

NEW YORK STATE SUPERFUND CONTRACT REMEDIAL INVESTIGATION REPORT Volume II • Appendices A-F

Frost Street Sites

Former Autoline Automotive (Site No. 1-30-043 I)

89 Frost Street (Site No. 1-30-043 L)

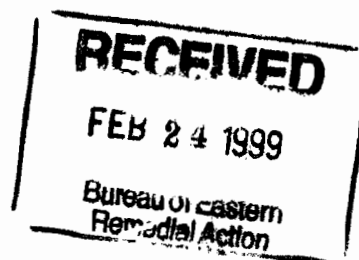
Former Applied Fluidics (Site No. 1-30-043 M)

Off-Site Investigation (Site No. 1-30-043)

Work Assignment No. D002676-32

DATE: February 1999

DRAFT



Prepared for:

**New York State
Department of
Environmental Conservation**

50 Wolf Road, Albany, New York 12233
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Division of Environmental Remediation
Michael J. O'Toole, *Director*

By:
Lawler, Matusky & Skelly Engineers LLP

APPENDIX A
SURFACE SOIL SAMPLING



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APPENDIX B

SOIL AND GROUNDWATER PROBE LOGS



Test Boring Log

Boring No.: 89-DW-1

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client: NYSCEC

Date: Start 7/10/98

Driller: LMS

Finish 7/10/98

Drilling Method: Concord

Total Depth: 25'

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water:

Coordinates:

Depth To Bottom: 6.3'

Logged By: John Nixon

Hole Diameter:

Monitoring Instrument(s): H-Nu CGI

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 7/11/98

Finish 7/11/98

Total Depth:	

Depth To Water: 15.8

Depth To Bottom: 16.6

Hole Diameter:

[illegible]

Test Boring Log

Boring No.: 89-DW-3

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client: NYSCEC

Date: Start 7/11/98

Driller: LMS

Finish 7/11/98

Drilling Method: Concord**Total Depth:**

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water: 15.5

Coordinates:

Depth To Bottom: 15.5

Logged By: John Nixon

Hole Diameter:

Monitoring Instrument(s): H-Nu CGI

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 7/11/98

Finish 7/11/98

Total Depth:

Depth To Water:	

Depth To Bottom: 16.0

Hole Diameter:	

[illegible]

Test Boring Log

Boring No.: 89-DW-5

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client: NYSCEC

Date: Start 7/11/98

Driller: LMS

Finish 7/11/98

Drilling Method: Concord**Total Depth:**

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water:

Coordinates:**Depth To Bottom:**

Logged By: John Nixon

Hole Diameter:

Monitoring Instrument(s): H-Nu CGI

[illegible]

Test Boring Log

MH-8

Boring No.: 89-DW-7

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client: NYSCEC

Date: Start 7/12/98

Driller: LMS

Finish 7/12/98

Drilling Method: Concord

Total Depth: 27.2

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water:	

Coordinates:

Depth To Bottom:

Logged By: Scott Englert

Hole Diameter:	

Monitoring Instrument(s): PID

[illegible]

Test Boring Log

MH-9

Boring No.: 89-DW-8

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client: NYSCEC

Date: Start 7/12/98

Driller: LMS

Finish 7/12/98

Drilling Method: Concord

Total Depth: 24'

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water: 7.1

Coordinates:**Depth To Bottom:**

Logged By: Scott Englert

Hole Diameter:

Monitoring Instrument(s): PID

[illegible]

Test Boring Log

Boring No.: 89-DW-10

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client: NYSCEC

Date: Start 7/9/98

Driller: LMS

Finish 7/9/98

Drilling Method: Concord

Total Depth:

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water: 10.6'

Coordinates:

Depth To Bottom: 14.4'

Logged By: John Nixon

Hole Diameter:

Monitoring Instrument(s): H-Nu CGI

[illegible]

LMS		Test Boring Log						Boring No.: 89-DW-11		
								Sheet 1 of 1		
Project Name: FROST STREET								Project No.: 650-327		
Client: NYSCEC								Date: Start 7/9/98		
Driller: LMS								Finish 7/9/98		
Drilling Method: Concord								Total Depth:		
Boring Location: 89 Frost St., NCIA, Wstbury, NY								Depth To Water: 9.9'		
Coordinates:								Depth To Bottom: 17.4'		
Logged By: John Nixon								Hole Diameter:		
Monitoring Instrument(s): H-Nu CGI										
Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained		Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
17-18.8					1.8'	1	Y		0-1.0' black c-m sand, petroleum oder 1.0-1.8' m-c brown sand	
28-30					1.3'	27	Y		0-1.3' m-c brown sand, some fine gravel	

TIME

1030

1205

(MH-12)

Boring No.: 89-DW-15

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client:	NYSCEC

Date: Start 7/9/98

Driller: LMS

Finish 7/9/98

Drilling Method: Concord

Total Depth:	

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water: 13.9'

Coordinates:

Depth To Bottom: 14.6'

Logged By: John Nixon

Hole Diameter:	

Monitoring Instrument(s): H-Nu CGI

[illegible]

(MH-13)

Boring No.: 89-SMH-W

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client:	NYSCEC

Date: Start 7/10/98

Driller: LMS

Finish 7/10/98

Drilling Method: Concord

Total Depth:

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water:	

Coordinates:

Depth To Bottom: 10.8'

Logged By: John Nixon

Hole Diameter:	

Monitoring Instrument(s): H-Nu CGI

[illegible]

(MH-14)

Boring No.: 89-SMH-E

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client:	NYSCEC

Date: Start 7/10/98

Driller: LMS

Finish 7/10/98

Drilling Method: Concord

Total Depth:

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water: 13.5'

Coordinates:

Depth To Bottom: 13.6'

Logged By: John Nixon

Hole Diameter:	

Monitoring Instrument(s): H-Nu CGI

[illegible]

[illegible]

(MH-16)

Boring No.: 89-DW-12

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client:	NYSCEC

Date: Start 7/8/98

Driller: LMS

Finish 7/8/98

Drilling Method: Concord

Total Depth:	

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water: 10'

Coordinates:

Depth To Bottom: 17'

Logged By: John Nixon

Hole Diameter:	

Monitoring Instrument(s): H-Nu CGI

[illegible]

(MH-17)

Boring No.: 89-DW-14

Sheet 1 of 1

Project Name: FROST STREET

Project No.: 650-327

Client: NYSCEC

Date: Start 7/10/98

Driller: LMS

Finish 7/10/98

Drilling Method: Concord

Total Depth:	

Boring Location: 89 Frost St., NCIA, Wstbury, NY

Depth To Water:**Coordinates:**

Depth To Bottom: 6.4'

Logged By: John Nixon

Hole Diameter:	

Monitoring Instrument(s): H-Nu CGI

[illegible]

Test Boring Log

Boring No.:89 DWA-01

Sheet 1 of 1

Project Name: 89 Frost Street

Project No.: 650-327

Client: NYSDEC

Date: Start 8/26/98

Driller: American Auger and Drilling

Finish 8/26/98

Drilling Method: Hollow Stem Auger/Split Spoon Sampler

Total Depth: 53 feet

Boring Location: 89 Frost Street Drywell # 1 (adjacent to)

Depth To Water:	

Coordinates:

Surf. Elevation:

Logged By: TMS; **Typed by** TMS

Hole Diameter: 8"

Monitoring Instrument(s): PID (hnu background readings: 3.5-4.6)

2/4/99 01:51 PM El-DWA probes.xls89 DWA_01 soil

Project Name: FROST STREET SITES

Project No.: 650-327

Client: NYSDEC

Date: Start 9/1/98

Driller: AMERICAN AUGER

Finish 9/1/98

Drilling Method: 4.25 HSA**Total Depth:**

Boring Location: 89 FROST STREET

Depth To Water:	

Coordinates:

Surf. Elevation:

Logged By: EDITH HOLLISTER

Hole Diameter: 8"

Monitoring Instrument(s):[illegible]

LMS Test Boring Log

Boring No.: 89-DWA-2

Sheet 1 of 1

Project Name: FROST STREE SITES

Project No.: 650-327

Client:	NYSCEC

Date: Start 8/19/98

Driller: American Auger and Drilling

Finish 8/19/98

Drilling Method: Hollow Stem Auger/Split Spoon Sampler

Total Depth:	

Boring Location: 89 Frost St. (Drywell #2)

Depth To Water:**Coordinates:****Surf. Elevation:**

Logged By: SGE

Hole Diameter:	

Monitoring Instrument(s): PID

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650 - 612

Date: Start 8/13/98

Finish

Total Depth: 94'

Depth To Water: ~53'

Surf. Elevation:

Hole Diameter: 2"

[illegible]

LMS Test Boring Log	Boring No.: 89-DWA-3
	Sheet 1 of 1
Project Name: FROST STREE SITES	Project No.: 650-327
Client: NYSCEC	Date: Start 8/19/98
Driller: American Auger and Drilling	Finish 8/19/98
Drilling Method: Hollow Stem Auger/Split Spoon Sampler	Total Depth:
Boring Location: 89 Frost St. Drywell #3 (adjacent to)	Depth To Water:
Coordinates:	Surf. Elevation:
Logged By: SGE; Typed by TMS	Hole Diameter:
Monitoring Instrument(s): PID	

[illegible]

LMS Test Boring Log	Boring No.: 89-DWA-4	
	Sheet 1 of 2	

Sheet 1 of 2

Project Name: FROST STREE SITES

Date: Start 8/20/98

Driller: American Auger and Drilling

Total Depth:

Drilling Method: Hollow Stem Auger/Spill Spoon Sampler

Depth To Water:	

Coordinates:

Hole Diameter:	

Monitoring Instrument(s): PID

Monitoring Instrument(s): PID

Monitoring Instrument(s):						
	Blow-On Sampler					Classification Of Material

1

 | | | |) | dinding | red | | f | f | and - 35-50% |[illegible]

LMS Test Boring Log	Boring No.: 89-DWA-4 Sheet 2 of 2

Sheet 2 of 2

Project Name: FROST STREE SITES	Project No.: 650-327

Client: NYSCEC	Date: Start 8/20/98

Driller: American Auger and Drilling	Finish 8/20/98

Drilling Method:	Hollow Stem Auger/Split Spoon Sampler	Total Depth:

Boring Location:	89 Frost St. Drywell #4 (adjacent to)	Depth To Water:

Coordinates:	Surf. Elevation:

Logged By: SGE: Typed by TMS	Hole Diameter:

Monitoring Instrument(s): PID

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 8/26/98

Finish 8/26/98

Total Depth: 53 feet

Depth To Water:	

Surf. Elevation:

Hole Diameter: 8"

[illegible]

Project Name: FROST STREET SITES

Project No.: 650-327

Client: NYSDEC

Date: Start 9/1/98

Driller: AMERICAN AUGER

Finish 9/1/98

Drilling Method: 4.25 HSA**Total Depth: 87'**

Boring Location: 89 FROST STREET

Depth To Water:

Coordinates:

Surf. Elevation:

Logged By: EDITH HOLLISTER

Hole Diameter: 8"

Monitoring Instrument(s):

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650 - 612

Date: Start 8/10/98

Finish 8/10/98

Total Depth: 94'

Depth To Water: ~54'

Surf. Elevation:

Hole Diameter: 2"

[illegible]

Test Boring Log

Boring No.: DWA-7a

Sheet 1 of 1

Project Name: 89 Frost Street

Project No.: 650 - 612

Client: NYSDEC

Date: Start 8/11/98

Driller: LMS

Finish 8/11/98

Drilling Method: AMS Probe**Total Depth: 94'**

Boring Location:

Depth To Water: ~54'

Coordinates:**Surf. Elevation:**

Logged By: CJM / BJM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650 - 612

Date: Start 8/12/98

Finish 8/12/98

Total Depth: 94'

Depth To Water: ~53'

Surf. Elevation:

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Boring No.:89-DWA-19

Sheet 1 of 1

Project Name: FROST STREET SITES

Project No.: 650-327

Client: NYSDEC

Date: Start 9/3/98

Driller: AMERICAN AUGER

Finish 9/3/98

Drilling Method: 4.25 HSA

Total Depth: 87'

Boring Location: 89 FROST STREET

Depth To Water:

Coordinates:

Surf. Elevation:

Logged By: EDITH HOLLISTER

Hole Diameter: 8"

Monitoring Instrument(s):

2/4/99 04:52 PM FH DWA probes xls89-DWA-19

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 8/25/98

Finish 8/25/98

Total Depth: 53 feet

Depth To Water:

Surf. Elevation:

Hole Diameter: 8"

Monitoring Instrument(s): PID (hnu background readings: 2.8-8.9)

2/1/99 04:52 PM FH DWA probes vs B9 DWA 10 soil

Test Boring Log

Boring No.: 89 DWA-11

Sheet 1 of 1

Project Name: 89 Frost Street

Project No.: 650-327

Client: NYSDEC

Date: Start 8/24/98

Driller: American Auger and Drilling

Finish 8/24/98

Drilling Method: Hollow Stem Auger/Split Spoon Sampler

Total Depth: 53 feet

Boring Location: 89 Frost Street Drywell # 11 (adjacent to)

Depth To Water:

Coordinates:

Surf. Elevation:

Logged By: TMS; Typed by TMS

Hole Diameter: 8"

Monitoring Instrument(s): PID (hnu background readings: 1.6-2.0)

[illegible]

LMS

Test Boring Log

Boring No.: 89 DWA-11

Sheet 1 of 1

Project Name: 89 Frost Street

Project No.: 650 - 612

Client: NYSDEC

Date: Start 9/2/98

Driller: LMS

Finish 9/2/98

Drilling Method: AMS Probe

Total Depth: 94'

Boring Location:

Depth To Water: ~53'

Coordinates:

Surf. Elevation:	

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

(MH-12)

Sheet 1 of 1

Project No.: 650 - 612

Date: Start 8/5/98

Finish 8/6/98

Total Depth: 94'

Depth To Water: ~54'

Surf. Elevation:

Hole Diameter: 2"

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 8/24/98

Finish 8/24/98

Total Depth: 53 feet

Depth To Water:

Surf. Elevation:

Hole Diameter: 8"

[illegible]

Test Boring Log

(MH-14)

Boring No.: 89 DWA-SMH-E

Sheet 1 of 1

Project Name: 89 Frost Street

Project No.: 650-327

Client: NYSDEC

Date: Start 8/25/98

Driller: American Auger and Drilling

Finish 8/25/98

Drilling Method: Hollow Stem Auger/Split Spoon Sampler**Total Depth: 53 feet**

Boring Location: 89 Frost Street Drywell #14 (adjacent to)

Depth To Water:	

Coordinates:

Surf. Elevation:

Logged By: TMS; **Typed by** TMS

Hole Diameter: 8"

Monitoring Instrument(s): PID (hnu background readings: 2.4-4.1)

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained		Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
9	6				1.2	4.4	Y	moist	0-0.2 dark brown poorly sorted coarse sand and gravel (fill) 0.2-1.2 light orange-brown poorly sorted coarse to fine sand and large to small gravel.	VOA sample 89 DWA-SMH-E (9-11) 8/25/98 0815
		13								
			19							
11				13						
19	6				1.3	3.9	Y	moist	0-0.3 moist dark brown fill 0.3-1.3 light orange-brown poorly sorted coarse to fine sand and gravel (quartz).	VOA sample 89 DWA-SMH-E (19-21) 8/25/98 0830
		7								
			11							
21				16						
31	19				1.5	5.3	Y	moist	0-1.1 dark orange-brown poorly sorted coarse to fine sand and small to medium quartz gravel) 1.1-1.5 light tan poorly sorted coarse to fine sand and gravel.	VOA sample 89 DWA-SMH-E (31-33) 8/25/98 0840
		13								
			13							
33				11						
41	5				1.3	53	Y	moist	0-0.7 dark orange brown-dark brown medium to fine sand and gravel 0.7-1.3 light tan moderately well sorted medium to fine sand little gravel.	VOA sample 89 DWA-SMH-E (51-53) 8/25/98 0900 sample has slight odor
		6								
			5							
43				13						
51	5				1.7	93	Y	moist/ wet	0-0.9 dark brown moist fine sand and gravel 0.9-1.7 light to medium tan fine well sorted sand (wet) (micaceous) trace gravel.	VOA sample (QC) for lab: 89 DWA-SMH-E (51-53) 8/26/98 1320 sent out 2 vials.
		13								
			21							
53				34						
53	29				1.3	3.5	Y	moist	0-0.3 dark brown poorly sorted coarse sand and gravel (fill) 0.3-1.3 light to medium tan well sorted fine sand trace gravel.	
		36								
			24							
55				32						
	9/2/98	WATER (MH-13, -14)								
60-65	with bailer						X	10:45		
78	with hydropunch						X	11:15		
92	with hydropunch						X	12:00		

Test Boring Log

(MH-15)

Boring No.:89-DWA-16

Sheet 1 of 1

Project Name: FROST STREET SITES

Project No.: 650-327

Client: NYSDEC

Date: Start 9/2/98

Driller: AMERICAN AUGER

Finish 9/2/98

Drilling Method: 4.25 HSA

Total Depth: 87'

Boring Location: 89 FROST STREET

Depth To Water:	

Coordinates:

Surf. Elevation:	

Logged By: EDITH HOLLISTER

Hole Diameter: 8"

Monitoring Instrument(s):[illegible]

Test Boring Log

Boring No.: 89 DWA-12

Sheet 1 of 1

Project Name: 89 Frost Street

Project No.: 650 - 612

Client: NYSDEC

Date: Start 8/21/98

Driller: American Auger

Finish 9/2/98

Drilling Method: HSA**Total Depth: 94'**

Boring Location:

Depth To Water: ~53'**Coordinates:****Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

LMS Test Boring Log	Boring No.: 89-DWA-14
	Sheet 1 of 1
Project Name: FROST STREE SITES	Project No.: 650-327
Client: NYSCEC	Date: Start 8/20/98
Driller: American Auger and Drilling	Finish 8/20/98
Drilling Method: Hollow Stem Auger/Split Spoon Sampler	Total Depth:
Boring Location: 89 Frost St. DW-14I(# 17 on Survey Map) adjacent	Depth To Water:
Coordinates:	Surf. Elevation:
Logged By: SGE; Typed by TMS	Hole Diameter:

Sheet 1 of 1

Project No.: 650-327

Date: Start 8/20/98

Finish 8/20/98

Total Depth:**Depth To Water:**

Surf. Elevation:	

Hole Diameter:	

[illegible]

f - fine	and - 35-50%
m - medium	some - 20-35%
c - coarse	little - 10-20%
	trace - 0-10%

Remarks

9	15	40	15	30	0.9	0.5	Y	dry	0-0.9 dark brown fill gravel and sand	VOA sample 89-DWA-4 (9-11') 8/20/98 1100
11										
19	5	10	11	12	1.4	5	Y	dry	0-0.4 wash 0.4-1.4 tan-light orange poorly sorted sands and small quartz gravel.	VOA sample 89-DWA-4 (19-21') 8/20/98 1110
21										
31	8	10	15	15	1.2	65	Y	dry	0-0.1 wash 0.1-0.6 orange fine sand with little with little medium sand and small to medium gravel 0.6-1.2 tan poorly sorted sand and small gravel. Little medium gravel.	VOA sample 89-DWA-4 (31-33') 8/20/98 1120
33										
41	5	11	27	20	0.4	70	N		0-0.1 wash 0.1-0.4 hit large pieces of quartz gravel; no other pit material recovered.	No sample collected. 1135 Anson representative on site (Jeff)
43										
51	10	25	31	40	1.4	50	Y	wet	0-0.4 orange brown fine sand. Some medium sand and small gravel. 0.4-1.4 White and tan micaceous fine sand and silt. No gravel. (Magothy)	VOA sample 89-DWA-4 (51-53') 8/20/98 1145
53										

Test Boring Log

Sheet 1 of 1

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Boring No.: 101-DW-2

Sheet 1 of 1

Project Name: 101 FROST STREET

Project No.: 650-322

Client:	NYSCEC

Date: Start 8/24/98

Driller: LMS

Finish 8/24/98

Drilling Method:

Total Depth: 30'

Boring Location: 101 Frost Street (DW-2)

Depth To Water: 14.0'

Coordinates:

Depth To Bottom:	

Logged By: JET

Hole Diameter:	

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-322

Date: Start 8/26/98

Finish 8/26/98

Total Depth:

Depth To Water: Dry

Depth To Bottom:

Hole Diameter:

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Boring No.: 101-DW-4

Sheet 1 of 1

Project Name: 101 FROST STREET

Project No.: 650-322

Client:	NYSCEC

Date: Start 8/26/98

Driller: LMS

Finish 8/26/98

Drilling Method:**Total Depth: 26.0**

Boring Location: 101 Frost Street (DW-4)

Depth To Water: Dry

Coordinates:

Depth To Bottom:

Logged By: JET

Hole Diameter:

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-322

Date: Start 8/24/98

Finish 8/24/98

Total Depth: 24.0

Depth To Water: 11.6

Depth To Bottom:	

Hole Diameter:	

[illegible]

Test Boring Log

Boring No.: 101-DW-6

Sheet 1 of 1

Project Name: 101 FROST STREET

Project No.: 650-322

Client: NYSCEC

Date: Start 8/24/98

Driller: LMS

Finish 8/24/98

Drilling Method:

Total Depth: 29'

Boring Location: 101 Frost Street (DW-6)

Depth To Water: Dry

Coordinates:

Depth To Bottom:	

Logged By: JET

Hole Diameter:	

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-322

Date: Start 8/24/98

Finish 8/24/98

Total Depth: 30'

Depth To Water: 15.7'

Depth To Bottom:

Hole Diameter: 1.5"

[illegible]

Test Boring Log

Boring No.: 101-DW-8

Sheet 1 of 1

Project Name: 101 FROST STREET

Project No.: 650-322

Client: NYSCEC

Date: Start 8/24/98

Driller: LMS

Finish 8/24/98

Drilling Method:

Total Depth: 22'

Boring Location: 101 Frost Street (DW-8)

Depth To Water:

Coordinates:

Depth To Bottom:

Logged By: JET

Hole Diameter:

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Sheet 1 of 1

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Boring No.: 101-DW-10

Sheet 1 of 1

Project Name: 101 FROST STREET

Project No.: 650-322

Client: NYSCEC

Date: Start 8/25/98

Driller: LMS

Finish 8/25/98

Drilling Method:

Total Depth: 21'

Boring Location: 101 Frost Street (DW-10)

Depth To Water:

Coordinates:

Depth To Bottom:

Logged By: JET

Hole Diameter:

Monitoring Instrument(s): PID (Anson)

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650 - 322

Date: Start 9/14/98

Finish 9/14/98

Total Depth: 94'

Depth To Water: ~53'

Surf. Elevation:

Hole Diameter: 2"

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-322

Date: Start 8/25/98

Finish 8/25/98

Total Depth: 29.5'

Depth To Water: Dry'

Depth To Bottom:

Hole Diameter:

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-322

Date: Start 8/25/98

Finish 8/25/98

Total Depth: 29.0'

Depth To Water: Dry

Depth To Bottom:

Hole Diameter:

[illegible]

LMS		Test Boring Log				(N/S)		Boring No.: 101-DW-9		
Project Name: FROST STREET								Sheet 1 of 1		
Client: NYSCEC								Project No.: 650-327		
Driller: LMS								Date: Start 7/12/98		
Drilling Method: Concord								Finish 7/12/98		
Boring Location: 89 Frost St., NCIA, Westbury, NY								Total Depth:		
Coordinates:								Depth To Water: 11.0'		
Logged By: Scott Englert								Depth To Bottom:		
Monitoring Instrument(s): PID								Hole Diameter:		
Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained		Classification Of Material	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
14.7-18.1					2.3	0	Y	wet	0-1.3' black, wet organic sediment	degraded fuel odor 14.7' depth to the top of sediment (below grade) Sample collected 89-DW-9-5-1 VOCs Water sample collected: 89-DW-9 VOCs Soil sample collected: 89-DW-9 (27-29) VOCs
									1.3-2.3' tan-orange poorly sorted sands and some sm. med. gravel	
27-29					1.8	0	Y	dry	0-1.8 tan-orange, poorly sorted sands, little med. gravel, some small gravel	

Test Boring Log

Boring No.: 101 DWA-1

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 8/19/98**Driller: LMS**

Finish 8/19/98

Drilling Method: AMS Probe**Total Depth: 94'**

Boring Location:

Depth To Water: ~53'

Coordinates:

Surf. Elevation:

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

LMS Test Boring Log	Boring No.: 101 DWA-2
	Sheet 1 of 1
Project Name: FROST STREET SITES	Project No.: 650-327
Client: NYSDEC	Date:
Driller: LMS/AMS GEOPROBE	
Drilling Method: GEOPROBE	Total Depth: 54'
Boring Location: 101 DWA-2 (8-12')	Depth To Water:
Coordinates:	Surf. Elevation:
Logged By: TMS	Hole Diameter:

Sheet 1 of 1

Project No.: 650-327

Date:

Total Depth:	54'

Total Depth: 54'**Depth To Water:****Surf. Elevation:**

Hole Diameter:

[illegible][illegible]

LMS

Test Boring Log

Boring No.: 101 DWA-2

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 9/9/98

Driller: LMS

Finish

Drilling Method: AMS Probe

Total Depth: 94'

Boring Location:

Depth To Water: ~53'

Coordinates:**Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Boring No.: 101 DWA-3

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 9/10/98

Driller: LMS

Finish

Drilling Method: AMS Probe

Total Depth: 94'

Boring Location:

Depth To Water: ~53'

Coordinates:

Surf. Elevation:

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

LMS Test Boring Log

Boring No.: 101 DWA-5

Sheet 1 of 1

Project Name: FROST STREET SITES

Project No.: 650-327

Client: NYSDEC

Date: Start 8/26/98

Driller: LMS/AMS GEOPROBE

Finish 8/26/98

Drilling Method: GEOPROBE

Total Depth:	

Boring Location: 101 DWA-5 BACK PARKING LOT

Depth To Water:	

Coordinates:**Surf. Elevation:**

Logged By: SGE

Hole Diameter:

Monitoring Instrument(s): PID

[illegible]

Test Boring Log

Boring No.: 101 DWA-5

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 9/8/98**Driller: LMS**

Finish

Drilling Method: AMS Probe**Total Depth: 94'**

Boring Location:

Depth To Water: ~53'**Coordinates:****Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Boring No.: 101 DWA-6

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 8/31/98

Driller: LMS

Finish

Drilling Method: AMS Probe**Total Depth: 94'**

Boring Location:

Depth To Water: ~53'

Coordinates:**Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650 - 322

Date: Start 9/9/98

Finish 9/15/98

Total Depth: 94'

Depth To Water: ~53'

Surf. Elevation:

Hole Diameter: 2"

[illegible]

Test Boring Log

Boring No.: 101 DWA-8

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 9/1/98

Driller: LMS

Finish 9/10/98

Drilling Method: AMS Probe**Total Depth: 94'**

Boring Location:

Depth To Water: ~53'

Coordinates:**Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Boring No.: 101 DWA-12

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 9/14/98

Driller: LMS

Finish 9/15/98

Drilling Method: AMS Probe**Total Depth: 94'**

Boring Location:

Depth To Water: ~53'

Coordinates:**Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained		Classification Of Material f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
8					3.8	0	X	moist	0-3.8 Tan Brown m-c sand little gravel	101 DWA-12 (8-12) 1115 9/14/98 soil
12										
18					3.5	0	X	moist	0-3.5 Tan Brown f-m sand little gravel	101 DWA-12(18-22) 1140 9/14/98 soil
22										
30					3.1	0	X	moist	0-3.1 Tan Orange f-m sand trace gravel	101 DWA-12 (30-34) 1515 9/14/98 soil
34										
								moist	0-2.9 Tan orange m-c sand little gravel	101 DWA-12(40-44) 1600 9/14/98 soil
40					2.9	0	X			
44										
								moist	0-1.9 Tan orange f-m sand trace gravel	101 DWA-12 (50-54) 1720 9/14/98 soil
50					1.8	0	X			
54										
										101 DWA-12 (63-64') 1430 9/15/98 water
										101 DWA-12 (79-80') 1345 9/15/98 water
										101 DWA-12 (90-91') 1115 9/15/98

Test Boring Log

Boring No.: 101 DWA-13

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 9/16/98

Driller: LMS

Finish 9/17/98

Drilling Method: AMS Probe**Total Depth: 94'**

Boring Location:

Depth To Water: ~53'

Coordinates:**Surf. Elevation:**

Logged By: CJM / SGE

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

LMS Test Boring Log

Boring No.: FSGP-1

Sheet 1 of 1

Project Name: 101 Frost Street

Project No.: 650 - 322

Client: NYSDEC

Date: Start 9/23/98

Driller: LMS

Finish

Drilling Method: AMS Probe

Total Depth:	

Boring Location:

Depth To Water:	

Coordinates:

Surf. Elevation:	

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650 - 322

Date: Start 9/24/98

Finish

Total Depth:	

Depth To Water:	

Surf. Elevation:

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-322

Date: Start 9/1/98

Finish 9/1/98

Total Depth: 87'

Depth To Water:

Surf. Elevation:	

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

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(and 101-DWA-09)

Boring No.: FSGP-04

Sheet 1 of 1

Project Name: FROST STREET SITES

Project No.: 650-322

Client: NYSDEC

Date: Start 9/3/98

Driller: AMERICAN AUGER

Finish 9/3/98

Drilling Method: 4.25 HSA

Total Depth: 87'

Boring Location: 101 FROST STREET

Depth To Water:	

Coordinates:**Surf. Elevation:**

Logged By: EDITH HOLLISTER

Hole Diameter: 8"

Monitoring Instrument(s):[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 8/28/98

Finish 8/28/98

Total Depth: 87'

Depth To Water:	

Surf. Elevation:

Hole Diameter: 8"

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 8/27/97

Finish 8/27/97

Total Depth:	

Depth To Water:	

Surf. Elevation:

Hole Diameter: 8"

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 8/27/98

Finish 8/27/98

Total Depth: 87'

Depth To Water:**Surf. Elevation:**

Hole Diameter: 8"

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 9/1/98

Finish 9/1/98

Total Depth: 87'

Depth To Water:	

Surf. Elevation:

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650-327

Date: Start 9/2/98

Finish 9/2/98

Total Depth: 87'

Depth To Water:

Surf. Elevation:

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

[illegible]

Test Boring Log

Sheet 1 of 1

Project No.: 650 - 612

Date: Start 8/3/98

Finish 8/4/98

Total Depth:	

Depth To Water:	

Surf. Elevation:

Hole Diameter: 2"

[illegible]

Test Boring Log

Boring No.: FSGP-12

Sheet 1 of 1

Project Name: 770 Main Street

Project No.: 650 - 612

Client: NYSDEC

Date: Start 8/4/98**Driller: LMS**

Finish 8/5/98

Drilling Method: AMS Probe**Total Depth:**

Boring Location:

Depth To Water:**Coordinates:****Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Boring No.: FSGP-13

Sheet 1 of 1

Project Name: 770 Main Street

Project No.: 650 - 612

Client: NYSDEC

Date: Start 7/31/98**Driller: LMS**

Finish 8/20/98

Drilling Method: AMS Probe**Total Depth:**

Boring Location:

Depth To Water:**Coordinates:****Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Boring No.: FSGP-14

Sheet 1 of 1

Project Name: 770 Main Street

Project No.: 650 - 612

Client: NYSDEC

Date: Start 7/30/98

Driller: LMS

Finish 7/31/98

Drilling Method: AMS Probe

Total Depth: 94'

Boring Location:

Depth To Water: ~54'

Coordinates:**Surf. Elevation:**

Logged By: CJM / BSM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]

Test Boring Log

Boring No.: FSGP-15

Sheet 1 of 1

Project Name: 770 Main Street

Project No.: 650 - 612

Client: NYSDEC

Date: Start 7/29/98

Driller: LMS

Finish 8/4/98

Drilling Method: AMS Probe

Total Depth: 94'

Boring Location:

Depth To Water: ~54'

Coordinates:**Surf. Elevation:**

Logged By: CJM / BJM

Hole Diameter: 2"

Monitoring Instrument(s): H-NU

[illegible]



APPENDIX C

BORING/WELL LOGS AND WATER LEVEL DATA



LMS**Test Boring Log****Boring No.: FSHP-01****Sheet 1 of 3****Project Name: FROST STREET SITES****Project No.: 650-322****Client: NYSDEC****Date: Start 8/10/98****Driller: AMERICAN AUGER****Finish 8/11/98****Drilling Method: 4.25 HSA****Total Depth: 132'****Boring Location: 101 FROST STREET****Depth To Water: 55'****Coordinates:****Surf. Elevation:****Logged By: EDITH HOLLISTER****Hole Diameter: 8"****Monitoring Instrument(s): Photovac HL 2000 PID**

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
5	7				0.7	0		dry	Tan-orange f-c sand; little gravel; trace silt; broken piece of cobble in bottom.	
		16								
			50/5							
7				*						
10	6				1.0	0		dry	Orange f-c sand; little gravel; trace silt.	
		24								
			36/5							
12				*						
15	1				1.2	0		dry	Orange f-c sand; little gravel; trace silt.	
		21								
			8							
17				9						
20	8				*	*			No recovery.	
		15								
			23							
22				28						
25	4				0.9	0		dry	0.0-0.8 orange f-c sand; little gravel; trace silt.	
		10								
			10							
27				10					0.8-0.9 tan f-c sand; trace gravel; trace silt.	
30	14				1.3	0		dry	Tan with orange mottling f-c sand; little gravel; trace silt.	
		13								
			17							
32				18						
35	5				1.0	0		damp	Tan and orange mottled f-c sand; little gravel; trace silt.	
		6								
			6							
37				12						
40	17				*	*			No recovery	
		27								
			50/4							
42				*						
45	8				0.8	0		damp	Tan vf-m silty sand; trace gravel; piece of cobble.	
		8								
			9							
47				20						

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
50	23				0.4	0		Damp	Tan vf-f silty sand; trace gravel 0.25-0.35 brown clay	
		27								
			43							
52				50/5						
55	4				1.6	0		Wet	0.0-0.3 Brown f micaceous sand, little silt, trace gravel.	
		11								
			12					W	0.3-1.6 Tan/orange f micaceous sand, little silt, trace gravel.	
57				20				A		
60	2				1.2	0		T	Orange fine silty sand, micaceous, trace gravel, trace clay	
		2						E		
			2					R		
62				2					0-0.8 Orange f sand.	
65	6				1.9	0		T	0.8-1.2 Tan w/orange banding f sand	
		12						A	1.2-1.3 Gray clay w/orange varves	
			18					B	1.3-1.5 Br. Orange f sand	
67				22				L	1.5-1.7 Orange/tan f sand	
								E	1.7-1.9 Gray clay w/orange varves.	
70	12				1.6	0			Orange very fine silty micaceous sand, interbedded gray clay	
		18								
			22							
72				27					0-0.5 Gray w/orange silty clay varves; trace f sand	
75	12				2.0	0			0.5-2.0 Tan f micaceous sand with orange lenses; trace silt; trace clay.	
		18								
			20							
77				28						
80	6				2.0	0			0-0.6 Orange/tan f micaceous sand; little silt.	
		10						UGA		
			14					MAG	0.6-2.0 Tan w/little orange mottling vf micaceous sand; little silt; trace clay.	
82				17						
85	6				1.6	0			Tan vf-f micaceous silty sand; trace clay.	
		8								
			11							
87				7						
90	3				1.2	0			Tan w/orange lenses vf-f micaceous silty sand.	
		5								
			12							
92				16						
95	6				1.4	0			Tan w/trace orange mottling f micaceous silty sand; trace clay.	
		8								
			12							
97				11						
100	5				2.0	0			Tan w/trace orange mottling f micaceous silty sand; trace clay.	
		8								
			9							
102				11						

Project No.: 650-322

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LMS Test Boring Log

Boring No.: FSHP-02

Sheet 1 of 3

Project Name: FROST STREET SITES

Project No.: 650-322

Client: NYSDEC

Date: Start 8/11/98

Driller: AMERICAN AUGER

Finish 8/12/98

Drilling Method: 4.25 HSA

Total Depth: 127'

Boring Location: 101 FROST STREET

Depth To Water: 55'

Coordinates:

Surf. Elevation:

Logged By: EDITH HOLLISTER

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
5	14				0.9	3.7		Dry	0-0.4 Tan f-c sand and gravel.	Elevated PID readings in black section
		24							0.4-0.8 Brown silt and f sand; trace clay; trace gravel.	
			50/4"						0.8-0.9 Tan f-c sand and gravel.	
7				-						
10	10				0.7	2.7		Dry	0-0.6 Brown silty f-c sand; trace clay; trace gravel.	
		21							0.6-0.7 Dk. Brown - Black silty clay; trace vf sand.	
			30							
12				38						
15	7				1.2	1.9		Damp	Brown grading to orange grading to tan f-c sand; little gravel; trace silt.	
		16								
			12							
17				12					Orange f sand; little c sand; trace gravel; trace silt.	
20	6				1.4	4.1		Slightly Damp		
		11								
			18							
22				14						
25	12				-	-		-	No Recovery	
		18								
			22							
27				15					Orange grading to tan/orange f-c sand; little gravel; trace silt.	
30	7				1.1	7.1		Damp		
		9								
			9							
32				10						
35	11				1.2	8.5		Damp	Orange fine sand, little gravel, trace silt	
		12								
			17							
37				14					Orange w/tan and dk. brown lenses f sand; trace c sand, trace gravel and cobble pieces	
40	11				1.3	27.2		Damp		
		11								
			5						0-0.7 Orange f sand, trace cobbles, gravel, and silt	
42				14						
45	7				1.1	40.1		Dry	0.7-1.1 Tan f sand, little silt with thin orange lenses	
		9								
			11							
47				13						

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
50	5				1.3	48.1		Moist	0-0.2 Brown f silty sand; trace gravel.	PID acting strange.
		27							0.2-0.4 Brown silty clay; trace cobble.	
			34						0.4-0.6 Orange f sand; trace silt; trace gravel.	
52				43					0.6-0.9 Lt. brown f silty sand; trace gravel; trace silt.	
55	12				1.2	28.8		Wet	0.9-1.3 Tan f silty sand; trace gravel.	
		17							Tan/orange layered lenses f	
			24					W	sand; trace gravel; trace cobbles;	
57				34				A	trace silt.	
								T		
60	6				0.8	17.8		E	Orange micaceous fine silty	
		11						R	sand; trace gravel	
			7							
62				7					Orange micaceous fine silty	
65	7				1.4	27.6		T	sand; trace gravel	
		7						A		
			7					B		
67				7				L	Lt. grading to dk. orange	
70	2				1.9	65.9		E	micaceous fine silty sand, trace	
		4							gravel, trace clay	
			4							
72				2					Tan - Brown silty fine micaceous	
75	5				1.8	15.2			sand, trace gravel, trace clay	
		7								
			7						Tan micaceous fine silty sand,	
77				10				UGA	trace gravel, trace clay	
80	8				1.5	15.7		MAG		
		7								
			11						Tan with traces pinkish and	
82				10					orangeish micaceous fine silty	
85	5				1.4	96.5			sand, trace clay;	
		5								
			5						Tan micaceous fine silty sand;	
87				5					trace gray clay; little orange	
90	2				1.9	43.5			mottling.	
		3								
			3						Tan micaceous fine silty sand,	
92				2					trace gravel, trace gray clay	
95	4				1.9	44.2				
		5								
			5						Tan micaceous fine silty sand,	
97				7					trace clay	
100	7				1.5	0				
		7								
			7							
102				10						

Test Boring Log

Boring No.:FSHP-02

Sheet 3 of 3

Project No.: 650-322[illegible]

LMS Test Boring Log

Boring No.: FSHP-03

Sheet 1 of 3

Project Name: Frost Street Sites

Project No.: 650-327

Client: NYSDEC

Date: 8/4/98

Driller: American Auger

Finish: 8/5/98

Drilling Method: 4.25" Hollow Stem Auger

Total Depth: 147'

Boring Location: 89 Frost Street

Depth To Water: ~55'

Coordinates:

Surf. Elevation:

Logged By: Edith Hollister

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
5	13				1.4	0		Dry	0-0.5 Brown vf-c sand; trace silt; little gravel.	
		16								
			11							
7				20						
10	27				0.6	0		Dry	0.5-1.4 Orange/tan f-c sand; trace gravel.	
		22								
			30							
12				36						
15	6				1	0		Damp	Orange/tan vf-c sand; trace gravel.	
		14								
			11							
17				10						
20	5				0.7	0		Damp	Tan - Orange fine to coarse sand, little gravel	
		6								
			7							
22				10						
25	7				1.1	0		Damp	Orange/tan m-c sand; trace f sand; some f gravel	
		9								
			8							
27				11						
30	3				1.2	19.2		Damp	Orange/tan grading to brown m-c sand; little gravel.	
		4								
			8							
32				11						
35	4				0.7	0		Damp	Lt. Brown medium to coarse sand, little gravel	
		6								
			9							
37				10						
40	11				1.1	0		Damp	Orange fine to medium sand, trace gravel, trace silt	
		6								
			6							
42				10						
45	5				1.2	0		Damp	Tan w/orange lenses vf-m sand, trace silt, trace gravel in lenses	
		9								
			13							
47				20						

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material		Remarks
	0"-5"	6"-12"	12"-18"	18"-24"					f - fine m - medium c - coarse	and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
50	6				1.6	0		Damp	0-0.3 Tan f-m sand; trace gravel; trace silt. 0.3-1.2 brown clay; trace silt; trace micaceous vf sand. 1.2-1.3 Tan silty vf sand. 1.3-1.4 Brown clay. 1.4-1.6 Orange f silty sand; trace gravel.		
		3									
			7								
52				5							
									Mottled orange and tan f micaceous sand, trace silt, thin clay lense at 0.7'		
55	5				1.4	0		Wet			
		12									
			15					W	Orange grading to tan fine micaceous sand		
								A			
57				33				T			
60	8				2	0		E			
		7						R	Tan fine micaceous sand, trace silt		
			13								
62				21							
65	4				2	0		T			
		7						A	Tan fine micaceous sand, trace silt		
			11					B			
67				17				L			
70	4				1.3	0		E			
		5							Tan fine micaceous sand, trace silt		
			7								
72				11							
75	5				1.7	0					
		6							Tan fine micaceous sand, trace silt, trace orange mottling		
			5								
77				8				UGA			
80	6				2	0		MAG	Tan fine micaceous sand, trace silt, trace orange mottling		
		8									
			8								
82				12							
85	6				2	0			Tan fine micaceous sand, trace silt, trace orange mottling		
		8									
			5								
87				7							
90	2				1.9	0			Tan fine micaceous sand, trace silt, trace orange mottling		
		3									
			4								
92				6							
95	5				1.5	0			Tan fine micaceous sand, trace silt, trace orange mottling		
		3									
			5								
97				7							
100	6				1.5	0			Tan fine micaceous sand, trace silt, trace orange mottling		
		6									
			5								
102				8							

Test Boring Log

Sheet 3 of 3

Project No.: 650-327

1/19/99 2:32 PM EH HP-MW logs.xlsFSHP-03 (3)

LMS Test Boring Log										Boring No.: FSHP-04	
										Sheet 1 of 3	
Project Name: Frost Street Sites										Project No.: 650-327	
Client: NYSDEC										Date: 8/5/98	
Driller: American Auger										Finish: 8/6/98	
Drilling Method: 4.25" Hollow Stem Auger										Total Depth: 147'	
Boring Location: 89 Frost Street										Depth To Water: ~55'	
Coordinates:										Surf. Elevation:	
Logged By: Edith Hollister										Hole Diameter: 8"	
Monitoring Instrument(s): Photovac HL 2000 PID											
Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material		Remarks
	0"-6"	6"-12"	12"-18"	18"-24"					f - fine m - medium c - coarse	and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
5	4				2	0		Damp	0-1.6 Tan/orange f sand		
		10							1.6-2.0 Dk. Brown vf-c sand, trace gravel, trace silt		
			14								
7				25							
10	25				0	-	-	-	No Recovery		
		50/4"									
			-								
12				-							
15	5				1.3	0		Dry	Orange f-c sand, little gravel with some bands of darker orange staining		
		17									
			9								
17				14							
20	6				1.3	0		Damp	Tan/orange f-c sand, trace cobble pieces, some gravel		
		8									
			11								
22				16							
25	4				1.2	0		Damp	Tan/orange f-c sand, trace gravel, trace silt		
		4									
			8								
27				12							
30	7				0.8	0		Damp	Tan/orange f-c sand, trace gravel, trace silt, trace cobble pieces		
		11									
			19								
32				22							
35	4				1.1	0		Damp	Tan/orange f-c sand, trace gravel, trace silt		
		8									
			9								
37				13							
40	4				1.2	0		Damp	Tan/orange f-c sand, trace gravel, trace tan/orange silt with thin lens of dk. brown		
		8									
			8								
42				12					0-0.5 Orange f-c sand, trace gravel, trace silt		
45	11				1.5	0		Damp	0.5-1.5 Tan w/orange lenses fine sand, trace m-c sand, trace silt		
		10									
			14								
47				25							

LMS**Test Boring Log****Boring No.: FSHP- 04****Sheet 2 of 3****Project No.: 650-327**

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
50	4				1.7	119		Moist	0-0.4 Orange f-c sand; trace silt; trace gravel.	micaceous
		7						Wet	0.4-0.9 Brown clay.	
			21						0.9-1.7 Orange f-m sand; trace silt; trace gravel with 3- 1/2" lenses of brown clay.	
52				29						
55	9				1.8	50		W	0-0.3 Orange f-c sand; trace silt.	
		17						A	0.3-0.7 Brown clay; trace silt; trace vf sand.	
			30					T	0.7-1.8 Tan and orange interfingering micaceous f sand; trace silt.	
57				28				E		
60	25				1.9	20		R	0-1.5 Lt. brown f sand; trace silt; trace gravel.	
		36								
			49					T	1.5-1.9 Orange f sand; little silt.	micaceous
62				50/4"				A	0-0.7 Orange f sand; little gravel at bottom.	
65	4				1.5	184		B	0.7-1.2 Brown silty clay; trace f sand.	
		6						L	1.2-1.5 Orange/brown f silty sand; trace c sand.	
			9					E		
									0-1.0 Tan/orange micaceous f sand, trace gravel, trace silt	
67				11					1.0-1.5 brown clay	
70	4				1.5	5		UGA		
		7						MAG	Orange f silty sand, trace gravel, trace gray-dk. gray clay	
			11							
72				9						
75	3				2	180				possible running sands
		4							Orange micaceous f silty sand; traces (f lenses) brown clay; trace gravel.	
			7							
77				4						
80	4				2	20			Tan micaceous fine silty sand, traces orange clay	
		6								
			4							
82				8						
85	28				2	16			Tan micaceous silty fine sand, trace orange sand.	
		40								
			50/4"							possible running sands
87				-						
90	14				1.9	76				
		14								
			9						Tan silty fine micaceous sand	
92				9						
95	5				1.8	36				
		6								
			8						Tan with orange mottling vf-f silty micaceous sand; trace gray clay; trace silt	
97				8						
100	6				1.7	0				
		7								
			4							
102				5						

Test Boring Log

Sheet 3 of 3

Remarks	

1/19/99 2:32 PM EH HP-MW logs.xlsFSHP-04 (3)

LMS Test Boring Log

Boring No.: FSHP-05

Sheet 1 of 3

Project Name: Frost Street Sites

Project No.: 650-616

Client: NYSDEC

Date: 8/19/98

Driller: American Auger

Finish: 8/20/98

Drilling Method: 4.25" Hollow Stem Auger

Total Depth: 142'

Boring Location: Off-site

Depth To Water: ~50'

Coordinates:

Surf. Elevation:

Logged By: Edith Hollister

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine m - medium c - coarse and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
5	15				1.5	214		Dry	0-0.4 Brown silty f sand and gravel (fill)	
		25							0.4-1.5 Tan silty f-c sand and gravel.	
			30							
7				28						
									Orange and tan mottled silty f-c sand and gravel.	
10	50				1.0	73.7		Dry		
		42								
			14							
12				18					Cobble piece in tip - no recovery.	
15	50/4				-	-				
		-								
			-							
17				-					Orange tan mottled f-c silty sand; little gravel.	
20	7				1.6	24.5		Dry		
		12								
			10						Lt. Orangeish brown f silty micaceous sand; trace cobble; some gravel.	
22				11						
25	9				1.2	20.2		Dry		
		12							Lt. Orangeish brown f silty micaceous sand; trace cobble; some gravel.	
			10							
27				10						
30	7				1.4	9.0		Dry	0-0.7 Orange f-c micaceous sand and gravel; trace silt (coarsening down).	
		11								
			19						0.7-1.1 Orange vf-f micaceous silty sand; trace gravel.	
32				21						
35	8				1.1	16.8		Dry		
		9								
			6						Orange vf-f micaceous silty sand; trace c sand.	
37				4						
40	16				1.0	19.6		Damp	0-0.1 White and orange varved silt and vf micaceous sand.	
		7								
			5						0.1-0.5 Brown clayey silt; trace vf sand	
42				10						
45	17				1.1	3.8		Dry		
		21							0.5-1.1 Varved tan, brown, and orange vf silty micaceous sand.	
			19							
47				27				Damp		

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
50	9				1.8	23		Wet	Tan to white f micaceous silty sand; trace-little orange mottling; trace gravel.	
		5						W		
			14					A		
								T		
52				14				E	Orange f micaceous silty sand; trace gravel.	
55	37				1.8	0		R		
		41						T		
			50/4					A		
57				-				B	Orange f micaceous silty sand; trace gravel.	
60	7				1.7	2.7		L		
		3						E		
			3							
62				5				UGA	Many mixed layers/varves of tan, gray, orange, pink, dk. gray clay, silt, and vf-m sand.	
65	8				1.3	3.4		MAG		
		11								
			10							
67				45					Gray, orange, tan and pink silt and vf-f sand; little-some clay.	
70	4				0.7	2.1				
		5								
			7						0-0.7 Orange grading to tan vf-f silty sand; trace clay.	
72				8					0.7-1.0 Varved orange, brown and lt. gray dry clay.	
75	3				1.0	0				
		4								
			11							
77				12					Orange with dk. orange mottling vf micaceous sand and silt; trace clay.	
80	3				1.7	0				
		4								
			3							
82				3					Tan f micaceous silty sand; trace orange mottling.	
85	4				2.0	0				
		5								
			11							
87				27					Tan vf-f silty micaceous sand; trace orange and gray clay varves.	
90	8				1.2	0				
		12								
									0-1.2 Orange vf-f micaceous silty sand.	
			23						1.2-1.5 Orange vf silty micaceous sand; trace clay.	
92				42						
95	4				1.6	0				
		9								
									0-1.8 Tan micaceous silty f sand; trace orange mottling; trace clay and silty clay.	
			14						1.8-2.0 Orange with tan and gray mottling silty vf sand; some clay.	
97				50/4						
100	4				2.0	0				
		11								
			23							
102				43						

Test Boring Log

Sheet 3 of 3

Project No.: 650-616

1/19/99 2:32 PM EH HP-MW logs.xlsFSHP-05 (3)

LMS Test Boring Log

Boring No.: FSHP-06

Sheet 1 of 3

Project Name: Frost Street Sites

Project No.: 650-616

Client: NYSDEC

Date: 8/25/98

Driller: American Auger

Finish: 8/26/98

Drilling Method: 4.25" Hollow Stem Auger

Total Depth: 147'

Boring Location: Off-site

Depth To Water: ~50'

Coordinates:

Surf. Elevation:

Logged By: Edith Hollister

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
5	37				-	-			No recovery	
		50/3								
7										
10	20				0.9	0		Dry	0-0.3 Brown f-c sand and gravel. 0.3-0.9 Orange tan f-c sand and gravel; trace cobble; trace silt.	
		14								
			14							
12				18					Orange f-c sand and gravel; trace cobble; trace silt.	
15	8				1.1	0		Dry		
		8								
			10						Orange f-c sand and gravel; trace cobble; trace silt.	
17				13						
20	21				0.7	0		Dry		
		23								
			14						Orange f-c sand and gravel; trace cobble; trace silt.	
22				7						
25	10				0.8	0		Damp		
		8								
			12						Orange f-c sand some gravel; trace cobble; trace silt.	
27				15						
30	8				1.3	0		Damp		
		8								
			7						0-0.1 Orange f-c sand and gravel; trace cobble; trace silt.	
32				13					0.1-0.5 Orange f-m silty sand; little gravel.	
35	10				1.1	0		Damp	0.5-0.9 Orange f-c sand and gravel. 0.9-1.1 Orange f silty sand; trace gravel	
		7								
			10							
37				13					0-1.2 Orange and tan banded f silty sand; trace gravel.	
40	9				1.3	0		Damp	1.2-1.3 Brown and tan vf banded vf silty sand.	
		9								
			10							
42				14					Tan vf silty micaceous sand; trace gravel.	
45	5				1.3	0		Damp		
		6								
			5							
47				7						

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
50	6				1.2	0		Wet	f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Raining, PID not working well.
		5								
			6							
52				8						
55	4				0.9	0				
		9								
			30							
57				15						
60	9				1.2	0				
		12								
			11							
62				17						
65	5				1.4	0				
		17								
			34							
67				42						
70	10				1.2	0				
		13								
			13							
72				15						
75	6				1.2	0				
		13								
			21							
77				31						
80	4				1.8	0				
		5								
			4							
82				8						
85	13				2.0	34.8				
		24								
			34							
87				9						
90	6				1.2	0				
		6								
			7							
92				6						
95	5				1.2	32.8				
		4								
			6							
97				3						
100	5				1.7	3.8				
		4								
			5							
102				7						

Test Boring Log

Sheet 3 of 3

Remarks

PID wet, not working reliably

LMS Test Boring Log

Boring No.: FSHP-07

Sheet 1 of 3

Project Name: Frost Street Sites

Project No.: 650-616

Client: NYSDEC

Start: 8/24/98

Driller: American Auger

Finish: 8/25/98

Drilling Method: 4.25" Hollow Stem Auger

Total Depth: 147'

Boring Location: Off-site

Depth To Water: ~55'

Coordinates:

Surf. Elevation:

Logged By: Edith Hollister

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
5	10				1.3	0		Dry	0-0.2 Tan silty f sand and gravel	
		21							0.2-1.0 Brown silty clay; some gravel.	
			40							
7				37						
10	18				1.7	0		Dry	1.0-1.3 Brown f-c sand; some gravel.	
		20								
			24							
12				20						
15	10				0.9	0		Dry	Brown f-c sand and gravel; trace silt; trace cobble pieces.	
		10								
			10							
17				11						
20	8				1.0	0		Dry	Brown f-c sand and gravel; trace silt; trace cobble pieces.	
		11								
			10							
22				12						
25	11				1.1	0		Damp	Orange brown f-c sand and gravel; little silt; trace cobble pieces.	
		15								
			16							
27				9						
30	14				1.1	0		Damp	Orange tan vf-c sand and gravel; little silt; trace cobble pieces.	
		14								
			10							
32				15						
35	7				1.3	0		Damp	0-1.0 Orange tan vf-c sand and gravel; little silt; trace cobble pieces.	
		10							1.0-1.3 Tan and orange layered vf micaceous sand; little silt; trace gravel.	
			9							
37				10						
40	6				1.1	0		Damp	Tan silty micaceous f-c sand; trace-little gravel.	
		7								
			10							
42				29						
45	11				0.7	0		Damp	0-0.25 Tan silty micaceous vf-f sand; trace gravel.	
		15							0.25-0.6 pinkish orange vf silty micaceous sand; trace clay.	
			31						0.6-0.7 Varved pink, orange, tan, gray, and dk. gray vf sandy silt; trace clay.	
47				40						

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
50	21				1	0			0-0.2 Pink vf sand and silt.; trace gravel; trace clay.	
		12							0.2-1.2 Layered tan f and orange f-m micaceous silty sand	
			24							
52				14						
55	10				2.0	0			0-0.6 Brown f silty micaceous sand; little gravel fining downward	
		19							0.6-1.1 Orange f silty micaceous sand; trace clay.	
			35						1.1-1.8 Lt tan vf micaceous silty sand; gray clay lens at 1.2.	
57				30					1.8-2.0 Orange vf-f micaceous silty sand; trace clay.	
60	10				1.2	0			Layers of brown, tan, orange, and traces of gray vf silty sand; little clay. Lens of gray-black clay at 0.4.	
		9								
			14						Layers of tan, orange, and pink orange f micaceous silty sand.	
62				23						
65	4				1.2	0				
		9								
			7							
67				14					0-0.7 Bright dk. orange f micaceous silty sand; trace clay.	
70	4				1.0	0			0.7-0.9 Varved gray and orange vf sandy silt and clay.	
		8							0.9-1.0 White f micaceous sand.	
			17							
72				37					Tan and orange layers vf-f silty micaceous sand; trace clay.	
75	4				1.3	0				
		11							0-0.1.9 Tan orange f micaceous silty sand.	
			17						1.9-2.0 Lt gray f micaceous silty sand; trace clay.	
77				23						
									0-0.9 Tan f micaceous silty sand.	
80	3				2.0	0			0.9-1.2 Dk brown and orange mottled silty micaceous f sand.	
		5							1.2-1.5 Varved tan, orange, gray, and pink-orange clay and f sand.	
			10							
82				7					0-0.5 Tan f micaceous silty sand.	
									0.5-1.3 Layers of tan and orange f micaceous silty sand; few gray and orange silty clay varves.	
85	4				1.5	0				
		4								
			5							
87				4					Tan f micaceous silty sand.	
90	2				1.3	0				
		3								
			7						Tan with trace orange mottling f micaceous silty sand; trace clay.	
92				11						
95	10				2.0	0				
		27								
			47							
97				50/4						
100	17				2.0	0				
		21								
			14							
102				16						

Project No.: 650-616

1/19/99 2:32 PM EH HP-MW logs xlsFSHP-07 (3)

LMS Test Boring Log										Boring No.: FSMW-08B	
										Sheet 1 of 3	
Project Name: Frost Street Sites										Project No.: 650-612	
Client: NYSDEC										Date: 8/12/98	
Driller: American Auger										Finish: 8/13/98	
Drilling Method: 4.25" Hollow Stem Auger										Total Depth: 142'	
Boring Location: 770 Main Street										Depth To Water: ~55'	
Coordinates:										Surf. Elevation:	
Logged By: Edith Hollister										Hole Diameter: 8"	
Monitoring Instrument(s): Photovac HL 2000 PID											
Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks	
	0"-6"	6"-12"	12"-18"	18"-24"							
5	3				0.8	5.8		Dry	0-0.5 Reworked brown f-c sand and gravel; trace silt.		
		4							0.5-0.8 Orange f-c sand and gravel; trace silt.		
			3								
7				3							
10	2				-	-					
		2							No recovery		
			2								
12				8							
15	6				0.8	6.5		Dry	Orange f-c sand; little gravel; trace silt.		
		7									
			10								
17				15							
20	6				1.2	1.0		Dry	Lt orange f-c sand; trace gravel; trace silt; trace cobble pieces.		
		8									
			7								
22				9							
25	11				1.0	0		Dry	0-0.9 Orange f-c sand; trace gravel; trace silt; trace cobble pieces.		
		11							0.9-1.0 Tan f-m sand; trace silt; trace gravel.		
			13								
27				15							
30	4				1.0	0		Dry	Orange tan f-c sand; little gravel; trace silt.		
		4							0.5-0.7 Dk orange fine gravel lens; little f-c sand.		
			7								
32				8							
35	6				0.8	0		Damp	Tan f sand; little c sand; little silt; trace gravel.		
		13									
			11								
37				9							
40	4				1.2	0		Damp	Orange f-c sand and gravel; little silt; trace cobble; lens of tan f sand; little silt at 0.8-1.0		
		17									
			20								
42				15							
45	4				1.2	0		Damp	Tan micaceous f silty sand with some orange banding; trace gravel.		
		6									
			9								
47				11							

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material		Remarks
	0"-6"	6"-12"	12"-18"	18"-24"					f - fine m - medium c - coarse	and - 35-50% some - 20-35% little - 10-20% trace - 0-10%	
50	8				1.2	0		Moist	0-0.3 Orange f-c sand; little gravel; little silt.		micaceous
		8							0.3-0.6 Tan f silty sand; trace gravel.		
			12						0.6-0.7 Brown clay		
52				15					0.7-1.2 Layers of dk brown, tan, yellow, and orange f silty sand; trace clay		
55	4				1.4	0		Wet	0-0.3 Orange f-c silty sand; trace gravel.		micaceous
		5							0.3-0.4 Orange f silty sand		
			5						0.4-0.5 Lt brown clay		
57				4				W	0.5-0.9 Brown f silty sand; trace clay.		
60	8				0.8	0		A	0.9-1.4 Orange vf silty sand.		
								T	Brown f silty sand; trace clay; trace c sand and gravel.		micaceous
		13						E			
			15						Tan grading to brown f silty sand; trace clay; trace gravel.		
62				13							
65	6				1.3	0		T			micaceous
		15						A			
			25					B	0-1.9 Orange tan f silty sand; trace gravel; trace clay.		
67				11				L	1.9-2.0 Gray and orange varved clay; little silt.		micaceous
70	8				2.0	0		E			
		11									
									0-1.6 Orange tan f silty sand; trace clay.		
			15						1.6 Thin gray clay lens.		
72				11					1.6-1.7 Tan f silty sand; trace clay.		
75	6				1.7	4.9					micaceous
		8							0-1.4 Tan micaceous f silty sand; trace clay.		
									1.4-1.5 Dry gray clay.		
			5					UGA	1.5-2.0 Varved gray and orange clay and tan and pinkish vf silty sand.		
77				5				MAG			
80	3				2.0	75.7			Tan with pink mottling vf silty micaceous sand		PID readings get higher as go deeper; ranged 10 at top to 75 at bottom
		4							1.5-1.6 Gray and pink varved clay.		
			12								
82				8					Tan with orange mottling f silty sand; trace clay.		
85	3				2.0	87.3			1.85-2.0 and gray and orange varved clay lenses mixed in.		
		4									
			5								
87				7					Tan vf-f silty sand; trace clay		
90	4				2.0	93.6					micaceous
		8									
			16						Tan vf-f silty sand; trace clay.		
92				19							micaceous
95	7				2.0	95.5					
		9									
			11								
97				14							micaceous
100	2				1.7	87.8					
		7									
			9								
102				9							

Test Boring Log

Sheet 3 of 3

Project No.: 650-612

1/19/99 4:04 PM EH HP-MW logs.xlsFSMW-08 (3)

LMS Test Boring Log

Boring No.: FSMW-09B

Sheet 1 of 3

Project Name: Frost Street Sites

Project No.: 650-612

Client: NYSDEC

Date: 8/18/98

Driller: American Auger

Finish: 8/19/98

Drilling Method: 4.25" Hollow Stem Auger

Total Depth: 147'

Boring Location: 770 Main Street

Depth To Water: ~55'

Coordinates:

Surf. Elevation:

Logged By: Edith Hollister

Hole Diameter: 8"

Monitoring Instrument(s): Photovac HL 2000 PID

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material f - fine and - 35-50% m - medium some - 20-35% c - coarse little - 10-20% trace - 0-10%	Remarks
	0'-6"	6'-12"	12'-18"	18'-24"						
5	12				1.0	0		Dry	Brown f-c sand; some gravel; trace-little silt.	Micaceous
		22								
			20							
7				20					0-0.6 Brown f-c sand; some gravel; trace-little silt.	
10	24				1.1	0		Dry	0.6-0.9 Dk brown silty f sand; little clay; trace gravel.	
									0.9-1.1 Orange f silty sand; trace c sand; trace gravel.	
		23								
			20						Orange micaceous silty f-c sand and gravel.	
12				32						
									0-0.2 Orange micaceous silty f-c sand and gravel.	
15	14				1.1	0		Damp	0.2-0.4 Brown micaceous vf-f silty sand; trace gravel; trace-little clay.	Leaves sheen on water
		20							0.4-0.9 Orange f-c silty sand and gravel.	
17				30						
20	18				0.9	0		Dry	Orange micaceous f silty sand grading coarser into f-c silty sand and gravel.	
		8								
			9							
									Orange f-c micaceous silty sand and gravel; trace clay; trace cobble pieces.	
22				13						
25	14				0.8	0		Damp	Orange f-c micaceous silty sand ; trace-little gravel.	
		15							0.2-0.3 Coarse sand lens; trace f sand; little m sand.	
			12							
27				10						
30	14				1.2	0		Damp	0-0.3 micaceous f sand; trace silt; trace gravel.	
		16							0.3-0.45 black stained c sand and gravel.	
			11						0.45-1.0 Brown micaceous f-c silty sand; trace gravel.	
32				20						
35	11				0.8	0		Damp		
									Orange micaceous f-c silty sand.	
		7								
			9							
37				13						
40	4				1.0	0		Damp		
		9								
			13							
42				18						
45	17				0.1	-		Moist		
		15								
			12							
47				20						

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material	Remarks
	0"-6"	6"-12"	12"-18"	18"-24"						
50	9				2.0	0		Moist	0-0.2 Brown f silty sand; trace gravel. 0.2-1.6 Brown clay; little silty clay; lens of brown/orange silty f sand. 1.6-2.0 Layered orange and brown vf-f silty sand; trace c sand; trace gravel.	micaceous
		13								
			20							
52				24						
55	11				1.7	19.2		Wet	0-0.9 Brown clay; trace silt; trace gravel. 0.9-1.7 Thick tan, pink, and orange layers of vf-f silty sand; trace clay.	PID reading in sand (bottom 1/2)
		11								micaceous
			16					W		
								A	0-1.0 Brown clay; trace silt.	
57				24				T	1.0-1.3 Brown vf silty sand. 1.3 Cobble pieces.	
60	8				2.0	38.6		E	1.3-1.4 White silty f sand; little pink-gray clay. 1.4-1.5 Brown clay and vf silty sand. 1.5-2.0 Lt tan vf silty sand; little clay	micaceous
		8								
			12							
62				16						
65	5				2.0	156		T	0-0.9 Brown clay; trace silt; trace gravel. 0.9-2.0 Gray silty f sand.	156 in gray, 25 in brown.
		8						A	0-0.5 Gray silty vf-f sand.	micaceous
			15					UGA	0.5-1.8 Gray silty vf sand with thin orange lenses and varves throughout; trace clay.	micaceous
67				12				MAG		Spoons leave sheen on decon water
70	6				1.8	60.3		E	Gray silty vf-f sand thin orange lenses and varves throughout; trace clay.	
		8								
			14							
72				19						micaceous
75	6				1.2	125			0-0.5 Gray silty vf sand with thin orange lenses and varves throughout; trace clay. 0.5-1.1 Lt orange silty f sand. 1.1-1.5 Varved dk pink/gray, orange, tan, lt gray, and lt orange clay; little silt and vf sand.	
		36								
			50/3							
77				-						micaceous
80	6				1.5	34.3			Orange brown micaceous f silty sand.	
		15								
									Orange brown micaceous f silty sand.	
			15							
82				50/5					0-0.6 Orange brown f silty sand.	
85	-				2.0	34.4			0.6-0.8 Brown clay with brown f sand lenses. 0.8-0.9 Dry varved dk. gray, gray, pink and orange clay. 0.9-1.0 Orange f sand.	Sat on drill rig overnight.
		-								
			-							
87				-						
90	5				2.0	48.1				micaceous
		4							0-0.7 Varved gray, pink/orange, and tan clay and tan and orange f sand. 0.7-0.9 Orange micaceous f sand.	
			6							
92				4						
95	11				1.0	73.1				
		14								
			41							
97				50						
100	41				0.9	30.2				
		50/3								
			-							
102				-						

Test Boring Log

Boring No.:FSMW-09B

Sheet 3 of 3

Project No.: 650-612

[illegible]

LMS Test Boring Log											Boring No.: FSMW-10B	
											Sheet 1 of 3	
Project Name: Frost Street Sites											Project No.: 650-612	
Client: NYSDEC											Date: 8/17/98	
Driller: American Auger											Finish: 8/18/98	
Drilling Method: 4.25" Hollow Stem Auger											Total Depth: 147'	
Boring Location: 770 Main Street											Depth To Water: ~55'	
Coordinates:											Surf. Elevation:	
Logged By: Edith Hollister											Hole Diameter: 8"	
Monitoring Instrument(s): Photovac HL 2000 PID												
Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material	Remarks		
	0"-6"	6"-12"	12"-18"	18"-24"								
5	7				1.3	0		Dry	Brown f-c sand and gravel; trace silt; trace clay; trace cobble pieces.	micaceous		
		14										
			13									
7				9					0-0.9 Brown f-c sand and gravel; trace silt; trace clay; trace cobble pieces.	micaceous		
10	20				1.3	0		Dry	0.9-1.3 Orange f-c silty sand; little gravel; trace clay.			
		6										
			6									
12				4					Lt orange silty f sand and gravel; trace cobble pieces.			
15	7				0.8	0		Dry				
		10										
			13									
17				13					Orange f-c silty sand; trace gravel.			
20	6				1.0	0		Dry				
		8										
			10									
22				9					Orange f silty sand; trace c sand; trace gravel.			
25	11				0.9	0		Dry				
		9										
			9						Orange m-c sand; some silt; some f sand; trace gravel.			
27				8								
30	10				0.7	0		Dry				
		10										
			8						Orange f-c silty sand and gravel.			
32				5								
35	11				0.7	0		Dry				
		10										
			8						Orange f-m silty sand; trace c sand; trace gravel.			
37				13								
40	6				0.8	0		Dry				
		9										
			6						Orange f silty sand; trace gravel; couple of darker fine lenses.			
42				11								
45	6				1.1	0		Damp				
		5										
			5									
47				7								

Depth (ft)	Blows On Sampler				Recovery (ft)	Instrument Reading	Sample Retained	Moisture Content	Classification Of Material		Remarks
	0"-6"	6"-12"	12"-18"	18"-24"					f - fine m - medium c - coarse	and - 35-50% some - 20-35% little - 10-20%	
50	20				1.3	0		Damp	Many layers of orange and lt orange vf-f silty micaceous sand.		
		18									
			28								
52				26							
55	11				1.8	0		Wet	Orange and lt orange f silty sand; trace gravel.		micaceous
		34									Raining - stopped using PID
			38					W			
57				42				A	Orange and tan f silty sand layers; trace clay; little gray clay in varves with orange f sand.		micaceous
60	12				2.0	-		T			
		20						E			
			13					R			
62				12							
65	8				1.5	-		T	Varved orange and tan vf silty sand and gray clay layers.		micaceous
		7						A			
			8					B			
67				5				L			
70	3				1.1	-		E	Varved orange and tan vf silty sand and gray clay layers.		micaceous
		4									
			4								
72				4							
75	6				1.3	-			0-0.5 Brown orange f silty sand. 0.5-1.3 Multi-colored f sand varved with gray clay and silty clay.		micaceous
		10									
			10								
77				6							
80	1				2.0	-			Orange and tan f sand varved with gray clay and silty clay.		micaceous
		1									
			1								
82				1							
85	20				1.8	-			0-1.0 Tan f silty sand. 1.0-1.8 Tan and orange layered silty f sand; trace gray and orange varved clay.		micaceous
		28									
			30								
87				42				UGA			
90	9				2.0	-		MAG	Tan silty f sand; trace clay; trace gravel.		micaceous
		11									
			14								
92				12							
95	7				2.0	-			Tan silty f sand; trace clay; trace gravel.		micaceous
		4									
			6								
97				9							
100	6				2.0	-			Tan silty f sand; trace clay; trace gravel.		micaceous
		9									
			15								
102				9							

Project No.: 650-612

1/19/99 2:32 PM EH HP-MW logs.xlsFSMW-10 (3)

MONITORING WELL COMPLETION LOG

OBJECT NUMBER:
650-322

PROJECT NAME:

FROST STREET SITES RI/FS

WELL No.:

FSMW- 01A

CLIENT:

NYSDEC

LOCATION:

101 FROST ST
NCIA, WESTBURY NY

DATE DRILLED:

8/18-8/19/98

DATE DEVELOPED:

19-Aug-98

WELL CONSTRUCTION COMPLETED:

19-Aug-98

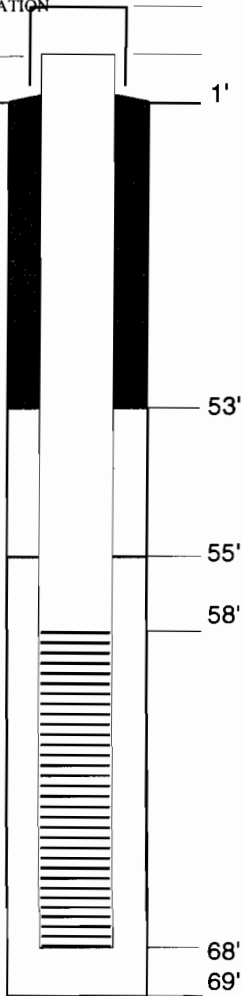
DEVELOPING METHOD:

GRUNDFOS

PROTECTIVE
CASING ELEVATION

CASING
ELEVATION

GRADE
ELEVATION



NOT TO SCALE

INSPECTOR:

EDITH HOLLISTER

DRILLING CONTRACTOR:

AMERICAN AUGER

TYPE OF WELL:

2" PVC MONITORING

STATIC WATER LEVEL:

DATE:

MEASURING POINT:

TOC

TOTAL DEPTH OF WELL:

68.6'

TOTAL DEPTH OF BORING:

69'

DRILLING METHOD

TYPE:

HSA

DIAMETER:

4.25" I.D.

