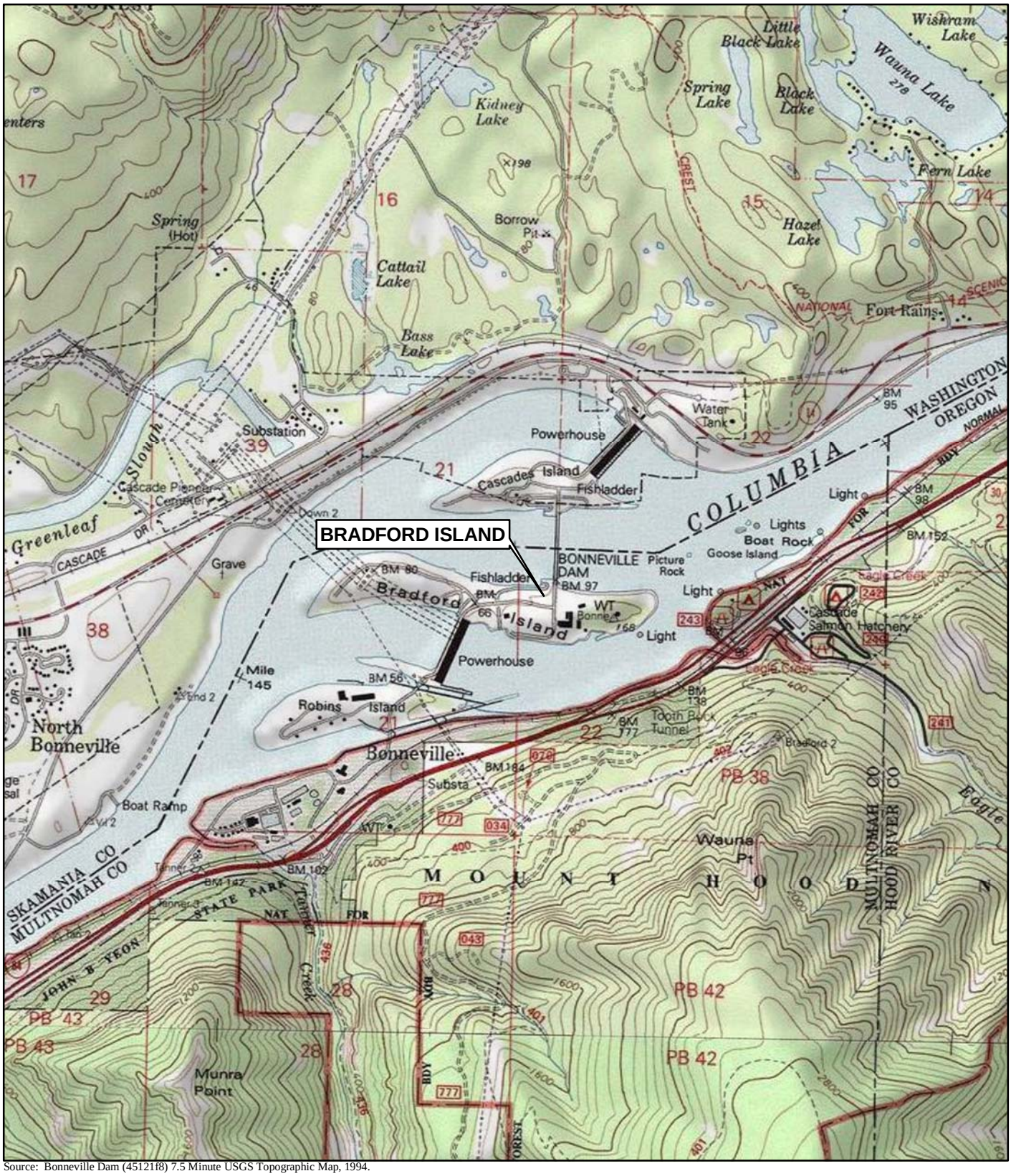
FIGURES



Source: Bonneville Dam (45121f8) 7.5 Minute USGS Topographic Map, 1994.

0 1,000 2,000 Feet

VICINITY MAP

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BRADFORD ISLAND
CASCADE LOCKS, OREGON

FIGURE 1-1

O:\25692709 USACE\53-F0072173.00 Brdford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 1-1.mxd

O:\25692709 USACE\53-F0072173.00 Bradford1Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 1-2.mxd

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BONNEVILLE DAM COMPLEX

DRAWING NUMBER: FIGURE 1-2

GIS FILE NUMBER: FIG 1-2

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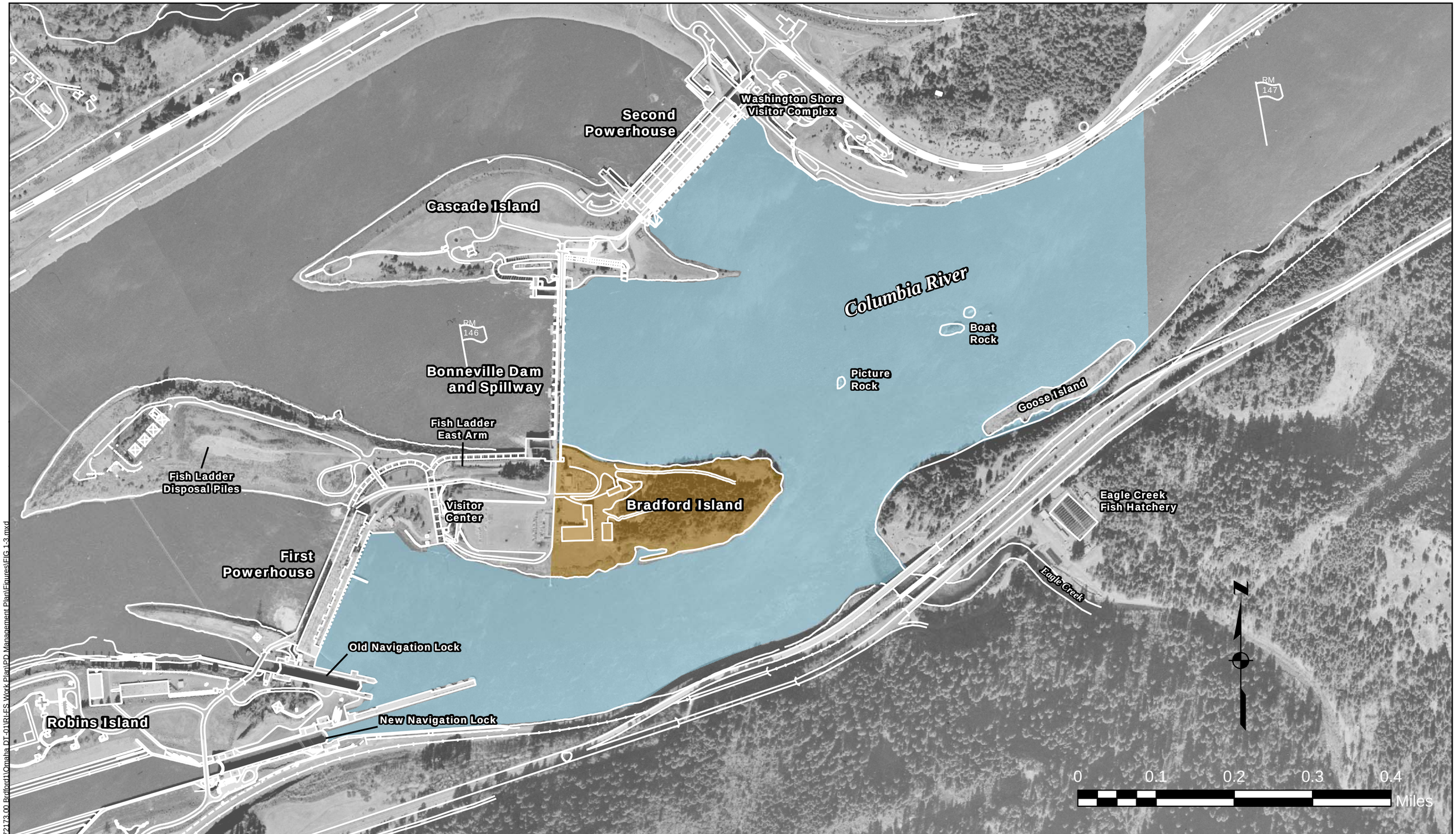

Legend

- Upland OU
- River OU

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CASCADE LOCKS, OREGON

LOCATION OF OPERABLE UNITS

DRAWING NUMBER: FIGURE 1-3

GIS FILE NUMBER: FIG 1-3

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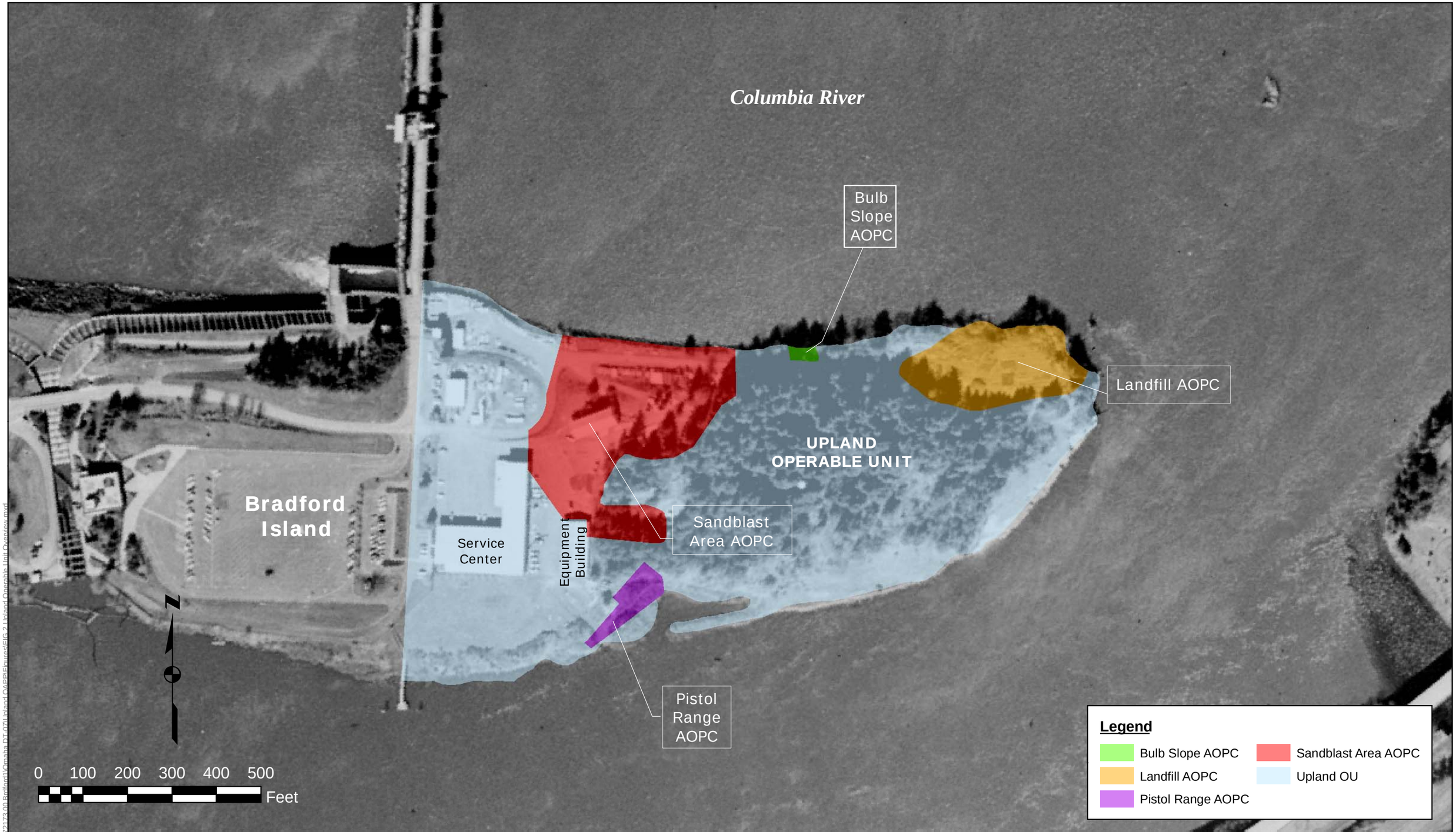
Q:\25692709 USACE\53-F0072173.00 Bradford1\Omaha DT-01\RI\FS Work Plan\PD Management Plan\Figures\FIG 1-3.mxd



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	DRAWN BY: SB	APPROVED BY: MP		CASCADE LOCKS, OREGON		GIS FILE NUMBER: FIG 1-4
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MAP SOURCE: U.S. ARMY CORPS OF ENGINEERS
NOT TO SCALE

BONNEVILLE DAM IN RELATIONSHIP TO OTHER DAMS

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CASCADE LOCKS, OREGON

FIGURE 3-1

LEGEND

- Drinking Water Supply Well
- Drinking Water Supply Well No Longer in Use
- Hatchery & Drinking Water Supply Well

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 3-2.mxd

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CASCADE LOCKS, OREGON

WATER SUPPLY WELL LOCATIONS

DRAWING NUMBER: FIGURE 3-2

GIS FILE NUMBER: FIG 3-2

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Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Extent of Landfill Debris

Access Road

Pesticide/Herbicide Wash Area

Landfill AOPC

120

15 0 15 30

SCALE IN FEET

LEGEND

- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- AOPC Boundary
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

OPERATIONAL AREAS

DRAWING NUMBER: FIGURE 3-3

CAD FILE NUMBER: FIG 3-3

SHEET: OF

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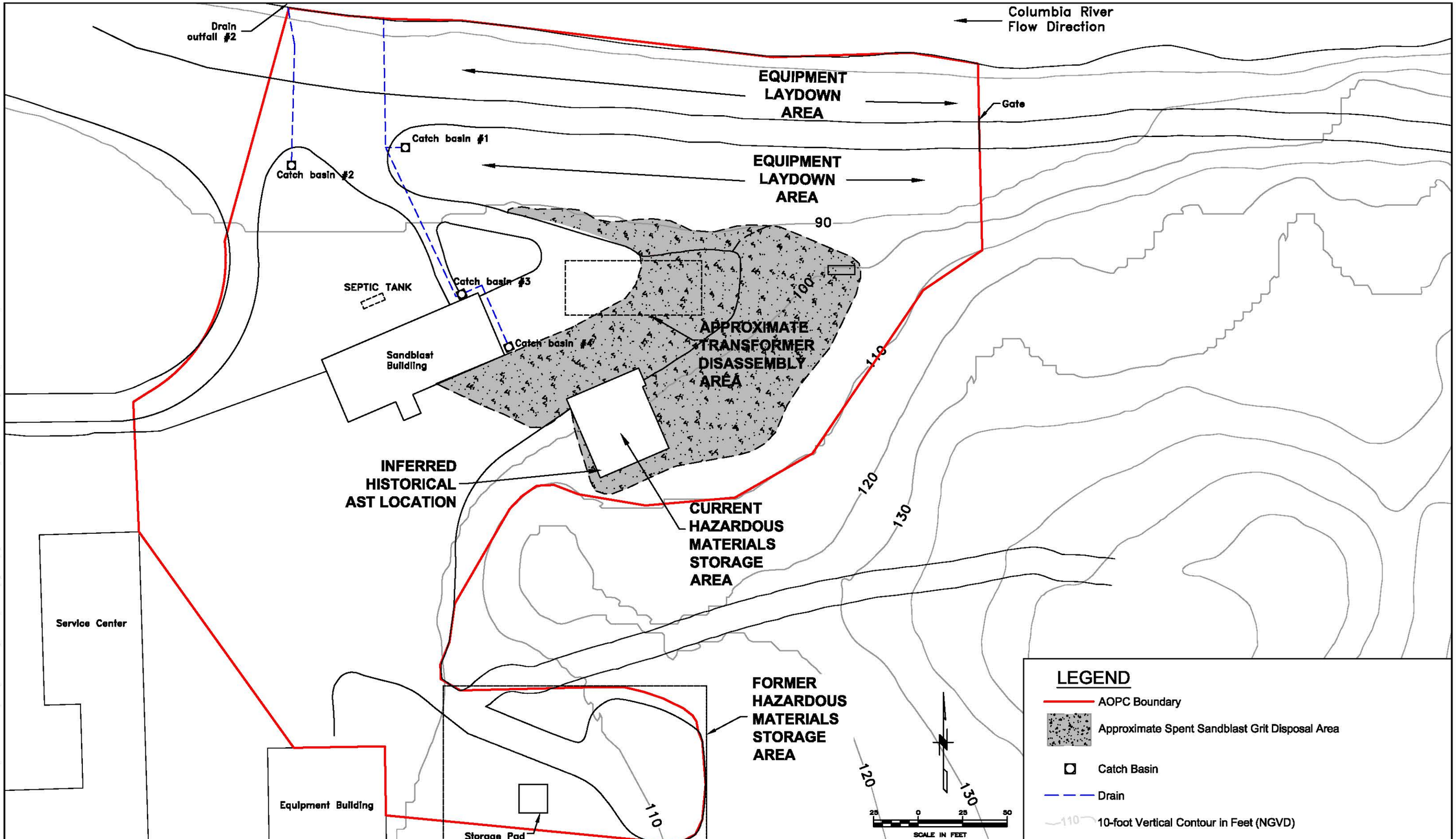
G:\25692709 USACE\53-F0072173.00 Bradford1\R.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 3-3 Landfill AOPC Operational Areas.dwg Jul 30, 2010 - 3:04pm



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CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

OPERATIONAL AREAS

DRAWING NUMBER: FIGURE 3-4
CAD FILE NUMBER: FIG 3-4
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C:\25692709 USACE\53-F0072173.00 Bradford1\FL.Worth DT-02\RI Report_Working Folder\RI Text\Figures\Fig 3-4 Sandblast Area Operational Areas.dwg Jul 30, 2010 - 3:06pm

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	DRAWN BY: SB	APPROVED BY: MP				GIS FILE NUMBER: FIG 3-5
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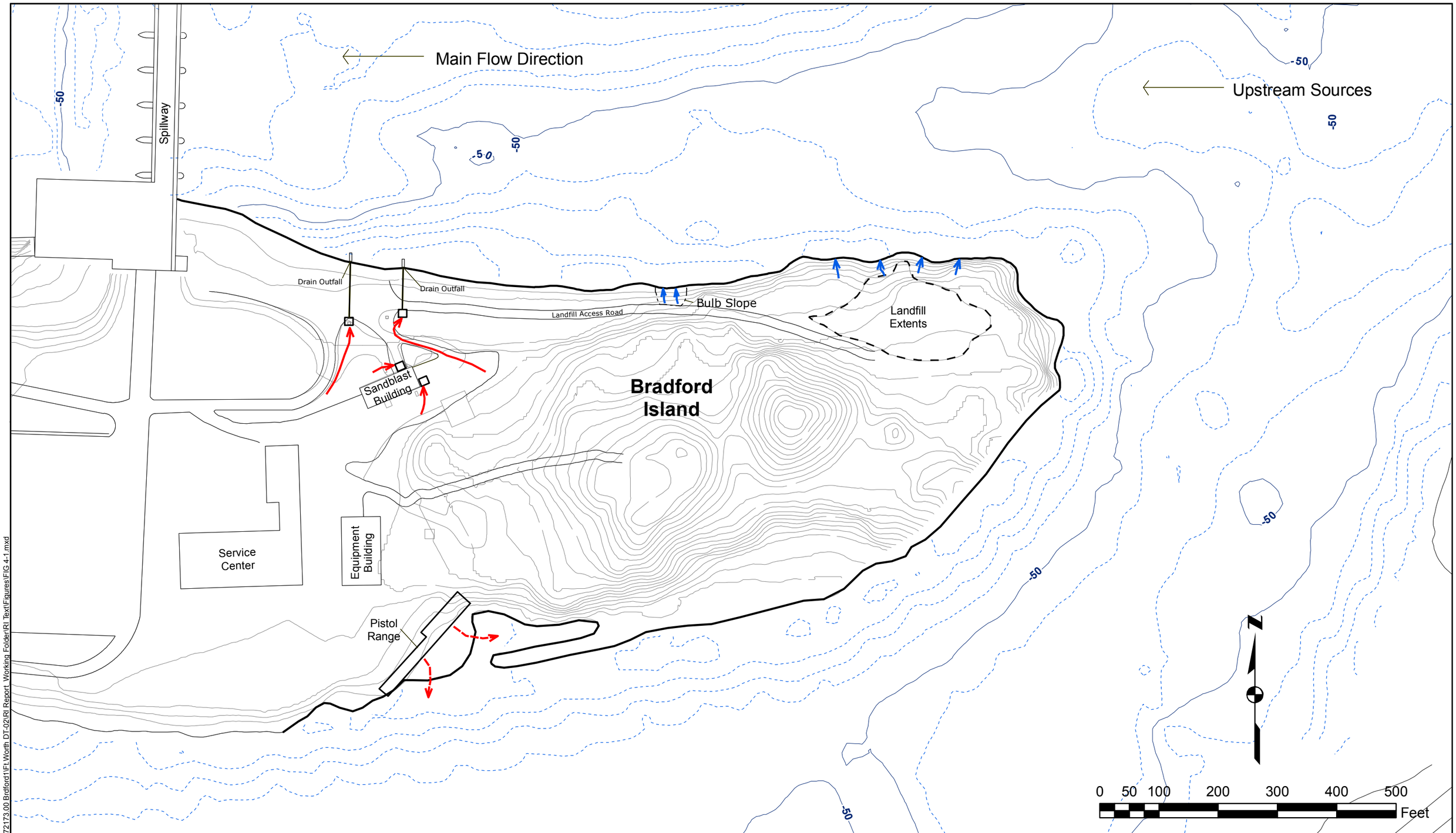
Q:\25692709 USACE\53-F0072\73.00 Bradford\Ft Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 3-5.mxd



LEGEND

- Surface Water Drainage
- Mass Wasting (Sloughing)
- Historical Surface Water Drainage
- Catch Basin

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CASCADE LOCKS, OREGON

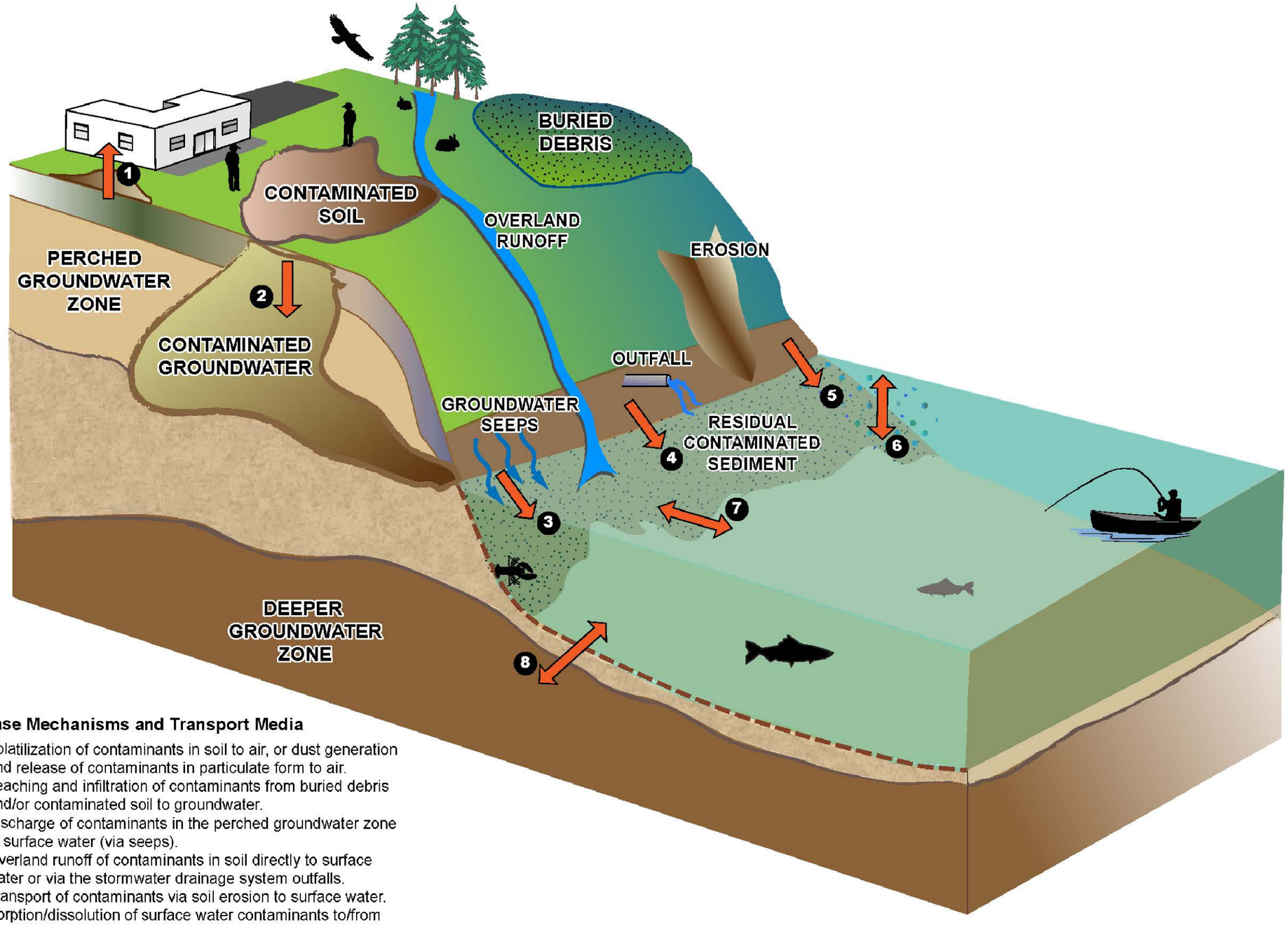
UPLAND OU TO RIVER OU POTENTIAL CONTANIMATION TRANSPORT PATHWAYS

DRAWING NUMBER: FIGURE 4-1

GIS FILE NUMBER: FIG 4-1

SHEET: REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 4-1.mxd



Release Mechanisms and Transport Media

1. Volatilization of contaminants in soil to air, or dust generation and release of contaminants in particulate form to air.
2. Leaching and infiltration of contaminants from buried debris and/or contaminated soil to groundwater.
3. Discharge of contaminants in the perched groundwater zone to surface water (via seeps).
4. Overland runoff of contaminants in soil directly to surface water or via the stormwater drainage system outfalls.
5. Transport of contaminants via soil erosion to surface water.
6. Sorption/dissolution of surface water contaminants to/from sediments.
7. Contaminated sediment transport within the river.
8. Potential surface water communication to the deeper groundwater zone.

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

CONCEPTUAL SITE MODEL

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Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

S2
SEEP1
BIL13SSI
S4
BIL09USE
BIL03USE
BIL08USE
BIL02USE
BIL07USE
BIL01USE
L-02
L-01
BIL22
MW-6
BIL17
BIL18
L-04
L-03
BIL15
BIL20
BIL21
MW-7
BIL13
BIL14
Gully Test Pit
BIL19
BIL16
MW-5
MW-8
MW-1
TP2-SS-01
BIL11SSI
BIL26
BIL24
BIL04SSI
TP7-SS-01
BIL27
TP1-SS-01
BIL05SSI
Lead Hot Spot
Test Pit #1
MW-9
Mercury Vapor-Lamp Test Pit
TP5-SS-01
BIL09
BIL31
BIL10
BIL11
BIL05
BIL06SSI
BIL07
BIL32
BIL06
MW-4
BIL08
BIL30
Lead Hot Spot
Test Pit #2
BIL05USE
BIL04USE
BIL06USE
BIL12SSI
TP4-SS-01
MW-3
BIL09SSI
TP6-SS-02
TP6-SS-01
BIL10SSI
Extent of
Landfill Debris
Access Road
BK-1-SS-01
TP8-SS-01
BIL03SSI
BIL01SSI
MW-2
BIL02SSI
PW-1-SS-01
Pesticide/Herbicide
Wash Area
Landfill AOPC
120

15 0 15 30
SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Landfill Deeper Soil Monitoring Location
- Landfill Groundwater Sampling Location
- Landfill Surface Water Sampling Location
- Landfill Seep Monitoring Location
- Landfill Test Pit Soil Sample Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

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CASCADE LOCKS, OREGON

LANDFILL AOPC

SAMPLING LOCATIONS

DRAWING NUMBER: FIGURE 5-1
CAD FILE NUMBER: FIG 5-1
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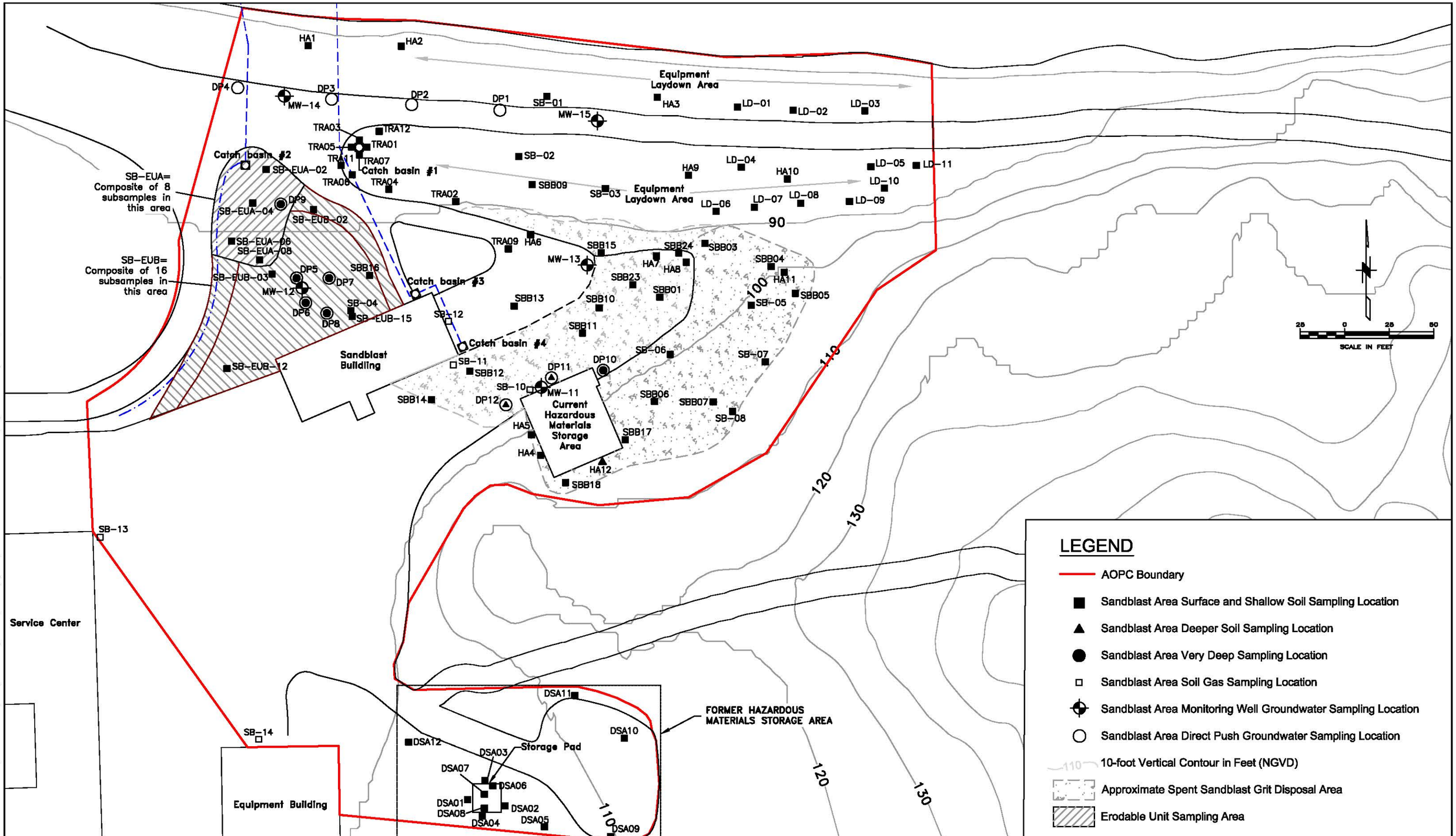
C:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 5-1 Landfill Area Sampling Locations.dwg Jul 30, 2010 - 3:20pm



C:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 5-2 Sandblast Area AOPC Sampling Locations.dwg Nov 15, 2010 - 3:56pm

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CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

SAMPLING LOCATIONS

DRAWING NUMBER: FIGURE 5-2

CAD FILE NUMBER: FIG 5-2

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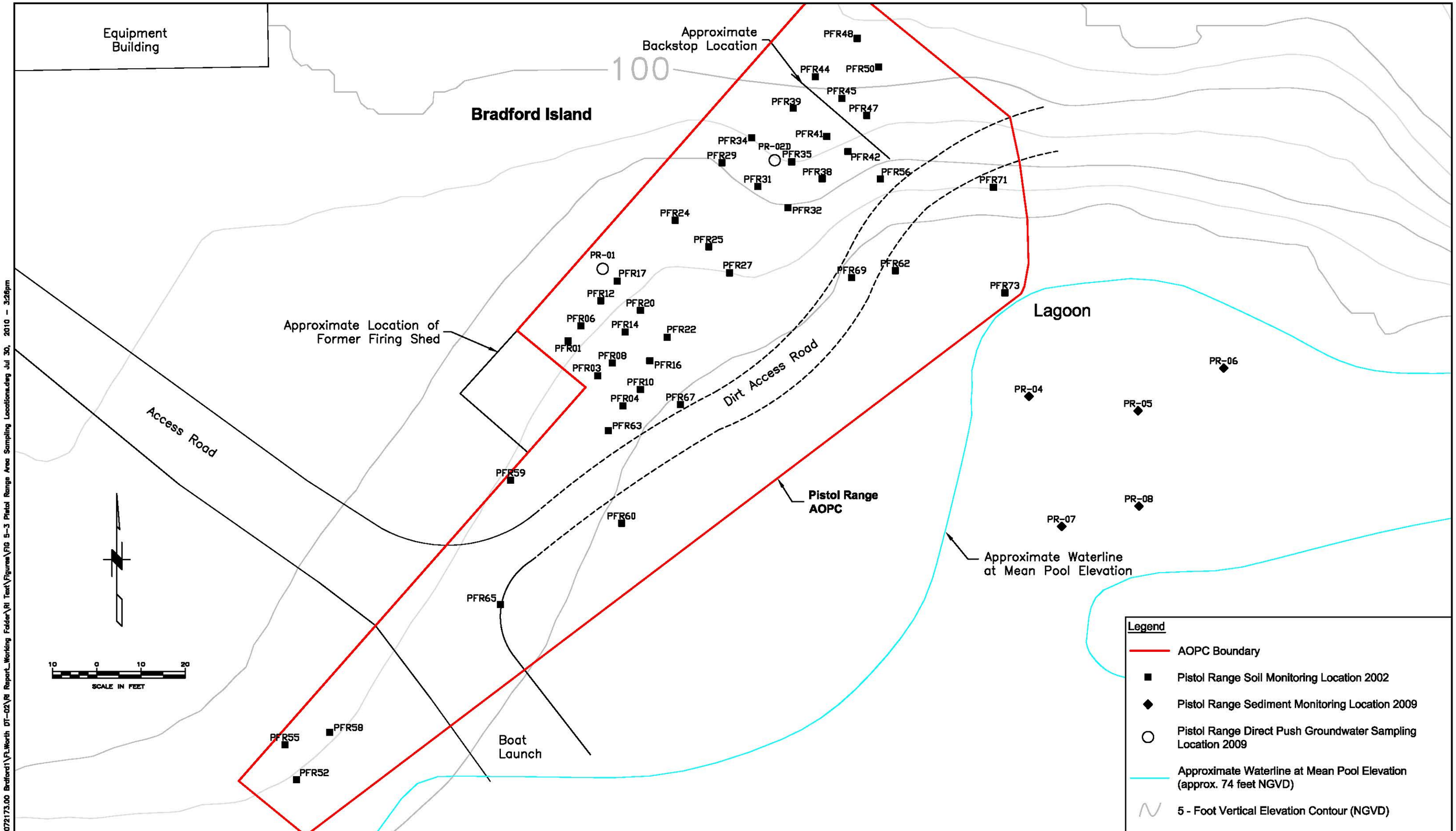

C:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 5-3 Pistol Range Area Sampling Locations.dwg Jul 30, 2010 - 3:26pm

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CASCADE LOCKS, OREGON

PISTOL RANGE AOPC

PISTOL RANGE AOPC
SAMPLING LOCATIONS

DRAWING NUMBER: FIGURE 5-3
CAD FILE NUMBER: FIG 5-3
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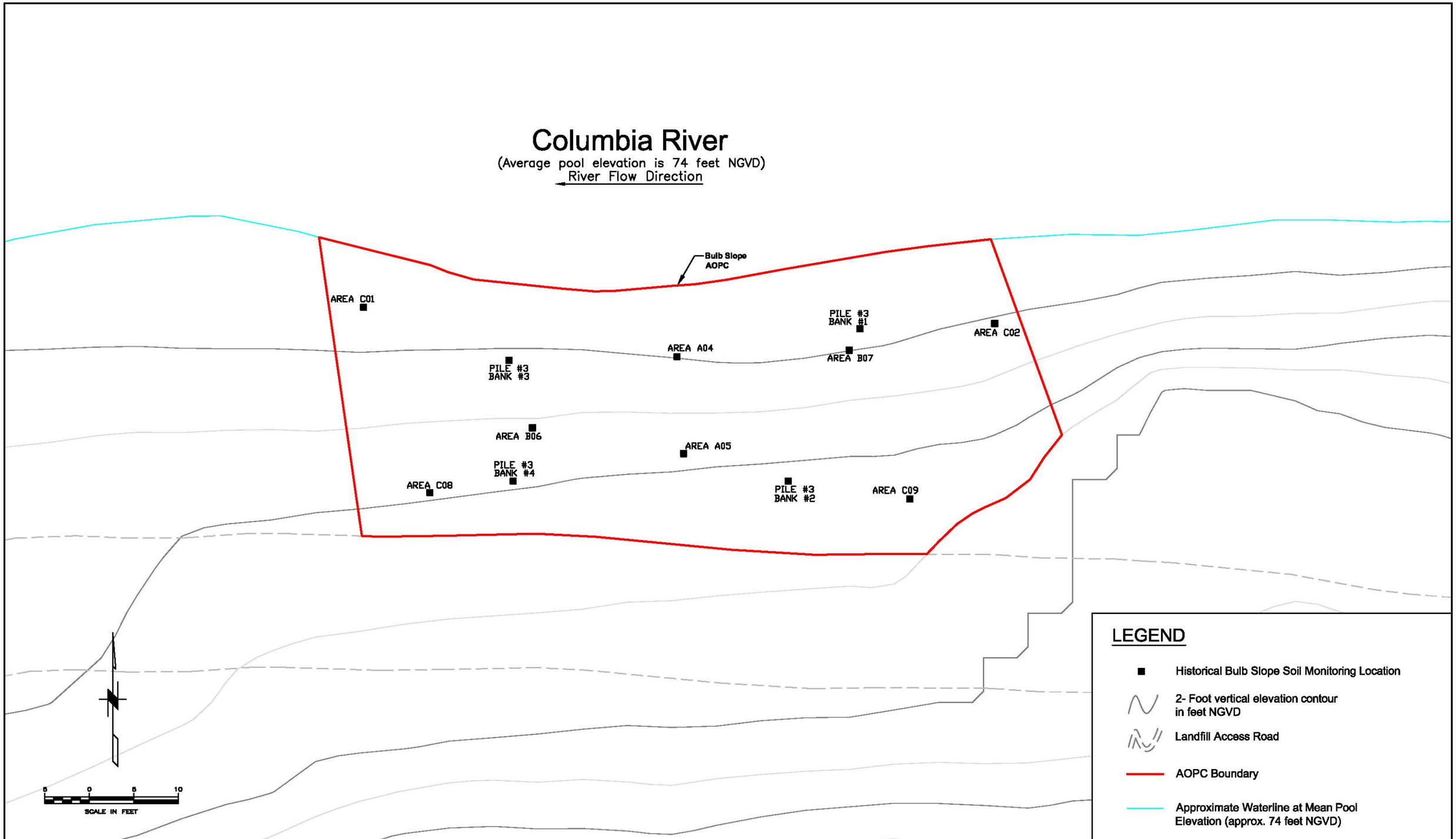

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CASCADE LOCKS, OREGON

BULB SLOPE AOPC

SAMPLING LOCATIONS

DRAWING NUMBER: FIGURE 5-4

CAD FILE NUMBER: FIG 5-4

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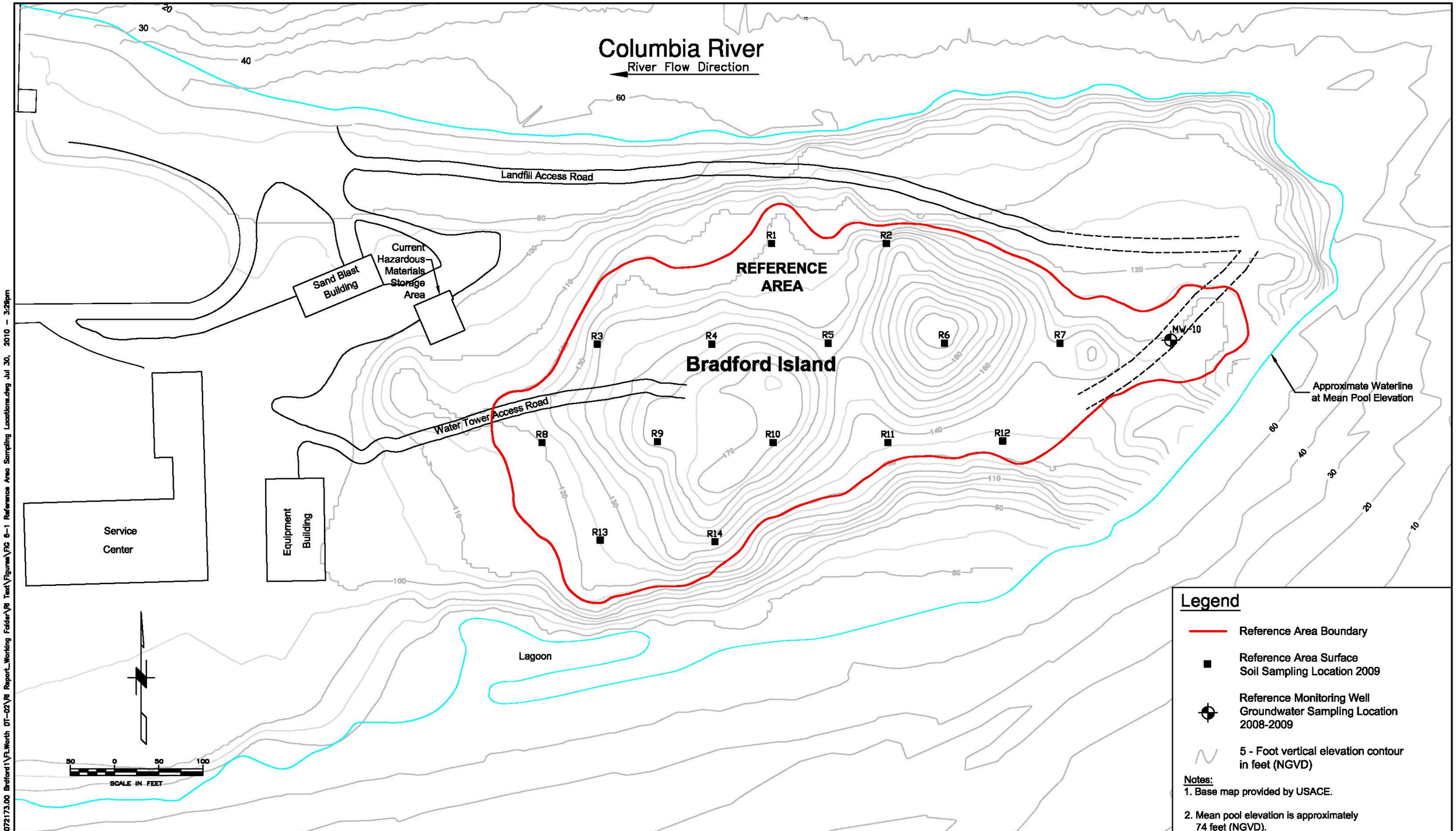

C:\25692709 USACE\53-F0072173.00 Bradford1\FL.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 6-1 Reference Area Sampling Locations.dwg Jul 30, 2010 - 3:29pm

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

UPLAND OPERABLE UNIT

REFERENCE AREA
SAMPLING LOCATIONS

DRAWING NUMBER: FIGURE 6-1
CAD FILE NUMBER: FIG 6-1
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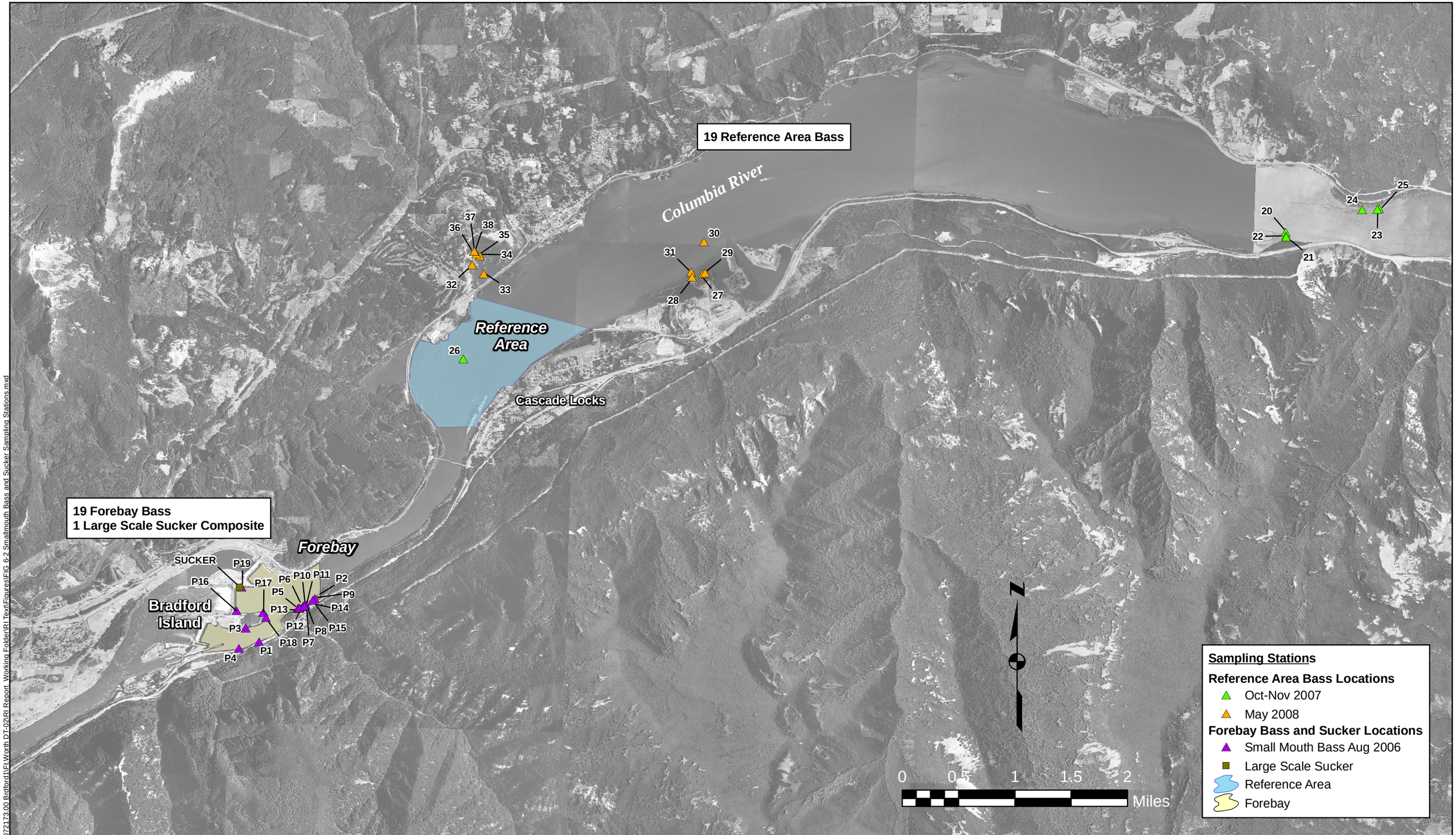

O:\25692709 USACE\53-F0072173.00 Bradford\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 6-2 Smallmouth Bass and Sucker Sampling Stations.mxd

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CASCADE LOCKS, OREGON

RIVER OPERABLE UNIT

SMALLMOUTH BASS AND LARGE SCALE SUCKER SAMPLING STATIONS

DRAWING NUMBER: FIGURE 6-2

GIS FILE NUMBER: FIG 6-2

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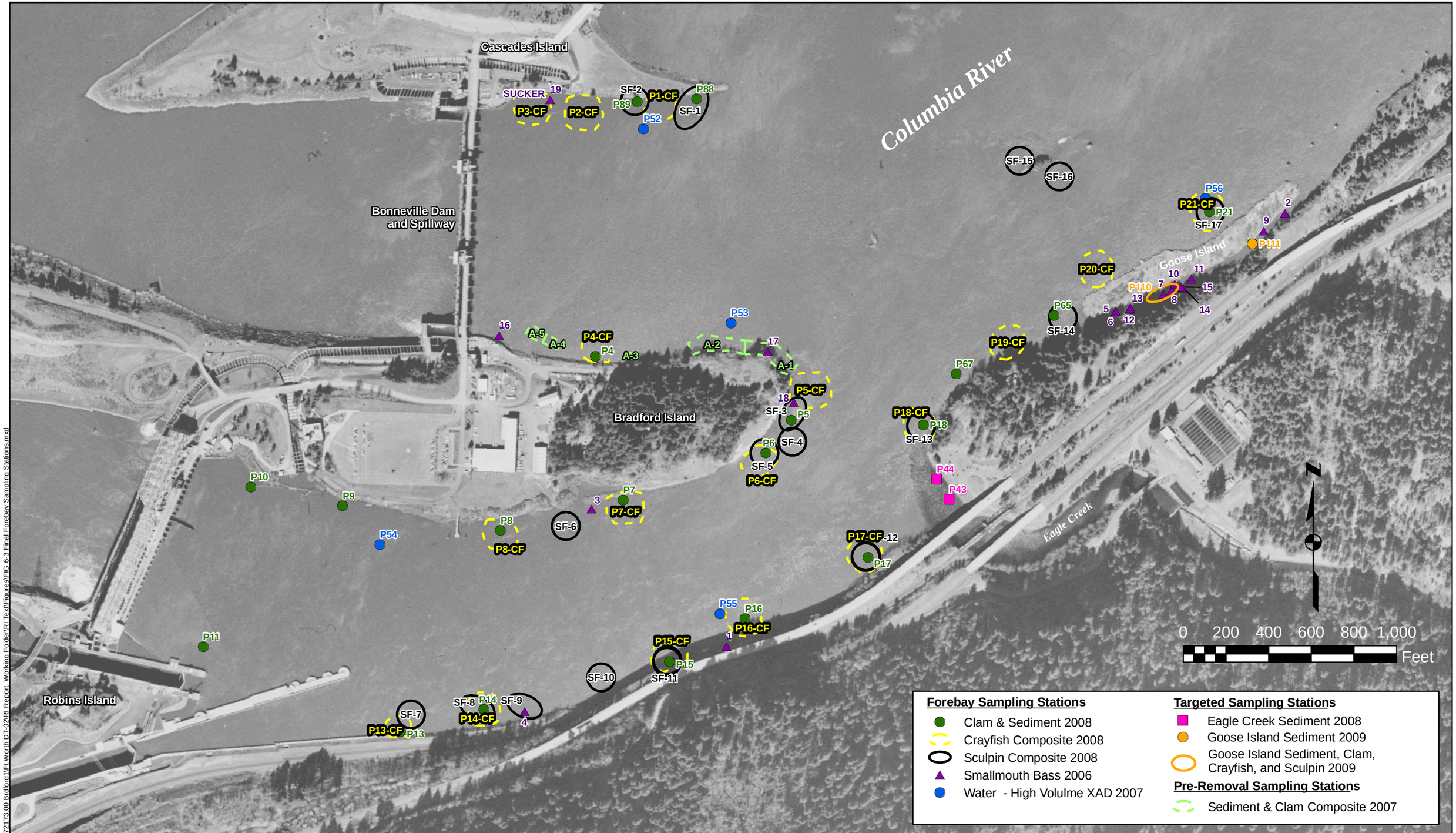

O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 6-3 Final Forebay Sampling Stations.mxd

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RIVER OPERABLE UNIT

FOREBAY SAMPLING STATIONS

DRAWING NUMBER: FIGURE 6-3

GIS FILE NUMBER: FIG 6-3

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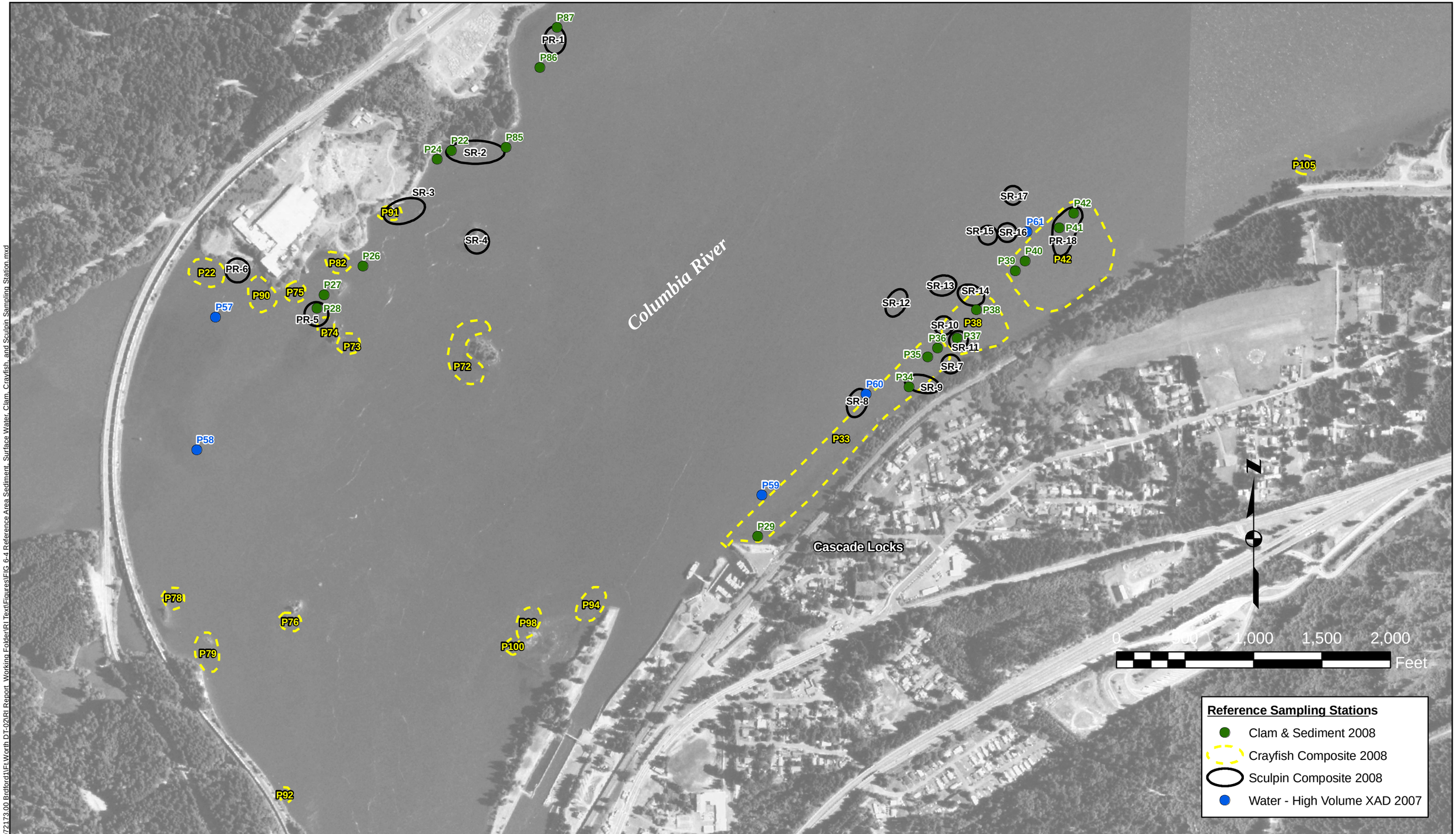

O:\25692709 USACE\53-F0072173.00 Bridford1\Fl.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 6-4 Reference Area Sediment, Surface Water, Clam, Crayfish, and Sculpin Sampling Station.mxd

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RIVER OPERABLE UNIT

REFERENCE AREA SAMPLING STATIONS

DRAWING NUMBER: FIGURE 6-4

GIS FILE NUMBER: FIG 6-4

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Downstream Sampling Stations

Sediment 2008

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RIVER OPERABLE UNIT

DOWNSTREAM SAMPLING STATIONS

DRAWING NUMBER: FIGURE 6-5

GIS FILE NUMBER: FIG 6-5

SHEET:

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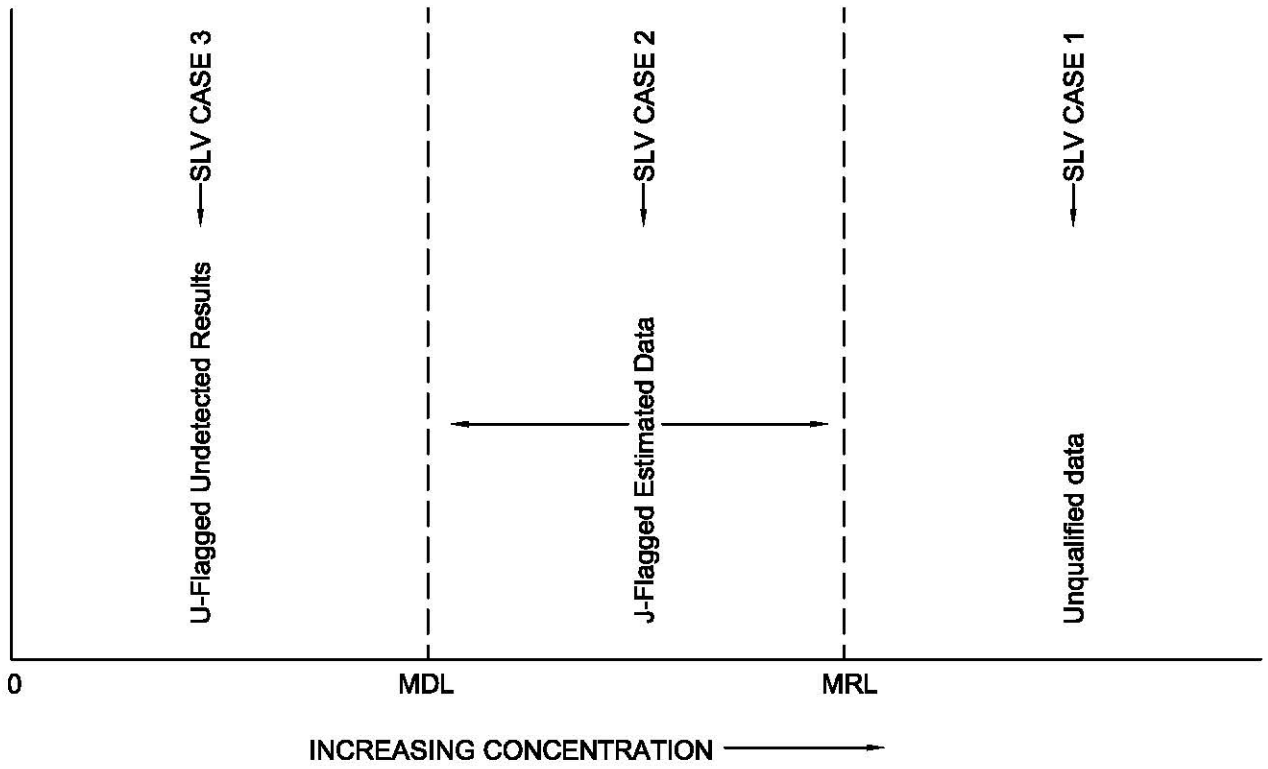
O:\25692709 USACE\53-F0072173.00 Bradford\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 6-5 Downstream Sampling Stations.mxd



MDL = Method Detection Limit
MRL = Method Reporting Limit
SLV = Screening Level Value

RELATIONSHIP BETWEEN MDL, MRL, AND J-FLAGGED DATA

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25696528

BRADFORD ISLAND
CASCADE LOCKS, OREGON

FIGURE 7-1

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	-	1.98	0.343	5.34	0.106	41.6

BIL13SSI

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.300 UJ	3.20	0.720	680 J	0.130	194

Depth	Sb	As	Cd	Pb	Hg	Zn
3.0	2.62 J	5.95	3.54	1,240 J	0.0834	1140 J

Depth	Sb	As	Cd	Pb	Hg	Zn
2.0	0.810	4.07	0.731	1,660 J	0.0475	101 J

Depth	Sb	As	Cd	Pb	Hg	Zn
1.0	0.309 J	2.98	2.09	741 J	0.122	262 J

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.300 UJ	4.50	1.70	127 J	0.110	189

BIL09USE

BIL03USE

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.200 UJ	6.20	0.940	131 J	0.0700	157

BIL08USE

BIL02USE

BIL07USE

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.200 UJ	6.10	0.660	147 J	0.290	143

BIL01USE

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.300 UJ	3.70	0.670	174 J	0.100	180

L-02

L-01

BIL22

BIL17

BIL18

L-04

L-03

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.300 UJ	5.10	0.540	119 J	0.190	151

Gully Test Pit

BIL01TPG - BIL04TPG

Mercury Vapor-Lamp Test Pit

Sample ID	Depth	Sb	As	Cd	Pb	Hg	Zn
BIL28TPM	0-10?	-	-	-	-	0.505 J	-
BIL29TPM	0-10?	-	-	-	-	0.552 J	-

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.200 UJ	3.30	0.570	49.0 J	0.230	144

BIL05USE

BIL04USE

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.200 UJ	3.70	0.570	51.0 J	0.0700	138

BIL06USE

Depth	Sb	As	Cd	Pb	Hg	Zn
0.5	0.200 UJ	4.00	1.30	148 J	0.320	221

Depth	Sb	As	Cd	Pb	Hg	Zn
2.5	-	-	-	87.6 J	-	-

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	3.90	3.70	1.75	168	4.15	138

Lead Hot Spot

Test Pit #1

BIL31

Depth	Sb	As	Cd	Pb	Hg	Zn
2.5	-	-	-	115 J	-	-

BIL06SSI

BIL32

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	2.70 U	2.80	0.270 U	22.8	0.110 U	69.0

BIL12SSI

Depth	Sb	As	Cd	Pb	Hg	Zn
2	-	-	-	711 J	-	-

Depth	Sb	As	Cd	Pb	Hg	Zn
3	-	-	-	614 J	-	-

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	2.90 U	11.3	0.290 U	36.5	0.110 U	163

BIL11SSI

BIL26

BIL24

BIL04SSI

Depth	Sb	As	Cd	Pb	Hg	Zn
3	-	-	-	954 J	-	-

BIL30

Lead Hot Spot

Test Pit #2

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	2.70 U	3.20	0.440	699	0.120	134

BIL27

BIL05SSI

Depth	Sb	As	Cd	Pb	Hg	Zn
2.5	-	-	-	110 J	-	-

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	4.20	30.1	1.30	486	0.840	635

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	2.80 U	3.00	0.280 U	40.5	0.120	85.1

BIL09SSI

Extent of

Landfill Debris

BIL10SSI

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	2.60 U	3.10	0.260 U	19.3	0.110 U	69.6

Access Road

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.33	2.80	3.60	0.270 U	74.5	0.110 U	88.7

BIL01SSI

BIL03SSI

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	2.80 U	4.90	0.500	362	1.40	150

BIL02SSI

Depth	Sb	As	Cd	Pb	Hg	Zn
0.0-0.5	2.70 U	1.50	0.270 U	153	0.110 U	98.0

Pesticide/Herbicide

Wash Area

Landfill AOPC

120

15 0 15 30

SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
feet bgs	Concentration (mg/kg)

Sb = Antimony
As = Arsenic
Cd = Cadmium
Pb = Lead
Hg = Mercury
Zn = Zinc
SLV = screening level value
- = Not Analyzed

Soil SLVs Used for Screening (mg/kg):

Sb	As	Cd	Pb	Hg	Zn
0.270	5.40	0.360	25.5	0.0660	71.7

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.
Metals were not analyzed for at L-01 to L-04 or at Gully Test Pit Samples: BIL01TPG through BIL04TPG (shown in gray).

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: JULY 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

METALS IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-1a

CAD FILE NUMBER: FIG 9-1a

SHEET: OF

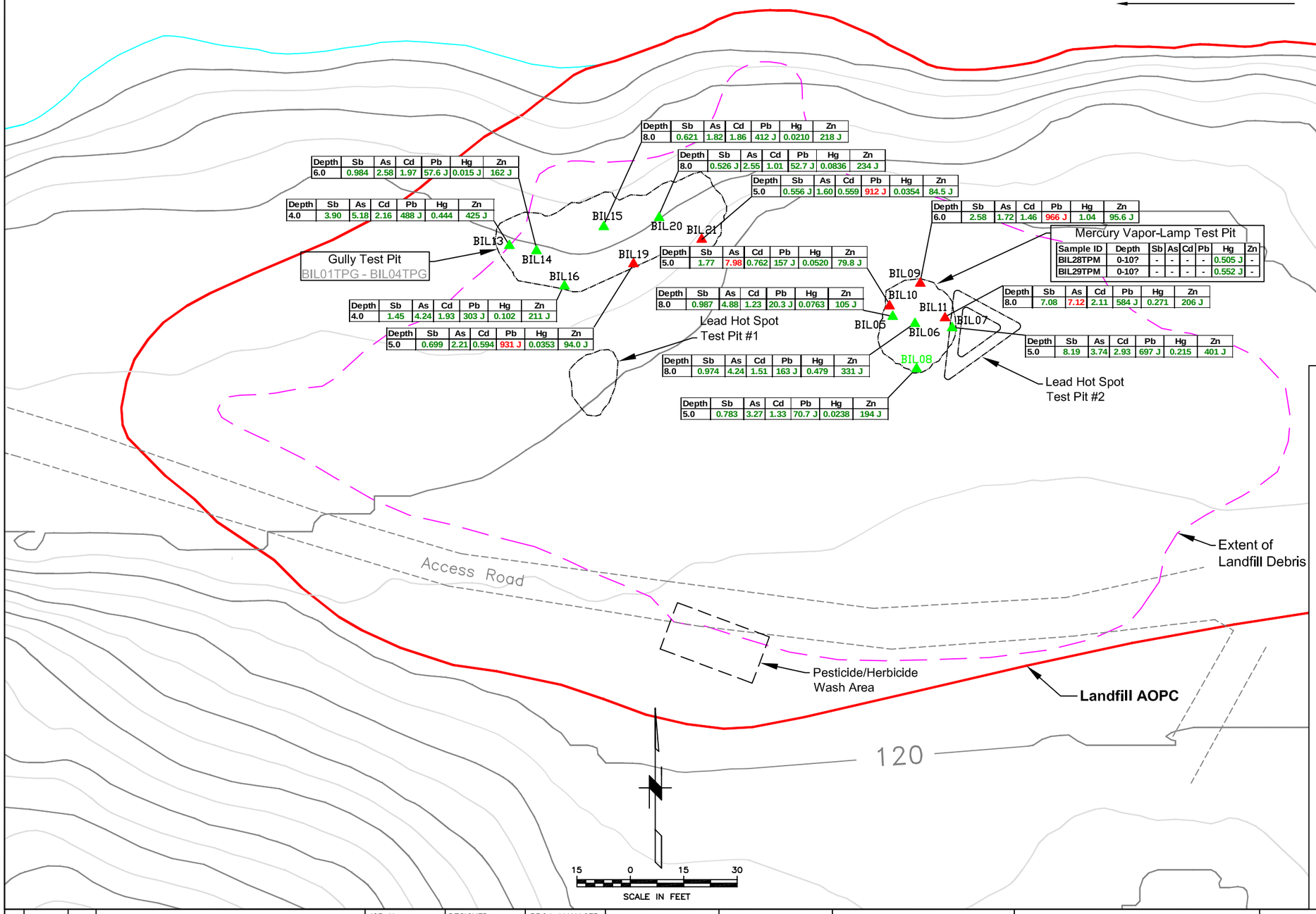
REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1a - Metals in Surface and Shallow Soil at Landfill AOPC.dwg Nov 18, 2010 - 9:27am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



Depth	Sb	As	Cd	Pb	Hg	Zn
6.0	0.984	2.58	1.97	57.6 J	0.015 J	162 J

Depth	Sb	As	Cd	Pb	Hg	Zn
4.0	3.90	5.18	2.16	488 J	0.444	425 J

Depth	Sb	As	Cd	Pb	Hg	Zn
4.0	1.45	4.24	1.93	303 J	0.102	211 J

Depth	Sb	As	Cd	Pb	Hg	Zn
5.0	0.699	2.21	0.594	931 J	0.0353	94.0 J

Depth	Sb	As	Cd	Pb	Hg	Zn
8.0	0.621	1.82	1.86	412 J	0.0210	218 J

Depth	Sb	As	Cd	Pb	Hg	Zn
8.0	0.526 J	2.55	1.01	52.7 J	0.0836	234 J

Depth	Sb	As	Cd	Pb	Hg	Zn
5.0	0.556 J	1.60	0.559	912 J	0.0354	84.5 J

Depth	Sb	As	Cd	Pb	Hg	Zn
5.0	1.77	7.98	0.762	157 J	0.0520	79.8 J

Depth	Sb	As	Cd	Pb	Hg	Zn
8.0	0.987	4.88	1.23	20.3 J	0.0763	105 J

Depth	Sb	As	Cd	Pb	Hg	Zn
8.0	0.974	4.24	1.51	163 J	0.479	331 J

Depth	Sb	As	Cd	Pb	Hg	Zn
5.0	0.783	3.27	1.33	70.7 J	0.0238	194 J

Depth	Sb	As	Cd	Pb	Hg	Zn
6.0	2.58	1.72	1.46	966 J	1.04	95.6 J

Mercury Vapor-Lamp Test Pit

Sample ID	Depth	Sb	As	Cd	Pb	Hg	Zn
BIL28TPM	0-10?	-	-	-	-	0.505 J	-
BIL29TPM	0-10?	-	-	-	-	0.552 J	-

Depth	Sb	As	Cd	Pb	Hg	Zn
8.0	7.08	7.12	2.11	584 J	0.271	206 J

Depth	Sb	As	Cd	Pb	Hg	Zn
5.0	8.19	3.74	2.93	697 J	0.215	401 J

LEGEND

- ▲ Landfill Deeper Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
feet bgs	Concentration (mg/kg)

Sb = Antimony
As = Arsenic
Cd = Cadmium
Pb = Lead
Hg = Mercury
Zn = Zinc
SLV = screening level value

Soil SLVs Used for Screening (mg/kg):

Sb	As	Cd	Pb	Hg	Zn
410	5.4	150	800	93	310,000

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.
Metals were not analyzed for at Gully Test Pit Samples: BIL01TPG - BIL04TPG (shown in gray).

No.	DATE	BY	REVISION

JOB No. 25696946	DESIGNED: LSM	PROJ. MANAGER: MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: JULY 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

METALS IN DEEPER SOIL

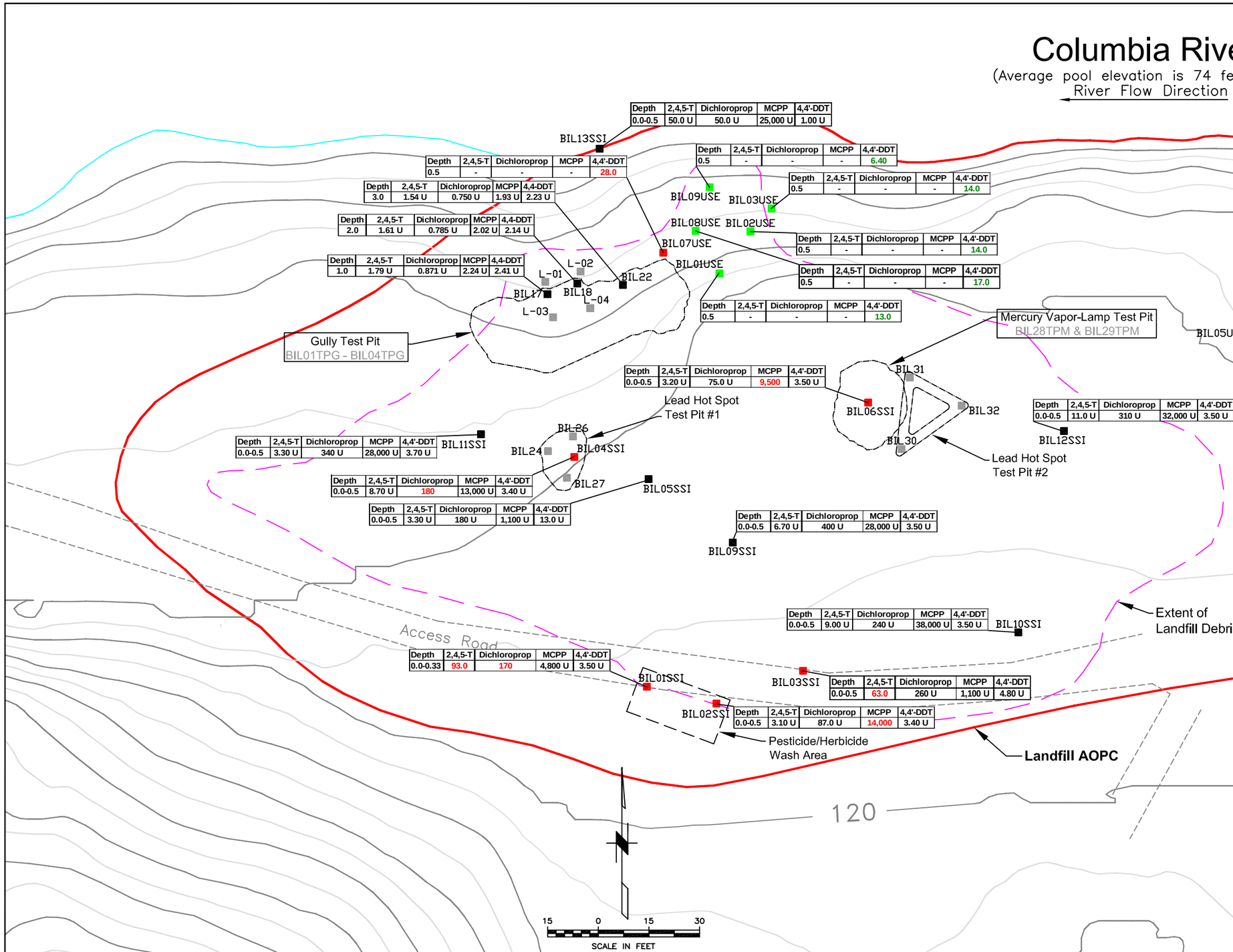
DRAWING NUMBER: FIGURE 9-1b

CAD FILE NUMBER: FIG 9-1b

SHEET: OF

REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1b - Metals in Deeper Soil at Landfill AOPC.dwg Nov 18, 2010 - 9:28am



Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	50.0 U	50.0 U	25,000 U	1.00 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	28.0

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
3.0	1.54 U	0.750 U	1.93 U	2.23 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
2.0	1.61 U	0.785 U	2.02 U	2.14 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
1.0	1.79 U	0.871 U	2.24 U	2.41 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	6.40

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	14.0

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	14.0

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	17.0

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	13.0

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	2.00 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	5.00 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.5	-	-	-	23.0

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	3.20 U	75.0 U	9,500	3.50 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	11.0 U	310 U	32,000 U	3.50 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	3.30 U	340 U	28,000 U	3.70 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	8.70 U	180	13,000 U	3.40 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	3.30 U	180 U	1,100 U	13.0 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	6.70 U	400 U	28,000 U	3.50 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	9.00 U	240 U	38,000 U	3.50 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.33	93.0	170	4,800 U	3.50 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	63.0	260 U	1,100 U	4.80 U

Depth	2,4,5-T	Dichloroprop	MCPP	4,4'-DDT
0.0-0.5	3.10 U	87.0 U	14,000	3.40 U

NOTE:
In deeper soil, herbicides and pesticides were non-detected, less than SLVs, or not analyzed.

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
ft bgs	Concentration (µg/kg)

SLV = screening level value
- = Not Analyzed

Soil SLVs Used for Screening (µg/kg):

2,4,5-T (µg/kg)	Dichloroprop (µg/kg)	MCPP (µg/kg)	4,4'-DDT (µg/kg)
21.0	21.0	21.0	21.0

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.
Pesticides were not analyzed for at L-01 to L-04, BIL24, BIL26, BIL27, BIL30 to BIL32, Mercury Vapor Lamp Test Pit Samples BIL28TPM or BIL29TPM, or Gully Test Pit Samples BIL01TPG through BIL04TPG (shown in gray).

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND
CASCADE LOCKS, OREGON

LANDFILL AOPC
HERBICIDES AND PESTICIDES
IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9–1c
CAD FILE NUMBER: FIG 9–1c
SHEET: OF
REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1c - Herbicides and Pesticides in Surface and Shallow Soil at Landfill AOPC.dwg Nov 18, 2010 - 9:29am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

BIL13SSI — Depth 0.0-0.5, Aroclor 1260 50.0 UJ

BIL09USE — Depth 0.5, Aroclor 1260 19

BIL03USE — Depth 0.5, Aroclor 1260 31.0 J

BIL02USE — Depth 0.5, Aroclor 1260 24

BIL08USE — Depth 3.0, Aroclor 1260 91.3

BIL07USE — Depth 0.5, Aroclor 1260 74

BIL01USE — Depth 2.0, Aroclor 1260 39

BIL22 — Depth 1.0, Aroclor 1260 68

BIL17 — Depth 0.5, Aroclor 1260 42

BIL18 — Depth 0.5, Aroclor 1260 50

L-01, L-02, L-03, L-04

BIL05USE — Depth 0.5, Aroclor 1260 12

BIL04USE — Depth 0.5, Aroclor 1260 33

BIL06USE — Depth 0.5, Aroclor 1260 92

BIL12SSI — Depth 0.0-0.5, Aroclor 1260 35.0 UJ

BIL06SSI — Depth 0.0-0.5, Aroclor 1260 81.5 J

BIL31, BIL32, BIL30

Lead Hot Spot Test Pit #2

Lead Hot Spot Test Pit #1

BIL26, BIL24, BIL04SSI, BIL27

BIL11SSI — Depth 0.0-0.5, Aroclor 1260 37.0 UJ

BIL05SSI — Depth 0.0-0.5, Aroclor 1260 660 J

BIL09SSI — Depth 0.0-0.5, Aroclor 1260 160 J

BIL10SSI — Depth 0.0-0.5, Aroclor 1260 35.0 UJ

BIL03SSI — Depth 0.0-0.5, Aroclor 1260 48.0 J

BIL01SSI — Depth 0.0-0.33, Aroclor 1260 58.0 J

BIL02SSI — Depth 0.0-0.5, Aroclor 1260 420 J

Pesticide/Herbicide Wash Area

Access Road

Extent of Landfill Debris

Landfill AOPC

120

Gully Test Pit

Sample ID	Depth	Aroclor 1260
BIL01TPG	0-10?	26.3
BIL02TPG	0-10?	22.2
BIL04TPG	0-10?	87.6
BIL03TPG	0-10?	12.5

Mercury Vapor-Lamp Test Pit

Sample ID	Depth	Aroclor 1260
BIL28TPM	0-10?	46.5
BIL29TPM	0-10?	13.1

15 0 15 30

SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
feet bgs	Concentration (µg/kg)

Soil SLVs Used for Screening (µg/kg):

Aroclor 1260 (µg/kg)
371

Red = Concentration exceeds selected SLV.

Green = Concentration below selected SLV.

Black = Not detected at MDL shown.

PCBs were not analyzed at L-01 to L-04 or BIL24, BIL26, BIL27, or BIL30 to BIL32 (Shown in gray).

