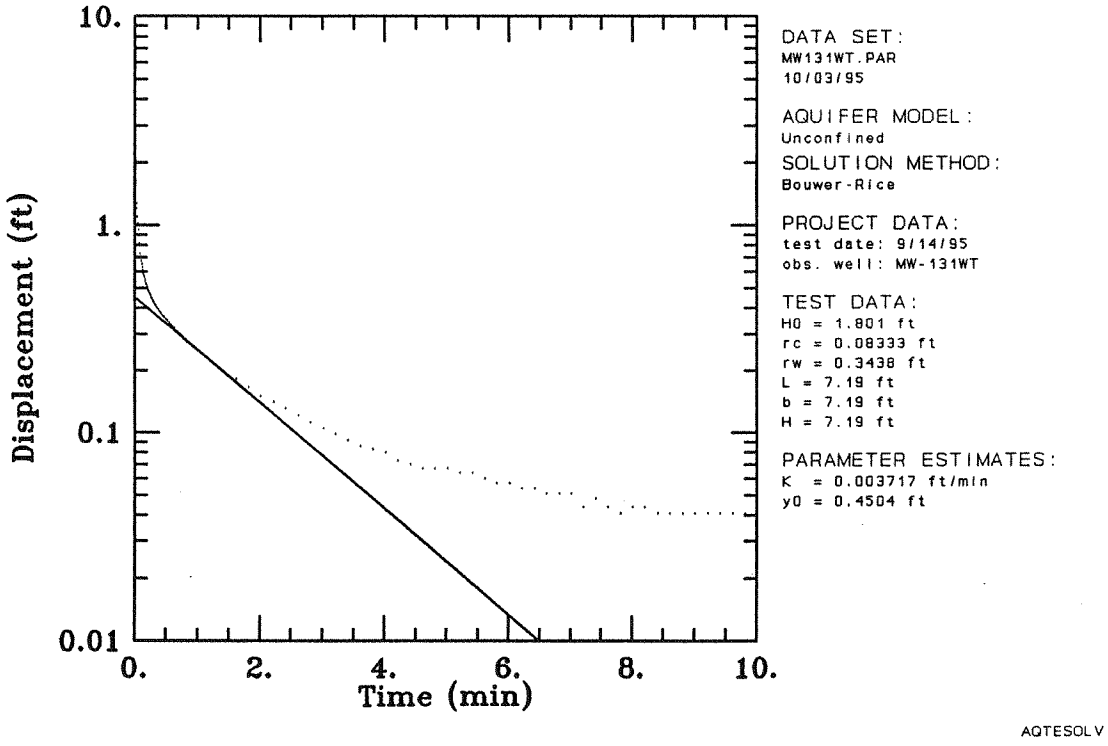


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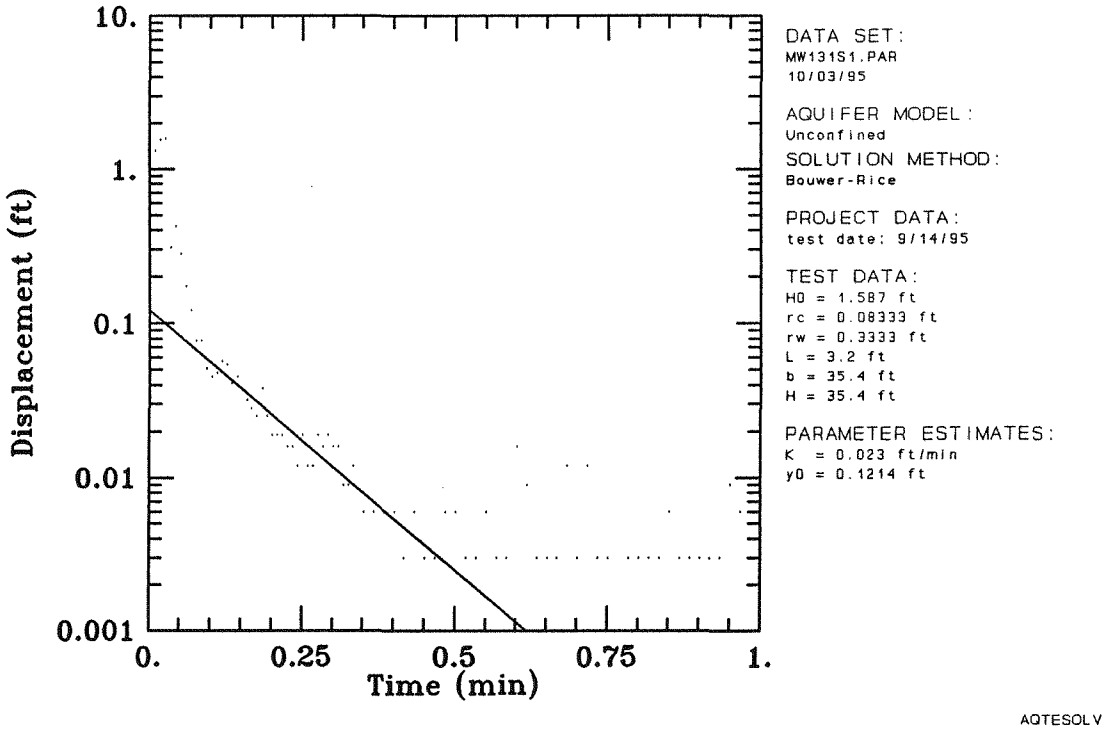
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

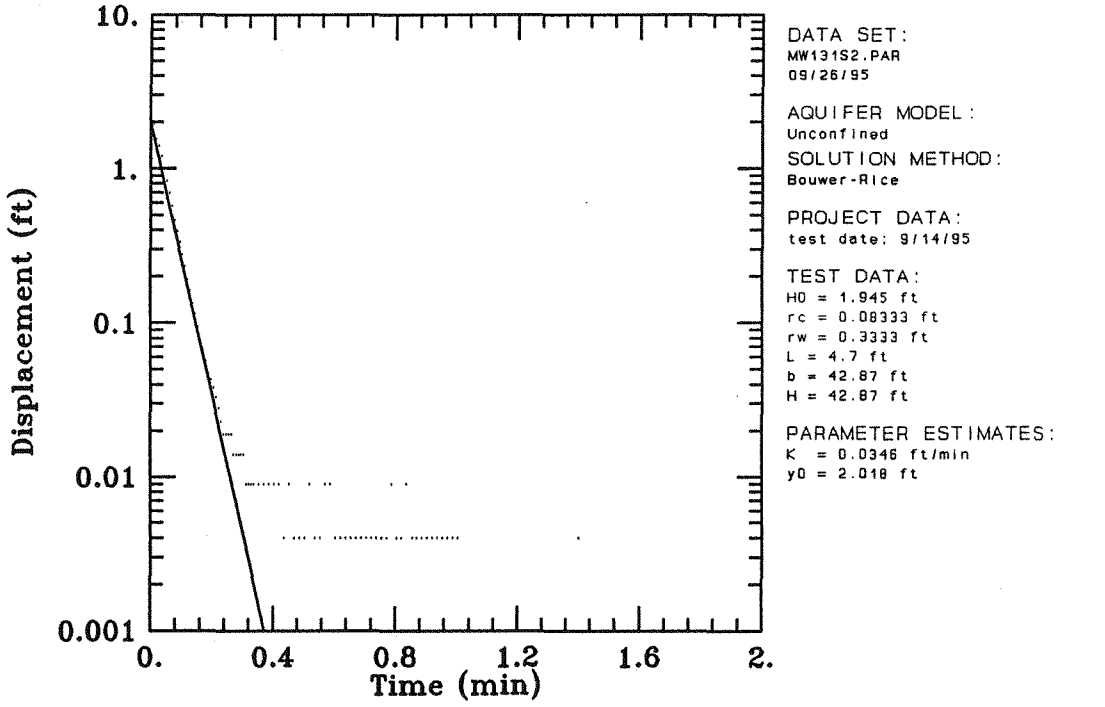
MW-131WT - Coarse to Fine Sand, Some Silt