CASING:

SAMPLING METHOD

TYPE:

NO SAMPLES REQUIRED

DIAMETER:

WEIGHT:

SEE FSMW- 01B

FALL:

INTERVAL:

RISER PIPE LEFT IN PLACE

MATERIAL:

SCHEDULE 40 PVC

DIAMETER:

2"

LENGTH:

60'

JOINT TYPE:

ASTM FLUSH THREAD

SCREEN

MATERIAL:

SCHEDULE 40 PVC

INTERVAL:

58-68'

DIAMETER:

2"

STRATIGRAPHIC UNITS SCREENED:

UGA

SLOT SIZE:

10

FILTER PACK

GRADE:

0

SAND:

MORIE

GRAVEL:

NATURAL:

AMOUNT:

3.5 bags

INTERVAL:

55-69'

SEAL(s)

NOTES:

Drilled to 74 ft bgs (flowing sands).
Final depth 69 ft bgs.

Portland Cement

INTERVAL:

AMOUNT:

3 bags

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

INTERVAL:

AMOUNT:

53-55'

1 bag

Other:

INTERVAL:

AMOUNT:

ben-seal

1 bag

Other

INTERVAL:

AMOUNT:

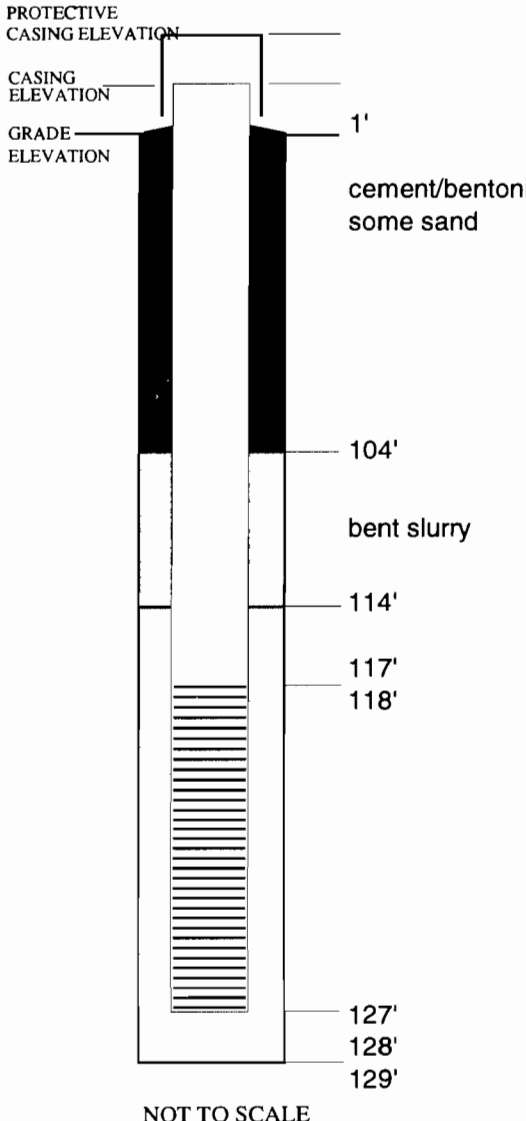
hole plug

1 bag

LOCKING CASING: ☒ YES ☐ NO KEY NO:

LMS

LAWLER, MATUSKY & SKELLY ENGINEERS LLP

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-322																																																			
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 01B																																																			
CLIENT: NYSDEC																																																					
LOCATION: 101 FROST STREET NCIA, WESTBURY NY																																																					
DATE DRILLED: 8/10-8/11/98	DATE DEVELOPED: 17-Aug-98	WELL CONSTRUCTION COMPLETED: 11-Aug-98																																																			
DEVELOPING METHOD: GRUNDFOS																																																					
 PROTECTIVE CASING ELEVATION CASING ELEVATION GRADE ELEVATION 1' cement/bentonite some sand 104' bent slurry 114' 117' 118' 127' 128' 129' NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: DATE: MEASURING POINT: TOC TOTAL DEPTH OF WELL: 121.6' TOTAL DEPTH OF BORING: 129' <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">DRILLING METHOD</td> <td style="width: 40%;">TYPE: HSA</td> </tr> <tr> <td>DIAMETER: 4.25" I.D.</td> <td>CASING:</td> </tr> <tr> <td>SAMPLING METHOD</td> <td>TYPE: SPLIT SPOON</td> </tr> <tr> <td>DIAMETER: 2"</td> <td>WEIGHT: 150#</td> </tr> <tr> <td>FALL: 30"</td> <td>INTERVAL: EVERY 5'</td> </tr> <tr> <td>RISER PIPE LEFT IN PLACE</td> <td>MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td>DIAMETER: 2" LENGTH: 120'</td> <td>JOINT TYPE: ASTM FLUSH THREAD</td> </tr> <tr> <td>SCREEN</td> <td>MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td>INTERVAL: 120-130' DIAMETER: 2"</td> <td></td> </tr> <tr> <td>STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY</td> <td>SLOT SIZE: 10</td> </tr> <tr> <td>FILTER PACK</td> <td>GRADE: 0</td> </tr> <tr> <td>SAND: MORIE GRAVEL: NATURAL:</td> <td></td> </tr> <tr> <td>AMOUNT: 5.5 BAGS INTERVAL: 114-130'</td> <td></td> </tr> <tr> <td colspan="2">SEAL(s)</td> </tr> <tr> <td colspan="2"> <table style="width: 100%;"> <tr> <td>Portland Cement</td> <td>INTERVAL: 1-104'</td> <td>AMOUNT: 10 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL: 104-114'</td> <td>AMOUNT: 1.5 BAGS</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other: CUTTINGS BACKFILL MIXED WITH CEMENT</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other:</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> </table> </td> </tr> <tr> <td colspan="3" style="padding: 5px;"> NOTES: WELL ROSE APPX. 18" AS GROUTING, SO BOTTOM NOW AT APPX. 126' BGS WITH APPX. 2' SAND OVER TOP OF SCREEN. </td> </tr> <tr> <td colspan="3" style="padding: 5px;"> LOCKING CASING: ☒ YES ☐ NO KEY NO: </td> </tr> </table>		DRILLING METHOD	TYPE: HSA	DIAMETER: 4.25" I.D.	CASING:	SAMPLING METHOD	TYPE: SPLIT SPOON	DIAMETER: 2"	WEIGHT: 150#	FALL: 30"	INTERVAL: EVERY 5'	RISER PIPE LEFT IN PLACE	MATERIAL: SCHEDULE 40 PVC	DIAMETER: 2" LENGTH: 120'	JOINT TYPE: ASTM FLUSH THREAD	SCREEN	MATERIAL: SCHEDULE 40 PVC	INTERVAL: 120-130' DIAMETER: 2"		STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY	SLOT SIZE: 10	FILTER PACK	GRADE: 0	SAND: MORIE GRAVEL: NATURAL:		AMOUNT: 5.5 BAGS INTERVAL: 114-130'		SEAL(s)		<table style="width: 100%;"> <tr> <td>Portland Cement</td> <td>INTERVAL: 1-104'</td> <td>AMOUNT: 10 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL: 104-114'</td> <td>AMOUNT: 1.5 BAGS</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other: CUTTINGS BACKFILL MIXED WITH CEMENT</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other:</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> </table>		Portland Cement	INTERVAL: 1-104'	AMOUNT: 10 BAGS	Bentonite Slurry	INTERVAL: 104-114'	AMOUNT: 1.5 BAGS	Bentonite Pellets	INTERVAL:	AMOUNT:	Other: CUTTINGS BACKFILL MIXED WITH CEMENT	INTERVAL:	AMOUNT:	Other:	INTERVAL:	AMOUNT:	NOTES: WELL ROSE APPX. 18" AS GROUTING, SO BOTTOM NOW AT APPX. 126' BGS WITH APPX. 2' SAND OVER TOP OF SCREEN.			LOCKING CASING: ☒ YES ☐ NO KEY NO:		
DRILLING METHOD	TYPE: HSA																																																				
DIAMETER: 4.25" I.D.	CASING:																																																				
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AMOUNT: 5.5 BAGS INTERVAL: 114-130'																																																					
SEAL(s)																																																					
<table style="width: 100%;"> <tr> <td>Portland Cement</td> <td>INTERVAL: 1-104'</td> <td>AMOUNT: 10 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL: 104-114'</td> <td>AMOUNT: 1.5 BAGS</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other: CUTTINGS BACKFILL MIXED WITH CEMENT</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other:</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> </table>		Portland Cement	INTERVAL: 1-104'	AMOUNT: 10 BAGS	Bentonite Slurry	INTERVAL: 104-114'	AMOUNT: 1.5 BAGS	Bentonite Pellets	INTERVAL:	AMOUNT:	Other: CUTTINGS BACKFILL MIXED WITH CEMENT	INTERVAL:	AMOUNT:	Other:	INTERVAL:	AMOUNT:																																					
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Other: CUTTINGS BACKFILL MIXED WITH CEMENT	INTERVAL:	AMOUNT:																																																			
Other:	INTERVAL:	AMOUNT:																																																			
NOTES: WELL ROSE APPX. 18" AS GROUTING, SO BOTTOM NOW AT APPX. 126' BGS WITH APPX. 2' SAND OVER TOP OF SCREEN.																																																					
LOCKING CASING: ☒ YES ☐ NO KEY NO:																																																					

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 650-322

PROJECT NAME:
FROST STREET SITES RI/FS

WELL No.:
FSMW- 02A

CLIENT:
NYSDEC

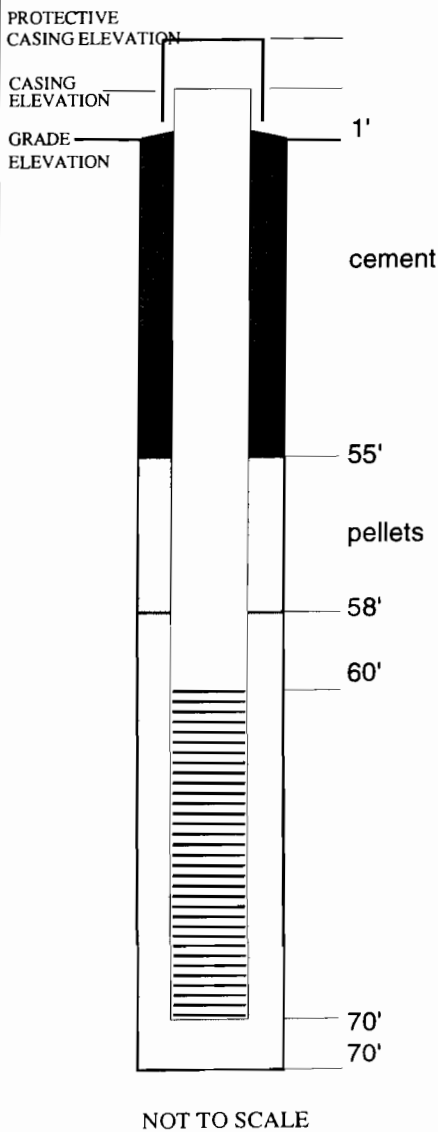
LOCATION: 101 FROST STREET
NCIA, WESTBURY NY

DATE DRILLED:
14-Aug-98

DATE DEVELOPED:
18-Aug-98

WELL CONSTRUCTION COMPLETED:
14-Aug-98

DEVELOPING METHOD:
GRUNDFOS



INSPECTOR:
EDITH HOLLISTER

DRILLING CONTRACTOR:
AMERICAN AUGER

TYPE OF WELL:
2" PVC MONITORING

STATIC WATER LEVEL: DATE: MEASURING POINT: TOC TOTAL DEPTH OF WELL: 69.8' TOTAL DEPTH OF BORING: 70'

DRILLING METHOD TYPE: HSA

DIAMETER: 4.25" I.D. CASING:

SAMPLING METHOD TYPE: NO SAMPLES REQUIRED

DIAMETER: WEIGHT: SEE FSMW- 02B

FALL: INTERVAL:

RISER PIPE LEFT IN PLACE MATERIAL: SCHEDULE 40 PVC

DIAMETER: 2" LENGTH: 60' JOINT TYPE: ASTM FLUSH THREAD

SCREEN MATERIAL: SCHEDULE 40 PVC

INTERVAL: 60-70' DIAMETER: 2"

STRATIGRAPHIC UNITS SCREENED: UGA SLOT SIZE: 10

FILTER PACK GRADE: 0

SAND: MORIE GRAVEL: NATURAL:

AMOUNT: 3.5 BAGS INTERVAL: 58-70'

SEAL(s)

NOTES:

Portland Cement INTERVAL: 1-55' AMOUNT: X

Bentonite Slurry INTERVAL: AMOUNT:

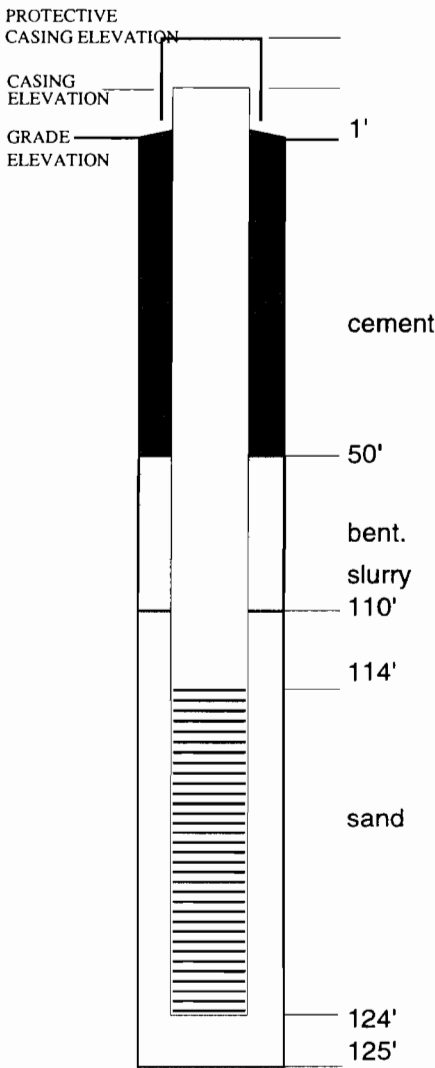
Bentonite Pellets X INTERVAL: 55-58' AMOUNT:

Other: INTERVAL: AMOUNT:

Other: INTERVAL: AMOUNT:

LOCKING CASING: ☒ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-322
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 02B
CLIENT: NYSDEC		
LOCATION: 101 FROST STREET NCIA, WESTBURY NY		
DATE DRILLED: 8/11-8/12/98	DATE DEVELOPED: 18-Aug-98	WELL CONSTRUCTION COMPLETED: 12-Aug-98
DEVELOPING METHOD: GRUNDFOS		
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 123.8' TOTAL DEPTH OF BORING: 125'	
DRILLING METHOD DIAMETER: 4.25" I.D.		TYPE: HSA CASING: _____
SAMPLING METHOD DIAMETER: 2" WEIGHT: 150# FALL: 30" INTERVAL: EVERY 5'		TYPE: SPLIT SPOON
RISER PIPE LEFT IN PLACE DIAMETER: 2" LENGTH: 115'		MATERIAL: SCHEDULE 40 PVC JOINT TYPE: ASTM FLUSH THREAD
SCREEN INTERVAL: 114-124' DIAMETER: 2"		MATERIAL: SCHEDULE 40 PVC SLOT SIZE: 10
FILTER PACK SAND: MORIE GRAVEL: _____ NATURAL: _____ AMOUNT: 3.5 BAGS INTERVAL: 110-124'		GRADE: 0
SEAL(s)		
NOTES: Portland Cement X Bentonite Slurry X Bentonite Pellets X Other: CUTTINGS X Other: _____ INTERVAL: 1-50' INTERVAL: 50-110' INTERVAL: 1-55' INTERVAL: _____ AMOUNT: 9 BAGS AMOUNT: 4 BAGS AMOUNT: 50/50 MIX WITH CEMENT AMOUNT: _____		
LOCKING CASING: ☒ YES ☐ NO KEY NO: _____		

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-327																																																										
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 03A																																																										
CLIENT: NYSDEC																																																												
LOCATION: 89 FROST SNICIA WESTBURY NY																																																												
DATE DRILLED: 7-Aug-98		DATE DEVELOPED: 10-Aug-98																																																										
WELL CONSTRUCTION COMPLETED: 7-Aug-98																																																												
DEVELOPING METHOD: GRUNDFOS																																																												
NOT TO SCALE		INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: DATE: MEASURING POINT: TOC TOTAL DEPTH OF WELL: 70.0' TOTAL DEPTH OF BORING: 71.0' <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">DRILLING METHOD</td> <td>TYPE: HSA</td> </tr> <tr> <td>DIAMETER: 4.25" I.D.</td> <td>CASING:</td> </tr> <tr> <td>SAMPLING METHOD</td> <td>TYPE: NO SAMPLES REQUIRED</td> </tr> <tr> <td>DIAMETER:</td> <td>WEIGHT: SEE FSMW- 03B</td> </tr> <tr> <td>FALL:</td> <td>INTERVAL:</td> </tr> <tr> <td>RISER PIPE LEFT IN PLACE</td> <td>MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td>DIAMETER: 2"</td> <td>LENGTH: 60'</td> </tr> <tr> <td></td> <td>JOINT TYPE: ASTM FLUSH THREAD</td> </tr> <tr> <td>SCREEN</td> <td>MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td>INTERVAL: 60-70'</td> <td>DIAMETER: 2"</td> </tr> <tr> <td>STRATIGRAPHIC UNITS SCREENED: TOP OF WATER TABLE</td> <td>SLOT SIZE: 10</td> </tr> <tr> <td>FILTER PACK</td> <td>GRADE: 0</td> </tr> <tr> <td>SAND: MORIE</td> <td>GRAVEL: NATURAL:</td> </tr> <tr> <td>AMOUNT: 4 BAGS</td> <td>INTERVAL: 58-70'</td> </tr> <tr> <td colspan="2">SEAL(s)</td> </tr> <tr> <td colspan="2"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Portland Cement</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Bentonite Pellets X</td> <td>INTERVAL: 56-58'</td> <td>AMOUNT:</td> </tr> <tr> <td>Other: X</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td colspan="2">CUTTINGS BACKFILL</td> <td>10-56'</td> </tr> <tr> <td>Other: X</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td colspan="2">CEMENT/BENTONITE GROUT</td> <td>1-10'</td> </tr> </table> </td> </tr> <tr> <td colspan="2">NOTES:</td> <td colspan="2"> LOCKING CASING: ☒ YES ☐ NO KEY NO: </td> </tr> </table>		DRILLING METHOD	TYPE: HSA	DIAMETER: 4.25" I.D.	CASING:	SAMPLING METHOD	TYPE: NO SAMPLES REQUIRED	DIAMETER:	WEIGHT: SEE FSMW- 03B	FALL:	INTERVAL:	RISER PIPE LEFT IN PLACE	MATERIAL: SCHEDULE 40 PVC	DIAMETER: 2"	LENGTH: 60'		JOINT TYPE: ASTM FLUSH THREAD	SCREEN	MATERIAL: SCHEDULE 40 PVC	INTERVAL: 60-70'	DIAMETER: 2"	STRATIGRAPHIC UNITS SCREENED: TOP OF WATER TABLE	SLOT SIZE: 10	FILTER PACK	GRADE: 0	SAND: MORIE	GRAVEL: NATURAL:	AMOUNT: 4 BAGS	INTERVAL: 58-70'	SEAL(s)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Portland Cement</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Bentonite Pellets X</td> <td>INTERVAL: 56-58'</td> <td>AMOUNT:</td> </tr> <tr> <td>Other: X</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td colspan="2">CUTTINGS BACKFILL</td> <td>10-56'</td> </tr> <tr> <td>Other: X</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td colspan="2">CEMENT/BENTONITE GROUT</td> <td>1-10'</td> </tr> </table>		Portland Cement	INTERVAL:	AMOUNT:	Bentonite Slurry	INTERVAL:	AMOUNT:	Bentonite Pellets X	INTERVAL: 56-58'	AMOUNT:	Other: X	INTERVAL:	AMOUNT:	CUTTINGS BACKFILL		10-56'	Other: X	INTERVAL:	AMOUNT:	CEMENT/BENTONITE GROUT		1-10'	NOTES:		LOCKING CASING: ☒ YES ☐ NO KEY NO:	
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CEMENT/BENTONITE GROUT		1-10'																																																										
NOTES:		LOCKING CASING: ☒ YES ☐ NO KEY NO:																																																										

MONITORING WELL COMPLETION LOG

PROJECT NUMBER:
650-327

PROJECT NAME:

FROST STREET SITES RI/FS

WELL No.:

FSMW- 03B

CLIENT:

NYSDEC

LOCATION:

89 FROST S.NCIA. WESTBURY NY

DATE DRILLED:

8/4-8/5/98

DATE DEVELOPED:

10-Aug-98

WELL CONSTRUCTION COMPLETED:

5-Aug-98

DEVELOPING METHOD:

GRUNDFOS

PROTECTIVE
CASING ELEVATION

CASING
ELEVATION

GRADE
ELEVATION

cuttings backfill

55'

high solids
bentonite

133'

135'

145'

146'

NOT TO SCALE

INSPECTOR:

EDITH HOLLISTER

DRILLING CONTRACTOR:

AMERICAN AUGER

TYPE OF WELL:

2" PVC MONITORING

STATIC WATER LEVEL:

DATE:

MEASURING POINT:

TOC

TOTAL DEPTH OF WELL:

144.8'

TOTAL DEPTH OF BORING:

146'

DRILLING METHOD

TYPE:

HSA

DIAMETER:

4.25" I.D.

CASING:

SAMPLING METHOD

TYPE:

SPLIT SPOON

DIAMETER:

2"

WEIGHT:

150#

FALL:

30"

INTERVAL:

EVERY 5'

RISER PIPE LEFT IN PLACE

MATERIAL:

SCHEDULE 40 PVC

DIAMETER:

2"

LENGTH:

135'

JOINT TYPE:

ASTM FLUSH THREAD

SCREEN

MATERIAL:

SCHEDULE 40 PVC

INTERVAL:

135-145'

DIAMETER:

2"

STRATIGRAPHIC UNITS SCREENED:

UPPER MAGOTHY AQUIFER

SLOT SIZE:

10

FILTER PACK

GRADE:

0

SAND:

MORIE

GRAVEL:

NATURAL:

AMOUNT:

4 BAGS

INTERVAL:

133-145'

SEAL(s)

NOTES:

Portland Cement

INTERVAL:

4', 10'

AMOUNT:

1 BAG EACH

Bentonite Slurry

INTERVAL:

55-133'

AMOUNT:

5 BAGS

Bentonite Pellets

INTERVAL:

AMOUNT:

Other:

INTERVAL:

AMOUNT:

CUTTINGS BACKFILL

10-55'

AMOUNT:

Other:

INTERVAL:

AMOUNT:

LOCKING CASING: ☒ YES

☐ NO

KEY NO:

LMS

LAWLER, MATUSKY & SKELLY ENGINEERS, P.C.

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 650-327

PROJECT NAME:
FROST STREET SITES RI/FS

WELL No.:
FSMW- 04A

CLIENT:
NYSDEC

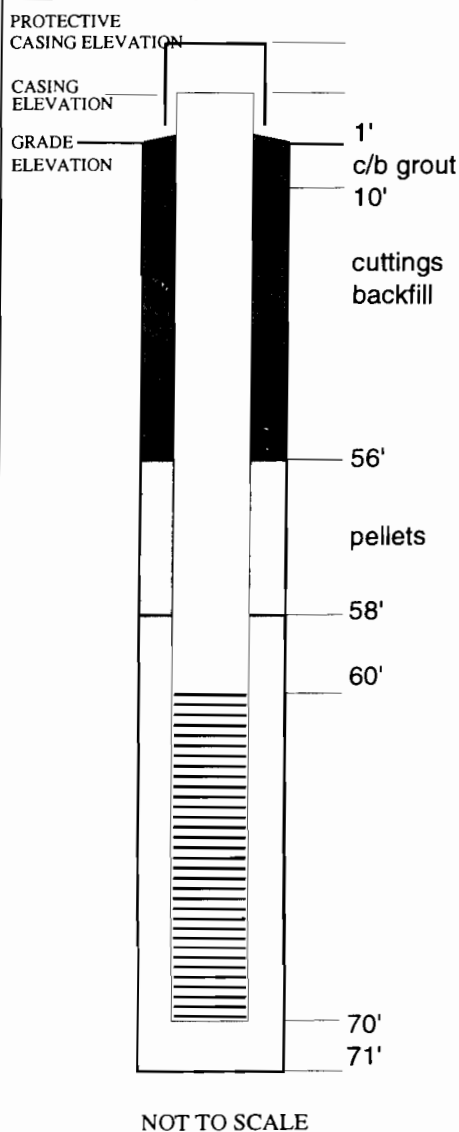
LOCATION:
89 FROST STREET
NCIA, WESTBURY NY

DATE DRILLED:
6-Aug-98

DATE DEVELOPED:
10-Aug-98

WELL CONSTRUCTION COMPLETED:
6-Aug-98

DEVELOPING METHOD:
GRUNDFOS



INSPECTOR:
EDITH HOLLISTER

DRILLING CONTRACTOR:
AMERICAN AUGER

TYPE OF WELL:
2" PVC MONITORING

STATIC WATER LEVEL: DATE:

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 70.0' TOTAL DEPTH OF BORING: 71'

DRILLING METHOD TYPE: HSA

DIAMETER: 4.25" I.D. CASING:

SAMPLING METHOD TYPE: NO SAMPLES REQUIRED

DIAMETER: WEIGHT: SEE FSMW- 04B

FALL: INTERVAL:

RISER PIPE LEFT IN PLACE MATERIAL: SCHEDULE 40 PVC

DIAMETER: 2" LENGTH: 60' JOINT TYPE: ASTM FLUSH THREAD

SCREEN MATERIAL: SCHEDULE 40 PVC

INTERVAL: 60-70' DIAMETER: 2"

STRATIGRAPHIC UNITS SCREENED: UGA SLOT SIZE: 10

FILTER PACK GRADE: 0

SAND: MORIE GRAVEL: NATURAL:

AMOUNT: 4 BAGS INTERVAL: 58-70'

SEAL(s)

NOTES:

Portland Cement INTERVAL: 1-10' AMOUNT: X

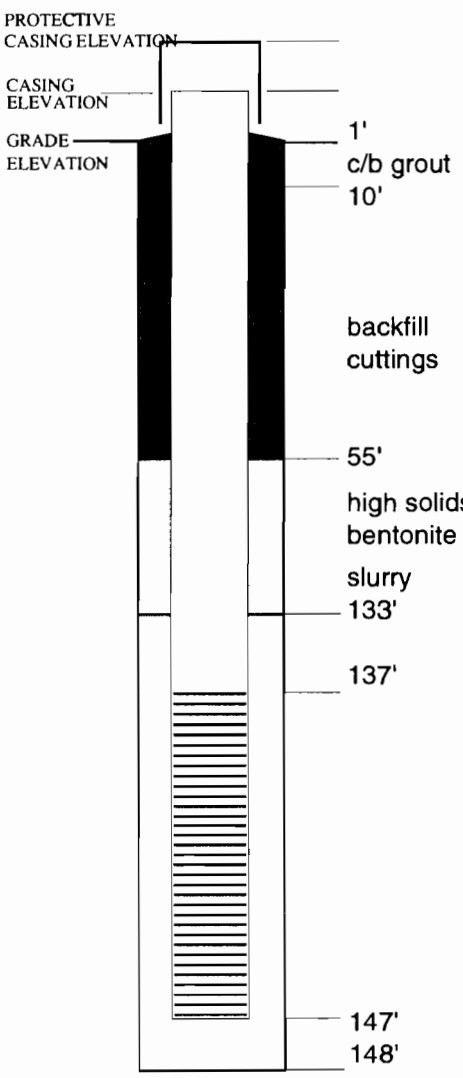
Bentonite Slurry INTERVAL: AMOUNT:

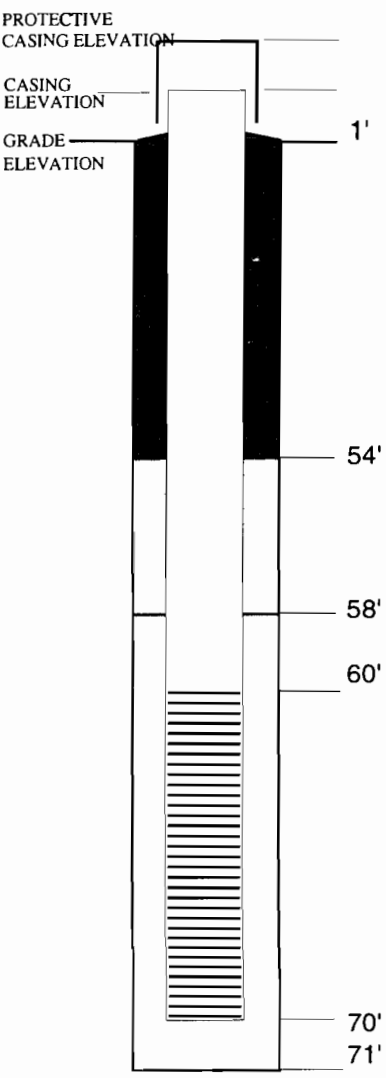
Bentonite Pellets INTERVAL: AMOUNT: X 56-58'

Other: CUTTINGS INTERVAL: 10-56' AMOUNT:

LOCKING CASING: ☒ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS.P

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-327																												
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 04B																												
CLIENT: NYSDEC																														
LOCATION: 89 FROST STREET NCIA, WESTBURY NY																														
DATE DRILLED: 8/5-8/6/98	DATE DEVELOPED: 10-Aug-98	WELL CONSTRUCTION COMPLETED: 6-Aug-98																												
DEVELOPING METHOD: GRUNDFOS																														
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 150.6' TOTAL DEPTH OF BORING: 148' <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">DRILLING METHOD</td> <td style="padding: 2px;">TYPE: HSA</td> </tr> <tr> <td style="padding: 2px;">DIAMETER: 4.25" I.D.</td> <td style="padding: 2px;">CASING:</td> </tr> <tr> <td style="padding: 2px;">SAMPLING METHOD</td> <td style="padding: 2px;">TYPE: SPLIT SPOON</td> </tr> <tr> <td style="padding: 2px;">DIAMETER: 2"</td> <td style="padding: 2px;">WEIGHT: 150#</td> </tr> <tr> <td style="padding: 2px;">FALL: 30"</td> <td style="padding: 2px;">INTERVAL: EVERY 5'</td> </tr> <tr> <td style="padding: 2px;">RISER PIPE LEFT IN PLACE</td> <td style="padding: 2px;">MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td style="padding: 2px;">DIAMETER: 2" LENGTH: 140'</td> <td style="padding: 2px;">JOINT TYPE: ASTM FLUSH THREAD</td> </tr> <tr> <td style="padding: 2px;">SCREEN</td> <td style="padding: 2px;">MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td style="padding: 2px;">INTERVAL: 137-147' DIAMETER: 2"</td> <td></td> </tr> <tr> <td style="padding: 2px;">STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY</td> <td style="padding: 2px;">SLOT SIZE: 10</td> </tr> <tr> <td style="padding: 2px;">FILTER PACK</td> <td style="padding: 2px;">GRADE: 0</td> </tr> <tr> <td style="padding: 2px;">SAND: MORIE GRAVEL: _____ NATURAL: _____</td> <td></td> </tr> <tr> <td style="padding: 2px;">AMOUNT: 4 BAGS INTERVAL: 133-147'</td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">SEAL(s)</td> </tr> </table>		DRILLING METHOD	TYPE: HSA	DIAMETER: 4.25" I.D.	CASING:	SAMPLING METHOD	TYPE: SPLIT SPOON	DIAMETER: 2"	WEIGHT: 150#	FALL: 30"	INTERVAL: EVERY 5'	RISER PIPE LEFT IN PLACE	MATERIAL: SCHEDULE 40 PVC	DIAMETER: 2" LENGTH: 140'	JOINT TYPE: ASTM FLUSH THREAD	SCREEN	MATERIAL: SCHEDULE 40 PVC	INTERVAL: 137-147' DIAMETER: 2"		STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY	SLOT SIZE: 10	FILTER PACK	GRADE: 0	SAND: MORIE GRAVEL: _____ NATURAL: _____		AMOUNT: 4 BAGS INTERVAL: 133-147'		SEAL(s)	
DRILLING METHOD	TYPE: HSA																													
DIAMETER: 4.25" I.D.	CASING:																													
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LOCKING CASING: ☒ YES ☐ NO KEY NO:																														

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-616																								
PROJECT NAME: FROST STREET SITES R/FS		WELL No.: FSMW- 05A																								
CLIENT: NYSDEC																										
LOCATION: OFF-SITE TOYOTA NCIA, WESTBURY NY																										
DATE DRILLED: 21-Aug-98	DATE DEVELOPED: 3-Sep-98	WELL CONSTRUCTION COMPLETED: 21-Aug-98																								
DEVELOPING METHOD: GRUNDFOS																										
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 70.0' TOTAL DEPTH OF BORING: 71'																									
DRILLING METHOD DIAMETER: 4.25" I.D.		TYPE: HSA CASING: _____																								
SAMPLING METHOD DIAMETER: _____		TYPE: NO SAMPLES REQUIRED WEIGHT: SEE FSMW- 05B INTERVAL: _____																								
RISER PIPE LEFT IN PLACE DIAMETER: 2" LENGTH: 60'		MATERIAL: SCHEDULE 40 PVC JOINT TYPE: ASTM FLUSH THREAD																								
SCREEN INTERVAL: 60-70' DIAMETER: 2"		MATERIAL: SCHEDULE 40 PVC SLOT SIZE: 10																								
FILTER PACK SAND: MORIE GRAVEL: _____ NATURAL: _____		GRADE: 0																								
AMOUNT: 4 BAGS INTERVAL: 58-71'																										
SEAL(s)																										
NOTES:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Portland Cement</td> <td style="width: 20%;">INTERVAL:</td> <td style="width: 40%;">AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> <td style="text-align: center;">3 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> <td style="text-align: center;">1 BAG</td> </tr> <tr> <td>Other:</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">CUTTINGS</td> <td colspan="2" style="text-align: center;">MIXED WITH CEMENT</td> </tr> </table>		Portland Cement	INTERVAL:	AMOUNT:	X		3 BAGS	Bentonite Slurry	INTERVAL:	AMOUNT:	Bentonite Pellets	INTERVAL:	AMOUNT:	X		1 BAG	Other:	INTERVAL:	AMOUNT:	X			CUTTINGS	MIXED WITH CEMENT	
Portland Cement	INTERVAL:	AMOUNT:																								
X		3 BAGS																								
Bentonite Slurry	INTERVAL:	AMOUNT:																								
Bentonite Pellets	INTERVAL:	AMOUNT:																								
X		1 BAG																								
Other:	INTERVAL:	AMOUNT:																								
X																										
CUTTINGS	MIXED WITH CEMENT																									
LOCKING CASING: ☒ YES ☐ NO KEY NO: _____																										

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 650-616

PROJECT NAME: FROST STREET SITES RI/FS

WELL No.: FSMW- 05B

CLIENT: NYSDEC

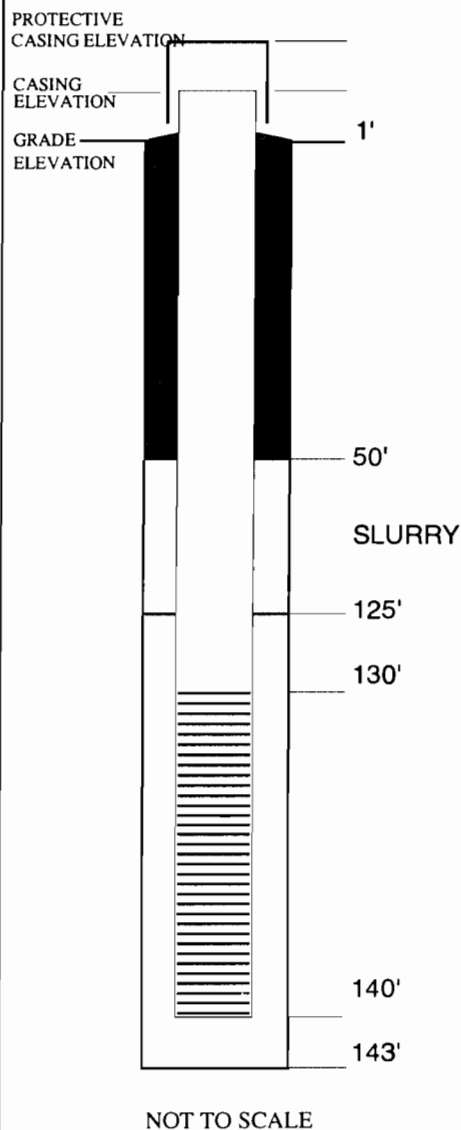
LOCATION: OFF-SITE TOYOTA
NCIA WESTBURY NY

DATE DRILLED: 8/19-8/20/98

DATE DEVELOPED: 3-Sep-98

WELL CONSTRUCTION COMPLETED: 21-Aug-98

DEVELOPING METHOD: GRUNDFOS



INSPECTOR: EDITH HOLLISTER		
DRILLING CONTRACTOR: AMERICAN AUGER		
TYPE OF WELL: 2" PVC MONITORING		
STATIC WATER LEVEL:		DATE:
MEASURING POINT: TOC	TOTAL DEPTH OF WELL: 139.5'	TOTAL DEPTH OF BORING: 143'
DRILLING METHOD		TYPE: HSA
DIAMETER: 4.25" I.D.		CASING:
SAMPLING METHOD		TYPE: SPLIT SPOON
DIAMETER: 2"		WEIGHT: 150#
FALL: 30"		INTERVAL: EVERY 5'
RISER PIPE LEFT IN PLACE		MATERIAL: SCHEDULE 40 PVC
DIAMETER: 2"	LENGTH: 133'	JOINT TYPE: ASTM FLUSH THREAD
SCREEN		MATERIAL: SCHEDULE 40 PVC
INTERVAL: 130-140'	DIAMETER: 2"	
STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY		SLOT SIZE: 10
FILTER PACK		GRADE: 0
SAND: MORIE	GRAVEL:	NATURAL:
AMOUNT: 3 BAGS	INTERVAL: 125-143'	
SEAL(s)		

NOTES:

Portland Cement	INTERVAL:	AMOUNT:
X		4 BAGS
Bentonite Slurry	INTERVAL:	AMOUNT:
X		3 BAGS
Bentonite Pellets	INTERVAL:	AMOUNT:
Other: X	INTERVAL:	AMOUNT:
CUTTINGS	MIXED WITH CEMENT	

LOCKING CASING: ☒ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS, P.C.

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 650-616

PROJECT NAME: FROST STREET SITES RI/FS

WELL No.: FSMW- 06A

CLIENT: NYSDEC

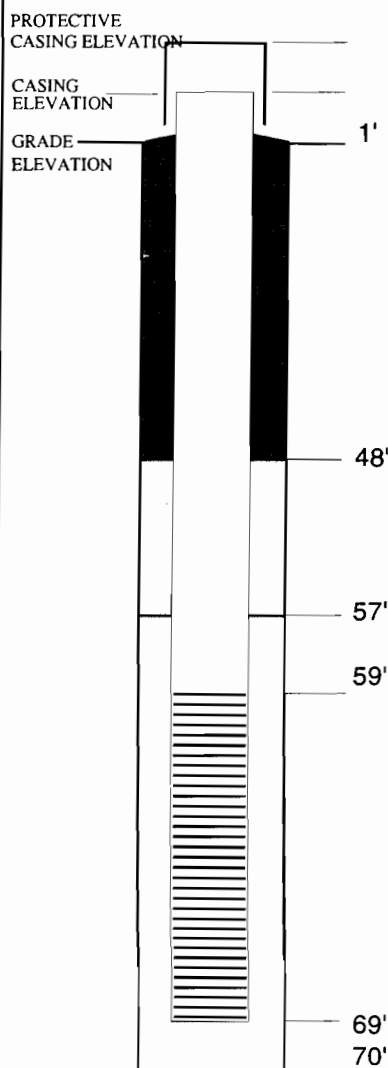
LOCATION: OFF-SITE MIDDLE NCIA, WESTBURY NY

DATE DRILLED: 26-Aug-98

DATE DEVELOPED: 1-Sep-98

WELL CONSTRUCTION COMPLETED: 26-Aug-98

DEVELOPING METHOD: GRUNDFOS



NOT TO SCALE

INSPECTOR: EDITH HOLLISTER

DRILLING CONTRACTOR: AMERICAN AUGER

TYPE OF WELL: 2" PVC MONITORING
STATIC WATER LEVEL: DATE:

MEASURING POINT: TOC TOTAL DEPTH OF WELL: 70.0' TOTAL DEPTH OF BORING: 70'

DRILLING METHOD TYPE: HSA

DIAMETER: 4.25" I.D. CASING:

SAMPLING METHOD TYPE: NO SAMPLES REQUIRED

DIAMETER: WEIGHT: SEE FSMW- 06B

FALL: INTERVAL:

RISER PIPE LEFT IN PLACE MATERIAL: SCHEDULE 40 PVC

DIAMETER: 2" LENGTH: 60' JOINT TYPE: ASTM FLUSH THREAD

SCREEN MATERIAL: SCHEDULE 40 PVC

INTERVAL: 59-69' DIAMETER: 2"

STRATIGRAPHIC UNITS SCREENED: UGA SLOT SIZE: 10

FILTER PACK GRADE: 0

SAND: MORIE GRAVEL: NATURAL:

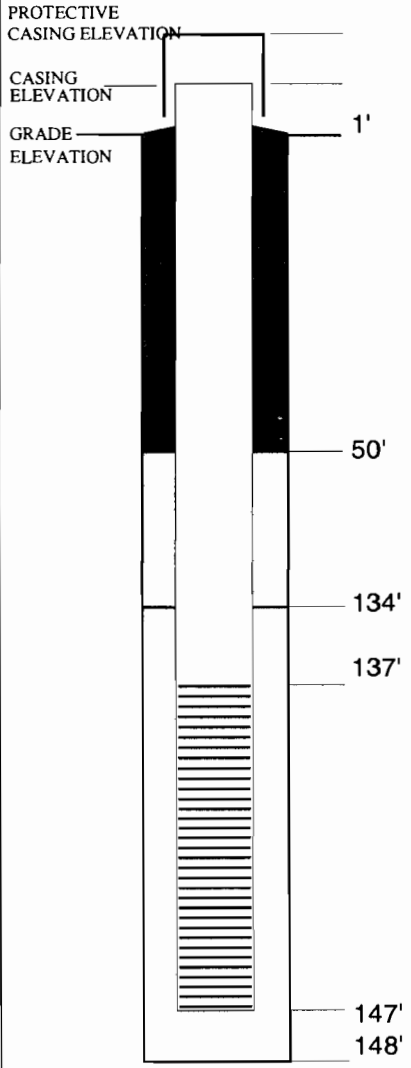
AMOUNT: INTERVAL: 57-70'

SEAL(s)

NOTES:

Portland Cement	INTERVAL:	AMOUNT:
X		
Bentonite Slurry	INTERVAL:	AMOUNT:
Bentonite Pellets	INTERVAL: 48-57'	AMOUNT: 1 BAG
X		
Other:	INTERVAL:	AMOUNT:

LOCKING CASING: ☒ YES ☐ NO KEY NO:

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-616																		
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 06B																		
CLIENT: NYSDEC																				
LOCATION: OFF-SITE MIDDLE NCIA WESTBURY NY																				
DATE DRILLED: 8/25-8/26/98	DATE DEVELOPED: 1-Sep-98	WELL CONSTRUCTION COMPLETED: 26-Aug-98																		
DEVELOPING METHOD: GRUNDFOS																				
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 149.2' TOTAL DEPTH OF BORING: 148'																			
DRILLING METHOD TYPE: HSA DIAMETER: 4.25" I.D. CASING: _____																				
SAMPLING METHOD TYPE: SPLIT SPOON DIAMETER: 2" WEIGHT: 150# FALL: 30" INTERVAL: EVERY 5'																				
RISER PIPE LEFT IN PLACE MATERIAL: SCHEDULE 40 PVC DIAMETER: 2" LENGTH: 140' JOINT TYPE: ASTM FLUSH THREAD																				
SCREEN MATERIAL: SCHEDULE 40 PVC INTERVAL: 137-147' DIAMETER: 2" STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY SLOT SIZE: 10																				
FILTER PACK GRADE: 0 SAND: MORIE GRAVEL: _____ NATURAL: _____ AMOUNT: 3 BAGS INTERVAL: 134-148'																				
SEAL(s)																				
NOTES:	<table style="width: 100%;"> <tr> <td>Portland Cement</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td>1-50'</td> <td>6 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td>50-134'</td> <td>4 BAGS</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other:</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> </table>		Portland Cement	INTERVAL:	AMOUNT:	X	1-50'	6 BAGS	Bentonite Slurry	INTERVAL:	AMOUNT:	X	50-134'	4 BAGS	Bentonite Pellets	INTERVAL:	AMOUNT:	Other:	INTERVAL:	AMOUNT:
Portland Cement	INTERVAL:	AMOUNT:																		
X	1-50'	6 BAGS																		
Bentonite Slurry	INTERVAL:	AMOUNT:																		
X	50-134'	4 BAGS																		
Bentonite Pellets	INTERVAL:	AMOUNT:																		
Other:	INTERVAL:	AMOUNT:																		
LOCKING CASING: ☒ YES ☐ NO KEY NO: _____																				

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 650-616

PROJECT NAME: FROST STREET SITES RI/FS

WELL No.: FSMW- 07A

CLIENT: NYSDEC

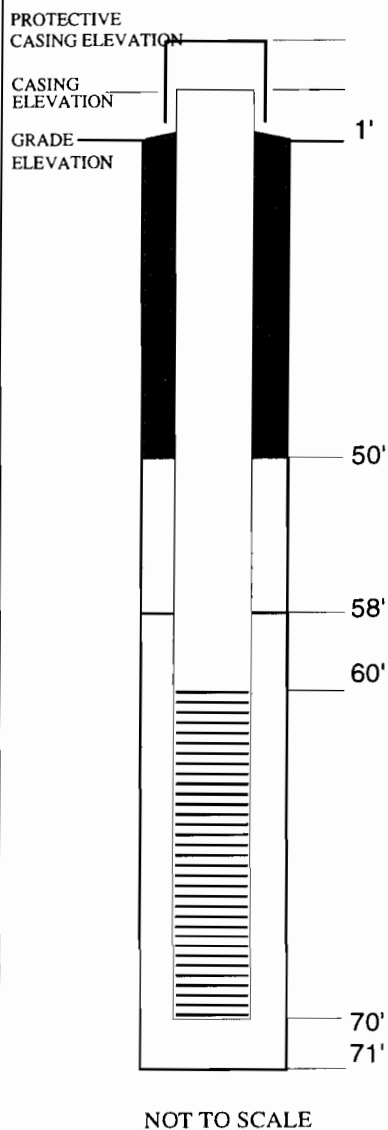
LOCATION: OFF-SITE 1065 OLD COUNTRY RD
NCIA, WESTBURY NY

DATE DRILLED: 27-Aug-98

DATE DEVELOPED: 3-Sep-98

WELL CONSTRUCTION COMPLETED: 27-Aug-98

DEVELOPING METHOD: GRUNDFOS



INSPECTOR:

EDITH HOLLISTER

DRILLING CONTRACTOR:

AMERICAN AUGER

TYPE OF WELL:

2" PVC MONITORING

STATIC WATER LEVEL:

DATE:

MEASURING POINT: TOC

TOTAL DEPTH OF WELL: 70'

TOTAL DEPTH OF BORING: 71'

DRILLING METHOD

TYPE:

HSA

DIAMETER:

CASING:

4.25" I.D.

SAMPLING METHOD

TYPE:

NO SAMPLES REQUIRED

DIAMETER:

WEIGHT:

SEE FSMW- 07B

FALL:

INTERVAL:

RISER PIPE LEFT IN PLACE

MATERIAL:

SCHEDULE 40 PVC

DIAMETER:

LENGTH:

JOINT TYPE:

2"

60'

ASTM FLUSH THREAD

SCREEN

MATERIAL:

SCHEDULE 40 PVC

INTERVAL: 60-70'

DIAMETER: 2"

STRATIGRAPHIC UNITS SCREENED: UGA

SLOT SIZE:

10

FILTER PACK

GRADE:

0

SAND:

GRAVEL:

NATURAL:

MORIE

AMOUNT:

INTERVAL:

3 BAGS

58-70'

SEAL(s)

NOTES:

Portland Cement

INTERVAL:

AMOUNT:

X

5 BAGS

Bentonite Slurry

INTERVAL:

AMOUNT:

Bentonite Pellets

INTERVAL:

AMOUNT:

X

1 BAG

Other:

INTERVAL:

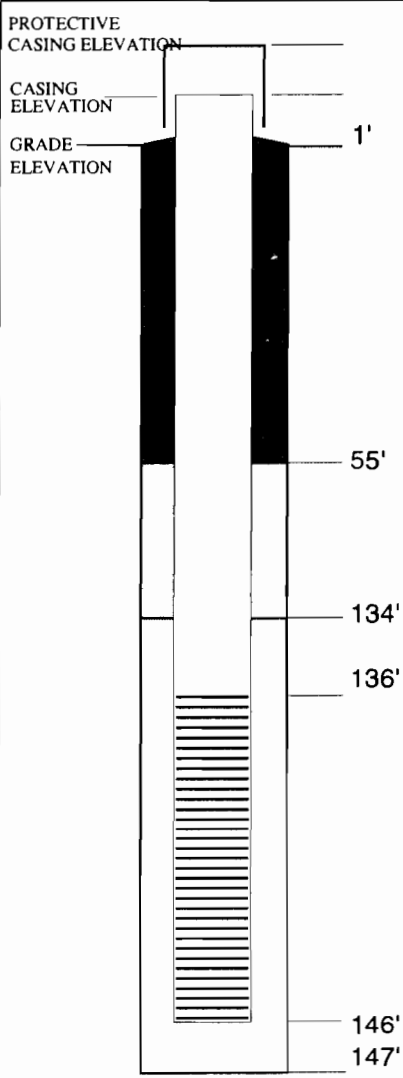
AMOUNT:

LOCKING CASING: ☒ YES ☐ NO

KEY NO:

LMS

LAWLER, MATUSKY & SKELLY ENGINEERS.P

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-616																																												
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 07B																																												
CLIENT: NYSDEC																																														
LOCATION: OFF-SITE 1065 OLD COUNTRY RD NCIA, WESTBURY NY																																														
DATE DRILLED: 8/24-8/25/98	DATE DEVELOPED: 27-Aug-98	WELL CONSTRUCTION COMPLETED: 25-Aug-98																																												
DEVELOPING METHOD: GRUNDFOS																																														
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 148.3' TOTAL DEPTH OF BORING: 147' <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;">DRILLING METHOD</td> <td style="padding: 5px;">TYPE: HSA</td> </tr> <tr> <td style="padding: 5px;">DIAMETER: 4.25" I.D.</td> <td style="padding: 5px;">CASING:</td> </tr> <tr> <td style="padding: 5px;">SAMPLING METHOD</td> <td style="padding: 5px;">TYPE: SPLIT SPOON</td> </tr> <tr> <td style="padding: 5px;">DIAMETER: 2"</td> <td style="padding: 5px;">WEIGHT: 150#</td> </tr> <tr> <td style="padding: 5px;">FALL: 30"</td> <td style="padding: 5px;">INTERVAL: EVERY 5'</td> </tr> <tr> <td style="padding: 5px;">RISER PIPE LEFT IN PLACE</td> <td style="padding: 5px;">MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td style="padding: 5px;">DIAMETER: 2" LENGTH: 140'</td> <td style="padding: 5px;">JOINT TYPE: ASTM FLUSH THREAD</td> </tr> <tr> <td style="padding: 5px;">SCREEN</td> <td style="padding: 5px;">MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td style="padding: 5px;">INTERVAL: 136-146' DIAMETER: 2"</td> <td></td> </tr> <tr> <td style="padding: 5px;">STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY</td> <td style="padding: 5px;">SLOT SIZE: 10</td> </tr> <tr> <td style="padding: 5px;">FILTER PACK</td> <td style="padding: 5px;">GRADE: 0</td> </tr> <tr> <td style="padding: 5px;">SAND: MORIE GRAVEL: _____ NATURAL: _____</td> <td></td> </tr> <tr> <td style="padding: 5px;">AMOUNT: 3 BAGS INTERVAL: 134-147'</td> <td></td> </tr> <tr> <td colspan="2" style="padding: 5px;">SEAL(s)</td> </tr> <tr> <td colspan="2" style="padding: 5px;"> <table style="width: 100%;"> <tr> <td style="width: 30%;">Portland Cement</td> <td style="width: 30%;">INTERVAL: 1-55'</td> <td style="width: 40%;">AMOUNT: 6 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL: 55-134'</td> <td>AMOUNT: 3 BAGS</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL: _____</td> <td>AMOUNT: _____</td> </tr> <tr> <td>Other: CUTTINGS MIXED IN WITH CEMENT</td> <td>INTERVAL: _____</td> <td>AMOUNT: _____</td> </tr> </table> </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> LOCKING CASING: ☒ YES ☐ NO KEY NO: _____ </td> </tr> </table>		DRILLING METHOD	TYPE: HSA	DIAMETER: 4.25" I.D.	CASING:	SAMPLING METHOD	TYPE: SPLIT SPOON	DIAMETER: 2"	WEIGHT: 150#	FALL: 30"	INTERVAL: EVERY 5'	RISER PIPE LEFT IN PLACE	MATERIAL: SCHEDULE 40 PVC	DIAMETER: 2" LENGTH: 140'	JOINT TYPE: ASTM FLUSH THREAD	SCREEN	MATERIAL: SCHEDULE 40 PVC	INTERVAL: 136-146' DIAMETER: 2"		STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY	SLOT SIZE: 10	FILTER PACK	GRADE: 0	SAND: MORIE GRAVEL: _____ NATURAL: _____		AMOUNT: 3 BAGS INTERVAL: 134-147'		SEAL(s)		<table style="width: 100%;"> <tr> <td style="width: 30%;">Portland Cement</td> <td style="width: 30%;">INTERVAL: 1-55'</td> <td style="width: 40%;">AMOUNT: 6 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL: 55-134'</td> <td>AMOUNT: 3 BAGS</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL: _____</td> <td>AMOUNT: _____</td> </tr> <tr> <td>Other: CUTTINGS MIXED IN WITH CEMENT</td> <td>INTERVAL: _____</td> <td>AMOUNT: _____</td> </tr> </table>		Portland Cement	INTERVAL: 1-55'	AMOUNT: 6 BAGS	Bentonite Slurry	INTERVAL: 55-134'	AMOUNT: 3 BAGS	Bentonite Pellets	INTERVAL: _____	AMOUNT: _____	Other: CUTTINGS MIXED IN WITH CEMENT	INTERVAL: _____	AMOUNT: _____	LOCKING CASING: ☒ YES ☐ NO KEY NO: _____	
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Bentonite Slurry	INTERVAL: 55-134'	AMOUNT: 3 BAGS																																												
Bentonite Pellets	INTERVAL: _____	AMOUNT: _____																																												
Other: CUTTINGS MIXED IN WITH CEMENT	INTERVAL: _____	AMOUNT: _____																																												
LOCKING CASING: ☒ YES ☐ NO KEY NO: _____																																														

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-612																		
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 08A																		
CLIENT: NYSDEC																				
LOCATION: 770 MAIN STREET (FRONT DOOR) NCIA, WESTBURY NY																				
DATE DRILLED: 13-Aug-98	DATE DEVELOPED: 19-Aug-98	WELL CONSTRUCTION COMPLETED: 13-Aug-98																		
DEVELOPING METHOD: GRUNDFOS																				
	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 74.2' TOTAL DEPTH OF BORING: 75'																			
DRILLING METHOD DIAMETER: 4.25" I.D.		TYPE: HSA CASING: _____																		
SAMPLING METHOD DIAMETER: _____ FALL: _____		TYPE: NO SAMPLES REQUIRED WEIGHT: SEE FSMW- 08B INTERVAL: _____																		
RISER PIPE LEFT IN PLACE DIAMETER: 2" LENGTH: 65'		MATERIAL: SCHEDULE 40 PVC JOINT TYPE: ASTM FLUSH THREAD																		
SCREEN INTERVAL: 64-74' DIAMETER: 2"		MATERIAL: SCHEDULE 40 PVC SLOT SIZE: 10																		
STRATIGRAPHIC UNITS SCREENED: UGA		FILTER PACK GRADE: 0																		
SAND: MORIE GRAVEL: _____ NATURAL: _____ AMOUNT: 3 BAGS INTERVAL: 62-74'		SEAL(s)																		
NOTES:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Portland Cement</td> <td style="width: 30%;">INTERVAL:</td> <td style="width: 30%;">AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">1-55'</td> <td style="text-align: center;">6 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">55-62'</td> <td style="text-align: center;">1.5 BAGS</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td>Other:</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> </table>		Portland Cement	INTERVAL:	AMOUNT:	X	1-55'	6 BAGS	Bentonite Slurry	INTERVAL:	AMOUNT:	X	55-62'	1.5 BAGS	Bentonite Pellets	INTERVAL:	AMOUNT:	Other:	INTERVAL:	AMOUNT:
Portland Cement	INTERVAL:	AMOUNT:																		
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Bentonite Pellets	INTERVAL:	AMOUNT:																		
Other:	INTERVAL:	AMOUNT:																		
LOCKING CASING: ☒ YES ☐ NO KEY NO: _____																				

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 650-612

PROJECT NAME: FROST STREET SITES RI/FS

WELL No.: FSMW- 09A

CLIENT: NYSDEC

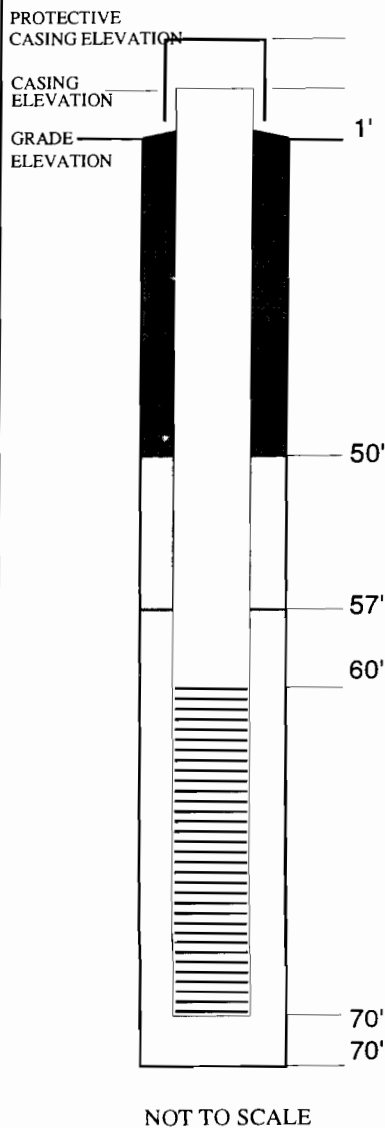
LOCATION: 770 MAIN STREET (SIDE)
NCIA WESTBURY NY

DATE DRILLED: 19-Aug-98

DATE DEVELOPED: 20-Aug-98

WELL CONSTRUCTION COMPLETED: 19-Aug-98

DEVELOPING METHOD: GRUNDFOS



INSPECTOR: EDITH HOLLISTER

DRILLING CONTRACTOR: AMERICAN AUGER

TYPE OF WELL: 2" PVC MONITORING
STATIC WATER LEVEL: DATE:

MEASURING POINT: TOC

TOTAL DEPTH OF WELL: 69.0'

TOTAL DEPTH OF BORING: 70'

DRILLING METHOD

TYPE: HSA

DIAMETER: 4.25" I.D.

