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Appendix A

Boring Logs

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer; Spoon Advanced with 140lb hammer
Boring No.	MW-EA-1
Sampling Method:	2" split spoon
Sheet	1 of 3
Drilling Water Level	Date 6/3/2003; Time 1500
Surface Conditions:	cleared land
Start	06/03/03 1345
Drilling Date/Times	
Finish	06/03/03 1700

Coordinates: N: 92888.268 E: 107494.302
Surface Elevation: 89.74 FT MSL
Well Riser Elevation: 92.24 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
						0		Surfical soil is light brown F-C SAND, trace f-m gravel	Hammer advanced smoothly for first 10 ft
						1			
						2			
						3			
						4			
SS	2/1.1	5	NS	1.3	12, 10	5		Dark to light brown F-C SAND, some f-m gravel, trace silt, moist and semi-cohesive. No odor.	
					11, 17	6			
						7			
						8			
						9			
SS	2/0.8	10	NS	0.9	9, 12	10		SAA	
					14, 14	11			
						12			Hammer begins grinding at approximately 12'
						13			
						14			
SS	2/1.3	15	NA	0.8	35, 37	15		Light brown F-C SAND with f-m gravel, moist and loose. No odor.	
					28, 20	16			
						17			
						18			
						19			

Logged by: Jill Ann Parett Date: 06/03/03

Drilling Contractor: Subsurface Drilling Driller: Phil Thornsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser:	2 in.	Screen Interval:	25-40 ft bgs	Sandpack:	23-40 ft bgs	Grout:	20 ft bgs - grade
Bottom of Hole:	40 ft bgs	Riser Interval:	25 ft bgs - 2 ft ags	Bentonite:	20-23 ft bgs	Cover:	4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer; Spoon Advanced with 140lb hammer
Boring No.	MW-EA-1
Sampling Method:	2" split spoon
Sheet	2 of 3
Drilling Water Level	
Date	6/3/2003
Time	1500
Surface Conditions:	cleared land
Start	6/3/2003 1345
Drilling Date/Times	
Finish	6/3/2003 1700

Coordinates: N: 92888.268 E: 107494.302
Surface Elevation: 89.74 FT MSL
Well Riser Elevation: 92.24 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above blk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
SS	2/0.7	20	NS	0.2	31	20		Light brown F-C SAND, some silt, trace f-m gravel,	
					16			moist and loose. No odor.	
					16	21			
					20				
						22			
						23			
						24			
SS	2/0.5	25	NS	0.2	5	25		Light brown F-C SAND, some f-m gravel, trace silt, wet	Wet at 25'
					8			and loose. No odor.	
					13	26			
					14				
						27			
						28			
						29			
SS	2/0.6	30	NS	0.0	15	30		Light brown/gray F-M SAND, some silt, little c sand	
					12			and f gravel. Wet and semi-cohesive. No odor.	
					20	31			
					22				
						32			
						33			
						34			
SS	2/1.0	35	NS	0.0	35	35		Gray VF-F SAND and SILT, some f-m gravel, wet and	
					31			cohesive. No odor.	
					32	36			
					32				
						37			
						38			
						39			

Logged by: Jill Ann Parett
Date: 06/03/03
Drilling Contractor: Subsurface Drilling
Driller: Phil Thornsbury/Brad Haase

WELL SPECIFICATIONS:
Diam. of Riser: 2 in.
Bottom of Hole: 40 ft bgs
Screen Interval: 25-40 ft bgs
Riser Interval: 25 ft bgs - 2 ft ags
Sandpack: 23-40 ft bgs
Bentonite: 20-23 ft bgs
Grout: 20 ft bgs - grade
Cover: 4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer; Spoon Advanced with 140lb hammer
Boring No.	MW-EA-1
Sampling Method:	2" split spoon
Sheet	3 of 3
Drilling Water Level	Date 6/3/2003; Time 1500
Surface Conditions:	cleared land
Start	06/03/03 1345
Drilling Date/Times	
Finish	06/03/03 1700

Coordinates: N: 92888.268 E: 107494.302
Surface Elevation: 89.74 FT MSL
Well Riser Elevation: 92.24 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
SS	2/1.0	40	NS	0.0	40	40		Gray VF-F SAND and SILT, some f-m gravel (bedrock	
					50			chips). Wet and cohesive. No odor.	
					>100	41		Bottom of boring 41'	Refusal at 41'
									Bedrock surface
						42			
									Screen 15' of
						43			overburden
						44			
						45			
						46			
						47			
						48			
						49			
						50			
						51			
						52			
						53			
						54			
						55			
						56			
						57			
						58			
						59			

Logged by: Jill Ann Parett Date: 06/03/03

Drilling Contractor: Subsurface Drilling Driller: Phil Thornsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser: 2 in. Screen Interval: 25-40 ft bgs Sandpack: 23-40 ft bgs Grout: 20 ft bgs - grade
Bottom of Hole: 40 ft bgs Riser Interval: 25 ft bgs - 2 ft ags Bentonite: 20-23 ft bgs Cover: 4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer; Spoon Advanced with 140lb hammer
Boring No.	MW-EA-2
Sampling Method:	2" split spoon
Sheet	1 of 2
Drilling Water Level	Date 6/3/2003; Time 1100
Start	06/03/03 0915
Drilling Date/Times	
Finish	06/03/03 1320
Surface Conditions:	cleared land

Coordinates: N: 92989.904 E: 107202.507
Surface Elevation: 75.82 FT MSL
Well Riser Elevation: 78.32 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
						0		Surficial material is a light brown F-C SAND with f-c gravel, cobbles, boulders.	Hammer advanced smoothly for first 4 ft
						1			
						2			
						3			
						4		Competent bedrock encountered	
								Dark gray, fine-grained metamorphic (quartzite)	
					>100	5			
						6			
						7			
						8			
						9			
						10			
						11			
						12			
						13			
						14			
						15			
						16			
						17			
				0.0		18		Wet at 18'	Headspace PID reading taken on chips from air rotary
						19			

Logged by: Jill Ann Parett Date: 06/03/03

Drilling Contractor: Subsurface Drilling Driller: Phil Thomsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser: 2 in. Screen Interval: 7-32 ft bgs Sandpack: 5-32 ft bgs Grout: 2 ft bgs - grade

Bottom of Hole: 32 ft bgs Riser Interval: 7 ft bgs - 2 ft ags Bentonite: 2-7 ft bgs Cover: 4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer
	Spoon Advanced with 140lb hammer
Boring No.	MW-EA-2
Sampling Method:	2" split spoon
Sheet	2 of 3
Drilling Water Level	
Date	6/3/2003
Time	1100
Surface Conditions:	cleared land
Start	6/3/2003 0915
Drilling Date/Times	
Finish	6/3/2003 1320

Coordinates: N: 92989.904 E: 107202.507
Surface Elevation: 75.82 FT MSL
Well Riser Elevation: 78.32 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
						20		Groundwater recharge rate is not sufficient to keep rock flour down - very dusty	
						21			
						22			
						23			
						24			
						25		At 25', pause for 10 minutes to see if groundwater recharges (WL after 10 minutes = 20')	
						26			
						27			
						28			
						29			
						30			
						31			
						32		Bottom of boring 32'	
						33			Screen 25' of bedrock
						34			Bentonite into over-burden
						35			
						36			
						37			
						38			
						39			

Logged by: Jill Ann Parett Date: 06/03/03

Drilling Contractor: Subsurface Drilling Driller: Phil Thornsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser:	2 in.	Screen Interval:	7-32 ft bgs	Sandpack:	5-32 ft bgs	Grout:	2 ft bgs - grade
Bottom of Hole:	32 ft bgs	Riser Interval:	7 ft bgs - 2 ft ags	Bentonite:	2-7 ft bgs	Cover:	4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer
Spoon Advanced with 140lb hammer	
Boring No.	MW-EA-3
Sampling Method:	2" split spoon
Sheet	1 of 3
Drilling Water Level	
Date	6/2/2003
Time	1355
Surface Conditions:	cleared land
Start	06/02/03 1320
Drilling Date/Times	
Finish	06/02/03 1650

ordinates: N: 93176.013 E: 106703.774

rface Elevation: 76.26 FT MSL

Well Riser Elevation: 78.76 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
						0		Surficial material is light brown/gray F-C SAND and F-M GRAVEL, little c gravel and cobble	
						1			
						2			
						3			
						4			
SS	2/0.3	5	NS	1.3	5, 3, 2, 3	5, 6		Brown F-M SAND, little c sand and f-m gravel, trace silt and organics. Dry to moist and loose. No odor.	
						7			
						8			Large boulder at 8' (1.5-2' thick)
						9			
SS	2/0.3	10	NS	0.7	4, 3, 2, 0	10, 11, 12, 13		Brown F-M SAND, little c sand and f-m gravel, trace silt. Moist and loose. No odor.	Spoon dropped last 0.5' of 10-15' interval; Very easy hammer advancement from 10-15'; Wet at 13'
						14			
SS	2/0.5	15	NA	0.0	7, >100	15, 16, 17, 18, 19		Light to dark brown F-M SAND, some c sand, little silt, f-m gravel and rock fragments. Weathered rock (rust, fractured on foliations) in this sample is consistent with bedrock observed in outcrops. Bedrock surface at 15'	

gged by: Jill Ann Parett

Date: 06/03/03

Drilling Contractor: Subsurface Drilling

Driller: Phil Thornsbury/Brad Haase

ELL SPECIFICATIONS:

Diam. of Riser: 2 in.

Screen Interval: 22-52 ft bgs

Sandpack: 20-52 ft bgs

Grout: 8 ft bgs - grade

Bottom of Hole: 52 ft bgs

Riser Interval: 22 ft bgs - 2 ft ags

Bentonite: 8-20 ft bgs

Cover: 4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer
Spoon Advanced with 140lb hammer	
Sampling Method:	2" split spoon
Boring No.	MW-EA-3
Sheet	2 of 3
Coordinates:	N: 93176.013 E: 106703.774
Surface Elevation:	76.26 FT MSL
Well Riser Elevation:	78.76 FT MSL
Drilling Water Level	
Date	6/2/2003
Time	1355
Surface Conditions:	cleared land
Start	6/3/2003 1320
Drilling Date/Times	
Finish	6/3/2003 1650

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
						20		Groundwater is not recharging fast enough to keep the rock flour from drilling down - very dusty	
						21			
						22			
						23			
						24			
				0.0		25		Dark gray fine-grained metamorphic, quartz veins, pyrite crystals	PID reading taken from rock chips blown out of borehole
						26			
						27			
						28			
						29			
				0.0		30		SAA	PID reading taken from rock chips blown out of borehole
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			

Logged by: Jill Ann Parett

Date: 06/03/03

Drilling Contractor: Subsurface Drilling

Driller: Phil Thornsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser:	2 in.	Screen Interval:	22-52 ft bgs	Sandpack:	20-52 ft bgs	Grout:	8 ft bgs - grade
Bottom of Hole:	52 ft bgs	Riser Interval:	22 ft bgs - 2 ft ags	Bentonite:	8-20 ft bgs	Cover:	4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer; Spoon Advanced with 140lb hammer
Boring No.	MW-EA-3
Sampling Method:	2" split spoon
Sheet	3 of 3
Drilling Water Level	Date 6/2/2003; Time 1355
Surface Conditions:	cleared land
Start	06/03/03 1320
Drilling Date/Times	
Finish	06/03/03 1650

Coordinates: N: 93176.013 E: 106703.774
Surface Elevation: 76.26 FT MSL
Well Riser Elevation: 78.76 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
				0.0		40		SAA	PID reading from rock chips blown from borehole
						41			
						42			
						43			
						44			
				0.0		45		SAA	PID reading from rock chips blown from borehole
						46			
						47			
						48			
						49			
				0.0		50		SAA	PID reading taken from rock chips blown from borehole
						51			
						52		Bottom of boring 52'	Screen all of bedrock Bentonite into over-burden
						53		No water in hole - will leave hole open overnight to assess recharge before setting a well	
						54		Water at 14' on 6/3/03 0805	
						55			
						56			
						57			
						58			
						59			

Logged by: Jill Ann Parett Date: 06/02/03

Drilling Contractor: Subsurface Drilling Driller: Phil Thornsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser: 2 in. Screen Interval: 22-52 ft bgs Sandpack: 20-52 ft bgs Grout: 8 ft bgs - grade

Bottom of Hole: 52 ft bgs Riser Interval: 22 ft bgs - 2 ft ags Bentonite: 8-20 ft bgs Cover: 4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Coordinates:	N: 93297.648 E: 106595.934
Surface Elevation:	77.25 FT MSL
Well Riser Elevation:	79.75 FT MSL

Job. No. 61776.01	Client: McNulty Real Estate	Location: Cumberland, RI
Drilling Method: Mobil B-61 with Air Rotary Hammer; Spoon Advanced with 140lb hammer		Boring No. MW-EA-4
Sampling Method: 2" split spoon		Sheet 1 of 2
Drilling Water Level		Start 06/02/03 0845
Date 6/2/2003		Drilling Date/Times
Time 1050		Finish 06/02/03 1300
Surface Conditions: cleared land		

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
						0		Surficial material is light brown/gray F-C SAND and F-M GRAVEL, little c gravel and cobble	
						1			
						2			
						3			
						4			
SS	2/1.2	5	NS	0.0	5, 8, 7, 6	5, 6		Light brown/gray M SAND, some f sand. Moist and loose. No odor.	
						7			
						8			
						9			
SS	2/0.4	10	NS	0.0	21, 70, >100	10, 11		Brown F SAND and f-m gravel. Moist and loose. No odor.	Boulder encountered 10-12'
SS	2/0.6	12	NS	0.0	8, 28, 37, 70	12, 13, 14		12-12.4' Brown to red/brown F SAND, some silt, little m-c sand and f gravel. Moist and cohesive. No odor. 12.4-12.6' Dry rock fragments (dark gray fine-grained metamorphic, quartz veins)	Wet at 14.5'
SS	2/0.0	15	NS	0.0	>100	15		Bedrock surface at 15'	
						16			
						17			
						18			
						19			

Logged by: Jill Ann Parett Date: 06/03/03

Drilling Contractor: Subsurface Drilling Driller: Phil Thornsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser:	2 in.	Screen Interval:	15-25 ft bgs	Sandpack:	15-25 ft bgs	Grout:	12 ft bgs - grade
Bottom of Hole:	25 ft bgs	Riser Interval:	15 ft bgs - 2 ft ags	Bentonite:	12-15 ft bgs	Cover:	4 in. steel

EA Engineering, Science, and Technology, Inc.

