Project: Crowley Marine Services	Boring/Well Name: GPE-6
Boring Location:	Job #: 008.0205.00007
Drilling Company: ESN Northwest Inc.	Logged by: Chris Kramer
Equipment: Track mounted Geoprobe	Start Date/Time: 8-24-07 @ 1425
Sampling Method: Split spoon	Finish Date/Time: 8-24-07
Hammer Weight:	Monitoring Device:
Screened Interval (bgs):	First Water (bgs): 11

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log		Lithologic Description	Boring Abandonment or Well Construction Details
					0	O		0-0.25	Organics	
						SP		0.25-4.5	SAND: Light brown, medium, dry, loose.	
					5	SP		4.5-9	SAND: Dark brown, medium, tighter pack, rust colored strata, moist	
GPE-6-7 @ 1501						ML		9 - 9.2	SILT: Thin layer of silt, gray	
					10	SP		9.2 - 12	SAND: Brown - gray, slight odor	
GPE-6-11 @ 1505						ML		12	SILT: Thin layer of silt, gray	
					15					
					20					

Depth of Boring (bgs): 12	Filter Pack:
Depth of Well (bgs):	Annulus Seal:
	Surface Seal:

Project: Crowley Marine Services		Boring/Well Name: GPE-7
Boring Location:	Job #: 008.0205.00007	
Drilling Company: ESN Northwest Inc.	Logged by: Chris Kramer	
Equipment: Track mounted Geoprobe	Start Date/Time: 8-24-07 @ 13:35	
Sampling Method: Split spoon	Finish Date/Time: 8-24-07	
Hammer Weight:	Monitoring Device:	
Screened Interval (bgs):	First Water (bgs): 11	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log		Lithologic Description	Boring Abandonment or Well Construction Details
					0	O		0-0.25	Organics	
						SP		0.25-5	SAND: Light brown, medium to coarse, dry, loose.	
					5				Transitional Contact	
GPE-7-6 @ 1415						SP		5-7	SAND: Brown, fine to medium, moist	
									Sharp Contact	
GPE-7-10 @ 1420						SP		7-12	SAND: Grey, with silt layers and fines, slight odor, some organics	
					10	ML		12	SILT: Gray, wet	
					15					
					20					

Depth of Boring (bgs): 12	Filter Pack:
Depth of Well (bgs):	Annulus Seal:
	Surface Seal:

Project: **Crowley Marine Services**		Boring/Well Name: GPE-8
Boring Location:	Job #: 008.0205.00007	
Drilling Company: ESN Northwest Inc.	Logged by: Chris Kramer	
Equipment: Track mounted Geoprobe	Start Date/Time: 8-24-07 @ 1511	
Sampling Method: Split spoon	Finish Date/Time: 8-24-07	
Hammer Weight:	Monitoring Device:	
Screened Interval (bgs):	First Water (bgs): 11	

Sample I.D.	Sample Interval	Recovery (%)	PID (ppm)	Blow Counts	Depth (feet bgs)	USCS Code	Graphic Log		Lithologic Description	Boring Abandonment or Well Construction Details
					0	O		0-0.25	Organics	
						SP		0.25-7	SAND: Light brown, fine to medium, dry, loose.	
					5	SP			SAND: Brown, fine to medium, with organics/roots,	
GPE-8-6 @ 1527								7-10	SAND: Black, moist, slight odor	
GPE-8-9 @ 1530					10	SP				
						ML		10-12	SILT: Gray, moist to wet	
					15					
					20					

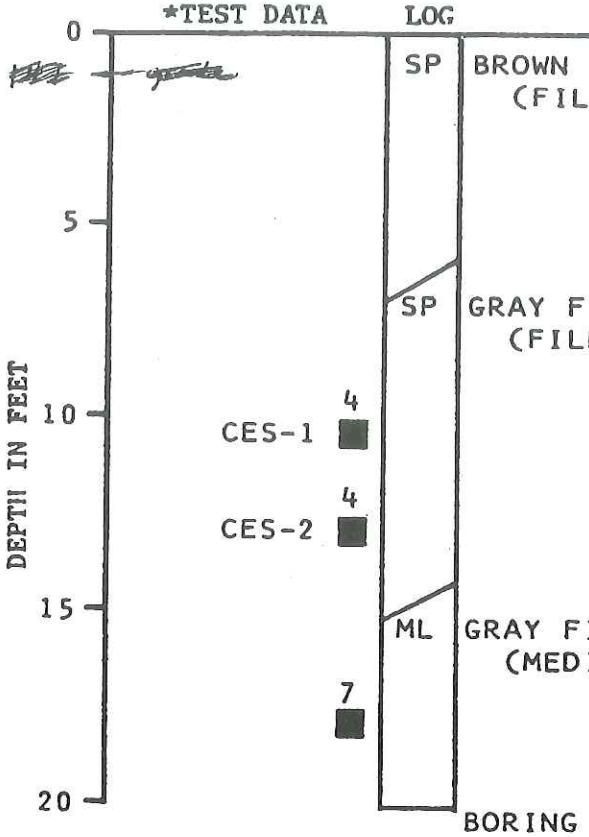
Depth of Boring (bgs): 12	Filter Pack:
Depth of Well (bgs):	Annulus Seal:
	Surface Seal:

APPENDIX C

HISTORICAL BORING LOGS

BORING NO. 1

TOP OF CASING ELEVATION: 33.07 FEET



BROWN FINE TO MEDIUM SAND (LOOSE, MOIST) (FILL)

GRAY FINE TO MEDIUM SAND (LOOSE, MOIST) (FILL)

GRAY FINE SANDY SILT WITH A TRACE OF WOOD (MEDIUM STIFF, MOIST)

BORING COMPLETED AT 20 FEET ON 11/1/83

2-INCH PVC PIEZOMETER INSTALLED TO A DEPTH OF 19 FEET. SLOTTED INTERVAL EXTENDS FROM 4 TO 19 FEET.

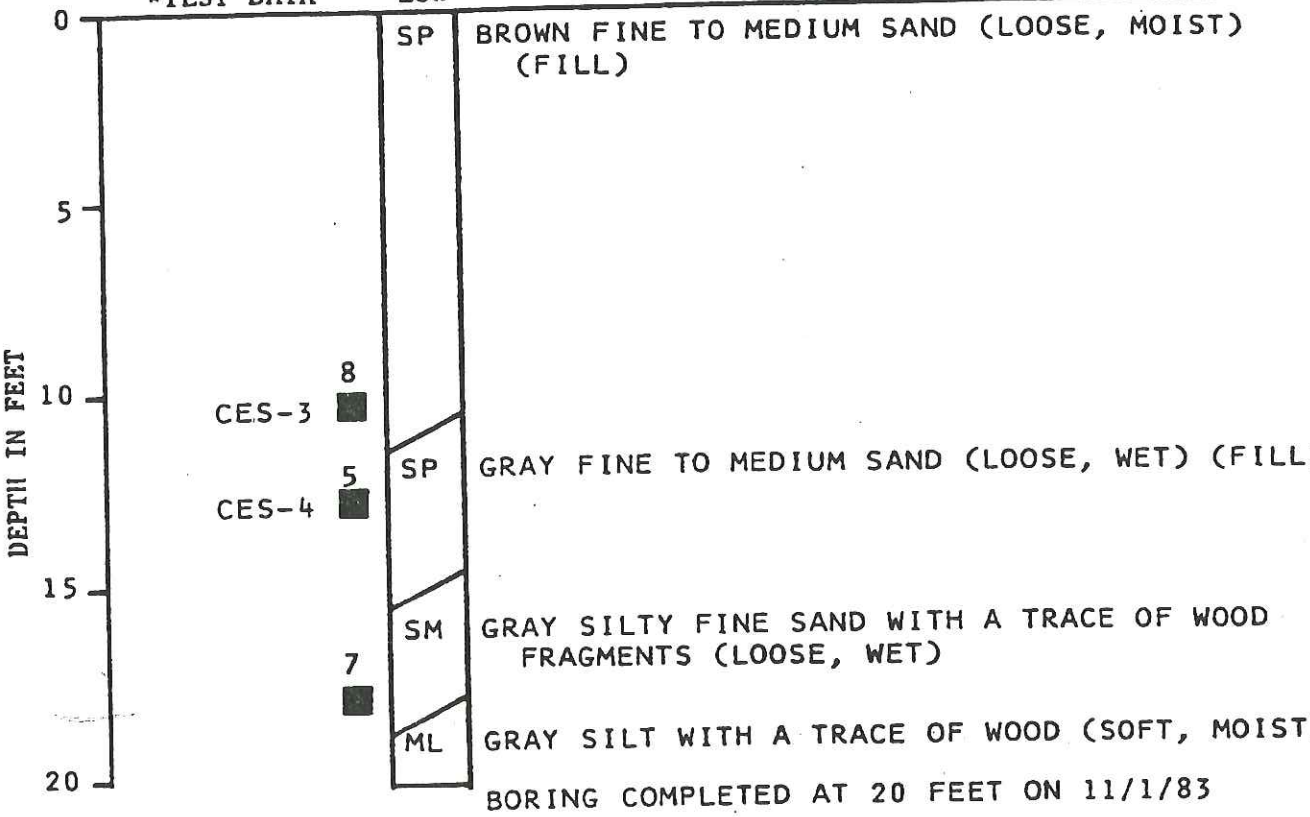
STATIC WATER LEVEL MEASURED AT ELE. 22.11 FEET ON 11/7/83, AND ELE. 22.20 FEET ON 11/8/83

*SEE KEY FOR EXPLANATION OF SYMBOLS

GeoEngineers Inc.	LOG OF EXPLORATION

BORING NO. 2

TOP OF CASING ELEVATION: 33.63 FEET



BORING COMPLETED AT 20 FEET ON 11/1/83

2-INCH PVC PIEZOMETER INSTALLED TO A DEPTH OF 20 FEET. SLOTTED INTERVAL EXTENDS FROM 5 TO 20 FEET

STATIC WATER LEVEL MEASURED AT ELE. 20.11 FEET ON 11/7/83, AND ELE. 20.13 FEET ON 11/8/83

*SEE KEY FOR EXPLANATION OF SYMBOLS

GeoEngineers Inc.	LOG OF EXPLORATION

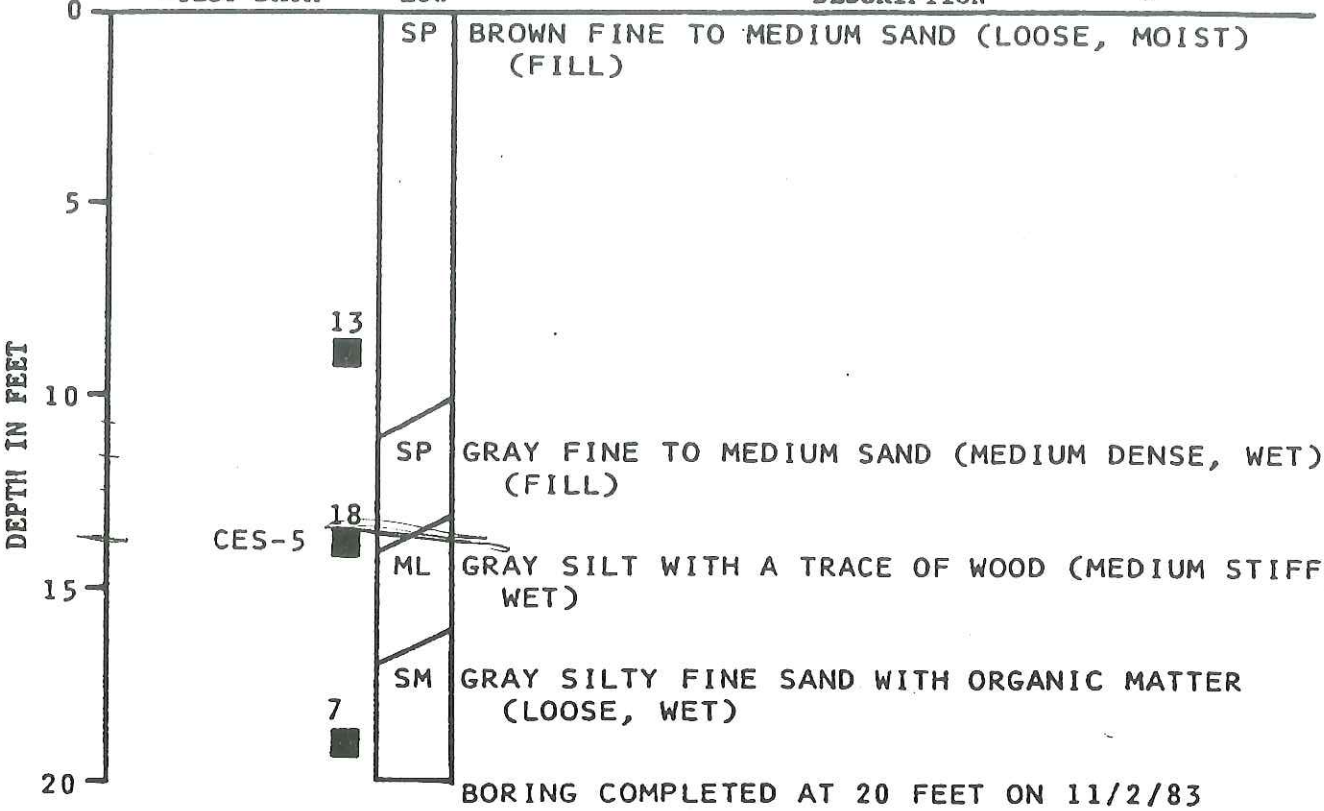
BORING NO. 3

TOP OF CASING ELEVATION: 30.78 FEET

-.52

30.26

16



BORING COMPLETED AT 20 FEET ON 11/2/83

2-INCH PVC PIEZOMETER INSTALLED TO A DEPTH OF 19.5 FEET. SLOTTED INTERVAL EXTENDS FROM 4.5 TO 19.5 FEET.

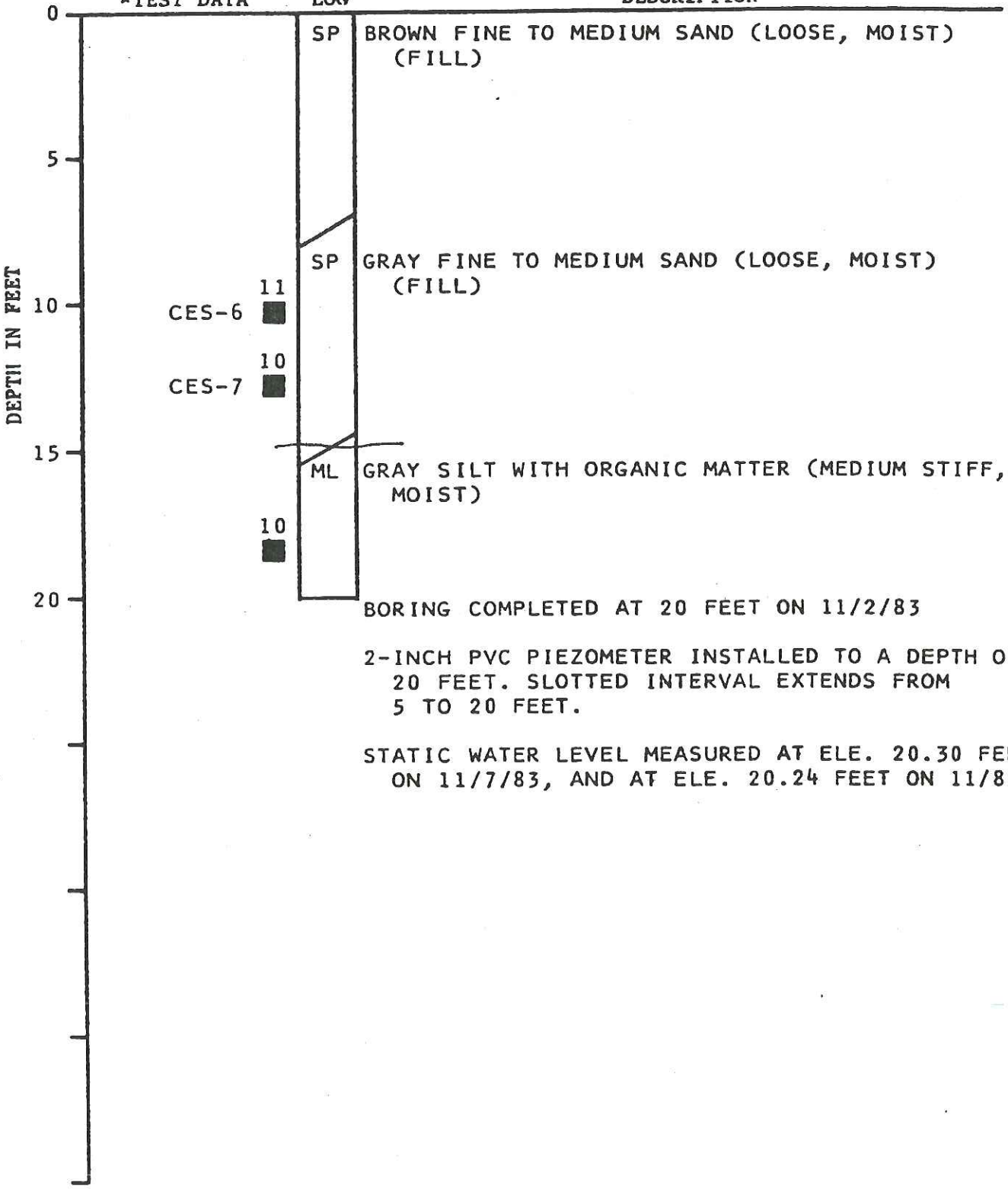
STATIC WATER LEVEL MEASURED AT ELE. 20.32 FEET ON 11/7/83, AND AT ELE. 20.35 FEET ON 11/8/83

*SEE KEY FOR EXPLANATION OF SYMBOLS

GeoEngineers Inc.	LOG OF EXPLORATION

BORING NO. 4

TOP OF CASING ELEVATION: 32.96 FEET



*SEE KEY FOR EXPLANATION OF SYMBOLS

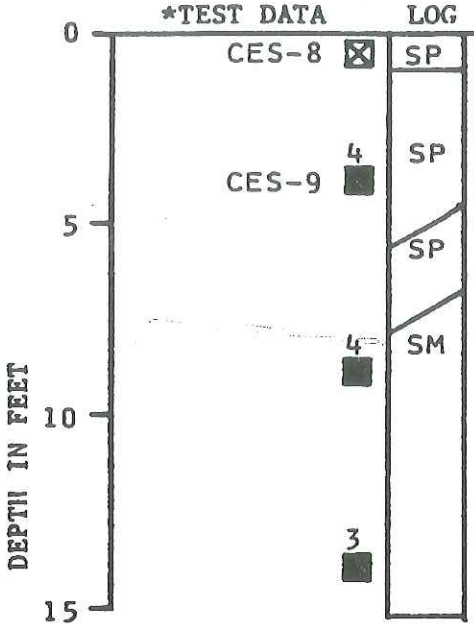
GeoEngineers Inc.	LOG OF EXPLORATION

BORING NO. 5

TOP OF CASING ELEVATION: 23.50 FEET

16.23 ?

23.24



BROWN FINE TO MEDIUM SAND (VERY LOOSE, MOIST) (FILL)

BROWNISH GRAY FINE TO MEDIUM SAND (VERY LOOSE, MOIST) (FILL)

GRAY FINE TO MEDIUM SAND (LOOSE, WET) (FILL)

GRAY SILTY FINE SAND WITH A TRACE OF ORGANIC MATTER (VERY LOOSE, WET)

BORING COMPLETED AT 15 FEET ON 11/2/83

2-INCH PVC PIEZOMETER INSTALLED TO A DEPTH OF 15 FEET. SLOTTED INTERVAL EXTENDS FROM 3 TO 15 FEET.

STATIC WATER LEVEL MEASURED AT ELE. 20.24 FEET ON 11/7/83, AND AT ELE. 20.26 FEET ON 11/8/83

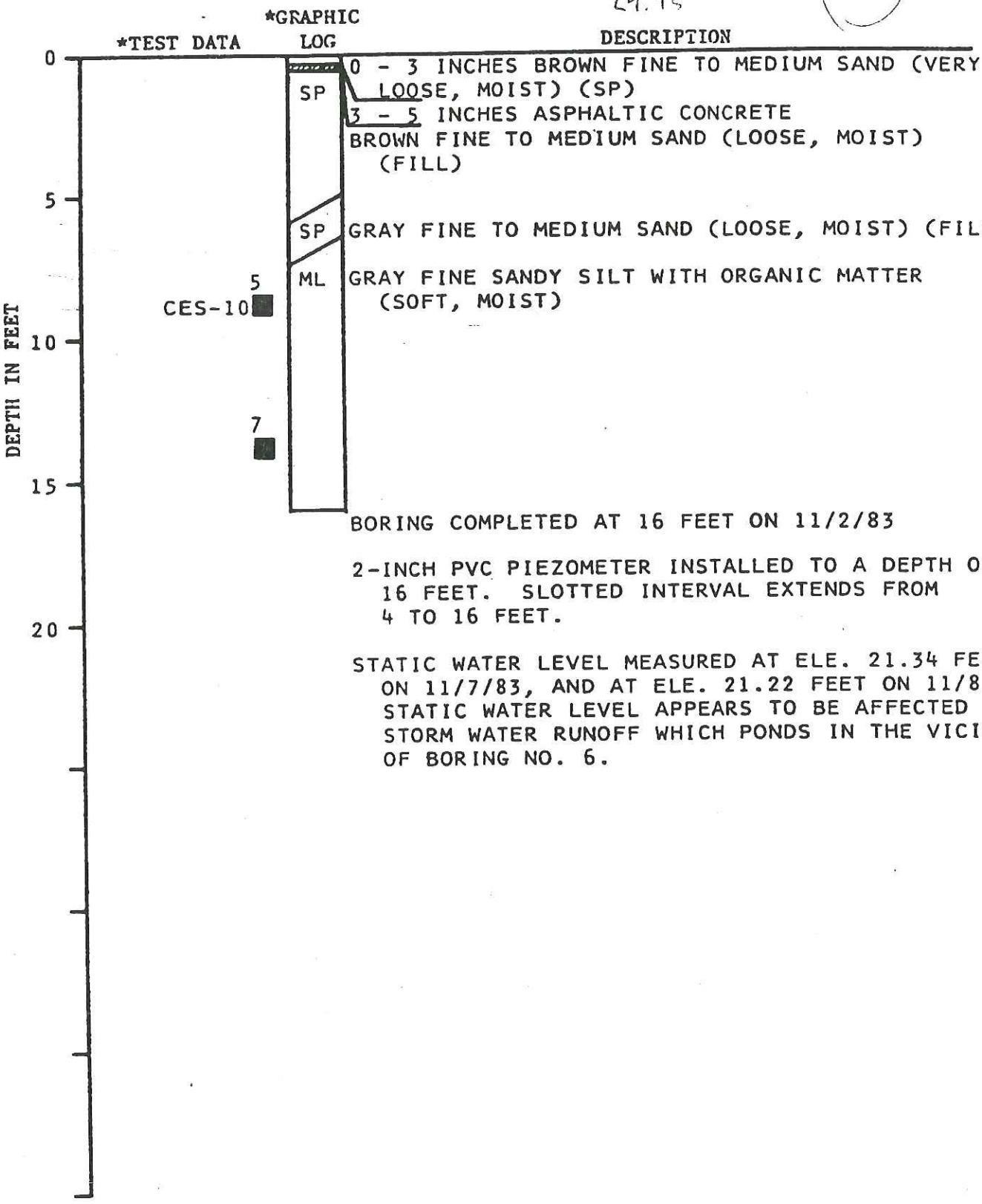
*SEE KEY FOR EXPLANATION OF SYMBOLS

BORING NO. 6

TOP OF CASING ELEVATION: 26.61 FEET

24.15

18



BORING COMPLETED AT 16 FEET ON 11/2/83

2-INCH PVC PIEZOMETER INSTALLED TO A DEPTH OF 16 FEET. SLOTTED INTERVAL EXTENDS FROM 4 TO 16 FEET.