CASING:

SAMPLING METHOD

TYPE: NO SAMPLES REQUIRED

DIAMETER:

WEIGHT: SEE FSMW- 09B

FALL:

INTERVAL:

RISER PIPE LEFT IN PLACE

MATERIAL: SCHEDULE 40 PVC

DIAMETER: 2"

LENGTH: 60'

JOINT TYPE: ASTM FLUSH THREAD

SCREEN

MATERIAL: SCHEDULE 40 PVC

INTERVAL: 60-70'

DIAMETER: 2"

STRATIGRAPHIC UNITS SCREENED: UGA

SLOT SIZE: 10

FILTER PACK

GRADE: 0

SAND: MORIE

GRAVEL:

NATURAL:

AMOUNT:

3.5 BAGS

INTERVAL:

57-70'

SEAL(s)

NOTES:

Portland Cement X
Bentonite Slurry X
Bentonite Pellets

INTERVAL:

AMOUNT: 4 BAGS

INTERVAL:

AMOUNT: 1 BAG

INTERVAL:

AMOUNT:

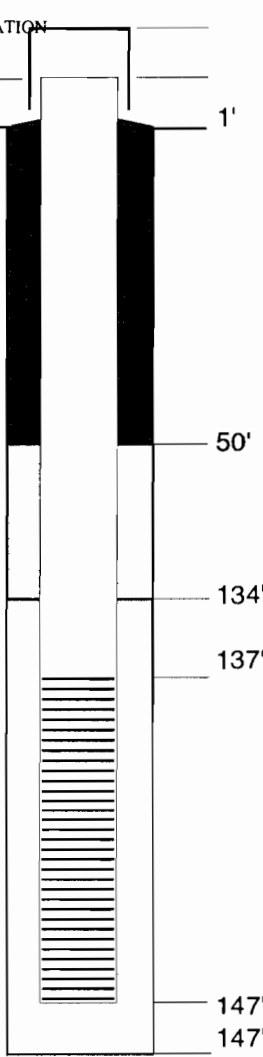
Other:

INTERVAL:

AMOUNT:

LOCKING CASING: ☒ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS LLP

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-612																												
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 09B																												
CLIENT: NYSDEC																														
LOCATION: 770 MAIN STREET (SIDE) NCIA WESTBURY NY																														
DATE DRILLED: 8/18-8/19/98	DATE DEVELOPED: NA	WELL CONSTRUCTION COMPLETED: 19-Aug-98																												
DEVELOPING METHOD: GRUNDFOS																														
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: NA TOTAL DEPTH OF BORING: 147' <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">DRILLING METHOD</td> <td style="padding: 2px;">TYPE: HSA</td> </tr> <tr> <td style="padding: 2px;">DIAMETER: 4.25" I.D.</td> <td style="padding: 2px;">CASING:</td> </tr> <tr> <td style="padding: 2px;">SAMPLING METHOD</td> <td style="padding: 2px;">TYPE: SPLIT SPOON</td> </tr> <tr> <td style="padding: 2px;">DIAMETER: 2"</td> <td style="padding: 2px;">WEIGHT: 150#</td> </tr> <tr> <td style="padding: 2px;">FALL: 30"</td> <td style="padding: 2px;">INTERVAL: EVERY 5'</td> </tr> <tr> <td style="padding: 2px;">RISER PIPE LEFT IN PLACE</td> <td style="padding: 2px;">MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td style="padding: 2px;">DIAMETER: 2"</td> <td style="padding: 2px;">LENGTH: 137' JOINT TYPE: ASTM FLUSH THREAD</td> </tr> <tr> <td style="padding: 2px;">SCREEN</td> <td style="padding: 2px;">MATERIAL: SCHEDULE 40 PVC</td> </tr> <tr> <td style="padding: 2px;">INTERVAL: 137-147' DIAMETER: 2"</td> <td></td> </tr> <tr> <td style="padding: 2px;">STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY</td> <td style="padding: 2px;">SLOT SIZE: 10</td> </tr> <tr> <td style="padding: 2px;">FILTER PACK</td> <td style="padding: 2px;">GRADE: 0</td> </tr> <tr> <td style="padding: 2px;">SAND: MORIE GRAVEL: _____ NATURAL: _____</td> <td></td> </tr> <tr> <td style="padding: 2px;">AMOUNT: 3.5 BAGS INTERVAL: 134-147'</td> <td></td> </tr> <tr> <td colspan="2" style="padding: 2px;">SEAL(s)</td> </tr> </table>		DRILLING METHOD	TYPE: HSA	DIAMETER: 4.25" I.D.	CASING:	SAMPLING METHOD	TYPE: SPLIT SPOON	DIAMETER: 2"	WEIGHT: 150#	FALL: 30"	INTERVAL: EVERY 5'	RISER PIPE LEFT IN PLACE	MATERIAL: SCHEDULE 40 PVC	DIAMETER: 2"	LENGTH: 137' JOINT TYPE: ASTM FLUSH THREAD	SCREEN	MATERIAL: SCHEDULE 40 PVC	INTERVAL: 137-147' DIAMETER: 2"		STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY	SLOT SIZE: 10	FILTER PACK	GRADE: 0	SAND: MORIE GRAVEL: _____ NATURAL: _____		AMOUNT: 3.5 BAGS INTERVAL: 134-147'		SEAL(s)	
DRILLING METHOD	TYPE: HSA																													
DIAMETER: 4.25" I.D.	CASING:																													
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DIAMETER: 2"	WEIGHT: 150#																													
FALL: 30"	INTERVAL: EVERY 5'																													
RISER PIPE LEFT IN PLACE	MATERIAL: SCHEDULE 40 PVC																													
DIAMETER: 2"	LENGTH: 137' JOINT TYPE: ASTM FLUSH THREAD																													
SCREEN	MATERIAL: SCHEDULE 40 PVC																													
INTERVAL: 137-147' DIAMETER: 2"																														
STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY	SLOT SIZE: 10																													
FILTER PACK	GRADE: 0																													
SAND: MORIE GRAVEL: _____ NATURAL: _____																														
AMOUNT: 3.5 BAGS INTERVAL: 134-147'																														
SEAL(s)																														
NOTES:	<table style="width: 100%;"> <tr> <td style="width: 40%;">Portland Cement</td> <td style="width: 20%;">INTERVAL:</td> <td style="width: 40%;">AMOUNT: 6 BAGS</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL:</td> <td>AMOUNT: 3 BAGS</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>Other:</td> <td>INTERVAL:</td> <td>AMOUNT:</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table> LOCKING CASING: ☒ YES NO KEY NO:		Portland Cement	INTERVAL:	AMOUNT: 6 BAGS	X			Bentonite Slurry	INTERVAL:	AMOUNT: 3 BAGS	X			Bentonite Pellets	INTERVAL:	AMOUNT:	X			Other:	INTERVAL:	AMOUNT:							
Portland Cement	INTERVAL:	AMOUNT: 6 BAGS																												
X																														
Bentonite Slurry	INTERVAL:	AMOUNT: 3 BAGS																												
X																														
Bentonite Pellets	INTERVAL:	AMOUNT:																												
X																														
Other:	INTERVAL:	AMOUNT:																												

MONITORING WELL COMPLETION LOG

PROJECT NUMBER: 650-612

PROJECT NAME: FROST STREET SITES RI/FS

WELL No.: FSMW- 09B-2

CLIENT: NYSDEC

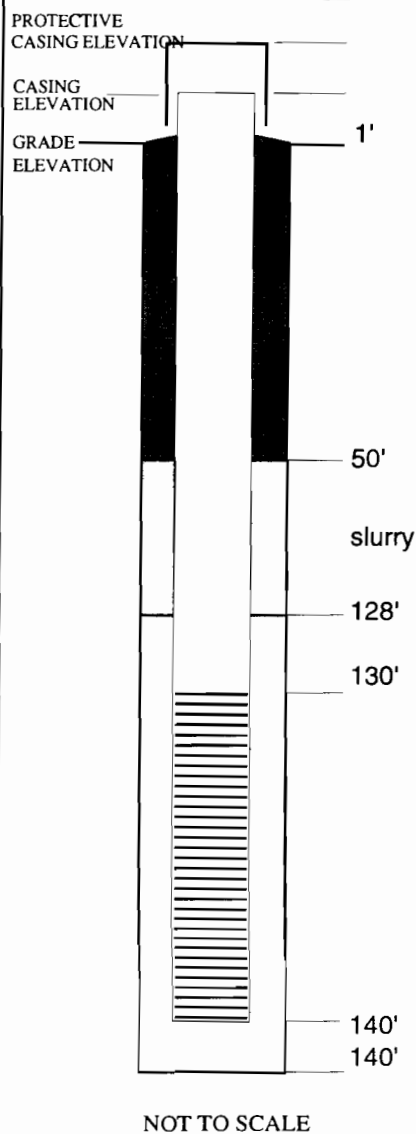
LOCATION: 770 MAIN STREET (SIDE)
NCIA, WESTBURY NY

DATE DRILLED: 31-Aug-98

DATE DEVELOPED: 2-Sep-98

WELL CONSTRUCTION COMPLETED: 31-Aug-98

DEVELOPING METHOD: GRUNDFOS



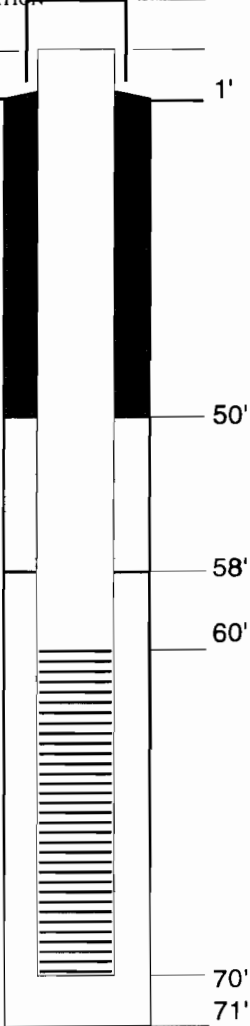
INSPECTOR: EDITH HOLLISTER		
DRILLING CONTRACTOR: AMERICAN AUGER		
TYPE OF WELL: 2" PVC MONITORING		
STATIC WATER LEVEL:		DATE:
MEASURING POINT: TOC	TOTAL DEPTH OF WELL: 138.2'	TOTAL DEPTH OF BORING: 140'
DRILLING METHOD	TYPE: HSA	
DIAMETER: 4.25" I.D.	CASING:	
SAMPLING METHOD	TYPE: NO SAMPLES REQUIRED	
DIAMETER:	WEIGHT: SEE FSMW- 09B	
FALL:	INTERVAL:	
RISER PIPE LEFT IN PLACE	MATERIAL: SCHEDULE 40 PVC	
DIAMETER: 2"	LENGTH: 130'	JOINT TYPE: ASTM FLUSH THREAD
SCREEN	MATERIAL: SCHEDULE 40 PVC	
INTERVAL: 130-140'	DIAMETER: 2"	
STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY	SLOT SIZE: 10	
FILTER PACK	GRADE: 0	
SAND: MORIE	GRAVEL:	NATURAL:
AMOUNT: 3 BAGS	INTERVAL:	
SEAL(s)		

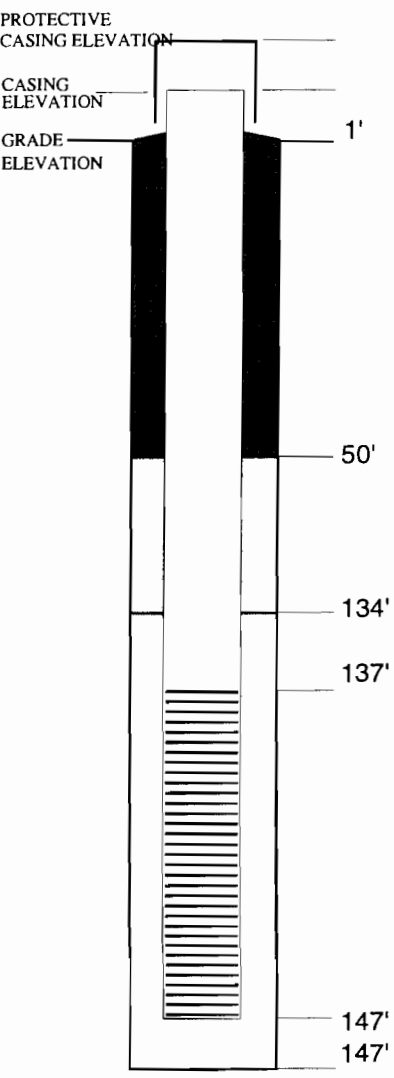
NOTES:
Re-do of FSMW-09B.
2 augers lost on 8/28/98, therefore,
only enough to go to 142'.

Portland Cement	INTERVAL:	AMOUNT: 6 BAGS
X Bentonite Slurry	INTERVAL:	AMOUNT: 2 BAGS BENT SEAL
X Bentonite Pellets	INTERVAL:	AMOUNT:
Other:	INTERVAL:	AMOUNT: 1 BAG QUIK GEL

LOCKING CASING: ☒ YES ☐ NO KEY NO:

LMS LAWLER, MATUSKY & SKELLY ENGINEERS, P.C.

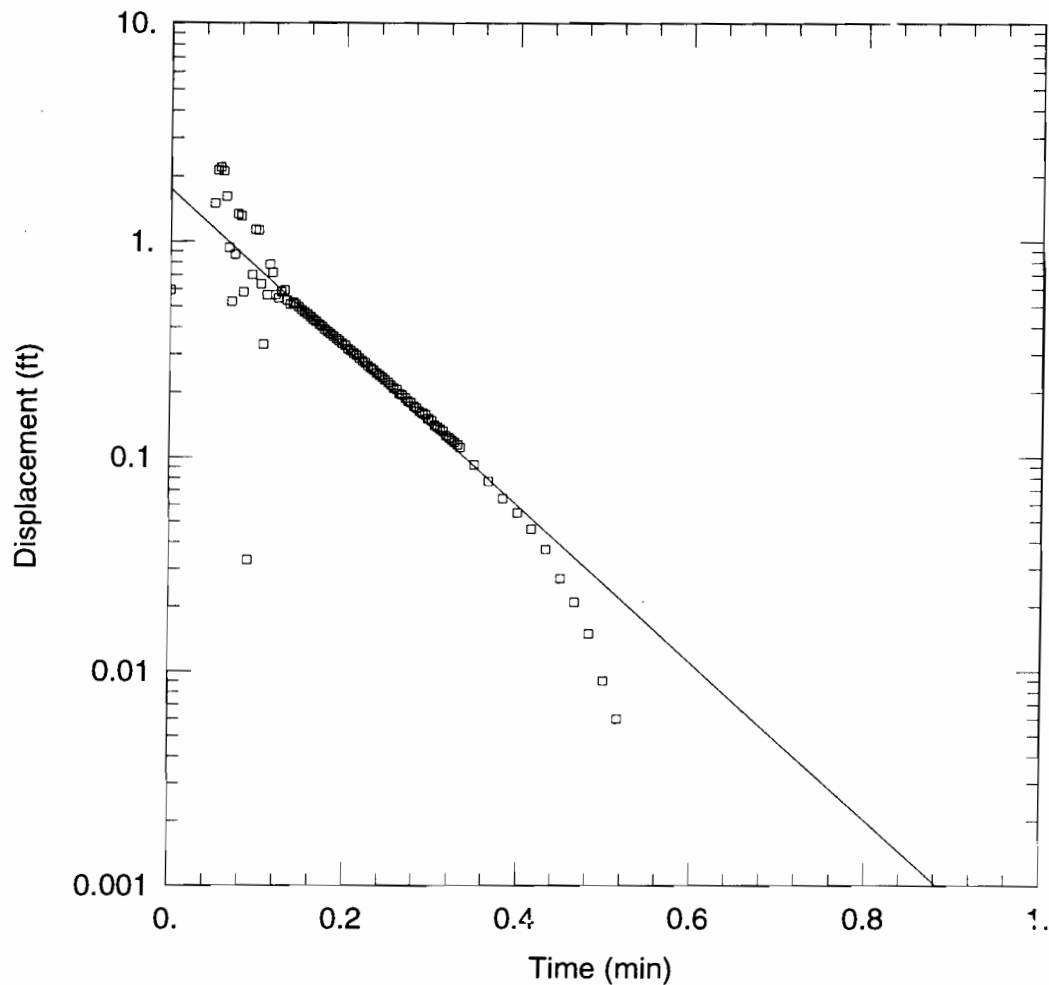
MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-612												
PROJECT NAME: FROST STREET SITES RI/FS		WELL No.: FSMW- 10A												
CLIENT: NYSDEC														
LOCATION: 770 MAIN (BEHIND BUILDING) NCIA, WESTBURY NY														
DATE DRILLED: 31-Aug-98	DATE DEVELOPED: 1-Sep-98	WELL CONSTRUCTION COMPLETED: 31-Aug-98												
DEVELOPING METHOD: GRUNDFOS														
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 71.1' TOTAL DEPTH OF BORING: 71'													
DRILLING METHOD DIAMETER: 4.25" I.D.		TYPE: HSA CASING: _____												
SAMPLING METHOD DIAMETER: _____		TYPE: NO SAMPLES REQUIRED WEIGHT: SEE FSMW- 10B												
RISER PIPE LEFT IN PLACE DIAMETER: 2" LENGTH: 60'		MATERIAL: SCHEDULE 40 PVC JOINT TYPE: ASTM FLUSH THREAD												
SCREEN INTERVAL: 60-70' DIAMETER: 2"		MATERIAL: SCHEDULE 40 PVC												
STRATIGRAPHIC UNITS SCREENED: UGA		SLOT SIZE: 10												
FILTER PACK SAND: MORIE GRAVEL: _____ NATURAL: _____		GRADE: 0												
AMOUNT: 4 BAGS		INTERVAL: 58-70'												
SEAL(s)														
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Portland Cement</td> <td style="width: 20%;">INTERVAL: 1-50'</td> <td style="width: 40%;">AMOUNT: 4 BAGS</td> </tr> <tr> <td>Bentonite Slurry</td> <td>INTERVAL: _____</td> <td>AMOUNT: _____</td> </tr> <tr> <td>Bentonite Pellets</td> <td>INTERVAL: 50-58'</td> <td>AMOUNT: 1 BAG</td> </tr> <tr> <td>Other:</td> <td>INTERVAL: _____</td> <td>AMOUNT: _____</td> </tr> </table>			Portland Cement	INTERVAL: 1-50'	AMOUNT: 4 BAGS	Bentonite Slurry	INTERVAL: _____	AMOUNT: _____	Bentonite Pellets	INTERVAL: 50-58'	AMOUNT: 1 BAG	Other:	INTERVAL: _____	AMOUNT: _____
Portland Cement	INTERVAL: 1-50'	AMOUNT: 4 BAGS												
Bentonite Slurry	INTERVAL: _____	AMOUNT: _____												
Bentonite Pellets	INTERVAL: 50-58'	AMOUNT: 1 BAG												
Other:	INTERVAL: _____	AMOUNT: _____												
LOCKING CASING: ☒ YES ☐ NO KEY NO: _____														

MONITORING WELL COMPLETION LOG		PROJECT NUMBER: 650-612
PROJECT NAME: FROST STREET SITES R/FS		WELL No.: FSMW- 10B
CLIENT: NYSDEC		
LOCATION: 770 MAIN (BEHIND BUILDING) NCIA, WESTBURY NY		
DATE DRILLED: 8/17-8/18/98	DATE DEVELOPED: 1-Sep-98	WELL CONSTRUCTION COMPLETED: 18-Aug-98
DEVELOPING METHOD: GRUNDFOS		
 NOT TO SCALE	INSPECTOR: EDITH HOLLISTER DRILLING CONTRACTOR: AMERICAN AUGER TYPE OF WELL: 2" PVC MONITORING STATIC WATER LEVEL: _____ DATE: _____ MEASURING POINT: TOC TOTAL DEPTH OF WELL: 142' TOTAL DEPTH OF BORING: 147'	
DRILLING METHOD DIAMETER: 4.25" I.D.		TYPE: HSA CASING: _____
SAMPLING METHOD DIAMETER: 2" FALL: 30"		TYPE: SPLIT SPOON WEIGHT: 150# INTERVAL: EVERY 5'
RISER PIPE LEFT IN PLACE DIAMETER: 2" LENGTH: 140'		MATERIAL: SCHEDULE 40 PVC JOINT TYPE: ASTM FLUSH THREAD
SCREEN INTERVAL: 137-147' DIAMETER: 2"		MATERIAL: SCHEDULE 40 PVC SLOT SIZE: 10
STRATIGRAPHIC UNITS SCREENED: UPPER MAGOTHY		GRADE: 0
FILTER PACK SAND: MORIE GRAVEL: _____ NATURAL: _____ AMOUNT: 3 BAGS INTERVAL: 134-147'		
SEAL(s)		
NOTES: Portland Cement X Bentonite Slurry X Bentonite Pellets Other: X CUTTINGS MIXED WITH CEMENT INTERVAL: 1-50' INTERVAL: 50-134' INTERVAL: INTERVAL: INTERVAL: AMOUNT: 4 BAGS AMOUNT: 2 BAGS AMOUNT: AMOUNT: 		
LOCKING CASING: ☒ YES ☐ NO KEY NO: _____		

Well ID	Kx (ft/day)	Well ID	Kx (ft/day)
FSMW-1A (slug in)	13.52	FSMW-1A (slug out)	10.99
FSMW-1B (slug in)	0.61	FSMW-1B (slug out)	0.15
FSMW-2A (slug in)	37.87	FSMW-2A (slug out)	64.80
FSMW-2B (slug in)	0.42	FSMW-2B (slug out)	0.66
FSMW-3A (slug in)	216.72	FSMW-3A (slug out)	194.98
FSMW-3B (slug in)	21.12	FSMW-3B (slug out)	11.74
FSMW-4A (slug in)	33.88	FSMW-4A (slug out)	41.03
FSMW-4B (slug in)	1.96	FSMW-4B (slug out)	1.74
FSMW-5A (slug in)	2.40	FSMW-5A (slug out)	2.42
FSMW-5B (slug in)	83.64	FSMW-5B (slug out)	62.48
FSMW-6A (slug in)	10.27	FSMW-6A (slug out)	10.85
FSMW-6B (slug in)	33.85	FSMW-6B (slug out)	48.34
FSMW-7A (slug in)	21.86	FSMW-7A (slug out)	45.66
FSMW-7B (slug in)	20.43	FSMW-7B (slug out)	26.05
FSMW-8A (slug in)	13.74	FSMW-8A (slug out)	13.68
FSMW-8B (slug in)	6.71	FSMW-8B (slug out)	6.31
FSMW-9A (slug in)	3.25	FSMW-9A (slug out)	3.13
FSMW-9B (slug in)	N/A	FSMW-9B (slug out)	43.91
FSMW-10A (slug in)	7.56	FSMW-10A (slug out)	7.68
FSMW-10B (slug in)	3.60	FSMW-10B (slug out)	4.25

	Mean Kx (ft/day)	Range of Kx (ft/day)
Shallow wells	37.81	2.40 - 216.72
Deep wells	19.89	0.15 - 83.64

Summary of In-situ Hydraulic Tests



FROST ST. MONITORING WELLS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW1AIN.AQT
 Date: 11/13/98 Time: 14:43:36

PROJECT INFORMATION

Company: LMS Engineers
 Client: NYSDEC
 Test Location: Frost St.
 Test Date: 9/14-9/16/98

AQUIFER DATA

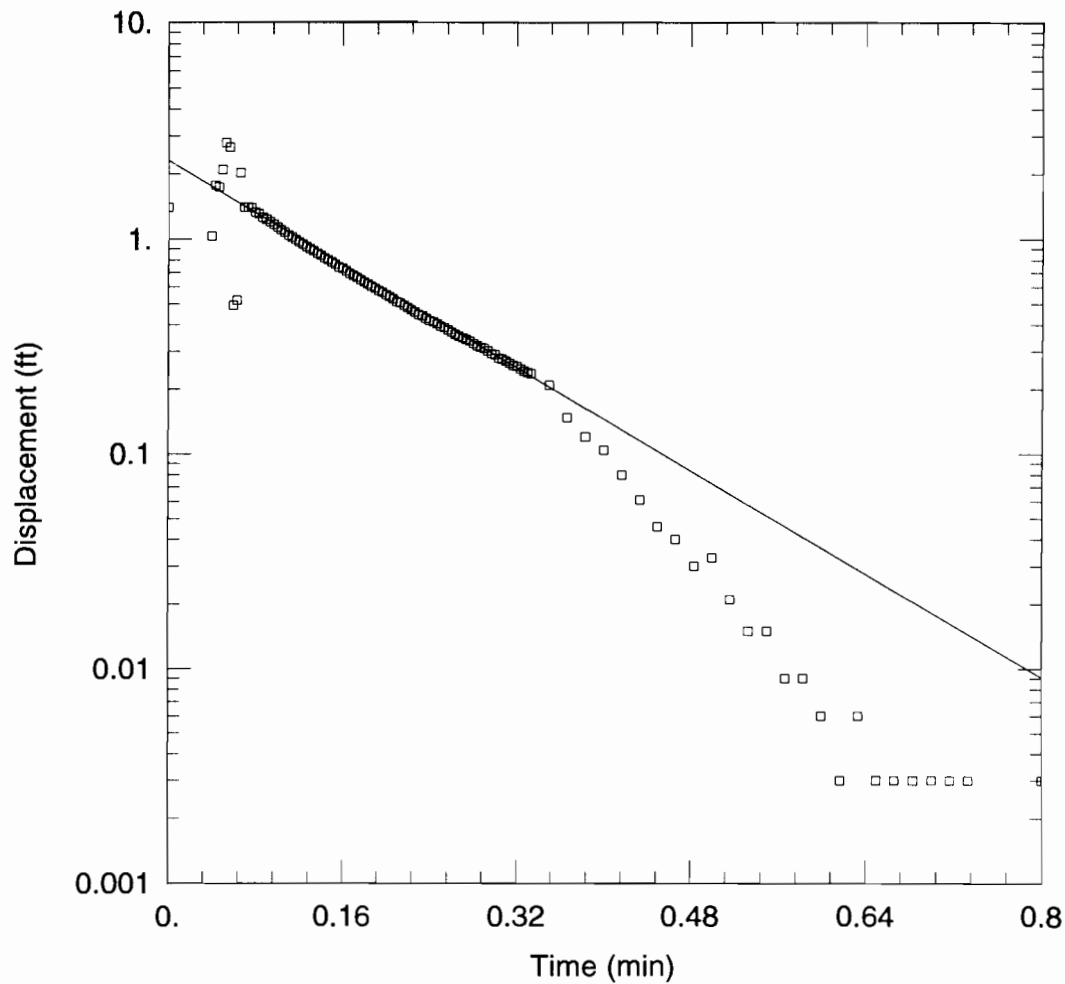
Saturated Thickness: 750. ft Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 0.595 ft Water Column Height: 14.65 ft
 Casing Radius: 0.08333 ft Wellbore Radius: 0.3333 ft
 Screen Length: 10. ft

SOLUTION

Aquifer Model: Unconfined $K = 0.009386 \text{ ft/min}$
 Solution Method: Bouwer-Rice $y_0 = 1.733 \text{ ft}$



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW1AOUT.AQT

Date: 11/13/98

Time: 14:43:56

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.406 ft

Water Column Height: 14.65 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

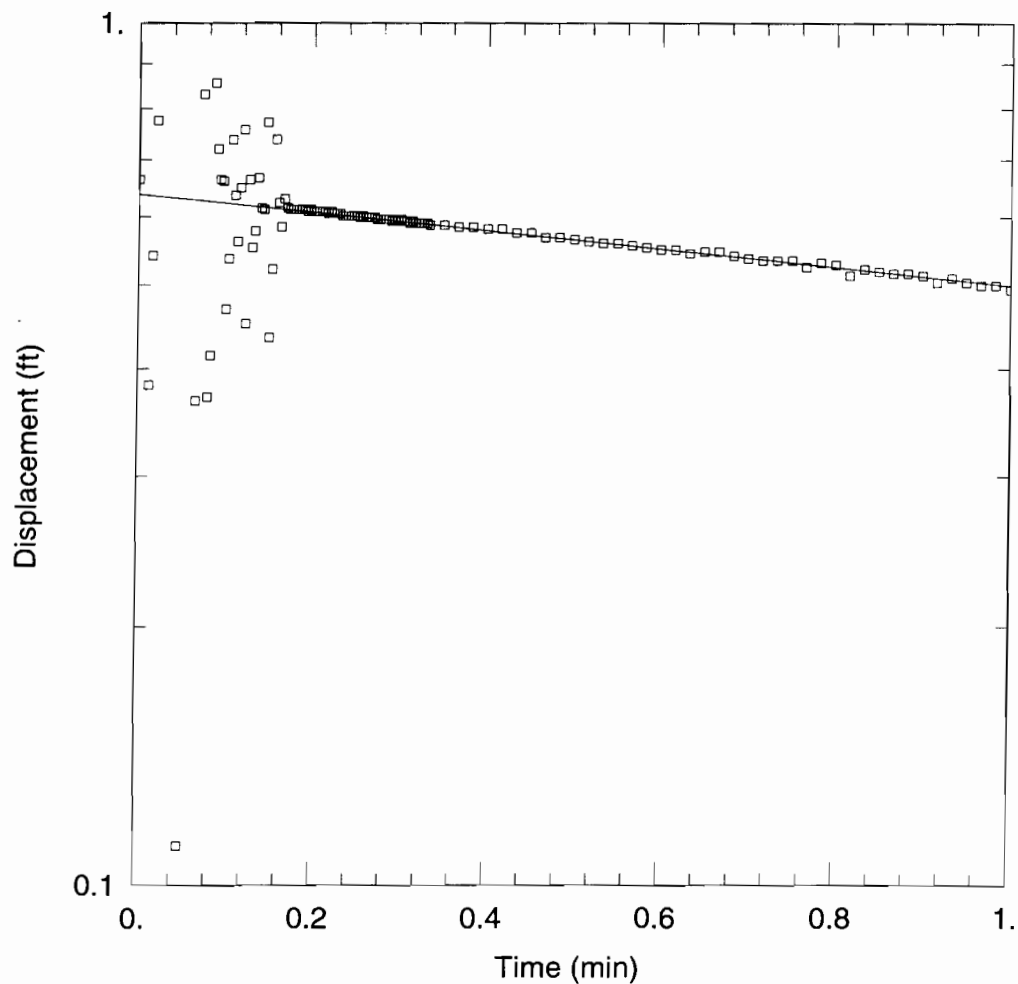
SOLUTION

Aquifer Model: Unconfined

$K = 0.007634$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 2.311$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW1BIN.AQT

Date: 11/13/98

Time: 14:44:08

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 0.664 ft

Water Column Height: 67.43 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

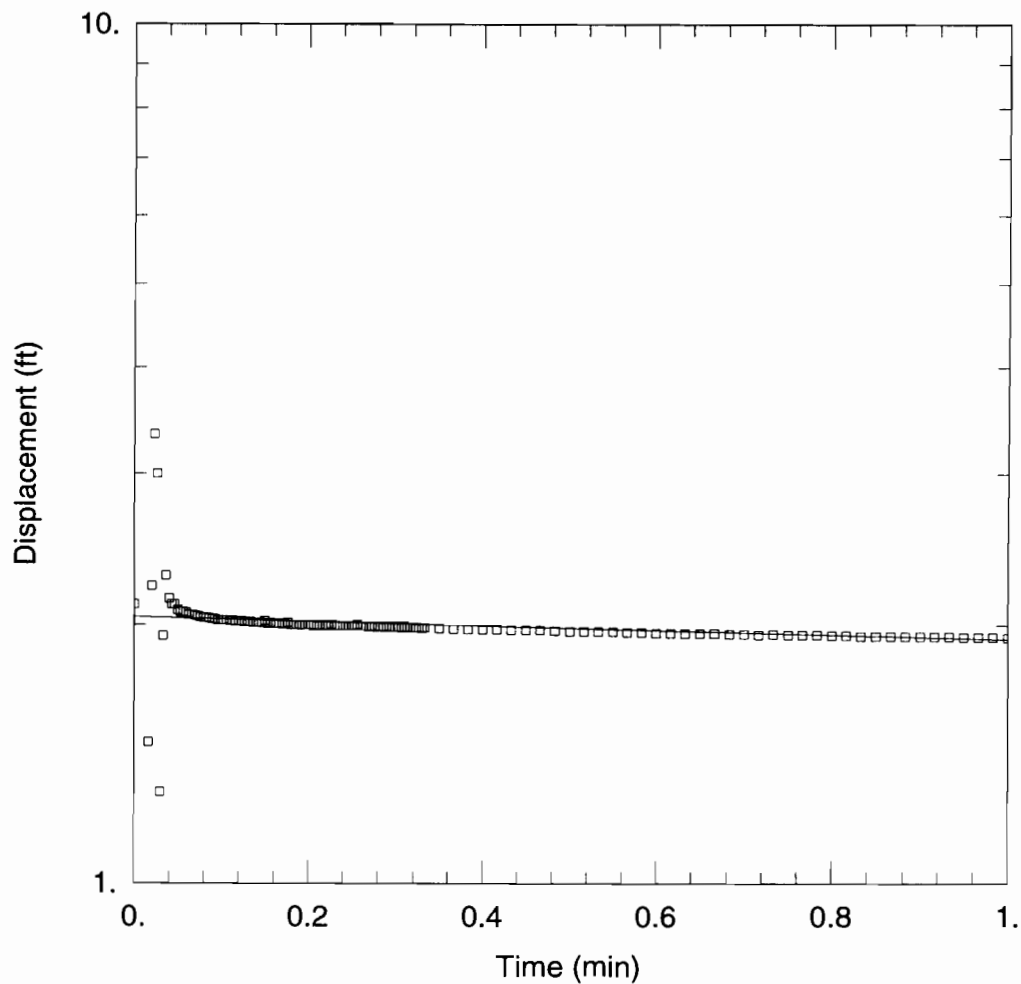
SOLUTION

Aquifer Model: Unconfined

$K = 0.0004234$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 0.6378$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW1BOUT.AQT

Date: 11/13/98

Time: 14:44:31

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 2.113 ft

Water Column Height: 67.43 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

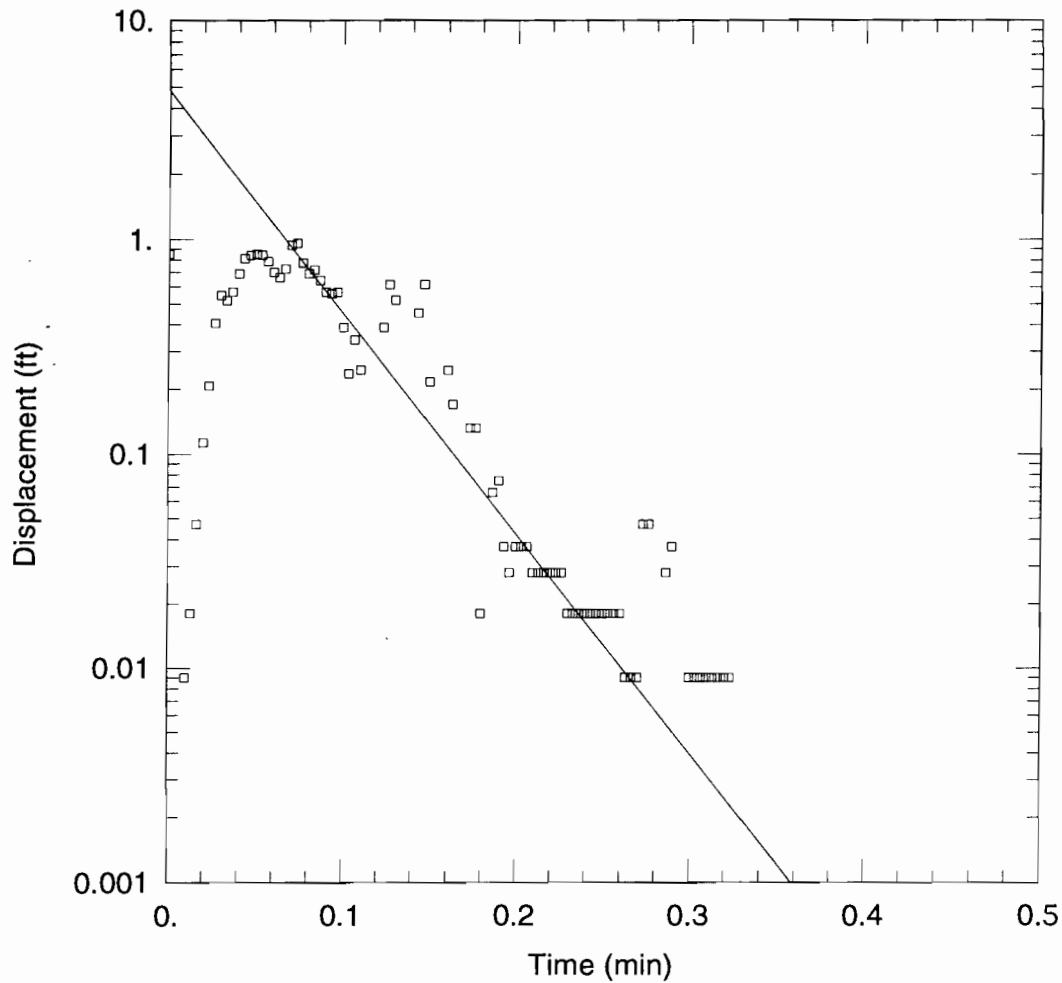
SOLUTION

Aquifer Model: Unconfined

$K = 0.0001028$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 2.044$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW2AIN2.AQT
 Date: 11/13/98 Time: 14:44:54

AQUIFER DATA

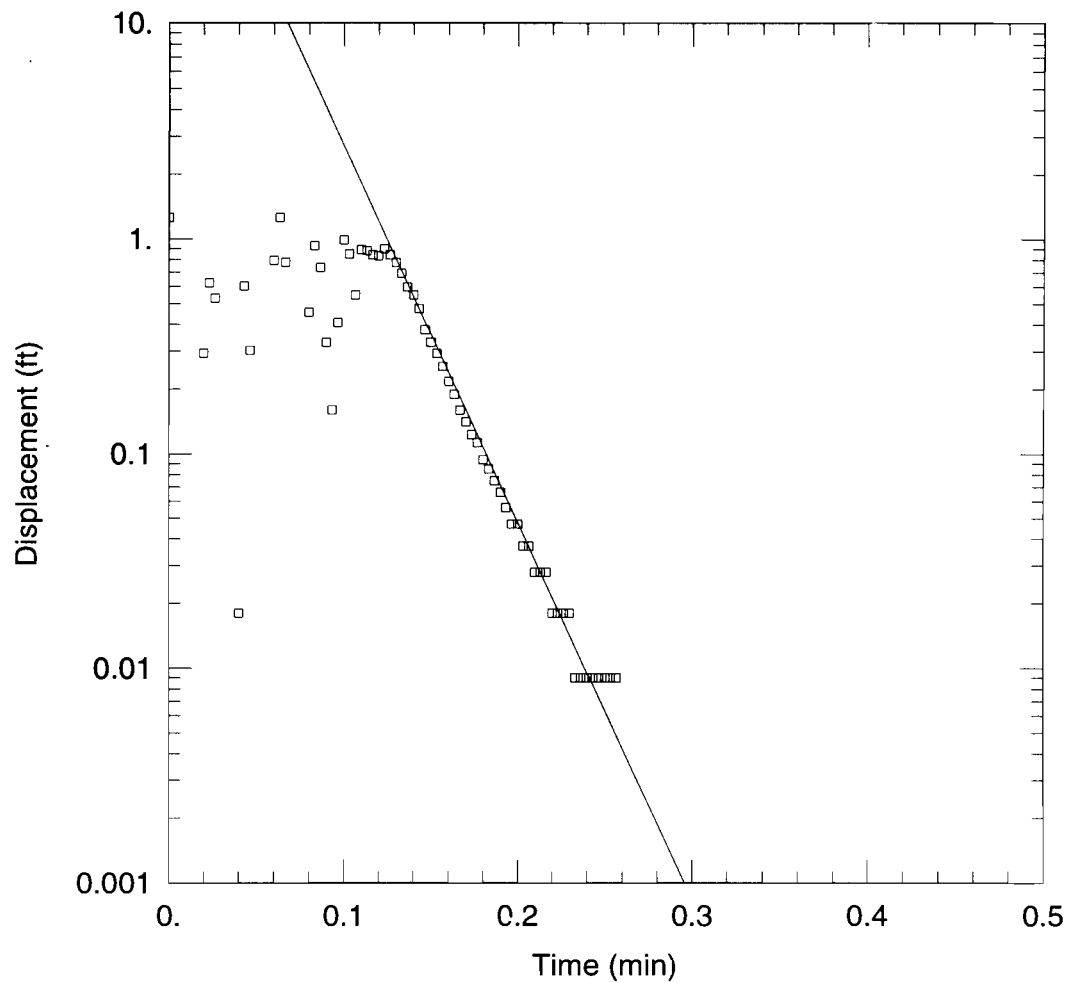
Saturated Thickness: 750. ft Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 0.851 ft Water Column Height: 15.66 ft
 Casing Radius: 0.083 ft Wellbore Radius: 0.3333 ft
 Screen Length: 10. ft

SOLUTION

Aquifer Model: Unconfined $K = 0.0263 \text{ ft/min}$
 Solution Method: Bouwer-Rice $y_0 = 4.771 \text{ ft}$



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW2AOUT3.AQT

Date: 11/13/98

Time: 14:45:24

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.258 ft

Water Column Height: 15.66 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

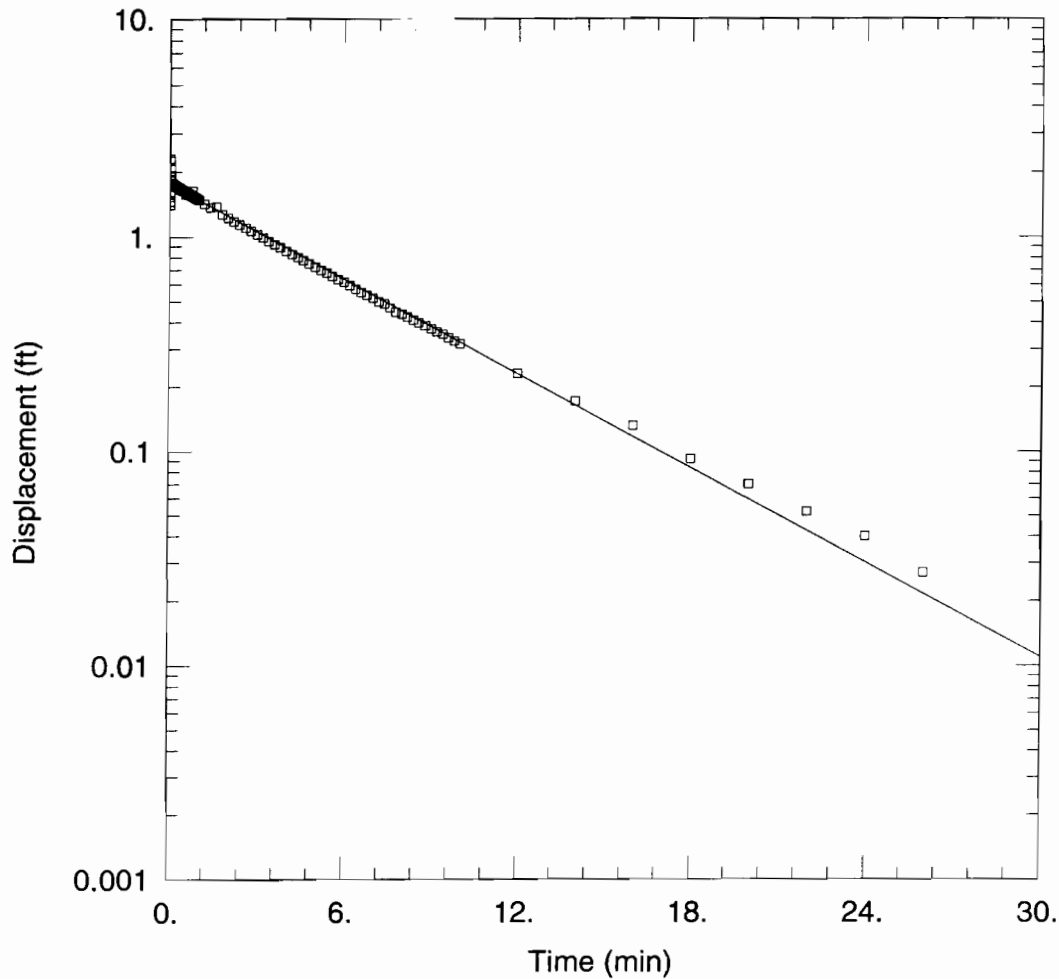
SOLUTION

Aquifer Model: Unconfined

$K = 0.045$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 154.$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW2BIN.AQT

Date: 11/13/98

Time: 14:45:35

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.859 ft

Water Column Height: 70.8 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

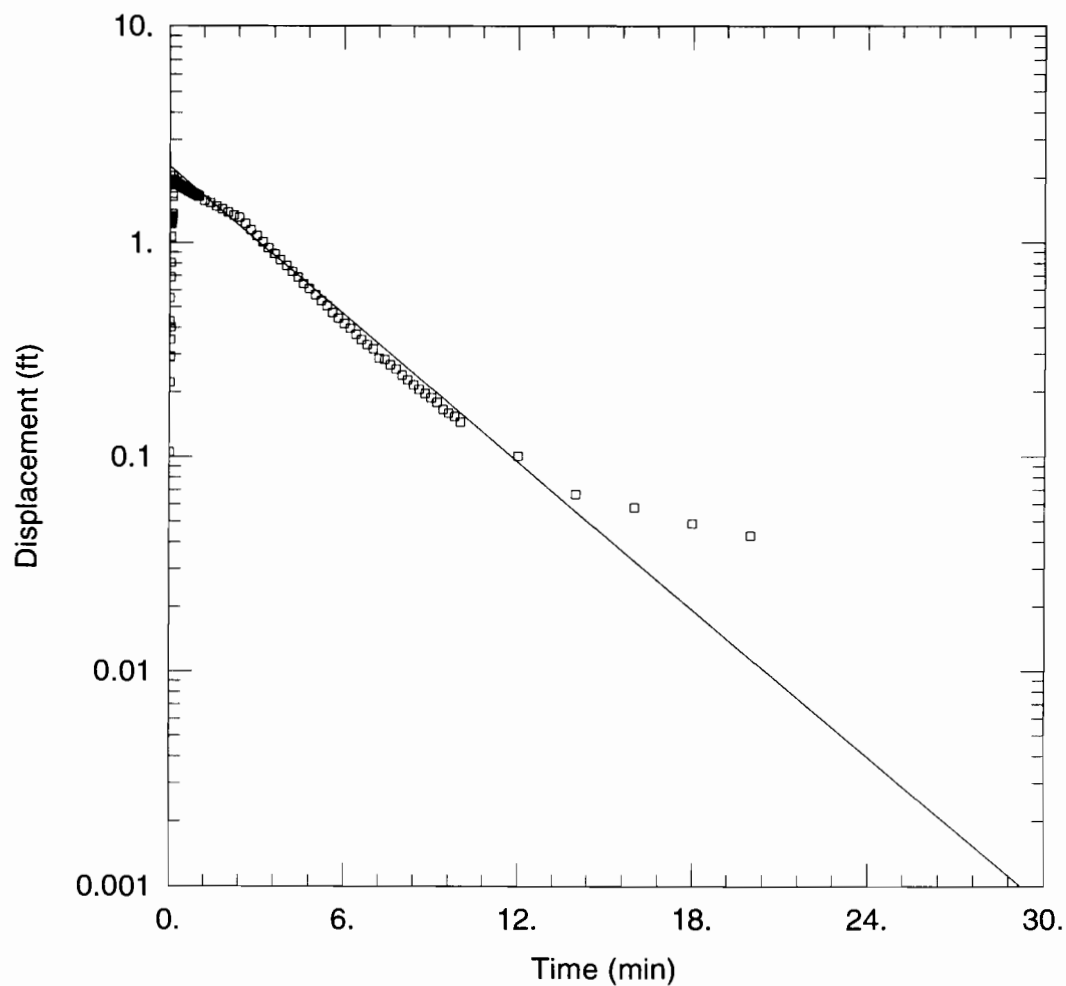
SOLUTION

Aquifer Model: Unconfined

$K = 0.0002944$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.752$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW2BOUT.AQT

Date: 11/13/98

Time: 14:45:48

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 2.037 ft

Water Column Height: 70.8 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

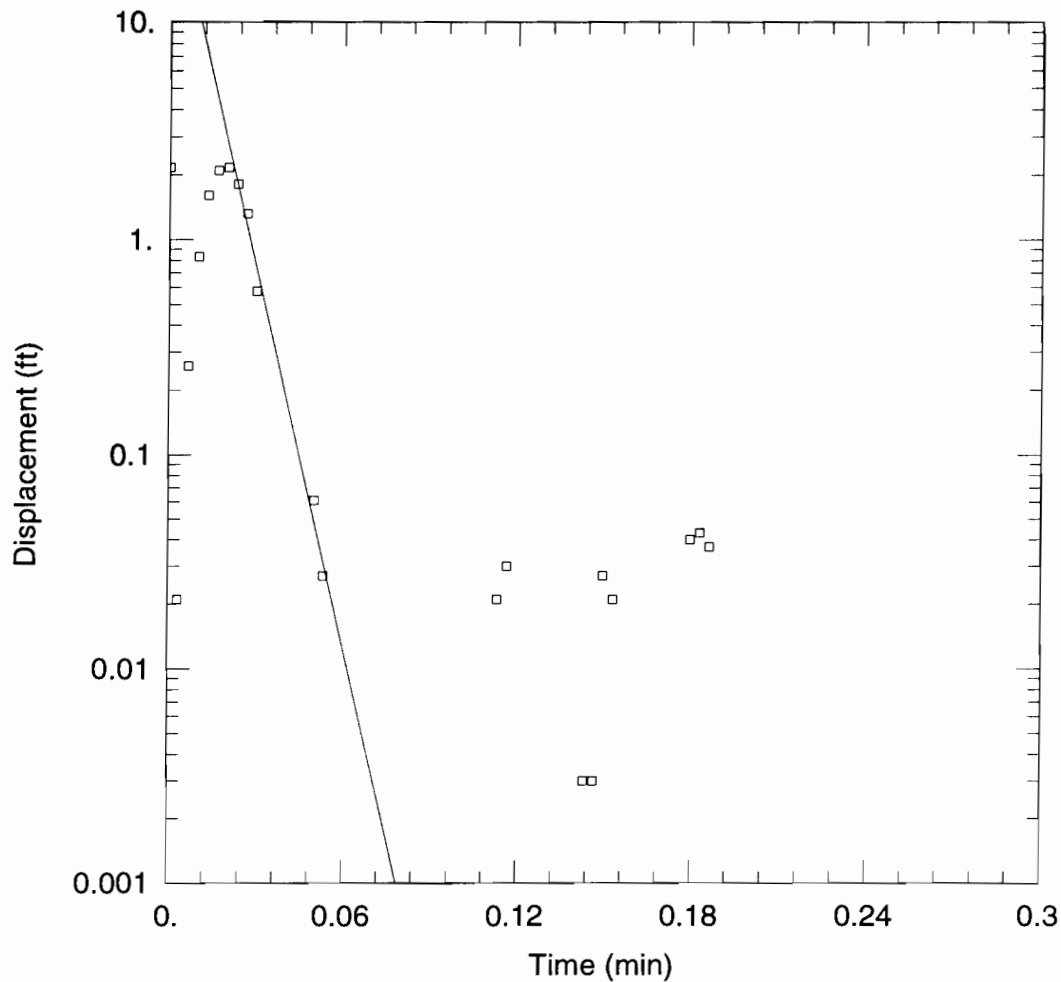
SOLUTION

Aquifer Model: Unconfined

$K = 0.0004603$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 2.254$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW3AIN.AQT

Date: 11/13/98

Time: 14:46:09

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 2.175 ft

Water Column Height: 15.7 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

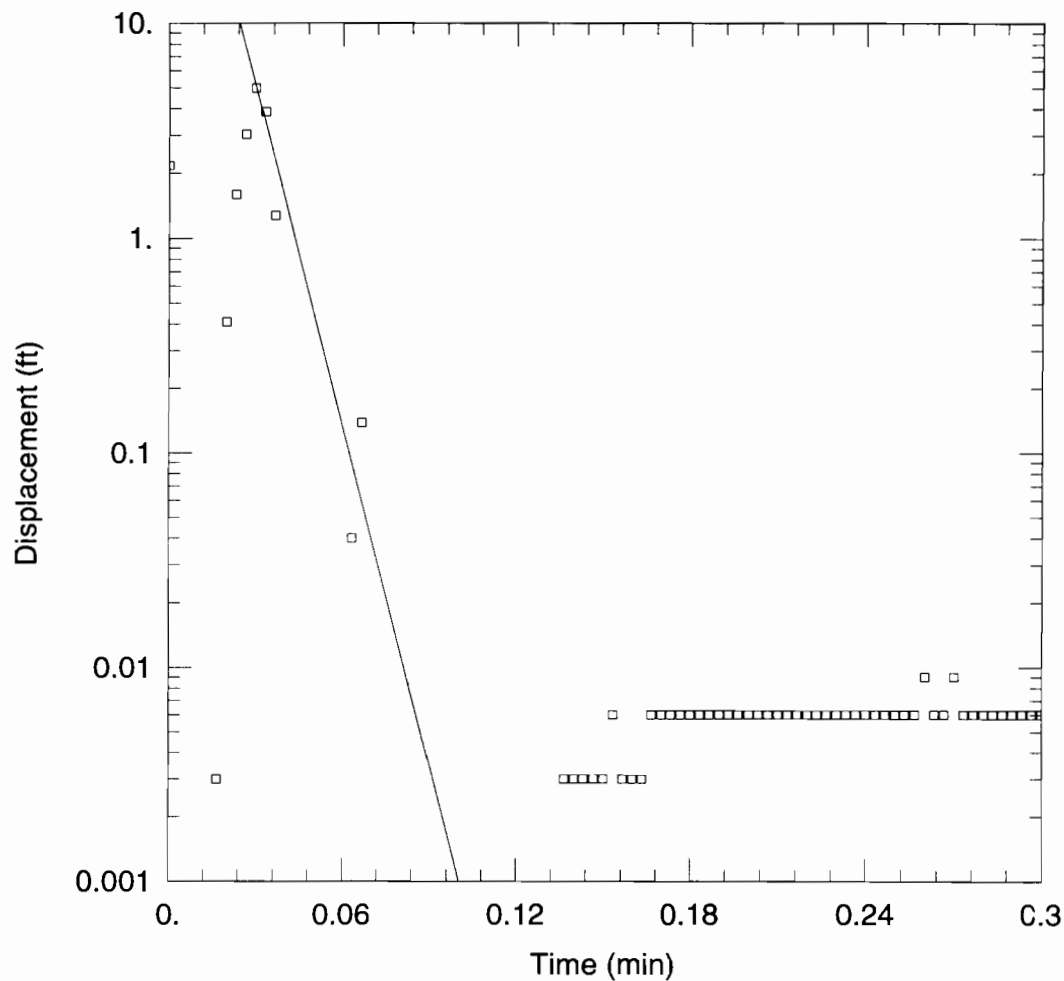
SOLUTION

Aquifer Model: Unconfined

$K = 0.1505$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 41.6$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW3AOUT.AQT

Date: 11/16/98

Time: 13:53:00

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 2.175 ft

Water Column Height: 15.7 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

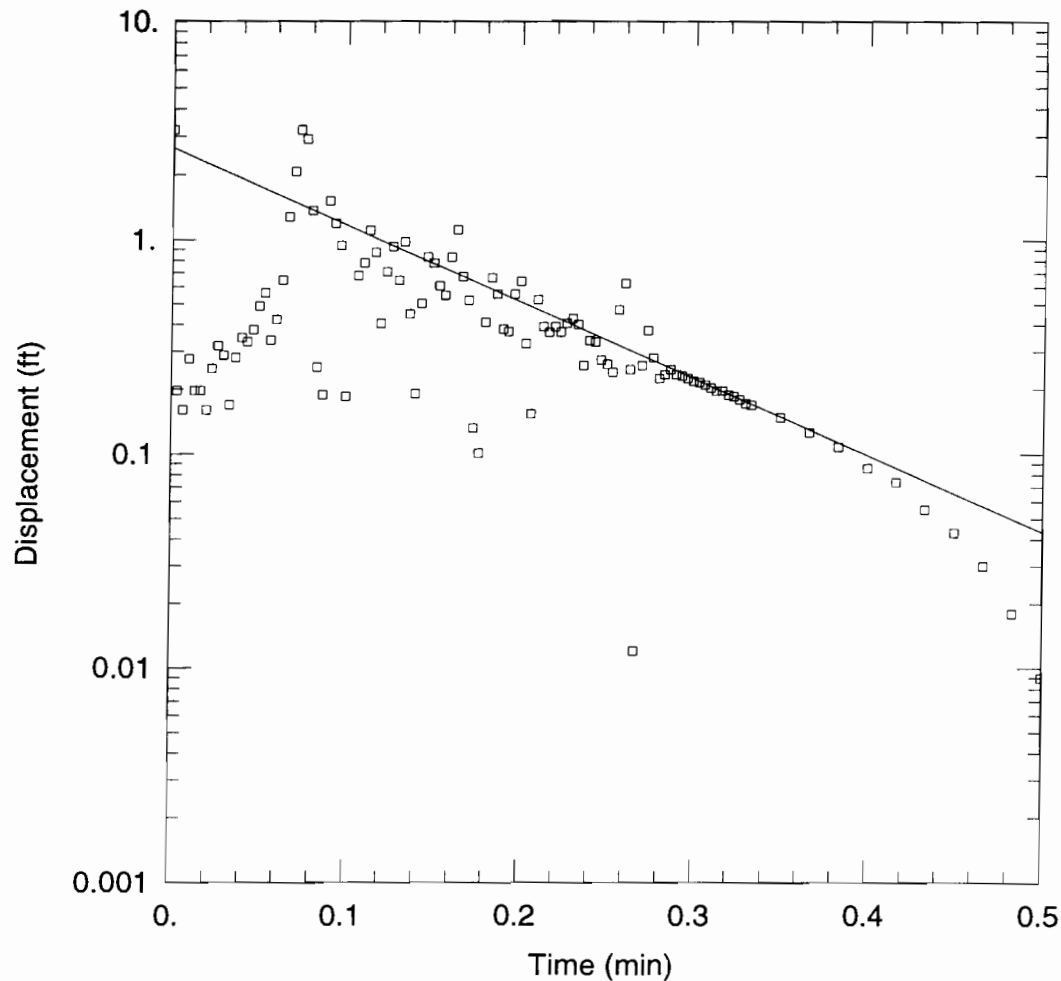
SOLUTION

Aquifer Model: Unconfined

$K = 0.1354$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 193.6$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW3BIN.AQT

Date: 11/13/98

Time: 14:46:38

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 3.213 ft

Water Column Height: 90.03 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

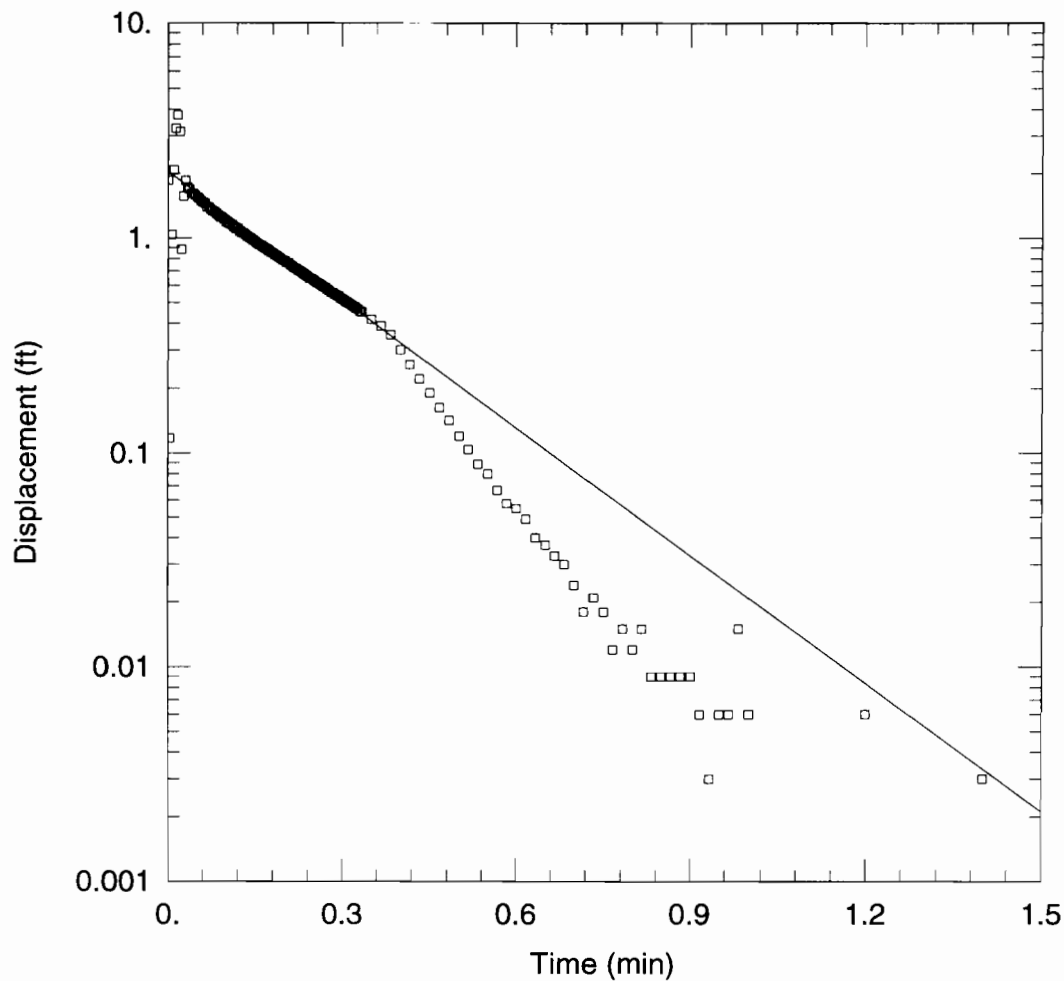
SOLUTION

Aquifer Model: Unconfined

$K = 0.01467$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 2.659$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW3BOUT.AQT

Date: 11/13/98

Time: 14:47:16

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.858 ft

Water Column Height: 90.03 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

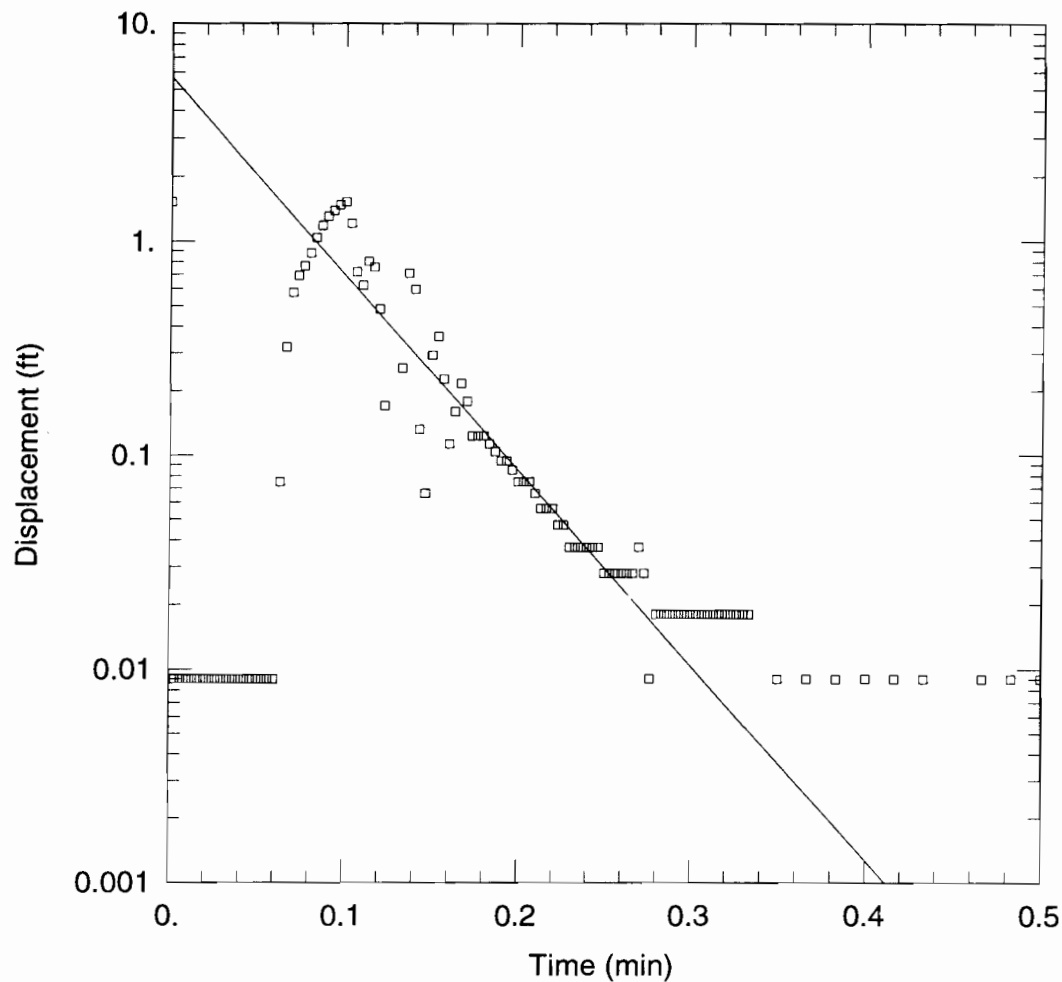
SOLUTION

Aquifer Model: Unconfined

$K = 0.008152$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 2.034$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW4AIN2.AQT

Date: 11/13/98

Time: 14:49:22

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.524 ft

Water Column Height: 16.37 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

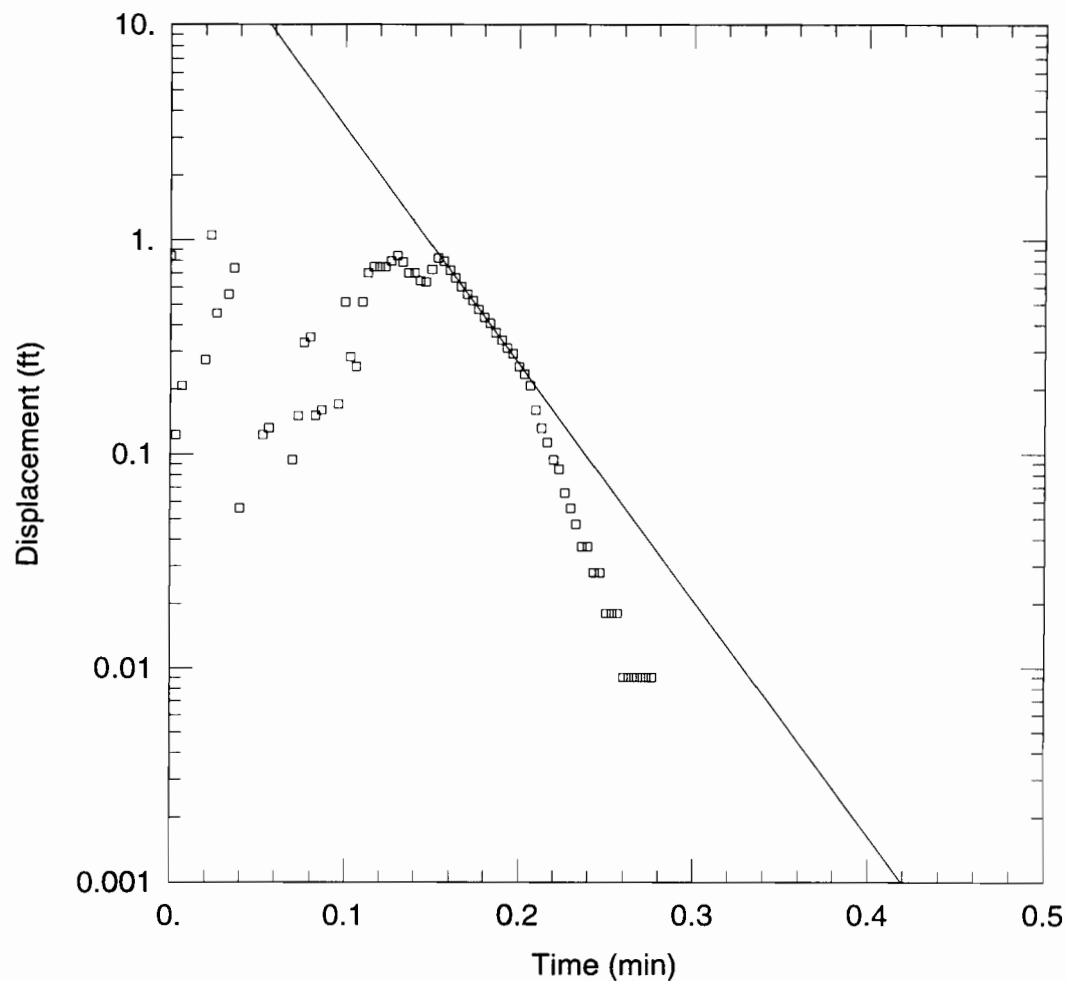
SOLUTION

Aquifer Model: Unconfined

$K = 0.02353$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 5.65$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW4AOUT2.AQT

Date: 11/13/98

Time: 14:50:13

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 0.842 ft

Water Column Height: 16.37 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

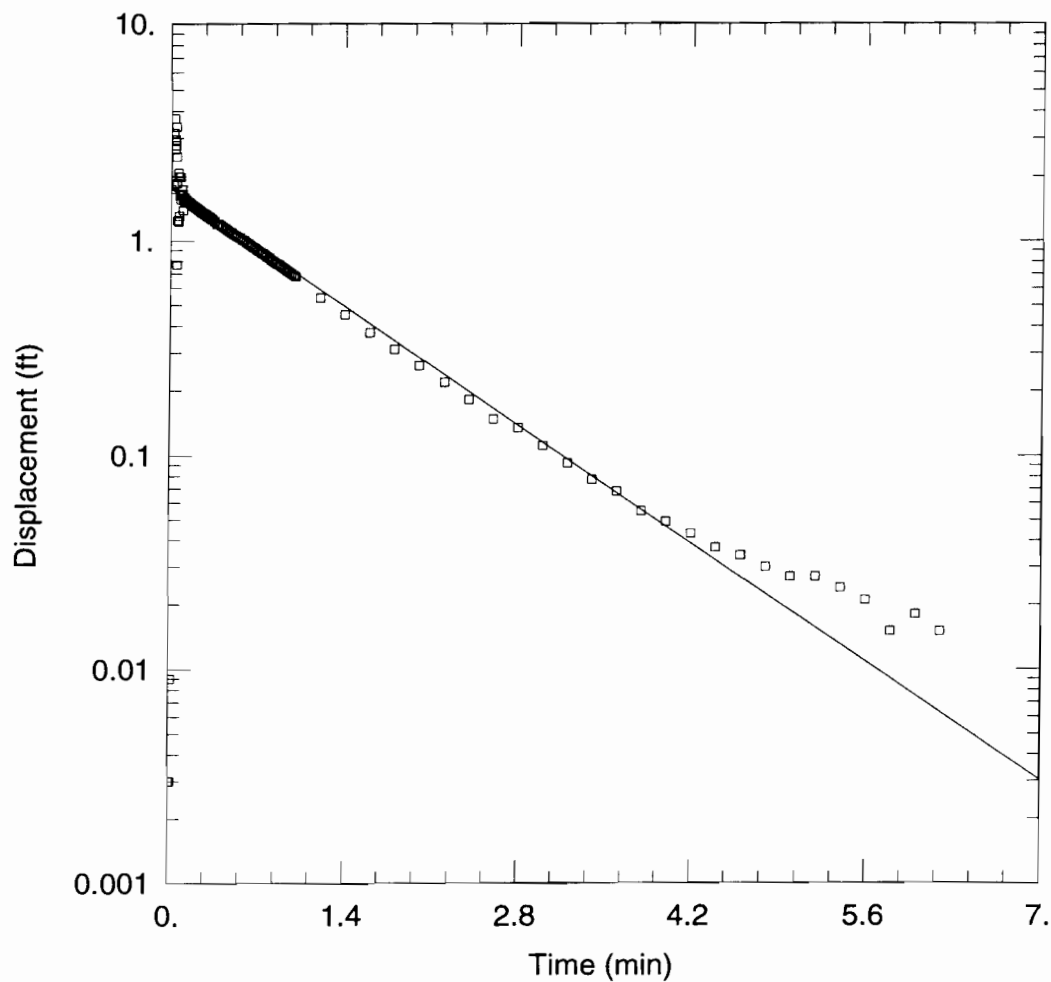
SOLUTION

Aquifer Model: Unconfined

$K = 0.02849$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 42.44$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW4BIN.AQT