LOG OF SOIL BORING

Job. No. 61776.01	Client: McNulty Real Estate
Location:	Cumberland, RI
Drilling Method:	Mobil B-61 with Air Rotary Hammer
	Spoon Advanced with 140lb hammer
Boring No.	MW-EA-4
Sampling Method:	2" split spoon
Sheet	2 of 2
Drilling Water Level	
Date	6/2/2003
Time	1050
Surface Conditions:	cleared land
Start	6/3/2003 0845
Drilling Date/Times	
Finish	6/3/2003 1300

Coordinates: N: 93297.648 E: 106595.934
Surface Elevation: 77.25 FT MSL
Well Riser Elevation: 79.75 FT MSL

Sample Type	Feet Driven/Ft Recvrd	Dpth Csg.	Samp # / depth (ft)	PID (ppm) Above bk.	Blows per 6"	Ft bgs	USCS Log	SOIL DESCRIPTION	COMMENTS
						20			
						21			
				0.0		22		Dark gray fine-grained metamorphic rock chips, wet.	PID readings from rock chips blown out of borehole
						23			
						24			
						25		Bottom of boring 25'	Screened 10' of bedrock
						26			Bentonite seal into overburden
						27			
						28			
						29			
						30			
						31			
						32			
						33			
						34			
						35			
						36			
						37			
						38			
						39			

Logged by: Jill Ann Parett Date: 06/03/03

Drilling Contractor: Subsurface Drilling Driller: Phil Thomsbury/Brad Haase

WELL SPECIFICATIONS:

Diam. of Riser: 2 in. Screen Interval: 15-25 ft bgs Sandpack: 15-25 ft bgs Grout: 12 ft bgs - grade

Bottom of Hole: 25 ft bgs Riser Interval: 15 ft bgs - 2 ft ags Bentonite: 12-15 ft bgs Cover: 4 in. steel

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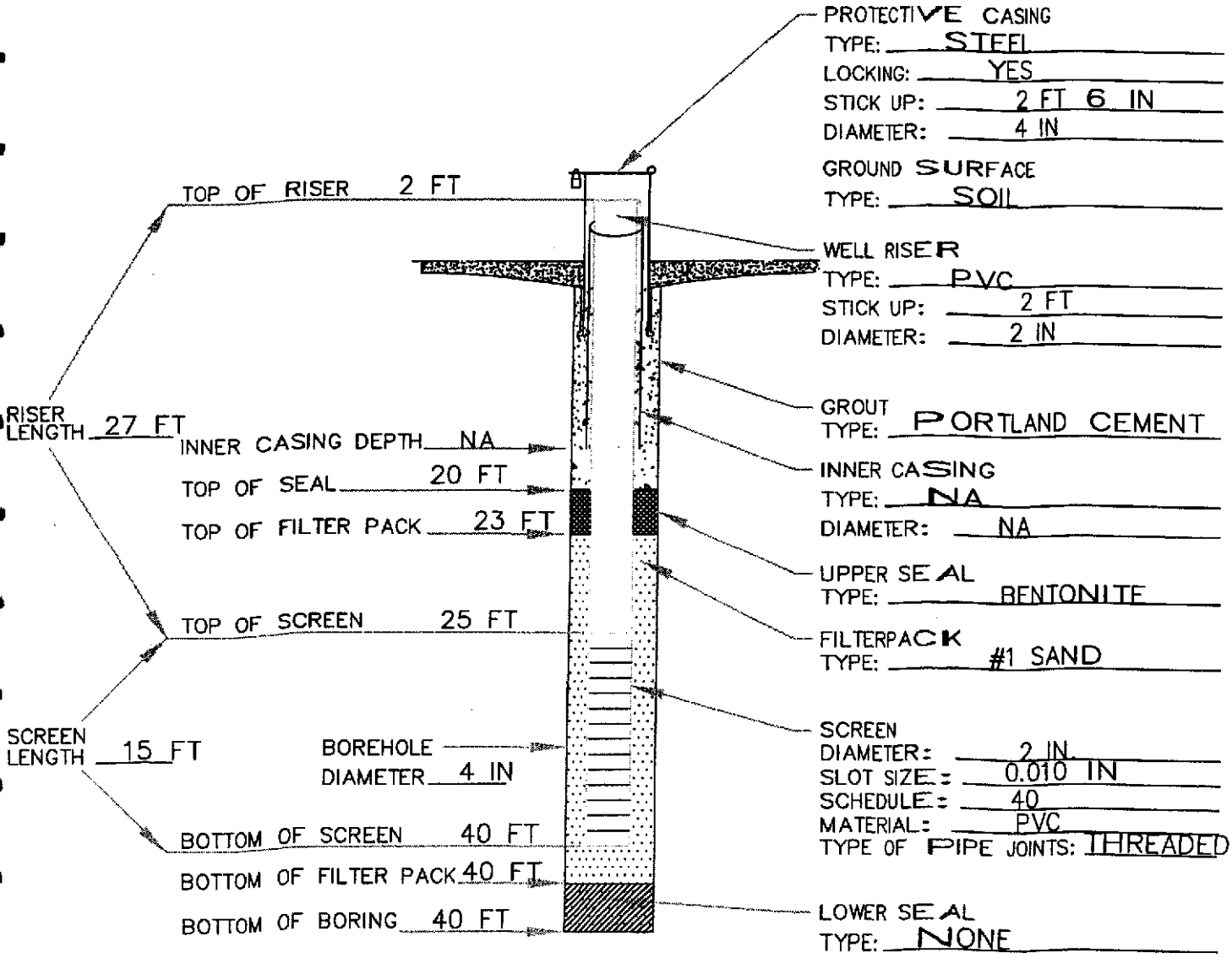
Appendix B

Monitoring Well Diagrams

MONITORING WELL CONSTRUCTION

MW-EA-1

CLIENT/SITE NAME: MCNULTY REAL ESTATE CUMBERLAND, RI	
DATE INSTALLED: 6/3/03	PROJECT No. 61776.01.0002
ELEVATION OF GROUND SURFACE: 92.94' MSL ELEVATION TOP OF CASING: 78.32MSL	COORDINATES: N: 92888.268 E: 107494.302
DEPTH TO WATER: 25.9 (BELOW TOP OF RISER) DATE/TIME 6/9/03 / 0905	EA INSPECTOR: J. PARRETT
DRILLING METHOD & DEPTH: AIR ROTARY 4IN STEEL CASING	



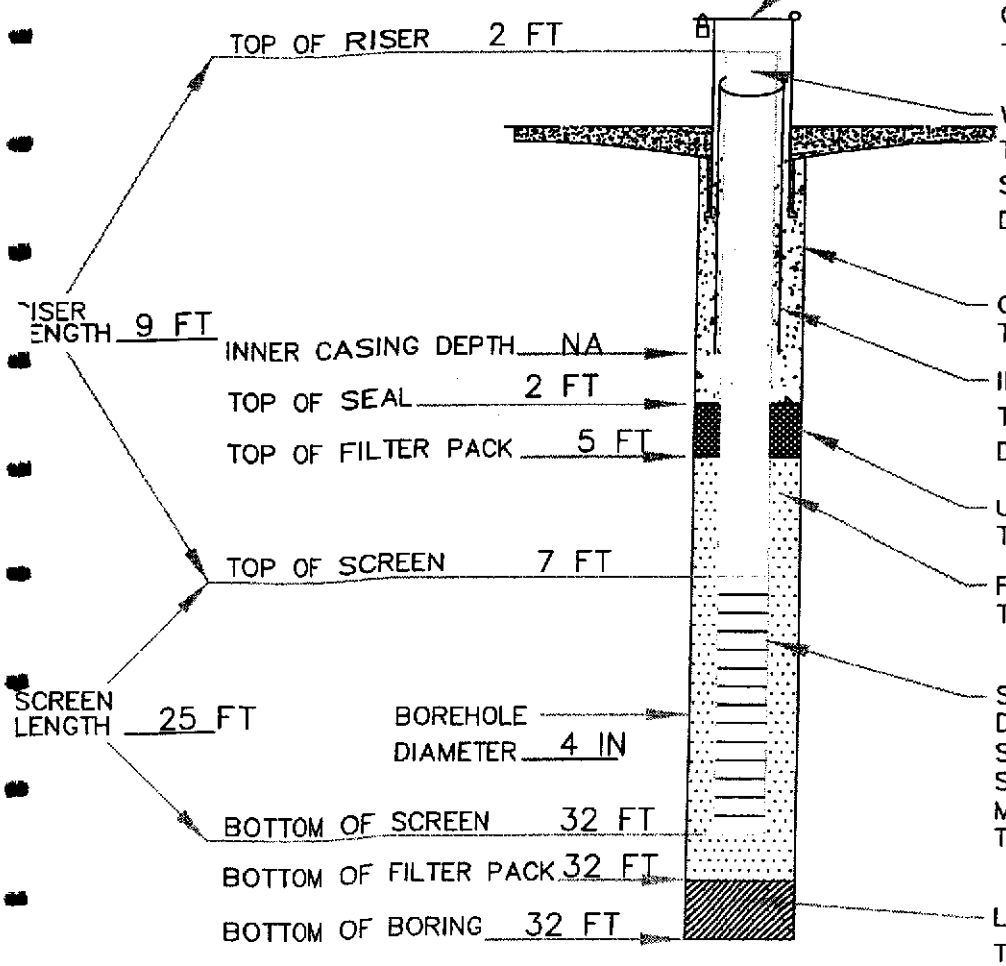
MONITORING WELL CONSTRUCTION
(ALL DEPTH MEASUREMENTS IN FT. BELOW GROUND SURFACE)

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

MONITORING WELL CONSTRUCTION

MW-EA-2

CLIENT/SITE NAME: MCNULTY REAL ESTATE CUMBERLAND, RI	
DATE INSTALLED: 6/3/03	PROJECT No. 61776.01.0002
ELEVATION OF GROUND SURFACE: 75.82' MSL ELEVATION TOP OF CASING: 78.32MSL	COORDINATES: N: 92989.904 E: 107202.507
DEPTH TO WATER: 14.5 (BELOW TOP OF RISER) DATE/TIME 6/9/03 / 0910	EA INSPECTOR: J. PARRETT
DRILLING METHOD & DEPTH: AIR ROTARY 4IN STEEL CASING	



PROTECTIVE CASING
TYPE: STEEL
LOCKING: YES
STICK UP: 2 FT 6 IN
DIAMETER: 4 IN

GROUND SURFACE
TYPE: SOIL

WELL RISER
TYPE: PVC
STICK UP: 2 FT
DIAMETER: 2 IN

GROUT
TYPE: PORTLAND CEMENT

INNER CASING
TYPE: NA
DIAMETER: NA

UPPER SEAL
TYPE: BENTONITE

FILTERPACK
TYPE: #1 SAND

SCREEN
DIAMETER: 2 IN
SLOT SIZE: 0.010 IN
SCHEDULE: 40
MATERIAL: PVC
TYPE OF PIPE JOINTS: THREADED

LOWER SEAL
TYPE: NONE

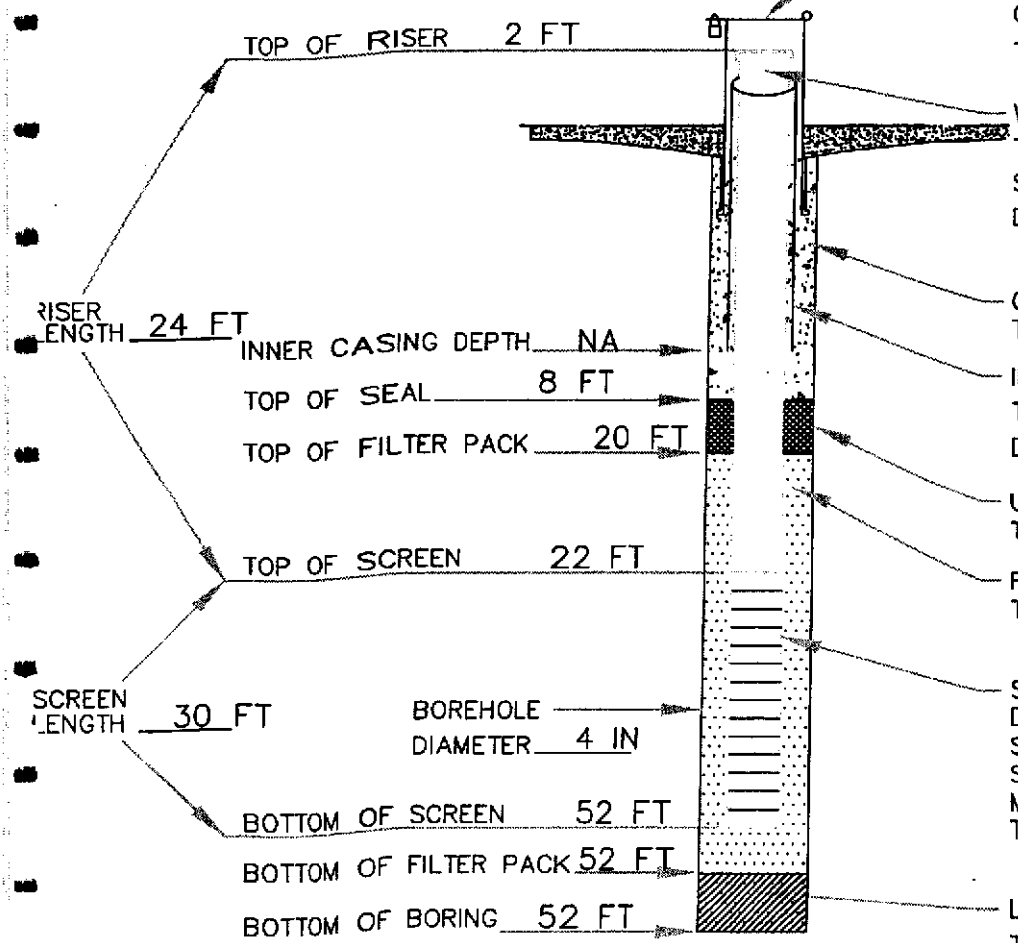
MONITORING WELL CONSTRUCTION
(ALL DEPTH MEASUREMENTS IN FT. BELOW GROUND SURFACE)

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

MONITORING WELL CONSTRUCTION

MW-EA-3

CLIENT/SITE NAME: MCNULTY REAL ESTATE CUMBERLAND, RI	
DATE INSTALLED: 6/2/03	PROJECT No. 61776.01.0002
ELEVATION OF GROUND SURFACE: 76.26' MSL ELEVATION TOP OF CASING: 78.76 MSL	COORDINATES: N: 93176.013 E: 106703.774
DEPTH TO WATER: 16.3 (BELOW TOP OF RISER) DATE/TIME 6/9/03 / 0920	EA INSPECTOR: J. PARRETT
DRILLING METHOD & DEPTH: AIR ROTARY 4IN STEEL CASING	