STATIC WATER LEVEL MEASURED AT ELE. 21.34 FEET ON 11/7/83, AND AT ELE. 21.22 FEET ON 11/8/83. STATIC WATER LEVEL APPEARS TO BE AFFECTED BY STORM WATER RUNOFF WHICH PONDS IN THE VICINITY OF BORING NO. 6.

*SEE KEY FOR EXPLANATION OF SYMBOLS

GeoEngineers Inc.	LOG OF EXPLORATION

BORING NO. 7

TOP OF CASING ELEVATION: 33.00 FEET

1.75
31.25

19.75 0

DEPTH IN FEET	*TEST DATA	*GRAPHIC LOG	DESCRIPTION
0		SP	BROWN FINE TO MEDIUM SAND (LOOSE, MOIST) (FILL)
5		SP	GRAY FINE TO MEDIUM SAND (LOOSE, MOIST) (FILL)
10	6 CES-11 ■		
	8 CES-12 ■	ML	GRAY SILT WITH SOME WOOD AND A TRACE OF FINE SAND (MEDIUM STIFF, MOIST)
15			
	10 ■		
20			

BORING COMPLETED AT 20 FEET ON 11/2/83

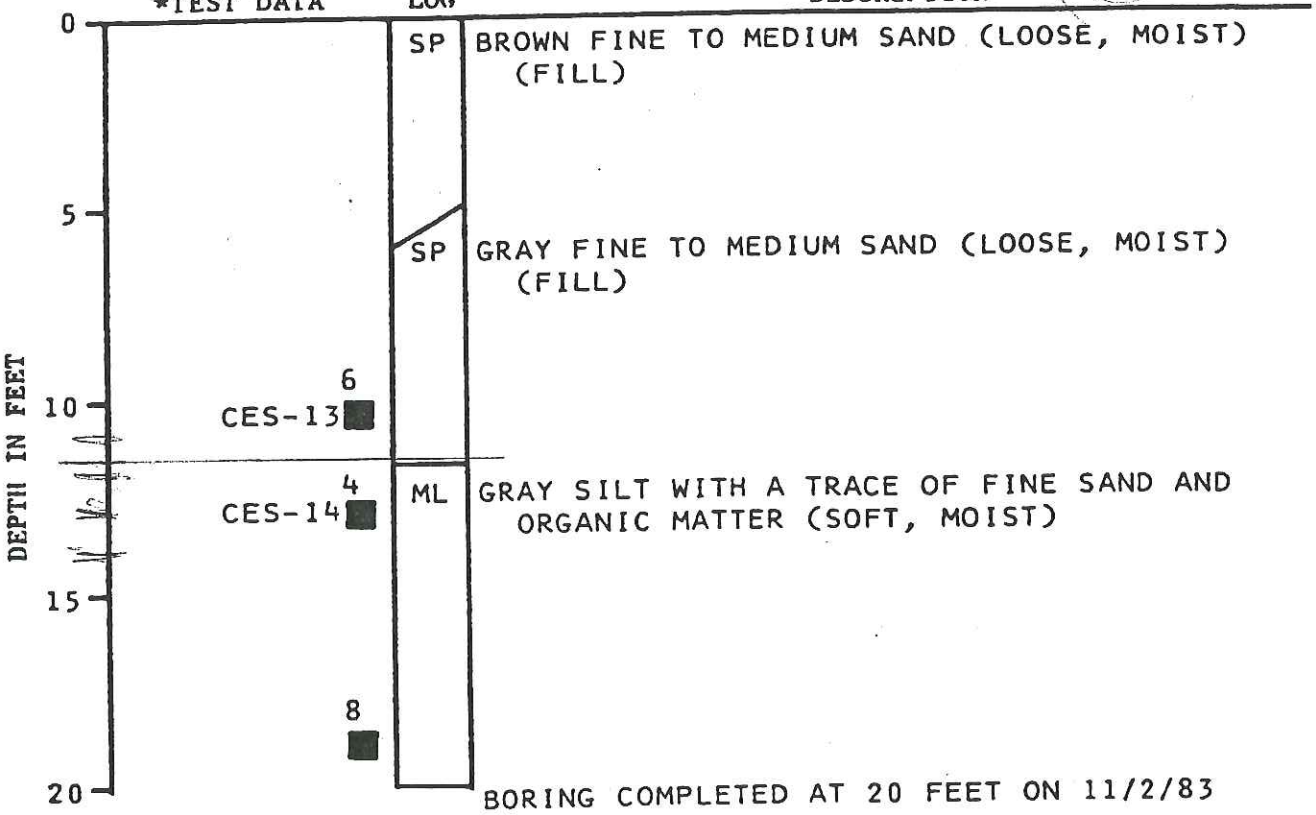
2-INCH PVC PIEZOMETER INSTALLED TO A DEPTH OF 18 FEET. SLOTTED INTERVAL EXTENDS FROM 3 TO 18 FEET.

STATIC WATER LEVEL MEASURED AT ELE. 20.79 FEET ON 11/7/83, AND AT ELE. 20.79 FEET ON 11/8/83

*SEE KEY FOR EXPLANATION OF SYMBOLS

BORING NO. 8

TOP OF CASING ELEVATION: 33.13 FEET



2-INCH PVC PIEZOMETER INSTALLED TO A DEPTH OF 18.5 FEET. SLOTTED INTERVAL EXTENDS FROM 3.5 TO 18.5 FEET.

STATIC WATER LEVEL MEASURED AT ELE. 19.37 FEET ON 11/7/83, AND AT ELE. 19.61 FEET ON 11/8/83.

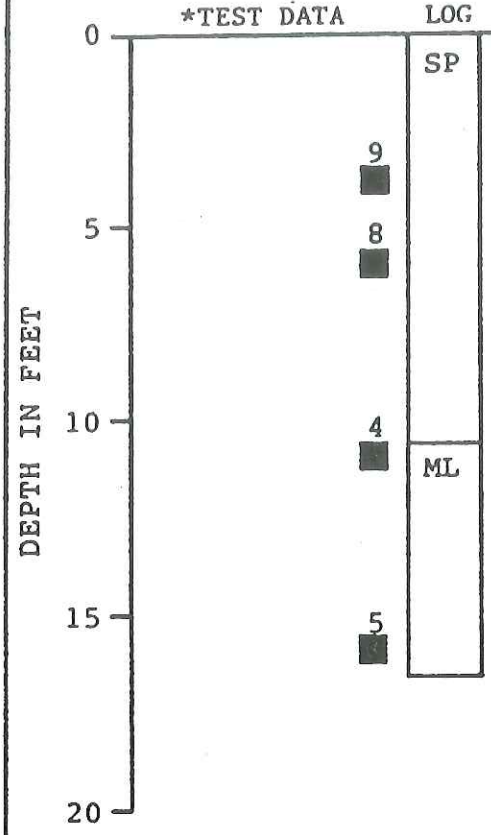
*SEE KEY FOR EXPLANATION OF SYMBOLS

BORING NO. 9

TOP OF CASING ELEVATION: 26.54 FEET

15.04

25.54



DESCRIPTION

BROWNISH-GRAY FINE TO MEDIUM SAND WITH A TRACE OF SILT (LOOSE, MOIST TO WET) (FILL)

GRADES TO WET

STRONG HYDROCARBON ODOR

GRAY SILT WITH A TRACE OF ORGANIC MATTER AND HYDROCARBON SHEEN AND STRONG HYDROCARBON ODOR (SOFT, WET) (NATIVE SOIL)

BORING COMPLETED AT 16½ FEET ON 12/4/84

2-INCH PVC MONITOR WELL INSTALLED TO A DEPTH OF 11½ FEET. SLOTTED INTERVAL EXTENDS FROM 1½ TO 11½ FEET.

STATIC WATER LEVEL MEASURED AT ELEVATION 23.43 ON 12/12/84 AND ELEVATION 21.51 ON 1/23/85

*SEE KEY FOR EXPLANATION OF SYMBOLS

BORING NO. 10

TOP OF CASING ELEVATION: 26.01 FEET

16.26

25.26

DEPTH IN FEET	*TEST DATA	*GRAPHIC LOG	DESCRIPTION
0	7	SP	BROWNISH-GRAY FINE TO MEDIUM SAND WITH A TRACE OF SILT (LOOSE, MOIST) (FILL)
			GRADES TO WET
5	24		GRADES TO MEDIUM DENSE
	55	ML	GRAY SILT WITH SOME FINE SAND AND A TRACE OF ORGANIC MATTER (SOFT, WET) (NATIVE SOIL)
10	6		
15			BORING COMPLETED AT 13½ FEET ON 12/5/84
			2-INCH PVC MONITOR WELL INSTALLED TO A DEPTH OF 12 FEET. SLOTTED INTERVAL EXTENDS FROM 2 TO 12 FEET.
			STATIC WATER LEVEL MEASURED AT ELEVATION 23.21 ON 12/12/84 AND ELEVATION 21.73 ON 1/23/85

*SEE KEY FOR EXPLANATION OF SYMBOLS

BORING NO. 11

TOP OF CASING ELEVATION: 26.03 FEET

1B-38

DEPTH IN FEET	*TEST DATA	*GRAPHIC LOG	DESCRIPTION
0		SP	BROWN FINE TO MEDIUM SAND WITH A TRACE OF SILT (LOOSE, MOIST) (FILL)
	22		GRADES TO MEDIUM DENSE
5			GRADES TO WET
	2	SM/ML	GRAY SILTY FINE SAND AND SANDY SILT (VERY LOOSE, WET) (NATIVE SOIL)
	6	ML	GRAY SILT WITH SOME FINE SAND (SOFT, WET) (NATIVE SOIL)
10		ML	GRAY SILT WITH A TRACE OF ORGANIC MATTER (VERY SOFT, WET) (NATIVE SOIL)
	3		
15			
	1		
20			
	3		
25			

BORING COMPLETED AT 23½ FEET ON 12/5/84

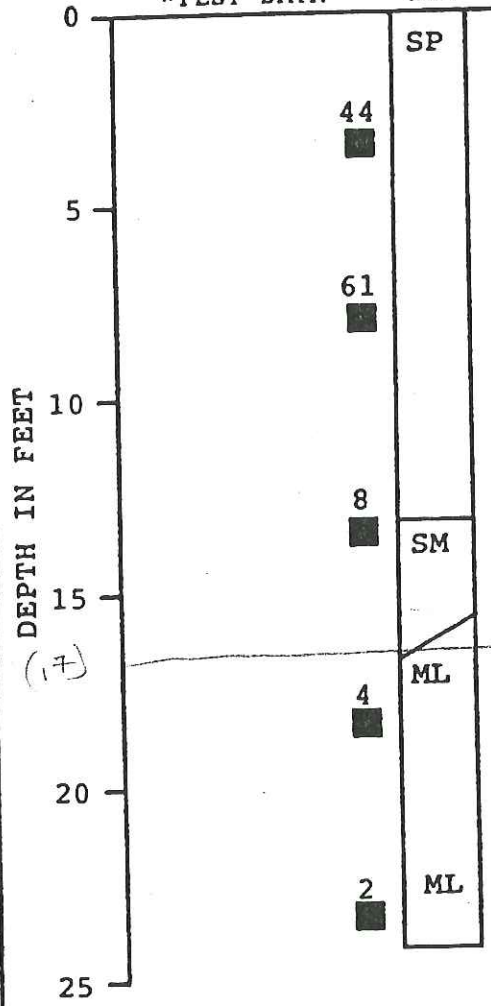
2-INCH PVC MONITOR WELL INSTALLED TO A DEPTH OF 22½ FEET. SLOTTED INTERVAL EXTENDS FROM 2½ TO 22½ FEET.

STATIC WATER LEVAL MEASURED AT ELEVATION 21.37 ON 12/12/84 AND ELEVATION 20.17 ON 1/23/85

*SEE KEY FOR EXPLANATION OF SYMBOLS

BORING NO. 12

TOP OF CASING ELEVATION: 28.40 FEET



DESCRIPTION

BROWN FINE TO MEDIUM SAND WITH A TRACE OF SILT (LOOSE, MOIST) (FILL)

GRADES TO DENSE

GRADES TO WET

GRAY SILTY FINE SAND WITH A TRACE OF ORGANIC MATTER (SOFT, WET) (NATIVE SOIL)

GRAY SILT (VERY SOFT, WET) (NATIVE SOIL)

GRADES TO VERY SOFT WITH A TRACE OF FINE SAND

BORING COMPLETED AT 24 FEET ON 12/6/84

2-INCH PVC MONITOR WELL INSTALLED TO A DEPTH OF 23½ FEET. SLOTTED INTERVAL EXTENDS FROM 3½ TO 23½ FEET.

STATIC WATER LEVEL MEASURED AT ELEVATION 22.14 ON 12/12/84 AND ELEVATION 21.54 ON 1/23/85

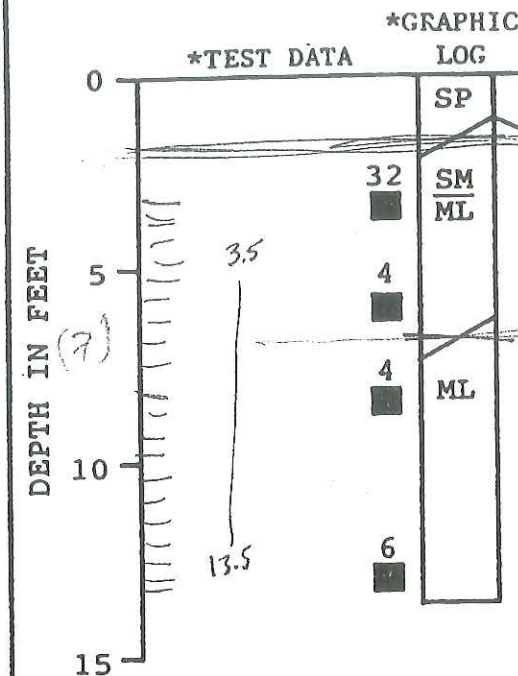
*SEE KEY FOR EXPLANATION OF SYMBOLS

GeoEngineers Inc.	LOG OF EXPLORATION

BORING NO. 13

TOP OF CASING ELEVATION: 22.91 FEET

16.91 or 12



BROWN FINE TO MEDIUM SAND WITH A TRACE OF SILT (LOOSE, MOIST TO WET) (FILL)

BROWN AND GRAY SILTY FINE SAND WITH A TRACE OF ORGANIC MATTER (DENSE, WET) (NATIVE SOIL)

GRADES TO SANDY SILT WITH INCREASING AMOUNT OF ORGANIC MATTER

GRAY AND MOTTLED BROWN SILT WITH A TRACE OF ORGANIC MATTER (VERY SOFT; WET) (NATIVE SOIL)

BORING COMPLETED AT 13½ FEET ON 12/6/84

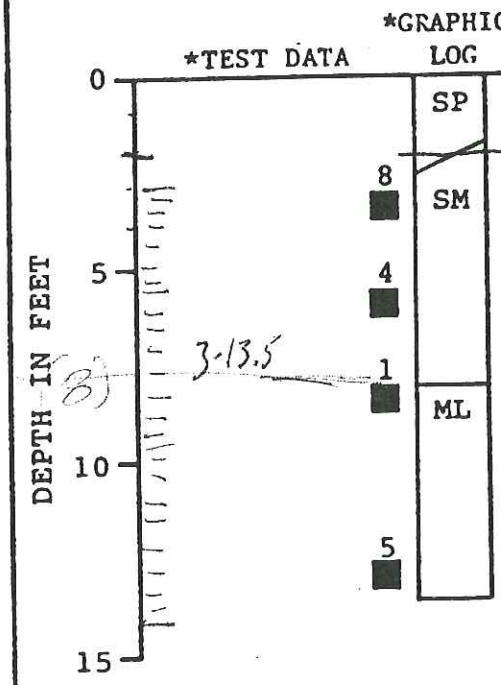
2-INCH PVC MONITOR WELL INSTALLED TO A DEPTH OF 13½ FEET. SLOTTED INTERVAL EXTENDS FROM 3½ TO 13½ FEET.

STATIC WATER LEVEL MEASURED AT ELEVATION 12.76 ON 12/12/84 AND ELEVATION 12.42 ON 1/23/85

*SEE KEY FOR EXPLANATION OF SYMBOLS

BORING NO. 14

TOP OF CASING ELEVATION: 26.40 FEET 18.9 m



BROWN FINE TO MEDIUM SAND WITH A TRACE OF SILT (LOOSE, MOIST) (FILL)

BROWN SILTY FINE SAND WITH A TRACE OF ORGANIC MATTER (LOOSE, MOIST) (NATIVE SOIL)

GRADES TO WET (NATIVE SOIL)

GRAY SILT (VERY SOFT, WET) (NATIVE SOIL)

BORING COMPLETED AT 13½ FEET ON 12/6/84

2-INCH PVC MONITOR WELL INSTALLED TO A DEPTH OF 13½ FEET. SLOTTED INTERVAL EXTENDS FROM 3 TO 13½ FEET.

STATIC WATER LEVEL MEASURED AT ELEVATION 17.85 ON 12/12/84 AND ELEVATION 16.99 ON 1/23/85

*SEE KEY FOR EXPLANATION OF SYMBOLS

MONITOR WELL NO. 15

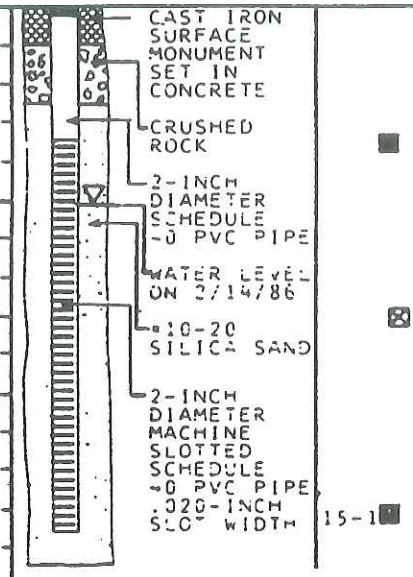
B-1

WELL SCHEMATIC
Casing Elevation: 26.41
Casing Stickup: -0.2

Sample Number

Group Symbol

DESCRIPTION
Surface Elevation: 26.2



Depth (ft)	Sample Number	Group Symbol	Description
0		GM	BROWN SILTY GRAVEL WITH SAND (MEDIUM DENSE, MOIST)
		SP	GRAY FINE TO MEDIUM SAND (MEDIUM DENSE, MOIST)
			GRADES TO DARK GRAY IN COLOR
15	15-1	ML	LIGHT GRAY FINE SANDY SILT (SOFT, WET)
16			BORING COMPLETED AT 14.5 FEET ON 1/30/86

DEPTH IN FEET

Note: See Figure A-2 for Explanation of Symbols

GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-3

MONITOR WELL NO. 16

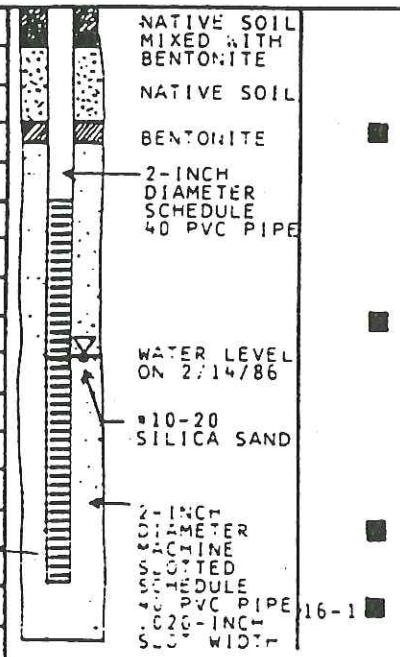
14.7

WELL SCHEMATIC
Casing Elevation: 31.29
Casing Stickup: 2.6

Sample Number

Group Symbol

DESCRIPTION
Surface Elevation: 28.7



Depth (ft)	Sample Number	Group Symbol	Description
0		SP	GRAY FINE TO MEDIUM SAND (MEDIUM DENSE, MOIST)
5			
10			
15	16-1	SP-SM	GRAY FINE SAND WITH SILT (SOFT, WET)
		ML	LIGHT GRAY SILT (SOFT, WET)

BORING COMPLETED AT 16.5 FEET ON 1/31/86

DEPTH IN FEET

0, 5, 10, 15, 20, 25, 30, 35, 40

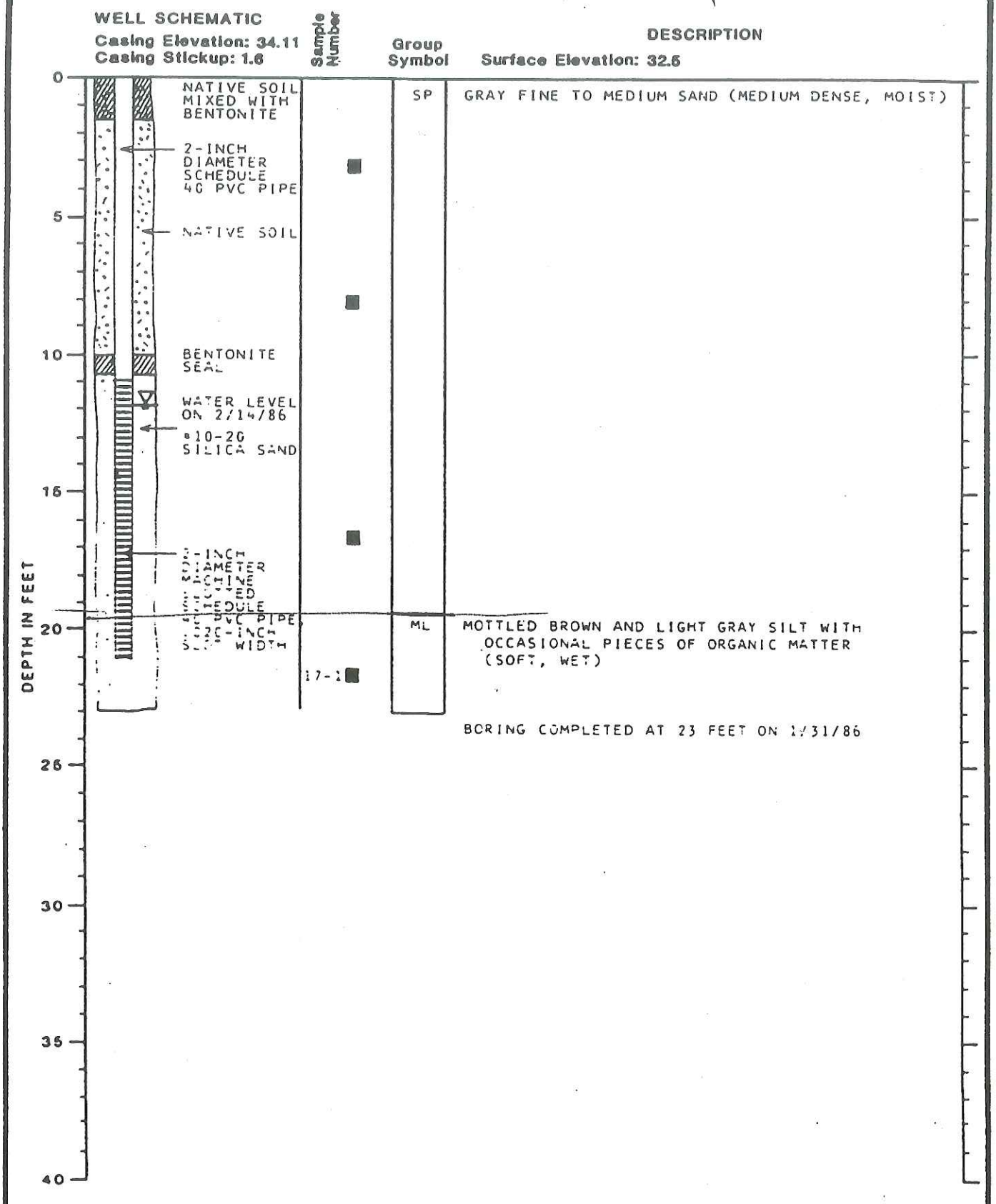
Note: See Figure A-2 for Explanation of Symbols

GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-4

MONITOR WELL NO. 17



Note: See Figure A-2 for Explanation of Symbols

GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-5

MONITOR WELL NO. 18

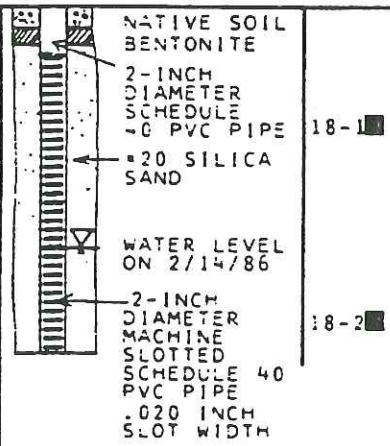
abandoned ?