Date: 11/16/98

Time: 13:48:22

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.739 ft

Water Column Height: 17.45 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

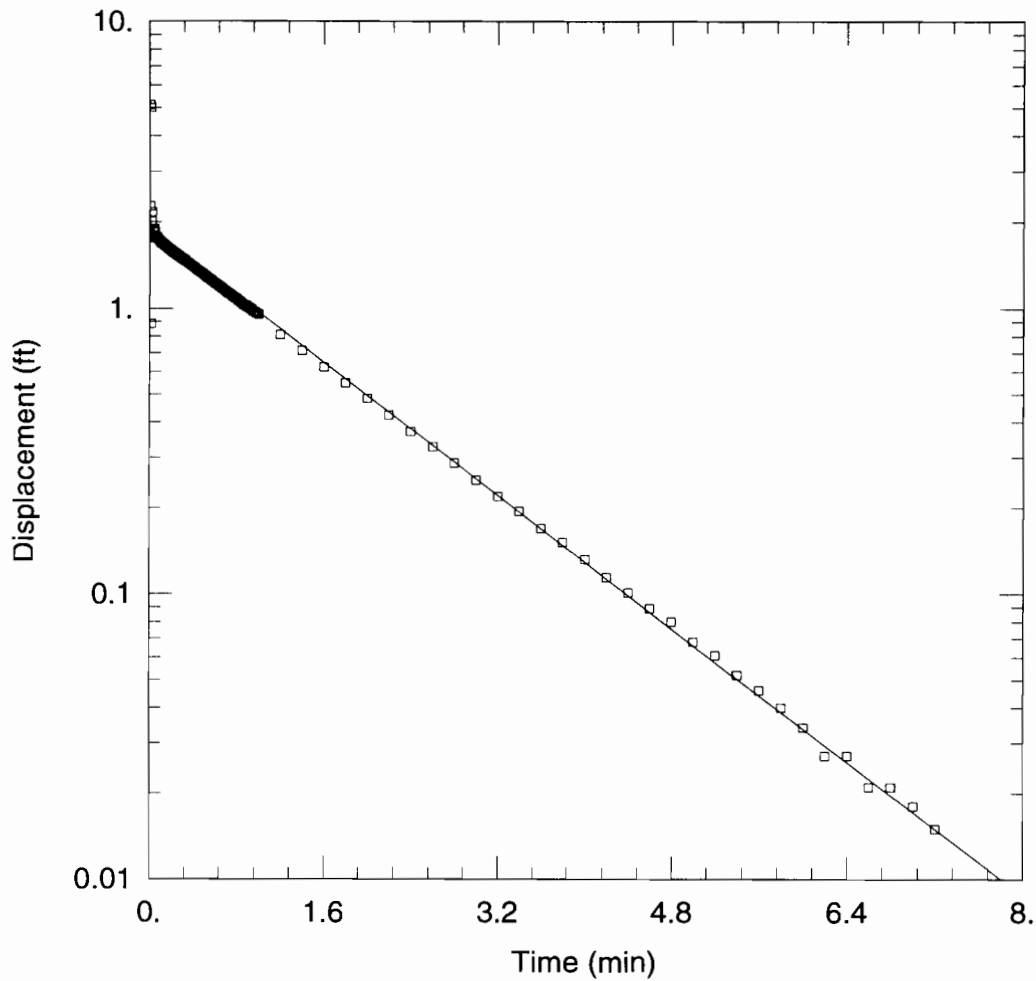
SOLUTION

Aquifer Model: Unconfined

$K = 0.001358$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.746$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW4BOUT.AQT

Date: 11/16/98

Time: 13:48:32

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.892 ft

Water Column Height: 98.38 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

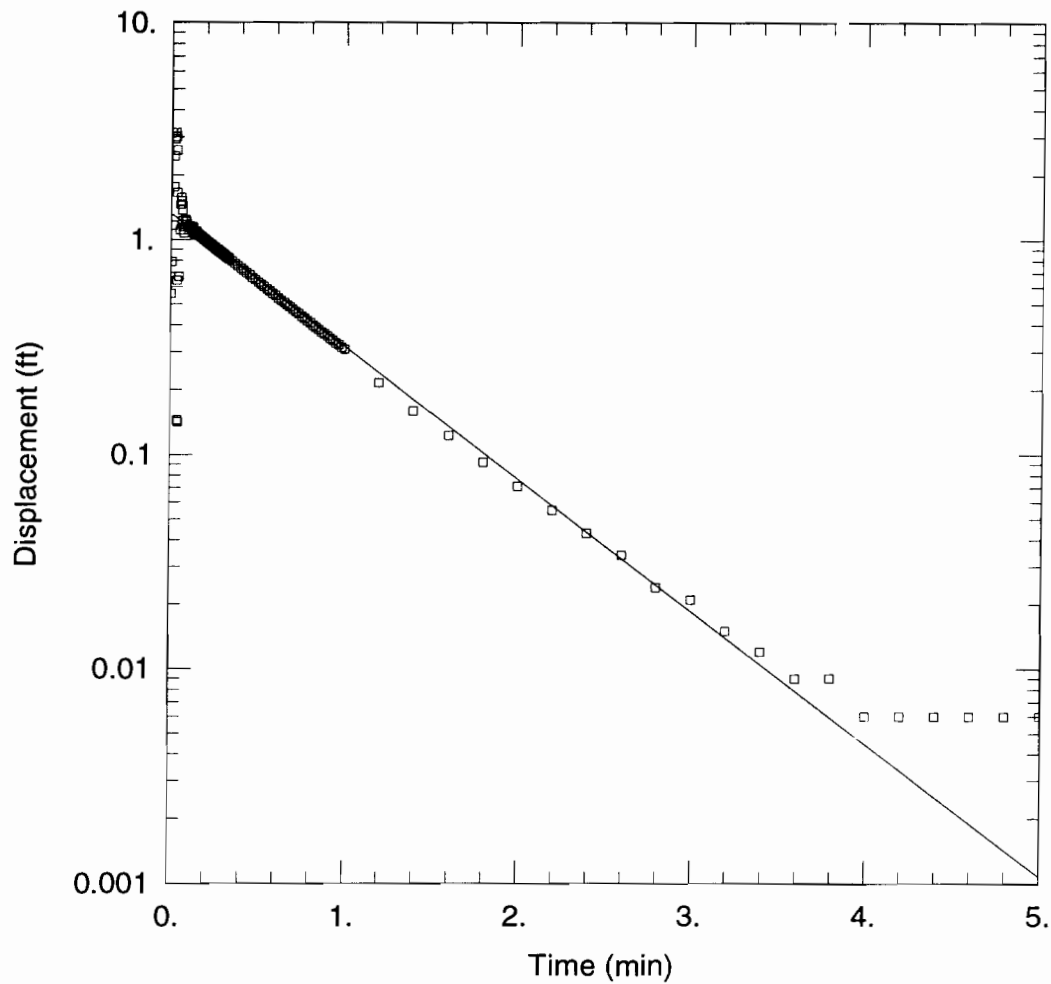
SOLUTION

Aquifer Model: Unconfined

$K = 0.001208$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.904$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW5AIN.AQT

Date: 11/13/98

Time: 14:50:26

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 3.138 ft

Water Column Height: 22.79 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

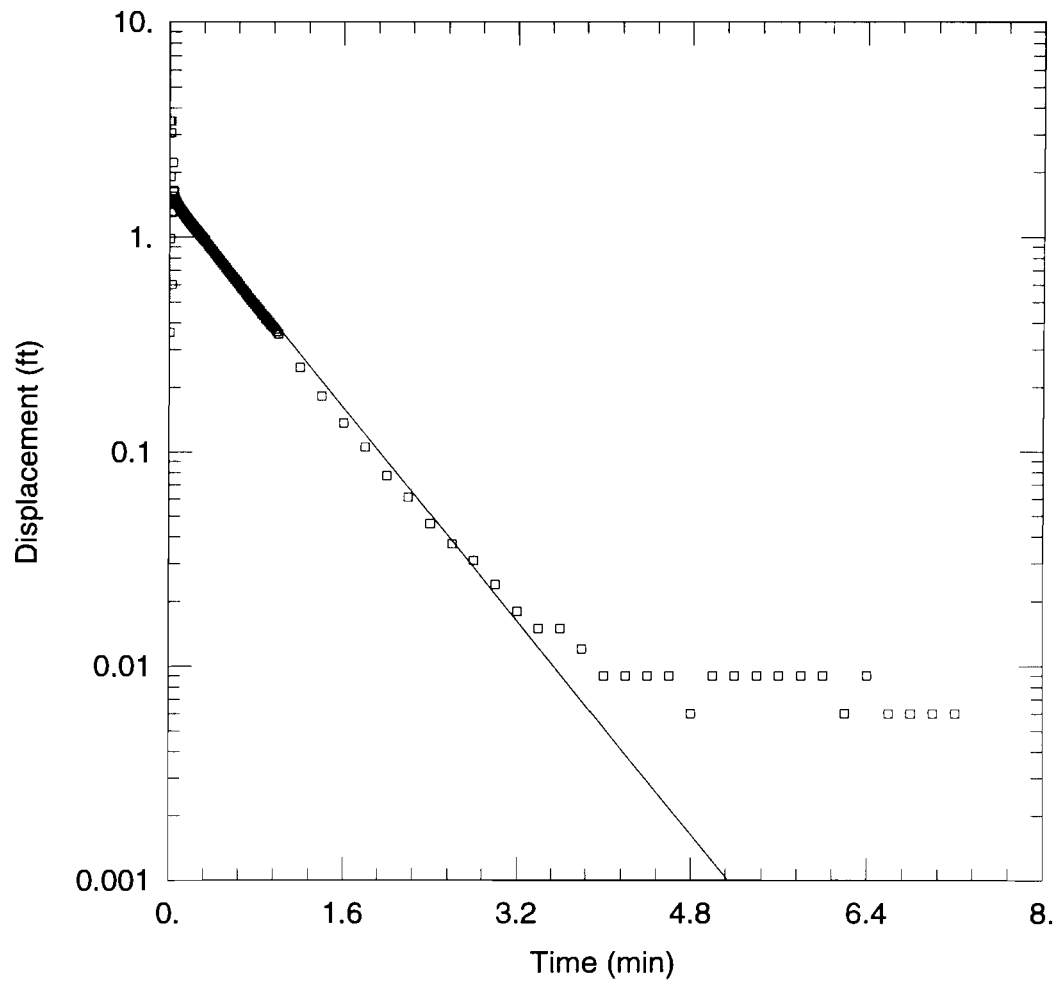
SOLUTION

Aquifer Model: Unconfined

$K = 0.001667$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.32$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW5AOUT.AQT

Date: 11/13/98

Time: 14:50:37

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 3.474 ft

Water Column Height: 22.79 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

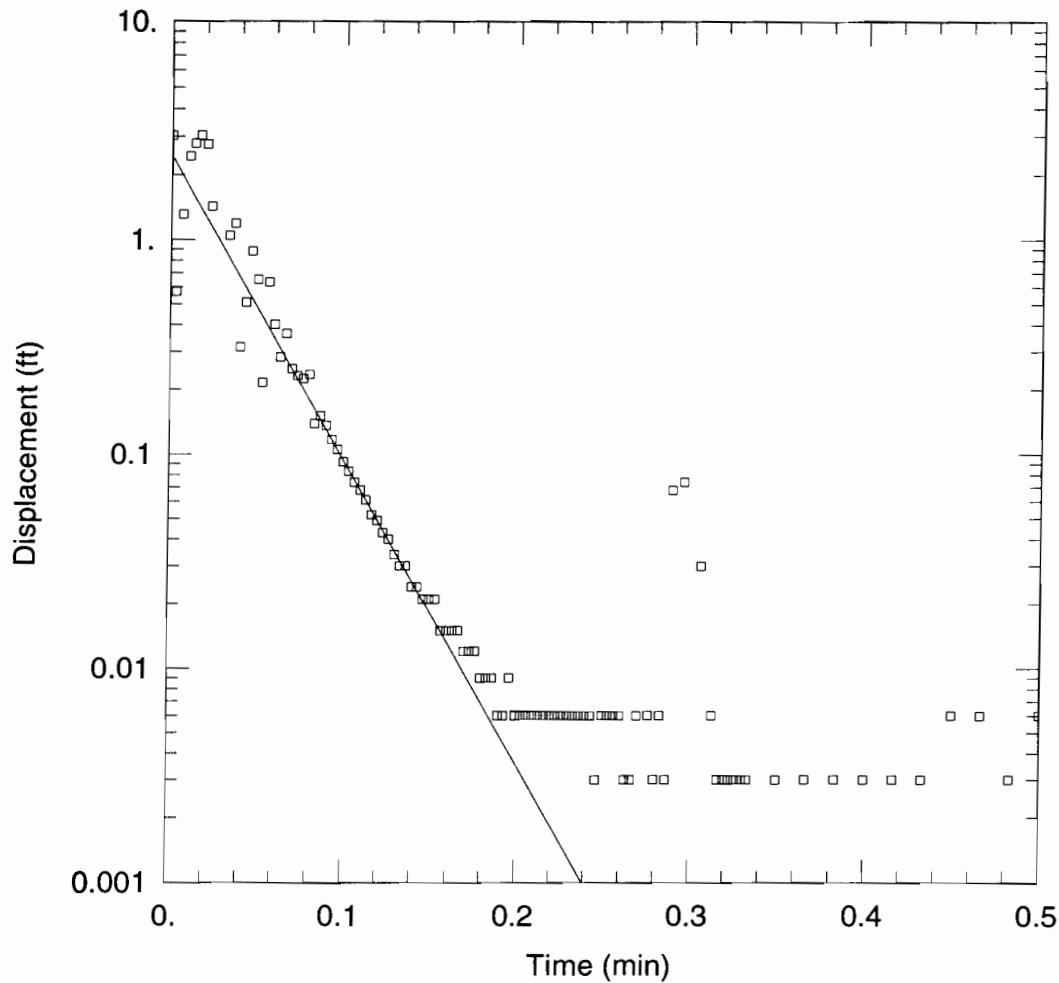
SOLUTION

Aquifer Model: Unconfined

$K = 0.00168$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.593$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW5BIN.AQT
 Date: 11/13/98 Time: 14:51:11

AQUIFER DATA

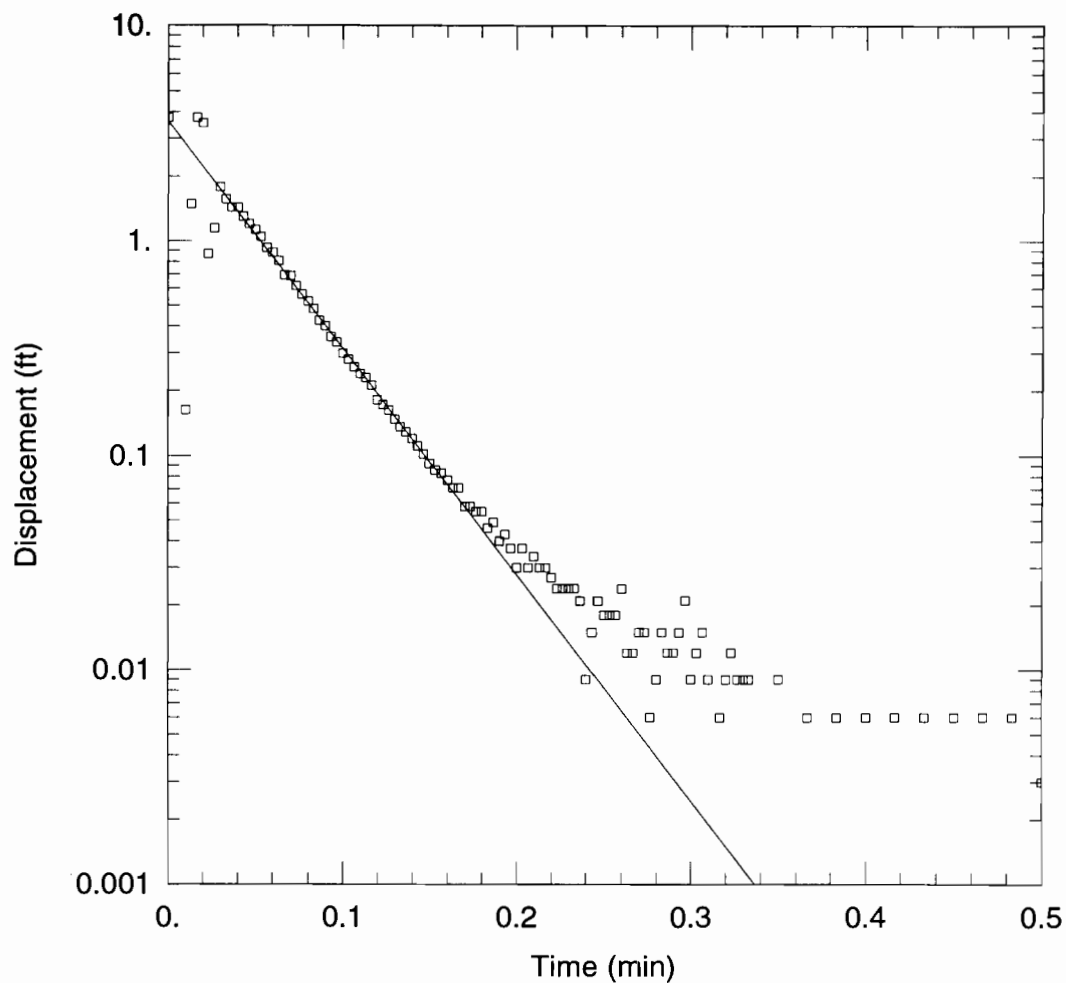
Saturated Thickness: 750. ft Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 3.032 ft Water Column Height: 92.12 ft
 Casing Radius: 0.083 ft Wellbore Radius: 0.3333 ft
 Screen Length: 10. ft

SOLUTION

Aquifer Model: Unconfined $K = 0.05808$ ft/min
 Solution Method: Bouwer-Rice $y_0 = 2.43$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW5BOUT.AQT

Date: 11/13/98

Time: 14:51:36

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 3.757 ft

Water Column Height: 92.12 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

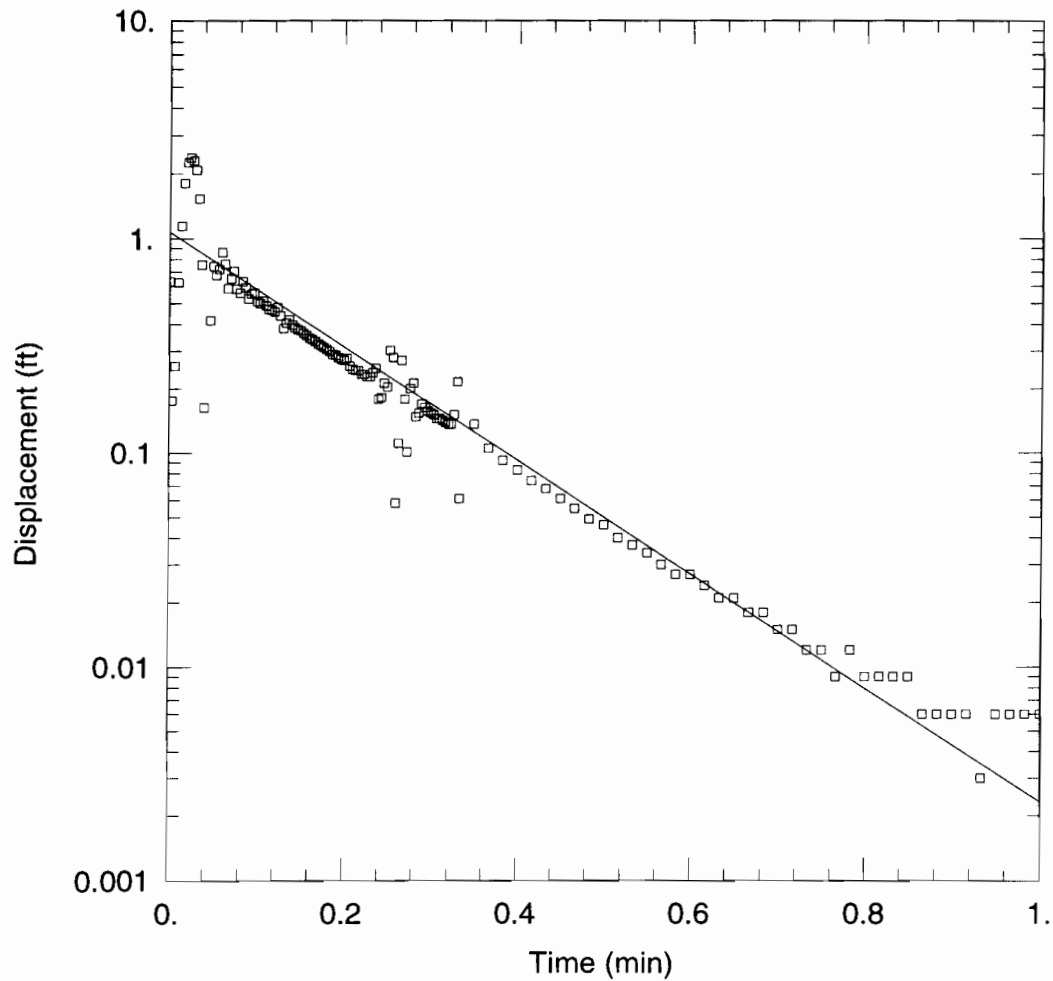
SOLUTION

Aquifer Model: Unconfined

$K = 0.04339$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 3.602$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW6AIN.AQT

Date: 11/13/98

Time: 14:52:03

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 0.633 ft

Water Column Height: 21.77 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

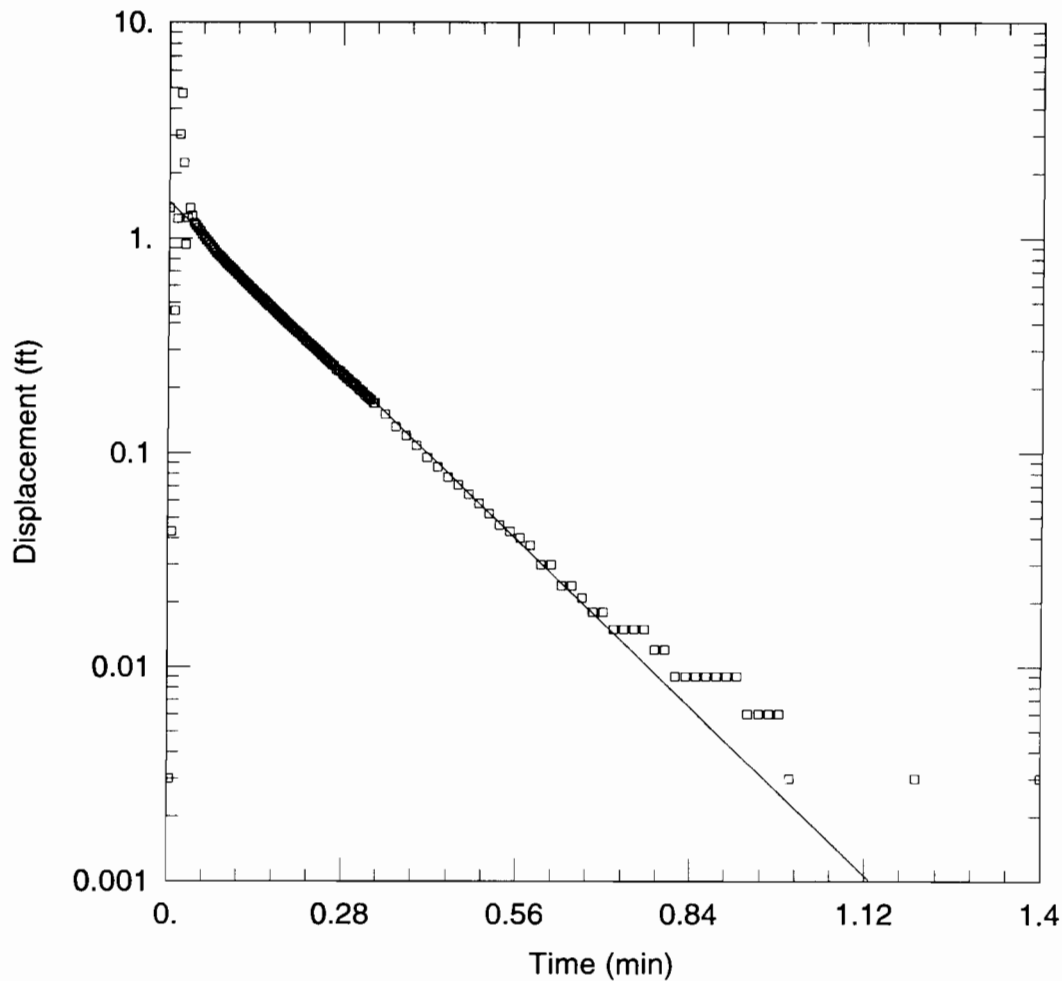
SOLUTION

Aquifer Model: Unconfined

$K = 0.007135$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.068$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW6AOUT.AQT

Date: 11/13/98

Time: 14:52:19

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.381 ft

Water Column Height: 21.77 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

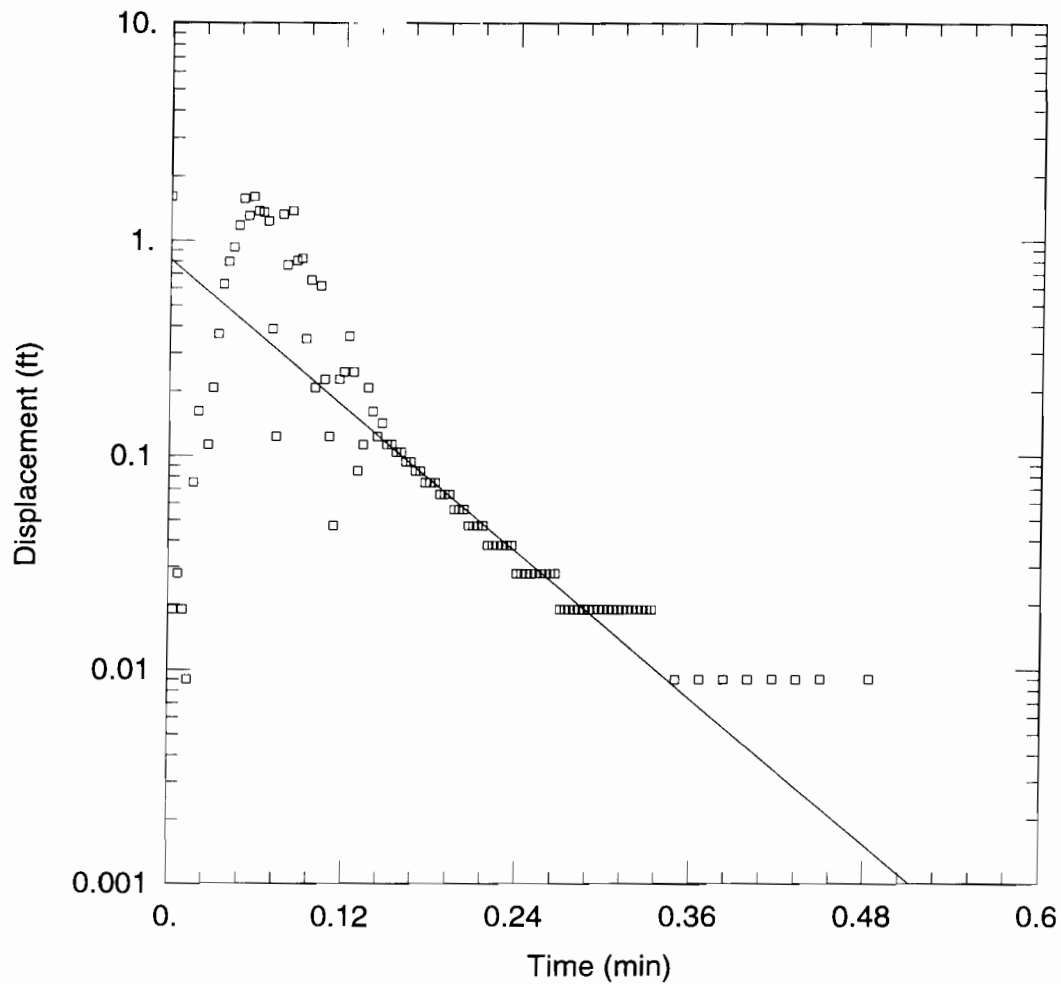
SOLUTION

Aquifer Model: Unconfined

$K = 0.007534$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.48$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW6BIN2.AQT

Date: 11/16/98

Time: 13:49:49

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.602 ft

Water Column Height: 99.2 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

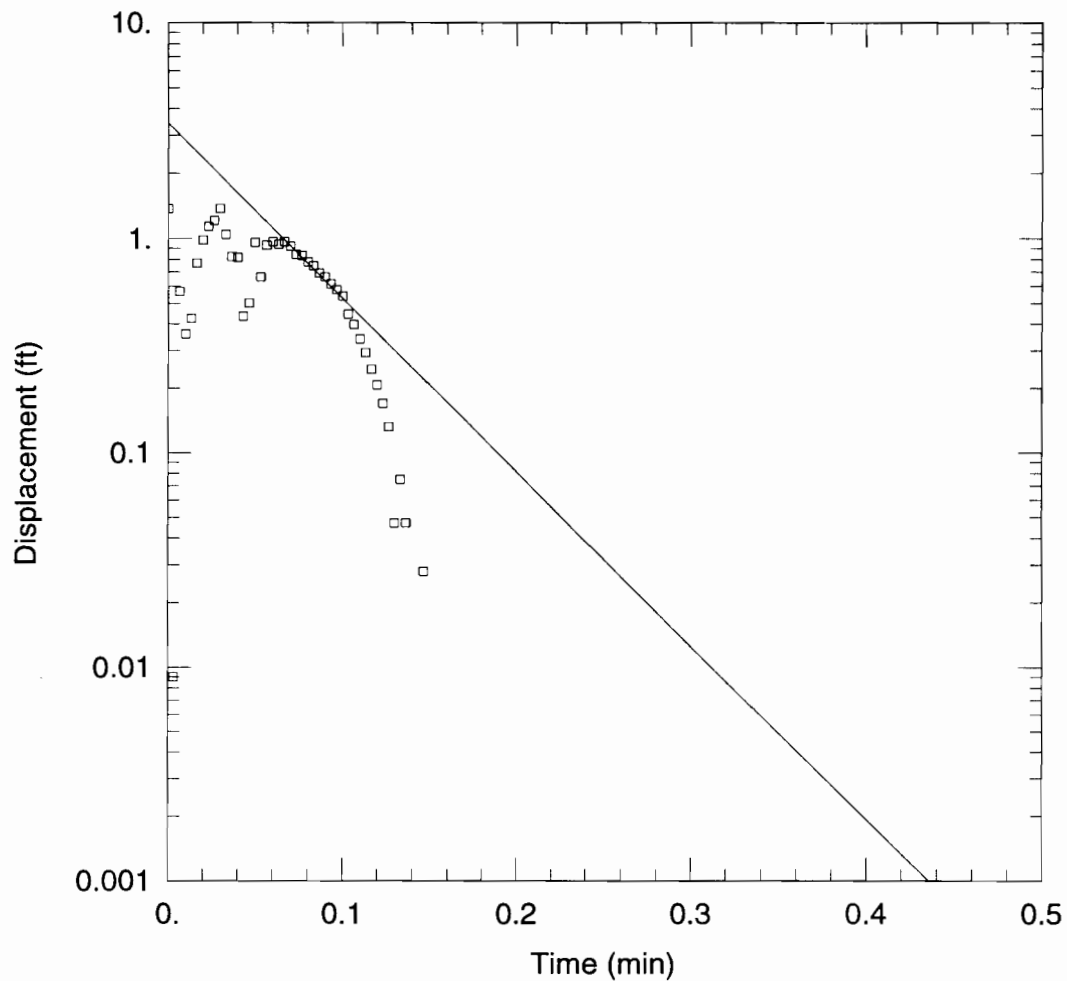
SOLUTION

Aquifer Model: Unconfined

$K = 0.02351$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 0.8137$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW6BOUT2.AQT

Date: 11/16/98

Time: 13:34:55

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.374 ft

Water Column Height: 99.2 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

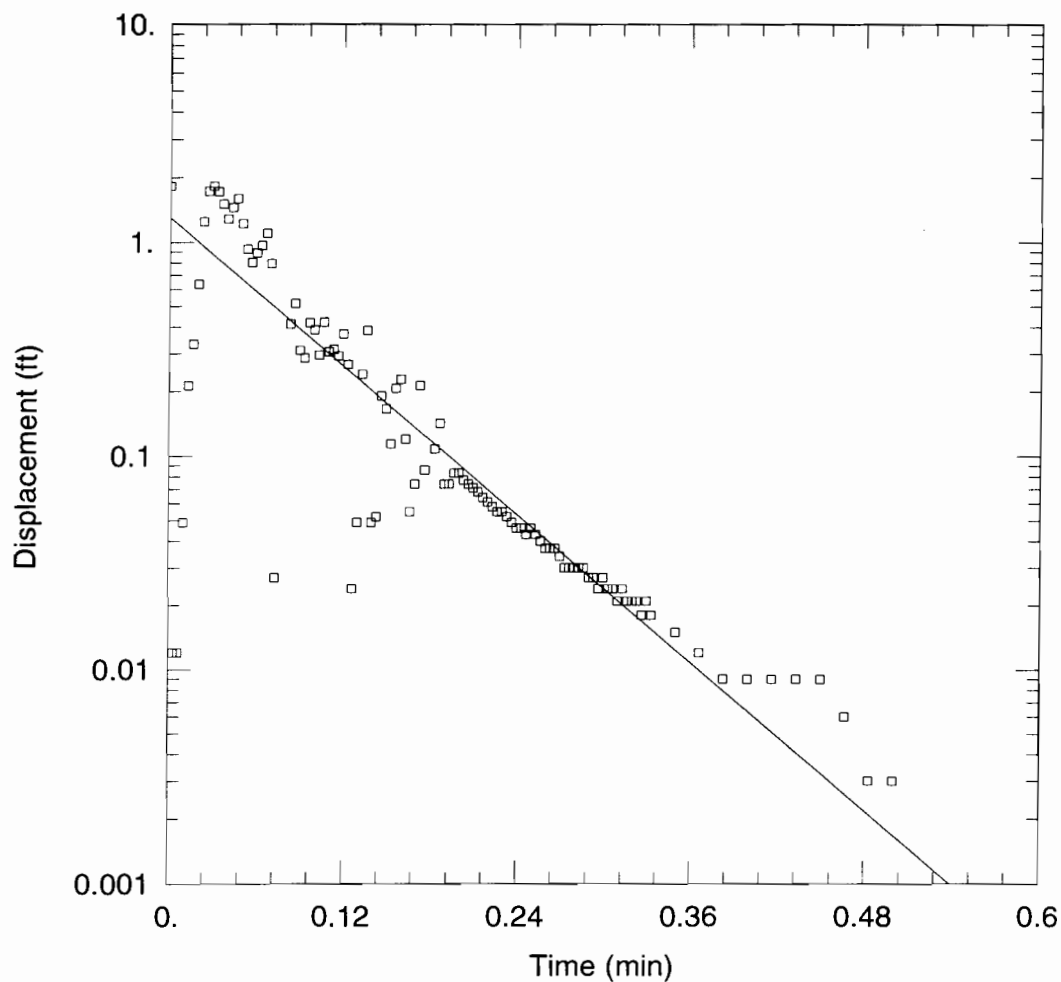
SOLUTION

Aquifer Model: Unconfined

$K = 0.03357$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 3.416$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW7AIN.AQT

Date: 11/16/98

Time: 13:36:01

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.829 ft

Water Column Height: 18.7 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

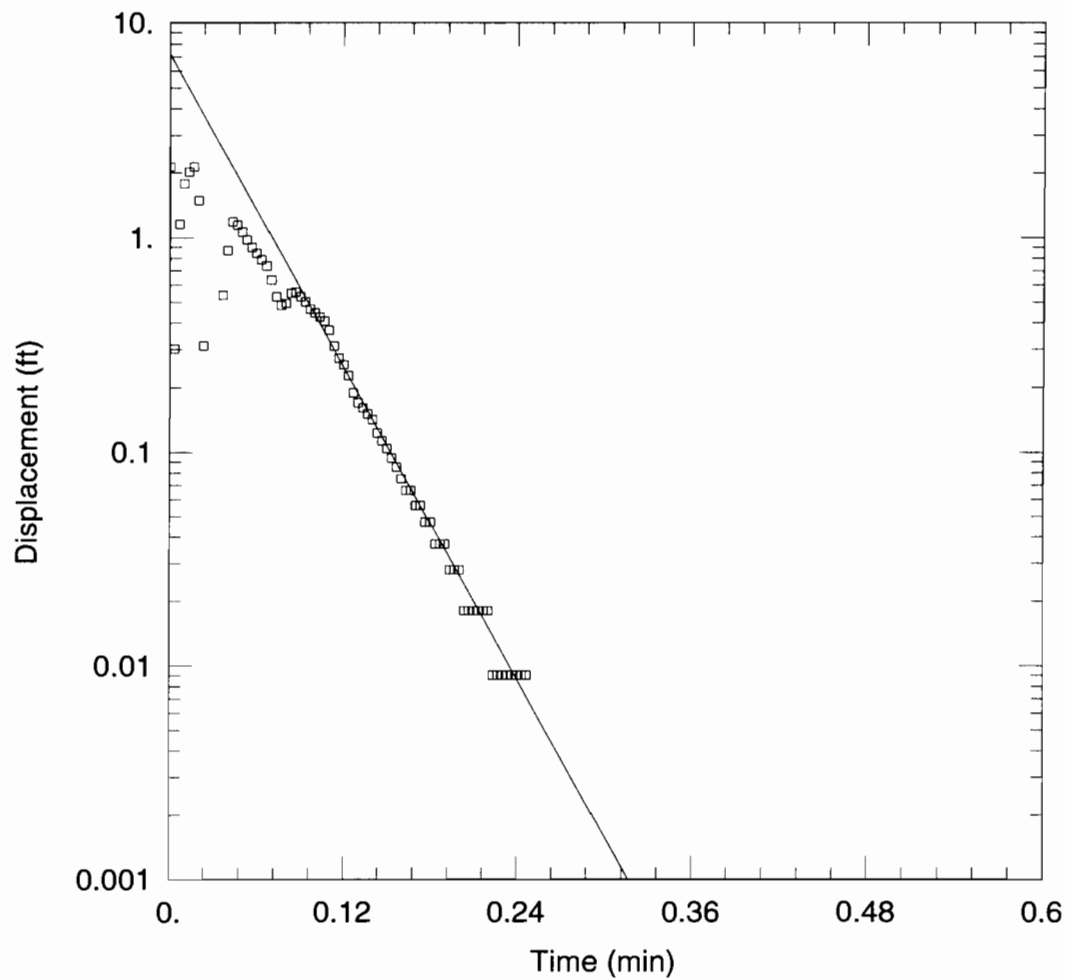
SOLUTION

Aquifer Model: Unconfined

$K = 0.01518$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.298$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW7AOUT2.AQT

Date: 11/16/98

Time: 13:36:29

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 2.139 ft

Water Column Height: 17.49 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

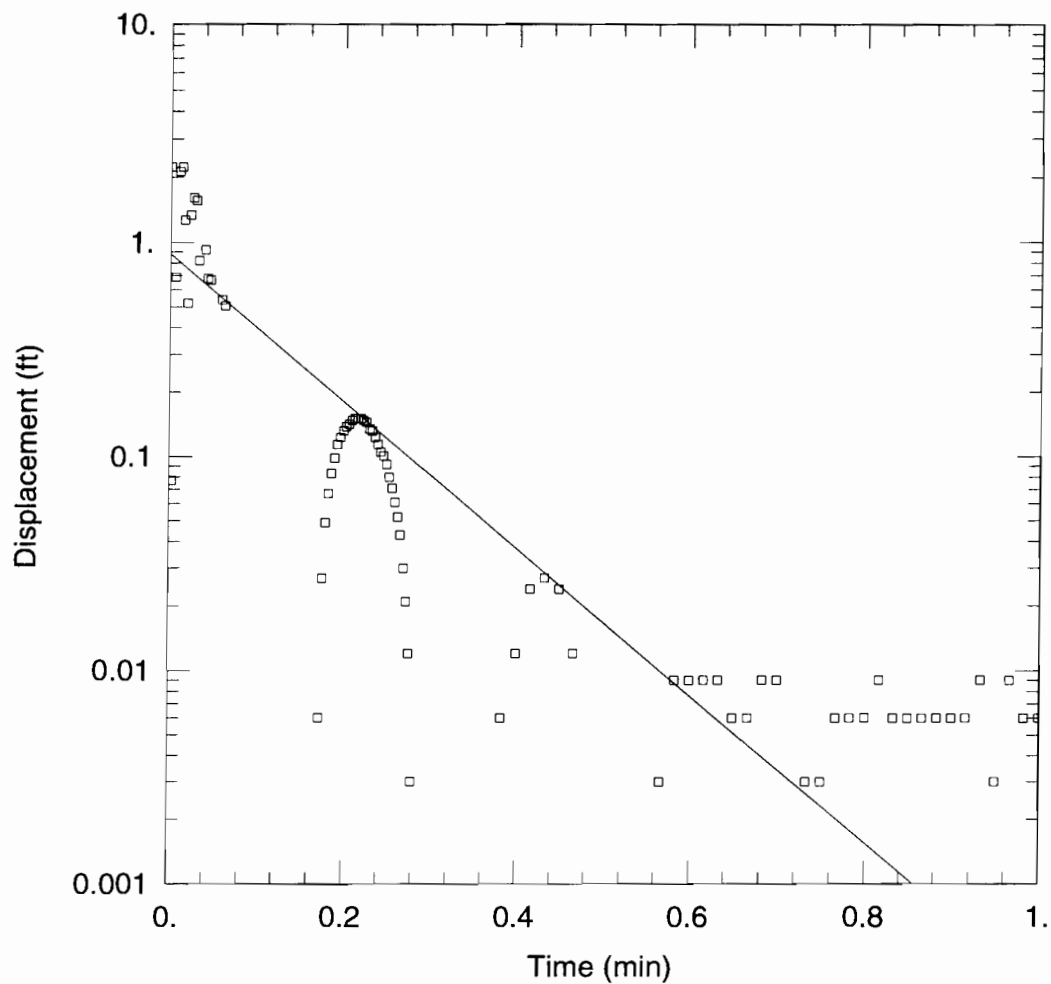
SOLUTION

Aquifer Model: Unconfined

$K = 0.03171$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 7.165$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW7BIN.AQT

Date: 11/16/98

Time: 13:55:12

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 2.236 ft

Water Column Height: 97.07 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

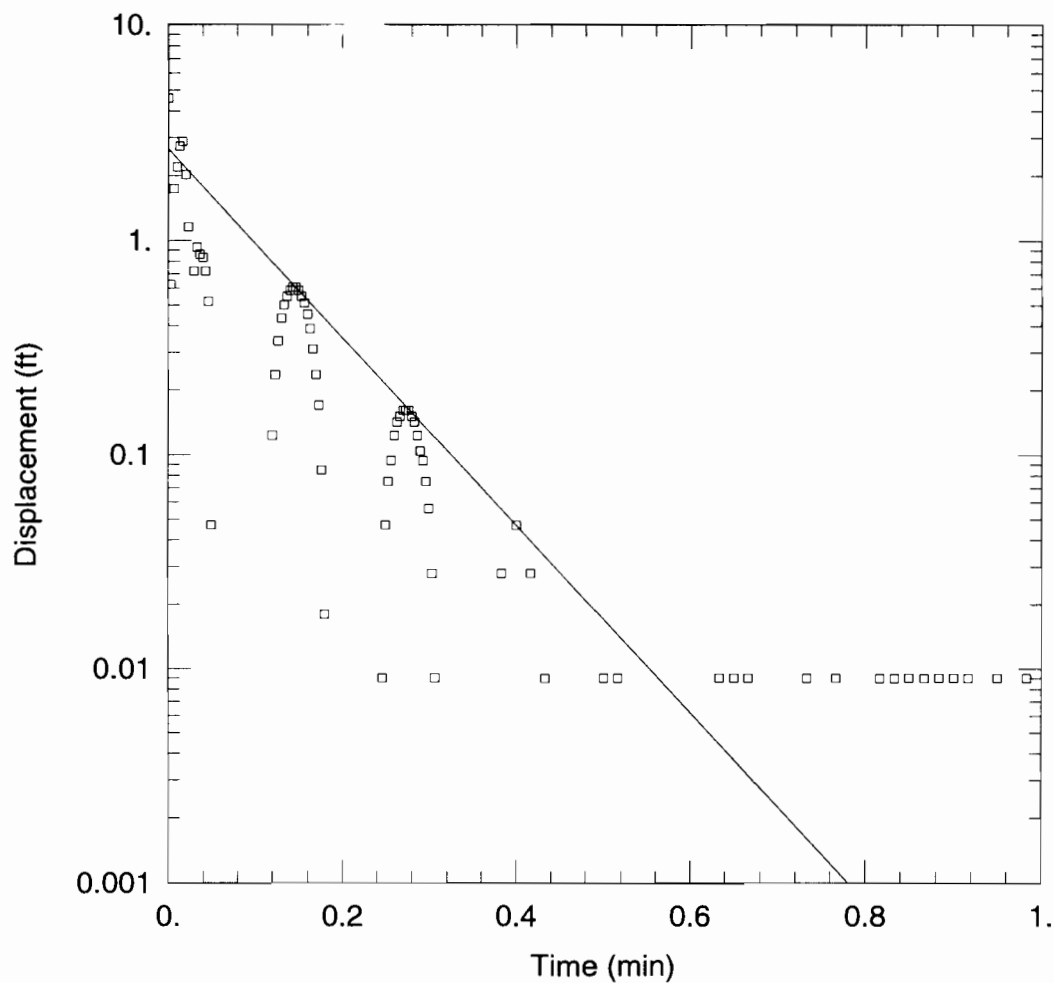
SOLUTION

Aquifer Model: Unconfined

$K = 0.01419$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 0.8799$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW7BOUT2.AQT

Date: 11/16/98

Time: 13:56:42

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 4.594 ft

Water Column Height: 96.08 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

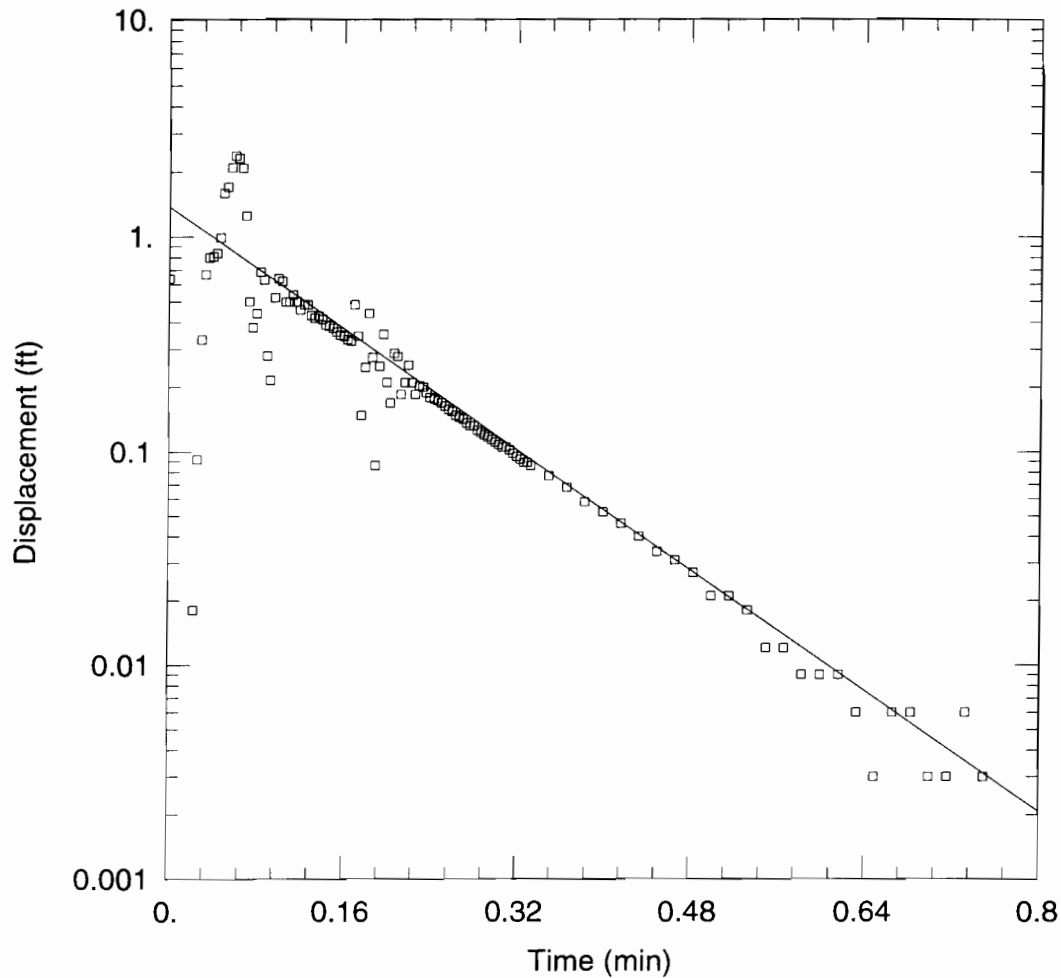
SOLUTION

Aquifer Model: Unconfined

$K = 0.01809$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 2.66$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW8AIN.AQT

Date: 11/16/98

Time: 13:40:13

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 0.639 ft

Water Column Height: 23.5 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

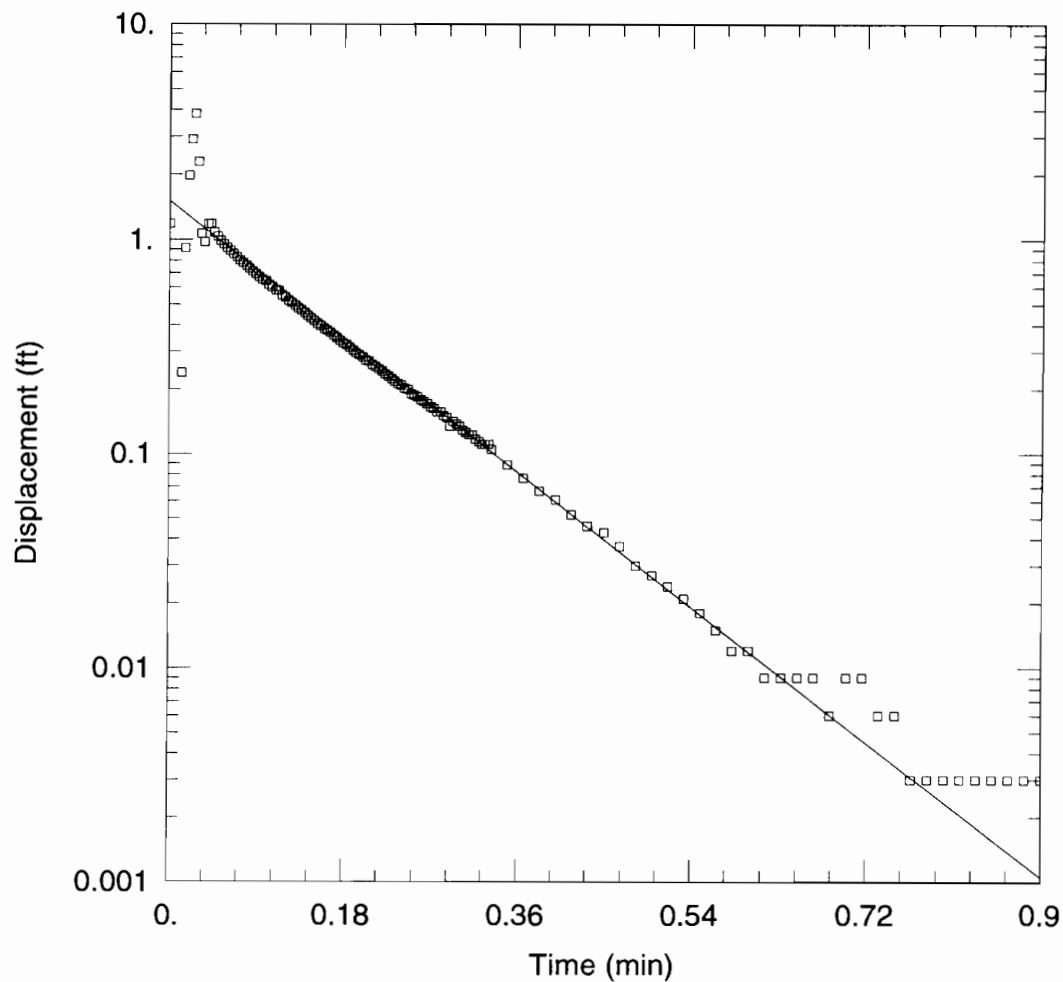
SOLUTION

Aquifer Model: Unconfined

$K = 0.00954$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.369$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW8AOUT.AQT

Date: 11/16/98

Time: 13:40:23

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.182 ft

Water Column Height: 23.5 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

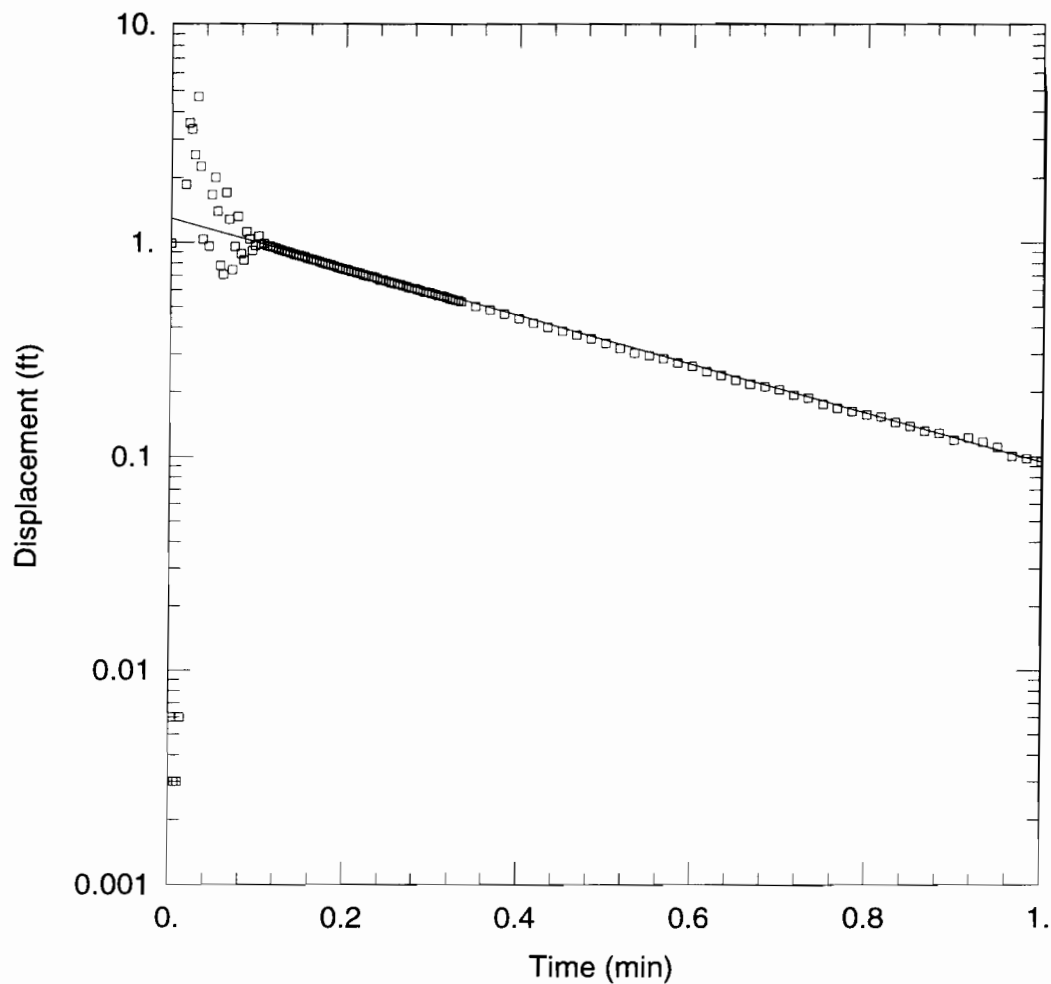
SOLUTION

Aquifer Model: Unconfined

$K = 0.009501$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.505$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW8BIN.AQT

Date: 11/16/98

Time: 13:40:32

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 0.988 ft

Water Column Height: 91.52 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

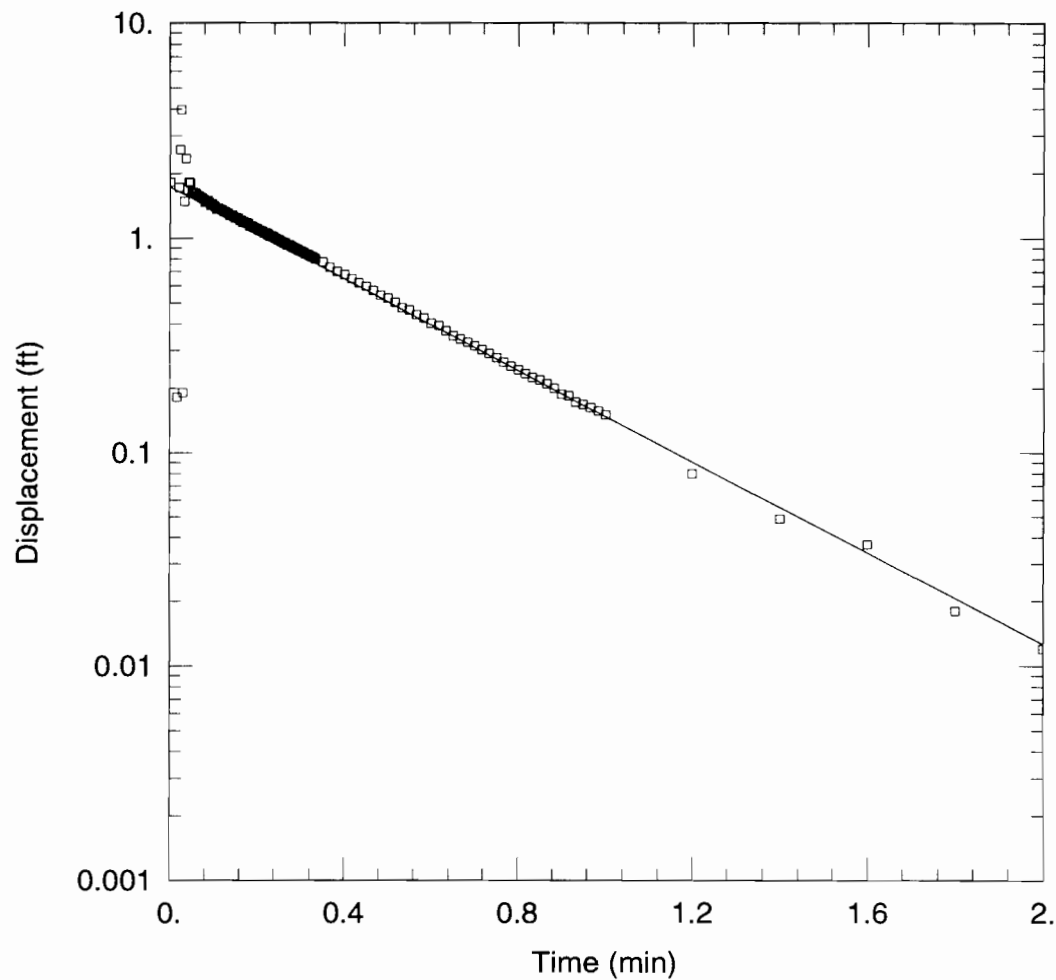
SOLUTION

Aquifer Model: Unconfined

$K = 0.00466$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.294$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW8BOUT.AQT

Date: 11/16/98

Time: 13:40:41

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.827 ft

Water Column Height: 91.52 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

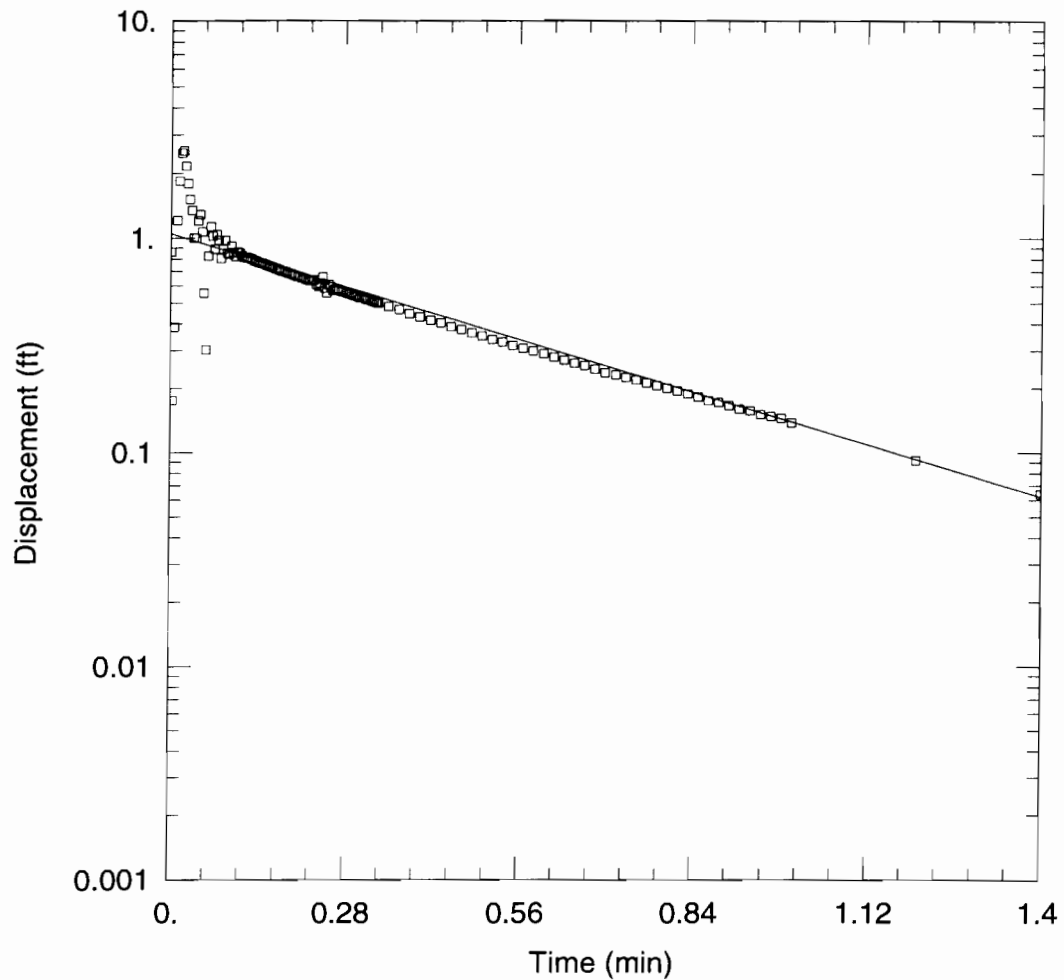
SOLUTION

Aquifer Model: Unconfined

$K = 0.004384$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.729$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW9AIN.AQT

Date: 11/16/98

Time: 13:40:59

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 0.861 ft

Water Column Height: 16.31 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

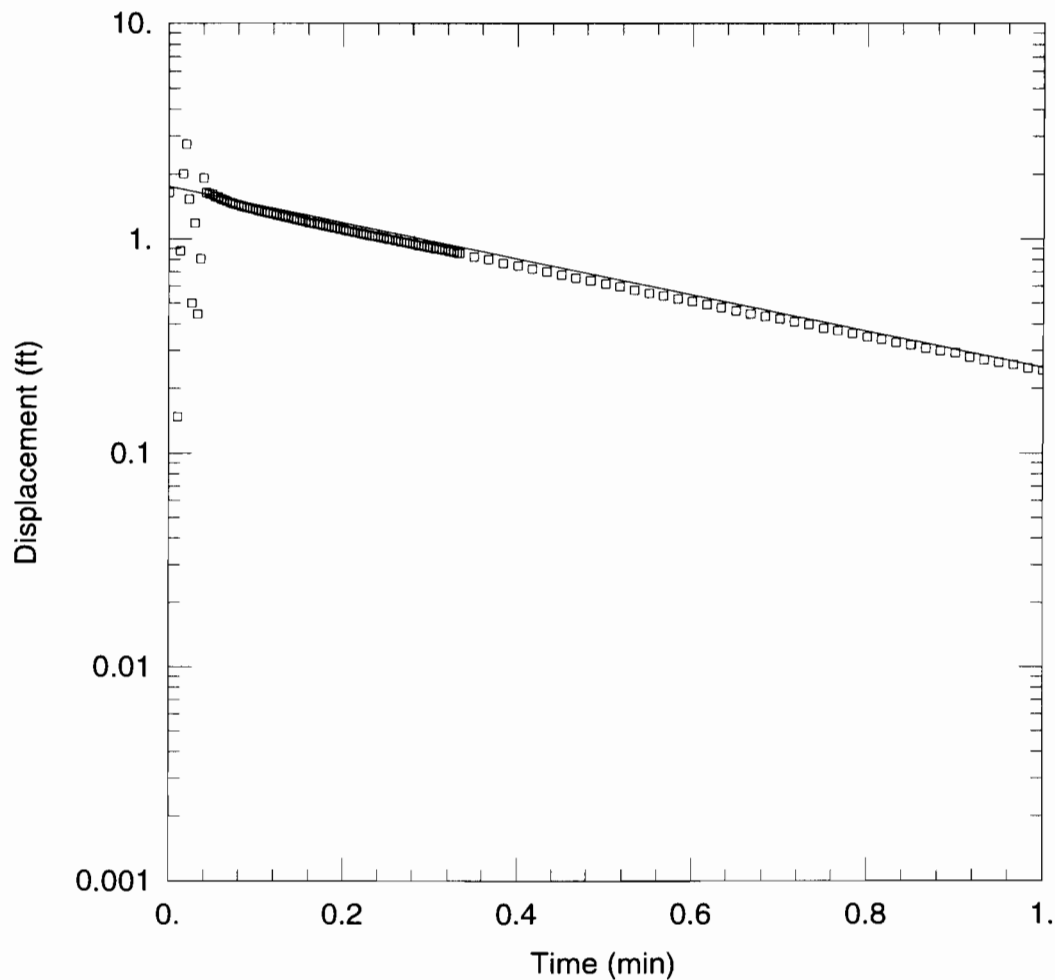
SOLUTION

Aquifer Model: Unconfined

$K = 0.002259$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.046$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW9AOUT.AQT