PROTECTIVE CASING
TYPE: STEEL
LOCKING: YES
STICK UP: 2 FT 6 IN
DIAMETER: 4 IN

GROUND SURFACE
TYPE: SOIL

WELL RISER
TYPE: PVC
STICK UP: 2 FT
DIAMETER: 2 IN

GROUT
TYPE: PORTLAND CEMENT

INNER CASING
TYPE: NA
DIAMETER: NA

UPPER SEAL
TYPE: BENTONITE

FILTERPACK
TYPE: #1 SAND

SCREEN
DIAMETER: 2 IN
SLOT SIZE: 0.010 IN
SCHEDULE: 40
MATERIAL: PVC
TYPE OF PIPE JOINTS: THREADED

LOWER SEAL
TYPE: NONE

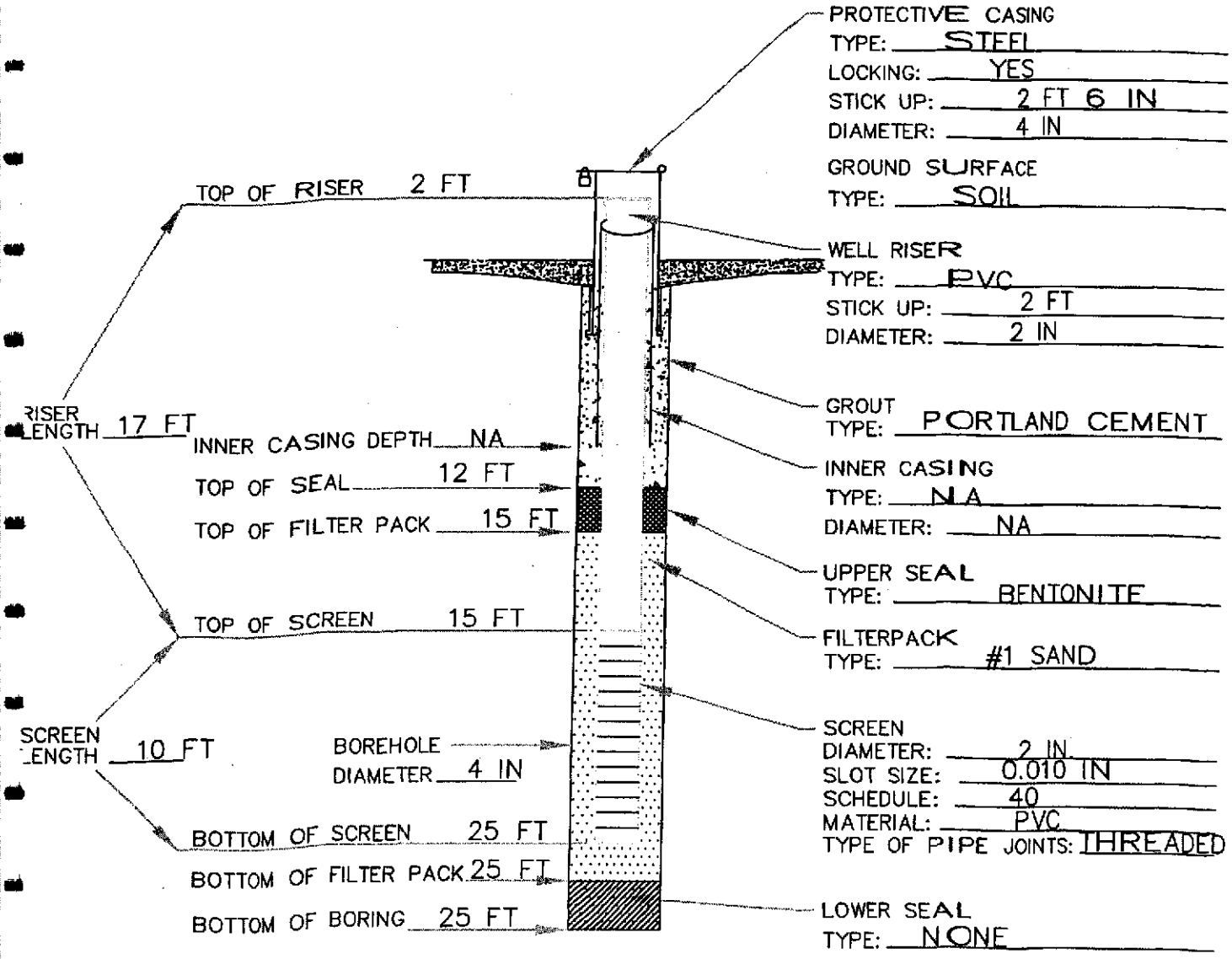
MONITORING WELL CONSTRUCTION
(ALL DEPTH MEASUREMENTS IN FT. BELOW GROUND SURFACE)

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

MONITORING WELL CONSTRUCTION

MW-EA-4

CLIENT/SITE NAME: MCNULTY REAL ESTATE CUMBERLAND, RI	
DATE INSTALLED: 6/2/03	PROJECT No. 61776.01.0002
ELEVATION OF GROUND SURFACE: 77.25' MSL ELEVATION TOP OF CASING: 79.75MSL	COORDINATES: N: 93297.65 E: 106595.93
DEPTH TO WATER: 15.3 (BELOW TOP OF RISER) DATE/TIME 6/9/03 / 0925	EA INSPECTOR: J. PARRETT
DRILLING METHOD & DEPTH: AIR ROTARY 4IN STEEL CASING	



MONITORING WELL CONSTRUCTION
(ALL DEPTH MEASUREMENTS IN FT. BELOW GROUND SURFACE)

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

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Appendix C

Sampling Forms

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-01 Personnel: Jill Ann Parrett Start Time: 1255 Finish Time: 1400

Air Monitoring Equipment Used (Make/Model/Serial No.): MiniRae 2000

Calibration Information: 6/15/03 0800 100ppm Isobutylene

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/ Integrity

Well Locked	√ Yes ___ No	Well Material:	√ PVC/ ___ SS/Other ___
Protective Casing Secure	√ Yes ___ No	Well Diameter:	√ 2-in. / ___ 4-in./ ___ 6-in./ Other
Concrete Collar Intact	√ Yes ___ No	Water Level Equip. Used:	√ Elect. Cond. Probe
Other: ___			___ Interface Probe
Protective Casing Stick Up (ft):	2.50		___ Press. Transducer
Casing/Well Difference (ft):	0.20		___ ___

Water Level Data Measured from: Top of Riser

Depth to Bottom of Well: 42.66 (ft) Depth to Pump Intake: 38 (ft)

Depth to Top of Water: 26.13 (ft) Depth of Screened Interval: 28-43 (ft)

Analytical Parameter	Check if Field Filtered	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 ug/L)(5030B / 8260B)		3@ 40 ml VOA	MW-EA-1	HCL, < 4°C
Total TAL Inorganics 3005A / 3020A / 6010B / 7000)		1 @ 0.25 liter amber	MW-EA-1	HNO_3< 4°C

Equipment Identify equipment used (i.e., pumps, bailers, tubing, filters, etc.)

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, DI
P	S	YSI 600XL Water Quality Meter w/Flow-Through Cell	Alconox, isopropyl, DI
P	S	Geotech Peristaltic Pump with dedicated tubing	NA
P	S	Lamotte 2020 Turbidimeter	NA

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-1 Personnel: JAP Start Time: 1255 Finish Time: 1400

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	1.5	3.0	4.5	6.0	7.5	9.0	10.5
Time	1300	1305	1310	1315	1320	1325	1330
Temperature (°C)	13.30	14.27	13.38	12.76	12.69	12.76	12.74
pH	6.05	6.02	6.00	5.88	5.94	5.98	5.96
Conductivity (ms/cm)	0.492	0.496	0.491	0.503	0.497	0.495	0.491
DO (mg/L)	7.33	6.83	7.10	7.27	7.19	7.12	7.06
Turbidity (NTUs)	>999	800	100	25	19	15	5
Eh (mV)	374	372	378	382	385	382	386
Water Level (ft from TOR)	26.20	26.21	26.20	26.19	26.20	26.22	26.22
Flow Rate (mL/min.)	300	300	300	300	300	300	300

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Liters	12.0	13.5					
Time	1335	1340					
Temperature (°C)	12.58	12.35					
pH	5.93	5.91					
Conductivity (ms/cm)	0.490	0.491					
DO (mg/L)	7.08	7.07					
Turbidity (NTUs)	3.8	4.5					
Eh (mV)	390	391					
Water Level (ft from TOR)	26.21	26.21					
Flow Rate (mL/min.)	300	300					

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
PH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Sample time 1345

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-2 Personnel: Jill Ann Parrett Start Time: 1140 Finish Time: 1250

Air Monitoring Equipment Used (Make/Model/Serial No.): MiniRae 2000

Calibration Information: 6/15/03 0800 100ppm Isobutylene

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 ppm

Well Data/ Integrity

Well Locked	√ Yes ___ No	Well Material:	√ PVC/ ___ SS/Other ___
Protective Casing Secure	√ Yes ___ No	Well Diameter:	√ 2-in. / ___ 4-in./ ___ 6-in./ Other
Concrete Collar Intact	√ Yes ___ No	Water Level Equip. Used:	√ Elect. Cond. Probe
Other: ___			___ Interface Probe
Protective Casing Stick Up (ft):	2.50		___ Press. Transducer
Casing/Well Difference (ft):	0.40		___ ___

Water Level Data Measured from: Top of Riser

Depth to Bottom of Well: 33.75 (ft) Depth to Pump Intake: 20 (ft)

Depth to Top of Water: 14.32 (ft) Depth of Screened Interval: 9.5-34.5 (ft)

Analytical Parameter	Check if Field Filtered	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 ug/L)(5030B / 8260B)		3@ 40 ml VOA	MW-EA-2	HCL, < 4°C
Total TAL Inorganics 3005A / 3020A / 6010B / 7000)		1 @ 0.25 liter amber	MW-EA-2	HNO_3< 4°C

Equipment Identify equipment used (i.e., pumps, bailers, tubing, filters, etc.)

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, DI
	S	YSI 600XL Water Quality Meter w/Flow-Through Cell	Alconox, isopropyl, DI
P	S	Geotech Peristaltic Pump with dedicated tubing	NA
	S	Lamotte 2020 Turbidimeter	NA

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-2 Personnel: JAP Start Time: 1140 Finish Time: 1250

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	1.5	3.0	4.5	6.0	7.5	9.0	10.5
Time	1145	1150	1155	1200	1205	1210	1215
Temperature (°C)	14.90	14.72	12.86	12.94	12.30	12.13	12.41
pH	6.97	6.92	6.83	6.76	6.74	6.74	6.74
Conductivity (ms/cm)	0.359	0.345	0.346	0.345	0.341	0.341	0.337
DO (mg/L)	5.82	5.50	5.57	5.34	5.33	5.37	5.41
Turbidity (NTUs)	357	310	160	150	75	50	22
Eh (mV)	114	124	183	250	288	297	312
Water Level (ft from TOR)	14.42	14.43	14.45	14.45	14.45	14.44	14.45
Flow Rate (mL/min.)	300	300	300	300	300	300	300

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Liters	12.0	13.5	15.0				
Time	1220	1225	1230				
Temperature (°C)	12.31	12.35	12.32				
pH	6.74	6.73	6.74				
Conductivity (ms/cm)	0.337	0.335	0.335				
DO (mg/L)	5.49	5.54	5.53				
Turbidity (NTUs)	13	5	4.2				
Eh (mV)	315	318	320				
Water Level (ft from TOR)	14.45	14.45	14.45				
Flow Rate (mL/min.)	300	300	300				

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
PH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Sample time 1235

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-3 Personnel: Jill Ann Parrett Start Time: 1035 Finish Time: 1135

Air Monitoring Equipment Used (Make/Model/Serial No.): MiniRae 2000

Calibration Information: 6/15/03 0800 100ppm Isobutylene

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 Ppm

Well Data/ Integrity

Well Locked	√ Yes ___ No	Well Material:	√ PVC/ ___ SS/Other ___
Protective Casing Secure	√ Yes ___ No	Well Diameter:	√ 2-in. / ___ 4-in./ ___ 6-in./ Other
Concrete Collar Intact	√ Yes ___ No	Water Level Equip. Used:	√ Elect. Cond. Probe
Other: ___			___ Interface Probe
Protective Casing Stick Up (ft):	2.50		___ Press. Transducer
Casing/Well Difference (ft):	0.30		___ ___

Water Level Data Measured from: Top of Riser

Depth to Bottom of Well: 53.03 (ft) Depth to Pump Intake: 40 (ft)

Depth to Top of Water: 16.42 (ft) Depth of Screened Interval: 24.5-54.5 (ft)

Analytical Parameter	Check if Field Filtered	Volume Required/ Sample Container	Sample ID	Preservation Method
TCL VOC (detection limit, <1 ug/L)(5030B / 8260B)		3@ 40 ml VOA	MW-EA-3	HCL, < 4°C
Total TAL Inorganics 3005A / 3020A / 6010B / 7000)		1 @ 0.25 liter amber	MW-EA-3	HNO_3< 4°C

Equipment Identify equipment used (i.e., pumps, bailers, tubing, filters, etc.)

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, DI
	S	YSI 600XL Water Quality Meter w/Flow-Through Cell	Alconox, isopropyl, DI
P	S	Geotech Peristaltic Pump with dedicated tubing	NA
	S	Lamotte 2020 Turbidimeter	NA

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-3 Personnel: JAP Start Time: 1035 Finish Time: 1135

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
Liters	0.5	1.0	1.5	2.0	2.5	3.0	3.5
Time	1040	1045	1050	1055	1100	1105	1110
Temperature (°C)	13.77	13.39	13.62	13.78	13.96	13.54	13.87
pH	6.76	6.70	6.69	6.70	6.69	6.69	6.70
Conductivity (ms/cm)	0.602	0.597	0.595	0.597	0.594	0.592	0.590
DO (mg/L)	5.60	3.22	3.04	2.95	3.12	3.28	3.30
Turbidity (NTUs)	12	7.7	8.8	12	8.7	7.2	6.2
Eh (mV)	325	328	329	332	332	332	334
Water Level (ft from TOR)	17.41	17.43	17.45	17.44	17.45	17.45	17.45
Flow Rate (mL/min.)	100	100	100	100	100	100	100

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Liters	4.0	4.5	5.0				
Time	1115	1120	1125				
Temperature (°C)	13.85	13.73	13.82				
pH	6.70	6.70	6.70				
Conductivity (ms/cm)	0.590	0.591	0.591				
DO (mg/L)	3.31	3.29	3.30				
Turbidity (NTUs)	5.0	4.7	4.5				
Eh (mV)	334	333	332				
Water Level (ft from TOR)	17.45	17.45	17.45				
Flow Rate (mL/min.)	100	100	100				

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
Time							
Temperature (°C)							
PH							
Conductivity (ms/cm)							
DO (mg/L)							
Turbidity (NTUs)							
Eh (mV)							
Water Level (ft from TOR)							
Flow Rate (mL/min.)							

Notes: Sample time 1130

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-4 Personnel: Jill Ann Parrett Start Time: 0920 Finish Time: 1025

Air Monitoring Equipment Used (Make/Model/Serial No.): MiniRae 2000

Calibration Information: 6/15/03 0800 100ppm Isobutylene

Ambient Air Reading: 0.0 ppm Well Headspace Reading: 0.0 Ppm

Well Data/ Integrity

Well Locked	√ Yes ___ No	Well Material:	√ PVC/ ___ SS/Other ___
Protective Casing Secure	√ Yes ___ No	Well Diameter:	√ 2-in. / ___ 4-in./ ___ 6-in./ Other
Concrete Collar Intact	√ Yes ___ No	Water Level Equip. Used:	√ Elect. Cond. Probe
Other: ___			___ Interface Probe
Protective Casing Stick Up (ft):	2.50		___ Press. Transducer
Casing/Well Difference (ft):	0.34		___ ___

Water Level Data Measured from: Top of Riser

Depth to Bottom of Well: 29.15 (ft) Depth to Pump Intake: 27 (ft)

Depth to Top of Water: 15.72 (ft) Depth of Screened Interval: 19.5-29.5 (ft)

Analytical Parameter	Check if Field Filtered	Volume Required/ Sample Container	Sample ID	Preservation Method
Total VOC (detection limit, <1 ug/L)(5030B / 8260B)		3@ 40 ml VOA	MW-EA-4 DUP-01	HCL, < 4°C
Total TAL Inorganics 3005A / 3010A / 6010B / 7000)		1 @ 0.25 liter amber	MW-EA-4 DUP-01	HNO_3< 4°C

Equipment Identify equipment used (i.e., pumps, bailers, tubing, filters, etc.)

P = Purge S = Sample		Equipment Used (serial number)	Decon Method
P	S	Solinst Water Level Indicator	Alconox, isopropyl, DI
P	S	YSI 600XL Water Quality Meter w/Flow-Through Cell	Alconox, isopropyl, DI
P	S	Geotech Peristaltic Pump with dedicated tubing	NA
P	S	Lamotte 2020 Turbidimeter	NA

Ground Water Field Sampling Form

Project Name: McNulty Real Estate Project No.: 61776.01 Task: 0003 Date: 6/15/03

Well ID: MW-EA-4 Personnel: JAP Start Time: 0920 Finish Time: 1025

Parameter (units)	Initial	Volume	Volume	Volume	Volume	Volume	Volume
ters	1.5	3.0	4.5	6.0	7.5	9.0	10.5
Time	0925	0930	0935	0940	0945	0950	0955
emperature (°C)	11.46	11.05	11.13	11.13	11.00	11.06	11.15
l	6.26	6.11	6.07	6.05	6.03	6.01	6.00
Conductivity (ms/cm)	0.442	0.440	0.440	0.438	0.441	0.441	0.440
O (mg/L)	2.10	1.13	0.94	0.81	0.87	0.78	0.75
Turbidity (NTUs)	1.1	0.75	0.65	0.50	0.80	0.85	0.50
h (mV)	290	292	296	300	309	315	319
ater Level (ft from TOR)	15.74	15.73	15.73	15.72	15.72	15.72	15.72
Flow Rate (mL/min.)	300	300	300	300	300	300	300

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
liters	12.0	13.5	15.0				
me	1000	1005	1010				
Temperature (°C)	11.10	11.10	11.11				
l	6.02	6.02	6.03				
onductivity (ms/cm)	0.442	0.443	0.443				
DO (mg/L)	0.72	0.71	0.70				
rbidity (NTUs)	0.70	0.50	0.30				
Eh (mV)	321	320	320				
ater Level (ft from TOR)	15.72	15.72	15.72				
ow Rate (mL/min.)	300	300	300				

Parameter (units)	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Liters							
me							
mperature (°C)							
PH							
nductivity (ms/cm)							
DO (mg/L)							
rbidity (NTUs)							
(mV)							
Water Level (ft from TOR)							
ow Rate (mL/min.)							