WELL SCHEMATIC
Casing Elevation: 33.34
Casing Stickup: 2.7

Sample Number

Group Symbol

DESCRIPTION
Surface Elevation: 30.6



SP — BROWN FINE TO MEDIUM SAND (MEDIUM DENSE, DRY)

STRONG HYDROCARBON ODOR AT 7 FEET

SP — GRAY FINE TO MEDIUM SAND WITH OCCASIONAL FRAGMENTS OF ORGANIC MATTER (MEDIUM DENSE, MOIST)

BORING COMPLETED AT 9 FEET ON 2/1/86

No Silt

DEPTH IN FEET

0 5 10 15 20 25 30 35 40

Note: See Figure A-2 for Explanation of Symbols

GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-6

MONITOR WELL NO. 19

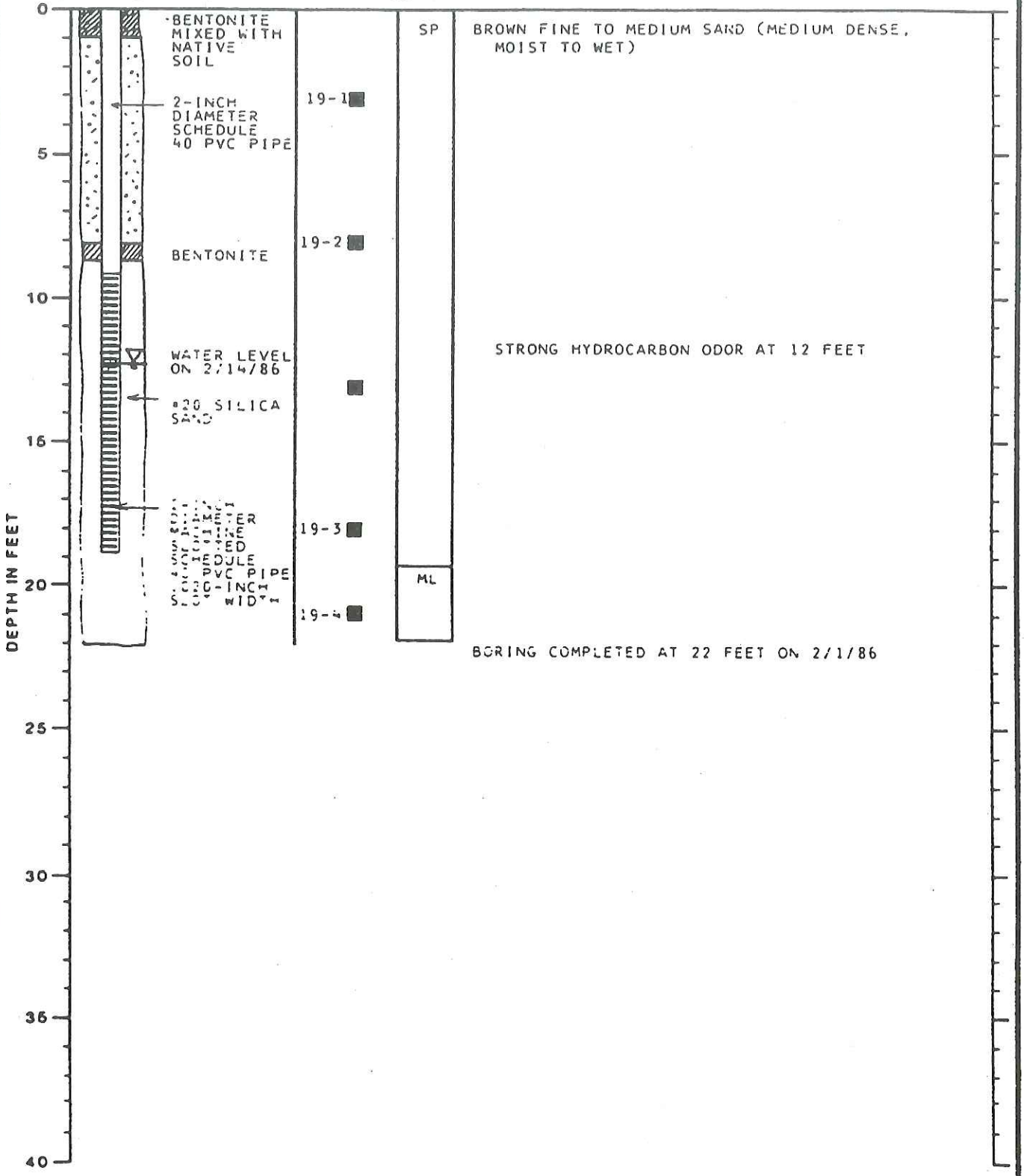
13.6

WELL SCHEMATIC
Casing Elevation: 34.16
Casing Stickup: 1.1

Sample Number

Group Symbol

DESCRIPTION
Surface Elevation: 33.1



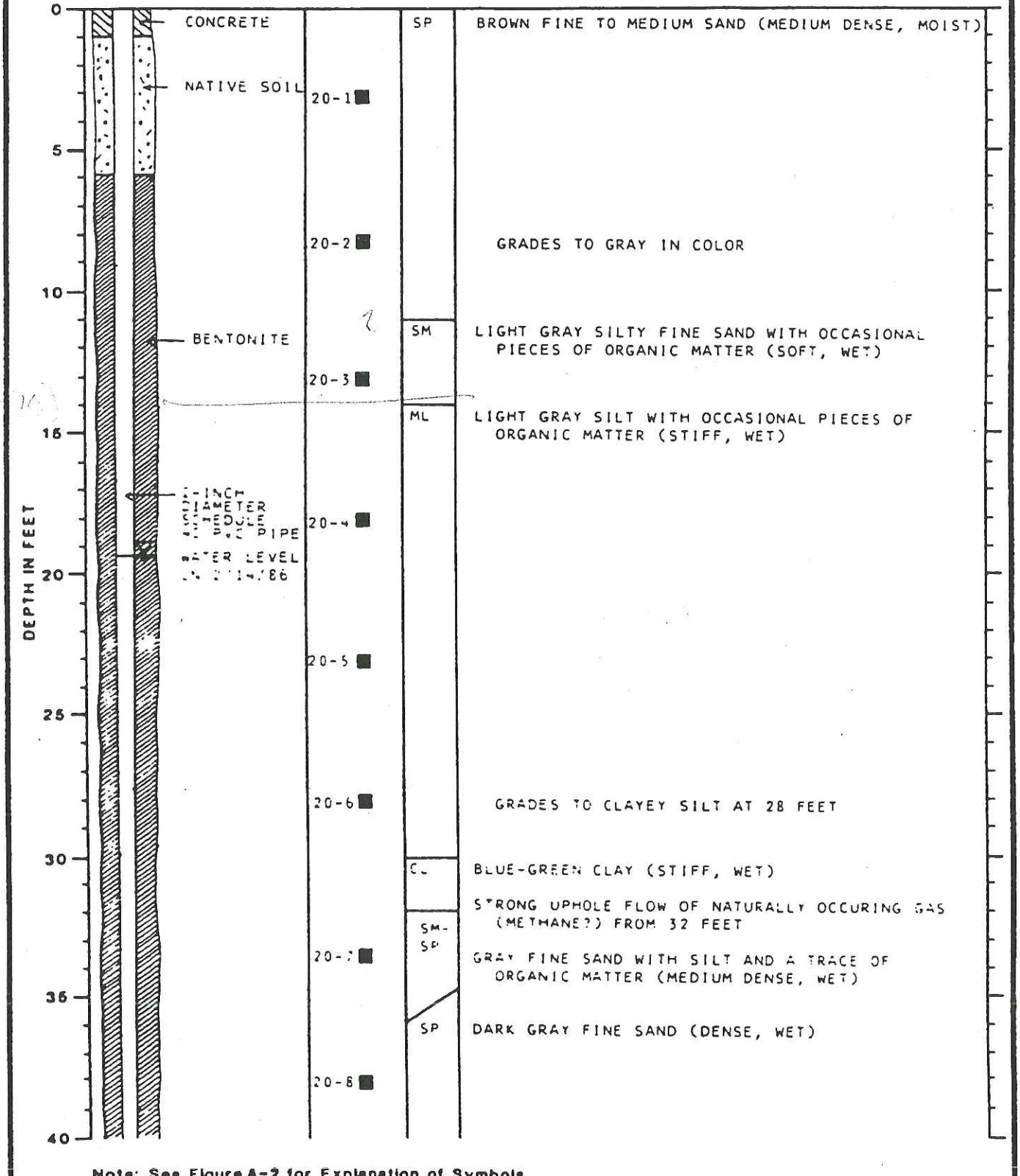
Note: See Figure A-2 for Explanation of Symbols

GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-7

MONITOR WELL NO. 20



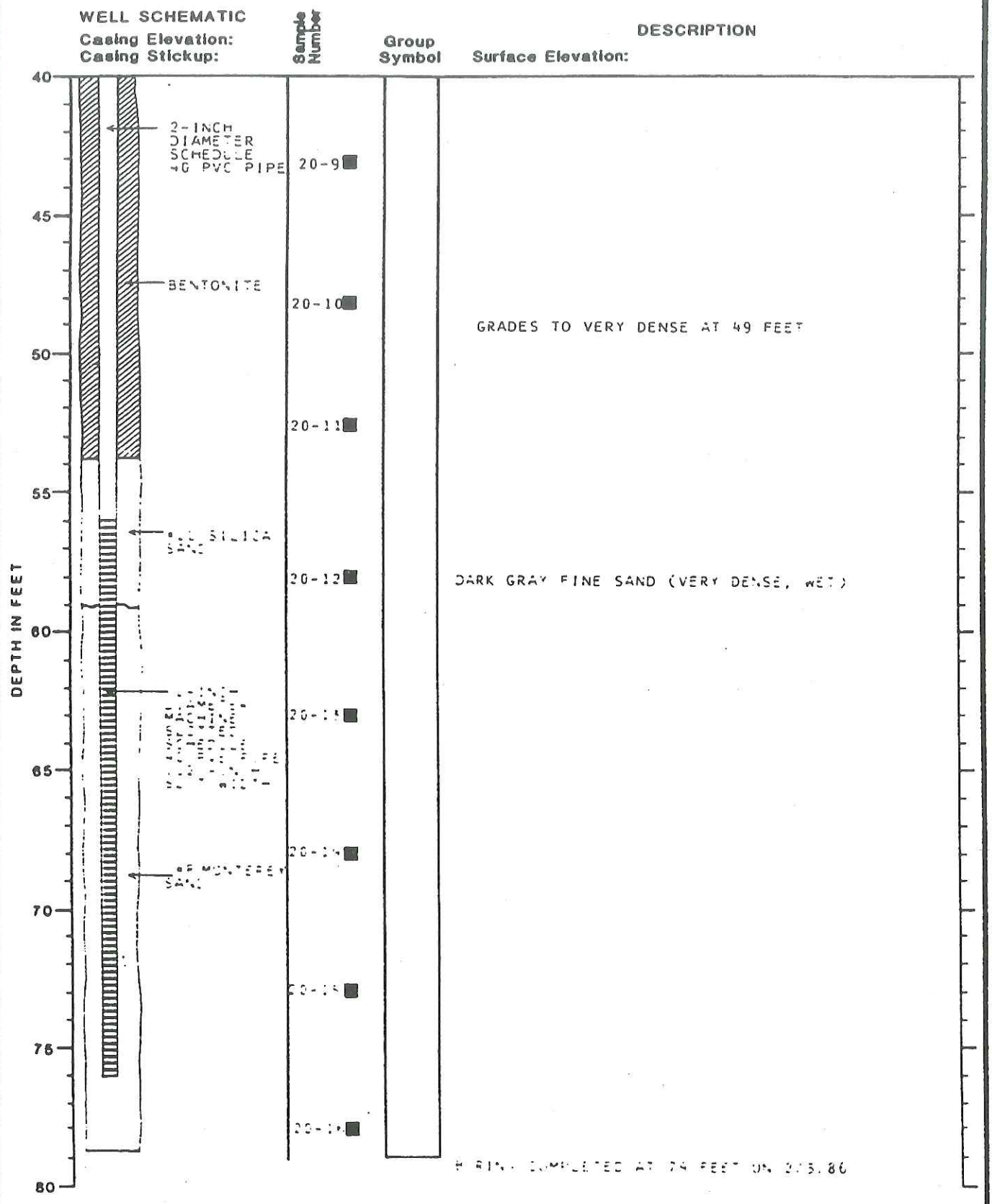
Note: See Figure A-2 for Explanation of Symbols

GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-8

MONITOR WELL NO. 20 (CONTINUED)



Note: See Figure A-2 for Explanation of Symbols

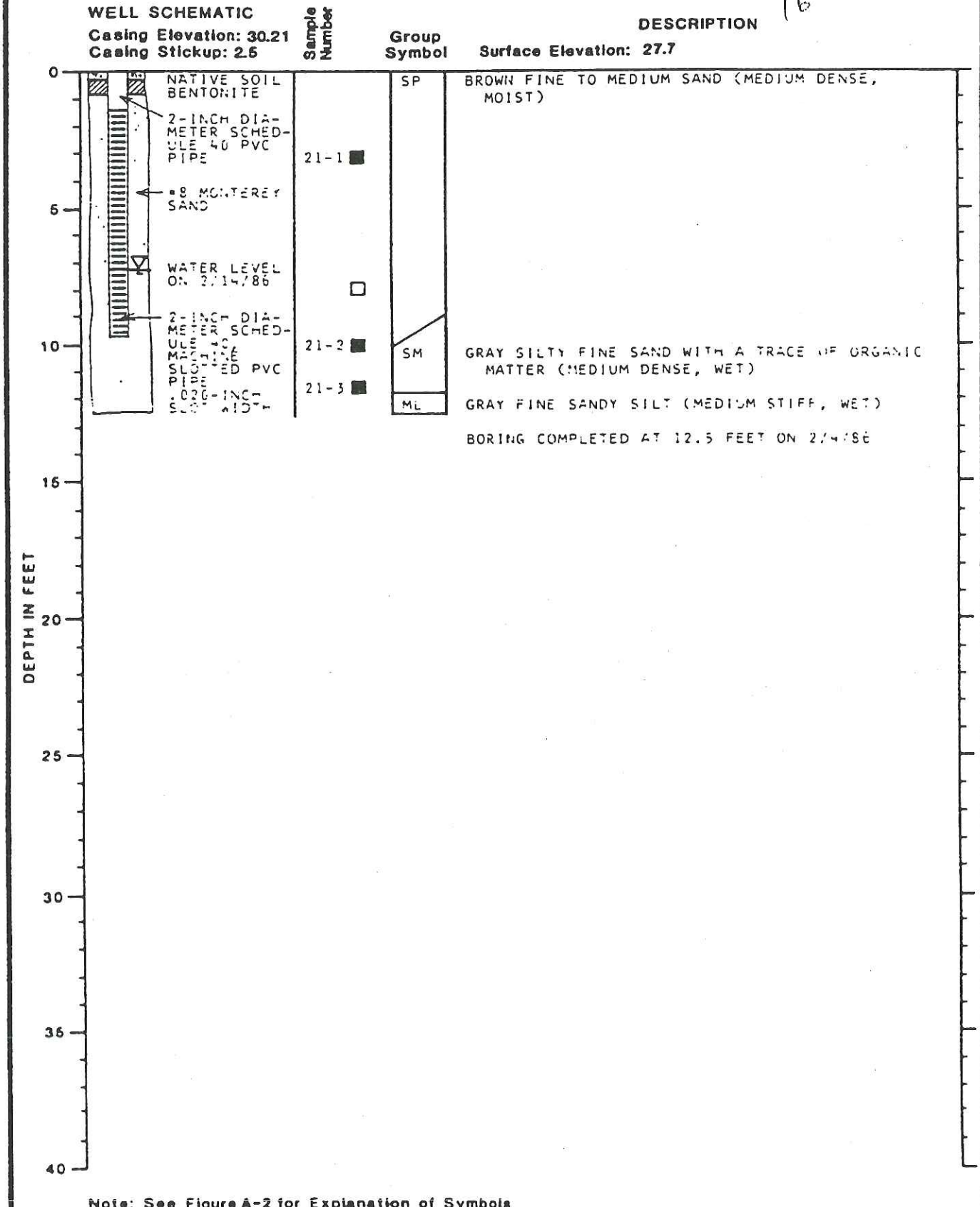
GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-9

MONITOR WELL NO. 21

16



Note: See Figure A-2 for Explanation of Symbols

GeoEngineers Incorporated

LOG OF MONITOR WELL

FIGURE A-10

EXPLORATORY BORING LOG

Parametrix, Inc.

Project Name:	TIDEWATER	Boring Number:	PMX-1
Project Number:	27-2376-02	Sheet:	1 OF 1
Location:	MOORAGE 5 SITE, VANCOUVER, WA	Total Depth:	31.0 FEET
PMX Representative:	RICK MALIN	Date Started/Completed:	AUG. 18, '93/AUG. 18, '93
Drilled By:	CRISMAN DRILLING	Ground Level Elevation:	26.1'
Drill Method:	HOLLOW STEM AUGER	Measuring Point Elevation:	25.72' Top of Casing

PID READING (PPM)	LITHO-LOGIC SAMPLE NUMBER	BLOW COUNT	PERCENT RECOVERY	DEPTH IN FEET	SAMPLE INTERVAL / WELL CONSTRUCTION	LITHOLOGIC DESCRITION	LITHO-LOGIC COLUMN
					FLUSH-MOUNT MONUMENT SECURED IN CONCRETE	0 – 5.5 feet: Silty SAND (SM). Grey, very fine to fine micaceous sand, medium dense, dry to damp, no hydrocarbon odor, some organic debris, appears to be FILL.	
22	PMX-1-3.0	8/7/7	0/60/100		HYDRATED GRANULAR BENTONITE 1-16.5 FEET		
13	PMX-1-4.5	6/8/6	20/100/100	5			
						5.5 – 17.0 feet: Silty SAND (SM). Dark greenish grey, fine to medium micaceous sands, moist, medium dense, organic debris, no hydrocarbon odor. Interpreted as top of FLOOD PLAIN deposit.	
					2-INCH SCH 40 PVC CASING COUPLED WITH FLUSH MOUNT "O" RINGS 0.5-18.5 FEET		
0	PMX-1-9.5	3/5/6	10/100/100	10		@ 9.5 feet: very fine to fine sands, moist, organic debris.	
					WATER LEVEL 11.03 FEET BELOW TOP OF PVC 8/19/93		
0	PMX-1-14.5	8/3/3	70/100/100	15		@ 14.5 feet: fine silty sands with interbedded silt, mosit to slightly wet, silt slightly plastic, no hydrocarbon odor, loose/medium dense.	
						17.0 – 23.0 feet: SILT with very fine sand (SM/ML). Dark greyish brown silt with very fine micaceous sand, moist, organic debris, slightly plastic.	
0	PMX-1-19.5	4/3/4	60/100/100	20	8-INCH BOREHOLE 0-29.5 FEET		
					10-20 CSSI SILICA SAND 16.5-31.0 FEET	23.0 – 27.5 feet: Silty SAND (SM). Brown to greenish grey silty sand, very fine to fine micacesous sands, wet to saturated, trace of rounded fine gravels, loose, slightly plastic.	
0	PMX-1-24.5	2/2/3	100/100/100	25	2-INCH SCH 40 0.010-INCH SLOTTED SCREEN WITH 6-INCH SUMP 18.5-29.0 FEET		
						27.5 – 31.0 feet: SILT (ML). Greyish brown to grey, medium stiff, slightly plastic, sticky, moist to slightly wet.	
0	PMX-1-29.5	3/3/5	100/100/100	30			

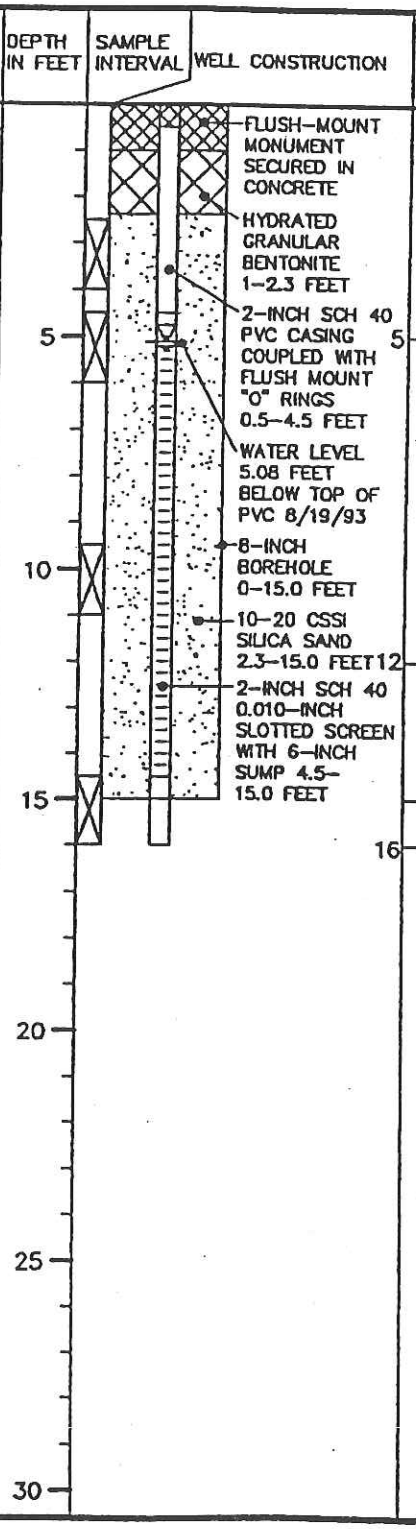
EXPLORATORY BORING LOG

Parametrix, Inc.