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

PCBs IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-1d

CAD FILE NUMBER: FIG 9-1d

SHEET: OF

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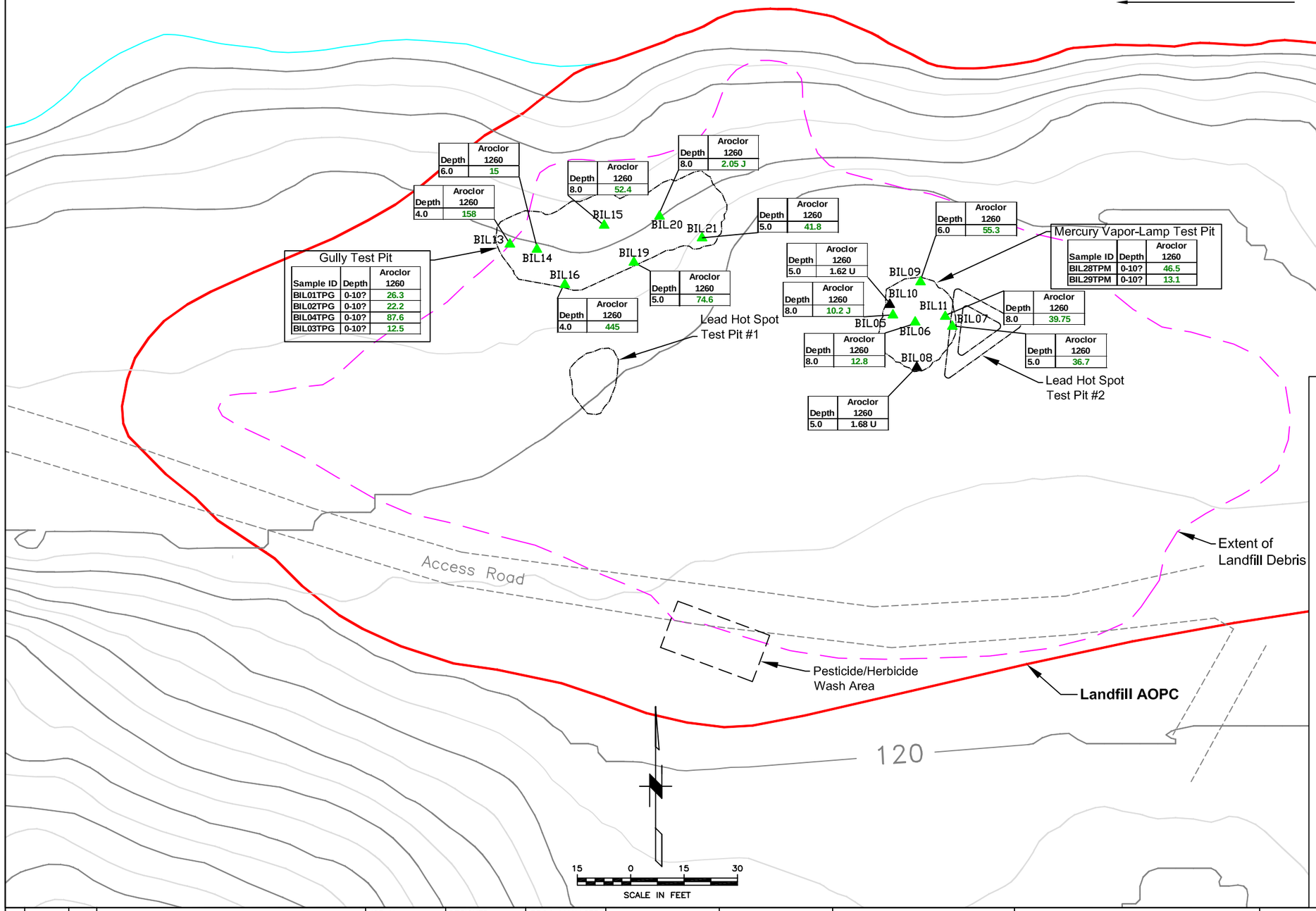
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1d - PCBs in Surface and Shallow Soil at Landfill AOPC.dwg Nov 18, 2010 - 9:30am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



LEGEND

- ▲ Landfill Deeper Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
feet bgs	Concentration (µg/kg)

Soil SLV Used for Screening (µg/kg):

Aroclor 1260 (µg/kg)
740

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

PCBs IN DEEPER SOIL

DRAWING NUMBER: FIGURE 9-1e
CAD FILE NUMBER: FIG 9-1e
SHEET: OF
REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1e - PCBs in Deeper Soil at Landfill AOPC.dwg Nov 18, 2010 - 9:33am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Depth	Total LPAHs	Total HPAHs
3.0	7,531 J	73,156

Depth	Total LPAHs	Total HPAHs
0.0-0.5	299 U	498 UJ

BIL13SSI

Depth	Total LPAHs	Total HPAHs
0.0-1.0	3,029	41,810
1.0-3.0	12,211	129,700

Depth	Total LPAHs	Total HPAHs
2.0	34,767	25,1840 J

Depth	Total LPAHs	Total HPAHs
0.0-1.0	556	7,210
1.0-3.0	2,203	48,770

Depth	Total LPAHs	Total HPAHs
1.0	4,406	84,685

Depth	Total LPAHs	Total HPAHs
0.0-1.0	5,382	49,100
1.0-3.0	4,334	51,400

L-01 L-02 L-03 L-04 BIL17 BIL18 BIL22

Depth	Total LPAHs	Total HPAHs
0.5	230 J	1,517 J

BIL09USE

Depth	Total LPAHs	Total HPAHs
0.5	290 J	3,645

BIL03USE

Depth	Total LPAHs	Total HPAHs
0.5	424 J	11,350

BIL08USE BIL02USE

Depth	Total LPAHs	Total HPAHs
0.5	770 J	13,060

BIL07USE

BIL01USE

Depth	Total LPAHs	Total HPAHs
0.5	4,268 J	55,030

Depth	Total LPAHs	Total HPAHs
0.5	279 J	6,051

Depth	Total LPAHs	Total HPAHs
0.0-1.0	7,043	49,700
1.0-3.0	4,270	53,000

Gully Test Pit

Sample ID	Depth	Total LPAHs	Total HPAHs
BIL01TPG	0-10?	5,750 J	66,200 J
BIL02TPG	0-10?	7,150	82,200 J
BIL03TPG	0-10?	3,610 J	53,500 J
BIL04TPG	0-10?	29,500 J	138,000 J

Mercury Vapor-Lamp Test Pit

Sample ID	Depth	Total LPAHs	Total HPAHs
BIL28TPM	0-10?	9,340 J	59,500 J
BIL29TPM	0-10?	3,750 J	6,210 J

Depth	Total LPAHs	Total HPAHs
0.5	141 J	880

BIL05USE BIL04USE

Depth	Total LPAHs	Total HPAHs
0.5	1,963 J	14,390

BIL06USE

Depth	Total LPAHs	Total HPAHs
0.5	277 J	2,516

Depth	Total LPAHs	Total HPAHs
0.0-0.5	2,105 J	16,150 J

Lead Hot Spot
Test Pit #1

BIL06SSI

BIL31 BIL32 BIL30

Lead Hot Spot
Test Pit #2

Depth	Total LPAHs	Total HPAHs
0.0-0.5	913 J	334 J

BIL12SSI

Depth	Total LPAHs	Total HPAHs
0.0-0.5	881 J	3,452 J

BIL11SSI

BIL26 BIL24 BIL04SSI BIL27

Depth	Total LPAHs	Total HPAHs
0.0-0.5	18,674 J	367,900

BIL05SSI

Depth	Total LPAHs	Total HPAHs
0.0-0.5	3,143 J	17,320 J

Depth	Total LPAHs	Total HPAHs
0.0-0.5	940 J	891 J

BIL09SSI

Access Road

Depth	Total LPAHs	Total HPAHs
0.0-0.5	936 J	640 J

BIL10SSI

Extent of
Landfill Debris

Depth	Total LPAHs	Total HPAHs
0.0-0.33	153 J	1,049 J

BIL01SSI

BIL03SSI

Depth	Total LPAHs	Total HPAHs
0.0-0.5	650 J	13,060

BIL02SSI

Depth	Total LPAHs	Total HPAHs
0.0-0.5	256 J	1,511 J

Pesticide/Herbicide
Wash Area

Landfill AOPC

120

15 0 15 30

SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
feet bgs	Concentration (µg/kg)

HPAHs = High Molecular Weight PAHs
LPAHs = Low Molecular Weight PAHs
SLV = screening level value

Soil SLVs Used for Screening (µg/kg):

Total LPAH (µg/kg)	Total HPAH (µg/kg)
29,000	1,100

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.
PAHs were not analyzed for at BIL24, BIL26, BIL27, or BIL30 to BIL32 (shown in gray).

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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CASCADE LOCKS, OREGON

LANDFILL AOPC

PAHs IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-1f
CAD FILE NUMBER: FIG 9-1f
SHEET: OF
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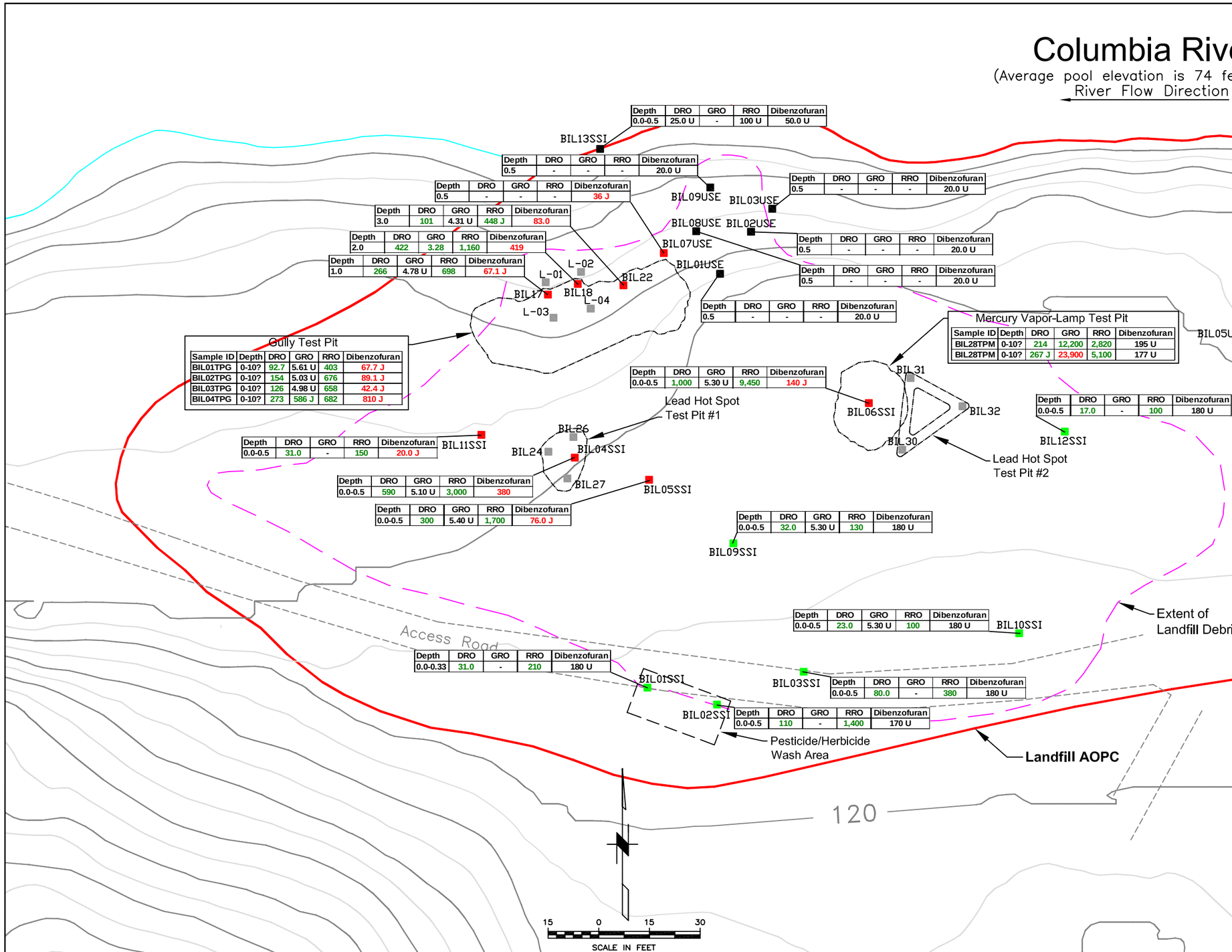
O:\25692709 USACE\53-F0072173.00 Brdford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1f - PAHs in Surface and Shallow Soil at Landfill AOPC.dwg Nov 18, 2010 - 9:33am



LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte Concentration
ft bgs	(mg/kg or µg/kg)

DRO = Diesel Range Organics
GRO = Gasoline Range Organics
RRO = Residual Range Organics
SLV = screening level value
- = Not Analyzed

Soil SLVs Used for Screening (µg/kg):

DRO (mg/kg)	GRO (mg/kg)	RRO (mg/kg)	Dibenzofuran (µg/kg)
23,000	13,000	40,000	2.00

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.
TPH and Dibenzofuran were not analyzed for at L-01 to L-04, BIL24, BIL26, BIL27, or BIL30 to BIL32 (shown in gray).

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
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CASCADE LOCKS, OREGON

LANDFILL AOPC

TPH AND DIBENZOFURAN
IN SURFACE AND SHALLOW SOIL

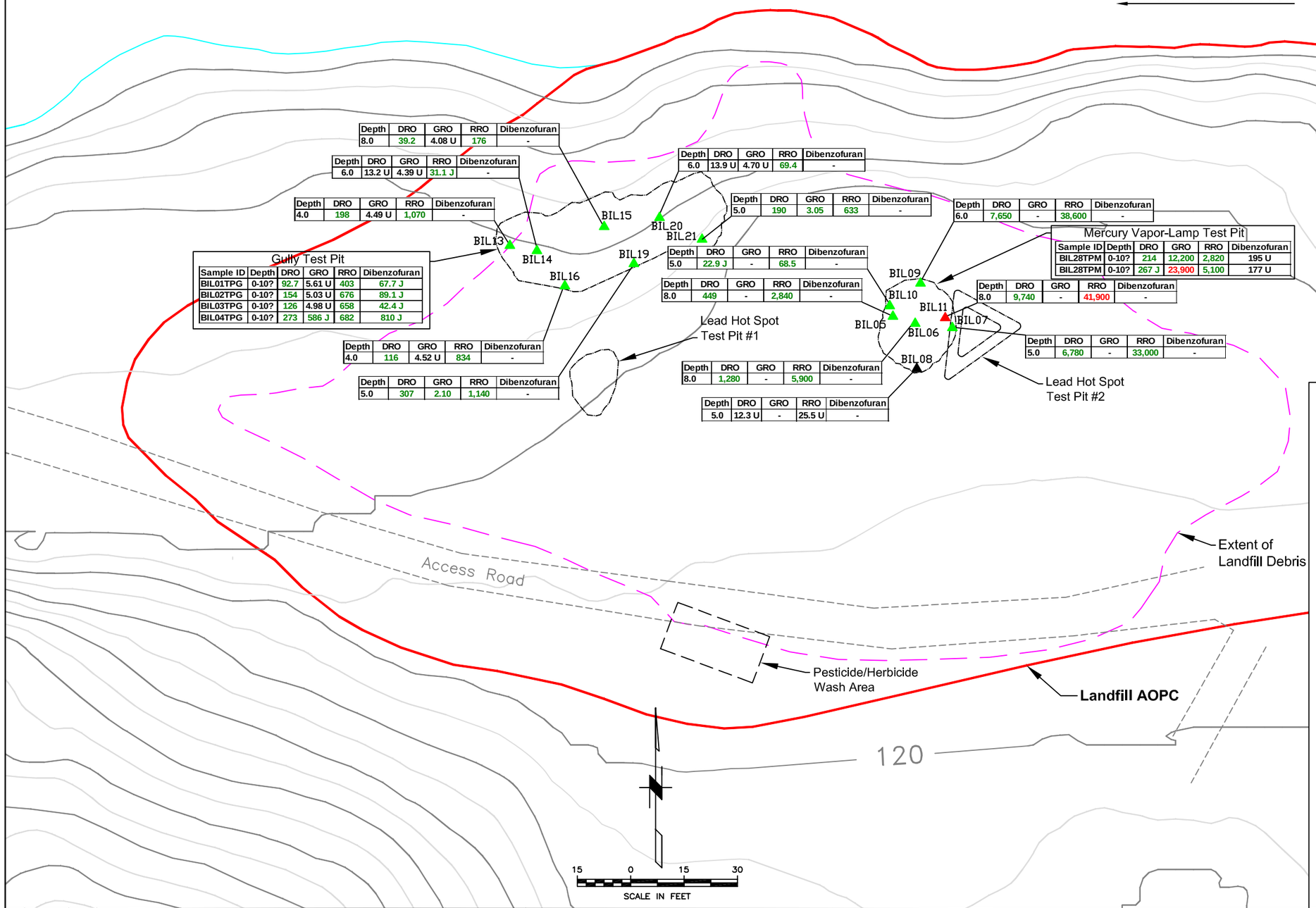
DRAWING NUMBER: FIGURE 9-1g
CAD FILE NUMBER: FIG 9-1g
SHEET: OF
REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1g - TPH and Dibenzofuran in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:34am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



Depth	DRO	GRO	RRO	Dibenzofuran
8.0	39.2	4.08 U	176	-

Depth	DRO	GRO	RRO	Dibenzofuran
6.0	13.2 U	4.39 U	31.1 J	-

Depth	DRO	GRO	RRO	Dibenzofuran
4.0	198	4.49 U	1,070	-

Gully Test Pit

Sample ID	Depth	DRO	GRO	RRO	Dibenzofuran
BIL01TPG	0-10?	92.7	5.61 U	403	67.7 J
BIL02TPG	0-10?	154	5.03 U	676	89.1 J
BIL03TPG	0-10?	126	4.98 U	658	42.4 J
BIL04TPG	0-10?	273	586 J	682	810 J

Depth	DRO	GRO	RRO	Dibenzofuran
4.0	116	4.52 U	834	-

Depth	DRO	GRO	RRO	Dibenzofuran
5.0	307	2.10	1,140	-

Depth	DRO	GRO	RRO	Dibenzofuran
6.0	13.9 U	4.70 U	69.4	-

Depth	DRO	GRO	RRO	Dibenzofuran
5.0	190	3.05	633	-

Depth	DRO	GRO	RRO	Dibenzofuran
5.0	22.9 J	-	68.5	-

Depth	DRO	GRO	RRO	Dibenzofuran
8.0	449	-	2,840	-

Depth	DRO	GRO	RRO	Dibenzofuran
8.0	1,280	-	5,900	-

Depth	DRO	GRO	RRO	Dibenzofuran
5.0	12.3 U	-	25.5 U	-

Depth	DRO	GRO	RRO	Dibenzofuran
6.0	7,650	-	38,600	-

Mercury Vapor-Lamp Test Pit

Sample ID	Depth	DRO	GRO	RRO	Dibenzofuran
BIL28TPM	0-10?	214	12,200	2,820	195 U
BIL28TPM	0-10?	267 J	23,900	5,100	177 U

Depth	DRO	GRO	RRO	Dibenzofuran
8.0	9,740	-	41,900	-

Depth	DRO	GRO	RRO	Dibenzofuran
5.0	6,780	-	33,000	-

LEGEND

- ▲ Landfill Deeper Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
ft bgs	Concentration (mg/kg or µg/kg)

DRO = Diesel Range Organics
GRO = Gasoline Range Organic
RRO = Residual Range Organics
SLV = screening level value
- = Not Analyzed

Soil SLVs Used for Screening:

DRO (mg/kg)	GRO (mg/kg)	RRO (mg/kg)	Dibenzofuran (µg/kg)
23,000	13,000	40,000	1,000,000

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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CASCADE LOCKS, OREGON

LANDFILL AOPC

TPH AND DIBENZOFURAN IN DEEPER SOIL

DRAWING NUMBER: FIGURE 9-1h

CAD FILE NUMBER: FIG 9-1h

SHEET: OF

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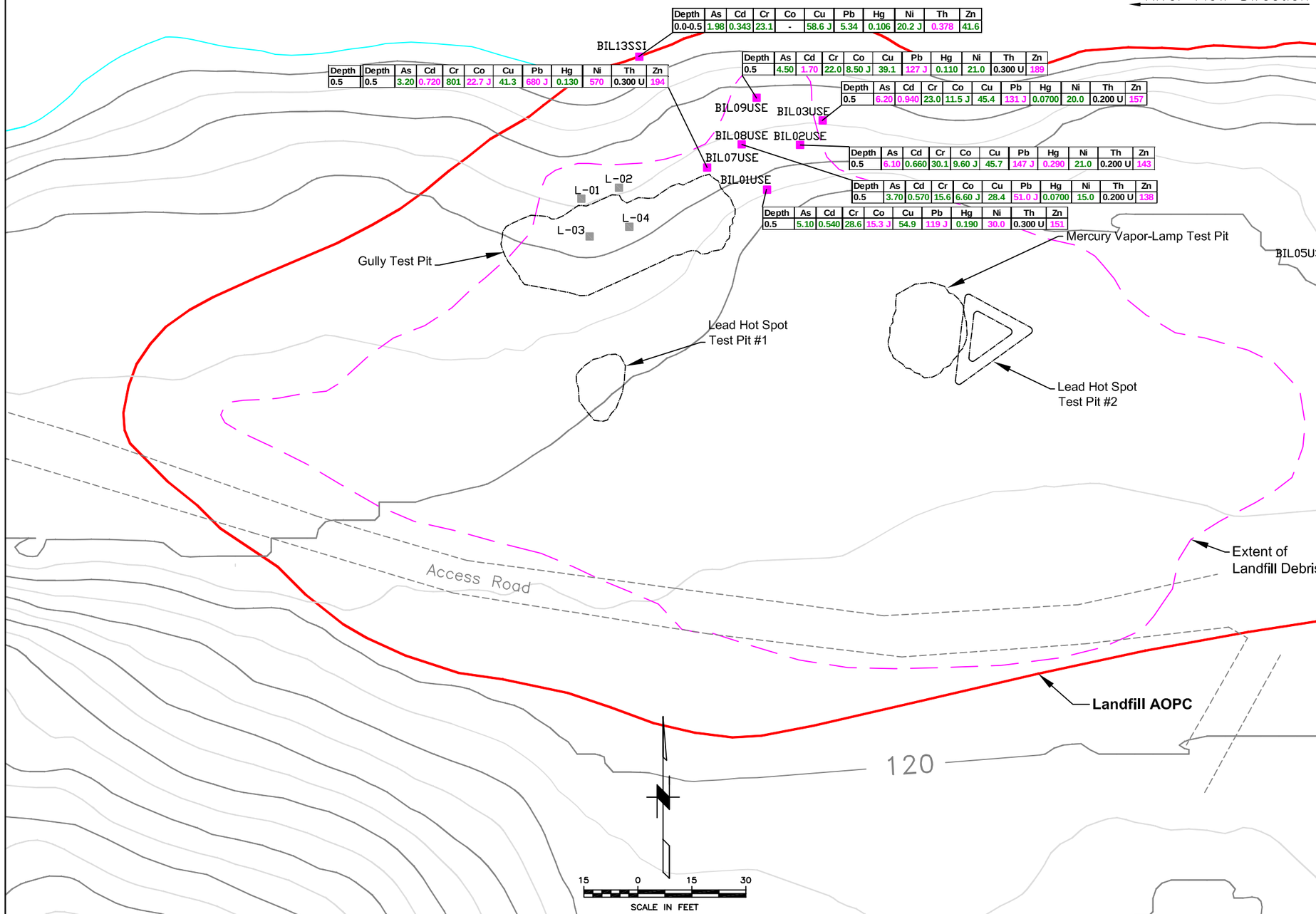
O:\25692709 USACE\53-F0072173.00 Brdford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-1h - TPH and Dibenzofuran in Deeper Soil at Landfill AOPC.dwg Nov 18, 2010 - 9:36am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.0-0.5	1.98	0.343	23.1	-	58.6 J	5.34	0.106	20.2 J	0.378	41.6

Depth	Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	0.5	3.20	0.720	801	22.7 J	41.3	680 J	0.130	570	0.300 U	194

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	4.50	1.70	22.0	8.50 J	39.1	127 J	0.110	21.0	0.300 U	189

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	6.20	0.940	23.0	11.5 J	45.4	131 J	0.0700	20.0	0.200 U	157

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	6.10	0.660	30.1	9.60 J	45.7	147 J	0.290	21.0	0.200 U	143

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	3.70	0.570	15.6	6.60 J	28.4	51.0 J	0.0700	15.0	0.200 U	138

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	5.10	0.540	28.6	15.3 J	54.9	119 J	0.190	30.0	0.300 U	151

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	3.30	0.570	16.1	6.40 J	24.4	49.0 J	0.230	15.0	0.200 U	144

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	3.70	0.670	117	10.7 J	52.1	174 J	0.100	72.0	0.300 U	180

Depth	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
0.5	4.00	1.30	16.9	8.30 J	60.5	148 J	0.320	15.0	0.200 U	221

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
feet bgs	Concentration (mg/kg)

As = Arsenic
Cd = Cadmium
Cr = Chromium
Co = Cobalt
Cu =Copper
SLV = screening level value
- = Not Analyzed

Pb = Lead
Hg = Mercury
Ni = Nickel
Se = Selenium
Th = Thallium
Zn = Zinc

Sediment SLVs Used for Screening (mg/kg):

As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Th	Zn
6.00	0.674	37.0	15.2	55.6	35.0	0.214	21.2	0.354	123

Pink = Soil Concentration exceeds Sediment SLV.
Green = Soil Concentration below Seiment SLV.
Black = Not detected at MDL shown.
Metals were not analyzed for at L-01 to L-04 (shown in gray).

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: JULY 2010

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LANDFILL AOPC

METALS IN SURFACE SOIL
FOR MASS WASTING EVALUATION

DRAWING NUMBER: FIGURE 9-2a
CAD FILE NUMBER: FIG 9-2a
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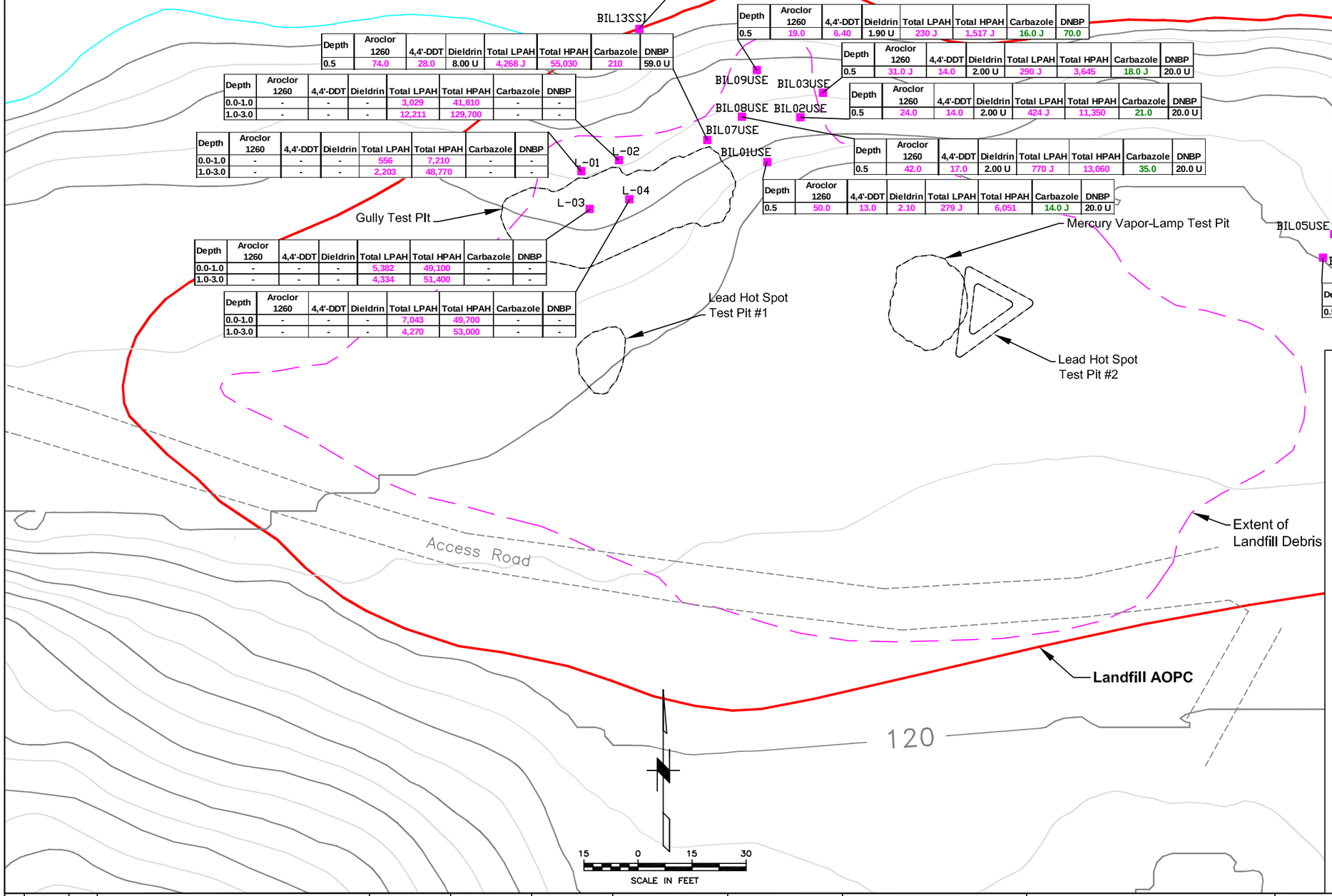
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-2a- Metals in Surface Soil for Mass Wasting Evaluation.dwg Nov 18, 2010 - 9:37am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.0-0.5	50.0 UJ	1.00 U	2.00 U	299 U	498 UJ	50.0 UJ	50.0 U

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	19.0	6.40	1.90 U	230 J	1,517 J	16.0 J	70.0

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	74.0	28.0	8.00 U	4,268 J	55,030	210	59.0 U

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	31.0 J	14.0	2.00 U	290 J	3,645	18.0 J	20.0 U

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.0-1.0	-	-	-	3,029	41,810	-	-
1.0-3.0	-	-	-	12,211	129,700	-	-

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	24.0	14.0	2.00 U	424 J	11,350	21.0	20.0 U

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.0-1.0	-	-	-	556	7,210	-	-
1.0-3.0	-	-	-	2,203	48,770	-	-

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	42.0	17.0	2.00 U	770 J	13,060	35.0	20.0 U

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	50.0	13.0	2.10	279 J	6,051	14.0 J	20.0 U

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	12.0	2.00 U	2.00 U	141 J	880	20.0 U	15.0 J

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	33.0	5.00 U	2.00 U	1,963 J	14,390	78.0	99.0

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.5	92.0	23.0	4.00 U	277 J	2,516	21.0	1,800

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.0-1.0	-	-	-	5,382	49,100	-	-
1.0-3.0	-	-	-	4,334	51,400	-	-

Depth	Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.0-1.0	-	-	-	7,043	49,700	-	-
1.0-3.0	-	-	-	4,270	53,000	-	-

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
feet bgs	Concentration (µg/kg)

HPAHs = High Molecular Weight PAHs
LPAHs = Low Molecular Weight PAHs
DNBP = Di-n-butyl Phthalate
SLV = screening level value
- = Not Analyzed

Sediment SLVs Used for Screening (µg/kg):

Aroclor 1260	4,4'-DDT	Dieldrin	Total LPAH	Total HPAH	Carbazole	DNBP
0.0480	0.0400	0.00100	76.0	193	140	110

Pink = Soil Concentration exceeds Sediment SLV.
Green = Soil Concentration below Seiment SLV.
Black = Not detected at MDL shown.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

PCBs, PESTICIDES, PAHs, AND SVOCs IN SURFACE SOILS FOR MASS WASTING EVALUATION

DRAWING NUMBER: FIGURE 9-2b
CAD FILE NUMBER: FIG 9-2b
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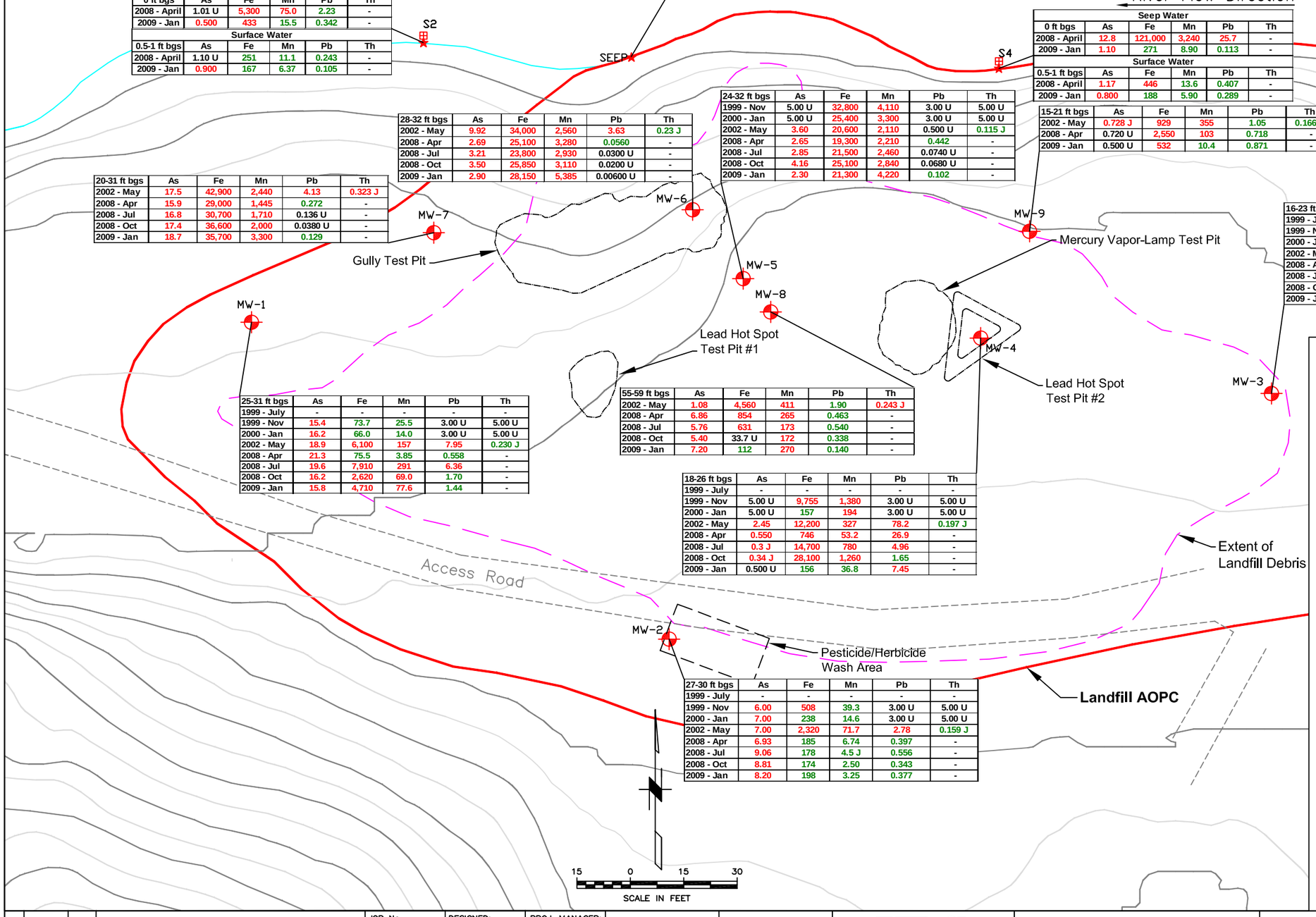
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-2b- PCBs, Pesticides, PAHs, and SVOCs in Surface Soil for Mass Wasting Evaluation.dwg Nov 18, 2010 - 9:38am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



Seep Water					
0 ft bgs	As	Fe	Mn	Pb	Th
2008 - April	1.01 U	5,300	75.0	2.23	-
2009 - Jan	0.500	433	15.5	0.342	-
Surface Water					
0.5-1 ft bgs	As	Fe	Mn	Pb	Th
2008 - April	1.10 U	251	11.1	0.243	-
2009 - Jan	0.900	167	6.37	0.105	-

Seep Water					
0 ft bgs	As	Fe	Mn	Pb	Th
2000 - Apr	1.04	8,195	1,475	1.00 U	1.00 U

Seep Water					
0 ft bgs	As	Fe	Mn	Pb	Th
2008 - April	12.8	121,000	3,240	25.7	-
2009 - Jan	1.10	271	8.90	0.113	-
Surface Water					
0.5-1 ft bgs	As	Fe	Mn	Pb	Th
2008 - April	1.17	446	13.6	0.407	-
2009 - Jan	0.800	188	5.90	0.289	-

28-32 ft bgs	As	Fe	Mn	Pb	Th
2002 - May	9.92	34,000	2,560	3.63	0.23 J
2008 - Apr	2.69	25,100	3,280	0.0560	-
2008 - Jul	3.21	23,800	2,930	0.0300 U	-
2008 - Oct	3.50	25,850	3,110	0.0200 U	-
2009 - Jan	2.90	28,150	5,385	0.00600 U	-

24-32 ft bgs	As	Fe	Mn	Pb	Th
1999 - Nov	5.00 U	32,800	4,110	3.00 U	5.00 U
2000 - Jan	5.00 U	25,400	3,300	3.00 U	5.00 U
2002 - May	3.60	20,600	2,110	0.500 U	0.115 J
2008 - Apr	2.65	19,300	2,210	0.442	-
2008 - Jul	2.85	21,500	2,460	0.0740 U	-
2008 - Oct	4.16	25,100	2,840	0.0680 U	-
2009 - Jan	2.30	21,300	4,220	0.102	-

15-21 ft bgs	As	Fe	Mn	Pb	Th
2002 - May	0.728 J	929	355	1.05	0.166 J
2008 - Apr	0.720 U	2,550	103	0.718	-
2009 - Jan	0.500 U	532	10.4	0.871	-

20-31 ft bgs	As	Fe	Mn	Pb	Th
2002 - May	17.5	42,900	2,440	4.13	0.323 J
2008 - Apr	15.9	29,000	1,445	0.272	-
2008 - Jul	16.8	30,700	1,710	0.136 U	-
2008 - Oct	17.4	36,600	2,000	0.0380 U	-
2009 - Jan	18.7	35,700	3,300	0.129	-

16-23 ft bgs	As	Fe	Mn	Pb	Th
1999 - July	-	-	-	-	-
1999 - Nov	5.00 U	119	23.2	3.00 U	5.00 U
2000 - Jan	5.00 U	53.1	10.0 U	3.00 U	5.00 U
2002 - May	0.138 J	33.1 J	3.17	0.500 U	0.159 J
2008 - Apr	0.35 J	112	6.25	0.154	-
2008 - Jul	0.400 J	57.8 U	4.2 J	0.0560 U	-
2008 - Oct	0.520	9.4 J	0.810	0.0200 U	-
2009 - Jan	0.500 U	60.6 U	2.07	0.0400	-

25-31 ft bgs	As	Fe	Mn	Pb	Th
1999 - July	-	-	-	-	-
1999 - Nov	15.4	73.7	25.5	3.00 U	5.00 U
2000 - Jan	16.2	66.0	14.0	3.00 U	5.00 U
2002 - May	18.9	6,100	157	7.95	0.230 J
2008 - Apr	21.3	75.5	3.85	0.558	-
2008 - Jul	19.6	7,910	291	6.36	-
2008 - Oct	16.2	2,620	69.0	1.70	-
2009 - Jan	15.8	4,710	77.6	1.44	-

55-59 ft bgs	As	Fe	Mn	Pb	Th
2002 - May	1.08	4,560	411	1.90	0.243 J
2008 - Apr	6.86	854	265	0.463	-
2008 - Jul	5.76	631	173	0.540	-
2008 - Oct	5.40	33.7 U	172	0.338	-
2009 - Jan	7.20	112	270	0.140	-

18-26 ft bgs	As	Fe	Mn	Pb	Th
1999 - July	-	-	-	-	-
1999 - Nov	5.00 U	9,755	1,380	3.00 U	5.00 U
2000 - Jan	5.00 U	157	194	3.00 U	5.00 U
2002 - May	2.45	12,200	327	78.2	0.197 J
2008 - Apr	0.550	746	53.2	26.9	-
2008 - Jul	0.3 J	14,700	780	4.96	-
2008 - Oct	0.34 J	28,100	1,260	1.65	-
2009 - Jan	0.500 U	156	36.8	7.45	-

27-30 ft bgs	As	Fe	Mn	Pb	Th
1999 - July	-	-	-	-	-
1999 - Nov	6.00	508	39.3	3.00 U	5.00 U
2000 - Jan	7.00	238	14.6	3.00 U	5.00 U
2002 - May	7.00	2,320	71.7	2.78	0.159 J
2008 - Apr	6.93	185	6.74	0.397	-
2008 - Jul	9.06	178	4.5 J	0.556	-
2008 - Oct	8.81	174	2.50	0.343	-
2009 - Jan	8.20	198	3.25	0.377	-

LEGEND

- Landfill Groundwater Sampling Location
- Landfill Surface Water Sampling Location
- Landfill Seep Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
Date	Concentration (µg/L)

As = Arsenic
Pb = Lead
Fe = Iron
Th = Thallium
Mn = Manganese
SLV = screening level value
- = Not Analyzed

Water SLVs Used for Screening (µg/L):

As	Fe	Mn	Pb	Th
0.0180	300	50.0	2.50	0.240

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.

No.	DATE	BY	REVISION

JOB No. 25696946	DESIGNED: LSM	PROJ. MANAGER: MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

TOTAL METALS IN GROUNDWATER, SEEP WATER, AND SURFACE WATER

DRAWING NUMBER: FIGURE 9-3a

CAD FILE NUMBER: FIG 9-3a

SHEET: OF

REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-3a - Total Metals in Groundwater, Seep Water, and Surface Water.dwg Nov 18, 2010 - 9:39am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Seep Water			
0 ft bgs	DRO	GRO	RRO
2008 - April	13.0 U	13.0 U	23.0 U
2009 - Jan	29.0 J	13.0 U	110 U
Surface Water			
0.5-1 ft bgs	DRO	GRO	RRO
2008 - April	12.0 U	13.0 U	20.0 U
2009 - Jan	26.0 J	13.0 U	100 U

Seep Water			
0 ft bgs	DRO	GRO	RRO
2000 - Apr	250 U	250 U	500 U

Seep Water			
0 ft bgs	DRO	GRO	RRO
2008 - April	120 U	13.0 U	120 U
2009 - Jan	130	13.0 U	130
Surface Water			
0.5-1 ft bgs	DRO	GRO	RRO
2008 - April	120 U	13.0 U	120 U
2009 - Jan	30.0 J	13.0 U	100 U

28-32 ft bgs	DRO	GRO	RRO
2002 - May	889	100 U	1,030
2008 - Apr	360	30.0 J	120 U
2008 - Jul	465	35.5 J	230
2008 - Oct	395	30.0 J	170 U
2009 - Jan	515	29.5 J	140

15-21 ft bgs	DRO	GRO	RRO
2002 - May	471	100 U	965
2008 - Apr	65.0 J	13.0 U	130
2009 - Jan	110 J	13.0 U	130

24-32 ft bgs	DRO	GRO	RRO
1999 - Nov	1,800	300	1,900
2000 - Jan	1,100	430	750 U
2002 - May	1,100	63.1 J	1,270
2008 - Apr	490	120 J	180
2008 - Jul	980	110 J	370
2008 - Oct	730	32.0 J	260
2009 - Jan	970	90.0 J	330

20-31 ft bgs	DRO	GRO	RRO
2002 - May	567	281	708
2008 - Apr	110 U	13.0 J	110 U
2008 - Jul	110 U	13.0 U	110 U
2008 - Oct	97.0 J	13.0 U	130 U
2009 - Jan	77.0 J	13.0 U	80.0 J

16-23 ft bgs	DRO	GRO	RRO
1999 - July	240 U	100 U	710 U
1999 - Nov	240 U	100 U	710 U
2000 - Jan	250 U	100 U	750 U
2002 - May	100 U	100 U	310 J
2008 - Apr	110 U	18.0 J	110 U
2008 - Jul	110 U	13.0 U	110 U
2008 - Oct	13.0 J	13.0 U	110 U
2009 - Jan	23.0 J	13.0 U	51.0 J

25-31 ft bgs	DRO	GRO	RRO
1999 - July	240 U	100 U	710 U
1999 - Nov	340	100 U	840
2000 - Jan	280	100 U	750 U
2002 - May	122 J	100 U	275 J
2008 - Apr	12.0 U	13.0 U	21.0 U
2008 - Jul	-	13.0 U	-
2008 - Oct	480	14.0 J	200
2009 - Jan	-	13.0 U	-

55-59 ft bgs	DRO	GRO	RRO
2002 - May	371	100 U	407
2008 - Apr	15.0 J	13.0 U	22.0 U
2008 - Jul	110	14.0 J	100 U
2008 - Oct	440	13.0 J	150
2009 - Jan	53.0 J	13.0 U	52.0 J

18-26 ft bgs	DRO	GRO	RRO
1999 - July	240 U	100 U	710 U
1999 - Nov	295	100 U	710 U
2000 - Jan	305	100 U	750 U
2002 - May	485	100 U	750
2008 - Apr	120 U	13.0 U	110 U
2008 - Jul	130	13.0 U	140 U
2008 - Oct	120	13.0 U	160
2009 - Jan	210	13.0 U	160

27-30 ft bgs	DRO	GRO	RRO
1999 - July	240 U	100 U	710 U
1999 - Nov	240 U	100 U	710 U
2000 - Jan	250 U	100 U	750 U
2002 - May	131 J	100 U	351 J
2008 - Apr	110 U	13.0 U	110 U
2008 - Jul	110 U	13.0 U	110 U
2008 - Oct	13.0 U	13.0 U	120 U
2009 - Jan	19.0 J	13.0 U	57.0 J

S2
SEEP
S4
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
Gully Test Pit
Lead Hot Spot Test Pit #1
Mercury Vapor-Lamp Test Pit
Lead Hot Spot Test Pit #2
Extent of Landfill Debris
Access Road
Pesticide/Herbicide Wash Area
Landfill AOPC
120

15 0 15 30
SCALE IN FEET

LEGEND

- Landfill Groundwater Sampling Location
- Landfill Surface Water Sampling Location
- Landfill Seep Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
Date	Concentration (µg/L)

GRO = Gasoline Range Organics
DRO = Diesel Range Organics
RRO = Residual Range Organics
SLV = screening level value
- = Not Analyzed

Water SLVs Used for Screening (µg/L):

DRO	GRO	RRO
90.0	100	290

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

TPH IN GROUNDWATER, SEEP WATER, AND SURFACE WATER

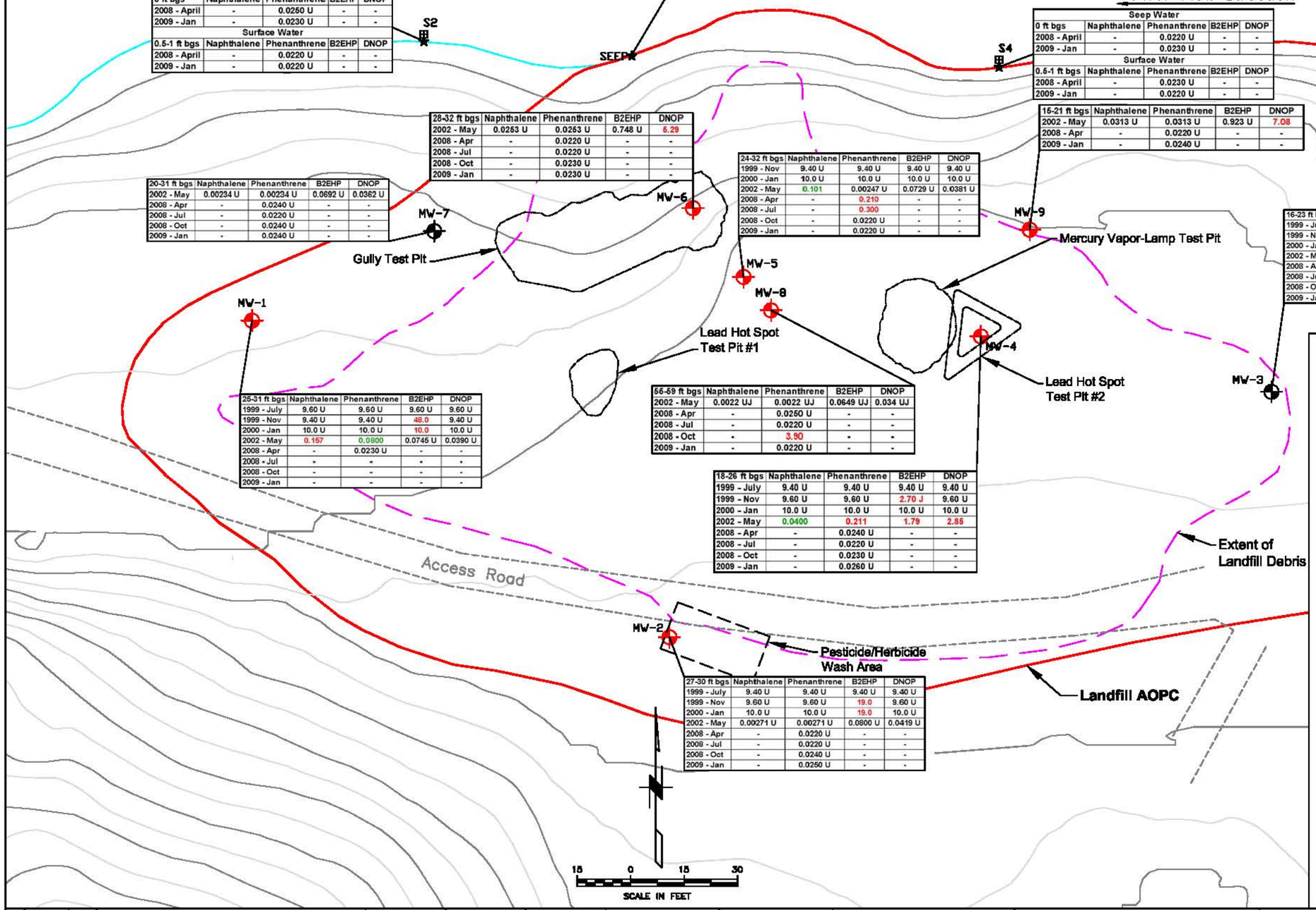
DRAWING NUMBER: FIGURE 9-3b
CAD FILE NUMBER: FIG 9-3b
SHEET: OF
REV.

O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-3b - TPH in Groundwater, Seep Water, and Surface Water.dwg Nov 18, 2010 - 9:39am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



Seep Water				
0 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2008 - April	-	0.0250 U	-	-
2009 - Jan	-	0.0230 U	-	-
Surface Water				
0.5-1 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2008 - April	-	0.0220 U	-	-
2009 - Jan	-	0.0220 U	-	-

Seep Water				
0 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2000 - Apr	4.80 UJ	4.80 UJ	24.0 U	4.80 UJ

Seep Water				
0 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2008 - April	-	0.0220 U	-	-
2009 - Jan	-	0.0230 U	-	-
Surface Water				
0.5-1 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2008 - April	-	0.0230 U	-	-
2009 - Jan	-	0.0220 U	-	-

28-32 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2002 - May	0.0263 U	0.0263 U	0.748 U	6.29
2008 - Apr	-	0.0220 U	-	-
2008 - Jul	-	0.0220 U	-	-
2008 - Oct	-	0.0230 U	-	-
2009 - Jan	-	0.0230 U	-	-

15-21 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2002 - May	0.0313 U	0.0313 U	0.923 U	7.08
2008 - Apr	-	0.0220 U	-	-
2009 - Jan	-	0.0240 U	-	-

20-31 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2002 - May	0.00234 U	0.00234 U	0.0692 U	0.0362 U
2008 - Apr	-	0.0240 U	-	-
2008 - Jul	-	0.0220 U	-	-
2008 - Oct	-	0.0240 U	-	-
2009 - Jan	-	0.0240 U	-	-

24-32 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
1999 - Nov	9.40 U	9.40 U	9.40 U	9.40 U
2000 - Jan	10.0 U	10.0 U	10.0 U	10.0 U
2002 - May	0.101	0.00247 U	0.0729 U	0.0381 U
2008 - Apr	-	0.210	-	-
2008 - Jul	-	0.300	-	-
2008 - Oct	-	0.0220 U	-	-
2009 - Jan	-	0.0220 U	-	-

16-23 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
1999 - July	9.40 U	9.40 U	9.40 U	9.40 U
1999 - Nov	9.40 U	9.40 U	9.40 U	9.40 U
2000 - Jan	10.0 U	10.0 U	10.0 U	10.0 U
2002 - May	0.00252 U	0.00252 U	0.0745 U	0.0389 U
2008 - Apr	-	0.0230 U	-	-
2008 - Jul	-	0.0240 U	-	-
2008 - Oct	-	0.0230 U	-	-
2009 - Jan	-	0.0230 U	-	-

25-31 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
1999 - July	9.60 U	9.60 U	9.60 U	9.60 U
1999 - Nov	9.40 U	9.40 U	48.0	9.40 U
2000 - Jan	10.0 U	10.0 U	10.0	10.0 U
2002 - May	0.157	0.0800	0.0745 U	0.0390 U
2008 - Apr	-	0.0230 U	-	-
2008 - Jul	-	-	-	-
2008 - Oct	-	-	-	-
2009 - Jan	-	-	-	-

55-59 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
2002 - May	0.0022 UJ	0.0022 UJ	0.0649 UJ	0.034 UJ
2008 - Apr	-	0.0250 U	-	-
2008 - Jul	-	0.0220 U	-	-
2008 - Oct	-	3.90	-	-
2009 - Jan	-	0.0220 U	-	-

18-26 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
1999 - July	9.40 U	9.40 U	9.40 U	9.40 U
1999 - Nov	9.60 U	9.60 U	2.70 J	9.60 U
2000 - Jan	10.0 U	10.0 U	10.0 U	10.0 U
2002 - May	0.0400	0.211	1.79	2.85
2008 - Apr	-	0.0240 U	-	-
2008 - Jul	-	0.0220 U	-	-
2008 - Oct	-	0.0230 U	-	-
2009 - Jan	-	0.0260 U	-	-

27-30 ft bgs	Naphthalene	Phenanthrene	B2EHP	DNOP
1999 - July	9.40 U	9.40 U	9.40 U	9.40 U
1999 - Nov	9.60 U	9.60 U	19.0	9.60 U
2000 - Jan	10.0 U	10.0 U	19.0	10.0 U
2002 - May	0.00271 U	0.00271 U	0.0800 U	0.0419 U
2008 - Apr	-	0.0220 U	-	-
2008 - Jul	-	0.0220 U	-	-
2008 - Oct	-	0.0240 U	-	-
2009 - Jan	-	0.0250 U	-	-

LEGEND

- Landfill Groundwater Sampling Location
- Landfill Surface Water Sampling Location
- Landfill Seep Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
Date	Concentration (µg/L)

B2EHP = Bis(2-ethylhexyl) Phthalate
DNOP = Di-n-octyl phthalate
SLV = Screening Level Value
NV = No Value
- = Not Analyzed

Water SLVs Used for Screening (µg/L):

Naphthalene	Phenanthrene	B2EHP	DNOP
0.140	0.140	1.20	1.20

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.

No.	DATE	BY	REVISION

JOB No. 25696946	DESIGNED: LSM	PROJ. MANAGER: MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

PAHs AND SVOCs IN GROUNDWATER, SEEP WATER, AND SURFACE WATER

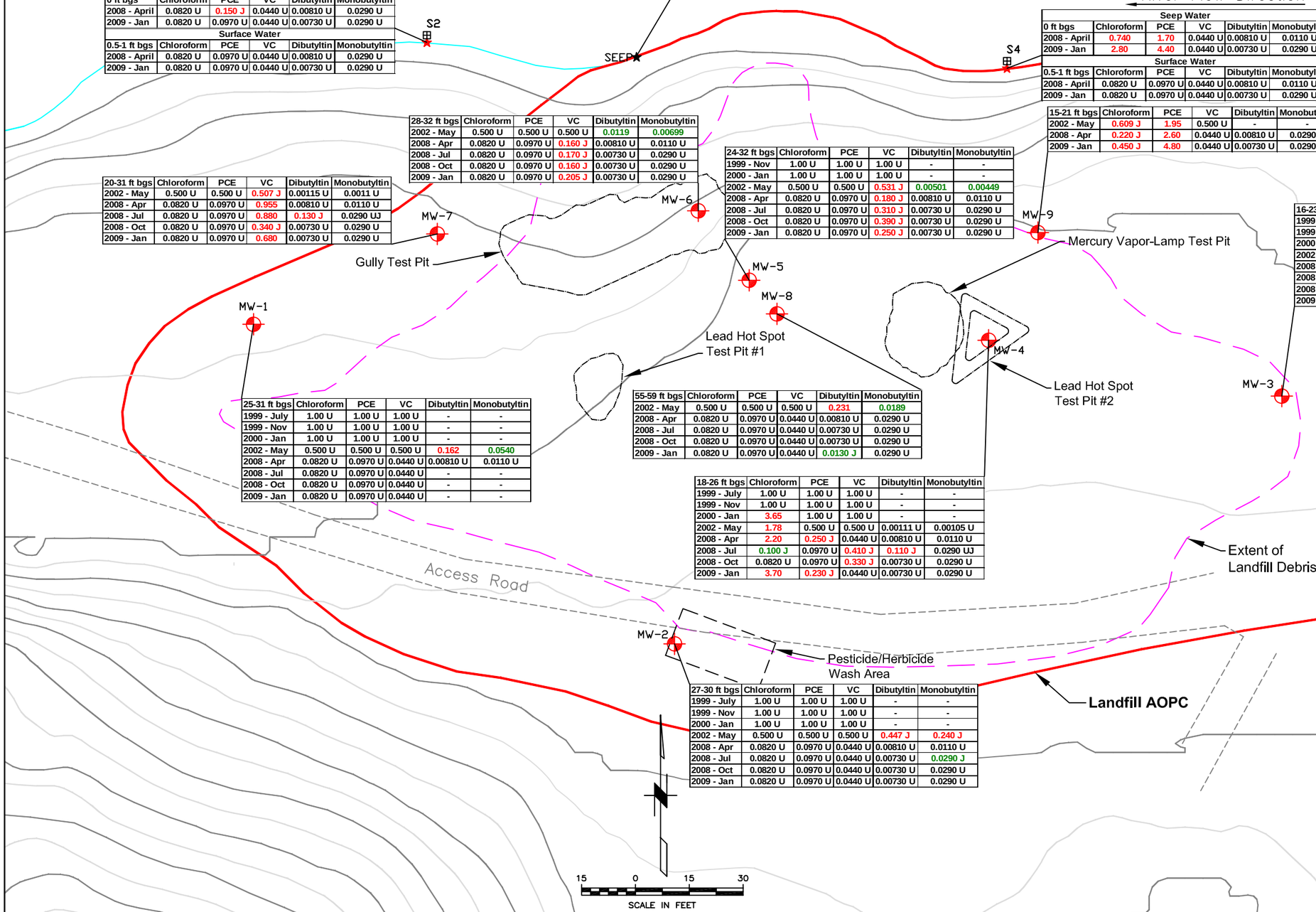
DRAWING NUMBER: FIGURE 9-3c
CAD FILE NUMBER: FIG 9-3c
SHEET: OF
REV.

C:\25692709 USACE\53-F0072173.00 Bedford1\R.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-3c - PAHs and SVOCs in Groundwater, Seep Water, and Surface Water.dwg Feb 13, 2012 - 2:16pm

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction



Seep Water					
0 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2008 - April	0.0820 U	0.150 J	0.0440 U	0.00810 U	0.0290 U
2009 - Jan	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 U
Surface Water					
0.5-1 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2008 - April	0.0820 U	0.0970 U	0.0440 U	0.00810 U	0.0290 U
2009 - Jan	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 U

Seep Water					
0 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2000 - Apr	1.00 U	1.00 U	1.00 U	-	-

Seep Water					
0 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2008 - April	0.740	1.70	0.0440 U	0.00810 U	0.0110 U
2009 - Jan	2.80	4.40	0.0440 U	0.00730 U	0.0290 U
Surface Water					
0.5-1 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2008 - April	0.0820 U	0.0970 U	0.0440 U	0.00810 U	0.0110 U
2009 - Jan	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 U

28-32 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2002 - May	0.500 U	0.500 U	0.500 U	0.0119	0.00699
2008 - Apr	0.0820 U	0.0970 U	0.160 J	0.00810 U	0.0110 U
2008 - Jul	0.0820 U	0.0970 U	0.170 J	0.00730 U	0.0290 U
2008 - Oct	0.0820 U	0.0970 U	0.160 J	0.00730 U	0.0290 U
2009 - Jan	0.0820 U	0.0970 U	0.205 J	0.00730 U	0.0290 U

15-21 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2002 - May	0.609 J	1.95	0.500 U	-	-
2008 - Apr	0.220 J	2.60	0.0440 U	0.00810 U	0.0290 U
2009 - Jan	0.450 J	4.80	0.0440 U	0.00730 U	0.0290 U

20-31 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2002 - May	0.500 U	0.500 U	0.507 J	0.00115 U	0.0011 U
2008 - Apr	0.0820 U	0.0970 U	0.955	0.00810 U	0.0110 U
2008 - Jul	0.0820 U	0.0970 U	0.880	0.130 J	0.0290 UJ
2008 - Oct	0.0820 U	0.0970 U	0.340 J	0.00730 U	0.0290 U
2009 - Jan	0.0820 U	0.0970 U	0.680	0.00730 U	0.0290 U

24-32 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
1999 - Nov	1.00 U	1.00 U	1.00 U	-	-
2000 - Jan	1.00 U	1.00 U	1.00 U	-	-
2002 - May	0.500 U	0.500 U	0.531 J	0.00501	0.00449
2008 - Apr	0.0820 U	0.0970 U	0.180 J	0.00810 U	0.0110 U
2008 - Jul	0.0820 U	0.0970 U	0.310 J	0.00730 U	0.0290 U
2008 - Oct	0.0820 U	0.0970 U	0.390 J	0.00730 U	0.0290 U
2009 - Jan	0.0820 U	0.0970 U	0.250 J	0.00730 U	0.0290 U

16-23 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
1999 - July	1.00 U	5.10	1.00 U	-	-
1999 - Nov	1.00 U	2.60	1.00 U	-	-
2000 - Jan	1.00 U	2.40	1.00 U	-	-
2002 - May	0.500 U	8.78	0.500 U	0.0113	0.00682
2008 - Apr	0.0820 U	6.80	0.0440 U	0.0150 J	0.0110 U
2008 - Jul	0.0820 U	7.20	0.0440 U	0.0910 J	0.0290 UJ
2008 - Oct	0.0820 U	5.90	0.0440 U	0.00730 U	0.0290 U
2009 - Jan	0.0820 U	5.70	0.0440 U	0.00730 U	0.0290 U

25-31 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
1999 - July	1.00 U	1.00 U	1.00 U	-	-
1999 - Nov	1.00 U	1.00 U	1.00 U	-	-
2000 - Jan	1.00 U	1.00 U	1.00 U	-	-
2002 - May	0.500 U	0.500 U	0.500 U	0.162	0.0540
2008 - Apr	0.0820 U	0.0970 U	0.0440 U	0.00810 U	0.0110 U
2008 - Jul	0.0820 U	0.0970 U	0.0440 U	-	-
2008 - Oct	0.0820 U	0.0970 U	0.0440 U	-	-
2009 - Jan	0.0820 U	0.0970 U	0.0440 U	-	-

55-59 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
2002 - May	0.500 U	0.500 U	0.500 U	0.231	0.0189
2008 - Apr	0.0820 U	0.0970 U	0.0440 U	0.00810 U	0.0290 U
2008 - Jul	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 U
2008 - Oct	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 U
2009 - Jan	0.0820 U	0.0970 U	0.0440 U	0.0130 J	0.0290 U

18-26 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
1999 - July	1.00 U	1.00 U	1.00 U	-	-
1999 - Nov	1.00 U	1.00 U	1.00 U	-	-
2000 - Jan	3.65	1.00 U	1.00 U	-	-
2002 - May	1.78	0.500 U	0.500 U	0.00111 U	0.00105 U
2008 - Apr	2.20	0.250 J	0.0440 U	0.00810 U	0.0110 U
2008 - Jul	0.100 J	0.0970 U	0.410 J	0.110 J	0.0290 UJ
2008 - Oct	0.0820 U	0.0970 U	0.330 J	0.00730 U	0.0290 U
2009 - Jan	3.70	0.230 J	0.0440 U	0.00730 U	0.0290 U

27-30 ft bgs	Chloroform	PCE	VC	Dibutyltin	Monobutyltin
1999 - July	1.00 U	1.00 U	1.00 U	-	-
1999 - Nov	1.00 U	1.00 U	1.00 U	-	-
2000 - Jan	1.00 U	1.00 U	1.00 U	-	-
2002 - May	0.500 U	0.500 U	0.500 U	0.447 J	0.240 J
2008 - Apr	0.0820 U	0.0970 U	0.0440 U	0.00810 U	0.0110 U
2008 - Jul	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 J
2008 - Oct	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 U
2009 - Jan	0.0820 U	0.0970 U	0.0440 U	0.00730 U	0.0290 U

LEGEND

- Landfill Groundwater Sampling Location
- Landfill Surface Water Sampling Location
- Landfill Seep Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth	Analyte
Date	Concentration (µg/L)

PCE = Tetrachloroethene
VC = Vinyl Chloride
SLV = Screening Level Value
- = Not Analyzed

Water SLVs Used for Screening (µg/L):

Chloroform	PCE	VC	Dibutyltin	Monobutyltin
0.190	0.0930	0.0250	0.0630	0.0630

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL shown.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

VOCs AND BUTYLTINS IN GROUNDWATER, SEEP WATER, AND SURFACE WATER

DRAWING NUMBER: FIGURE 9-3d
CAD FILE NUMBER: FIG 9-3d
SHEET: OF
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O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-3d - VOCs and Butyltins in Groundwater, Seep Water, and Surface Water.dwg Nov 22, 2010 - 7:59am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

BIL13SSI
BIL09USE
BIL03USE
BIL08USE
BIL02USE
BIL07USE
BIL01USE
L-01
L-02
L-03
L-04
BIL17
BIL18
BIL22
Gully Test Pit
Mercury Vapor-Lamp Test Pit
BIL05USE
BIL04USE
BIL06USE
BIL31
BIL32
BIL06SSI
BIL30
BIL12SSI
Lead Hot Spot Test Pit #1
Lead Hot Spot Test Pit #2
BIL11SSI
BIL26
BIL24
BIL04SSI
BIL27
BIL05SSI
BIL09SSI
BIL10SSI
Extent of Landfill Debris
Access Road
BIL01SSI
BIL03SSI
BIL02SSI
Pesticide/Herbicide Wash Area
Landfill AOPC
120

15 0 15 30
SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Soil SLVs used for Screening (µg/kg):

2,4,5-T	Dichloroprop	MCPP	4,4'-DDT	Total PCBs (Aroclors)	Dibenzofuran
21.0	21.0	21.0	21.0	371	2

SLV = Screening Level Value

Summary of Herbicides, Pesticides, PCBs, and Dibenzofurans in Surface and Shallow Soil

- Herbicides/Pesticides Concentration
- PCBs Concentration
- Dibenzofuran Concentration

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL.
Gray = Not Analyzed.

No.	DATE	BY	REVISION

JOB No. 25696946	DESIGNED: LSM	PROJ. MANAGER: MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: JULY 2010

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BRADFORD ISLAND

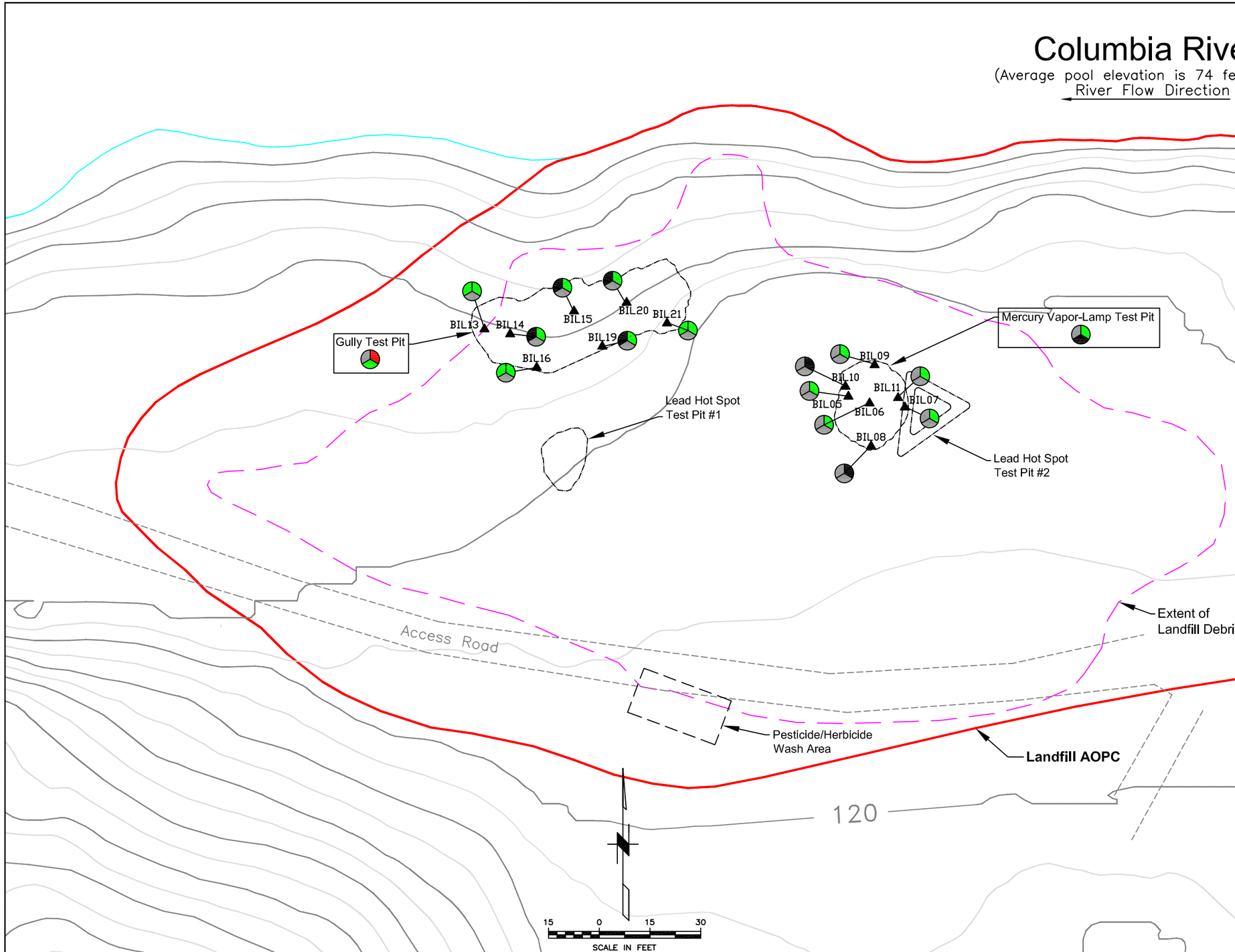
CASCADE LOCKS, OREGON

LANDFILL AOPC

SUMMARY OF HERBICIDES, PESTICIDES, PCBs, AND DIBENZOFURAN IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-4a
CAD FILE NUMBER: FIG 9-4a
SHEET: OF
REV.

C:\25692709 USACE\53-F0072173.00 Bradford1\FL.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-4a Summary of Herbicides, Pesticides, PCBs, and Dibenzofurans in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:41am



LEGEND

- Landfill Deeper Soil Monitoring Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Soil SLVs used for Screening (µg/kg):

2,4,5-T	Dichloroprop	MCPP	4,4'-DDT	Total PCBs (Aroclors)	Dibenzofuran
4,900,000	NV	620,000	7,700	740	1,000,000

SLV = Screening Level Value

Summary of Herbicides, Pesticides, PCBs, and Dibenzofurans in Deeper Soil

- Herbicides/Pesticides Concentration
- PCBs Concentration
- Dibenzofuran Concentration

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL.
Gray = Not Analyzed.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
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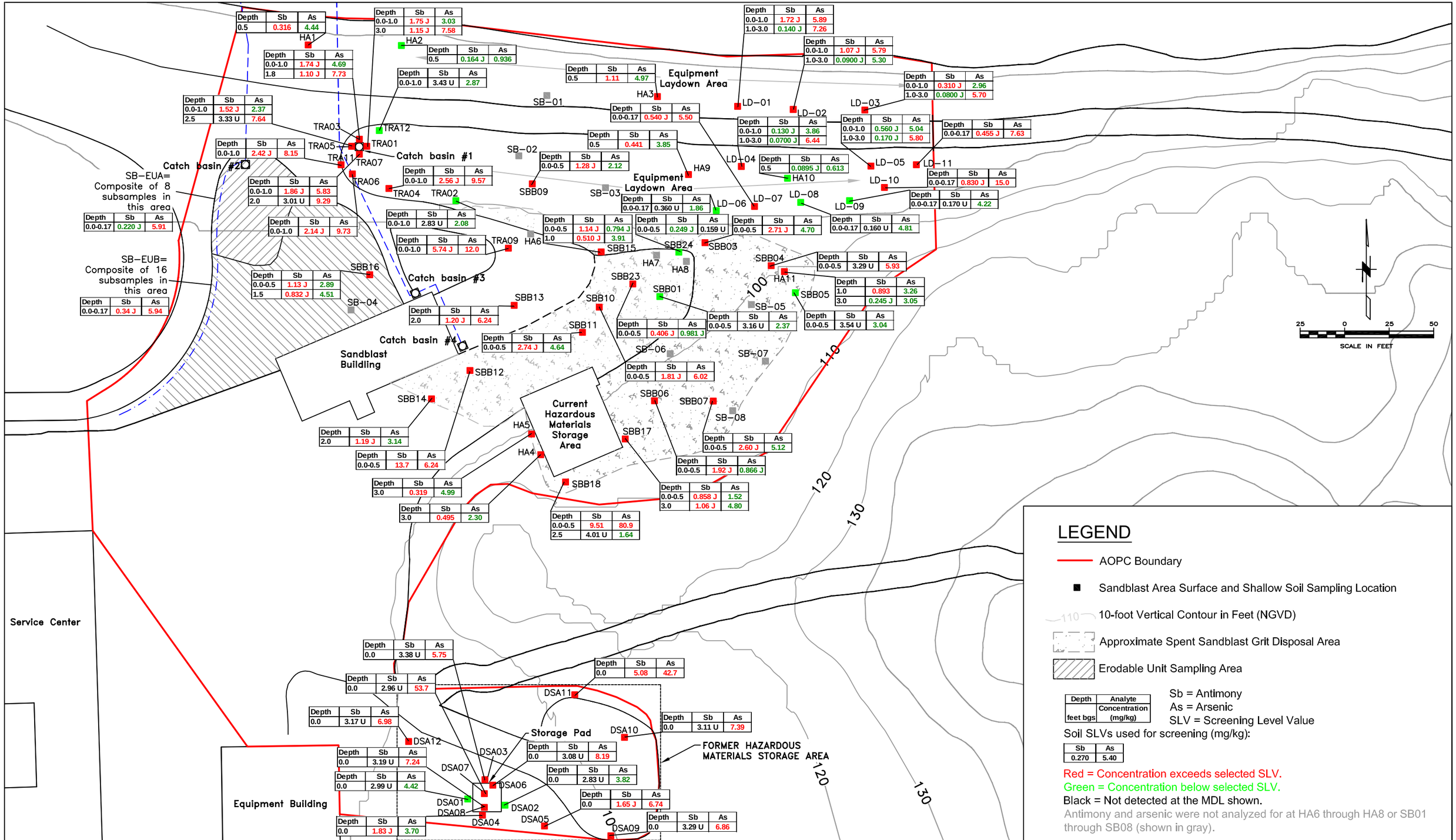
LANDFILL AOPC

SUMMARY OF HERBICIDES, PESTICIDES, PCBs, AND DIBENZOFURAN IN DEEPER SOIL

DRAWING NUMBER: FIGURE 9-4b
CAD FILE NUMBER: FIG 9-4b
SHEET: OF
REV.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-4b Summary of Herbicides, Pesticides, PCBs, and Dibenzofurans in Deeper Soil.dwg Nov 18, 2010 - 9:42am



Depth	Sb	As
0.5	0.316	4.44

HA1

Depth	Sb	As
0.0-1.0	1.75 J	3.03
3.0	1.15 J	7.58

HA2

Depth	Sb	As
0.5	0.164 J	0.936

Depth	Sb	As
0.0-1.0	1.74 J	4.69
1.8	1.10 J	7.73

Depth	Sb	As
0.0-1.0	3.43 U	2.87

Depth	Sb	As
0.5	1.11	4.97

HA3

Depth	Sb	As
0.0-1.0	1.72 J	5.89
1.0-3.0	0.140 J	7.26

Depth	Sb	As
0.0-1.0	1.07 J	5.79
1.0-3.0	0.0900 J	5.30

Depth	Sb	As
0.0-1.0	0.310 J	2.96
1.0-3.0	0.0800 J	5.70

Depth	Sb	As
0.0-1.0	1.52 J	2.37
2.5	3.33 U	7.64

Depth	Sb	As
0.0-0.17	0.540 J	5.50

Depth	Sb	As
0.0-1.0	0.130 J	3.86
1.0-3.0	0.0700 J	6.44

Depth	Sb	As
0.0-1.0	0.560 J	5.04
1.0-3.0	0.170 J	5.80

Depth	Sb	As
0.0-0.17	0.455 J	7.63

Depth	Sb	As
0.0-1.0	2.42 J	8.15

Depth	Sb	As
0.5	0.441	3.85

Depth	Sb	As
0.0-0.5	1.28 J	2.12

Depth	Sb	As
0.5	0.0895 J	0.613

Depth	Sb	As
0.0-0.17	0.830 J	15.0

Depth	Sb	As
0.0-1.0	2.56 J	9.57

Depth	Sb	As
0.0-1.0	1.86 J	5.83
2.0	3.01 U	9.29

Depth	Sb	As
0.0-0.17	0.360 U	1.86

Depth	Sb	As
0.0-0.17	0.170 U	4.22

Depth	Sb	As
0.0-0.17	0.220 J	5.91

Depth	Sb	As
0.0-1.0	2.14 J	9.73

Depth	Sb	As
0.0-1.0	2.83 U	2.08

Depth	Sb	As
0.0-0.5	1.14 J	0.794 J
1.0	0.510 J	3.91

Depth	Sb	As
0.0-0.5	0.249 J	0.159 U

Depth	Sb	As
0.0-0.5	2.71 J	4.70

Depth	Sb	As
0.0-0.17	0.160 U	4.81

Depth	Sb	As
0.0-1.0	5.74 J	12.0

Depth	Sb	As
0.0-0.5	3.29 U	5.93

Depth	Sb	As
0.0-0.5	1.13 J	2.89
1.5	0.832 J	4.51

Depth	Sb	As
1.0	0.893	3.26
3.0	0.245 J	3.05

Depth	Sb	As
0.0-0.17	0.34 J	5.94

Depth	Sb	As
2.0	1.20 J	6.24

Depth	Sb	As
0.0-0.5	3.16 U	2.37

Depth	Sb	As
0.0-0.5	3.54 U	3.04

Depth	Sb	As
0.0-0.5	0.406 J	0.981 J

Depth	Sb	As
0.0-0.5	2.74 J	4.64

Depth	Sb	As
0.0-0.5	1.81 J	6.02

Depth	Sb	As
2.0	1.19 J	3.14

Depth	Sb	As
0.0-0.5	13.7	6.24

Depth	Sb	As
0.0-0.5	2.60 J	5.12

Depth	Sb	As
0.0-0.5	1.92 J	0.866 J

Depth	Sb	As
3.0	0.319	4.99

Depth	Sb	As
0.0-0.5	0.858 J	1.52
3.0	1.06 J	4.80

Depth	Sb	As
3.0	0.495	2.30

Depth	Sb	As
0.0-0.5	9.51	80.9
2.5	4.01 U	1.64

Depth	Sb	As
0.0	3.38 U	5.75

Depth	Sb	As
0.0	5.08	42.7

Depth	Sb	As
0.0	2.96 U	53.7

Depth	Sb	As
0.0	3.17 U	6.98

Depth	Sb	As
0.0	3.11 U	7.39

Depth	Sb	As
0.0	3.08 U	8.19

Depth	Sb	As
0.0	3.19 U	7.24

Depth	Sb	As
0.0	2.83 U	3.82

Depth	Sb	As
0.0	2.99 U	4.42

Depth	Sb	As
0.0	1.65 J	6.74

Depth	Sb	As
0.0	1.83 J	3.70

Depth	Sb	As
0.0	3.29 U	6.86

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SANDBLAST AREA AOPC

ANTIMONY AND ARSENIC
IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5a
CAD FILE NUMBER: FIG 9-5a
SHEET: OF
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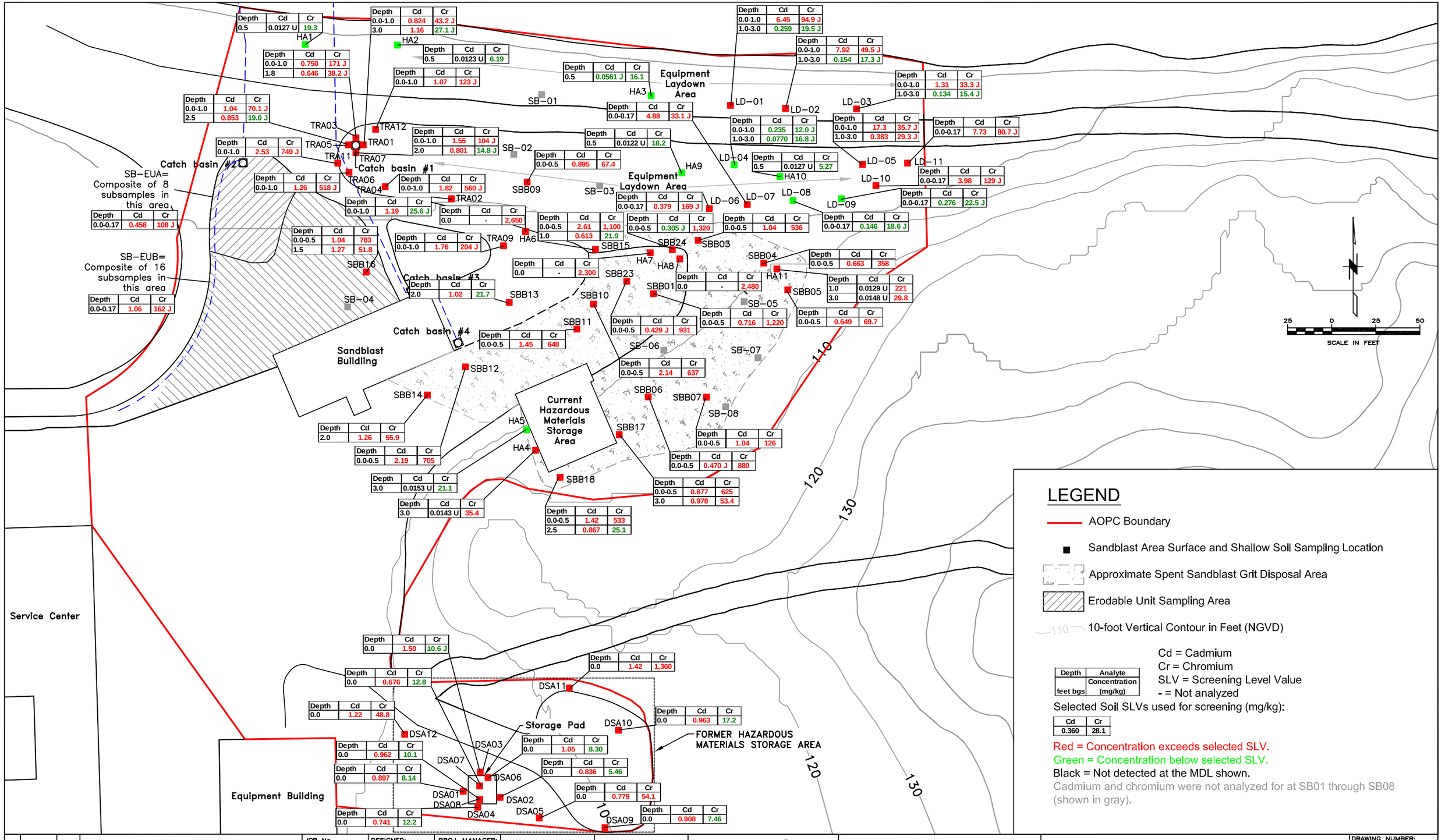
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5a - Antimony and Arsenic in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:42am