MW-131S1 - Coarse to Fine Sand with Trace Fine Gravel

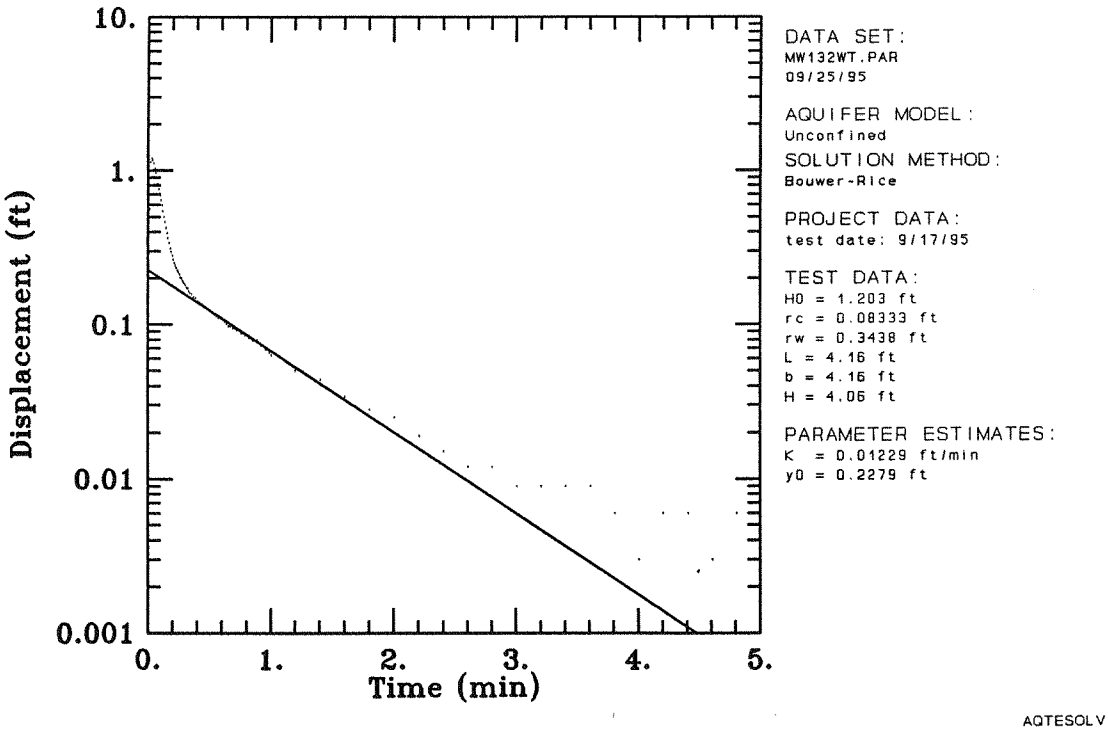


MW-131S2 - Coarse to Fine Sand with Trace Fine Gravel

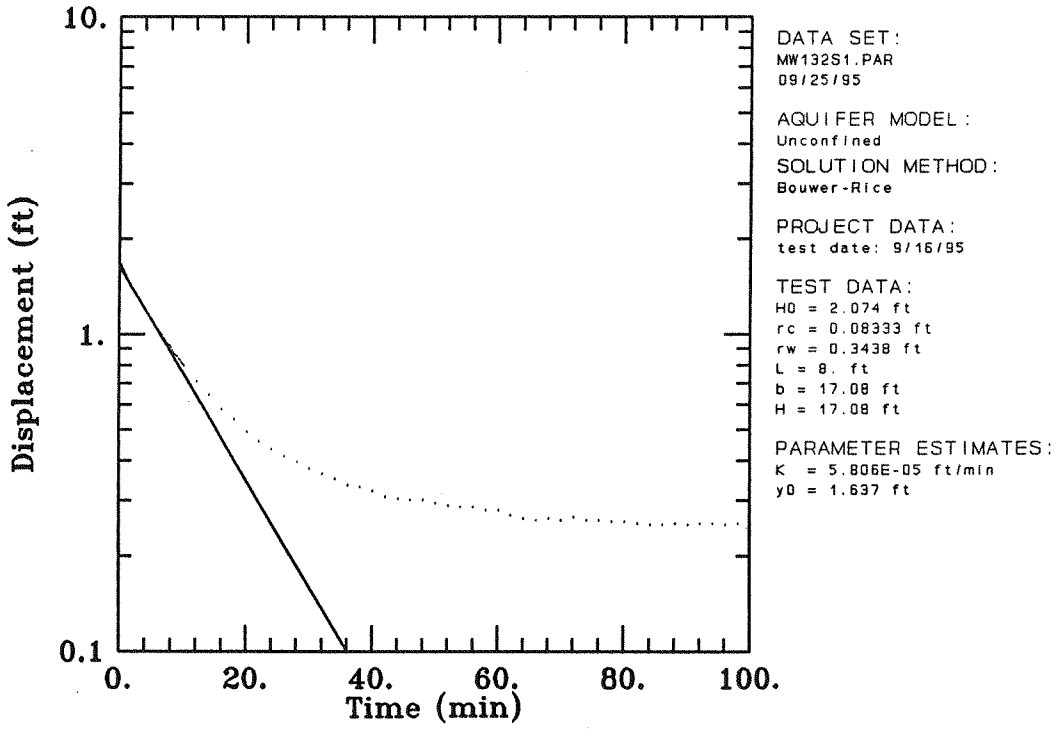


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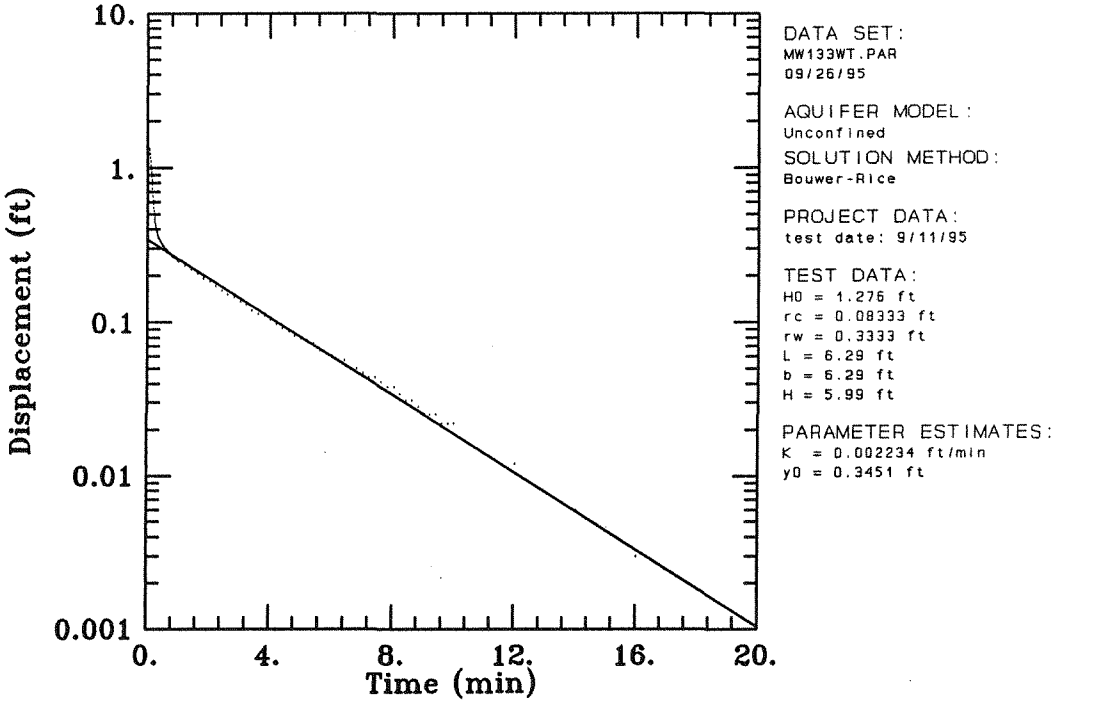
MW-132WT - Fine Sand



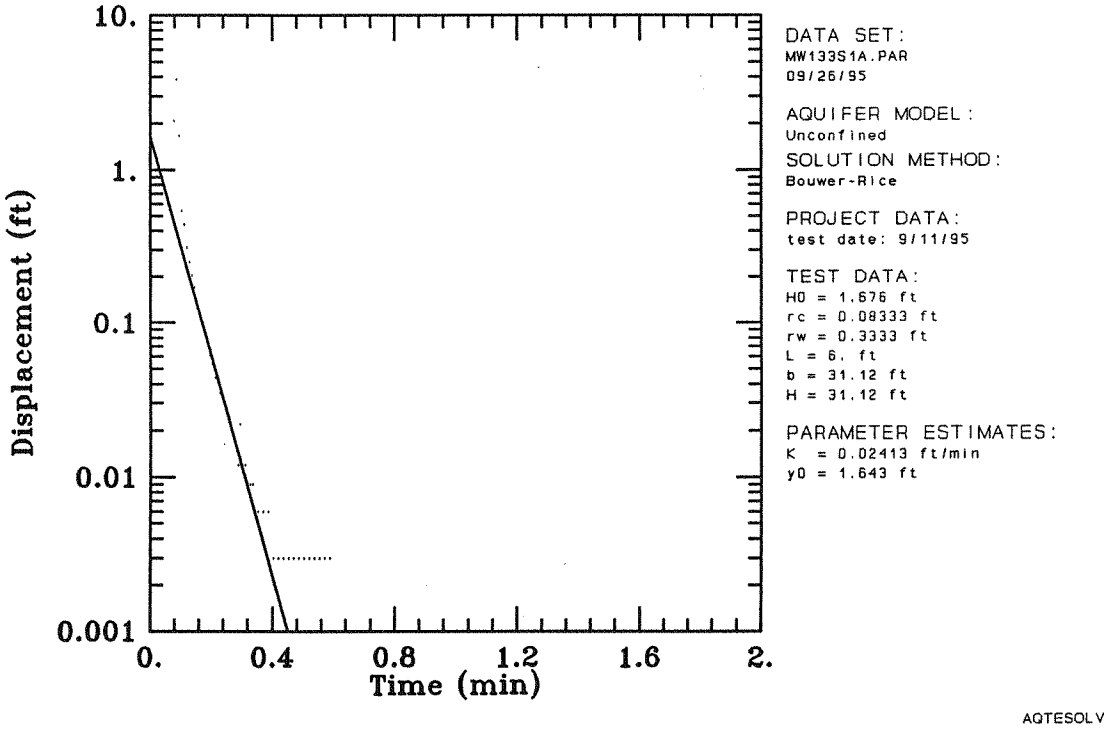
MW-132S1 - Clay, Silt, and Medium to Fine Sand



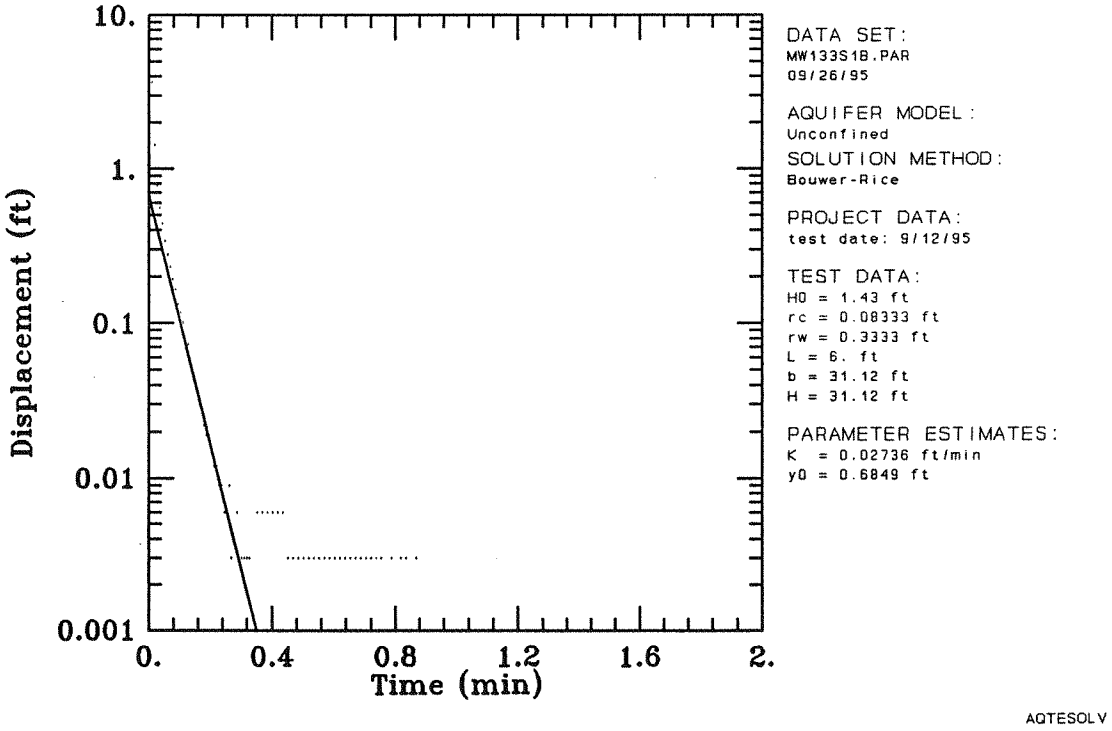
MW-133WT - Medium to Fine Sand, Some Silt and Clay



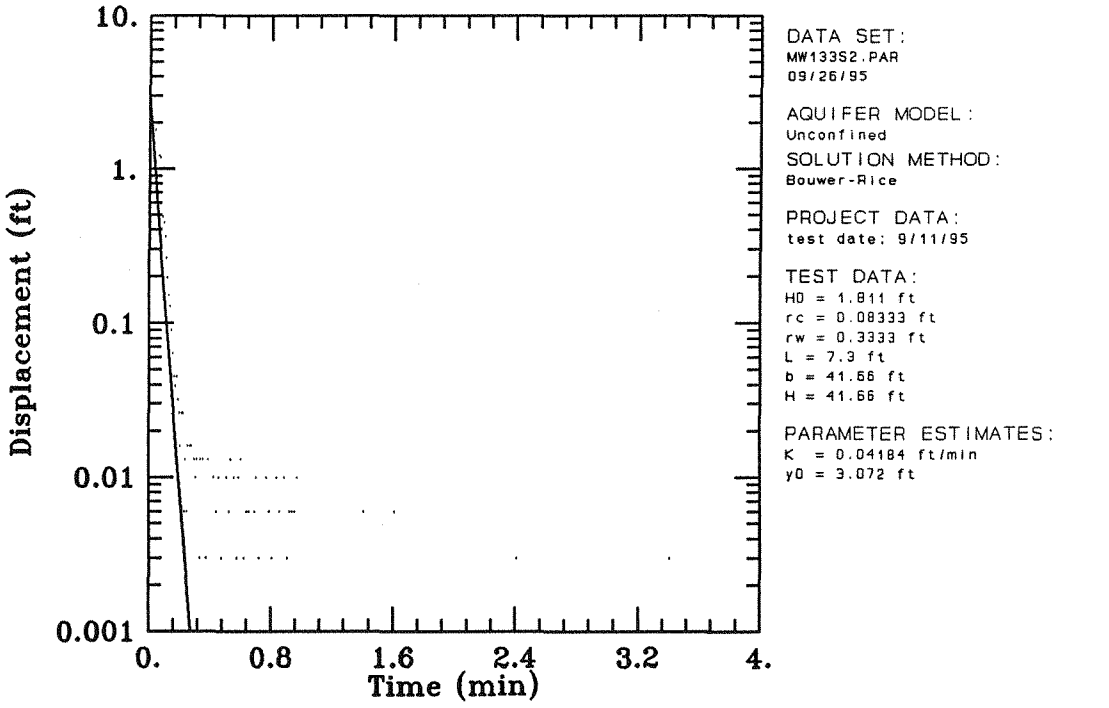
MW-133S1 (Test #1) - Medium to Fine Sand with Trace Silt