Project Name: TIDEWATER
Project Number: 27-2376-02
Location: MOORAGE 5 SITE, VANCOUVER, WA
PMX Representative: RICK MALIN
Drilled By: CRISMAN DRILLING
Drill Method: HOLLOW STEM AUGER

Boring Number: PMX-2
Sheet: 1 OF 1
Total Depth: 16.0 FEET
Date Started/Completed: AUG. 19, '93/AUG. 19, '93
Ground Level Elevation: 25.6'
Measuring Point Elevation: 25.18' Top of Casing

PID READING (PPM)	LITHO-LOGIC SAMPLE NUMBER	BLOW COUNT	PERCENT RECOVERY
0	PMX-2-2.5	19/15/17	5/80/100
0	PMX-2-4.5	8/4/4	10/80/100
0	PMX-2-9.5	7/7/8	0/80/100
0	PMX-2-14.5	3/3/3	7/100/100



LITHOLOGIC DESCRITION

0 – 5.0 feet: SAND (SP). Grey to dark brown, micaceous, dense, predominantly medium sands with coarse lenses, no hydrocarbon odor, slightly damp. Appears to be FILL.

5.0 – 12.0 SAND (SP). Dark blusih grey fine to very fine micaceous sand, some wood debris (sawdust) at 5.0 feet, wet to slightly saturated, no hydrocarbon odor, some organic debris. Interprepeted as the top of FLOOD PLAIN deposit

@ 9.5 feet: very fine micaceous sand, uniform, wet to saturated, slight septic odor, stiff, no organics.

12.0 – 14.5 feet: Sandy SILT (SM). Silt with fine layering of slightly higher sand percentage material, saturated, organic debris, micaceous, slight septic odor, loose, fairly uniform.

LITHO-LOGIC COLUMN

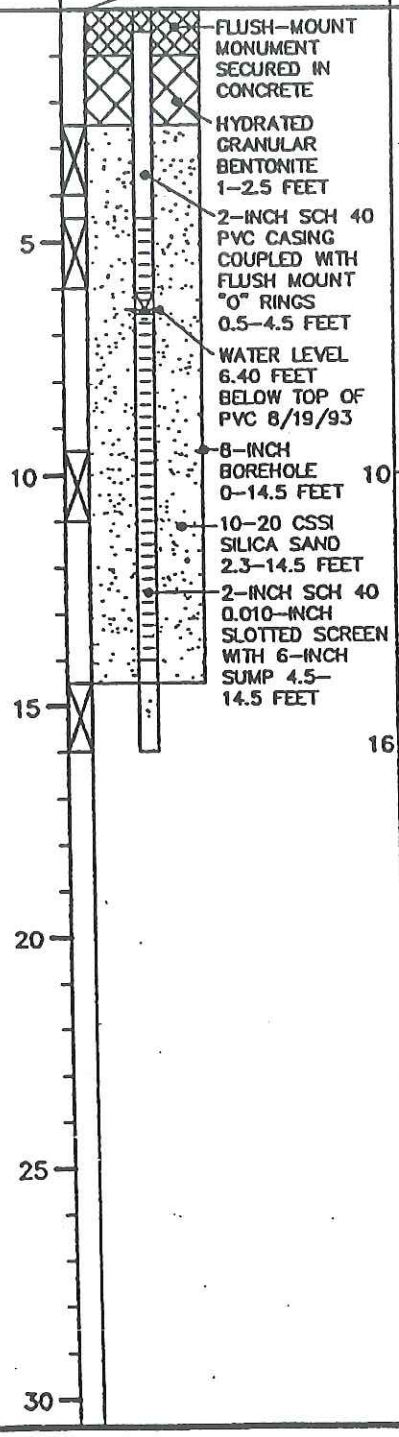
EXPLORATORY BORING LOG

Parametrix, Inc.

Project Name: TIDEWATER
Project Number: 27-2376-02
Location: MOORAGE 5 SITE, VANCOUVER, WA
PMX Representative: RICK MALIN
Drilled By: CRISMAN DRILLING
Drill Method: HOLLOW STEM AUGER

Boring Number: PMX-3
Sheet: 1 OF 1
Total Depth: 16.0 FEET
Date Started/Completed: AUG. 19, '93/AUG. 19, '93
Ground Level Elevation: 24.8'
Measuring Point Elevation: 24.59' Top of Casing

PID READING (PPM)	LITHO-LOGIC SAMPLE NUMBER	BLOW COUNT	PERCENT RECOVERY
0	PMX-3-2.5	13/6/7	5/80/100
0	PMX-3-4.5	3/3/4	5/70/100
0	PMX-3-9.5	4/4/12	0/80/100
0	PMX-3-14.5	4/2/2	100/100/100



LITHOLOGIC DESCRIPTION

0 – 10.0 feet: SAND (SP). medium to dark brown fine micaceous sand, damp, loose to medium dense, no hydrocarbon odor, no organic debris.

@ 4.5 feet: moist to wet, slight increase in silt percentage, loose.

10.0 – 16.0 feet: Silty SAND (SM). Dark bluish grey micaceous silty sand, interlayers of sand between higher silt percentage layers, wet to saturated, no hydrocarbon odor, organic debris, medium dense. interpreted as top of FLOOD PLAIN deposit.

@ 14.5 feet: slight variability of silt percentage with depth, saturated, soft. to medium stiff.

LITHO-LOGIC COLUMN

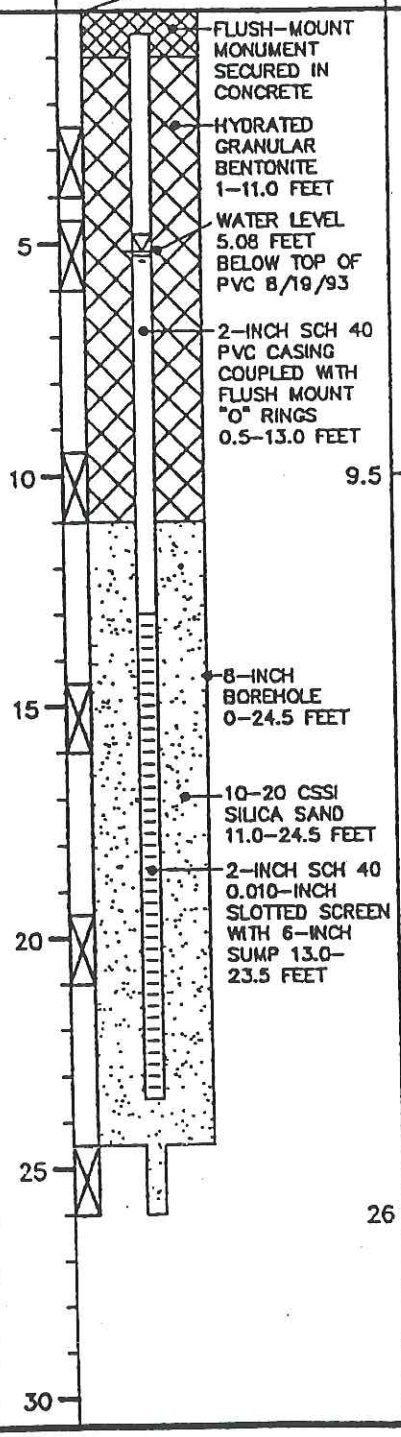
EXPLORATORY BORING LOG

Parametrix, Inc.

Project Name: TIDEWATER
Project Number: 27-2376-02
Location: MOORAGE 5 SITE, VANCOUVER, WA
PNX Representative: RICK MALIN
Drilled By: CRISMAN DRILLING
Drill Method: HOLLOW STEM AUGER

Boring Number: PMX-4
Sheet: 1 OF 1
Total Depth: 26.0 FEET
Date Started/Completed: AUG. 19, '93/AUG. 19, '93
Ground Level Elevation: 26.9'
Measuring Point Elevation: 26.56' Top of Casing

PID READING (PPM)	LITHOLOGIC SAMPLE NUMBER	BLOW COUNT	PERCENT RECOVERY
0	PMX-4-2.5	37/30/17	0/50/100
0	PMX-4-4.5	7/7/7	0/60/100
0	PMX-4-9.5	3/5/7	80/100/100
0	PMX-4-14.5	4/5/7	70/100/100
0	PMX-4-19.5	2/4/5	100/100/100
0	PMX-4-24.5	3/2/4	100/100/100



LITHOLOGIC DESCRITION

0 – 10.0 feet: SAND (SP). grey to dark brown, fine to medium sands with variable percentage of silts, dry, some coarse gravels, no hydrocarbon odor.

@ 4.5 feet: becoming a silty sand, micaceous, damp, medium dense, no hydrocarbon odor.

@ 9.5 feet: fine to medium sands, low percentage of silts, uniform, moist, medium dense, no hydrocarbon odor.

9.5

10.0 – 12.5 feet: Sandy SILT (ML). Dark grey, micaceous, very fine sands, slightly plastic, stiff, wet, traces of organic debris, no hydrocarbon odor. Interpreted as the top of the FLOOD PLAIN deposit.

@ 19.5 feet: bluish grey, very fine micaceous sands, wet to slightly saturated, stiff, some organic debris, very fine silt/sand layering, no hydrocarbon odor.

@ 24.5 feet: increasing sand percentage, fine sand interlayered with silt, sand layers saturated, silt layers moist to slightly saturated, medium stiff, micaceous, trace organic debris.

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LITHO-LOGIC COLUMN

EXPLORATORY BORING LOG

Parametrix, Inc.

Project Name: TIDEWATER
Boring Number: PMX-5
Project Number: 27-2376-02
Sheet: 1 OF 1
Location: MOORAGE 5 SITE, VANCOUVER, WA
Total Depth: 16.0 FEET
PMX Representative: RICK MALIN
Date Started/Completed: AUG. 18, '93/AUG. 18, '93
Drilled By: CRISMAN DRILLING
Ground Level Elevation: 26.7'
Drill Method: HOLLOW STEM AUGER
Measuring Point Elevation: 26.37' Top of Casing

PID READING (PPM)	LITHO-LOGIC SAMPLE NUMBER	BLOW COUNT	PERCENT RECOVERY	DEPTH IN FEET	SAMPLE INTERVAL
225	PMX-4-2.5	17/27/35	50/100/100	5	
35	PMX-4-5.0	17/17/19	0/75/100	10	
0	PMX-4-10.0	10/10/12	100/100/100	15	
0	PMX-4-14.5	4/7/8	0/60/100	20	
				25	
				30	

WELL CONSTRUCTION:
- FLUSH-MOUNT MONUMENT SECURED IN CONCRETE
- HYDRATED GRANULAR BENTONITE 1-2.5 FEET
- 2-INCH SCH 40 PVC CASING COUPLED WITH FLUSH MOUNT "O" RINGS 0.5-4.5 FEET
- WATER LEVEL 6.33 FEET BELOW TOP OF PVC 8/18/93
- 8-INCH BOREHOLE 0-14.5 FEET
- 10-20 CSSI SILICA SAND 2.3-14.5 FEET
- 2-INCH SCH 40 0.010-INCH SLOTTED SCREEN WITH 6-INCH SUMP 4.5-14.5 FEET

LITHOLOGIC DESCRITION:

0 - 15.0 feet: SAND (SP). light to dark grey, fine to medium sands with white quartz grains, uniform, poorly graded, very dense, damp, no hydrocarbon odor. Interpreted as FILL material.

@ 5.0 feet: No hydrocarbon odor, dense.

@ 10.0 feet: dark grey micaceous sands, signs of wood debris, medium dense, saturated, no hydrocarbon odor.

15.0 - 16.0 feet: SILT (ML). grey, plastic, organic debri, wet, stiff, no hydrocarbon odor, stiff to very stiff. Interpreted as top of the FLOOD PLAIN deposit.

LITHO-LOGIC COLUMN

A-5: PMX-5

EXPLORATORY BORING LOG

Parametrix, Inc.

Project Name: TIDEWATER
Project Number: 27-2376-02
Location: MOORAGE 5 SITE, VANCOUVER, WA
PMX Representative: RICK MALIN
Drilled By: CRISMAN DRILLING
Drill Method: HOLLOW STEM AUGER

Boring Number: PMX-6
Sheet: 1 OF 1
Total Depth: 16.0 FEET
Date Started/Completed: AUG. 18, '93/AUG. 18, '93
Ground Level Elevation: 26.2'
Measuring Point Elevation: 25.89' Top of Casing

PID READING (PPM)	LITHO-LOGIC SAMPLE NUMBER	BLOW COUNT	PERCENT RECOVERY	DEPTH IN FEET	SAMPLE INTERVAL	WELL CONSTRUCTION	LITHOLOGIC DESCRIPTION	LITHO-LOGIC COLUMN
0	PMX-6-2.5	12/6/8	40/100/100			FLUSH-MOUNT MONUMENT SECURED IN CONCRETE	0 – 10.0 feet: SAND (SP). Grey with white quartz grains, fine to medium, unifrom, dry, medium dense, no hydrocarbon odor. Interpreted as FILL material.	
0	PMX-6-4.5	1/8/8	100/100/100	5		HYDRATED GRANULAR BENTONITE 1-2.5 FEET		
0	PMX-6-9.5	3/3/3	10/80/100	10		2-INCH SCH 40 PVC CASING COUPLED WITH FLUSH MOUNT "O" RINGS 0.5-4.5 FEET	10.0 – 16.0 feet: Sandy SILT (ML). Dark grey to blackish grey, micaceous, organic debris, slightly plastic, medium stiff, wet, slight hydrocarbon/organic odor. Interpreted as the top of the FLOOD PLAIN deposits.	
0	PMX-6-14.5	2/5/12	20/100/100	15		WATER LEVEL 6.83 FEET BELOW TOP OF PVC 8/25/93	@ 14.5 feet: increasing silt percentage, decrease in fine sands, wet, stiff, no hydrocarbon odor.	
				20		8-INCH BOREHOLE 0-14.5 FEET		
				25		10-20 CSSI SILICA SAND 2.5-14.5 FEET		
				30		2-INCH SCH 40 0.010-INCH SLOTTED SCREEN WITH 6-INCH SUMP 4.5-14.5 FEET		

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A-6: PMX-6

EXPLORATORY BORING LOG

Parametrix, Inc.

Project Name:	TIDEWATER	Boring Number:	PMX-7
Project Number:	27-2376-02	Sheet:	1 OF 1
Location:	MOORAGE 5 SITE, VANCOUVER, WA	Total Depth:	16.0 FEET
PMX Representative:	RICK MALIN	Date Started/Completed:	AUG. 19, '93/AUG. 19, '93
Drilled By:	CRISMAN DRILLING	Ground Level Elevation:	31.5'
Drill Method:	HOLLOW STEM AUGER	Measuring Point Elevation:	33.36' Top of Casing

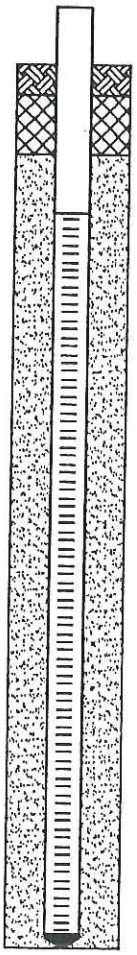
PID READING (PPM)	LITHO-LOGIC SAMPLE NUMBER	BLOW COUNT	PERCENT RECOVERY	DEPTH IN FEET	SAMPLE INTERVAL	WELL CONSTRUCTION	LITHOLOGIC DESCRITION	LITHO-LOGIC COLUMN
0	PMX-7-2.5	10/6/6	20/100/100			FLUSH-MOUNT MONUMENT SECURED IN CONCRETE	0 – 9.5 feet: SAND (SP). Medium brown to grey fine to medium sands with white quartz grains, organic debris (root material), damp, organic smell, uniform, poorly sorted. Interpreted as FILL material.	
						HYDRATED GRANULAR BENTONITE 1–2.5 FEET		
0	PMX-7-5.0	12/11/14	60/100/100	5		2-INCH SCH 40 PVC CASING COUPLED WITH FLUSH MOUNT "O" RINGS 0.5–4.5 FEET	@ 4.5 feet: medium dark brown to grey, coarse to medium sands, micaceous, apparent silt interbeds, no hydrocarbon odor, slight organic odor, slight damp.	
						WATER LEVEL 8.33 FEET BELOW TOP OF PVC 8/19/93		
0	PMX-7-9.5	6/6/7	5/30/100	10		8-INCH BOREHOLE 0–14.5 FEET	9.5 – 15.0 feet: SAND (SP). Dark grey to medium brown sands, micaceous, saturated, uniform, medium dense, no observable organic debris. Interpreted as FLOOD PLAIN deposit.	
						10–20 CSSI SILICA SAND 2.5–14.5 FEET		
						2-INCH SCH 40 0.010-INCH SLOTTED SCREEN WITH 6-INCH SUMP 4.5–14.5 FEET		
0	PMX-7-14.5	3/3/4	60/100/100	15		9.5 / 15	15.0 – 16.0 feet: SILT (ML). Dark bluish grey silt with organic debris, wet, plastic, medium stiff.	
				16				
				20				
				25				
				30				

SECOR
International Incorporated

FACILITY **CROWLEY** JOB # **00255-003-01** BORING/WELL **EX-2**
LOCATION **VANCOUVER, WASHINGTON** SURFACE ELEVATION **31.50**
START **2/3/96 1010** FINISH **2/3/96 1130** CASING TOP ELEVATION **33.53**
LOGGED BY **J. GIEBER** MONITORING DEVICE **PID MP-1000**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING, INC.; CME 75, 10 1/4" O.D. HSA**
COMMENTS **SAMPLED USING A 2" I.D. X 1.5' LONG SPLIT SPOON SAMPLER LINED WITH BRASS SLEEVES USING A 140 POUND HAMMER WITH A 30" STROKE**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				5			5
				0	Sand, brown, fine to medium, some silt, loose, moist	SP	0
5/6/12		2	NS	5	Dark gray, strong hydrocarbon odor, wet		5
					▽		
4/4/4		398	SD	10	Wood debris		10
					Silt, dark gray, soft to medium stiff, minor clay, moist	ML	
				15			15
				20	Olive brown		20
				25			25
				30	Boring terminated at 30 feet, sampler advanced to 11.5 feet. Groundwater encountered at approximately 9 feet during drilling. Boring converted to a groundwater monitoring well on 2/3/96.		30
				35			35

Well Construction Schematic



Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis
▽ Groundwater Level at Time of Drilling
▼ Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts
Gradational Contact
Contact Located Approximately
Contact
Native Soil
Bentonite
2/12 Lonestar Silica Sand
4" PVC Blank Casing
4" PVC Screen Casing (0.010 slots)
End Cap

DWG: CRO0308L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-1**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **23.05**
START **10 am** FINISH **10:30 am** CASING TOP ELEVATION **26.55**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Well Construction Schematic
				0	Asphalt surface		0	
		3.9	NS	0	Brown SAND (SP). Sand is medium grained, well sorted, very loose, dry, no odor.	SP	0	
		0	NS	5			5	
		0	NS	10	Dark grey SILT (ML). Silt contains a few micas, dense, moist, no odor.	ML	10	
					Boring terminated at 12' feet bgs Groundwater encountered at approximately 3.5 feet during drilling.		15	
				15			20	
				20			25	
				25				

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand
3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-2**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **28.74**
START **11:20 am** FINISH **11:45 am** CASING TOP ELEVATION **32.24**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet
				0
		0	NS	5
		35.2	SD	10
		105.8	SD	15
		50	SD	20
				25

Lithologic Description

Vegetative cover (moss)

Brown SAND (SP). Sand is fine to medium grained, well sorted, very loose, dry, no odor.

Grey silty SAND (SM). Sand is fine grained, damp, product odor.

(Same)

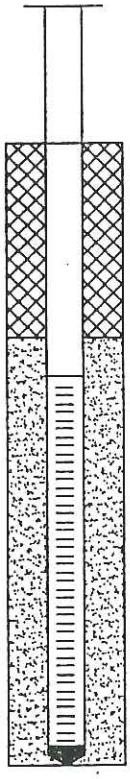
Grey sandy SILT (ML). Firm, wet, no odor.

Boring terminated at 16' feet bgs
Groundwater encountered at approximately 9.5 feet during drilling.