Notes: Sample time 1015

DUP-01 Collectec

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Appendix D

EPA Quality Assurance Project Plan Worksheet No. 9b Peterson/Puritan Superfund Site OU-2

Medium / Matrix: *Groundwater*
Region I Matrix Code: GW *and GWLE*[#]
Concentration Level: *Low*

Title: *Peterson/Puritan Superfund Site OU2 QAPP*
Revision Number: *08*
Revision Date: *April 2003*
Page:

Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	MCL [1] (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)
VOCs	Dichlorodifluoromethane	75-71-8	39 [3]	-	0.5	OLC03.2	0.5	0.24	0.5
VOCs	Chloromethane	7487-3	1.5 [3]	-	0.5	OLC03.2	0.5	0.13	0.5
VOCs	Bromomethane	74-83-9	8.7 [4]	-	0.5	OLC03.2	0.5	0.26	0.5
VOCs	Vinyl Chloride*	75-01-4	0.41 [4]	2	**0.5 (0.19 [b])**	OLC03.2	0.5	0.19	0.5
VOCs	Chloroethane	075-00-3	4.6 [3]	-	0.5	OLC03.2	0.5	0.38	0.5
VOCs	Trichlorofluoromethane*	75-69-4	130 [3]	-	0.5	OLC03.2	0.5	0.16	0.5
VOCs	Methylene Chloride	75-09-2	4.3 [3]	5	0.5	OLC03.2	0.5	0.25	0.5
VOCs	Acetone	67-64-1	61 [3]	-	5	OLC03.2	5	4.80	5
VOCs	Carbon Disulfide	75-15-0	100 [3]	-	0.5	OLC03.2	0.5	0.12	0.5
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5900 [3]	-	0.5	OLC03.2	0.5	0.27	0.5
VOCs	1,1-Dichloroethene*	75-35-4	0.46 [4]	7	**0.5 (0.18 [b])**	OLC03.2	0.5	0.18	0.5
VOCs	1,1-Dichloroethane	75-34-3	81 [3]	-	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Methyl Acetate	79-20-9	610 [3]	-	0.5	OLC03.2	0.5	0.22	0.5
VOCs	trans-1,2-Dichloroethene	156-60-5	12 [3]	-	0.5	OLC03.2	0.5	0.13	0.5
VOCs	Methyl tert-Butyl Ether	1634-04-4	2 [3]	-	0.5	OLC03.2	0.5	0.18	0.5
VOCs	Chloroform*	67-66-3	1.6 [4]	80 [8]	0.5	OLC03.2	0.5	0.10	0.5
VOCs	1,2-Dichloroethane*	107-06-2	1.2 [4]	5	**0.5 (0.10 [b])**	OLC03.2	0.5	0.10	0.5
VOCs	cis-1,2-Dichloroethene	156-59-2	6.1 [3]	70	0.5	OLC03.2	0.5	0.13	0.5
VOCs	2-Butanone	78-93-3	190 [3]	-	5	OLC03.2	5	1.35	5
VOCs	1,1,1-Trichloroethane	71-55-6	54 [3]	200	0.5	OLC03.2	0.5	0.19	0.5
VOCs	Cyclohexane	110-82-7	3500 [3]	-	0.5	OLC03.2	0.5	0.12	0.5
VOCs	Carbon Tetrachloride*	56-23-5	1.7 [4]	5	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Bromodichloromethane	75-27-4	1.8 [4]	80 [8]	0.5	OLC03.2	0.5	0.10	0.5
VOCs	1,2-Dichloropropane*	78-87-5	1.6 [4]	5	0.5	OLC03.2	0.5	0.15	0.5
VOCs	cis-1,3-Dichloropropene*	10061-01-5	4 [4,5]	-	0.5	OLC03.2	0.5	0.18	0.5
VOCs	Trichloroethene*	79-01-6	1.6 [3]	5	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Methylcyclohexane	108-87-2	520 [3]	-	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Dibromochloromethane	124-48-1	1.3 [4]	80 [8]	**0.5 (0.13 [a])**	OLC03.2	0.5	0.13	0.5
VOCs	1,2-Dibromoethane	106-93-4	0.0076 [4]	-	**0.5 (0.10 [a])**	OLC03.2	0.5	0.10	0.5

Medium / Matrix: *Groundwater*
Region I Matrix Code: GW *and GWLE#*
Concentration Level: *Low*

Title: *Peterson/Puritan Superfund Site OU2 QAPP*
Revision Number: *08*
Revision Date: *April 2003*
Page:

Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	MCL [1] (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)
VOCs	1,1,2-Trichloroethane*	79-00-5	2 [4]	5	0.5	OLC03.2	0.5	0.13	0.5
VOCs	Benzene*	71-43-2	3.5 [4]	5	0.5	OLC03.2	0.5	0.12	0.5
VOCs	trans-1,3-Dichloropropene*	10061-02-6	4 [4,5]	-	0.5	OLC03.2	0.5	0.23	0.5
VOCs	Bromoform	75-25-2	8.5 [3]	80 [8]	0.5	OLC03.2	0.5	0.09	0.5
VOCs	4-Methyl-2-pentanone	108-10-1	16 [3]	-	5	OLC03.2	5	0.71	5
VOCs	2-Hexanone	591-78-6	NA [6]	-	5	OLC03.2	5	0.82	5
VOCs	Tetrachloroethene*	127-18-4	1.1 [3]	5	0.5 (0.11 [b])	OLC03.2	0.5	0.11	0.5
VOCs	1,1,2,2-Tetrachloroethane*	79-34-5	0.55 [4]	-	0.5 (0.14 [b])	OLC03.2	0.5	0.14	0.5
VOCs	Isopropylbenzene	98-82-8	NA [6]	-	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Toluene*	108-88-3	72 [3]	1000	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Chlorobenzene	108-90-7	11 [3]	100	0.5	OLC03.2	0.5	0.14	0.5
VOCs	Ethylbenzene	100-41-4	130 [3]	700	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Styrene	100-42-5	100 [1,2]	100	0.5	OLC03.2	0.5	0.16	0.5
VOCs	1,3-Dichlorobenzene	541-73-1	0.55 [3]	-	0.5 (0.25 [a])	OLC03.2	0.5	0.25	0.5
VOCs	1,4-Dichlorobenzene*	106-46-7	0.5 [3]	75	0.5 (0.27 [b])	OLC03.2	0.5	0.27	0.5
VOCs	1,2-Dichlorobenzene	95-50-1	37 [3]	600	0.5	OLC03.2	0.5	0.19	0.5
VOCs	1,2-Dibromo-3-chloropropane	96-12-8	0.047 [4]	0.2	0.5 (0.28 [a])	OLC03.2	0.5	0.28	0.5
VOCs	1,2,4-Trichlorobenzene	120-82-1	19 [3]	70	0.5	OLC03.2	0.5	0.28	0.5
VOCs	Xylenes (total)	1330-20-7	140 [3]	10000	0.5	OLC03.2	0.5	0.41	0.5
SVOCs	Benzaldehyde	100-52-7	360 [3]	-	5	OLC03.2	5	1.25	5
SVOCs	Phenol	108-95-2	2200 [3]	-	5	OLC03.2	5	0.55	5
SVOCs	bis(2-Chloroethyl)ether	111-44-4	0.098 [4]	-	5 (0.58 [a])	OLC03.2	5	0.58	5
SVOCs	2-Chlorophenol	95-57-8	3 [3]	-	5 (0.72 [a])	OLC03.2	5	0.72	5
SVOCs	2-Methylphenol	95-48-7	180 [3]	-	5	OLC03.2	5	0.82	5
SVOCs	2,2'-oxybis(1-Chloropropane)	108-60-1	2.7 [4]	-	5 (0.48 [a])	OLC03.2	5	0.48	5
SVOCs	Acetophenone	98-86-2	0.042 [4]	-	5 (0.65 [a])	OLC03.2	5	0.65	5
SVOCs	4-Methylphenol	106-44-5	18 [3]	-	5	OLC03.2	5	0.79	5
SVOCs	N-Nitroso-di-n-propylamine	621-64-7	0.096 [4]	-	5 (0.95 [a])	OLC03.2	5	0.95	5
SVOCs	Hexachloroethane	67-72-1	4.8 [3]	-	5 (0.85 [a])	OLC03.2	5	0.85	5

Medium / Matrix: *Groundwater*
Region I Matrix Code: GW *and GWLE#*
Concentration Level: *Low*

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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	MCL [1] (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)
SVOCs	Nitrobenzene	98-95-3	3.4 [4]	-	5 (3.80 [a])	OLC03.2	5	3.80	5
SVOCs	Isophorone	78-59-1	71 [3]	-	5	OLC03.2	5	0.70	5
SVOCs	2-Nitrophenol	88-75-5	29 [3,5]	-	5	OLC03.2	5	0.73	5
SVOCs	2,4-Dimethylphenol	105-67-9	73 [3]	-	5	OLC03.2	5	1.41	5
SVOCs	bis(2-Chloroethoxy)methane	111-91-1	NA [6]	-	5	OLC03.2	5	0.74	5
SVOCs	2,4-Dichlorophenol	120-83-2	11 [3]	-	5 (0.61 [a])	OLC03.2	5	0.61	5
SVOCs	Naphthalene*	91-20-3	0.2 [1]	-	0.1 (0.025 [b])	8270SIM	0.1	0.025	0.1
SVOCs	4-Chloroaniline	106-47-8	150 [4]	-	5	OLC03.2	5	1.43	5
SVOCs	Hexachlorobutadiene	87-68-3	0.86 [3]	-	5 (0.60 [a])	OLC03.2	5	0.60	5
SVOCs	Caprolactum	105-60-2	1800 [3]	-	5	OLC03.2	5	1.69	5
SVOCs	4-Chloro-3-methylphenol	59-50-7	NA [6]	-	5	OLC03.2	5	0.66	5
SVOCs	2-Methylnaphthalene*	91-57-6	0.2 [1]	-	0.1 (0.011 [b])	8270SIM	0.1	0.011	0.1
SVOCs	Hexachlorocyclopentadiene	77-47-4	26 [3]	50	5	OLC03.2	5	0.84	5
SVOCs	2,4,6-Trichlorophenol	88-06-2	61 [4]	-	5	OLC03.2	5	0.87	5
SVOCs	2,4,5-Trichlorophenol	95-95-4	360 [3]	-	10	OLC03.2	10	2.91	10
SVOCs	1,1'-Biphenyl	92-52-4	30 [3]	-	5	OLC03.2	5	0.60	5
SVOCs	2-Chloronaphthalene	91-58-7	49 [3]	-	5	OLC03.2	5	0.66	5
SVOCs	2-Nitroaniline	88-74-4	2.1 [4]	-	10 (2.32 [a])	OLC03.2	10	2.32	10
SVOCs	Dimethylphthalate	131-11-3	36000 [3]	-	5	OLC03.2	5	0.60	5
SVOCs	Acenaphthylene*	208-96-8	0.2 [1]	-	0.1 (0.016 [b])	8270SIM	0.1	0.016	0.1
SVOCs	2,6-Dinitrotoluene	606-20-2	36 [4]	-	5	OLC03.2	5	0.79	5
SVOCs	3-Nitroaniline	99-09-2	0.21 [3,5]	-	10 (1.80 [a])	OLC03.2	10	1.80	10
SVOCs	Acenaphthene*	83-32-9	0.2 [1]	-	0.1 (0.017 [b])	8270SIM	0.1	0.017	0.1
SVOCs	2,4-Dinitrophenol	51-28-5	73 [4]	-	10	OLC03.2	10	4.05	10
SVOCs	4-Nitrophenol	100-02-7	29 [3]	-	10 (2.30 [a])	OLC03.2	10	2.31	10
SVOCs	Dibenzofuran	132-64-9	24 [4]	-	5	OLC03.2	5	0.68	5
SVOCs	2,4-Dinitrotoluene	121-14-2	73 [4]	-	5	OLC03.2	5	0.50	5
SVOCs	Diethylphthalate	84-66-2	2900 [3]	-	5	OLC03.2	5	0.78	5
SVOCs	4-Chlorophenyl-phenylether	7005-72-3	NA [6]	-	5	OLC03.2	5	0.75	5
SVOCs	Fluorene*	86-73-7	0.2 [1]	-	0.1 (0.012 [b])	8270SIM	0.1	0.012	0.1

Medium / Matrix: *Groundwater*
Region I Matrix Code: GW *and GWLE#*
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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	MCL [1] (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)
SVOCs	4-Nitroaniline	100-01-6	0.21 [3]	-	10 (1.85 [a])	OLC03.2	10	1.85	10
SVOCs	4,6-Dinitro-2-methylphenol	534-52-1	NA [6]	-	10	OLC03.2	10	2.44	10
SVOCs	N-Nitrosodiphenylamine	86-30-6	14 [3]	-	5 (0.85 [a])	OLC03.2	5	0.85	5
SVOCs	4-Bromophenyl-phenylether	101-55-3	NA [6]	-	5	OLC03.2	5	0.87	5
SVOCs	Hexachlorobenzene	118-74-1	0.42 [4]	1	5 (0.76 [a])	OLC03.2	5	0.76	5
SVOCs	Atrazine	1912-24-9	3 [4]	3	5 (1.04 [a])	OLC03.2	5	1.04	5
SVOCs	Pentachlorophenol*	87-86-5	0.56 [3]	1	5 (0.69 [b])	OLC03.2	5	0.69	5
SVOCs	Phenanthrene*	85-01-8	0.2 [1]	-	0.1 (0.024 [b])	8270SIM	0.1	0.024	0.1
SVOCs	Anthracene*	120-12-7	0.2 [1]	-	0.1 (0.023 [b])	8270SIM	0.1	0.023	0.1
SVOCs	Carbazole	86-74-8	3.4 [3]	-	5 (1 [a])	OLC03.2	5	ii	5
SVOCs	Di-n-butylphthalate*	84-74-2	360 [3]	-	5	OLC03.2	5	0.70	5
SVOCs	Fluoranthene*	206-44-0	0.2 [1]	-	0.1 (0.014 [b])	8270SIM	0.1	0.014	0.1
SVOCs	Pyrene*	129-00-0	0.2 [1]	-	0.1 (0.028 [b])	8270SIM	0.1	0.028	0.1
SVOCs	Butylbenzylphthalate	85-68-7	730 [3]	-	5	OLC03.2	5	0.70	5
SVOCs	3,3'-Dichlorobenzidine	91-94-1	1.5 [4]	-	5 (1.84 [a])	OLC03.2	5	1.84	5
SVOCs	Benzo(a)anthracene*	56-55-3	0.2 [1]	0.2	0.1 (0.008 [b])	8270SIM	0.1	0.008	0.1
SVOCs	Chrysene*	218-01-9	0.2 [1]	-	0.1 (0.013 [b])	8270SIM	0.1	0.013	0.1
SVOCs	bis(2-Ethylhexyl)phthalate*	117-81-7	4.8 [3]	6	5 (0.5 [b])	OLC03.2	5	0.5	5
SVOCs	Di-n-octylphthalate	117-84-0	73 [3]	-	5	OLC03.2	5	0.73	5
SVOCs	Benzo(b)fluoranthene*	205-99-2	0.2 [1]	-	0.1 (0.14 [b])	8270SIM	0.1	0.14	0.1
SVOCs	Benzo(k)fluoranthene*	207-08-9	0.2 [1]	-	0.1 (0.007 [b])	8270SIM	0.1	0.007	0.1
SVOCs	Benzo(a)pyrene*	50-32-8	0.092 [4]	0.2	0.1 (0.020 [b])	8270SIM	0.1	0.020	0.1
SVOCs	Indeno(1,2,3-cd)pyrene*	193-39-5	0.2 [1]	-	0.1 (0.008 [b])	8270SIM	0.1	0.008	0.1
SVOCs	Dibenzo(a,h)anthracene*	53-70-3	0.2 [1]	-	0.1 (0.011 [b])	8270SIM	0.1	0.011	0.1
SVOCs	Benzo(g,h,i)perylene*	191-24-2	0.2 [1]	-	0.1 (0.013 [b])	8270SIM	0.1	0.013	0.1
Pesticides	alpha-BHC	319-84-6	0.011 [3]	-	0.0025	OLC03.2 mod.	0.0025	0.00172 [iii]	0.0025
Pesticides	beta-BHC	319-85-7	0.037 [3]	-	0.0025	OLC03.2 mod.	0.0025	0.00228 [iii]	0.0025
Pesticides	delta-BHC	319-86-8	0.2 [1]	-	0.0025	OLC03.2 mod.	0.0025	0.00433 [iii]	0.0025
Pesticides	gamma-BHC (Lindane)	58-89-9	0.052 [3]	0.2	0.0025	OLC03.2 mod.	0.0025	0.00168 [iii]	0.0025