MW-133S1 (Test #2) - Medium to Fine Sand with Trace Silt

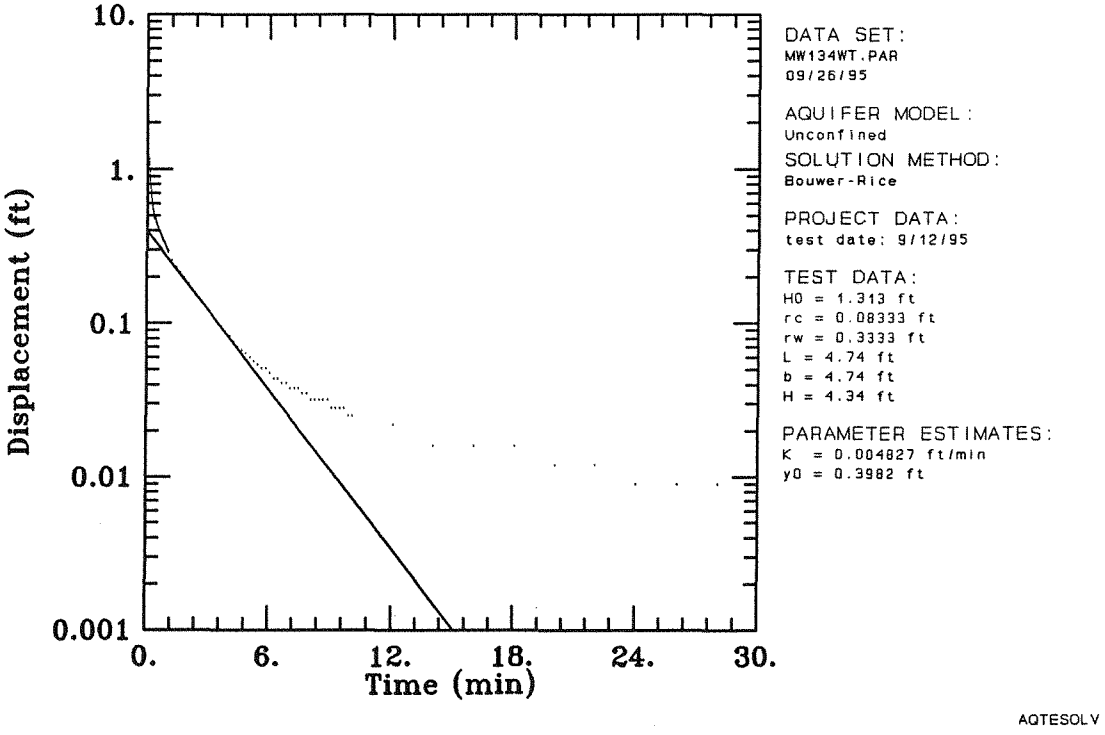


MW-133S2 - Coarse to Fine Sand

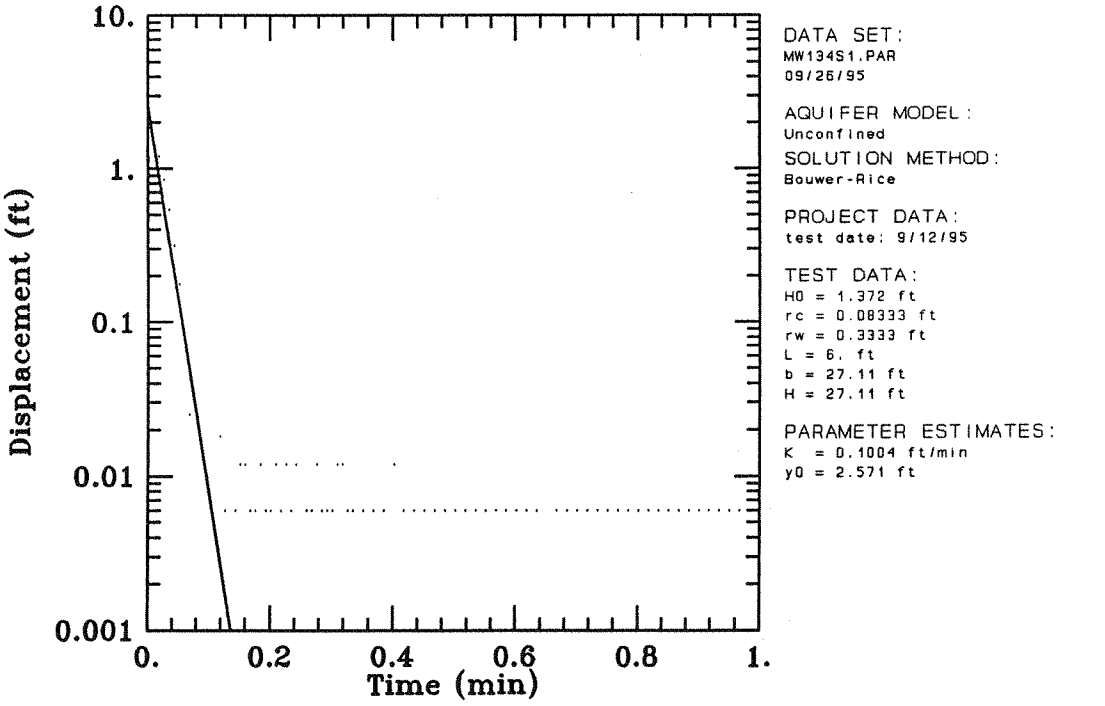


AQTESOLV

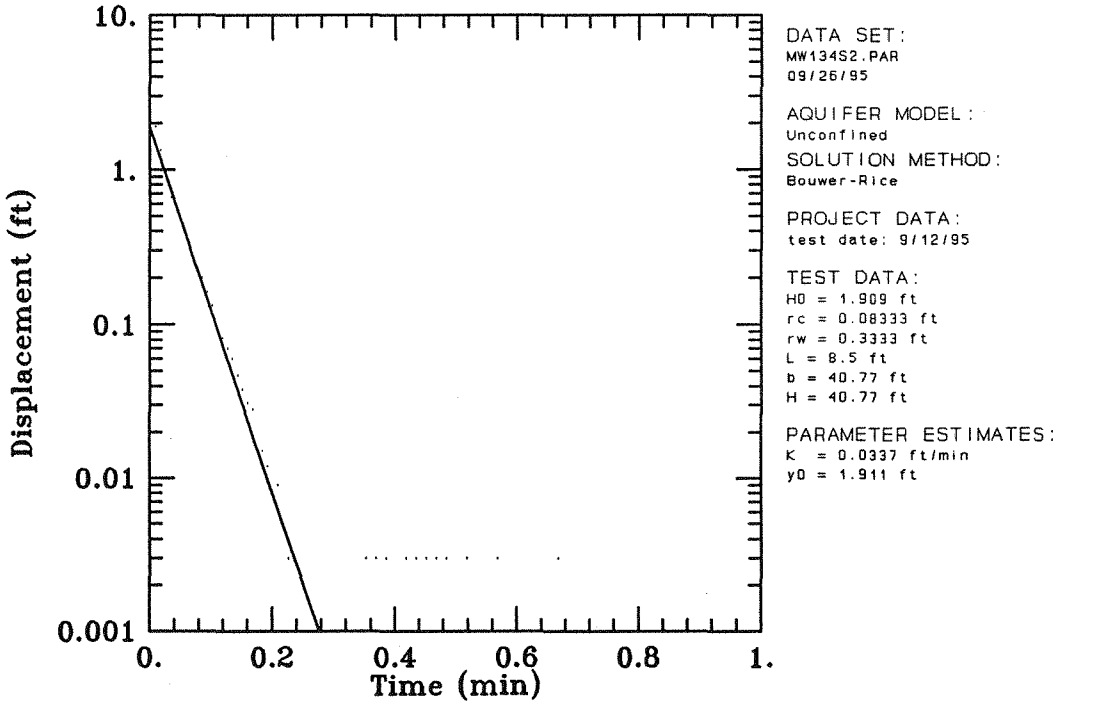
MW-134WT - Coarse to Fine Sand, Some Silt, then Medium to Fine Sand



MW-134S1 - Medium to Fine Sand, Little Silt

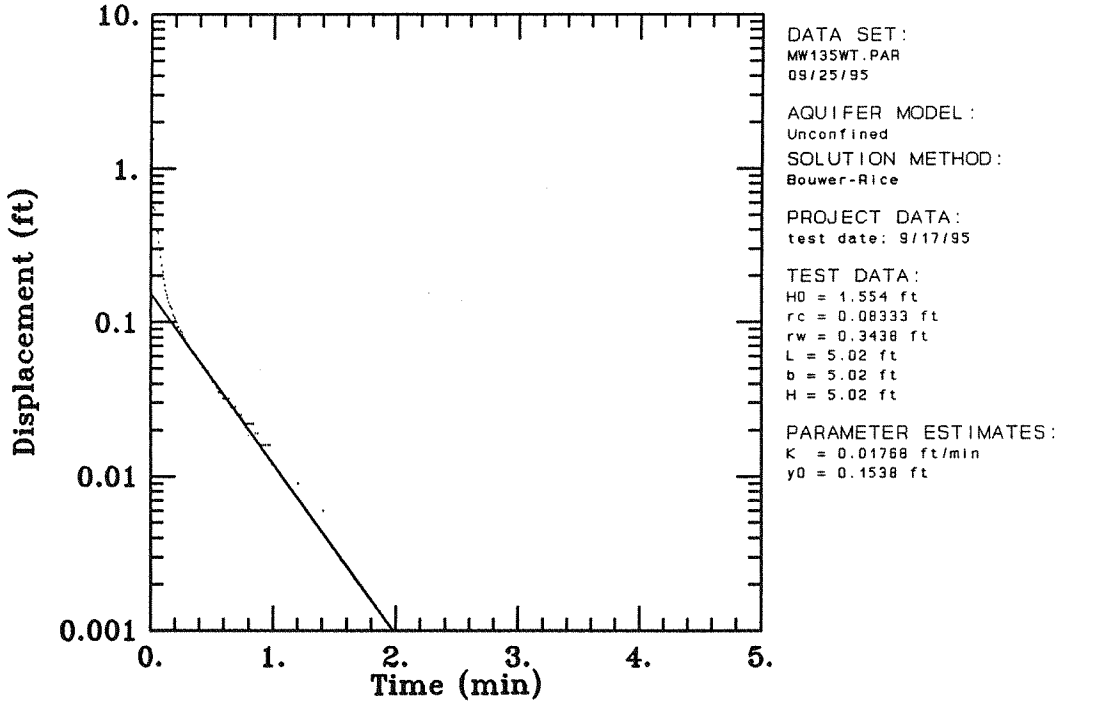


MW-134S2 - Medium to Fine Sand, Little Silt



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MW-135WT - Coarse to Fine Sand