Unified Soil Classification: SP, ML

Depth Below Surface, feet: 0, 5, 10, 15, 20, 25

Well Construction Schematic



Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand
3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-3**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **28.58**
START **11:50 am** FINISH **12:35 pm** CASING TOP ELEVATION **32.08**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results (Blows 6"/6"/6")	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Well Construction Schematic
				0	Vegetative cover (moss)		0	
		0	NS	5	Brown SAND (SP). Sand is fine to medium grained. Some organic matter present. Loose, damp.	SP	5	
		200	SD		Same, color change to grey, odor			
		137.1	SD	10	Same, wet		10	
		11.7	NS	15	Grey Sandy SILT (ML). Firm, wet	ML	15	
					Boring terminated at 16' feet bgs Groundwater encountered at approximately 9.5 feet during drilling.			
				20			20	
				25			25	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand
3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-4**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **27.25**
START **13:05 pm** FINISH **13:35 pm** CASING TOP ELEVATION **30.75**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Well Construction Schematic
				0	Sand, medium, loose, dry		0	
		3.9	NS	5	Brown SAND (SP). Sand is medium grained, well sorted, loose, dry, no odor.	SP	5	
		0	NS		Same			
		0	NS	10	Same, wet, color changes to grey		10	
		0	NS	15	Grey fine silty SAND (ML), loose, wet	ML	15	
					Boring terminated at 16' feet bgs Groundwater encountered at approximately 9.5 feet during drilling.			
				20			20	
				25			25	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

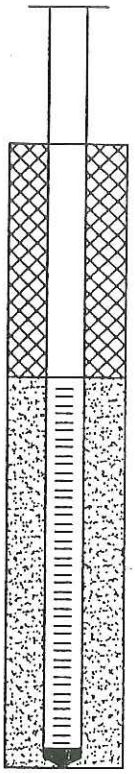
DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-5**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **23.47**
START **14:03 pm** FINISH **14:35 pm** CASING TOP ELEVATION **26.97**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	Sand, grey, medium, loose, dry		0
		0	NS	5	Brown SAND (SP). Sand is medium grained, well sorted, loose damp.		5
		0	NS		Brown silty SAND (SP). Sand is fine grained, loose, wet.	SP	
		0	NS	10	Same		10
		0	NS	15	Grey/brown sandy SILT (ML). Sand is fine grained, mottled, firm. Some reddish brown appears as rust.	ML	15
					Boring terminated at 16' feet bgs Groundwater encountered at approximately 6 feet during drilling.		
				20			20
				25			25

Well Construction Schematic



Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

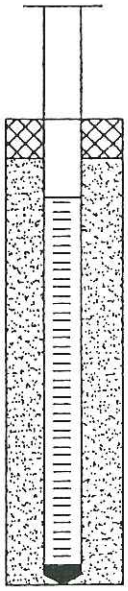
DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-6**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **24.17**
START **14:42 pm** FINISH **15:03 pm** CASING TOP ELEVATION **27.17**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				5			5
				0	Gravel, SAND, dirt		0
		0	NS	5	Brown SAND (SP). Sand is fine to medium grained. Some organic matter. Loose, dry.	SP	5
		0	NS		Color change to grey		
				10		ML	10
		0	NS		Grey SILT (ML). Firm, wet.		
					Boring terminated at 12' feet bgs Groundwater encountered at approximately 9 feet during drilling.		
				15			15
				20			20
				25			25

Well Construction Schematic



Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

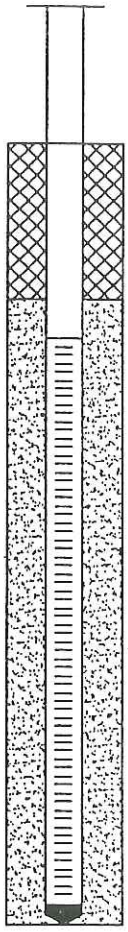
DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-7**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **24.17**
START **15:20 pm** FINISH **15:55 pm** CASING TOP ELEVATION **27.17**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	Vegetative cover		0
		0	NS	5	Grey/brown SAND (SP). Sand is medium grained, loose, dry.	SP	5
		0	NS		Same		
		0	NS	10	Same w/mica, color change to grey at 10.5 bgs		10
		0	NS	15	Same		15
		0	NS		Grey SILT (ML). Firm, wet.	ML	
				20	Boring terminated at 20' feet bgs Groundwater encountered at approximately 9.5 feet during drilling.		20
				25			25

Well Construction Schematic



Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand

3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-8**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **26.37**
START **16:30 pm** FINISH **17:09 pm** CASING TOP ELEVATION **29.37**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Well Construction Schematic
				0	Vegetative cover		0	
		0	NS	5	Brown SAND (SP). Sand is medium grained, loose, damp.	SP	5	
		0	NS		Same			
		0	NS	10	Grey SILT (ML). Firm, wet.	ML	10	
					Boring terminated at 12' feet bgs Groundwater encountered at approximately 5.75 feet during drilling.			
				15			15	
				20			20	
				25			25	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand

3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

DWG: F319011L

SECOR
International Incorporated

FACILITY **FORMER COLUMBIA MARINE LINES FACILITY** JOB # **F0319-001-01** BORING/WELL **GP-9**
LOCATION **6305 LOWER RIVER ROAD, VANCOUVER, WASHINGTON** SURFACE ELEVATION **26.66**
START **17:15 pm** FINISH **17:45 pm** CASING TOP ELEVATION **29.66**
LOGGED BY **DEC** MONITORING DEVICE **MODEL 580B OVM**
SUBCONTRACTOR AND EQUIPMENT **CASCADE DRILLING INC. TRACK MOUNTED CME850 GEOPROBE RIG**
COMMENTS **200 MACRO SAMPLER W/ ACRYLIC LINER 1.75" I.D.**

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Well Construction Schematic
				0	Vegetative cover		0	
		0	NS	5	Brown SAND (SP). Sand is medium grained, loose, damp.	SP	5	
		0	NS		Same			
		0	NS	10	Grey SILT (ML). Firm, wet.	ML	10	
					Boring terminated at 12' feet bgs Groundwater encountered at approximately 5.75 feet during drilling.			
				15			15	
				20			20	
				25			25	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

3/4" PVC Blank Casing
3/4" PVC Screen Casing (0.010 slots)
End Cap

DWG: F319011L

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PAGE OF

FACILITY Crowley JOB # F0319.001-01 BORING 6P1A
LOCATION SURFACE ELEVATION
START 9:00 9/9/99 FINISH 9:40 9/10/99 CASING TOP ELEVATION
LOGGED BY K. Warner MONITORING DEVICE OVM 580B
SUBCONTRACTOR AND EQUIPMENT Cascade drilling - CME Truck rig
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
					grey brown, fine to med SAND, dry			
9:25		0	NS					
				5			5	
9:45		523	SD		grades to moist at 5.5'			
9:55 (9/9/99)								
		609	SD	10			10	
		12.8	SD					
9:30								
					Some wood debris			
		0	NS		dk grey, fine sandy [illegible]			
				15	B.O.B. 9/10/99		15	
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

12.5

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PAGE OF

FACILITY Crowley JOB # F039.001-01 BORING GP2A
LOCATION SURFACE ELEVATION
START 9:45 10/10/99 FINISH 10:30 10/10/99 CASING TOP ELEVATION
LOGGED BY K. Warner MONITORING DEVICE OVM 580 B
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling CME Truck Rig
COMMENTS GW measured at 12.5 ft depth in new by MW-7

PENETRATION RESULTS % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
9:50	X	0	NS		Gray, fine to med SAND, damp			
				5			5	
10:00	X	430	SD					
					moist			
				10			10	
10:15	X	0						
					dark gray, SILT w/some f. sand and some sand debris			
				15			15	
					B.O.B 9/10/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley JOB # F0319.001.01 BORING GP3A
LOCATION SURFACE ELEVATION
START 1040 9/10/99 FINISH 1170 9/10/99 CASING TOP ELEVATION
LOGGED BY K. Warren MONITORING DEVICE OVM 580B
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling Geoprobe, truck rig
COMMENTS

PENETRATION RESULTS % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1045		0	NS		gray, fine to medium SAND, damp			
				5	dark gray, fine to medium SAND moist (Stained)		5	
1050		430	SD					
				10			10	
11.00		517	SD					
1115		544	SD					
				15	dark gray SILT moist to wet		15	
					B.O.B 9/10/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley JOB # F0319.001.01 BORING GP4A
LOCATION SURFACE ELEVATION
START 1130 9/10/99 FINISH 1220 9/10/99 CASING TOP ELEVATION
LOGGED BY K. Warner MONITORING DEVICE OVM 580 B
SUBCONTRACTOR AND EQUIPMENT Cascade Dr. Lg. Geoprobe track rig
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1155		0	NS		gray, fine to med SAND, dry			
				5			5	
1205								
		100	SD	10	dk. gray stained, fine to med. SAND w/some gravel (to 1" diameter) moist		10	
		150	SD					
1215					dk gray, SILT moist to wet			
				15	B.O.B 9/10/99		15	
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley JOB # E0319.001.01 BORING GP5A
LOCATION SURFACE ELEVATION
START 1230 9/10/99 FINISH 1305 9/10/99 CASING TOP ELEVATION
LOGGED BY L. Warner MONITORING DEVICE OVM SAM
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling Geoprobe truck rig
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1240		0	NS		gray-brown; fine to med SAND dry			
				5			5	
1245		199	SD	10	dk. gray (stained) fine to med SAND moist		10	
		385	SD					
1250					dk. gray SILT wet			
		27	NS	15			15	
					B.O.B 9/10/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

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PAGE OF

FACILITY Crowley JOB # BORING GP 6A
LOCATION SURFACE ELEVATION
START 1630 9/14/95 FINISH 1655 9/14/95 CASING TOP ELEVATION
LOGGED BY K. Wurm MONITORING DEVICE
SUBCONTRACTOR AND EQUIPMENT
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1635		0	NS		gray to brown fine to med SAND dry			
				5			5	
1645		238	SD	10	dry gray (stained), fine to med SAND moist		10	
1650		212						
				15	dark gray, SILT moist B.O.B 9/14/95		15	
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley JOB # F0319-091-01 BORING GP-7A
LOCATION SURFACE ELEVATION
START 12:15 9/14/99 FINISH CASING TOP ELEVATION
LOGGED BY MONITORING DEVICE OVM 580 B
SUBCONTRACTOR AND EQUIPMENT Cascade geoprobe truck rig
COMMENTS

PENETRATION RESULTS % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1220		0	NS		gray-brown, fine to med sand dry			
				5			5	
1240		0	NS					
				10			10	
1345		523	SD		dark gray, fine to med sand moist, strong odor			
1400		50	NS		dark gray, silt moist			
				15			15	
					R.O.B. 9/14/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley JOB # BORING GP8 A
LOCATION SURFACE ELEVATION
START 1520 - 9/10/99 FINISH 1610 9/10/99 CASING TOP ELEVATION
LOGGED BY K. Warren MONITORING DEVICE
SUBCONTRACTOR AND EQUIPMENT
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1525		0	NS		gray brown fine to med SAND dry			
				5			5	
1545		12.8	NS	10			10	
1605					dk gray, SILT, moist			
				15			15	
					B.O.B 9/10/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley JOB # F0319-001-01 BORING GP9A
LOCATION SURFACE ELEVATION
START 1335 9/10/99 FINISH 1455 9/10/99 CASING TOP ELEVATION
LOGGED BY [illegible] MONITORING DEVICE OVM 580 B
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling Geoprobe Direct Push
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1350		20	NS		grey brown, [illegible] SAND			
				5			5	
1415		305	NS	10			10	
1450		319	SD		(oily drops in steam) (Rock carried down with probe) No Recovery below 12"			
				15	B.O.B 9/10/99		15	
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis
Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts
Gradational Contact
Contact Located Approximately
Contact
Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR *International Incorporated*

PAGE OF

FACILITY Crowley JOB # E0319.001.01 BORING GP10A
LOCATION SURFACE ELEVATION
START 1310 9/10/99 FINISH 1330 9/10/99 CASING TOP ELEVATION
LOGGED BY K. Weaver MONITORING DEVICE OVM 580B
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling Geoprobe truck rig
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1310		0	NS		gray brown, fine to med. SAND dry			
				5			5	
					dk gray (stained) fine to med SAND moist			
1315								
		260	SD	10	oil droplets in stain		10	
1325		96	SD		dk gray, SILT moist to wet			
		27	NS	15			15	
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley Marine JOB # BORING GP 11A
LOCATION SURFACE ELEVATION
START 1715 9/14/99 FINISH 1750 9/14/99 CASING TOP ELEVATION
LOGGED BY K. Warren MONITORING DEVICE OVM 580 B
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling, Geoprobe truck rig
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
	X	0	NS		gray Brown, fine to mod SAND dry			
1725				5			5	
					dark gray, fine to mod SAND moist			
1735								
	X	16	NS	10			10	
1745	X	0	NS					
					dark gray, SILT, moist to wet			
				15			15	
					B.O.B 9/14/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR *International Incorporated*

PAGE OF

FACILITY Crowley JOB # BORING GP12A
LOCATION SURFACE ELEVATION
START 1420 9/14/99 FINISH 1530 9/14/99 CASING TOP ELEVATION
LOGGED BY K. Warner MONITORING DEVICE OVM 580 B
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling Geoprobe truck rig
COMMENTS

PENETRATION RESULTS / % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1435		0	NS		gray brown, fine to med SAND dry			
				5			5	
1505								
		260	SD	10	dk gray (Stained), fine to med SAND moist		10	
1520		16	NS					
1530		0	NS		(wood debris)			
				15	dk gray, SILT		15	
					B.O.B 9/14/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR International Incorporated

PAGE OF

FACILITY Crowley Marine JOB # BORING GP13A
LOCATION SURFACE ELEVATION
START 1545 9/14/99 FINISH 1615 9/14/99 CASING TOP ELEVATION
LOGGED BY K. Warner MONITORING DEVICE OVM 580 B
SUBCONTRACTOR AND EQUIPMENT Cascade Drilling Geoprobe truck rig
COMMENTS

PENETRATION RESULTS % RECOVERY	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Borehole Schematic
				0			0	
1600	⊠	0	NS		grey-brown, fine to med SAND dry			
				5			5	
				10	dk grey (Stained), fine to med SAND, moist (slight Sheen)		10	
1610	⊠	27	SD		(becomes wet at 11.0')			
1615		0	NS		dk grey, SILT wet			
				15			15	
					B.O.B 9/14/99			
				20			20	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
Colorado Silica Sand

DWG:

SECOR
International Incorporated

Facility: CROWLEY MARINE Job # 015-09266.004 Date: 1/31/02 Boring/Well GPC-1

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON Surface Elevation: Surface elevation Top of Casing Elevation: TOC Elevation

Logged By: AMK Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results / Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND (0,100,0,0), brown, med. to coarse, well sorted, rounded, moist			0
		0.4	NS	-5	SAND, as above	SW		-5
		0.0	NS		SAND (0,100,0,0), as above, hydrocarbon odor and staining	SW		
		6.4	SD	-10	SAND, as above, wet, product present	SW		-10
		131	SD	-15		SW	▼	-15

Boring termination at 16 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 16 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

▼ Groundwater Level at Time of Drilling
⧖ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
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Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-2

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results: Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND (0,100,0,0), brown, med. to coarse, well sorted, rounded, moist			0
		0.3	NS	-5	SAND, as above	SW		-5
		0.0	NS		SAND (0,100,0,0), black to brown, coarse grained, well sorted, rounded, moist	SW		
		2.0	NS	-10		SW		-10
		68.6	SD	-15	Sandy SILT (0,10,90,0), hydrocarbon odor and staining, dk. grey, wet	ML	⧗	-15

Boring termination at 16 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 15.5 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

⧗ Groundwater Level at Time of Drilling
⧖ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
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Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-3

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND w/ trace silt (0,98,2,0), brown, med. to coarse, well sorted, rounded, moist			0
		1.6	NS	-5	SAND, as above, hydrocarbon odor	SW		-5
		180	SD		SAND (0,100,0,0), grey, med. to coarse, well sorted, hydrocarbon odor and staining, trace woody debris	SW		
				-10	SAND, as above, wet, product present			-10
		318	SD			SW	▽	
		227	SD	-15	SILT w/ trace sand (0,5,95,0), dk grey, hydrocarbon odor, wet	ML		-15
		3.2	SD			ML		

Boring termination at 16 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 13 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

▽ Groundwater Level at Time of Drilling
▽ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
International Incorporated

Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-4

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND (0,100,,0), brown, med. to coarse, well sorted, rounded, damp			0
		0.6	NS	-5	SAND, as above, moist, slight odor	SW		-5
		17.2	SD		SAND, as above, strong odor, product present	SW		
				-10				-10
		57.5	SD			SW		
		46.2	SD	-15				-15
					SILT w/ trace sand (0,10,90,0), dk grey, hydrocarbon odor, wet	ML ML	▼	

Boring termination at 16 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 15.5 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

▼ Groundwater Level at Time of Drilling

⧖ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
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Facility: CROWLEY MARINE Job # 015-09266.004 Date: 1/31/02 Boring/Well GPC-5

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON Surface Elevation: Surface elevation Top of Casing Elevation: TOC Elevation

Logged By: AMK Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results: Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND w/ trace silt (0,98,2,0), brown, med. to coarse, well sorted, rounded, damp			0
		3.2	SD	-5	SAND, as above, moist, slight odor	SW		-5
		59.5	SD		SAND, as above, strong odor,hydrocarbon staining	SW		
		121	SD	-10		SW		-10
				-15	SILT w/ trace sand (0,10,90,0), dk grey, wet	ML		-15
						ML		

Boring termination at 16 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 13.5 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

Groundwater Level at Time of Drilling
Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
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Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-6

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND w/ trace silt (0,98,2,0), brown, med. to coarse, well sorted, rounded, damp			0
		0.4	NS	-5	SAND, as above, moist, slight odor	SW		-5
		58.2	SD		SAND w/ trace silt (0,98,2,0), trace woody debris, brown to grey, strong hydrocarbon odor, rounded, moist	SW		
		96.2	SD	-10		SW	▼	-10
		113	SD	-15	SILT w/ trace sand (0,10,90,0), dk grey, strong odor, wet	ML		-15
						ML		

Boring termination at 16.0 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 13.0 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

▼ Groundwater Level at Time of Drilling
⧖ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
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Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-7

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND (0,100,0,0), brown, med. to coarse, well sorted, rounded, damp			0
		1.2	SD	-5	SAND, as above, moist, slight odor	SW		-5
		27.4	SD		SAND w/ trace silt (0,98,2,0), trace woody debris, brown to grey, strong hydrocarbon odor, rounded, moist	SW		
				-10	SAND, as above, dk. grey, strong hydrocarbon odor			-10
		121	SD			SW	▼	
				-15	SILT w/ trace sand (0,10,90,0), dk grey, strong odor, wet	ML		-15
						ML		

Boring termination at 16.0 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 13.0 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

▼ Groundwater Level at Time of Drilling
▽ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
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Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-8

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results: Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND w/ trace silt (0,98,2,0), brown, med. to coarse, well sorted, rounded, damp			0
		0.8	SD	-5	SAND, as above, moist	SW		-5
		21.2	SD		SAND, as above, trace woody debris	SW		
		44.1	SD	-10		SW		-10
		21.5	SD				▼	
				-15	SILT w/ trace sand (0,10,90,0), dk. grey, strong hydrocarbon odor, wet	ML		-15
						ML		

Boring termination at 16.0 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 13.5 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

▼ Groundwater Level at Time of Drilling
▽ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
International Incorporated

Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-9

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results: Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND (0,100,0,0),iron stianing at 3'-4', brown, coarse, well sorted, rounded, damp			0
		0.5	NS	-5	SAND, as above, wet	SW		-5
		0.3	NS			SW		

Boring termination at 8 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 7 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

Groundwater Level at Time of Drilling
Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
International Incorporated

Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-10

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results: Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND (0,100,0,0),iron stianing at 3'-4', brown, coarse, well sorted, rounded, damp			0
		0.2	NS	-5	SAND, as above, iron stianing from 5.5'-6', wet	SW	▼	-5
		0.3	NS			SW		

Boring termination at 8 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 6.5 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

▼ Groundwater Level at Time of Drilling
⧖ Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR
International Incorporated

Facility: CROWLEY MARINE | Job # 015-09266.004 | Date: 1/31/02 | Boring/Well GPC-11

Location: 6505 LOWER RIVER ROAD, VANCOUVER, WASHINGTON | Surface Elevation: Surface elevation | Top of Casing Elevation: TOC Elevation

Logged By: AMK | Monitoring Device: MINI RAE 2000 PID

Subcontractor and Equipment: GEOTECH EXPLORATIONS

Comments: TRACK MOUNTED GEOPROBE RIG

Penetration Results: Blows 6" /6" /6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	United Soil Classification	Groundwater Level	Depth Below Surface, feet
				0	SAND (0,100,0,0), brown, coarse, well sorted, rounded, moist			0
		0.0	NS	-5	SAND, as above, wet	SW		-5
		0.0	NS			SW		
		0.1	NS	-10	SILT w/ trace sand (0,5,95,0), dk. grey, wet	ML		-10

Boring termination at 12.0 feet, sampler advanced to sampler atfeet.

Groundwater encountered at approximately 7.0 feet during drilling.

SD Sheen Detected
SSD Slight Sheen Detected
NS No Sheen Detected
NT Not Tested

Groundwater Level at Time of Drilling
Static Groundwater Level

Approximate Contact
No Recovery
Sampling Interval
Sample Collected for Analysis

SECOR International Incorporated
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TUALATIN, OREGON 97062
(503) 691-2030/692-7074 (FAX)

PAGE OF

FACILITY _____ JOB# _____ BORING/WELL GPD-1
LOCATION _____ SURFACE ELEVATION _____
START 1110 FINISH 1120 CASING TOP ELEVATION _____
LOGGED BY _____ MONITORING DEVICE _____
SUBCONTRACTOR AND EQUIPMENT _____
COMMENTS _____

SAMPLE NUMBER / BLOWS 6"/6"/6"	Sample Depth Interval (feet)	PID Reading (ppm)	Sheen	Depth Below Surface (feet)	Lithologic Description (Typical name, color, description, shape, density, moisture) Example: Clayey SILT, brown; moderately plastic; coarse to to fine sand; odor; firm and dry in places	Unified Soil Classification System SYM	PAT	Depth Below Surface (feet)	Well Construction Schematic
				5				5	
				0	MOSS / GRASS			0	
			NS		SAND, BROWN, MED. TO FINE GRAINED, MOIST				
		0.0							
		0.0		5				5	
		0.0							
		0.0							
		0.0		10				10	
		0.0							
X		0.0	SD		WET				
		0.0		15	SILT, GRAY, SLIGHT ODOR, WET			15	
		0.0			TERMINATE BORING AT 16'				
				20				20	
				25				25	

Boring terminated at ___ feet, sampler advanced to ___ feet.
Groundwater encountered at approximately ___ feet during drilling.

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

DWG:

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PAGE OF

FACILITY _____ JOB# _____ BORING/WELL GPD-2
LOCATION _____ SURFACE ELEVATION _____
START 1125 FINISH 1145 CASING TOP ELEVATION _____
LOGGED BY _____ MONITORING DEVICE _____
SUBCONTRACTOR AND EQUIPMENT _____
COMMENTS _____

SAMPLE NUMBER / BLOWS 6"/6"/6"	Sample Depth Interval (feet)	PID Reading (ppm)	Sheen	Depth Below Surface (feet)	Lithologic Description (Typical name, color, description, shape, density, moisture) Example: Clayey SILT, brown; moderately plastic; coarse to to fine sand; odor; firm and dry in places	Unified Soil Classification System SYM	PAT	Depth Below Surface (feet)	Well Construction Schematic
				5				5	
				0	MOSS/GRASS			0	
			NS		SOME GRAVEL - MEDIUM SAND, BROWN TO TAN, FINE GRAINED, MOIST				
		0.0							
		0.0		5				5	
		0.0							
		0.0							
		0.0		10				10	
		0.0							
		0.0			WET				
		0.0		15	SILTY SAND, GRAY W/BIOTITE, WET			15	
		0.0			TERMINATE BORING AT 16'				
				20				20	
				25				25	

Boring terminated at ___ feet, sampler advanced to ___ feet.
Groundwater encountered at approximately ___ feet during drilling.