Medium / Matrix: *Groundwater*
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Pesticides	Heptachlor	76-44-8	0.015 [3]	0.4	0.0025	OLC03.2 mod.	0.0025	0.00401 [iii]	0.0025
Pesticides	Aldrin	309-00-2	0.04 [4]	-	0.0025	OLC03.2 mod.	0.0025	0.00251 [iii]	0.0025
Pesticides	Heptachlor epoxide	1024-57-3	0.074 [4]	0.2	0.0025	OLC03.2 mod.	0.0025	0.00027 [iii]	0.0025
Pesticides	Endosulfan I	959-98-8	22 [3,5]	-	0.0025	OLC03.2 mod.	0.0025	0.00021 [iii]	0.0025
Pesticides	Dieldrin*	60-57-1	0.042 [4]	-	0.005	OLC03.2 mod.	0.005	0.00057 [iii]	0.005
Pesticides	4,4'-DDE	72-55-9	0.2 [3]	-	0.005	OLC03.2 mod.	0.005	0.00048 [iii]	0.005
Pesticides	Endrin	72-20-8	1.1 [3]	2	0.005	OLC03.2 mod.	0.005	0.00127 [iii]	0.005
Pesticides	Endosulfan II	33213-65-9	22 [3,5]	-	0.005	OLC03.2 mod.	0.005	0.00172 [iii]	0.005
Pesticides	4,4'-DDD	72-54-8	0.28 [3]	-	0.005	OLC03.2 mod.	0.005	0.00153 [iii]	0.005
Pesticides	Endosulfan sulfate	1031-07-8	22 [3,5]	-	0.005	OLC03.2 mod.	0.005	0.00114 [iii]	0.005
Pesticides	4,4'-DDT	50-29-3	0.2 [3]	-	0.005	OLC03.2 mod.	0.005	0.0012 [iii]	0.005
Pesticides	Methoxychlor	72-43-5	18 [3]	40	0.025	OLC03.2 mod.	0.025	0.00661 [iii]	0.025
Pesticides	Endrin ketone	53494-70-5	1.1 [3,5]	-	0.005	OLC03.2 mod.	0.005	0.00092 [iii]	0.005
Pesticides	Endrin aldehyde	7421-93-4	1.1 [3,5]	-	0.005	OLC03.2 mod.	0.005	0.00163 [iii]	0.005
Pesticides	alpha-Chlordane	5103-71-9	0.19 [3,5]	-	0.0025	OLC03.2 mod.	0.0025	0.00057 [iii]	0.0025
Pesticides	gamma-Chlordane	5103-74-2	0.19 [3,5]	-	0.0025	OLC03.2 mod.	0.0025	0.0002 [iii]	0.0025
Pesticides	Toxaphene	8001-35-2	0.61 [4]	3	**0.25 (0.13 [a])**	OLC03.2 mod.	0.25	i	0.25
PCBs	Aroclor 1016*	12674-11-2	0.34 [4,5]	0.5	0.05	OLC03.2 mod.	0.05	i	0.05
PCBs	Aroclor 1221*	11104-28-2	0.34 [4,5]	0.5	0.1	OLC03.2 mod.	0.1	i	0.1
PCBs	Aroclor 1232*	11141-16-5	0.34 [4,5]	0.5	0.05	OLC03.2 mod.	0.05	i	0.05
PCBs	Aroclor 1242*	53469-21-9	0.34 [4,5]	0.5	0.05	OLC03.2 mod.	0.05	i	0.05
PCBs	Aroclor 1248*	12672-29-6	0.34 [4,5]	0.5	0.05	OLC03.2 mod.	0.05	i	0.05
PCBs	Aroclor 1254*	11097-69-1	0.34 [4,5]	0.5	0.05	OLC03.2 mod.	0.05	i	0.05
PCBs	Aroclor 1260*	11096-82-5	0.34 [4,5]	0.5	0.05	OLC03.2 mod.	0.05	i	0.05
Metals	Aluminum	7429-90-5	50 [7]	-	**200 (7.5 [a])**	ILM04.1	200	7.5	200
Metals	Antimony	7440-36-0	1.5 [3]	6	**60 (2 [a])**	ILM04.1	60	2	60
Metals	Arsenic*	7440-38-2	0.45 [4]	50	0.05	1632 mod	0.05	0.04 [iv]	0.05
Metals	Barium	7440-39-3	260 [3]	2000	**200 (0.4 [a])**	ILM04.1	200	0.4	200
Metals	Beryllium	7440-41-7	4 [1,2]	4	**5 (0.2 [a])**	ILM04.1	5	0.2	5
Metals	Cadmium*	7440-43-9	1.8 [3]	5	**5 (0.3 [b])**	ILM04.1	5	0.3	5

Medium / Matrix: *Groundwater*
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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	MCL [1] (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)
Metals	Calcium	7440-70-2	NA [6]	-	5000	ILM04.1	5000	97.7	5000
Metals	Chromium*	7440-47-3	11 [3,5]	100	10 (0.3 [b])	ILM04.1	10	0.3	10
Metals	Cobalt	7440-48-4	220 [3]	-	50	ILM04.1	50	0.4	50
Metals	Copper*	7440-50-8	140 [3]	1300 [9]	25	ILM04.1	25	1	25
Metals	Iron	7439-89-6	300 [7]	-	100	ILM04.1	100	4.3	100
Metals	Lead*	7439-92-1	15 [1,2]	15 [9]	3	ILM04.1	3	2.6	3
Metals	Magnesium	7439-95-4	NA [6]	-	5000	ILM04.1	5000	5.6	5000
Metals	Manganese	7439-96-5	50 [7]	-	15	ILM04.1	15	0.3	15
Metals	Mercury	7439-97-6	1.1 [3]	2	0.2	ILM04.1	0.2	0.1	0.2
Metals	Nickel	7440-02-0	73 [3]	100	40 (0.5 [a])	ILM04.1	40	0.5	40
Metals	Potassium	7440-09-7	NA [6]	-	5000	ILM04.1	5000	49.7	5000
Metals	Selenium	7782-49-2	18 [3]	50	5	ILM04.1	5	3.8	5
Metals	Silver	7440-22-4	18 [3]	-	10 (0.7 [a])	ILM04.1	10	0.7	10
Metals	Sodium	7440-23-5	NA [6]	-	5000	ILM04.1	5000	199	5000
Metals	Thallium	7440-28-0	2 [1,2]	2	10 (1 [a])	ILM04.1	10	1	10
Metals	Vanadium	7440-62-2	26 [3]	-	50 (0.6 [a])	ILM04.1	50	0.6	50
Metals	Zinc	7440-66-6	1100 [3]	-	20	ILM04.1	20	3.4	20
Metals	Cyanide*	57-12-5	6.2 [4]	200	10 (5 [b])	ILM04.1	10	5	10
Other	Chloride	16887-00-6	NA [6]	-	5000	SM4500-Cl B	5000	1000	5000

General Notes:

* Project-specific Preliminary Chemical of Potential Concern (PCOPC)

Notes on PALs:

The lowest of the risk criteria values was used for each compound

[1] USEPA Maximum Contaminant Level (USEPA, 2002)

[2] RIDEM Groundwater Quality Standards, Class GAA and GA (RIDEM, 1996)

[3] Region 9 Tap Water Preliminary Remediation Goals (PRGs), divided by 10 for non-carcinogens (USEPA Region 9, October 2000)

[4] Region 9 Tap Water Preliminary Remediation Goals (PRGs), as reported for non-carcinogens, multiplied by 10 for carcinogens as per risk assessor's direction (USEPA Region 9, October 2000)

[5] VOCs:
Criterion for 1,3-dichloropropene (CAS #542-75-6) was used for these compounds

Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	MCL [1] (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)

SVOCs:
Criterion for 2-nitroaniline (CAS #88-74-4) was used for 3-nitroaniline and 4-nitroaniline
Criterion for 4-nitrophenol (CAS #100-02-7) was used for 2-nitrophenol
Pesticides:
Criterion for endosulfan (CAS #115-29-7) was used for endosulfan I, endosulfan II, and endosulfan sulfate
Criterion for endrin (CAS #72-20-8) was used for endrin ketone and endrin aldehyde
Criterion for chlordane (CAS #12789-03-06) was used for alpha-chlordane and gamma-chlordane
PCBs:
Criterion for Total PCBs (CAS #1336-36-3) was used for all individual aroclors

[6] NA = no risk criterion used for this compound

[7] USEPA Secondary Drinking Water Regulation (USEPA, 2002)

[8] Criterion is for Total Trihalomethanes (USEPA, 2002)

[9] Criterion is an action level for drinking water (USEPA, 2002)

Notes on PQLs:

A PQL value in **bold** indicates the PQL is greater than 1/3 of the PAL for that compound. The value in parentheses is the expected lower limit of estimated (J or B) quantification.

[a] Compound is not a PCOPC. Positively identified compound concentrations to be reported down to current laboratory MDL and J-flagged for organic analyses, or to current laboratory IDL and B-flagged for inorganic analyses.

[b] Compound is a PCOPC. Positively identified compound concentrations to be reported down to current laboratory MDL and J-flagged for organic analyses, or to current laboratory IDL and B-flagged for inorganic analyses, and LFB to be included in analytical QC.

Notes on Methods:

[#] For leachate samples, OLM04.2 may be substituted for OLC03.2 if screening results indicate high concentrations of organic compounds are present

Medium / Matrix: *Groundwater*
Region I Matrix Code: GW *and GWLE*[#]
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Notes on Laboratory MDLs:

Values listed are MDLs for organic methods and IDLs for inorganic methods. Values current through December 2002. MDLs are performed annually for organic methods and IDLs are performed quarterly for inorganic methods. MDL/IDLs current at the time of analysis will be included in data packages.

[i] MDL study not required in method Statement of Work, or not appropriate to method.

[ii] Not a target compound in the Statement of Work for the method.

[iii] Listed MDL is for non-modified method. Detection limit for modified method is expected to be below this value (see specific method modification in QAPP).

[iv] MDL for modified method.

Medium / Matrix: Surface Water
Region I Matrix Code: SW and SWLE#
Concentration Level: *Low*

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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)
VOCs	Dichlorodifluoromethane	75-71-8	39 [3]	0.5	OLC03.2	0.5	0.24	0.5
VOCs	Chloromethane	7487-3	15 [7]	0.5	OLC03.2	0.5	0.13	0.5
VOCs	Bromomethane	74-83-9	8.7 [7]	0.5	OLC03.2	0.5	0.26	0.5
VOCs	Vinyl Chloride*	75-01-4	0.41 [7]	**0.5 (0.19 [b])**	OLC03.2	0.5	0.19	0.5
VOCs	Chloroethane	075-00-3	4.6 [3]	0.5	OLC03.2	0.5	0.38	0.5
VOCs	Trichlorofluoromethane*	75-69-4	130 [3]	5	OLC03.2	0.5	0.16	0.5
VOCs	Methylene Chloride	75-09-2	4.7 [1]	0.5	OLC03.2	0.5	0.25	0.5
VOCs	Acetone	67-64-1	61 [3]	5	OLC03.2	5	4.80	5
VOCs	Carbon Disulfide	75-15-0	0.92 [6]	**0.5 (0.12 [a])**	OLC03.2	0.5	0.12	0.5
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5900 [3]	0.5	OLC03.2	0.5	0.27	0.5
VOCs	1,1-Dichloroethene*	75-35-4	0.057 [1]	**0.5 (0.18 [b])**	OLC03.2	0.5	0.18	0.5
VOCs	1,1-Dichloroethane	75-34-3	47 [5,6]	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Methyl Acetate	79-20-9	610 [3]	0.5	OLC03.2	0.5	0.22	0.5
VOCs	trans-1,2-Dichloroethene	156-60-5	12 [3]	0.5	OLC03.2	0.5	0.13	0.5
VOCs	Methyl tert-Butyl Ether	1634-04-4	2 [3]	0.5	OLC03.2	0.5	0.18	0.5
VOCs	Chloroform*	67-66-3	1.6 [7]	0.5	OLC03.2	0.5	0.10	0.5
VOCs	1,2-Dichloroethane*	107-06-2	0.38 [1]	**0.5 (0.10 [b])**	OLC03.2	0.5	0.10	0.5
VOCs	cis-1,2-Dichloroethene	156-59-2	6.1 [3]	0.5	OLC03.2	0.5	0.13	0.5
VOCs	2-Butanone	78-93-3	190 [3]	5	OLC03.2	5	1.35	5
VOCs	1,1,1-Trichloroethane	71-55-6	11 [6]	0.5	OLC03.2	0.5	0.19	0.5
VOCs	Cyclohexane	110-82-7	3500 [3]	0.5	OLC03.2	0.5	0.12	0.5
VOCs	Carbon Tetrachloride*	56-23-5	0.25 [1]	**0.5 (0.11 [b])**	OLC03.2	0.5 (0.1 [c])	0.11	0.5 (0.1 [c])
VOCs	Bromodichloromethane	75-27-4	0.56 [1]	**0.5 (0.10 [a])**	OLC03.2	0.5	0.10	0.5
VOCs	1,2-Dichloropropane*	78-87-5	0.52 [1]	**0.5 (0.15 [b])**	OLC03.2	0.5	0.15	0.5
VOCs	cis-1,3-Dichloropropene*	10061-01-5	0.055 [6]	**0.5 (0.18 [b])**	OLC03.2	0.5	0.18	0.5
VOCs	Trichloroethene*	79-01-6	2.7 [1]	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Methylcyclohexane	108-87-2	520 [3]	5	OLC03.2	0.5	0.11	0.5
VOCs	Dibromochloromethane	124-48-1	0.41 [1]	**0.5 (0.13 [a])**	OLC03.2	0.5	0.13	0.5
VOCs	1,2-Dibromoethane	106-93-4	0.0076 [3]	**0.5 (0.10 [a])**	OLC03.2	0.5	0.10	0.5
VOCs	1,1,2-Trichloroethane*	79-00-5	0.6 [1]	**0.5 (0.13 [b])**	OLC03.2	0.5	0.13	0.5