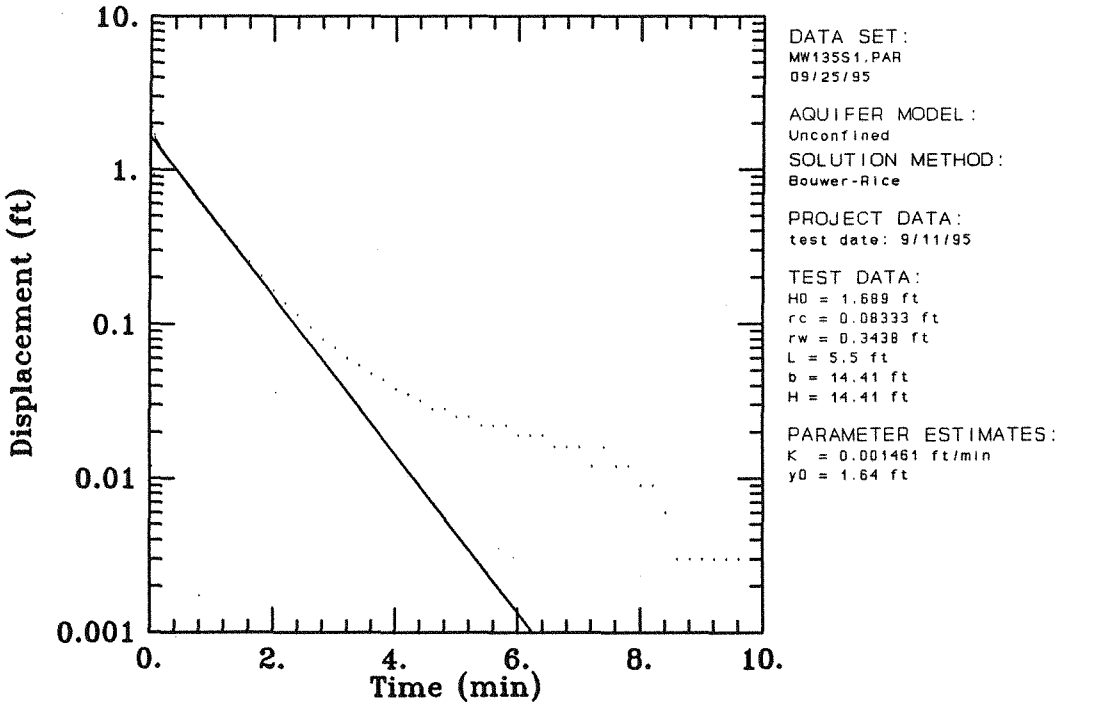


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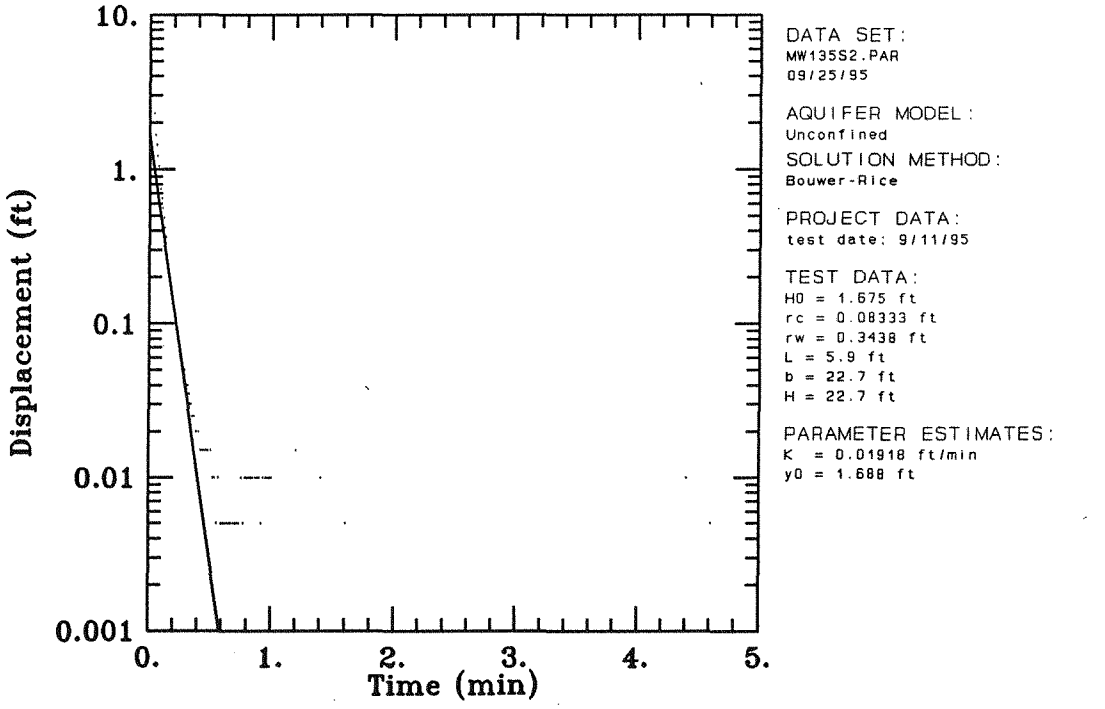
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-135S1 - Fine Sand and Silt



MW-135S2 - Fine Sand and Silt

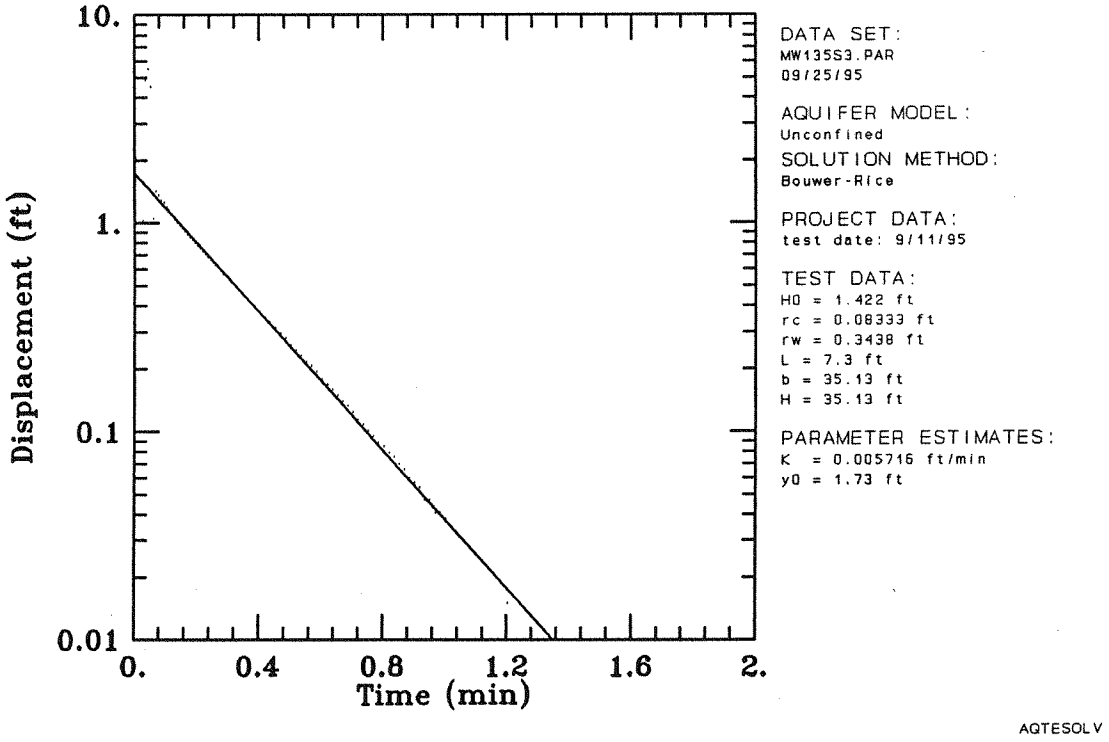


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and Drum Remediation Area
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Hydraulic Conductivity Testing Results