Date: 11/16/98

Time: 13:41:10

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.641 ft

Water Column Height: 16.31 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

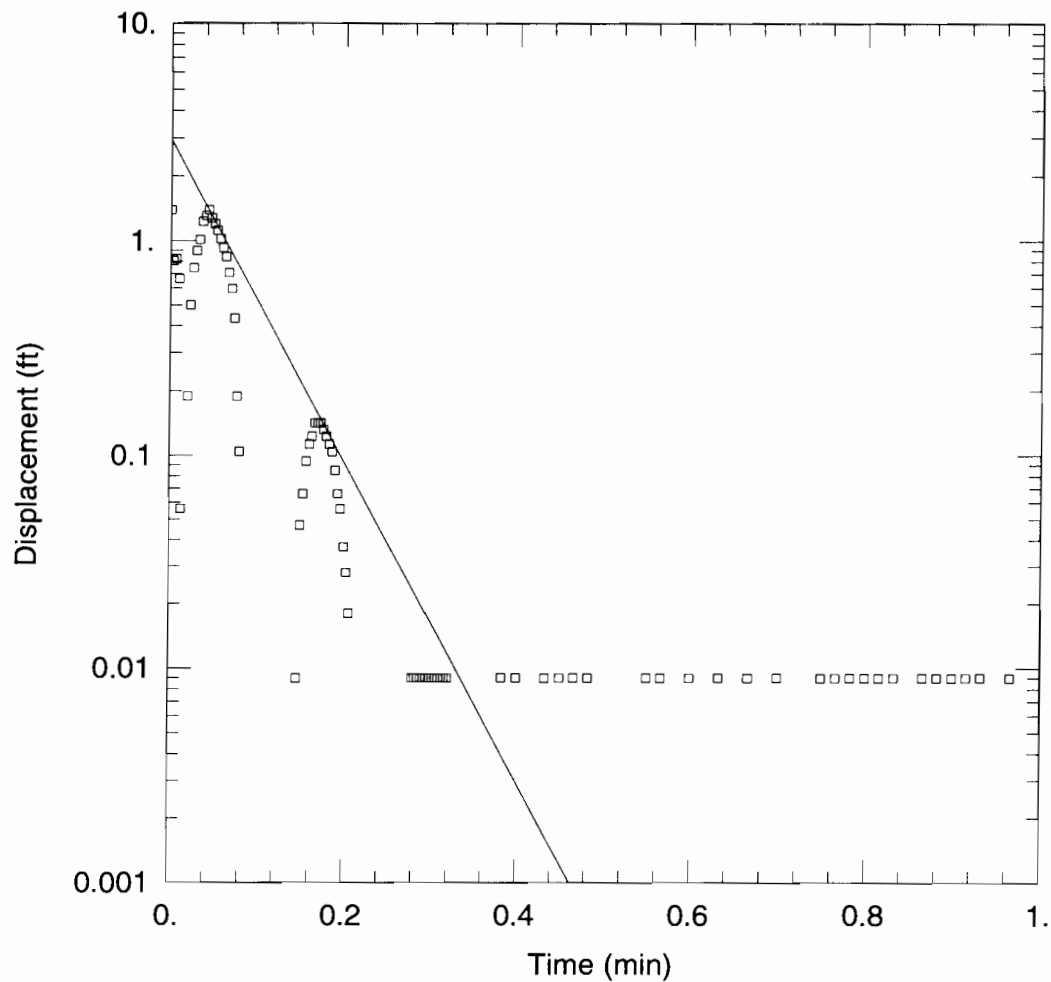
SOLUTION

Aquifer Model: Unconfined

$K = 0.002177$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.754$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW9BOUT2.AQT

Date: 11/16/98

Time: 13:42:26

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.391 ft

Water Column Height: 84.38 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

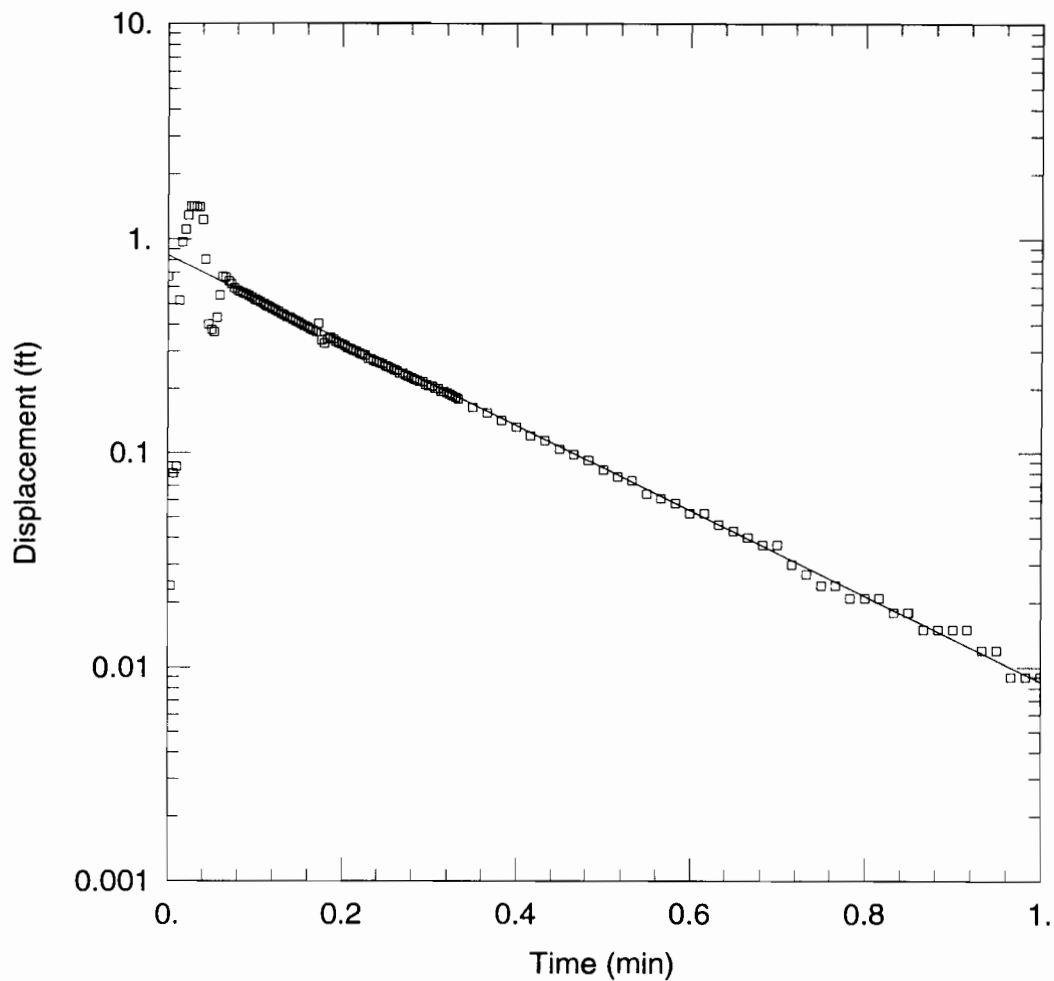
SOLUTION

Aquifer Model: Unconfined

$K = 0.03049$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 2.91$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW10AIN.AQT

Date: 11/16/98

Time: 13:59:31

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 0.669 ft

Water Column Height: 19.06 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

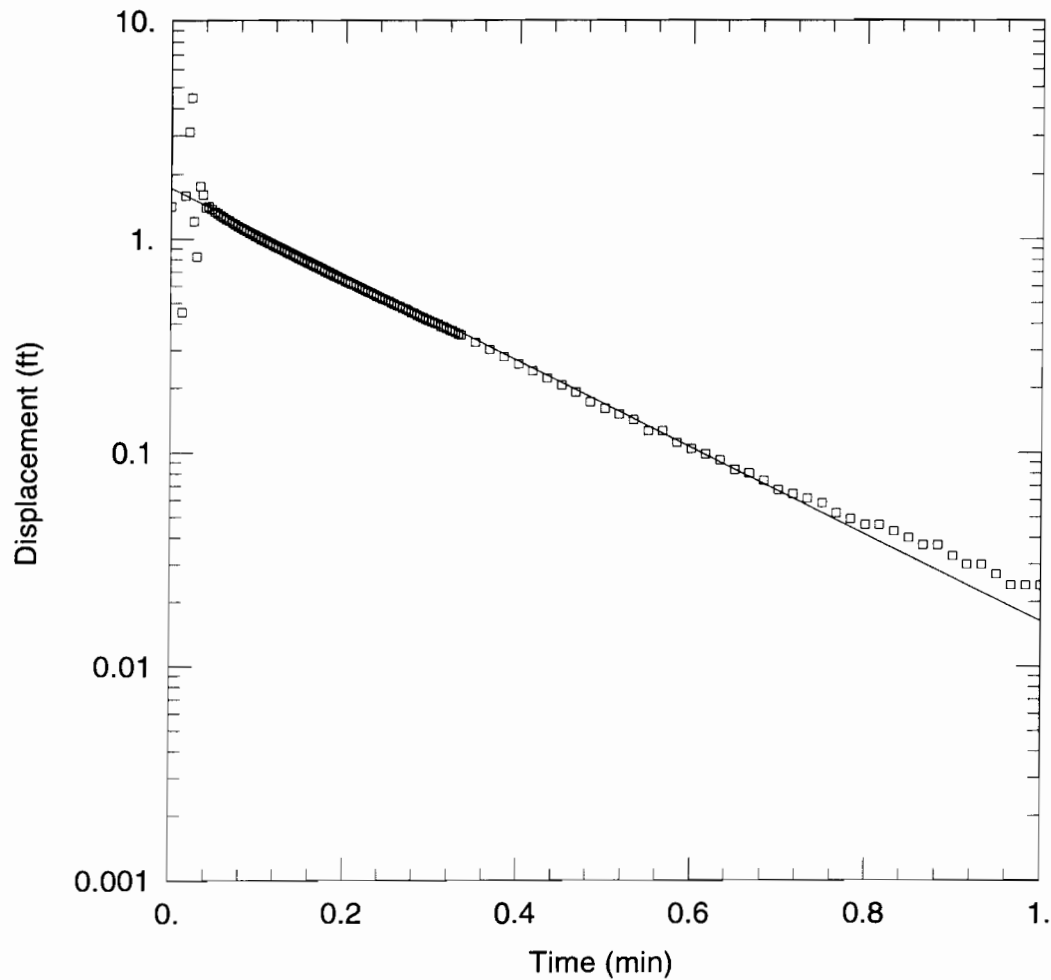
SOLUTION

Aquifer Model: Unconfined

$K = 0.005253$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 0.8428$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW10AOUT.AQT

Date: 11/16/98

Time: 13:59:38

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA

Initial Displacement: 1.416 ft

Water Column Height: 19.06 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

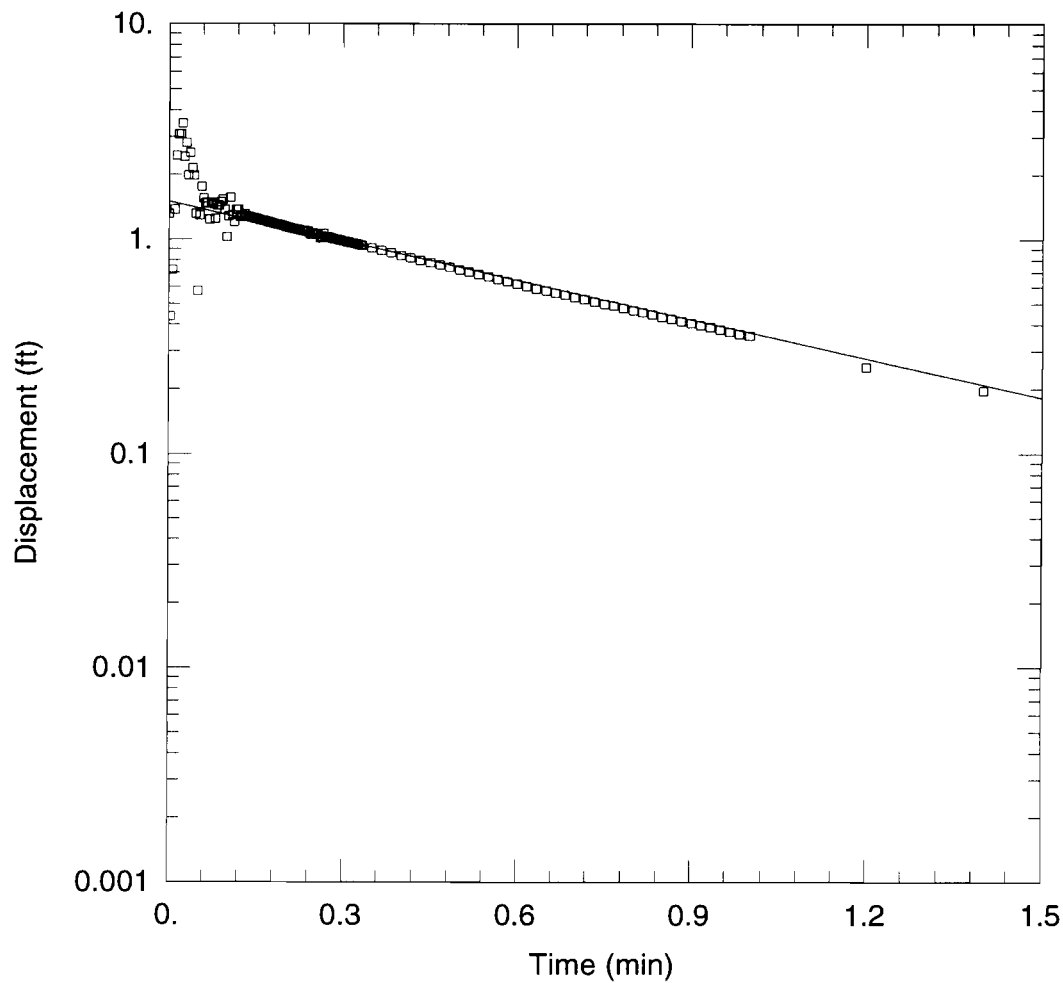
SOLUTION

Aquifer Model: Unconfined

$K = 0.005331$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.721$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW10BIN.AQT

Date: 11/16/98

Time: 13:59:44

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.315 ft

Water Column Height: 90.4 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

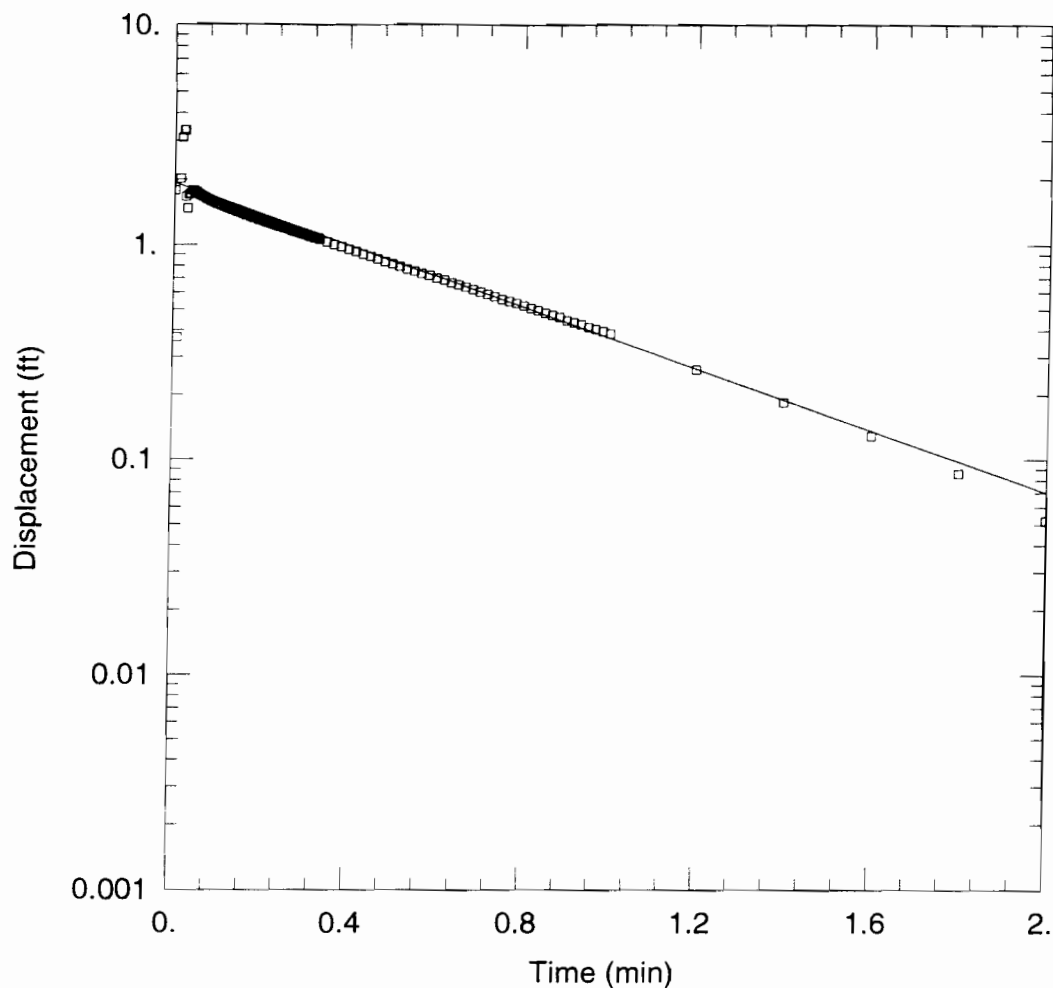
SOLUTION

Aquifer Model: Unconfined

$K = 0.002502$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.499$ ft



WELL TEST ANALYSIS

Data Set: D:\MYDOCU~1\NCIA\FROSTS~1\SLUGTE~1\MW10BOUT.AQT

Date: 11/16/98

Time: 13:59:49

AQUIFER DATA

Saturated Thickness: 750. ft

Anisotropy Ratio (K_z/K_r): 0.01

WELL DATA

Initial Displacement: 1.784 ft

Water Column Height: 90.4 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.3333 ft

Screen Length: 10. ft

SOLUTION

Aquifer Model: Unconfined

$K = 0.002953$ ft/min

Solution Method: Bouwer-Rice

$y_0 = 1.932$ ft

ROLL OFF DATA SUMMARY

Base Analytical Laboratory

LMS Sample ID Lab Sample Number Sampling Date	RO1 78547 08/19/98	RCRA HAZARDOUS WASTE CRITERIA (c)
VOLATILE ORGANIC COMPOUNDS (mg/l)		
Tetrachloroethene	0.0027	0.7
SEMIVOLATILE ORGANIC COMPOUNDS (mg/l)	ND	-
PESTICIDES (mg/l)	ND	-
HERBICIDES (mg/l)	ND	-
METALS (mg/l)		
Barium	0.32 B	100
WET CHEMISTRY		
Corrosivity (std units)	8.17	2.0-12.5
Ignitability (deg F)	>160	<140
ReactiveCyanide (mg/kg)	ND	250
ReactiveSulfide (mg/kg)	51.9	500

- bold** - Value exceeds recommended criteria.
 RCRA - Resource Conservation Recovery Act.
 (c) - 40 CFR Part 261 Subpart C.
 B - Value is less than the contract-required detection limit but greater than the instrument detection limit.
 ND - Not detected at analytical detection limit.

APPENDIX D
WELL DEVELOPMENT LOGS



[illegible]

Depth of Well: **Start:** _____ **End:** _____

[illegible]

Depth of Well: **Start:** _____ **End:** _____

[illegible]

Depth of Well: **Start:** _____ **End:** _____

[illegible]

Depth of Well: **Start:** _____ **End:** _____

[illegible]

Depth of Well: **Start:** _____ **End:** _____

[illegible]

Depth of Well: Start: _____ End: _____

[illegible]

Depth of Well: Start: _____ End: _____

[illegible]

Depth of Well: Start: _____ End: _____

[illegible]

Depth of Well: **Start:** _____ **End:** _____

pH Meter: 98-10
Cond. Meter: TLC 11
Therm: TLC 11
Turb. Meter: s/n 19834

[illegible]

End: _____

[illegible]

Depth of Well: Start: _____ End: _____

[illegible]

Depth of Well: Start: _____ End: _____

[illegible]

Depth of Well: **Start:** _____ **End:** _____

[illegible]

Depth of Well: **Start:** _____ **End:** _____

APPENDIX E

GROUNDWATER SAMPLING SHEETS

LMS**Well Sampling Log**

Date: 9/2/98
Crew: SE / TS
Job No: 650-322
Project: Frost Street
Project Site: 101 Frost St

METERS USED

Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDRT#15

Well ID No.: FSMW-1A
Well Condition: New
Well Depth/Diameter: 68.80' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: Notch on PVC
Depth to Water (DTW): 54.49'
Water Column Ht./Vol.: 14.26'
Purge Est.: 42 gal
Purge Method(s): Submersible Pump
Purge Date/Time(s): 9/2/98

Depth(s): All
Rates (gpm): ~2.5 GPM
Purged Volume: 42 gal
DTW After Purging:
Yield Rate: L - M - H
Purge Observations: Water very silty (orange)

DTW Before Sampling: 54.35'
Sample Date/Time: 9/2/98 / 1720
Sampling Method: Teflon Bailer
Sampling Depth(s): Top of Column
DTW After Sampling: 54.49'
Chain-of-Custody No.(s):
Analytical Lab(s): Envirotech
Sampling Observations: Water Turbid

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	16.7	7.8	56	>200
End	16.4	7.9	58	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-1A	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	18.3	7.6	52	>200
14	17.3	7.6	52	131.5
28	17.3	7.8	53	58.8
42	16.4	7.9	58	>200

Comments:

Air Temp:

Weather Conditions:

Crew Chief Signature

Edith Hollister

Date:

9/14/98

Date: 9/2/98
Crew: SE / TS
Job No: 650-322
Project: Frost Street
Project Site: 101 Frost St

METERS USED

Temp.: TLC #11
pH: 98-8
Cond.: TLC #11
Turb.: NYSDRT #15

Well ID No.: FSMW-1B
Well Condition: New
Well Depth/Diameter: 121.6' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: Mark on PVC
Depth to Water (DTW): 54.61'
Water Column Ht./Vol.: 66.99' / 23 gal
Purge Est.: 69 gal
Purge Method(s): Submersible Pump
Purge Date/Time(s): 9/2/98 / 1330

Depth(s): All
Rates (gpm): ~2.5 GPM
Purged Volume:
DTW After Purging: 95.40'
Yield Rate: L - M - H
Purge Observations:

DTW Before Sampling: 58.26'
Sample Date/Time: 9/2/98 / 1410
Sampling Method: Teflon Bailer
Sampling Depth(s): Top of Column
DTW After Sampling:
Chain-of-Custody No.(s):
Analytical Lab(s): Envirotech
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	18.4	8.1	176	>200
End	18.2	7.7	175	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-1B	HCI	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	17.4	7.7	139	>200

Well pumped dry after 14 gal, allowed to recover.
Pumped dry again after 17 gal, allowed to recover.
After 23 gal, went dry again.

Comments: Water very silty (Dk. Gray)

Air Temp:
Weather Conditions:

Crew Chief Signature

Eddie Hollister

Date:

9/14/98

Date: 9/1/98
 Crew: SE / TS
 Job No: 650-327
 Project: Frost Street
 Project Site: 89 Frost ST

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDRT #15

Well ID No.: FSMW-2A
 Well Condition: New
 Well Depth/Diameter: 69.78' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Notch on PVC
 Depth to Water (DTW): 54.67'
 Water Column Ht./Vol.: 15.11' / 11 gal
 Purge Est.: 34 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/1/98 / 1005

Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 34 gal
 DTW After Purging:
 Yield Rate: L - M - H
 Purge Observations: Water Very Silty

DTW Before Sampling: 54.59'
 Sample Date/Time: 9/1/98 / 1045
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	16.6	7.5	83	>200
End	18.4	6.9	106	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-2A	HCl	No
VOA	MS	HCl	No
VOA	MSD	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	21.1	7.5	78	>200
11	18.1	7.4	94	>200
22	17.3	7.3	105	>200
34	17.9	7.4	106	164.1

Comments:

Air Temp: 80 Degrees
 Weather Conditions: Clear, Sunny

Crew Chief Signature

Eric K. Kohn

Date:

9/1/98

Date: 9/1/98
Crew: SE / TS
Job No: 650-327
Project: Frost Street
Project Site: 89 Frost St

METERS USED

Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDRT #15

Well ID No.: FSMW-2B
Well Condition: New
Well Depth/Diameter: 123.8' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: Top of PVC
Depth to Water (DTW): 55.30'
Water Column Ht./Vol.: 68.5' / 20 gal
Purge Est.: 60 gal
Purge Method(s): Submersible Pump
Purge Date/Time(s): 9/1/98 / 1230

Depth(s): All
Rates (gpm): ~2.5 GPM
Purged Volume: 60 gal
DTW After Purging: 86.49
Yield Rate: L - M - H
Purge Observations: Very Silty

DTW Before Sampling: 59.21'
Sample Date/Time: 9/1/98 / 1500
Sampling Method: Teflon Bailer
Sampling Depth(s): Top of Column
DTW After Sampling:
Chain-of-Custody No.(s):
Analytical Lab(s): Envirotech
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	16.4	7.7	129	>200
End	19.3	7.6	134	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-2B	HCl	No
Blind Dup.	FSMW-2C	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	19.2	7.5	187	75.8
20	17.5	7.7	193	>200
40	19.6	7.7	148	>200

Well drawn down after 2 volumes.

Comments:

Air Temp:
Weather Conditions:

Crew Chief Signature

Edith Hebert

Date:

9/1/98

Date: 9/3/98
 Crew: SE / TS
 Job No: 650-327
 Project: Frost Street
 Project Site: 89 Frost St

METERS USED

Temp.: TLC #11
 pH: 98-10
 Cond.: TLC #11
 Turb.: NYSDRT #15

Well ID No.: FSMW-3A
 Well Condition: New
 Well Depth/Diameter: 70.0' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Top of PVC
 Depth to Water (DTW): 55.04'
 Water Column Ht./Vol.: 14.96' / 10 gal
 Purge Est.: 30 gal
 Purge Method(s): Pump (Whale)
 Purge Date/Time(s): 9/3/98

Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 30 gal
 DTW After Purging: 54.63'
 Yield Rate: L - M - H
 Purge Observations: Water Clear

DTW Before Sampling: 54.63'
 Sample Date/Time: 9/3/98
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	17.5	7.2	297	>200
End	18.3	7.1	281	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-3A	HCl	Nc

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	19.4	6.9	378	47.5
10	18.5	6.8	385	5.87
20	17.6	7.4	378	4.56
30	18.1	7.1	376	3.28

Comments:

Air Temp:
 Weather Conditions:

Crew Chief Signature

Edith Holbert

Date:

9/14/98

Date: 9/3/98
 Crew: SE / TS
 Job No: 650-327
 Project: Frost Street
 Project Site: 89 Frost St

Well ID No.: FSMW-3B
 Well Condition: New
 Well Depth/Diameter: 144.8' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Notch in PVC
 Depth to Water (DTW): 55.04'
 Water Column Ht./Vol.: 89.76'
 Purge Est.: 66 gal
 Purge Method(s): Grundfos
 Purge Date/Time(s): 9/3/98
 Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 66 gal
 DTW After Purging: 55.10'
 Yield Rate: L - M - H
 Purge Observations: Water Clear

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

DTW Before Sampling: 55.10'
 Sample Date/Time: 9/3/98 / 1710
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling: 55.10'
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	17.5	7.4	65	52.8
End	17.4	7.4	65	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-3B	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	16.7	7.4	62	>200
22	16.6	7.1	216	9.62
44	18.0	7.1	250	5.54
66	17.4	7.4	65	>200

Comments:

Air Temp:

Weather Conditions:

Crew Chief Signature

Edith Polish

Date:

9/14/98

Well Sampling Log

Date: 9/1/98
Crew: SE / TS
Job No: 650-327
Project: Frost Street
Project Site: 89 Frost St

Well ID No.: FSMW-4A
Well Condition: New
Well Depth/Diameter: 70.0' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: Notch on PVC
Depth to Water (DTW): 53.09'
Water Column Ht./Vol.: 16.91'
Purge Est.: 31 gal
Purge Method(s): Grundfos
Purge Date/Time(s): 9/1/98

Depth(s): All
Rates (gpm): ~2.5 GPM
Purged Volume: 31 gal
DTW After Purging: 55.02'
Yield Rate: L - M - H
Purge Observations: Strong solvent odor

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	17.2	7.1	95	>200
10	16.6	7.0	96	45.3
20	15.9	7.1	90	9.3
31	16.0	6.5	89	3.42

Comments:

METERS USED
Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDEC DRT#15

DTW Before Sampling: 53.09'
Sample Date/Time: 9/1/98 / 1640
Sampling Method: Teflon Bailer
Sampling Depth(s): Top of Column
DTW After Sampling: 55.02'
Chain-of-Custody No.(s):
Analytical Lab(s): Envirotech
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	16.4	6.7	93	>200
End	18.6	7.0	89	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-4A	HCl	No

Air Temp:
Weather Conditions:

Crew Chief Signature

Edith Halbur

Date:

9/1/98

Date: 9/2/98
 Crew: SE / TS
 Job No: 650-327
 Project: Frost Street
 Project Site: 89 Frost St

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: FSMW-4B
 Well Condition: New
 Well Depth/Diameter: 150.55' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Notch in PVC
 Depth to Water (DTW): 56.43'
 Water Column Ht./Vol.: 94.12' / 27 gal
 Purge Est.: 80 gal
 Purge Method(s): Grundfos
 Purge Date/Time(s): 9/2/98

Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 81 gal
 DTW After Purging: 56.59'
 Yield Rate: L - M - H
 Purge Observations:

DTW Before Sampling: 56.43'
 Sample Date/Time: 9/2/98 / 1030
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling: 56.59'
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations: Water Turbid

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	15.9	7.3	333	>200
End	16.5	7.2	332	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-4B	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	17.0	7.9	322	20.2
27	17.2	6.8	348	>200
54	16.1	7.2	342	32.4
81	16.5	7.2	337	133

Comments:

Air Temp: 80 Degrees
 Weather Conditions: Sunny

Crew Chief Signature

Edith Roberts

Date:

9/14/98

Date: 9/11/98
 Crew: EH / BM
 Job No: 650-616
 Project: Frost Street
 Project Site: Off Site (Toyota)

Well ID No.: FSMW-5A
 Well Condition: New
 Well Depth/Diameter: 70.0' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: TOC
 Depth to Water (DTW): 47.13'
 Water Column Ht./Vol.: 22.87' / 12.21 gal
 Purge Est.: 36.62 gal
 Purge Method(s): Pump (whale)
 Purge Date/Time(s): 9/11/98 / 0830

Depth(s): All
 Rates (gpm): ~1 GPM
 Purged Volume: 40 gal
 DTW After Purging: 47.13'
 Yield Rate: L - M - H
 Purge Observations: Cleared up nicely

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	16.2	6.7	259	87
7.5	15.5	6.8	233	31.6
15	15.4	6.7	226	7.5
22.5	15.5	6.7	212	2.6
30	15.5	6.7	203	2.5
37.5	15.7	6.5	193	2.4

Comments:

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDRT #15

DTW Before Sampling: 47.13'
 Sample Date/Time: 9/11/98 / 0940
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling: 47.13'
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	15.4	6.6	202	25.8
End	16.3	6.6	206	22.3

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter

Air Temp: 70 Degrees
 Weather Conditions: Sunny

Crew Chief Signature

Envirotech

Date:

9/14/98

Date: 9/10/98
Crew: SE / EH
Job No: 650-616
Project: Frost Street
Project Site: Off Site (Toyota)

Well ID No.: FSMW-5B
Well Condition: New
Well Depth/Diameter: 139.45' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: Mark on PVC
Depth to Water (DTW): 47.24'
Water Column Ht./Vol.: 92.21'
Purge Est.: 70.53 gal
Purge Method(s): Submersible Pump
Purge Date/Time(s): 9/10/98 / 1545

Depth(s): All
Rates (gpm): ~2.5 GPM
Purged Volume: 75 gal
DTW After Purging: 47.25'
Yield Rate: L - M - H
Purge Observations: Cleared up quickly

METERS USED

Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDRT #15

DTW Before Sampling:
Sample Date/Time: 9/10/98 / 1625
Sampling Method:
Sampling Depth(s):
DTW After Sampling:
Chain-of-Custody No.(s):
Analytical Lab(s):
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	15.4	6.2	274	28.3
End	17.3	6.1	272	35.8

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	15.8	5.7	427	15.9
15	14.5	5.8	463	>200
20	14.5	5.7	449	57.7
45	14.4	5.5	443	25.3
60	14.4	5.6	441	20.3
70	14.4	5.5	437	18.9

Comments:

Air Temp:
Weather Conditions:

Crew Chief Signature

E. H. Hester

Date:

9/14/98

Date: 9/8/98
Crew: SE / TS
Job No: 650-616
Project: Frost Street
Project Site: Off-Site

METERS USED

Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDEC DRT#15

Well ID No.: FSMW-6A
Well Condition: New
Well Depth/Diameter: 70.0' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: Mark on PVC
Depth to Water (DTW): 48.53'
Water Column Ht./Vol.: 21.47'
Purge Est.: 33 gal
Purge Method(s): Grundfos
Purge Date/Time(s): 9/8/98 / 1550

Depth(s): All
Rates (gpm): ~2.5 GPM
Purged Volume: 33 gal
DTW After Purging: 48.34'
Yield Rate: L - M - H
Purge Observations: Water silty then clear

DTW Before Sampling: 48.53'
Sample Date/Time: 9/8/98 / 1715
Sampling Method: Teflon Bailer
Sampling Depth(s): Top of Column
DTW After Sampling: 48.34'
Chain-of-Custody No.(s):
Analytical Lab(s): Envirotech
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	14.6	7.8	77	38.2
End	16.1	8.0	91	39.4

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-6A	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	17.4	7.5	78	>200
11	15.3	8.3	81	140.4
22	15.1	8.2	77	62.5
33	14.9	7.9	75	89.9

Comments:

Air Temp:
Weather Conditions:

Crew Chief Signature

Edith Holthaus

Date: 9/14/98

Date: 9/8/98
 Crew: SE / TS
 Job No: 650-616
 Project: Frost Street
 Project Site: Off-Site

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: FSMW-6B
 Well Condition: New
 Well Depth/Diameter: 149.15' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Mark on PVC
 Depth to Water (DTW): 48.92'
 Water Column Ht./Vol.: 100.23'
 Purge Est.: 71 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/8/98

Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 71 gal
 DTW After Purging: 48.84'
 Yield Rate: L - M - H
 Purge Observations: Very Silty Initially

DTW Before Sampling: 48.92'
 Sample Date/Time: 9/8/98 / 1720
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling: 48.84'
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	15.3	7.7	171	36.2
End	15.4	7.4	339	16.5

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-6B	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	15.6	7.4	312	>200
23	15.5	6.9	332	11.5
46	15.4	7.4	339	16.5
71	15.4	7.4	339	16.5

Comments:

Air Temp:
 Weather Conditions:

Crew Chief Signature

Erica Kellison

Date:

9/14/98

Date: 9/10/98
 Crew: EH / SE
 Job No: 650-616
 Project: Frost Street
 Project Site: Off Site (Chase)

METERS USED

Temp.: TLC #10
 pH: 98-9
 Cond.: TLC #10
 Turb.: NYSDRT #15

Well ID No.: FSMW-7A
 Well Condition: New
 Well Depth/Diameter: 69.65' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.:
 Reference Pt.: TOC
 Depth to Water (DTW): 51.06'
 Water Column Ht./Vol.: 18.59' / 11.5 gal
 Purge Est.: 34.5 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/10/98 / 1236

Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 34.5 gal
 DTW After Purging: 51.01'
 Yield Rate: L - M - H
 Purge Observations:

DTW Before Sampling:
 Sample Date/Time: 9/10/98 / 1325
 Sampling Method:
 Sampling Depth(s):
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s):
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	18.1	6.6	165	39.0
End	17.8	6.6	162	52.5

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	19.4	6.8	314	>200
10	17.8	6.9	337	>200
20	17.6	6.7	323	>200
30	17.4	6.5	320	83
40	17.2	6.5	319	33.5

Comments:

Air Temp:
 Weather Conditions:

Crew Chief Signature

Edith Robinson

Date: 9/14/98

Date: 9/8/98
 Crew: SE / TS
 Job No: 650-616
 Project: Frost Street
 Project Site: Off-Site (Chase)

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: FSMW-7B
 Well Condition: New
 Well Depth/Diameter: 148.25' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Mark on PVC
 Depth to Water (DTW): 51.35'
 Water Column Ht./Vol.: 96.9' / 23 gal
 Purge Est.: 69 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/8/98

Depth(s):
 Rates (gpm): ~3 GPM
 Purged Volume: 69 gal
 DTW After Purging: 51.35'
 Yield Rate: L - M - H
 Purge Observations: Clear to turbid to clear

DTW Before Sampling: 51.35'
 Sample Date/Time: 9/8/98 / 1255
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	18.4	7.8	283	37.9
End	19.6	7.7	284	40.5

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-7B	HCI	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	18.5	7.4	283	25.1
23	17.1	7.6	138	>200
46	16.5	7.7	243	>200
69	17.5	7.8	242	17.8

Comments:

Air Temp:
 Weather Conditions:

Crew Chief Signature

ECI Holtz

Date: 9/14/98

Date: 9/3/98
Crew: SE / TS
Job No: 650-612
Project: Frost Street
Project Site: 770 Main St

METERS USED

Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDEC DRT#15

Well ID No.: FSMW-8A
Well Condition: New
Well Depth/Diameter: 74.15' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: Mark on PVC
Depth to Water (DTW): 51.10'
Water Column Ht./Vol.: 23.05'
Purge Est.: 36 gal
Purge Method(s): Submersible Pump
Purge Date/Time(s): 9/3/98

Depth(s):
Rates (gpm): ~2.5 GPM
Purged Volume:
DTW After Purging:
Yield Rate: L - M - H
Purge Observations: Extremely silty

DTW Before Sampling: 51.10'
Sample Date/Time: 9/3/98 / 1105
Sampling Method: Teflon Bailer
Sampling Depth(s): Top of Column
DTW After Sampling:
Chain-of-Custody No.(s):
Analytical Lab(s): Envirotech
Sampling Observations: Very Silty

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	19.1	7.2	181	>200
End	18.7	6.9	184	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-8A	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	17.0	6.8	169	45.5
12	18.5	7.1	198	>200
24	17.5	6.8	192	>200
36	18.3	6.7	184	45.3

Comments:

Air Temp: 85 Degrees
Weather Conditions: Sunny

Crew Chief Signature

Edith Hallister

Date: 9/14/98

Date: 9/3/98
 Crew: SE / TS
 Job No: 650-612
 Project: Frost Street
 Project Site: 770 Main St

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: FSMW-8B
 Well Condition: New
 Well Depth/Diameter: 142.35' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Mark on PVC
 Depth to Water (DTW): 51.33'
 Water Column Ht./Vol.: 91.02'
 Purge Est.: 66 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/3/98

DTW Before Sampling: 55.37'
 Sample Date/Time: 9/3/98 / 1305
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

Depth(s):
 Rates (gpm): ~2.5 GPM
 Purged Volume: 66 gal
 DTW After Purging: 55.37'
 Yield Rate: L - M - H
 Purge Observations: Clear

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	17.5	7.3	280	88.5
End	19.1	7.1	275	81.6

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-8B	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	20.9	7.3	276	72.2
22	20.9	6.9	337	148.4
44	16.9	6.4	334	19.1
66	16.9	7.4	330	10.5

Comments:

Air Temp:

Weather Conditions:

Crew Chief Signature

E. J. Hollister

Date:

9/14/98

LMS**Well Sampling Log**

Date: 9/4/98
Crew: SE / TS
Job No: 650-616
Project: Frost Street
Project Site: Off-Site (Toyota)

METERS USED

Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDEC DRT#15

Well ID No.: FSMW-9A
Well Condition: New
Well Depth/Diameter: 68.97' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: mark on PVC
Depth to Water (DTW): 53.09'
Water Column Ht./Vol.: 15.88' / 10 gal
Purge Est.: 30 gal
Purge Method(s): Submersible Pump
Purge Date/Time(s): 9/4/98

Depth(s):

Rates (gpm):

Purged Volume: 30 galDTW After Purging: 53.03'Yield Rate: L - M - HPurge Observations: Water very silty

DTW Before Sampling: 53.03'
Sample Date/Time: 9/4/98 / 0910
Sampling Method: Teflon Bailer
Sampling Depth(s): Top of Column
DTW After Sampling:
Chain-of-Custody No.(s):
Analytical Lab(s): Envirotech
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	17.5	7.6	344	>200
End	18.3	7.4	353	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	FSMW-9A	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	18.6	7.8	485	>200
10	17.4	7.7	386	>200
20	17.1	7.6	343	136.3
30	17.1	7.4	322	186.9

Comments:

Air Temp:

Weather Conditions:

Crew Chief Signature

Edith Hall

Date:

9/14/98

Date: 9/9/98
 Crew: EH / SE
 Job No: 650-612
 Project: Frost Street
 Project Site: 770 Main St (Side)

METERS USED

Temp.: TLC #10
 pH: 98-9
 Cond.: TLC #10
 Turb.: NYSDRT #15

Well ID No.: FSMW-9B
 Well Condition: New
 Well Depth/Diameter: 138.15' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: TOC
 Depth to Water (DTW): 52.73'
 Water Column Ht./Vol.: 85.42' / 22.41 gal
 Purge Est.: 68 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/9/98 / 1720

Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 80 gal
 DTW After Purging: 52.74'
 Yield Rate: L - M - H
 Purge Observations:

DTW Before Sampling:
 Sample Date/Time: 9/9/98 / 1815
 Sampling Method:
 Sampling Depth(s):
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s):
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	4.3	5.9	217	6.8
End	4.3	5.8	220	9.8

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	3.0	6.1	211	10.5
35	5.2	6	276	23.7
50	4.6	6	277	5.7
80	5.8	6.1	275	3.5

Comments: Temp. meter questionable

Air Temp:
 Weather Conditions:

Crew Chief Signature

Scott Holbrook

Date:

9/14/98

Date: 9/9/98
 Crew: SE / EH
 Job No: 650-612
 Project: Frost Street
 Project Site: 770 Main St. (Behind Bldg)

METERS USED

Temp.: TLC #10
 pH: 98-9
 Cond.: TLC #10
 Turb.: NYSDRT #15

Well ID No.: FSMW-10A
 Well Condition: New
 Well Depth/Diameter: 71.14' / 2"
 Well Casing Type: PVC
 Screened Interval: Bottom 10'
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: TOC
 Depth to Water (DTW): 51.98'
 Water Column Ht./Vol.: 19.16'
 Purge Est.: 35 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/9/98 / 1300

Depth(s): All
 Rates (gpm): ~2.5 GPM
 Purged Volume: 45 gal
 DTW After Purging: 71.14'
 Yield Rate: L - M - H
 Purge Observations:

DTW Before Sampling: 71.14'
 Sample Date/Time: 9/9/98 / 1415
 Sampling Method:
 Sampling Depth(s):
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s):
 Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	3.2	7.9	382	28.0
End	8.2	7.9	410	37.8

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	3.6	8.1	424	>200
12	3.8	8.1	431	155
25	3.8	8.1	458	92
36	3.9	8.1	459	86

Comments: Temp. meter questionable

Air Temp: Upper 50s
 Weather Conditions: Cloudy, Breezy

Crew Chief Signature

Edith Holquist

Date:

9/11/98

Date: 9/9/98
Crew: SE / EH
Job No: 650-612
Project: Frost Street
Project Site: 770 Main St (Behind Bldg)

METERS USED

Temp.: TLC #10
pH: 98-9
Cond.: TLC #10
Turb.: NYSDRT #15

Well ID No.: FSMW-10B
Well Condition: New
Well Depth/Diameter: 142.0' / 2"
Well Casing Type: PVC
Screened Interval: Bottom 10'
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: TOC
Depth to Water (DTW): 51.60'
Water Column Ht./Vol.: 90.4' / 14.74 gal
Purge Est.: 80 gal
Purge Method(s): Pump (whale)
Purge Date/Time(s): 9/9/98 / 1240

Depth(s): TOC
Rates (gpm): ~1 GPM
Purged Volume: 80 gal
DTW After Purging: 51.64'
Yield Rate: L - M - H
Purge Observations: Water never cleared

DTW Before Sampling: 51.64'
Sample Date/Time: 9/9/98 / 1505
Sampling Method:
Sampling Depth(s):
DTW After Sampling:
Chain-of-Custody No.(s):
Analytical Lab(s):
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	8.2	5.7	230	>200
End	9.6	5.9	231	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	2.2	7.0	258	140
20	1.9	6.1	232	>200
40	1.9	5.8	228	>200
60	1.8	5.9	227	>200
80	7.7	5.6	228	>200

Comments: Temp. meter questionable

Air Temp: high 50s
Weather Conditions: Cloudy, Breezy

Crew Chief Signature

Edith Halberst

Date: 9/14/98

Date: 8/31/98
 Crew: SE / TS
 Job No: 650-616
 Project: Frost Street
 Project Site: Off-Site (EZ-EM)

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: MW-1
 Well Condition: Good
 Well Depth/Diameter: 67.22' / 4"
 Well Casing Type: PVC
 Screened Interval: ?
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: TOC
 Depth to Water (DTW): 52.90'
 Water Column Ht./Vol.: 14.82'
 Purge Est.: 26 gal
 Purge Method(s):
 Purge Date/Time(s):

DTW Before Sampling: 52.64'
 Sample Date/Time: 8/31/98 / 1845
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

Depth(s):
 Rates (gpm):
 Purged Volume:
 DTW After Purging:
 Yield Rate: L - M - H
 Purge Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	20.2	7.1	81	32.1
End	19.5	7.4	83	147.8

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	MW-1	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	22.2	7.5	76	16.43
9	20.0	7.6	80	>200
18	20.4	7.6	81	>200
27	20.0	7.5	82	159.8

Comments:

Air Temp:
 Weather Conditions:

Crew Chief Signature

Edith Hollister

Date:

9/1/98

Date: 9/4/98
 Crew: SE / TS
 Job No: 650-616
 Project: Frost Street
 Project Site: Off-Site (EZ-EM)

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: UN-4
 Well Condition: Good
 Well Depth/Diameter: 60.0' / 4"
 Well Casing Type: PVC
 Screened Interval: ?
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Mark on PVC
 Depth to Water (DTW): 51.35'
 Water Column Ht./Vol.: 8.65'
 Purge Est.: 40 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 9/4/98

DTW Before Sampling: 51.35'
 Sample Date/Time: 9/4/98 / 1110
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

Depth(s):
 Rates (gpm):
 Purged Volume:
 DTW After Purging: 51.35'
 Yield Rate: L - M - H
 Purge Observations: Water very silty

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	17.1	8.0	314	>200
End	18.5	8.0	325	>200

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	UN-4	HCl	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	18.9	8.0	343	>200
13	17.1	7.9	308	>200
26	17.1	7.8	301	>200
40	16.8	7.8	299	>200

Comments:

Air Temp:
 Weather Conditions:

Crew Chief Signature

Eric Hollister

Date:

9/14/98

Well Sampling Log

Date: 8/31/98
 Crew: SE / TS
 Job No: 650-322
 Project: Frost Street
 Project Site: 101 Frost St

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: MW-5
 Well Condition: Good
 Well Depth/Diameter: 65.19' / 4"
 Well Casing Type: PVC
 Screened Interval: ?
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Mark on PVC
 Depth to Water (DTW): 51.77'
 Water Column Ht./Vol.: 13.42' / 8 gal
 Purge Est.: 24 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 8/31/98

DTW Before Sampling: 51.88'
 Sample Date/Time: 8/31/98 / 1400
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

Depth(s):
 Rates (gpm): ~2.5 GPM
 Purged Volume: 24 gal
 DTW After Purging: 55.59'
 Yield Rate: L - M - H
 Purge Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	17.4	7.7	220	>200
End	17.0	7.7	217	43.4

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	MW-5	HCI	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	20.7	7.5	211	27.3
8	18.5	7.7	219	>200

Comments: Drawdown in well after 1 volume

Air Temp: 85 Degrees
 Weather Conditions: Sunny

Crew Chief Signature

Edith Hollister

Date: 9/14/98

Date: 8/31/98
 Crew: SE / TS
 Job No: 650-322
 Project: Frost Street
 Project Site: 101 Frost St

METERS USED

Temp.: TLC #11
 pH: 98-9
 Cond.: TLC #11
 Turb.: NYSDEC DRT#15

Well ID No.: LRF-1
 Well Condition: Good
 Well Depth/Diameter: 67.85' / 4"
 Well Casing Type: PVC
 Screened Interval: ?
 Casing Ht./Lock No.: Flush Mounted
 Reference Pt.: Mark on PVC
 Depth to Water (DTW): 53.89'
 Water Column Ht./Vol.: 13.96' / 9 gal
 Purge Est.: 27 gal
 Purge Method(s): Submersible Pump
 Purge Date/Time(s): 8/31/98 / 1514

DTW Before Sampling: 53.91'
 Sample Date/Time: 8/31/98 / 1430
 Sampling Method: Teflon Bailer
 Sampling Depth(s): Top of Column
 DTW After Sampling:
 Chain-of-Custody No.(s):
 Analytical Lab(s): Envirotech
 Sampling Observations:

Depth(s):
 Rates (gpm): ~2.5 GPM
 Purged Volume: 27 gal
 DTW After Purging:
 Yield Rate: L - M - H
 Purge Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	18.9	7.1	39	23.4
End	18.8	7.3	39	28.6

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter
VOA	LRF-1	HCI	No

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	22.5	7.4	40	26.9
9	18.2	7.3	38	135.3
18	17.3	7.3	38	62.2
27	17.3	7.1	38	25.9

Comments:

Air Temp:

Weather Conditions:

Crew Chief Signature

Edith Hall

Date:

9-14-98



Well Sampling Log

Date: 9/10/98
Crew: SE / EH
Job No: 650-616
Project: Frost Street
Project Site: Off Site (123 Frost St)

Well ID No.: NC-6
Well Condition: Good
Well Depth/Diameter: 62.0' / 4"
Well Casing Type: PVC
Screened Interval: ?
Casing Ht./Lock No.: Flush Mounted
Reference Pt.: TOC
Depth to Water (DTW): 54.49'
Water Column Ht./Vol.: 7.51' / 17.84 gal
Purge Est.: 60 gal
Purge Method(s): Submersible pump
Purge Date/Time(s): 9/10/98 / 1000

Depth(s): All
Rates (gpm): ~2.5 GPM
Purged Volume: 30 gal
DTW After Purging:
Yield Rate: L - M - H
Purge Observations:

PURGE CHEMISTRIES

Vol.	Temp. (°C)	pH	Sp. Cond.	Turb.
0	4.2	5.9	197	162
10	4.2	5.6	193	>200
20	4.2	5.8	181	155
30	16.1	5.6	167	100

Comments: Purged dry after 18 gal.
Temp. readings questionable

METERS USED
Temp.: TLC #11
pH: 98-9
Cond.: TLC #11
Turb.: NYSDRT #15

DTW Before Sampling:
Sample Date/Time: 9/10/98 / 1110
Sampling Method:
Sampling Depth(s):
DTW After Sampling:
Chain-of-Custody No.(s):
Analytical Lab(s):
Sampling Observations:

SAMPLE CHEMISTRIES

	Temp. (°C)	pH	Sp. Cond.	Turb.
Start	15.8	5.6	143	86
End	16.5	5.5	148	48.3

SAMPLE ANALYSES

Parameters	Inv. No.	Pres. Meth.	Filter

Crew Chief Signature _____ Date: _____

Air Temp: 70 degrees
Weather Conditions: Sunny, Windy



APPENDIX F

MOBILE LABORATORY DATA SUMMARY SHEETS



TARGET ENVIRONMENTAL SERVICES, INC.

Mobile Laboratories and Direct Push Sampling

December 03, 1998

Edith Hollister

Lawler, Matusky & Skelly, Engineers LLP

One Blue Hill Plaza

Pearl River, NY 10965

Dear Ms. Hollister:

Enclosed please find the final analytical data report for the Hicksville, NY site, samples collected between 07/29/98 and 09/09/98. Soil and water samples were collected by direct push and conventional drilling, and submitted to the Target mobile laboratory for GC analysis for VOC's. All samples were analyzed for chlorinated VOC's, and at the end of the project BTEX analyses were done also. Please note the attached sample summary table in which sample specific information is tabulated.

Each of the analyses performed has been summarized on tabular data summary pages, along with information about any dilutions performed, and an "S" or "U" flag to indicate either satisfactory or unsatisfactory QA/QC results for that sample. If a result was found to be unsatisfactory, a description of the concern or problem is noted at the bottom of the data summary form. For this group of samples the most significant problem was carryover of tetrachlorethene, or petroleum hydrocarbons from high-concentration samples.

Following is a summary of specific concerns that may impact data quality, and a description of any corrective actions undertaken.

Initial Calibration

Initial calibration results were within acceptable limits for all contaminants of concern (target compounds). Please note that several non-target compounds are included in our standard calibration summary forms that do not apply to this project.

Continuing Calibration

Continuing calibration results were within acceptable limits for all target compounds, with the exception of tetrachloroethene on 8/06, 8/12, 8/20, 8/21, and 8/27; 1,1-dichloroethane on 09/01; and trichlorethene on 09/09, for which the percent difference values exceeded the 20% limit slightly. Standards run following the out-of-control standards were within control limits in most cases. The tetrachloroethene (PCE) variability is due to carryover on the instrument due to elevated concentrations of PCE in many of the field samples.

Method Blanks

Method blanks were run periodically throughout the project to confirm that the instrument was not contributing false positive results to the sample analyses. Tetrachloroethene (PCE) was the only target compound detected in the method blanks, and is due primarily to PCE being present in many of the field samples at elevated concentrations. There were also some non-target compounds detected, usually suspected to be petroleum fuels. In cases where a method blank was highly contaminated additional blanks were run to bring the instrument back into control, or the instrument was baked out and a new analytical sequence begun.

Duplicates

Duplicate analyses of field samples were performed for both water and soil samples. All duplicate results were within acceptable limits with the exception of PCE results. The variability of the PCE results is due to differences in sub-sampling field samples, and carryover on the instrument due to elevated concentrations of PCE in many of the field samples.

Matrix Spikes

Matrix spikes were performed for both water and soil samples. All results are within acceptable limits.

Surrogates

Surrogate spikes were added to water and soil samples. Only a few samples had unacceptable surrogate recoveries, usually due to the presence of elevated levels of target or non-target analytes. If so, this has been noted in the sample narrative section of the tabular data summary forms.

Dilutions

Several samples were run at preliminary dilutions to avoid saturating the instrument with PCE or non-target analytes. In most cases, and after consulting the field staff to be sure the available information was sufficient, no further dilutions or more concentrated sample analyses were run to avoid additional cost.

Page 3
April 15, 1998

Also included with this hard-copy report are IBM-format diskettes with the tables in Excel 5 spreadsheets.

Please call or E-mail any questions, comments, or concerns you may have.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas J. McInnes". The signature is fluid and cursive, with the first name "Douglas" and last name "McInnes" clearly distinguishable.

Douglas J. McInnes
Laboratory Director
Target Environmental Services, Inc.

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

Sample ID	Site	Depth	Matrix	Percent Solids	Date Collected	Date Run	Holding Time	Weight or Volume
FSGP-14	770 MAIN	63-64	W	NA	7/31/98	7/31/98	14 DAYS	15 mL
FSGP-14	770 MAIN	79-80	W	NA	7/31/98	7/31/98	14 DAYS	15 mL
FSGP-15	770 MAIN	91-92	W	NA	7/30/98	7/31/98	14 DAYS	15 mL
FSGP-14	770 MAIN	93-94	W	NA	7/30/98	7/31/98	14 DAYS	15 mL
FSGP-13	770 MAIN	80-81	W	NA	7/31/98	8/3/98	14 DAYS	15 mL
FSGP-11	770 MAIN	79-80	W	NA	8/4/98	8/4/98	14 DAYS	15 mL
FSGP-11	770 MAIN	93-94	W	NA	8/4/98	8/4/98	14 DAYS	15 mL
FSGP-11	770 MAIN	63-64	W	NA	8/4/98	8/4/98	14 DAYS	15 mL
FSGP-15	770 MAIN	63-64	W	NA	8/4/98	8/4/98	14 DAYS	15 mL
FSGP-15	770 MAIN	77-78	W	NA	8/4/98	8/4/98	14 DAYS	15 mL
FSHP-03	89 FROST	55-65	W	NA	8/4/98	8/4/98	14 DAYS	15 mL
FSHP-03	89 FROST	80	W	NA	8/4/98	8/4/98	14 DAYS	15 mL
FSHP-03	89 FROST	90	W	NA	8/4/98	8/5/98	14 DAYS	15 mL
FSHP-03	89 FROST	100	W	NA	8/4/98	8/5/98	14 DAYS	15 mL
FSHP-03	89 FROST	110	W	NA	8/4/98	8/5/98	14 DAYS	15 mL
FSHP-03	89 FROST	120	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-03	89 FROST	130	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-03	89 FROST	140	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-03	89 FROST	150	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-04	89 FROST	55-65	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-04	89 FROST	80	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-04	89 FROST	90	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-04	89 FROST	100	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-04	89 FROST	110	W	NA	8/5/98	8/5/98	14 DAYS	15 mL
FSHP-04	89 FROST	120	W	NA	8/6/98	8/6/98	14 DAYS	15 mL
FSHP-04	89 FROST	130	W	NA	8/6/98	8/6/98	14 DAYS	15 mL
FSHP-04	89 FROST	140	W	NA	8/6/98	8/6/98	14 DAYS	15 mL
FSHP-04	89 FROST	150	W	NA	8/6/98	8/6/98	14 DAYS	15 mL
DWA-15	89 FROST	63-64	W	NA	8/6/98	8/6/98	14 DAYS	15 mL
DWA-15	89 FROST	79-80	W	NA	8/6/98	8/6/98	14 DAYS	15 mL
DWA-15	89 FROST	93-94	W	NA	8/6/98	8/6/98	14 DAYS	15 mL
FSGP-12	770 MAIN	63-64	W	NA	8/4/98	8/5/98	14 DAYS	15 mL
FSGP-12	770 MAIN	79-80	W	NA	8/4/98	8/5/98	14 DAYS	15 mL
FSGP-12	770 MAIN	93-94	W	NA	8/4/98	8/5/98	14 DAYS	15 mL
DWA-7	89 FROST	63-64	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
DWA-7	89 FROST	79-80	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
DWA-7	89 FROST	93-94	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
FSHP-01	101 FROST	50-60	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
FSHP-01	101 FROST	75	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
FSHP-01	101 FROST	85	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
FSHP-01	101 FROST	95	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
FSHP-01	101 FROST	115	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
FSHP-01	101 FROST	125	W	NA	8/10/98	8/10/98	14 DAYS	15 mL
DWA-7A	89 FROST	63-64	W	NA	8/11/98	8/11/98	14 DAYS	15 mL
DWA-7A	89 FROST	79-80	W	NA	8/11/98	8/11/98	14 DAYS	15 mL
DWA-7A	89 FROST	93-94	W	NA	8/11/98	8/11/98	14 DAYS	15 mL

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

Sample ID	Site	Depth	Matrix	Percent Solids	Date Collected	Date Run	Holding Time	Weight or Volume
FSHP-02	101 FROST	55-65	W	NA	8/11/98	8/11/98	14 DAYS	0.25 mL
FSHP-02	101 FROST	80	W	NA	8/12/98	8/12/98	14 DAYS	0.15 mL
FSHP-02	101 FROST	90	W	NA	8/12/98	8/12/98	14 DAYS	0.15 mL
FSHP-02	101 FROST	100	W	NA	8/12/98	8/12/98	14 DAYS	0.15 mL
FSHP-02	101 FROST	110	W	NA	8/12/98	8/12/98	14 DAYS	15 mL
FSHP-02	101 FROST	120	W	NA	8/12/98	8/12/98	14 DAYS	15 mL
FSHP-02	101 FROST	130	W	NA	8/12/98	8/12/98	14 DAYS	15 mL
DWA-9	89 FROST	63-64	W	NA	8/13/98	8/13/98	14 DAYS	15 mL
DWA-9	89 FROST	79-80	W	NA	8/13/98	8/13/98	14 DAYS	15 mL
DWA-9	89 FROST	94-95	W	NA	8/13/98	8/13/98	14 DAYS	1.5 mL
DWA-2**	NOT SAMPLED	63-64	W	NA	NA	NA	NA	NA
DWA-2**	NOT SAMPLED	79-80	W	NA	NA	NA	NA	NA
DWA-2	101 FROST	93-94	W	NA	8/13/98	8/18/98	14 DAYS	15 mL
101-DW	101 FROST	2-SW	W	NA	8/18/98	8/18/98	14 DAYS	15 mL
101-DW	101 FROST	3-SW	W	NA	8/18/98	8/18/98	14 DAYS	15 mL
101-DW	101 FROST	5-SW	W	NA	8/18/98	8/18/98	14 DAYS	15 mL
101-DW	101 FROST	7-SW	W	NA	8/18/98	8/18/98	14 DAYS	15 mL
101-DW	101 FROST	8-SW	W	NA	8/18/98	8/18/98	14 DAYS	15 mL
101-DW	101 FROST	9-SW	W	NA	8/18/98	8/18/98	14 DAYS	15 mL
DWA-1	101 FROST	63-64	W	NA	8/19/98	8/19/98	14 DAYS	15 mL
DWA-1	101 FROST	79-80	W	NA	8/19/98	8/19/98	14 DAYS	15 mL
DWA-1	101 FROST	94-95	W	NA	8/19/98	8/19/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	50-60	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	75	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	85	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	95	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	105	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	115	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	125	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	135	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-5	OFF-SITE	145	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSGP-13	770 MAIN	63-64	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSGP-13	770 MAIN	90-94	W	NA	8/20/98	8/20/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	55-65	W	NA	8/24/98	8/24/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	80	W	NA	8/24/98	8/24/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	90	W	NA	8/24/98	8/24/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	100	W	NA	8/24/98	8/24/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	110	W	NA	8/24/98	8/25/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	120	W	NA	8/24/98	8/25/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	130	W	NA	8/25/98	8/25/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	140	W	NA	8/25/98	8/25/98	14 DAYS	15 mL
FSHP-7	OFF-SITE	150	W	NA	8/25/98	8/25/98	14 DAYS	15 mL
DWA-4	89 FROST	63-64	W	NA	8/24/98	8/25/98	14 DAYS	15 mL
DWA-4	89 FROST	79-80	W	NA	8/24/98	8/25/98	14 DAYS	15 mL
DWA-4	89 FROST	93-94	W	NA	8/24/98	8/25/98	14 DAYS	15 mL

** : DWA-2 79-80' AND DWA-2 63-64' Were not recieved from sampling crew due to break down of Geoprobe

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

Sample ID	Site	Depth	Matrix	Percent Solids	Date Collected	Date Run	Holding Time	Weight or Volume
FSHP-6	OFF-SITE	50-60	W	NA	8/25/98	8/25/98	14 DAYS	15 mL
FSHP-6	OFF-SITE	70	W	NA	8/25/98	8/25/98	14 DAYS	15 mL
FSHP-6	OFF-SITE	80	W	NA	8/25/98	8/25/98	14 DAYS	15 mL
FSHP-6	OFF-SITE	90	W	NA	8/25/98	8/26/98	14 DAYS	1.5 mL
FSHP-6	OFF-SITE	100	W	NA	8/25/98	8/26/98	14 DAYS	1.5 mL
FSHP-6	OFF-SITE	110	W	NA	8/26/98	8/26/98	14 DAYS	1.5 mL
FSHP-6	OFF-SITE	120	W	NA	8/26/98	8/26/98	14 DAYS	1.5 mL
FSHP-6	OFF-SITE	130	W	NA	8/26/98	8/26/98	14 DAYS	1.5 mL
FSHP-6	OFF-SITE	140	W	NA	8/26/98	8/26/98	14 DAYS	1.5 mL
FSHP-6	OFF-SITE	150	W	NA	8/26/98	8/26/98	14 DAYS	1.5 mL
DWA-4	101 FROST	63-64	W	NA	8/26/98	8/26/98	14 DAYS	15 mL
DWA-4	101 FROST	79-80	W	NA	8/26/98	8/26/98	14 DAYS	15 mL
DWA-4	101 FROST	92-93	W	NA	8/25/98	8/25/98	14 DAYS	15 mL
FSGP-6	89 FROST	53-58	W	NA	8/28/98	8/28/98	14 DAYS	15 mL
FSGP-6	89 FROST	78	W	NA	8/28/98	8/28/98	14 DAYS	15 mL
FSGP-6	89 FROST	92	W	NA	8/28/98	8/28/98	14 DAYS	15 mL
FSGP-7	89 FROST	58-63	W	NA	8/27/98	8/27/98	14 DAYS	1.5 mL
FSGP-7	89 FROST	78	W	NA	8/27/98	8/27/98	14 DAYS	1.5 mL
FSGP-7	89 FROST	92	W	NA	8/27/98	8/27/98	14 DAYS	1.5 mL
FSGP-8	89 FROST	60-65	W	NA	8/27/98	8/27/98	14 DAYS	1.5 mL
FSGP-8	89 FROST	78	W	NA	8/27/98	8/27/98	14 DAYS	1.5 mL
FSGP-8	89 FROST	92	W	NA	8/27/98	8/27/98	14 DAYS	1.5 mL
DWA-6	101 FROST	63-64	W	NA	8/31/98	8/31/98	14 DAYS	15 mL
DWA-6	101 FROST	79-80	W	NA	8/31/98	8/31/98	14 DAYS	15 mL
DWA-6	101 FROST	93-94	W	NA	8/31/98	8/31/98	14 DAYS	15 mL
FSGP-3	101 FROST	60-65	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
FSGP-3	101 FROST	73-78	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
FSGP-3	101 FROST	92	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-8	101 FROST	63-64	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-8	101 FROST	79-80	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-8	101 FROST	93-94	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-18	89 FROST	60-65	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-18	89 FROST	78	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-18	89 FROST	92	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-5	89 FROST	63-64	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-5	89 FROST	79-80	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-5	89 FROST	93-94	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
FSGP-9	89 FROST	60-65	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
FSGP-9	89 FROST	78	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
FSGP-9	89 FROST	92	W	NA	9/1/98	9/1/98	14 DAYS	15 mL
DWA-1	89 FROST	60-65	W	NA	9/1/98	9/3/98	14 DAYS	15 mL
DWA-1	89 FROST	78	W	NA	9/1/98	9/3/98	14 DAYS	15 mL
DWA-1	89 FROST	92	W	NA	9/1/98	9/3/98	14 DAYS	15 mL
FSGP-10	89 FROST	60-65	W	NA	9/2/98	9/2/98	14 DAYS	1.5 mL
FSGP-10	89 FROST	78	W	NA	9/2/98	9/2/98	14 DAYS	1.5 mL
FSGP-10	89 FROST	92	W	NA	9/2/98	9/2/98	14 DAYS	1.5 mL

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

[illegible]