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VOCs	Benzene*	71-43-2	1.2 [1]	0.5 (0.12 [b])	OLC03.2	0.5	0.12	0.5
VOCs	trans-1,3-Dichloropropene*	10061-02-6	0.055 [6]	0.5 (0.23 [b])	OLC03.2	0.5	0.23	0.5
VOCs	Bromoform	75-25-2	4.3 [1]	0.5	OLC03.2	0.5	0.09	0.5
VOCs	4-Methyl-2-pentanone	108-10-1	16 [3]	5	OLC03.2	5	0.71	5
VOCs	2-Hexanone	591-78-6	99 [6]	5	OLC03.2	5	0.82	5
VOCs	Tetrachloroethene*	127-18-4	0.8 [1]	0.5 (0.11 [b])	OLC03.2	0.5	0.11	0.5
VOCs	1,1,2,2-Tetrachloroethane*	79-34-5	0.17 [1]	0.5 (0.14 [b])	OLC03.2	0.5	0.14	0.5
VOCs	Isopropylbenzene	98-82-8	NA [13]	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Toluene*	108-88-3	9.8 [6]	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Chlorobenzene	108-90-7	11 [3]	0.5	OLC03.2	0.5	0.14	0.5
VOCs	Ethylbenzene	100-41-4	7.3 [6]	0.5	OLC03.2	0.5	0.11	0.5
VOCs	Styrene	100-42-5	160 [3]	0.5	OLC03.2	0.5	0.16	0.5
VOCs	1,3-Dichlorobenzene	541-73-1	0.55 [7]	0.5 (0.25 [a])	OLC03.2	0.5	0.25	0.5
VOCs	1,4-Dichlorobenzene*	106-46-7	1.2 [4]	0.5 (0.27 [b])	OLC03.2	0.5	0.27	0.5
VOCs	1,2-Dichlorobenzene	95-50-1	1.8 [4]	0.5	OLC03.2	0.5	0.19	0.5
VOCs	1,2-Dibromo-3-chloropropane	96-12-8	0.047 [7]	0.5 (0.28 [a])	OLC03.2	0.5	0.28	0.5
VOCs	1,2,4-Trichlorobenzene	120-82-1	1.7 [4]	0.5	OLC03.2	0.5	0.28	0.5
VOCs	Xylenes (total)	1330-20-7	13 [6]	0.5	OLC03.2	0.5	0.41	0.5
SVOCs	Benzaldehyde	100-52-7	360 [3]	5	OLC03.2	5	1.25	5
SVOCs	Phenol	108-95-2	5.6 [4]	5 (0.55 [a])	OLC03.2	5	0.55	5
SVOCs	bis(2-Chloroethyl)ether	111-44-4	0.031 [1]	5 (0.58 [a])	OLC03.2	5	0.58	5
SVOCs	2-Chlorophenol	95-57-8	3 [3]	5 (0.72 [a])	OLC03.2	5	0.72	5
SVOCs	2-Methylphenol	95-48-7	13 [6]	5 (0.82 [a])	OLC03.2	5	0.82	5
SVOCs	2,2'-oxybis(1-Chloropropane)	108-60-1	1400 [1]	5	OLC03.2	5	0.48	5
SVOCs	Acetophenone	98-86-2	0.042 [7]	5 (0.65 [a])	OLC03.2	5	0.65	5
SVOCs	4-Methylphenol	106-44-5	18 [3]	5	OLC03.2	5	0.79	5
SVOCs	N-Nitroso-di-n-propylamine	621-64-7	0.005 [1]	5 (0.95 [a])	OLC03.2	5	0.95	5
SVOCs	Hexachloroethane	67-72-1	1.9 [1]	5 (0.85 [a])	OLC03.2	5	0.85	5
SVOCs	Nitrobenzene	98-95-3	3.4 [7]	5 (3.80 [a])	OLC03.2	5	3.80	5
SVOCs	Isophorone	78-59-1	36 [1]	5	OLC03.2	5	0.70	5

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SVOCs	2-Nitrophenol	88-75-5	29 [3,11]	5	OLC03.2	5	0.73	5
SVOCs	2,4-Dimethylphenol	105-67-9	2.4 [4]	**5 (1.41 [a])**	OLC03.2	5	1.41	5
SVOCs	bis(2-Chloroethoxy)methane	111-91-1	NA [13]	5	OLC03.2	5	0.74	5
SVOCs	2,4-Dichlorophenol	120-83-2	2.2 [4]	**5 (0.61 [a])**	OLC03.2	5	0.61	5
SVOCs	Naphthalene*	91-20-3	2.6 [4]	0.1	8270SIM	0.1	0.025	0.1
SVOCs	4-Chloroaniline	106-47-8	15 [3]	5	OLC03.2	5	1.43	5
SVOCs	Hexachlorobutadiene	87-68-3	0.44 [1]	**5 (0.60 [a])**	OLC03.2	5	0.60	5
SVOCs	Caprolactum	105-60-2	1800 [3]	5	OLC03.2	5	1.69	5
SVOCs	4-Chloro-3-methylphenol	59-50-7	NA [13]	5	OLC03.2	5	0.66	5
SVOCs	2-Methylnaphthalene*	91-57-6	2.6 [4]	0.1	8270SIM	0.1	0.011	0.1
SVOCs	Hexachlorocyclopentadiene	77-47-4	0.008 [4]	**5 (0.84 [a])**	OLC03.2	5	0.84	5
SVOCs	2,4,6-Trichlorophenol	88-06-2	0.36 [4]	**5 (0.87 [a])**	OLC03.2	5	0.87	5
SVOCs	2,4,5-Trichlorophenol	95-95-4	0.51 [4]	**10 (2.91 [a])**	OLC03.2	10	2.91	10
SVOCs	1,1'-Biphenyl	92-52-4	14 [5]	**5 (0.60 [a])**	OLC03.2	5	0.60	5
SVOCs	2-Chloronaphthalene	91-58-7	49 [3]	5	OLC03.2	5	0.66	5
SVOCs	2-Nitroaniline	88-74-4	2.1 [7]	**10 (2.32 [a])**	OLC03.2	10	2.32	10
SVOCs	Dimethylphthalate	131-11-3	37 [4]	5	OLC03.2	5	0.60	5
SVOCs	Acenaphthylene*	208-96-8	2.6 [4]	0.1	8270SIM	0.1	0.016	0.1
SVOCs	2,6-Dinitrotoluene	606-20-2	3.6 [3]	**5 (0.79 [a])**	OLC03.2	5	0.79	5
SVOCs	3-Nitroaniline	99-09-2	2.1 [7,11]	**10 (1.80 [a])**	OLC03.2	10	1.80	10
SVOCs	Acenaphthene*	83-32-9	1.9 [4]	0.1	8270SIM	0.1	0.017	0.1
SVOCs	2,4-Dinitrophenol	51-28-5	0.69 [4]	**10 (4.05 [a])**	OLC03.2	10	4.05	10
SVOCs	4-Nitrophenol	100-02-7	29 [3]	**10 (2.31 [a])**	OLC03.2	10	2.31	10
SVOCs	Dibenzofuran	132-64-9	20 [5]	5	OLC03.2	5	0.68	5
SVOCs	2,4-Dinitrotoluene	121-14-2	0.11 [1]	**5 (0.50 [a])**	OLC03.2	5	0.50	5
SVOCs	Diethylphthalate	84-66-2	58 [4]	5	OLC03.2	5	0.78	5
SVOCs	4-Chlorophenyl-phenylether	7005-72-3	NA [13]	15	OLC03.2	5	0.75	5
SVOCs	Fluorene*	86-73-7	3.9 [5]	0.1	8270SIM	0.1	0.012	0.1
SVOCs	4-Nitroaniline	100-01-6	2.1 [7,11]	**10 (1.85 [a])**	OLC03.2	10	1.85	10
SVOCs	4,6-Dinitro-2-methylphenol	534-52-1	13.4 [1,8]	**10 (2.44 [a])**	OLC03.2	10	2.44	10

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SVOCs	N-Nitrosodiphenylamine	86-30-6	5 [1]	**5 (0.85 [a])**	OLC03.2	5	0.85	5
SVOCs	4-Bromophenyl-phenylether	101-55-3	0.4 [4]	**5 (0.87 [a])**	OLC03.2	5	0.87	5
SVOCs	Hexachlorobenzene	118-74-1	0.00075 [1]	**5 (0.76 [a])**	OLC03.2	5	0.76	5
SVOCs	Atrazine	1912-24-9	3 [7]	**5 (1.04 [a])**	OLC03.2	5	1.04	5
SVOCs	Pentachlorophenol*	87-86-5	0.28 [1]	**5 (0.69 [b])**	OLC03.2	5	0.69	5
SVOCs	Phenanthrene*	85-01-8	6.3 [5]	0.1	8270SIM	0.1	0.024	0.1
SVOCs	Anthracene*	120-12-7	0.73 [6]	0.1	8270SIM	0.1	0.023	0.1
SVOCs	Carbazole	86-74-8	34 [7]	5	OLC03.2	5	[ii]	5
SVOCs	Di-n-butylphthalate*	84-74-2	33 [5]	5	OLC03.2	5	0.70	5
SVOCs	Fluoranthene*	206-44-0	4.4 [4]	0.1	8270SIM	0.1	0.014	0.1
SVOCs	Pyrene*	129-00-0	18 [3]	0.1	8270SIM	0.1 [b]	0.028	0.1 [b]
SVOCs	Butylbenzylphthalate	85-68-7	1.9 [4]	**5 (0.70 [a])**	OLC03.2	5	0.70	5
SVOCs	3,3'-Dichlorobenzidine	91-94-1	0.077 [9]	**5 (1.84 [a])**	OLC03.2	5	1.84	5
SVOCs	Benzo(a)anthracene*	56-55-3	0.0044 [1]	**0.1 (0.008 [b])**	8270SIM	0.1	0.008	0.1
SVOCs	Chrysene*	218-01-9	0.0044 [1]	**0.1 (0.013 [b])**	8270SIM	0.1	0.013	0.1
SVOCs	bis(2-Ethylhexyl)phthalate*	117-81-7	1.8 [1]	**5 (0.5 [b])**	OLC03.2	5	0.5	5
SVOCs	Di-n-octylphthalate	117-84-0	73 [3]	5	OLC03.2	5	0.73	5
SVOCs	Benzo(b)fluoranthene*	205-99-2	0.0044 [1]	**0.1 (0.14 [b])**	8270SIM	0.1	0.14	0.1
SVOCs	Benzo(k)fluoranthene*	207-08-9	0.0044 [1]	**0.1 (0.007 [b])**	8270SIM	0.1	0.007	0.1
SVOCs	Benzo(a)pyrene*	50-32-8	0.0044 [1]	**0.1 (0.020 [b])**	8270SIM	0.1	0.020	0.1
SVOCs	Indeno(1,2,3-cd)pyrene*	193-39-5	0.0044 [1]	**0.1 (0.008 [b])**	8270SIM	0.1	0.008	0.1
SVOCs	Dibenzo(a,h)anthracene*	53-70-3	0.0044 [1]	**0.1 (0.011 [b])**	8270SIM	0.1	0.011	0.1
SVOCs	Benzo(g,h,i)perylene*	191-24-2	2.6 [4]	0.1	8270SIM	0.1	0.013	0.1
Pesticides	alpha-BHC	319-84-6	0.0039 [1]	**0.0025 (0.00172 [a])**	OLC03.2 mod.	0.0025	0.00172 [iii]	0.0025
Pesticides	beta-BHC	319-85-7	0.014 [1]	0.0025	OLC03.2 mod.	0.0025	0.00228 [iii]	0.0025
Pesticides	delta-BHC	319-86-8	NA [13]	0.0025	OLC03.2 mod.	0.0025	0.00433 [iii]	0.0025
Pesticides	gamma-BHC (Lindane)	58-89-9	0.019 [1]	0.0025	OLC03.2 mod.	0.0025	0.00168 [iii]	0.0025
Pesticides	Heptachlor	76-44-8	0.00021 [1]	**0.0025 (0.002 [a])**	OLC03.2 mod.	0.0025	0.00401 [iii]	0.0025
Pesticides	Aldrin	309-00-2	0.00013 [1]	**0.0025 (0.002 [a])**	OLC03.2 mod.	0.0025	0.00251 [iii]	0.0025
Pesticides	Heptachlor epoxide	1024-57-3	0.0001 [1]	**0.0025 (0.00027 [a])**	OLC03.2 mod.	0.0025	0.00027 [iii]	0.0025

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Pesticides	Endosulfan I	959-98-8	0.051 [5]	0.0025	OLC03.2 mod.	0.0025	0.00021 [iii]	0.0025
Pesticides	Dieldrin*	60-57-1	0.00014 [1]	**0.005 (0.00057 [b])**	OLC03.2 mod.	0.005	0.00057 [iii]	0.005
Pesticides	4,4'-DDE	72-55-9	0.00059 [1]	**0.005 (0.00048 [a])**	OLC03.2 mod.	0.005	0.00048 [iii]	0.005
Pesticides	Endrin	72-20-8	0.0023 [4,11]	**0.005 (0.00127 [a])**	OLC03.2 mod.	0.005	0.00127 [iii]	0.005
Pesticides	Endosulfan II	33213-65-9	0.051 [5]	0.005	OLC03.2 mod.	0.005	0.00172 [iii]	0.005
Pesticides	4,4'-DDD	72-54-8	0.00083 [1]	**0.005 (0.00153 [a])**	OLC03.2 mod.	0.005	0.00153 [iii]	0.005
Pesticides	Endosulfan sulfate	1031-07-8	110 [1]	0.005	OLC03.2 mod.	0.005	0.00114 [iii]	0.005
Pesticides	4,4'-DDT	50-29-3	0.00059 [1]	**0.005 (0.0012 [a])**	OLC03.2 mod.	0.005	0.0012 [iii]	0.005
Pesticides	Methoxychlor	72-43-5	0.019 [5]	**0.025 (0.00661 [a])**	OLC03.2 mod.	0.025	0.00661 [iii]	0.025
Pesticides	Endrin ketone	53494-70-5	0.0023 [4,11]	**0.005 (0.00092 [a])**	OLC03.2 mod.	0.005	0.00092 [iii]	0.005
Pesticides	Endrin aldehyde	7421-93-4	0.76 [1]	0.005	OLC03.2 mod.	0.005	0.00163 [iii]	0.005
Pesticides	alpha-Chlordane	5103-71-9	0.0021 [1,11]	**0.0025 (0.00057 [a])**	OLC03.2 mod.	0.0025	0.00057 [iii]	0.0025
Pesticides	gamma-Chlordane	5103-74-2	0.0021 [1,11]	**0.0025 (0.0002 [a])**	OLC03.2 mod.	0.0025	0.0002 [iii]	0.0025
Pesticides	Toxaphene	8001-35-2	0.0002 [2]	**0.25 (0.13 [a])**	OLC03.2 mod.	0.25	[i]	0.25
PCBs	Aroclor 1016*	12674-11-2	0.00017 [1,11]	**0.05 (0.025 [b])**	OLC03.2 mod.	0.05	[i]	0.05
PCBs	Aroclor 1221*	11104-28-2	0.00017 [1,11]	**0.1 (0.05 [b])**	OLC03.2 mod.	0.1	[i]	0.1
PCBs	Aroclor 1232*	11141-16-5	0.00017 [1,11]	**0.05 (0.025 [b])**	OLC03.2 mod.	0.05	[i]	0.05
PCBs	Aroclor 1242*	53469-21-9	0.00017 [1,11]	**0.05 (0.025 [b])**	OLC03.2 mod.	0.05	[i]	0.05
PCBs	Aroclor 1248*	12672-29-6	0.00017 [1,11]	**0.05 (0.025 [b])**	OLC03.2 mod.	0.05	[i]	0.05
PCBs	Aroclor 1254*	11097-69-1	0.00017 [1,11]	**0.05 (0.025 [b])**	OLC03.2 mod.	0.05	[i]	0.05
PCBs	Aroclor 1260*	11096-82-5	0.00017 [1,11]	**0.05 (0.025 [b])**	OLC03.2 mod.	0.05	[i]	0.05
Metals	Aluminum	7429-90-5	87 [4]	**200 (7.5 [a])**	ILM04.1	200	7.5	200
Metals	Antimony	7440-36-0	1.5 [3]	**60 (2 [a])**	ILM04.1	60	2	60
Metals	Arsenic*	7440-38-2	0.018 [1]	**0.05 (0.04 [b])**	1632 mod	0.05	0.04 [iv]	0.05
Metals	Barium	7440-39-3	3.9 [5]	**200 (0.4 [a])**	ILM04.1	200	0.4	200
Metals	Beryllium	7440-41-7	0.17 [4]	**5 (0.2 [a])**	ILM04.1	5	0.2	5
Metals	Cadmium*	7440-43-9	0.03 [10,12]	**5 (0.3 [b])**	ILM04.1	5	0.3	5
Metals	Calcium	7440-70-2	NA [13]	5000	ILM04.1	5000	97.7	5000
Metals	Chromium*	7440-47-3	11 [3]	**10 (0.3 [b])**	ILM04.1	10	0.3	10
Metals	Cobalt	7440-48-4	3 [5]	**50 (0.4 [a])**	ILM04.1	50	0.4	50
Metals	Copper*	7440-50-8	2.87 [4,5,12]	**25 (1 [b])**	ILM04.1	25	1	25