Depth feet bgs	Analyte Concentration (mg/kg)	
0.5	0.0127 U	19.3
0.0-1.0	0.824	43.2 J
3.0	1.16	27.1 J
0.0-1.0	6.45	94.9 J
1.0-3.0	0.259	19.5 J
0.0-1.0	7.92	49.5 J
1.0-3.0	0.154	17.3 J
0.0-1.0	0.750	171 J
1.8	0.646	38.2 J
0.5	0.0123 U	6.19
0.0-1.0	1.07	123 J
0.5	0.0561 J	16.1
0.0-1.0	1.31	33.3 J
1.0-3.0	0.134	15.4 J
0.0-1.0	1.04	70.1 J
2.5	0.853	19.0 J
0.0-0.17	4.88	33.1 J
0.0-1.0	0.235	12.0 J
1.0-3.0	0.0770	16.8 J
0.0-1.0	17.3	35.7 J
1.0-3.0	0.383	29.3 J
0.0-0.17	7.73	80.7 J
0.0-1.0	2.53	749 J
0.0-1.0	1.55	104 J
2.0	0.801	14.8 J
0.5	0.0122 U	18.2
0.0-0.5	0.895	67.4
0.5	0.0127 U	5.27
0.0-0.17	3.98	129 J
0.0-1.0	1.26	518 J
0.0-1.0	1.82	560 J
0.0-0.17	0.379	169 J
0.0-0.17	0.276	22.5 J
0.0-0.17	0.458	108 J
0.0-1.0	1.19	25.6 J
0.0	-	2,650
0.0-0.5	2.61	1,100
1.0	0.613	21.9
0.0-0.5	0.305 J	1,320
0.0-0.5	1.04	536
0.0-0.17	0.146	18.6 J
0.0-0.5	1.04	783
1.5	1.27	51.8
0.0-1.0	1.76	204 J
0.0-0.5	0.663	358
0.0	-	2,300
0.0	-	2,480
0.0-0.17	1.06	162 J
2.0	1.02	21.7
1.0	0.0129 U	221
3.0	0.0148 U	29.8
0.0-0.5	0.429 J	931
0.0-0.5	0.716	1,220
0.0-0.5	0.649	69.7
0.0-0.5	1.45	648
0.0-0.5	2.14	637
0.0-0.5	1.04	126
0.0-0.5	0.470 J	880
2.0	1.26	55.9
0.0-0.5	2.19	705
3.0	0.0153 U	21.1
3.0	0.0143 U	35.4
0.0-0.5	0.677	625
3.0	0.978	53.4
0.0-0.5	1.42	533
2.5	0.867	25.1
0.0	1.50	10.6 J
0.0	1.42	1,360
0.0	0.676	12.8
0.0	1.22	48.8
0.0	0.963	17.2
0.0	1.05	8.30
0.0	0.962	10.1
0.0	0.897	8.14
0.0	0.836	5.46
0.0	0.779	54.1
0.0	0.908	7.46
0.0	0.741	12.2

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: JULY 2010

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CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

CADMIUM AND CHROMIUM IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5b
CAD FILE NUMBER: FIG 9-5b
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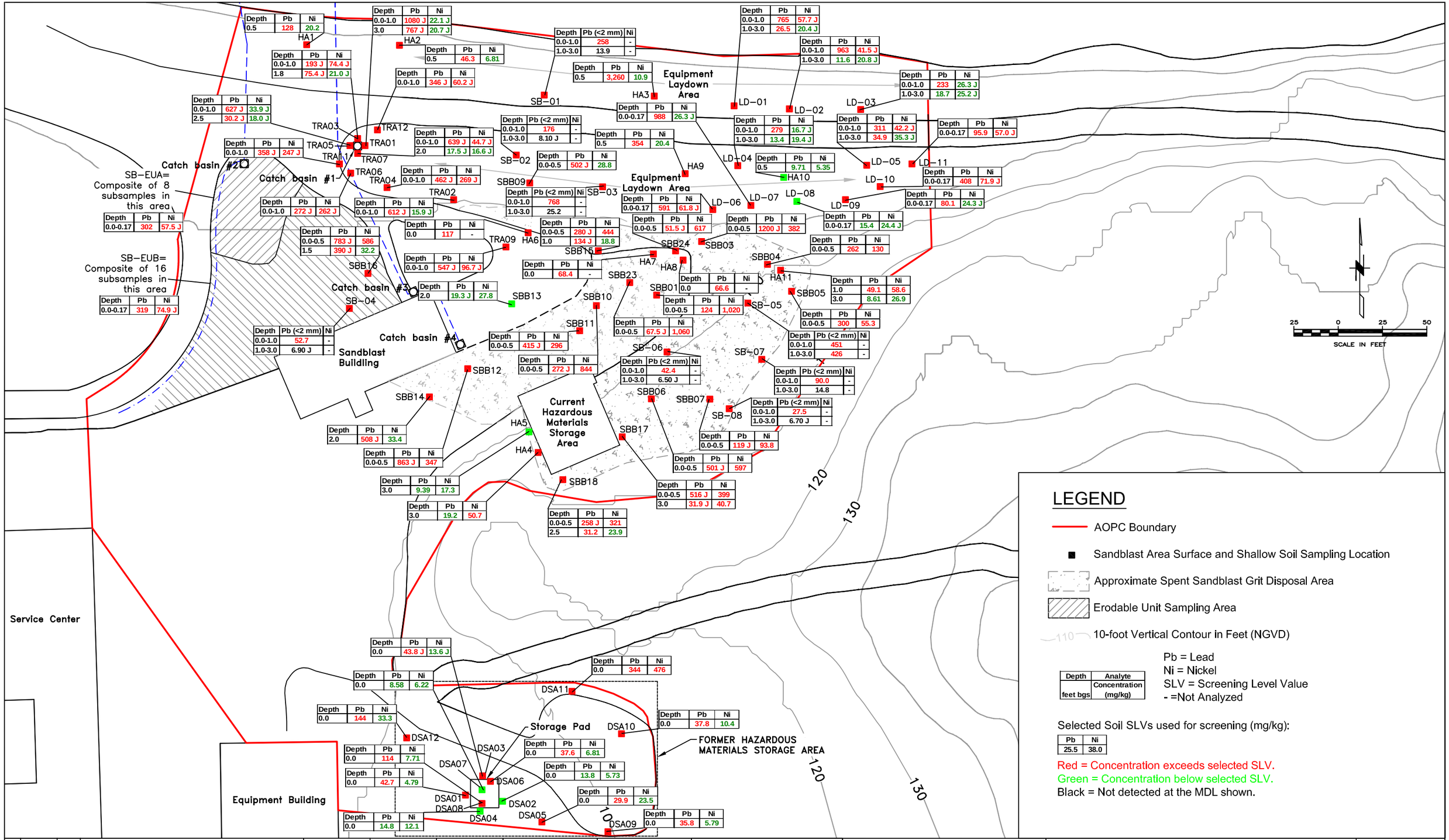
O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5b - Cadmium and Chromium in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:43am



No.	DATE	BY	REVISION

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SANDBLAST AREA AOPC

LEAD AND NICKEL
IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5c
CAD FILE NUMBER: FIG 9-5c
SHEET: OF
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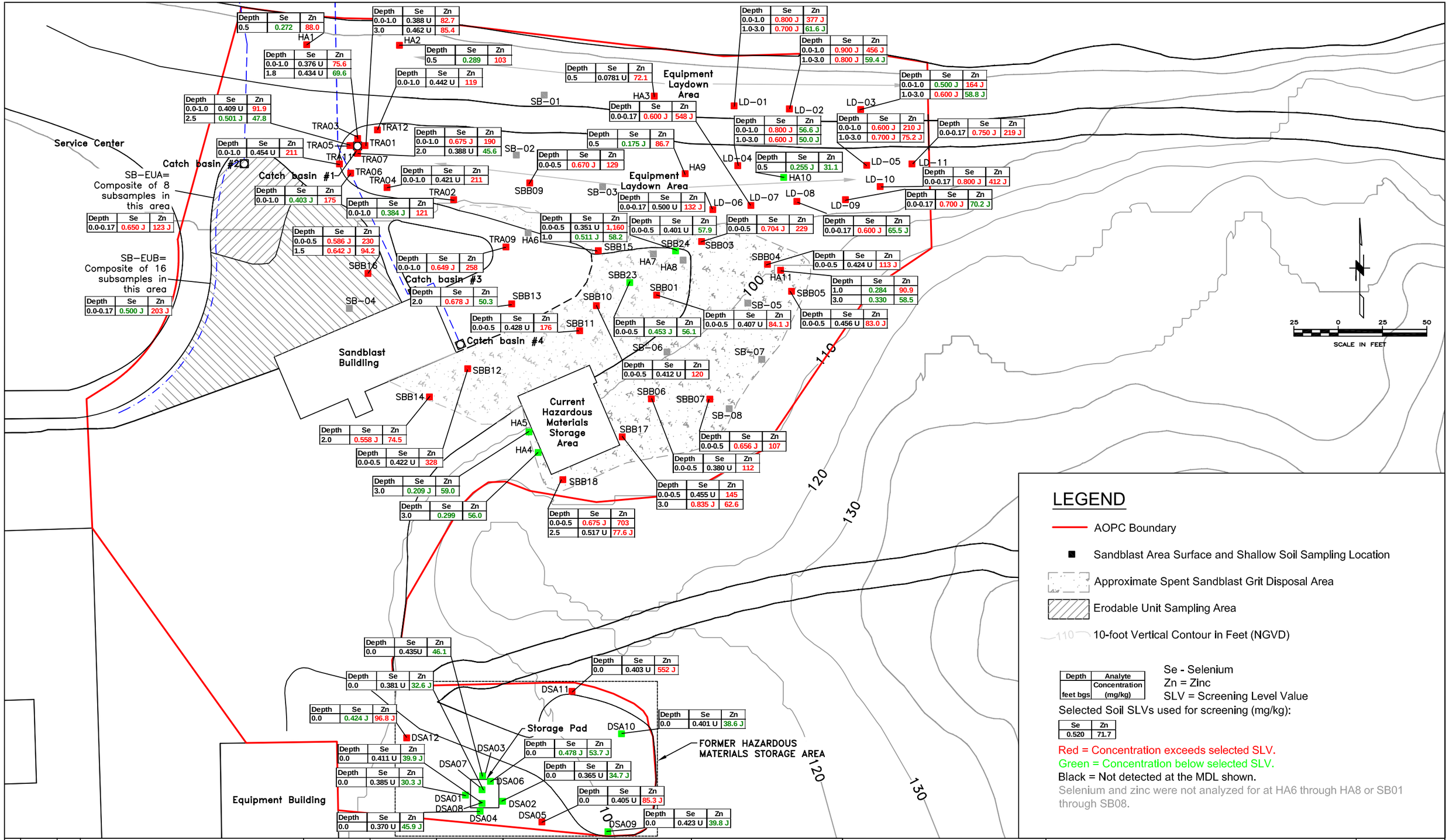
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5c - Lead and Nickel in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:44am



Depth	Se	Zn
0.5	0.272	88.0

Depth	Se	Zn
0.0-1.0	0.388 U	82.7
3.0	0.462 U	85.4

Depth	Se	Zn
0.0-1.0	0.376 U	75.6
1.8	0.434 U	69.6

Depth	Se	Zn
0.5	0.289	103

Depth	Se	Zn
0.0-1.0	0.442 U	119

Depth	Se	Zn
0.0-1.0	0.409 U	91.9
2.5	0.501 J	47.8

Depth	Se	Zn
0.0-1.0	0.454 U	211

Depth	Se	Zn
0.0-1.0	0.675 J	190
2.0	0.388 U	45.6

Depth	Se	Zn
0.0-1.0	0.421 U	211

Depth	Se	Zn
0.0-1.0	0.403 J	175

Depth	Se	Zn
0.0-1.0	0.384 J	121

Depth	Se	Zn
0.0-0.17	0.650 J	123 J

Depth	Se	Zn
0.0-0.5	0.586 J	230
1.5	0.642 J	94.2

Depth	Se	Zn
0.0-1.0	0.649 J	258

Depth	Se	Zn
2.0	0.678 J	50.3

Depth	Se	Zn
0.0-0.17	0.500 J	203 J

Depth	Se	Zn
0.0-0.5	0.428 U	176

Depth	Se	Zn
2.0	0.558 J	74.5

Depth	Se	Zn
0.0-0.5	0.422 U	328

Depth	Se	Zn
3.0	0.209 J	59.0

Depth	Se	Zn
3.0	0.299	56.0

Depth	Se	Zn
0.0-1.0	0.800 J	377 J
1.0-3.0	0.700 J	61.6 J

Depth	Se	Zn
0.0-1.0	0.900 J	456 J
1.0-3.0	0.800 J	59.4 J

Depth	Se	Zn
0.5	0.0781 U	72.1

Depth	Se	Zn
0.0-1.0	0.500 J	164 J
1.0-3.0	0.600 J	58.8 J

Depth	Se	Zn
0.0-0.17	0.600 J	548 J

Depth	Se	Zn
0.0-1.0	0.800 J	56.6 J
1.0-3.0	0.600 J	50.0 J

Depth	Se	Zn
0.0-1.0	0.600 J	210 J
1.0-3.0	0.700 J	75.2 J

Depth	Se	Zn
0.0-0.17	0.750 J	219 J

Depth	Se	Zn
0.5	0.175 J	86.7

Depth	Se	Zn
0.0-0.5	0.670 J	129

Depth	Se	Zn
0.5	0.255 J	31.1

Depth	Se	Zn
0.0-0.17	0.800 J	412 J

Depth	Se	Zn
0.0-0.17	0.500 U	132 J

Depth	Se	Zn
0.0-0.17	0.700 J	70.2 J

Depth	Se	Zn
0.0-0.5	0.351 U	1,160
1.0	0.511 J	58.2

Depth	Se	Zn
0.0-0.5	0.401 U	57.9

Depth	Se	Zn
0.0-0.5	0.704 J	229

Depth	Se	Zn
0.0-0.17	0.600 J	65.5 J

Depth	Se	Zn
0.0-0.5	0.424 U	113 J

Depth	Se	Zn
1.0	0.284	90.9
3.0	0.330	58.5

Depth	Se	Zn
0.0-0.5	0.453 J	56.1

Depth	Se	Zn
0.0-0.5	0.407 U	84.1 J

Depth	Se	Zn
0.0-0.5	0.456 U	83.0 J

Depth	Se	Zn
0.0-0.5	0.412 U	120

Depth	Se	Zn
0.0-0.5	0.656 J	107

Depth	Se	Zn
0.0-0.5	0.380 U	112

Depth	Se	Zn
0.0-0.5	0.455 U	145
3.0	0.835 J	62.6

Depth	Se	Zn
0.0-0.5	0.675 J	703
2.5	0.517 U	77.6 J

Depth	Se	Zn
0.0	0.435U	46.1

Depth	Se	Zn
0.0	0.381 U	32.6 J

Depth	Se	Zn
0.0	0.403 U	552 J

Depth	Se	Zn
0.0	0.424 J	96.8 J

Depth	Se	Zn
0.0	0.401 U	38.6 J

Depth	Se	Zn
0.0	0.478 J	53.7 J

Depth	Se	Zn
0.0	0.411 U	39.9 J

Depth	Se	Zn
0.0	0.385 U	30.3 J

Depth	Se	Zn
0.0	0.365 U	34.7 J

Depth	Se	Zn
0.0	0.405 U	85.3 J

Depth	Se	Zn
0.0	0.370 U	45.9 J

Depth	Se	Zn
0.0	0.423 U	39.8 J

LEGEND

- AOPC Boundary
- Sandblast Area Surface and Shallow Soil Sampling Location
- Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 110 10-foot Vertical Contour in Feet (NGVD)

Depth	Analyte
feet bgs	Concentration (mg/kg)

Se - Selenium
Zn = Zinc
SLV = Screening Level Value

Selected Soil SLVs used for screening (mg/kg):

Se	Zn
0.520	71.7

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at the MDL shown.
Selenium and zinc were not analyzed for at HA6 through HA8 or SB01 through SB08.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
25696946	LSM	MP
SCALE:	DRAWN BY: SB	APPROVED BY: LSM
	CHECKED BY: LSM	DATE: NOV 2010

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

SELENIUM AND ZINC
IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5d
CAD FILE NUMBER: FIG 9-5d
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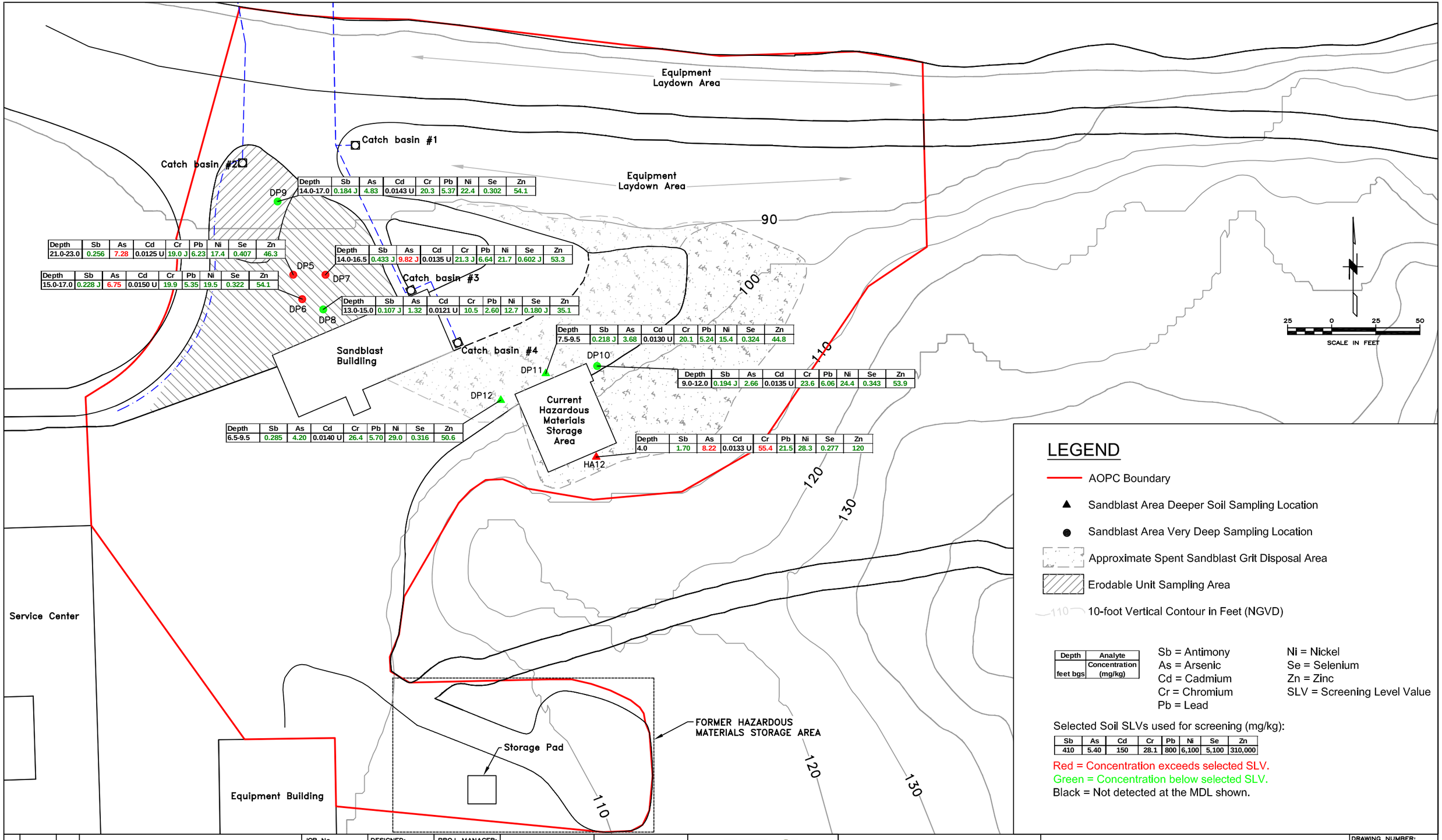
O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5d - Selenium and Zinc in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:44am



Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
14.0-17.0	0.184 J	4.83	0.0143 U	20.3	5.37	22.4	0.302	54.1

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
21.0-23.0	0.256	7.28	0.0125 U	19.0 J	6.23	17.4	0.407	46.3

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
15.0-17.0	0.228 J	6.75	0.0150 U	19.9	5.35	19.5	0.322	54.1

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
14.0-16.5	0.433 J	9.82 J	0.0135 U	21.3 J	6.64	21.7	0.602 J	53.3

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
13.0-15.0	0.107 J	1.32	0.0121 U	10.5	2.60	12.7	0.180 J	35.1

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
7.5-9.5	0.218 J	3.68	0.0130 U	20.1	5.24	15.4	0.324	44.8

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
9.0-12.0	0.194 J	2.66	0.0135 U	23.6	6.06	24.4	0.343	53.9

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
6.5-9.5	0.285	4.20	0.0140 U	26.4	5.70	29.0	0.316	50.6

Depth	Sb	As	Cd	Cr	Pb	Ni	Se	Zn
4.0	1.70	8.22	0.0133 U	55.4	21.5	28.3	0.277	120

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SANDBLAST AREA AOPC

METALS IN DEEPER SOIL
AND VERY DEEP SOIL (> 10 ft bgs)

DRAWING NUMBER: FIGURE 9-5e
CAD FILE NUMBER: FIG 9-5e
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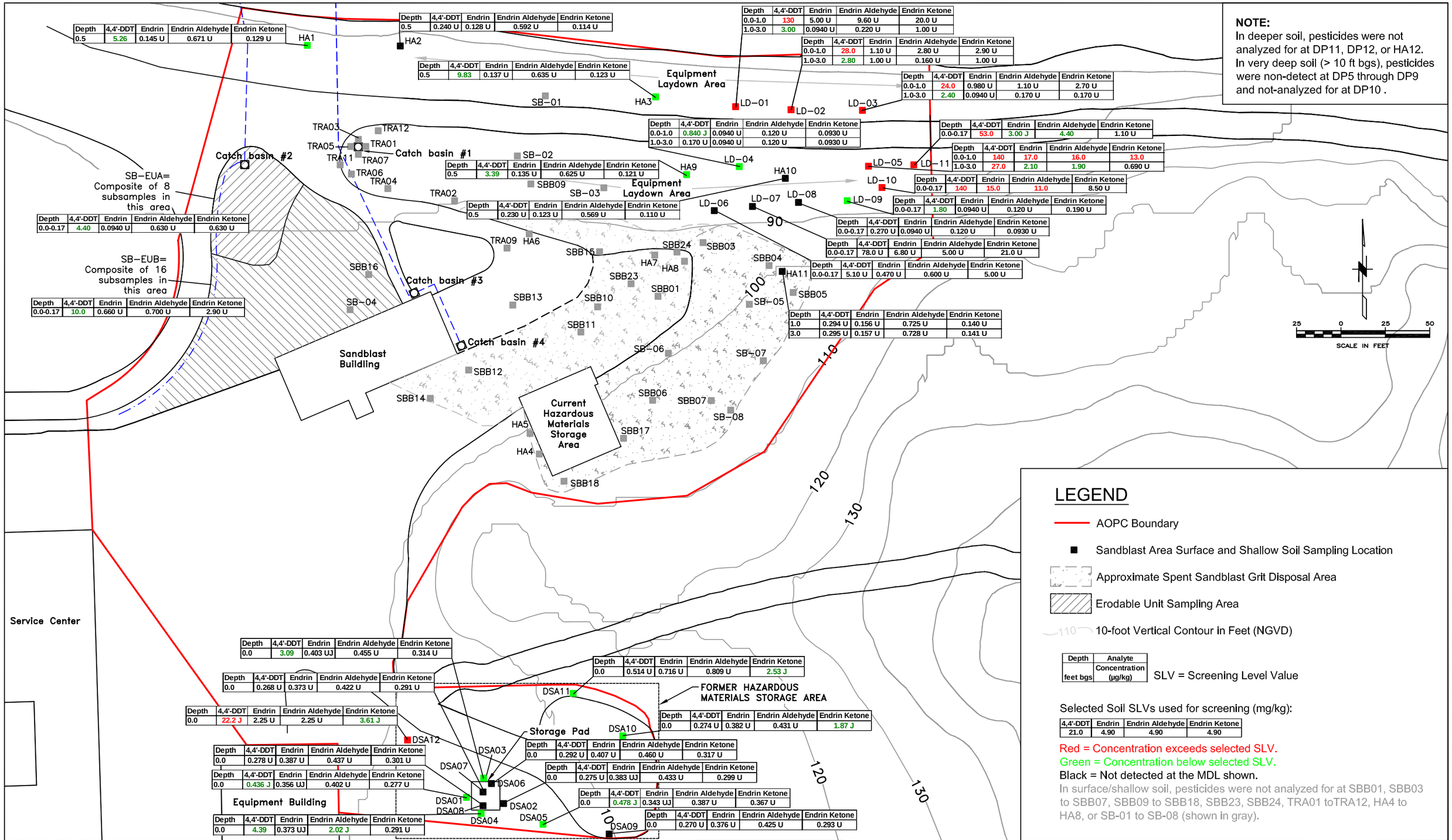
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5e - Metals in Deeper Soil and Very Deep Soil (g10 ft bgs).dwg Nov 18, 2010 - 9:45am



Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.5	5.26	0.145 U	0.671 U	0.129 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.5	0.240 U	0.128 U	0.592 U	0.114 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.5	9.83	0.137 U	0.635 U	0.123 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-1.0	130	5.00 U	9.60 U	20.0 U
1.0-3.0	3.00	0.0940 U	0.220 U	1.00 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-1.0	28.0	1.10 U	2.80 U	2.90 U
1.0-3.0	2.80	1.00 U	0.160 U	1.00 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-1.0	24.0	0.980 U	1.10 U	2.70 U
1.0-3.0	2.40	0.0940 U	0.170 U	0.170 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-1.0	0.840 J	0.0940 U	0.120 U	0.0930 U
1.0-3.0	0.170 U	0.0940 U	0.120 U	0.0930 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	53.0	3.00 J	4.40	1.10 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-1.0	140	17.0	16.0	13.0
1.0-3.0	27.0	2.10	1.90	0.690 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	140	15.0	11.0	8.50 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.5	3.39	0.135 U	0.625 U	0.121 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	1.80	0.0940 U	0.120 U	0.190 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.5	0.230 U	0.123 U	0.569 U	0.110 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	0.270 U	0.0940 U	0.120 U	0.0930 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	78.0 U	6.80 U	5.00 U	21.0 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	4.40	0.0940 U	0.630 U	0.630 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	5.10 U	0.470 U	0.600 U	5.00 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0-0.17	10.0	0.660 U	0.700 U	2.90 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
1.0	0.294 U	0.156 U	0.725 U	0.140 U
3.0	0.295 U	0.157 U	0.728 U	0.141 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	3.09	0.403 UJ	0.455 U	0.314 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.268 U	0.373 U	0.422 U	0.291 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	22.2 J	2.25 U	2.25 U	3.61 J

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.278 U	0.387 U	0.437 U	0.301 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.436 J	0.356 UJ	0.402 U	0.277 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	4.39	0.373 UJ	2.02 J	0.291 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.514 U	0.716 U	0.809 U	2.53 J

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.274 U	0.382 U	0.431 U	1.87 J

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.292 U	0.407 U	0.460 U	0.317 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.275 U	0.383 UJ	0.433 U	0.299 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.478 J	0.343 UJ	0.387 U	0.367 U

Depth	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
0.0	0.270 U	0.376 U	0.425 U	0.293 U

NOTE:
In deeper soil, pesticides were not analyzed for at DP11, DP12, or HA12. In very deep soil (> 10 ft bgs), pesticides were non-detect at DP5 through DP9 and not-analyzed for at DP10 .

LEGEND

- AOPC Boundary
- Sandblast Area Surface and Shallow Soil Sampling Location
- Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 10-foot Vertical Contour in Feet (NGVD)

Depth	Analyte
feet bgs	Concentration (µg/kg)

SLV = Screening Level Value

Selected Soil SLVs used for screening (mg/kg):

4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
21.0	4.90	4.90	4.90

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at the MDL shown.
In surface/shallow soil, pesticides were not analyzed for at SBB01, SBB03 to SBB07, SBB09 to SBB18, SBB23, SBB24, TRA01 toTRA12, HA4 to HA8, or SB-01 to SB-08 (shown in gray).

O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5f - Pesticides in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:45am

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SANDBLAST AREA AOPC

PESTICIDES IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5f
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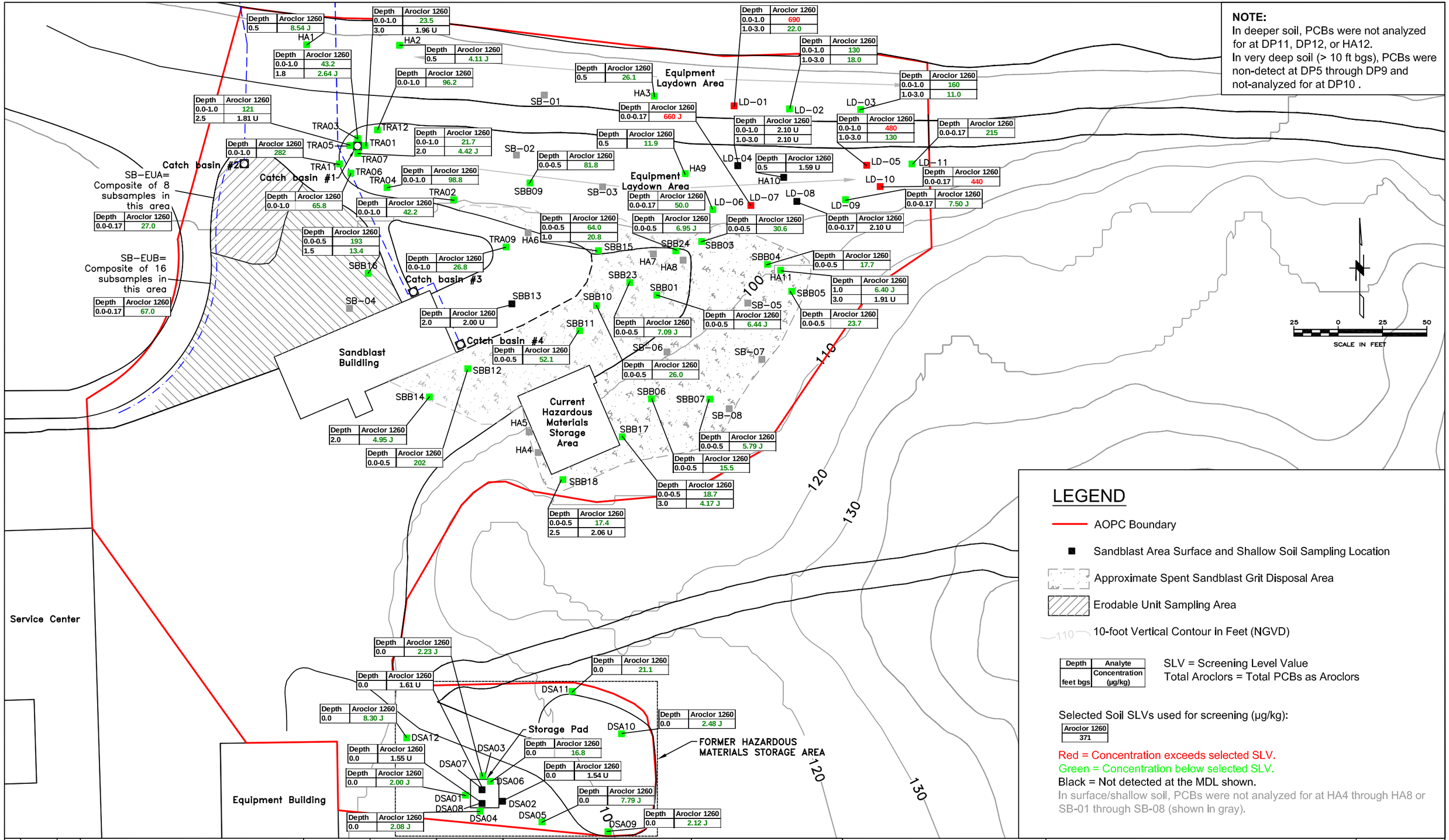

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SANDBLAST AREA AOPC

PCBs IN SUFRACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5g
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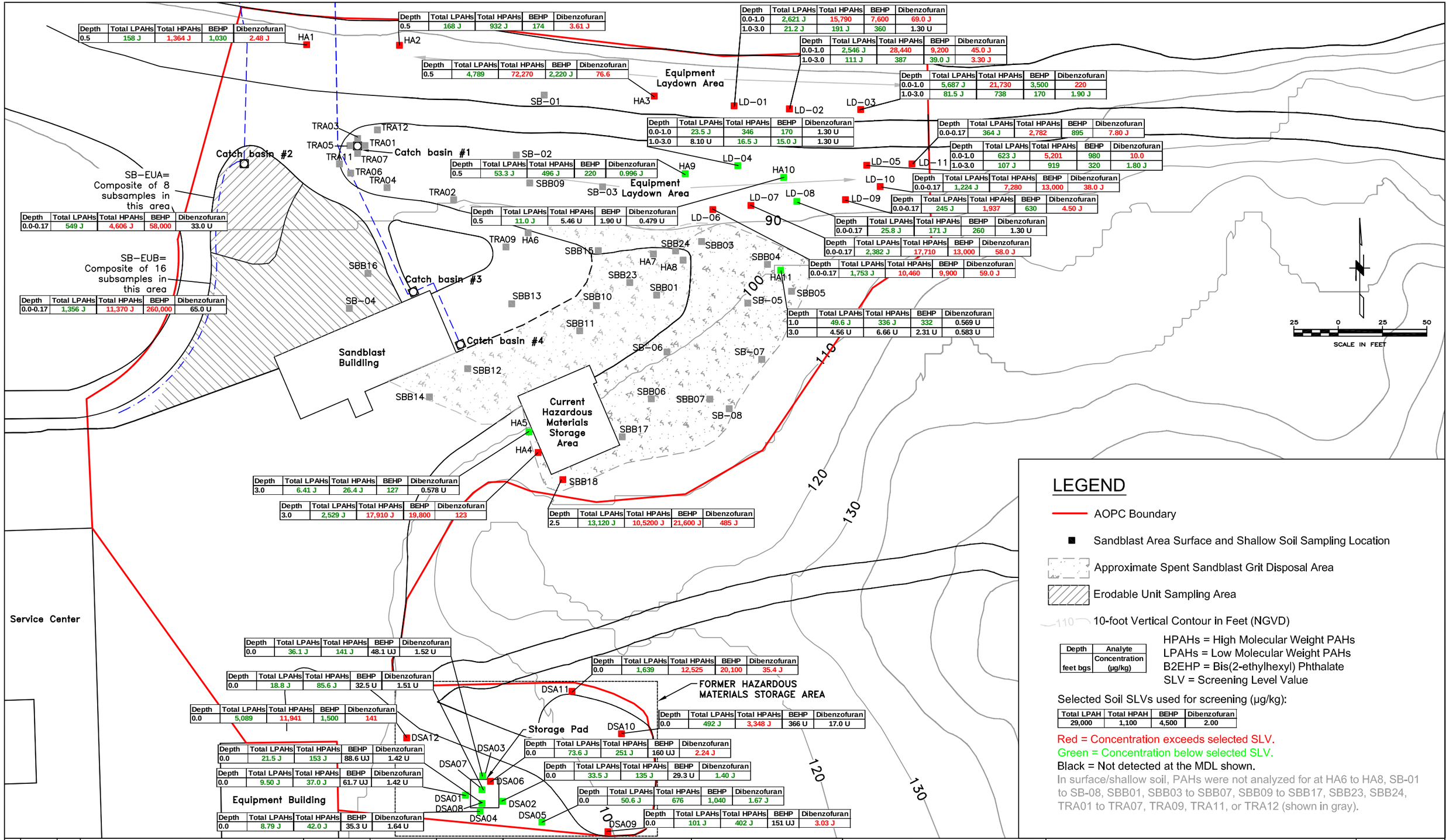

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.5	158 J	1,364 J	1,030	2.48 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.5	168 J	932 J	174	3.61 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.5	4,789	72,270	2,220 J	76.6

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-1.0	2,621 J	15,790	7,600	69.0 J
1.0-3.0	21.2 J	191 J	360	1.30 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-1.0	2,546 J	28,440	9,200	45.0 J
1.0-3.0	111 J	387	39.0 J	3.30 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-1.0	5,687 J	21,730	3,500	220
1.0-3.0	81.5 J	738	170	1.90 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-1.0	23.5 J	346	170	1.30 U
1.0-3.0	8.10 U	16.5 J	15.0 J	1.30 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	364 J	2,782	895	7.80 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-1.0	623 J	5,201	980	10.0
1.0-3.0	107 J	919	320	1.80 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.5	53.3 J	496 J	220	0.996 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	1,224 J	7,280	13,000	38.0 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	245 J	1,937	630	4.50 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.5	11.0 J	5.46 U	1.90 U	0.479 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	25.8 J	171 J	260	1.30 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	2,382 J	17,710	13,000	58.0 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	1,753 J	10,460	9,900	59.0 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	549 J	4,606 J	58,000	33.0 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0-0.17	1,356 J	11,370 J	260,000	65.0 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
1.0	49.6 J	336 J	332	0.569 U
3.0	4.56 U	6.66 U	2.31 U	0.583 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
3.0	6.41 J	26.4 J	127	0.578 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
3.0	2,529 J	17,910 J	19,800	123

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
2.5	13,120 J	10,5200 J	21,600 J	485 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	36.1 J	141 J	48.1 UJ	1.52 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	18.8 J	85.6 J	32.5 U	1.51 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	5,089	11,941	1,500	141

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	21.5 J	153 J	88.6 UJ	1.42 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	9.50 J	37.0 J	61.7 UJ	1.42 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	8.79 J	42.0 J	35.3 U	1.64 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	1,639	12,525	20,100	35.4 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	492 J	3,348 J	366 U	17.0 U

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	73.6 J	251 J	160 UJ	2.24 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	33.5 J	135 J	29.3 U	1.40 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	50.6 J	676	1,040	1.67 J

Depth	Total LPAHs	Total HPAHs	BEHP	Dibenzofuran
0.0	101 J	402 J	151 UJ	3.03 J

LEGEND

- AOPC Boundary
- Sandblast Area Surface and Shallow Soil Sampling Location
- Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 110 10-foot Vertical Contour in Feet (NGVD)

Depth	Analyte
feet bgs	Concentration (µg/kg)

HPAHs = High Molecular Weight PAHs
LPAHs = Low Molecular Weight PAHs
B2EHP = Bis(2-ethylhexyl) Phthalate
SLV = Screening Level Value

Selected Soil SLVs used for screening (µg/kg):

Total LPAH	Total HPAH	BEHP	Dibenzofuran
29,000	1,100	4,500	2.00

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at the MDL shown.
In surface/shallow soil, PAHs were not analyzed for at HA6 to HA8, SB-01 to SB-08, SBB01, SBB03 to SBB07, SBB09 to SBB17, SBB23, SBB24, TRA01 to TRA07, TRA09, TRA11, or TRA12 (shown in gray).

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SANDBLAST AREA AOPC

PAHs, B2EHP, AND DIBENZOFURAN IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5h
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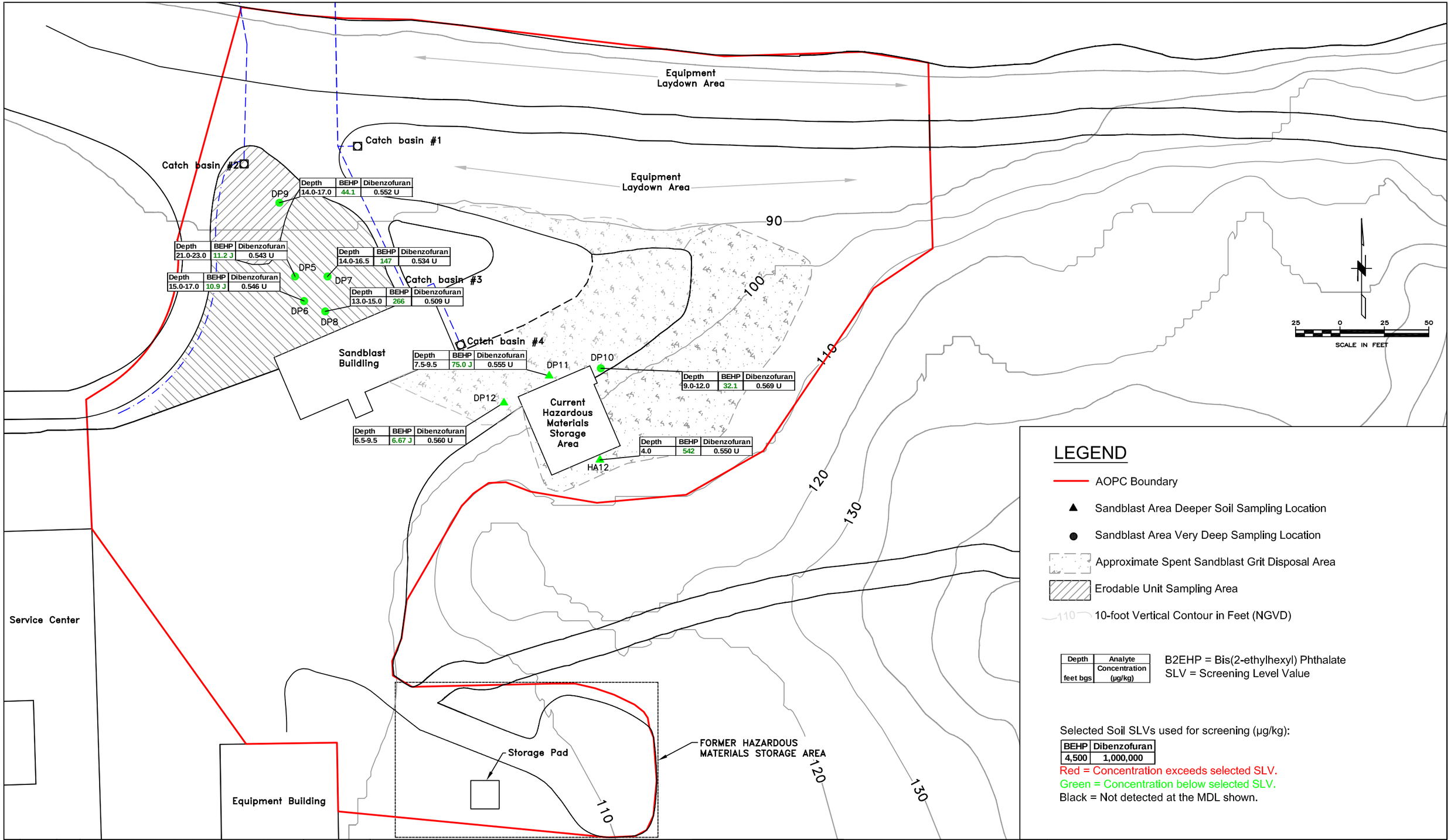
O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5h - PAHs in Surface and Shallow Soil.dwg Nov 18, 2010 - 9:46am



Depth	BEHP	Dibenzofuran
14.0-17.0	44.1	0.552 U

Depth	BEHP	Dibenzofuran
21.0-23.0	11.2 J	0.543 U

Depth	BEHP	Dibenzofuran
15.0-17.0	10.9 J	0.546 U

Depth	BEHP	Dibenzofuran
14.0-16.5	147	0.534 U

Depth	BEHP	Dibenzofuran
13.0-15.0	266	0.509 U

Depth	BEHP	Dibenzofuran
7.5-9.5	75.0 J	0.555 U

Depth	BEHP	Dibenzofuran
9.0-12.0	32.1	0.569 U

Depth	BEHP	Dibenzofuran
6.5-9.5	6.67 J	0.560 U

Depth	BEHP	Dibenzofuran
4.0	542	0.550 U

Depth	Analyte
feet bgs	Concentration (µg/kg)

BEHP	Dibenzofuran
4,500	1,000,000

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SANDBLAST AREA AOPC

B2EHP AND DIBENZOFURAN IN DEEPER SOIL AND VERY DEEP SOIL (> 10 ft bgs)

DRAWING NUMBER: FIGURE 9-5i
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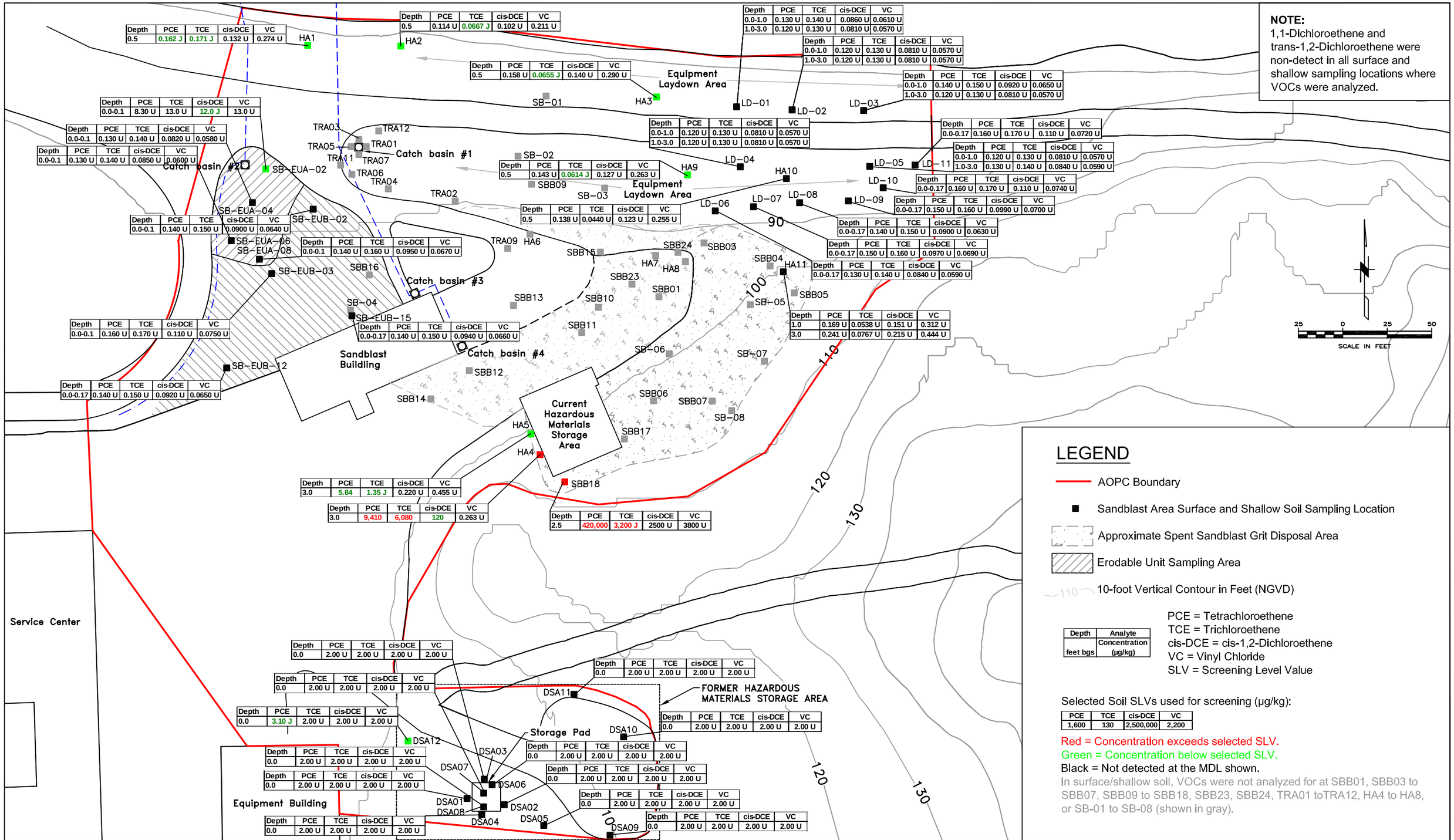
O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5i- SVOCs in Deeper Soil and Very Deep Soil (g10 ft bgs).dwg Nov 18, 2010 - 9:47am



NOTE:
1,1-Dichloroethene and trans-1,2-Dichloroethene were non-detect in all surface and shallow sampling locations where VOCs were analyzed.

LEGEND

- AOPC Boundary
- Sandblast Area Surface and Shallow Soil Sampling Location
- Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 110 — 10-foot Vertical Contour in Feet (NGVD)

Depth	Analyte
feet bgs	Concentration (µg/kg)

PCE = Tetrachloroethene
TCE = Trichloroethene
cis-DCE = cis-1,2-Dichloroethene
VC = Vinyl Chloride
SLV = Screening Level Value

Selected Soil SLVs used for screening (µg/kg):

PCE	TCE	cis-DCE	VC
1,600	130	2,500,000	2,200

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at the MDL shown.
In surface/shallow soil, VOCs were not analyzed for at SBB01, SBB03 to SBB07, SBB09 to SBB18, SBB23, SBB24, TRA01 toTRA12, HA4 to HA8, or SB-01 to SB-08 (shown in gray).

No.	DATE	BY	REVISION

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SANDBLAST AREA AOPC
VOCs IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-5j
CAD FILE NUMBER: FIG 9-5j
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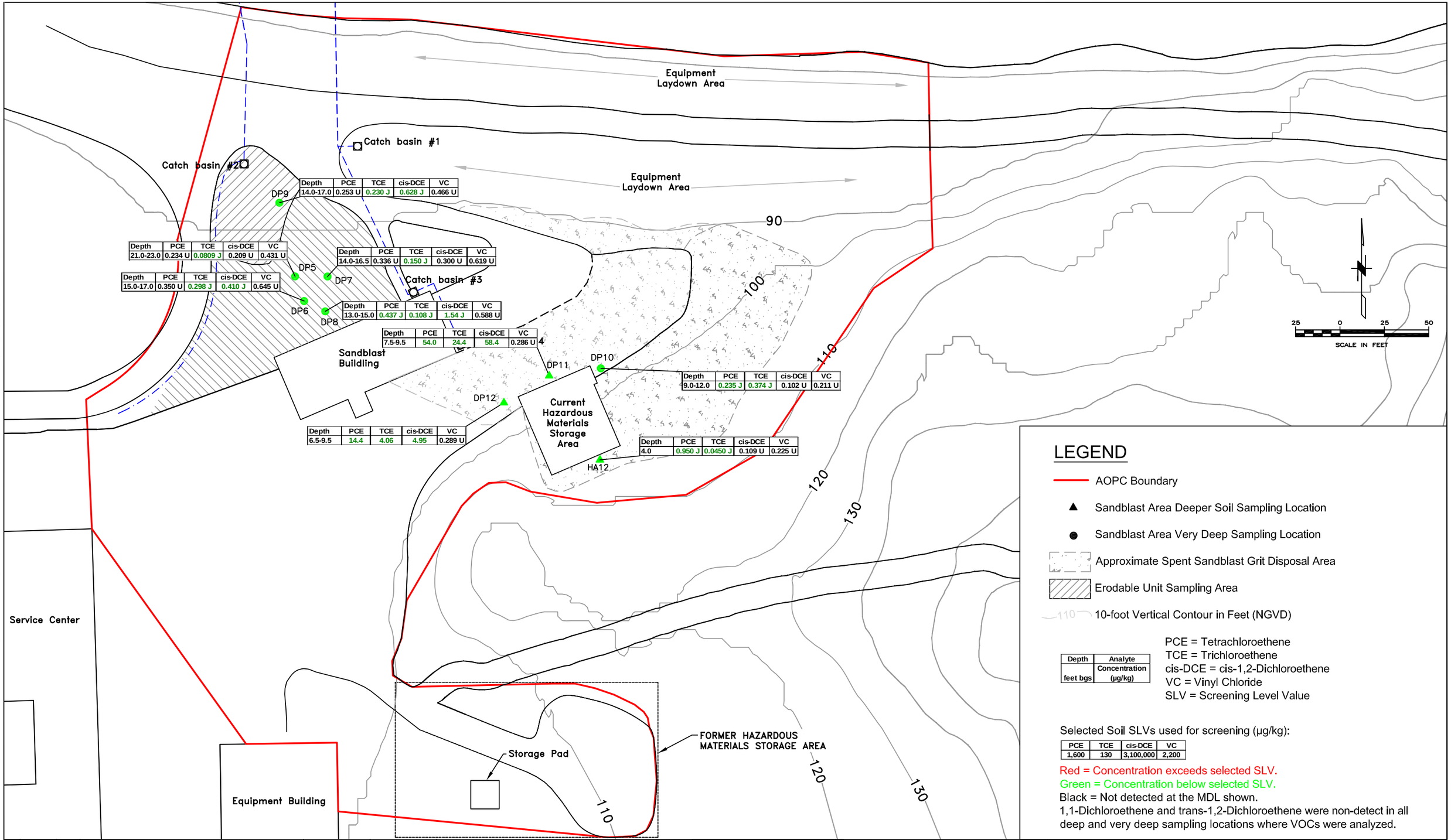

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
14.0-17.0	0.253 U	0.230 J	0.628 J	0.466 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
21.0-23.0	0.234 U	0.0809 J	0.209 U	0.431 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
14.0-16.5	0.336 U	0.150 J	0.300 U	0.619 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
15.0-17.0	0.350 U	0.298 J	0.410 J	0.645 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
13.0-15.0	0.437 J	0.108 J	1.54 J	0.588 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
7.5-9.5	54.0	24.4	58.4	0.286 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
9.0-12.0	0.235 J	0.374 J	0.102 U	0.211 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
6.5-9.5	14.4	4.06	4.95	0.289 U

Depth (feet bgs)	PCE	TCE	cis-DCE	VC
4.0	0.950 J	0.0450 J	0.109 U	0.225 U

PCE	TCE	cis-DCE	VC
1,600	130	3,100,000	2,200

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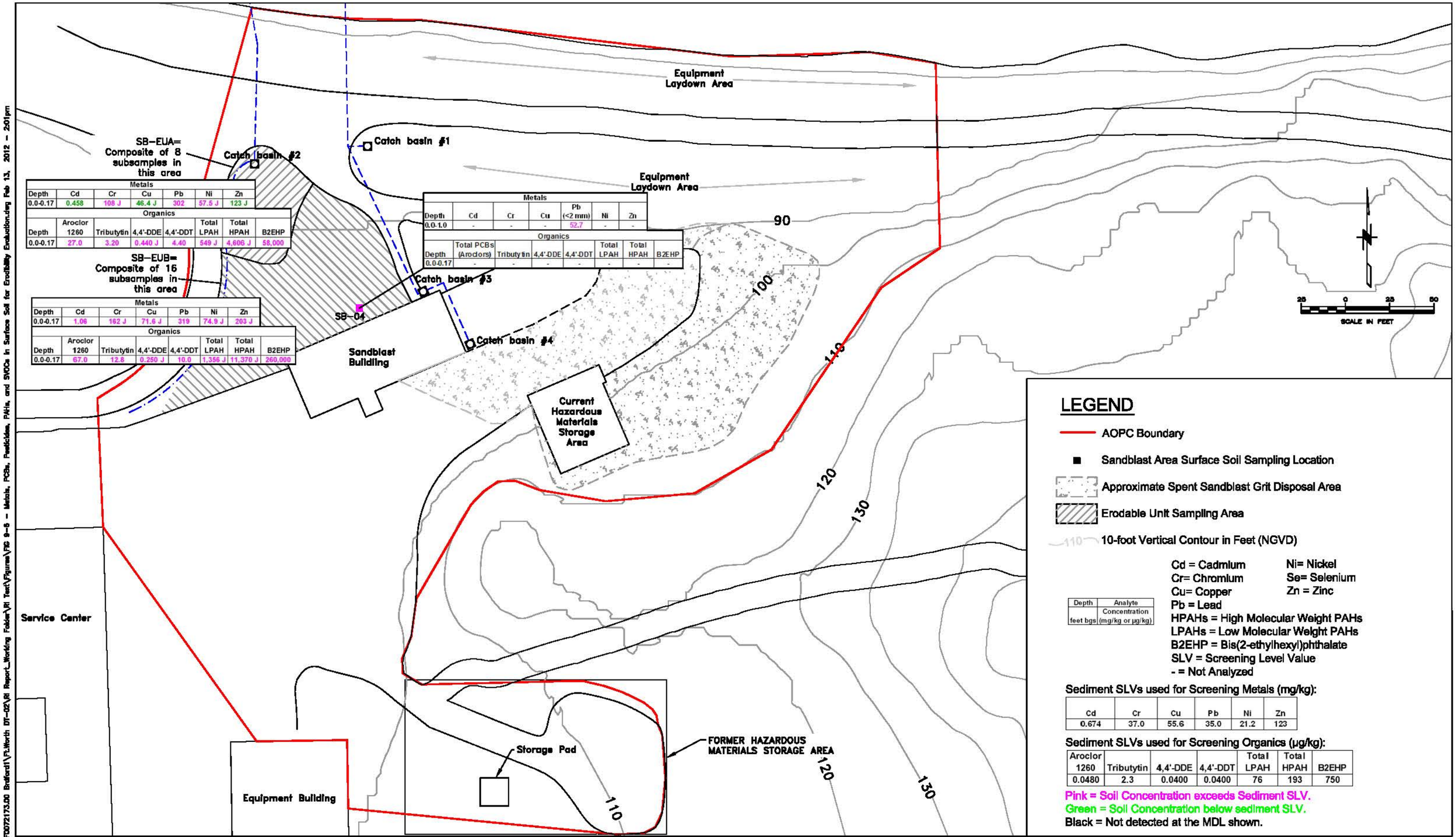
CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

VOCs IN DEEPER SOIL
AND VERY DEEP SOIL (> 10 ft bgs)

DRAWING NUMBER: FIGURE 9-5k
CAD FILE NUMBER: FIG 9-5k
SHEET: OF
REV.

O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-5k - VOCs in Deeper Soil and Very Deep Soil (g10 ft bgs).dwg Nov 18, 2010 - 9:48am



Metals						
Depth	Cd	Cr	Cu	Pb	Ni	Zn
0.0-0.17	0.458	108 J	46.4 J	302	57.5 J	123 J

Organics							
Depth	Aroclor 1260	Tributytin	4,4'-DDE	4,4'-DDT	Total LPAH	Total HPAH	B2EHP
0.0-0.17	27.0	3.20	0.440 J	4.40	549 J	4,606 J	58,000

Metals						
Depth	Cd	Cr	Cu	Pb	Ni	Zn
0.0-0.17	1.06	182 J	71.6 J	319	74.9 J	203 J

Organics							
Depth	Aroclor 1260	Tributytin	4,4'-DDE	4,4'-DDT	Total LPAH	Total HPAH	B2EHP
0.0-0.17	67.0	12.8	0.250 J	10.0	1,356 J	11,370 J	260,000

Metals						
Depth	Cd	Cr	Cu	Pb (<2 mm)	Ni	Zn
0.0-1.0	-	-	-	52.7	-	-

Organics							
Depth	Total PCBs (Aroclors)	Tributytin	4,4'-DDE	4,4'-DDT	Total LPAH	Total HPAH	B2EHP
0.0-0.17	-	-	-	-	-	-	-

Depth	Analyte Concentration
feet bgs	(mg/kg or µg/kg)

Cd = Cadmium
Cr= Chromium
Cu= Copper
Pb = Lead
Ni= Nickel
Se= Selenium
Zn = Zinc
HPAHs = High Molecular Weight PAHs
LPAHs = Low Molecular Weight PAHs
B2EHP = Bis(2-ethylhexyl)phthalate
SLV = Screening Level Value
- = Not Analyzed

Sediment SLVs used for Screening Metals (mg/kg):

Cd	Cr	Cu	Pb	Ni	Zn
0.674	37.0	55.6	35.0	21.2	123

Sediment SLVs used for Screening Organics (µg/kg):

Aroclor 1260	Tributytin	4,4'-DDE	4,4'-DDT	Total LPAH	Total HPAH	B2EHP
0.0480	2.3	0.0400	0.0400	76	193	750

Pink = Soil Concentration exceeds Sediment SLV.
Green = Soil Concentration below sediment SLV.
Black = Not detected at the MDL shown.

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SANDBLAST AREA AOPC

COIs IN SURFACE SOIL
FOR ERODABILITY EVALUATION

DRAWING NUMBER: FIGURE 9-6
CAD FILE NUMBER: FIG 9-6
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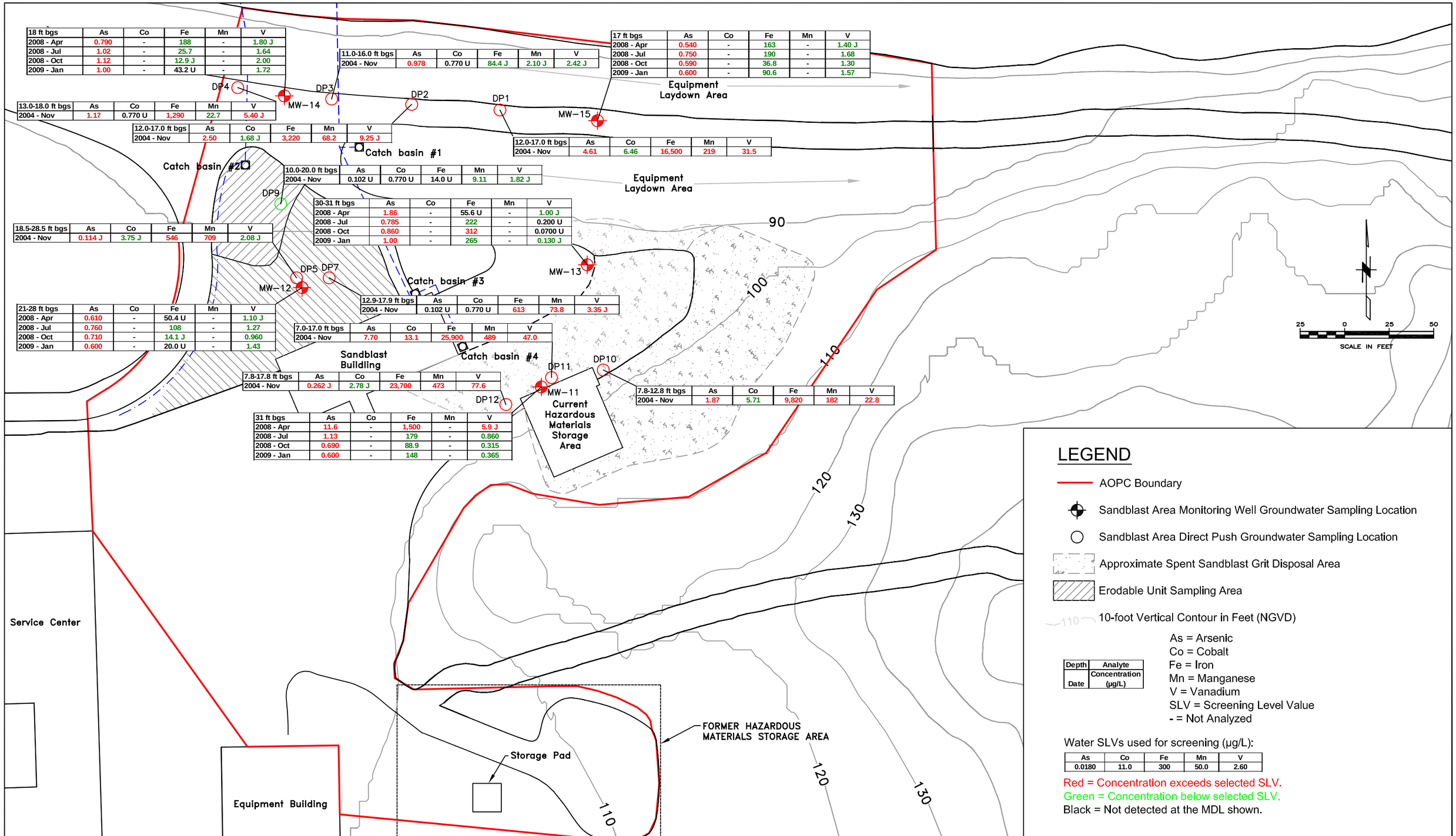
G:\25698708 USACE\03-FD0721703.00 Bradford\FLWorth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-6 - Metals, PCBs, Pesticides, PAHs, and SVOCs in Surface Soil for Erodibility Evaluation.dwg Feb 13, 2012 - 2:01pm



18 ft bgs	As	Co	Fe	Mn	V
2008 - Apr	0.790	-	188	-	1.80 J
2008 - Jul	1.02	-	25.7	-	1.64
2008 - Oct	1.12	-	12.9 J	-	2.00
2009 - Jan	1.00	-	43.2 U	-	1.72

11.0-16.0 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	0.978	0.770 U	84.4 J	2.10 J	2.42 J

17 ft bgs	As	Co	Fe	Mn	V
2008 - Apr	0.540	-	163	-	1.40 J
2008 - Jul	0.750	-	190	-	1.68
2008 - Oct	0.590	-	36.8	-	1.30
2009 - Jan	0.600	-	90.6	-	1.57

13.0-18.0 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	1.17	0.770 U	1,290	22.7	5.40 J

12.0-17.0 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	2.50	1.68 J	3,220	68.2	9.25 J

12.0-17.0 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	4.61	6.46	16,500	219	31.5

10.0-20.0 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	0.102 U	0.770 U	14.0 U	9.11	1.82 J

30-31 ft bgs	As	Co	Fe	Mn	V
2008 - Apr	1.86	-	55.6 U	-	1.00 J
2008 - Jul	0.785	-	222	-	0.200 U
2008 - Oct	0.860	-	312	-	0.0700 U
2009 - Jan	1.00	-	265	-	0.130 J

18.5-28.5 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	0.114 J	3.75 J	546	709	2.08 J

21-28 ft bgs	As	Co	Fe	Mn	V
2008 - Apr	0.610	-	50.4 U	-	1.10 J
2008 - Jul	0.760	-	108	-	1.27
2008 - Oct	0.710	-	14.1 J	-	0.960
2009 - Jan	0.600	-	20.0 U	-	1.43

12.9-17.9 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	0.102 U	0.770 U	613	73.8	3.35 J

7.0-17.0 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	7.70	13.1	25,900	489	47.0

7.8-17.8 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	0.262 J	2.78 J	23,700	473	77.6

7.8-12.8 ft bgs	As	Co	Fe	Mn	V
2004 - Nov	1.87	5.71	9,820	182	22.8

31 ft bgs	As	Co	Fe	Mn	V
2008 - Apr	11.6	-	1,500	-	5.9 J
2008 - Jul	1.13	-	179	-	0.860
2008 - Oct	0.690	-	88.9	-	0.315
2009 - Jan	0.600	-	148	-	0.365

LEGEND

- AOPC Boundary
- Sandblast Area Monitoring Well Groundwater Sampling Location
- Sandblast Area Direct Push Groundwater Sampling Location
- Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 110 — 10-foot Vertical Contour in Feet (NGVD)

Depth	Analyte
Date	Concentration (µg/L)

As = Arsenic
Co = Cobalt
Fe = Iron
Mn = Manganese
V = Vanadium
SLV = Screening Level Value
- = Not Analyzed

Water SLVs used for screening (µg/L):

As	Co	Fe	Mn	V
0.0180	11.0	300	50.0	2.60

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at the MDL shown.

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SANDBLAST AREA AOPC

TOTAL METALS
IN GROUNDWATER

DRAWING NUMBER: FIGURE 9-7a
CAD FILE NUMBER: FIG 9-7a
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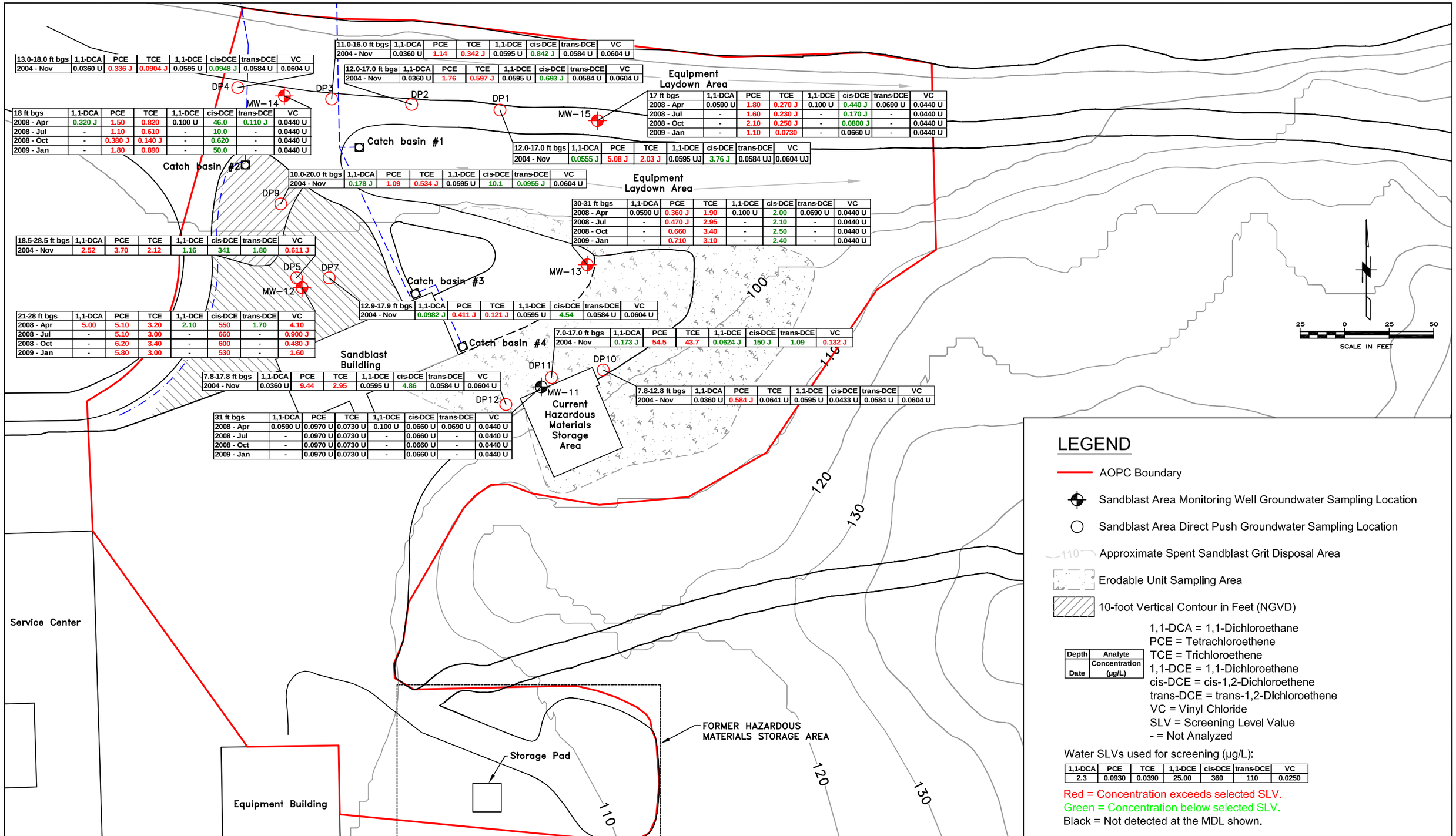
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-7a - Total Metals in Groundwater.dwg Nov 18, 2010 - 10:14am



13.0-18.0 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.0360 U	0.336 J	0.0904 J	0.0595 U	0.0948 J	0.0584 U	0.0604 U

11.0-16.0 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.0360 U	1.14	0.342 J	0.0595 U	0.842 J	0.0584 U	0.0604 U

12.0-17.0 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.0360 U	1.76	0.597 J	0.0595 U	0.693 J	0.0584 U	0.0604 U

18 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2008 - Apr	0.320 J	1.50	0.820	0.100 U	46.0	0.110 J	0.0440 U
2008 - Jul	-	1.10	0.610	-	10.0	-	0.0440 U
2008 - Oct	-	0.380 J	0.140 J	-	0.620	-	0.0440 U
2009 - Jan	-	1.80	0.890	-	50.0	-	0.0440 U

17 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2008 - Apr	0.0590 U	1.80	0.270 J	0.100 U	0.440 J	0.0690 U	0.0440 U
2008 - Jul	-	1.60	0.230 J	-	0.170 J	-	0.0440 U
2008 - Oct	-	2.10	0.250 J	-	0.0800 J	-	0.0440 U
2009 - Jan	-	1.10	0.0730	-	0.0660 U	-	0.0440 U

12.0-17.0 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.0555 J	5.08 J	2.03 J	0.0595 UJ	3.76 J	0.0584 UJ	0.0604 UJ

10.0-20.0 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.178 J	1.09	0.534 J	0.0595 U	10.1	0.0955 J	0.0604 U

30-31 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2008 - Apr	0.0590 U	0.360 J	1.90	0.100 U	2.00	0.0690 U	0.0440 U
2008 - Jul	-	0.470 J	2.95	-	2.10	-	0.0440 U
2008 - Oct	-	0.660	3.40	-	2.50	-	0.0440 U
2009 - Jan	-	0.710	3.10	-	2.40	-	0.0440 U

18.5-28.5 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	2.52	3.70	2.12	1.16	341	1.80	0.611 J

21-28 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2008 - Apr	5.00	5.10	3.20	2.10	550	1.70	4.10
2008 - Jul	-	5.10	3.00	-	660	-	0.900 J
2008 - Oct	-	6.20	3.40	-	600	-	0.480 J
2009 - Jan	-	5.80	3.00	-	530	-	1.60

12.9-17.9 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.0982 J	0.411 J	0.121 J	0.0595 U	4.54	0.0584 U	0.0604 U

7.0-17.0 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.173 J	54.5	43.7	0.0624 J	150 J	1.09	0.132 J

7.8-17.8 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.0360 U	9.44	2.95	0.0595 U	4.86	0.0584 U	0.0604 U

7.8-12.8 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2004 - Nov	0.0360 U	0.584 J	0.0641 U	0.0595 U	0.0433 U	0.0584 U	0.0604 U

31 ft bgs	1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2008 - Apr	0.0590 U	0.0970 U	0.0730 U	0.100 U	0.0660 U	0.0690 U	0.0440 U
2008 - Jul	-	0.0970 U	0.0730 U	-	0.0660 U	-	0.0440 U
2008 - Oct	-	0.0970 U	0.0730 U	-	0.0660 U	-	0.0440 U
2009 - Jan	-	0.0970 U	0.0730 U	-	0.0660 U	-	0.0440 U

LEGEND

- AOPC Boundary
- Sandblast Area Monitoring Well Groundwater Sampling Location
- Sandblast Area Direct Push Groundwater Sampling Location
- 110 Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 10-foot Vertical Contour in Feet (NGVD)

Depth	Analyte
Date	Concentration (µg/L)

1,1-DCA = 1,1-Dichloroethane
PCE = Tetrachloroethene
TCE = Trichloroethene
1,1-DCE = 1,1-Dichloroethene
cis-DCE = cis-1,2-Dichloroethene
trans-DCE = trans-1,2-Dichloroethene
VC = Vinyl Chloride
SLV = Screening Level Value
- = Not Analyzed

Water SLVs used for screening (µg/L):

1,1-DCA	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
2.3	0.0930	0.0390	25.00	360	110	0.0250

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at the MDL shown.

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CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

VOCs IN GROUNDWATER

DRAWING NUMBER: FIGURE 9-7b
CAD FILE NUMBER: FIG 9-7b
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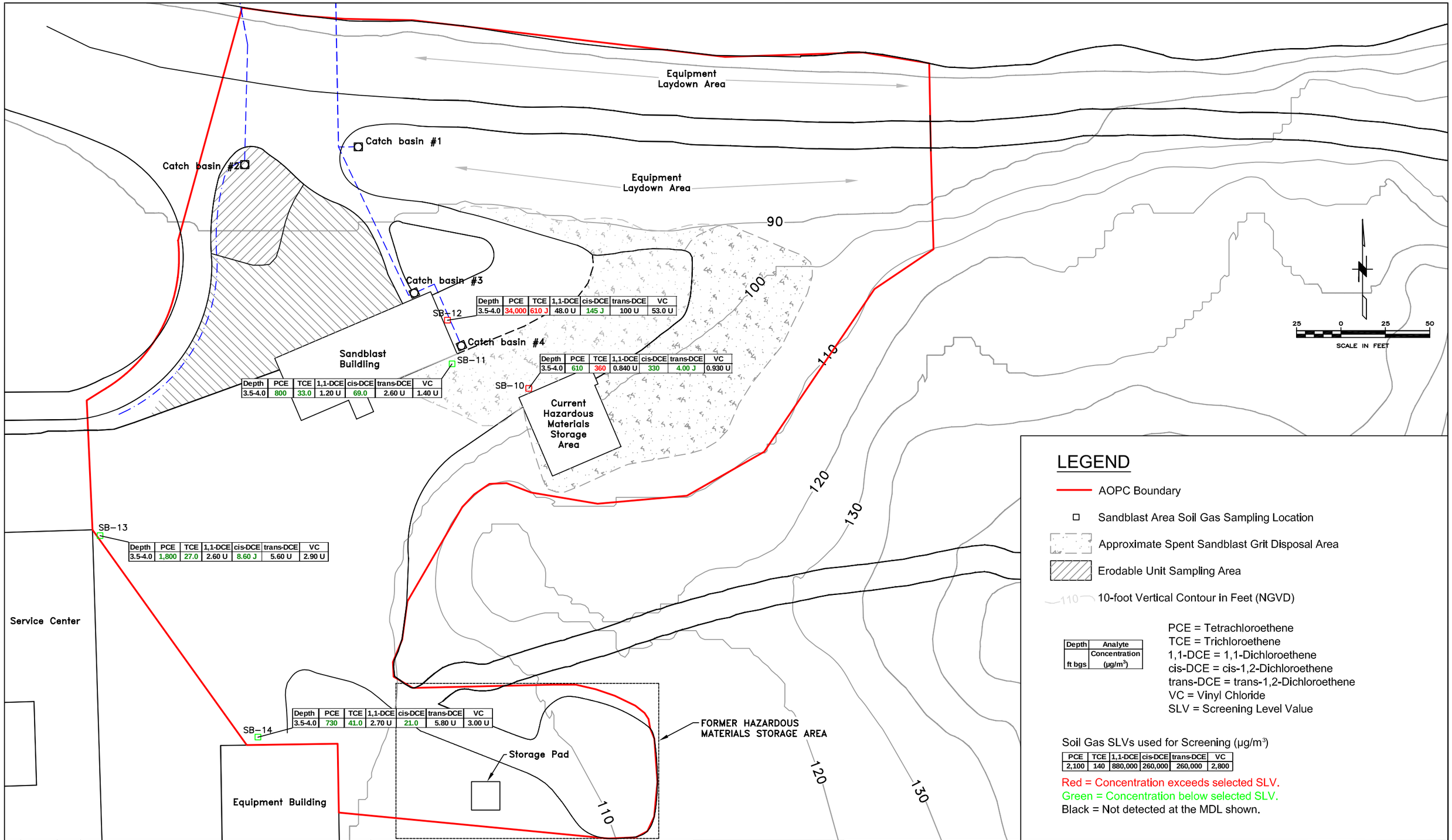

Depth	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
3.5-4.0	34,000	610 J	48.0 U	145 J	100 U	53.0 U

Depth	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
3.5-4.0	610	360	0.840 U	330	4.00 J	0.930 U

Depth	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
3.5-4.0	800	33.0	1.20 U	69.0	2.60 U	1.40 U

Depth	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
3.5-4.0	1,800	27.0	2.60 U	8.60 J	5.60 U	2.90 U

Depth	PCE	TCE	1,1-DCE	cis-DCE	trans-DCE	VC
3.5-4.0	730	41.0	2.70 U	21.0	5.80 U	3.00 U

Depth ft bgs	Analyte Concentration (µg/m³)

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SANDBLAST AREA AOPC

VOCs IN SOIL GAS

DRAWING NUMBER: FIGURE 9-8
CAD FILE NUMBER: FIG 9-8
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NOTE:
In deeper soil, PCBs were not analyzed for at DP11, DP12, or HA12.
In very deep soil (> 10 ft bgs), PCBs were non-detect at DP5 through DP9 and not-analyzed for at DP10 .

Equipment Laydown Area

Catch basin #1

Catch basin #2

Catch basin #3

Catch basin #4

SB–EUA= Composite of 8 subsamples in this area

SB–EUB= Composite of 16 subsamples in this area

Sandblast Building

Current Hazardous Materials Storage Area

Service Center

Equipment Building

Storage Pad

FORMER HAZARDOUS MATERIALS STORAGE AREA

90 100 110 120 130

25 0 25 50
SCALE IN FEET

LEGEND

- AOPC Boundary
- Sandblast Area Surface and Shallow Soil Sampling Location
- Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 110 10-foot Vertical Contour in Feet (NGVD)

Soil SLVs used for Screening (µg/kg):

Total Aroclors	4,4'-DDT	Endrin	Endrin Aldehyde	Endrin Ketone
371	21.0	4.90	4.90	4.90

SLV = Screening Level Value

Summary of PCBs and Pesticides in Surface and Shallow Soil

- PCBs Concentration
- Pesticides Concentration

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL.
Gray = Not Analyzed.