MW-135S3 - Fine Sand and Silt

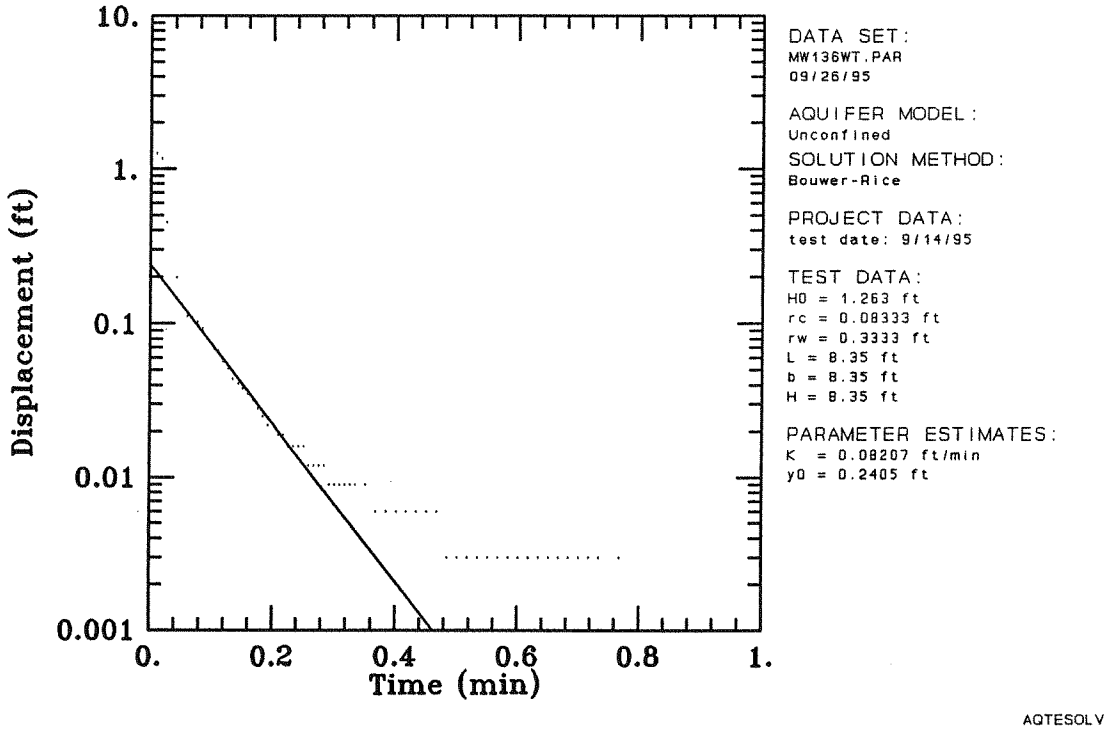


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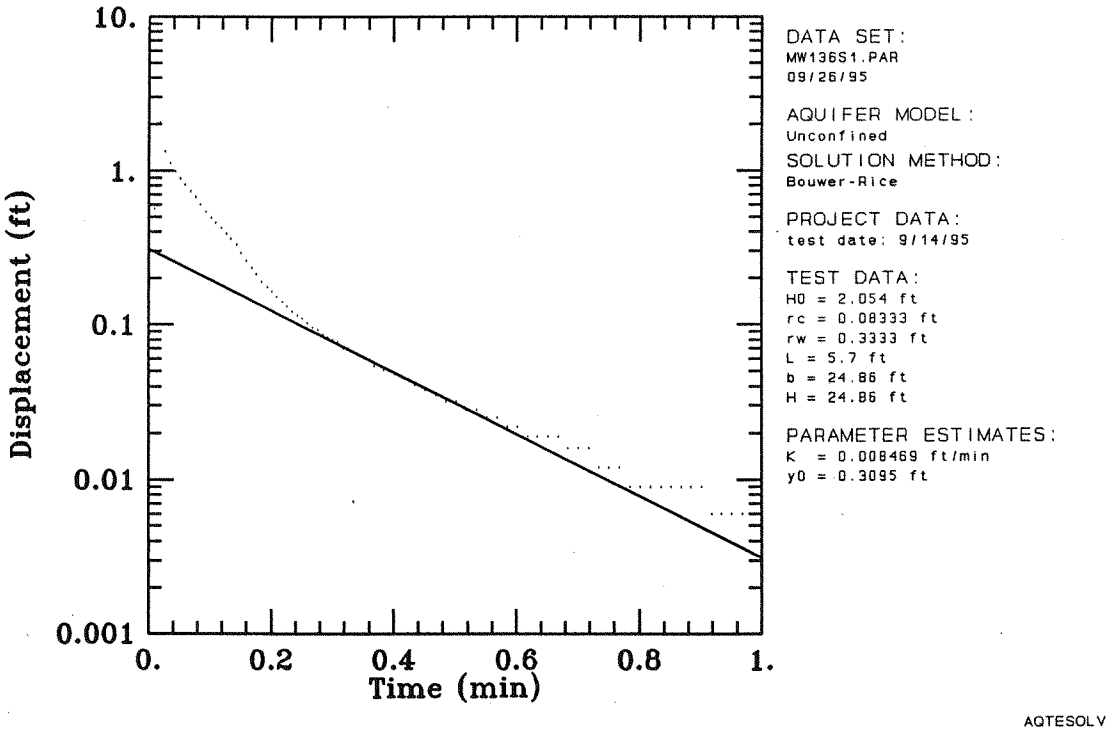
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

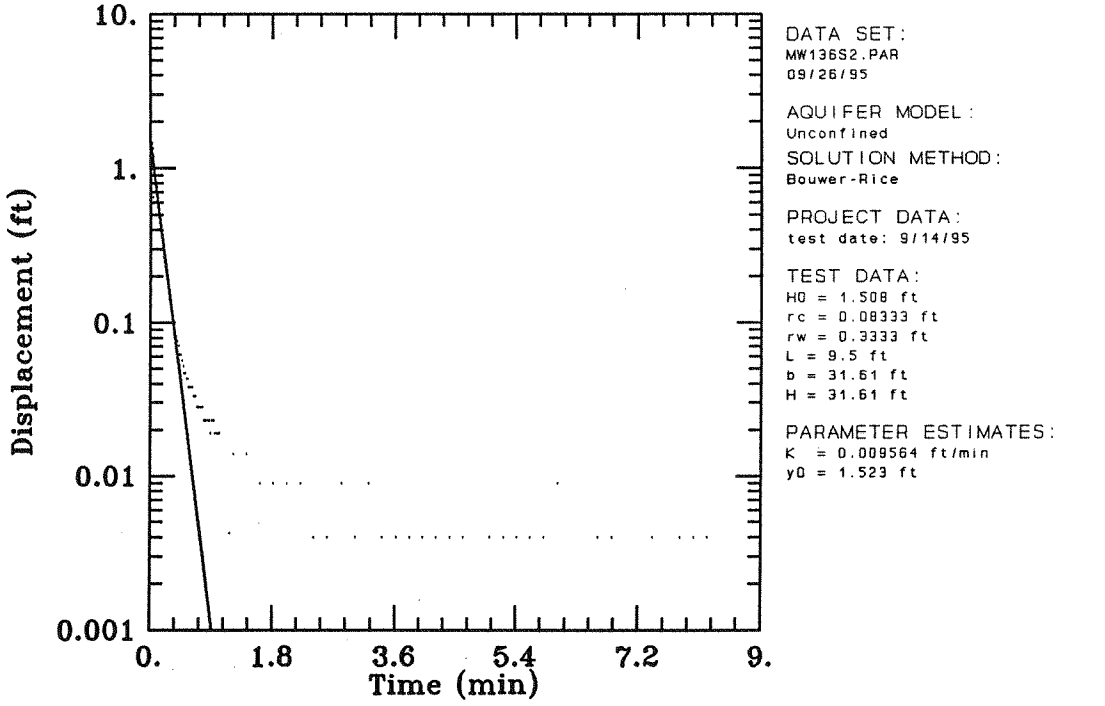
MW-136WT - Medium to Fine Sand and Silt, and Trace Wood Fragments



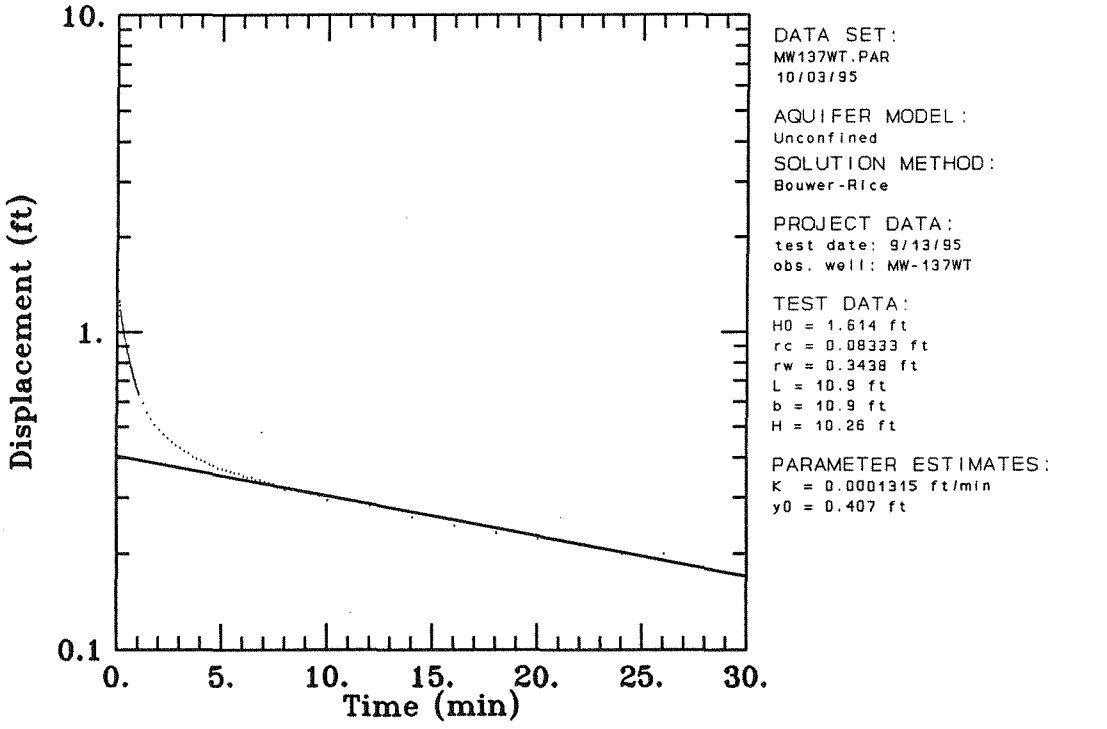
MW-136S1 - Medium Sand with Trace Silt



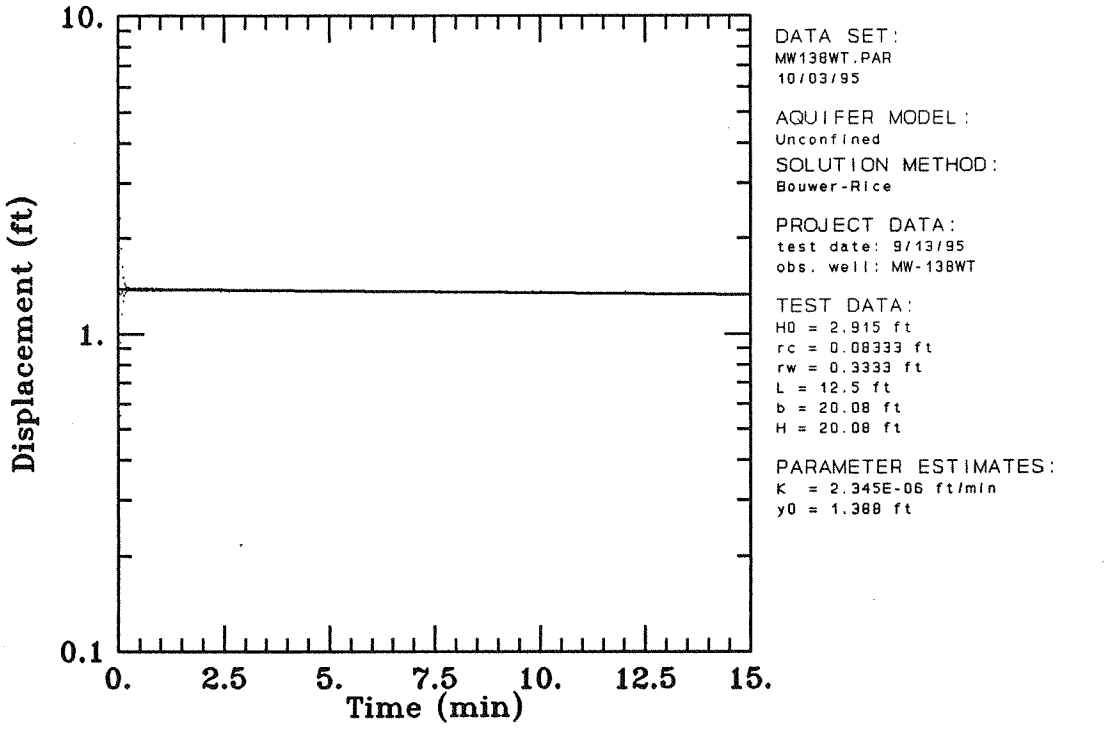
MW-136S2 - Medium to Fine Sand with Trace Silt