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis
Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts
Gradational Contact
Contact Located Approximately
Contact
Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

DWG:

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PAGE OF

FACILITY _____ JOB# _____ BORING/WELL SPD-3
LOCATION _____ SURFACE ELEVATION _____
START 1150 FINISH 1210 CASING TOP ELEVATION _____
LOGGED BY _____ MONITORING DEVICE _____
SUBCONTRACTOR AND EQUIPMENT _____
COMMENTS _____

SAMPLE NUMBER / BLOWS 6"/6"/6"	Sample Depth Interval (feet)	PID Reading (ppm)	Sheen	Depth Below Surface (feet)	Lithologic Description (Typical name, color, description, shape, density, moisture) Example: Clayey SILT, brown; moderately plastic; coarse to to fine sand; odor; firm and dry in places	Unified Soil Classification System SYM	PAT	Depth Below Surface (feet)	Well Construction Schematic
				5				5	*PID - REMOVED DESSICANT TUBE & APPLIED FILTER
				0	MOSS/GRASS			0	
		0.0	NS		SAND, BROWN, FINE TO MEDIUM GRAINED, MOIST				
		0.0		5	ORGANIC LENSE W/OXIDATION COLORING (~4" THICK) SAND, BROWN, FINE TO MEDIUM GRAIN MOIST			5	
X		180			SAND, GRAY, MEDIUM TO FINE, MOIST STRONG ODOR (6½')				
		90		10	SANDY SILT LENSE AT 7', STRONG ODOR			10	
X		66	▽		COARSE GRAINED				
					W/WOOD CHIPS, WET				
				15	SILT, GRAY W/WOOD CHIPS, ODOR, WET			15	
			S		PLASTIC TUBE/FREE PHASE PRODUCT				
					TERMINATE BORING AT 16'				
				20				20	
				25				25	

Boring terminated at ___ feet, sampler advanced to ___ feet.
Groundwater encountered at approximately ___ feet during drilling.

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis
▽ Groundwater Level at Time of Drilling
▼ Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts
Gradational Contact
Contact Located Approximately
Contact
Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

DWG:

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PAGE OF

FACILITY _____ JOB# _____ BORING/WELL MPD-4
LOCATION _____ SURFACE ELEVATION _____
START 1310 FINISH 1340 CASING TOP ELEVATION _____
LOGGED BY _____ MONITORING DEVICE _____
SUBCONTRACTOR AND EQUIPMENT _____
COMMENTS _____

SAMPLE NUMBER / BLOWS 6"/6"/6"	Sample Depth Interval (feet)	PID Reading (ppm)	Sheen	Depth Below Surface (feet)	Lithologic Description (Typical name, color, description, shape, density, moisture) Example: Clayey SILT, brown; moderately plastic; coarse to to fine sand; odor; firm and dry in places	Unified Soil Classification System SYM	Unified Soil Classification System PAT	Depth Below Surface (feet)	Well Construction Schematic
				5				5	
				0	MOSS/GRASS			0	
			NS		SAND, BROWN, FINE TO MEDIUM GRAINED, MOIST				
		0.0		5				5	
		0.0							
		0.0		10				10	
		0.0			MEDIUM TO COARSE GRAINED, MEDIUM GRAY SAND, MOIST ..... DENSITY				
			▽	15	SILT, GRAY, WET, SLIGHT ODOR			15	
		78			TERMINATE BORING AT 16'				
				20				20	
				25				25	

Boring terminated at ___ feet, sampler advanced to ___ feet.
Groundwater encountered at approximately ___ feet during drilling.

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis
▽ Groundwater Level at Time of Drilling
▼ Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts
Gradational Contact
Contact Located Approximately
Contact
Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

DWG:

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PAGE OF

FACILITY _____ JOB# _____ BORING/WELL GPD-5
LOCATION _____ SURFACE ELEVATION _____
START 1345 FINISH 1405 CASING TOP ELEVATION _____
LOGGED BY _____ MONITORING DEVICE _____
SUBCONTRACTOR AND EQUIPMENT _____
COMMENTS _____

SAMPLE NUMBER / BLOWS 6"/6"/6"	Sample Depth Interval (feet)	PID Reading (ppm)	Sheen	Depth Below Surface (feet)	Lithologic Description (Typical name, color, description, shape, density, moisture) Example: Clayey SILT, brown; moderately plastic; coarse to to fine sand; odor; firm and dry in places	Unified Soil Classification System SYM	PAT	Depth Below Surface (feet)	Well Construction Schematic
				5				5	
				0	MOSS/GRASS			0	
			NS		SAND, BROWN, FINE TO MEDIUM GRAINED, MOIST				
	0.0	~~0.2~~							
	0.3	~~0.6~~		5	CLAY LENSE W/ORGANICS AT 4.5'			5	
		0.3			SILT & ANGULAR GRAVEL LENSE 7'-7.5'				
		0.3			GRAVELLY SAND, BROWN, MEDIUM GRAINED MOIST				
		~~0.5~~		10				10	
X	0.5				WOOD CHIPS				
					SAND, GRAY W/WOOD, ODOR, MEDIUM GRAINED, WET				
				15	SILT, GRAY W/WOOD, ODOR, WET			15	
			S		TERMINATE BORING AT 16'				
				20				20	
				25				25	

Boring terminated at ___ feet, sampler advanced to ___ feet.
Groundwater encountered at approximately ___ feet during drilling.

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

DWG:

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-11 (GPE-4-11)		**Soil**			**Sampled: 08/24/07 13:11**					
1-Methylnaphthalene	EPA 8270C	ND	----	0.427	mg/kg dry	1x	7081433	08/30/07 11:30	09/08/07 20:06	
Acenaphthene	"	ND	----	0.427	"	"	"	"	09/05/07 01:19	
Acenaphthylene	"	ND	----	0.427	"	"	"	"	"	
Anthracene	"	ND	----	0.427	"	"	"	"	"	
Benzo (a) anthracene	"	ND	----	0.427	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.427	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.427	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.427	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.427	"	"	"	"	"	
Benzoic Acid	"	ND	----	1.29	"	"	"	"	"	
Benzyl alcohol	"	ND	----	1.29	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	----	0.427	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	----	0.427	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	----	0.427	"	"	"	"	"	
4-Chloroaniline	"	ND	----	2.59	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	----	0.427	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	----	0.427	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	----	0.427	"	"	"	"	"	
2-Chloronaphthalene	"	ND	----	0.427	"	"	"	"	"	
2-Chlorophenol	"	ND	----	0.427	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	----	0.427	"	"	"	"	"	
Chrysene	"	ND	----	0.427	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	----	1.29	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	----	0.427	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	0.427	"	"	"	"	"	
Dibenzofuran	"	ND	----	0.427	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	----	1.29	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	----	1.29	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	----	1.29	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND	----	1.29	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	----	0.427	"	"	"	"	"	
Diethyl phthalate	"	ND	----	0.427	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	----	1.29	"	"	"	"	"	
Dimethyl phthalate	"	ND	----	0.427	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	----	1.29	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	----	2.59	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	----	0.647	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	----	0.647	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	----	2.59	"	"	"	"	"	
Fluoranthene	"	ND	----	0.427	"	"	"	"	"	
Fluorene	"	ND	----	0.427	"	"	"	"	"	
Hexachlorobenzene	"	ND	----	0.427	"	"	"	"	"	
Hexachlorobutadiene	"	ND	----	1.29	"	"	"	"	"	

DRAFT REPORT

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-11 (GPE-4-11)		**Soil**			**Sampled: 08/24/07 13:11**					
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	1.29	mg/kg dry	1x	7081433	08/30/07 11:30	09/05/07 01:19	
Hexachloroethane	"	ND	-----	1.29	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.427	"	"	"	"	"	
Isophorone	"	ND	-----	0.427	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	0.427	"	"	"	"	"	
2-Methylphenol	"	ND	-----	0.427	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	0.427	"	"	"	"	"	
Naphthalene	"	ND	-----	0.427	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	0.427	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	1.29	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	0.427	"	"	"	"	"	
Nitrobenzene	"	ND	-----	0.427	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	0.427	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	1.29	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	0.427	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	0.427	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	1.29	"	"	"	"	"	
Phenanthrene	"	ND	-----	0.427	"	"	"	"	"	
Phenol	"	ND	-----	0.427	"	"	"	"	"	
Pyrene	"	ND	-----	0.427	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	1.29	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	0.427	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	0.427	"	"	"	"	"	
Surrogate(s): *2-Fluorobiphenyl*			*95.7%*		*33 - 126 %*	"			"	
2-Fluorophenol			*64.5%*		*20 - 127 %*	"			"	
Nitrobenzene-d5			*83.4%*		*25 - 131 %*	"			"	
Phenol-d6			*84.0%*		*13 - 138 %*	"			"	
p-Terphenyl-d14			*81.4%*		*38 - 142 %*	"			"	
2,4,6-Tribromophenol			*70.3%*		*46 - 124 %*	"			"	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-15 (GPE-6-11)		**Soil**			**Sampled: 08/24/07 15:05**					**RL3**
1-Methylnaphthalene	EPA 8270C	ND	-----	22.1	mg/kg dry	50x	7081433	08/30/07 11:30	09/08/07 21:31	
Acenaphthene	"	ND	-----	22.1	"	"	"	"	09/04/07 23:11	
Acenaphthylene	"	ND	-----	22.1	"	"	"	"	"	
Anthracene	"	ND	-----	22.1	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	22.1	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	22.1	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	22.1	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	22.1	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	22.1	"	"	"	"	"	
Benzoic Acid	"	ND	-----	67.0	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	67.0	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	22.1	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	22.1	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	22.1	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	134	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	22.1	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	22.1	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	22.1	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	22.1	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	22.1	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	22.1	"	"	"	"	"	
Chrysene	"	ND	-----	22.1	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	67.0	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	22.1	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	22.1	"	"	"	"	"	
Dibenzofuran	"	ND	-----	22.1	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	67.0	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	67.0	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	67.0	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND	-----	67.0	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	22.1	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	22.1	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	67.0	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	22.1	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	67.0	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	134	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	33.5	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	33.5	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	134	"	"	"	"	"	
Fluoranthene	"	ND	-----	22.1	"	"	"	"	"	
Fluorene	"	ND	-----	22.1	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	22.1	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	67.0	"	"	"	"	"	

DRAFT REPORT

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
ph: (503) 906.9200 fax: (503) 906.9210

SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-15 (GPE-6-11)		**Soil**			**Sampled: 08/24/07 15:05**					**RL3**
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	67.0	mg/kg dry	50x	7081433	08/30/07 11:30	09/04/07 23:11	
Hexachloroethane	"	ND	-----	67.0	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	22.1	"	"	"	"	"	
Isophorone	"	ND	-----	22.1	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	22.1	"	"	"	"	"	
2-Methylphenol	"	ND	-----	22.1	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	22.1	"	"	"	"	"	
Naphthalene	"	ND	-----	22.1	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	22.1	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	67.0	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	22.1	"	"	"	"	"	
Nitrobenzene	"	ND	-----	22.1	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	22.1	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	67.0	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	22.1	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	22.1	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	67.0	"	"	"	"	"	
Phenanthrene	"	ND	-----	22.1	"	"	"	"	"	
Phenol	"	ND	-----	22.1	"	"	"	"	"	
Pyrene	"	ND	-----	22.1	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	67.0	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	22.1	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	22.1	"	"	"	"	"	
Surrogate(s): *2-Fluorobiphenyl*			*NR*		*33 - 126 %*	"			"	*Z3*
2-Fluorophenol			*NR*		*20 - 127 %*	"			"	*Z3*
Nitrobenzene-d5			*NR*		*25 - 131 %*	"			"	*Z3*
Phenol-d6			*NR*		*13 - 138 %*	"			"	*Z3*
p-Terphenyl-d14			*NR*		*38 - 142 %*	"			"	*Z3*
2,4,6-Tribromophenol			*NR*		*46 - 124 %*	"			"	*Z3*

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SLR-Portland	Project Name:	Crowley	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-17 (GPE-7-10)		**Soil**			**Sampled: 08/24/07 14:20**					**RL3**
1-Methylnaphthalene	EPA 8270C	**45.8**	-----	10.8	mg/kg dry	25x	7081433	08/30/07 11:30	09/08/07 22:14	
Acenaphthene	"	ND	-----	10.8	"	"	"	"	09/04/07 22:28	
Acenaphthylene	"	ND	-----	10.8	"	"	"	"	"	
Anthracene	"	ND	-----	10.8	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	10.8	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	10.8	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	10.8	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	10.8	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	10.8	"	"	"	"	"	
Benzoic Acid	"	ND	-----	32.8	"	"	"	"	"	
Benzyl alcohol	"	ND	-----	32.8	"	"	"	"	"	
4-Bromophenyl phenyl ether	"	ND	-----	10.8	"	"	"	"	"	
Butyl benzyl phthalate	"	ND	-----	10.8	"	"	"	"	"	
4-Chloro-3-methylphenol	"	ND	-----	10.8	"	"	"	"	"	
4-Chloroaniline	"	ND	-----	65.6	"	"	"	"	"	
Bis(2-chloroethoxy)methane	"	ND	-----	10.8	"	"	"	"	"	
Bis(2-chloroethyl)ether	"	ND	-----	10.8	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	"	ND	-----	10.8	"	"	"	"	"	
2-Chloronaphthalene	"	ND	-----	10.8	"	"	"	"	"	
2-Chlorophenol	"	ND	-----	10.8	"	"	"	"	"	
4-Chlorophenyl phenyl ether	"	ND	-----	10.8	"	"	"	"	"	
Chrysene	"	ND	-----	10.8	"	"	"	"	"	
Di-n-butyl phthalate	"	ND	-----	32.8	"	"	"	"	"	
Di-n-octyl phthalate	"	ND	-----	10.8	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	10.8	"	"	"	"	"	
Dibenzofuran	"	ND	-----	10.8	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	32.8	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	32.8	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	32.8	"	"	"	"	"	
3,3'-Dichlorobenzidine	"	ND	-----	32.8	"	"	"	"	"	
2,4-Dichlorophenol	"	ND	-----	10.8	"	"	"	"	"	
Diethyl phthalate	"	ND	-----	10.8	"	"	"	"	"	
2,4-Dimethylphenol	"	ND	-----	32.8	"	"	"	"	"	
Dimethyl phthalate	"	ND	-----	10.8	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	"	ND	-----	32.8	"	"	"	"	"	
2,4-Dinitrophenol	"	ND	-----	65.6	"	"	"	"	"	
2,4-Dinitrotoluene	"	ND	-----	16.4	"	"	"	"	"	
2,6-Dinitrotoluene	"	ND	-----	16.4	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	"	ND	-----	65.6	"	"	"	"	"	
Fluoranthene	"	ND	-----	10.8	"	"	"	"	"	
Fluorene	"	ND	-----	10.8	"	"	"	"	"	
Hexachlorobenzene	"	ND	-----	10.8	"	"	"	"	"	
Hexachlorobutadiene	"	ND	-----	32.8	"	"	"	"	"	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-17 (GPE-7-10)		**Soil**			**Sampled: 08/24/07 14:20**					**RL3**
Hexachlorocyclopentadiene	EPA 8270C	ND	-----	32.8	mg/kg dry	25x	7081433	08/30/07 11:30	09/04/07 22:28	
Hexachloroethane	"	ND	-----	32.8	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	10.8	"	"	"	"	"	
Isophorone	"	ND	-----	10.8	"	"	"	"	"	
2-Methylnaphthalene	"	ND	-----	10.8	"	"	"	"	"	
2-Methylphenol	"	ND	-----	10.8	"	"	"	"	"	
3-,4-Methylphenol	"	ND	-----	10.8	"	"	"	"	"	
Naphthalene	"	ND	-----	10.8	"	"	"	"	"	
2-Nitroaniline	"	ND	-----	10.8	"	"	"	"	"	
3-Nitroaniline	"	ND	-----	32.8	"	"	"	"	"	
4-Nitroaniline	"	ND	-----	10.8	"	"	"	"	"	
Nitrobenzene	"	ND	-----	10.8	"	"	"	"	"	
2-Nitrophenol	"	ND	-----	10.8	"	"	"	"	"	
4-Nitrophenol	"	ND	-----	32.8	"	"	"	"	"	
N-Nitrosodi-n-propylamine	"	ND	-----	10.8	"	"	"	"	"	
N-Nitrosodiphenylamine	"	ND	-----	10.8	"	"	"	"	"	
Pentachlorophenol	"	ND	-----	32.8	"	"	"	"	"	
Phenanthrene	"	**17.9**	-----	10.8	"	"	"	"	"	
Phenol	"	ND	-----	10.8	"	"	"	"	"	
Pyrene	"	ND	-----	10.8	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	-----	32.8	"	"	"	"	"	
2,4,5-Trichlorophenol	"	ND	-----	10.8	"	"	"	"	"	
2,4,6-Trichlorophenol	"	ND	-----	10.8	"	"	"	"	"	
Surrogate(s): *2-Fluorobiphenyl*		*87.3%*		*33 - 126 %*	"				"	*Z3*
2-Fluorophenol		*86.0%*		*20 - 127 %*	"				"	
Nitrobenzene-d5		*101%*		*25 - 131 %*	"				"	*Z3*
Phenol-d6		*91.5%*		*13 - 138 %*	"				"	
p-Terphenyl-d14		*67.3%*		*38 - 142 %*	"				"	*Z3*
2,4,6-Tribromophenol		*49.8%*		*46 - 124 %*	"				"	*Z3*

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-02 (GPE-1-11)		**Soil**			**Sampled: 08/24/07 10:32**					
1-Methylnaphthalene	EPA 8270m	**67.0**	----	17.1	ug/kg dry	1x	7090223	09/07/07 13:15	09/13/07 17:32	
2-Methylnaphthalene	"	**26.3**	----	17.1	"	"	"	"	"	
Acenaphthene	"	**20.0**	----	17.1	"	"	"	"	"	
Acenaphthylene	"	ND	----	34.3	"	"	"	"	"	RL1
Anthracene	"	**82.7**	----	17.1	"	"	"	"	"	
Benzo (a) anthracene	"	**219**	----	17.1	"	"	"	"	"	
Benzo (a) pyrene	"	**138**	----	17.1	"	"	"	"	"	
Benzo (b) fluoranthene	"	**167**	----	17.1	"	"	"	"	"	
Benzo (ghi) perylene	"	**76.0**	----	17.1	"	"	"	"	"	
Benzo (k) fluoranthene	"	**107**	----	17.1	"	"	"	"	"	
Chrysene	"	**430**	----	17.1	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	**22.6**	----	17.1	"	"	"	"	"	
Fluoranthene	"	**535**	----	17.1	"	"	"	"	"	
Fluorene	"	**97.5**	----	17.1	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	**60.3**	----	17.1	"	"	"	"	"	
Naphthalene	"	**27.2**	----	17.1	"	"	"	"	"	
Phenanthrene	"	**205**	----	17.1	"	"	"	"	"	
Pyrene	"	**474**	----	17.1	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*101%*		*24 - 125 %*	"			"	
Pyrene-d10			*101%*		*41 - 141 %*	"			"	
Benzo (a) pyrene-d12			*120%*		*38 - 143 %*	"			"	
PQH1091-03 (GPE-1-GW)		**Water**			**Sampled: 08/24/07 10:30**					
Acenaphthene	EPA 8270m	**1.16**	----	0.0962	ug/l	1x	7081259	08/27/07 15:00	08/31/07 22:33	
Acenaphthylene	"	ND	----	0.385	"	"	"	"	"	RL1
Anthracene	"	**0.488**	----	0.0962	"	"	"	"	"	
Benzo (a) anthracene	"	**0.177**	----	0.0962	"	"	"	"	"	
Benzo (a) pyrene	"	ND	----	0.0962	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	----	0.0962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	----	0.0962	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	----	0.0962	"	"	"	"	"	
Chrysene	"	**0.282**	----	0.0962	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	----	0.192	"	"	"	"	"	
Fluoranthene	"	**1.97**	----	0.0962	"	"	"	"	"	
Fluorene	"	**3.46**	----	0.0962	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	----	0.0962	"	"	"	"	"	
Naphthalene	"	**0.614**	----	0.0962	"	"	"	"	"	
Phenanthrene	"	**2.41**	----	0.0962	"	"	"	"	"	
Pyrene	"	**1.40**	----	0.0962	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*72.1%*		*25 - 125 %*	"			"	

DRAFT REPORT

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-03 (GPE-1-GW)		**Water**			**Sampled: 08/24/07 10:30**					
Pyrene-d10			*64.3%*		*23 - 150 %*	*1x*			*08/31/07 22:33*	
Benzo (a) pyrene-d12			*44.1%*		*10 - 125 %*	"			"	
PQH1091-05 (GPE-2-11)		**Soil**			**Sampled: 08/24/07 09:49**					
1-Methylnaphthalene	EPA 8270m	ND	-----	16.1	ug/kg dry	1x	7090223	09/07/07 13:15	09/13/07 17:59	
2-Methylnaphthalene	"	ND	-----	16.1	"	"	"	"	"	
Acenaphthene	"	ND	-----	16.1	"	"	"	"	"	
Acenaphthylene	"	ND	-----	16.1	"	"	"	"	"	
Anthracene	"	ND	-----	16.1	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	16.1	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	16.1	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	16.1	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	16.1	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	16.1	"	"	"	"	"	
Chrysene	"	ND	-----	16.1	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	16.1	"	"	"	"	"	
Fluoranthene	"	ND	-----	16.1	"	"	"	"	"	
Fluorene	"	ND	-----	16.1	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	16.1	"	"	"	"	"	
Naphthalene	"	ND	-----	16.1	"	"	"	"	"	
Phenanthrene	"	ND	-----	16.1	"	"	"	"	"	
Pyrene	"	ND	-----	16.1	"	"	"	"	"	
Surrogate(s): Fluorene-d10			*105%*		*24 - 125 %*	"			"	
Pyrene-d10			*101%*		*41 - 141 %*	"			"	
Benzo (a) pyrene-d12			*112%*		*38 - 143 %*	"			"	
PQH1091-06 (GPE-2-GW)		**Water**			**Sampled: 08/24/07 09:50**					
Acenaphthene	EPA 8270m	**0.586**	-----	0.0962	ug/l	1x	7081259	08/27/07 15:00	08/31/07 23:02	
Acenaphthylene	"	ND	-----	0.192	"	"	"	"	"	RL1
Anthracene	"	**0.226**	-----	0.0962	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	0.0962	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	0.0962	"	"	"	"	"	
Chrysene	"	**0.129**	-----	0.0962	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	0.192	"	"	"	"	"	
Fluoranthene	"	**0.727**	-----	0.0962	"	"	"	"	"	
Fluorene	"	**1.84**	-----	0.0962	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	0.0962	"	"	"	"	"	
Naphthalene	"	**0.201**	-----	0.0962	"	"	"	"	"	

DRAFT REPORT

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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SLR-Portland	Project Name: **Crowley**	
1800 Blankenship Road Suite 440	Project Number: 008.205.00007	Report Created:
West Linn, OR 97068	Project Manager: Steve Hammer	09/24/07 17:22