No.	DATE	BY	REVISION

JOB No.	DESIGNED:	PROJ. MANAGER:
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SANDBLAST AREA AOPC

SUMMARY OF PCBs AND PESTICIES IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-9a
CAD FILE NUMBER: FIG 9-9a
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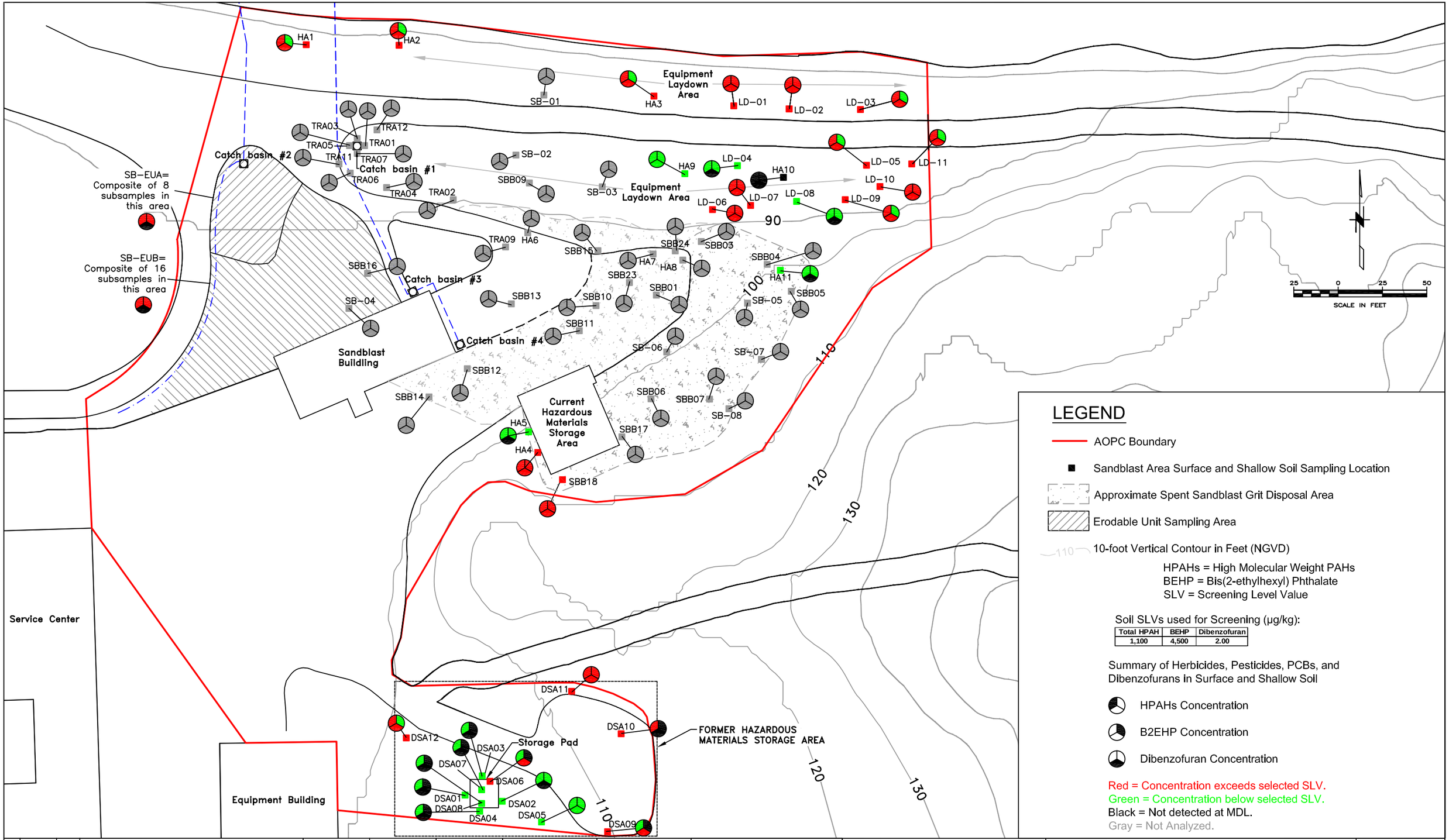
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-9a - Summary of PCBs and Pecticides in Surface and Shallow Soil.dwg Nov 18, 2010 - 10:16am



LEGEND

- AOPC Boundary
- Sandblast Area Surface and Shallow Soil Sampling Location
- Approximate Spent Sandblast Grit Disposal Area
- Erodable Unit Sampling Area
- 110 — 10-foot Vertical Contour in Feet (NGVD)

HPAHs = High Molecular Weight PAHs
BEHP = Bis(2-ethylhexyl) Phthalate
SLV = Screening Level Value

Soil SLVs used for Screening (µg/kg):

Total HPAH	BEHP	Dibenzofuran
1,100	4,500	2.00

Summary of Herbicides, Pesticides, PCBs, and Dibenzofurans in Surface and Shallow Soil

- HPAHs Concentration
- B2EHP Concentration
- Dibenzofuran Concentration

Red = Concentration exceeds selected SLV.
Green = Concentration below selected SLV.
Black = Not detected at MDL.
Gray = Not Analyzed.

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SANDBLAST AREA AOPC

SUMMARY OF HPAHs, B2EHP, AND DIBENZOFURAN IN SURFACE AND SHALLOW SOIL

DRAWING NUMBER: FIGURE 9-9b
CAD FILE NUMBER: FIG 9-9b
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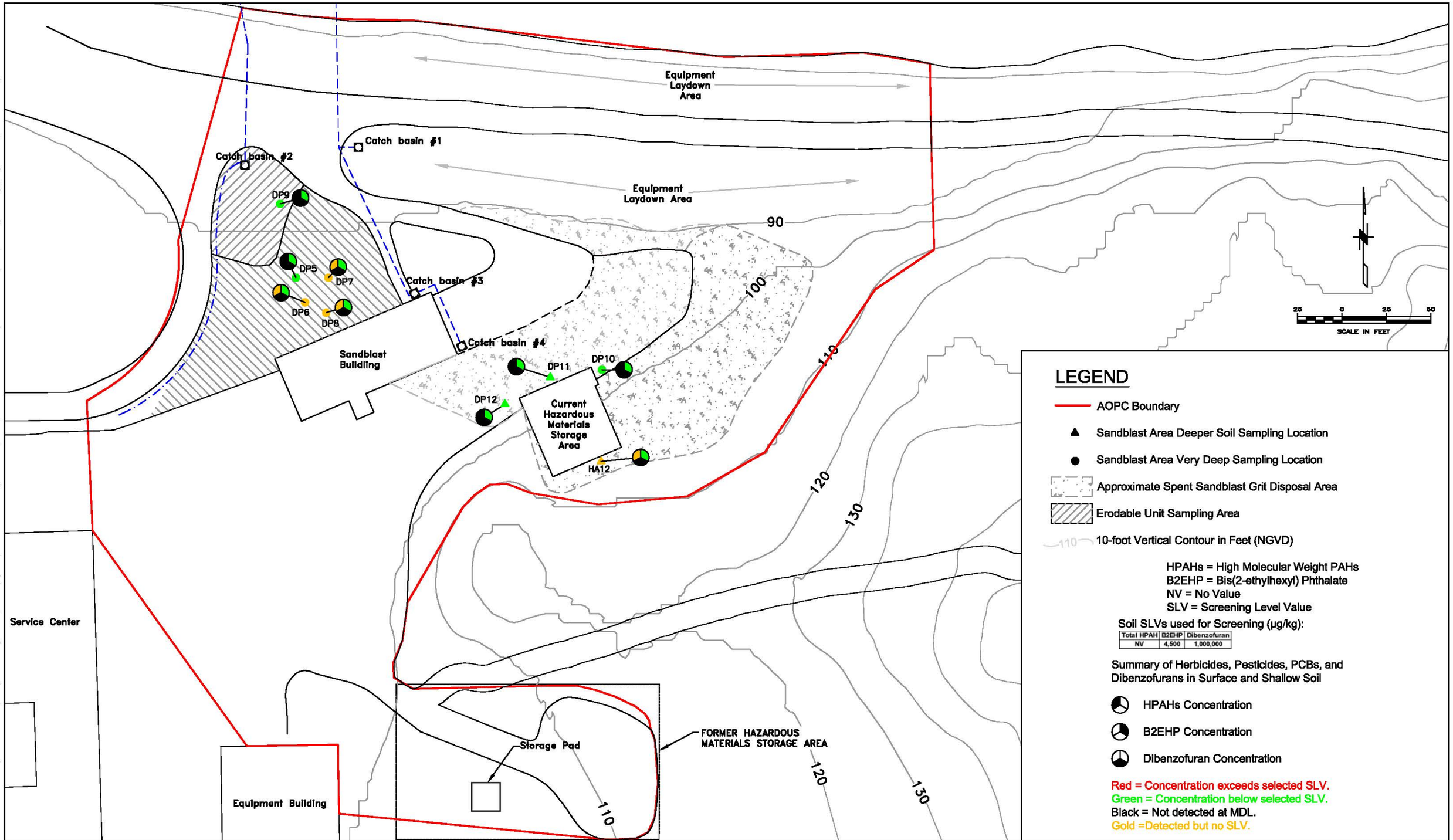
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-9b - Summary of HPAHs in Surface and Shallow Soil.dwg Nov 18, 2010 - 10:17am



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SANDBLAST AREA AOPC

SUMMARY OF HPAHs, B2EHP, AND DIBENZOFURAN IN DEEPER SOIL AND VERY DEEP SOIL (> 10 ft bgs)

DRAWING NUMBER: FIGURE 9-9c

CAD FILE NUMBER: FIG 9-9c

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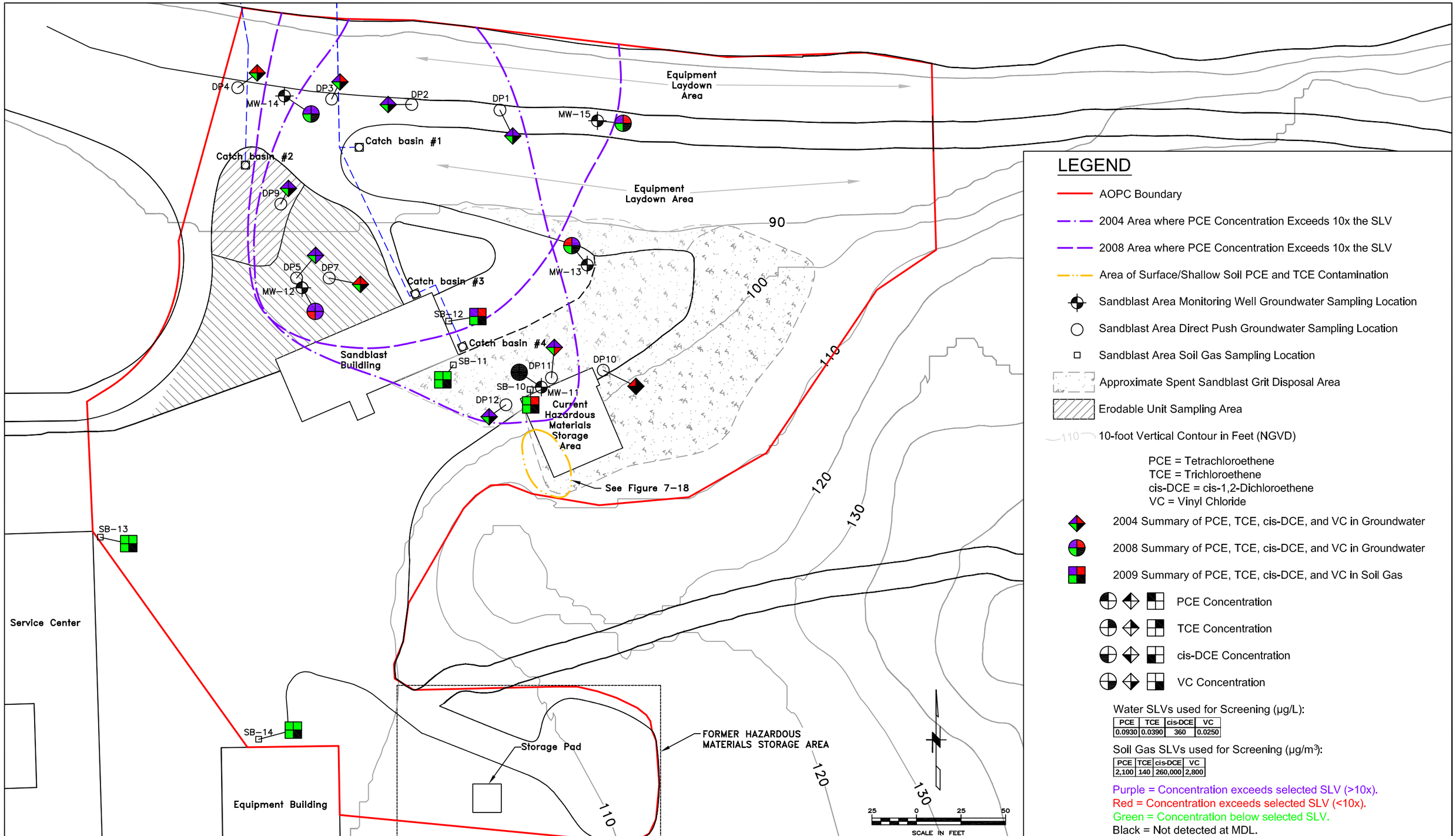
C:\25696946 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-9c- Summary of HPAHs, BEHP, and Dibenzofuran in Deeper Soil and Very Deep Soil (g10 ft bgs).dwg Feb 13, 2012 - 2:03pm



Water SLVs used for Screening (µg/L):

PCE	TCE	cis-DCE	VC
0.0930	0.0390	360	0.0250

Soil Gas SLVs used for Screening (µg/m³):

PCE	TCE	cis-DCE	VC
2,100	140	260,000	2,800

Purple = Concentration exceeds selected SLV (>10x).
Red = Concentration exceeds selected SLV (<10x).
Green = Concentration below selected SLV.
Black = Not detected at MDL.

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CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

SUMMARY OF VOCs
IN GROUNDWATER AND SOIL GAS

DRAWING NUMBER: FIGURE 9-10
CAD FILE NUMBER: FIG 9-10
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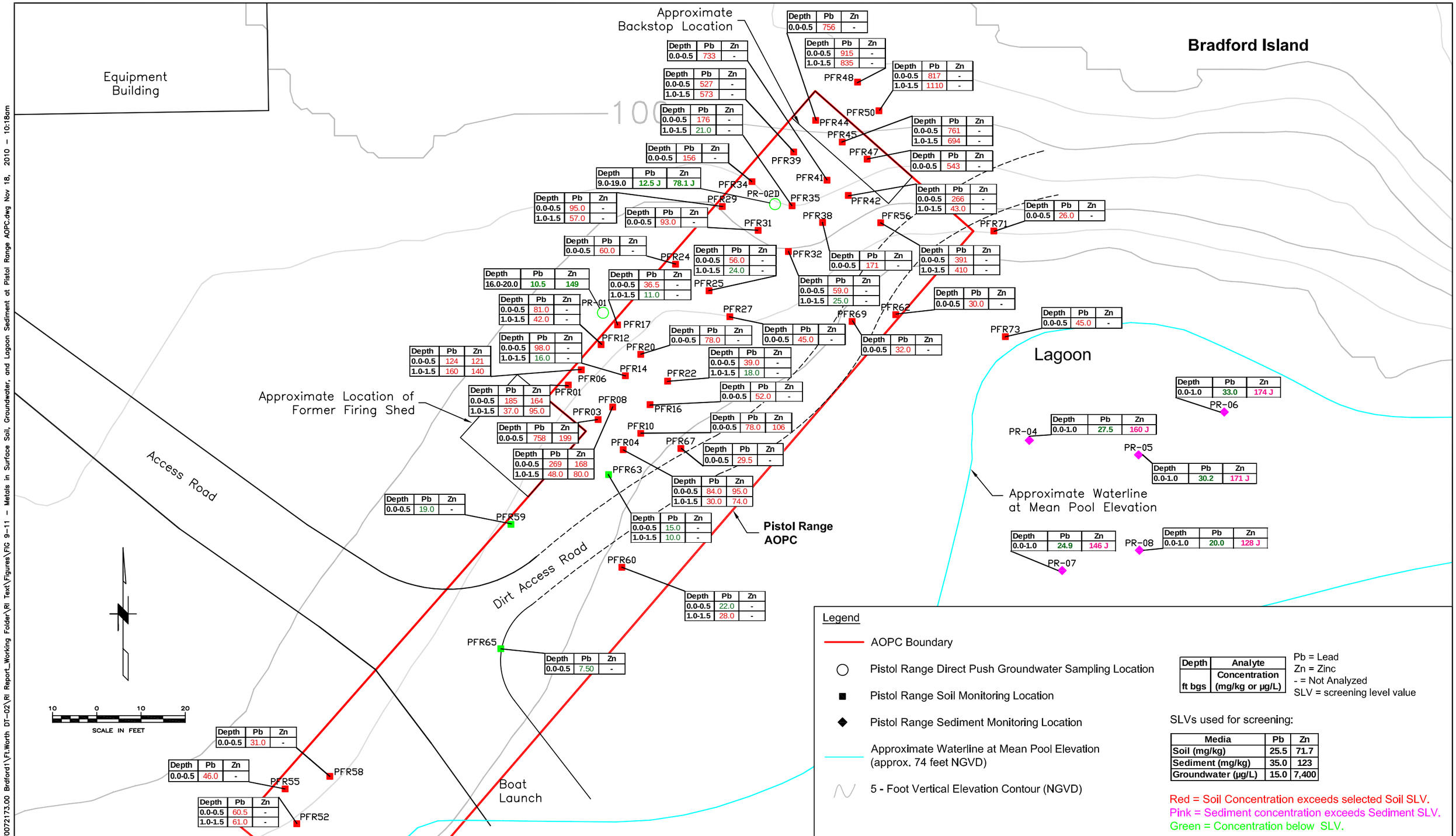
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-10 - Summary of VOCs in Groundwater.dwg Nov 18, 2010 - 10:18am



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PISTOL RANGE AOPC

METALS IN SURFACE SOIL, GROUNDWATER, AND LAGOON SEDIMENT

DRAWING NUMBER: FIGURE 9-11
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O:\25692709 USACE\53-F0072173.00 Brdford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-11 - Metals in Surface Soil, Groundwater, and Lagoon Sediment at Pistol Range AOPC.dwg Nov 18, 2010 - 10:18am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Bulb Slope AOPC

AREA C01

Depth	Aroclor 1260	Pb	Hg
1-3	27.0	67.0	0.0600

PILE #3 BANK #3

Depth	Aroclor 1260	Pb	Hg
0	67.0 U	289	0.452

AREA A04

Depth	Aroclor 1260	Pb	Hg
2-4	78.0	234	0.380

PILE #3 BANK #1

Depth	Aroclor 1260	Pb	Hg
0	67.0 U	196	0.150

AREA C02

Depth	Aroclor 1260	Pb	Hg
2-4	19.0 U	47.5	0.0850

AREA B07

Depth	Aroclor 1260	Pb	Hg
2-4	35.0	170	0.180

AREA A05

Depth	Aroclor 1260	Pb	Hg
2-4	37.0	202	0.740

AREA B06

Depth	Aroclor 1260	Pb	Hg
2-4	160	444	0.500

PILE #3 BANK #4

Depth	Aroclor 1260	Pb	Hg
0	251	597	1.54

AREA C08

Depth	Aroclor 1260	Pb	Hg
2-4	51.0	142	0.0500

PILE #3 BANK #2

Depth	Aroclor 1260	Pb	Hg
0	76.1	247	0.584

AREA C09

Depth	Aroclor 1260	Pb	Hg
2-4	20.0 U	25.0	0.130

5 0 5 10

SCALE IN FEET

LEGEND

- Bulb Slope Soil Sampling Location
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Depth inches bgs	Analyte Concentration (mg/kg or µg/kg)

Pb = Lead
Hg = Mercury
SLV = screening level value

Soil SLVs used for Screening

Aroclor 1260 (µg/kg)	Pb (mg/kg)	Hg (mg/kg)
371	25.5	0.0660

Red = Concentration exceeds SLV.
Green = Concentration below SLV.
Black = Not detected at MDL shown.

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BULB SLOPE AOPC

METALS AND PCBs IN SURFACE SOIL

DRAWING NUMBER: FIGURE 9-12

CAD FILE NUMBER: FIG 9-12

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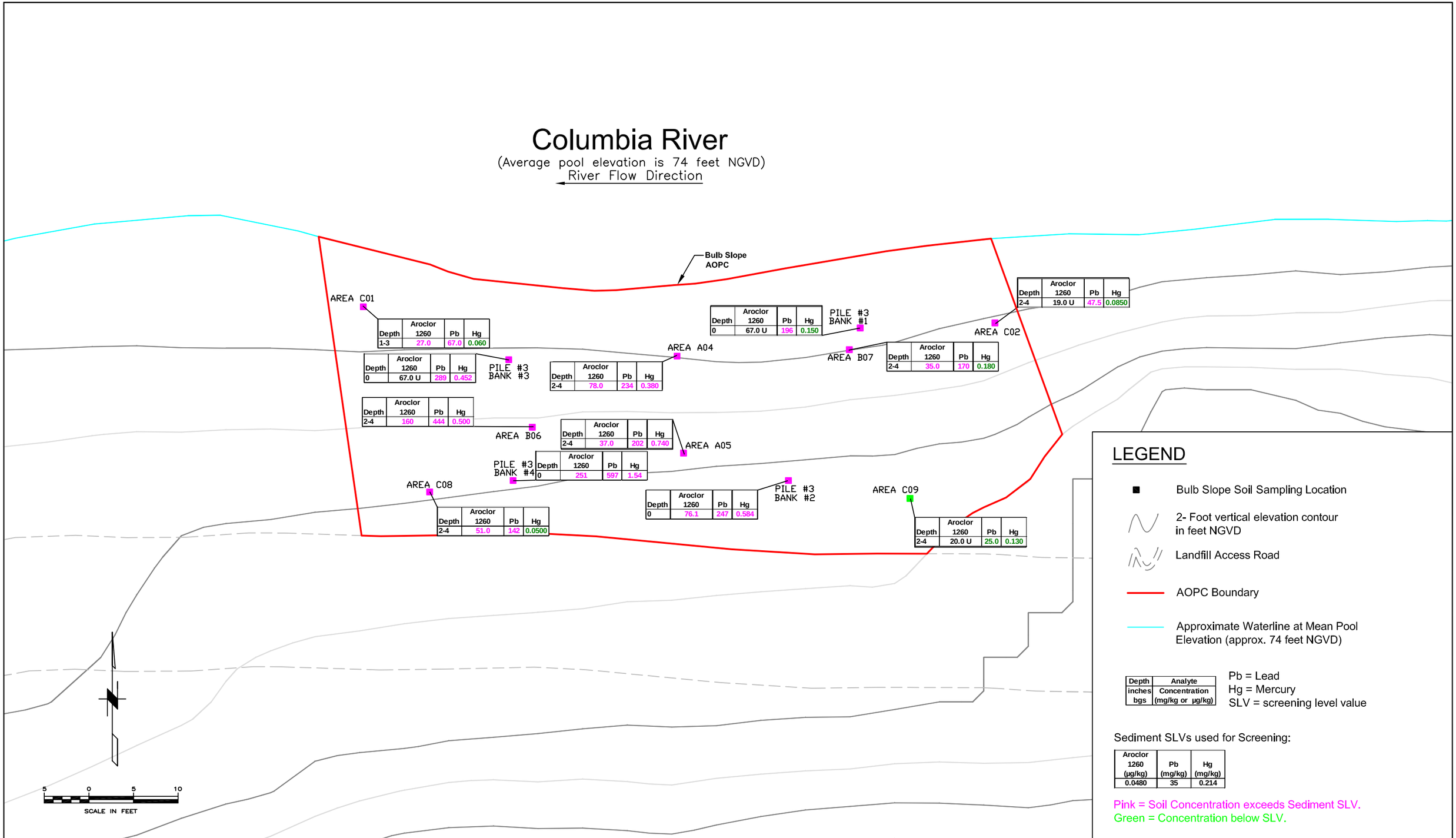
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-12 - Metals and PCBs in Surface Soil at Bulb Slope AOPC.dwg Nov 18, 2010 - 10:19am



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BULB SLOPE AOPC

METALS AND PCBs IN SURFACE SOIL FOR MASS WASTING EVALUATION

DRAWING NUMBER: FIGURE 9-13
CAD FILE NUMBER: FIG 9-13
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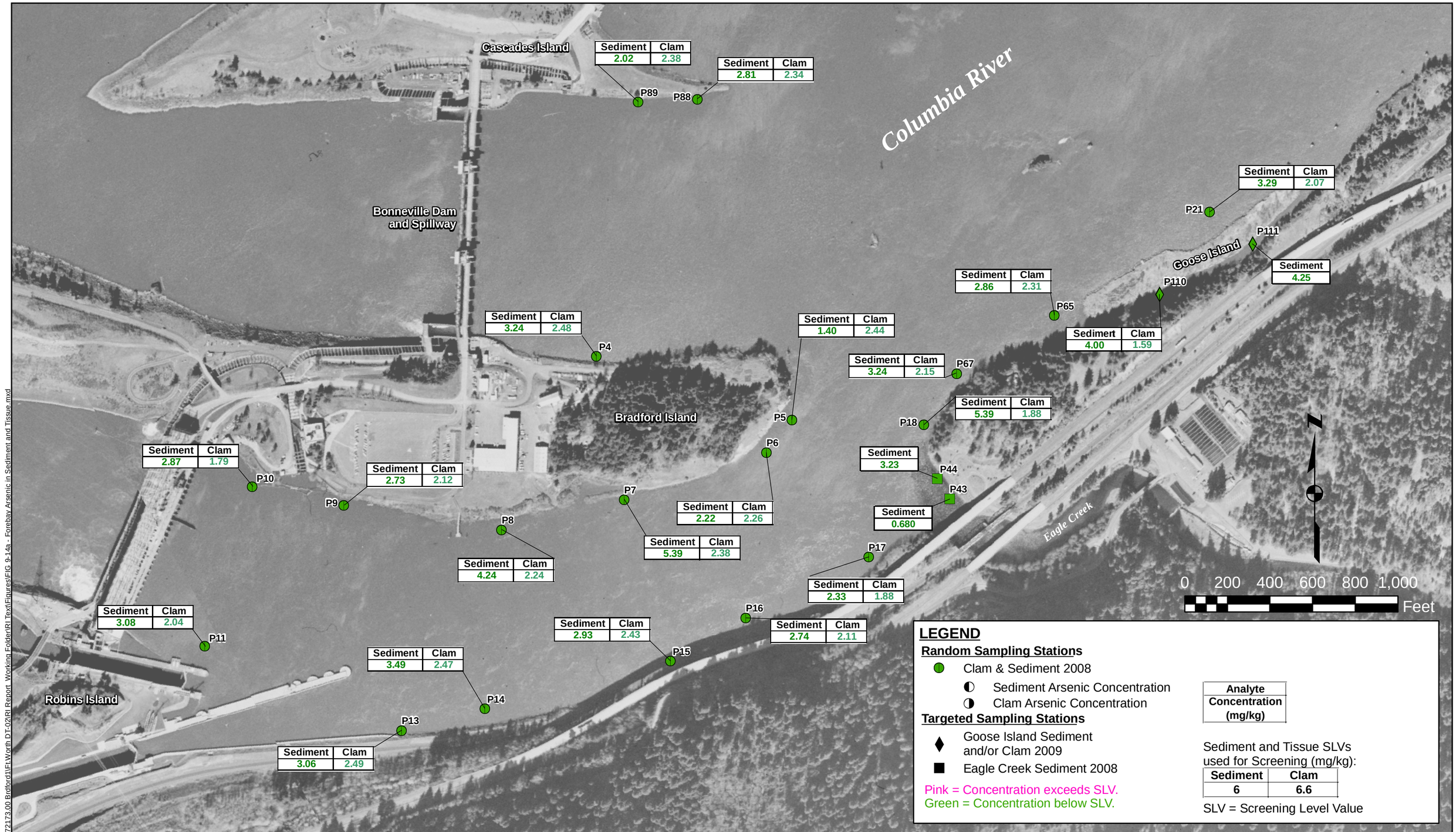
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-13 - Metals and PCBs in Surface Soil at Bulb Slope AOPC for Mass Wasting Evaluation.dwg Nov 18, 2010 - 10:20am



O:\25692709 USACE\53-F0072173.00 Bradford\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 9-14a - Forebay Arsenic in Sediment and Tissue.mxd

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RIVER OPERABLE UNIT

FOREBAY ARSENIC IN SEDIMENT AND CLAM TISSUE

DRAWING NUMBER: FIGURE 9-14a

GIS FILE NUMBER: FIG 9-14a

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RIVER OPERABLE UNIT

FOREBAY CADMIUM IN SEDIMENT AND CLAM TISSUE

DRAWING NUMBER: FIGURE 9-14b

GIS FILE NUMBER: FIG 9-14b

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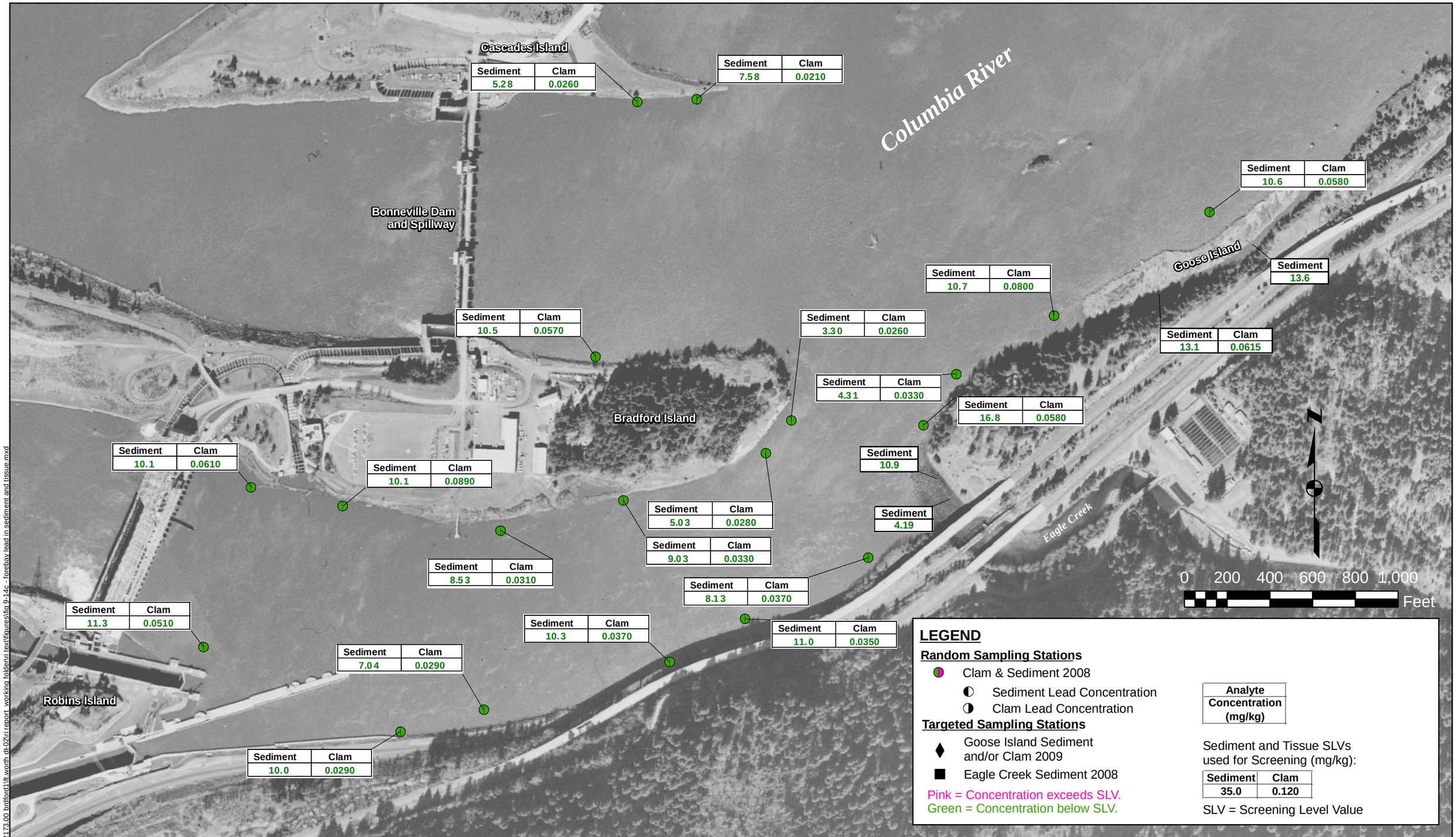

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RIVER OPERABLE UNIT

FOREBAY LEAD IN SEDIMENT AND CLAM TISSUE

DRAWING NUMBER: FIGURE 9-14c

GIS FILE NUMBER: FIG 9-14c

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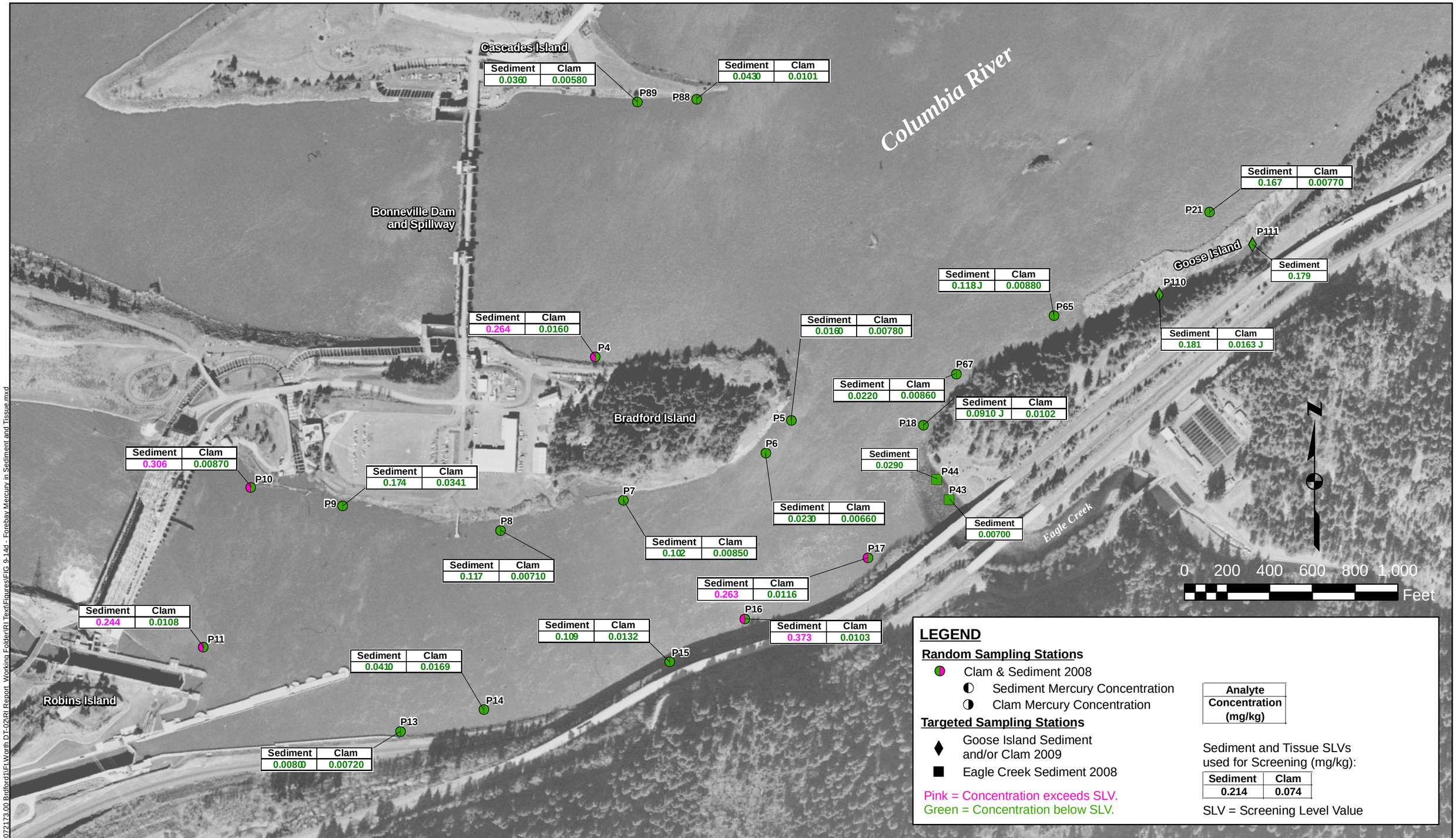

O:\25692709 USACE\53-F0072173.00 Bradford\1\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 9-14d - Forebay Mercury in Sediment and Tissue.mxd

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RIVER OPERABLE UNIT

FOREBAY MERCURY IN SEDIMENT AND CLAM TISSUE

DRAWING NUMBER: FIGURE 9-14d

GIS FILE NUMBER: FIG 9-14d

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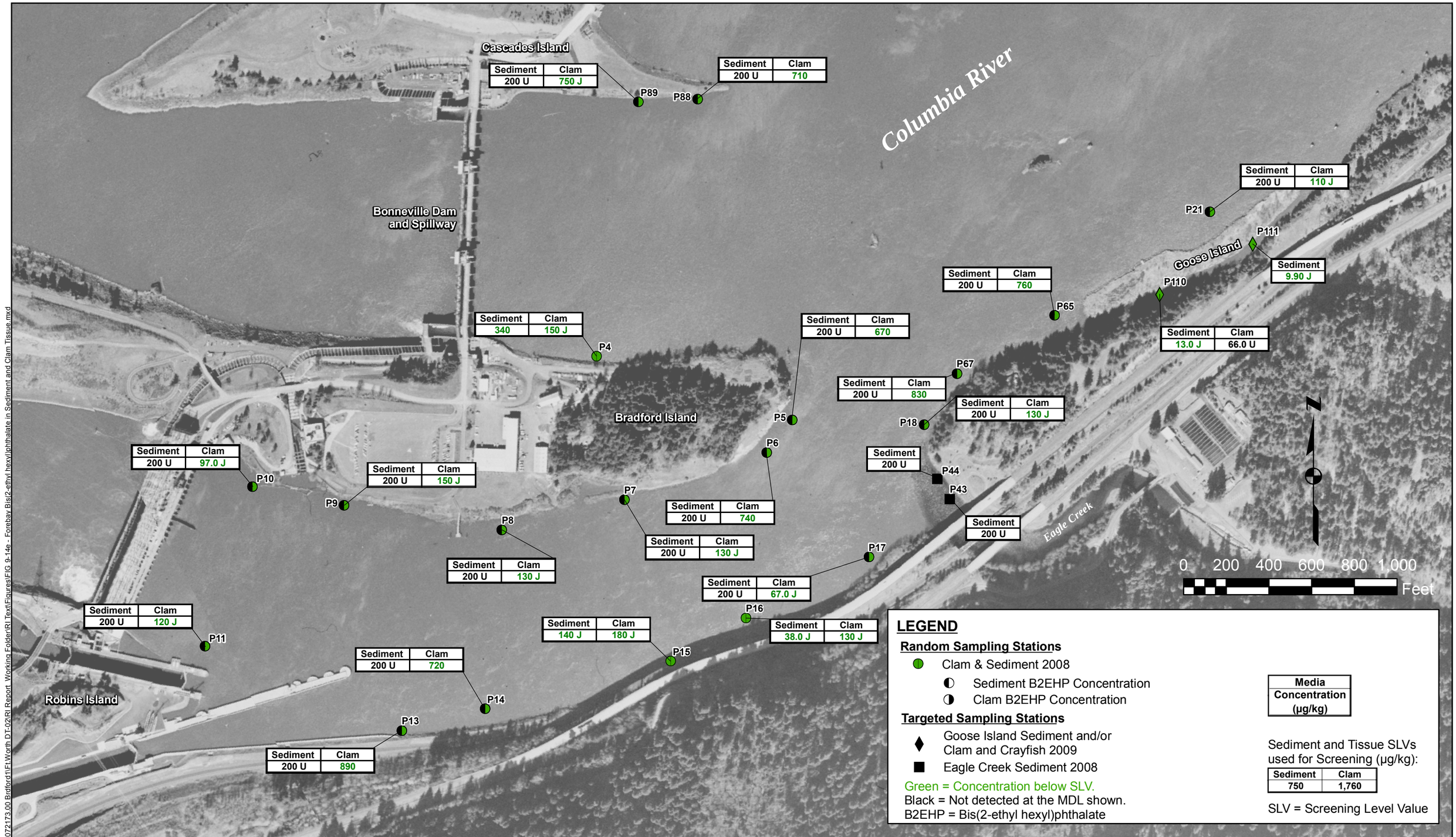

O:\25692709 USACE\53-F0072173.00 Bradford\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 9-14e - Forebay Bis(2-ethyl hexyl)phthalate in Sediment and Clam Tissue.mxd

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RIVER OPERABLE UNIT

FOREBAY B2EHP IN SEDIMENT AND CLAM TISSUE

DRAWING NUMBER: FIGURE 9-14e

GIS FILE NUMBER: FIG 9-14e

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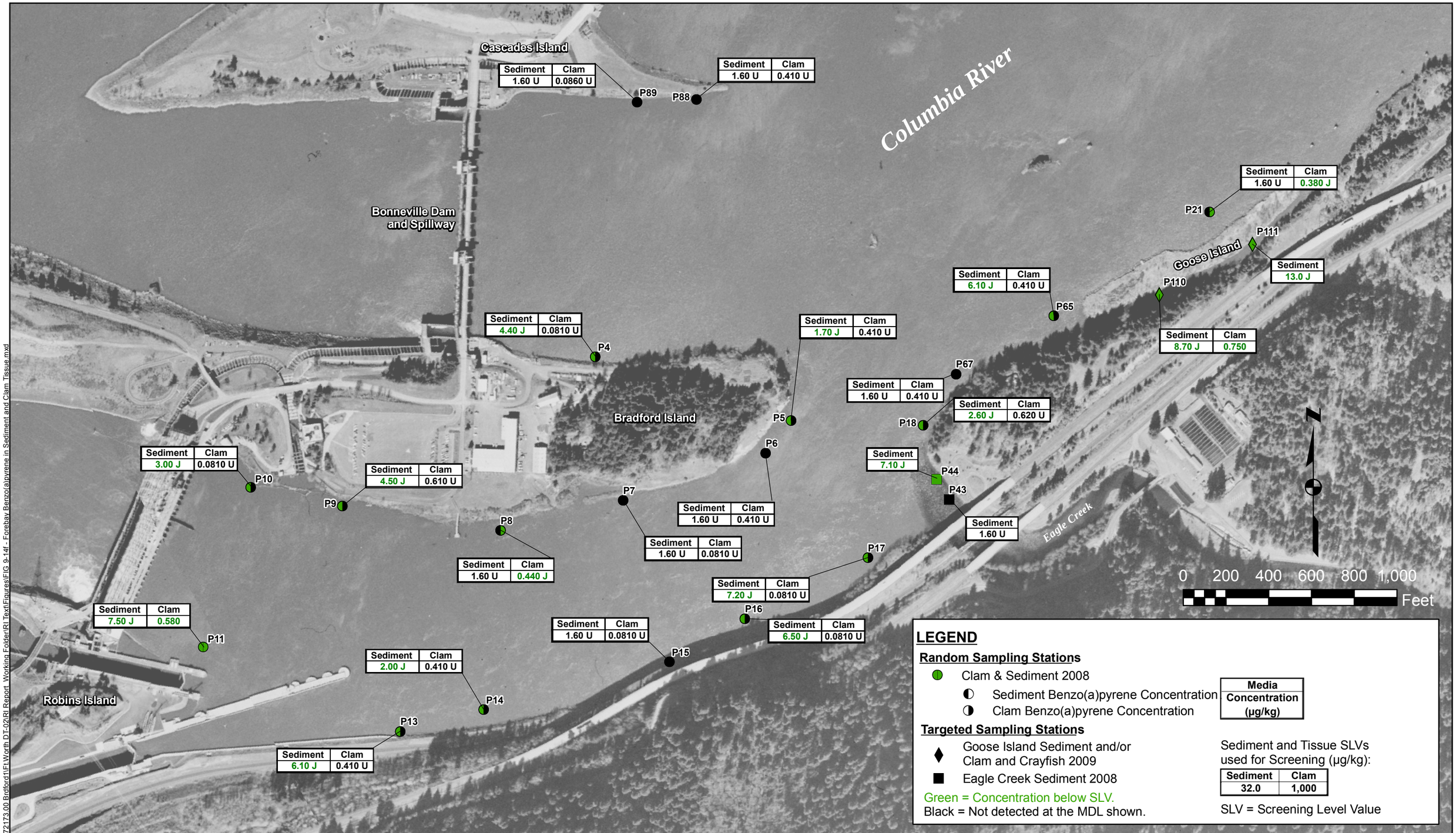

O:\25692709 USACE\53-F0072173.00 Bradford\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 9-14f - Forebay Benzo(a)pyrene in Sediment and Clam Tissue.mxd

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RIVER OPERABLE UNIT

FOREBAY BENZO(A)PYRENE IN SEDIMENT AND CLAM TISSUE

DRAWING NUMBER: FIGURE 9-14f

GIS FILE NUMBER: FIG 9-14f

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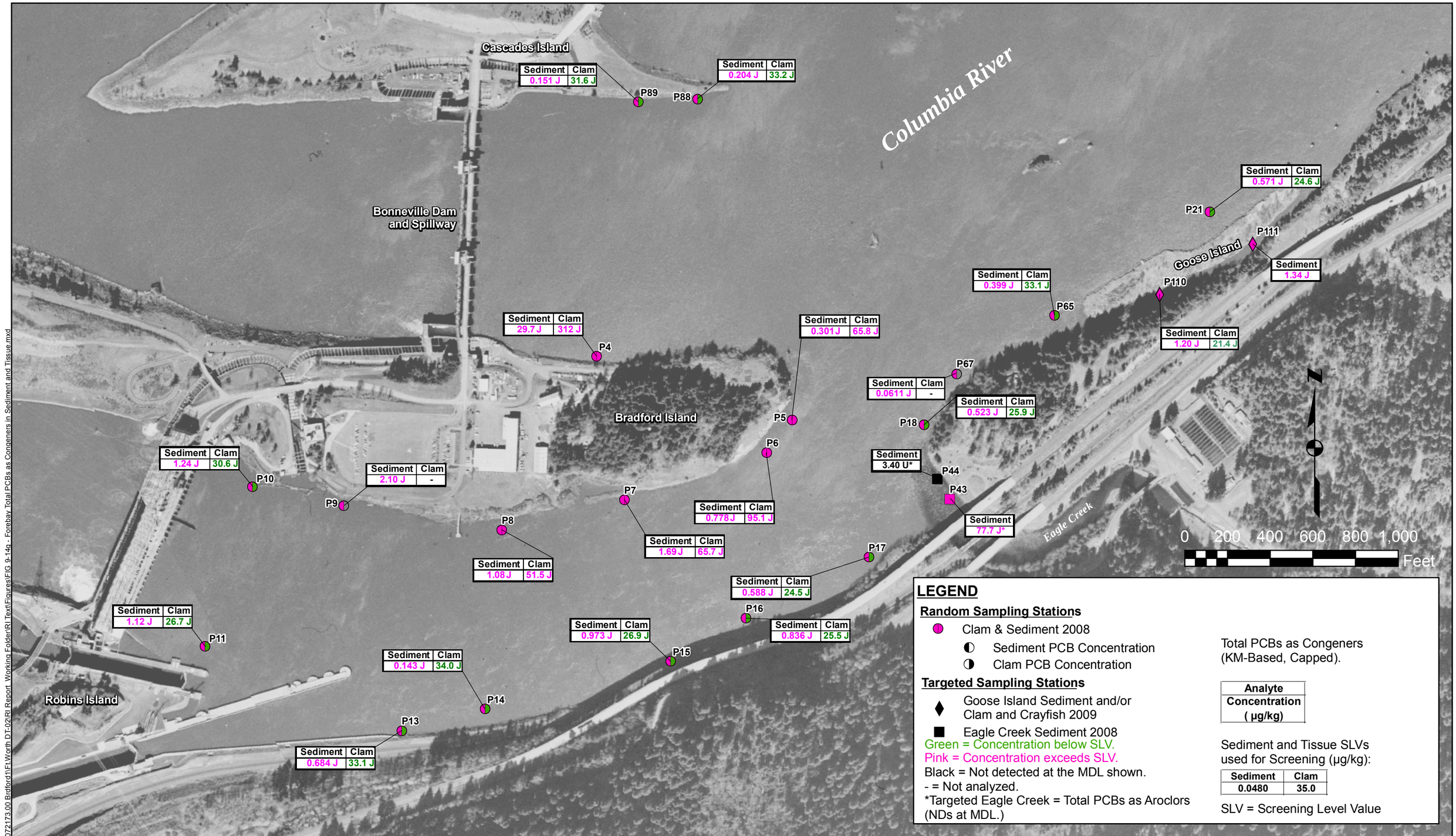

O:\25692709 USACE\53-F0072173.00 Bradford\1\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 9-14g - Forebay Total PCBs as Conneners in Sediment and Tissue.mxd

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RIVER OPERABLE UNIT

FOREBAY TOTAL PCBs AS CONGENERS IN SEDIMENT AND CLAM TISSUE

DRAWING NUMBER: FIGURE 9-14g

GIS FILE NUMBER: FIG 9-14g

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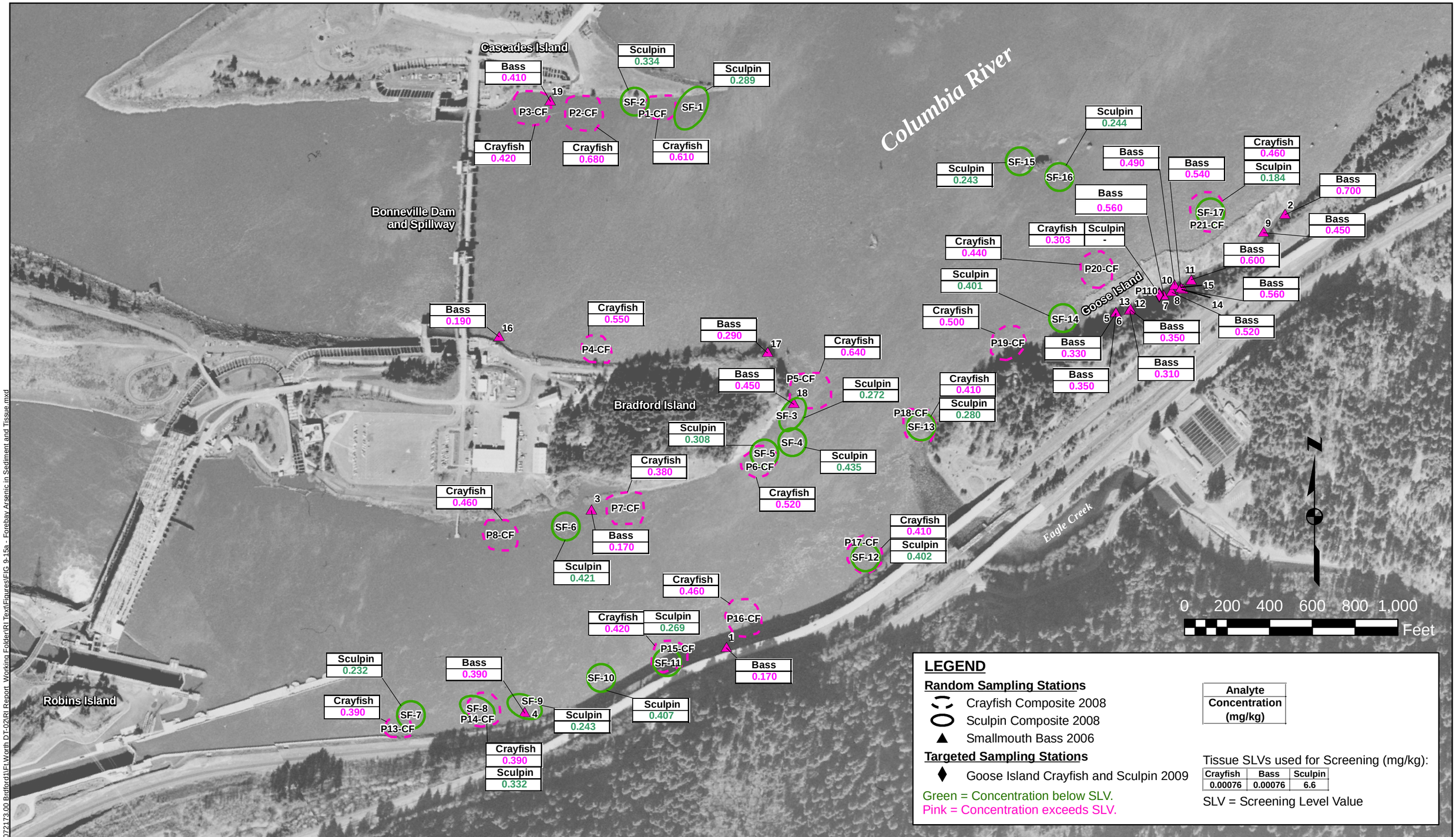

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RIVER OPERABLE UNIT

FOREBAY ARSENIC IN CRAYFISH, SCULPIN, AND SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIGURE 9-15a

GIS FILE NUMBER: FIG 9-15a

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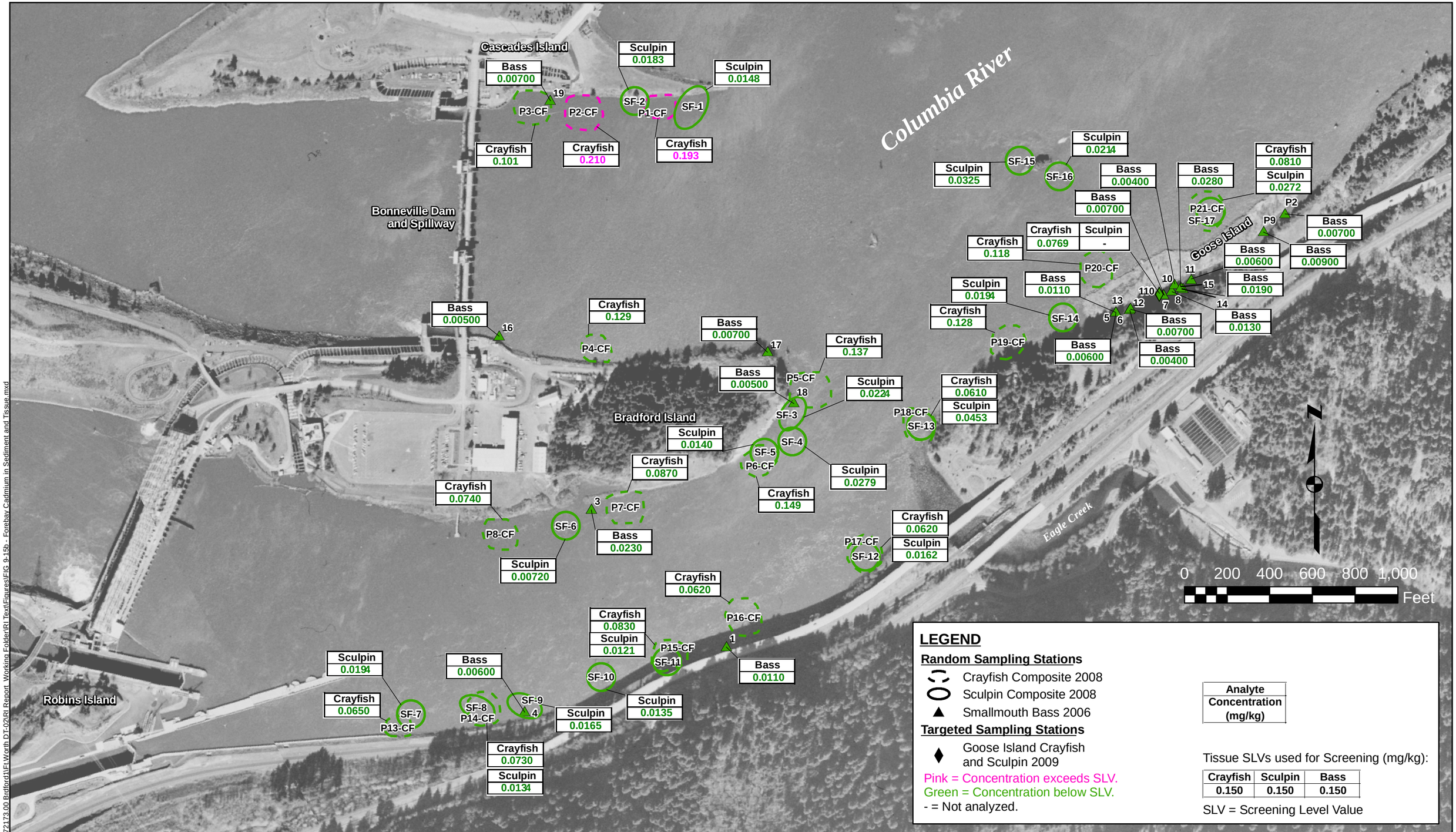

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RIVER OPERABLE UNIT

FOREBAY CADMIUM IN CRAYFISH, SCULPIN AND SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIGURE 9-15b

GIS FILE NUMBER: FIG 9-15b

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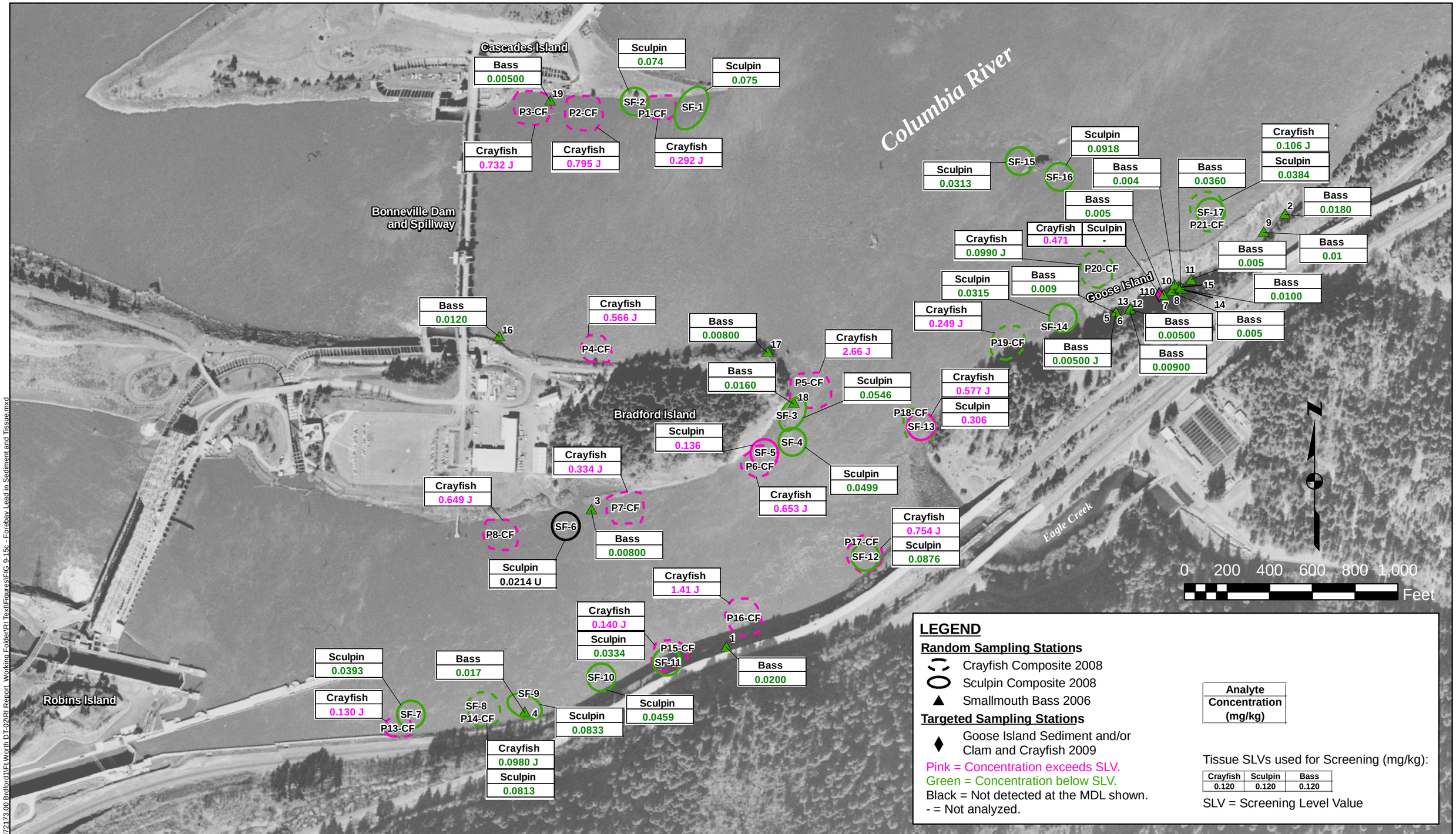

Q:\25692709 USACE\53-F0072173.00 Bradford\1Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-15c - Forebay Lead in Sediment and Tissue.mxd

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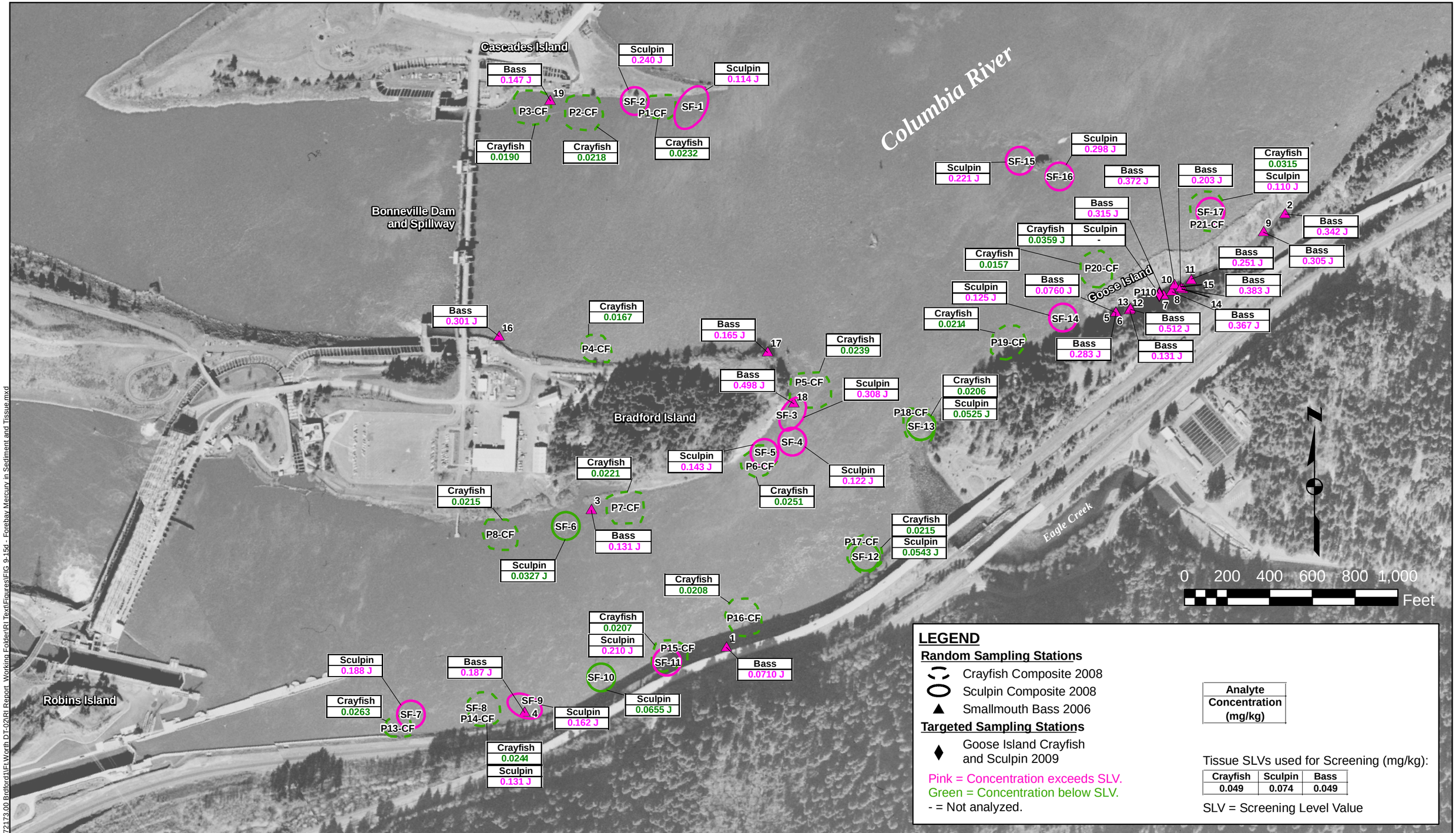
RIVER OPERABLE UNIT

FOREBAY LEAD IN CRAYFISH, SCULPIN, AND SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIGURE 9-15c

GIS FILE NUMBER: FIG 9-15c

SHEET: REV.



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RIVER OPERABLE UNIT

FOREBAY MERCURY IN CRAYFISH, SCULPIN, AND SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIGURE 9-15d

GIS FILE NUMBER: FIG 9-15d

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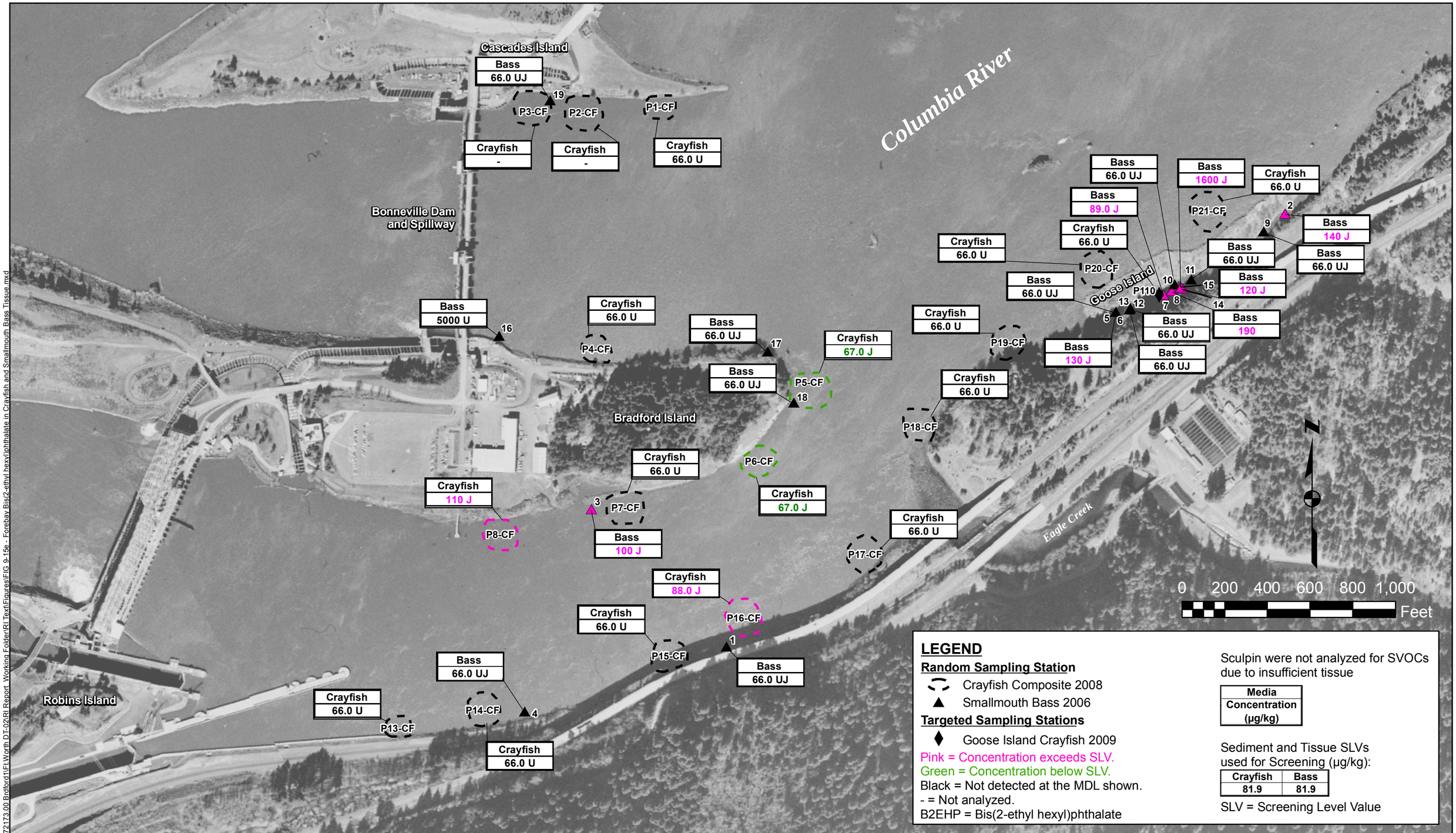

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RIVER OPERABLE UNIT

FOREBAY B2EHP IN CRAYFISH AND SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIGURE 9-15e
GIS FILE NUMBER: FIG 9-15e
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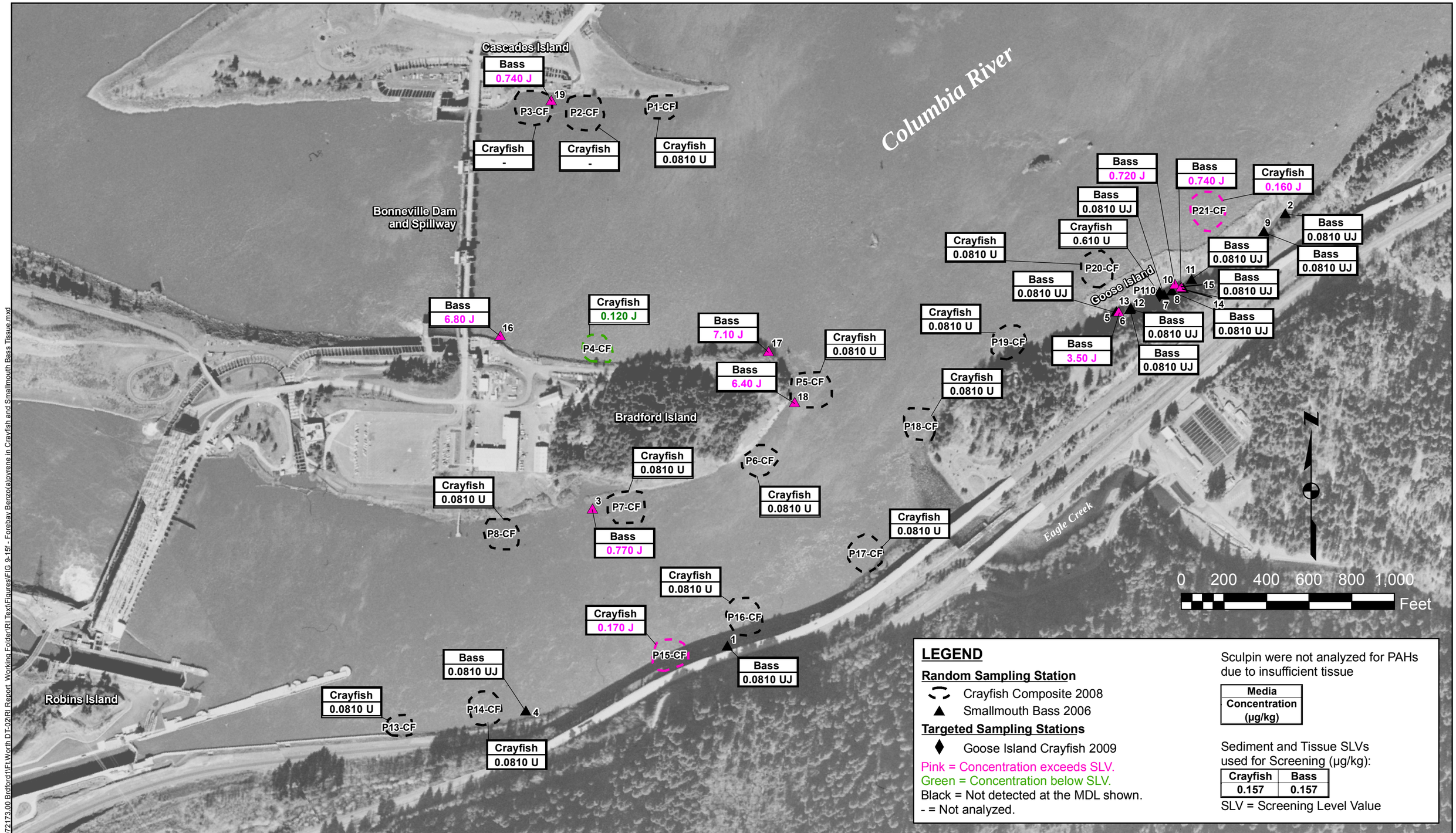

LEGEND

Random Sampling Station

- Crayfish Composite 2008
- Smallmouth Bass 2006

Targeted Sampling Stations

- Goose Island Crayfish 2009

Pink = Concentration exceeds SLV.
Green = Concentration below SLV.
Black = Not detected at the MDL shown.
- = Not analyzed.