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

Sample ID	Site	Depth	Matrix	Percent Solids	Date Collected	Date Run	Holding Time	Weight or Volume
FSGP-14	770 MAIN	18-22	S	86.6	7/30/98	7/31/98	14 DAYS	5g
FSGP-14	770 MAIN	50-54	S	77.2	7/30/98	7/31/98	14 DAYS	5g
FSGP-15	770 MAIN	18-22	S	97.1	7/29/98	7/31/98	14 DAYS	5g
FSGP-15	770 MAIN	50-54	S	78.7	7/29/98	7/31/98	14 DAYS	5g
FSGP-13	770 MAIN	18-22	S	97.0	7/31/98	8/3/98	14 DAYS	5g
FSGP-13	770 MAIN	50-54	S	83.9	7/31/98	8/3/98	14 DAYS	5g
FSGP-11	770 MAIN	18-22	S	96.8	8/3/98	8/3/98	14 DAYS	5g
FSGP-11	770 MAIN	50-54	S	88.6	8/3/98	8/3/98	14 DAYS	5g
FSGP-12	770 MAIN	18-22	S	88.1	8/4/98	8/5/98	14 DAYS	5g
FSGP-12	770 MAIN	50-54	S	91.5	8/5/98	8/5/98	14 DAYS	5g
DWA-15	89 FROST	8-12	S	87.9	8/5/98	8/5/98	14 DAYS	5g
DWA-15	89 FROST	18-22	S	96.1	8/5/98	8/5/98	14 DAYS	5g
DWA-15	89 FROST	30-34	S	96.0	8/5/98	8/5/98	14 DAYS	5g
DWA-15	89 FROST	40-44	S	97.4	8/5/98	8/5/98	14 DAYS	5g
DWA-15	89 FROST	50-54	S	89.0	8/6/98	8/6/98	14 DAYS	5g
DWA-7	89 FROST	8-12	S	96.3	8/10/98	8/10/98	14 DAYS	5g
DWA-7	89 FROST	18-22	S	97.0	8/10/98	8/10/98	14 DAYS	5g
DWA-7	89 FROST	30-34	S	97.1	8/10/98	8/10/98	14 DAYS	5g
DWA-7	89 FROST	40-44	S	96.3	8/10/98	8/10/98	14 DAYS	5g
DWA-7	89 FROST	50-54	S	86.3	8/10/98	8/10/98	14 DAYS	5g
DWA-7A	89 FROST	8-12	S	96.6	8/11/98	8/11/98	14 DAYS	5g
DWA-7A	89 FROST	18-22	S	96.6	8/11/98	8/11/98	14 DAYS	5g
DWA-7A	89 FROST	30-34	S	97.4	8/11/98	8/11/98	14 DAYS	5g
DWA-7A	89 FROST	40-44	S	96.2	8/11/98	8/11/98	14 DAYS	5g
DWA-7A	89 FROST	50-54	S	79.5	8/11/98	8/11/98	14 DAYS	5g
DWA-08	89 FROST	8-12	S	97.8	8/12/98	8/12/98	14 DAYS	5g
DWA-08	89 FROST	18-22	S	97.1	8/12/98	8/12/98	14 DAYS	5g
DWA-08	89 FROST	30-34	S	96.5	8/12/98	8/12/98	14 DAYS	5g
DWA-08	89 FROST	40-44	S	97.4	8/12/98	8/12/98	14 DAYS	5g
DWA-08	89 FROST	50-54	S	90.9	8/12/98	8/12/98	14 DAYS	5g
DWA-2	89 FROST	9-11	S	96.3	8/19/98	8/19/98	14 DAYS	5g
DWA-2	89 FROST	19-21	S	98.0	8/19/98	8/19/98	14 DAYS	5g
DWA-2	89 FROST	31-33	S	96.5	8/19/98	8/19/98	14 DAYS	5g
DWA-2	89 FROST	41-43	S	97.5	8/19/98	8/19/98	14 DAYS	5g
DWA-2	89 FROST	51-53	S	86.2	8/19/98	8/19/98	14 DAYS	5g
DWA-3	89 FROST	9-11	S	93.8	8/19/98	8/19/98	14 DAYS	5g
DWA-3	89 FROST	19-21	S	97.2	8/19/98	8/19/98	14 DAYS	5g
DWA-3	89 FROST	31-33	S	97.8	8/19/98	8/20/98	14 DAYS	5g
DWA-3	89 FROST	41-43	S	96.2	8/19/98	8/20/98	14 DAYS	5g
DWA-3	89 FROST	51-53	S	85.7	8/19/98	8/20/98	14 DAYS	5g
DWA-1	101 FROST	8-12	S	97.0	8/19/98	8/20/98	14 DAYS	5g
DWA-1	101 FROST	18-22	S	97.3	8/19/98	8/19/98	14 DAYS	5g
DWA-1	101 FROST	30-34	S	97.4	8/19/98	8/19/98	14 DAYS	5g
DWA-1	101 FROST	40-44	S	96.7	8/19/98	8/19/98	14 DAYS	5g
DWA-1	101 FROST	50-54	S	92.1	8/19/98	8/19/98	14 DAYS	5g
DWA-4	89 FROST	9-11	S	96.5	8/20/98	8/20/98	14 DAYS	5g

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

Sample ID	Site	Depth	Matrix	Percent Solids	Date Collected	Date Run	Holding Time	Weight or Volume
DWA-4	89 FROST	19-21	S	96.2	8/20/98	8/20/98	14 DAYS	5g
DWA-4	89 FROST	31-33	S	96.2	8/20/98	8/20/98	14 DAYS	5g
DWA-4	89 FROST	41-43	S	95.6	8/20/98	8/20/98	14 DAYS	5g
DWA-4	89 FROST	51-53	S	75.0	8/20/98	8/20/98	14 DAYS	5g
DWA-14	89 FROST	9-11	S	90.6	8/20/98	8/20/98	14 DAYS	5g
DWA-14	89 FROST	19-21	S	98.3	8/20/98	8/20/98	14 DAYS	5g
DWA-14	89 FROST	31-33	S	97.4	8/20/98	8/20/98	14 DAYS	5g
DWA-14	89 FROST	51-53	S	82.5	8/20/98	8/20/98	14 DAYS	5g
DWA-12	89 FROST	9-11	S	94.4	8/21/98	8/21/98	14 DAYS	5g
DWA-12	89 FROST	19-21	S	95.5	8/21/98	8/21/98	14 DAYS	5g
DWA-12	89 FROST	31-33	S	98.3	8/21/98	8/21/98	14 DAYS	5g
DWA-12	89 FROST	41-43	S	96.4	8/21/98	8/21/98	14 DAYS	5g
DWA-12	89 FROST	51-53	S	81.6	8/21/98	8/21/98	14 DAYS	5g
DW-2	101 FROST	SURFACE	S	88.1	8/24/98	8/24/98	14 DAYS	5g
DW-2	101 FROST	28-30	S	94.2	8/24/98	8/24/98	14 DAYS	5g
DW-7	101 FROST	SURFACE	S	84.8	8/24/98	8/24/98	14 DAYS	5g
DW-7	101 FROST	28-30	S	91.6	8/24/98	8/24/98	14 DAYS	5g
DWA-2	101 FROST	8-12	S	97.8	8/24/98	8/24/98	14 DAYS	5g
DWA-2	101 FROST	18-22	S	95.5	8/24/98	8/24/98	14 DAYS	5g
DWA-2	101 FROST	30-34	S	94.9	8/24/98	8/24/98	14 DAYS	5g
DWA-2	101 FROST	40-44	S	95.7	8/24/98	8/25/98	14 DAYS	5g
DWA-2	101 FROST	50-54	S	95.4	8/24/98	8/25/98	14 DAYS	5g
DW-8	101 FROST	SURFACE	S	79.2	8/24/98	8/24/98	14 DAYS	5g
DW-8	101 FROST	20-22	S	84.4	8/24/98	8/24/98	14 DAYS	5g
DWA-11	89 FROST	9-11	S	84.3	8/24/98	8/24/98	14 DAYS	5g
DWA-11	89 FROST	19-21	S	92.1	8/24/98	8/24/98	14 DAYS	5g
DWA-11	89 FROST	31-33	S	97.1	8/24/98	8/24/98	14 DAYS	5g
DWA-11	89 FROST	41-43	S	95.6	8/24/98	8/24/98	14 DAYS	5g
DWA-11	89 FROST	51-53	S	78.7	8/24/98	8/24/98	14 DAYS	5g
DW-5	101 FROST	SURFACE	S	78.8	8/24/98	8/24/98	14 DAYS	5g
DW-5	101 FROST	22-24	S	97.4	8/24/98	8/24/98	14 DAYS	5g
DWA-15A	89 FROST	9-11	S	91.5	8/24/98	8/24/98	14 DAYS	5g
DWA-15A	89 FROST	19-21	S	96.3	8/24/98	8/24/98	14 DAYS	5g
DWA-15A	89 FROST	31-33	S	97.4	8/24/98	8/25/98	14 DAYS	5g
DWA-15A	89 FROST	41-43	S	97.4	8/24/98	8/25/98	14 DAYS	5g
DWA-15A	89 FROST	51-53	S	81.1	8/24/98	8/25/98	14 DAYS	5g
DWA-6	101 FROST	SURFACE	S	90.3	8/24/98	8/25/98	14 DAYS	5g
DWA-6	101 FROST	27-29	S	94.6	8/24/98	8/25/98	14 DAYS	5g
SMHE	89 FROST	9-11	S	97.8	8/25/98	8/25/98	14 DAYS	5g
SMHE	89 FROST	19-21	S	96.3	8/25/98	8/25/98	14 DAYS	5g
SMHE	89 FROST	31-33	S	95.4	8/25/98	8/25/98	14 DAYS	5g
SMHE	89 FROST	41-43	S	96.0	8/25/98	8/25/98	14 DAYS	5g
SMHE	89 FROST	51-53	S	86.1	8/25/98	8/25/98	14 DAYS	5g
DW-9	101 FROST	SURFACE	S	76.1	8/25/98	8/26/98	14 DAYS	5g
DW-9	101 FROST	26-28	S	96.1	8/25/98	8/26/98	14 DAYS	5g
DW-1	101 FROST	SURFACE	S	97.2	8/25/98	8/25/98	14 DAYS	5g

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

Sample ID	Site	Depth	Matrix	Percent Solids	Date Collected	Date Run	Holding Time	Weight or Volume
DW-1	101 FROST	27-29	S	97.6	8/25/98	8/25/98	14 DAYS	5g
DWA-4	101 FROST	8-12	S	98.2	8/25/98	8/25/98	14 DAYS	5g
DWA-4	101 FROST	18-22	S	96.0	8/25/98	8/25/98	14 DAYS	5g
DWA-4	101 FROST	30-34	S	96.1	8/25/98	8/25/98	14 DAYS	5g
DWA-4	101 FROST	40-44	S	96.8	8/25/98	8/25/98	14 DAYS	5g
DWA-4	101 FROST	50-54	S	94.9	8/25/98	8/25/98	14 DAYS	5g
DW-12	101 FROST	SURFACE	S	70.5	8/25/98	8/26/98	14 DAYS	5g
DW-12	101 FROST	27-29	S	97.3	8/25/98	8/26/98	14 DAYS	5g
SMH-13	101 FROST	SURFACE	S	87.7	8/25/98	8/25/98	14 DAYS	5g
SMH-13	101 FROST	27-29	S	96.7	8/25/98	8/25/98	14 DAYS	5g
DWA-SMH	89 FROST	9-11	S	92.4	8/25/98	8/25/98	14 DAYS	5g
DWA-SMH	89 FROST	19-21	S	95.6	8/25/98	8/25/98	14 DAYS	5g
DWA-SMH	89 FROST	31-33	S	96.4	8/25/98	8/25/98	14 DAYS	5g
DWA-SMH	89 FROST	41-43	S	97.2	8/25/98	8/25/98	14 DAYS	5g
DWA-SMH	89 FROST	51-53	S	84.0	8/25/98	8/25/98	14 DAYS	5g
DW-11	101 FROST	SURFACE	S	68.6	8/25/98	8/25/98	14 DAYS	5g
DW-11	101 FROST	19-21	S	96.3	8/25/98	8/25/98	14 DAYS	5g
DWA-10	89 FROST	9-11	S	89.4	8/25/98	8/25/98	14 DAYS	5g
DWA-10	89 FROST	19-21	S	93.6	8/25/98	8/25/98	14 DAYS	5g
DWA-10	89 FROST	31-33	S	97.6	8/25/98	8/25/98	14 DAYS	5g
DWA-10	89 FROST	41-43	S	96.2	8/25/98	8/25/98	14 DAYS	5g
DWA-10	89 FROST	51-53	S	84.5	8/25/98	8/25/98	14 DAYS	5g
DWA-1	89 FROST	9-11	S	95.1	8/26/98	8/26/98	14 DAYS	5g
DWA-1	89 FROST	19-21	S	95.9	8/26/98	8/26/98	14 DAYS	5g
DWA-1	89 FROST	31-33	S	96.9	8/26/98	8/26/98	14 DAYS	5g
DWA-1	89 FROST	41-43	S	96.9	8/26/98	8/26/98	14 DAYS	5g
DWA-1	89 FROST	51-53	S	76.4	8/26/98	8/26/98	14 DAYS	5g
DWA-5	89 FROST	9-11	S	92.5	8/26/98	8/26/98	14 DAYS	5g
DWA-5	89 FROST	19-21	S	93.7	8/26/98	8/26/98	14 DAYS	5g
DWA-5	89 FROST	31-33	S	96.2	8/26/98	8/26/98	14 DAYS	5g
DWA-5	89 FROST	41-43	S	94.8	8/26/98	8/26/98	14 DAYS	5g
DWA-5	89 FROST	51-53	S	82.5	8/26/98	8/26/98	14 DAYS	5g
DWA-5	101 FROST	8-12	S	97.7	8/26/98	8/26/98	14 DAYS	5g
DWA-5	101 FROST	18-22	S	96.0	8/26/98	8/26/98	14 DAYS	5g
DWA-5	101 FROST	32-36	S	95.1	8/26/98	8/26/98	14 DAYS	5g
DWA-5	101 FROST	40-44	S	95.4	8/26/98	8/26/98	14 DAYS	5g
DWA-5	101 FROST	50-54	S	95.6	8/26/98	8/26/98	14 DAYS	5g
DW-4	101 FROST	SURFACE	S	92.7	8/26/98	8/26/98	14 DAYS	5g
DW-4	101 FROST	24-26	S	96.4	8/26/98	8/26/98	14 DAYS	5g
DW-3	101 FROST	SURFACE	S	89.4	8/26/98	8/26/98	14 DAYS	5g
DW-3	101 FROST	26-28	S	93.9	8/26/98	8/26/98	14 DAYS	5g
DW-10A	101 FROST	SURFACE	S	93.6	8/26/98	8/26/98	14 DAYS	5g
FSGP-6	89 FROST	19-21	S	99.4	8/28/98	8/27/98	14 DAYS	5g
FSGP-6	89 FROST	51-53	S	88.5	8/28/98	8/27/98	14 DAYS	5g
FSGP-7	89 FROST	19-21	S	79.5	8/27/98	8/27/98	14 DAYS	0.5g
FSGP-7	89 FROST	51-53	S	84.5	8/27/98	8/27/98	14 DAYS	0.5g

LMS ANALYTICAL NARRATIVE SAMPLE SUMMARY

[illegible]



WATER ANALYSIS RESULTS



Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION		770 MAIN	770 MAIN	770 MAIN	770 MAIN	770 MAIN	770 MAIN	770 MAIN	770 MAIN	770 MAIN	770 MAIN	770 MAIN
Compound		FSGP-14	FSGP-14	FSGP-15	FSGP-15	FSGP-13	FSGP-11	FSGP-11	FSGP-11	FSGP-15	FSGP-15	FSGP-15
		63-64'	79-80'	91-92'	93-94'	80-81'	79-80'	93-94'	63-64'	63-64'	63-64'	77-78'
		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-Dichloroethene	MDL ²	5.00	ND	5.68	ND	ND	11.5	19.6	ND	ND	ND	ND
trans-1,2-Dichloroethene	PQL ³	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		5.00	ND	ND	ND	12.9	20.1	32.6-E	12.5	5.24	5.24	ND
cis-1,2-Dichloroethene		5.00	230-E	ND	60.7-E	ND	ND	ND	16.3	641-E	641-E	463-E
1,1,1-Trichloroethene		0.50	2.42	12.2-E	2.98	8.87-E	35.8-E	38.9-E	30.6-E	3.68	3.68	4.32-E
1,2-dichloroethene		5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		0.50	65.8-E	11.1-E	30.2-E	6.52-E	8.98-E	2.26	45.5-E	80.0-E	80.0-E	72.0-E
Tetrachloroethene		0.50	62.3-E	50.3-E	35.3-E	21.6-E	36.4-E	34.6-E	38.3-E	82.4-E	82.4-E	86.2-E
SURROGATE RECOVERY	%	98	115	102	100	79	102	118	110	96	118	118
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S	S
S: Satisfactory, U: Unsatisfactory												
U: see sample narrative												

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA d4 was surrogate used.

Quality Control Analyst: 

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Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Client Contact: Edith Hollister
Client Phone: 914-735-8300
Client Fax: 914-735-7466

Fax: (301)497-4449

Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION		89FROST DWA-15	89FROST FSGP-12	89FROST FSGP-12	89FROST FSGP-12	89FROST FSGP-12	89FROST DWA-7	89FROST DWA-7	89FROST DWA-7	101 FROST FSHP-01	101 FROST FSHP-01	101 FROST FSHP-01	101 FROST FSHP-01
Compound	MDL ² (ug/L)	PQL ³ (ug/L)	89FROST FSGP-12	89FROST FSGP-12	89FROST FSGP-12	89FROST FSGP-12	89FROST DWA-7	89FROST DWA-7	89FROST DWA-7	101 FROST FSHP-01	101 FROST FSHP-01	101 FROST FSHP-01	101 FROST FSHP-01
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	6.00	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	19.1-E	1.86	2.54	23.1-E	ND	ND	ND	6.08-E	10.8	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	9.06-E	2.49	2.43	3.20	ND	ND	ND	ND	1.37	ND	ND
Tetrachloroethene	0.50	0.50	13.5-E	24.0-E	29.0	11.0-E	ND	1.31	3.93	3.05	1.77	1.77	0.61
SURROGATE RECOVERY	%	94	83	145	77	80	84	86	83	96	78	78	78
Sample Condition (S,U)/Dilution (PQL)		1	S	S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

1,2-DCA/d4 was surrogate used, FSGP-12 79-80'- SURROGATE HIGH DUE TO CO-ILLUTION W/1,1,1 TCA.

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected:	7/29-9/4/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/4/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box 1509
Samples Analyzed:	7/30-9/9/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/11/98	Reported by:	Stu Johnson Jr.		
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Contact:	Edith Hollister
Target Job Code:	LMS001	Method Deviations:	None	Client Phone:	914-735-8300
Purchase Order:	N/A	Sampling Method:	Geoprobe	Client Fax:	914-735-7466

[illegible]

Compound	MDL ² (ug/L)	PQL ³ (ug/L)	95' (ug/L)	115' (ug/L)	125' (ug/L)	63-64' (ug/L)	79-80' (ug/L)	93-94' (ug/L)	55-55' (ug/L)	80' (ug/L)	90' (ug/L)	100' (ug/L)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>trans</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>cis</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	57.4	359	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND	78.0	ND	ND	ND
Tetrachloroethene	0.50	0.50	ND	0.62	ND	1.34	1.55	1.39	1020-E	994-E	51.6	116
SURROGATE RECOVERY	%		106	107	75	96	93	80	104	84	107	87
Sample Condition (S,U)/Dilution (PQL)		1	S	S	S	S	S	S	60X	100X	100X	100X

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit

Quality Control Analyst: Dr. J. R. M.

Fax: (301)497-4449

Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION		101 FROST	101 FROST	101 FROST	89 FROST	89 FROST	89 FROST	89 FROST	89 FROST	101 FROST
		FSHP-02	FSHP-02	FSHP-02	DWA-9	DWA-9	DWA-2	DWA-2	DWA-2	DWA-2
Compound		110'	120'	130'	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MDL ²		(ug/L)	(ug/L)	(ug/L)						
1,1-Dichloroethene	5.00	ND	ND	ND	ND	ND	NA	NA	NA	ND
trans-1,2-Dichloroethene	5.00	ND	ND	ND	ND	ND	NA	NA	NA	ND
1,1-Dichloroethane	5.00	ND	ND	ND	ND	ND	NA	NA	NA	ND
cis-1,2-Dichloroethene	5.00	ND	ND	ND	ND	ND	NA	NA	NA	ND
1,1,1-Trichloroethane	0.50	ND	1.82	ND	2.44	38.9-E	NA	NA	NA	ND
1,2-dichloroethane	5.00	ND	ND	ND	ND	ND	NA	NA	NA	ND
Trichloroethene	0.50	2.86	1.22	ND	1.58	5.67-E	NA	NA	NA	ND
Tetrachloroethene	0.50	1.76	9.78-E	2.33	19.6-E	83.4-E	NA	NA	NA	ND
SURROGATE RECOVERY	%	94	112	116	100	106	NA	NA	NA	85
Sample Condition (S,U)/Dilution (PQL)	1	S	S	S	S	10X	S	NA	S	S
S: Satisfactory, U: Unsatisfactory										
U: see sample narrative										

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

1,2,DCA¹⁴ was surrogate used- DWA-2 63-64' AND DWA-2 79-80' WERE NOT RECEIVED

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Fax: (301) 497-4449

Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client:
 Client Address: Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	Compound	MDL ² (ug/L)	PQL ³ (ug/L)	OFF SITE FSHP-5	OFF SITE FSHP-5	OFF SITE FSHP-5	OFF SITE FSHP-5	OFF SITE FSHP-5	OFF SITE FSHP-5	770 MAIN FSGP-13	770 MAIN FSGP-13
				85'	95'	105'	115'	125'	145'	63-64'	90-94'
				(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	12.7
1,1-Dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	8.43
cis-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	101-E	9.70
1,1,1-Trichloroethane		0.50	0.50	ND	ND	ND	ND	ND	ND	15.5-E	32.2-E
1,2-dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		0.50	0.50	ND	ND	ND	ND	ND	ND	79.6-E	16.1-E
Tetrachloroethene		0.50	0.50	10.9-E	7.06-E	ND	0.67	ND	0.97	35.9-E	24.9-E
SURROGATE RECOVERY	%			104	103	86	78	90	88	96	111
Sample Condition (S,U)/Dilution (PQL)			1	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

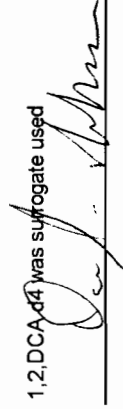
² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

1,2,DCA^{ad} was surrogate used

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected:
 Samples Received:
 Samples Analyzed:
 Samples Reported:
 Project Identification:
 Target Job Code:
 Purchase Order:

7/29-9/4/98
 7/30-9/4/98
 7/30-9/9/98
 7/30-9/11/98
 Hicksville, NY
 LMS001
 N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 38108010 Sample Analysis Results

SITE LOCATION	Compound	MDL ² (ug/L)	PQL ³ (ug/L)	OFF SITE FSHP-7	OFF SITE FSHP-7	OFF SITE FSHP-7	OFF SITE FSHP-7	OFF SITE FSHP-7	OFF SITE FSHP-7	OFF SITE FSHP-7	OFF SITE FSHP-7	OFF SITE FSHP-7	89 FROST DWA-4
				55-65'	80'	90'	100'	110'	120'	130'	140'	150'	63-64'
				(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		0.50	0.50	ND	ND	ND	ND	ND	0.34	1.74	ND	0.35	ND
Tetrachloroethene		0.50	0.50	ND	ND	1.77	2.17	0.82	1.34	0.68	0.93	0.89	1.46
Benzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		5.00	5.00	ND	ND	ND	ND	ND	6.02	ND	ND	ND	ND
Ethylbenzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY

%	81	88	86	86	79	103	100	101	101	83
Sample Condition (S,U)/Dilution (PQL)	1	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
 U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA d4 was surrogate used

Quality Control Analyst:



Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	Compound	MDL ² (ug/L)	PQL ³ (ug/L)	89 FROST DWA-4 79-80' (ug/L)	89 FROST DWA-4 93-94' (ug/L)	OFF SITE FSHP-6 50-80' (ug/L)	OFF SITE FSHP-6 70' (ug/L)	OFF SITE FSHP-6 80' (ug/L)	OFF SITE FSHP-6 90' (ug/L)	OFF SITE FSHP-6 100' (ug/L)	OFF SITE FSHP-6 110' (ug/L)	OFF SITE FSHP-6 120' (ug/L)	OFF SITE FSHP-6 130' (ug/L)
1,1-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	64.9	ND	ND
trans-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	241	ND	ND
1,1,1-Trichloroethane		0.50	0.50	ND	ND	ND	ND	ND	ND	ND	164-E	ND	3.00
1,2-dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		0.50	0.50	ND	ND	ND	ND	ND	ND	7.20	211-E	10.9	19.4
Tetrachloroethene		0.50	0.50	0.80	0.53	ND	ND	2.99	13.3	97.4-E	255-E	112-E	129-E
Benzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY

%	87	89	88	104	85	86	97	107	86	10X	10X	86	10X
Sample Condition (S,U)/Dilution (PQL)	1	S	S	S	S	S	S	S	S	10X	10X	10X	10X

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

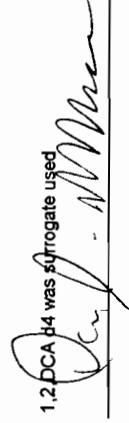
² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

1,2-DCA B4 was surrogate used

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	Compound	MDL ² (ug/L)	PQL ³ (ug/L)	OFF-SITE FSHP-6 140' (ug/L)	OFF-SITE FSHP-6 150' (ug/L)	101 FROST DWA-4 63-64' (ug/L)	101 FROST DWA-4 79-80' (ug/L)	101 FROST DWA-4 92-93' (ug/L)	89 FROST FSGP-6 78' (ug/L)	89 FROST FSGP-6 92' (ug/L)	89 FROST FSGP-7 58-63' (ug/L)	89 FROST FSGP-7 78' (ug/L)
1,1-Dichloroethene	trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethene	1,2-dichloroethane	5.00	5.00	5.30	3.63	5.68	1.90	5.43-E	ND	ND	9.88-E	ND
Trichloroethene		0.50	0.50	28.2	16.0	0.35	ND	1.26	ND	ND	38.6-E	7.39
Tetrachloroethene		0.50	0.50	130-E	113-E	0.36	0.31	1.09	5.54-E	5.64-E	146-E	98.2-E
Benzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY

%	86	98	99	100	92	80	97	77
Sample Condition (S,U)/Dilution (PQL)	1	10X	10X	10X	S	S	S	10X
S: Satisfactory, U: Unsatisfactory								
U: see sample narrative								

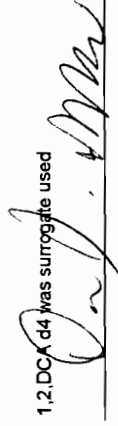
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2 DCA d4 was surrogate used

Quality Control Analyst:



Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client:
 Client Address:
 Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Client Contact:
 Client Phone:
 Client Fax:
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	89 FROST FSGP-7	89 FROST FSGP-8	89 FROST FSGP-8	89 FROST FSGP-8	101 FROST DWA-6	101 FROST DWA-6	101 FROST FSGP-3	101 FROST FSGP-3	101 FROST FSGP-3
Compound	MDL ² (ug/L)	PQL ³ (ug/L)	92' (ug/L)	60-66' (ug/L)	78' (ug/L)	92' (ug/L)	60-65' (ug/L)	73-78' (ug/L)	92' (ug/L)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	5.85	10.8	20.9	12.1-E	0.75	20.9-E	0.86
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	13.6	605-E	49.7-E	0.89	3.20	1.80	ND
Tetrachloroethene	0.50	0.50	123-E	855-E	245-E	0.59	9.85-E	4.90-E	1.95
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY

%	83	98	93	84	99	110	107	117	100
Sample Condition (S,U)/Dilution (PQL)	10X	10X	10X	10X	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA/d4 was surrogate used

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected:
Samples Received:
Samples Analyzed:
Samples Reported:
Project Identification:
Target Job Code:
Purchase Order:

7/29-9/4/98
7/30-9/4/98
7/30-9/9/98
7/30-9/11/98
Hicksville, NY
LMS001
N/A

Collected by:
Received by:
Analyzed by:
Reported by:
Report Revision:
Method Deviations:
Sampling Method:

Chuck Mayers
Stu Johnson Jr.
Stu Johnson Jr.
Stu Johnson Jr.
0.0
None
Geoprobe

Client:
Client Address:
Client Contact:
Client Phone:
Client Fax:

Lawler Matusky & Skelly
1 Blue Hill Plaza PO Box 1509
Pearl River, NY 10965
Edith Hollister
914-735-8300
914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION

Compound	MDL ² (ug/L)	PQL ³ (ug/L)	101 FROST DWA-8 63-64' (ug/L)	101 FROST DWA-8 79-80' (ug/L)	101 FROST DWA-8 93-94' (ug/L)	89 FROST DWA-18 60-65' (ug/L)	89 FROST DWA-18 78' (ug/L)	89 FROST DWA-5 63-64' (ug/L)	89 FROST DWA-5 79-80' (ug/L)	89 FROST DWA-5 93-94' (ug/L)	89 FROST FSGP-9 60-65' (ug/L)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	46.8-E
1,1,1-Trichloroethane	0.50	0.50	6.92-E	19.1-E	ND	ND	ND	ND	ND	ND	1.13
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	1.04	4.45	ND	ND	ND	ND	ND	ND	36.8-E
Tetrachloroethene	0.50	0.50	1.21	2.76	5.69-E	0.70	1.45	0.59	0.64	2.92	32.1-E
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY

%	109	90	92	80	85	89	97
Sample Condition (S,U)/Dilution (PQL)	1	S	S	S	S	S	S
S: Satisfactory, U: Unsatisfactory							
U: see sample narrative							

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA/44 was surrogate used

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 381.08010 Sample Analysis Results

SITE LOCATION

Compound	MDL ² (ug/L)	PQL ³ (ug/L)	89 FROST FSGP-9 78' (ug/L)	89 FROST FSGP-9 92' (ug/L)	89 FROST DWA-1 60-65' (ug/L)	89 FROST DWA-1 78' (ug/L)	89 FROST DWA-1 92' (ug/L)	89 FROST FSGP-10 78' (ug/L)	89 FROST FSGP-10 92' (ug/L)	89 FROST DWA-11 63-64' (ug/L)	89 FROST DWA-11 79-80' (ug/L)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>trans</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>cis</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	158-E	3.09	74.9-E	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	3.34	ND	ND	ND	0.80	72.7-E	27.5	21.1	356-E
Tetrachloroethene	0.50	0.50	14.0-E	5.33-E	6.40	4.16-E	12.0-E	426-E	99.9-E	271-E	ND
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>o</i> -Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>m&p</i> -Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY

%	78	86	150	107	115	106	110	90	99	114
Sample Condition (S,U)/Dilution (PQL)	1	S	S	S	S	S	10x	10x	10x	10x

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

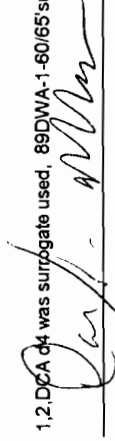
² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

1,2-DCA d4 was surrogate used, 89DWA-1-60/65 surrogate high due to co-illumination

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected: 7/29-9/4/98
Samples Received: 7/30-9/4/98
Samples Analyzed: 7/30-9/9/98
Samples Reported: 7/30-9/11/98
Project Identification: Hicksville, NY
Target Job Code: LMS001
Purchase Order: N/A

Collected by: Chuck Mayers
Received by: Stu Johnson Jr.
Analyzed by: Stu Johnson Jr.
Reported by: Stu Johnson Jr.
Report Revision: 0.0
Method Deviations: None
Sampling Method: Geoprobe

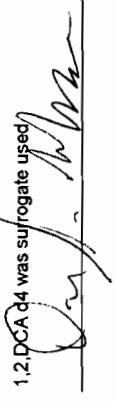
Client: Lawler Matusky & Skelly
Client Address: 1 Blue Hill Plaza PO Box 1509
Pearl River, NY 10965
Client Contact: Edith Hollister
Client Phone: 914-735-8300
Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	Compound	MDL ² (ug/L)	PQL ³ (ug/L)	89 FROST									
				DWA-11	SMHE	SMHE	SMHE	DWA-12	DWA-12'	DWA-14	DWA-14	DWA-14	DWA-16
				93-94'	60-65'	78'	92'	79-80'	93-94'	60-65'	78'	92'	60-65'
				(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane		0.50	0.50	16.4	ND	211-E	223-E	101-E	88.0-E	3.54	46.6-E	29.2	9.44
1,2-dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		0.50	0.50	23.0	183-E	ND	24.9	14.2	69.3-E	304-E	8.59	110-E	1200-E
Tetrachloroethene		0.50	0.50	291-E	500-E	143-E	351-E	289-E	395-E	471-E	292-E	389-E	1855-E
Benzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY		%	118	107	108	91	120	92	107	120	103	119
Sample Condition (S,U)/Dilution (PQL)			1	10x	10x	10x	10x	10x	10x	10x	10x	10x
S: Satisfactory, U: Unsatisfactory												
U: see sample narrative												

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E indicates the quantified value exceeds the linear calibration range and the true value may be higher
² MDL: Method detection limit according to EPA 40 CFR Part 136 Appendix B
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA was surrogate used
Quality Control Analyst: 

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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	Compound	MDL ² (ug/L)	PQL ³ (ug/L)	89 FROST DWA-16 78' (ug/L)	89 FROST DWA-16 92' (ug/L)	89 FROST DWA-19 60-65' (ug/L)	89 FROST DWA-19 78' (ug/L)	89 FROST DWA-19 92' (ug/L)	101 FROST FSGP-4 60-65' (ug/L)	101 FROST FSGP-4 78' (ug/L)	101 FROST FSGP-4 92' (ug/L)	89 FROST UN-4 EZ-EM (ug/L)	770 MAIN FSMU 09A (ug/L)
1,1-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		5.00	5.00	ND	55.1	ND	ND	ND	ND	ND	ND	ND	1426-E
cis-1,2-Dichloroethene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethene		0.50	0.50	190-E	545-E	ND	279	ND	8.16	42.9-E	123-E	74.2-E	ND
1,2-dichloroethane		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene		0.50	0.50	12.6	11.0	359	ND	68.8	67.8-E	3.35	7.80	66.2-E	1249-E
Tetrachloroethene		0.50	0.50	351-E	347-E	4986-E	1792-E	2830-E	458-E	86.6-E	49.7-E	193-E	680-E
Benzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes		5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY

%

1

10x

10x

100x

100x

100x

100x

100x

100x

100x

100x

100x

100x

100x

100x

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

1,2-DCA d4 was surrogate used

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

SOIL ANALYSIS RESULTS

Samples Collected: 7/29-9/10/98
Samples Received: 7/30-9/10/98
Samples Analyzed: 7/30-9/10/98
Samples Reported: 7/30-9/10/98
Project Identification: Hicksville, NY
Target Job Code: LMS001
Purchase Order: N/A

Collected by:
Received by:
Analyzed by:
Reported by:
Report Revision:
Method Deviations:
Sampling Method:

Chuck Mayers
Stu Johnson Jr.
Stu Johnson Jr.
Stu Johnson Jr.
0.0
None
Geoprobe

Client:
Client Address:
Client Contact:
Client Phone:
Client Fax:

Lawler Matusky & Skelly
1 Blue Hill Plaza PO Box 1509
Pearl River, NY 10965
Edith Hollister
914-735-8300
914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

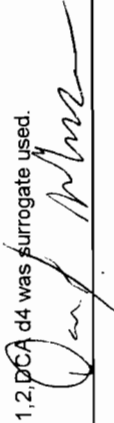
SITE LOCATION		89 FROST											
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	8-12'		18-22'		30-34'		40-44'		50-54'		
			DWA-15	(ng/g)	DWA-15	(ng/g)	DWA-15	(ng/g)	DWA-15	(ng/g)	DWA-7	(ng/g)	DWA-7
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethene	0.50	0.50	ND	ND	ND	ND	1.10	ND	ND	ND	ND	ND	
Tetrachloroethene	0.50	0.50	1.73	1.62	3.82-E	15.8-E	30.2-E	0.97	0.50	ND	ND	9.21-E	
SURROGATE RECOVERY		%	86	106	111	101	88	104	110	114	108	114	
Sample Condition (S,U)/Dilution (PQL)		1	S	S	S	S	S	S	S	S	S	S	

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA d4 was surrogate used.

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client:
 Client Address:
 Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Client Contact:
 Client Phone:
 Client Fax:
 Edith Hollister
 914-735-8300
 914-735-7466

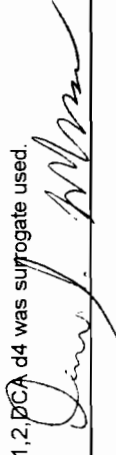
USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION												
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	89 FROST DWA-7A 8-12' (ng/g)	89 FROST DWA-7A 18-22' (ng/g)	89 FROST DWA-7A 30-34' (ng/g)	89 FROST DWA-7A 40-44' (ng/g)	89 FROST DWA-7A 50-54' (ng/g)	89 FROST DWA-08 8-12' (ng/g)	89 FROST DWA-08 18-22' (ng/g)	89 FROST DWA-08 30-34' (ng/g)	89 FROST DWA-08 40-44' (ng/g)	89 FROST DWA-08 50-54' (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.2-E
Tetrachloroethene	0.50	0.50	0.95	3.36-E	1.85	1.94	10.3-E	1.10	2.11	1.98	2.60	60.8-E
SURROGATE RECOVERY	%		116	120	102	102	95	82	115	99	108	115
Sample Condition (S,U)/Dilution (PQL)			1	S	S	S	S	S	S	S	S	S
S: Satisfactory, U: Unsatisfactory												
U: see sample narrative												
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve												

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2,PCA d4 was surrogate used.

Quality Control Analyst: 

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Phone: (301)497-6400

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Lawler Matusky & Skelly
1 Blue Hill Plaza PO Box 1509
Pearl River, NY 10965

Edith Hollister
914-735-8300
914-735-7466

Quality Control Analyst:

Fax: (301)497-4449

Mobile Laboratory Services

Client Contact:
Client Phone:
Client Fax:

[illegible]

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit

Quality Control Analyst:

Fax: (301)497-4449

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	89 FROST DWA-14	89 FROST DWA-14	89 FROST DWA-14	89 FROST DWA-14	89 FROST DWA-12	89 FROST DWA-12	89 FROST DWA-12
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	9-11' (ng/g)	19-21' (ng/g)	31-33' (ng/g)	51-53' (ng/g)	19-21' (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	74.8-E
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	0.60	ND	61.7-E
Tetrachloroethene	0.50	0.50	5.49-E	1.83	10.5-E	29.8-E	56.0-E

SURROGATE RECOVERY %

85 81 75 79 85 81 76 78

Sample Condition (S,U)/Dilution (PQL)

1 S S S S S S S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

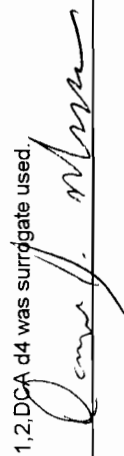
² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2,DCA d4 was surrogate used.

Quality Control Analyst:



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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	101 FROST DW-2	101 FROST Surface	101 FROST DW-7	101 FROST Surface	101 FROST DW-7	101 FROST DW-7	101 FROST 8-12'	101 FROST DWA-2	101 FROST 18-22'	101 FROST DWA-2	101 FROST 30-34'	101 FROST DWA-2	101 FROST 40-44'	101 FROST DWA-2	101 FROST 50-54'	101 FROST Surface
Compound	MDL ² (ng/g)	PQL ³ (ng/g)														
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	1.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.0
Toluene	5.00	5.00	ND	ND	13.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	132-E
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19.1
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20.2
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26.2

SURROGATE RECOVERY %

77

96

78

87

86

82

78

77

99

Sample Condition (S,U)/Dilution (PQL)

1

S

S

S

S

S

S

S

S

S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA¹⁴ was surrogate used.

Quality Control Analyst:



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Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Stu Johnson Jr.
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Chuck Mayers
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	89 FROST DWA-15A	89 FROST DWA-15A	89 FROST DWA-15A	101 FROST Surface	101 FROST DWA-6	89 FROST SMHE	89 FROST SMHE	89 FROST SMHE	89 FROST SMHE
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	31-33' (ng/g)	41-43' (ng/g)	51-53' (ng/g)	27-29' (ng/g)	9-11' (ng/g)	19-21' (ng/g)	31-33' (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	0.37	12.9-E	ND	ND	4.09-E	36.2-E
Tetrachloroethene	0.50	0.50	4.04-E	25.8-E	42.8-E	0.69	1.97	81.2-E	167-E
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
SURROGATE RECOVERY	%		78	77	76	70	86	101	91
Sample Condition (S,U)/Dilution (PQL)	1	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA 14 was surrogate used., 101DWA-6-Surface surrogate low due to co-illution, SMH-E 51-53' PCE [] so high, ECD detector pegged and analysis not reportable.

Quality Control Analyst:



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Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	101 FROST DW-12	101 FROST SMH-13	101 FROST Surface	101 FROST SMH-13	89 FROST DWA-SMHW	89 FROST DWA-SMHW	89 FROST DWA-SMHW	89 FROST DWA-SMHW	89 FROST DWA-SMHW	101 FROST DW-11	101 FROST Surface	101 FROST DW-11	101 FROST 19-21'
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	27-29' (ng/g)	27-29' (ng/g)	9-11' (ng/g)	19-21' (ng/g)	31-33' (ng/g)	41-43' (ng/g)	51-53' (ng/g)	Surface (ng/g)	19-21' (ng/g)	19-21' (ng/g)	19-21' (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	12.2	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	0.79	0.84	ND	39.1-E	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	3.51-E	12.6-E	9.55-E	13.7-E	20.6-E	32.6-E	62.0-E	4.42-E	3.30-E	3.30-E	3.30-E
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SURROGATE RECOVERY	%	102	102	82	120	78	82	84	113	94	110	110	110
Sample Condition (S,U)/Dilution (PQL)	1	S	S	S	S	S	S	S	S	S	S	S	S
S: Satisfactory, U: Unsatisfactory													
U: see sample narrative													
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve													

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA R4 was surrogate used.

Quality Control Analyst:

Cam J. M. [Signature]

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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box 1509
Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Report Revision:	0.0	Client Phone:	914-735-8300
Method Deviations:	None	Client Fax:	914-735-7466
Sampling Method:	Geoprobe		

USEPA Method 3810/8010 Sample Analysis Results

[illegible]

SURROGATE	RECOVERY	%	95	108	85
Sample Condition (S,U)/Dilution (PQL)					
S: Satisfactory, U: Unsatisfactory					
U: see sample narrative					
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve					

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2,DCA q4 was surrogate used.

Quality Control Analyst: 

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION		101 FROST DWA-5	101 FROST DWA-5	101 FROST DWA-5	101 FROST DWA-5	101 FROST DWA-5	101 FROST DWA-5	89 FROST DWA-5	89 FROST DWA-5	89 FROST DWA-5	89 FROST DWA-5	
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	8-12' (ng/g)	18-22' (ng/g)	32-36' (ng/g)	40-44' (ng/g)	50-54' (ng/g)	9-11' (ng/g)	19-21' (ng/g)	31-33' (ng/g)	41-43' (ng/g)	51-53' (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	1.74	1.12	1.13	1.04	0.98	1.09	0.98	1.27	1.06	0.87
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SURROGATE RECOVERY		%	81	91	89	86	83	80	76	77	80	
Sample Condition (S,U)/Dilution (PQL)		1	S	S	S	S	S	S	S	S	S	S
S: Satisfactory, U: Unsatisfactory												
U: see sample narrative												
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve												

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA/d4 was surrogate used.

Quality Control Analyst:

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Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	101 FROST DW-4 Surface (ng/g)	101 FROST DW-4 Surface (ng/g)	101 FROST DW-3 Surface (ng/g)	101 FROST DW-3 Surface (ng/g)	101 FROST DW-3 Surface (ng/g)	89 FROST FSGP-6 19-21' (ng/g)	89 FROST FSGP-6 51-53' (ng/g)	89 FROST FSGP-7 19-21' (ng/g)	89 FROST FSGP-7 52-54' (ng/g)	89 FROST FSGP-8 19-21' (ng/g)
Compound	MDL ² (ng/g)	PQL ³ (ng/g)								
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	89.6-E	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	0.61	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	11.9-E	0.80	0.93	0.73	0.53	4.60	20.8	3.00
								440-E	282-E	132-E
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY % 82 77 110 75 92 86 75 83 10X 10X

Sample Condition (S,U)/Dilution (PQL) 1 S S S S S S S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1.2 DCA 14 was surrogate used.
 Quality Control Analyst: 

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	89 FROST FSGP-8	101 FROST DWA-6	101 FROST DWA-6	101 FROST DWA-6	101 FROST DWA-6	101 FROST FSGP-3	101 FROST FSGP-3	89 FROST DWA-18	89 FROST DWA-18
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	51-53' (ng/g)	8-12' (ng/g)	18-22' (ng/g)	30-34' (ng/g)	40-44' (ng/g)	50-54' (ng/g)	19-21' (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	35.9-E	ND	ND	0.79	2.20	2.40	ND
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
SURROGATE RECOVERY	%		87	94	95	89	119	88	85
Sample Condition (S,U)/Dilution (PQL)	1	10X	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory

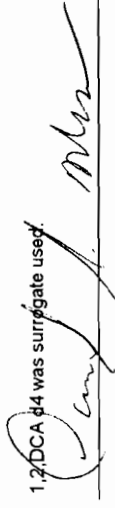
U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA #4 was surrogate used

Quality Control Analyst: 

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Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected: 7/29-9/10/98
Samples Received: 7/30-9/10/98
Samples Analyzed: 7/30-9/10/98
Samples Reported: 7/30-9/10/98
Project Identification: Hicksville, NY
Target Job Code: LMS001
Purchase Order: N/A

Collected by: Chuck Mayers
Received by: Stu Johnson Jr.
Analyzed by: Stu Johnson Jr.
Reported by: Stu Johnson Jr.
Report Revision: 0.0
Method Deviations: None
Sampling Method: Geoprobe

Client:
Client Address: Lawler Matusky & Skelly
1 Blue Hill Plaza PO Box 1509
Pearl River, NY 10965

Client Contact:
Client Phone: Edith Hollister
914-735-8300
Client Fax: 914-735-7466

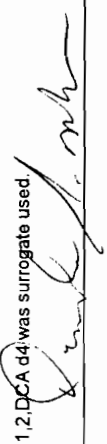
USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	89 FROST DWA-18	89 FROST 31-33' (ng/g)	89 FROST DWA-18	89 FROST 41-43' (ng/g)	89 FROST DWA-18	89 FROST 51-53' (ng/g)	89 FROST FSGP-9	89 FROST FSGP-9	89 FROST FSGP-10	89 FROST DWA-16	89 FROST DWA-16	89 FROST 31-33' (ng/g)
Compound	MDL ² (ng/g)	PQL ³ (ng/g)										
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	1.62	0.63	1.93	ND	ND	ND
Tetrachloroethene	0.50	0.50	ND	ND	ND	ND	29.8-E	7.88-E	99.3-E	6.91	10.8-E	
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

SURROGATE RECOVERY % 91 92 89 91 86 110 105 103 111 103

Sample Condition (S,U)/Dilution (PQL)
S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA d4 was surrogate used.
Quality Control Analyst: 

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Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Fax: (301)497-4449

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 O.O.
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION	89 FROST DWA-16	89 FROST DWA-16	89 FROST DWA-19	89 FROST DWA-19	89 FROST DWA-19	89 FROST DWA-19	101 FROST FSGP-4	101 FROST FSGP-4	101 FROST FSGP-4
Compound	MDL ² (ng/g)	PQL ³ (ng/g)	41-43' (ng/g)	51-53' (ng/g)	9-11' (ng/g)	19-21' (ng/g)	31-33' (ng/g)	19-21' (ng/g)	31-33' (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	6.70	6.90	ND	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	547-E	192-E	68.9-E	417-E	207-E	2008-E	31.3-E
Benzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Toluene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
o-Xylene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND	ND	ND	ND	ND	ND
SURROGATE RECOVERY	%	111	10X	85	109	114	112	113	108
Sample Condition (S,U)/Dilution (PQL)	1	10X	10X	10X	S	10X	10X	50X	S
S: Satisfactory, U: Unsatisfactory									
U: see sample narrative									
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve									

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA 04 was surrogate used.

Quality Control Analyst:

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Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010 Sample Analysis Results

SITE LOCATION

Compound MDL² (ng/g) PQL³ (ng/g) 101 FROST FSGP-4 101 FROST FSGP-4

1,1-Dichloroethene	5.00	5.00	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND
Trichloroethene	0.50	0.50	ND	6.10
Tetrachloroethene	0.50	0.50	55.6-E	802-E
Benzene	5.00	5.00	ND	ND
Toluene	5.00	5.00	ND	ND
Ethylbenzene	5.00	5.00	ND	ND
o-Xylene	5.00	5.00	ND	ND
m&p-Xylenes	5.00	5.00	ND	ND

SURROGATE RECOVERY % 116 114

Sample Condition (S,U)/Dilution (PQL) 1 10X 10X

S: Satisfactory, U: Unsatisfactory
 U: see sample narrative
 Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE: 1,2-DCA was surrogate used.
 Quality Control Analyst: *Wayne L. Mahan*



METHOD BLANK RESULTS



Samples Collected: 7/29-9/4/98
Samples Received: 7/30-9/4/98
Samples Analyzed: 7/30-9/9/98
Samples Reported: 7/30-9/11/98
Project Identification: Hicksville NY
Target Job Code: LMS001
Purchase Order: N/A

Collected by: LMS
Received by: Stu Johnson Jr.
Analyzed by: Stu Johnson Jr.
Reported by: Stu Johnson Jr.
Report Revision: 0.0
Method Deviations: None
Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
Client Address: 1 Blue Hill Plaza PO Box 1509
Pearl River NY, 21045

Client Contact: Edith Hollister
Client Phone: 914-735-8300
Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis Date	7/31/98	7/31/98	8/3/98	8/3/98	8/3/98	8/3/98	8/4/98	8/5/98	8/5/98
Compound	Blank	PQL ³ (ng/g)	Blank	PQL ³ (ug/L)	Blank	PQL ³ (ng/g)	Blank	PQL ³ (ng/g)	Blank
1,1-Dichloroethene	1	5.00	2	ND	3	ND	4	ND	5
trans-1,2-Dichloroethene	1	5.00	2	ND	3	ND	4	ND	5
1,1-Dichloroethane	1	5.00	2	ND	3	ND	4	ND	5
cis-1,2-Dichloroethene	1	5.00	2	ND	3	ND	4	ND	5
1,1,1-Trichloroethane	1	0.50	2	ND	3	ND	4	ND	5
Trichloroethene	1	0.50	2	ND	3	ND	4	ND	5
1,1,2-Trichloroethane	1	0.50	2	ND	3	ND	4	ND	5
Tetrachloroethene	1	0.50	2	ND	3	ND	4	ND	5

Sample Condition (S,U)/Dilution (PQL) 1 S S S S S S S S S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCB were due to carry over and GC was "baked out" to eliminate.

Quality Control Analyst: 

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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: LMS
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River NY. 21045

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis Date	8/5/98	8/5/98	8/5/98	8/10/98	8/10/98	8/10/98	8/10/98	8/10/98	8/12/98	8/12/98
Compound	PQL ³ (ng/g)	PQL ³ (ug/L)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND	ND	ND

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

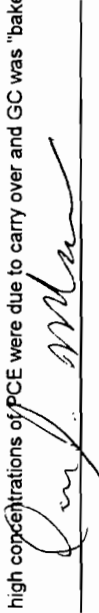
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCE were due to carry over and GC was "baked out" to eliminate,

Quality Control Analyst: 

Samples Collected:	7/29-9/4/98
Samples Received:	7/30-9/4/98
Samples Analyzed:	7/30-9/9/98
Samples Reported:	7/30-9/11/98
Project Identification:	Hicksville NY
Target Job Code:	LMS001
Purchase Order:	N/A

Collected by:	LMS	Client:	Lawler Matusky & Skelly
Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box 1509
Analyzed by:	Stu Johnson Jr.		Pearl River NY, 21045
Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Report Revision:	0.0	Client Phone:	914-735-8300
Method Deviations:	None	Client Fax:	914-735-7466
Sampling Method:	Geoprobe		

USEPA Method 3810/8010-8020 Blank Analysis Results

[illegible]

Sample Condition (S,U)/Dilution (PQL)
S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCE were due to carry over and GC was "baked out" to eliminate,

Quality Control Analyst: Kenneth M. Jones

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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: LMS
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River NY, 21045

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis Date	Compound	PQL ³ (ug/L)	8/20/98 Blank	8/21/98 Blank	8/24/98 Blank	8/24/98 Blank	8/24/98 Blank	8/24/98 Blank	8/24/98 Blank	8/25/98 Blank
			31	32	33	34	35	36	37	38
			(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)
	1,1-Dichloroethene	5.00	ND	ND	ND	NA	ND	NA	ND	NA
	trans-1,2-Dichloroethene	5.00	ND	ND	ND	NA	ND	NA	ND	NA
	1,1-Dichloroethane	5.00	ND	ND	ND	NA	ND	NA	ND	NA
	cis-1,2-Dichloroethene	5.00	ND	ND	ND	NA	ND	NA	ND	NA
	1,1,1-Trichloroethane	0.50	ND	ND	ND	NA	ND	NA	ND	NA
	Trichloroethene	0.50	ND	ND	ND	NA	ND	NA	ND	NA
	1,1,2-Trichloroethane	0.50	ND	ND	ND	NA	ND	NA	ND	NA
	Tetrachloroethene	0.50	1.86	ND	ND	NA	ND	NA	ND	NA
			1	S	S	S	S	S	S	S
			(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)	(ng/g)
	Benzene	5.00	NA	NA	ND	ND	NA	ND	NA	ND
	Toluene	5.00	NA	NA	ND	ND	NA	ND	NA	ND
	Ethylbenzene	5.00	NA	NA	ND	ND	NA	ND	NA	ND
	m&p-Xylenes	5.00	NA	NA	ND	ND	NA	ND	NA	ND
	o-Xylenes	5.00	NA	NA	ND	ND	NA	ND	NA	ND

Sample Condition (S) U/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

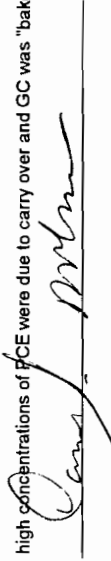
U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit
 NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCE were due to carry over and GC was "baked out" to eliminate.

Quality Control Analyst:



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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: LMS
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River NY, 21045
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis Date	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98
Compound	PQL ³ (ng/g)	PQL ³ (ug/L)	Blank (ng/g)	Blank (ng/g)	Blank (ng/g)	Blank (ng/g)	Blank (ng/g)	Blank (ng/g)	Blank (ug/L)
1,1-Dichloroethene	5.00	5.00	ND	NA	ND	NA	ND	NA	NA
trans-1,2-Dichloroethene	5.00	5.00	ND	NA	ND	NA	ND	NA	NA
1,1-Dichloroethane	5.00	5.00	ND	NA	ND	NA	ND	NA	NA
cis-1,2-Dichloroethene	5.00	5.00	ND	NA	ND	NA	ND	NA	NA
1,1,1-Trichloroethene	0.50	0.50	ND	NA	ND	NA	ND	NA	NA
Trichloroethene	0.50	0.50	ND	NA	ND	NA	ND	NA	NA
1,1,2-Trichloroethane	0.50	0.50	ND	NA	ND	NA	ND	NA	NA
Tetrachloroethene	0.50	0.50	ND	NA	ND	NA	24.5-E	NA	NA
	1	S	S	S	S	S	S	S	S
Benzene	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
Toluene	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
Ethylbenzene	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
m&p-Xylenes	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
o-Xylenes	5.00	5.00	NA	ND	NA	ND	NA	ND	ND

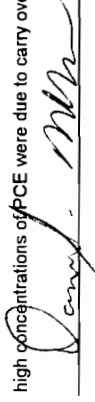
Sample Condition (S,U)/Dilution (PQL)
 S: Satisfactory, U: Unsatisfactory
 U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit
 NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCE were due to carry over and GC was "baked out" to eliminate.

Quality Control Analyst:



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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: LMS
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River NY, 21045

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis Date	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/25/98	8/26/98	8/26/98	8/26/98	8/26/98
Compound	Blank	PQL ³ (ng/g)	PQL ³ (ug/L)	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank
1,1-Dichloroethene	51	5.00	5.00	52	53	54	55	56	57	58	59	60	
<i>trans</i> -1,2-Dichloroethene	ND	5.00	5.00	NA	ND	NA	ND	NA	ND	NA	ND	NA	
1,1-Dichloroethane	ND	5.00	5.00	NA	ND	NA	ND	NA	ND	NA	ND	NA	
<i>cis</i> -1,2-Dichloroethene	ND	5.00	5.00	NA	ND	NA	ND	NA	ND	NA	ND	NA	
1,1,1-Trichloroethane	ND	0.50	0.50	NA	ND	NA	ND	NA	ND	NA	ND	NA	
Trichloroethene	ND	0.50	0.50	NA	ND	NA	ND	NA	ND	NA	ND	NA	
1,1,2-Trichloroethane	ND	0.50	0.50	NA	ND	NA	ND	NA	0.51	NA	ND	NA	
Tetrachloroethene	1.86	0.50	0.50	NA	1.95	NA	1.03	NA					
	S		1	S	S	S	S	S	S	S	S	S	
Benzene	NA	5.00	5.00	ND	NA	ND	NA	ND	NA	ND	NA	ND	
Toluene	NA	5.00	5.00	ND	NA	ND	NA	ND	NA	ND	NA	ND	
Ethylbenzene	NA	5.00	5.00	ND	NA	ND	NA	ND	NA	ND	NA	ND	
<i>m&p</i> -Xylenes	NA	5.00	5.00	ND	NA	ND	NA	ND	NA	ND	NA	ND	
<i>o</i> -Xylenes	NA	5.00	5.00	ND	NA	ND	NA	ND	NA	ND	NA	ND	

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

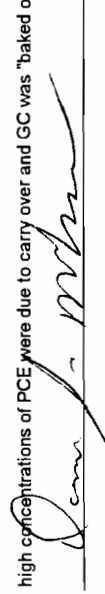
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCE were due to carry over and GC was "baked out" to eliminate,

Quality Control Analyst:



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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/1/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: LMS
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River NY, 21045

Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis Date	8/31/98	8/31/98	8/31/98	8/31/98	8/31/98	9/1/98	9/1/98	9/1/98	9/1/98	9/1/98
Compound	Blank	PQL ³ (ng/g)	PQL ³ (ug/L)	Blank	Blank	Blank	Blank	Blank	Blank	Blank
1,1-Dichloroethene	71	5.00	5.00	73	74	75	76	77	78	80
<i>trans</i> -1,2-Dichloroethene	(ng/g)	(ng/g)	(ug/L)	(ug/L)	(ng/g)	(ng/g)	(ng/g)	(ug/L)	(ng/g)	(ng/g)
1,1-Dichloroethane	ND	5.00	5.00	ND	NA	ND	NA	ND	NA	NA
<i>cis</i> -1,2-Dichloroethene	ND	5.00	5.00	ND	NA	ND	NA	ND	NA	NA
1,1,1-Trichloroethane	ND	0.50	0.50	ND	NA	ND	NA	ND	NA	NA
Trichloroethene	ND	0.50	0.50	ND	NA	ND	NA	ND	NA	NA
1,1,2-Trichloroethane	ND	0.50	0.50	ND	NA	ND	NA	ND	NA	NA
Tetrachloroethene	1.26	0.50	0.50	1.10	NA	ND	NA	ND	NA	NA
	S	1	1	S	S	S	S	S	S	S
Benzene	NA	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
Toluene	NA	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
Ethylbenzene	NA	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
<i>m&p</i> -Xylenes	NA	5.00	5.00	NA	ND	NA	ND	NA	ND	ND
<i>o</i> -Xylenes	NA	5.00	5.00	NA	ND	NA	ND	NA	ND	ND

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

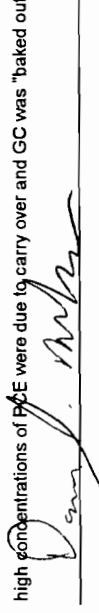
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCE were due to carry over and GC was "baked out" to eliminate,

Quality Control Analyst:



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Samples Collected:	7/29-9/4/98
Samples Received:	7/30-9/4/98
Samples Analyzed:	7/30-9/9/98
Samples Reported:	7/30-9/11/98
Project Identification:	Hicksville NY
Target Job Code:	LMS001
Purchase Order:	N/A

Collected by:	LMS
Received by:	Stu Johnson Jr.
Analyzed by:	Stu Johnson Jr.
Reported by:	Stu Johnson Jr.
Report Revision:	0.0
Method Deviations:	None
Sampling Method:	Geoprobe

Lawler Matusky & Skelly
1 Blue Hill Plaza PO Box 1509
Pearl River NY 21045

Edith Hollister
914-735-8300
914-735-7466

Client:
Client Address:

Client Contact:
Client Phone:
Client Fax:

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis Date																						
Compound	PQL ³ (ng/g)	PQL ³ (ug/L)	9/3/98 Blank	9/3/98 81 (ug/L)	9/3/98 Blank	9/3/98 82 (ug/L)	9/3/98 Blank	9/3/98 83 (ug/L)	9/3/98 Blank	9/3/98 84 (ug/L)	9/3/98 Blank	9/3/98 85 (ug/L)	9/3/98 Blank	9/3/98 86 (ug/L)	9/3/98 Blank	9/3/98 87 (ug/L)	9/8/98 Blank	9/8/98 88 (ug/L)	9/8/98 Blank	9/8/98 89 (ug/L)	9/8/98 Blank	9/8/98 90 (ug/L)
1,1-Dichloroethene	5.00	5.00	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	ND	ND	NA
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	ND	ND	NA
1,1-Dichloroethane	5.00	5.00	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	ND	ND	NA
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	ND	ND	NA
1,1,1-Trichloroethane	0.50	0.50	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	ND	ND	NA
Trichloroethene	0.50	0.50	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	ND	ND	NA
1,1,2-Trichloroethane	0.5 J	0.50	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	ND	ND	NA
Tetrachloroethene	0.50	0.50	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	ND	ND	ND	NA	NA	0.54	ND	NA
	1		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Benzene	5.00	5.00	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	NA	NA	ND	NA	NA	ND	ND
Toluene	5.00	5.00	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	NA	NA	ND	NA	NA	ND	ND
Ethylbenzene	5.00	5.00	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	NA	NA	ND	NA	NA	ND	ND
m&p-Xylenes	5.00	5.00	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	NA	NA	ND	NA	NA	ND	ND
o-Xylenes	5.00	5.00	NA	NA	ND	ND	NA	NA	ND	ND	NA	NA	NA	ND	ND	NA	NA	ND	NA	NA	ND	ND

Sample Condition (S,U)/Dilution (PQL)
S: Satisfactory, U: Unsatisfactory

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of ~~PCE~~ were due to carry over and GC was "baked out" to eliminate,

Quality Control Analyst:

This report will not be reproduced without the expressed written permission of the client

Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: LMS
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River NY, 21045
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Blank Analysis Results

Analysis date	9/8/98	9/8/98	9/8/98	9/8/98
Compound	Blank	91	92	Blank
	(ug/L)	(ug/L)	(ug/L)	(ng/g)
1,1-Dichloroethene	5.00	ND	NA	NA
<i>trans</i> -1,2-Dichloroethene	5.00	ND	NA	NA
1,1-Dichloroethane	5.00	ND	NA	NA
<i>cis</i> -1,2-Dichloroethene	5.00	ND	NA	NA
1,1,1-Trichloroethane	0.50	ND	NA	NA
Trichloroethene	0.50	ND	NA	NA
1,1,2-Trichloroethane	0.50	ND	NA	NA
Tetrachloroethene	0.50	4.66-E	NA	NA
	1	S	S	S
Benzene	5.00	NA	ND	ND
Toluene	5.00	NA	ND	ND
Ethylbenzene	5.00	NA	ND	ND
<i>m</i> & <i>p</i> -Xylenes	5.00	NA	ND	ND
<i>o</i> -Xylenes	5.00	NA	ND	ND

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

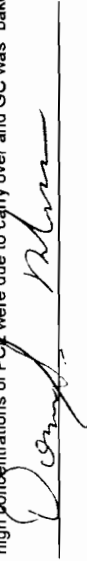
³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCB were due to carry over and GC was "baked out" to eliminate.