DRAFT: Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-06 (GPE-2-GW)		**Water**			**Sampled: 08/24/07 09:50**					
Phenanthrene	EPA 8270m	ND	-----	0.0962	ug/l	1x	7081259	08/27/07 15:00	08/31/07 23:02	
Pyrene	"	**0.580**	-----	0.0962	"	"	"	"	"	
Surrogate(s): Fluorene-d10		*82.6%*		*25 - 125 %*	"				"	
Pyrene-d10		*68.2%*		*23 - 150 %*	"				"	
Benzo (a) pyrene-d12		*50.0%*		*10 - 125 %*	"				"	
PQH1091-11 (GPE-4-11)		**Soil**			**Sampled: 08/24/07 13:11**					
1-Methylnaphthalene	EPA 8270m	**43.8**	-----	17.4	ug/kg dry	1x	7090223	09/07/07 13:15	09/13/07 18:27	
2-Methylnaphthalene	"	ND	-----	17.4	"	"	"	"	"	
Acenaphthene	"	ND	-----	17.4	"	"	"	"	"	
Acenaphthylene	"	ND	-----	17.4	"	"	"	"	"	
Anthracene	"	ND	-----	17.4	"	"	"	"	"	
Benzo (a) anthracene	"	ND	-----	17.4	"	"	"	"	"	
Benzo (a) pyrene	"	ND	-----	17.4	"	"	"	"	"	
Benzo (b) fluoranthene	"	ND	-----	17.4	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	17.4	"	"	"	"	"	
Benzo (k) fluoranthene	"	ND	-----	17.4	"	"	"	"	"	
Chrysene	"	ND	-----	17.4	"	"	"	"	"	
Dibenzo (a,h) anthracene	"	ND	-----	17.4	"	"	"	"	"	
Fluoranthene	"	ND	-----	17.4	"	"	"	"	"	
Fluorene	"	**26.5**	-----	17.4	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	"	ND	-----	17.4	"	"	"	"	"	
Naphthalene	"	ND	-----	17.4	"	"	"	"	"	
Phenanthrene	"	**81.7**	-----	17.4	"	"	"	"	"	
Pyrene	"	**21.7**	-----	17.4	"	"	"	"	"	
Surrogate(s): Fluorene-d10		*111%*		*24 - 125 %*	"				"	
Pyrene-d10		*106%*		*41 - 141 %*	"				"	
Benzo (a) pyrene-d12		*113%*		*38 - 143 %*	"				"	
PQH1091-15 (GPE-6-11)		**Soil**			**Sampled: 08/24/07 15:05**					**RL3**
1-Methylnaphthalene	EPA 8270m	**10600**	-----	1800	ug/kg dry	100x	7090223	09/07/07 13:15	09/15/07 12:39	
2-Methylnaphthalene	"	**6430**	-----	180	"	10x	"	"	09/13/07 18:54	
Acenaphthene	"	**526**	-----	180	"	"	"	"	"	
Acenaphthylene	"	ND	-----	360	"	"	"	"	"	**RL1**
Anthracene	"	**858**	-----	180	"	"	"	"	"	
Benzo (a) anthracene	"	**449**	-----	180	"	"	"	"	"	
Benzo (a) pyrene	"	**272**	-----	180	"	"	"	"	"	
Benzo (b) fluoranthene	"	**292**	-----	180	"	"	"	"	"	
Benzo (ghi) perylene	"	ND	-----	180	"	"	"	"	"	
Benzo (k) fluoranthene	"	**183**	-----	180	"	"	"	"	"	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Polynuclear Aromatic Compounds per EPA 8270M-SIM

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed		Notes
PQH1091-15 (GPE-6-11)		**Soil**			**Sampled: 08/24/07 15:05**						**RL3**
Chrysene	EPA 8270m	**727**	-----	180	ug/kg dry	10x	7090223	09/07/07 13:15	09/13/07 18:54		
Dibenzo (a,h) anthracene	"	ND	-----	180	"	"	"	"	"		
Fluoranthene	"	**599**	-----	180	"	"	"	"	"		
Fluorene	"	**1480**	-----	180	"	"	"	"	"		
Indeno (1,2,3-cd) pyrene	"	ND	-----	180	"	"	"	"	"		
Naphthalene	"	ND	-----	719	"	"	"	"	"		RL1
Phenanthrene	"	**4540**	-----	180	"	"	"	"	"		
Pyrene	"	**883**	-----	180	"	"	"	"	"		
Surrogate(s):	*Fluorene-d10*		*174%*		*24 - 125 %*	"			"	*ZX*	
	Pyrene-d10		*145%*		*41 - 141 %*	"			"	*ZX*	
	Benzo (a) pyrene-d12		*106%*		*38 - 143 %*	"			"		
PQH1091-17 (GPE-7-10)		**Soil**			**Sampled: 08/24/07 14:20**						**RL3**
1-Methylnaphthalene	EPA 8270m	**36100**	-----	3540	ug/kg dry	200x	7090223	09/07/07 13:15	09/14/07 21:03		
2-Methylnaphthalene	"	ND	-----	354	"	20x	"	"	09/13/07 19:22		
Acenaphthene	"	**1390**	-----	354	"	"	"	"	"		
Acenaphthylene	"	ND	-----	1060	"	"	"	"	"		RL1
Anthracene	"	**984**	-----	354	"	"	"	"	"		
Benzo (a) anthracene	"	**529**	-----	354	"	"	"	"	"		
Benzo (a) pyrene	"	ND	-----	354	"	"	"	"	"		
Benzo (b) fluoranthene	"	ND	-----	354	"	"	"	"	"		
Benzo (ghi) perylene	"	ND	-----	354	"	"	"	"	"		
Benzo (k) fluoranthene	"	ND	-----	354	"	"	"	"	"		
Chrysene	"	**803**	-----	354	"	"	"	"	"		
Dibenzo (a,h) anthracene	"	ND	-----	354	"	"	"	"	"		
Fluoranthene	"	**1140**	-----	354	"	"	"	"	"		
Fluorene	"	**4430**	-----	354	"	"	"	"	"		
Indeno (1,2,3-cd) pyrene	"	ND	-----	354	"	"	"	"	"		
Naphthalene	"	ND	-----	2480	"	"	"	"	"		RL1
Phenanthrene	"	**10700**	-----	354	"	"	"	"	"		
Pyrene	"	**1380**	-----	354	"	"	"	"	"		
Surrogate(s):	*Fluorene-d10*		*235%*		*24 - 125 %*	"			"	*ZX*	
	Pyrene-d10		*134%*		*41 - 141 %*	"			"		
	Benzo (a) pyrene-d12		*97.6%*		*38 - 143 %*	"			"		

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SLR-Portland
1800 Blankenship Road Suite 440
West Linn, OR 97068

Project Name: **Crowley**
Project Number: 008.205.00007
Project Manager: Steve Hammer

Report Created:
09/24/07 17:22

DRAFT: Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-01 (GPE-1-5)		**Soil**				**Sampled: 08/24/07 10:30**				
% Solids	NCA SOP	74.2	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-02 (GPE-1-11)		**Soil**				**Sampled: 08/24/07 10:32**				
% Solids	NCA SOP	78.1	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-04 (GPE-2-5)		**Soil**				**Sampled: 08/24/07 09:34**				
% Solids	NCA SOP	92.5	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-05 (GPE-2-11)		**Soil**				**Sampled: 08/24/07 09:49**				
% Solids	NCA SOP	82.6	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-07 (GPE-3-5)		**Soil**				**Sampled: 08/24/07 11:47**				
% Solids	NCA SOP	94.8	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-08 (GPE-3-10)		**Soil**				**Sampled: 08/24/07 12:00**				
% Solids	NCA SOP	80.8	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-10 (GPE-4-5)		**Soil**				**Sampled: 08/24/07 13:03**				
% Solids	NCA SOP	92.0	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-11 (GPE-4-11)		**Soil**				**Sampled: 08/24/07 13:11**				
% Solids	NCA SOP	77.0	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-12 (GPE-5-5)		**Soil**				**Sampled: 08/24/07 12:47**				
% Solids	NCA SOP	98.0	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-13 (GPE-5-9)		**Soil**				**Sampled: 08/24/07 12:50**				
% Solids	NCA SOP	77.7	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-14 (GPE-6-7)		**Soil**				**Sampled: 08/24/07 15:01**				

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Percent Dry Weight (Solids) per Standard Methods

TestAmerica - Portland, OR

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-14 (GPE-6-7)		**Soil**				**Sampled: 08/24/07 15:01**				
% Solids	NCA SOP	89.9	----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-15 (GPE-6-11)		**Soil**				**Sampled: 08/24/07 15:05**				
% Solids	NCA SOP	74.3	-----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-16 (GPE-7-6)		**Soil**				**Sampled: 08/24/07 14:15**				
% Solids	NCA SOP	95.4	-----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-17 (GPE-7-10)		**Soil**				**Sampled: 08/24/07 14:20**				
% Solids	NCA SOP	75.7	-----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-18 (GPE-8-6)		**Soil**				**Sampled: 08/24/07 15:27**				
% Solids	NCA SOP	78.3	-----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	
PQH1091-19 (GPE-8-9)		**Soil**				**Sampled: 08/24/07 15:30**				
% Solids	NCA SOP	75.5	-----	0.00	% by Weight	1x	7081216	08/25/07 12:04	08/25/07 12:04	

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Volatile Organic Compounds (Special List) per EPA Method 8260B (Low Soil Method)

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-02 (GPE-1-11)		**Soil**			**Sampled: 08/24/07 10:32**					
Benzene	EPA 8260B	ND	-----	2.01	ug/kg dry	1x	7I05021	09/05/07 08:33	09/05/07 10:51	
1,2-Dibromoethane (EDB)	"	ND	-----	6.69	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.67	"	"	"	"	"	
Ethylbenzene	"	ND	-----	5.35	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.34	"	"	"	"	"	
n-Hexane	"	ND	-----	6.69	"	"	"	"	"	
Naphthalene	"	ND	-----	13.4	"	"	"	"	"	
Toluene	"	ND	-----	2.01	"	"	"	"	"	
Total Xylenes	"	ND	-----	13.4	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*112%*		*65 - 145 %*	"			"	
Toluene-d8			*101%*		*55 - 145 %*	"			"	
4-BFB			*104%*		*50 - 145 %*	"			"	
PQH1091-05 (GPE-2-11)		**Soil**			**Sampled: 08/24/07 09:49**					
Acetone	EPA 8260B	**53.4**	-----	34.3	ug/kg dry	1x	7I06045	09/06/07 08:00	09/06/07 14:00	
Benzene	"	ND	-----	1.72	"	"	"	"	"	
Bromobenzene	"	ND	-----	5.72	"	"	"	"	"	
Bromochloromethane	"	ND	-----	5.72	"	"	"	"	"	
Bromodichloromethane	"	ND	-----	5.72	"	"	"	"	"	
Bromoform	"	ND	-----	5.72	"	"	"	"	"	
Bromomethane	"	ND	-----	11.4	"	"	"	"	"	
2-Butanone	"	ND	-----	17.2	"	"	"	"	"	
n-Butylbenzene	"	ND	-----	5.72	"	"	"	"	"	
sec-Butylbenzene	"	ND	-----	5.72	"	"	"	"	"	
tert-Butylbenzene	"	ND	-----	5.72	"	"	"	"	"	
Carbon disulfide	"	**3.47**	-----	3.43	"	"	"	"	"	
Carbon tetrachloride	"	ND	-----	5.72	"	"	"	"	"	
Chlorobenzene	"	ND	-----	2.29	"	"	"	"	"	
Chloroethane	"	ND	-----	5.72	"	"	"	"	"	
Chloroform	"	ND	-----	2.86	"	"	"	"	"	
Chloromethane	"	ND	-----	11.4	"	"	"	"	"	
2-Chlorotoluene	"	ND	-----	5.72	"	"	"	"	"	
4-Chlorotoluene	"	ND	-----	5.72	"	"	"	"	"	
Dibromochloromethane	"	ND	-----	5.72	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	"	ND	-----	11.4	"	"	"	"	"	
1,2-Dibromoethane (EDB)	"	ND	-----	5.72	"	"	"	"	"	
Dibromomethane	"	ND	-----	5.72	"	"	"	"	"	
1,2-Dichlorobenzene	"	ND	-----	5.72	"	"	"	"	"	
1,3-Dichlorobenzene	"	ND	-----	5.72	"	"	"	"	"	
1,4-Dichlorobenzene	"	ND	-----	5.72	"	"	"	"	"	
Dichlorodifluoromethane	"	ND	-----	5.72	"	"	"	"	"	
1,1-Dichloroethane	"	ND	-----	2.29	"	"	"	"	"	

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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SLR-Portland
1800 Blankenship Road Suite 440
West Linn, OR 97068

Project Name: **Crowley**
Project Number: 008.205.00007
Project Manager: Steve Hammer

Report Created:
09/24/07 17:22

DRAFT: Volatile Organic Compounds (Special List) per EPA Method 8260B (Low Soil Method)

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-05 (GPE-2-11)		**Soil**			**Sampled: 08/24/07 09:49**					
1,2-Dichloroethane	EPA 8260B	ND	----	1.43	ug/kg dry	1x	7I06045	09/06/07 08:00	09/06/07 14:00	
1,1-Dichloroethene	"	ND	----	3.43	"	"	"	"	"	
cis-1,2-Dichloroethene	"	ND	----	3.43	"	"	"	"	"	
trans-1,2-Dichloroethene	"	ND	----	2.86	"	"	"	"	"	
1,2-Dichloropropane	"	ND	----	5.72	"	"	"	"	"	
1,3-Dichloropropane	"	ND	----	5.72	"	"	"	"	"	
2,2-Dichloropropane	"	ND	----	11.4	"	"	"	"	"	
1,1-Dichloropropene	"	ND	----	5.72	"	"	"	"	"	
cis-1,3-Dichloropropene	"	ND	----	5.72	"	"	"	"	"	
trans-1,3-Dichloropropene	"	ND	----	1.43	"	"	"	"	"	
Ethylbenzene	"	ND	----	4.58	"	"	"	"	"	
Hexachlorobutadiene	"	ND	----	11.4	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	----	1.14	"	"	"	"	"	
n-Hexane	"	ND	----	5.72	"	"	"	"	"	
2-Hexanone	"	ND	----	22.9	"	"	"	"	"	
Isopropylbenzene	"	ND	----	5.72	"	"	"	"	"	
p-Isopropyltoluene	"	ND	----	5.72	"	"	"	"	"	
4-Methyl-2-pentanone	"	ND	----	22.9	"	"	"	"	"	
Methylene chloride	"	ND	----	4.01	"	"	"	"	"	
Naphthalene	"	ND	----	11.4	"	"	"	"	"	
n-Propylbenzene	"	ND	----	5.72	"	"	"	"	"	
Styrene	"	ND	----	1.14	"	"	"	"	"	
1,2,3-Trichlorobenzene	"	ND	----	11.4	"	"	"	"	"	
1,2,4-Trichlorobenzene	"	ND	----	11.4	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	"	ND	----	5.72	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	"	ND	----	5.72	"	"	"	"	"	
Tetrachloroethene	"	ND	----	2.29	"	"	"	"	"	
Toluene	"	ND	----	1.72	"	"	"	"	"	
1,1,1-Trichloroethane	"	ND	----	2.86	"	"	"	"	"	
1,1,2-Trichloroethane	"	ND	----	1.43	"	"	"	"	"	
Trichloroethene	"	ND	----	2.86	"	"	"	"	"	
Trichlorofluoromethane	"	ND	----	5.72	"	"	"	"	"	
1,2,3-Trichloropropane	"	ND	----	5.72	"	"	"	"	"	
1,2,4-Trimethylbenzene	"	ND	----	5.72	"	"	"	"	"	
1,3,5-Trimethylbenzene	"	ND	----	5.72	"	"	"	"	"	
Vinyl chloride	"	ND	----	2.86	"	"	"	"	"	
o-Xylene	"	ND	----	5.72	"	"	"	"	"	
m,p-Xylene	"	ND	----	5.72	"	"	"	"	"	
Total Xylenes	"	ND	----	11.4	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*100%*		*60 - 140 %*	"			"	
Toluene-d8			*102%*		*60 - 140 %*	"			"	
4-BFB			*98.9%*		*60 - 140 %*	"			"	

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BEAVERTON, OR 97008-7132
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SLR-Portland	Project Name:	Crowley	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Volatile Organic Compounds (Special List) per EPA Method 8260B (Low Soil Method)

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-11 (GPE-4-11)		**Soil**			**Sampled: 08/24/07 13:11**					
Benzene	EPA 8260B	ND	-----	1.48	ug/kg dry	1x	7I06045	09/06/07 08:00	09/06/07 14:27	
1,2-Dibromoethane (EDB)	"	ND	-----	4.93	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.23	"	"	"	"	"	
Ethylbenzene	"	ND	-----	3.95	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	0.987	"	"	"	"	"	
n-Hexane	"	ND	-----	4.93	"	"	"	"	"	
Naphthalene	"	ND	-----	9.87	"	"	"	"	"	
Toluene	"	ND	-----	1.48	"	"	"	"	"	
Total Xylenes	"	ND	-----	9.87	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*124%*		*60 - 140 %*	"			"	
Toluene-d8			*100%*		*60 - 140 %*	"			"	
4-BFB			*104%*		*60 - 140 %*	"			"	
PQH1091-15 (GPE-6-11)		**Soil**			**Sampled: 08/24/07 15:05**					
Benzene	EPA 8260B	ND	-----	2.02	ug/kg dry	1x	7I06045	09/06/07 08:00	09/06/07 14:55	
1,2-Dibromoethane (EDB)	"	ND	-----	6.75	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	1.69	"	"	"	"	"	
Ethylbenzene	"	ND	-----	5.40	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.35	"	"	"	"	"	
n-Hexane	"	**15.9**	-----	6.75	"	"	"	"	"	
Naphthalene	"	ND	-----	13.5	"	"	"	"	"	
Toluene	"	ND	-----	2.02	"	"	"	"	"	
Total Xylenes	"	ND	-----	13.5	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*130%*		*60 - 140 %*	"			"	
Toluene-d8			*127%*		*60 - 140 %*	"			"	
4-BFB			*121%*		*60 - 140 %*	"			"	
PQH1091-17 (GPE-7-10)		**Soil**			**Sampled: 08/24/07 14:20**					
Benzene	EPA 8260B	ND	-----	2.49	ug/kg dry	1x	7I07059	09/07/07 18:10	09/07/07 22:44	
1,2-Dibromoethane (EDB)	"	ND	-----	8.29	"	"	"	"	"	
1,2-Dichloroethane	"	ND	-----	2.07	"	"	"	"	"	
Ethylbenzene	"	ND	-----	6.63	"	"	"	"	"	
Methyl tert-butyl ether	"	ND	-----	1.66	"	"	"	"	"	
n-Hexane	"	ND	-----	8.29	"	"	"	"	"	
Naphthalene	"	ND	-----	16.6	"	"	"	"	"	
Toluene	"	ND	-----	2.49	"	"	"	"	"	
Total Xylenes	"	ND	-----	16.6	"	"	"	"	"	
Surrogate(s): 1,2-DCA-d4			*118%*		*65 - 145 %*	"			"	
Toluene-d8			*121%*		*55 - 145 %*	"			"	
4-BFB			*108%*		*50 - 145 %*	"			"	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Volatile Organic Compounds (Special List) per EPA Method 8260B (Low Soil Method)

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes

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SLR-Portland	Project Name: **Crowley**	
1800 Blankenship Road Suite 440	Project Number: 008.205.00007	Report Created:
West Linn, OR 97068	Project Manager: Steve Hammer	09/24/07 17:22

DRAFT: Physical Parameters by APHA/ASTM/EPA Methods

TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
PQH1091-02 (GPE-1-11)		**Soil**				**Sampled: 08/24/07 10:32**				
Dry Weight	BSOPSPL003R08	**74.7**	----	1.00	%	1x	7I10045	09/10/07 16:44	09/10/07 16:45	
PQH1091-05 (GPE-2-11)		**Soil**				**Sampled: 08/24/07 09:49**				
Dry Weight	BSOPSPL003R08	**78.3**	----	1.00	%	1x	7I10045	09/10/07 16:44	09/10/07 16:45	
PQH1091-11 (GPE-4-11)		**Soil**				**Sampled: 08/24/07 13:11**				
Dry Weight	BSOPSPL003R08	**75.5**	----	1.00	%	1x	7I10045	09/10/07 16:44	09/10/07 16:45	
PQH1091-15 (GPE-6-11)		**Soil**				**Sampled: 08/24/07 15:05**				
Dry Weight	BSOPSPL003R08	**76.4**	----	1.00	%	1x	7I10045	09/10/07 16:44	09/10/07 16:45	
PQH1091-17 (GPE-7-10)		**Soil**				**Sampled: 08/24/07 14:20**				
Dry Weight	BSOPSPL003R08	**60.2**	----	1.00	%	1x	7I10045	09/10/07 16:44	09/10/07 16:45	

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SLR-Portland
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West Linn, OR 97068

Project Name: **Crowley**
Project Number: 008.205.00007
Project Manager: Steve Hammer