Sculpin were not analyzed for PAHs due to insufficient tissue

Media Concentration (µg/kg)

Sediment and Tissue SLVs used for Screening (µg/kg):

Crayfish	Bass
0.157	0.157

SLV = Screening Level Value

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RIVER OPERABLE UNIT

FOREBAY BENZO(A)PYRENE IN CRAYFISH AND SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIGURE 9-15f
GIS FILE NUMBER: FIG 9-15f
SHEET:
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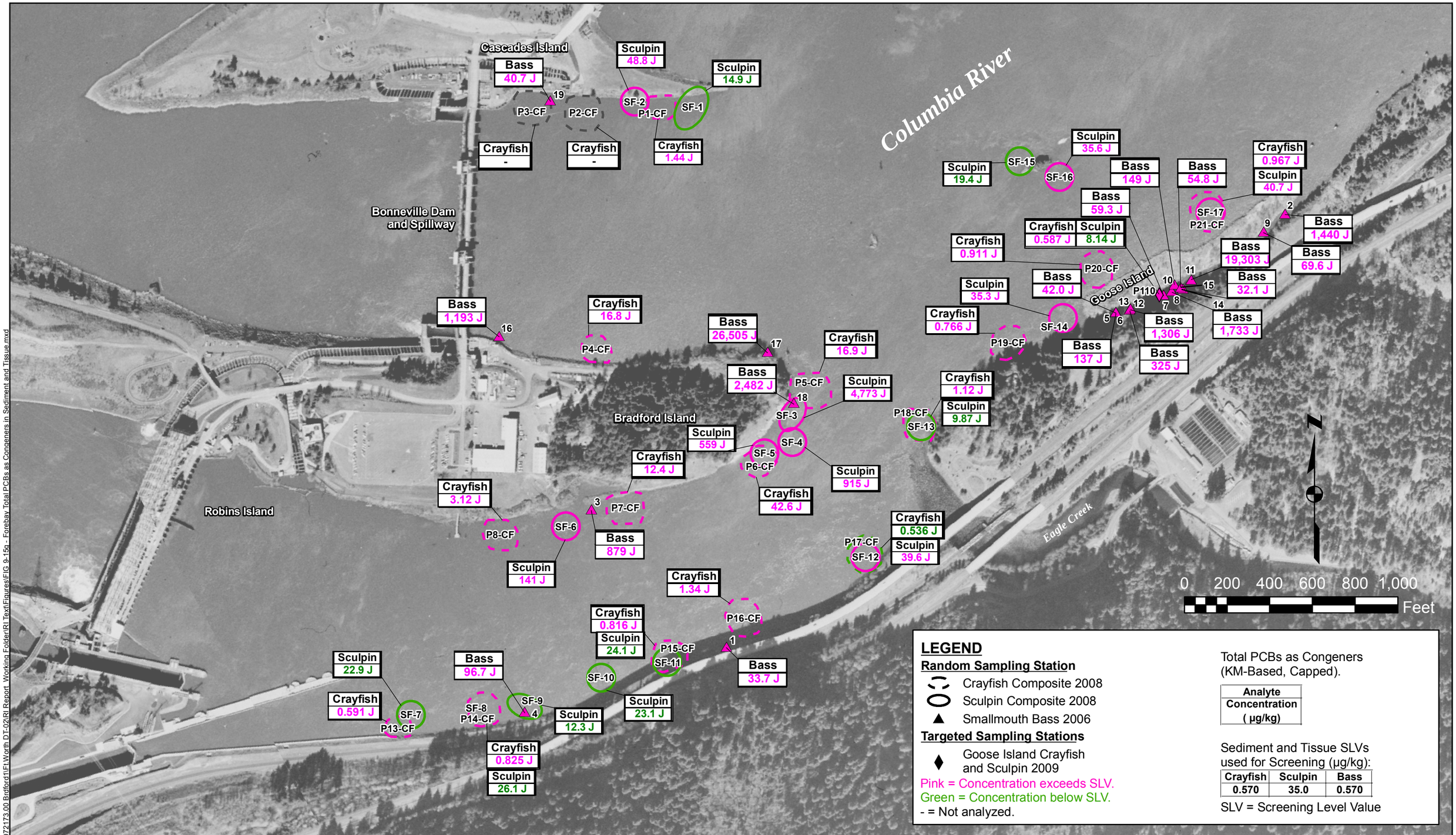

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RIVER OPERABLE UNIT

FOREBAY TOTAL PCBs AS CONGENERS IN CRAYFISH, SCULPIN, AND SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIGURE 9-15g

GIS FILE NUMBER: FIG 9-15g

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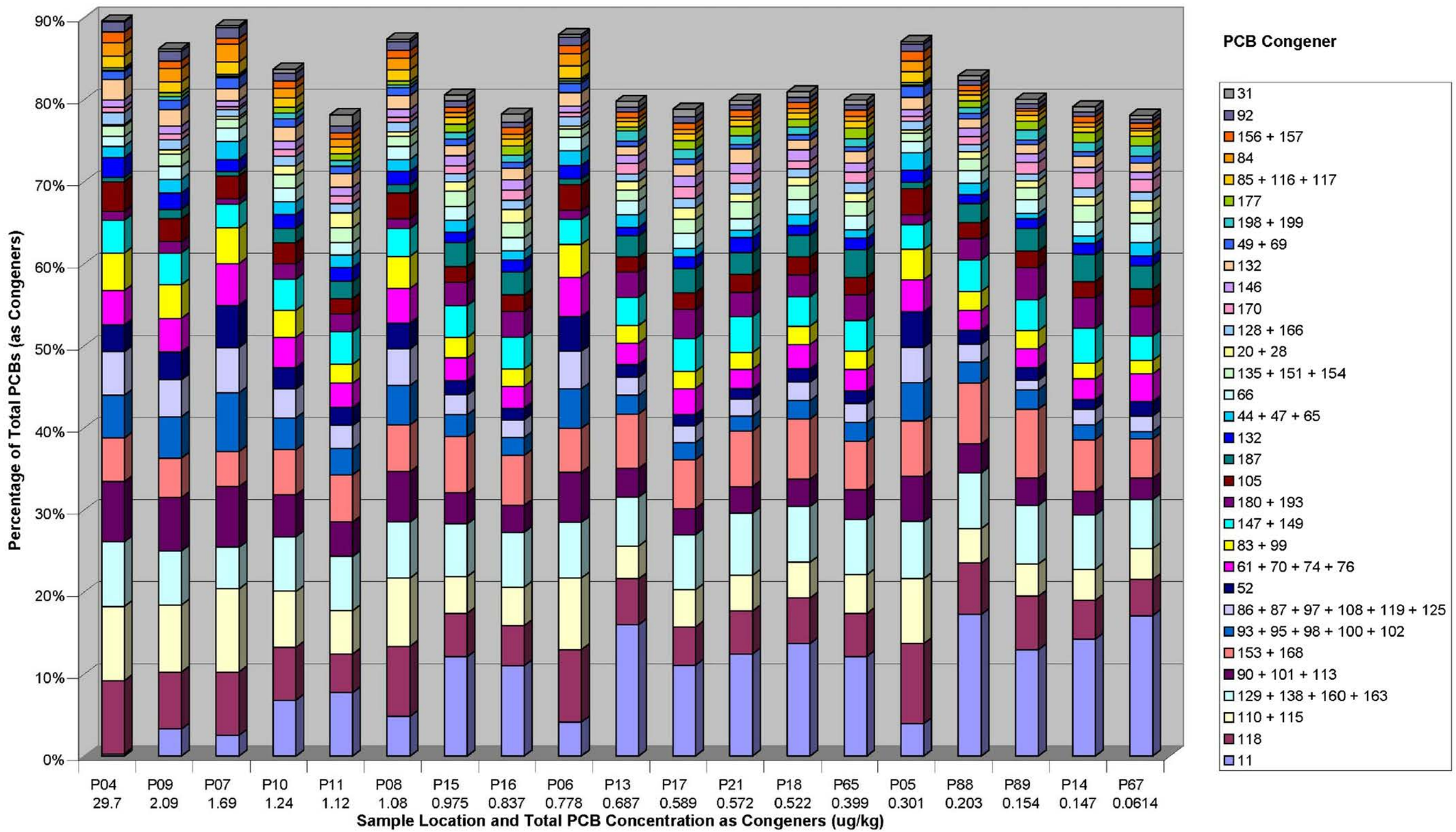

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CASCADE LOCKS, OREGON

FOREBAY PCB CONGENER DISTRIBUTION IN SEDIMENT

DRAWING NUMBER: FIG 9-16a
CAD FILE NUMBER: FIG 9-16a
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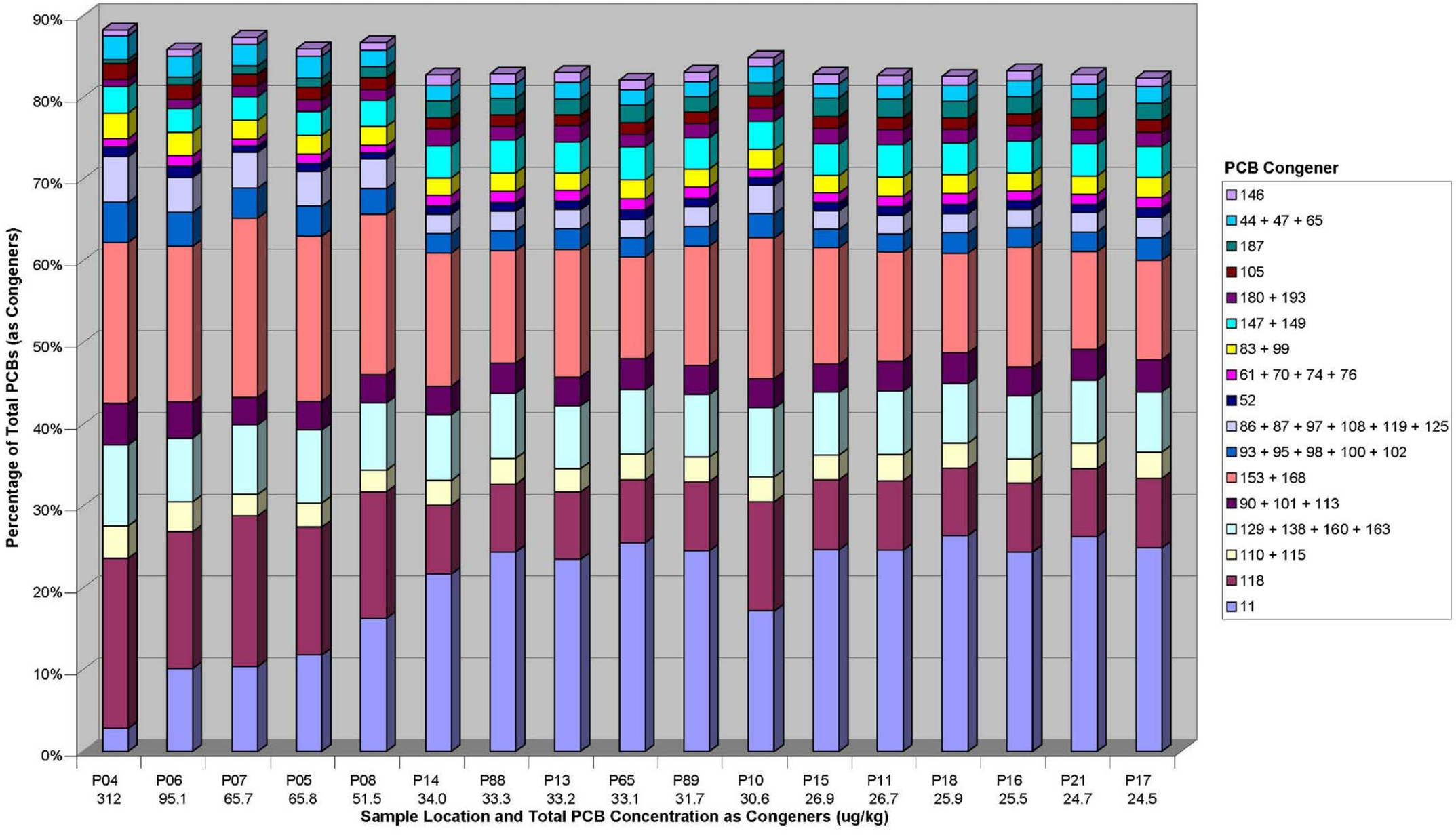
O:\25692709 USACE\53-F0072173.00 Bradford Island\Risk Report_Working Folder\RI Text\Figures\FIG 9-16a - Forebay PCB Congener Distribution in Sediment.dwg Nov 18, 2010 - 10:20am



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FOREBAY PCB CONGENER DISTRIBUTION IN CLAM TISSUE

DRAWING NUMBER: FIG 9-16b
CAD FILE NUMBER: FIG 9-16b
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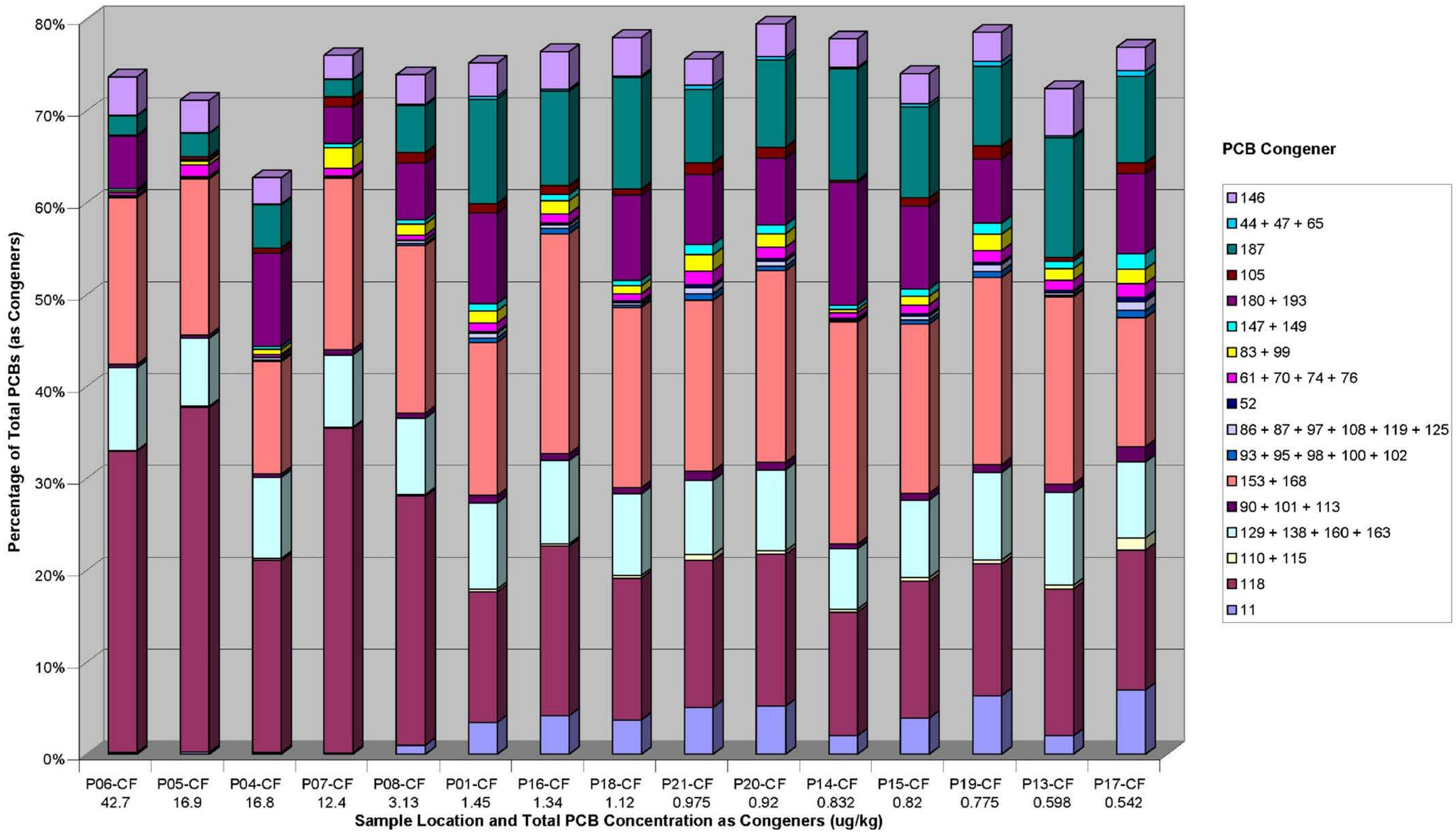
O:\25592709 USACE\53-F0072173.00 Bradford\FL-Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-16b - Forebay PCB Congener Distribution in Clam Tissue.dwg Nov 18, 2010 - 10:21am



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FOREBAY PCB CONGENER DISTRIBUTION IN CRAYFISH TISSUE

DRAWING NUMBER: FIG 9-16c
CAD FILE NUMBER: FIG 9-16c
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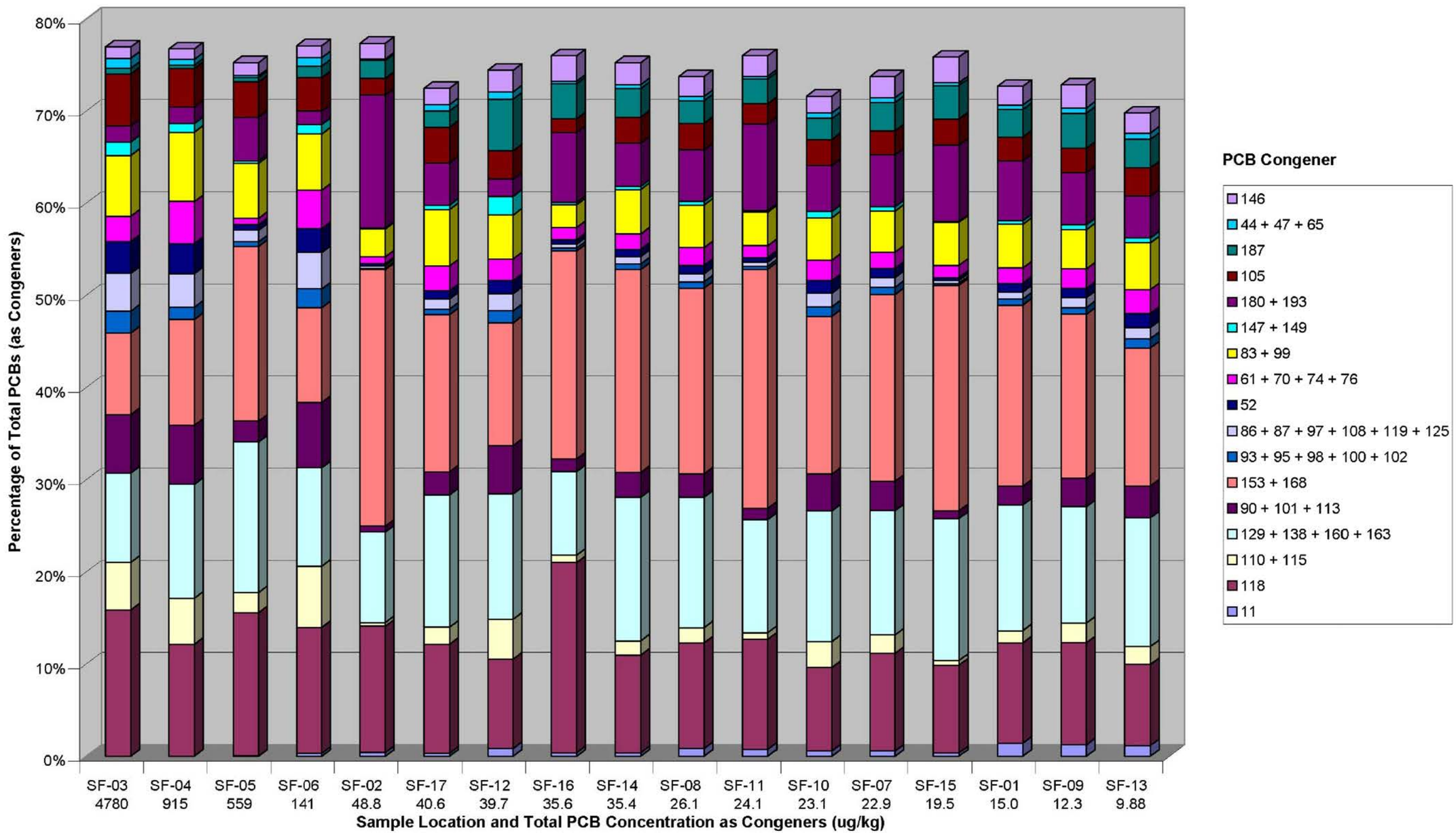
C:\25662709 USACE\53-F0072173.00 Bradford\F:\Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-16c - Forebay PCB Congener Distribution in Crayfish Tissue.dwg Nov 18, 2010 - 10:21am



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FOREBAY PCB CONGENER DISTRIBUTION IN SCULPIN TISSUE

DRAWING NUMBER: FIG 9-16d
CAD FILE NUMBER: FIG 9-16d
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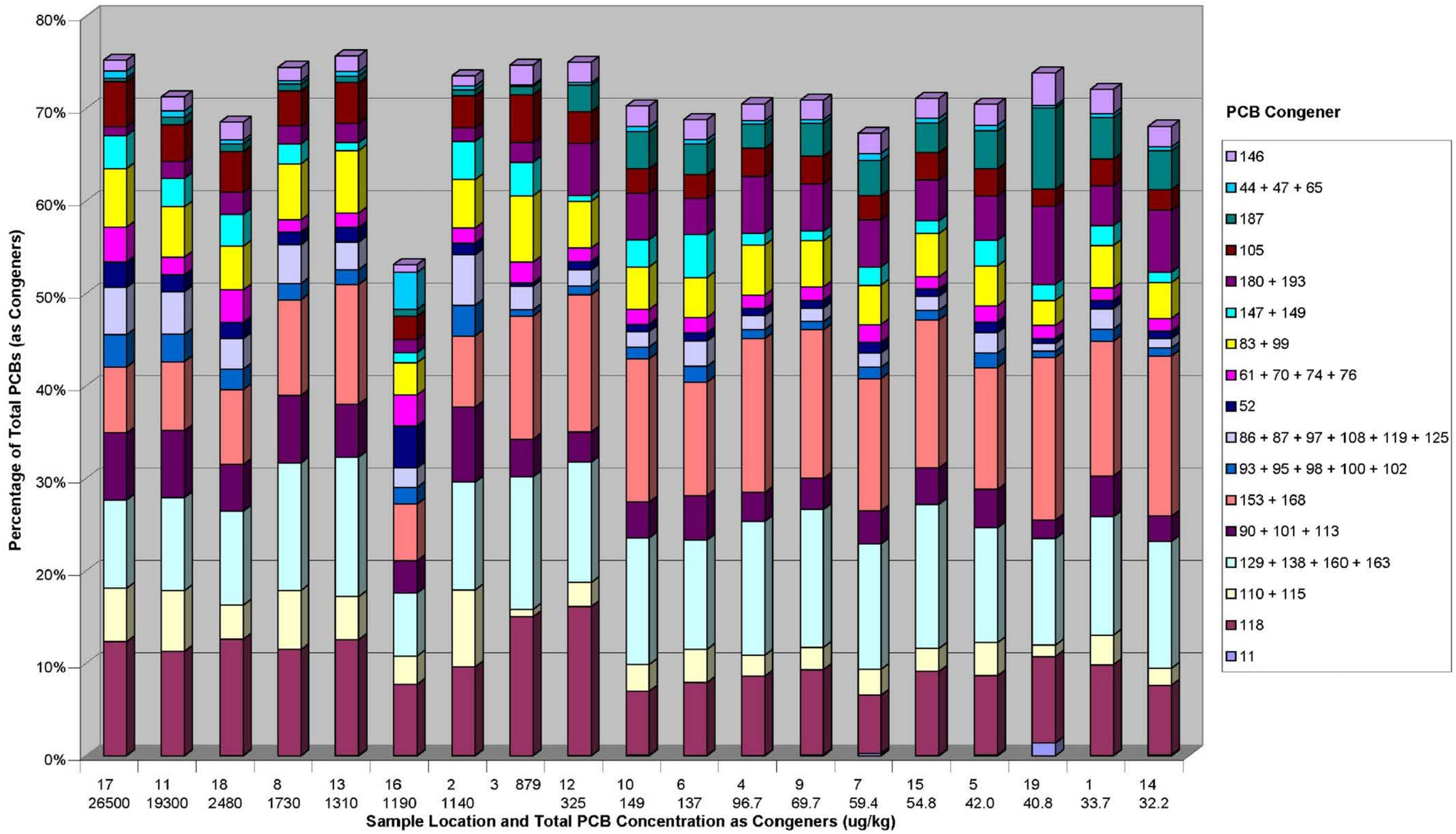
O:\25592709 USACE\53-F0072173.00 Bedford\Fl:Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-16d - Forebay PCB Congener Distribution in Sculpin Tissue.dwg Nov 18, 2010 - 10:22am



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FOREBAY PCB CONGENER
DISTRIBUTION IN SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIG 9-16e
CAD FILE NUMBER: FIG 9-16e
SHEET: OF
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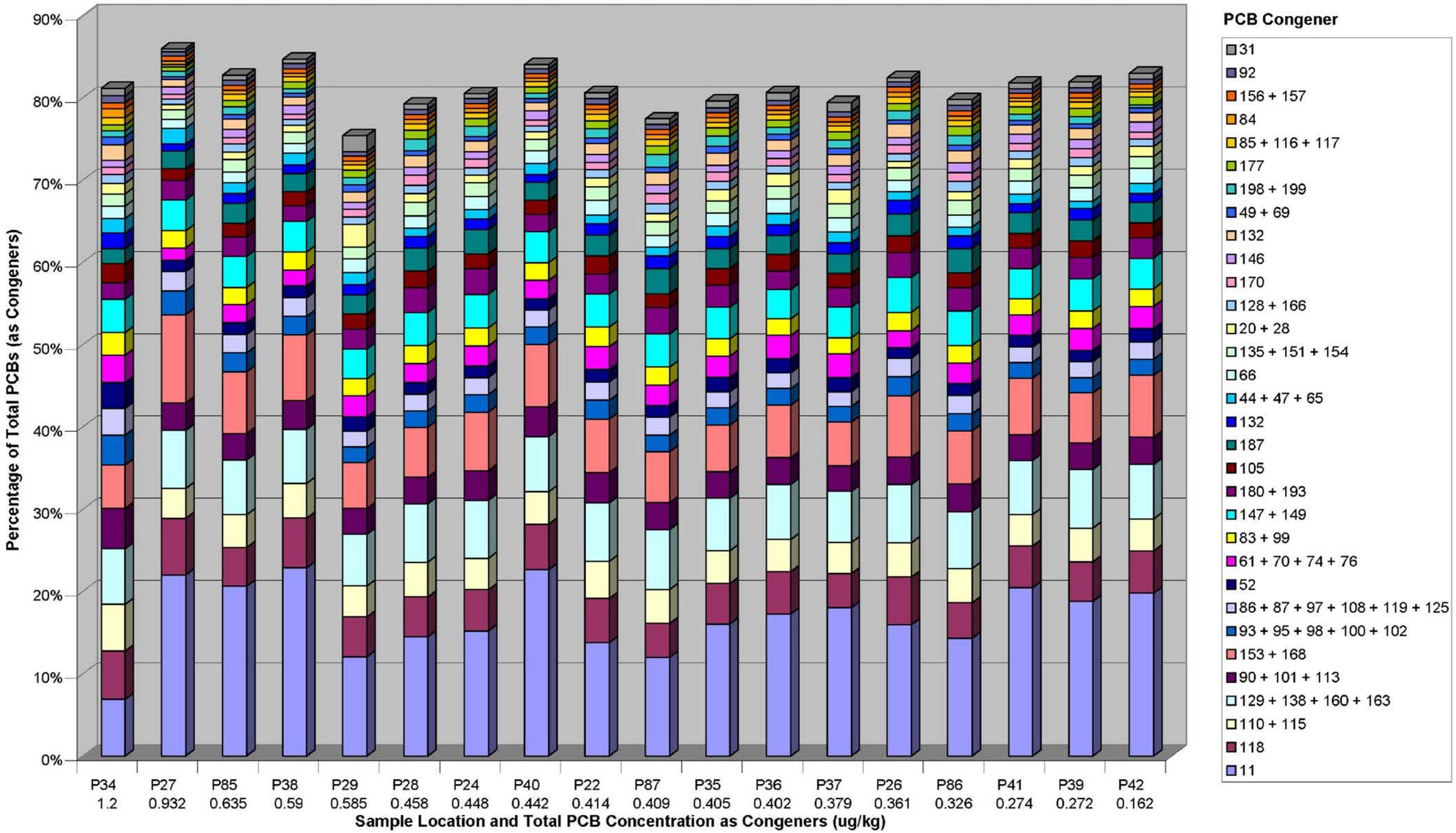
C:\25692709 USACE\53-F0072173.00 Bradford\FL-Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-16e - Forebay PCB Congener Distribution in Smallmouth Bass Tissue.dwg Nov 18, 2010 - 10:23am



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REFERENCE AREA PCB CONGENER DISTRIBUTION IN SEDIMENT

DRAWING NUMBER: FIG 9-17a
CAD FILE NUMBER: FIG 9-17a
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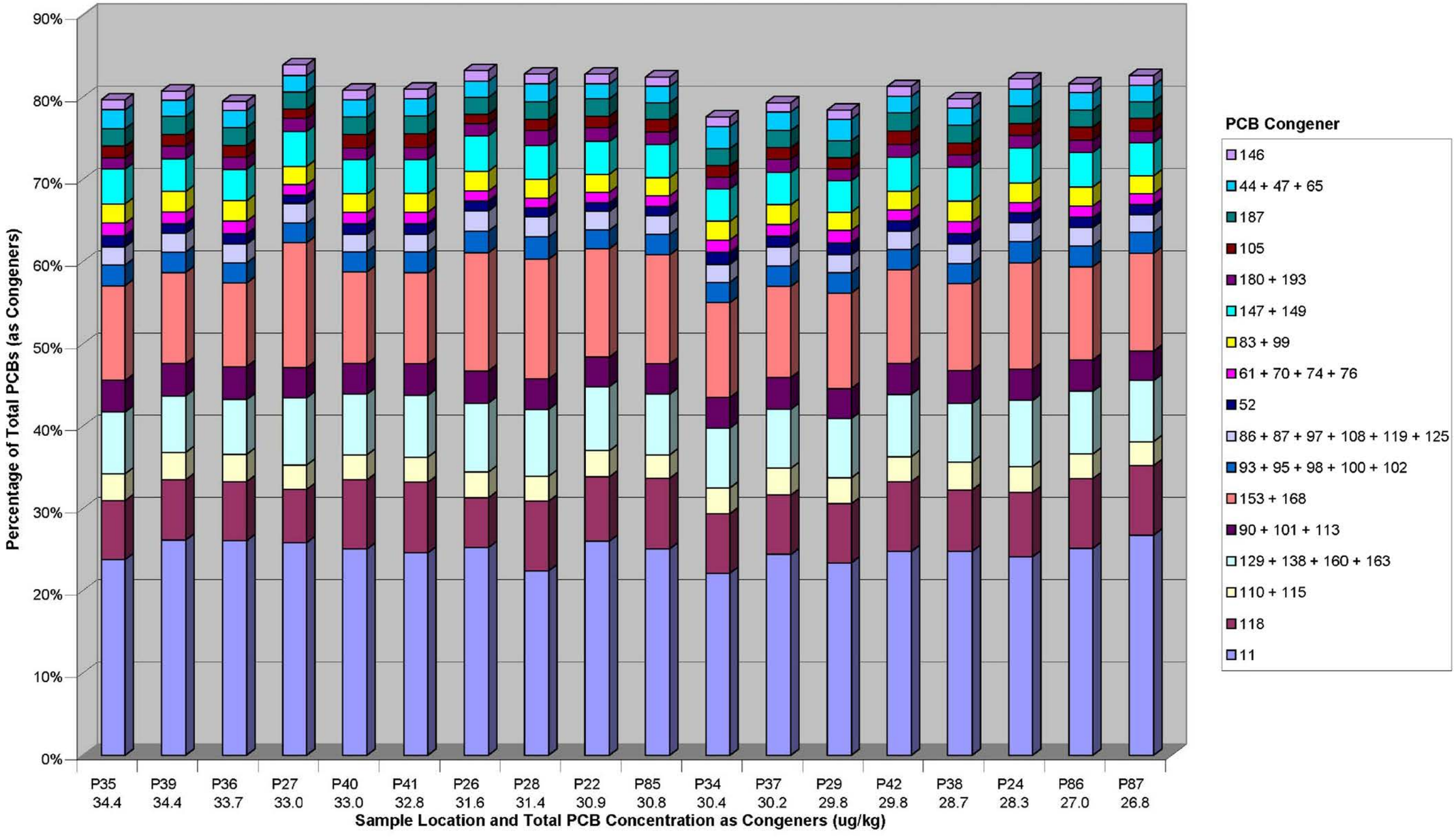
O:\25696709 USACE\63-F0072173.00 Bradford I\Fl.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-17a - Reference Area PCB Congener Distribution in Sediment.dwg Nov 18, 2010 - 10:23am



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REFERENCE AREA PCB CONGENER DISTRIBUTION IN CLAM TISSUE

DRAWING NUMBER: FIG 9-17b
CAD FILE NUMBER: FIG 9-17b
SHEET: OF
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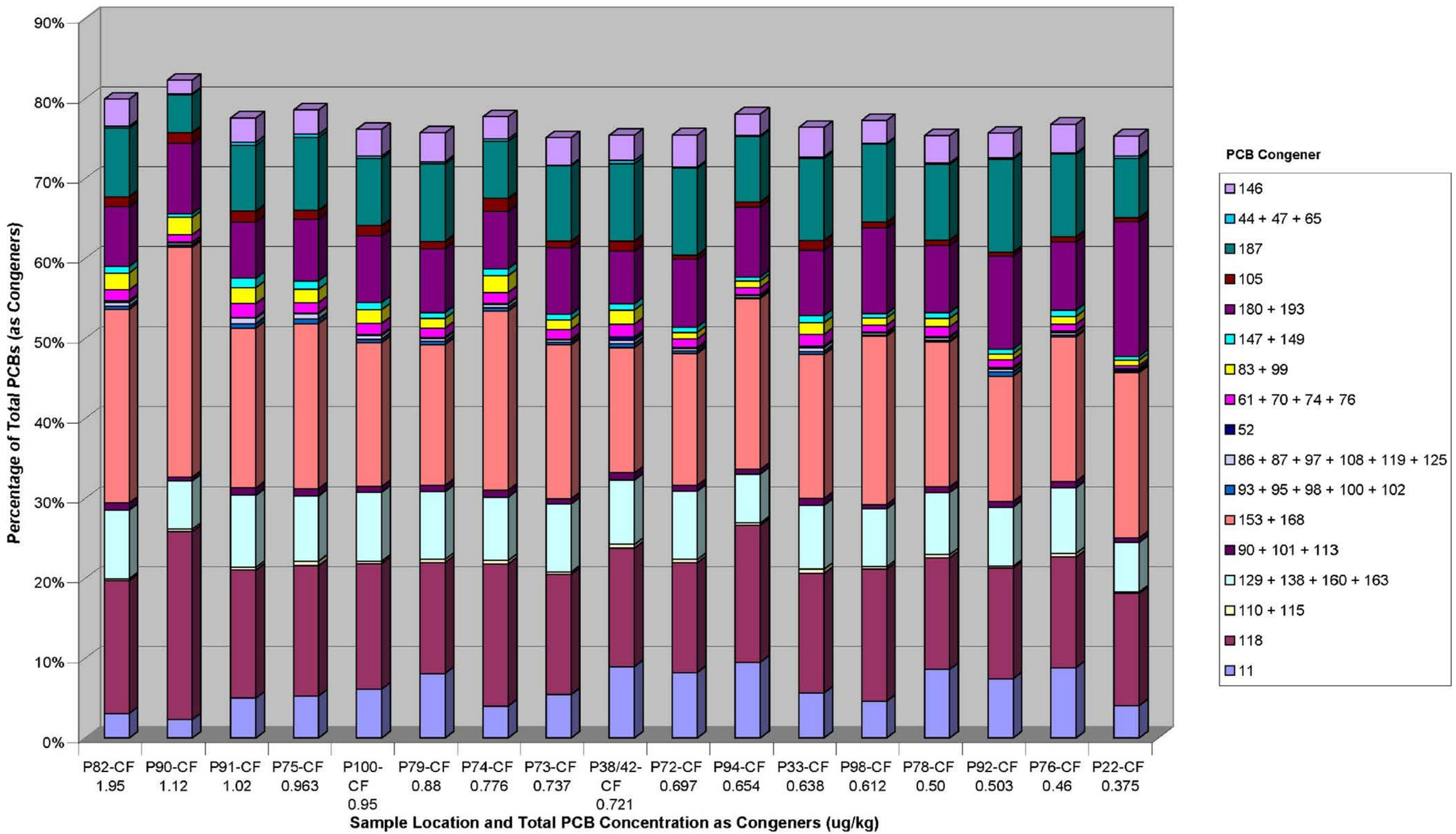
C:\25592709 USACE\53-F0072173.00 Bradford\F:\Work DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-17b - Reference Area PCB Congener Distribution in Clam Tissue.dwg Nov 18, 2010 - 10:24am



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REFERENCE AREA PCB CONGENER DISTRIBUTION IN CRAYFISH TISSUE

DRAWING NUMBER: FIG 9-17c
CAD FILE NUMBER: FIG 9-17c
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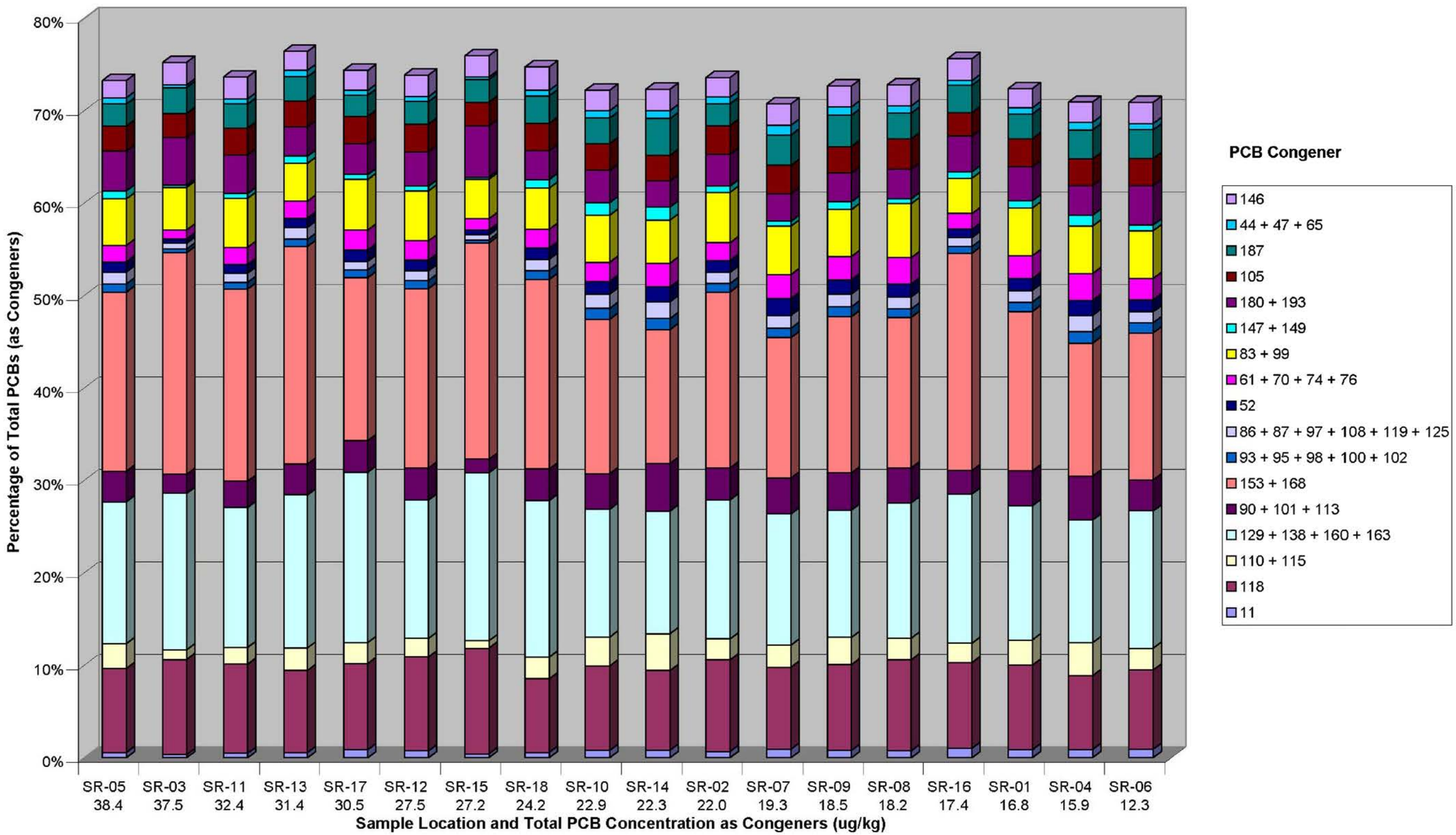
C:\25696946 USACE\03-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-17c - Reference Area PCB Congener Distribution in Crayfish Tissue.dwg Nov 18, 2010 - 10:24am



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REFERENCE AREA PCB CONGENER DISTRIBUTION IN SCULPIN TISSUE

DRAWING NUMBER: FIG 9-17d

CAD FILE NUMBER: FIG 9-17d

SHEET: OF

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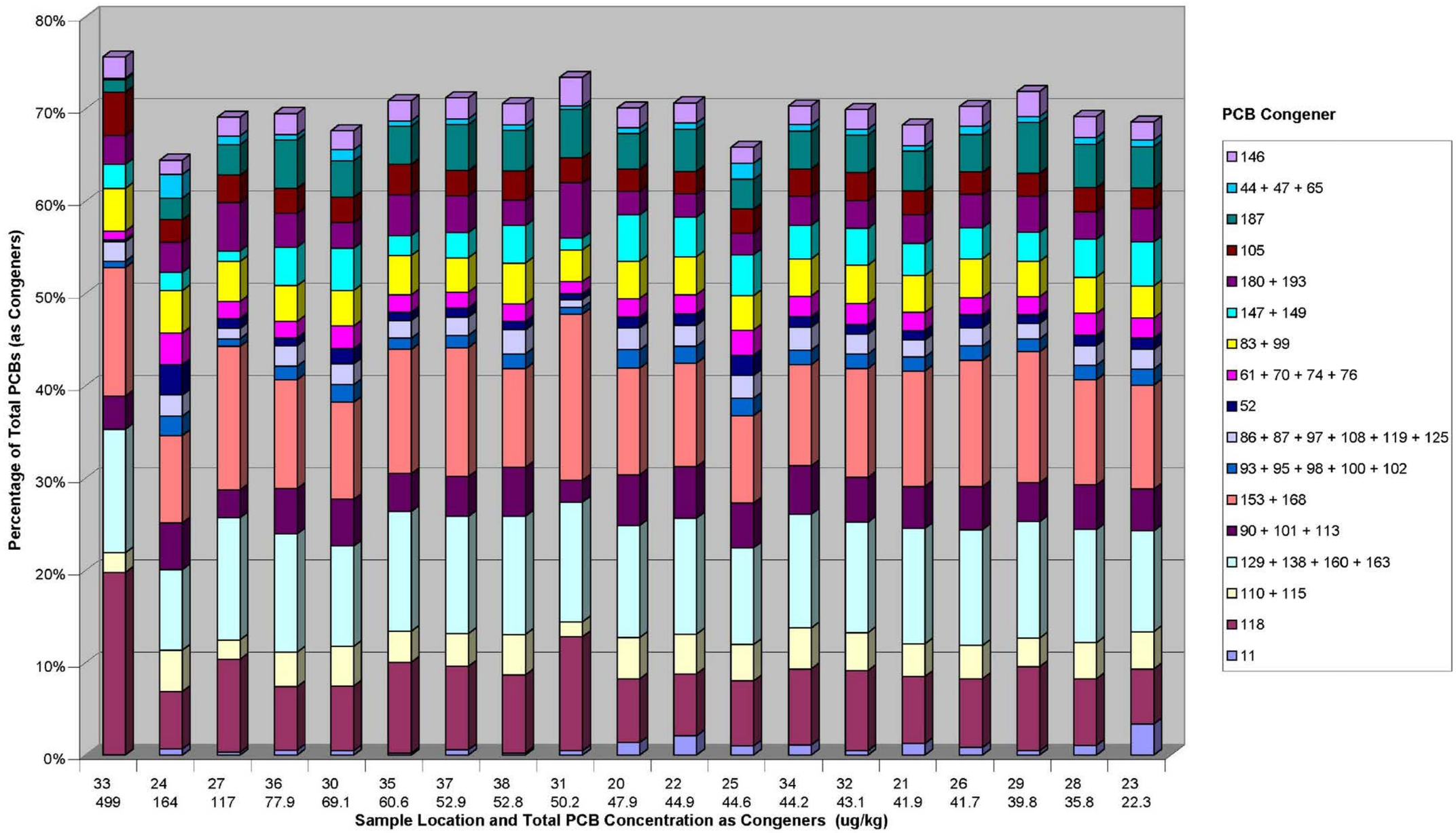
C:\25662709 USACE\53-F0072173.00 Bradford\V:\Work DT-02\RI Report_Working Folder\RI Text\Figures\FIG 9-17d - Reference Area PCB Congener Distribution in Sculpin Tissue.dwg Nov 18, 2010 - 10:25am



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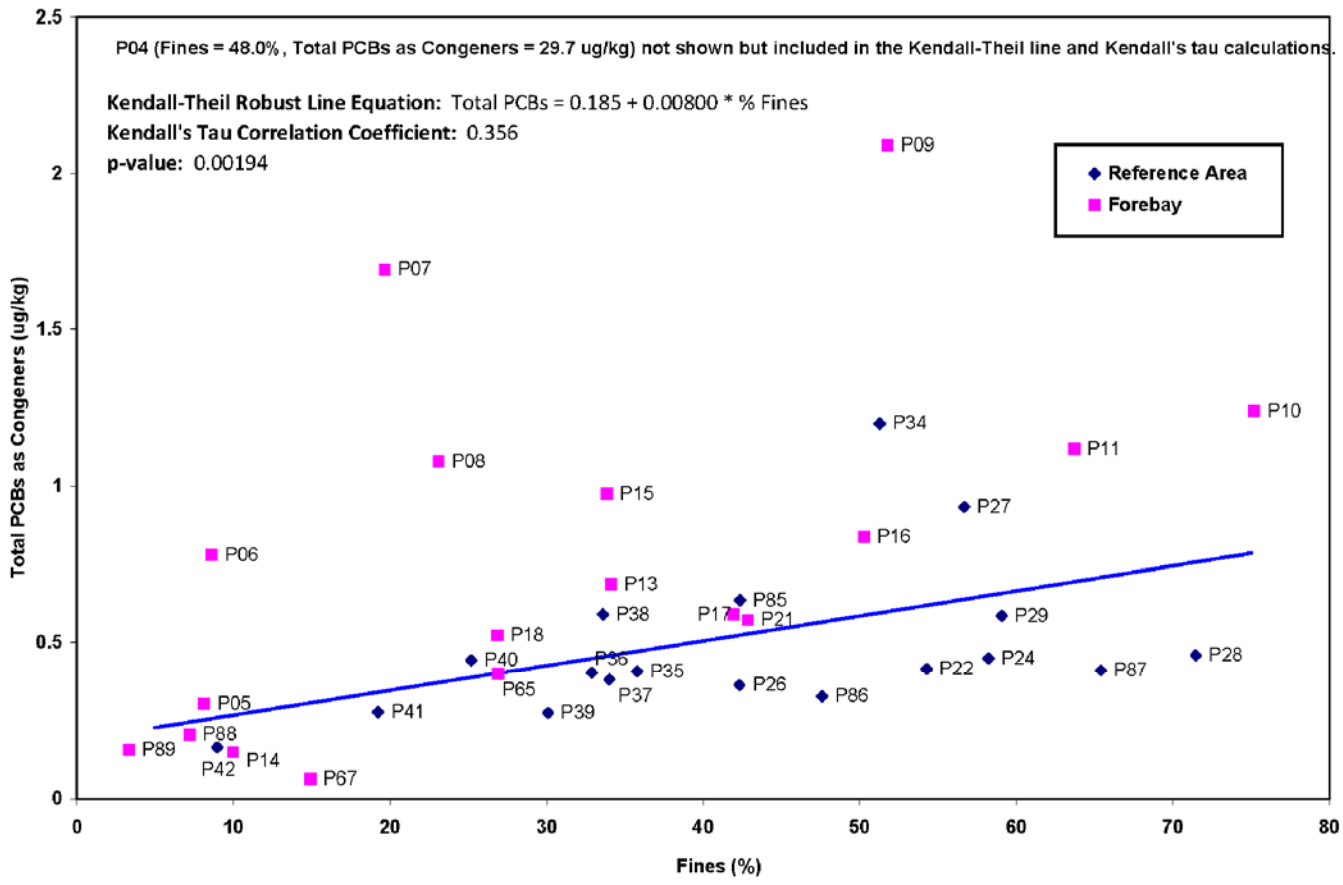
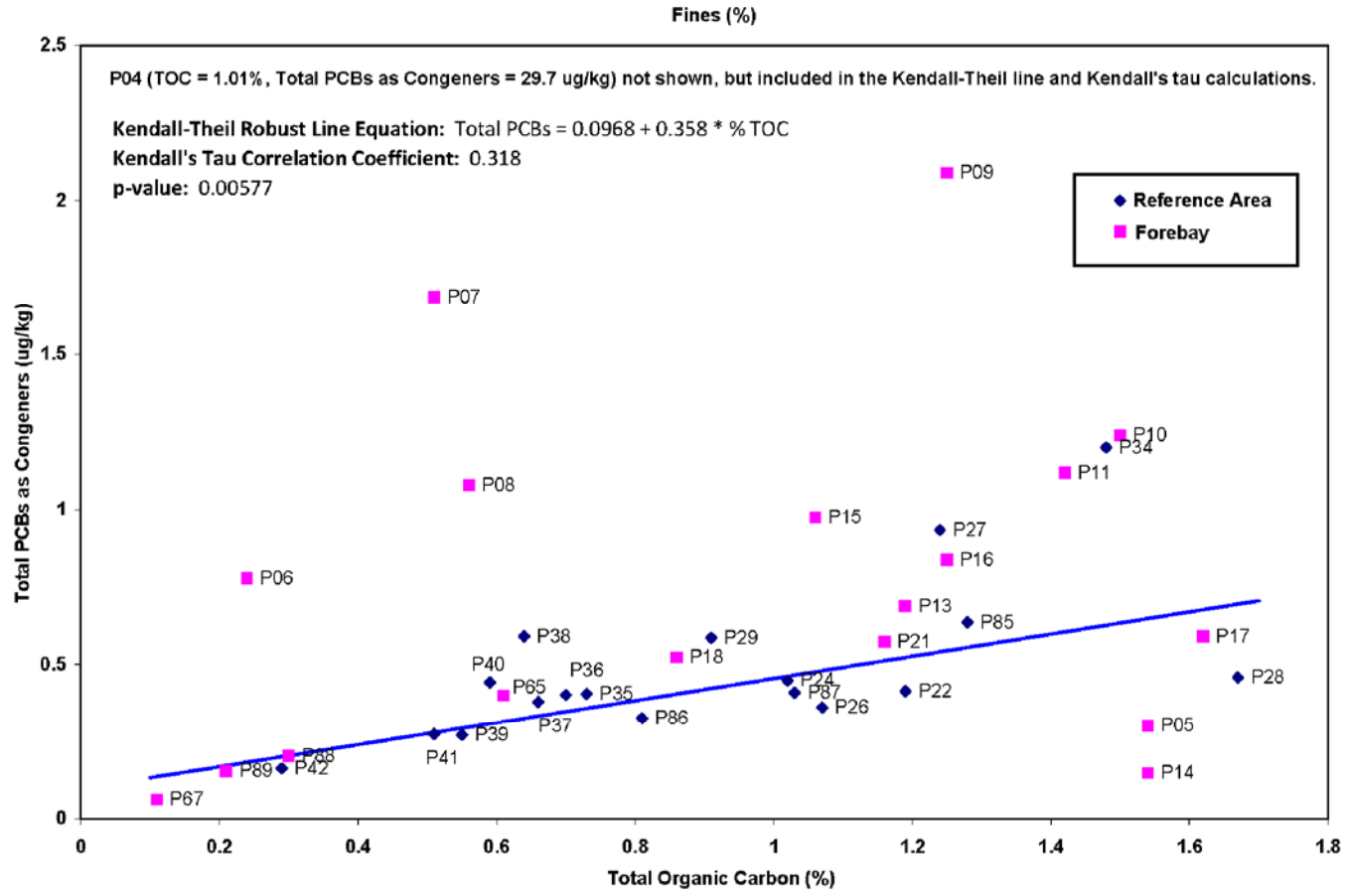
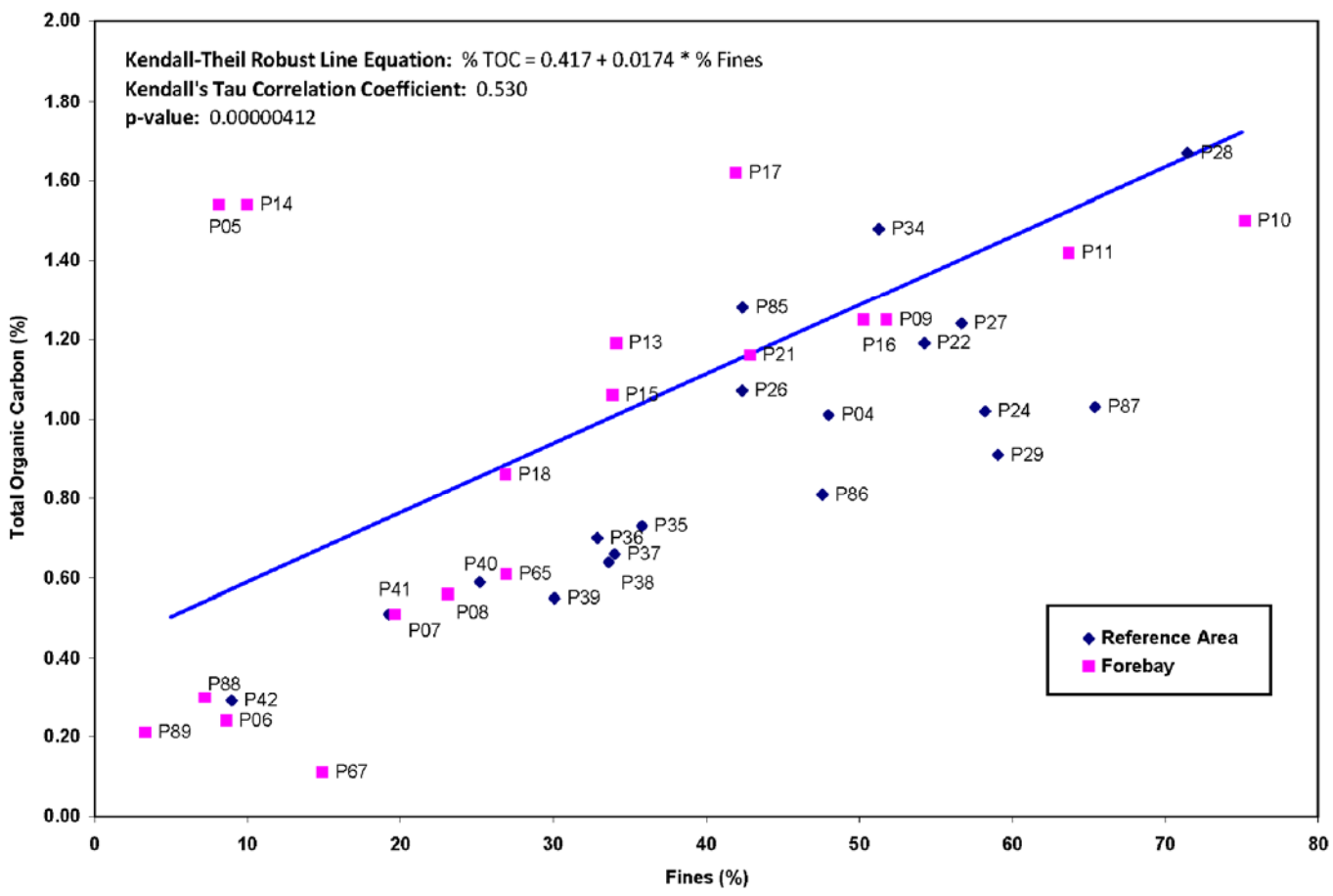
REFERENCE AREA PCB CONGENER DISTRIBUTION IN SMALLMOUTH BASS TISSUE

DRAWING NUMBER: FIG 9-17e
CAD FILE NUMBER: FIG 9-17e
SHEET: OF
REV.

C:\25692709 USACE\63-F0072173.00 Bradford I\F:\Work 07-02\RI Report_Working Folder\RI Text\Figures\FIG 9-17e - Reference Area PCB Congener Distribution in Smallmouth Bass Tissue.dwg Nov 18, 2010 - 10:26am







CORRELATION BETWEEN GRAINSIZE, TOC, AND TOTAL PCBs IN SEDIMENT

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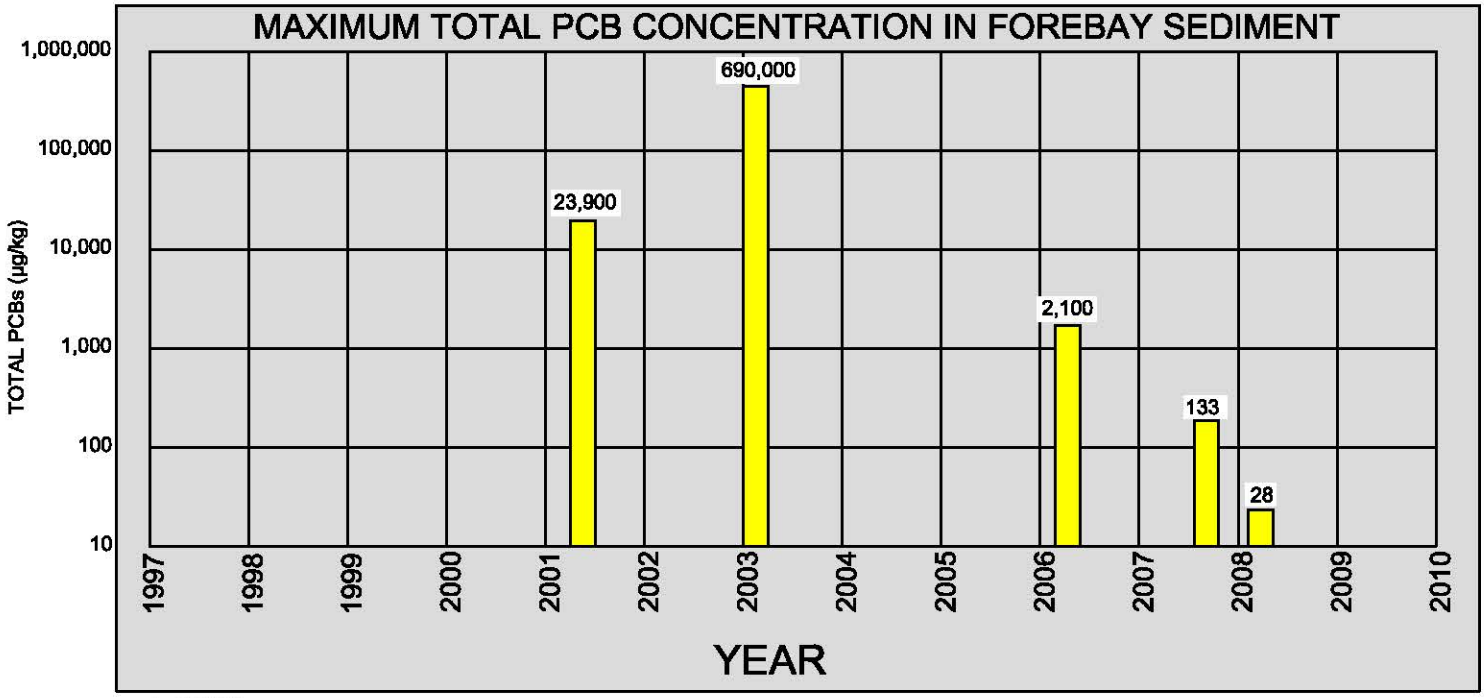
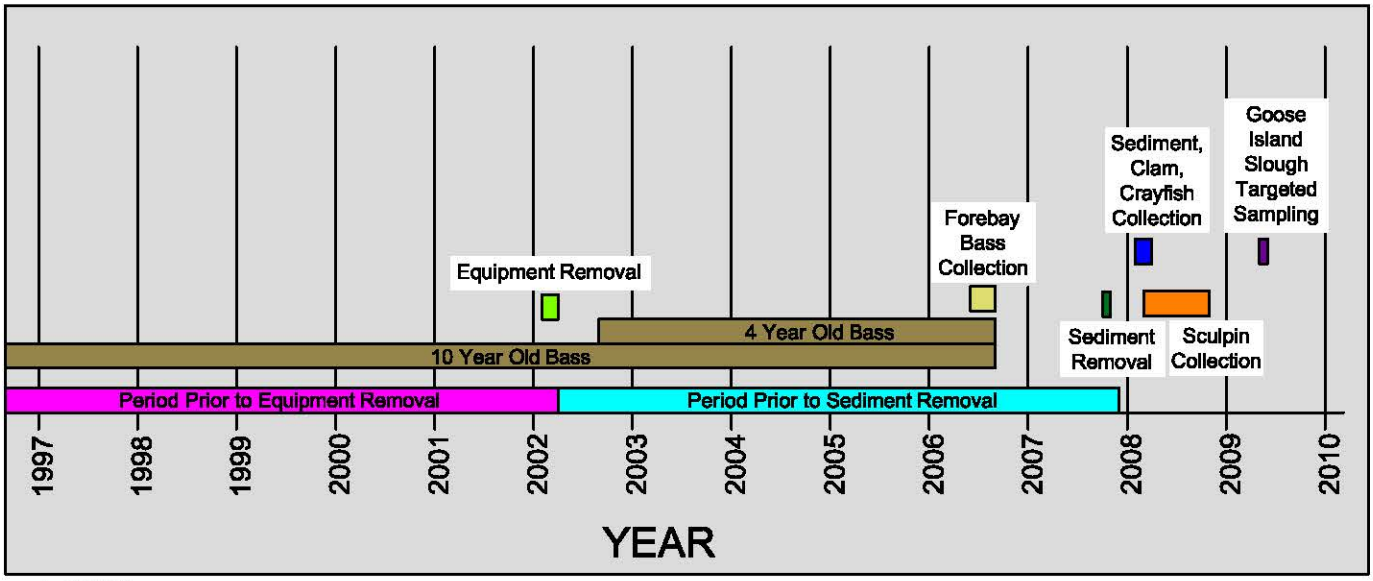
CASCADE LOCKS, OREGON

FIGURE 9-18



LEGEND

Maximum Measured PCB Concentration in Forebay Sediment



LEGEND

- Feb/Mar 2002 Electrical Equipment & Sediment Removal
- Oct 2007 Sediment Removal
- June/Aug 2006 Forebay Smallmouth Bass Collection
- Feb/Mar 2008 Forebay Sediment, Clam, Crayfish Collection
- Mar-Oct 2008 Forebay Sculpin Collection
- April 2009 Goose Island Slough Targeted Sampling
- Smallmouth Bass Lifespan

TIMELINE OF REMEDIAL ACTIONS AND SAMPLE COLLECTION ACTIVITIES

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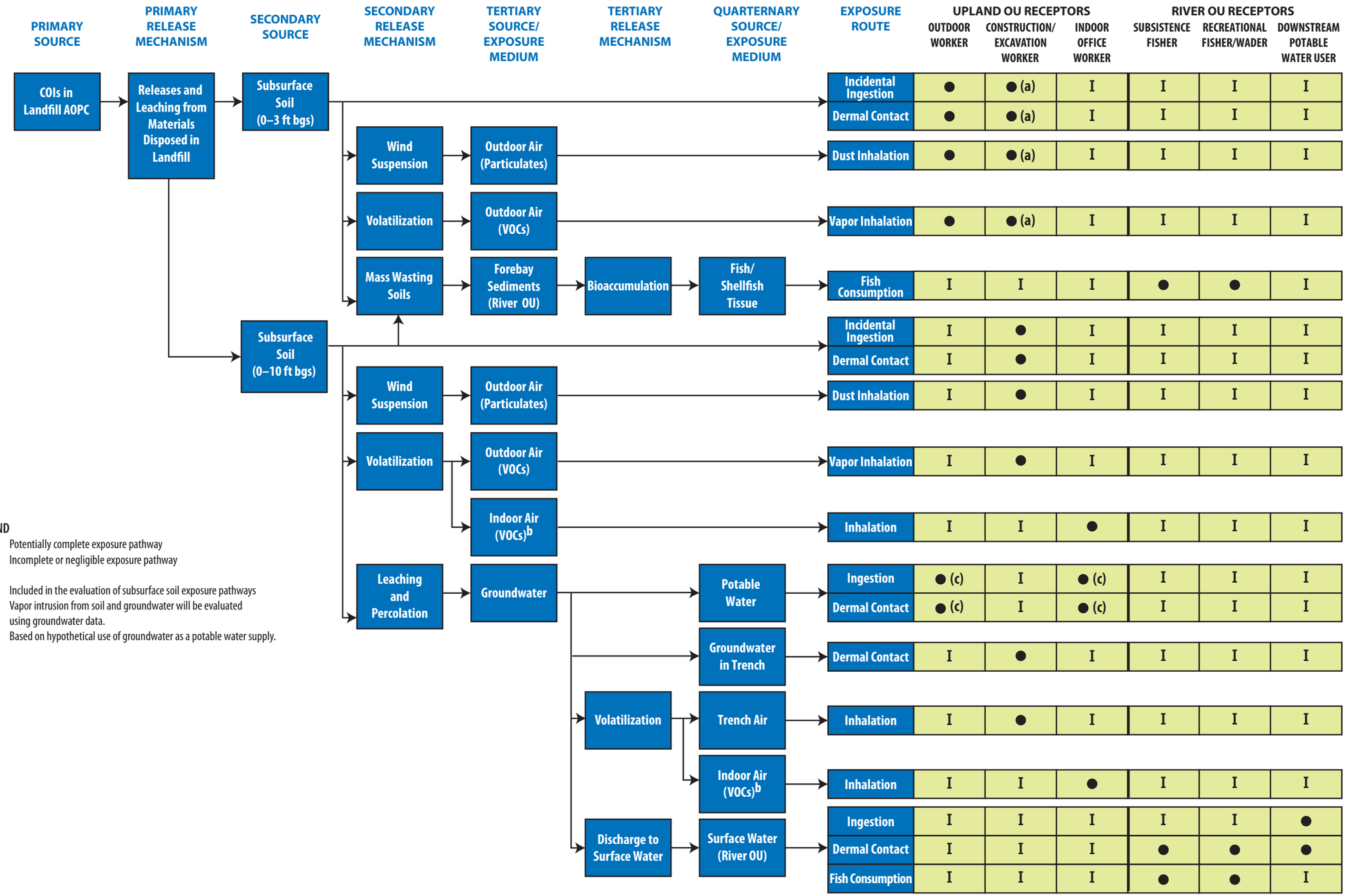
FIGURE 9-19



LEGEND

● Potentially complete exposure pathway

I Incomplete or negligible exposure pathway

a Included in the evaluation of subsurface soil exposure pathways

b Vapor intrusion from soil and groundwater will be evaluated using groundwater data.

c Based on hypothetical use of groundwater as a potable water supply.

O:\25692709 USACE\53-F0072173.00 Bradford11Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 11-1.ai

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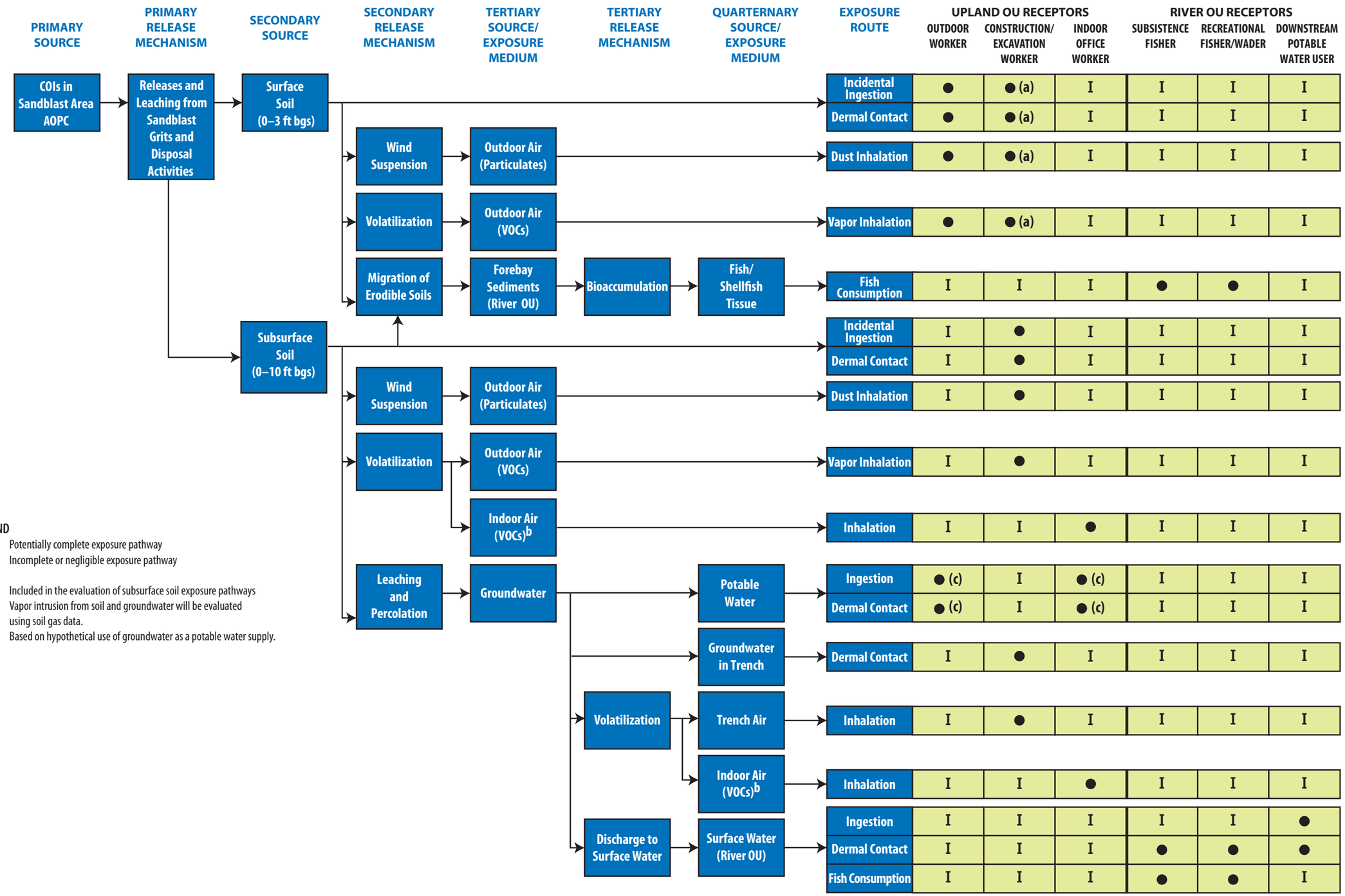
LANDFILL AOPC

HUMAN HEALTH CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 11-1

GIS FILE NUMBER: FIG 11-1

SHEET: REV.



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SANDBLAST AREA AOPC

HUMAN HEALTH CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 11-2
GIS FILE NUMBER: FIG 11-2
SHEET:
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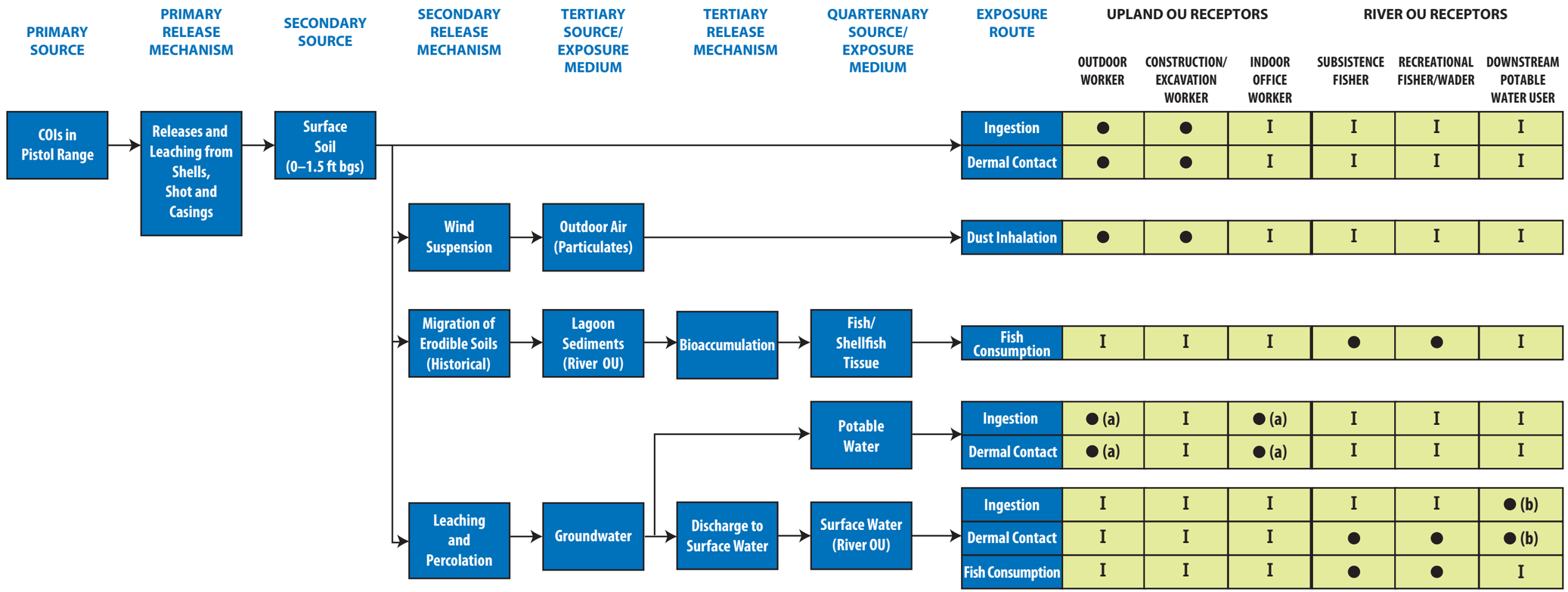
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft. Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 11-2.ai



LEGEND

- ● Potentially complete exposure pathway
- I Incomplete or negligible exposure pathway
- a Based on hypothetical use of groundwater as a potable water supply
- b Based on use of downstream river water as a potable water supply

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-3.ai

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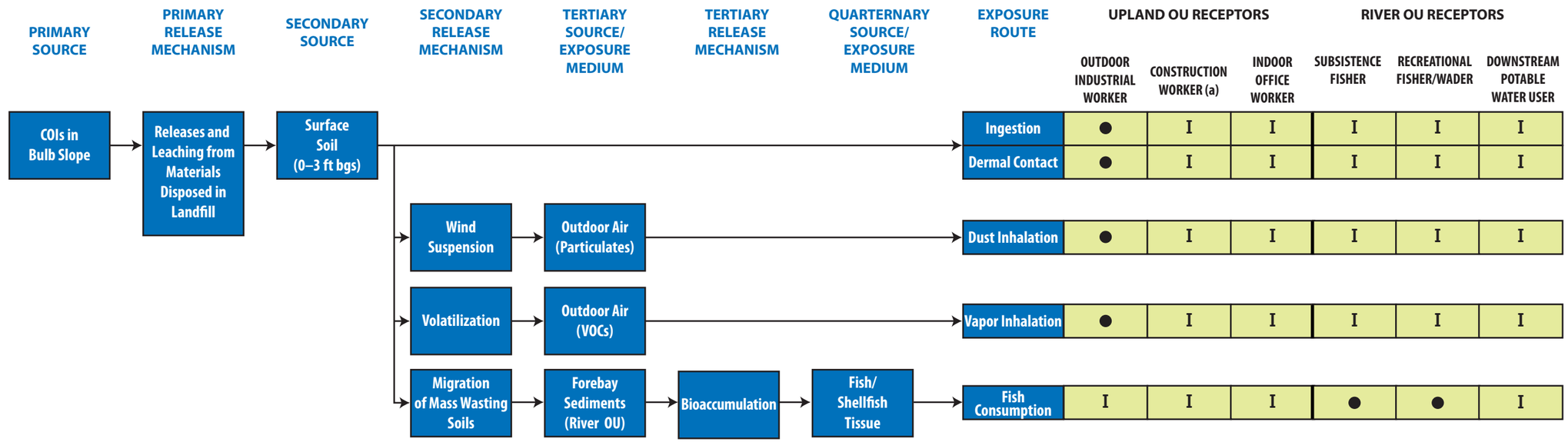
PISTOL RANGE AOPC

HUMAN HEALTH CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 11-3
GIS FILE NUMBER: FIG 11-3
SHEET: REV.



LEGEND

● Potentially complete exposure pathway

I Incomplete or negligible exposure pathway

(a) No construction or excavation activities are feasible or likely at the Bulb Slope AOPC

O:\25692709 USACE\53-F0072173.00 Brdford1\Ft.Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 11-3.ai

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BULB SLOPE AOPC

HUMAN HEALTH CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 11-4

GIS FILE NUMBER: FIG 11-4

SHEET: REV.

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Gully Test Pit
BIL01TPG BIL02TPG
BIL03TPG BIL04TPG

Mercury Vapor-Lamp Test Pit
BIL28TPM BIL29TPM

Lead Hot Spot Test Pit #1

Lead Hot Spot Test Pit #2

Pesticide/Herbicide Wash Area

Extent of Landfill Debris

Landfill AOPC

Access Road

120

SCALE IN FEET: 15 0 15 30

LEGEND

- Landfill Groundwater Sampling Station
- Landfill Surface and Shallow Soil Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

COPC	Units	Concentration Corresponding To: ELCR = 1E-6
As	mg/kg	5.4
cPAHs	µg/kg	NA

As = Arsenic
cPAHs = Carcinogenic PAHs
mg/kg = Milligram(s) per Kilogram
µg/kg = Microgram(s) per Kilogram
NA = Not Applicable
ELCR = Excess Lifetime Cancer Risk

POTENTIAL RISK DUE TO COPC

As — cPAHs

Gray = Not Analyzed
Black = Not Detected at MDL
Green = Concentrations corresponding to an ELCR of < 10-6.
Orange = Concentrations corresponding to an ELCR of ≥ 10-6 to < 10-5.
Red = Concentrations corresponding to an ELCR of ≥ 10-5 to < 10-4.
Purple = Concentrations corresponding to an ELCR of ≥ 10-4.
Note: ELCR estimates are based on ratio of single chemical concentration to the corresponding SLV for a single medium. Consideration of multi-media exposures is included in Section 11.

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LANDFILL AOPC

MAGNITUDE OF POTENTIAL RISK IN SOIL
OUTDOOR WORKER (0-3 ft bgs)

DRAWING NUMBER: FIGURE 11-5
CAD FILE NUMBER: FIG 11-5
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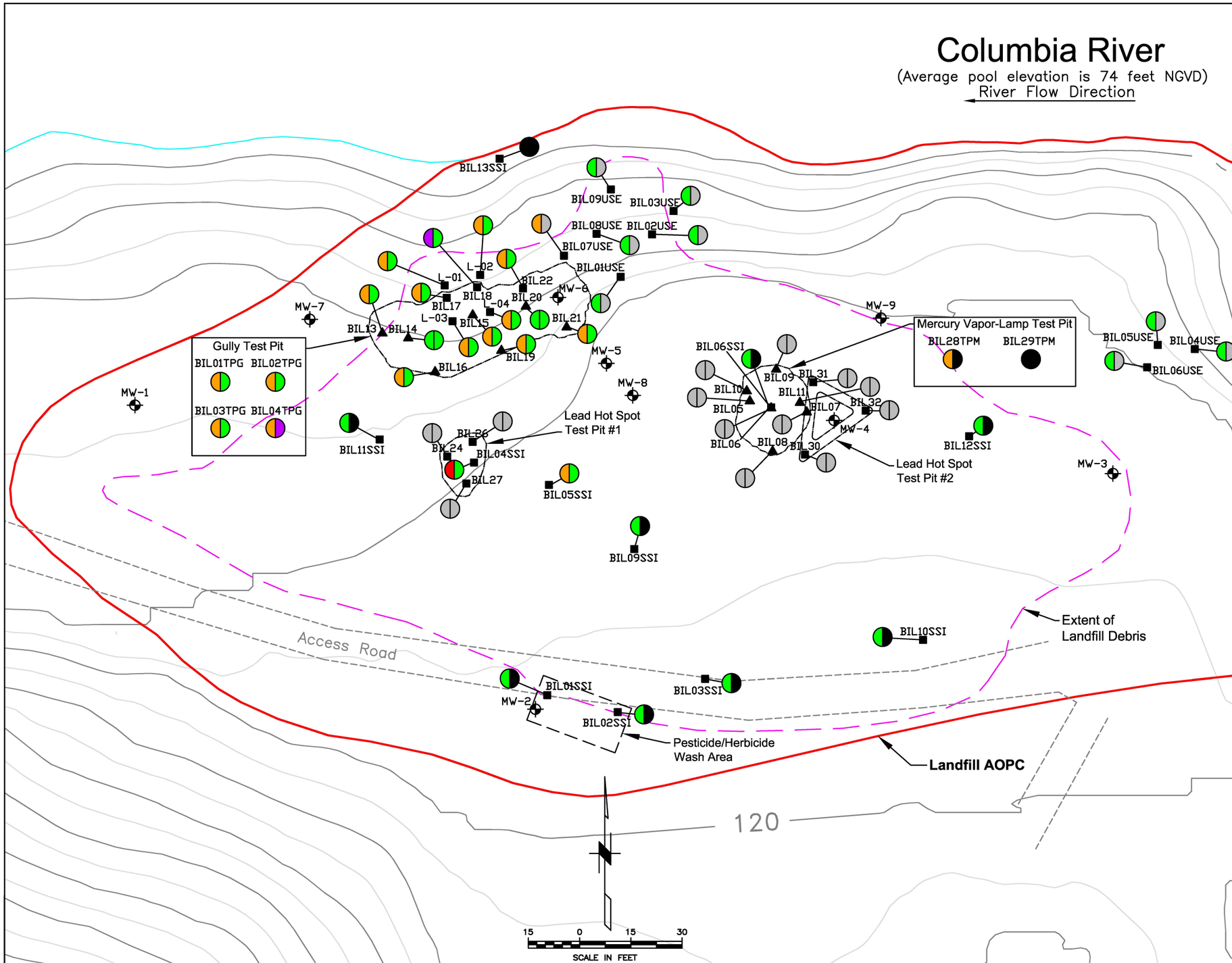
O:\25692709 USACE\53-F0072173.00 Bradford\FtWorth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-5 Magnitude of Potential Risk in Soil in Landfill AOPC - Outdoor Worker.dwg Jun 05, 2012 - 12:26pm



LEGEND

- Landfill Groundwater Sampling Station
- Landfill Surface and Shallow Soil Location
- Landfill Deeper Soil Sampling Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

COPC	Units	Concentration Corresponding To: ELCR = 1E-6
PCE	µg/kg	40,000
BAP	µg/kg	2,100

PCE = Tetrachloroethene
BAP = Benzo(a)pyrene
µg/kg = Microgram(s) per Kilogram
ELCR = Excess Lifetime Cancer Risk

POTENTIAL RISK
DUE TO COPC

BAP — PCE

Gray = Not Analyzed
Black = Not Detected at MDL
Green = Concentrations corresponding to an ELCR of < 10-6.
Orange = Concentrations corresponding to an ELCR of ≥ 10-6 to < 10-5.
Red = Concentrations corresponding to an ELCR of ≥ 10-5 to < 10-4.
Purple = Concentrations corresponding to an ELCR of ≥ 10-4.
Note: ELCR estimates are based on ratio of single chemical concentration to the corresponding SLV for a single medium. Consideration of multi-media exposures is included in Section 11.

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LANDFILL AOPC

MAGNITUDE OF POTENTIAL RISK IN SOIL
CONSTRUCTION WORKER (0-10 ft bgs)

DRAWING NUMBER: FIGURE 11-6
CAD FILE NUMBER: FIG 11-6
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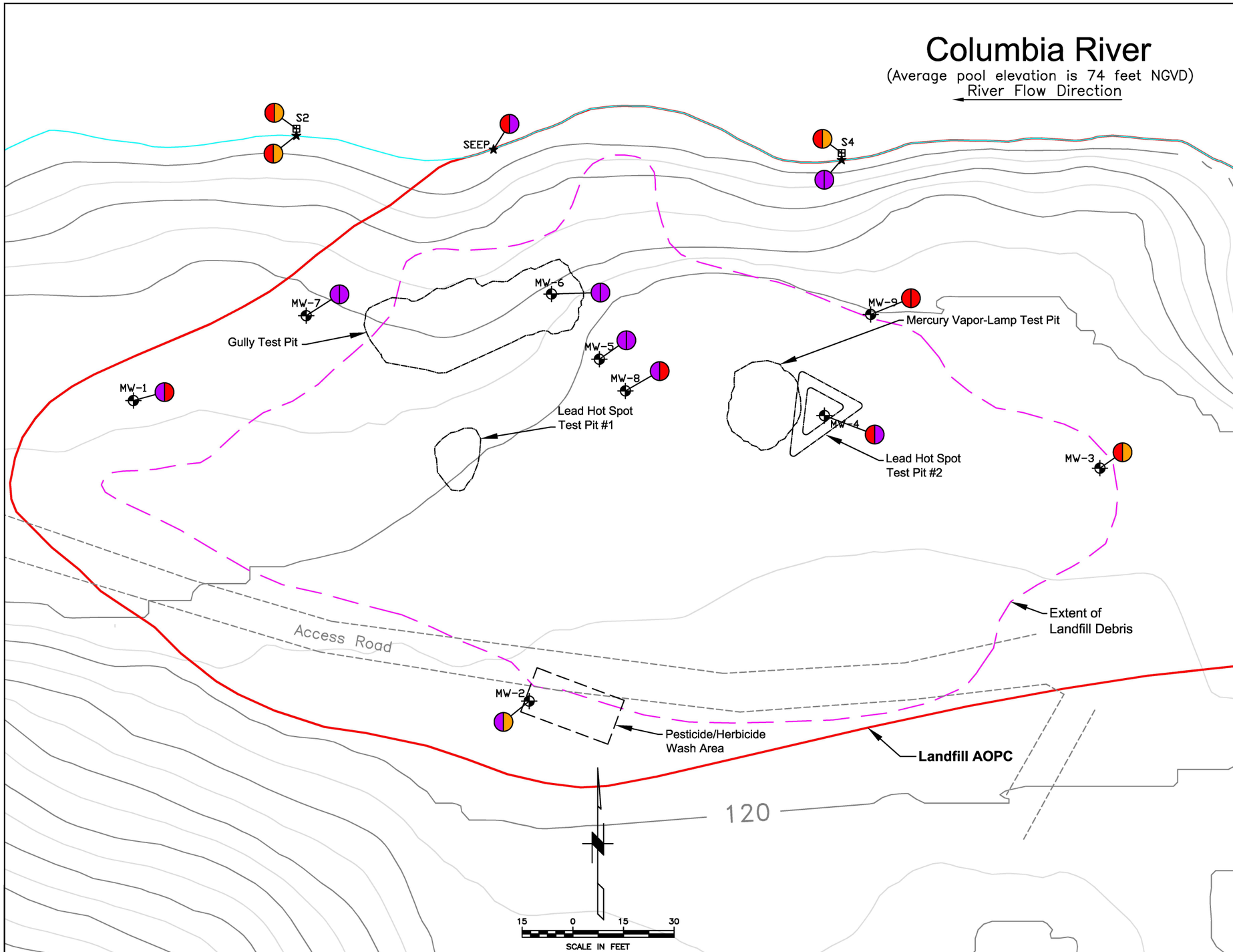
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-6 Magnitude of Potential Risk in Soil in Landfill Area AOPC - Construction Worker.dwg Jun 05, 2012 - 12:27pm



LEGEND

- Landfill Groundwater Sampling Station
- Landfill Surface Water Sampling Location
- Landfill Seep Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

COPC	Units	Concentration ELCR = 1E-06	Concentration NC HQ = 1
As	µg/L	0.038	-
Mn	µg/L	-	88

As = Arsenic
Mn = Manganese
µg/L = Microgram(s) per Liter
ELCR = Excess Lifetime Cancer Risk
NC HQ = Non-carcinogenic Hazard Quotient

POTENTIAL RISK DUE TO COPC

As — Mn

Black = Not Detected at MDL
Green = Concentrations corresponding to an ELCR of < 10-6 or a NC HQ of < 0.1.
Orange = Concentrations corresponding to an ELCR of ≥ 10-6 to < 10-5 or a NC HQ of ≥ 0.1 to < 1.
Red = Concentrations corresponding to an ELCR of ≥ 10-5 to < 10-4 or a NC HQ of ≥ 1 to < 10.
Purple = Concentrations corresponding to an ELCR of ≥ 10-4 or a NC HQ of ≥ 10.
Note: ELCR and HQ estimates are based on ratio of single chemical concentration to the corresponding SLV for a single medium. Consideration of multi-media exposures is included in Section 11.