Quality Control Analyst:



DUPLICATE ANALYSIS RESULTS

Samples Collected: 7/29-9/10/98
Samples Received: 7/30-9/10/98
Samples Analyzed: 7/30-9/10/98
Samples Reported: 7/30-9/10/98
Project Identification: Hicksville, NY
Target Job Code: LMS001
Purchase Order: N/A

Collected by: Chuck Mayers
Received by: Stu Johnson Jr.
Analyzed by: Stu Johnson Jr.
Reported by: Stu Johnson Jr.
Report Revision: 0.0
Method Deviations: None
Sampling Method: Geoprobe

Client:
Client Address:
Client Contact:
Client Phone:
Client Fax:

Lawler Matusky & Skelly
1 Blue Hill Plaza PO Box 1509
Pearl River, NY 10965
Edith Hollister
914-735-8300
914-735-7466

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ng/g

Compound	770 MAIN				89 FROST			
	FSGP-13		FSGP-13		DWA-08		DWA-08	
	MDL ² (ng/g)	PQL ³ (ng/g)	50-54' (ng/g)	% Diff	50-54' (ng/g)	% Diff	50-54'dup (ng/g)	% Diff
1,1-Dichloroethene	5.00	5.00	ND	0%	ND	0%	ND	0%
trans-1,2-Dichloroethene	5.00	5.00	ND	0%	ND	0%	ND	0%
1,1-Dichloroethane	5.00	5.00	ND	0%	ND	0%	ND	0%
cis-1,2-Dichloroethene	5.00	5.00	ND	0%	ND	0%	ND	0%
1,1,1-Trichloroethane	0.50	0.50	ND	0%	ND	0%	ND	0%
1,2-dichloroethane	5.00	5.00	ND	0%	ND	0%	ND	0%
Trichloroethene	0.50	0.50	0.92	2%	12.2	8.61	8.61	35%
Tetrachloroethene	0.50	0.50	54.2	3%	60.8	60.7	60.7	0%

SURROGATE RECOVERY

%	108	102	90

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box 1509
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Stu Johnson Jr.		
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Contact:	Edith Hollister
Target Job Code:	LMS001	Method Deviations:	None	Client Phone:	914-735-8300
Purchase Order:	N/A	Sampling Method:	Geoprobe	Client Fax:	914-735-7466

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ng/g

Compound	89 FROST				89 FROST			
	DWA-3		DWA-3		DWA-14		DWA-14	
	MDL ² (ng/g)	PQL ³ (ng/g)	19-21' (ng/g)	19-21'dup (ng/g)	9-11' (ng/g)	9-11'dup (ng/g)	% Diff	% Diff
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	0%	0%
<i>trans</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	0%	0%
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	0%	0%
<i>cis</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	0%	0%
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	0%	0%
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	0%	0%
Trichloroethene	0.50	0.50	ND	ND	ND	ND	0%	0%
Tetrachloroethene	0.50	0.50	ND	ND	5.49	5.86	0%	7%
SURROGATE RECOVERY	%		88	82	85	82		

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

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Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ng/g

Compound	101 FROST		101 FROST		89 FROST		% Diff	89 FROST		% Diff
	MDL ² (ng/g)	PQL ³ (ng/g)	DW-1	27-29' (ng/g)	DW-1	27-29'DUP (ng/g)		DWA-11	31-33'DUP (ng/g)	
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	0%	ND	ND	0%
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	0%	ND	ND	0%
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	0%	ND	ND	0%
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	0%	ND	ND	0%
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	0%	ND	ND	0%
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	0%	ND	ND	0%
Trichloroethene	0.50	0.50	ND	ND	ND	ND	0%	ND	ND	0%
Tetrachloroethene	0.50	0.50	ND	ND	ND	ND	0%	13.20	7.95	50%
SURROGATE RECOVERY	%		80		81		87		94	
Sample Condition (S,U)/Dilution (PQL)	1		S		S		S		S	

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

This report will not be reproduced without the expressed written permission of the client

Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ng/g

Compound	101 FROST		101 FROST		101 FROST		101 FROST	
	MDL ² (ng/g)	PQL ³ (ng/g)	DW-3 (ng/g)	26-28' (ng/g)	DW-3 (ng/g)	26-28'DUP (ng/g)	8-12' (ng/g)	8-12'DUP (ng/g)
1,1-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND
<i>trans</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND
<i>cis</i> -1,2-Dichloroethene	5.00	5.00	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.50	0.50	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	5.00	5.00	ND	ND	ND	ND	ND	ND
Trichloroethene	0.50	0.50	ND	ND	ND	ND	ND	ND
Tetrachloroethene	0.50	0.50	0.93	0.72	0.72	25%	1.74	0.64
SURROGATE RECOVERY	%		75	75	75		81	86
Sample Condition (S,U)/Dilution (PQL)		1	S	S	S		S	S

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
 E indicates the quantified value exceeds the linear calibration range and the true value may be higher

² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

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NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

This report will not be reproduced without the expressed written permission of the client

Fax: (301)497-4449

Phone: (301)497-6400

10555 Guilford Rd. Jessup, MD 20794

Samples Collected:
 Samples Received:
 Samples Analyzed:
 Samples Reported:
 Project Identification:
 Target Job Code:
 Purchase Order:

7/29-9/10/98
 7/30-9/10/98
 7/30-9/10/98
 7/30-9/10/98
 Hicksville, NY
 LMS001
 N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

Chuck Mayers
 Stu Johnson Jr.
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ng/g

SITE LOCATION

Compound	MDL ² (ng/g)	PQL ³ (ng/g)	101 FROST SMH-13 27-29'	101 FROST SMH-13 27-29'DUP (ng/g)	% Diff	89 FROST DWA-15A 41-43'	89 FROST DWA-15A 41-43'DUP (ng/g)	% Diff
1,1-Dichloroethene	5.00	5.00	ND	ND	0%	ND	ND	0%
trans-1,2-Dichloroethene	5.00	5.00	ND	ND	0%	ND	ND	0%
1,1-Dichloroethane	5.00	5.00	ND	ND	0%	ND	ND	0%
cis-1,2-Dichloroethene	5.00	5.00	ND	ND	0%	ND	ND	0%
1,1,1-Trichloroethane	0.50	0.50	ND	ND	0%	ND	ND	0%
1,2-dichloroethane	5.00	5.00	ND	ND	0%	ND	ND	0%
Trichloroethene	0.50	0.50	ND	ND	0%	0.37	0.32	14%
Tetrachloroethene	0.50	0.50	12.6	0.6	182%	25.8	24.4	6%
SURROGATE RECOVERY	%		82	80		77	78	

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

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² MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

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NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

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MATRIX SPIKE RESULTS

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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by:
 Received by:
 Analyzed by:
 Reported by:
 Report Revision:
 Method Deviations:
 Sampling Method:

LMS
 Stu Johnson Jr.
 Stu Johnson Jr.
 Stu Johnson Jr.
 0.0
 None
 Geoprobe

Client:
 Client Address:
 Client Contact:
 Client Phone:
 Client Fax:

Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Box 1509
 Pearl River NY, 21045
 Edith Hollister
 914-735-8300
 914-735-7466

USEPA Method 3810/8010-8020 Matrix Spike Analysis Results(% DIFF)

Analysis Date	8/5/98	8/27/98	8/27/98	8/27/98	8/27/98	8/27/98	8/27/98	8/27/98	8/27/98	8/27/98	8/21/98
Compound	89DWA15 18/22" (ng/g)	01DWA5 22/24" (ng/g)	01DWA6 27/29" (ng/g)	SMHE89 9/11" (ng/g)	9DWA5 19/21" (ng/g)	89F5HP6 50-60" (ug/L)	01DWA6 18/22" (ng/g)	9DWA19 9/11" (ng/g)	01FSGP4 9/11" (ng/g)	89DWA4 19/21" (ng/g)	
1,1-Dichloroethene	9%	NA	NA	NA	NA	NA	NA	NA	NA	15%	
trans-1,2-Dichloroethene	3%	NA	NA	NA	NA	NA	NA	NA	NA	31%	
1,1-Dichloroethane	32%	NA	NA	NA	NA	NA	NA	NA	NA	79%	
cis-1,2-Dichloroethene	4%	NA	NA	NA	NA	NA	NA	NA	NA	47%	
1,1,1-Trichloroethane	14%	NA	NA	NA	NA	NA	NA	NA	NA	1%	
1,2 Dichloroethane	7%	NA	NA	NA	NA	NA	NA	NA	NA	31%	
Trichloroethene	11%	NA	NA	NA	NA	NA	NA	NA	NA	9%	
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Tetrachloroethene	7%	NA	NA	NA	NA	NA	NA	NA	NA	9%	
	S	S	S	S	S	S	S	S	S	S	
Benzene	NA	3%	11%	9%	6%	38%	16%	25%	29%	NA	
Toluene	NA	9%	0%	18%	26%	36%	17%	23%	0%	NA	
Ethylbenzene	NA	6%	2%	10%	8%	35%	4%	21%	10%	NA	
m&p-Xylenes	NA	16%	10%	5%	3%	28%	17%	3%	9%	NA	
o-Xylenes	NA	22%	16%	4%	0%	34%	2%	12%	3%	NA	

Sample Condition (S,U)/Dilution (POL)

S: Satisfactory, U: Unsatisfactory

U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

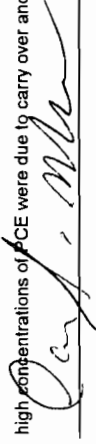
ND indicates that no analyte was detected at or above the practical quantitation limit

NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE:

high concentrations of PCE were due to carry over and GC was "baked out" to eliminate,

Quality Control Analyst:



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Samples Collected: 7/29-9/4/98
 Samples Received: 7/30-9/4/98
 Samples Analyzed: 7/30-9/9/98
 Samples Reported: 7/30-9/11/98
 Project Identification: Hicksville NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: LMS
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River NY, 21045
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810/8010-8020 Matrix Spike Analysis Results(% DIFF)

Compound

8/5/98 8/12/98
 89FSHP03 89DWA7A
 150' 63/64'
 (ug/L) (ng/g)

1,1-Dichloroethene 8% 4%
 trans-1,2-Dichloroethene 19% 11%
 1,1-Dichloroethane 2% 18%
 cis-1,2-Dichloroethene 23% 25%
 1,1,1-Trichloroethane 29% 7%
 1,2 Dichloroethane 47% 8%
 Trichloroethene 32% 1%
 1,1,2-Trichloroethane NA 15%
 Tetrachloroethene 458% 54%

S S

Benzene NA
 Toluene NA
 Ethylbenzene NA
 m&p-Xylenes NA
 o-Xylenes NA

Sample Condition (S,U)/Dilution (PQL)

S: Satisfactory, U: Unsatisfactory
 U: see sample narrative

Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

³ PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable
 ND indicates that no analyte was detected at or above the practical quantitation limit
 NA indicates that no analysis was performed for that particular compound(s)

SAMPLE NARRATIVE: high concentrations of PCE were due to carry over and GC was "baked out" to eliminate,

Quality Control Analyst: 

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INITIAL CALIBRATION

Fixed Laboratory Services**Target Environmental Services, Inc.****Mobile Laboratory Services**

Samples Collected: 7/29-9/10/98
Samples Received: 7/30-9/10/98
Samples Analyzed: 7/30-9/10/98
Samples Reported: 7/30-9/10/98
Project Identification: Hicksville, NY
Target Job Code: LMS001
Purchase Order: N/A

Collected by: Chuck Mayers
Received by: Stu Johnson Jr.
Analyzed by: Stu Johnson Jr.
Reported by: Stu Johnson Jr.
Report Revision: 0.0
Method Deviations: None
Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
Client Address: 1 Blue Hill Plaza PO Bo
Pearl River, NY 10965
Client Contact: Edith Hollister
Client Phone: 914-735-8300
Client Fax: 914-735-7466

USEPA Method 3810-8010 Initial Calibration 7/28/98-SOIL

STANDARD ANALYTES	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	1,1,1-TCA	1,2-DCA	TCE	1,1,2-TCA	PCE	1,2-DCA _{d4}
AREA COUNTS											
1st Level Standard	43.81	17.84	6.500	5.130	3.690	140.1	15.85	75.63	9.120	257.0	11.15
2nd Level Standard	131.7	43.66	17.19	12.93	17.27	432.8	43.25	230.3	29.25	810.5	27.87
3rd Level Standard	218.6	65.55	27.40	19.14	32.63	742.2	87.19	390.7	51.50	1420	52.50
CONCENTRATION											
1st Level Standard	5.00	5.00	5.00	5.00	5.00	0.500	5.00	0.500	0.500	0.500	5.00
2nd Level Standard	20.0	20.0	20.0	20.0	20.0	2.00	20.0	2.00	2.00	2.00	20.0
3rd Level Standard	30.0	30.0	30.0	30.0	30.0	3.00	30.0	3.00	3.00	3.00	30.0
CALIBRATION FACTORS											
1st Level Standard	8.762	3.568	1.300	1.026	0.7380	280.3	3.170	151.3	18.24	513.9	2.230
2nd Level Standard	6.586	2.183	0.8595	0.6465	0.8635	216.4	2.163	115.1	14.63	405.2	1.394
3rd Level Standard	7.287	2.185	0.9133	0.6380	1.088	247.4	2.906	130.2	17.17	473.2	1.750
AVG. CAL. FACTOR	7.545	2.645	1.024	0.7702	0.8964	248.0	2.746	132.2	16.68	464.1	1.791
STD. DEV. OF CAL. FAC.	1.111	0.7991	0.2403	0.2216	0.1771	31.93	0.5225	18.15	1.857	54.90	0.4198
% RSD	14.7%	30.2%	23.5%	28.8%	19.8%	12.9%	19.0%	13.7%	11.1%	11.8%	23.4%

10555 Gilford Rd. suite 127, Jessup MD,
20794

Phone: (301) 497-6400

Fax: (301) 497-4449

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Initial Calibration 8/17/98-SOIL

STANDARD ANALYTES	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	1,1,1-TCA	1,2-DCA	TCE	1,1,2-TCA	PCE	1,2-DCA d4
AREA COUNTS											
1st Level Standard	57.70		7.410	7.400	3.820	198.0	16.90	98.70		353.0	12.30
2nd Level Standard	203.0		26.30	22.70	18.90	679.0	54.00	318.0		1208	40.30
3rd Level Standard	321.0		42.40	33.50	27.20	990.0	75.70	498.0		1810	66.10
CONCENTRATION											
1st Level Standard	5.00	5.00	5.00	5.00	5.00	0.500	5.00	0.500	0.500	0.500	5.00
2nd Level Standard	20.0	20.0	20.0	20.0	20.0	2.00	20.0	2.00	2.00	2.00	20.0
3rd Level Standard	30.0	30.0	30.0	30.0	30.0	3.00	30.0	3.00	3.00	3.00	30.0
CALIBRATION FACTORS											
1st Level Standard	11.540	0.000	1.482	1.480	0.7640	396.0	3.380	197.4	0.00	706.0	2.460
2nd Level Standard	10.150	0.000	1.3150	1.1350	0.9450	339.5	2.700	159.0	0.00	604.0	2.015
3rd Level Standard	10.700	0.000	1.4133	1.1167	0.907	330.0	2.523	166.0	0.00	603.3	2.203
AVG. CAL. FACTOR	10.797	0.000	1.403	1.2439	0.8719	355.2	2.868	174.1	0.00	637.8	2.226
STD. DEV. OF CAL. FAC.	0.700	0.0000	0.0839	0.2047	0.0954	35.68	0.4523	20.45	0.000	59.08	0.2234
% RSD	6.5%	#DIV/0!	6.0%	16.5%	10.9%	10.0%	15.8%	11.7%	#DIV/0!	9.3%	10.0%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Initial Calibration 8/19/98-SOIL

STANDARD ANALYTES	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	1,1,1-TCA	1,2-DCA	TCE	1,1,2-TCA	PCE	1,2-DCA+d4
AREA COUNTS											
1st Level Standard	48.00		4.910	6.290	3.940	136.0	12.10	71.00	224.0		12.50
2nd Level Standard	148.0		17.90	17.90	15.90	453.0	41.70	228.0	785		30.40
3rd Level Standard	314.0		37.10	29.30	30.30	1068.0	75.60	492.0	1825		65.70
CONCENTRATION											
1st Level Standard	5.00	5.00	5.00	5.00	5.00	0.500	5.00	0.500	0.500	0.500	5.00
2nd Level Standard	20.0	20.0	20.0	20.0	20.0	2.00	20.0	2.00	2.00	2.00	20.0
3rd Level Standard	30.0	30.0	30.0	30.0	30.0	3.00	30.0	3.00	3.00	3.00	30.0
CALIBRATION FACTORS											
1st Level Standard	9.600	0.000	0.982	1.258	0.7880	272.0	2.420	142.0	0.00	448.0	2.500
2nd Level Standard	7.400	0.000	0.8950	0.8950	0.7950	228.5	2.085	114.0	0.00	392.5	1.520
3rd Level Standard	10.467	0.000	1.2367	0.9767	1.010	356.0	2.527	164.0	0.00	608.3	2.190
AVG. CAL. FACTOR	9.156	0.000	1.038	1.0432	0.8643	284.8	2.344	140.0	0.00	482.9	2.070
STD. DEV. OF CAL. FAC.	1.581	0.0000	0.1776	0.1904	0.1262	65.70	0.2305	25.06	0.000	112.08	0.5009
% RSD	17.3%	#DIV/0!	17.1%	18.3%	14.6%	23.1%	9.8%	17.9%	#DIV/0!	23.2%	24.2%

USEPA Method 3810-8020 Initial Calibration 8/24/98

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene
AREA COUNTS					
1st Level Standard	0.38	0.32	0.27	0.56	0.28
2nd Level Standard	3.37	2.95	2.70	5.25	2.68
3rd Level Standard	5.98	5.33	4.16	8.55	4.49
CONCENTRATIONS					
1st Level Standard	5.00	5.00	5.00	5.00	5.00
2nd Level Standard	50.0	50.0	50.0	50.0	50.0
3rd Level Standard	100.0	100.0	100.0	100.0	100.0
CALIBRATION FACTORS					
1st Level Standard	0.0760	0.0640	0.0540	0.1120	0.0560
2nd Level Standard	0.0674	0.0590	0.0540	0.1050	0.0536
3rd Level Standard	0.0598	0.0533	0.0416	0.0855	0.0449
AVG. CAL. FACTOR	0.0677	0.0588	0.0499	0.1008	0.0515
STD. DEV. OF CAL. FAC.	0.0081	0.0054	0.0072	0.0137	0.0058
% RSD	12.0%	9.1%	14.4%	13.8%	11.3%

10555 Gilford Rd. suite 127, Jessup MD, 20794

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box 1509
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-3010 Initial Calibration 9/3/98-SOIL

STANDARD ANALYTES	1,1-DCE	CH2CL2	I-1,2-DCE	1,1-DCA	C-1,2-DCE	1,1,1-TCA	1,2-DCA	TCE	1,1,2-TCA	PCE	1,2-DCA+d
AREA COUNTS											
1st Level Standard	13.80		1.170	4.780	1.390	40.1	10.30	20.40		87.9	13.00
2nd Level Standard	51.8		5.74	18.70	7.45	155.0	35.30	78.9		282	43.10
3rd Level Standard	73.2		8.24	30.10	9.77	226.0	46.50	119.0		431	60.40
CONCENTRATION											
1st Level Standard	5.00	5.00	5.00	5.00	5.00	0.500	5.00	0.500	0.500	0.500	5.00
2nd Level Standard	20.0	20.0	20.0	20.0	20.0	2.00	20.0	2.00	2.00	2.00	20.0
3rd Level Standard	30.0	30.0	30.0	30.0	30.0	3.00	30.0	3.00	3.00	3.00	30.0
CALIBRATION FACTORS											
1st Level Standard	2.760	0.000	0.234	0.956	0.2780	80.2	2.060	40.8	0.00	175.8	2.800
2nd Level Standard	2.590	0.000	0.2870	0.9350	0.3725	78.0	1.765	39.5	0.00	141.0	2.155
3rd Level Standard	2.440	0.000	0.2747	1.0033	0.326	75.3	1.550	39.7	0.00	143.7	2.013
AVG. CAL. FACTOR	2.597	0.000	0.265	0.9648	0.3254	77.8	1.792	40.0	0.00	153.5	2.256
STD. DEV. OF CAL. FAC.	0.160	0.0000	0.0277	0.0350	0.0473	2.44	0.2560	0.73	0.000	19.37	0.3061
% RSD	6.2%	#DIV/0!	10.5%	3.6%	14.5%	3.1%	14.3%	1.8%	#DIV/0!	12.6%	13.6%

USEPA Method 3810-3020 Initial Calibration 9/3/98

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene
AREA COUNTS					
1st Level Standard	0.38	0.39	0.29	0.51	0.31
2nd Level Standard	3.59	3.12	2.62	5.31	2.57
3rd Level Standard	6.42	6.23	4.74	9.62	5.06
CONCENTRATIONS					
1st Level Standard	5.00	5.00	5.00	5.00	5.00
2nd Level Standard	50.0	50.0	50.0	50.0	50.0
3rd Level Standard	100.0	100.0	100.0	100.0	100.0
CALIBRATION FACTORS					
1st Level Standard	0.0760	0.0780	0.0580	0.1020	0.0620
2nd Level Standard	0.0718	0.0624	0.0524	0.1062	0.0514
3rd Level Standard	0.0642	0.0623	0.0474	0.0962	0.0506
AVG. CAL. FACTOR	0.0707	0.0676	0.0526	0.1015	0.0547
STD. DEV. OF CAL. FAC.	0.0060	0.0090	0.0053	0.0054	0.0054
% RSD	8.5%	13.4%	10.1%	4.9%	11.6%

CONTINUING CALIBRATION

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Phone:	914-735-8300
Target Job Code:	LMS001	Method Deviations:	None	Client Fax:	914-735-7466
Purchase Order:	N/A	Sampling Method:	Geoprobe		

USEPA Method 3810-8010 Continuing Calibration Check 7/31/98-opening

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	142.9	69.99	16.46	12.01	17.49	477.1	27.17	44.65	254.6	33.74	833.6
Area 20ug/L standard	131.7	43.66	17.19	12.93	17.27	432.8	27.87	43.25	230.3	29.25	810.5
Percent Difference	9%	60%	4%	7%	1%	10%	3%	3%	11%	15%	3%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 7/31/98-closing

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	151	58.4	18.2	14.1	16.2	519	29.9	51.4	274	33.2	939
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	15%	34%	6%	9%	6%	20%	7%	19%	19%	14%	16%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Bo
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Phone:	914-735-8300
Target Job Code:	LMS001	Method Deviations:	None	Client Fax:	914-735-7466
Purchase Order:	N/A	Sampling Method:	Geoprobe		

USEPA Method 3810-8010 Continuing Calibration Check 8/3/98-opening

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA _{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	144	55.2	19.1	13.4	16.3	519	29.9	51.4	260	33.2	948
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	9%	26%	11%	4%	6%	20%	7%	19%	13%	14%	17%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/3/98-closing

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA _{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	149	70.6	16.6	13.6	15.3	498	29.1	49.3	261	32.5	950
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	13%	62%	3%	5%	11%	15%	4%	14%	13%	11%	17%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/4/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	149	70.6	16.6	13.6	15.3	498	29.1	49.3	261	32.5	950
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	13%	62%	3%	5%	11%	15%	4%	14%	13%	11%	17%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/4/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	135	101.0	15.3	15.4	18.1	413	31.1	47.9	217	28.2	708
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	3%	131%	11%	19%	5%	5%	12%	11%	6%	4%	13%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Phone:	914-735-8300
Target Job Code:	LMS001	Method Deviations:	None	Client Fax:	914-735-7466
Purchase Order:	N/A	Sampling Method:	Geoprobe		

USEPA Method 3810-8010 Continuing Calibration Check 8/5/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	135	101.0	15.3	15.4	18.1	413	31.1	47.9	217	28.2	708
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	3%	131%	11%	19%	5%	5%	12%	11%	6%	4%	13%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/5/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	117	171.0	15.0	13.8	18.1	394	30.7	45.3	187	19.6	1271
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	11%	292%	13%	7%	5%	9%	10%	5%	19%	33%	57%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/6/98-opening

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	117	171.0	15.0	13.8	18.1	394	30.7	45.3	187	19.6	1271
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	11%	292%	13%	7%	5%	9%	10%	5%	19%	33%	57%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/6/98-closing

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	117	208.0	14.1	13.9	17.1	401	30.1	47.7	203	25.2	689
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	11%	376%	18%	8%	1%	7%	8%	10%	12%	14%	15%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/7/98-opening

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	117	208.0	14.1	13.9	17.1	401	30.1	47.7	203	25.2	689
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	11%	376%	18%	8%	1%	7%	8%	10%	12%	14%	15%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/7/98-closing

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	122	53.0	16.1	15.1	16.9	403	31.7	49.7	218	29.6	757
	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	7%	21%	6%	17%	2%	7%	14%	15%	5%	1%	7%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Phone:	914-735-8300
Target Job Code:	LMS001	Method Deviations:	None	Client Fax:	914-735-7466
Purchase Order:	N/A	Sampling Method:	Geoprobe		

USEPA Method 3810-8010 Continuing Calibration Check 8/10/98-opening

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAad4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	122	53.0	16.1	15.1	16.9	403	31.7	49.7	218	29.6	757
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	7%	21%	6%	17%	2%	7%	14%	15%	5%	1%	7%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/10/98-closing

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAad4	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	156	102.0	19.6	13.6	18.5	524	32.1	45.3	250	36.7	950
	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	18%	134%	14%	5%	7%	21%	15%	5%	9%	25%	17%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/11/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	156	102	19.6	13.6	18.5	524	32.1	45.3	250	36.7	950
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	18%	134%	14%	5%	7%	21%	15%	5%	9%	25%	17%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/11/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	158	140.0	20.2	14.1	16.0	496	27.8	43.1	260	32.4	911
	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	20%	221%	18%	9%	7%	15%	0%	0%	13%	11%	12%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Situ Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Situ Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Situ Johnson Jr.	Client Contact:	Edith Hollister
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Phone:	914-735-8300
Target Job Code:	LMS001	Method Deviations:	None	Client Fax:	914-735-7466
Purchase Order:	N/A	Sampling Method:	Geoprobe		

USEPA Method 3810-8010 Continuing Calibration Check 8/12/98-opening

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	158	140.0	20.2	14.1	16.0	496	27.8	43.1	260	32.4	911
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	20%	221%	18%	9%	7%	15%	0%	0%	13%	11%	12%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/12/98-closing

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	124	133.0	15.4	11.7	18.1	412	27.8	41.9	206	27.0	634
	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	6%	205%	10%	10%	5%	5%	0%	3%	11%	8%	22%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lawler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Box
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Phone:	914-735-8300
Target Job Code:	LMS001	Method Deviations:	None	Client Fax:	914-735-7466
Purchase Order:	N/A	Sampling Method:	Geoprobe		

USEPA Method 3810-8010 Continuing Calibration Check 8/13/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	124	133.0	15.4	11.7	18.1	412	27.8	41.9	206	27.0	634
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	6%	205%	10%	10%	5%	5%	0%	3%	11%	8%	22%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/13/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCA ^{d4}	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	132	43.7	17.2	12.9	17.3	433	27.9	43.3	230	29.3	811
Percent Difference	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/18/98-opening

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA _{d4}	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	213		30.3	26.5	17.8	712	41.7	54.0	359		1264
Area 20ug/L standard	203		26.3	22.7	18.9	679	40.3	54.0	318		1208
Percent Difference	5%	#DIV/0!	15%	17%	6%	5%	3%	0%	13%	#DIV/0!	5%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/18/98-closing

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA _{d4}	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	142		17.0	18.6	18.5	447	24.6	38.1	227		777
	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	4%	#DIV/0!	5%	4%	16%	1%	19%	9%	0%	#DIV/0!	1%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/19/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	142		17.0	18.6	18.5	447	24.6	38.1	227		777
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	4%	#DIV/0!	5%	4%	16%	1%	19%	9%	0%	#DIV/0!	1%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/19/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	146		16.4	18.2	16.0	449	28.7	35.9	221		712
	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	1%	#DIV/0!	8%	2%	1%	1%	6%	14%	3%	#DIV/0!	9%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza P.O. Box
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/20/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCA d4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	146		16.4	18.2	16.0	449	28.7	35.9	221		712
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	1%	#DIV/0!	8%	2%	1%	1%	6%	14%	3%	#DIV/0!	9%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/20/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	111TCA	1,2-DCA d4	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	147		17.5	17.9	16.9	448	24.8	35.9	222		1020
	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	1%	#DIV/0!	2%	0%	6%	1%	18%	14%	3%	#DIV/0!	30%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-8/10/98
 Samples Received: 7/30-8/10/98
 Samples Analyzed: 7/30-8/10/98
 Samples Reported: 7/30-8/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client:
 Client Address: Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965

Client Contact:
 Client Phone: Edith Hollister
 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/21/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	112DCE	111TCA	1,2-DCA/d4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	153		17.4	18.0	14.0	480	25.6	34.8	228		964
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	3%	#DIV/0!	3%	1%	12%	2%	16%	17%	0%	#DIV/0!	23%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/21/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	112DCE	111TCA	1,2-DCA/d4	1,2-DCA	TCE	112TCA	PCE
Area 20ug/L standard	147		17.8	18.4	16.8	464	33.7	35.6	215		901
	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	1%	#DIV/0!	2%	8%	8%	2%	11%	15%	6%	#DIV/0!	15%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/28-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Deviations: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/24/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	141		15.2	18.0	14.5	447	33.8	34.8	209	672	
Area 20ug/L standard	146		17.9	17.9	15.9	453	30.4	41.7	228	785	
Percent Difference	5%	#DIV/0!	15%	1%	9%	1%	12%	17%	8%	#DIV/0!	14%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/24/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.37	2.85	2.70	5.25	2.68
Area 50ug/L Standard	3.38	2.91	2.78	5.75	2.90
Percent Difference	0%	1%	3%	9%	8%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/24/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DCA	c12DCE	111TCA	1,2-DCAd4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	144		15.5	16.8	17.5	436	30.5	34.8	208	641	
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228	785	
Percent Difference	3%	#DIV/0!	13%	8%	10%	4%	0%	17%	10%	#DIV/0!	18%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/24/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.08	3.32	3.22	6.25	3.19
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.68
Percent Difference	9%	13%	19%	19%	19%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Meyers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/25/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	141		15.2	18.0	14.5	447	33.9	34.8	209		672
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	5%	#DIV/0!	15%	1%	9%	1%	12%	17%	8%	#DIV/0!	14%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/25/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	2.81	3.18	2.28	4.80	3.21
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.88
Percent Difference	14%	7%	15%	7%	20%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/25/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	136		16.1	17.6	13.4	435	27.9	37.5	217		633
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	8%	#DIV/0!	10%	2%	16%	4%	8%	10%	5%	#DIV/0!	19%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/25/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.33	3.41	2.56	5.52	3.04
Area 50ug/L Standard	3.37	2.85	2.70	5.25	2.68
Percent Difference	1%	16%	4%	5%	13%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-9010 Continuing Calibration Check 8/28/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeCZ	112DCE	11DCA	c12DCE	111TCA	1,2-DCA	1,2-DCA/d4	TCE	112TCA	PCE
Continuing Area Count	136		16.1	17.6	13.4	435	27.9	37.5	217		633
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	8%	#DIV/0!	10%	2%	15%	4%	8%	10%	5%	#DIV/0!	19%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-9020 Continuing Calibration Check 8/28/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.33	3.41	2.58	5.52	3.04
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.88
Percent Difference	1%	16%	4%	5%	13%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-9010 Continuing Calibration Check 8/28/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeCZ	112DCE	11DCA	c12DCE	111TCA	1,2-DCA	1,2-DCA/d4	TCE	112TCA	PCE
Continuing Area Count	145		18.8	17.1	17.5	440	33.5	36.5	216		918
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	2%	#DIV/0!	6%	4%	10%	3%	10%	12%	5%	#DIV/0!	17%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-9020 Continuing Calibration Check 8/28/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.21	2.91	2.47	5.27	2.53
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.68
Percent Difference	5%	1%	9%	0%	6%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/25-8/10/98
 Samples Received: 7/30-8/10/98
 Samples Analyzed: 7/30-8/10/98
 Samples Reported: 7/30-8/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client Address: Lawler Matusky & Skelly
 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/27/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	142		15.8	18.9	16.1	446	33.7	36.0	216		959
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	4%	#DIV/0!	12%	6%	1%	2%	11%	14%	4%	#DIV/0!	22%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/27/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m&p-Xylene	o-Xylene
Continuing Area Count	3.29	3.19	2.35	4.77	2.85
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.88
Percent Difference	2%	8%	13%	9%	1%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/27/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA4	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	141		15.3	16.5	17.7	425	30.2	37.9	195		847
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	5%	#DIV/0!	15%	8%	11%	6%	1%	9%	14%	#DIV/0!	8%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/27/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene
Continuing Area Count	3.03	2.94	2.19	4.38	2.27
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.88
Percent Difference	10%	0%	19%	17%	15%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected:	7/29-9/10/98	Collected by:	Chuck Mayers	Client:	Lewler Matusky & Skelly
Samples Received:	7/30-9/10/98	Received by:	Stu Johnson Jr.	Client Address:	1 Blue Hill Plaza PO Bo
Samples Analyzed:	7/30-9/10/98	Analyzed by:	Stu Johnson Jr.		Pearl River, NY 10965
Samples Reported:	7/30-9/10/98	Reported by:	Stu Johnson Jr.	Client Contact:	Edith Hollister
Project Identification:	Hicksville, NY	Report Revision:	0.0	Client Phone:	914-735-8300
Target Job Code:	LMS001	Method Deviations:	None	Client Fax:	914-735-7466
Purchase Order:	N/A	Sampling Method:	Geoprobe		

USEPA Method 3810-8010 Continuing Calibration Check 8/28/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeQZ	112DCE	11DCA	112DCE	111TCA	1,2-DCA4d	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	142		15.8	18.2	16.1	44.6	33.7	38.0	218		959
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	4%	#DIV/0!	12%	2%	1%	2%	11%	14%	4%	#DIV/0!	22%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/28/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m&p-Xylene	o-Xylene
Continuing Area Count	3.29	3.19	2.35	4.77	2.65
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.68
Percent Difference	2%	8%	13%	9%	1%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/28/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeQZ	112DCE	11DCA	112DCE	111TCA	1,2-DCA4d	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	140		15.5	16.3	14.1	424	27.6	37.3	203		832
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	5%	#DIV/0!	13%	9%	11%	6%	9%	11%	11%	#DIV/0!	6%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/28/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene
Continuing Area Count	3.04	2.77	2.56	5.60	2.19
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.68
Percent Difference	10%	6%	5%	7%	18%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/28-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Meyers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matinsky & Skelly
 Client Address: 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/31/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	112DCE	111TCA	1,2-DCA	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	142		17.4	17.1	18.6	434	32.8	37.8	249		803
Area 20ug/L standard	146		17.9	17.9	15.9	453	30.4	41.7	226		785
Percent Difference	4%	#DIV/0!	3%	4%	4%	4%	8%	9%	9%	#DIV/0!	2%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/31/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.26	3.14	2.49	5.25	2.67
Area 50ug/L Standard	3.37	2.85	2.70	5.25	2.68
Percent Difference	3%	8%	8%	0%	0%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 8/31/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	112DCE	111TCA	1,2-DCA	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	141		16.6	21.7	18.0	424	34.0	42.0	214		844
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	5%	#DIV/0!	7%	21%	13%	6%	12%	1%	6%	#DIV/0!	8%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 8/31/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.26	3.04	2.35	4.96	2.79
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.68
Percent Difference	3%	3%	13%	6%	4%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Meyers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-9300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 9/1/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	o12DCE	111TCA	1,2-DCA	1,2-DCA-M	TCE	112TCA	PCE
Continuing Area Count	141		16.6	21.7	18.0	424	34.2	42.0	214		844
Area 50ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	5%	#DIV/0!	7%	21%	13%	8%	13%	1%	6%	#DIV/0!	8%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/1/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.26	3.04	2.35	4.98	2.79
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.88
Percent Difference	3%	3%	13%	5%	4%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 9/1/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	o12DCE	111TCA	1,2-DCA	1,2-DCA-M	TCE	112TCA	PCE
Continuing Area Count	131		17.4	21.0	14.3	347	28.2	36.7	184		683
Area 50ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	11%	#DIV/0!	3%	17%	10%	23%	7%	12%	19%	#DIV/0!	13%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/1/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.64	3.02	2.37	4.35	2.19
Area 50ug/L Standard	3.37	2.95	2.70	5.25	2.88
Percent Difference	8%	2%	12%	17%	18%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Meyers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 8/2/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DCA	112DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	131		17.4	21.0	14.3	34.7	28.2	38.7	184		683
Area 20ug/L standard	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Percent Difference	11%	#DIV/0!	3%	17%	10%	23%	7%	12%	19%	#DIV/0!	13%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/2/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.84	3.02	2.37	4.35	2.19
Area 50ug/L Standard	3.37	2.85	2.70	5.25	2.68
Percent Difference	8%	2%	12%	17%	18%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 9/2/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DCA	112DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	148		17.9	17.9	15.9	453	30.4	41.7	228		785
Area 20ug/L standard	100%	#DIV/0!	100%	100%	100%	100%	100%	100%	100%	#DIV/0!	100%
Percent Difference	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%
QC Range											

USEPA Method 3810-8020 Continuing Calibration Check 9/2/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.37	2.95	2.70	5.25	2.68
Area 50ug/L Standard					
Percent Difference	100%	100%	100%	100%	100%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965
 Client Contact: Edith Hollister
 Client Phone: 914-735-5300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 9/3/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	53		5.8	21.8	7.08	157	47.3	32.8	81		290
Area 20ug/L standard	51.8		5.74	18.7	7.45	156	43.1	35.3	78.9		282
Percent Difference	3%	#DIV/0!	0%	17%	5%	1%	10%	7%	2%	#DIV/0!	3%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/3/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	3.53	3.37	2.65	5.61	2.89
Area 50ug/L Standard	3.58	3.12	2.62	5.31	2.57
Percent Difference	2%	8%	1%	8%	12%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 9/3/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeCl2	112DCE	11DCA	c12DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	57.0		6.52	19.6	7.23	173	39.5	29.8	80.9		326
Area 20ug/L standard	51.8		5.74	18.7	7.45	156	43.1	35.3	78.9		282
Percent Difference	10%	#DIV/0!	14%	5%	3%	11%	8%	16%	3%	#DIV/0!	16%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/3/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	4.05	3.52	2.92	5.69	2.20
Area 50ug/L Standard	3.59	3.12	2.62	5.31	2.57
Percent Difference	13%	13%	11%	7%	14%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Bo
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 9/8/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DOA	112DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	53.9		5.59	17.9	7.76	179	37.7	28.5	84.4		312
Area 20ug/L standard	51.8		5.74	18.7	7.45	156	43.1	35.3	78.9		282
Percent Difference	4%	#DIV/0!	3%	4%	4%	15%	13%	19%	7%	#DIV/0!	11%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/8/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	4.02	3.38	2.75	4.73	2.55
Area 50ug/L Standard	3.59	3.12	2.62	5.31	2.57
Percent Difference	12%	8%	5%	11%	1%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 9/8/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeQ2	112DCE	11DOA	112DCE	111TCA	1,2-DCA44	1,2-DCA	TCE	112TCA	PCE
Continuing Area Count	55.5		6.62	18.2	7.84	169	38.8	30.6	86.3		334
Area 20ug/L standard	51.8		5.74	18.7	7.45	156	43.1	35.3	78.9		282
Percent Difference	7%	#DIV/0!	19%	3%	5%	8%	15%	13%	9%	#DIV/0!	18%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/8/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	4.14	3.22	3.02	5.64	2.44
Area 50ug/L Standard	3.59	3.12	2.62	5.31	2.57
Percent Difference	15%	3%	15%	10%	5%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

Samples Collected: 7/29-9/10/98
 Samples Received: 7/30-9/10/98
 Samples Analyzed: 7/30-9/10/98
 Samples Reported: 7/30-9/10/98
 Project Identification: Hicksville, NY
 Target Job Code: LMS001
 Purchase Order: N/A

Collected by: Chuck Mayers
 Received by: Stu Johnson Jr.
 Analyzed by: Stu Johnson Jr.
 Reported by: Stu Johnson Jr.
 Report Revision: 0.0
 Method Deviations: None
 Sampling Method: Geoprobe

Client: Lawler Matusky & Skelly
 Client Address: 1 Blue Hill Plaza PO Box
 Pearl River, NY 10965

Client Contact: Edith Hollister
 Client Phone: 914-735-8300
 Client Fax: 914-735-7466

USEPA Method 3810-8010 Continuing Calibration Check 9/9/98-opening-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	o12DCE	111TCA	1,2-DCA/d4	TCE	112TCA	PCE
Continuing Area Count	55.5		6.82	18.2	7.84	169	36.8	30.6	86.3	334
Area 20ug/L standard	51.8		5.74	18.7	7.45	156	43.1	35.3	78.9	282
Percent Difference	7%	#DIV/0!	19%	3%	5%	8%	15%	13%	9%	#DIV/0!
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/9/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzene	m,p-Xylene	o-Xylene
Continuing Area Count	4.14	3.22	3.02	5.84	2.44
Area 50ug/L Standard	3.59	3.12	2.62	5.31	2.57
Percent Difference	15%	3%	15%	10%	5%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8010 Continuing Calibration Check 9/9/98-closing-SOIL

STANDARD ANALYTES	11DCE	MeC2	112DCE	11DCA	o12DCE	111TCA	1,2-DCA/d4	TCE	112TCA	PCE
Continuing Area Count	61.9		6.77	18.5	6.64	148	49.8	40.0	101.0	268
Area 20ug/L standard	51.8		5.74	18.7	7.45	156	43.1	35.3	78.9	282
Percent Difference	19%	#DIV/0!	16%	1%	11%	5%	16%	13%	28%	#DIV/0!
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%

USEPA Method 3810-8020 Continuing Calibration Check 9/9/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene
Continuing Area Count	2.89	3.42	2.97	4.81	2.49
Area 50ug/L Standard	3.59	3.12	2.62	5.31	2.57
Percent Difference	19%	10%	13%	13%	3%
QC Range	+/- 20%	+/- 20%	+/- 20%	+/- 20%	+/- 20%



CHAIN-OF-CUSTODY FORMS



CHAIN-OF-CUSTODY RECORD
JOB CODE: IMS 001

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CLIENT: LAWLER MARUSY + SKELLY
ADDRESS: 1 BLUE HILL PLAZA PO BOX 1509 PEARL RIVER NY 10965

PHONE: (914) 735-8300 FAX: (914) 735-7466

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

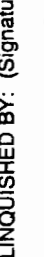
DATE: 7/30/98 PAGE 1 OF 1

P.O.#: SITE Location = 702 770 MAIN ST

LOCATION: WESTBURY LONG ISLAND 7/30/83

COLLECTOR: Chuck Mayer DATE OF 7/29/98 COLLECTION: 7/29/98

[illegible]

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:
				7/20/88	Total Number of Containers		
					Chain of Custody Seals Y/N NA		
					Seals Intact? Y/N NA		
RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	Received Good Cond./Cold		
							Notes:

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: LMS001

CLIENT: LAWLER MATUSKY + SKELLY DATE: 7-31-98 PAGE OF

ADDRESS: BLUE HILL PLAZA PO BOX 1509 PERAL RIVER NY 10965 P.O.#: SITE = 770 MAIN ST

PHONE: (914) 735-8300 FAX: (914) 735-7466 LOCATION: 101 FROST ST HICKSVILLE NY 11791

CLIENT PROJECT #: PROJECT MANAGER: COLLECTOR: Chuck Mayer DATE OF COLLECTION: 7-30-98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	VOL 601/8010	VOL 602/8020	SEM VOL 603/8030	TPH 418.1	TPH 8015 (aqueous)	TPH 8015 (diesel)	PNA 610/8100	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 8000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
FSGP-14	18-22"	10:30	Soil	2oz JAR	✓																7-30-98 collected	1	1
FSGP-14	50-54"	12:45	Soil	" "	✓																" "	1	1
FSGP-14	93-94"	18:30	WATER	VOL																	" "	2	2
FSGP-14	64-63"	7:15	WATER	VOL																	7-31-98 collected	2	2
FSGP-14	80-79"	6:30	WATER	VOL																	↓	2	2
FSGP-13	80-81"	11:30	WATER	VOL																		2	2
FSGP-13	18-22"	13:00	Soil	2oz JAR																		1	1

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT			
		7/31/98		7/31/98	Total Number of Containers Chain of Custody Seals Y/N NA Seals Intact? Y/N NA Received Good Cond./Cold Notes:			

CHAIN-OF-CUSTODY RECORD
JOB CODE: LMS001

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

[illegible]

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794

Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: LMS001

CLIENT: <u>LAWLER MANUSKY & SKELLY</u>				DATE: <u>8/4/98</u> PAGE <u> </u> OF <u> </u>	
ADDRESS: <u>Blue Hill Plaza 6 Box 1509 Pearl River NY 10965</u>				P.O.#: <u>STE - 770 MAIN / 89 FROST</u>	
PHONE: <u>(914) 735-8300</u> FAX: <u>(914) 735-7466</u>				LOCATION: <u>WESTBURY LI C</u>	
CLIENT PROJECT #: <u> </u> PROJECT MANAGER: <u> </u>				COLLECTOR: <u>Chuck Mayers</u> DATE OF COLLECTION: <u>8/4/98</u>	

Sample Number	(Feet) Depth	Time	Sample Type	Container Type	ANALYSES	VOL 6018010	VOL 6018020	VOL 6018030	TPH Vol 6018040	TPH 8015 (petrol)	TPH 8015 (diesel)	TPH 8015 (oil & di)	REST/PCBS 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6007000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
FSGP-11	79-80"	1100	WATER	VOA	✓																770 MAIN ST	2		
↓	93-94"	1106	WATER	VOA	↓																	2		
↓	63-64"	1345	WATER	VOA																		2		
FSGP-15	77-78"	1536	"	↓																		1		
↓	63-64"	1536	"																			2		
FSHP-03	56-65"	1600	"	VOA																		2		
↓	80-85"	1630	"	"																		2		
	90"	1725	↓	↓																		2		
	100"	1750																				2		
	110"	1840																				2		
FSGP-12	63-64"	2030																			770 MAIN ST	2		
	77-80"	2000																			770 MAIN ST	2		
	93-94"	1915																				2		
FSGP-12	18-22"	1840	Soil	20E JAL																		1		

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
<u>[Signature]</u>		<u>8/4/98</u>	<u>[Signature]</u>	<u>8/4/98</u>	Total Number of Containers			
					Chain of Custody Seals Y/N NA			
					Seals Intact? Y/N NA			
					Received Good Cond./Cold			
					Notes:			

8/5/98

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: AMS 001

CLIENT: Cawler Marusky + Stelly
ADDRESS: Blue Hill Plaza Po Box 1509 Pamel River NY 10965
PHONE: (914) 735-8300 FAX: (914) 735-7466
CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/5/98 PAGE _____ OF _____
P.O.#: SITE - 89 FROST ST
LOCATION: WESTBURY CT
COLLECTOR: Edith Hollister DATE OF COLLECTION: 8/5/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	TPH 418.1	TPH 8015 (active)	TPH 8015 (decal)	PNA 61018100	BOD	LEAD 239.2	Ionizability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
FSHP-03	120"	730	H2O	VOA	✓											89 FROST	2	
↓	130"	750	H2O	VOA												↓	2	
	140"	0900	↓														2	
	150"	0930															2	
FSGP-12	50-54"	1230	Soil	202 JAR												770 MAIN	1	
DWA-15	8-12"	1450	Soil	" "												89 FROST	1	
↓	18-22"	1520	" "	" "												↓	2	
FSHP-04	55-65"	1615	H2O	VOA													2	
↓	80"	1645	H2O	VOA													1	
DWA-15	30-34"	1655	Soil	202													2	
FSHP-04	90"	1735	H2O	VOA													1	
DWA-15	40-44"	1745	Soil	202													2	
FSHP-04	100"	1820	H2O	VOA													2	
FSHP-04	110"	1820	H2O	VOA													2	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
<u>Edith Hollister</u>		<u>[Signature]</u>		Total Number of Containers			
				Chain of Custody Seals Y/N	NA		
				Seals Intact? Y/N	NA		
				Received Good Cond./Cold			
				Notes:			

CHAIN-OF-CUSTODY RECORD
JOB CODE: CM5001

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CLIENT: CAWLETZ MARNSKY + SKELLY

ADDRESS: 1344 E HILL AVE PO BOX 1509 PEARL RIVER NY 10965

PHONE: (914) 735-8300
FAX: (914) 735-7466

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/6/98 PAGE OF

P.O.#: SITE →

LOCATION: WESTBURY LI

COLLECTOR: CHUCK MAYER / EDITH
HOLLISTER DATE OF COLLECTION: 8/6/68

[illegible]

LABORATORY NOTES:					
				SAMPLE RECEIPT	
				Total Number of Containers	
				Chain of Custody Seals Y/N NA	
				Seals Intact? Y/N NA	
				Received Good Cond./Cold	
				Notes:	

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: MS001

CLIENT: CAWLER MATHUSKY & SKELLY

ADDRESS: 1 BLUE HILL BLVD BOX 1509 PERKINSBURG NY 10965

PHONE: (914) 735-8300 FAX: (914) 735-7466

CLIENT PROJECT #: _____ PROJECT MANAGER: EMILY HOLISTER

DATE: 8/10/98 PAGE _____ OF _____

P.O.#: SITE - 89 FROST / 101 FROST

LOCATION: WESTBURY LI

COLLECTOR: CHUCK WILSON DATE OF COLLECTION: 8/10/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	TPH 418.1	TPH 8015 (acid)	TPH 8015 (neutral)	PMA 8015 (acid)	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ionizability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number	
DWA-87	93-94"	1200	Water	VOA	✓														ND	89 FROST	2	
	79-80"	1305	↓	↓	↓														ND	↓	2	
FSHP-81	55-60"	1330																	ND	101 FROST	2	
DWA-7	63-64"	1350																	ND	89 FROST	2	
FSHP-81	75-80"	1420	H2O	VOA															ND	101 FROST	2	
DWA-7	8-12"	1510	Soil	20Z															ND	89 FROST	1	
FSHP-81	85"	1525	H2O	VOA															ND	101 FROST	2	
DWA-7	18-22"	1555	Soil	20Z															ND	89 FROST	1	
FSHP-81	95"	1620	H2O	VOA															ND	101 FROST	2	
DWA-7	30-34"	1645	Soil	20Z															ND	89 FROST	1	
↓	40-44"	1730	Soil	↓															ND	101 FROST	1	
FSHP-81	115"	1800	H2O	VOA															ND	89 FROST	1	
DWA-7	50-54"	1840	Soil	20Z															ND	101 FROST	1	
FSHP-81	165"	1900	Water	VOA															ND	89 FROST	1	
																			ND	101 FROST	2	

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)		DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
		8/10/98			8/10/98	Total Number of Containers			
						Chain of Custody Seals Y/N NA			
						Seals Intact? Y/N NA			
						Received Good Cond./Cold			
						Notes:			

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794

Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: LMS 001

CLIENT: LAWLER, Matthew & Kelly
ADDRESS: Blue Hill Plaza Po Box 1509 Pearl River NY 10965
PHONE: (914) 735-8300 FAX: (914) 735-7466
CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/11/98 PAGE _____ OF _____
P.O.#: SITE 89 FROST / 101 FROST
LOCATION: Westbury NY
COLLECTOR: Chuck Mizers / Edith Hollister DATE OF COLLECTION: 8/11/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	TPH 8015 (aqueous)	TPH 8015 (diesel)	PNA 61018100	TOC	BOD	LEAD 239.2	pH	Ionizability	Metals 6000/7000	Reactivity	Preservative (V/N)	FIELD NOTES	(ppm) FID	Total Number of Containers	Laboratory Note Number
DWA-7A	93-94"	1015	Water	10A	✓												89 FROST	ND	2	
	79-80"	1045	↓	↓	✓													ND	2	
	63-64"	1120	↓	↓	✓													ND	2	
	8-12"	1215	Soil	202														ND	1	
	18-22"	1245	↓	↓														ND	1	
	30-34"	1340	↓	↓														ND	1	
	40-44"	1430																ND	1	
	50-54"	1530																ND	1	
FMS02	55-65"	1550	H2O	V0A													used for dilution initially	40-60	2	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT				LABORATORY NOTES:
<u>Edith Hollister</u>	<u>8/11/98</u>	<u>Stacy D.</u>	<u>8/11/98</u>	Total Number of Containers	Chain of Custody Seals Y/N	Seals Intact? Y/N	Received Good Cond./Cold	Notes:

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: LM3001

CLIENT: LAWLER MARUSKY & SKELLY
ADDRESS: BLUE HILL PLAZA 90 BOX 1509 PEARL RIVER NY 10965
PHONE: (914) 735-8300 FAX: (914) 735-7466
CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/12/98 PAGE _____ OF _____
P.O.#: SITE 101 FROST / 89 FROST
LOCATION: WESTBURY NY
COLLECTOR: CHUCK MAYER DATE OF COLLECTION: 8/12/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	TPH 418.1	TPH 8015 (aqueous)	TPH 8015 (diesel)	PNA 61018100	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
FSHP-82	80"	0700	Water	VOA	✓													101 FROST	2	1
→	90"	0735	→	→														→	2	2
→	100"	0830	→	VOA														→	2	2
→	110"	0900	→	→														→	2	2
→	120"	0930	→	→														→	1	1
DWA-8	8-12	0800	Soil	202														89 FROST	2	2
→	18-22	0845	→	→														→	2	2
→	30-34	0930	→	→														→	2	2
→	40-44	1015	→	→														→	2	2
→	50-54	1110	→	→														→	2	2
FSHP-82	130	1230	H2O	VOA														101 FROST	2	2

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT				LABORATORY NOTES:			
<u>[Signature]</u>		8/18/98	<u>[Signature]</u>	8/12/98	Total Number of Containers							
		1620			Chain of Custody Seals Y/N NA							
RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	Seals Intact? Y/N NA							
					Received Good Cond./Cold							
					Notes:							

CHAIN-OF-CUSTODY RECORD
JOB CODE: LM5 001

Office: 301-497-6400
Fax: 301-497-4440

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

COLLECTOR: Chuck Meyer / EDITH
DATE OF COLLECTION: 8/13/98

LABORATORY NOTES:					
				SAMPLE RECEIPT	
				Total Number of Containers	
				Chain of Custody Seals Y/N NA	
				Seals Intact? Y/N NA	
				Received Good Cond./Cold	
				Notes:	

CHAIN-OF-CUSTODY RECORD
JOB CODE: CM5001

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

[illegible]

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: 0m5001

CLIENT: CAVULIER MARVSKY + SKELLY
ADDRESS: Blue Hill Plaza Po Box 1509 Penell River NY 10965
PHONE: (914) 735-8300 FAX: (914) 735-7466
CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8-19-98 PAGE 1 OF 1
P.O.#: SITE - 101 FROST / 89 FROST
LOCATION: WESTBURY NY
COLLECTOR: Chuck Mayer DATE OF COLLECTION: 8/19/98

Sample Number	Depth	Time	Sample Type	Container Type	ANAL YSES	VOA 60/80/100	VOA 62/82/100	TPH 418.1	TPH 8015 (Gravel)	TPH 8015 (Silt)	PNA 610/8100	TOC	BOD	LEAD 239.2	pH	Ignitability	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
101DWA-1	94-95	1015	Water	Via															NA	2	
	79-80	1650																	NA	2	
89DWA-2	8-12	1210	Soil	2oz																1	
	9-11	1100																	ND	1	
	31-33	1115																	ND	1	
	41-43	1130																	ND	1	
	19-21	1150																	ND	1	
	51-53	1210																	ND	1	
101DWA-1	18-22	1245																	NA	1	
	30-34	1345																	NA	1	
101DWA-1	63-65	1400	Water	Via															NA	1	
89DWA-3	9-11	1455	Soil	2oz															ND	1	
	19-21	1505																	ND	1	
	31-33	1525																	ND	1	
101DWA-1	40-44	1540	Soil																NA	1	
89DWA-3	41-43	1545																	ND	1	
	51-53	1600																	1, 2	1	

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)		DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
					8/19/98	Total Number of Containers			
						Chain of Custody Seals Y/N		NA	
						Seals Intact? Y/N		NA	
						Received Good Cond./Cold			
						Notes:			

CHAIN-OF-CUSTODY RECORD
JOB CODE: 1ms001

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

DATE: 8/19/98

OF

ADDRESS: 1 Blue Hill Plaza Box 1509 Pearl River NY 10965

PHONE: (914) 735-8300 FAX: (914) 735-7166

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

COLLECTOR: Chuck Mauer / Hollister

DATE OF
COLLECTION: 8/19/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	FIELD NOTES	Total Number of Containers	Note Number
10/Dwt-1	50-54	1700	Soil	20L	VOA 601/6010 VOA 602/6020 Semi Vol 625/6270 TPH 418.1 TPH 801.5 (bedline) TPH 801.5 (diesel) PMA 610/6100 PEST/PCBs 8080 TOC BOD LEAD 239.2 PH Ignitability Metals 6000/7000 Reactivity Preservative (Y/N)	ND	ND	

LABORATORY NOTES:			
	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT
			Total Number of Containers
	RECEIVED BY: (Signature)	DATE/TIME	Chain of Custody Seals Y/N NA
			Seals Intact? Y/N NA
	RECEIVED BY: (Signature)	DATE/TIME	Received Good Cond./Cold
			Notes:

CHAIN-OF-CUSTODY RECORD
JOB CODE: EMS 001

Office: 301-497-6400
Fax: 301-497-4440

DATE: 8/20/98 PAGE 6 OF 7

P.O.#: STN 601 first / 89 first / OFF-SITE / 770 min

LOCATION: Westbury NY

CLIENT PROJECT #: _____ PROJECT MANAGER: _____
COLLECTOR: Chuck Miller / EDITH
DATE OF COLLECTION: 8/20/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES VOA 607/8070 VOA 602/9020 Semi Vol 625/8270 TPH 418.1 TPH 8015 (aqueous) TPH 8015 (diesel) PMA 610/8100 TOC BOD LEAD 239.2 PH Ignitability Metals 6000/7000 Reactivity Preservative (YN)	FIELD NOTES		Total Number of Containers	Laboratory Note Number
							PID		
OFF-SITE F5HP-05 ↓	50'-60'	715	Water	VOA	K	OFF-SITE	ND	2	
	76'-	805	↑	↑			ND	2	
	85'-	0900	↑	↑			ND	2	
	95'-	0935	↑	↑			ND	2	
89DWA-4	9-11	0810	Soil	20E		89 FROST	1.2	1	
	19-21	0825	↑	↑			ND	1	
	31-33	0840	↑	↑			ND	1	
	41-43	0850	↑	↑			ND	1	
	51-53	0910	↑	↑			NA	1	
FSGP-13 ↓	90-94	0930	Water	VOA		770 MAIN	ND	2	
	63-64	1040	↑	↑		770 MAIN	ND	2	
F5HP-05	105'-	1200	↑	↑		OFF-SITE	ND	2	
89DWA-14	9-11	1100	Soil	20Z		89 FROST	ND	1	
	19-21	1110	↑	↑			5.0	1	
	31-33	1120	↑	↑			70	1	
	51-53	1145	↑	↑			50	1	
F5HP-05 ↓	115'-	1245	Water	VOA		OFF-SITE	ND	2	
	125'-	1400	↑	↑					

LABORATORY NOTES:			
SAMPLE RECEIPT		DATE/TIME	
Total Number of Containers		8/20/98	
Chain of Custody Seals Y/N NA			
Seals Intact? Y/N NA		DATE/TIME	
Received Good Cond./Cold			
Notes:			

CHAIN-OF-CUSTODY RECORD
JOB CODE: CM5001

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

DATE: 8/20/98 PAGE 2 OF 1

ADDRESS: BLUE HILL PLAZA P.O. Box 1509 PEARL RIVER NY 10965

PHONE: (914) 735-8300
FAX: (914) 735-7466

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

LOCATION: Westbury NY

COLLECTOR: Chuck Mayer EDITH DATE OF 8/26/98
COLLECTION: HOLLISTER

[illegible]

CHAIN-OF-CUSTODY RECORD
JOB CODE: CM5 001

Office: 301-497-6400
Fax: 301-497-4440

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

COLLECTOR: Chuck Meyer / Scott DATE OF COLLECTION: 8/21/98

Sample Number	(Feet) Depth	Time	Sample Type	Container Type	ANALYSES VOA 601/8010 VOA 602/8020 Seal: V01 625/8260 TPH 418.1 TPH 8015 (leach) TPH 8015 (dist) PMA 610/8100 PEST/PCBs 8080 TOC BOD LEAD 239.2 PH Ignitability Metals 6000/1000 Reactivity Preservative (V/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number	
89 DWA-12	9-11	0910	Soil	203	✓	89 float	ND	1	
	19-21	0920			↓		ND	1	
	31-33	1000					2.3	1	
	41-43	1015					1,1,1	1	
	51-53	1025					15,10,21	1	

LABORATORY NOTES:			
			SAMPLE RECEIPT
			Total Number of Containers
			Chain of Custody Seals Y/N NA
			Seals Intact? Y/N NA
			Received Good Cond./Cold
			Notes:

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: 1M500/

CLIENT: <u>LAUREL MANSKY F. SKOLLY</u>				DATE: <u>8-24-98</u>		PAGE: <u>1</u>		OF: <u>1</u>	
ADDRESS: <u>Blue Hill Plaza P.O. Box 1509 PEARL RIVER NY 10965</u>				P.O.#: <u>101 FROST / 89 FROST / OFF SITE</u>					
PHONE: <u>(914) 735-8300</u>				FAX: <u>(914) 734-7466</u>		LOCATION: <u>WESTBURY NY</u>			
CLIENT PROJECT #:				PROJECT MANAGER:		COLLECTOR: <u>John Thompson</u>			
						DATE OF COLLECTION: <u>8/24/98</u>			

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	VOA 601/8010	VOA 602/8020	VOA 604/8040	TPH 418.1	TPH 801.5 (Lead)	TPH 801.5 (Cadm)	TPH 801.5 (Cd)	PEST/PCBs 8080	BOD	LEAD 239.2	pH	Ignitability	Metals 8000/7000	Reactivity	Preservative (V/N)	FIELD NOTES	PID	Total Number of Containers	Laboratory Note Number
DW-2-101-S	0'	830	Soil	202	✓																101 FROST	ND	1	
↓	28-30"	910	↓	↓	↓																ND	750	1	
DW-7-101-S	0'	1250	↓	↓	↓																ND	ND	1	
↓	28-30"	1325	↓	↓	↓																ND	ND	1	
DW-2-101	8-12"	1315	↓	↓	↓																ND	ND	1	
DW-101-8-S	0'	1405	↓	↓	↓																ND	ND	1	
89 DW-11	9-11"	1415	↓	↓	↓																89 FROST	ND	1	
101 FROST-2	15-22"	1400	↓	↓	↓																101 FROST	ND	1	
89 DW-11	19-21"	1430	↓	↓	↓																89 FROST	ND	1	
↓	21-33"	1445	↓	↓	↓																ND	1.8	1	
DW-8-101	20-22"	1435	↓	↓	↓																101 FROST	ND	1	
89 DW-11	41-43"	1500	↓	↓	↓																89 FROST	ND	1	
↓	51-53"	1500	↓	↓	↓																ND	2.2	1	
FSHP-07	55-65"	1400	H2O	UPA	↓																OFF-SITE	—	2	
FSHP-07	80"	1430	H2O	↓	↓																ND	—	2	
DW-5-101-S	0'	1550	Soil	202																	101 FROST	ND	1	
101-DWA-2	30-34"	1455	Soil	202																	101 FROST	ND	1	
89-DWA-15A	9-11"	1615	Soil	202																	89 FROST	2.6	1	

RECEIVED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)		DATE/TIME
<u>[Signature]</u>		8/24/98	<u>[Signature]</u>		8/24/98
RECEIVED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)		DATE/TIME
<u>[Signature]</u>			<u>[Signature]</u>		

SAMPLE RECEIPT		LABORATORY NOTES:	
Total Number of Containers			
Chain of Custody Seals Y/N NA			
Seals Intact? Y/N NA			
Received Good Cond./Cold			
Notes:			

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: W8001

CLIENT: Lauder Marusky + Snelly DATE: 8/24/98 PAGE 2 OF 1

ADDRESS: Blue Hill Plaza P.O. Box 1509 Pamel River NY 10965 P.O.#: _____

PHONE: (914) 735-8300 FAX: (914) 735-7466 LOCATION: Westbury NY

CLIENT PROJECT #: _____ PROJECT MANAGER: _____ COLLECTOR: Brand Macdonald DATE OF COLLECTION: 8/24/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	VOA 601/8010	VOA 602/8020	Semi Vol 605/8070	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	PMA 610/8100	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	PID	Total Number of Containers	Laboratory Note Number
DW-101-5	22-24	1625	Soil	2oz	X, L																101 FROST	ND	1	
89DWA-15A	19-21	1645	Soil	2oz	↓																89 FROST	2-6	1	
FSHP-7	90-	1600	Water	Vol A																	DEF-SITE	ND	2	
↓	100'	1655	Water	↓																	OFF-SITE	ND	2	
89DWA-15A	31-33	1645	Soil	2oz																	89 FROST	2-3	1	
↓ A	41-43	1700	↓	↓																	↓	2-4	1	
↓ A	51-53	1730	↓	↓																	↓	2-3	1	
DW-b-101-5	0-	1715	↓	↓																	101 FROST	ND	1	
↓	27-29	1745	↓	↓																	↓	ND	1	
101DWA-2	40-44	1650	↓	↓																	↓	ND	1	
↓	50-54	1845	↓	↓																	↓	ND	1	
FSHP-8.7	110-	1730	Water	Vol A																	OFF-SITE	ND	2	
↓	120-	1845	↓	↓																	↓	ND	2	
DWA-4	63-64	1920	↓	↓																	89 FROST	ND	2	
↓	77-80	1845	↓	↓																	↓	ND	2	
↓	93-94	1815	↓	↓																	↓	↓	2	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT	LABORATORY NOTES:
	8/24/98		8/24/98	Total Number of Containers	
				Chain of Custody Seals Y/N NA	
				Seals Intact? Y/N NA	
				Received Good Cond./Cold	
				Notes:	

CHAIN-OF-CUSTODY RECORD
JOB CODE: LMS001

CLIENT: LAWLER MATUSKY & SKELLY

ADDRESS: Blue Hill Plaza Po Box 1509 Pearl River NY 10965

PHONE: 914-735-8300 FAX: 914-735-7466

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/25/98

P.O.#.

LOCATION: Westbury NY

COLLECTOR: BRETT Mac Donald DATE OF COLLECTION: 8/25/98
Erin Hellyster

DATE: 8/25/98 PAGE 1 OF 1

P.O.#.