MW-137WT - Clay With Some Silt



MW-138WT (Hermit) - Silt and Clay

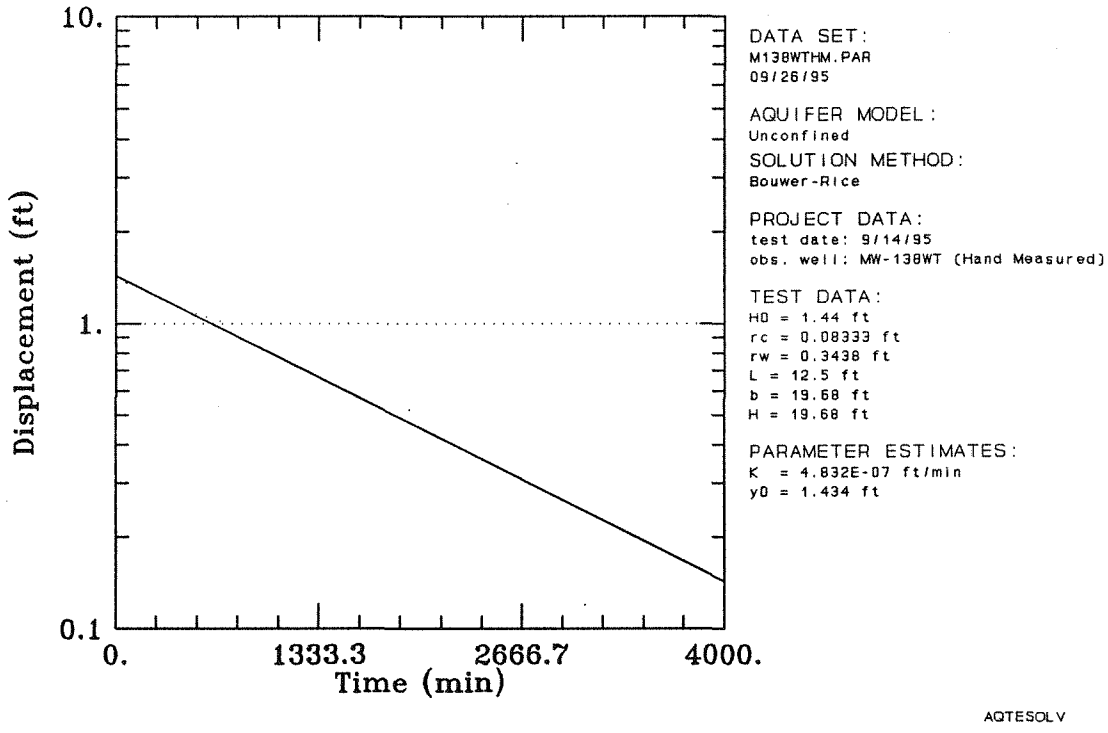


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MW-138WT (Hand Measured) - Silt and Clay

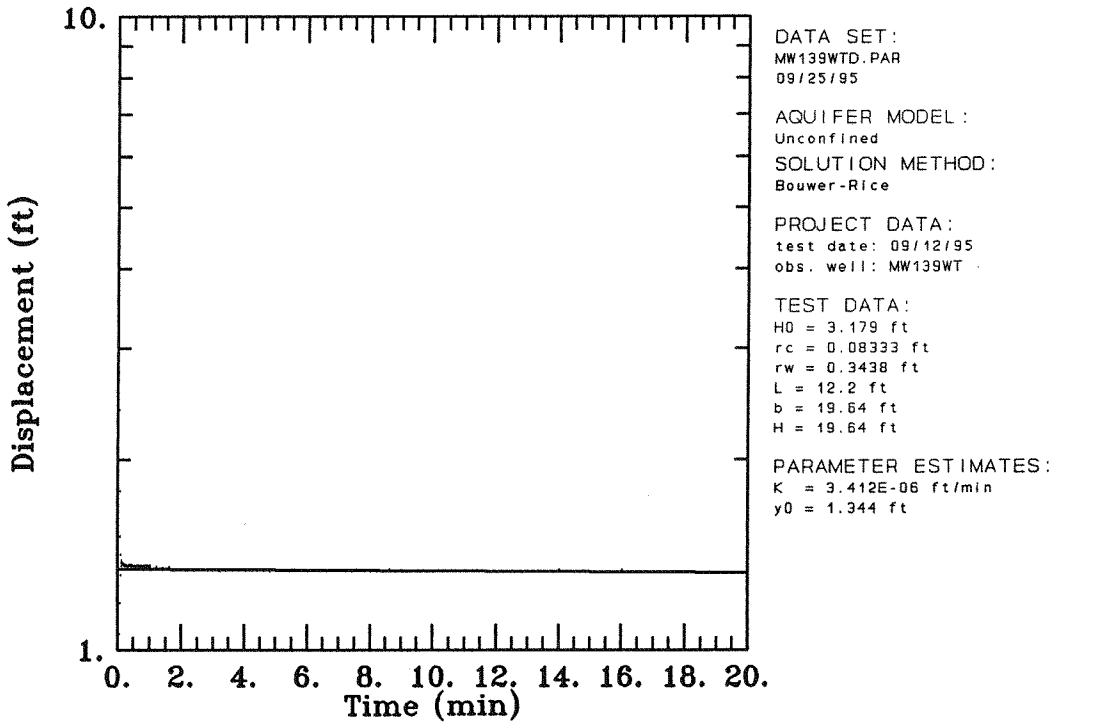


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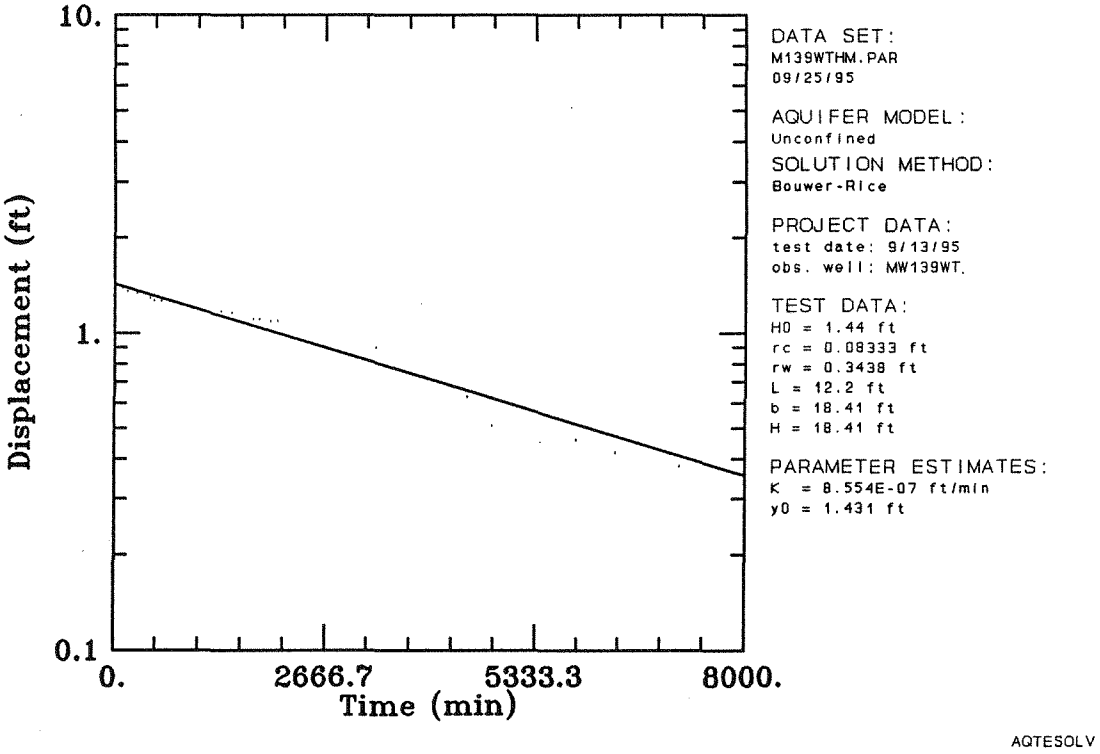
Hydraulic Conductivity Testing Results

MW-139WT (Hermit) - Clay, Some Silt, Trace Coarse Sand

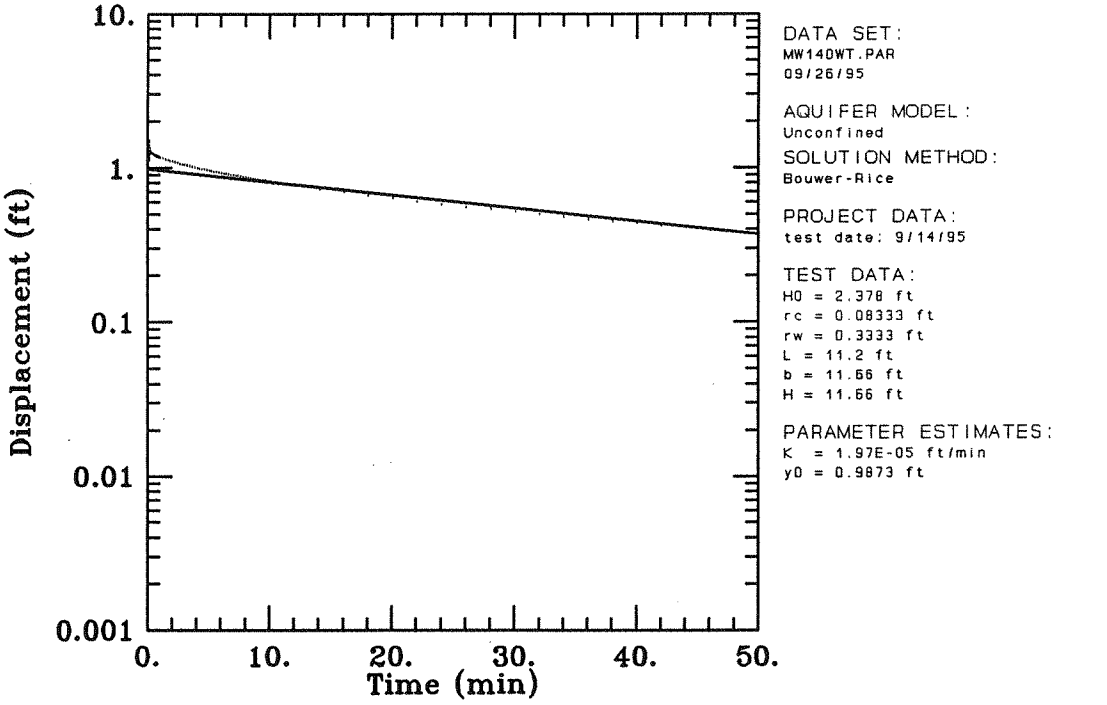


AQTESOLV

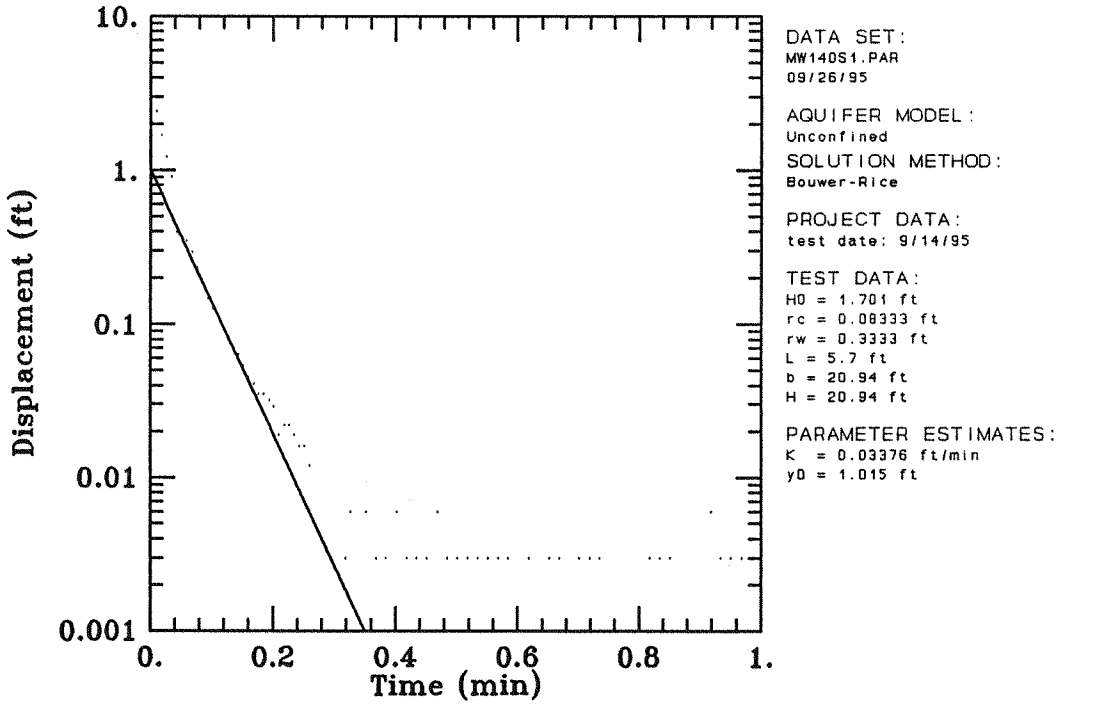
MW-139WT (Hand Measured) - Clay, Some Silt, Trace Coarse Sand