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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

MAGNITUDE OF POTENTIAL RISK (INORGANICS)
IN GROUNDWATER
POTABLE WATER USER

DRAWING NUMBER: FIGURE 11-7
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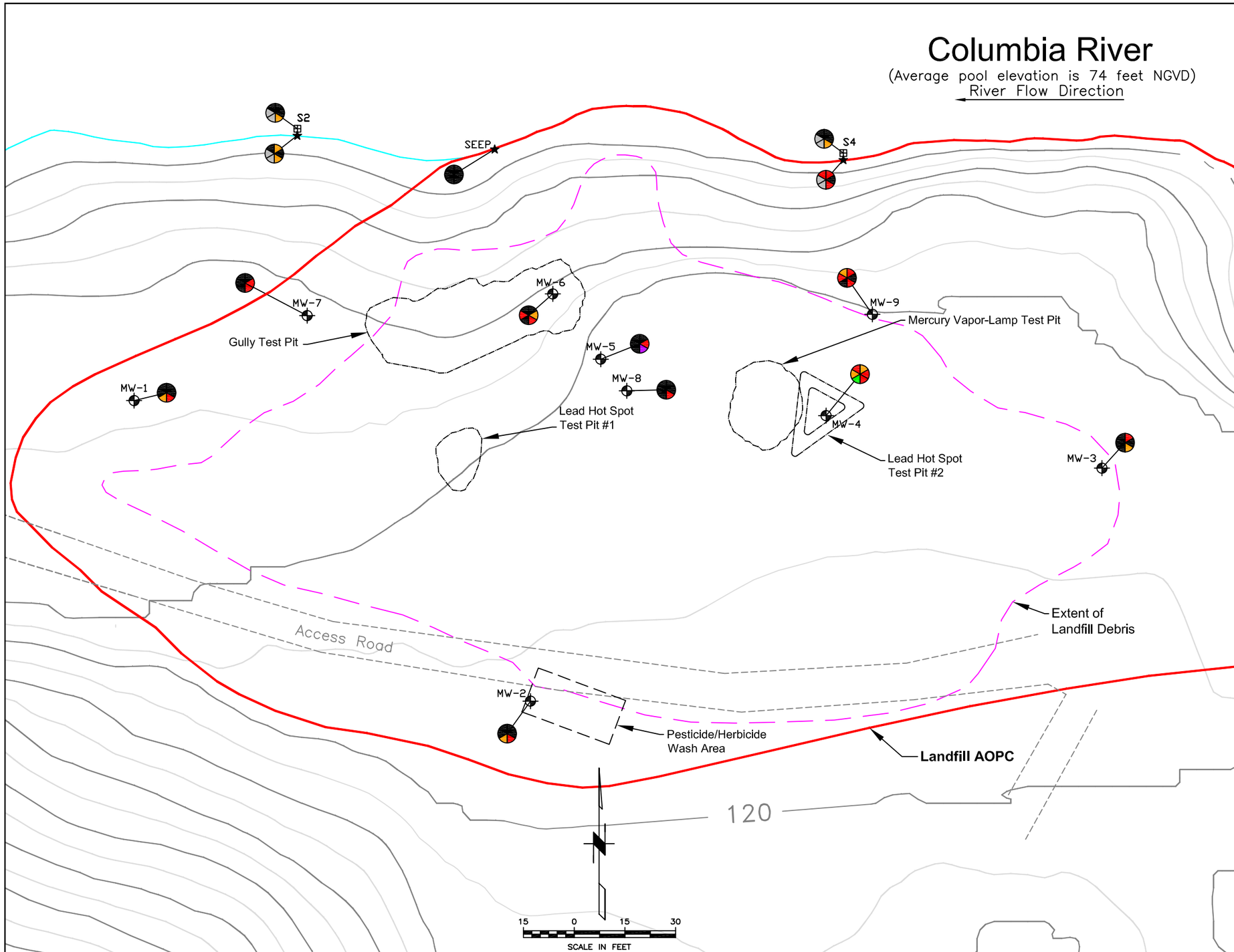
O:\25692709 USACE\53-F00721173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-7 Magnitude of Potential Risk in Groundwater in Landfill Area AOPC.dwg Jun 05, 2012 - 11:10am



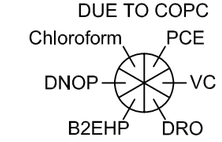
LEGEND

- Landfill Groundwater Sampling Station
- Landfill Surface Water Sampling Location
- Landfill Seep Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

COPC	Units	Concentration ELCR = 1E-06	Concentration NC HQ = 1
Chloroform	µg/L	0.19	-
PCE	µg/L	0.093	-
VC	µg/L	0.025	-
DRO	µg/L	-	90
B2EHP	µg/L	4.1	-
DNOP	µg/L	-	4.1

DRO = Diesel Range Organics
DNOP = Di-n-octyl Phthalate
B2EHP = Bis(2-ethylhexyl) Phthalate
PCE = Tetrachloroethene
TCE = Trichloroethene
VC = Vinyl Chloride
µg/L = Microgram(s) per Liter
ELCR = Excess Lifetime Cancer Risk
NC HQ = Non-carcinogenic Hazard Quotient

POTENTIAL RISK DUE TO COPC



Gray = Not Analyzed
Black = Not Detected at MDL
Green = Concentrations corresponding to an ELCR of < 10-6 or a NC HQ of < 0.1.
Orange = Concentrations corresponding to an ELCR of ≥ 10-6 to < 10-5 or a NC HQ of ≥ 0.1 to < 1.
Red = Concentrations corresponding to an ELCR of ≥ 10-5 to < 10-4 or a NC HQ of ≥ 1 to < 10.
Purple = Concentrations corresponding to an ELCR of ≥ 10-4 or a NC HQ of ≥ 10.
Note: ELCR and HQ estimates are based on ratio of single chemical concentration to the corresponding SLV for a single medium. Consideration of multi-media exposures is included in Section 11.

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MAGNITUDE OF POTENTIAL RISK (ORGANICS)
IN GROUNDWATER
POTABLE WATER USER

DRAWING NUMBER: FIGURE 11-8
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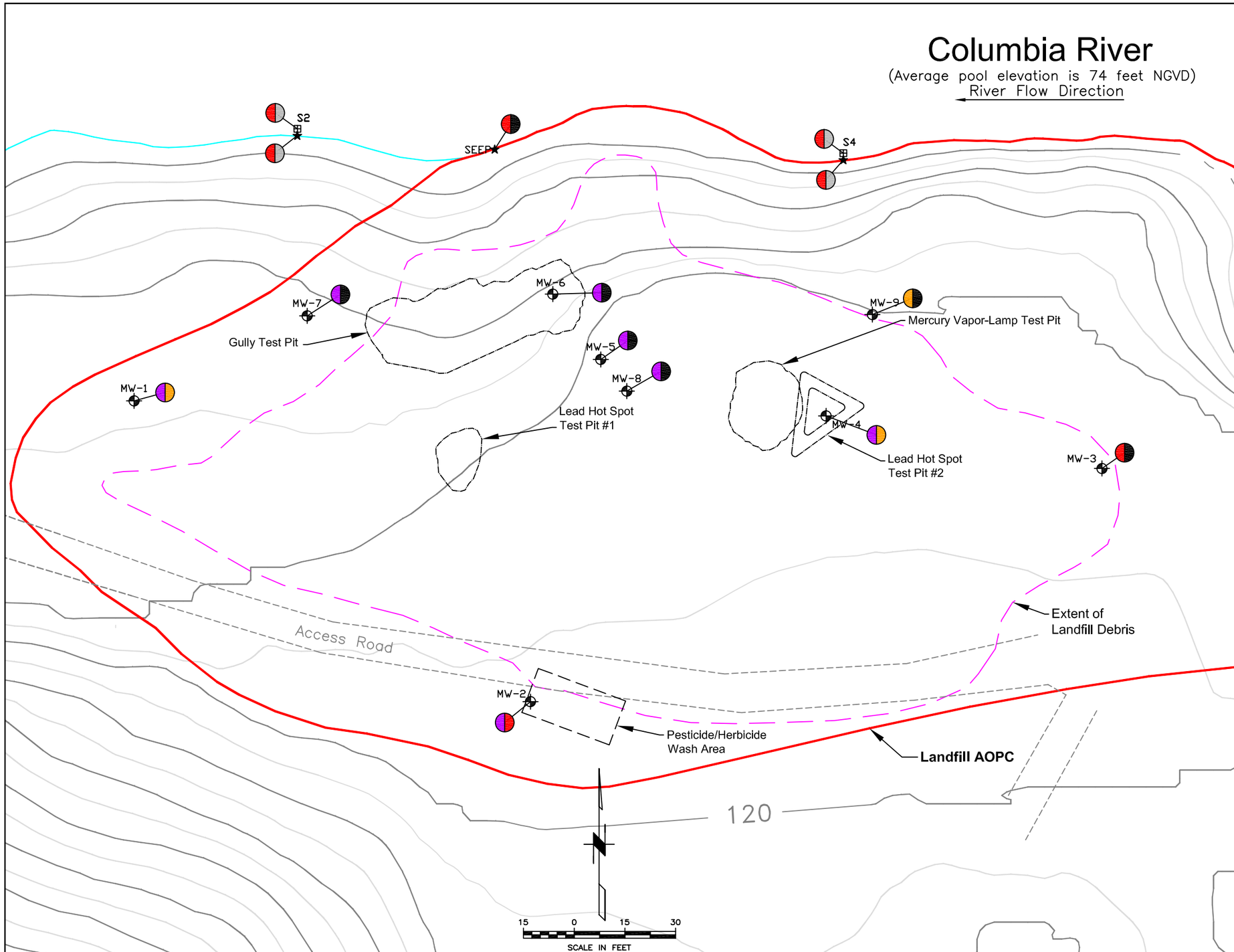
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-8 Magnitude of Potential Risk in Groundwater in Landfill Area AOPC - Potable Water User.dwg Nov 18, 2010 - 8:20am



LEGEND

- Landfill Groundwater Sampling Station
- Landfill Surface Water Sampling Location
- Landfill Seep Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

COPC	Units	Concentration Corresponding To: ELCR = 1E-06
AS	µg/L	0.018
B2EHP	µg/L	1.2

As = Arsenic
DNOP = Di-n-octyl Phthalate
B2EHP = Bis(2-ethylhexyl) Phthalate
µg/L = Microgram(s) per Liter
ELCR = Excess Lifetime Cancer Risk

POTENTIAL RISK DUE TO COPC

As — B2EHP

Gray = Not Analyzed
Black = Not Detected at MDL
Green = Concentrations corresponding to an ELCR of < 10-6.
Orange = Concentrations corresponding to an ELCR of ≥ 10-6 to < 10-5.
Red = Concentrations corresponding to an ELCR of ≥ 10-5 to < 10-4.
Purple = Concentrations corresponding to an ELCR of ≥ 10-4.
Note: ELCR estimates are based on ratio of single chemical concentration to the corresponding SLV for a single medium. Consideration of multi-media exposures is included in Section 11.

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LANDFILL AOPC

MAGNITUDE OF POTENTIAL RISK IN GROUNDWATER DISCHARGE AND SUBSEQUENT BIOACCUMULATION

DRAWING NUMBER: FIGURE 11-9
CAD FILE NUMBER: FIG 11-9
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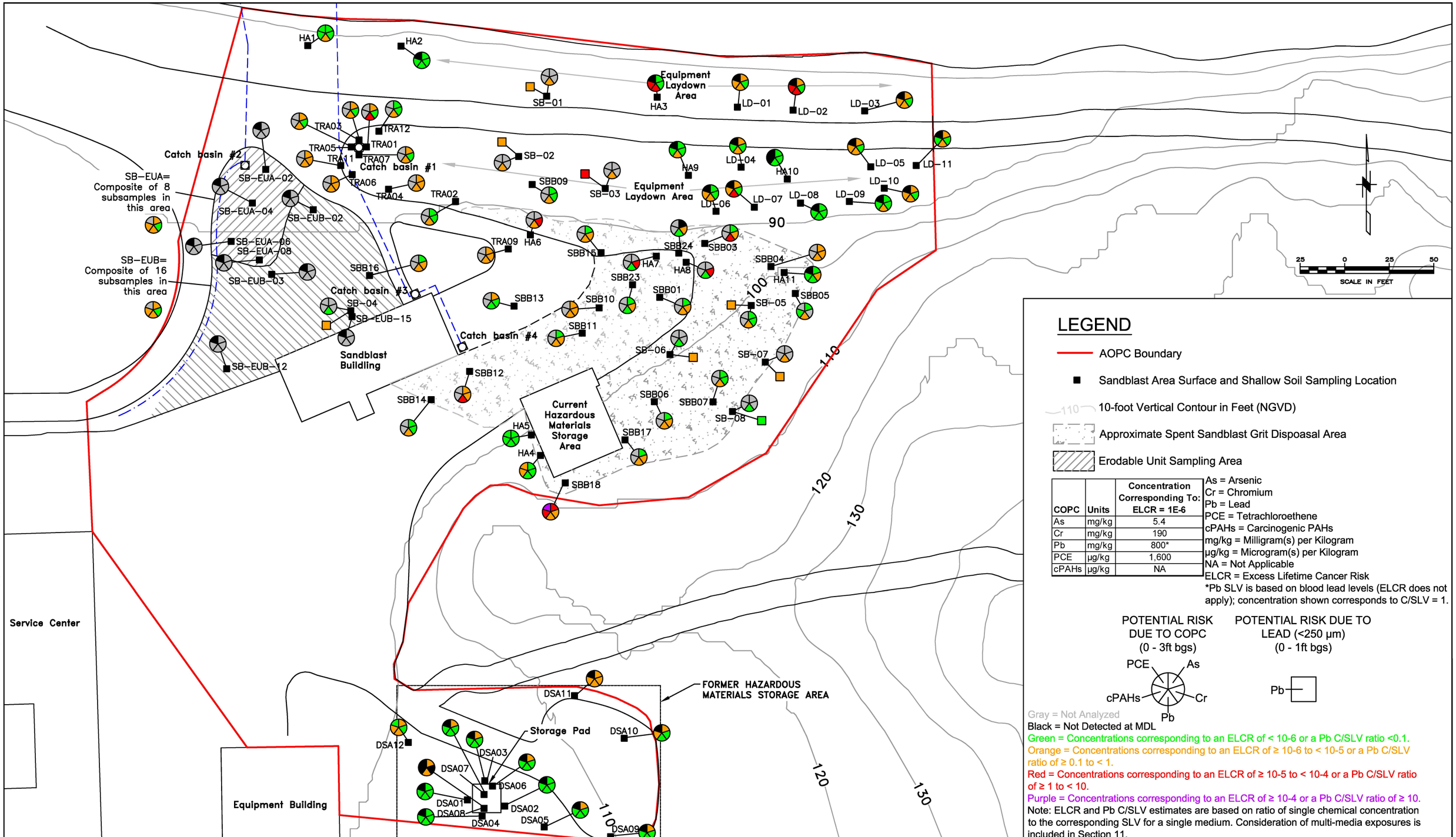
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-9 Magnitude of Potential Risk in Groundwater in Landfill Area AOPC - Groundwater Discharge.dwg Nov 16, 2010 - 3:32pm



COPC	Units	Concentration Corresponding To: ELCR = 1E-6
As	mg/kg	5.4
Cr	mg/kg	190
Pb	mg/kg	800*
PCE	µg/kg	1,600
cPAHs	µg/kg	NA

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SANDBLAST AREA AOPC

MAGNITUDE OF POTENTIAL RISK IN SOIL
OUTDOOR WORKER (0-3 ft bgs)

DRAWING NUMBER: FIGURE 11-10
CAD FILE NUMBER: FIG 11-10
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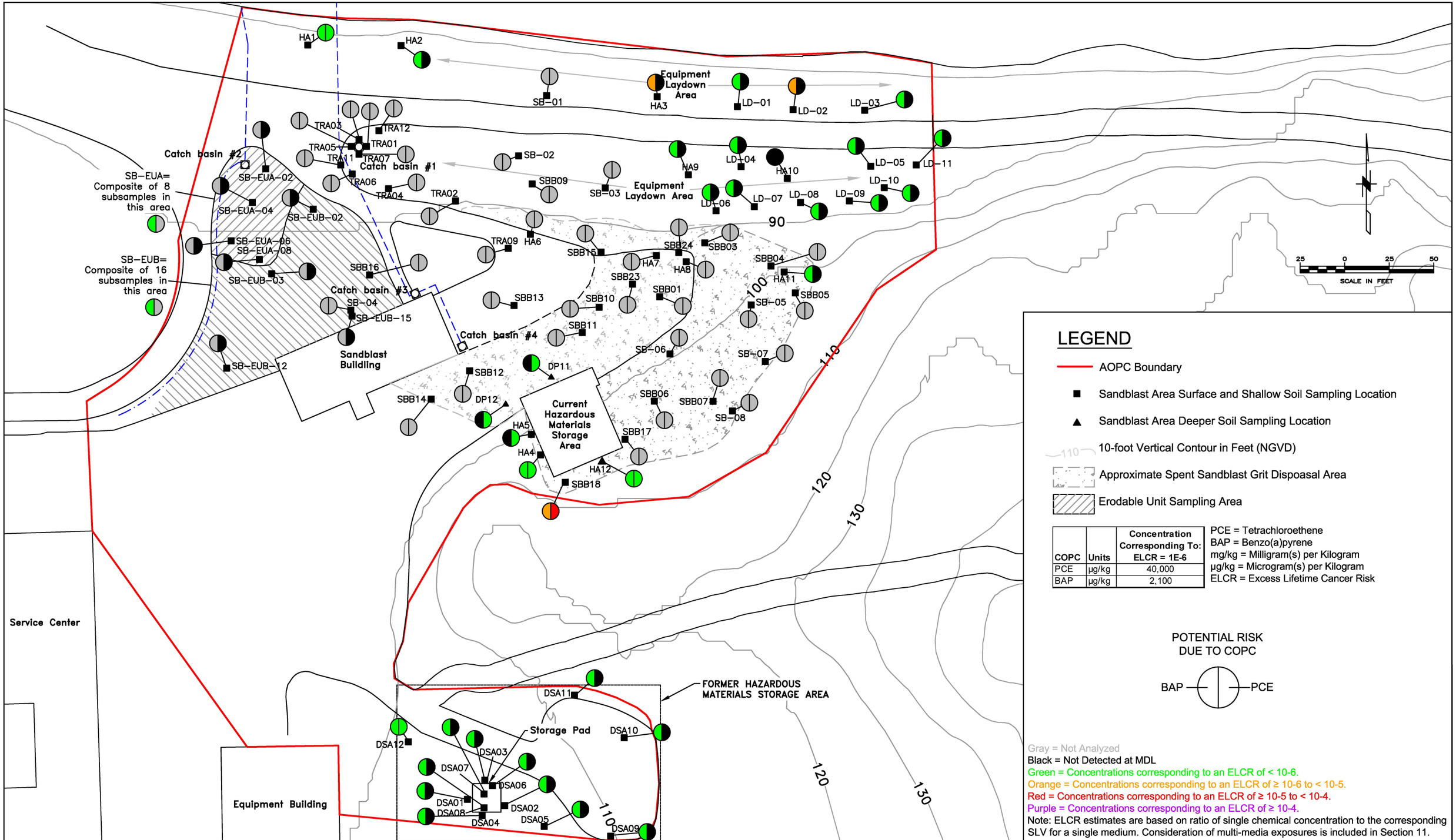
C:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-10 Magnitude of Potential Risk in Soil in Sandblast Area AOPC - Outdoor Worker.dwg Jun 06, 2012 - 10:58am



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SANDBLAST AREA AOPC

MAGNITUDE OF POTENTIAL RISK IN SOIL
CONSTRUCTION WORKER (0-10 ft bgs)

DRAWING NUMBER: FIGURE 11-11
CAD FILE NUMBER: FIG 11-11
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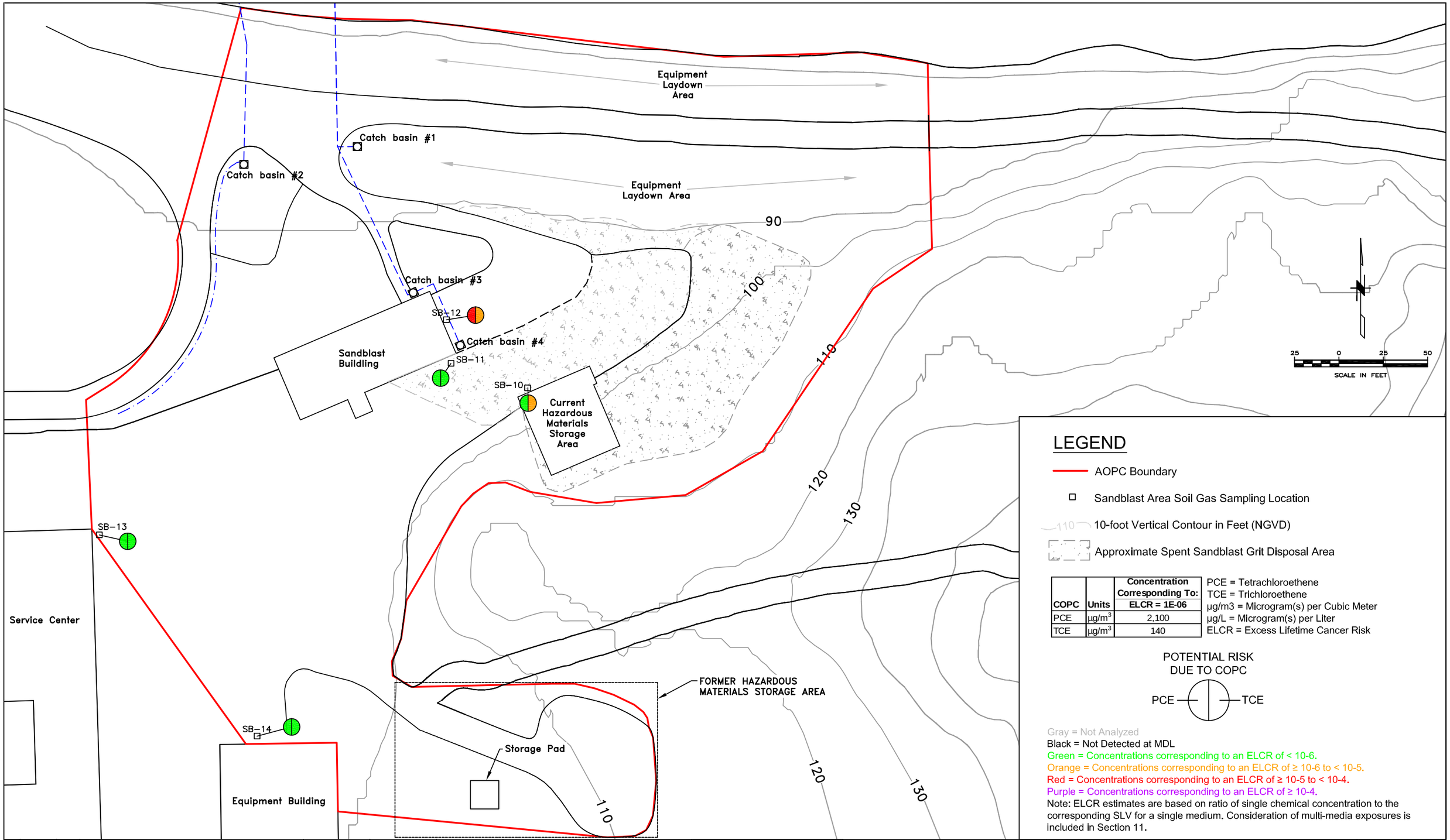

COPC	Units	Concentration Corresponding To: ELCR = 1E-06
PCE	µg/m^3	2,100
TCE	µg/m^3	140

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SANDBLAST AREA AOPC

MAGNITUDE OF POTENTIAL RISK IN SOIL GAS
INDOOR OFFICE WORKER

DRAWING NUMBER: FIGURE 11-12
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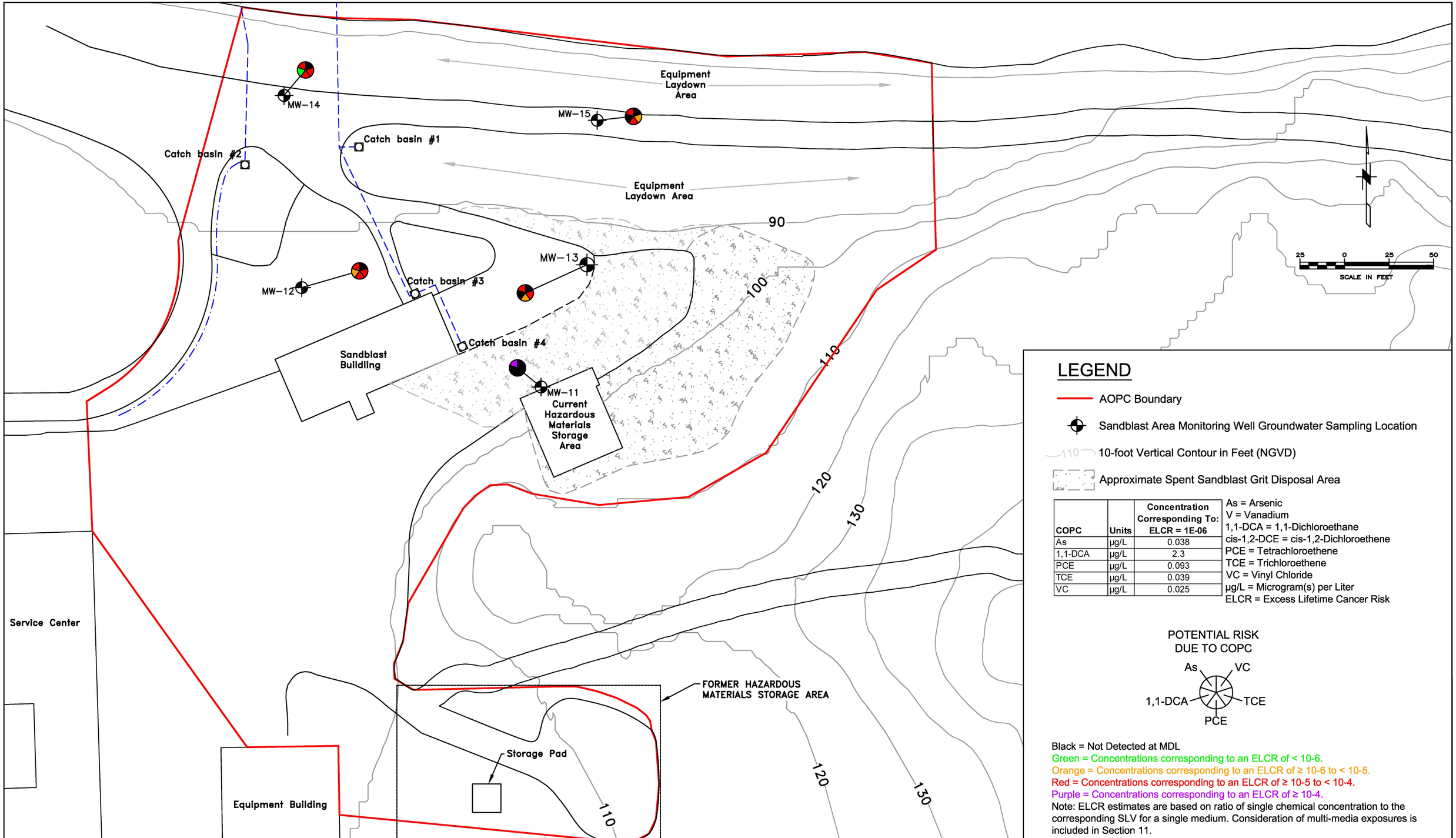
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-12 Magnitude of Potential Risk in Soil Gas in Sandblast Area AOPC -Indoor Office Worker.dwg Nov 16, 2010 - 3:49pm



COPC	Units	Concentration Corresponding To: ELCR = 1E-06
As	µg/L	0.038
1,1-DCA	µg/L	2.3
PCE	µg/L	0.093
TCE	µg/L	0.039
VC	µg/L	0.025

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SANDBLAST AREA AOPC

MAGNITUDE OF POTENTIAL RISK IN GROUNDWATER
POTABLE WATER USER

DRAWING NUMBER: FIGURE 11-13
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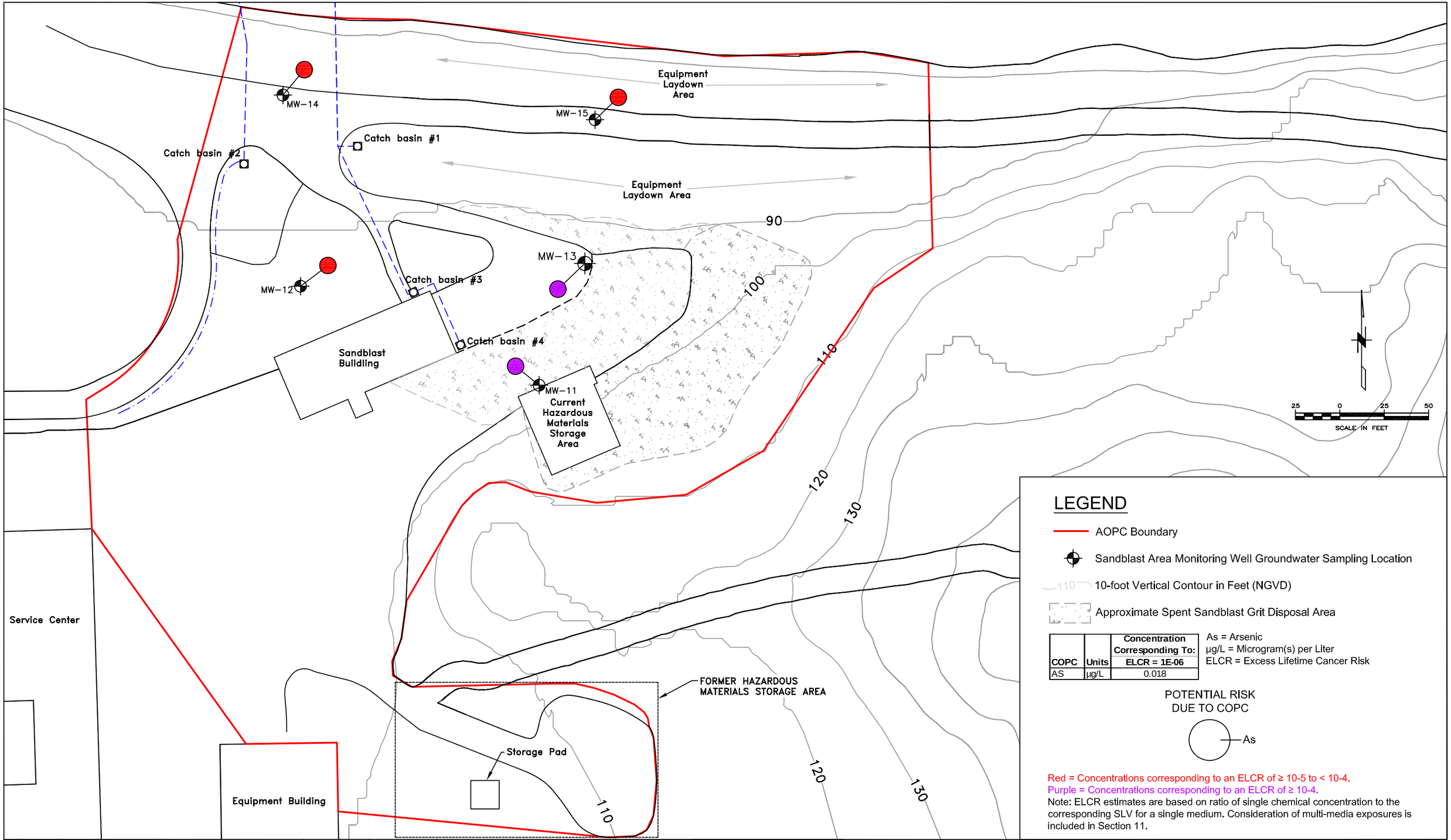
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-13 Magnitude of Potential Risk in Groundwater in Sandblast Area AOPC - Potable Water User.dwg Jun 06, 2012 - 9:01am



COPC	Units	Concentration Corresponding To: ELCR = 1E-06
AS	µg/L	0.018

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SANDBLAST AREA AOPC

MAGNITUDE OF POTENTIAL RISK IN GROUNDWATER DISCHARGE AND SUBSEQUENT BIOACCUMULATION

DRAWING NUMBER: FIGURE 11-14
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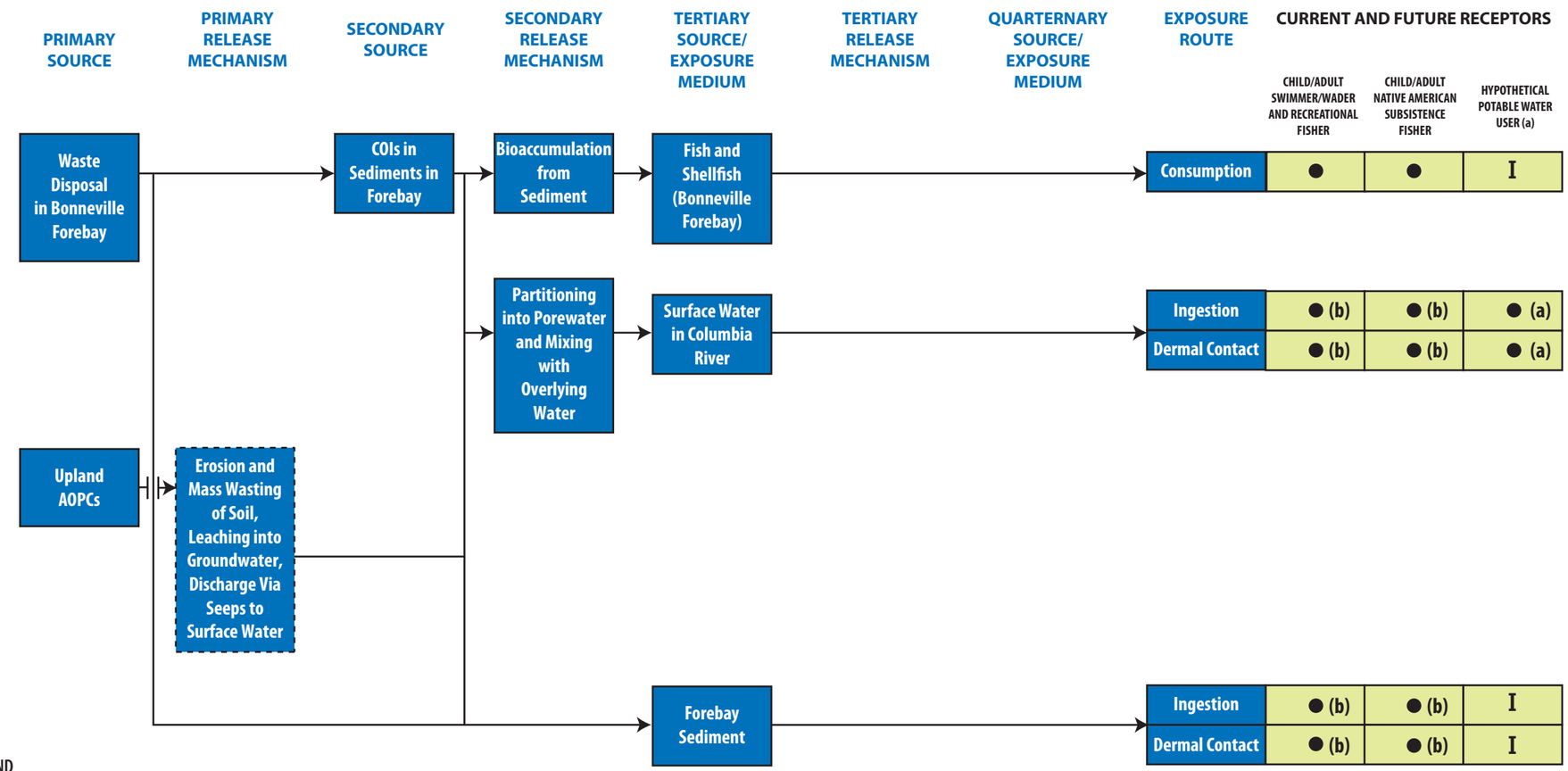
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 11-14 Magnitude of Potential Risk in Groundwater in Sandblast Area AOPC - Groundwater Discharge.dwg Nov 16, 2010 - 3:55pm



LEGEND

● Potentially complete exposure pathway

I Incomplete exposure pathway

a Based on hypothetical use of riverwater as a potable water supply.

b Direct contact while fishing from boats or wading in shallow sediments. (inclusive of Goose Island and the mouth of Eagle Creek).

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RIVER OPERABLE UNIT

HUMAN HEALTH CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 11-15

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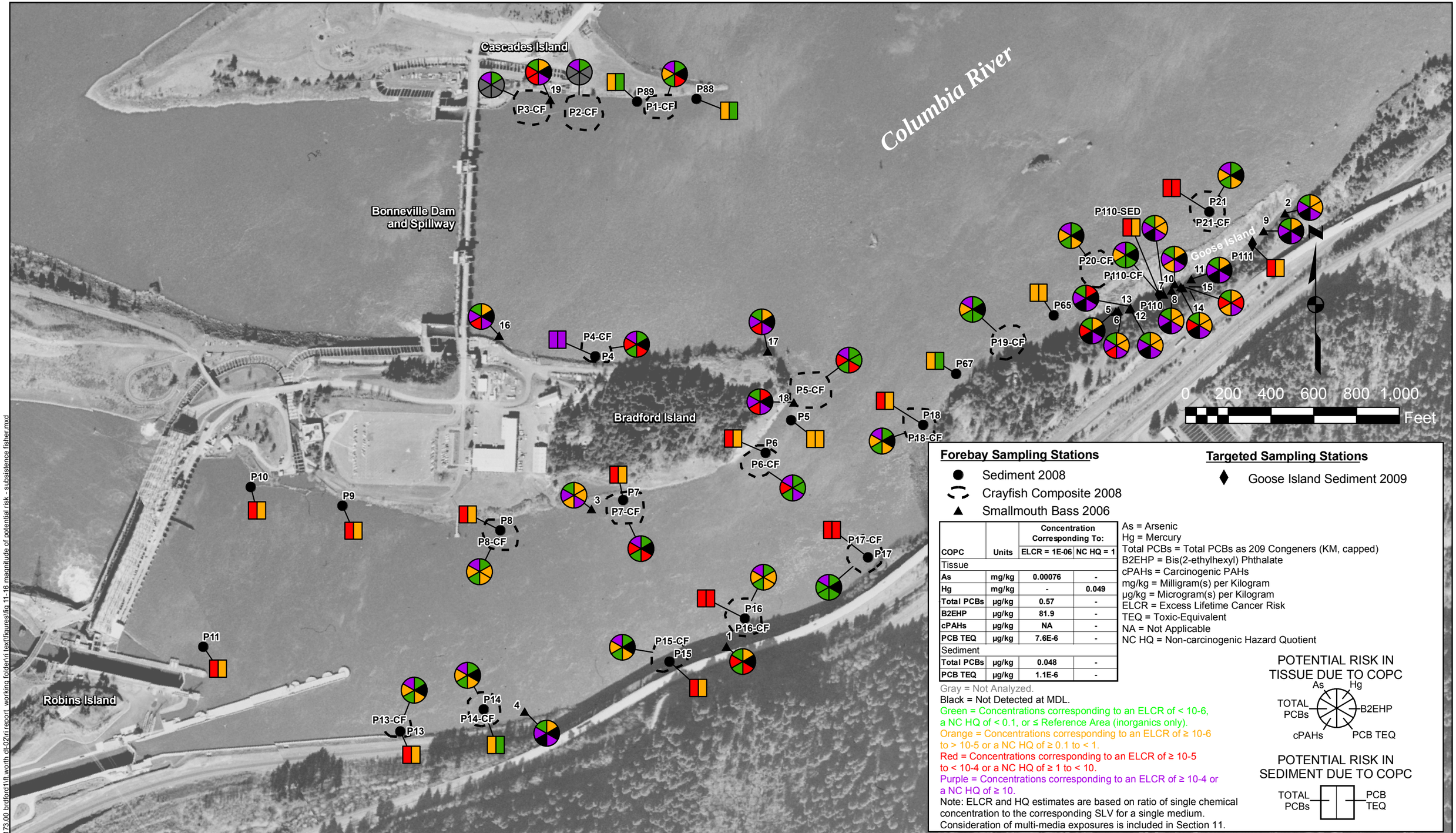

Forebay Sampling Stations

- Sediment 2008
- Crayfish Composite 2008
- Smallmouth Bass 2006

Targeted Sampling Stations

- Goose Island Sediment 2009

COPC	Units	Concentration Corresponding To: ELCR = 1E-06	NC HQ = 1
Tissue			
As	mg/kg	0.00076	-
Hg	mg/kg	-	0.049
Total PCBs	µg/kg	0.57	-
B2EHP	µg/kg	81.9	-
cPAHs	µg/kg	NA	-
PCB TEQ	µg/kg	7.6E-6	-
Sediment			
Total PCBs	µg/kg	0.048	-
PCB TEQ	µg/kg	1.1E-6	-

As = Arsenic
Hg = Mercury
Total PCBs = Total PCBs as 209 Congeners (KM, capped)
B2EHP = Bis(2-ethylhexyl) Phthalate
cPAHs = Carcinogenic PAHs
mg/kg = Milligram(s) per Kilogram
µg/kg = Microgram(s) per Kilogram
ELCR = Excess Lifetime Cancer Risk
TEQ = Toxic-Equivalent
NA = Not Applicable
NC HQ = Non-carcinogenic Hazard Quotient

Gray = Not Analyzed.
Black = Not Detected at MDL.
Green = Concentrations corresponding to an ELCR of < 10-6, a NC HQ of < 0.1, or ≤ Reference Area (inorganics only).
Orange = Concentrations corresponding to an ELCR of ≥ 10-6 to > 10-5 or a NC HQ of ≥ 0.1 to < 1.
Red = Concentrations corresponding to an ELCR of ≥ 10-5 to < 10-4 or a NC HQ of ≥ 1 to < 10.
Purple = Concentrations corresponding to an ELCR of ≥ 10-4 or a NC HQ of ≥ 10.
Note: ELCR and HQ estimates are based on ratio of single chemical concentration to the corresponding SLV for a single medium. Consideration of multi-media exposures is included in Section 11.

POTENTIAL RISK IN TISSUE DUE TO COPC

POTENTIAL RISK IN SEDIMENT DUE TO COPC

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RIVER OPERABLE UNIT

MAGNITUDE OF POTENTIAL RISK SUBSISTENCE FISHER

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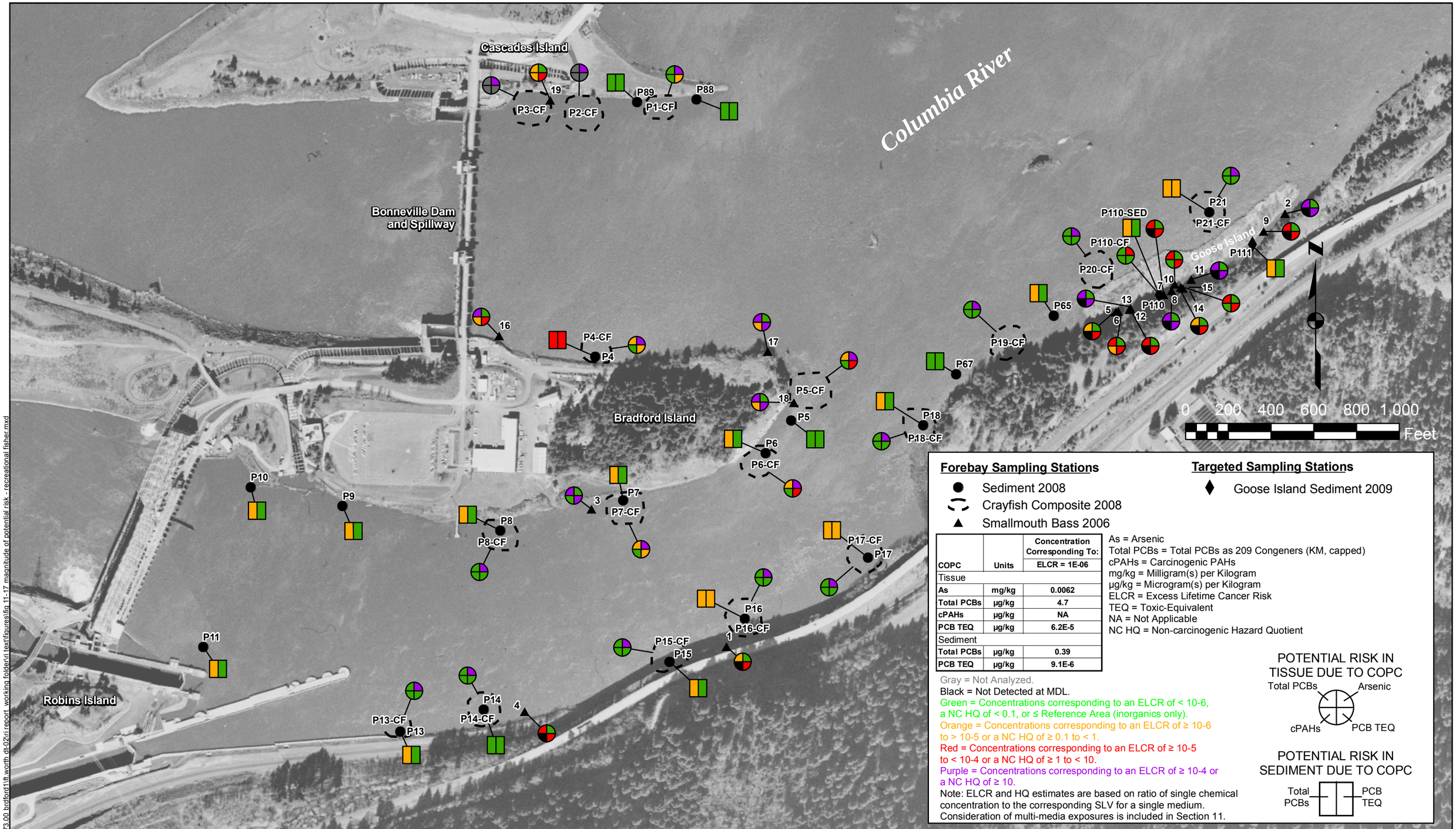

COPC	Units	Concentration Corresponding To: ELCR = 1E-06
Tissue		
As	mg/kg	0.0062
Total PCBs	µg/kg	4.7
cPAHs	µg/kg	NA
PCB TEQ	µg/kg	6.2E-5
Sediment		
Total PCBs	µg/kg	0.39
PCB TEQ	µg/kg	9.1E-6

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RIVER OPERABLE UNIT

MAGNITUDE OF POTENTIAL RISK RECREATIONAL FISHER

DRAWING NUMBER: FIGURE 11-17

GIS FILE NUMBER: FIG 11-17

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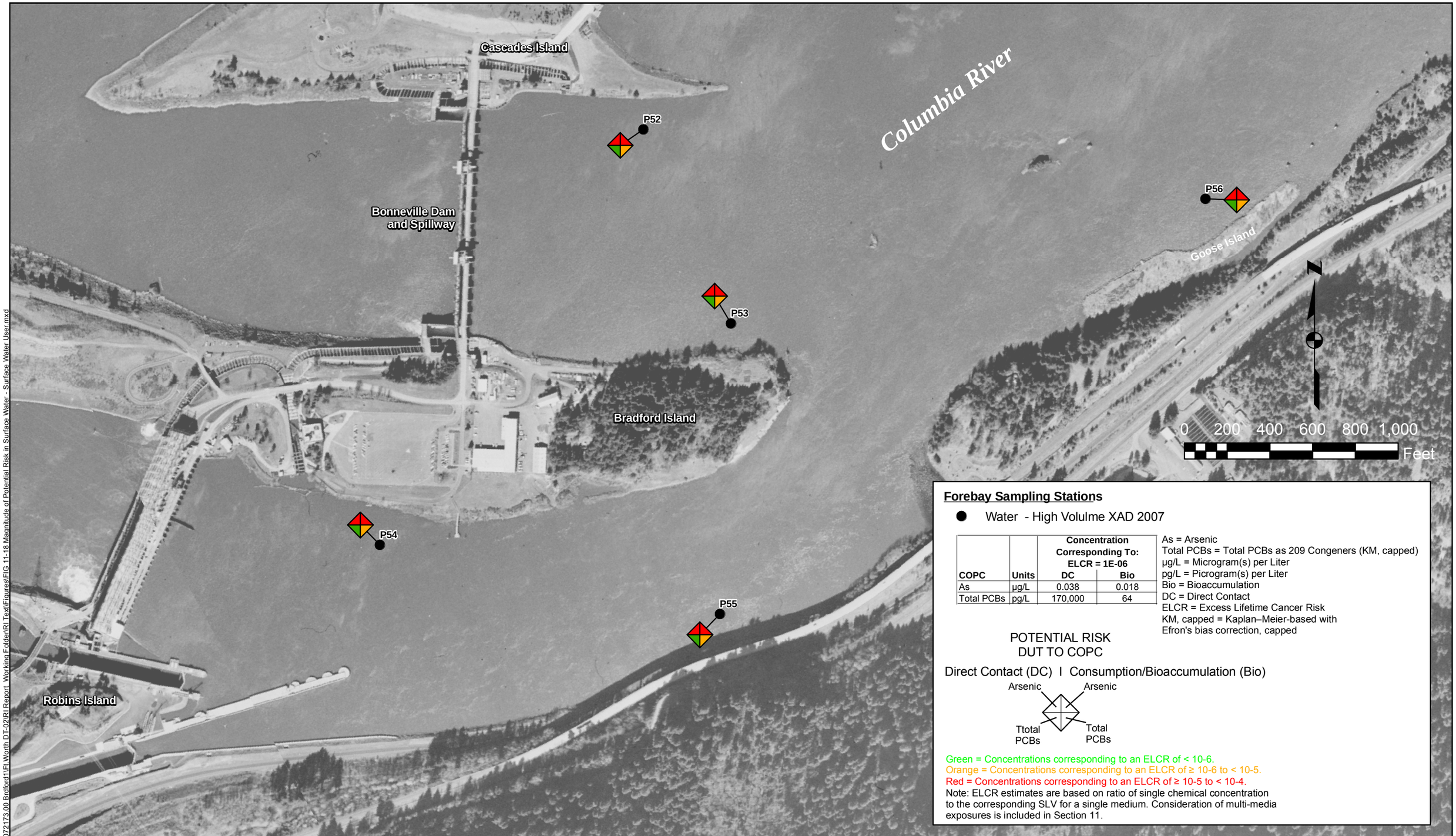

Forebay Sampling Stations

● Water - High Volulme XAD 2007

COPC	Units	Concentration Corresponding To: ELCR = 1E-06 DC	Bio
As	µg/L	0.038	0.018
Total PCBs	pg/L	170,000	64

As = Arsenic
Total PCBs = Total PCBs as 209 Congeners (KM, capped)
µg/L = Microgram(s) per Liter
pg/L = Picrogram(s) per Liter
Bio = Bioaccumulation
DC = Direct Contact
ELCR = Excess Lifetime Cancer Risk
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped

POTENTIAL RISK
DUT TO COPC

Direct Contact (DC) I Consumption/Bioaccumulation (Bio)

Arsenic / Arsenic
Ttotal PCBs / Total PCBs

Green = Concentrations corresponding to an ELCR of < 10-6.
Orange = Concentrations corresponding to an ELCR of ≥ 10-6 to < 10-5.
Red = Concentrations corresponding to an ELCR of ≥ 10-5 to < 10-4.
Note: ELCR estimates are based on ratio of single chemical concentration to the corresponding SLV for a single medium. Consideration of multi-media exposures is included in Section 11.

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RIVER OPERABLE UNIT

MAGNITUDE OF POTENTIAL RISK IN SURFACE WATER SURFACE WATER USER

DRAWING NUMBER: FIGURE 11-18
GIS FILE NUMBER: FIG 11-18
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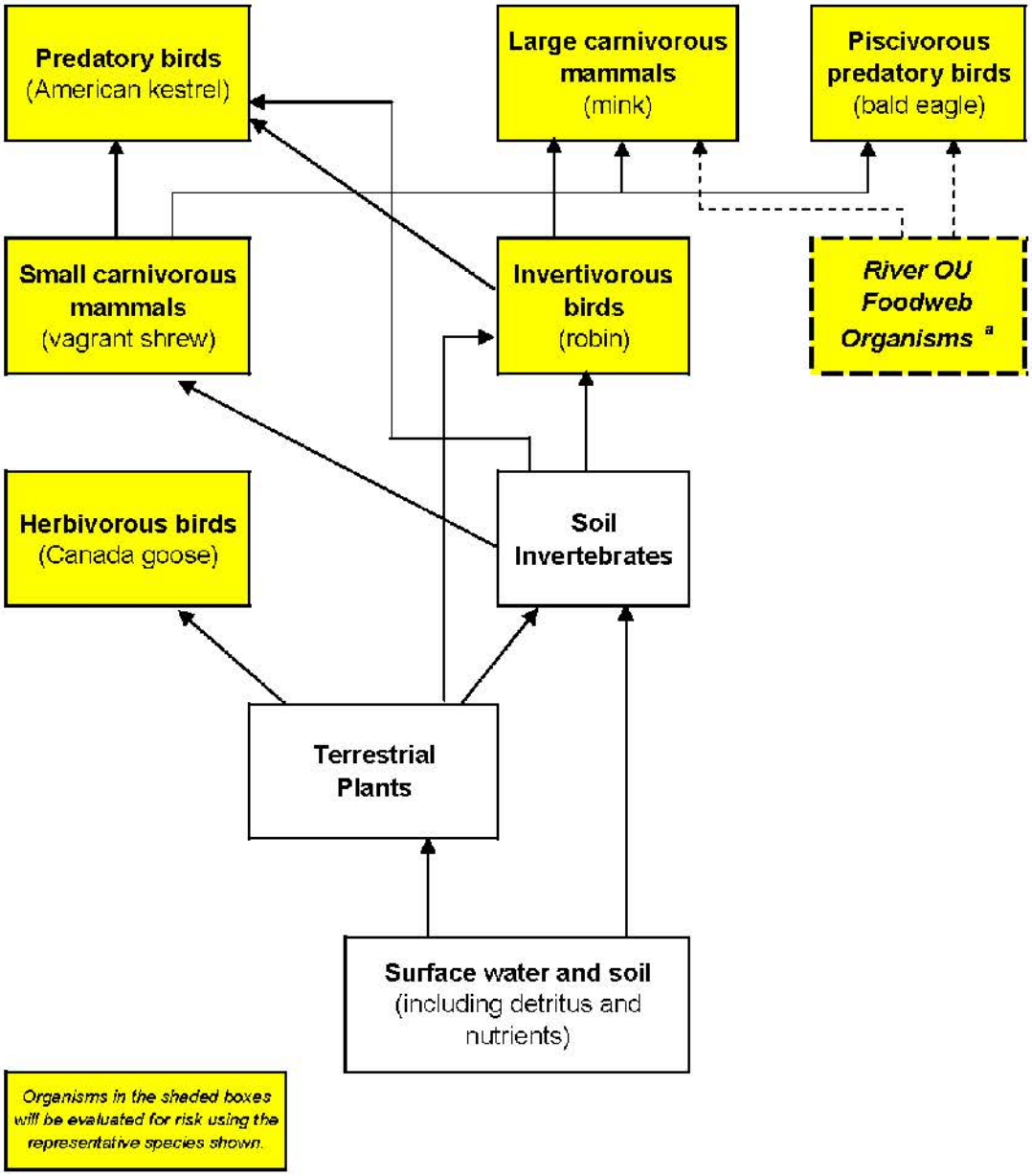
Q:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 11-18 Magnitude of Potential Risk in Surface Water - Surface Water User.mxd



[a] Risk assessment performed for terrestrial wildlife receptors (100% use of Upland OU) assumed to be protective of aquatic-dependent wildlife receptors.

UPLAND OPERABLE UNIT FOOD WEB

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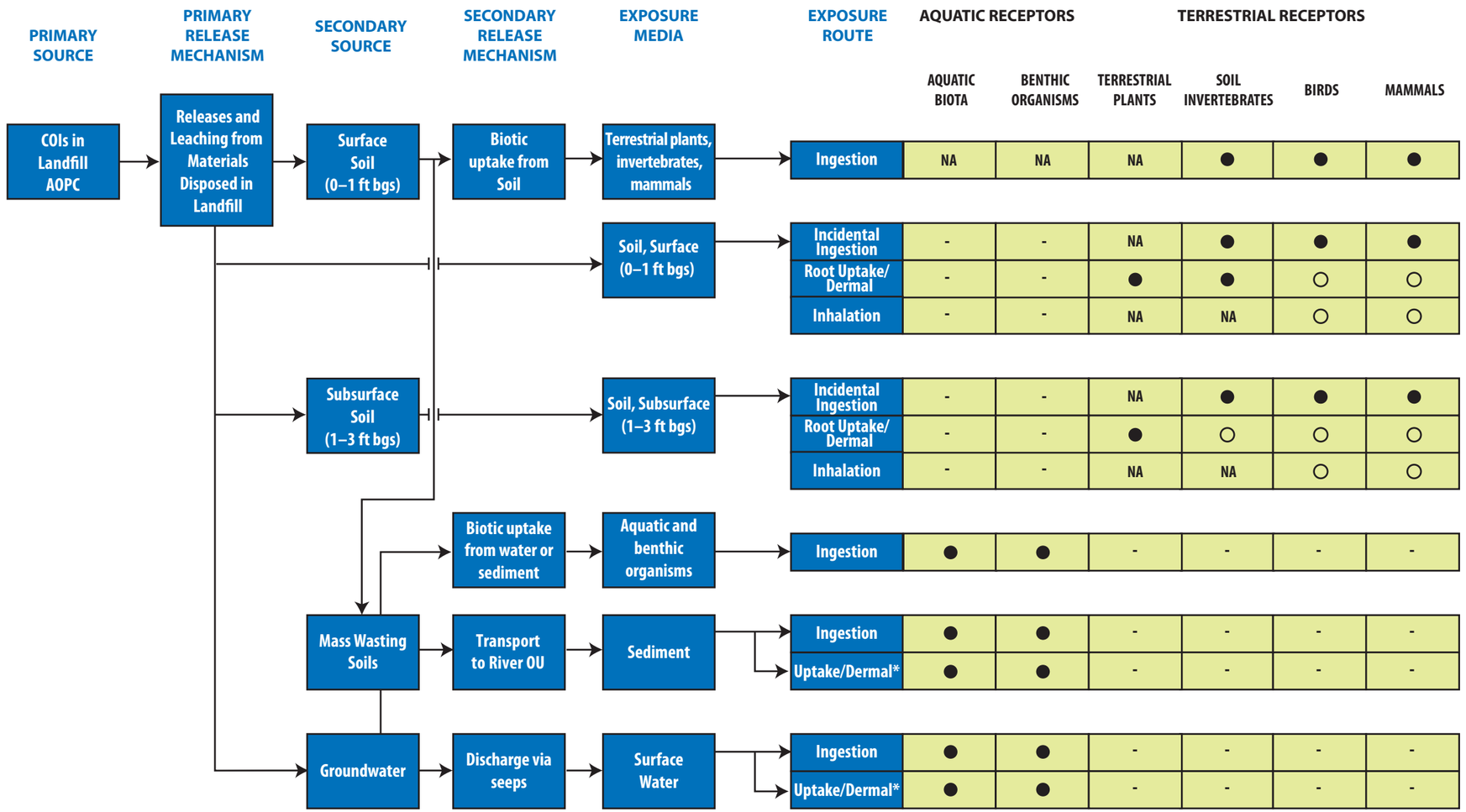
FIGURE 12-1

O:\25692709 USACE\53-F0072173.00 Brdford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-1 Upland OU Food Web.mxd



LEGEND

- ● Complete and potentially significant pathway
- ○ Complete but likely minor pathway
- \- Incomplete pathway
- NA Pathway not applicable to receptor

Aquatic Biota defined as aquatic plants, plankton, invertebrates, fish and aquatic-dependent wildlife.

*The dermal exposure pathway for aquatic-dependent wildlife is expected to be minor due to the barrier offered by fur and feathers.

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 12-2.ai

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LANDFILL AOPC

ECOLOGICAL CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 12-2
GIS FILE NUMBER: FIG 12-2
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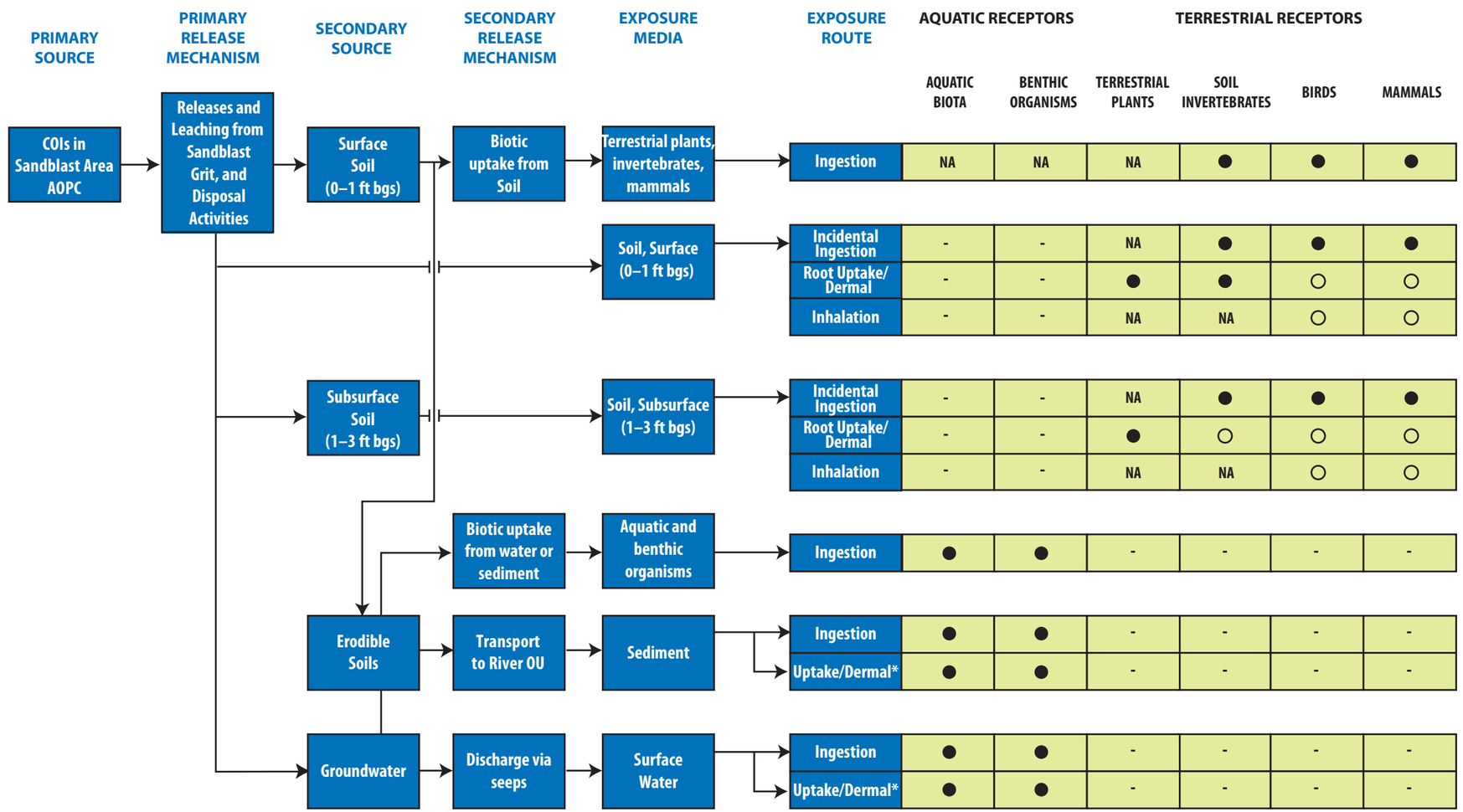

LEGEND

- ● Complete and potentially significant pathway
- ○ Complete but likely minor pathway
- \- Incomplete pathway
- NA Pathway not applicable to receptor

Aquatic Biota defined as aquatic plants, plankton, invertebrates, fish and aquatic-dependent wildlife.

*The dermal exposure pathway for aquatic-dependent wildlife is expected to be minor due to the barrier offered by fur and feathers.

O:\25692709 USACE\53-F0072173.00 Bradford\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 12-3.ai

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SANDBLAST AREA AOPC

ECOLOGICAL CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 12-3
GIS FILE NUMBER: FIG 12-3
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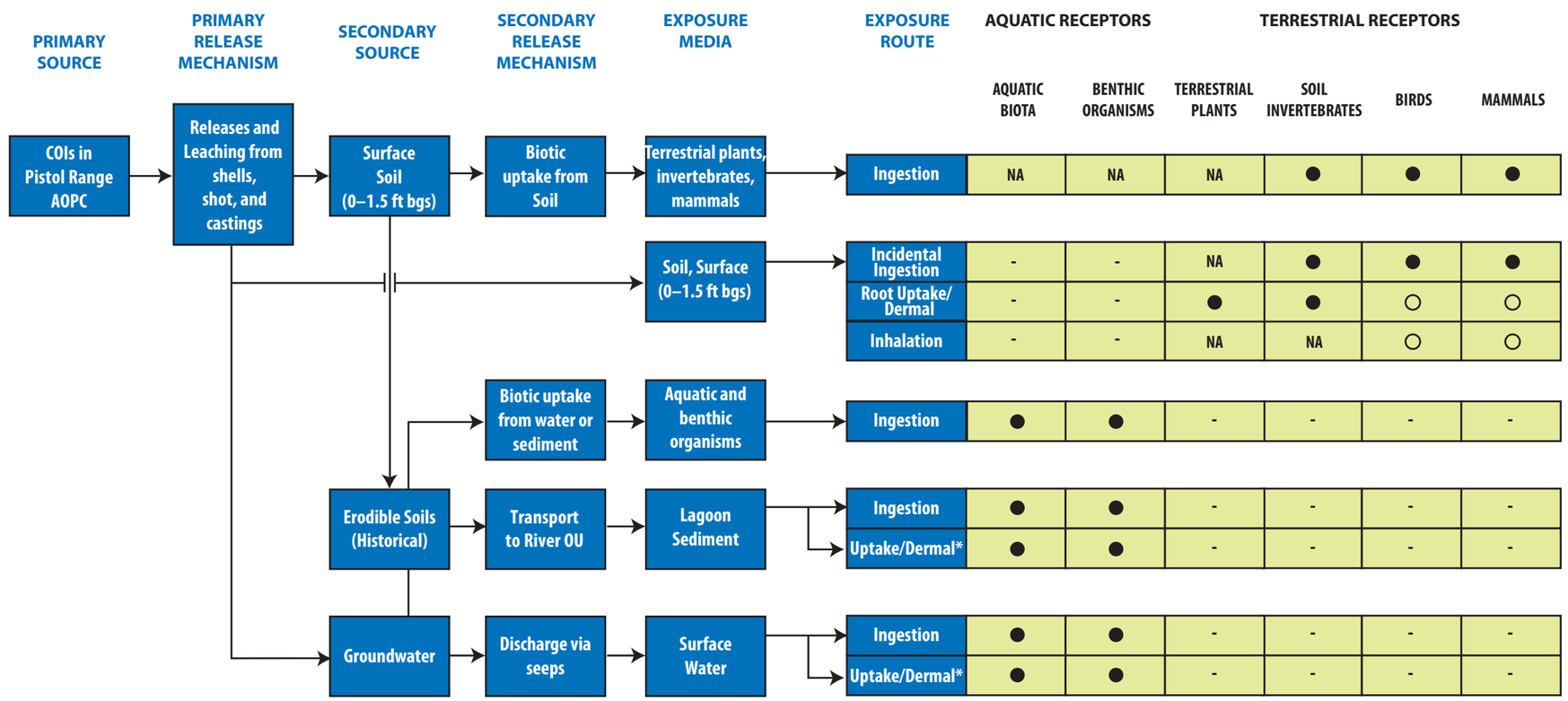
REV.



LEGEND

- ● Complete and potentially significant pathway
- ○ Complete but likely minor pathway
- \- Incomplete pathway
- NA Pathway not applicable to receptor

Aquatic Biota defined as aquatic plants, plankton, invertebrates, fish and aquatic-dependent wildlife.

*The dermal exposure pathway for aquatic-dependent wildlife is expected to be minor due to the barrier offered by fur and feathers.

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PISTOL RANGE AOPC

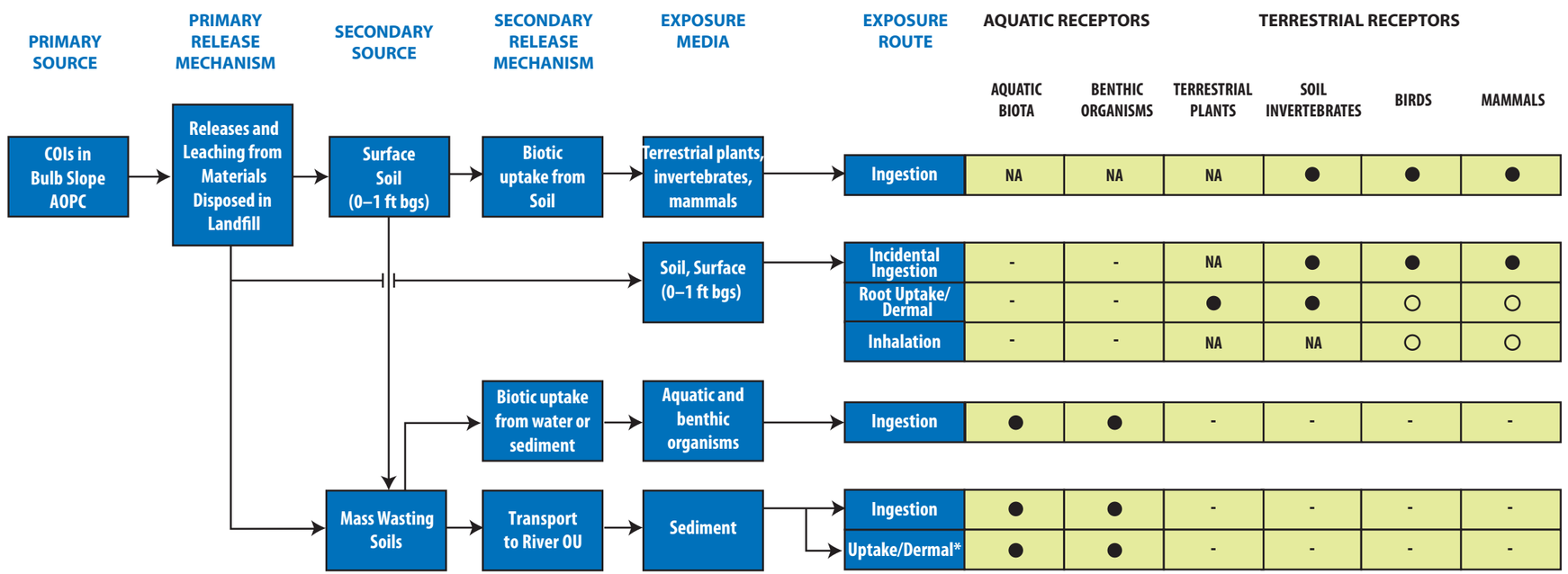
ECOLOGICAL CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 12-4

GIS FILE NUMBER: FIG 12-4

SHEET: REV.

O:\25692709 USACE\53-F0072173.00 Brdford1\Fl Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 12-4.ai



LEGEND

- ● Complete and potentially significant pathway
- ○ Complete but likely minor pathway
- \- Incomplete pathway
- NA Pathway not applicable to receptor

Aquatic Biota defined as aquatic plants, plankton, invertebrates, fish and aquatic-dependent wildlife.

*The dermal exposure pathway for aquatic-dependent wildlife is expected to be minor due to the barrier offered by fur and feathers.

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CASCADE LOCKS, OREGON

BULB SLOPE AOPC

ECOLOGICAL CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 12-5

GIS FILE NUMBER: FIG 12-5

SHEET: REV.

O:\25692709 USACE\63-F0072173.00 Bradford\Ft Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-5.ai

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Gully Test Pit
BIL01TPG BIL02TPG
BIL03TPG BIL04TPG

Mercury Vapor-Lamp Test Pit
BIL28TPM BIL29TPM

Lead Hot Spot Test Pit #1

Lead Hot Spot Test Pit #2

Pesticide/Herbicide Wash Area

Extent of Landfill Debris

Landfill AOPC

Access Road

120

SCALE IN FEET: 15 0 15 30

LEGEND

- Landfill Surface and Shallow Soil Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Plant Soil SLVs

	Pb (mg/kg)	Hg (mg/kg)	HPAHs (µg/kg)
SLV	120	0.30	1,200
5x	600	1.5	6,000
10x	1,200	3.0	12,000
50x	6,000	15	60,000

Pb = Lead
Hg = Mercury
HPAHs = Total High Molecular Weight PAHs

mg/kg = Milligram per Kilogram
µg/kg = Micrograms per Kilogram
Gray = Not Analyzed/Not Included
Black = Not detected at MDL
Green = Detected at or below SLV
Yellow = Detected above SLV to 5x SLV
Orange = Detected above 5x SLV to 10x SLV
Red = Detected above 10x SLV to 50x SLV
Purple = Detected above 50x SLV

CPEC Concentrations in Soil

0-1 ft bgs: Pb, Hg, HPAHs
1-3 ft bgs: Pb, Hg, HPAHs
0-10 ft bgs: Pb, Hg, HPAHs

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LANDFILL AOPC

PLANT CPECs IN SOIL

DRAWING NUMBER: FIG 12-6
CAD FILE NUMBER: FIG 12-6
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O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\Fig 12-6 Plant CPECs in Soil at the Landfill AOPC.dwg Apr 13, 2012 - 11:06am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

Gully Test Pit
BIL01TPG BIL02TPG
BIL03TPG BIL04TPG

Mercury Vapor-Lamp Test Pit
BIL28TPM BIL29TPM

Lead Hot Spot Test Pit #1

Lead Hot Spot Test Pit #2

Pesticide/Herbicide Wash Area

Extent of Landfill Debris

Landfill AOPC

Access Road

120

BIL13SSI BIL09USE BIL03USE BIL08USE BIL02USE BIL07USE BIL01USE BIL22 BIL18 L-01 L-02 L-03 L-04 BIL05USE BIL04USE BIL06USE BIL31 BIL32 BIL06SSI BIL30 BIL12SSI BIL11SSI BIL26 BIL24 BIL04SSI BIL27 BIL05SSI BIL09SSI BIL10SSI BIL01SSI BIL03SSI BIL02SSI

15 0 15 30
SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Soil SLVs

	Hg (mg/kg)	Zn (mg/kg)	HPAHs (µg/kg)
SLV	0.1	120	18,000
5x	0.5	600	90,000
10x	1	--	180,000

Hg = Mercury
Zn = Zinc
HPAHs = Total High Molecular Weight PAHs

mg/kg = Milligram per Kilogram
µg/kg = Micrograms per Kilogram
Gray = Not Analyzed
Black = Not detected at MDL
Green = Detected at or below SLV
Yellow = Detected above SLV to 5x SLV
Orange = Detected above 5x SLV to 10x SLV
Red = Detected above 10x SLV to 50x SLV

CPEC Concentrations in Soil

0-1 ft bgs: Hg, Zn, HPAHs
1-3 ft bgs: Hg, Zn, HPAHs
0-10 ft bgs: Hg, Zn, HPAHs

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LANDFILL AOPC
SOIL INVERTEBRATE CPECs IN SOIL

DRAWING NUMBER: FIG12-7
CAD FILE NUMBER: FIG 12-7
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O:\25696946 USACE\53--F0072173.00 Bradford\FL Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-7 Soil Invertebrate CPECs in Soil at the Landfill AOPC.dwg Apr 13, 2012 - 11:32am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

BIL13SSI
BIL09USE
BIL03USE
BIL08USE
BIL02USE
BIL07USE
BIL01USE
L-02
L-01
BIL22
BIL17
BIL18
L-04
L-03

Gully Test Pit
BIL01TPG BIL02TPG
BIL03TPG BIL04TPG

Mercury Vapor-Lamp Test Pit
BIL28TPM BIL29TPM

BIL05USE
BIL04USE
BIL06USE

BIL31
BIL32
BIL06SSI
BIL30
BIL12SSI

Lead Hot Spot
Test Pit #1

Lead Hot Spot
Test Pit #2

BIL11SSI
BIL26
BIL24
BIL04SSI
BIL27
BIL05SSI
BIL09SSI

Access Road

BIL10SSI

Extent of
Landfill Debris

BIL01SSI
BIL03SSI
BIL02SSI

Pesticide/Herbicide
Wash Area

Landfill AOPC

120

15 0 15 30
SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

Avian Soil SLVs

	Pb (mg/kg)	Hg (mg/kg)	Zn (mg/kg)	B2EHP (µg/kg)
SLV	25.5	0.066	72	4,500
5x	127.5	0.330	359	22,500
10x	255	0.66	717	--
50x	1,275	3.3	--	--

Pb = Lead
Hg = Mercury
Zn = Zinc
B2EHP = Bis(2-ethylhexyl)phthalate

mg/kg = Milligram per Kilogram
µg/kg = Micrograms per Kilogram
Gray = Not Analyzed
Black = Not detected at MDL
Green = Detected at or below SLV
Yellow = Detected above SLV to 5x SLV
Orange = Detected above 5x SLV to 10x SLV
Red = Detected above 10x SLV to 50x SLV
Purple = Detected above 50x SLV

CPEC Concentrations in Soil

0-1 ft bgs: Pb, Hg, Zn, B2EHP
1-3 ft bgs: Pb, Hg, Zn, B2EHP
0-10 ft bgs: Pb, Hg, Zn, B2EHP

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LANDFILL AOPC

BIRD CPECs IN SOIL

DRAWING NUMBER: FIG 12-8
CAD FILE NUMBER: FIG12-8
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O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-8 Bird CPECs in Soil at the Landfill AOPC.dwg Nov 18, 2010 - 9:05am

Columbia River

(Average pool elevation is 74 feet NGVD)

River Flow Direction

BIL13SSI
BIL09USE
BIL03USE
BIL08USE
BIL02USE
BIL07USE
BIL01USE
L-01
L-02
L-03
L-04
BIL17
BIL18
BIL22

Gully Test Pit
BIL01TPG BIL02TPG
BIL03TPG BIL04TPG

BIL11SSI
BIL26
BIL24
BIL04SSI
BIL27
BIL05SSI
Lead Hot Spot Test Pit #1

BIL09SSI

Mercury Vapor-Lamp Test Pit
BIL28TPM BIL29TPM

BIL05USE
BIL04USE
BIL06USE
BIL31
BIL32
BIL06SSI
BIL30
BIL12SSI
Lead Hot Spot Test Pit #2

Extent of Landfill Debris

BIL10SSI

Access Road

BIL01SSI
BIL03SSI
BIL02SSI
Pesticide/Herbicide Wash Area

Landfill AOPC

120

15 0 15 30
SCALE IN FEET

LEGEND

- Landfill Surface and Shallow Soil Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

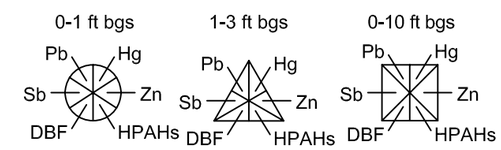
Mammal SLVs

	Sb (mg/kg)	Pb (mg/kg)	Hg (mg/kg)	Zn (mg/kg)	DBF (µg/kg)	HPAHs (µg/kg)
SLV	0.27	56	0.15	79	2.0	1,100
5x	1.35	280	0.73	395	10	5,500
10x	2.7	560	1.5	790	20	11,000
50x	--	--	--	--	100	55,000

Sb = Antimony
Pb = Lead
Hg = Mercury
Zn = Zinc
DBF = Dibenzofuran
HPAHs = Total High Molecular Weight PAHs

mg/kg = Milligram per Kilogram
µg/kg = Micrograms per Kilogram
Gray = Not Analyzed
Black = Not detected at MDL
Green = Detected at or below 5x SLV
Orange = Detected above 5x SLV to 10x SLV
Red = Detected above 10x SLV to 50x SLV
Purple = Detected above 50x SLV

CPEC Concentrations in Soil



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LANDFILL AOPC

MAMMAL CPECs IN SOIL

DRAWING NUMBER: FIG 12-9
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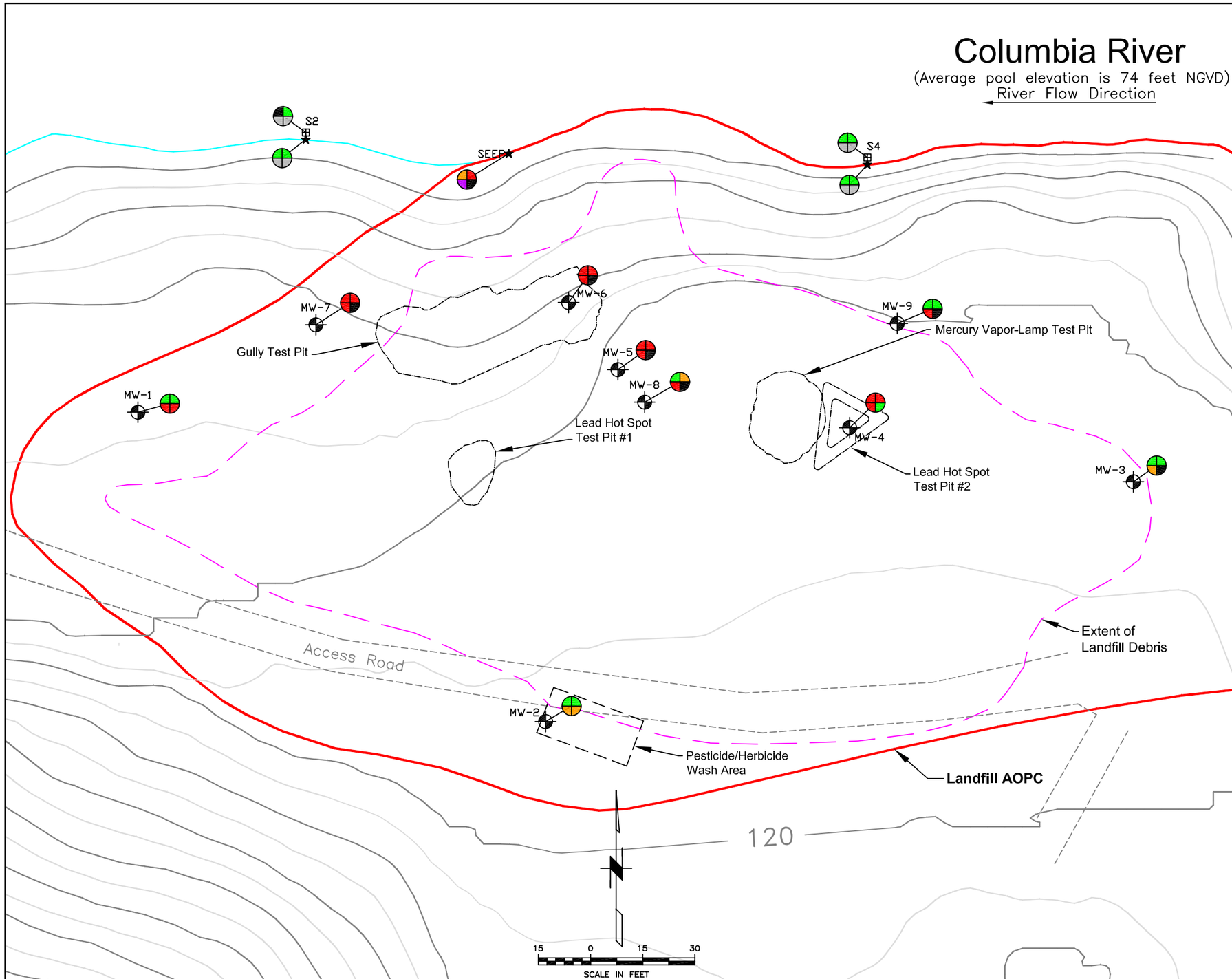
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-9 Mammal CPECs in Soil at the Landfill AOPC.dwg Nov 18, 2010 - 9:05am



LEGEND

- Landfill Groundwater Sampling Location
- Landfill Surface Water Sampling Location
- Landfill Seep Location
- Excavation Limits
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate extent of landfill debris based on geophysical reconnaissance survey using electrical resistivity and seismic refraction
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

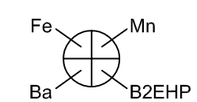
Aquatic Organism SLVs

	Ba (mg/kg)	Fe (mg/kg)	Mn (mg/kg)	B2EHP (µg/kg)
SLV	0.004	1.0	0.12	3.0
10x	0.04	10	1.2	30
50x	0.2	--	--	--

Ba = Barium
Fe = Iron
Mn = Manganese
B2EHP = Bis(2-ethylhexyl)phthalate

mg/kg = Milligram per Kilogram
µg/kg = Micrograms per Kilogram
Gray = Not Analyzed
Black = Not detected at MDL
Green = Detected at or below SLV
Orange = Detected above SLV to 10x SLV
Red = Detected above 10x SLV to 50x SLV
Purple = Detected above 50x SLV

CPEC Concentrations in Water



Note: Barium and zinc concentrations at MW-1 & MW-5 through MW-9 are totals because they were not analyzed for dissolved barium and zinc at these locations.