Report Created: 09/24/07 17:22

DRAFT: Gasoline Hydrocarbons per NW TPH-Gx Method - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7081445 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081445-BLK1)								Extracted: 08/30/07 09:31						
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	80.0	ug/l	1x	--	--	--	--	--	--	08/31/07 06:26	
Surrogate(s): 4-BFB		*Recovery: 88.7%*			*Limits: 50-150%*	"							*08/31/07 06:26*	
LCS (7081445-BS1)								Extracted: 08/30/07 09:31						
4-BFB		*91.4%*			*50-150%*	*1x*							*08/31/07 05:54*	
LCS (7081445-BS2)								Extracted: 08/30/07 09:31						
Gasoline Range Hydrocarbons	NW TPH-Gx	401	---	80.0	ug/l	1x	--	500	80.2%	(70-130)	--	--	08/31/07 01:10	
Surrogate(s): 4-BFB		*Recovery: 95.3%*			*Limits: 50-150%*	"							*08/31/07 01:10*	
LCS Dup (7081445-BSD2)								Extracted: 08/30/07 09:31						
Gasoline Range Hydrocarbons	NW TPH-Gx	385	---	80.0	ug/l	1x	--	500	77.0%	(70-130)	4.12%	(35)	08/31/07 01:42	
Surrogate(s): 4-BFB		*Recovery: 95.1%*			*Limits: 50-150%*	"							*08/31/07 01:42*	
Duplicate (7081445-DUP1)					QC Source: PQH0352-01RE1			Extracted: 08/30/07 09:31						
Gasoline Range Hydrocarbons	NW TPH-Gx	12100	---	800	ug/l	10x	12500	--	--	--	3.57%	(35)	08/31/07 02:45	
Surrogate(s): 4-BFB		*Recovery: 120%*			*Limits: 50-150%*	*1x*							*08/31/07 02:45*	ZX
Duplicate (7081445-DUP2)					QC Source: PQH1091-03			Extracted: 08/30/07 09:31						
Gasoline Range Hydrocarbons	NW TPH-Gx	244	---	80.0	ug/l	1x	275	--	--	--	11.7%	(35)	08/31/07 03:48	
Surrogate(s): 4-BFB		*Recovery: 85.4%*			*Limits: 50-150%*	"							*08/31/07 03:48*	
Matrix Spike (7081445-MS1)					QC Source: PQH0965-01			Extracted: 08/30/07 09:31						
4-BFB		*76.2%*			*50-150%*	*1x*							*08/31/07 08:00*	
Matrix Spike Dup (7081445-MSD1)					QC Source: PQH0965-01			Extracted: 08/30/07 09:31						
4-BFB		*76.2%*			*50-150%*	*1x*							*08/31/07 08:32*	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Gasoline Hydrocarbons per NW TPH-Gx Method - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7081533 **Soil Preparation Method: EPA 5035 Modified**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081533-BLK1)								Extracted: 08/31/07 13:52						
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	1.98	mg/kg wet	1x	--	--	--	--	--	--	09/05/07 12:37	
Surrogate(s): a,a,a-TFT		*Recovery: 118%*			*Limits: 50-150%*	"							*09/05/07 12:37*	
LCS (7081533-BS2)								Extracted: 08/31/07 13:52						
Gasoline Range Hydrocarbons	NW TPH-Gx	23.8	---	3.85	mg/kg wet	1x	--	24.1	98.8%	(70-130)	--	--	09/01/07 14:08	
Surrogate(s): a,a,a-TFT		*Recovery: 125%*			*Limits: 50-150%*	"							*09/01/07 14:08*	
Duplicate (7081533-DUP1)							QC Source: PQH0767-05	Extracted: 08/31/07 13:52						
Gasoline Range Hydrocarbons	NW TPH-Gx	21600	---	364	mg/kg wet	1x	17800	--	--	--	19.6%	(40)	09/01/07 20:35	
Surrogate(s): a,a,a-TFT		*Recovery: 125%*			*Limits: 50-150%*	"							*09/01/07 20:35*	
Duplicate (7081533-DUP2)							QC Source: PQH1091-17	Extracted: 08/31/07 13:52						
Gasoline Range Hydrocarbons	NW TPH-Gx	155	---	3.96	mg/kg dry	1x	173	--	--	--	11.5%	(40)	09/02/07 03:01	
Surrogate(s): a,a,a-TFT		*Recovery: 99.3%*			*Limits: 50-150%*	"							*09/02/07 03:01*	
Matrix Spike (7081533-MS2)							QC Source: PQH1091-19	Extracted: 08/31/07 13:52						
Gasoline Range Hydrocarbons	NW TPH-Gx	4.53	---	5.15	mg/kg dry	1x	ND	32.2	14.1%	(65-130)	--	--	09/02/07 05:46	M8
Surrogate(s): a,a,a-TFT		*Recovery: 103%*			*Limits: 50-150%*	"							*09/02/07 05:46*	

QC Batch: 7090070 **Water Preparation Method: EPA 5030B**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7090070-BLK1)								Extracted: 09/04/07 13:50						
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	80.0	ug/l	1x	--	--	--	--	--	--	09/05/07 17:51	
Surrogate(s): 4-BFB		*Recovery: 95.2%*			*Limits: 50-150%*	"							*09/05/07 17:51*	
LCS (7090070-BS1)								Extracted: 09/04/07 13:50						
Gasoline Range Hydrocarbons	NW TPH-Gx	384	---	80.0	ug/l	1x	--	500	76.9%	(70-130)	--	--	09/05/07 16:56	
Surrogate(s): 4-BFB		*Recovery: 89.9%*			*Limits: 50-150%*	"							*09/05/07 16:56*	
LCS Dup (7090070-BSD1)								Extracted: 09/04/07 13:50						
Gasoline Range Hydrocarbons	NW TPH-Gx	477	---	80.0	ug/l	1x	--	500	95.3%	(70-130)	21.5%	(35)	09/05/07 17:24	
Surrogate(s): 4-BFB		*Recovery: 101%*			*Limits: 50-150%*	"							*09/05/07 17:24*	
Duplicate (7090070-DUP2)							QC Source: PQH1010-02RE1	Extracted: 09/04/07 13:50						
Gasoline Range Hydrocarbons	NW TPH-Gx	13000	---	800	ug/l	10x	13300	--	--	--	2.26%	(35)	09/05/07 23:33	
Surrogate(s): 4-BFB		*Recovery: 113%*			*Limits: 50-150%*	*1x*							*09/05/07 23:33*	

DRAFT REPORT

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PORTLAND, OR 9405 S.W. NIMBUS AVENUE
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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Gasoline Hydrocarbons per NW TPH-Gx Method - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7090166 **Soil Preparation Method: EPA 5035 Modified**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7090166-BLK1)							Extracted: 09/06/07 14:25							
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	3.86	mg/kg wet	1x	--	--	--	--	--	--	09/06/07 14:58	
Surrogate(s): a,a,a-TFT		*Recovery: 119%*			*Limits: 50-150%*	"							*09/06/07 14:58*	
LCS (7090166-BS1)							Extracted: 09/06/07 14:25							
Gasoline Range Hydrocarbons	NW TPH-Gx	21.5	---	3.68	mg/kg wet	1x	--	23.0	93.3%	(70-130)	--	--	09/06/07 15:26	
Surrogate(s): a,a,a-TFT		*Recovery: 122%*			*Limits: 50-150%*	"							*09/06/07 15:26*	
Duplicate (7090166-DUP1)					QC Source: PQH0992-01		Extracted: 09/06/07 14:12							
Gasoline Range Hydrocarbons	NW TPH-Gx	23.0	---	5.85	mg/kg dry	1x	11.7	--	--	--	65.1%	(40)	09/06/07 16:49	R2
Surrogate(s): a,a,a-TFT		*Recovery: 105%*			*Limits: 50-150%*	"							*09/06/07 16:49*	
Duplicate (7090166-DUP2)					QC Source: PQH1091-11		Extracted: 09/06/07 14:12							
Gasoline Range Hydrocarbons	NW TPH-Gx	ND	---	4.21	mg/kg dry	1x	ND	--	--	--	30.2%	(40)	09/07/07 10:38	
Surrogate(s): a,a,a-TFT		*Recovery: 92.3%*			*Limits: 50-150%*	"							*09/07/07 10:38*	
Matrix Spike (7090166-MS1)					QC Source: PQH1342-01		Extracted: 09/06/07 14:12							
Gasoline Range Hydrocarbons	NW TPH-Gx	28.1	---	4.87	mg/kg dry	1x	0.793	30.5	89.6%	(65-130)	--	--	09/07/07 12:28	
Surrogate(s): a,a,a-TFT		*Recovery: 92.5%*			*Limits: 50-150%*	"							*09/07/07 12:28*	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7081504 **Water Preparation Method: EPA 3520/600 Series**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081504-BLK1)								Extracted: 08/31/07 10:30						
Diesel Range Organics	NWTPH-Dx	ND	---	0.250	mg/l	1x	--	--	--	--	--	--	08/31/07 13:51	
Heavy Oil Range Hydrocarbons	"	ND	---	0.500	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 102%*			*Limits: 50-150%*	"							*08/31/07 13:51*	
LCS (7081504-BS1)								Extracted: 08/31/07 10:30						
Diesel Range Organics	NWTPH-Dx	2.61	---	0.250	mg/l	1x	--	2.50	104%	(50-150)	--	--	08/31/07 13:15	
Heavy Oil Range Hydrocarbons	"	1.78	---	0.500	"	"	--	1.51	118%	"	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 109%*			*Limits: 50-150%*	"							*08/31/07 13:15*	
LCS Dup (7081504-BSD1)								Extracted: 08/31/07 10:30						
Diesel Range Organics	NWTPH-Dx	2.60	---	0.250	mg/l	1x	--	2.50	104%	(50-150)	0.414%	(50)	08/31/07 13:33	
Heavy Oil Range Hydrocarbons	"	1.77	---	0.500	"	"	--	1.51	117%	"	0.590%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 107%*			*Limits: 50-150%*	"							*08/31/07 13:33*	

QC Batch: 7081505 **Soil Preparation Method: EPA 3550 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081505-BLK1)								Extracted: 08/31/07 13:00						
Diesel Range Organics	NWTPH-Dx	ND	---	12.5	mg/kg wet	1x	--	--	--	--	--	--	08/31/07 16:10	
Heavy Oil Range Hydrocarbons	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 93.7%*			*Limits: 50-150%*	"							*08/31/07 16:10*	
LCS (7081505-BS1)								Extracted: 08/31/07 13:00						
Diesel Range Organics	NWTPH-Dx	130	---	12.5	mg/kg wet	1x	--	125	104%	(50-150)	--	--	08/31/07 15:35	
Heavy Oil Range Hydrocarbons	"	77.7	---	25.0	"	"	--	75.5	103%	"	--	--	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 100%*			*Limits: 50-150%*	"							*08/31/07 15:35*	
Duplicate (7081505-DUP1)							QC Source: PQH1091-01	Extracted: 08/31/07 13:00						
Diesel Range Organics	NWTPH-Dx	176	---	16.7	mg/kg dry	1x	150	--	--	--	16.3%	(50)	08/31/07 16:46	
Heavy Oil Range Hydrocarbons	"	267	---	33.5	"	"	234	--	--	--	13.5%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 77.6%*			*Limits: 50-150%*	"							*08/31/07 16:46*	
Duplicate (7081505-DUP2)							QC Source: PQH1091-02	Extracted: 08/31/07 13:00						
Diesel Range Organics	NWTPH-Dx	59.6	---	15.8	mg/kg dry	1x	43.1	--	--	--	32.2%	(50)	08/31/07 17:22	
Heavy Oil Range Hydrocarbons	"	ND	---	31.6	"	"	ND	--	--	--	5.50%	"	"	
Surrogate(s): 1-Chlorooctadecane		*Recovery: 75.6%*			*Limits: 50-150%*	"							*08/31/07 17:22*	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Extractable Petroleum Hydrocarbons per Washington DOE - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7090284 **Soil Preparation Method: EPA 3550 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7090284-BLK1)							Extracted: 09/07/07 17:10							
C8-C10 Aromatics	WDOE EPH	ND	---	5.00	mg/kg wet	1x	--	--	--	--	--	--	09/15/07 11:45	
C10-C12 Aromatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C12-C16 Aromatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C16-C21 Aromatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C21-C34 Aromatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C8-C10 Aliphatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C10-C12 Aliphatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C12-C16 Aliphatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C16-C21 Aliphatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
C21-C34 Aliphatics	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Surrogate(s): o-Terphenyl		*Recovery: 70.1%*			*Limits: 60-140%*	"							*09/15/07 11:45*	
Squalane		*106%*			*60-140%*	"							"	
LCS (7090284-BS1)							Extracted: 09/07/07 17:10							
C8-C10 Aromatics	WDOE EPH	3.62	---	3.60	mg/kg wet	1x	--	5.00	72.5%	(50-150)	--	--	09/17/07 14:03	
C10-C12 Aromatics	"	3.62	---	3.60	"	"	--	"	72.5%	(70-130)	--	--	"	
C12-C16 Aromatics	"	13.5	---	5.00	"	"	--	15.0	89.8%	"	--	--	"	
C16-C21 Aromatics	"	23.8	---	5.00	"	"	--	25.0	95.3%	"	--	--	"	
C21-C34 Aromatics	"	30.3	---	5.00	"	"	--	35.0	86.5%	"	--	--	"	
C8-C10 Aliphatics	"	10.5	---	5.00	"	"	--	15.0	69.7%	(50-150)	--	--	09/15/07 12:16	
C10-C12 Aliphatics	"	10.6	---	5.00	"	"	--	9.95	106%	(70-130)	--	--	"	
C12-C16 Aliphatics	"	19.9	---	5.00	"	"	--	19.8	101%	"	--	--	"	
C16-C21 Aliphatics	"	34.2	---	5.00	"	"	--	34.9	98.1%	"	--	--	"	
C21-C34 Aliphatics	"	63.2	---	5.00	"	"	--	64.9	97.4%	"	--	--	"	
Surrogate(s): o-Terphenyl		*Recovery: 103%*			*Limits: 60-140%*	"							*09/17/07 14:03*	
Squalane		*103%*			*60-140%*	"							*09/15/07 12:16*	
Duplicate (7090284-DUP1)					QC Source: PQH1091-02		Extracted: 09/07/07 17:10							
C8-C10 Aromatics	WDOE EPH	ND	---	6.46	mg/kg dry	1x	ND	--	--	--	NR	(50)	09/15/07 12:44	
C10-C12 Aromatics	"	ND	---	6.46	"	"	ND	--	--	--	9.07%	"	"	
C12-C16 Aromatics	"	ND	---	6.46	"	"	ND	--	--	--	0.766%	"	"	
C16-C21 Aromatics	"	9.84	---	6.46	"	"	10.2	--	--	--	3.41%	"	"	
C21-C34 Aromatics	"	ND	---	6.46	"	"	ND	--	--	--	35.7%	"	"	
C8-C10 Aliphatics	"	ND	---	6.46	"	"	ND	--	--	--	37.1%	"	"	
C10-C12 Aliphatics	"	ND	---	6.46	"	"	ND	--	--	--	6.95%	"	"	
C12-C16 Aliphatics	"	16.4	---	6.46	"	"	16.1	--	--	--	1.96%	"	"	
C16-C21 Aliphatics	"	17.4	---	6.46	"	"	17.2	--	--	--	1.30%	"	"	
C21-C34 Aliphatics	"	10.9	---	6.46	"	"	9.52	--	--	--	13.6%	"	"	
Surrogate(s): o-Terphenyl		*Recovery: 90.6%*			*Limits: 60-140%*	"							*09/15/07 12:44*	

DRAFT REPORT

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SLR-Portland	Project Name:	Crowley	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Extractable Petroleum Hydrocarbons per Washington DOE - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7090284 **Soil Preparation Method: EPA 3550 Fuels**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Duplicate (7090284-DUP1)					QC Source: PQH1091-02								Extracted: 09/07/07 17:10	
Surrogate(s): Squalane		*Recovery: 101%*			*Limits: 60-140%*	*1x*							*09/15/07 12:44*	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results
TestAmerica - Portland, OR

QC Batch: 7081372 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081372-BLK1)							Extracted: 08/29/07 17:25							
1-Methylnaphthalene	EPA 8270C	ND	---	5.00	ug/l	1x	--	--	--	--	--	--	09/08/07 12:57	
Acenaphthene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Acenaphthylene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Benzoic Acid	"	ND	---	50.0	"	"	--	--	--	--	--	--	"	
Benzyl alcohol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
4-Bromophenyl phenyl ether	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Butyl benzyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Chloro-3-methylphenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Chloroaniline	"	ND	---	20.0	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethoxy)methane	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethyl)ether	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Bis(2-chloroisopropyl)ether	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
2-Chloronaphthalene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Chlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Chlorophenyl phenyl ether	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Dibenzofuran	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
3,3'-Dichlorobenzidine	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4-Dichlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4-Dimethylphenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4,6-Dinitro-2-methylphenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
2,4-Dinitrophenol	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7081372 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081372-BLK1)								Extracted: 08/29/07 17:25						
Fluoranthene	EPA 8270C	ND	---	5.00	ug/l	1x	--	--	--	--	--	--	09/08/07 12:57	
Fluorene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Hexachlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Hexachlorobutadiene	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Hexachlorocyclopentadiene	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Hexachloroethane	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Indeno (1,2,3-cd) pyrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Isophorone	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Methylnaphthalene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Methylphenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
3-,4-Methylphenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Naphthalene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Nitroaniline	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
3-Nitroaniline	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
4-Nitroaniline	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Nitrobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2-Nitrophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
4-Nitrophenol	"	ND	---	25.0	"	"	--	--	--	--	--	--	"	
N-Nitrosodi-n-propylamine	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
N-Nitrosodiphenylamine	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Pentachlorophenol	"	ND	---	10.0	"	"	--	--	--	--	--	--	"	
Phenanthrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Phenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Pyrene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
1,2,4-Trichlorobenzene	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4,5-Trichlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
2,4,6-Trichlorophenol	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
Surrogate(s):	*2-Fluorobiphenyl*	*Recovery:*	*64.0%*		*Limits: 22-120%*	"							*09/08/07 12:57*	
	2-Fluorophenol		*69.7%*		*5-120%*	"							"	
	Nitrobenzene-d5		*85.5%*		*26-127%*	"							"	
	Phenol-d6		*81.7%*		*4-121%*	"							"	
	p-Terphenyl-d14		*73.3%*		*37-130%*	"							"	
	2,4,6-Tribromophenol		*73.2%*		*21-129%*	"							"	

The results provided in this report have not been approved for final release by the Laboratory, and are provided in DRAFT format at the request of the client. Reported results may not have been fully reviewed, and are subject to change.

PORTLAND, OR 9405 S.W. NIMBUS AVENUE
BEAVERTON, OR 97008-7132
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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7081372 **Water Preparation Method: 3520B Liq-Liq**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
LCS (7081372-BS1)								Extracted: 08/29/07 17:25						
Acenaphthene	EPA 8270C	55.0	---	5.00	ug/l	1x	--	75.0	73.4%	(56-120)	--	--	09/08/07 13:40	
4-Chloro-3-methylphenol	"	94.7	---	5.00	"	"	--	150	63.2%	(37-131)	--	--	"	
2-Chlorophenol	"	102	---	5.00	"	"	--	"	67.9%	(31-130)	--	--	"	
1,4-Dichlorobenzene	"	50.3	---	5.00	"	"	--	75.0	67.1%	(8-124)	--	--	"	
2,4-Dinitrotoluene	"	54.5	---	5.00	"	"	--	"	72.7%	(50-127)	--	--	"	
4-Nitrophenol	"	90.4	---	25.0	"	"	--	150	60.2%	(1-157)	--	--	"	
N-Nitrosodi-n-propylamine	"	67.5	---	10.0	"	"	--	75.0	90.0%	(44-129)	--	--	"	
Pentachlorophenol	"	100	---	10.0	"	"	--	150	66.8%	(23-149)	--	--	"	
Phenol	"	89.6	---	5.00	"	"	--	"	59.7%	(1-145)	--	--	"	
Pyrene	"	54.3	---	5.00	"	"	--	75.0	72.4%	(56-125)	--	--	"	
1,2,4-Trichlorobenzene	"	52.8	---	5.00	"	"	--	"	70.5%	(33-116)	--	--	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 66.6%*			*Limits: 22-120%*	"							*09/08/07 13:40*	
2-Fluorophenol		*65.2%*			*5-120%*	"							"	
Nitrobenzene-d5		*80.8%*			*26-127%*	"							"	
Phenol-d6		*72.8%*			*4-121%*	"							"	
p-Terphenyl-d14		*70.2%*			*37-130%*	"							"	
2,4,6-Tribromophenol		*75.7%*			*21-129%*	"							"	
LCS Dup (7081372-BSD1)								Extracted: 08/29/07 17:25						
Acenaphthene	EPA 8270C	58.7	---	5.00	ug/l	1x	--	75.0	78.2%	(56-120)	6.40%	(50)	09/08/07 14:22	
4-Chloro-3-methylphenol	"	101	---	5.00	"	"	--	150	67.2%	(37-131)	6.25%	"	"	
2-Chlorophenol	"	103	---	5.00	"	"	--	"	68.4%	(31-130)	0.793%	"	"	
1,4-Dichlorobenzene	"	49.4	---	5.00	"	"	--	75.0	65.8%	(8-124)	1.93%	"	"	
2,4-Dinitrotoluene	"	59.6	---	5.00	"	"	--	"	79.4%	(50-127)	8.86%	"	"	
4-Nitrophenol	"	107	---	25.0	"	"	--	150	71.5%	(1-157)	17.1%	"	"	
N-Nitrosodi-n-propylamine	"	70.6	---	10.0	"	"	--	75.0	94.2%	(44-129)	4.52%	"	"	
Pentachlorophenol	"	106	---	10.0	"	"	--	150	70.6%	(23-149)	5.55%	"	"	
Phenol	"	94.4	---	5.00	"	"	--	"	63.0%	(1-145)	5.32%	"	"	
Pyrene	"	56.0	---	5.00	"	"	--	75.0	74.7%	(56-125)	3.19%	"	"	
1,2,4-Trichlorobenzene	"	54.7	---	5.00	"	"	--	"	72.9%	(33-116)	3.40%	"	"	
Surrogate(s): 2-Fluorobiphenyl		*Recovery: 68.1%*			*Limits: 22-120%*	"							*09/08/07 14:22*	
2-Fluorophenol		*69.0%*			*5-120%*	"							"	
Nitrobenzene-d5		*83.5%*			*26-127%*	"							"	
Phenol-d6		*78.6%*			*4-121%*	"							"	
p-Terphenyl-d14		*70.9%*			*37-130%*	"							"	
2,4,6-Tribromophenol		*79.7%*			*21-129%*	"							"	

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SLR-Portland	Project Name:	**Crowley**	
1800 Blankenship Road Suite 440	Project Number:	008.205.00007	Report Created:
West Linn, OR 97068	Project Manager:	Steve Hammer	09/24/07 17:22

DRAFT: Semivolatile Organic Compounds per EPA Method 8270C - Laboratory Quality Control Results

TestAmerica - Portland, OR

QC Batch: 7081433 **Soil Preparation Method: EPA 3550**

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7081433-BLK1)								Extracted: 08/30/07 11:30						
1-Methylnaphthalene	EPA 8270C	ND	---	0.329	mg/kg wet	1x	--	--	--	--	--	--	09/08/07 22:56	
Acenaphthene	"	ND	---	0.329	"	"	--	--	--	--	--	--	08/31/07 12:54	
Acenaphthylene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Anthracene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Benzo (a) anthracene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Benzo (a) pyrene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Benzo (b) fluoranthene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Benzo (ghi) perylene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Benzo (k) fluoranthene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Benzoic Acid	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
Benzyl alcohol	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
4-Bromophenyl phenyl ether	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Butyl benzyl phthalate	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
4-Chloro-3-methylphenol	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
4-Chloroaniline	"	ND	---	1.99	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethoxy)methane	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Bis(2-chloroethyl)ether	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Bis(2-chloroisopropyl)ether	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
2-Chloronaphthalene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
2-Chlorophenol	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
4-Chlorophenyl phenyl ether	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Chrysene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Di-n-butyl phthalate	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
Di-n-octyl phthalate	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Dibenzo (a,h) anthracene	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Dibenzofuran	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
1,2-Dichlorobenzene	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
1,3-Dichlorobenzene	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
1,4-Dichlorobenzene	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
3,3'-Dichlorobenzidine	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
2,4-Dichlorophenol	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
Diethyl phthalate	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
2,4-Dimethylphenol	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
Dimethyl phthalate	"	ND	---	0.329	"	"	--	--	--	--	--	--	"	
4,6-Dinitro-2-methylphenol	"	ND	---	0.996	"	"	--	--	--	--	--	--	"	
2,4-Dinitrophenol	"	ND	---	1.99	"	"	--	--	--	--	--	--	"	
2,4-Dinitrotoluene	"	ND	---	0.498	"	"	--	--	--	--	--	--	"	
2,6-Dinitrotoluene	"	ND	---	0.498	"	"	--	--	--	--	--	--	"	
Bis(2-ethylhexyl)phthalate	"	ND	---	1.99	"	"	--	--	--	--	--	--	"	