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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)
Metals	Iron	7439-89-6	1000 [5]	100	ILM04.1	100	4.3	100
Metals	Lead*	7439-92-1	0.32 [4,12]	**3 (2.6 [b])**	ILM04.1	3	2.6	3
Metals	Magnesium	7439-95-4	NA [13]	5000	ILM04.1	5000	5.6	5000
Metals	Manganese	7439-96-5	80 [5]	15	ILM04.1	15	0.3	15
Metals	Mercury	7439-97-6	0.0122 [4]	**0.2 (0.1 [a])**	ILM04.1	0.2	0.1	0.2
Metals	Nickel	7440-02-0	40.28 [4,5,12]	**40 (0.5 [a])**	ILM04.1	40	0.5	40
Metals	Potassium	7440-09-7	NA [13]	5000	ILM04.1	5000	49.7	5000
Metals	Selenium	7782-49-2	5 [2]	**5 (3.8 [a])**	ILM04.1	5	3.8	5
Metals	Silver	7440-22-4	0.36 [6]	**10 (0.7 [a])**	ILM04.1	10	0.7	10
Metals	Sodium	7440-23-5	NA [13]	5000	ILM04.1	5000	199	5000
Metals	Thallium	7440-28-0	1 [4]	**10 (1 [a])**	ILM04.1	10	1	10
Metals	Vanadium	7440-62-2	19 [5]	**50 (0.6 [a])**	ILM04.1	50	0.6	50
Metals	Zinc	7440-66-6	26.72 [4,5,12]	**20 (3.4 [a])**	ILM04.1	20	3.4	20
Metals	Cyanide*	57-12-5	5.2 [2]	**10 (5 [b])**	ILM04.1	10	5	10
Other	Chloride	16887-00-6	NA [13]	5000	SM4500-Cl B	5000	1000	5000
Other	TOC	-	NA [13]	6000	415.1	6000	2000	6000
Other	BOD	-	NA [13]	3000	405.1	3000	i	3000
Other	sulfate	14808-79-8	NA [13]	7000	SM4500	7000	2000	7000
Other	nitrate, as N	14797-55-8	NA [13]	50	353.2	50	10	50
Other	nitrite, as N	14797-65-0	NA [13]	10	353.2	10	2	10
Other	ammonia, as N	7664-41-7	NA [13]	200	SM4500	200	50	200
Other	o-phosphate, as P	7664-38-2	NA [13]	60	SM4500	60	20	60
Other	hardness, as $CaCo_3$	-	NA [13]	4000	SM2340D (calculate)	4000	i	4000
Other	fecal coliform	-	NA [13]	2 cols/100 mL	SM9221E	2 cols/100 mL	i	2 cols/100 mL

General Notes:

* Project-specific Preliminary Chemical of Potential Concern (PCOPC)

Notes on PALs:

The lowest of the risk criteria values was used for each compound

[1] USEPA Water Quality Criteria - Water and Organisms (USEPA, 1999)

[2] USEPA Water Quality Criteria - Freshwater Criterion Continuous Concentration (CCC) (USEPA, 1999)

Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)

[3] Region 9 Tap Water Preliminary Remediation Goals (PRGs), divided by 10 for non-carcinogens (USEPA Region 9, 2000)

[4] RIDEM Ambient Water Quality Criteria (AWQC) - Aquatic Life Criteria (chronic freshwater) (RIDEM, June 2000)

[5] Ecotox Thresholds - Freshwater - Tier II or AWQC and FCV (USEPA, January 1996)

[6] Oak Ridge National Laboratory - Surface Water Screening Levels - Tier II, Secondary Chronic Value, 1996 Revision

[7] Region 9 Tap Water Preliminary Remediation Goals (PRGs), as reported for non-carcinogens, multiplied by 10 for carcinogens as per risk assessor's direction (USEPA Region 9, 20020

[8] RIDEM AWQC - Human Health Criteria (water and fish consumption) (RIDEM, June 2000)

[9] USEPA AWQC - Human Health Criteria (fish consumption only) (RIDEM, June 2000)

[10] USEPA AWQC Update for cadmium (USEPA, 2001)

[11] SVOCs:
Criterion for 2-nitroaniline (CAS #88-74-4) was used for 3-nitroaniline and 4-nitroaniline
Criterion for 4-nitrophenol (CAS #100-02-7) was used for 2-nitrophenol
Criterion for naphthalene (CAS #91-20-3) was used for acenaphthylene, 2-methylnaphthalene, phenanthrene, and benzo(g,h,i)perylene
Pesticides:
Criterion for endrin (CAS #72-20-8) was used for endrin ketone and endrin aldehyde
Criterion for chlordane (CAS #12789-03-06) was used for alpha-chlordane and gamma-chlordane
PCBs:
Criterion for Total PCBs (CAS #1336-36-3) was used for all individual aroclors

[12] Indicates this criterion has been corrected to a hardness of 20 mg/L $CaCO_3$

[13] NA = no risk criteria used for this compound

Notes on PQLs:

A PQL value in **bold** indicates the PQL is greater than 1/3 of the PAL for that compound. The value in parentheses is the expected lower limit of estimated (J or B) quantification.

[a] Compound is not a PCOPC. Positively identified compound concentrations to be reported down to current laboratory MDL and J-flagged for organic analyses, or to current laboratory IDL and B-flagged for inorganic analyses.

[b] Compound is a PCOPC. Positively identified compound concentrations to be reported down to current laboratory MDL and J-flagged for organic analyses, or to current laboratory IDL and B-flagged for inorganic analyses, and LFB to be included in analytical QC.

Notes on Methods:

[#] For leachate samples, OLM04.2 may be substituted for OLC03.2 if screening results indicate high concentrations of organic compounds are present

Notes on Laboratory MDLs:

Values listed are MDLs for organic methods and IDLs for inorganic methods. Values current through December 2002. MDLs are performed annually for organic methods and IDLs are performed quarterly for inorganic methods. MDL/IDLs current at the time of analysis will be included in data packages

[i] MDL study not required in method Statement of Work, or not appropriate to method.

[ii] Not a target compound in the Statement of Work for the method.

Medium / Matrix: Surface Water
Region I Matrix Code: SW and SWLE[#]
Concentration Level: *Low*

Title: *Peterson/Puritan Superfund Site OU2 QAPP*
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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/L)	Project Quantitation Limit (ug/L)	Laboratory Analytical Method	Analytical Method QLs (ug/L)	Laboratory MDLs (ug/L)	Achievable Laboratory QLs (ug/L)

[iii] Listed MDL is for non-modified method. Detection limit for modified method is expected to be below this value (see specific method modification in QAPP).
[iv] MDL for modified method.

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)
VOCs	Dichlorodifluoromethane	75-71-8	9400 [3]	10	OLM04.2	10	i	10
VOCs	Chloromethane	7487-3	1200 [3]	10	OLM04.2	10	i	10
VOCs	Bromomethane	74-83-9	390 [3]	10	OLM04.2	10	i	10
VOCs	Vinyl Chloride*	75-01-4	150 [3]	10	OLM04.2	10	i	10
VOCs	Chloroethane	075-00-3	3000 [3]	10	OLM04.2	10	i	10
VOCs	Trichlorofluoromethane*	75-69-4	39000 [3]	10	OLM04.2	10	i	10
VOCs	Methylene Chloride	75-09-2	370 [2]	10	OLM04.2	10	i	10
VOCs	Acetone	67-64-1	8.7 [2]	10 (1 [a])	OLM04.2	10	i	10
VOCs	Carbon Disulfide	75-15-0	0.85 [2]	10 (1 [a])	OLM04.2	10	i	10
VOCs	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5600000 (sat) [3,9]	10	OLM04.2	10	i	10
VOCs	1,1-Dichloroethene	75-35-4	31 [2]	10	OLM04.2	10	i	10
VOCs	1,1-Dichloroethane*	75-34-3	27 [2]	10 (1 [b])	OLM04.2	10	i	10
VOCs	Methyl Acetate	79-20-9	2200000 [3]	10	OLM04.2	10	i	10
VOCs	trans-1,2-Dichloroethene	156-60-5	400 [2,10]	10	OLM04.2	10	i	10
VOCs	Methyl tert-Butyl Ether	1634-04-4	NA [11]	10	OLM04.2	10	i	10
VOCs	Chloroform*	67-66-3	22 [2]	10 (1 [b])	OLM04.2	10	i	10
VOCs	1,2-Dichloroethane*	107-06-2	250 [2]	10	OLM04.2	10	i	10
VOCs	cis-1,2-Dichloroethene	156-59-2	400 [2,10]	10	OLM04.2	10	i	10
VOCs	2-Butanone	78-93-3	270 [2]	10	OLM04.2	10	i	10
VOCs	1,1,1-Trichloroethane	71-55-6	170 [6]	10	OLM04.2	10	i	10
VOCs	Cyclohexane	110-82-7	140000 [3]	10	OLM04.2	10	i	10
VOCs	Carbon Tetrachloride*	56-23-5	47 [2]	10	OLM04.2	10	i	10
VOCs	Bromodichloromethane	75-27-4	1000 [3]	10	OLM04.2	10	i	10
VOCs	1,2-Dichloropropane*	78-87-5	350 [3]	10	OLM04.2	10	i	10
VOCs	cis-1,3-Dichloropropene*	10061-01-5	0.051 [2]	10 (1 [b])	OLM04.2	10	i	10
VOCs	Trichloroethene*	79-01-6	1600 [6]	10	OLM04.2	10	i	10
VOCs	Methylcyclohexane	108-87-2	260000 [3]	10	OLM04.2	10	i	10
VOCs	Dibromochloromethane	124-48-1	1100 [3]	10	OLM04.2	10	i	10
VOCs	1,2-Dibromoethane	106-93-4	6.9 [3]	10 (1 [a])	OLM04.2	10	i	10

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)
VOCs	1,1,2-Trichloroethane*	79-00-5	840 [3]	10	OLM04.2	10	i	10
VOCs	Benzene*	71-43-2	57 [6]	10	OLM04.2	10	i	10
VOCs	trans-1,3-Dichloropropene*	10061-02-6	0.051 [2]	**10 (1 [b])**	OLM04.2	10	i	10
VOCs	Bromoform	75-25-2	62000 [3]	10	OLM04.2	10	i	10
VOCs	4-Methyl-2-pentanone	108-10-1	33 [2]	10	OLM04.2	10	i	10
VOCs	2-Hexanone	591-78-6	22 [2]	**10 (1 [a])**	OLM04.2	10	i	10
VOCs	Tetrachloroethene*	127-18-4	410 [2]	10	OLM04.2	10	i	10
VOCs	1,1,2,2-Tetrachloroethane*	79-34-5	380 [3]	10	OLM04.2	10	i	10
VOCs	Isopropylbenzene	98-82-8	NA [11]	10	OLM04.2	10	i	10
VOCs	Toluene*	108-88-3	50 [2]	10	OLM04.2	10	i	10
VOCs	Chlorobenzene	108-90-7	410 [2]	10	OLM04.2	10	i	10
VOCs	Ethylbenzene	100-41-4	89 [2]	10	OLM04.2	10	i	10
VOCs	Styrene	100-42-5	1700000 (sat) [3,9]	10	OLM04.2	10	i	10
VOCs	1,3-Dichlorobenzene	541-73-1	1300 [3]	10	OLM04.2	10	i	10
VOCs	1,4-Dichlorobenzene*	106-46-7	340 [4]	10	OLM04.2	10	i	10
VOCs	1,2-Dichlorobenzene	95-50-1	330 [2]	10	OLM04.2	10	i	10
VOCs	1,2-Dibromo-3-chloropropane	96-12-8	450 [3]	10	OLM04.2	10	i	10
VOCs	1,2,4-Trichlorobenzene	120-82-1	9200 [6]	10	OLM04.2	10	i	10
VOCs	Xylenes (total)	1330-20-7	160 [2]	10	OLM04.2	10	i	10
SVOCs	Benzaldehyde	100-52-7	610000 [3]	330	OLM04.2	330	i	330
SVOCs	Phenol	108-95-2	57 [2]	**330 (33 [a])**	OLM04.2	330	i	330
SVOCs	bis(2-Chloroethyl)ether	111-44-4	2100 [4]	330	OLM04.2	330	i	330
SVOCs	2-Chlorophenol	95-57-8	6300 [3]	330	OLM04.2	330	i	330
SVOCs	2-Methylphenol	95-48-7	12 [2]	**330 (33 [a])**	OLM04.2	330	i	330
SVOCs	2,2'-oxybis(1-Chloropropane)	108-60-1	2900 [3]	330	OLM04.2	330	i	330
SVOCs	Acetophenone	98-86-2	490 [4]	**330 (33 [a])**	OLM04.2	330	i	330
SVOCs	4-Methylphenol	106-44-5	31000 [3]	330	OLM04.2	330	i	330
SVOCs	N-Nitroso-di-n-propylamine	621-64-7	690 [4]	**330 (33 [a])**	OLM04.2	330	i	330
SVOCs	Hexachloroethane	67-72-1	1000 [6]	330	OLM04.2	330	i	330