LOCATION: Westbury NY

COLLECTOR: BRETT Mac Donald DATE OF COLLECTION: 8/25/98
Erin Hellyster

Sample Number	Depth	Time	Sample Type	Container Type	ANAL YSES	VOA 601/8010	VOA 602/8020	Seal 104 603/8030	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	PMA 610/8100	TOC	BOD	LEAD 239.2	pH	Ionifiability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number Containers	Laboratory Note Number	
F5HP-87	130-	0810	1120	VOA	XX																OFF-SITE	ND	2	
	140-	0905	↓	↓	↓↓																↓	ND	2	
	150-	0950																				ND	2	
99 DWA SMN-E	9-11	815	Soil	202																	89 FRES T	4.4	1	
	10-21	830																			↓	3.9	1	
	31-33	840																				5.3	1	
	41-43	850																			↓	53.0	1	
	51-53	900	↓	↓																	↓	93.0	1	
DW-9-101-S	0-	950																			101 FRES T	ND	1	
	26-28	1030																			↓	ND	1	
DW-1-101-S	0-	825																			↓	ND	1	
	27-29	855																			↓	2.9	1	
101 DWA-4	8-12	850																			↓	14	1	
	30-34	1000																			↓	ND	1	
	18-22	925																			↓	ND	1	
	40-44	1100																			↓	ND	1	
DW-12-101-S	0-	1145	↓	↓																	↓	ND	1	
101 DWA-4	50-54	1155																				ND	1	

RELINQUISHED BY: (Signature)


DATE/TIME
8/25/98

RECEIVED BY: (Signature)


DATE/TIME
8/25/98

RELINQUISHED BY: (Signature)


DATE/TIME
1350

RECEIVED BY: (Signature)


DATE/TIME

RELINQUISHED BY: (Signature)


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DATE/TIME

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: Env ac/

CLIENT: Lawlor Murphy & Kelly DATE: 8/28/98 PAGE 2 OF 1

ADDRESS: Blue Hill Plaza B Box 1509 Pearl River NY 10965 P.O.#: _____

PHONE: 914-735-8300 FAX: 914-735-7460 LOCATION: Westbury NY

CLIENT PROJECT #: _____ PROJECT MANAGER: _____ COLLECTOR: Robert MacPond / chuc4 DATE OF COLLECTION: 8/25/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	TPH 418.1	TPH 8015 (aqueous)	TPH 8015 (diesel)	PMA 610/8100	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
DW-12-10	27-29"	12:30	Soil	202	NA													101 FROST	ND	1
SMH-101-13	0"	14:25	+	+	ND													89 FROST	ND	1
89-DWA-SMH-101-13	9-11"	14:45	+	+	ND													101 FROST	2.9	1
SMH-101-13	27-29"	15:00	+	+	ND													89 FROST	ND	1
89-DWA-SMH-101-13	19-21"	15:00	+	+	ND													89 FROST	2.8	1
+	31-33"	15:10	+	+	ND													+	2.7	1
+	41-43"	15:20	+	+	ND													+	3.1	1
+	51-53"	15:35	+	+	ND													+	4.7	1
101 DWA-4	92-93"	16:00	Water	101A	ND													101 FROST	NA	1
DN-11-01-S	0"	16:10	Soil	202	ND													101 FROST	ND	1
DWA-11-101-10	19-21"	17:05	Soil	202	ND													101 FROST	ND	1
89 DWA-10	9-11"	17:20	+	+	ND													89 FROST	2.9	1
+	14-21"	16:00	+	+	ND													+	2.8	1
+	31-33"	17:10	+	+	ND													+	2.9	1
+	41-43"	17:20	+	+	ND													+	40-50	1
+	51-53"	17:35	+	+	ND													+	7.5	1
FSMP-26	50-60"	16:35	W	W	ND													OFF-SITE		
+	70"	17:05	W	W	ND													+		

RELINQUISHED BY: (Signature) BOND DATE/TIME 8/25/98 1400

RECEIVED BY: (Signature) Stacy DATE/TIME 8/28/98

RELINQUISHED BY: (Signature) _____ DATE/TIME _____

RECEIVED BY: (Signature) _____ DATE/TIME _____

LABORATORY NOTES:

Total Number of Containers _____

Chain of Custody Seals Y/N NA

Seals Intact? Y/N NA

Received Good Cond./Cold _____

Notes: _____

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: MS061

CLIENT: Camber Marusky & Stelly DATE: 8/25/98 PAGE 3 OF 1

ADDRESS: Blue Hill Plaza P.O. Box 1509, Pearl River NY 10965

PHONE: 914-735-8300 FAX: 914-735-7460

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

LOCATION: Edith Hillgate DATE OF COLLECTION: 8/25/98

COLLECTOR: Brent MacDonnell

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	VOA 601/8010	VOA 602/8020	Sent Vol 825/8270	TPH 418.1	TPH 8015 (aqueous)	TPH 8015 (diesel)	PNA 610/8100	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 600/7000	Reactivity	Preservative (V/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
FSMR-06	80"	1740	Water	VOA	✓																OFF-SITE	NP 2	
↓	90"	1810	↓	↓	↓																↓	NP30 2	
↓	100"	1845	↓	↓	↓																	30 2	

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
<u>SE Holbert</u>		<u>8/25/98</u>	<u>[Signature]</u>	<u>8/25/98</u>	Total Number of Containers			
					Chain of Custody Seals Y/N NA			
					Seals Intact? Y/N NA			
					Received Good Cond./Cold			
					Notes:			

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794

Office: 301-497-6400

Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: LMS 001

CLIENT: Lawler Murphy & Kelly

ADDRESS: Blue Hill Plaza Co Box 1509 Pearl River NY 10965

PHONE: 914-735-8300 FAX: 914-735-7460

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/26/98 PAGE 1 OF 1

P.O.#: 5

LOCATION: WESTBURY NY

EDITH HALLISTER

COLLECTOR: TARGET MACDONALD DATE OF COLLECTION: 8/26/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	VOA 601/8010	VOA 602/8020	Semi VOA 624/8260	TPH 418.1	TPH 801.5 (Gasoline)	TPH 801.5 (Diesel)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Neutrality	Preservative (Y/N)	FIELD NOTES	PID	Total Number of Containers	Laboratory Note Number
FISHP-06	110'	745	Water	VOA	XX																	OFF-SITE	NA	2	
	120'	815			XX																			2	
	130'	905																						2	
	140'	1000																						2	
	150'	1045																						2	
101-PWA-4	63-64	0900																				101 Frost	NA	1	
	79-80	745																					NA	2	
89-DWA-5	9-4	0830	Soil	AGZ																		89 Frost	5.9	1	
	19-21	0850																					5.3	1	
	31-33	0900																					5.3	1	
	41-43	0915																					5.2	1	
	51-53	0930																					4.5	1	
DW-4-101-S	0	1030																				101 Frost	ND	1	
	24-26	1045																					ND	1	
DW-3-101-S	0	0840																					ND	1	
	26-28	0920																					ND	1	
101-PWA-5	8-12	1020																					NA	1	
	18-22	1035																					NA	1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT	LABORATORY NOTES:
<u>Edith Hallister</u>		<u>Stefan Kelly</u>	<u>8/26/98</u>	Total Number of Containers	
				Chain of Custody Seals Y/N NA	
				Seals Intact? Y/N NA	
				Received Good Cond./Cold	
				Notes:	

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: CMS 001

CLIENT: Lauferz Marinsky + Stally
ADDRESS: Blue Hill Plaza Pk Box 1509 Pearl River NY 10965
PHONE: 914-735-8300 FAX: 914-735-7460
CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/26/98 PAGE 2 OF 1
P.O.#: _____
LOCATION: Westbury NY
COLLECTOR: DEAN/Jean DATE OF COLLECTION: 8/26/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES VOA 601/6010 VOA 602/6020 Sem Vol 625/6270 TPH 418.1 TPH 8015 (Reactor) TPH 8015 (Reel) PMA 610/6100 PEST/PCBS 8080 BOD LEAD 239.2 pH Ionizability Metals 6007/7000 Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
101DW#-5	32-36	1150	Soil	20e	NA	101 Frost	N/A	1
89DW#-1	9-11	1115				89 Frost	4.6	1
	19-21	1130					4.5	1
	31-37	1146					4.1	1
	41-43	1150					4.0	1
	51-53	1155					3.5	1
DW-NH 1015	0	1315				101 Frost	0	1
101DW#5	40-44	1445					0	1
	50-54	1605					0	1

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT	LABORATORY NOTES:
<u>E. H. H. H.</u>		<u>S. J. J. J.</u>	<u>8/26/98</u>	Total Number of Containers	
				Chain of Custody Seals Y/N NA	
				Seals Intact? Y/N NA	
				Received Good Cond./Cold	
				Notes:	

CHAIN-OF-CUSTODY RECORD
JOB CODE: 4115 oc1

Office: 301-497-6400
Fax: 301-497-4440

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

COLLECTOR: Edith Hollister DATE OF COLLECTION: 8/27/88

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES VOA 601/8010 VOA 602/8020 Semi Vol 625/8270 TPH 418.1 TPH 8015 (Gravim) TPH 8015 (Distil) PNA 610/8100 PEST/PCes 8080 BOD LEAD 239.2 PH Ignitability Metals 6000/7000 Reactivity Preservative (V/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
FSGP-087	19-21	1365	Soil	2oz	XX	89 Frost	PID	1
	51-53	1407	Soil	2oz	↓		high	1
	60-62	1425	Water	10 fl	↑			2
	78"	1455			↑			2
	92"	1542						2
FSGP-07	19-21	1720	Soil	2oz			317	1
	52-54	1735	Soil	2oz			54	1
FSGP-07	58-63	1745	Water	Voa			high	2
	78"	1900	↑	↑				2
	92"	1925		↑				2

LABORATORY NOTES:			SAMPLE RECEIPT	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	Total Number of Containers
<i>Edith Holm</i>	<i>5/27/98</i>	<i>Stacy D. S. R.</i>	<i>8/27/98</i>	Chain of Custody Seals Y/N NA
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	Seals Intact? Y/N NA
				Received Good Cond./Cold
				Notes:

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: 2MS acj

CLIENT: Cawley Minsky + Stealy

ADDRESS: Blue Hill Plaza Po Box 1509 Pearl River NY 10965

PHONE: (914) 735-8300 FAX: (914) 735-7466

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 8/28/98 PAGE 1 OF 1

P.O.#: _____

LOCATION: WESTBURY NY

COLLECTOR: Donna MULLISTEK + HHS

DATE OF COLLECTION: 8/28/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES VOA 601/6010 VOA 602/6020 Semi Vol 625/6270 TPH 418.1 TPH 8015 (aqueous) TPH 8015 (diesel) PMA 610/6100 FEST/PCBs 8080 BOD LEAD 239.2 PH Ignitability Metals 6000/7000 Reactivity Preservative (V/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number	
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~189 Forest~~	~~ND~~	~~ND~~
~~FSGP-07~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-08~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~84 Forest~~	~~ND~~	~~ND~~
~~FSGP-09~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
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~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
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~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
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~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~19-21~~	~~0752~~	~~Soil~~	~~20L~~	~~XX~~		~~↓~~	~~ND~~	~~ND~~
~~FSGP-06~~	~~51-53~~	~~0715~~	~~↓~~		~~↓~~		~~↓~~		

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: MS001

CLIENT: CANLAW MARSHLEY & STEEL DATE: 8/26/98 PAGE 1 OF 1

ADDRESS: Blue Hill Plaza Po Box 1509 Pearl River NY 10965 P.O.#: _____

PHONE: (914) 735-8300 FAX: (914) 735-7466 LOCATION: WATERWAY DATE OF COLLECTION: 8/31/98

CLIENT PROJECT #: _____ COLLECTOR: CHUCK MARSHLEY

PROJECT MANAGER: _____

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	PNA 610/8100	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number	
101 DWA-6	93-94	1300	WATER	VOA	KL													101 FROST	NA	2	
	79-80	1430			LL														NA	2	
	8-12	1515	SOIL	202															ND	1	
	8-22	1540																	ND	1	
	30-34	1610																	ND	1	
	40-44	1650																	ND	1	
	63-64	1710	WATER	VOA															NA	2	

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
<u>[Signature]</u>		<u>8/31/98</u>	<u>[Signature]</u>	<u>8/31/98</u>	Total Number of Containers Chain of Custody Seals Y/N NA Seals Intact? Y/N NA Received Good Cond./Cold		Notes:	
<u>[Signature]</u>			<u>[Signature]</u>					

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD JOB CODE: MS 001

CLIENT: Lawler Marinsky SKELLY DATE: 9-1-98 PAGE 1 OF 1

ADDRESS: 1 BLUE HILL PLAZA PO Box 1509 Pearl River NY 10965 P.O.#: _____

PHONE: 914-735-8300 FAX: 914-735-7466 LOCATION: WESTBURY NY

CLIENT PROJECT #: _____ PROJECT MANAGER: _____ COLLECTOR: Chuck Mayer DATE OF COLLECTION: 9-1-98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	VOA 601/8010	VOA 602/8020	Semi Vol 624/8260	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	PMA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number	
FS6P03	19-21	0825	Soil	20E		XX																101 Frost	NA	1	
	50-52	0845	1			XX																	ND	1	
	60-65	0905	Water	VOA		XX																	ND	2	
	73-78	0930																					ND	12	
	92-	1020																					ND	2	
101DWA-8	93-94	1045																					ND	2	
	79-80	1120																					ND	2	
	63-64	1215																					ND	2	
	89DWA-18	9-11	1220	Soil	20E																	89 Frost	ND	1	
	19-21	1226																						1	
	31-33	1230																						1	
	41-43	1240																						1	
	51-55	1250																						1	
	60-65	1310	Water	VOA																				2	
89DWA-5	78-	1415																						2	
	92-	1445																						2	
	79-80	1700																						2	
	93-94	1630																						2	

LABORATORY NOTES:

SAMPLE RECEIPT

Total Number of Containers

Chain of Custody Seals Y/N NA

Seals Intact? Y/N NA

Received Good Cond./Cold

Notes:

RELINQUISHED BY: (Signature) [Signature] DATE/TIME 9-1/98

RECEIVED BY: (Signature) [Signature] DATE/TIME 9-1/98

RELINQUISHED BY: (Signature) [Signature] DATE/TIME 9-1/98

RECEIVED BY: (Signature) [Signature] DATE/TIME 9-1/98

CHAIN-OF-CUSTODY RECORD
JOB CODE: EMS 001

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

[illegible]

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: CM5001

CLIENT: LAWLER MARUSKY & SKELLY

ADDRESS: BLUE HILL PLAZA PO BOX 1509 PEARL RIVER NY 10865

PHONE: (914) 735-8300 FAX: (914) 735-7466

CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 9-2-98 PAGE 1 OF 1

P.O.#: _____

LOCATION: WESTBURY NY

EDITH HOLSTEN

COLLECTOR: CHUCK MAYER DATE OF COLLECTION: 9-2-98

Sample Number	Depth	Time	Sample Type	Container Type	ANAL YSES	VOA 607/8010	VOA 602/8020	Semi Vol 625/8270	TPH 418.1	TPH 8015 (Gravim)	TPH 8015 (Heads)	PNA 610/8100	TOC	BOD	LEAD 239.2	Ironability	Mercuric 600/7000	Preservative (Y/N)	FIELD NOTES	PID	Total Number of Containers	Laboratory Note Number
FSGP-10	19-21	0735	Soil	2oz	X X														89 FROST	6.1	1	
	50-52	0750	Soil	2oz	J J															58.0	1	
	60-65	0755	Water	UVA	J J															N/A	2	
	78-	0830																			1	
	92-	0900																			2	
	93-94	1115																			2	
DWA-11	79-80	1240																			1	
	60-65	1045																			2	
	78	1115																			2	
	92	1200																			2	
DWA-11	63-64	1330																			1	
DWA-14	60-65	1415																			2	
89 DWA-14	78-	1450																			2	
	92	1540																			2	
89 DWA-12	93-94																				2	
	79-80																				1	

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
<u>Edith Holsten</u>			<u>9-2-98</u>		Total Number of Containers			
					Chain of Custody Seals Y/N NA			
					Seals Intact? Y/N NA			
					Received Good Cond./Cold			
					Notes:			

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: cm5001

CLIENT: LANIER MATTOSKY + SKELLY
ADDRESS: Blue Hill Plaza B Box 1509 Pearl River NY 10965
PHONE: (914) 735-5700 FAX: (914) 735-7466
CLIENT PROJECT #: _____ PROJECT MANAGER: _____

DATE: 9/3/98 PAGE 1 OF 1
P.O.#: _____
LOCATION: WESTBURY NY
COLLECTOR: Edith Molyseck DATE OF COLLECTION: 9/3/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES	VGA 601/8010	VGA 602/8020	Semi Vol 603/8030	TPH 418.1	TPH 8015 (Residue)	TPH 8015 (A&D)	PEST/PCBS 8080	BOB	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number	
89 DWA-16	60-65	1735	Water	VGA	XX															Collected 9-2-98 / 89 Frost	NA	2	PID
	78	1812			UU																	2	
	92	1845																				2	
	9-11	1650	Soil	202																	ND	1	
	19-21	1655																			5.0	1	
	31-33	1702																			15.7	1	
	41-43	1710																			208	1	
	51-53	1719																			159+	1	
89 DWA-19	60-65	0900	Water	VGA																Collected 9/3/98 89 Frost	NA	2	
	78	0945																				2	
	92	1030																				2	
	9-11	0823	Soil	202																	8.7	1	
	19-21	0827																			30	1	
	31-33	0835																			36.9	1	
	41-43	0840																			35.7	1	
	51-53	0845																			>2500	1	

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)		DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
<u>Edith Molyseck</u>			<u>SSD</u>		<u>9/3/98</u>	Total Number of Containers			
						Chain of Custody Seals Y/N		NA	
						Seals Intact? Y/N		NA	
						Received Good Cond./Cold			
						Notes:			

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: CM5001

CLIENT: LAWLER MANSKY + SKELLY DATE: 9/4/98 PAGE 1 OF 1
ADDRESS: BLUE HILL PLAZA BOX 1509 PEARL RIVER NY 10965
PHONE: (914) 735-8300 FAX: (914) 735-7466
LOCATION: WESTBURY NY
COLLECTOR: EDITH HILLIARD DATE OF COLLECTION: 9/4/98
CLIENT PROJECT #: _____ PROJECT MANAGER: _____

Sample Number	Depth	Time	Sample Type	Container Type	ANAL YSES	VOA 607/8010	VOA 602/8020	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	PNA 610/8100	PEST/PCBS 8080	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number		
FSX-P-04	60-65'	1450	WATER	VOA	XX																Collected 9/13/98 10/1/2005	NA	2		
	75'	1530			XX																		2		
	92'	1616			XX																		2		
	9-11	1355	SOIL	202																		ND	1		
	19-21	1400																				2-3	1		
	31-33	1405																				13.6	1		
	41-43	1415																				36+	1		
	51-53	1428																				79	1		
FSMW-01A			WATER	VOA																		FROM HIN	NA	2	
UN-4 EZEM		1110																				85 FLOST	NA	2	

RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME	SAMPLE RECEIPT		LABORATORY NOTES:	
<u>Edith Hilliard</u>			<u>SKELLY</u>	<u>9/4/98</u>	Total Number of Containers			
					Chain of Custody Seals Y/N		NA	
					Seals Intact? Y/N		NA	
					Received Good Cond./Cold			
					Notes:			

TARGET STANDARD OPERATING PROCEDURES (SOP)

SOP	REVISION	DATE
8010	3.0	3/29/96

Reviewed by:	Title	Signature	Date
Brian M. Abraham, Ph.D.	Laboratory Director		3/29/96
Michael Marrale, Jr.	Laboratory Supervisor		3/29/96

STANDARD OPERATING PROCEDURES FOR THE ANALYSIS OF HALOGENATED VOLATILE ORGANICS BY GAS CHROMATOGRAPHY USING USEPA METHODS 3810/8010

1.0 SCOPE AND APPLICATION

- 1.1 Method 8010 is used to determine the concentration of various volatile halogenated organic compounds. The following compounds, with associated method detection limits, can be determined by this method:

Parameter	Synonym	Acronym	CAS No.	Static Headspace MDL (µg/L)		
				soil gas	soil	water
1,1-Dichloroethene	Ethylene Chloride	11DCE	75-35-4	0.188	2.50	1.50
Dichloromethane	Methylene Chloride	MeCl ₂	75-09-2	0.126	2.81	1.73
trans-1,2-Dichloroethene	N/A	t12DCE	156-60-5	0.345	3.17	1.31
1,1-Dichloroethane	Ethylidene Chloride	11DCA	75-34-3	0.345	2.50	2.06
cis-1,2-Dichloroethene	N/A	c12DCE	156-59-2	0.534	2.83	1.77
1,1,1-Trichloroethane	Methyl Chloroform	111TCA	71-55-6	0.025	0.161	0.180
Carbon Tetrachloride	Tetrachloromethane	CT	56-23-5	0.041	0.187	0.230
Trichloroethene	N/A	TCE	79-01-6	0.038	0.188	0.171
1,1,2-Trichloroethane	N/A	112TCA	79-00-5	0.104	0.245	0.112
Tetrachloroethene	Perchloroethene	PCE	127-18-4	0.079	0.181	0.191

- 1.2 The above method detection limits were determined according to EPA 40 CFR Part 136 Appendix B utilizing EPA Method 3810 sample introduction using custom gas-based and methanolic based NIST traceable standards.

2.0 SUMMARY OF METHODS

- 2.1 Method 8010 provides gas chromatographic conditions for the detection of halogenated volatile organic compounds. Samples are introduced into the GC using static heated headspace EPA Method 3810. A temperature program is used in the gas chromatograph to separate the organic compounds. Detection is achieved by using either an electron capture detector (ECD) or an electrolytic conductivity detector (ELCD or Hall).

3.0 INTERFERENCES

- 3.1 During analysis, major contaminant sources are volatile materials in the laboratory and impurities in the sample and/or standard containers. The use of non-polytetrafluoroethylene (PTFE) plastic tubing, non-PTFE thread sealants, or flow controllers with rubber components in the GC system should be avoided since such materials out-gas organic compounds which will be concentrated in the system during operation. Analyses of laboratory reagent blanks (discussed below) provide information about the presence of contaminants. When potential interfering peaks are noted in laboratory reagent blanks, the analyst should locate and change the affected components in the system.
- 3.2 Cross contamination can occur whenever high level and low level samples are sequentially analyzed. To reduce cross contamination, the GC temperature should be elevated to "bake out" potential contaminants prior to subsequent sample analysis from the inlet, column interface, column and detector regions. Additionally, the sample syringe must be rinsed with organic non matrix interfering solvent and/or reagent water between sample analyses. Whenever an unusually concentrated sample is encountered, it should be followed by a matrix blank analysis to check for cross contamination.
- 3.3 Samples can be contaminated by diffusion of volatile organics (particularly chlorofluorocarbons and methylene chloride) through the sample container septum during shipment and storage. A trip blank prepared from organic-free reagent water and carried through sampling and subsequent storage and handling can serve as a check on such contamination. Additionally, the septa of some vials have been shown to contain carbon disulfide which is detected using this methodology.

4.0 SAFETY

- 4.1 The toxicity or carcinogenicity of each reagent (and standard) used in this method has not been precisely determined; however, each chemical compound should be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. Additional references to laboratory safety are available and have been identified as follows:
- 4.1.1 "Carcinogens-Working with Carcinogens," Department of Health, Education, and Welfare, public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health. Publication No. 77-206, August 1977.
 - 4.1.2 "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206 (Revised, January 1976).
 - 4.1.3 "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Safety, 3rd Edition, 1979.

5.0 APPARATUS AND MATERIALS

- 5.1 Gas chromatograph - An analytical system complete with a temperature programmable gas chromatograph (Shimadzu GC14A or equivalent) suitable for automated heated static headspace introduction (Shimadzu HSS-2B or equivalent) and all required accessories including syringes, analytical columns, gases, detector, and strip-chart recorder or hardware to store, interpret, and print chromatograms.
 - 5.1.2 Analytical Column: 30-m bonded methyl phenyl cyanopropyl silicone (0.53 mm i.d. x 3.0 μ m film thickness) Quadrex or equivalent.
 - 5.1.3 Detector - Electron Capture Detector (ECD).
- 5.2 Sample containers: 40-mL capacity or larger, equipped with a PTFE-faced silicone septum, certified pre-cleaned (I-Chem Service, Newcastle, DE or equivalent) for collection of water and soil samples. No further cleaning is required for storing collected water samples. 30-mL capacity crimp top vials certified pre-cleaned (I-Chem Service, Newcastle, DE or equivalent) for static headspace analysis.
- 5.3 Ancillary equipment:
 - 5.3.1 Syringes: 5-mL glass Luerlok tip gastight syringe (Hamilton or equivalent).
 - 5.3.2 Micro syringes: 1, 25, 100, 1000 μ L gastight (Hamilton, or equivalent).
 - 5.3.3 Balance: Analytical, capable of accurately weighing 0.0001 g.
 - 5.3.4 Balance: Analytical, capable of accurately weighing 0.01g.
 - 5.3.5 Crimper for 30 mL vials.
 - 5.3.6 Decrimper for 30 mL vials.
 - 5.3.7 Cooler and ice or refrigerator.
 - 5.3.8 Spare capillary column.
 - 5.3.9 Spare ECD detector.
 - 5.3.10 Inlet septa.
 - 5.3.11 HSS automatic static headspace syringe (800 μ L).
 - 5.3.12 pH meter (optional).
 - 5.3.13 Spare gas line and Swagelok connectors.
 - 5.3.14 Air generator and lines if not using tank supplied air.
 - 5.3.15 Gas or diesel generator for mobile use with power inverter.
 - 5.3.16 Logbooks: sample prep/run log, calibration log, maintenance log.
 - 5.3.17 3.5" blank disks for electronic storage of data.
 - 5.3.18 Spare boards, instrument parts prone to failure (based on experience).
 - 5.3.19 Tool kit including wrenches, screwdrivers, scissors, soldering iron, etc.

6.0 REAGENTS

- 6.1 Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.
- 6.2 Organic-free reagent water. All references to water in this method refer to organic-free reagent water
- 6.3 Methanol, CH₃OH. Pesticide quality or equivalent. Store away from other solvents.
- 6.4 Stock standards for static headspace soil and water analysis: Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions. Prepare stock standards in methanol using assayed liquids or gases, as appropriate. Because of the toxicity of some of the organohalides, primary dilutions of these materials should be prepared in a hood.
- 6.4.1 Place about 9.8 mL of methanol in a 10 mL tared ground glass stoppered volumetric flask. Allow the flask to stand, unstoppered, for about 10 minutes until all alcohol-wetted surfaces have dried. Weigh the flask to the nearest 0.0001 g.
- 6.4.2 Gases: To prepare standards for any compounds that boil below 30°C (e.g. bromomethane, chloroethane, chloromethane, dichlorodifluoromethane, trichlorofluoromethane, vinyl chloride), fill a 5 mL valved gas-tight syringe with the reference standard to the 5.0 mL mark. Lower the needle to 5 mm above the methanol meniscus. Slowly introduce the reference standard above the surface of the liquid. The heavy gas rapidly dissolves in the methanol.
- 6.4.3 Reweigh, dilute to volume, stopper, and then mix by inverting the flask several times. Calculate the concentration in milligrams per liter (mg/L) from the net gain in weight. When compound purity is assayed to 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration of they are certified by the manufacturer or by an independent source.
- 6.4.4 Transfer the stock standard solution into a bottle with a Teflon lined screw-cap. Store, with minimal headspace, at -10°C to -20°C and protect from light.
- 6.4.5 Prepare fresh stock standards for gases weekly or sooner if comparison with check standards indicates a problem. Reactive compounds such as 2-chloroethyl vinyl ether may need to be prepared more frequently. All other standards must be replaced after six months. Both gas and liquid standards must be monitored closely by comparison to the initial calibration curve and by comparison to QC check standards. It may be necessary to replace the standards more frequently if either check exceeds a 20% drift.
- 6.4.6 Optional calibration using a certified gaseous mixture can be accomplished daily utilizing commercially available gaseous analyte mixture of bromomethane, chloromethane, chloroethane, vinyl chloride, dichlorodifluoromethane and trichlorofluoromethane in nitrogen. These mixtures of documented quality are stable for as long as six months without refrigeration. (VOA-CYL III, RESTEK Corporation, Cat. #20194 or equivalent).

6.4.7 Secondary dilution standards for soil or water static headspace analysis: using stock standard solutions, prepare secondary dilution standards in methanol, as needed, containing the compounds of interest, either singly or mixed together. The secondary dilution standards should be prepared at concentrations such that the calibration standards will bracket the working range of the analytical system. Secondary dilution standards should be stored with minimal headspace for volatiles and should be checked frequently for signs of degradation of evaporation, especially just prior to preparing calibration standards from them. Secondary standards are not needed for soil gas since these standards are directly injected as stock.

6.5 Calibration standards for static headspace soil and water analysis: Static headspace soil and water calibration standards should be derived from the methanolic standards. Five concentration levels should be used spanning the linear range of the GC detector.

6.6 Stock standards for static headspace soil gas analysis: Standards used for static headspace soil gas analysis should be purchased in gaseous form from a certified source (Scott Specialty Gases or equivalent). The stock gas mixture should be purchased in an inert pure gas matrix (i.e., nitrogen) to contain all analytes of interest at sufficiently high concentration to cover the linear working range of the detector upon dilution as needed. The methodology cited herein was developed using Scott Specialty Gases custom blend mixture ALM-009522 with the following compounds and stock concentrations in the mixture and resulting concentrations extrapolated into a standard 800 µL autosampler injection of stock filled into a 30 mL crimp top sample vial:

Parameter	CAS No.	Stock Concentration (ppb)	Extrapolated Concentration (µg/L)
11DCE	75-35-4	2740	12.1
MeCl ₂	75-09-2	2040	7.73
t12DCE	156-60-5	3180	13.8
11DCA	75-34-3	3170	14.0
c12DCE	156-59-2	4090	17.7
111TCA	71-55-6	232	1.38
CT	56-23-5	253	1.74
TCE	79-01-6	228	1.34
112TCA	79-00-5	403	2.40
PCE	127-18-4	233	1.72

The concentrations values used should be the certified analyzed values and not the theoretically derived values. Conversion from parts per billion in the stock tank to µg/L in an 800 µL injection from a 30 mL vial are calculated as follows:

$$\mu\text{g/L} = [\text{ppb}(\text{v/v}) \times \text{MW}(\text{g/mole}) \times 10^6(\mu\text{g/g})] \div [22.4(\text{L/mole}) \times 10^9(\text{ppb})]$$

6.7 Calibration standards for static headspace soil gas: Static headspace soil gas standards should be prepared directly from stock gaseous standards purchased and certified from a reputable vendor (Scott Specialty Gases or equivalent) as shown above. Standard dilutions must not be made in vials by removing volumes of static gas and injecting stock standard. This technique has shown to be ineffective in transferring volumes of stock into the evacuated vial presumably due to density differences between the gas evacuated from the vial and the gaseous stock standard. The result is a consistently decreasing calibration factor over the concentration ranges studied. The purchased and certified stock standard gas mix should be directly injected into the GC system using a gastight syringe at varying volumes to

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create a calibration curve which can be used to assess soil gas collected in 30 mL crimp top vials or Tedlar bags. Recommended volumes of stock directly injected and the resulting concentrations are shown below:

Parameter	Cal. Point 1		Cal. Point 2		Cal. Point 3		Cal. Point 4		Cal. Point 5	
	Vol.	Conc.	Vol.	Conc.	Vol.	Conc.	Vol.	Conc.	Vol.	Conc.
	(μL)	(μg/L)	(μL)	(μg/L)	(μL)	(μg/L)	(μL)	(μg/L)	(μL)	(μg/L)
11DCE	100	1.51	250	3.78	500	7.55	750	11.3	1000	15.1
MeCl ₂	100	0.967	250	2.42	500	4.84	750	7.25	1000	9.67
t12DCE	100	1.73	250	4.33	500	8.65	750	13.0	1000	17.3
11DCA	100	1.75	250	4.38	500	8.75	750	13.1	1000	17.5
c12DCE	100	2.21	250	5.53	500	11.1	750	16.6	1000	22.1
111TCA	100	0.173	250	0.433	500	0.865	750	1.30	1000	1.73
CT	100	0.218	250	0.545	500	1.09	750	1.64	1000	2.18
TCE	100	0.168	250	0.420	500	0.840	750	1.26	1000	1.68
112TCA	100	0.300	250	0.750	500	1.50	750	2.25	1000	3.00
PCE	100	0.215	250	0.538	500	1.08	750	1.61	1000	2.15

Calibration standard volumes should be withdrawn directly from a Tedlar bag which has been filled with the stock gas standard. The Tedlar bag should be evacuated and refilled regularly upon signs of degradation of the analytes or poor calibration verification response. Dilution values are based upon standard autosampler injection volumes of samples at 800 μL. Therefore, calibration point one concentrations are calculated as follows:

$$\text{Point one concentration (}\mu\text{g/L)} = (100 \mu\text{L} \div 800 \mu\text{L}) \times \text{stock concentration (}\mu\text{g/L)}$$

If sample dilutions are required by altering the injection volume, resulting concentrations must be multiplied by the magnitude of the dilution. For example, if a sample is analyzed at an 800 μL injection volume and found to saturate the detector, and a second more dilute injection volume at 100 μL is used to bring the signal into the linear range of the detector, the quantitated concentration must be multiplied by a factor of 8 (800 μL ÷ 100 μL) to ascertain the actual analyte concentration in the sample. Additionally, dilutions can be performed from the source by using a second soil gas vial and diluting the original sample prior to injection. For soil and water headspace, smaller amounts of soil and lower volumes of water sample can be used similarly to dilute the sample matrix from the source.

7.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

7.1 For information regarding sample collection, preservation, and handling, refer to Keith, Lawrence H., "Principles of Environmental Sampling", American Chemical Society, 1988.

8.0 PROCEDURE

8.1 Volatile compounds are introduced into the gas chromatograph using static headspace of soil, water, or soil gas according to EPA Method 3810.

8.2 Gas chromatographic conditions:

Helium flow rate = 50 mL/min, 15 mL/min through column

GC temperature program:

Initial temperature: 35°C, hold for 2 minutes

Program 1: 35°C to 115°C at 10°C/min

Program 2 soil gas: 115°C to 145°C at 40°C/min

Program 2 soil and water: 115°C to 200°C at 40°C/min

Static Headspace Equilibration Program

Soil Gas Temperature: 60°C for 4 minutes

Soil and Water Temperature: 90°C for 10 minutes

8.3 Calibration. The following describes the procedures for calibrating the GC for static headspace soil, water, and soil gas analysis. Suggested resulting concentrations for the initial calibration curve are listed above. Since each GC system is slightly different, alterations to these values may be required to ensure that the low level standard is sufficiently higher than the noise level near but above the method detection limit and the high standard is not in the saturation zone of the detector.

8.3.1 Calibrate the GC for static headspace soil gas analysis by hand-injecting the volumes of stock gas standard shown above into the system.

8.3.2 Calibrate the GC for static headspace water analysis by injecting liquid calibration standards into 15 mL of analyte free water in the 30 mL autosampler vial and crimp seal. Transfer the calibration standard to the water matrix using a gastight syringe and crimp seal immediately. Analyze the resulting sealed standards by autosampler.

8.3.3 Calibrate the GC for static headspace soil analysis by injecting liquid calibration standards into 5 g of analyte free soil matrix (Ottawa Beach Sand or equivalent) in a 30 mL autosampler vial and crimp seal. Transfer the calibration standard to the soil matrix using a gastight syringe and crimp seal immediately. Analyze the resulting sealed standards by autosampler.

8.4 Gas chromatographic analysis: introduce volatile compounds into the gas chromatograph using static headspace EPA Method 3810 by autosampler or hand inject following heating block volatilization.

8.4.1 Table 1 summarizes the estimated retention times of the organic compounds analyzed using this method.

8.4.2 If the response for a peak is off-scale, i.e., beyond the calibration range of the standards, prepare a dilution of the sample and re-analyze or analyze a one point calibration standard above the signal magnitude of the sample response to ensure the calibration factor is in linearity at this level.

9.0 QUALITY CONTROL

9.1 Each laboratory that uses this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and an ongoing analysis of spiked samples to evaluate and document data quality. The laboratory must maintain records to document the quality of data that is generated. On-going data quality checks are compared with established performance criteria to determine if the results of analyses meet the performance characteristics of the method. When results of sample spikes indicate a typical method performance. A quality control check standard must be analyzed to confirm that the measurements were performed in an in-control mode of operation.

9.1.1 The analyst must make an initial, one-time, demonstration of the ability to generate acceptable accuracy and precision with this method. This ability is established by analyzing a blind PE sample while being overseen by the laboratory director. Results of the blind PE sample must agree within specified EPA limits.

9.1.2 In recognition of advances that are occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such a modification is made to the method, the analyst is required to repeat the demonstration of ability PE sample analysis.

9.2 Calibration Factor (CF) Calculations: Before analyzing samples or mobilizing the GC unit to the field, the analyst must prepare calibration standards at a minimum of five concentrations levels for each compound as previously discussed. As stated, one of the calibration standards should be at a concentration near, but above, the MDL. The other concentrations should correspond to the expected range of concentrations found in the "real-world" sample or the establishment of the GC dynamic range. Quality control ranges for the CFs are discussed below.

9.3 Prior to any calibration curve standard analyses, a method blank analysis must be performed where the system is checked for background contamination. Using analyte free materials (water, soil, or inert gas) analyze a blank sample using the method GC temperature program for the presence/absence of background contaminants in either a soil, water, or gaseous matrix. Blank analyses are also performed at a rate of 10% or one/day.

9.3.1 Corrective Action: If background contamination is found, a process of elimination approach must be taken to isolate the source of the contamination. This process of elimination should include the GC column, GC inlet, injection syringe, injection syringe plunger, sample container cap, sample container, and analyte free matrix in that order. Prior to any analyses (calibration or site samples) the system must be found to be free of any outside sources of contamination.

9.4 Calibration factor measurement: Analyze the five calibration standards and calculate the calibration factor at for each compound at each concentration using the following equation:

$$CF = (A_x)/(C_x) \text{ where,}$$

A_x = area of the analyte peak

C_x = concentration of the standard target analyte

If the CF value is constant (i.e., • 30% relative standard deviation, RSD) and the correlation coefficient is near 1 (≥ 0.990) over the dynamic range, the CF can be assumed to be invariant and the average of the CF value(s) can be used for quantitation. Percent relative standard deviation is measured as follows:

$$\%RSD = (\bullet/x) \times 100 \text{ where,}$$

- = the standard deviation of the distribution
- x = the average value of the measurements

9.4.1 Corrective Action: The average CF values must be within 30% RSD and correlation coefficient ≥ 0.990 prior to any sample analyses. If the average CF values for any analyte falls outside of the 30% RSD window, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition prior to analyzing the point or points skewing the curve.

9.5 The working calibration curve must be verified each working day (at the beginning and end of each day) by measurement of the analyte calibration factor at the mid-point of the initial calibration curve if the sample analysis concentrations are completely unknown. If the expected sample concentrations are known to be low or high, the CF should be checked at the second or fourth concentrations, respectively. If the CF is within 30% difference from the average CF from the initial five point calibration curve, the instrument is shown to be in calibration. Therefore, it is not necessary to generate a new five point calibration curve on a daily basis. It is recommended that a new five point curve be generated on a monthly basis as a preventative maintenance diagnostic tool. Calibration factor values differing by more than 30% difference for the low and/or high calibration points from the initial calibration curve indicates the integrity of the standard solution has been compromised or the operating parameters of the instrument have changed over time or preventative maintenance must be performed on the GC and/or detector.

9.5.1 Corrective Action: If the calibration factor for any compound varies from the initial calibration curve calibration factor by more than $\pm 30\%$, the test must be repeated using a fresh calibration standard at a second concentration. If any of the analyte CFs calculated from this second point fall outside of the 30% window, a new five point calibration curve must be established. The two previous points can be used as part of this calibration curve if the CFs are consistent. If the new calibration curve CFs do not yield the above stated results, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition and the experiment must be repeated.

9.6 Duplicate analysis is performed at a rate of 5% or one/day. When possible, the duplicate is chosen which was found to contain target analyte. In such cases, it is preferable (time permitting) to perform triplicate analysis and establish measurement precision criteria. Triplicate analysis measurements must result in a 30% RSD. Duplicate analysis should result in a 30% RPD where RPD is measured as:

$$RPD = (\delta/y) \times 100 \text{ where,}$$

- δ = the absolute value of the difference between the duplicate measurements.
- y = the mean of the two measurements.

9.6.1 Corrective Action: If either duplicate or triplicate analysis criteria fails, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition and the experiment must be repeated unless the analyte results are sufficiently close (3x) to the method detection limit for that analyte.

9.7 The analyst should monitor both the performance of the analytical system and the effectiveness of the method in dealing with each sample matrix by spiking each sample, standard, and reagent water blank with surrogate compounds recommended to encompass the range of the temperature program used in this method. Prepare the surrogate spike at a concentration at the midpoint of the linear range of the instrument for the analyte selected. For the set of compounds listed above, an appropriate surrogate compound would be 1,2-dichloroethane-d₄. Recovery limits for the surrogate have been established by the EPA in Method 8000. Laboratory specific values should be generated after analyzing 20 samples of the given matrix with the surrogate compound injected. Warning and control levels are calculated as follows:

Upper Warning Level: $\rho + 2\sigma$

Lower Warning Level: $\rho - 2\sigma$

Upper Control Level: $\rho + 3\sigma$

Lower Control Level: $\rho - 3\sigma$, where

ρ = the average quantitated concentration of the 20 analyses

σ = the standard deviation of the 20 analyses

9.7.1 Corrective Action: If the surrogate fails, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition and the experiment must be repeated. Samples with surrogate recoveries outside of the EPA or laboratory derived limits must be re-analyzed or flagged as estimated on the final data reporting sheet using an H (high) or L (low) flag.

9.8 Static headspace preparation and analysis: For water samples, calibration and QC procedures must be performed using methanol based standards spiked into 15 mL analyte free water blanks. For sample analysis, 15 mL of water sample is syringe transferred from the 40 mL VOA vial into the 30 mL sample analysis crimp top vial and crimp sealed. The water sample injection volumes should be sufficient to ensure proper detection at the experimentally determined MDL's (i.e., 800 μ L). Surrogates should be added as needed. It may be necessary to centrifuge the 40 mL VOA prior to withdrawing the sample aliquot to avoid introduction of suspended solids into the sample analysis vial.

For soil samples, calibration and QC procedures must be performed using methanol based standards spiked into 5 g analyte free soil blanks in a 30 mL sample analysis crimp top vial. For sample analysis, 5 g of soil sample is quickly transferred from the sample container into the sample analysis crimp top vial and crimp sealed. The sample soil quantity should be sufficient to ensure proper detection at the experimentally determined MDL's. Surrogates should be added as needed.

For soil gas samples, all QC procedures must be performed by direct injection of gaseous standards when using either direct injection or autosampling of samples as previously discussed. The sample should be directly injected from the collection container (either Tedlar bags or 30 mL crimp top vials) whenever possible. Injection volumes should be sufficient to ensure proper detection at the experimentally determined MDL's (i.e., 800 μ L).

- 9.9 For sample analysis results, identify the analytes in the sample by comparing the retention times of the peaks in the sample chromatogram with those of the peaks in the standard chromatograms. The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of the retention time window is used as a guideline, however, the experience of the analyst should weigh heavily in the interpretation of the chromatograms.
- 9.10 Additional QC implemented will include field duplicates and field blanks when available. When doubt exists over the identification of a peak on the chromatogram, confirmation techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectral analysis should be implemented.

10.0 CALCULATIONS

- 10.1 Determine the concentration of individual compounds in the sample by using calibration factors (CFs) as follows:

Concentration ($\mu\text{g/L}$) = A_x/C_f where,

A_x = area of the analyte peak

C_f = calibration factor as previously defined

- 10.2 Report results in $\mu\text{g/L}$ without correction for surrogate recovery data. All QC data obtained should be reported with the sample results unless otherwise requested by the client. All results, run logs, maintenance logs, calibration results, notes, chromatograms, and electronic data should be filed for easy access and future reference. Final client reports must be prepared and sent to the client the same day or next morning. One copy of the final report should be filed with all previously mentioned data and a second report should be given to the laboratory director to answer any client questions in the event the analyst is not available.

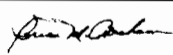
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Table 1. Calibration curves, calibration factors, and %RSD for EPA Method 3810 static headspace sample introduction and EPA Method 8010 analysis of halogenated volatile organics by gas chromatography.

Soil Gas Analysis											
	Stock Conc. (µg/L)	Cal. Point 1 (µg/L)	Cal. Point 2 (µg/L)	Cal. Point 3 (µg/L)	Cal. Point 4 (µg/L)	Cal. Point 5 (µg/L)	Cal. Factor (ave.)	Cal. Factor (%RSD)	Ave. R _i (min.)	R _i (±)	r ²
11DCE	12.1	1.61	4.03	7.26	11.3	15.1	5.71	18	1.86	0.30	0.997
MeCl ₂	7.73	1.03	2.58	4.64	7.25	9.66	1.15	11	2.27	0.30	0.995
t12DCE	13.7	1.84	4.59	8.26	12.9	17.2	0.550	2.7	2.56	0.30	0.998
11DCA	14.0	1.87	4.67	8.40	13.1	17.5	0.609	26	2.93	0.30	0.999
c12DCE	17.7	2.36	5.90	10.6	16.6	22.1	0.308	3.5	3.53	0.30	0.997
111TCA	1.38	0.184	0.460	0.83	1.29	1.73	150	11	4.68	0.30	0.996
CT	1.74	0.232	0.580	1.04	1.63	2.18	1580	9.0	4.32	0.30	0.996
TCE	1.34	0.179	0.447	0.804	1.26	1.68	58.9	4.3	5.27	0.30	0.997
112TCA	2.40	0.319	0.799	1.44	2.25	3.00	6.98	3.6	7.39	0.30	0.997
PCE	1.72	0.229	0.573	1.03	1.61	2.15	152	5.1	7.67	0.30	0.996
Soil Headspace Analysis											
11DCE		7.13	19.0	28.5	38.0	47.5	1.15	21	1.86	0.30	0.999
MeCl ₂		7.94	21.2	31.7	42.3	52.9	0.207	23	2.27	0.30	0.990
t12DCE		7.77	20.7	31.1	41.5	51.8	0.113	14	2.56	0.30	0.998
11DCA		7.77	20.7	31.1	41.5	51.8	0.091	21	2.93	0.30	0.990
c12DCE		7.77	20.7	31.1	41.5	51.8	0.058	9.7	3.53	0.30	0.999
111TCA		0.721	1.92	2.88	3.84	4.80	23.5	17	4.68	0.30	0.998
CT		0.819	2.18	3.28	4.37	5.46	64.3	14	4.32	0.30	0.998
TCE		0.786	2.10	3.14	4.19	5.24	12.2	17	5.27	0.30	0.998
112TCA		0.786	2.10	3.14	4.19	5.24	1.77	9.1	7.39	0.30	0.998
PCE		0.786	2.10	3.14	4.19	5.24	45.1	18	7.67	0.30	0.998
Water Headspace Analysis											
11DCE		2.38	4.75	9.50	14.3	19.0	7810	15	1.86	0.30	0.998
MeCl ₂		2.65	5.29	10.6	15.9	21.2	566	11	2.27	0.30	0.994
t12DCE		2.59	5.18	10.4	15.6	20.7	591	3.9	2.56	0.30	0.998
11DCA		2.59	5.18	10.4	15.6	20.7	250	9.4	2.93	0.30	0.992
c12DCE		2.59	5.18	10.4	15.6	20.7	251	8.7	3.53	0.30	0.998
111TCA		0.240	0.480	0.961	1.44	1.92	154000	14	4.68	0.30	0.998
CT		0.279	0.546	1.09	1.64	2.18	443000	14	4.32	0.30	0.997
TCE		0.262	0.524	1.05	1.57	2.10	66600	6.9	5.27	0.30	0.998
112TCA		0.262	0.524	1.05	1.57	2.10	3570	15	7.39	0.30	0.995
PCE		0.262	0.524	1.05	1.57	2.10	287000	13	7.67	0.30	0.998

TARGET STANDARD OPERATING PROCEDURES (SOP)

SOP	REVISION	DATE
8020	3.0	3/29/96

Reviewed by:	Title	Signature	Date
Brian M. Abraham, Ph.D.	Laboratory Director		3/29/96
Michael Marrale, Jr.	Laboratory Supervisor		3/29/96

STANDARD OPERATING PROCEDURES FOR THE ANALYSIS OF AROMATIC VOLATILE ORGANICS BY GAS CHROMATOGRAPHY USING USEPA METHODS 3810/8020

1.0 SCOPE AND APPLICATION

- 1.1 Method 8020 is used to determine the concentration of various volatile aromatic organic compounds. The following compounds, with associated method detection limits, can be determined by this method:

Parameter	Synonym	Acronym	CAS No.	boiling point (°C)	density- σ (g/cm ³)	Static Headspace MDL (µg/L)		
						soil gas	soil	water
Benzene	N/A	Benz	71-43-2	80	0.874	1.00	4.36	3.31
Ethylbenzene	N/A	EB	100-41-4	136	0.867	1.00	8.35	2.22
Toluene	Methyl Benzene	Tol	108-88-3	110.6	0.865	1.00	8.47	5.64
<i>m</i> -Xylene	1,3-Dimethyl Benzene	<i>m</i> -X	108-38-3	138-139	0.868	1.00	2.34	3.57
<i>p</i> -Xylene	1,4-Dimethyl Benzene	<i>p</i> -X	106-42-3	138	0.866	*	*	*
<i>o</i> -Xylene	1,2-Dimethyl Benzene	<i>o</i> -X	95-47-6	143-145	0.870	1.00	2.04	4.52

- 1.2 The above method detection limits were determined according to EPA 40 CFR Part 136 Appendix B utilizing EPA Method 3810 sample introduction using custom gas-based and methanolic based NIST traceable standards.
- 1.3 Note: *m* and *p*-Xylenes co-elute and are therefore reported as the sum of the two isomeric pairs.

2.0 SUMMARY OF METHODS

- 2.1 Method 8020 provides gas chromatographic conditions for the detection of aromatic volatile organic compounds. Samples are introduced into the GC using static heated headspace EPA Method 3810. A temperature program is used in the gas chromatograph to separate the organic compounds. Detection is achieved by using a flame ionization detector (FID) or photoionization detector (PID).

3.0 INTERFERENCES

- 3.1 During analysis, major contaminant sources are volatile materials in the laboratory and impurities in the sample and/or standard containers. The use of non-polytetrafluoroethylene (PTFE) plastic tubing, non-PTFE thread sealants, or flow controllers with rubber components in the GC system should be avoided since such materials out-gas organic compounds which will be concentrated in the system during operation. Analyses of laboratory reagent blanks (discussed below) provide information about the presence of contaminants. When potential interfering peaks are noted in laboratory reagent blanks, the analyst should locate and change the affected components in the system.
- 3.2 Cross contamination can occur whenever high level and low level samples are sequentially analyzed. To reduce cross contamination, the GC temperature should be elevated to "bake out" potential contaminants prior to subsequent sample analysis from the inlet, column interface, column and detector regions. Additionally, the sample syringe must be rinsed with organic non matrix interfering solvent and/or reagent water between sample analyses. Whenever an unusually concentrated sample is encountered, it should be followed by a matrix blank analysis to check for cross contamination.
- 3.3 Samples can be contaminated by diffusion of volatile organics (particularly chlorofluorocarbons and methylene chloride) through the sample container septum during shipment and storage. A trip blank prepared from organic-free reagent water and carried through sampling and subsequent storage and handling can serve as a check on such contamination. Additionally, the septa of some vials have been shown to contain carbon disulfide which is detected using this methodology.

4.0 SAFETY

- 4.1 The toxicity or carcinogenicity of each reagent (and standard) used in this method has not been precisely determined; however, each chemical compound should be treated as a potential health hazard. From this viewpoint, exposure to these chemicals must be reduced to the lowest possible level by whatever means available. Additional references to laboratory safety are available and have been identified as follows:
 - 4.1.1 "Carcinogens-Working with Carcinogens," Department of Health, Education, and Welfare, public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health. Publication No. 77-206, August 1977.
 - 4.1.2 "OSHA Safety and Health Standards, General Industry," (29 CFR 1910), Occupational Safety and Health Administration, OSHA 2206 (Revised, January 1976).
 - 4.1.3 "Safety in Academic Chemistry Laboratories," American Chemical Society Publication, Committee on Safety, 3rd Edition, 1979.

5.0 APPARATUS AND MATERIALS

- 5.1 Gas chromatograph - An analytical system complete with a temperature programmable gas chromatograph (Shimadzu GC14A or equivalent) suitable for automated heated static headspace introduction (Shimadzu HSS-2B or equivalent) and all required accessories including syringes, analytical columns, gases, detector, and strip-chart recorder or hardware to store, interpret, and print chromatograms.
 - 5.1.2 Analytical Column: 30-m bonded nonpolar poly(dimethylsiloxane) (0.53 mm i.d. x 1.5 μ m film thickness) Supelco SPB-1 or equivalent.
 - 5.1.3 Detector: Flame ionization detector (FID).
- 5.2 Sample containers: 40-mL capacity or larger, equipped with a PTFE-faced silicone septum, certified pre-cleaned (I-Chem Service, Newcastle, DE or equivalent) for collection of water and soil samples. No further cleaning is required for storing collected water samples. 30-mL capacity crimp top vials certified pre-cleaned (I-Chem Service, Newcastle, DE or equivalent) for static headspace analysis.
- 5.3 Ancillary equipment:
 - 5.3.1 Syringes: 5-mL glass Luerlok tip gastight syringe (Hamilton or equivalent) for purge and trap.
 - 5.3.2 Micro syringes: 1, 25, 100, 1000 μ L gastight (Hamilton, or equivalent).
 - 5.3.3 Balance: Analytical, capable of accurately weighing 0.0001 g.
 - 5.3.4 Balance: Analytical, capable of accurately weighing 0.01g.
 - 5.3.5 Crimper for 30 mL vials.
 - 5.3.6 Decrimper for 30 mL vials.
 - 5.3.7 Cooler and ice or refrigerator.
 - 5.3.8 Spare capillary column.
 - 5.3.9 Spare ECD detector.
 - 5.3.10 Inlet septa.
 - 5.3.11 HSS automatic static headspace syringe (800 μ L).
 - 5.3.12 pH meter (optional).
 - 5.3.13 Spare gas line and Swagelok connectors.
 - 5.3.14 Air generator and lines if not using tank supplied air.
 - 5.3.15 Gas or diesel generator for mobile use with power inverter.
 - 5.3.16 Logbooks: sample prep/run log, calibration log, maintenance log.
 - 5.3.17 3.5' blank disks for electronic storage of data.
 - 5.3.18 Spare boards, instrument parts prone to failure (based on experience).
 - 5.3.19 Tool kit including wrenches, screwdrivers, scissors, soldering iron, etc.

6.0 REAGENTS

- 6.1 Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.
- 6.2 Organic-free reagent water. All references to water in this method refer to organic-free reagent water
- 6.3 Methanol, CH₃OH. Pesticide quality or equivalent. Store away from other solvents.
- 6.4 Stock standards for static headspace soil and water analysis: Stock standard solutions may be prepared from pure standard materials or purchased as certified solutions. Prepare stock standards in methanol using assayed liquids or gases, as appropriate. Because of the toxicity of some of the analytes, primary dilutions of these materials should be prepared in a hood.
 - 6.4.1 Place about 9.8 mL of methanol in a 10 mL tared ground glass stoppered volumetric flask. Allow the flask to stand, unstoppered, for about 10 minutes until all alcohol-wetted surfaces have dried. Weigh the flask to the nearest 0.0001 g.
 - 6.4.2 Reweigh, dilute to volume, stopper, and then mix by inverting the flask several times. Calculate the concentration in milligrams per liter (mg/L) from the net gain in weight. When compound purity is assayed to 96% or greater, the weight may be used without correction to calculate the concentration of the stock standard. Commercially prepared stock standards may be used at any concentration of they are certified by the manufacturer or by an independent source.
 - 6.4.3 Transfer the stock standard solution into a bottle with a Teflon lined screw-cap. Store, with minimal headspace, at -10°C to -20°C and protect from light.
 - 6.4.4 Replace standards after six months or as needed. Both gas and liquid standards must be monitored closely by comparison to the initial calibration curve and by comparison to QC check standards. It may be necessary to replace the standards more frequently if either check exceeds a 30% drift.
- 6.5 Secondary dilution standards for soil or water static headspace analysis: using stock standard solutions, prepare secondary dilution standards in methanol, as needed, containing the compounds of interest, either singly or mixed together. The secondary dilution standards should be prepared at concentrations such that the calibration standards will bracket the working range of the analytical system. Secondary dilution standards should be stored with minimal headspace for volatiles and should be checked frequently for signs of degradation of evaporation, especially just prior to preparing calibration standards from them. Secondary standards are not needed for soil gas since these standards are directly injected as stock.
- 6.6 Calibration standards for static headspace soil and water analysis: Static headspace soil and water calibration standards should be derived from the methanolic standards. Five concentration levels should be used spanning the linear range of the GC detector.

- 6.7 Stock standards for static headspace soil gas analysis: Standards used for static headspace soil gas analysis should be purchased in gaseous form from a certified source (Scott Specialty Gases or equivalent). The stock gas mixture should be purchased in an inert pure gas matrix (i.e., nitrogen) to contain all analytes of interest at sufficiently high concentration to cover the linear working range of the detector upon dilution as needed. The methodology cited herein was developed using Scott Specialty Gases custom blend mixture with the following compounds and stock concentrations in the mixture and resulting concentrations extrapolated into a standard 800 µL autosampler injection of stock filled into a 30 mL crimp top sample vial:

Parameter	CAS No.	Stock Concentration (ppb)	Extrapolated Concentration (µg/L)
Benz	71-43-2	100,000	349
EB	100-41-4	95,700	454
Tol	108-88-3	100,000	411
<i>m</i> -X	108-38-3	99,800	473
<i>p</i> -X	106-42-3	99,400	471
<i>o</i> -X	95-47-6	97,100	460

The concentrations values used should be the certified analyzed values and not the theoretically derived values. Conversion from parts per billion in the stock tank to µg/L in an 800 µL injection from a 30 mL vial are calculated as follows:

$$\mu\text{g/L} = [\text{ppb}(\text{v/v}) \times \text{MW}(\text{g/mole}) \times 10^6(\mu\text{g/g})] \div [22.4(\text{L/mole}) \times 10^9(\text{ppb})]$$

- 6.8 Calibration standards for static headspace soil gas: Static headspace soil gas standards should be prepared directly from stock gaseous standards purchased and certified from a reputable vendor (Scott Specialty Gases or equivalent) as shown above. Standard dilutions must not be made in vials by removing volumes of static gas and injecting stock standard. This technique has shown to be ineffective in transferring volumes of stock into the evacuated vial presumably due to density differences between the gas evacuated from the vial and the gaseous stock standard. The result is a consistently decreasing calibration factor over the concentration ranges studied. Stock standard gas mix should be directly injected into the GC system using a gastight syringe at varying volumes to create a calibration curve which can be used to assess soil gas collected in 30 mL crimp top vials or Tedlar bags. Recommended volumes of stock directly injected and the resulting concentrations are shown below:

Parameter	Cal. Point 1		Cal. Point 2		Cal. Point 3		Cal. Point 4		Cal. Point 5	
	Vol. (µL)	Conc. (µg/L)	Vol. (µL)	Conc. (µg/L)	Vol. (µL)	Conc. (µg/L)	Vol. (µL)	Conc. (µg/L)	Vol. (µL)	Conc. (µg/L)
Benz	10	0.436	2500	109	5000	218	7500	327	10000	436
EB	10	0.567	2500	142	5000	283	7500	425	10000	567
Tol	10	0.514	2500	129	5000	257	7500	386	10000	514
<i>m</i> -X	10	0.591	2500	148	5000	296	7500	443	10000	591
<i>p</i> -X	10	0.575	2500	144	5000	288	7500	431	10000	575
<i>o</i> -X	10	0.589	2500	147	5000	294	7500	442	10000	589

Calibration standard volumes should be withdrawn directly from a Tedlar bag which has been filled with the stock gas standard. The Tedlar bag should be evacuated and refilled regularly upon signs of degradation of the analytes or poor calibration verification response. Dilution values are based upon standard autosampler injection volumes of samples at 800 µL. Therefore, calibration point one concentrations are calculated as follows:

$$\text{Point one concentration } (\mu\text{g/L}) = (100 \mu\text{L} \div 800 \mu\text{L}) \times \text{stock concentration } (\mu\text{g/L})$$

If sample dilutions are required by altering the injection volume, resulting concentrations must be multiplied by the magnitude of the dilution. For example, if a sample is analyzed at an 800 µL injection volume and found to saturate the detector, and a second more dilute injection volume at 100 µL is used to bring the signal into the linear range of the detector, the quantitated concentration must be multiplied by a factor of 8 (800 µL ÷ 100 µL) to ascertain the actual analyte concentration in the sample. Additionally, dilutions can be performed from the source by using a second soil gas vial and diluting the original sample prior to injection. For soil and water headspace, smaller amounts of soil and lower volumes of water sample can be used similarly to dilute the sample matrix from the source.

7.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

- 7.1 For information regarding sample collection, preservation, and handling, refer to Keith, Lawrence H., "Principles of Environmental Sampling", American Chemical Society, 1988.

8.0 PROCEDURE

- 8.1 Volatile compounds are introduced into the gas chromatograph using static headspace of soil, water, or soil gas according to EPA Method 3810.

- 8.2 Gas chromatographic conditions:

Helium flow rate = 50 mL/min, 10-15 mL/min through column

GC temperature program:

Initial temperature: 35°C, hold for 2 minutes

Program 1: 35°C to 115°C at 10°C/min

Program 2 soil gas: 115°C to 145°C at 40°C/min

Program 2 soil and water: 115°C to 200°C at 40°C/min

Static Headspace Equilibration Program

Soil Gas Temperature: 60°C for 4 minutes

Soil and Water Temperature: 90°C for 10 minutes

- 8.3 Calibration. The following describes the procedures for calibrating the GC for static headspace soil, water, and soil gas analysis. Suggested resulting concentrations for the initial calibration curve are listed above. Since each GC system is slightly different, alterations to these values may be required to ensure that the low level standard is sufficiently higher than the noise level near but above the method detection limit and the high standard is not in the saturation zone of the detector.

- 8.3.1 Calibrate the GC for static headspace soil gas analysis by hand-injecting the volumes of stock gas standard shown above into the system.

- 8.3.2 Calibrate the GC for static headspace water analysis by injecting liquid calibration standards into 15 mL of analyte free water in the 30 mL autosampler vial and crimp seal. Transfer the calibration standard to the water matrix using a gastight syringe and crimp seal immediately. Analyze the resulting sealed standards by autosampler.
- 8.3.3 Calibrate the GC for static headspace soil analysis by injecting liquid calibration standards into 5 g of analyte free soil matrix (Ottawa Beach Sand or equivalent) in a 30 mL autosampler vial and crimp seal. Transfer the calibration standard to the soil matrix using a gastight syringe and crimp seal immediately. Analyze the resulting sealed standards by autosampler.
- 8.4 Gas chromatographic analysis: introduce volatile compounds into the gas chromatograph using static headspace EPA Method 3810 by autosampler or hand inject following heating block volatilization.
 - 8.4.1 Table 1 summarizes the estimated retention times of the organic compounds analyzed using this method.
 - 8.4.2 If the response for a peak is off-scale, i.e., beyond the calibration range of the standards, prepare a dilution of the sample and re-analyze or analyze a one point calibration standard above the signal magnitude of the sample response to ensure the calibration factor is in linearity at this level.

9.0 QUALITY CONTROL

9.1 Each laboratory that uses this method is required to operate a formal quality control program. The minimum requirements of this program consist of an initial demonstration of laboratory capability and an ongoing analysis of spiked samples to evaluate and document data quality. The laboratory must maintain records to document the quality of data that is generated. On-going data quality checks are compared with established performance criteria to determine if the results of analyses meet the performance characteristics of the method. When results of sample spikes indicate a typical method performance. A quality control check standard must be analyzed to confirm that the measurements were performed in an in-control mode of operation.

9.1.1 The analyst must make an initial, one-time, demonstration of the ability to generate acceptable accuracy and precision with this method. This ability is established by analyzing a blind PE sample while being overseen by the laboratory director. Results of the blind PE sample must agree within specified EPA limits.

9.1.2 In recognition of advances that are occurring in chromatography, the analyst is permitted certain options to improve the separations or lower the cost of measurements. Each time such a modification is made to the method, the analyst is required to repeat the demonstration of ability PE sample analysis.

9.2 Calibration Factor (CF) Calculations: Before analyzing samples or mobilizing the GC unit to the field, the analyst must prepare calibration standards at a minimum of five concentrations levels for each compound as previously discussed. As stated, one of the calibration standards should be at a concentration near, but above, the MDL. The other concentrations should correspond to the expected range of concentrations found in the "real-world" sample or the establishment of the GC dynamic range. Quality control ranges for the CFs are discussed below.

9.3 Prior to any calibration curve standard analyses, a method blank analysis must be performed where the system is checked for background contamination. Using analyte free materials (water, soil, or inert gas) analyze a blank sample using the method GC temperature program for the presence/absence of background contaminants in either a soil, water, or gaseous matrix. Blank analyses are also performed at a rate of 10% or one/day.

9.3.1 Corrective Action: If background contamination is found, a process of elimination approach must be taken to isolate the source of the contamination. This process of elimination should include the GC column, GC inlet, injection syringe, injection syringe plunger, sample container cap, sample container, and analyte free matrix in that order. Prior to any analyses (calibration or site samples) the system must be found to be free of any outside sources of contamination.

9.4 Calibration factor measurement: Analyze the five calibration standards and calculate the calibration factor at for each compound at each concentration using the following equation:

$$CF = A_x \div C_x \text{ where,}$$

A_x = area of the analyte peak

C_x = analyte concentration in $\mu\text{g/L}$

If the CF value is constant (i.e., $\leq 30\%$ relative standard deviation, RSD) and the correlation coefficient is near 1 (≥ 0.990) over the dynamic range, the CF can be assumed to be invariant and the average of the CF value(s) can be used for quantitation. Percent relative standard deviation is measured as follows:

$$\%RSD = (\cdot/x) \times 100 \text{ where,}$$

- = the standard deviation of the distribution
- x = the average value of the measurements

9.4.1 Corrective Action: The average CF values must be within 30% RSD and correlation coefficient ≥ 0.990 prior to any sample analyses. If the average CF values for any analyte falls outside of the 30% RSD window, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition prior to analyzing the point or points skewing the curve.

9.5 The working calibration curve or must be verified each working day (at the beginning and end of each day) by measurement of the analyte calibration factor at the mid-point of the initial calibration curve if the sample analysis concentrations are unknown. If the expected sample concentrations are known to be low or high, the CF should be checked at the second or fourth concentrations, respectively. If the CF is within 30% difference from the average CF from the initial five point calibration curve, the instrument is shown to be in calibration. Therefore, it is not necessary to generate a new five point calibration curve on a daily basis. It is recommended that a new five point curve be generated on a monthly basis as a preventative maintenance diagnostic tool. Calibration factor values differing by more than 30% difference for the low and/or high calibration points from the initial calibration curve indicates the integrity of the standard solution has been compromised or the operating parameters of the instrument have changed over time or preventative maintenance must be performed on the GC and/or detector.

9.5.1 Corrective Action: If the calibration factor for any compound varies from the initial calibration curve calibration factor by more than $\pm 30\%$, the test must be repeated using a fresh calibration standard at a second concentration. If any of the analyte CFs calculated from this second point fall outside of the 30% window, a new five point calibration curve must be established. The two previous points can be used as part of this calibration curve if the CFs are consistent. If the new calibration curve CFs do not yield the above stated results, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition and the experiment must be repeated.

9.6 Duplicate analysis is performed at a rate of 10% or one/day. When possible, the duplicate is chosen which was found to contain target analyte. In such cases, it is preferable (time permitting) to perform triplicate analysis and establish measurement precision criteria. Triplicate analysis measurements must result in a 30% RSD. Duplicate analysis should result in a 30% RPD where RPD is measured as:

$$RPD = (\delta/y) \times 100 \text{ where,}$$

- δ = the absolute value of the difference between the duplicate measurements.
- y = the mean of the two measurements.

9.6.1 Corrective Action: If either duplicate or triplicate analysis criteria fails, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition and the experiment must be repeated unless the analyte results are sufficiently close (3x) to the method detection limit for that analyte.

9.7 The analyst should monitor both the performance of the analytical system and the effectiveness of the method in dealing with each sample matrix by spiking each sample, standard, and reagent water blank with surrogate compounds recommended to encompass the range of the temperature program used in this method. Prepare the surrogate spike at a concentration at the midpoint of the linear range of the instrument for the analyte selected. For the set of compounds

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listed above, an appropriate surrogate compound would be 1,1,1-Trifluorotoluene. Recovery limits for the surrogate have been established by the EPA in Method 8000. Laboratory specific values should be generated after analyzing 20 samples of the given matrix with the surrogate compound injected. Warning and control levels are calculated as follows:

Upper Warning Level: $\rho + 2\sigma$

Lower Warning Level: $\rho - 2\sigma$

Upper Control Level: $\rho + 3\sigma$

Lower Control Level: $\rho - 3\sigma$, where

ρ = the average quantitated concentration of the 20 analyses

σ = the standard deviation of the 20 analyses

9.7.1 Corrective Action: If the surrogate fails, the instrument must be checked for proper flow rates, syringe penetration, heating of the headspace vials, and detector condition and the experiment must be repeated. Samples with surrogate recoveries outside of the EPA or laboratory derived limits must be re-analyzed or flagged as estimated on the final data reporting sheet using an H (high) or L (low) flag.

9.8 Static headspace preparation and analysis: For water samples, calibration and QC procedures must be performed using methanol based standards spiked into 15 mL analyte free water blanks. For sample analysis, 15 mL of water sample is syringe transferred from the 40 mL VOA vial into the 30 mL sample analysis crimp top vial and crimp sealed. The water sample injection volumes should be sufficient to ensure proper detection at the experimentally determined MDL's (i.e., 800 μ L). Surrogates should be added as needed. It may be necessary to centrifuge the 40 mL VOA prior to withdrawing the sample aliquot to avoid introduction of suspended solids into the sample analysis vial.

For soil samples, calibration and QC procedures must be performed using methanol based standards spiked into 5 g analyte free soil blanks in a 30 mL sample analysis crimp top vial. For sample analysis, 5 g of soil sample is quickly transferred from the sample container into the sample analysis crimp top vial and crimp sealed. The sample soil quantity should be sufficient to ensure proper detection at the experimentally determined MDL's. Surrogates should be added as needed.

For soil gas samples, all QC procedures must be performed by direct injection of gaseous standards when using either direct injection or autosampling of samples as previously discussed. The sample should be directly injected from the collection container (either Tedlar bags or 30 mL crimp top vials) whenever possible. Injection volumes should be sufficient to ensure proper detection at the experimentally determined MDL's (i.e., 800 μ L).

9.9 For sample analysis results, identify the analytes in the sample by comparing the retention times of the peaks in the sample chromatogram with those of the peaks in the standard chromatograms. The width of the retention time window used to make identifications should be based upon measurements of actual retention time variations of standards over the course of a day. Three times the standard deviation of the retention time window is used as a guideline, however, the experience of the analyst should weigh heavily in the interpretation of the chromatograms.

9.10 Additional QC implemented will include field duplicates and field blanks when available. When doubt exists over the identification of a peak on the chromatogram, confirmation techniques such as gas chromatography with a dissimilar column, specific element detector, or mass spectral analysis should be implemented.

10.0 CALCULATIONS

- 10.1 Determine the concentration of individual compounds in the sample by using calibration factors (CFs) as follows:

$$\text{Concentration } (\mu\text{g/L}) = A_x \div C_f \text{ where,}$$

A_x = area of the analyte peak

C_f = calibration factor as previously defined

- 10.2 Report results in $\mu\text{g/L}$ without correction for surrogate recovery data. All QC data obtained should be reported with the sample results unless otherwise requested by the client. All results, run logs, maintenance logs, calibration results, notes, chromatograms, and electronic data should be filed for easy access and future reference. Final client reports must be prepared and sent to the client the same day or next morning. One copy of the final report should be filed with all previously mentioned data and a second report should be given to the laboratory director to answer any client questions in the event the analyst is not available.

Table 1. Calibration curves, calibration factors, and %RSD for EPA Method 3810 static headspace sample introduction and EPA Method 8010 analysis of halogenated volatile organics by gas chromatography.

Soil Gas Analysis											
	Stock Conc. (µg/L)	Cal. Point 1 (µg/L)	Cal. Point 2 (µg/L)	Cal. Point 3 (µg/L)	Cal. Point 4 (µg/L)	Cal. Point 5 (µg/L)	Cal. Factor (ave.)	Cal. Factor (%RSD)	Ave. R _t (min.)	R _t (±)	r ²
Benz	349	1.14	11.4	22.9	34.3	45.8	0.0672	6.3	2.66	0.30	0.999
EB	454	1.49	14.9	29.9	44.8	59.7	0.0490	3.3	6.50	0.30	0.999
Tol	411	1.35	13.5	27.0	40.5	53.9	0.0535	2.8	4.57	0.30	0.999
m,p-X	944	3.10	31.0	62.0	93.0	124	0.0423	4.4	6.69	0.30	0.998
o-X	440	1.51	15.1	30.2	45.2	60.3	0.0431	4.0	7.13	0.30	0.999
Soil Headspace Analysis											
Benz		10	200	400	600	800	0.0139	35	2.66	0.30	0.993
EB		10	200	400	600	800	0.0129	22	6.50	0.30	0.999
Tol		10	200	400	600	800	0.0124	21	4.53	0.30	0.999
m,p-X		10	200	400	600	800	0.0242	9.0	6.68	0.30	0.999
o-X		10	200	400	600	800	0.0128	7.0	7.13	0.30	0.999
Water Headspace Analysis											
Benz		10	200	400	600	800	0.0156	4.4	2.66	0.30	0.998
EB		10	200	400	600	800	0.0208	5.0	6.50	0.30	0.998
Tol		10	200	400	600	800	0.0178	4.2	4.57	0.30	0.999
m,p-X		10	200	400	600	800	0.0383	11	6.68	0.30	0.998
o-X		10	200	400	600	800	0.0177	8.3	7.13	0.30	0.998