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LANDFILL AOPC

AQUATIC ORGANISM CPECs IN GROUNDWATER, SEEP WATER, AND SURFACE WATER

DRAWING NUMBER: FIG 12-10
CAD FILE NUMBER: FIG 12-10
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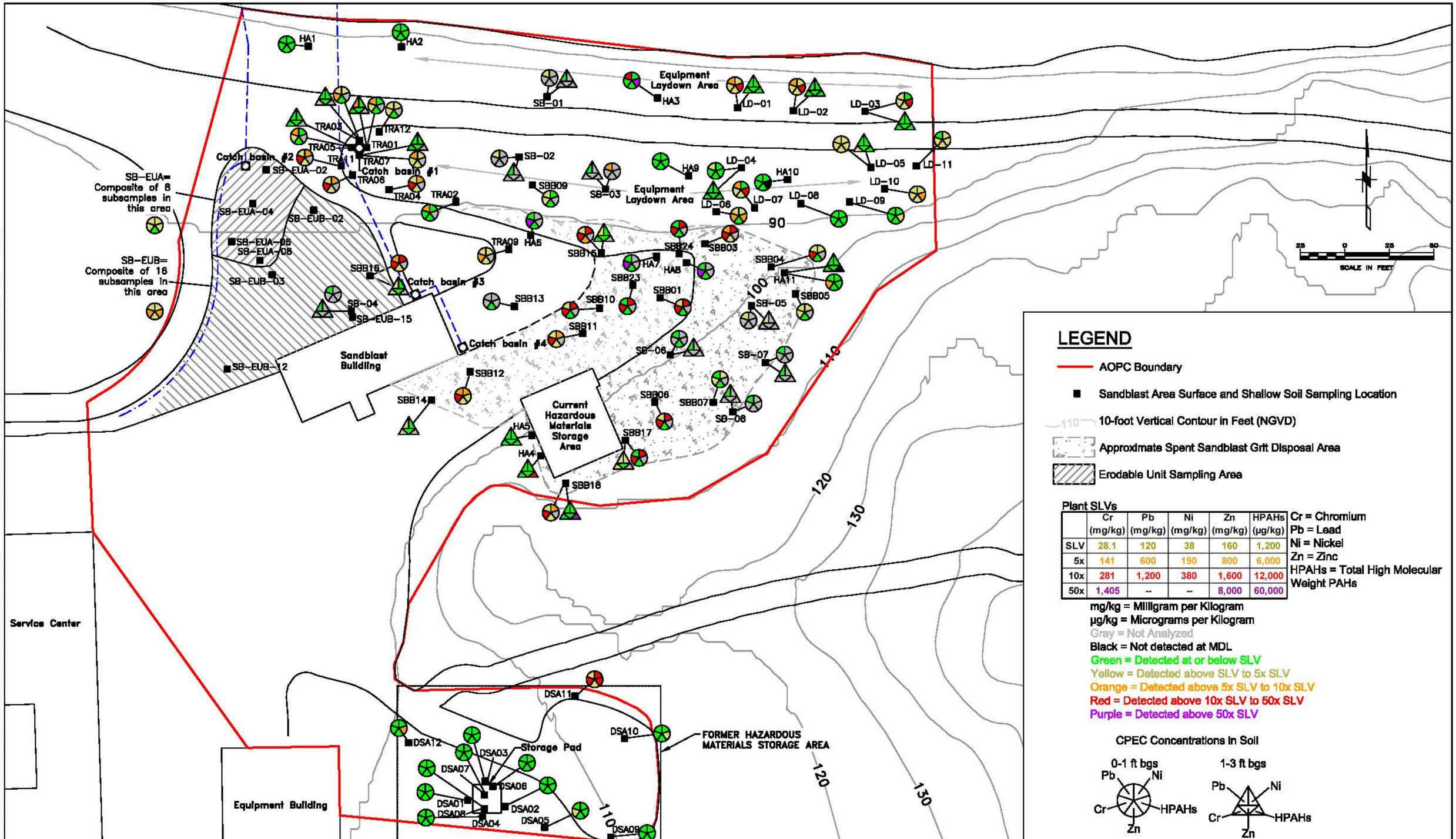
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-10 Aquatic Organism CPECs in GW, Seep Water, and Surface Water at the Landfill AOPC.dwg Nov 18, 2010 - 9:07am



	Cr (mg/kg)	Pb (mg/kg)	Ni (mg/kg)	Zn (mg/kg)	HPAHs (µg/kg)
SLV	28.1	120	38	160	1,200
5x	141	600	190	800	6,000
10x	281	1,200	380	1,600	12,000
50x	1,405	--	--	8,000	60,000

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SANDBLAST AREA AOPC

PLANT CPECs IN SOIL

DRAWING NUMBER: FIG12-11
CAD FILE NUMBER: FIG 12-11
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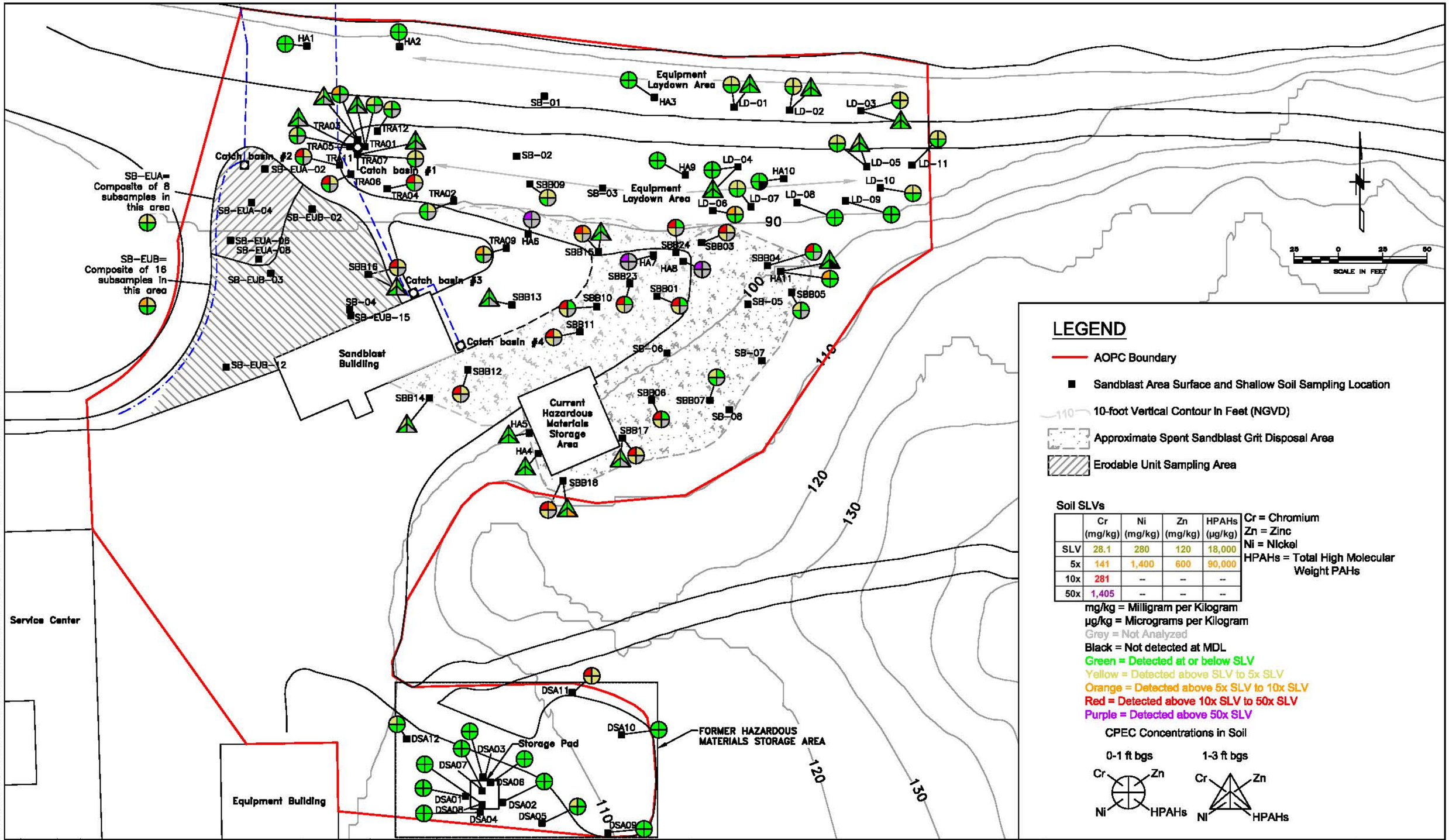
C:\25696706 USACE\53-F0072173.00 Bradford\FLWorth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-11 Plant CPECs in Soil at the Sandblast Area AOPC.dwg Apr 16, 2012 - 10:31am



	Cr (mg/kg)	Ni (mg/kg)	Zn (mg/kg)	HPAHs (µg/kg)
SLV	28.1	280	120	18,000
5x	141	1,400	600	90,000
10x	281	--	--	--
50x	1,405	--	--	--

No.	DATE	BY	REVISION

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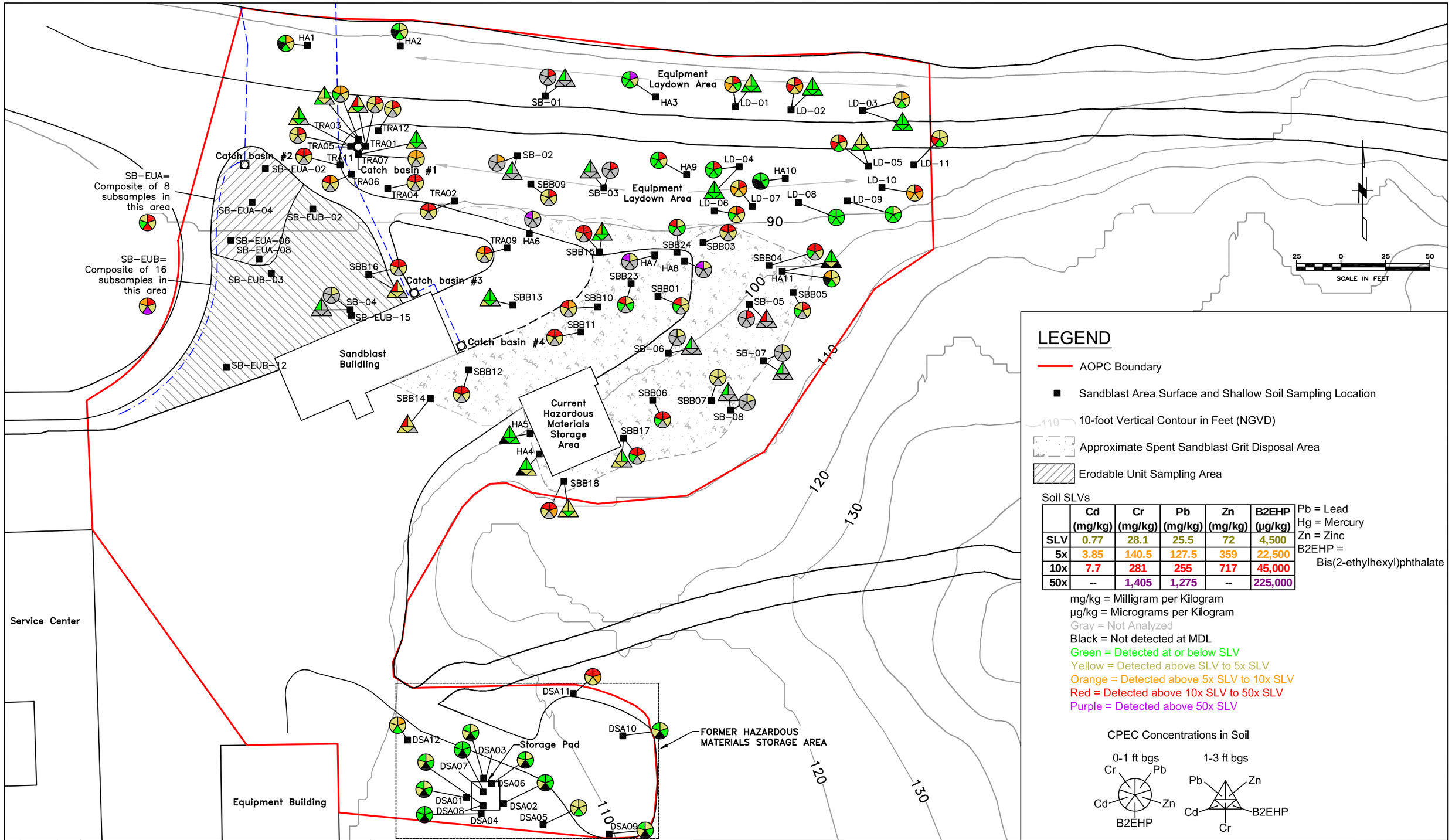
SANDBLAST AREA AOPC

SOIL INVERTEBRATE CPECs IN SOIL

DRAWING NUMBER: FIG 12-12
CAD FILE NUMBER: FIG 12-12
SHEET: OF
REV.

C:\25696706 USACE\53-F0072173.00 Bradford\FLWorth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-12 Soil Invertebrate CPECs in Soil at the Sandblast Area AOPC.dwg Apr 16, 2012 - 10:30am



	Cd (mg/kg)	Cr (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	B2EHP (µg/kg)
SLV	0.77	28.1	25.5	72	4,500
5x	3.85	140.5	127.5	359	22,500
10x	7.7	281	255	717	45,000
50x	--	1,405	1,275	--	225,000

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SANDBLAST AREA AOPC

BIRD CPECs IN SOIL

DRAWING NUMBER: FIG 12-13
CAD FILE NUMBER: FIG12-13
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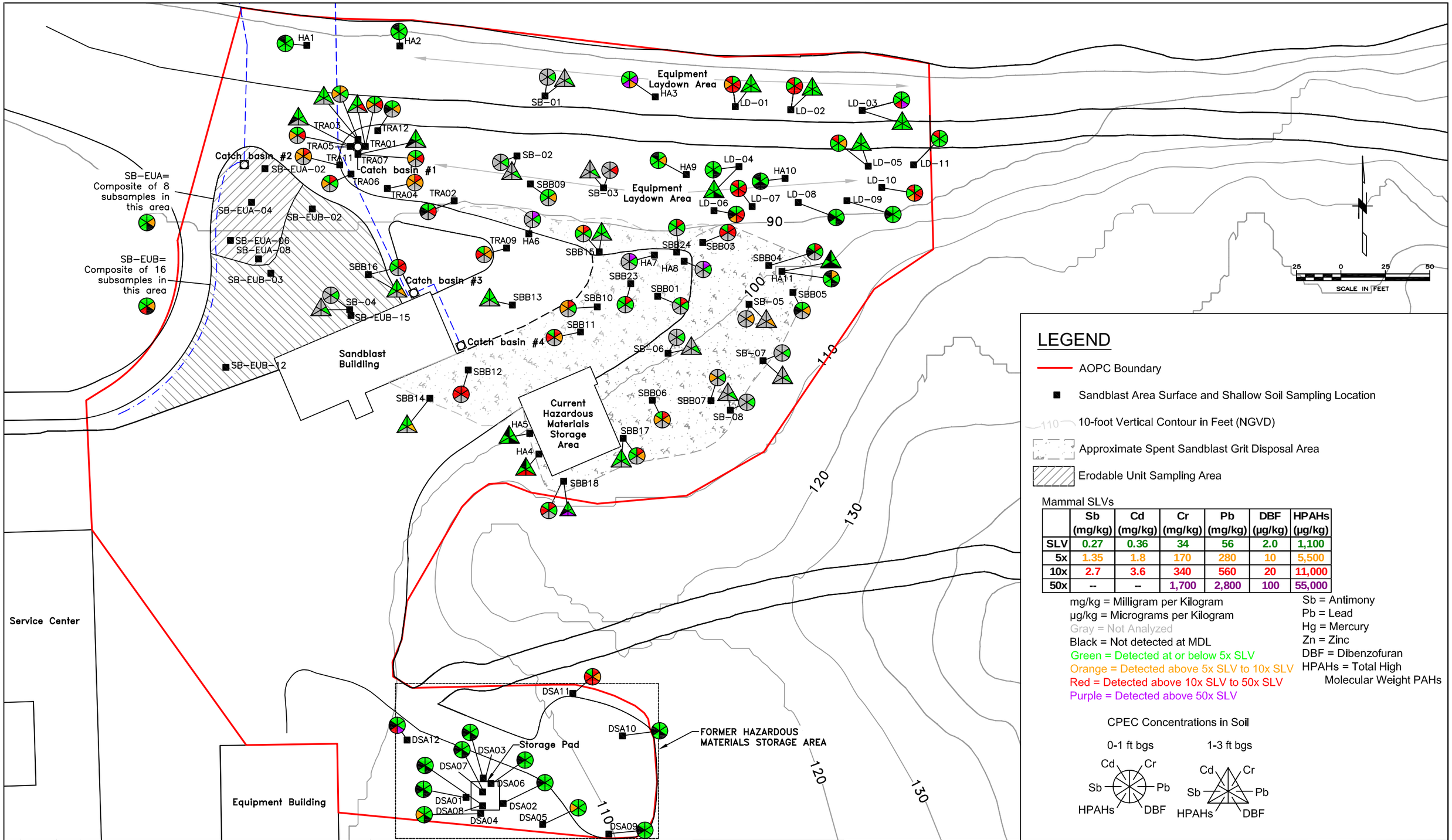
O:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-13 Bird CPECs in Soil at the Sandblast Area AOPC.dwg Nov 18, 2010 - 9:08am



	Sb (mg/kg)	Cd (mg/kg)	Cr (mg/kg)	Pb (mg/kg)	DBF (µg/kg)	HPAHs (µg/kg)
SLV	0.27	0.36	34	56	2.0	1,100
5x	1.35	1.8	170	280	10	5,500
10x	2.7	3.6	340	560	20	11,000
50x	--	--	1,700	2,800	100	55,000

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SANDBLAST AREA AOPC

MAMMAL CPECs IN SOIL

DRAWING NUMBER: FIG12-14
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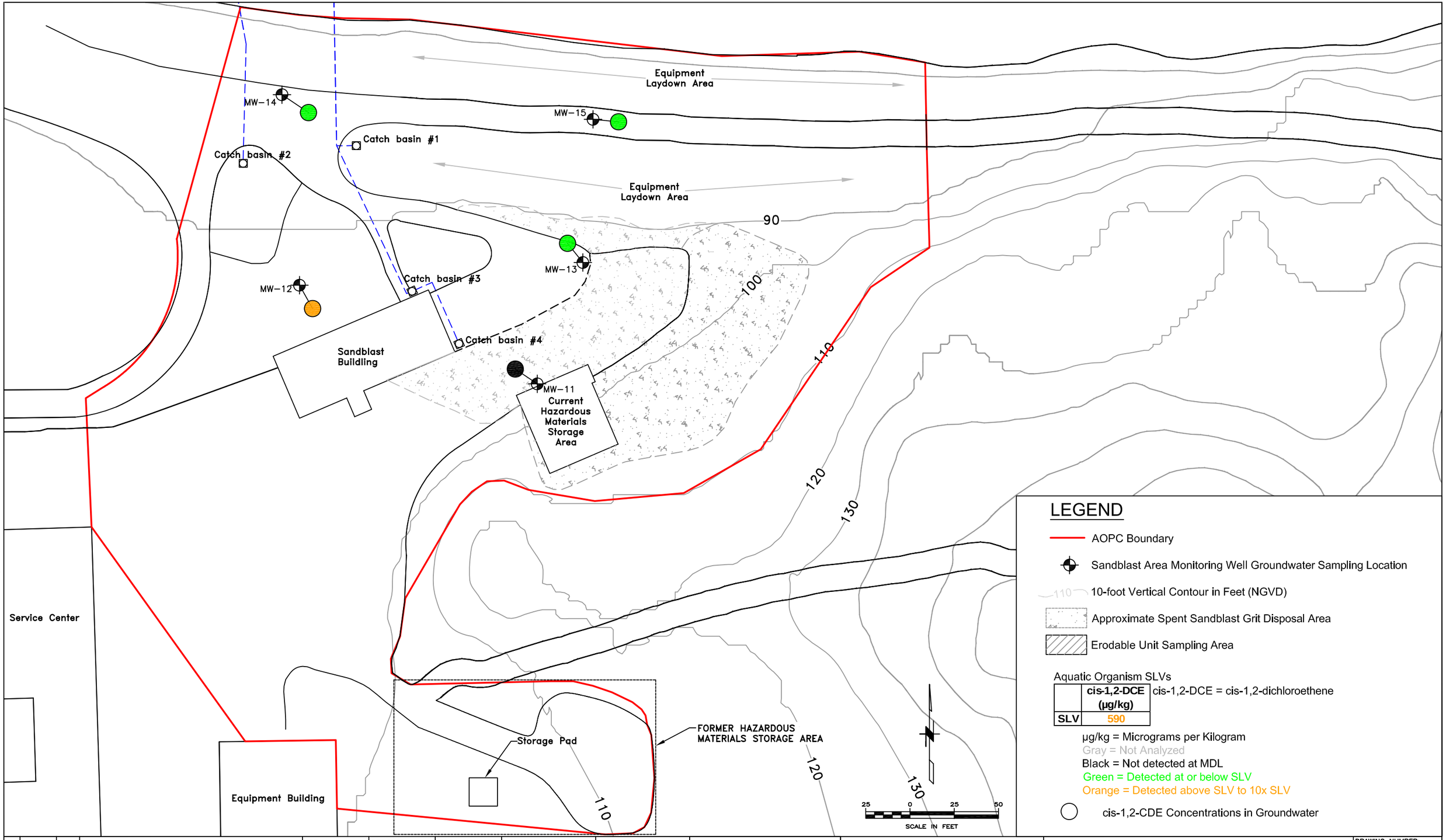
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-14 Mammal CPECs in Soil at the Sandblast Area AOPC.dwg Nov 18, 2010 - 9:09am



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SANDBLAST AREA AOPC

AQUATIC ORGANISM CPECs IN GROUNDWATER

DRAWING NUMBER: FIG 12-15
CAD FILE NUMBER: FIG 12-15
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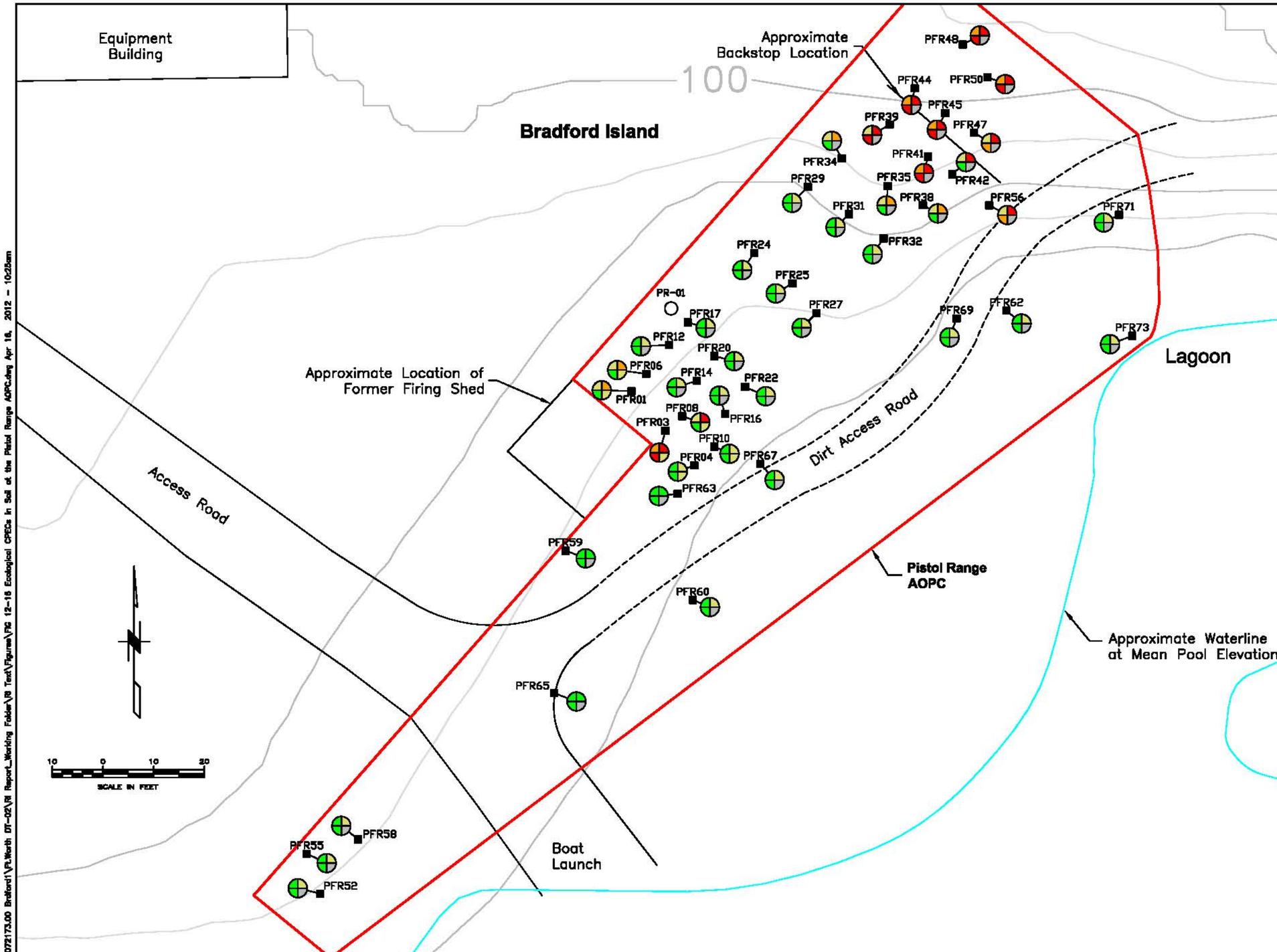
O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-15 Aquatic Organism CPECs in GW at the Sandblast Area AOPC.dwg Nov 18, 2010 - 9:10am



Legend

- AOPC Boundary
- Pistol Range Soil Location 2002
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)
- 5 - Foot Vertical Elevation Contour (NGVD)

SLVs

	Pb (mg/kg)			Zn (mg/kg)
	Plants	Mammals	Birds	Birds
SLV	120	56	25.5	71.7
5x	600	280	127.5	355.5
10x	1200	560	255	717

Pb = Lead
Zn = Zinc

mg/kg = Milligram per Kilogram
µg/kg = Micrograms per Kilogram
Gray = Not Analyzed
Black = Not detected at MDL
Green = Detected at or below SLV for birds and plants and at or below 5x SLV for mammals
Yellow = Detected above SLV to 5x SLV for birds and plants
Orange = Detected above 5x SLV to 10x SLV
Red = Detected above 10x SLV to 50x SLV

CPEC Concentrations in Soil (0 - 1.5 ft bgs)

Plants: Pb
Birds: Pb
Mammals: Pb
Birds: Zn

Note: For locations with samples for both 0-0.5 and 1-1.5 ft bgs, the highest concentration was screened on this figure.

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PISTOL RANGE AOPC

ECOLOGICAL CPECs IN SOIL

DRAWING NUMBER: FIG 12-16
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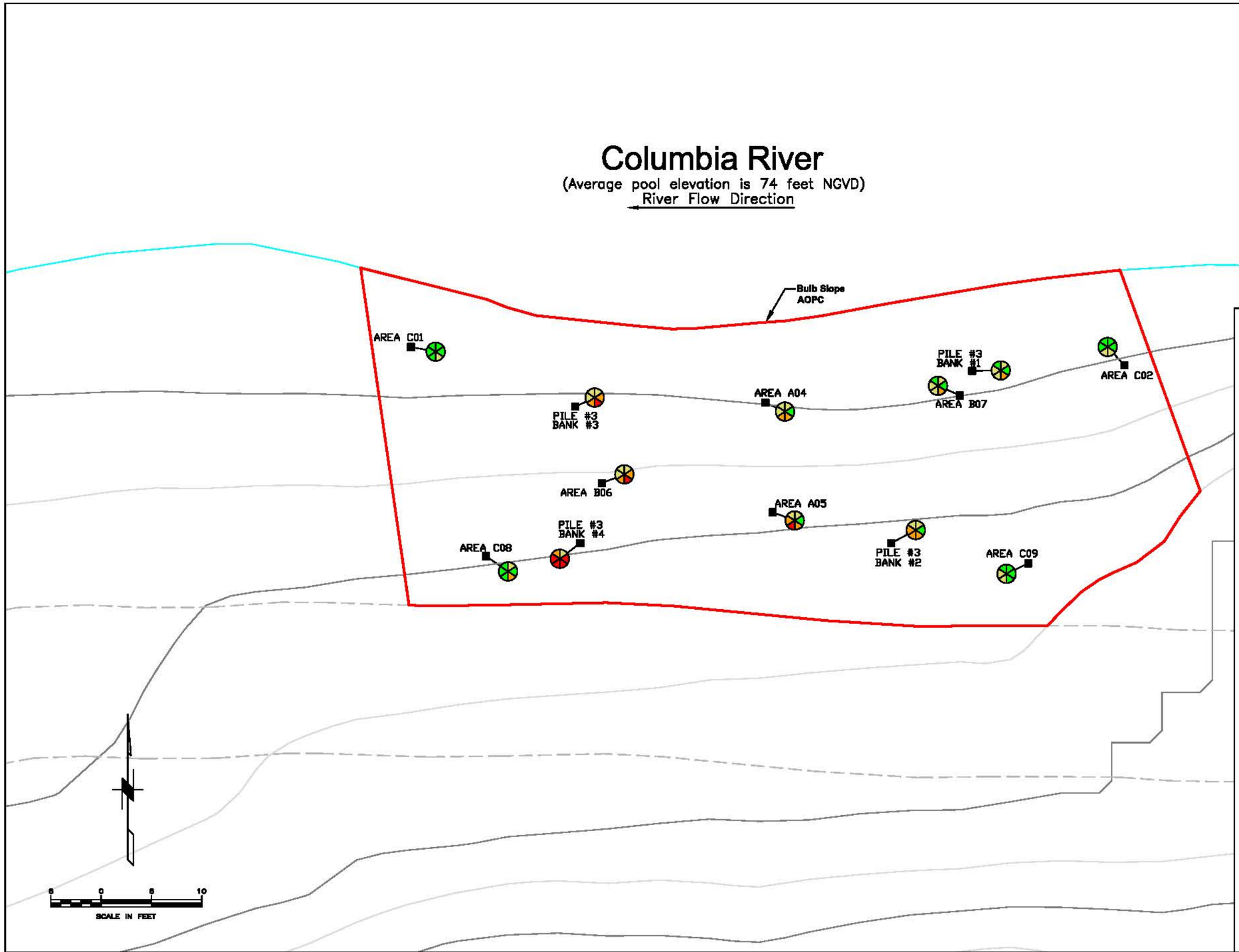
C:\25692708 USACE\53-F0072173.00 Bradford\FLWorth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-16 Ecological CPECs in Soil at the Pistol Range AOPC.dwg Apr 16, 2012 - 10:25am



LEGEND

- Historical Bulb Slope Surface Soil Location
- 2- Foot vertical elevation contour in feet NGVD
- Landfill Access Road
- AOPC Boundary
- Approximate Waterline at Mean Pool Elevation (approx. 74 feet NGVD)

SLVs

	Hg (mg/kg)			Pb (mg/kg)		
	Plants	Soil Invertebrates	Birds	Plants	Mammals	Birds
SLV	120	0.10	0.066	0.3	56	25.5
5x	600	0.50	0.33	1.5	280.00	127.50
10x	1,200	1.0	0.66	3.0	560	255

Pb = Lead
Hg = Mercury

mg/kg = Milligram per Kilogram
Gray = Not Analyzed
Black = Not detected at MDL
Green = Detected at or below SLV for birds, plants, and invertebrates, and at or below 5x SLV for and mammals
Yellow = Detected above SLV to 5x SLV (for birds, plants, and invertebrates)
Orange = Detected above 5x SLV to 10x SLV
Red = Detected above 10x SLV to 50x SLV

CPEC Concentrations in Soil (0 - 1 ft bgs)

Hg | Pb
Plants — Plants
Soil Invertebrates — Mammals
Birds — Birds

No.	DATE	BY	REVISION

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BULB SLOPE AOPC

ECOLOGICAL CPECs IN SOIL

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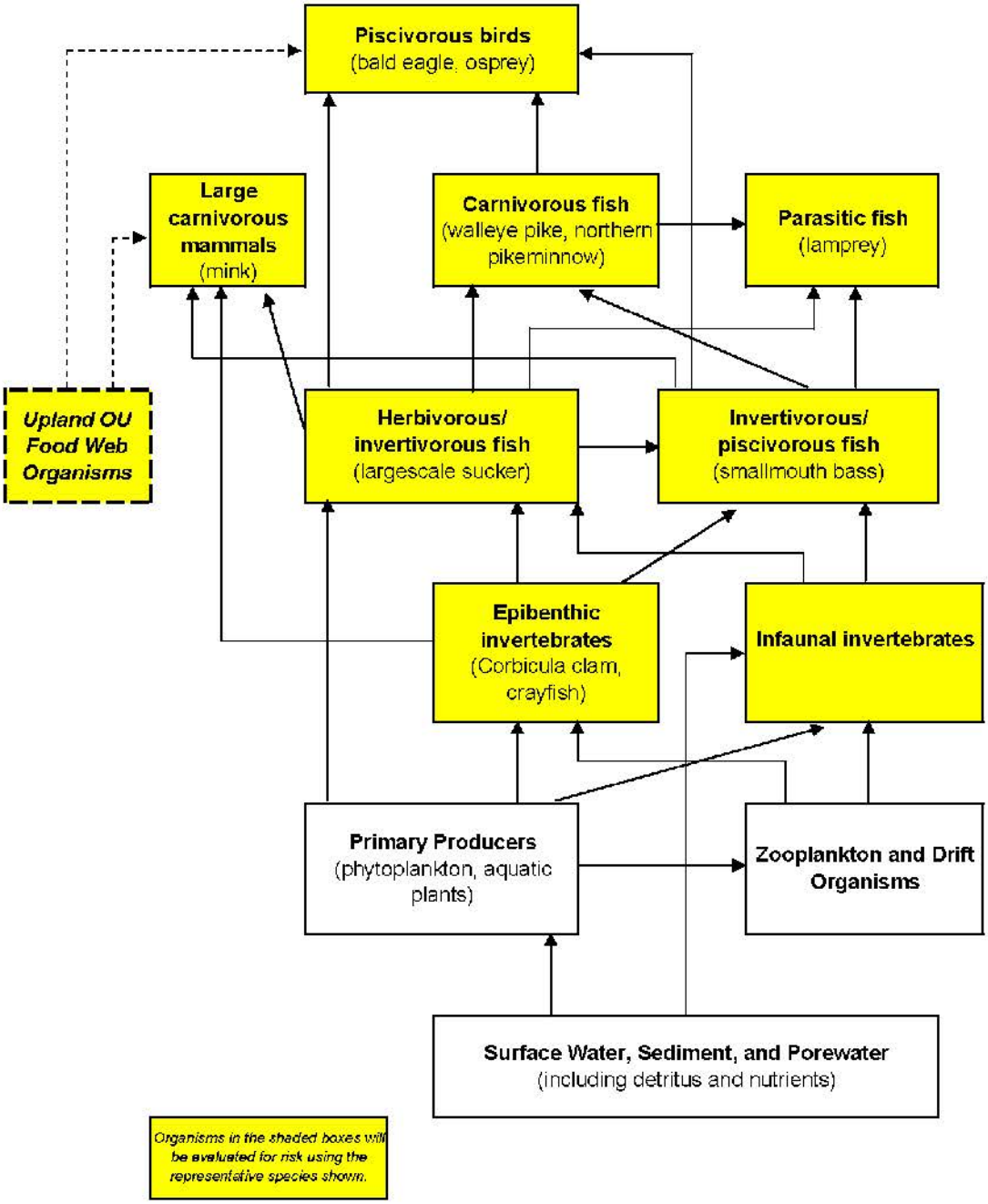
G:\25692709 USACE\53-F0072173.00 Bradford\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-17 Ecological CPECs in Soil at the Bulb Slope AOPC.dwg Apr 16, 2012 - 9:19am



RIVER OPERABLE UNIT FOOD WEB

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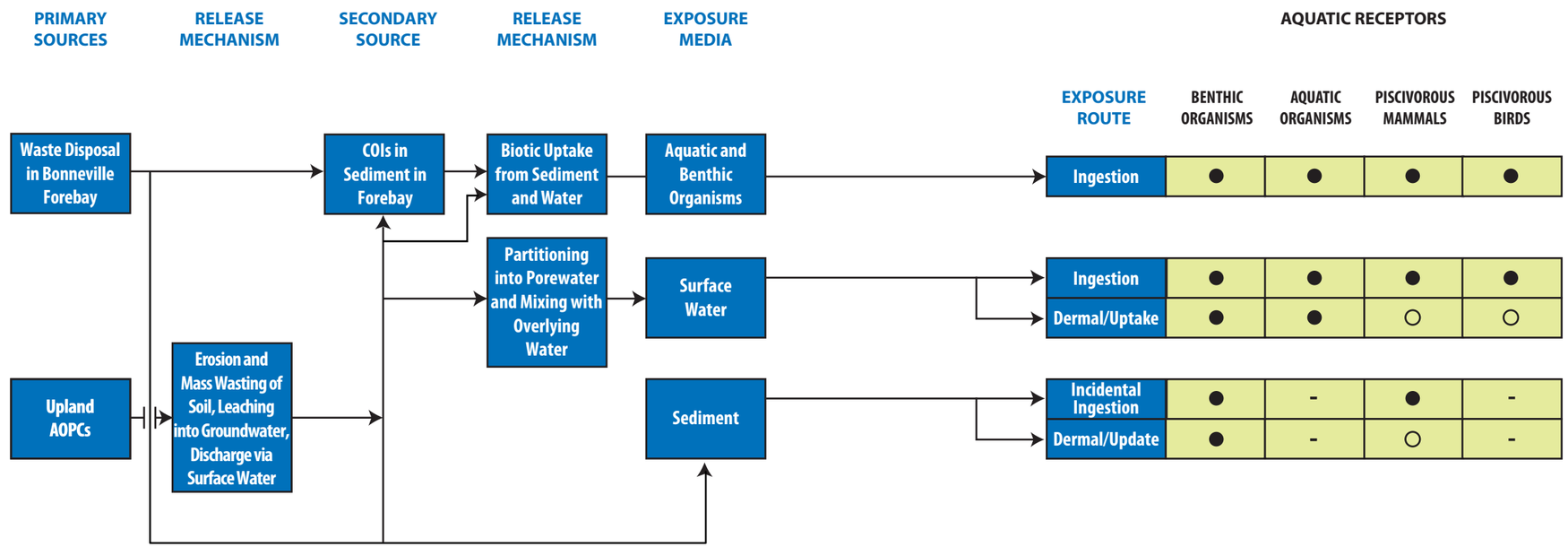
FIGURE 12-18

O:\25692709 USACE\53-F0072173.00 Bradford1\Ft.Worth DT-02\RI Report_Working Folder\RI Text\Figures\FIG 12-18 River OU Food Web.mxd



LEGEND

- ● Complete and potentially significant pathway
- ○ Complete but likely minor pathway
- \- Incomplete pathway

Aquatic Organisms defined as aquatic plants, plankton, invertebrates, fish (resident species: smallmouth bass; anadromous species: salmon, sturgeon)
Benthic Organisms defined as benthic invertebrates (infaunal invertebrates, clams, crayfish) and demersal fish (sculpin)
Piscivorous Mammals and Birds defined as those aquatic-dependent species that consume fish or shellfish from the river (bald eagle, osprey, mink)

O:\25692709 USACE\53-F0072173.00 Bradford11Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 12-19.ai

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CASCADE LOCKS, OREGON

RIVER OPERABLE UNIT

ECOLOGICAL CONCEPTUAL EXPOSURE MODEL

DRAWING NUMBER: FIGURE 12-19
GIS FILE NUMBER: FIG 12-19
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Forebay Sampling Stations

- ● Sediment/Clam 2008
- ▲ Smallmouth Bass 2006
- ⬭ Sculpin Composite 2008

Targeted Sampling Stations

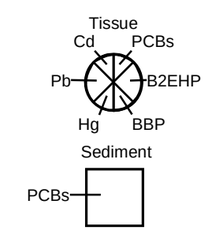
- ■ Eagle Creek Sediment 2008
- ♦ Goose Island Sediment 2009

Fish SLVs

	Cd (mg/kg)	Pb (mg/kg)	Hg (mg/kg)	PCB (µg/kg)	B2EHP (µg/kg)	BBP (µg/kg)
Tissue						
0.1x	0.015	0.012	0.0088	43	176	31.0000
SLV	0.15	0.12	0.088	430	1760	310.000
10x	--	--	--	4,300	--	--
Sediment						
0.1x	<Ref	<Ref*	< Ref &/or <0.1xSLV	2.2	NA*	ND*
SLV				22		
10x				--		

Cd = Cadmium
Pb = Lead
Hg = Mercury
PCBs = Total PCBs as Congeners
(except Eagle Creek = Total PCBs as Aroclors)
B2EHP = Bis(2-ethylhexyl)phthalate
BBP = Butyl benzyl phthalate
ND = Not detected at MDL
NA = Not Available
< Ref = Less than Reference Area
Gray = Not analyzed.
Black = Not detected at MDL
Green = Detected below 0.1x SLV
Orange = Detected at 0.1x SLV to SLV
Red = Detected at SLV to 10x SLV
Purple = Detected above 10x SLV
* Not shown on figure

CPEC Concentrations



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RIVER OPERABLE UNIT

FISH CPECs IN SEDIMENT AND TISSUE

DRAWING NUMBER: FIGURE 12-20

GIS FILE NUMBER: Fig 12-20

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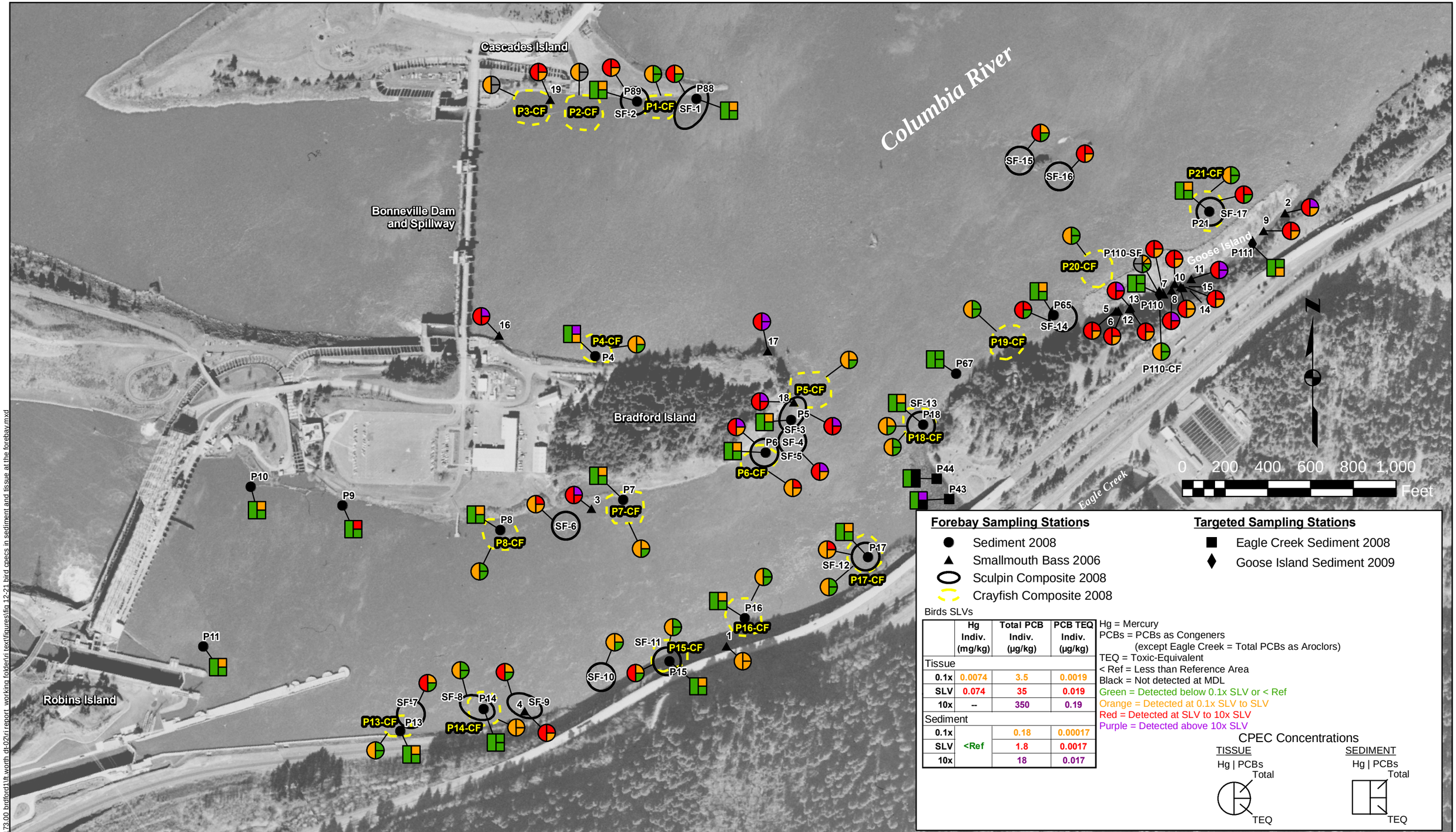
Q:\25692709 USACE\53-F00721\73.00 Bradford\1\Ft Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 12-20 Fish CPECs in Sediment and Tissue at the Forebay.mxd



	Hg Indiv. (mg/kg)	Total PCB Indiv. (µg/kg)	PCB TEQ Indiv. (µg/kg)
Tissue			
0.1x	0.0074	3.5	0.0019
SLV	0.074	35	0.019
10x	--	350	0.19
Sediment			
0.1x	<Ref	0.18	0.00017
SLV		1.8	0.0017
10x		18	0.017

o:\25692709 usace\53-f0072\173.00 bradford1\ft.worth dt-02\rri report working folder\ri text\figures\fig 12-21 bird cpecs in sediment and tissue at the forebay.mxd

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CASCADE LOCKS, OREGON

RIVER OPERABLE UNIT

BIRD CPECs IN SEDIMENT AND TISSUE

DRAWING NUMBER: FIGURE 12-21

GIS FILE NUMBER: Fig 12-21

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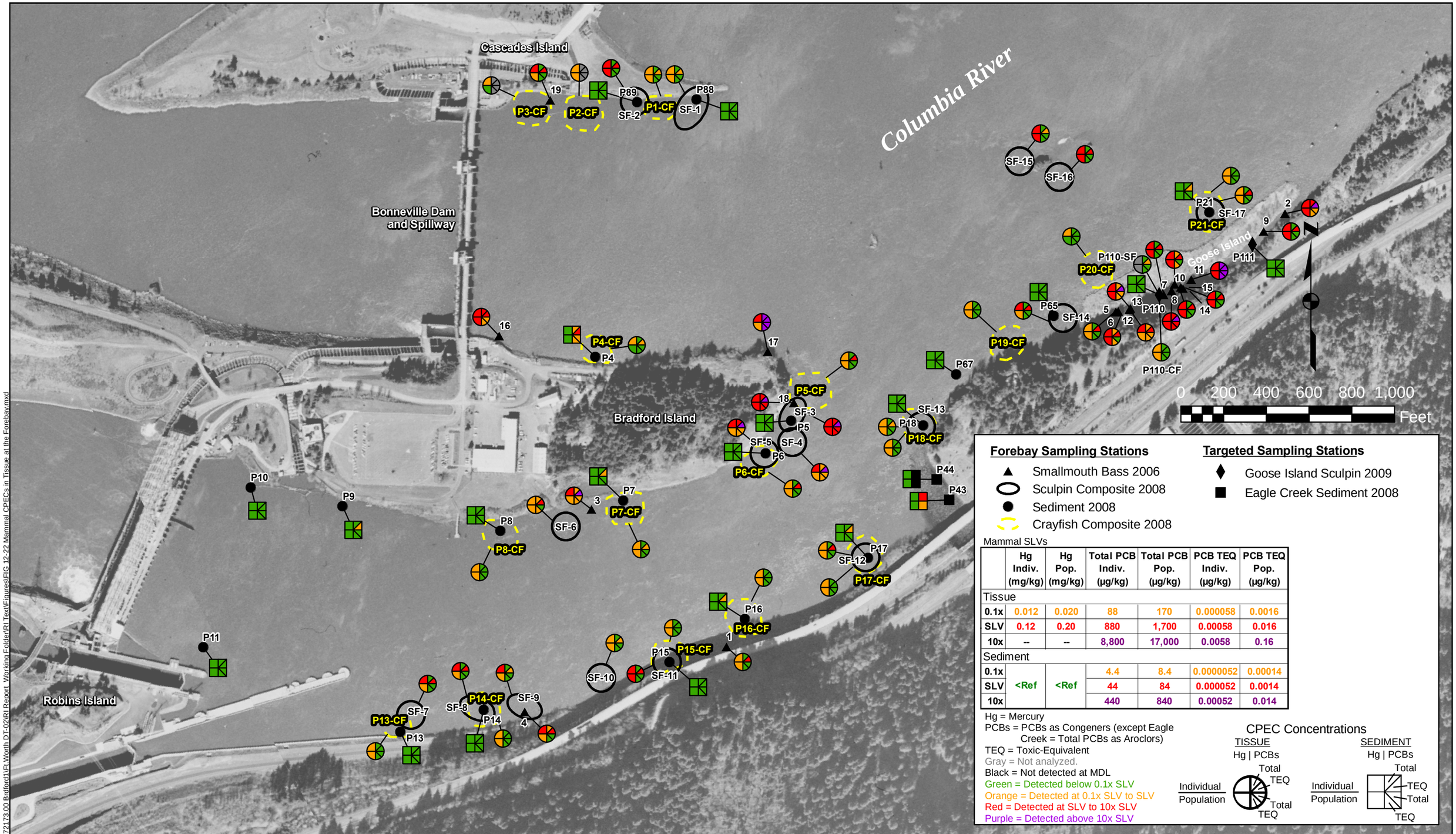

Mammal SLVs

	Hg Indiv. (mg/kg)	Hg Pop. (mg/kg)	Total PCB Indiv. (µg/kg)	Total PCB Pop. (µg/kg)	PCB TEQ Indiv. (µg/kg)	PCB TEQ Pop. (µg/kg)
Tissue						
0.1x	0.012	0.020	88	170	0.000058	0.0016
SLV	0.12	0.20	880	1,700	0.00058	0.016
10x	--	--	8,800	17,000	0.0058	0.16
Sediment						
0.1x	<Ref	<Ref	4.4	8.4	0.0000052	0.00014
SLV			44	84	0.000052	0.0014
10x			440	840	0.00052	0.014

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CASCADE LOCKS, OREGON

RIVER OPERABLE UNIT

MAMMAL CPECs IN TISSUE

DRAWING NUMBER: FIGURE 12-22

GIS FILE NUMBER: Fig 12-22

SHEET: REV.

Q:\25692709 USACE\53-F0072173.00 Bradford\1Ft.Worth DT-02\RI Report Working Folder\RI Text\Figures\FIG 12-22 Mammal CPECs in Tissue at the Forebay.mxd

TABLES

Table 3-1
Occurrence and Status of Threatened, Endangered, and Sensitive Species in the Bradford Island Vicinity, Oregon

Common and Scientific Name	Status				Probability of Occurrence
	Federal	State	ONHP List	TNC	
Plants					
Golden indian-paintbrush *(Castilleja levisecta)*	LT	LE	1-ex	G1, SH	Very unlikely, no suitable habitat, not seen in Oregon for 40 years, not observed.
Howellia (*Howellia aquatilus*)	LT	LT	1	G3, S1	Very unlikely, no suitable habitat, not observed.
Howell's daisy *(Erigeron howellii)*	SoC	C	1	G2, S2	Very unlikely, known from higher elevations in the Gorge, potentially suitable habitat on Bradford Island in forested areas, not project site, not observed.
Oregon daisy *(Erigeron oreganus)*	SoC	C	1	G3, S3	Very unlikely, last seen in early 1900s in Bonneville Dam area, unlikely to occur, not observed.
Tall bugbane *(Cimicifuga elata)*		C	1	G3, S3	Very unlikely, not observed, no suitable habitat.
Barrett's penstemon *(Penstemon barrettiae)*	SoC	C	1	G2, S2	Very unlikely, not observed in potentially suitable habitat, and would be identifiable if it had been present.
Howell's bentgrass *(Agrostis howellii)*	SoC	C	1	G2, S2	Very unlikely, not observed, should have been identifiable if present.
Cold-water corydalis *(Corydalis aquae-gelidae)*	SoC	C	1	G5T3, S3	Very unlikely, not observed, no habitat present.
Liverwort *(Scapania gymnostomophila)*			2	G4, S1	Very unlikely, not observed, potentially suitable habitat present on side of island north of project area.
Strickland's tauschia *(Tauschia stricklandii)*			2	G4, S1	Very unlikely, no suitable habitat, not observed.
Long-bearded hawkweed *(Hieracium longiberbe)*			4	G4G5, S3	Very unlikely, not observed, potential cliff habitat not within project area.
Sicklepod rockcress *(Arabis sparsiflora* var. *atrorubens)*			2	G5T3, S2	Very unlikely, not observed, probably no suitable habitat present.
Columbia lewisia (Lewisia columbiana var. columbiana)			2	G4T4, S2	Very unlikely, not observed, rocky slope habitat present outside of project area.
Oregon bolandra (Bolandra oregana)		SC	4	G3, S3	Very unlikely, not observed, no wet cliff/talus habitat present on Bradford Island.
Invertebrates					
Pristine springsnail (Pristinicola hempilli)			3	G3, S2	Very unlikely, no suitable habitat (springs) present in project area.

Table 3-1 (continued)
Occurrence and Status of Threatened, Endangered, and Sensitive Species in the Bradford Island Vicinity, Oregon

Common and Scientific Name	Status				Probability of Occurrence
	Federal	State	ONHP List	TNC	
Fish					
Sockeye salmon *(Oncorhynchus nerka)* Salmon River tributary to Snake River, Idaho ESU	LE		1-ex	G5T1Q, SXB, S1M	Any surviving fish of this extremely rare species would pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migration. No spawning or rearing.
Chum salmon *(Oncorhynchus keta)* Lower Columbia River ESU	LT	SC	1	G5T2Q, S2	Unlikely, current range restricted to below Bonneville Dam. No spawning or rearing.
Steelhead *(Oncorhynchus mykiss)* Lower Columbia ESU	LT	SC	1	G5T2Q, S2	Adults and smolt pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Steelhead *(Oncorhynchus mykiss)* Snake River Basin ESU	LT	SV	1	G5T2T3 Q, S2S3	Adults and smolt pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Steelhead *(Oncorhynchus mykiss)* Middle Columbia ESU	LT	SV	1	G5T2Q, S2	Adults and smolt pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Chinook salmon *(Oncorhynchus tsawytscha)* Snake River ESU	LT	LT	1	G5T1Q, S1	Adults and smolt pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Chinook salmon *(Oncorhynchus tsawytscha)* Lower Columbia ESU	LT	SC	1	G5T2Q, S2	Adults and smolt pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Coastal cutthroat trout *(Oncorhynchus clarki clarki)*	SoC	SC	1	G4T3Q, S2	Adults and juveniles pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Coho salmon *(Oncorhynchus kisutch)* Lower Columbia ESU	LT	LE	1	G4T2Q, S2	Adults and juveniles pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Pacific lamprey *(Lampropelta tridentata)*	SoC	SV	4	G5, S3	Adults and juveniles pass through Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.
Bull Trout *(Salvelinus confluentus)*	LT				Adults and juveniles pass thorugh Bonneville Dam and may move past Bradford Island on upstream and downstream migrations. No spawning or rearing.

Table 3-1 (continued)
Occurrence and Status of Threatened, Endangered, and Sensitive Species in the Bradford Island Vicinity, Oregon

Common and Scientific Name	Status				Probability of Occurrence
	Federal	State	ONHP List	TNC	
Amphibians					
Larch mountain salamander *(Plethodon larselli)*	SoC	SV	2	G3, S2	Very unlikely, suitable small-sized talus slope habitat not present.
Oregon spotted frog *(Rana pretiosa)*	C	SC	1	G2, S2	Very unlikely, no suitable warm, shallow marsh habitat present.
Reptiles					
Western painted turtle *(Chrysemys picta)*		SC	2	G5, S2	Very unlikely, observed in ponds near Cascade Locks, no suitable habitat in project area.
Birds					
Northern spotted owl *(Strix occidentalis caurina)*	LT	LT	1	G3T3, S3	Very unlikely to occur, only as transients passing through, area too small and disturbed to provide habitat.
Bald eagle *(Haliaeetus leucocephalus)*		LT	4	G5,S4B, S4N	Summer breeding and wintering resident of the vicinity.
Mammals					
Columbia white-tailed deer *(Odocoileus virginianus lecurus)*	PS:LE	SV	1	G5T2Q, S2	Very unlikely, no suitable habitat, current range below RM 50.
Northern (Stellar) Sea Lion *(Eumetopias jubatus)*	LT	SV	2	G3, S2	Sea lions have been observed foraging in the Bonneville pool, but they are not known to occur in the Bonneville forebay (above the dam).

State and Federal Status Definitions

LE – Listed Endangered. Taxa listed by the U.S. Fish and Wildlife Service or National Marine Fisheries Service as Endangered under the Endangered Species Act, or by the Oregon Departments of Agriculture (ODA) and Fish and Wildlife (ODFW) under the Oregon Endangered Species Act of 1987. Endangered taxa are those that are in danger of becoming extinct within the foreseeable future throughout all or a significant portion of their range.

LT – Listed Threatened. Taxa listed by the above agencies as Threatened; defined as those taxa likely to become endangered within the foreseeable future.

PS – Partial Status. Taxa listed by the above agencies in part of its range.

C – Candidate. Candidate taxa for which National Marine Fisheries Service or U.S. Fish and Wildlife Service have sufficient information to support a proposal to list under the Endangered Species Act, or which is a candidate for listing by the ODA under the Oregon Endangered Species Act.

SoC – Species of Concern. Former Category 2 candidates for which additional information is needed to propose as threatened or endangered under the Endangered Species Act; these species are under review for consideration as Candidates for listing under the Endangered Species Act.

SC – State Critical. Species for which listing as threatened or endangered is pending; or those for which listing as threatened or endangered may be appropriate if immediate conservation activities are not taken. Also considered critical are some peripheral species that are at risk throughout their range, and some disjunct populations.

SV – State Vulnerable. Species for which listing as threatened or endangered is not believed to be imminent and can be avoided through continued or expanded use of adequate protective measures and monitoring. In some cases the population is sustainable and protective measures are being implemented; in others, the population may be declining and improved protective measures are needed to maintain sustainable populations over time.

Oregon Natural Heritage Program (ONHP) Definitions

List 1 - taxa that are threatened with extinction or presumed to be extinct (-ex) throughout their entire range.

Table 3-1 (continued)
Occurrence and Status of Threatened, Endangered, and Sensitive Species in the Bradford Island Vicinity, Oregon

List 2 – taxa threatened with extirpation or presumed extirpated from Oregon; often peripheral or disjunct species that are of concern considering species diversity within Oregon; can be very significant in protecting the genetic diversity of the taxon; ONHP regards extreme rarity as a significant threat and has included species that are very rare in Oregon on this list.

List 3 – taxa for which more information is needed before status can be determined, but which may be threatened or endangered in Oregon or throughout their range.

List 4 – taxa that are of conservation concern but not currently threatened or endangered, including taxa that are very rare but considered secure as well as those declining in numbers or habitat but still too common to be proposed as threatened or endangered; these taxa require continued monitoring.

The Nature Conservancy's (TNC) Natural Heritage Network Ranks

The Natural Heritage Network ranks are part of a national system of ranking species throughout the world and is used throughout the U.S., Canada, and 13 Latin American countries. Both global and state ranks are provided in ONHP (2007), abbreviated as "G" and "S", respectively.

1 – Critically imperiled because of extreme rarity or because it is somehow especially vulnerable to extinction or extirpation, typically with 5 or fewer occurrences.

2 – Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences.

3 – Rare, uncommon, or threatened, but not immediately imperiled, typically with 21-100 occurrences.

4 – Not rare and apparently secure, but with cause for long-term concern, usually with more than 100 occurrences.

5 – Demonstrably widespread, abundant, and secure.

B – Breeding. Conservation status refers to the breeding population of the species in the nation or state/province.

H – Possibly extirpated or extinct. Known from only historical records but still some hope of rediscovery. There is evidence that the species or ecosystem may no longer be present in the jurisdiction, but not enough to state this with certainty.

M – Migrant. Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the nation or state/province.

N – Nonbreeding. Conservation status refers to the non-breeding population of the species in the nation or state/province.

T – Infraspecific Taxon (trinomial). The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. A vertebrate animal population, (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an infraspecific taxon and given a T-rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic status.

Q – Questionable taxonomy that may reduce conservation priority. Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon or type in another taxon or type, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.

X – Presumed extirpated or extinct.

Table 3-2
State and Federally Listed Anadromous Salmonid Species

Evolutionarily Significant Unit (ESU)	State Status	Federal Status	Life History Type	Federal Register (FR) Citation
Chinook Salmon (*Oncorhynchus tshawytscha*)				
Snake River	Threatened	Threatened	Ocean	57 FR 14653; April 22, 1992
Lower Columbia River		Threatened	Stream	64 FR 14308; March 24, 1999
Upper Columbia River		Endangered	Stream	64 FR 14308; March 24, 1999
Upper Willamette River		Threatened	Ocean	64 FR 14308; March 24, 1999
Chum Salmon (*Oncorhynchus keta*)				
Columbia River		Threatened	Ocean	64 FR 14508; March 25, 1999
Sockeye Salmon (*Oncorhynchus nerka*)				
Snake River		Endangered	Stream	56 FR 58619; November 20, 1991
Steelhead Trout (*Oncorhynchus mykiss*)				
Snake River Basin		Threatened	Stream	62 FR 43937; August 18, 1997
Lower Columbia River		Threatened	Stream	63 FR 13347; March 19, 1998
Middle Columbia River		Threatened	Stream	64 FR 14517; March 25, 1999
Upper Columbia River		Endangered	Stream	62 FR 43937; August 18, 1997
Upper Willamette River		Threatened	Stream	64 FR 14517; March 25, 1999
Coho Salmon *(Oncorhynchus kisutch)*				
Lower Columbia River	Endangered	Threatened	Stream	60 FR 38011; July 25, 1995

Table 3-3
Designated Beneficial Uses – Mainstem Columbia River

Beneficial Uses	Columbia River Mouth to RM 86	Columbia River RM 86 to 309
Public Domestic Water Supply[1]	X	X
Private Domestic Water Supply[1]	X	X
Industrial Water Supply	X	X
Irrigation	X	X
Livestock Watering	X	X
Fish & Aquatic Life[2]	X	X
Wildlife & Hunting	X	X
Fishing	X	X
Boating	X	X
Water Contact Recreation	X	X
Aesthetic Quality	X	X
Hydro Power		X
Commercial Navigation & Transportation	X	X

Source: OAR 340-41-0101, November 2003
[1] With adequate pretreatment and natural quality that meets drinking water standards.
[2] See also Table 3-3 for fish use designations for this river.

Table 3-4
Beneficial Use Designations – Fish Uses, Mainstem Columbia River

Geographic Extent of Use	**Salmon and Steelhead Migration Corridors (20°C)**	**Salmon and Steelhead Spawning through Fry Emergence**	**Shad and Sturgeon Spawning and Rearing**
Mainstem Columbia River			
Beacon Rock to Upstream of Ives Island (RM 141.5 to RM 143.5)		October 15 – March 31	
Columbia River, mouth to Washington border (RM309)	X		
Columbia River (RM 147 to RM 203)			X

Source: OAR 340-41-0101, November 2003
RM = River mile

Table 5-1a
1999/2000 Landfill Supplemental Site Inspection Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Herbicides, and Pesticides
(Page 1 of 2)

Site ID	BIL01SSI	BIL02SSI	BIL03SSI	BIL04SSI	BIL05SSI	BIL06SSI*	BIL09SSI	BIL10SSI	BIL11SSI	BIL12SSI	BIL13SSI*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	990920BIL01SS	990920BIL02SS	990920BIL03SS	990920BIL04SS	990920BIL05SS	990920BIL06SS	990920BIL09SS	990920BIL10SS	990921BIL11SS	990921BIL12SS	000413BIL13SS		
Sample Date	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/21/1999	9/21/1999	4/13/2000		
Sample Depth (Feet bgs)	0.0-0.33	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5		
PCB Aroclors (µg/kg dry)													
Aroclor 1016	35.0 UJ	34.0 UJ	35.0 UJ	34.0 UJ	36.0 UJ	35.0 UJ	35.0 UJ	35.0 UJ	37.0 UJ	35.0 UJ	50.0 UJ	371	Eco
Aroclor 1221	35.0 UJ	34.0 UJ	35.0 UJ	34.0 UJ	36.0 UJ	35.0 UJ	35.0 UJ	35.0 UJ	37.0 UJ	35.0 UJ	50.0 UJ	371	Eco
Aroclor 1232	35.0 UJ	34.0 UJ	35.0 UJ	34.0 UJ	36.0 UJ	35.0 UJ	35.0 UJ	35.0 UJ	37.0 UJ	35.0 UJ	50.0 UJ	371	Eco
Aroclor 1242	35.0 UJ	34.0 UJ	35.0 UJ	34.0 UJ	36.0 UJ	35.0 UJ	35.0 UJ	35.0 UJ	37.0 UJ	35.0 UJ	50.0 UJ	371	Eco
Aroclor 1248	35.0 UJ	34.0 UJ	35.0 UJ	34.0 UJ	36.0 UJ	35.0 UJ	35.0 UJ	35.0 UJ	37.0 UJ	35.0 UJ	50.0 UJ	371	Eco
Aroclor 1254	35.0 UJ	34.0 UJ	35.0 UJ	34.0 UJ	36.0 UJ	35.0 UJ	35.0 UJ	35.0 UJ	37.0 UJ	35.0 UJ	50.0 UJ	371	Eco
Aroclor 1260	**58.0 J**	**420 J**	**48.0 J**	**660 J**	**160 J**	**81.5 J**	35.0 UJ	35.0 UJ	37.0 UJ	35.0 UJ	50.0 UJ	371	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	**128 J**	**488 J**	**118 J**	**728 J**	**232 J**	**152 J**	105 UJ	105 UJ	111 UJ	105 UJ	150 UJ	371	Eco
Metals (mg/kg dry)													
Antimony	**2.80**	2.70 U	2.80 U	2.70 U	**4.20**	**3.90**	2.80 U	2.60 U	2.90 U	2.70 U	-	0.270	Eco
Arsenic	**3.60**	**1.50**	**4.90**	**3.20**	**30.1**	**3.70**	**3.00**	**3.10**	**11.3**	**2.80**	**1.98**	5.40	UPL
Barium	**83.4**	**71.1**	**77.9**	**58.9**	**204**	**111**	**119**	**108**	**108**	**115**	**243**	330	Eco
Beryllium	**0.300**	0.270 U	0.280 U	0.270 U	**0.460**	**0.350**	**0.400**	**0.440**	**0.540**	**0.370**	**0.576**	21.0	Eco
Cadmium	0.270 U	0.270 U	**0.500**	**0.440**	**1.30**	**1.75**	0.280 U	0.260 U	0.290 U	0.270 U	**0.343**	0.360	Eco
Chromium	**25.2**	**15.8**	**14.7**	**33.8**	**237**	**21.9**	**18.8**	**16.3**	**50.0**	**17.3**	**23.1**	28.1	UPL
Copper	**43.8**	**39.3**	**74.8**	**56.2**	**494**	**143**	**26.6**	**25.5**	**131**	**23.5**	**58.7 J**	56.7	UPL
Iron	**26,700**	**22,900**	**16,500**	**14,100**	**37,000**	**21,600**	**20,700**	**22,200**	**31,400**	**19,700**	**45,900**	36,900	UPL
Lead	**74.5**	**153**	**362**	**699**	**486**	**168**	**40.5**	**19.3**	**36.5**	**22.8**	**5.34**	25.5	UPL
Manganese	**372**	**270**	**244**	**196**	**714**	**333**	**312**	**327**	**720**	**300**	**415**	885	UPL
Mercury	0.110 U	0.110 U	**1.40**	**0.120**	**0.840**	**4.15**	**0.120**	0.110 U	0.110 U	0.100 U	**0.106**	0.0660	UPL
Nickel	**40.0**	**18.0**	**13.4**	**15.4**	**170**	**19.2**	**14.9**	**14.9**	**42.4**	**13.6**	**20.3 J**	38.0	Eco
Selenium	0.260 U	0.270 U	0.270 U	0.270 U	1.40 U	0.280 U	0.550 U	0.520 U	1.50 U	0.510 U	**0.848 J**	0.520	Eco
Silver	0.540 U	0.530 U	0.560 U	0.530 U	**1.50**	0.510 U	0.560 U	0.510 U	0.570 U	0.540 U	0.262 U	4.20	Eco
Thallium	0.260 U	0.270 U	0.270 U	0.270 U	0.280 U	0.270 U	0.280 U	0.260 U	0.290 U	0.250 U	**0.378**	1.00	Eco
Zinc	**88.7**	**98.0**	**150**	**134**	**635**	**138**	**85.1**	**69.6**	**163**	**69.0**	**41.6**	71.7	UPL
Petroleum Hydrocarbons (mg/kg dry)													
Diesel Range Organics	**31.0**	**110**	**80.0**	**590**	**300**	**1,000**	**32.0**	**23.0**	**31.0**	**17.0**	25.0 U	23,000	HH
Residual Range Organics	**210**	**1,400**	**380**	**3,000**	**1,700**	**9,450**	**130**	**100**	**150**	**100**	100 U	40,000	HH
Gasoline Range Organics	-	-	-	5.10 U	5.40 U	5.30 U	5.30 U	5.30 U	-	-	20.0 U	13,000	HH
Herbicides (µg/kg dry)													
2,4,5-T	**93.0**	3.10 U	**63.0**	8.70 U	3.30 U	3.20 U	6.70 U	9.00 U	3.30 U	11.0 U	50.0 U	21.0	Eco
2,4,5-TP (Silvex)	4.00 U	2.90 U	5.00 U	3.60 U	2.50 U	4.50 U	10.0 U	5.50 U	9.60 U	13.0 U	50.0 U	21.0	Eco
2,4-D	21.0 U	21.0 U	21.0 U	20.0 U	22.0 U	21.0 U	21.0 U	21.0 U	30.0 U	30.0 U	50.0 U	21.0	Eco
2,4-DB	10.0 U	10.0 U	5.00 U	10.0 U	11.0 U	10.0 U	34.0 U	11.0 U	11.0 U	10.0 U	50.0 U	21.0	Eco
Dalapon	42.0 U	41.0 U	42.0 U	41.0 U	43.0 U	42.0 U	42.0 U	42.0 U	44.0 U	42.0 U	50.0 U	18,000,000	HH
Dicamba	2.10 U	2.10 U	2.10 U	4.80 U	5.70 U	2.10 U	12.0 U	2.10 U	2.20 U	2.10 U	50.0 U	18,000,000	HH
Dichloroprop	**170**	87.0 U	260 U	**180**	180 U	75.0 U	400 U	240 U	340 U	310 U	50.0 U	21.0	Eco
Dinoseb	13.0 U	10.0 U	15.0 U	10.0 U	16.0 U	10.0 U	15.0 U	16.0 U	11.0 U	10.0 U	50.0 U	620,000	HH
MCPA	1,000 U	1,400 U	16,000 U	1,000 U	1,100 U	1,900 U	1,100 U	1,100 U	1,100 U	2,500 U	25,000 U	21.0	Eco
MCPP	4,800 U	**14,000**	1,100 U	13,000 U	1,100 U	**9,500**	28,000 U	38,000 U	28,000 U	32,000 U	25,000 U	21.0	Eco

Table 5-1a
1999/2000 Landfill Supplemental Site Inspection Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Herbicides, and Pesticides
(Page 2 of 2)

Site ID	BIL01SSI	BIL02SSI	BIL03SSI	BIL04SSI	BIL05SSI	BIL06SSI*	BIL09SSI	BIL10SSI	BIL11SSI	BIL12SSI	BIL13SSI*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	990920BIL01SS	990920BIL02SS	990920BIL03SS	990920BIL04SS	990920BIL05SS	990920BIL06SS	990920BIL09SS	990920BIL10SS	990921BIL11SS	990921BIL12SS	000413BIL13SS		
Sample Date	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/21/1999	9/21/1999	4/13/2000		
Sample Depth (Feet bgs)	0.0-0.33	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5		
Pesticides (µg/kg dry)													
4,4'-DDD	3.50 U	3.40 U	6.10 U	3.40 U	5.10 U	7.40 U	18.0 U	13.0 U	3.70 U	25.0 U	1.00 U	21.0	Eco
4,4'-DDE	3.50 U	9.40 U	3.50 U	**17.0**	3.60 U	3.50 U	3.50 U	3.50 U	3.70 U	3.50 U	1.00 U	21.0	Eco
4,4'-DDT	3.50 U	3.40 U	4.80 U	3.40 U	13.0 U	3.50 U	3.50 U	3.50 U	3.70 U	3.50 U	1.00 U	21.0	Eco
Aldrin	1.80 U	1.70 U	1.80 U	1.70 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.00 U	4.90	Eco
BHC (alpha)	1.80 U	1.70 U	1.80 U	1.70 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	0.500 U	340	HH
BHC (beta)	1.80 U	1.70 U	1.80 U	2.10 U	1.80 U	1.80 U	1.80 U	1.80 U	**2.60**	1.80 U	0.900 U	960	HH
BHC (delta)	1.80 U	1.70 U	1.80 U	1.70 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	0.600 U	340	HH
BHC (gamma) Lindane	1.80 U	1.70 U	1.80 U	1.70 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.00 U	2,000	HH
Chlordane (alpha)	1.80 U	1.70 U	2.10 U	19.0 U	**4.00**	4.10 U	8.80 U	3.50 U	1.80 U	8.00 U	0.800 U	7,200	HH
Chlordane (gamma)	1.80 U	11.0 U	1.80 U	13.0 U	2.40 U	1.80 U	2.60 U	1.80 U	1.80 U	2.70 U	0.700 U	7,200	HH
Dieldrin	3.50 U	3.40 U	3.50 U	3.40 U	3.60 U	3.50 U	3.50 U	3.50 U	3.70 U	3.50 U	2.00 U	4.90	Eco
Endosulfan I	1.80 U	3.50 U	1.80 U	1.70 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.00 U	20,000	Eco
Endosulfan II	3.50 U	4.90 U	3.50 U	3.60 U	3.60 U	3.50 U	3.50 U	3.50 U	3.70 U	3.50 U	2.00 U	20,000	Eco
Endosulfan Sulfate	3.50 U	3.40 U	3.50 U	3.40 U	3.60 U	3.50 U	3.50 U	3.50 U	3.70 U	3.50 U	1.00 U	20,000	Eco
Endrin	3.50 U	3.40 U	3.50 U	3.40 U	3.60 U	3.50 U	3.50 U	3.50 U	3.70 U	3.50 U	2.00 U	4.90	Eco
Endrin Aldehyde	3.50 U	13.0 U	3.50 U	3.40 U	3.60 U	4.00 U	3.50 U	3.50 U	3.70 U	3.50 U	2.00 U	4.90	Eco
Endrin Ketone	3.50 U	3.40 U	3.50 U	3.40 U	3.60 U	3.50 U	3.50 U	3.50 U	3.70 U	3.50 U	-	4.90	Eco
Heptachlor	1.80 U	1.70 U	1.80 U	1.70 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.00 U	480	HH
Heptachlor Epoxide	1.80 U	3.20 U	1.80 U	7.10 U	2.00 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.00 U	240	HH
Methoxychlor	18.0 U	17.0 U	18.0 U	17.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	18.0 U	4.00 U	500,000	Eco
Toxaphene	35.0 U	34.0 U	35.0 U	34.0 U	36.0 U	35.0 U	35.0 U	35.0 U	37.0 U	35.0 U	50.0 U	2,000	HH

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclors 1248, 1254, and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Landfill AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-1b
1999/2000 Landfill Supplemental Site Inspection Soil Analytical Results
Volatile Organic Compounds
(Page 1 of 2)

Site ID	BIL01SSI	BIL02SSI	BIL03SSI	BIL04SSI	BIL05SSI	BIL06SSI*	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	990920BIL01SS	990920BIL02SS	990920BIL03SS	990920BIL04SS	990920BIL05SS	990920BIL06SS		
Sample Date	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999		
Sample Depth (Feet bgs)	0.0-0.33	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5		
Volatile Organic Compounds (µg/kg dry)							--	--
1,1,1,2-Tetrachloroethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	9,300	HH
1,1,1-Trichloroethane (TCA)	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	38,000,000	HH
1,1,2,2-Tetrachloroethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,800	HH
1,1,2-Trichloroethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,700	HH
1,1-Dichloroethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	5,900	HH
1,1-Dichloroethene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	680,000	HH
1,1-Dichloropropene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	8,100	HH
1,2,3-Trichlorobenzene	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	20,000	Eco
1,2,3-Trichloropropane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	95.0	HH
1,2,4-Trichlorobenzene	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	20,000	Eco
1,2,4-Trimethylbenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	200,000	Eco
1,2-Dibromo-3-chloropropane	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	69.0	HH
1,2-Dibromoethane (EDB)	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	140	HH
1,2-Dichlorobenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,260	Eco
1,2-Dichloroethane (EDC)	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	590	HH
1,2-Dichloropropane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	4,500	HH
1,3,5-Trimethylbenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	150,000	HH
1,3-Dichlorobenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,260	Eco
1,3-Dichloropropane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	20,000,000	HH
1,4-Dichlorobenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	17,000	HH
2,2-Dichloropropane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	4,500	HH
2-Butanone (MEK)	10.0 U	10.0 U	11.0 U	10.0 U	11.0 U	10.0 U	200,000,000	HH
2-Chlorotoluene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	20,000,000	HH
2-Hexanone	10.0 U	10.0 U	11.0 U	10.0 U	11.0 U	10.0 U	1,250,000	Eco
4-Chlorotoluene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	72,000,000	HH
4-Isopropyltoluene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	200,000	Eco
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0 U	11.0 U	10.0 U	11.0 U	10.0 U	1,250,000	Eco
Acetone	10.0 U	10.0 U	11.0 U	10.0 U	11.0 U	10.0 U	1,250,000	Eco
Benzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	1,200	HH
Bromobenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	1,800,000	HH
Bromochloromethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	1,900	HH
Bromodichloromethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	1,900	HH
Bromoform	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	360,000	HH
Bromomethane	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	17,000	HH
Carbon Disulfide	10.0 U	10.0 U	11.0 U	10.0 U	11.0 U	10.0 U	1,000,000	Eco
Carbon Tetrachloride	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	630	HH
Chlorobenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	40,000	Eco
Chloroethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	61,000,000	HH
Chloroform	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	410	HH
Chloromethane	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	300,000	HH
cis-1,2-Dichloroethene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,500,000	Eco
cis-1,3-Dichloropropene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	8,100	HH
Dibromochloromethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	34,000	HH
Dibromomethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	110,000	HH
Dichlorodifluoromethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	730,000	Eco
Dichloromethane (Methylene Chloride)	10.0 U	10.0 U	11.0 U	**12.0**	11.0 U	10.0 U	20,000	HH
Ethylbenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,260	Eco
Hexachlorobutadiene	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	22,000	HH
Isopropylbenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,260	Eco
m,p-Xylenes	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	120,000	Eco
Naphthalene	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	23,000	HH
n-Butylbenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	-	-
n-Propylbenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,260	Eco
o-Xylene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	1,000	Eco
sec-Butylbenzene	5.30 U	5.20 U	5.30 U	5.10 U	5.40 U	5.30 U	2,260	Eco
Styrene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	300,000	Eco
tert-Butylbenzene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,260	Eco
Tetrachloroethene (PCE)	2.10 U	2.10 U	**15.0**	**23.0**	**65.0**	2.10 U	1,600	HH
Toluene	2.10 U	2.10 U	2.10 U	2.00 U	**5.30**	2.10 U	200,000	Eco
trans-1,2-Dichloroethene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	200,000	HH
trans-1,3-Dichloropropene	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	8,100	HH
Trichloroethene (TCE)	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	130	HH
Trichlorofluoromethane	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	730,000	Eco
Vinyl Acetate	10.0 U	10.0 U	11.0 U	10.0 U	11.0 U	10.0 U	4,100,000	HH
Vinyl Chloride	2.10 U	2.10 U	2.10 U	2.00 U	2.20 U	2.10 U	2,200	HH