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)
SVOCs	Nitrobenzene	98-95-3	2000 [3]	330	OLM04.2	330	i	330
SVOCs	Isophorone	78-59-1	510000 [3]	330	OLM04.2	330	i	330
SVOCs	2-Nitrophenol	88-75-5	49000 [3,10]	330	OLM04.2	330	i	330
SVOCs	2,4-Dimethylphenol	105-67-9	120000 [3]	330	OLM04.2	330	i	330
SVOCs	bis(2-Chloroethoxy)methane	111-91-1	NA [11]	330	OLM04.2	330	i	330
SVOCs	2,4-Dichlorophenol	120-83-2	18000 [3]	330	OLM04.2	330	i	330
SVOCs	Naphthalene*	91-20-3	160 [5]	3.3	8270SIM	3.3	i	3.3
SVOCs	4-Chloroaniline	106-47-8	24000 [3]	330	OLM04.2	330	i	330
SVOCs	Hexachlorobutadiene	87-68-3	6200 [3]	330	OLM04.2	330	i	330
SVOCs	Caprolactum	105-60-2	3100000 [3]	330	OLM04.2	330	i	330
SVOCs	4-Chloro-3-methylphenol	59-50-7	NA [11]	330	OLM04.2	330	i	330
SVOCs	2-Methylnaphthalene*	91-57-6	160 [5,10]	3.3	8270SIM	3.3	i	3.3
SVOCs	Hexachlorocyclopentadiene	77-47-4	42000 [3]	330	OLM04.2	330	i	330
SVOCs	2,4,6-Trichlorophenol	88-06-2	44000 [3]	330	OLM04.2	330	i	330
SVOCs	2,4,5-Trichlorophenol	95-95-4	610000 [3]	830	OLM04.2	830	i	830
SVOCs	1,1'-Biphenyl	92-52-4	1100 [6]	330	OLM04.2	330	i	330
SVOCs	2-Chloronaphthalene	91-58-7	390000 [3]	330	OLM04.2	330	i	330
SVOCs	2-Nitroaniline	88-74-4	3500 [4]	830	OLM04.2	830	i	830
SVOCs	Dimethylphthalate	131-11-3	100000000 (max) [3]	330	OLM04.2	330	i	330
SVOCs	Acenaphthylene*	208-96-8	160 [5,10]	3.3	8270SIM	3.3	i	3.3
SVOCs	2,6-Dinitrotoluene	606-20-2	6100 [3]	330	OLM04.2	330	i	330
SVOCs	3-Nitroaniline	99-09-2	3500 [4,10]	830	OLM04.2	830	i	830
SVOCs	Acenaphthene*	83-32-9	16 [5]	3.3	8270SIM	3.3	i	3.3
SVOCs	2,4-Dinitrophenol	51-28-5	12000 [3]	830	OLM04.2	830	i	830
SVOCs	4-Nitrophenol	100-02-7	49000 [3]	830	OLM04.2	830	i	830
SVOCs	Dibenzofuran	132-64-9	420 [2]	3.3	8270SIM	3.3	i	3.3
SVOCs	2,4-Dinitrotoluene	121-14-2	12000 [3]	330	OLM04.2	330	i	330
SVOCs	Diethylphthalate	84-66-2	600 [2]	330 (33 [a])	OLM04.2	330	i	330
SVOCs	4-Chlorophenyl-phenylether	7005-72-3	NA [11]	330	OLM04.2	330	i	330

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

Title: *Peterson/Puritan Superfund Site OU2 QAPP*
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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)
SVOCs	Fluorene*	86-73-7	77.4 [8]	3.3	8270SIM	3.3	i	3.3
SVOCs	4-Nitroaniline	100-01-6	3500 [4,10]	830	OLM04.2	830	i	830
SVOCs	4,6-Dinitro-2-methylphenol	534-52-1	NA [11]	830	OLM04.2	830	i	830
SVOCs	N-Nitrosodiphenylamine	86-30-6	99000 [3]	330	OLM04.2	330	i	330
SVOCs	4-Bromophenyl-phenylether	101-55-3	1200 [2]	330	OLM04.2	330	i	330
SVOCs	Hexachlorobenzene	118-74-1	20 [1]	330 (33 [a])	OLM04.2	330	i	330
SVOCs	Atrazine	1912-24-9	2200 [3]	330	OLM04.2	330	i	330
SVOCs	Pentachlorophenol*	87-86-5	3000 [3]	830	OLM04.2	830	i	830
SVOCs	Phenanthrene*	85-01-8	204 [8]	3.3	8270SIM	3.3	i	3.3
SVOCs	Anthracene*	120-12-7	27 [2]	3.3	8270SIM	3.3	i	3.3
SVOCs	Carbazole	86-74-8	24000 [3]	330	OLM04.2	330	i	330
SVOCs	Di-n-butylphthalate*	84-74-2	11000 [6]	330	OLM04.2	330	i	330
SVOCs	Fluoranthene*	206-44-0	423 [8]	3.3	8270SIM	3.3	i	3.3
SVOCs	Pyrene*	129-00-0	195 [8]	3.3	8270SIM	3.3	i	3.3
SVOCs	Butylbenzylphthalate	85-68-7	11000 [6]	330	OLM04.2	330	i	330
SVOCs	3,3'-Dichlorobenzidine	91-94-1	1100 [3]	330	OLM04.2	330	i	330
SVOCs	Benzo(a)anthracene*	56-55-3	108 [8]	3.3	8270SIM	3.3	i	3.3
SVOCs	Chrysene*	218-01-9	166 [8]	3.3	8270SIM	3.3	i	3.3
SVOCs	bis(2-Ethylhexyl)phthalate*	117-81-7	35000 [3]	330	OLM04.2	330	i	330
SVOCs	Di-n-octylphthalate	117-84-0	120000 [3]	330	OLM04.2	330	i	330
SVOCs	Benzo(b)fluoranthene*	205-99-2	620 [3]	3.3	8270SIM	3.3	i	3.3
SVOCs	Benzo(k)fluoranthene*	207-08-9	240 [3]	3.3	8270SIM	3.3	i	3.3
SVOCs	Benzo(a)pyrene*	50-32-8	62 [3]	3.3	8270SIM	3.3	i	3.3
SVOCs	Indeno(1,2,3-cd)pyrene*	193-39-5	200 [1]	3.3	8270SIM	3.3	i	3.3
SVOCs	Dibenzo(a,h)anthracene*	53-70-3	33 [8]	3.3	8270SIM	3.3	i	3.3
SVOCs	Benzo(g,h,i)perylene*	191-24-2	170 [1]	3.3	8270SIM	3.3	i	3.3
Pesticides	alpha-BHC	319-84-6	90 [3]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	beta-BHC	319-85-7	320 [3]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	delta-BHC	319-86-8	120 [2]	0.4	OLM04.2 mod	0.4	i	0.4

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

Title: *Peterson/Puritan Superfund Site OU2 QAPP*
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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)
Pesticides	gamma-BHC (Lindane)	58-89-9	2.37 [8]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	Heptachlor	76-44-8	110 [3]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	Aldrin	309-00-2	2 [1]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	Heptachlor epoxide	1024-57-3	2.47 [8]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	Endosulfan I	959-98-8	2.9 [6]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	Dieldrin *	60-57-1	1.9 [8]	**0.7 (0.35 [b])**	OLM04.2 mod	0.7	i	0.7
Pesticides	4,4'-DDE	72-55-9	3.16 [8,10]	0.7	OLM04.2 mod	0.7	i	0.7
Pesticides	Endrin	72-20-8	2.22 [8]	0.7	OLM04.2 mod	0.7	i	0.7
Pesticides	Endosulfan II	33213-65-9	14 [6]	0.7	OLM04.2 mod	0.7	i	0.7
Pesticides	4,4'-DDD	72-54-8	4.88 [8,10]	0.7	OLM04.2 mod	0.7	i	0.7
Pesticides	Endosulfan sulfate	1031-07-8	5.4 [6]	0.7	OLM04.2 mod	0.7	i	0.7
Pesticides	4,4'-DDT	50-29-3	1.6 [5]	**0.7(0.35 [a])**	OLM04.2 mod	0.7	i	0.7
Pesticides	Methoxychlor	72-43-5	19 [6]	4	OLM04.2 mod	4	i	4
Pesticides	Endrin ketone	53494-70-5	2.22 [8,10]	0.7	OLM04.2 mod	0.7	i	0.7
Pesticides	Endrin aldehyde	7421-93-4	2.22 [8,10]	0.7	OLM04.2 mod	0.7	i	0.7
Pesticides	alpha-Chlordane	5103-71-9	3.24 [8,10]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	gamma-Chlordane	5103-74-2	3.24 [8,10]	0.4	OLM04.2 mod	0.4	i	0.4
Pesticides	Toxaphene	8001-35-2	28 [6]	**35 (18 [a])**	OLM04.2 mod	35	i	35
PCBs	Aroclor 1016*	12674-11-2	23 [5,10]	7	OLM04.2 mod	7	i	7
PCBs	Aroclor 1221*	11104-28-2	23 [5,10]	**14 (7 [b])**	OLM04.2 mod	14	i	14
PCBs	Aroclor 1232*	11141-16-5	23 [5,10]	7	OLM04.2 mod	7	i	7
PCBs	Aroclor 1242*	53469-21-9	23 [5,10]	7	OLM04.2 mod	7	i	7
PCBs	Aroclor 1248*	12672-29-6	23 [5,10]	7	OLM04.2 mod	7	i	7
PCBs	Aroclor 1254*	11097-69-1	23 [5,10]	7	OLM04.2 mod	7	i	7
PCBs	Aroclor 1260*	11096-82-5	23 [5,10]	7	OLM04.2 mod	7	i	7
Metals	Aluminum	7429-90-5	7600000 [3]	40000	ILM04.1	40000	1500	40000
Metals	Antimony	7440-36-0	3100 [3]	**12000 (760 [a])**	ILM04.1	12000	760	12000
Metals	Arsenic*	7440-38-2	390 [3]	**2000 (170 [b])**	ILM04.1	2000	170	2000
Metals	Barium	7440-39-3	540000 [3]	40000	ILM04.1	40000	80	40000

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

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Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)
Metals	Beryllium	7440-41-7	15000 [3]	1000	ILM04.1	1000	40	1000
Metals	Cadmium*	7440-43-9	600 [1]	**1000 (60 [b])**	ILM04.1	1000	60	1000
Metals	Calcium	7440-70-2	NA [11]	1000000	ILM04.1	1000000	19540	1000000
Metals	Chromium*	7440-47-3	30000 [3,10]	2000	ILM04.1	2000	60	2000
Metals	Cobalt	7440-48-4	470000 [1]	10000	ILM04.1	10000	80	10000
Metals	Copper*	7440-50-8	16000 [1]	5000	ILM04.1	5000	200	5000
Metals	Iron	7439-89-6	2300000 [3]	20000	ILM04.1	20000	860	20000
Metals	Lead*	7439-92-1	31000 [1]	600	ILM04.1	600	520	600
Metals	Magnesium	7439-95-4	NA [11]	1000000	ILM04.1	1000000	1120	1000000
Metals	Manganese	7439-96-5	180000 [3]	3000	ILM04.1	3000	60	3000
Metals	Mercury	7439-97-6	150 [5]	**100 (50 [a])**	ILM04.1	100	50	100
Metals	Nickel	7440-02-0	16000 [1]	**8000 (100 [a])**	ILM04.1	8000	100	8000
Metals	Potassium	7440-09-7	NA [11]	1000000	ILM04.1	1000000	9940	1000000
Metals	Selenium	7782-49-2	39000 [3]	1000	ILM04.1	1000	760	1000
Metals	Silver	7440-22-4	39000 [3]	2000	ILM04.1	2000	140	2000
Metals	Sodium	7440-23-5	NA [11]	1000000	ILM04.1	1000000	39720	1000000
Metals	Thallium	7440-28-0	520 [3]	**2000 (140 [a])**	ILM04.1	2000	140	2000
Metals	Vanadium	7440-62-2	55000 [3]	10000	ILM04.1	10000	120	10000
Metals	Zinc	7440-66-6	120000 [1]	4000	ILM04.1	4000	680	4000
Metals	Cyanide*	57-12-5	1100 [3]	**500 (250 [b])**	ILM04.1	500	250	500
Other	TOC	-	NA [11]	100000	Lloyd-Kahn	100000	i	100000
Other	TCO	-	NA [11]	+/- 10000000 (+/- 1%)	ASTM D-2974	+/- 10000000 (+/- 1%)	i	+/- 10000000 (+/- 1%)
Other	grain size	-	NA [11]	0.1 um, or lowest discernible hydrometer gradation	Geotech lab, ASTM D-422	0.1 um, or lowest discernible hydrometer gradation	i	0.1 um, or lowest discernible hydrometer gradation

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)

General Notes:

* Project-specific Preliminary Chemical of Potential Concern (PCOPC)

Notes on PALs:

The lowest of the risk criteria values was used for each compound

[1] Ontario Ministry of the Environment - Sediment Quality Criteria Lowest Effect Levels (LELs), is the 5th percentile of the screening level concentration (Persuad et al., 1993)

[2] Oak Ridge National Laboratory - Sediment Screening Levels - Secondary Chonic Value, 1997 Revision (Jones et al., November 1997)

[3] Region 9 Residential Soils Preliminary Remediation Goals (PRGs), divided by 10 for non-carcinogens, as reported for carcinogens (USEPA Region 9, 2000)

[4] Region 9 Residential Soils Preliminary Remediation Goals (PRGs), as reported for non-carcinogens, multiplied by 10 for carcinogens, as per risk assessor's advice (USEPA Region 9, 2000)

[5] Effects Range Low (ERL) (Long et al., 1995)

[6] Ecotox Thresholds - Sediment Quality Benchmarks (SQBs) by equilibrium partitioning, assumes 1 percent organic carbon (USEPA 1995)

[7] Ecotox Thresholds - Sediment Quality Criteria (SQcs), assumes 1 percent organic carbon (USEPA 1993)

[8] TECs - Consensus-based TEC (MacDonald et al., 2000)

[9] sat = PRG based on contaminant leaching from the soil to groundwater with adverse impacts on groundwater quality rather than direct contact with soil

[10] VOCs:

Criterion for 1,2-dichloroethene was used for both cis- and trans-1,2-dichloroethene

SVOCs:

Criterion for 2-nitroaniline (CAS #88-74-4) was used for 3-nitroaniline and 4-nitroaniline

Criterion for 4-nitrophenol (CAS #100-02-7) was used for 2-nitrophenol

Criterion for naphthalene (CAS #91-20-3) was used for acenaphthylene, and 2-methylnaphthalene

Pesticides:

Criterion for endrin (CAS #72-20-8) was used for endrin ketone and endrin aldehyde

Criterion for chlordane (CAS #12789-03-06) was used for alpha-chlordane and gamma-chlordane

Criterion for sum DDE was used for 4,4'-DDE

Criterion for sum DDD was used for 4,4'-DDD

PCBs:

Criterion for Total PCBs (CAS #1336-36-3) was used for all individual aroclors

Metals:

Criterion for Chromium VI was used for Chromium

[11] NA = no risk criteria used for this compound

Medium / Matrix: Sediment
Region I Matrix Code: SE
Concentration Level: *Low*

Chemical Family	Analyte	CAS Number	Project Action Limit (ug/kg)	Project Quantitation Limit (ug/kg)	Laboratory Analytical Method	Analytical Method QLs (ug/kg)	Laboratory MDLs (ug/kg)	Achievable Laboratory QLs (ug/kg)

Notes on PQLs:

A PQL value in **bold** indicates the PQL is greater than 1/3 of the PAL for that compound. The value in parentheses is the expected lower limit of estimated (J or B) quantification.

[a] Compound is not a PCOPC. Positively identified compound concentrations to be reported down to value in parenthesis and J-flagged for organic analyses, or B-flagged for inorganic analyses.

[b] Compound is a PCOPC. Positively identified compound concentrations to be reported down value in parenthesis and J-flagged for organic analyses, or B-flagged for inorganic analyses, and LFB to be included in analytical QC.

Notes on Methods:

[#] For leachate samples, OLM04.2 may be substituted for OLC03.2 if screening results indicate high concentrations of organic compounds are present

Notes on Laboratory MDLs:

Values listed are MDLs for organic methods and IDLs for inorganic methods. Values current through December 2002. MDLs are performed annually for organic methods and IDLs are performed quarterly for inorganic methods. MDL/IDLs current at the time of analysis will be included in data packages

[i] MDL study not required in method Statement of Work, or not appropriate to method.

[ii] Not a target compound in the Statement of Work for the method.

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