MW-140WT - Medium to Fine Sand, Some Silt and Clay



MW-140S1 - Medium to Fine Sand

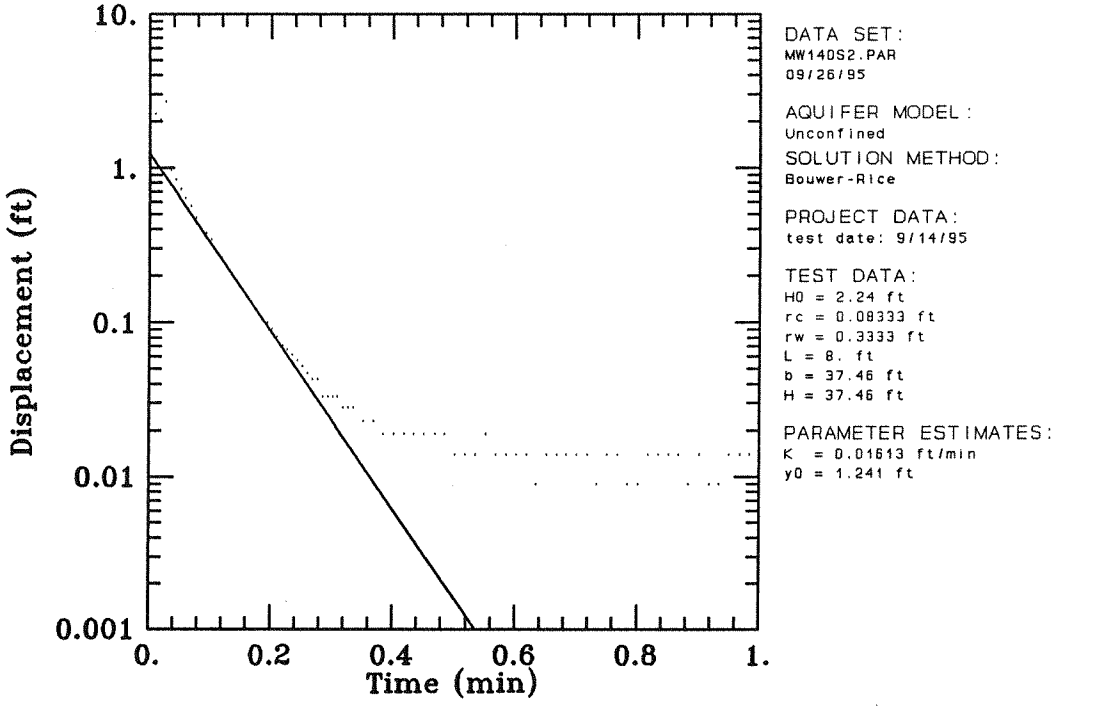


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MW-140S2 - Medium to Fine Sand

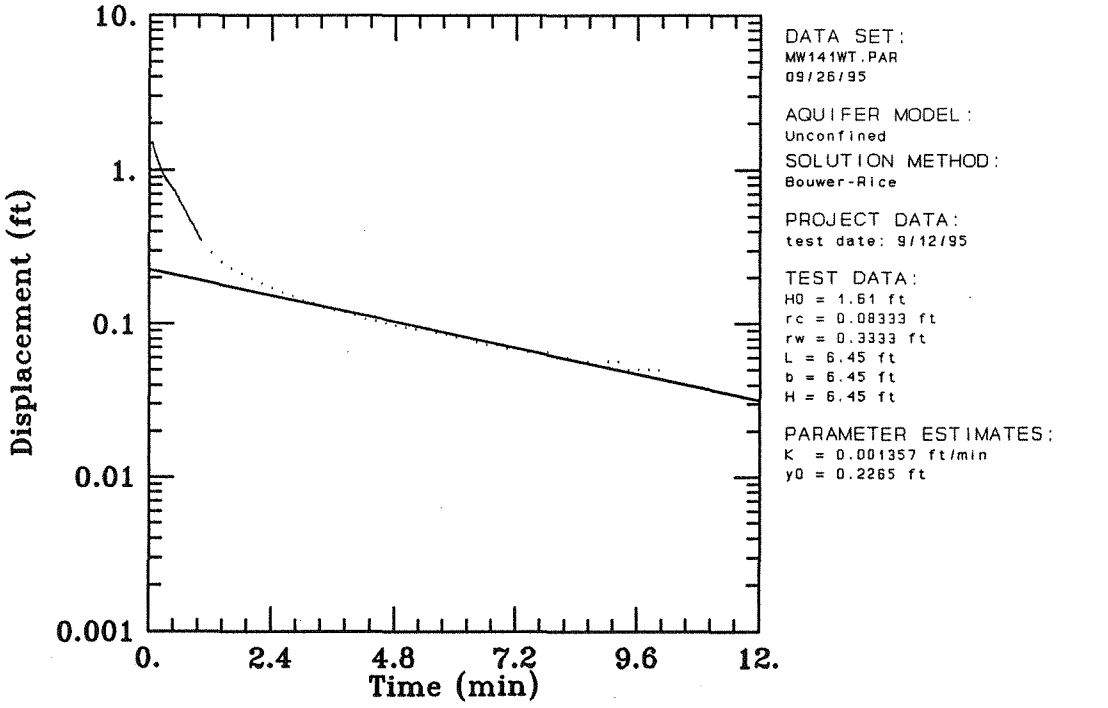


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Hydraulic Conductivity Testing Results

MW-141WT - Medium to Fine Sand, Some Silt and Clay

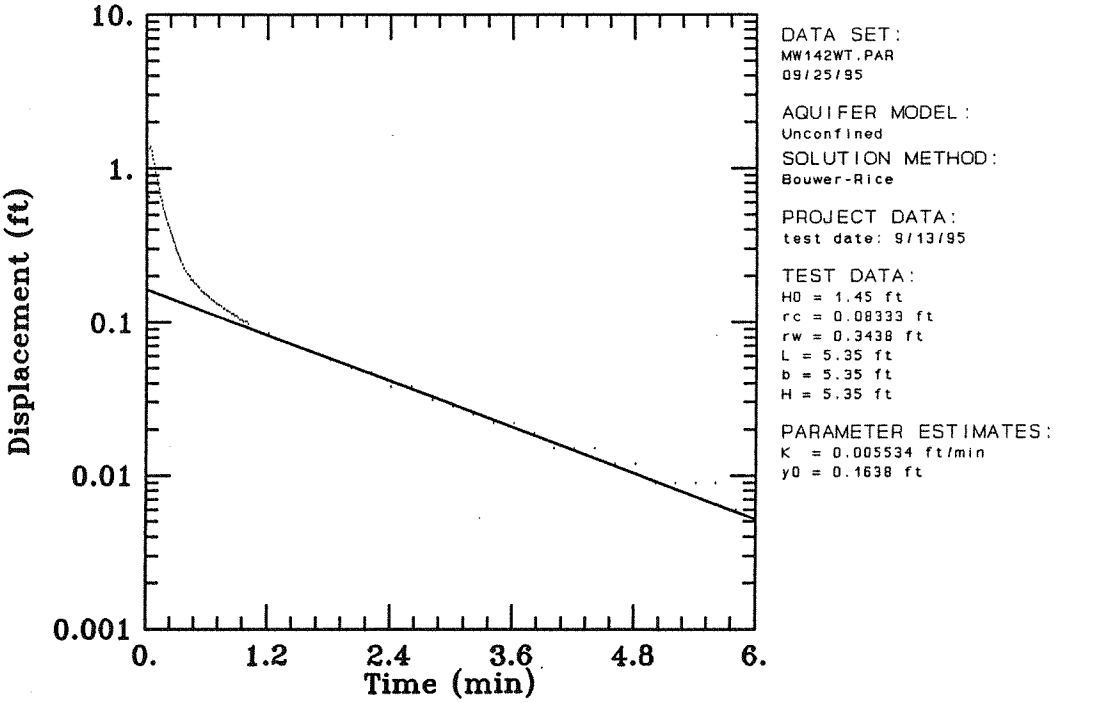


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Hydraulic Conductivity Testing Results

MW-142WT - Coarse, Medium, and Fine Sand

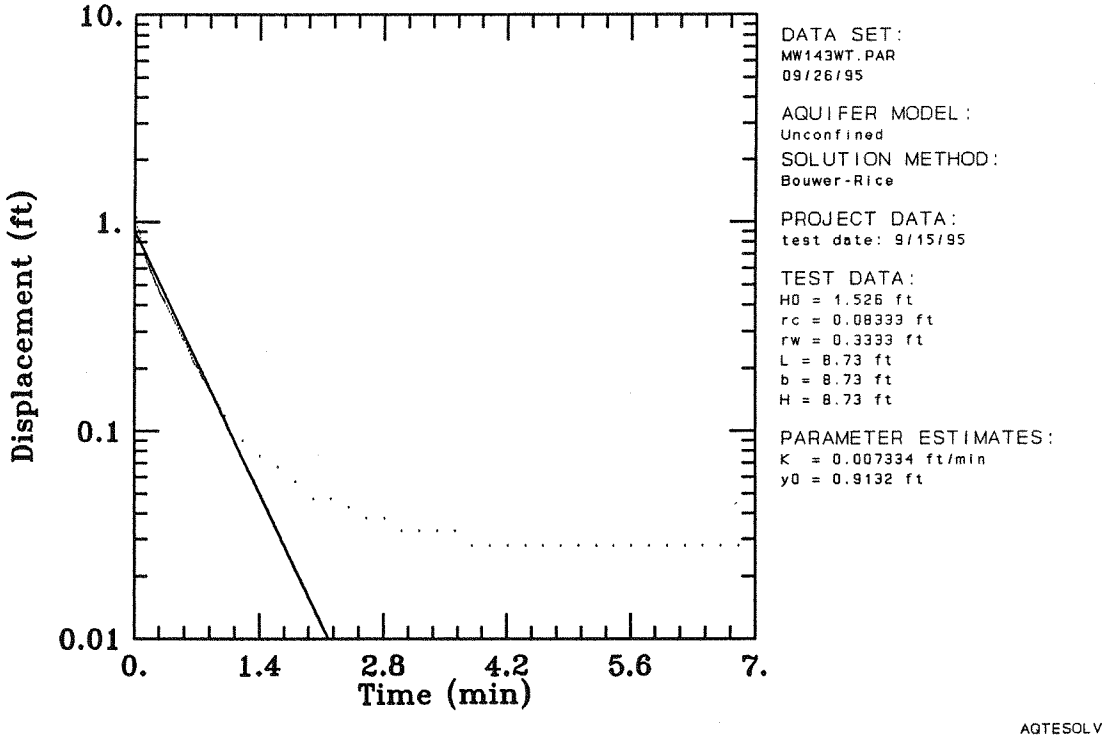


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MW-143WT - Medium to Fine Sand and Silt

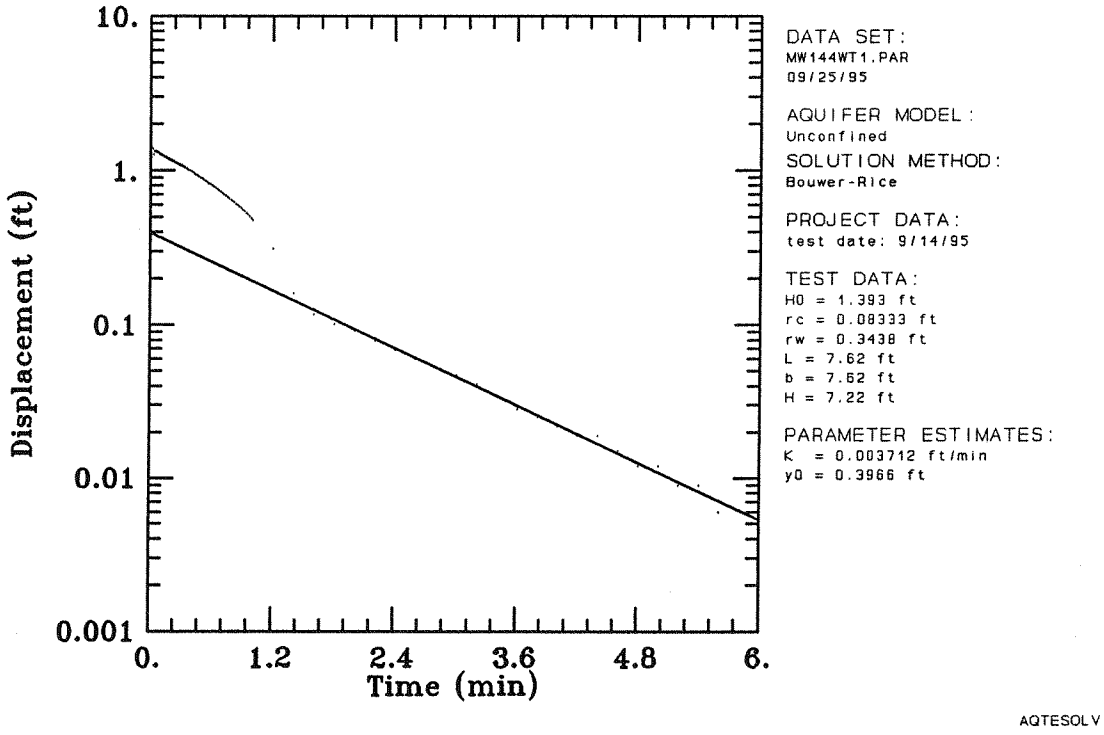


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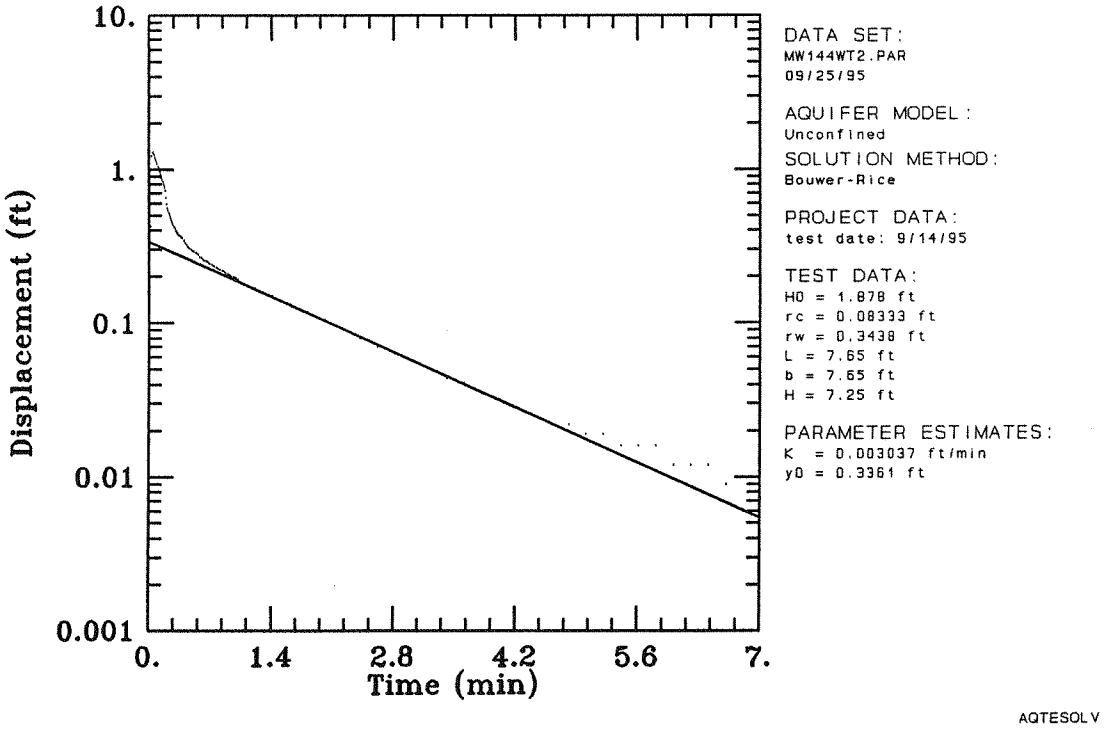
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-144WT (Test #1) - Medium to Fine Sand, Some Silt and Clay



MW-144WT (Test #2) - Medium to Fine Sand, Some Silt and Clay

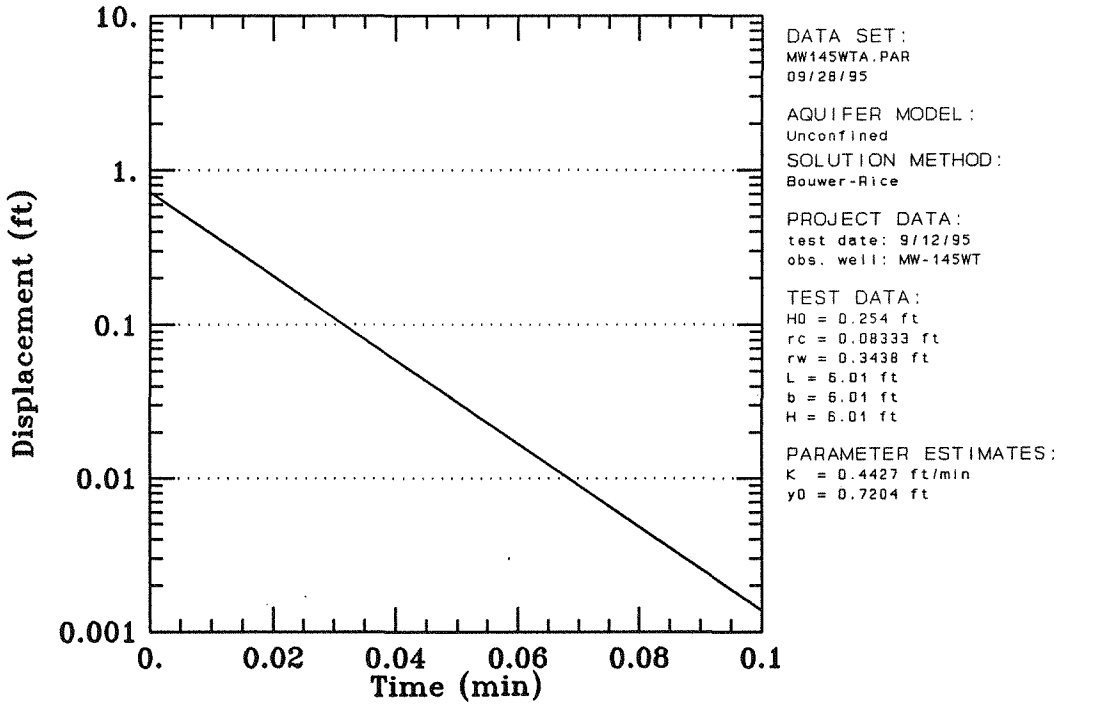


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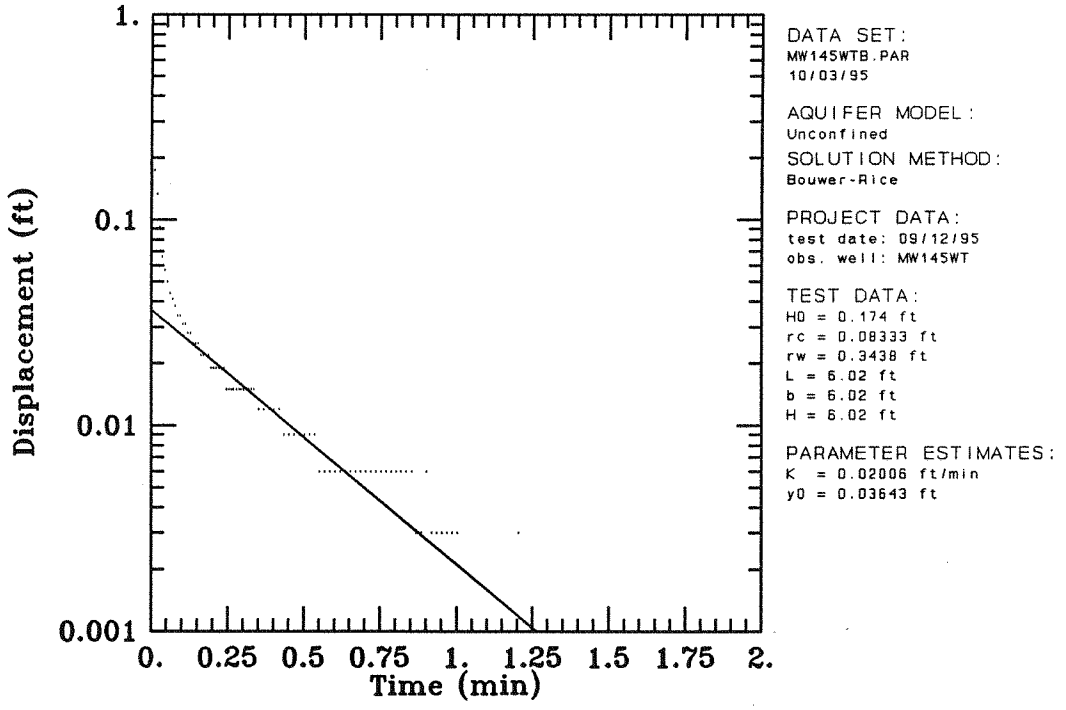
Remedial Investigation/Feasibility Study

Hydraulic Conductivity Testing Results

MW-145WT (Test #1) - Medium to Fine Sand



MW-145WT (Test #2) - Medium to Fine Sand



MW-146WT - Medium to Fine Sand