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-1b
1999/2000 Landfill Supplemental Site Inspection Soil Analytical Results
Volatile Organic Compounds
(Page 2 of 2)

Site ID	BIL09SSI	BIL10SSI	BIL11SSI	BIL12SSI	BIL13SSI*	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	990920BIL09SS	990920BIL10SS	990921BIL11SS	990921BIL12SS	000413BIL13SS		
Sample Date	9/20/1999	9/20/1999	9/21/1999	9/21/1999	4/13/2000		
Sample Depth (Feet bgs)	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5		
Volatile Organic Compounds (µg/kg dry)						--	--
1,1,1,2-Tetrachloroethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	9,300	HH
1,1,1-Trichloroethane (TCA)	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	38,000,000	HH
1,1,2,2-Tetrachloroethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,800	HH
1,1,2-Trichloroethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,700	HH
1,1-Dichloroethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	5,900	HH
1,1-Dichloroethene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	680,000	HH
1,1-Dichloropropene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	8,100	HH
1,2,3-Trichlorobenzene	5.30 U	5.30 U	5.60 U	5.30 U	100 UJ	20,000	Eco
1,2,3-Trichloropropane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	95.0	HH
1,2,4-Trichlorobenzene	5.30 U	5.30 U	5.60 U	5.30 U	100 UJ	20,000	Eco
1,2,4-Trimethylbenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	200,000	Eco
1,2-Dibromo-3-chloropropane	5.30 U	5.30 U	5.60 U	5.30 U	500 UJ	69.0	HH
1,2-Dibromoethane (EDB)	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	140	HH
1,2-Dichlorobenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,260	Eco
1,2-Dichloroethane (EDC)	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	590	HH
1,2-Dichloropropane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	4,500	HH
1,3,5-Trimethylbenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	150,000	HH
1,3-Dichlorobenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,260	Eco
1,3-Dichloropropane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	20,000,000	HH
1,4-Dichlorobenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	17,000	HH
2,2-Dichloropropane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	4,500	HH
2-Butanone (MEK)	11.0 U	11.0 U	11.0 U	10.0 U	1,000 UJ	200,000,000	HH
2-Chlorotoluene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	20,000,000	HH
2-Hexanone	11.0 U	11.0 U	11.0 U	10.0 U	1,000 UJ	1,250,000	Eco
4-Chlorotoluene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	72,000,000	HH
4-Isopropyltoluene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	200,000	Eco
4-Methyl-2-pentanone (MIBK)	11.0 U	11.0 U	11.0 U	10.0 U	1,000 UJ	1,250,000	Eco
Acetone	11.0 U	11.0 U	11.0 U	10.0 U	1,000 UJ	1,250,000	Eco
Benzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	1,200	HH
Bromobenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	1,800,000	HH
Bromochloromethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	1,900	HH
Bromodichloromethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	1,900	HH
Bromoform	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	360,000	HH
Bromomethane	5.30 U	5.30 U	5.60 U	5.30 U	100 UJ	17,000	HH
Carbon Disulfide	11.0 U	11.0 U	11.0 U	10.0 U	100 UJ	1,000,000	Eco
Carbon Tetrachloride	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	630	HH
Chlorobenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	40,000	Eco
Chloroethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	61,000,000	HH
Chloroform	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	410	HH
Chloromethane	5.30 U	5.30 U	5.60 U	5.30 U	500 UJ	300,000	HH
cis-1,2-Dichloroethene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,500,000	Eco
cis-1,3-Dichloropropene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	8,100	HH
Dibromochloromethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	34,000	HH
Dibromomethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	110,000	HH
Dichlorodifluoromethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	730,000	Eco
Dichloromethane (Methylene Chloride)	11.0 U	11.0 U	11.0 U	10.0 U	1,000 UJ	20,000	HH
Ethylbenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,260	Eco
Hexachlorobutadiene	5.30 U	5.30 U	5.60 U	5.30 U	100 UJ	22,000	HH
Isopropylbenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,260	Eco
m,p-Xylenes	2.10 U	2.10 U	2.20 U	2.10 U	200 UJ	120,000	Eco
Naphthalene	5.30 U	5.30 U	5.60 U	5.30 U	100 UJ	23,000	HH
n-Butylbenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	-	-
n-Propylbenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,260	Eco
o-Xylene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	1,000	Eco
sec-Butylbenzene	5.30 U	5.30 U	5.60 U	5.30 U	100 UJ	2,260	Eco
Styrene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	300,000	Eco
tert-Butylbenzene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,260	Eco
Tetrachloroethene (PCE)	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	1,600	HH
Toluene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	200,000	Eco
trans-1,2-Dichloroethene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	200,000	HH
trans-1,3-Dichloropropene	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	8,100	HH
Trichloroethene (TCE)	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	130	HH
Trichlorofluoromethane	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	730,000	Eco
Vinyl Acetate	11.0 U	11.0 U	11.0 U	10.0 U	-	4,100,000	HH
Vinyl Chloride	2.10 U	2.10 U	2.20 U	2.10 U	100 UJ	2,200	HH

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-1c
1999/2000 Landfill Supplemental Site Inspection Soil Analytical Results
Semivolatile Organic Compounds
(Page 1 of 2)

Site ID	BIL01SSI	BIL02SSI	BIL03SSI	BIL04SSI	BIL05SSI	BIL06SSI*	BIL09SSI	BIL10SSI	BIL11SSI	BIL12SSI	BIL13SSI*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	990920BIL01SS	990920BIL02SS	990920BIL03SS	990920BIL04SS	990920BIL05SS	990920BIL06SS	990920BIL09SS	990920BIL10SS	990921BIL11SS	990921BIL12SS	000413BIL13SS		
Sample Date	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/21/1999	9/21/1999	4/13/2000		
Sample Depth (Feet bgs)	0.0-0.33	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5		
Semivolatile Organic Compounds (µg/kg dry)													
1,2,4-Trichlorobenzene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	20,000	Eco
1,2-Dichlorobenzene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	2,260	Eco
1,3-Dichlorobenzene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	2,260	Eco
1,4-Dichlorobenzene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	17,000	HH
2,4,5-Trichlorophenol	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	930 U	880 U	49.8 U	4,000	Eco
2,4,6-Trichlorophenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	10,000	Eco
2,4-Dichlorophenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	20,000	Eco
2,4-Dimethylphenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	99.7 U	20,000	Eco
2,4-Dinitrophenol	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	930 U	880 U	249 UJ	20,000	Eco
2,4-Dinitrotoluene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	249 UJ	5,500	HH
2,6-Dinitrotoluene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	249 U	240,000	HH
2-Chloronaphthalene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	82,000,000	HH
2-Chlorophenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	60,000	Eco
2-Methylphenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	50,000	Eco
2-Nitroaniline	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	930 U	880 U	249 U	6,000,000	HH
2-Nitrophenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 UJ	180,000,000	HH
3,3'-Dichlorobenzidine	350 U	340 U	350 U	680 U	350 U	350 U	350 U	350 U	370 U	350 U	2,490 UJ	4,800	HH
3-Nitroaniline	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	930 U	880 U	249 U	70,000	Eco
4,6-Dinitro-2-methylphenol	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	930 U	880 U	249 UJ	49,000	HH
4-Bromophenyl Phenyl Ether	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	-	-
4-Chloro-3-methylphenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	62,000,000	HH
4-Chloroaniline	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	249 UJ	8,600	HH
4-Chlorophenyl Phenyl Ether	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	-	-
4-Nitroaniline	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	930 U	880 U	249 U	40,000	Eco
4-Nitrophenol	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	930 U	880 U	249 U	7,000	Eco
Aniline	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	200,000	Eco
Benzidine	1,800 U	1,700 U	1,800 U	1,700 U	1,800 U	1,800 U	1,800 U	1,800 U	1,800 U	1,800 U	-	55,000	HH
Benzoic Acid	880 U	860 U	880 U	**34.0 J**	900 U	**32.0 J**	**20.0 J**	880 U	930 U	880 U	**300**	200,000	Eco
Benzyl Alcohol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	2,260	Eco
Bis(2-chloroethoxy)methane	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	730,000	Eco
Bis(2-chloroethyl) Ether	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	1,000	HH
Bis(2-chloroisopropyl) Ether	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	1,000	HH
Bis(2-ethylhexyl) Phthalate	**150 J**	**430**	**330**	**21,000**	**5,100**	**825 J**	**180**	**770**	**760**	**1,900**	50.0 U	4,500	Eco
Butyl Benzyl Phthalate	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	**22.0 J**	180 U	49.8 U	450	Eco
Carbazole	180 U	170 U	**56.0 J**	**1,300**	**220**	**144 J**	180 U	180 U	**27.0 J**	180 U	49.8 UJ	2,260	Eco
Dibenzofuran	180 U	170 U	180 U	**380**	**76.0 J**	**140 J**	180 U	180 U	**20.0 J**	180 U	49.8 U	2.00	Eco
Diethyl Phthalate	180 U	170 U	180 U	**50.0 J**	**44.0 J**	180 U	180 U	180 U	190 U	180 U	49.8 U	100,000	Eco
Dimethyl Phthalate	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	150,000	HH
Di-n-butyl Phthalate	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	450	Eco
Di-n-octyl Phthalate	180 U	170 U	180 U	170 U	730 U	180 U	180 U	180 U	190 U	180 U	49.8 U	450	Eco
Hexachlorobenzene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	1,800	HH
Hexachlorobutadiene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	22,000	HH
Hexachlorocyclopentadiene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	249 UJ	10,000	Eco
Hexachloroethane	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	150,000	HH
Isophorone	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	1,800,000	HH
Nitrobenzene	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	8,000	Eco
N-Nitrosodimethylamine	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	-	34.0	HH
N-Nitrosodi-n-propylamine	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	250	HH
N-Nitrosodiphenylamine	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	20,000	Eco
p-cresol (4-Methylphenol)	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	50,000	Eco
Pentachlorophenol	880 U	860 U	880 U	860 U	900 U	880 U	880 U	880 U	**72.0 J**	880 U	249 U	2,100	Eco
Phenol	180 U	170 U	180 U	170 U	180 U	180 U	180 U	180 U	190 U	180 U	49.8 U	30,000	Eco

Table 5-1c
1999/2000 Landfill Supplemental Site Inspection Soil Analytical Results
Semivolatile Organic Compounds
(Page 2 of 2)

Site ID	BIL01SSI	BIL02SSI	BIL03SSI	BIL04SSI	BIL05SSI	BIL06SSI*	BIL09SSI	BIL10SSI	BIL11SSI	BIL12SSI	BIL13SSI*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	990920BIL01SS	990920BIL02SS	990920BIL03SS	990920BIL04SS	990920BIL05SS	990920BIL06SS	990920BIL09SS	990920BIL10SS	990921BIL11SS	990921BIL12SS	000413BIL13SS		
Sample Date	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/20/1999	9/21/1999	9/21/1999	4/13/2000		
Sample Depth (Feet bgs)	0.0-0.33	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5		
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)													
2-Methylnaphthalene	180 U	170 U	180 U	**57.0 J**	180 U	**76.0 J**	180 U	180 U	190 U	180 U	49.8 U	4,100,000	HH
Acenaphthene	180 U	**42.0 J**	**53.0 J**	**2,600 J**	**500**	**171 J**	180 U	180 U	**140 J**	180 U	49.8 U	19,000,000	HH
Acenaphthylene	180 U	170 U	180 U	**74.0 J**	180 U	**22.0 J**	180 U	180 U	190 U	180 U	49.8 U	23,000	HH
Anthracene	**12.0 J**	**18.0 J**	**110 J**	**2,700**	**460**	**177 J**	180 U	180 U	**100 J**	180 U	49.8 U	93,000,000	HH
Fluorene	180 U	170 U	**47.0 J**	**1,200**	**170 J**	**145 J**	180 U	180 U	**67.0 J**	180 U	49.8 U	12,000,000	HH
Naphthalene	180 U	170 U	180 U	**100 J**	**19.0 J**	**360**	180 U	180 U	190 U	180 U	49.8 U	23,000	HH
Phenanthrene	**39.0 J**	**68.0 J**	**300**	**12,000**	**1,900**	**1,230**	**40.0 J**	**36.0 J**	**370**	**13.0 J**	49.8 U	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**153 J**	**256 J**	**650 J**	**18,674 J**	**3,143 J**	**2,105 J**	**940 J**	**936 J**	**881 J**	**913 J**	299 U	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)													
Benzo(a)anthracene	**98.0 J**	**130 J**	**1,600**	**32,000**	**2,200**	**1,400 J**	**82.0 J**	**60.0 J**	**400**	**29.0 J**	49.8 U	2,700	HH
Benzo(a)pyrene	**140 J**	**160 J**	**1,800**	**33,000**	**2,200**	**1,400 J**	**100 J**	**70.0 J**	**420**	**28.0 J**	49.8 U	270	HH
Benzo(b)fluoranthene	**110 J**	**170 J**	**2,000**	**65,000**	**340 J**	**2,350**	**82.0 J**	**58.0 J**	**66.0 J**	**34.0 J**	49.8 U	2,700	HH
Benzo(g,h,i)perylene	**71.0 J**	**150 J**	**790**	**18,000**	**1,800**	**1,250 J**	**82.0 J**	**51.0 J**	**290**	**20.0 J**	49.8 U	27,000	HH
Benzo(k)fluoranthene	**110 J**	**100 J**	**1,000**	**65,000**	**340 J**	**2,350**	**89.0 J**	**64.0 J**	**66.0 J**	**40.0 J**	49.8 U	27,000	HH
Chrysene	**120 J**	**160 J**	**1,600**	**32,000**	**1,700**	**1,650 J**	**100 J**	**79.0 J**	**420**	**62.0 J**	49.8 U	270,000	HH
Dibenz(a,h)anthracene	**37.0 J**	170 U	**450**	**9,900**	**540 J**	1,800 U	**32.0 J**	**24.0 J**	**150 J**	**18.0 J**	49.8 U	270	HH
Fluoranthene	**130 J**	**160 J**	**1,600**	**54,000**	**3,300**	**795**	**120 J**	**88.0 J**	**700**	**42.0 J**	49.8 U	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**73.0 J**	**130 J**	**820**	**19,000**	**1,700**	**1,175 J**	**74.0 J**	**48.0 J**	**300**	**18.0 J**	49.8 U	2,700	HH
Pyrene	**160 J**	**210**	**1,400**	**40,000**	**3,200**	**2,500 J**	**130 J**	**98.0 J**	**640**	**43.0 J**	49.8 UJ	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**1,049 J**	**1,511 J**	**13,060**	**367,900**	**17,320 J**	**16,150 J**	**891 J**	**640 J**	**3,452 J**	**334 J**	498 UJ	1,100	Eco

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped

Table 5-1d
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Herbicides, and Pesticides
(Page 1 of 4)

Site ID	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	990713BIL08GW	991108BIL14GW	000110BIL20GW	990712BIL07GW	991108BIL12GW	000110BIL15GW				
Sample Date	7/13/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000				
Sample Depth (Feet btc)	27.5	27.5	27.5	29.56	29.56	29.56				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater				
Total PCB Aroclors (µg/L)										
Aroclor 1016	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.0000640	HH	0.0140	Eco
Aroclor 1221	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.0000640	HH	0.00680	HH
Aroclor 1232	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.0000640	HH	0.00680	HH
Aroclor 1242	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.0000640	HH	0.0140	Eco
Aroclor 1248	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.0000640	HH	0.0140	Eco
Aroclor 1254	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.0000640	HH	0.0140	Eco
Aroclor 1260	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.0000640	HH	0.0140	Eco
Total Metals (µg/L)										
Antimony	-	50.0 U	50.0 U	-	50.0 U	50.0 U	5.60	HH	15.0	HH
Arsenic	-	**15.4**	**16.2**	-	**6.00**	**7.00**	0.0180	HH	0.0380	HH
Barium	-	**33.5**	**33.1**	-	**45.7**	**42.6**	1,000	HH	7,300	HH
Beryllium	-	5.00 U	5.00 U	-	5.00 U	5.00 U	--	--	73.0	HH
Cadmium	-	5.00 U	5.00 U	-	5.00 U	5.00 U	--	--	18.0	HH
Chromium	-	10.0 U	10.0 U	-	10.0 U	10.0 U	--	--	55,000	HH
Copper	-	10.0 U	10.0 U	-	10.0 U	10.0 U	1,300	HH	1,500	HH
Iron	-	**73.7**	**66.0**	-	**508**	**238**	300	HH	26,000	HH
Lead	-	3.00 U	3.00 U	-	3.00 U	3.00 U	--	--	15.0	HH
Manganese	-	**25.5**	**14.0**	-	**39.3**	**14.6**	50.0	HH	880	HH
Mercury	-	0.200 U	**0.330**	-	0.200 U	0.200 U	--	--	11.0	HH
Nickel	-	10.0 U	10.0 U	-	10.0 U	10.0 U	610	HH	730	HH
Selenium	-	**32.9**	**28.6**	-	5.00 U	5.00 U	170	HH	180	HH
Silver	-	10.0 U	10.0 U	-	10.0 U	10.0 U	--	--	180	HH
Thallium	-	5.00 U	5.00 U	-	5.00 U	5.00 U	0.240	HH	2.00	HH
Zinc	-	**16.8**	**19.5**	-	10.0 U	10.0 U	7,400	HH	11,000	HH
Dissolved Metals (µg/L)										
Antimony	-	-	-	50.0 U	-	-	5.60	HH	15.0	HH
Arsenic	-	-	-	**6.80**	-	-	0.0180	HH	0.0380	HH
Barium	-	-	-	**37.5**	-	-	4.00	Eco	4.00	Eco
Beryllium	-	-	-	5.00 U	-	-	5.30	Eco	5.30	Eco
Cadmium	-	-	-	5.00 U	-	-	0.250	Eco	0.250	Eco
Chromium	-	-	-	10.0 U	-	-	74.0	Eco	74.0	Eco
Copper	-	-	-	10.0 U	-	-	9.00	Eco	9.00	Eco
Iron	-	-	-	**188**	-	-	300	HH	1,000	Eco
Lead	-	-	-	3.00 U	-	-	2.50	Eco	2.50	Eco
Manganese	-	-	-	**14.2**	-	-	50.0	HH	120	Eco
Mercury	-	-	-	0.200 U	-	-	0.770	Eco	0.770	Eco
Nickel	-	-	-	10.0 U	-	-	52.0	Eco	52.0	Eco
Selenium	-	-	-	5.00 U	-	-	5.00	Eco	5.00	Eco
Silver	-	-	-	10.0 U	-	-	0.120	Eco	0.120	Eco
Thallium	-	-	-	5.00 U	-	-	0.240	HH	2.00	HH
Zinc	-	-	-	10.0 U	-	-	120	Eco	120	Eco

Table 5-1d
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Herbicides, and Pesticides
(Page 2 of 4)

Site ID	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	990713BIL08GW	991108BIL14GW	000110BIL20GW	990712BIL07GW	991108BIL12GW	000110BIL15GW				
Sample Date	7/13/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000				
Sample Depth (Feet btc)	27.5	27.5	27.5	29.56	29.56	29.56				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater				
Total Petroleum Hydrocarbons (µg/L)										
Diesel Range Organics	240 U	**340**	**280**	240 U	240 U	250 U	--	--	90.0	HH
Residual Range Organics	710 U	**840**	750 U	710 U	710 U	750 U	--	--	290	HH
Gasoline Range Organics	100 U	100 U	100 U	100 U	100 U	100 U	--	--	100	HH
Total Herbicides (µg/L)										
2,4,5-T	-	0.100 U	0.150 U	0.150 U	0.100 U	0.150 U	36.0	Eco	36.0	Eco
2,4,5-TP (Silvex)	-	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	--	--	290	HH
2,4-D	-	0.250 U	1.00 U	1.00 U	0.250 U	1.00 U	4.00	Eco	4.00	Eco
2,4-DB	-	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	--	--	290	HH
Dalapon	-	0.500 U	2.00 U	2.00 U	0.500 U	2.00 U	--	--	1,100	HH
Dicamba	-	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	10.0	Eco	10.0	Eco
Dichloroprop	-	0.250 U	0.250 U	1.00 U	0.250 U	0.250 U	4.00	Eco	4.00	Eco
Dinoseb	-	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.0500	Eco	0.0500	Eco
MCPA	-	10.0 U	50.0 U	50.0 U	10.0 U	50.0 U	2.60	Eco	2.60	Eco
MCPP	-	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	--	--	37.0	HH
Total Pesticides (µg/L)										
4,4'-DDD	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.000310	HH	0.00100	Eco
4,4'-DDE	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.000220	HH	0.00100	Eco
4,4'-DDT	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.000220	HH	0.00100	Eco
Aldrin	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0000490	HH	0.00330	HH
BHC (alpha)	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.00260	HH	0.00900	HH
BHC (beta)	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.00910	HH	0.0370	HH
BHC (delta)	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.00260	HH	0.00900	HH
BHC (gamma) Lindane	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0800	Eco	0.0520	HH
Chlordane (alpha)	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.000800	HH	0.00430	Eco
Chlordane (gamma)	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.000800	HH	0.00430	Eco
Dieldrin	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0000520	HH	0.00350	HH
Endosulfan I	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0560	Eco	0.0560	Eco
Endosulfan II	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0560	Eco	0.0560	Eco
Endosulfan Sulfate	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0510	Eco	0.0510	Eco
Endrin	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0360	Eco	0.0360	Eco
Endrin Aldehyde	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.150	Eco	0.150	Eco
Endrin Ketone	0.0960 U	0.0960 U	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0590	HH	11.0	HH
Heptachlor	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0000790	HH	0.00380	Eco
Heptachlor Epoxide	0.0480 U	0.0480 U	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0000390	HH	0.00380	Eco
Methoxychlor	0.480 U	0.480 U	0.500 U	0.470 U	0.480 UJ	0.500 U	0.0300	Eco	0.0300	Eco
Toxaphene	0.960 U	0.960 U	1.00 U	0.940 U	0.950 UJ	1.00 U	0.000280	HH	0.00200	Eco

Notes:

µg/L = microgram per liter
mg/L = milligram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-1d
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Herbicides, and Pesticides
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Site ID	MW-03	MW-03	MW-03	MW-04*	MW-04*	MW-04*	MW-05	MW-05	SEEP*	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	990712BIL06GW	991108BIL11GW	000110BIL18GW	990712BIL01GW	991108BIL09GW	000110BIL16GW	991108BIL13GW	000110BIL19GW	000413BIL21GW				
Sample Date	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	11/8/1999	1/10/2000	4/13/2000				
Sample Depth (Feet btc)	18.21	18.21	18.21	20.29	20.29	20.29	24.87	24.87	0.0				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Seep Water				
Total PCB Aroclors (µg/L)													
Aroclor 1016	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 U	1.00 U	0.940 U	1.00 UJ	0.100 U	0.0000640	HH	0.0140	Eco
Aroclor 1221	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 U	1.00 U	0.940 U	1.00 UJ	0.100 U	0.0000640	HH	0.00680	HH
Aroclor 1232	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 U	1.00 U	0.940 U	1.00 UJ	0.100 U	0.0000640	HH	0.00680	HH
Aroclor 1242	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 U	1.00 U	0.940 U	1.00 UJ	0.100 U	0.0000640	HH	0.0140	Eco
Aroclor 1248	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 U	1.00 U	0.940 U	1.00 UJ	0.100 U	0.0000640	HH	0.0140	Eco
Aroclor 1254	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 U	1.00 U	0.940 U	1.00 UJ	0.100 U	0.0000640	HH	0.0140	Eco
Aroclor 1260	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 U	1.00 U	0.940 U	1.00 UJ	0.100 U	0.0000640	HH	0.0140	Eco
Total Metals (µg/L)													
Antimony	-	50.0 U	50.0 U	-	50.0 U	50.0 U	50.0 U	50.0 U	1.00 U	5.60	HH	15.0	HH
Arsenic	-	5.00 U	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	**1.04**	0.0180	HH	0.0380	HH
Barium	-	**15.7**	**10.8**	-	**290**	**238**	**164**	**126**	**74.2**	1,000	HH	7,300	HH
Beryllium	-	5.00 U	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	--	--	73.0	HH
Cadmium	-	5.00 U	5.00 U	-	**5.60**	5.00 U	5.00 U	5.00 U	1.00 U	--	--	18.0	HH
Chromium	-	10.0 U	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	**1.05**	--	--	55,000	HH
Copper	-	10.0 U	10.0 U	-	**17.6**	**45.2**	10.0 U	10.0 U	**2.72**	1,300	HH	1,500	HH
Iron	-	**119**	**53.1**	-	**9,755**	**157**	**32,800**	**25,400**	**8,195**	300	HH	26,000	HH
Lead	-	3.00 U	3.00 U	-	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	--	--	15.0	HH
Manganese	-	**23.2**	10.0 U	-	**1,380**	**194**	**4,110**	**3,300**	**1,475**	50.0	HH	880	HH
Mercury	-	0.200 U	**0.200**	-	0.200 U	0.200 U	0.200 U	0.200 U	1.00 U	--	--	11.0	HH
Nickel	-	10.0 U	10.0 U	-	**110**	**112**	10.0 U	10.0 U	**2.32**	610	HH	730	HH
Selenium	-	5.00 U	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	**1.11**	170	HH	180	HH
Silver	-	10.0 U	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	1.00 U	--	--	180	HH
Thallium	-	5.00 U	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	0.240	HH	2.00	HH
Zinc	-	10.0 U	10.0 U	-	**2,655**	**1,500**	**18.7**	**15.8**	10.0 U	7,400	HH	11,000	HH
Dissolved Metals (µg/L)													
Antimony	50.0 U	-	-	50.0 U	-	-	-	-	**2.28**	5.60	HH	15.0	HH
Arsenic	5.00 U	-	-	5.00 U	-	-	-	-	1.00 U	0.0180	HH	0.0380	HH
Barium	**21.2**	-	-	**134**	-	-	-	-	**277**	4.00	Eco	4.00	Eco
Beryllium	5.00 U	-	-	5.00 U	-	-	-	-	1.00 U	5.30	Eco	5.30	Eco
Cadmium	5.00 U	-	-	5.00 U	-	-	-	-	1.00 U	0.250	Eco	0.250	Eco
Chromium	10.0 U	-	-	10.0 U	-	-	-	-	1.00 U	74.0	Eco	74.0	Eco
Copper	10.0 U	-	-	10.0 U	-	-	-	-	**1.09**	9.00	Eco	9.00	Eco
Iron	50.0 U	-	-	**3,615**	-	-	-	-	**3,210**	300	HH	1,000	Eco
Lead	3.00 U	-	-	3.00 U	-	-	-	-	1.00 U	2.50	Eco	2.50	Eco
Manganese	**12.0**	-	-	**1,325**	-	-	-	-	**1,480 J**	50.0	HH	120	Eco
Mercury	0.200 U	-	-	0.200 U	-	-	-	-	1.00 U	0.770	Eco	0.770	Eco
Nickel	10.0 U	-	-	**18.7**	-	-	-	-	**2.22**	52.0	Eco	52.0	Eco
Selenium	5.00 U	-	-	5.00 U	-	-	-	-	1.00 U	5.00	Eco	5.00	Eco
Silver	10.0 U	-	-	10.0 U	-	-	-	-	1.00 U	0.120	Eco	0.120	Eco
Thallium	5.00 U	-	-	5.00 U	-	-	-	-	1.00 U	0.240	HH	2.00	HH
Zinc	10.0 U	-	-	**197**	-	-	-	-	**85.6**	120	Eco	120	Eco

Table 5-1d
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Herbicides, and Pesticides
(Page 4 of 4)

Site ID	MW-03	MW-03	MW-03	MW-04*	MW-04*	MW-04*	MW-05	MW-05	SEEP*	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	990712BIL06GW	991108BIL11GW	000110BIL18GW	990712BIL01GW	991108BIL09GW	000110BIL16GW	991108BIL13GW	000110BIL19GW	000413BIL21GW				
Sample Date	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	11/8/1999	1/10/2000	4/13/2000				
Sample Depth (Feet btc)	18.21	18.21	18.21	20.29	20.29	20.29	24.87	24.87	0.0				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Seep Water				
Total Petroleum Hydrocarbons (µg/L)													
Diesel Range Organics	240 U	240 U	250 U	240 U	**295**	**305**	**1,800**	**1,100**	250 U	--	--	90.0	HH
Residual Range Organics	710 U	710 U	750 U	710 U	710 U	750 U	**1,900**	750 U	500 U	--	--	290	HH
Gasoline Range Organics	100 U	100 U	100 U	100 U	100 U	100 U	**300**	**430**	250 U	--	--	100	HH
Total Herbicides (µg/L)													
2,4,5-T	0.150 U	0.100 U	0.150 U	0.150 U	0.100 U	0.150 U	0.100 U	0.150 U	0.400 U	36.0	Eco	36.0	Eco
2,4,5-TP (Silvex)	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.400 U	--	--	290	HH
2,4-D	1.00 U	0.250 U	1.00 U	1.00 U	0.250 U	1.00 U	0.250 U	1.00 U	0.400 U	4.00	Eco	4.00	Eco
2,4-DB	1.00 U	0.500 U	0.500 U	1.00 U	0.500 U	0.500 U	0.500 U	0.500 U	0.400 U	--	--	290	HH
Dalapon	2.00 U	0.500 U	2.00 U	2.00 U	0.500 U	2.00 U	0.500 U	2.00 U	0.400 U	--	--	1,100	HH
Dicamba	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.400 U	10.0	Eco	10.0	Eco
Dichloroprop	1.00 U	0.250 U	0.250 U	1.00 U	0.250 U	0.250 U	**1.10**	0.250 U	0.400 U	4.00	Eco	4.00	Eco
Dinoseb	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.400 U	0.0500	Eco	0.0500	Eco
MCPA	50.0 U	10.0 U	50.0 U	50.0 U	10.0 U	50.0 U	10.0 U	50.0 U	100 U	2.60	Eco	2.60	Eco
MCPP	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	50.0 U	100 U	--	--	37.0	HH
Total Pesticides (µg/L)													
4,4'-DDD	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.0400 U	0.000310	HH	0.00100	Eco
4,4'-DDE	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.0300 U	0.000220	HH	0.00100	Eco
4,4'-DDT	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.0900 U	0.000220	HH	0.00100	Eco
Aldrin	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0400 U	0.0000490	HH	0.00330	HH
BHC (alpha)	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0200 U	0.00260	HH	0.00900	HH
BHC (beta)	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.100 U	0.00910	HH	0.0370	HH
BHC (delta)	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0500 U	0.00260	HH	0.00900	HH
BHC (gamma) Lindane	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0300 U	0.0800	Eco	0.0520	HH
Chlordane (alpha)	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0500 U	0.000800	HH	0.00430	Eco
Chlordane (gamma)	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0200 U	0.000800	HH	0.00430	Eco
Dieldrin	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.0700 U	0.0000520	HH	0.00350	HH
Endosulfan I	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0300 U	0.0560	Eco	0.0560	Eco
Endosulfan II	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.0500 U	0.0560	Eco	0.0560	Eco
Endosulfan Sulfate	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.0700 U	0.0510	Eco	0.0510	Eco
Endrin	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.0800 U	0.0360	Eco	0.0360	Eco
Endrin Aldehyde	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	0.100 U	0.150	Eco	0.150	Eco
Endrin Ketone	0.0940 U	0.0940 UJ	0.100 U	0.0940 U	0.0950 UJ	0.100 U	0.0940 U	0.100 UJ	-	0.0590	HH	11.0	HH
Heptachlor	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0300 U	0.0000790	HH	0.00380	Eco
Heptachlor Epoxide	0.0470 U	0.0470 UJ	0.0500 U	0.0470 U	0.0480 UJ	0.0500 U	0.0470 U	0.0500 UJ	0.0300 U	0.0000390	HH	0.00380	Eco
Methoxychlor	0.470 U	0.470 UJ	0.500 U	0.470 U	0.480 UJ	0.500 U	0.470 U	0.500 UJ	0.500 U	0.0300	Eco	0.0300	Eco
Toxaphene	0.940 U	0.940 UJ	1.00 U	0.940 U	0.950 UJ	1.00 U	0.940 U	1.00 UJ	1.50 U	0.000280	HH	0.00200	Eco

Notes:

µg/L = microgram per liter
mg/L = milligram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-1e
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
Volatile Organic Compounds
(Page 1 of 2)

Site ID	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-03	MW-03	MW-03	MW-04*	MW-04*	MW-04*	MW-05	MW-05	SEEP*	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	990713BIL08GW	991108BIL14GW	000110BIL20GW	990712BIL07GW	991108BIL12GW	000110BIL15GW	990712BIL06GW	991108BIL11GW	000110BIL18GW	990712BIL01GW	991108BIL09GW	000110BIL16GW	991108BIL13GW	000110BIL19GW	000413BIL21GW				
Sample Date	7/13/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	11/8/1999	1/10/2000	4/13/2000				
Sample Depth (Feet btc)	27.5	27.5	27.5	29.56	29.56	29.56	18.21	18.21	18.21	20.29	20.29	20.29	24.87	24.87	0.0				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Seep Water				
Total Volatile Organic Compounds (µg/L																			
1,1,1,2-Tetrachloroethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.590	HH	0.230	HH
1,1-Dichloroethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	47.0	Eco	2.30	HH
1,1-Dichloroethene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	25.0	Eco	25.0	Eco
1,1-Dichloropropene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	0.430	HH
1,2,3-Trichlorobenzene	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	0.000720	HH
1,2,4-Trichlorobenzene	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	5.00 U	1.00 U	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**5.20**	**1.00**	1.00 U	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	3.00 U	-	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	5.00 U	--	--	0.000320	HH
1,2-Dibromoethane (EDB)	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	0.00630	HH
1,2-Dichlorobenzene	2.00 U	-	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.380	HH	0.140	HH
1,2-Dichloropropane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	2.00 U	-	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	71.0	Eco	0.420	HH
1,3-Dichloropropane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	5,700	Eco	730	HH
1,4-Dichlorobenzene	2.00 U	-	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	15.0	Eco	0.420	HH
2,2-Dichloropropane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.500	HH	0.390	HH
2-Butanone (MEK)	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	14,000	Eco	7,100	HH
2-Chloroethylvinylethe	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	4,760	Eco	4,760	Eco
2-Chlorotoluene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	730	HH
2-Hexanone	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	99.0	Eco	47.0	HH
4-Chlorotoluene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	2,600	HH
4-Isopropyltoluene	2.00 U	-	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	--	--	--	--
4-Methyl-2-pentanone (MIBK	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	170	Eco	170	Eco
Acetone	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 UJ	1,500	Eco	1,500	Eco
Benzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.20	HH	0.390	HH
Bromobenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	88.0	HH
Bromochloromethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.550	HH	0.120	HH
Bromodichloromethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.550	HH	0.120	HH
Bromoform	3.00 U	-	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	4.30	HH	7.20	HH
Bromomethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	16.0	Eco	8.70	HH
Carbon Disulfide	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	1.00 U	0.920	Eco	0.920	Eco
Carbon Tetrachloride	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**1.40**	1.00 U	1.00 U	1.00 U	0.230	HH	0.190	HH
Chlorobenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	50.0	Eco	50.0	Eco
Chloroethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	21,000	HH
Chloroform	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**3.65**	1.00 U	1.00 U	1.00 U	5.70	HH	0.190	HH
Chloromethane	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	--	--	190	HH
cis-1,2-Dichloroethene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	590	Eco	360	HH
cis-1,3-Dichloropropene	3.00 U	-	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	0.0550	Eco	0.0550	Eco
Dibromochloromethane	2.00 U	-	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	0.400	HH	0.680	HH
Dibromomethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	8.20	HH
Dichlorodifluoromethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	390	HH
Dichloromethane (Methylene Chloride	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 UJ	4.60	HH	4.40	HH
Ethylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**1.00**	1.00 U	7.30	Eco	1.40	HH
Hexachlorobutadiene	3.00 U	-	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	0.440	HH	0.860	HH
Isopropylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**4.60**	**3.20**	1.00 U	7.30	Eco	7.30	Eco
m,p-Xylenes	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.00 U	13.0	Eco	13.0	Eco
Naphthalene	5.00 U	-	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	620	Eco	0.140	HH
n-Butylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	--	--
n-Propylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**2.00**	**1.20**	1.00 U	7.30	Eco	7.30	Eco
o-Xylene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	350	Eco	350	Eco
sec-Butylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	--	--
Styrene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	72.0	Eco	72.0	Eco
tert-Butylbenzene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	--	--
Tetrachloroethene (PCE)	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	**5.10**	**2.60**	**2.40**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.690	HH	0.0930	HH
Toluene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	140	HH	110	HH
trans-1,3-Dichloropropene	3.00 U	-	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.50	HH	0.0390	HH
Trichlorofluoromethane	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	1,300	HH
Vinyl Acetate	10.0 U	-	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	16.0	Eco	16.0	Eco
Vinyl Chloride	1.00 U	-	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.0250	HH	0.0250	HH

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-1e
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
Volatile Organic Compounds
(Page 2 of 2)

Site ID	MW-03	MW-03	MW-04*	MW-04*	MW-04*	MW-05	MW-05	SEEP*	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	991108BIL11GW	000110BIL18GW	990712BIL01GW	991108BIL09GW	000110BIL16GW	991108BIL13GW	000110BIL19GW	000413BIL21GW				
Sample Date	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	11/8/1999	1/10/2000	4/13/2000				
Sample Depth (Feet btc)	18.21	18.21	20.29	20.29	20.29	24.87	24.87	0.0				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Seep Water				
Total Volatile Organic Compounds (µg/L)												
1,1,1,2-Tetrachloroethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.590	HH	0.230	HH
1,1-Dichloroethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	47.0	Eco	2.30	HH
1,1-Dichloroethene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	25.0	Eco	25.0	Eco
1,1-Dichloropropene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	0.430	HH
1,2,3-Trichlorobenzene	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	0.000720	HH
1,2,4-Trichlorobenzene	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	5.00 U	1.00 U	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**5.20**	**1.00**	1.00 U	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	5.00 U	--	--	0.000320	HH
1,2-Dibromoethane (EDB)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	0.00630	HH
1,2-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.380	HH	0.140	HH
1,2-Dichloropropane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	71.0	Eco	0.420	HH
1,3-Dichloropropane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	5,700	Eco	730	HH
1,4-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	15.0	Eco	0.420	HH
2,2-Dichloropropane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.500	HH	0.390	HH
2-Butanone (MEK)	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	14,000	Eco	7,100	HH
2-Chloroethylvinylether	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	4,760	Eco	4,760	Eco
2-Chlorotoluene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	730	HH
2-Hexanone	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	99.0	Eco	47.0	HH
4-Chlorotoluene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	2,600	HH
4-Isopropyltoluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	--	--	--	--
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	170	Eco	170	Eco
Acetone	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 UJ	1,500	Eco	1,500	Eco
Benzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.20	HH	0.390	HH
Bromobenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	88.0	HH
Bromochloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.550	HH	0.120	HH
Bromodichloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.550	HH	0.120	HH
Bromoform	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	4.30	HH	7.20	HH
Bromomethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	16.0	Eco	8.70	HH
Carbon Disulfide	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	1.00 U	0.920	Eco	0.920	Eco
Carbon Tetrachloride	1.00 U	1.00 U	1.00 U	1.00 U	**1.40**	1.00 U	1.00 U	1.00 U	0.230	HH	0.190	HH
Chlorobenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	50.0	Eco	50.0	Eco
Chloroethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	21,000	HH
Chloroform	1.00 U	1.00 U	1.00 U	1.00 U	**3.65**	1.00 U	1.00 U	1.00 U	5.70	HH	0.190	HH
Chloromethane	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	--	--	190	HH
cis-1,2-Dichloroethene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	590	Eco	360	HH
cis-1,3-Dichloropropene	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	0.0550	Eco	0.0550	Eco
Dibromochloromethane	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1.00 U	0.400	HH	0.680	HH
Dibromomethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	8.20	HH
Dichlorodifluoromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	390	HH
Dichloromethane (Methylene Chloride)	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 UJ	4.60	HH	4.40	HH
Ethylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**1.00**	1.00 U	7.30	Eco	1.40	HH
Hexachlorobutadiene	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	0.440	HH	0.860	HH
Isopropylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**4.60**	**3.20**	1.00 U	7.30	Eco	7.30	Eco
m,p-Xylenes	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.00 U	13.0	Eco	13.0	Eco
Naphthalene	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	1.00 U	620	Eco	0.140	HH
n-Butylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	--	--
n-Propylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**2.00**	**1.20**	1.00 U	7.30	Eco	7.30	Eco
o-Xylene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	350	Eco	350	Eco
sec-Butylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	--	--
Styrene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	72.0	Eco	72.0	Eco
tert-Butylbenzene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	--	--
Tetrachloroethene (PCE)	**2.60**	**2.40**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.690	HH	0.0930	HH
Toluene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	140	HH	110	HH
trans-1,3-Dichloropropene	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1.00 U	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2.50	HH	0.0390	HH
Trichlorofluoromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	--	--	1,300	HH
Vinyl Acetate	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	-	16.0	Eco	16.0	Eco
Vinyl Chloride	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.0250	HH	0.0250	HH

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-1f
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
Semivolatile Organic Compounds
(Page 1 of 2)

Site ID	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-03	MW-03	MW-03	MW-04*	MW-04*	MW-04*	MW-05	MW-05	SEEP*	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	990713BIL08GW	991108BIL14GW	000110BIL20GW	990712BIL07GW	991108BIL12GW	000110BIL15GW	990712BIL06GW	991108BIL11GW	000110BIL18GW	990712BIL01GW	991108BIL09GW	000110BIL16GW	991108BIL13GW	000110BIL19GW	000413BIL21GW				
Sample Date	7/13/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	11/8/1999	1/10/2000	4/13/2000				
Sample Depth (Feet btc)	27.5	27.5	27.5	29.56	29.56	29.56	18.21	18.21	18.21	20.29	20.29	20.29	24.87	24.87	0.0				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Seep Water				
Semivolatile Organic Compounds (µg/L)																			
1,2,4-Trichlorobenzene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	35.0	HH	2.30	HH
1,2-Dichlorobenzene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	14.0	Eco	14.0	Eco
1,3-Dichlorobenzene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	71.0	Eco	0.420	HH
1,4-Dichlorobenzene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	15.0	Eco	0.420	HH
2,4,5-Trichlorophenol	48.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	25.0 U	4.76 U	18.0	Eco	18.0	Eco
2,4,6-Trichlorophenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 U	1.40	HH	5.20	HH
2,4-Dichlorophenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 U	77.0	HH	110	HH
2,4-Dimethylphenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 U	42.0	Eco	42.0	Eco
2,4-Dinitrophenol	48.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	25.0 U	9.52 U	19.0	Eco	19.0	Eco
2,4-Dinitrotoluene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.110	HH	0.220	HH
2,6-Dinitrotoluene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	230	Eco	37.0	HH
2-Chloronaphthalene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	32.0	Eco	32.0	Eco
2-Chlorophenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 U	81.0	HH	180	HH
2-Methylphenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	**76.0**	10.0 U	4.76 U	13.0	Eco	13.0	Eco
2-Nitroaniline	48.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	25.0 U	4.76 UJ	--	--	370	HH
2-Nitrophenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 U	10,000	HH	11,000	HH
3,3'-Dichlorobenzidine	19.0 U	19.0 U	10.0 U	19.0 U	19.0 U	10.0 U	19.0 U	19.0 U	10.0 U	19.0 U	19.0 U	10.0 U	19.0 U	10.0 U	4.76 UJ	0.0210	HH	0.130	HH
3-Nitroaniline	48.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	25.0 U	4.76 UJ	--	--	3.40	HH
4,6-Dinitro-2-methylphenol	48.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	25.0 U	4.76 U	13.0	HH	2.90	HH
4-Bromophenyl Phenyl Ether	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	1.50	Eco	1.50	Eco
4-Chloro-3-methylphenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 U	--	--	3700	HH
4-Chloroaniline	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	50.0	Eco	0.340	HH
4-Chlorophenyl Phenyl Ether	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	--	--	--	--
4-Nitroaniline	48.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	47.0 U	25.0 U	47.0 U	48.0 U	25.0 U	47.0 U	25.0 U	4.76 UJ	--	--	3.40	HH
4-Nitrophenol	48.0 U	47.0 U	10.0 U	47.0 U	48.0 U	10.0 U	47.0 U	47.0 U	10.0 U	47.0 U	48.0 U	10.0 U	47.0 U	10.0 U	4.76 U	150	Eco	150	Eco
Aniline	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	2.20	Eco	2.20	Eco
Benzidine	96.0 U	94.0 U	10.0 U	94.0 U	96.0 U	10.0 U	94.0 U	94.0 U	10.0 U	94.0 U	96.0 U	100 U	94.0 U	100 U	4.76 UJ	0.0000860	HH	0.720	HH
Benzoic Acid	48.0 U	47.0 U	10.0 U	47.0 U	48.0 U	10.0 U	47.0 U	47.0 U	10.0 U	47.0 U	48.0 U	10.0 U	**11.0 J**	10.0 U	**5.89**	42.0	Eco	42.0	Eco
Benzyl Alcohol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	8.60	Eco	8.60	Eco
Bis(2-chloroethoxy)methane	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	--	--	110	HH
Bis(2-chloroethyl) Ether	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.0300	HH	0.0120	HH
Bis(2-chloroisopropyl) Ether	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	1,400	HH	--	--
Bis(2-ethylhexyl) Phthalate	9.60 U	48.0 U	**10.0**	9.40 U	19.0 U	**19.0**	9.40 U	9.40 U	10.0 U	9.40 U	**2.70 J**	10.0 U	9.40 U	10.0 U	23.8 UJ	1.20	HH	3.00	Eco
Butyl Benzyl Phthalate	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	19.0	Eco	19.0	Eco
Carbazole	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	--	--	--	--
Dibenzofuran	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	3.70	Eco	3.70	Eco
Diethyl Phthalate	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	210	Eco	210	Eco
Dimethyl Phthalate	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	3.00	Eco	3.00	Eco
Di-n-butyl Phthalate	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	35.0	Eco	35.0	Eco
Di-n-octyl Phthalate	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	1.20	HH	4.10	HH
Hexachlorobenzene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.000280	HH	0.000300	Eco
Hexachlorobutadiene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.440	HH	0.860	HH
Hexachlorocyclopentadiene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	5.20	Eco	5.20	Eco
Hexachloroethane	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	1.40	HH	4.10	HH
Isophorone	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	35.0	HH	71.0	HH
Nitrobenzene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	17.0	HH	0.120	HH
N-Nitrosodimethylamine	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.000690	HH	0.000420	HH
N-Nitrosodi-n-propylamine	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.00500	HH	0.00960	HH
N-Nitrosodiphenylamine	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	3.30	HH	14.0	HH
p-cresol (4-Methylphenol)	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	**29.0**	4.76 U	13.0	Eco	13.0	Eco
Pentachlorophenol	9.60 U	9.40 U	25.0 U	9.40 U	9.60 U	25.0 U	9.40 U	9.40 U	25.0 U	9.40 U	9.60 U	25.0 U	9.40 U	25.0 U	4.76 U	0.270	HH	0.470	HH
Phenol	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 U	110	Eco	110	Eco

Table 5-1f
1999/2000 Landfill Supplemental Site Inspection Groundwater Analytical Results
Semivolatile Organic Compounds
(Page 2 of 2)

Site ID	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-03	MW-03	MW-03	MW-04*	MW-04*	MW-04*	MW-05	MW-05	SEEP*	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	990713BIL08GW	991108BIL14GW	000110BIL20GW	990712BIL07GW	991108BIL12GW	000110BIL15GW	990712BIL06GW	991108BIL11GW	000110BIL18GW	990712BIL01GW	991108BIL09GW	000110BIL16GW	991108BIL13GW	000110BIL19GW	000413BIL21GW				
Sample Date	7/13/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	7/12/1999	11/8/1999	1/10/2000	11/8/1999	1/10/2000	4/13/2000				
Sample Depth (Feet btc)	27.5	27.5	27.5	29.56	29.56	29.56	18.21	18.21	18.21	20.29	20.29	20.29	24.87	24.87	0.0				
Medium	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Seep Water				
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)																			
2-Methylnaphthalene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	72.2	Eco	72.2	Eco
Acenaphthene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	520	Eco	520	Eco
Acenaphthylene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	307	Eco	0.140	HH
Anthracene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	13.0	Eco	13.0	Eco
Fluorene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	3.90	Eco	3.90	Eco
Naphthalene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	620	Eco	0.140	HH
Phenanthrene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	6.30	Eco	0.140	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)																			
Benzo(a)anthracene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.00380	HH	0.0270	Eco
Benzo(a)pyrene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.00380	HH	0.00290	HH
Benzo(b)fluoranthene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.00380	HH	0.0290	HH
Benzo(g,h,i)perylene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.380	HH	0.290	HH
Benzo(k)fluoranthene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.00380	HH	0.290	HH
Chrysene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.00380	HH	2.04	Eco
Dibenz(a,h)anthracene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.0180	HH	0.00290	HH
Fluoranthene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	6.16	Eco	6.16	Eco
Indeno(1,2,3-cd)pyrene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	0.00380	HH	0.0290	HH
Pyrene	9.60 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	9.40 U	10.0 U	9.40 U	9.60 U	10.0 U	9.40 U	10.0 U	4.76 UJ	10.1	Eco	10.1	Eco

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-2a
2001/2002 Phase II Supplimental Landfill Site Inspection Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
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Site ID	BIL01TPG	BIL02TPG	BIL03TPG	BIL04TPG	BIL05	BIL06	BIL07	BIL08	BIL09	BIL10	BIL11*	**Selected SLV[1] (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV[1] (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	011015BIL01TPG	011015BIL02TPG	011015BIL03TPG	011015BIL04TPG	011016BIL05SS	011016BIL06SS	011016BIL07SS	011016BIL08SS	011016BIL09SS	011016BIL10SS	011016BIL11SS				
Sample Date	10/15/2001	10/15/2001	10/15/2001	10/15/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001				
Sample Depth or Interval (Feet bgs)	0.0-10.0	0.0-10.0	0.0-10.0	0.0-10.0	8.0	8.0	5.0	5.0	6.0	5.0	8.0				
PCB Aroclors (µg/kg dry)															
Aroclor 1016	1.49 U	1.30 U	1.35 U	1.25 U	1.23 U	1.18 U	1.17 U	1.18 U	1.27 U	1.14 U	1.32 U	371	Eco	21,000	HH
Aroclor 1221	6.39 U	5.55 U	5.78 U	5.34 U	5.28 U	5.07 U	5.02 U	5.06 U	5.43 U	4.88 U	5.66 U	371	Eco	540	HH
Aroclor 1232	5.10 U	4.43 U	4.61 U	4.26 U	4.21 U	4.04 U	4.00 U	4.04 U	4.33 U	3.90 U	4.51 U	371	Eco	540	HH
Aroclor 1242	2.73 U	2.37 U	2.47 U	2.28 U	2.25 U	2.16 U	2.14 U	2.16 U	2.32 U	2.08 U	2.41 U	371	Eco	740	HH
Aroclor 1248	**968**	5.89 U	**61.5**	5.66 U	5.60 U	5.38 U	5.32 U	5.37 U	5.76 U	5.18 U	6.00 U	371	Eco	740	HH
Aroclor 1254	2.12 U	1.84 U	1.91 U	1.77 U	1.75 U	**26.7**	1.66 U	1.68 U	1.80 U	1.62 U	**55.3**	371	Eco	740	HH
Aroclor 1260	**26.3**	**22.2**	**87.6**	**12.5**	**10.2 J**	**12.8**	**36.7**	1.68 U	**55.3**	1.62 U	**39.8**	371	Eco	740	HH
Total PCBs as Aroclors (NDs at MDL) [1]	**996 J**	**29.9 J**	**151 J**	**19.9 J**	**17.6 J**	**44.9 J**	**43.7 J**	8.73 U	**62.9 J**	8.42 U	**101 J**	371	Eco	740	HH
Metals (mg/kg dry)															
Aluminum	-	-	-	-	**6,480**	**6,080**	**6,890**	**4,710**	**2,380**	**7,360**	**7,390**	31,400	UPL	990,000	HH
Antimony	-	-	-	-	**0.987**	**0.974**	**8.19**	**0.783**	**2.58**	**1.77**	**7.08**	0.270	Eco	410	HH
Arsenic	-	-	-	-	**4.88**	**4.24**	**3.74**	**3.27**	**1.72**	**7.98**	**7.13**	5.40	UPL	5.40	UPL
Barium	-	-	-	-	**87.4 J**	**116 J**	**110 J**	**99.6 J**	**45.3 J**	**68.4 J**	**154 J**	330	Eco	60,000	HH
Beryllium	-	-	-	-	**0.297 J**	**0.288 J**	**0.222 J**	**0.186 J**	0.182 U	**0.227 J**	**0.296 J**	21.0	Eco	610	HH
Cadmium	-	-	-	-	**1.23**	**1.51**	**2.93**	**1.33**	**1.46**	**0.762**	**2.11**	0.360	Eco	150	HH
Calcium	-	-	-	-	**5,410**	**5,420**	**4,960**	**3,170**	**1,760**	**5,320**	**4,835**	10,400	UPL	10,400	UPL
Chromium	-	-	-	-	**13.7**	**17.6**	**27.0**	**14.0**	**11.0**	**15.5**	**50.1**	28.1	UPL	190	HH
Cobalt	-	-	-	-	**10.1**	**8.81**	**9.81**	**8.85**	**3.99**	**12.4**	**13.3**	19.9	UPL	300	HH
Copper	-	-	-	-	**27.9 J**	**57.9 J**	**120 J**	**17.9 J**	**36.0 J**	**32.5 J**	**98.8 J**	56.7	UPL	12,000	HH
Iron	-	-	-	-	**21,900**	**22,900**	**20,600**	**16,500**	**10,300**	**21,400**	**19,600**	36,900	UPL	720,000	HH
Lead	-	-	-	-	**20.3 J**	**163 J**	**697 J**	**70.7 J**	**966 J**	**157 J**	**584 J**	25.5	UPL	800	HH
Magnesium	-	-	-	-	**5,310**	**4,630**	**4,550**	**3,360**	**1,190**	**6,850**	**4,035**	12,400	UPL	12,400	UPL
Manganese	-	-	-	-	**304 J**	**296 J**	**317 J**	**323 J**	**146 J**	**387 J**	**336 J**	885	UPL	7,200	HH
Mercury	-	-	-	-	**0.0763**	**0.479**	**0.215**	**0.0238**	**1.04**	**0.0520**	**0.271**	0.0660	UPL	93.0	HH
Nickel	-	-	-	-	**14.4 J**	**14.1 J**	**20.3 J**	**13.0 J**	**7.85 J**	**23.3 J**	**26.0 J**	38.0	Eco	6,100	HH
Potassium	-	-	-	-	**367 J**	**456**	**600**	**822**	**336 J**	**493**	**1,145**	2,050	UPL	2,050	UPL
Selenium	-	-	-	-	**0.106 J**	**0.273 J**	0.085 U	0.083 U	0.087 U	**0.300 J**	**0.178 J**	0.520	Eco	5,100	HH
Silver	-	-	-	-	**0.140 J**	**0.220 J**	**1.51**	**0.110 J**	**0.205 J**	**0.169 J**	**0.393 J**	4.20	Eco	1,500	HH
Sodium	-	-	-	-	161 U	156 U	159 U	155 U	163 U	158 U	172 U	341	UPL	341	UPL
Thallium	-	-	-	-	**0.148**	**0.118**	**0.0830 J**	**0.152**	**0.0835 J**	**0.116**	**0.209**	1.00	Eco	0.203	UPL
Vanadium	-	-	-	-	**40.2**	**37.9**	**46.2**	**38.0**	**15.9**	**42.7**	**48.2**	104	UPL	104	UPL
Zinc	-	-	-	-	**105 J**	**331 J**	**401 J**	**194 J**	**95.6 J**	**79.8 J**	**206 J**	71.7	UPL	310,000	HH
Total Petroleum Hydrocarbons (mg/kg dry)															
Diesel Range Organics	**92.7**	**154**	**126**	**273**	**449**	**1,280**	**6,780**	12.3 U	**7,650**	**22.9 J**	**9,735**	23,000	HH	23,000	HH
Residual Range Organics	**403**	**676**	**658**	**682**	**2,840**	**5,900**	**33,000**	25.5 U	**38,600**	**68.5**	**41,900**	40,000	HH	40,000	HH
Gasoline Range Organics	5.61 U	5.03 U	4.98 U	**586 J**	-	-	-	-	-	-	-	13,000	HH	13,000	HH

Table 5-2a
2001/2002 Phase II Supplimental Landfill Site Inspection Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
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Site ID	BIL01TPG	BIL02TPG	BIL03TPG	BIL04TPG	BIL05	BIL06	BIL07	BIL08	BIL09	BIL10	BIL11*				
Sample ID	011015BIL01TPG	011015BIL02TPG	011015BIL03TPG	011015BIL04TPG	011016BIL05SS	011016BIL06SS	011016BIL07SS	011016BIL08SS	011016BIL09SS	011016BIL10SS	011016BIL11SS				
Sample Date	10/15/2001	10/15/2001	10/15/2001	10/15/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	**Selected SLV[1] (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV[1] (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample Depth (Feet bgs)	5.0	5.0	5.0	5.0	8.0	8.0	5.0	5.0	6.0	5.0	8.0				
Sample Depth or Interval (Feet bgs)	0.0-10.0	0.0-10.0	0.0-10.0	0.0-10.0	8.0	8.0	5.0	5.0	6.0	5.0	8.0				
Butyltins (µg/kg dry)															
Dibutyltin	0.899 U	0.730 U	0.788 U	**20.0**	0.711 U	0.716 U	-	0.653 U	6.44 U	0.657 U	7.62 U	28,000	Eco	180,000	HH
Monobutyltin	1.98 U	1.61 U	1.74 U	**38.0**	1.57 U	1.58 U	-	1.44 U	14.2 U	1.45 U	16.8 U	28,000	Eco	180,000	HH
Tetrabutyltin	0.694 U	0.564 U	0.609 U	0.579 U	0.549 U	0.553 U	-	0.505 U	4.98 U	0.507 U	5.89 U	28,000	Eco	180,000	HH
Tributyltin	1.43 U	**5.12**	1.25 U	**165**	1.13 U	1.14 U	-	1.04 U	10.3 U	1.05 U	12.1 U	28,000	Eco	180,000	HH
Herbicides (µg/kg dry)															
2,4,5-T	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	6,200,000	HH
2,4,5-TP (Silvex)	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	4,900,000	HH
2,4-D	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	2,400,000	HH
2,4-DB	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	4,900,000	HH
4-Nitrophenol	-	-	-	-	-	-	-	-	-	-	-	7,000	Eco	180,000,000	HH
Dalapon	-	-	-	-	-	-	-	-	-	-	-	18,000,000	HH	18,000,000	HH
Dicamba	-	-	-	-	-	-	-	-	-	-	-	18,000,000	HH	18,000,000	HH
Dichloroprop	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	4,900,000	HH
Dinoseb	-	-	-	-	-	-	-	-	-	-	-	620,000	HH	620,000	HH
MCPA	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	120,000	HH
MCPP	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	620,000	HH
Pentachlorophenol	-	-	-	-	-	-	-	-	-	-	-	2,100	Eco	13,000	HH
Pesticides (µg/kg dry)															
4,4'-DDD	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	11,000	HH
4,4'-DDE	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	7,700	HH
4,4'-DDT	-	-	-	-	-	-	-	-	-	-	-	21.0	Eco	7,700	HH
Aldrin	-	-	-	-	-	-	-	-	-	-	-	4.90	Eco	130	HH
BHC (alpha)	-	-	-	-	-	-	-	-	-	-	-	340	HH	340	HH
BHC (beta)	-	-	-	-	-	-	-	-	-	-	-	960	HH	960	HH
BHC (delta)	-	-	-	-	-	-	-	-	-	-	-	340	HH	340	HH
BHC (gamma) Lindane	-	-	-	-	-	-	-	-	-	-	-	2,000	HH	2,000	HH
Chlordane (technical)	-	-	-	-	-	-	-	-	-	-	-	7,200	HH	7,200	HH
Dieldrin	-	-	-	-	-	-	-	-	-	-	-	4.90	Eco	130	HH
Endosulfan I	-	-	-	-	-	-	-	-	-	-	-	20,000	Eco	1,400,000	HH
Endosulfan II	-	-	-	-	-	-	-	-	-	-	-	20,000	Eco	1,400,000	HH
Endosulfan Sulfate	-	-	-	-	-	-	-	-	-	-	-	20,000	Eco	1,400,000	HH
Endrin	-	-	-	-	-	-	-	-	-	-	-	4.90	Eco	71,000	HH
Endrin Aldehyde	-	-	-	-	-	-	-	-	-	-	-	4.90	Eco	71,000	HH
Endrin Ketone	-	-	-	-	-	-	-	-	-	-	-	4.90	Eco	71,000	HH
Heptachlor	-	-	-	-	-	-	-	-	-	-	-	480	HH	480	HH
Heptachlor Epoxide	-	-	-	-	-	-	-	-	-	-	-	240	HH	240	HH
Methoxychlor	-	-	-	-	-	-	-	-	-	-	-	500,000	Eco	3,100,000	HH
Toxaphene	-	-	-	-	-	-	-	-	-	-	-	2,000	HH	2,000	HH

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

[1] Only Aroclors 1248, 1254, and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Landfill AOPC soil samples.
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of combining primary and field duplicate results at this sampling location as described in Section 5.1.
[1] = Screening based on depth of sample with the exception of Gully Test pit samples (Site ID suffix = "TPG") and Mercury Vapor Lamp Test Pit samples (Site ID suffix = "TPM"), which used the minimum SLV for the two depth ranges.

Table 5-2a
2001/2002 Phase II Supplimental Landfill Site Inspection Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
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Site ID	BIL13	BIL14	BIL15	BIL16	BIL17	BIL18	BIL19	BIL20	BIL21	BIL22*	BIL28TPM	BIL29TPM	Selected SLV[1] (0-3 ft bgs)	SLV Source (0-3 ft bgs)	Selected SLV[1] (>3 ft bgs)	SLV Source (>3 ft bgs)
Sample ID	011016BIL13SS	011016BIL14SS	011016BIL15SS	011016BIL16SS	011016BIL17SS	011016BIL18SS	011016BIL19SS	011016BIL20SS	011016BIL21SS	011016BIL22SS	011017BIL28TPM	011017BIL29TPM				
Sample Date	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001				
Sample Depth or Interval (Feet bgs)	4.0	6.0	8.0	4.0	1.0	2.0	5.0	8.0	5.0	3.0	0.0-10.0	0.0-10.0				
PCB Aroclors (µg/kg dry)																
Aroclor 1016	1.23 U	1.20 U	1.21 U	1.16 U	1.36 U	1.16 U	1.16 U	1.31 U	1.10 U	1.14 U	1.39 U	1.29 U	371	Eco	21,000	HH
Aroclor 1221	5.27 U	5.13 U	5.16 U	4.97 U	5.83 U	4.96 U	4.98 U	5.62 U	4.72 U	4.89 U	5.96 U	5.53 U	371	Eco	540	HH
Aroclor 1232	4.21 U	4.10 U	4.12 U	3.97 U	4.65 U	3.96 U	3.97 U	4.49 U	3.77 U	3.90 U	4.76 U	4.42 U	371	Eco	540	HH
Aroclor 1242	2.25 U	2.19 U	2.20 U	2.12 U	2.49 U	2.12 U	2.12 U	2.40 U	2.01 U	2.09 U	2.54 U	2.36 U	371	Eco	740	HH
Aroclor 1248	5.60 U	5.45 U	5.48 U	5.27 U	6.19 U	5.27 U	5.28 U	5.97 U	5.01 U	5.19 U	6.33 U	5.87 U	371	Eco	740	HH
Aroclor 1254	**499**	1.70 U	1.71 U	1.65 U	**78.6**	**48.4**	**54.9**	1.86 U	**37.2**	**104**	1.98 U	**23.4**	371	Eco	740	HH
Aroclor 1260	**158**	**15.0**	**52.4**	**445**	**68.0**	**39.0**	**74.6**	**2.05 J**	**41.8**	**91.3**	**46.5**	**13.1**	371	Eco	740	HH
Total PCBs as Aroclors (NDs at MDL)[1]	**663 J**	**22.2 J**	**59.6 J**	**452 J**	**153 J**	**92.7 J**	**135 J**	**9.88 J**	**84.0 J**	**200 J**	**54.8 J**	**54.8 J**	371	Eco	740	HH
Metals (mg/kg dry)																
Aluminum	**11,300**	**13,200**	**11,000**	**13,200**	**7,560**	**6,000**	**4,720**	**23,100**	**5,090**	**9,840**	-	-	31,400	UPL	990,000	HH
Antimony	**3.90**	**0.984**	**0.621**	**1.45**	**0.309 J**	**0.810**	**0.699**	**0.526 J**	**0.556 J**	**2.63 J**	-	-	0.270	Eco	410	HH
Arsenic	**5.18**	**2.58**	**1.82**	**4.24**	**2.98**	**4.07**	**2.21**	**2.55**	**1.60**	**5.95**	-	-	5.40	UPL	5.40	UPL
Barium	**113 J**	**77.8 J**	**85.4 J**	**102 J**	**132 J**	**42.6 J**	**36.5 J**	**110 J**	**34.0 J**	**129 J**	-	-	330	Eco	60,000	HH
Beryllium	**0.193 J**	0.167 U	0.162 U	**0.237 J**	0.189 U	0.157 U	0.158 U	**0.254 J**	0.155 U	0.164 U	-	-	21.0	Eco	610	HH
Cadmium	**2.16**	**1.97**	**1.86**	**1.93**	**2.09**	**0.731**	**0.594**	**1.01**	**0.559**	**3.54**	-	-	0.360	Eco	150	HH
Calcium	**6,520**	**4,240**	**4,700**	**5,660**	**4,810**	**6,100**	**3,390**	**6,220**	**4,470**	**10,485**	-	-	10,400	UPL	10,400	UPL
Chromium	**57.2**	**28.1**	**28.2**	**46.0**	**77.6**	**1,950**	**1,920**	**57.0**	**2,300**	**800**	-	-	28.1	UPL	190	HH
Cobalt	**14.1**	**15.3**	**18.9**	**14.9**	**11.3**	**41.0**	**42.3**	**17.5**	**32.4**	**22.3**	-	-	19.9	UPL	300	HH
Copper	**312 J**	**27.4 J**	**28.7 J**	**97.5 J**	**37.1 J**	**37.5 J**	**31.9 J**	**43.2 J**	**29.8 J**	**378 J**	-	-	56.7	UPL	12,000	HH
Iron	**31,100**	**29,800**	**33,000**	**28,100**	**19,200**	**51,000**	**47,300**	**32,200**	**50,700**	**40,150**	-	-	36,900	UPL	720,000	HH
Lead	**488 J**	**57.6 J**	**412 J**	**303 J**	**741 J**	**1,660 J**	**931 J**	**52.7 J**	**912 J**	**1,235 J**	-	-	25.5	UPL	800	HH
Magnesium	**6,410**	**6,010**	**5,260**	**7,340**	**6,070**	**77,700**	**73,000**	**12,000**	**88,300**	**27,250**	-	-	12,400	UPL	12,400	UPL
Manganese	**489 J**	**388 J**	**635 J**	**525 J**	**367 J**	**895 J**	**821 J**	**592 J**	**944 J**	**1,713 J**	-	-	885	UPL	7,200	HH
Mercury	**0.444**	**0.0150 J**	**0.0210**	**0.102**	**0.122**	**0.0475**	**0.0353**	**0.0836**	**0.0354**	**0.0835**	**0.505 J**	**0.552 J**	0.0660	UPL	93.0	HH
Nickel	**32.4 J**	**34.4 J**	**38.3 J**	**27.3 J**	**65.0 J**	**1,610 J**	**1,760 J**	**43.0 J**	**684 J**	**578 J**	-	-	38.0	Eco	6,100	HH
Potassium	**843**	**703**	**441**	**839**	**797**	**322 J**	**214 J**	**830**	**279 J**	**722**	-	-	2,050	UPL	2,050	UPL
Selenium	0.081 U	0.080 U	0.077 U	0.086 U	**0.205 J**	**0.226 J**	**0.184 J**	0.082 U	**0.154 J**	**0.879 J**	-	-	0.520	Eco	5,100	HH
Silver	**1.52**	**0.353 J**	**0.545**	**1.28**	**0.634**	**0.126 J**	**0.119 J**	**0.192 J**	**0.101 J**	**0.743 J**	-	-	4.20	Eco	1,500	HH
Sodium	151 U	150 U	145 U	162 U	169 U	141 U	142 U	**165 J**	139 U	147 U	-	-	341	UPL	341	UPL
Thallium	**0.120**	**0.0994 J**	**0.0892 J**	**0.123**	**0.0953 J**	**0.0578 J**	**0.0361 J**	**0.0930 J**	**0.0442 J**	**0.0829 J**	-	-	1.00	Eco	0.203	UPL
Vanadium	**67.0**	**84.0**	**93.4**	**70.1**	**34.3**	**39.5**	**35.8**	**77.4**	**34.0**	**56.1**	-	-	104	UPL	104	UPL
Zinc	**425 J**	**162 J**	**218 J**	**211 J**	**262 J**	**101 J**	**94.0 J**	**234 J**	**84.5 J**	**1,140 J**	-	-	71.7	UPL	310,000	HH
Total Petroleum Hydrocarbons (mg/kg dry)																
Diesel Range Organics	**198**	13.2 U	**39.2**	**116**	**266**	**422**	**307**	13.9 U	**190**	**101**	**2820**	**5100 J**	23,000	HH	23,000	HH
Residual Range Organics	**1,070**	**31.1 J**	**176**	**834**	**698**	**1,160**	**1,140**	**69.4**	**633**	**448 J**	**12,200**	**23,900**	40,000	HH	40,000	HH
Gasoline Range Organics	4.49 U	4.39 U	4.08 U	4.52 U	4.78 U	**3.28 J**	**2.10 J**	4.70 U	**3.05 J**	4.31 U	**214**	**267**	13,000	HH	13,000	HH
Butyltins (µg/kg dry)																
Dibutyltin	0.720 U	0.657 U	0.691 U	0.685 U	**20.2**	0.741 U	0.653 U	0.758 U	0.567 U	0.685 U	0.790 U	0.754 U	28,000	Eco	180,000	HH
Monobutyltin	1.59 U	1.45 U	1.52 U	1.51 U	**9.08**	1.63 U	1.44 U	1.67 U	1.25 U	1.51 U	1.74 U	1.66 U	28,000	Eco	180,000	HH
Tetrabutyltin	0.556 U	0.507 U	0.534 U	0.529 U	0.600 U	0.573 U	0.505 U	0.585 U	0.438 U	0.529 U	0.611 U	0.582 U	28,000	Eco	180,000	HH
Tributyltin	1.15 U	1.05 U	1.10 U	1.09 U	**9.01**	1.18 U	1.04 U	1.21 U	0.903 U	**15.4**	1.26 U	1.20 U	28,000	Eco	180,000	HH

Table 5-2a
2001/2002 Phase II Supplimental Landfill Site Inspection Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
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Site ID	BIL13	BIL14	BIL15	BIL16	BIL17	BIL18	BIL19	BIL20	BIL21	BIL22*	BIL28TPM	BIL29TPM				
Sample ID	011016BIL13SS	011016BIL14SS	011016BIL15SS	011016BIL16SS	011016BIL17SS	011016BIL18SS	011016BIL19SS	011016BIL20SS	011016BIL21SS	011016BIL22SS	011017BIL28TPM	011017BIL29TPM				
Sample Date	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001	**Selected SLV[1] (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV[1] (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample Depth (Feet bgs)	4.0	6.0	8.0	4.0	1.0	2.0	5.0	8.0	5.0	3.0	5.0	5.0				
Sample Depth or Interval (Feet bgs)	4.0	6.0	8.0	4.0	1.0	2.0	5.0	8.0	5.0	3.0	0.0-10.0	0.0-10.0				
Herbicides (µg/kg dry)																
2,4,5-T	1.74 U	1.63 U	1.55 U	1.66 U	1.79 U	1.61 U	1.46 U	1.74 U	1.48 U	1.54 U	-	-	21.0	Eco	6,200,000	HH
2,4,5-TP (Silvex)	2.55 U	2.38 U	2.27 U	2.43 U	2.61 U	2.35 U	2.14 U	2.55 U	2.17 U	2.25 U	-	-	21.0	Eco	4,900,000	HH
2,4-D	0.659 U	0.614 U	0.585 U	0.627 U	0.675 U	0.608 U	0.520 U	0.658 U	0.560 U	0.581 U	-	-	21.0	Eco	2,400,000	HH
2,4-DB	1.12 U	1.04 U	0.994 U	1.07 U	1.15 U	1.03 U	0.939 U	1.12 U	0.951 U	0.988 U	-	-	21.0	Eco	4,900,000	HH
4-Nitrophenol	1.77 U	1.65 U	1.57 U	1.68 U	1.81 U	1.63 U	1.48 U	1.76 U	1.50 U	1.56 U	-	-	7,000	Eco	180,000,000	HH
Dalapon	2.44 U	2.27 U	2.16 U	2.32 U	2.50 U	2.25 U	2.04 U	2.43 U	2.07 U	2.15 U	-	-	18,000,000	HH	18,000,000	HH
Dicamba	1.94 U	1.81 U	1.72 U	1.85 U	1.99 U	1.79 U	1.63 U	1.94 U	1.65 U	1.71 U	-	-	18,000,000	HH	18,000,000	HH
Dichloroprop	0.851 U	0.793 U	0.755 U	0.810 U	0.871 U	0.785 U	0.713 U	0.849 U	0.722 U	0.750 U	-	-	21.0	Eco	4,900,000	HH
Dinoseb	0.659 U	0.614 U	0.585 U	0.627 U	0.675 U	0.608 U	0.552 U	0.658 U	0.560 U	0.581 U	-	-	620,000	HH	620,000	HH
MCPA	1.20 U	1.12 U	1.07 U	1.15 U	1.23 U	1.11 U	1.01 U	1.20 U	1.02 U	1.06 U	-	-	21.0	Eco	120,000	HH
MCPP	2.19 U	2.04 U	1.94 U	2.08 U	2.24 U	2.02 U	1.83 U	2.18 U	1.86 U	1.93 U	-	-	21.0	Eco	620,000	HH
Pentachlorophenol	0.933 U	0.869 U	0.827 U	0.887 U	0.955 U	0.859 U	0.781 U	0.930 U	0.791 U	0.822 U	-	-	2,100	Eco	13,000	HH
Pesticides (µg/kg dry)																
4,4'-DDD	2.23 U	0.214 U	2.17 U	2.29 U	2.41 U	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	21.0	Eco	11,000	HH
4,4'-DDE	2.23 U	0.253 U	2.17 U	2.29 U	2.41 U	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	21.0	Eco	7,700	HH
4,4'-DDT	2.23 U	0.285 U	2.17 U	2.29 U	2.41 U	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	21.0	Eco	7,700	HH
Aldrin	1.12 U	0.474 U	1.09 U	1.14 U	1.20 U	1.07 U	0.994 U	1.18 U	0.978 U	1.11 U	-	-	4.90	Eco	130	HH
BHC (alpha)	1.12 U	0.341 U	1.09 U	1.14 U	1.20 U	**2.02**	0.994 U	1.18 U	0.978 U	1.11 U	-	-	340	HH	340	HH
BHC (beta)	1.12 U	0.465 U	1.09 U	1.14 U	1.20 U	1.07 U	0.994 U	1.18 U	0.978 U	1.11 U	-	-	960	HH	960	HH
BHC (delta)	1.12 U	0.422 U	1.09 U	1.14 U	1.20 U	1.07 U	0.994 U	1.18 U	0.978 U	1.11 U	-	-	340	HH	340	HH
BHC (gamma) Lindane	1.12 U	0.420 U	1.09 U	1.14 U	1.20 U	1.07 U	0.994 U	1.18 U	0.978 U	1.11 U	-	-	2,000	HH	2,000	HH
Chlordane (technical)	**409**	1.55 U	10.9 U	**53.6 J**	**1,560**	**65.6 J**	9.94 U	11.8 U	**49.4 J**	**92.7 J**	-	-	7,200	HH	7,200	HH
Dieldrin	2.23 U	0.360 U	2.17 U	2.29 U	2.41 U	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	4.90	Eco	130	HH
Endosulfan I	1.12 U	0.468 U	1.09 U	1.14 U	1.20 U	1.07 U	0.994 U	1.18 U	0.978 U	1.11 U	-	-	20,000	Eco	1,400,000	HH
Endosulfan II	2.23 U	0.425 U	2.17 U	2.29 U	**8.84 J**	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	20,000	Eco	1,400,000	HH
Endosulfan Sulfate	2.23 U	0.400 U	2.17 U	2.29 U	**5.97 J**	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	20,000	Eco	1,400,000	HH
Endrin	2.23 U	0.397 U	2.17 U	2.29 U	2.41 U	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	4.90	Eco	71,000	HH
Endrin Aldehyde	2.23 U	0.448 U	2.17 U	2.29 U	2.41 U	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	4.90	Eco	71,000	HH
Endrin Ketone	2.23 U	0.309 U	2.17 U	2.29 U	2.41 U	2.14 U	1.99 U	2.35 U	1.96 U	2.23 U	-	-	4.90	Eco	71,000	HH
Heptachlor	1.12 U	0.378 U	1.09 U	1.14 U	**2.83**	1.07 U	0.994 U	1.18 U	0.978 U	**3.07**	-	-	480	HH	480	HH
Heptachlor Epoxide	1.12 U	0.401 U	1.09 U	1.14 U	**14.4**	1.07 U	0.994 U	1.18 U	0.978 U	1.11 U	-	-	240	HH	240	HH
Methoxychlor	11.2 U	1.51 U	10.9 U	11.4 U	12.0 U	10.7 U	9.94 U	11.8 U	9.78 U	11.1 U	-	-	500,000	Eco	3,100,000	HH
Toxaphene	112 U	6.89 U	109 U	114 U	120 U	107 U	99.4 U	118 U	97.8 U	111 U	-	-	2,000	HH	2,000	HH

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

[1] Only Aroclors 1248, 1254, and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Landfill AOPC soil samples.
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of combining primary and field duplicate results at this sampling location as described in Section 5.1.
[1] = Screening based on depth of sample with the exception of Gully Test pit samples (Site ID suffix = "TPG") and Mercury Vapor Lamp Test Pit samples (Site ID suffix = "TPM"), which used the minimum SLV for the two depth ranges.

Table 5-2b
2001/2002 Phase II Supplimental Landfill Site Inspection Soil Analytical Results
Volatile Organic Compounds
(Page 1 of 2)

Site ID	BIL01TPG	BIL02TPG	BIL03TPG	BIL04TPG	BIL13	BIL14	BIL15	BIL16	**Selected SLV[1] (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV[1] (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	011015BIL01TPG	011015BIL02TPG	011015BIL03TPG	011015BIL04TPG	011016BIL13SS	011016BIL14SS	011016BIL15SS	011016BIL16SS				
Sample Date	10/15/2001	10/15/2001	10/15/2001	10/15/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001				
Sample Depth or Interval (Feet bgs)	0.0-10.0	0.0-10.0	0.0-10.0	0.0-10.0	4.0	6.0	8.0	4.0				
Volatile Organic Compounds (µg/kg dry)												
1,1,1,2-Tetrachloroethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	9,300	HH	9,300	HH
1,1,1-Trichloroethane (TCA)	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	38,000,000	HH	38,000,000	HH
1,1,2,2-Tetrachloroethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,800	HH	2,800	HH
1,1,2-Trichloroethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,700	HH	2,700	HH
1,1-Dichloroethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	5,900	HH	5,900	HH
1,1-Dichloroethene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	680,000	HH	680,000	HH
1,1-Dichloropropene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	8,100	HH	8,100	HH
1,2,3-Trichlorobenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	20,000	Eco	490,000	HH
1,2,3-Trichloropropane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	95.0	HH	95.0	HH
1,2,4-Trichlorobenzene	0.247 UJ	0.226 UJ	0.231 UJ	2,300 U	0.242 UJ	0.212 UJ	0.192 UJ	0.208 UJ	20,000	Eco	99,000	HH
1,2,4-Trimethylbenzene	0.247 U	0.226 U	0.231 U	**14,300**	0.242 U	0.212 U	0.192 U	0.208 U	200,000	Eco	980,000	HH
1,2-Dibromo-3-chloropropane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	69.0	HH	69.0	HH
1,2-Dibromoethane (EDB)	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	140	HH	140	HH
1,2-Dichlorobenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,260	Eco	19,000,000	HH
1,2-Dichloroethane (EDC)	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	590	HH	590	HH
1,2-Dichloropropane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	4,500	HH	4,500	HH
1,3,5-Trimethylbenzene	0.247 U	0.226 U	0.231 U	**5,410**	0.242 U	0.212 U	0.192 U	0.208 U	150,000	HH	150,000	HH
1,3-Dichlorobenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,260	Eco	17,000	HH
1,3-Dichloropropane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	20,000,000	HH	20,000,000	HH
1,4-Dichlorobenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	17,000	HH	17,000	HH
2,2-Dichloropropane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	4,500	HH	4,500	HH
2-Butanone (MEK)	1,230 U	1.13 U	1.15 U	11,500 U	1.21 U	1.06 U	0.958 U	1.04 U	200,000,000	HH	200,000,000	HH
2-Chlorotoluene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	20,000,000	HH	20,000,000	HH
2-Hexanone	1.24 U	1.13 U	1.15 U	11,500 U	1.21 U	1.06 U	0.958 U	1.04 U	1,250,000	Eco	1,400,000	HH
4-Chlorotoluene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	72,000,000	HH	72,000,000	HH
4-Isopropyltoluene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	**0.457**	200,000	Eco	24,000,000	HH
4-Methyl-2-pentanone (MIBK)	1.24 U	1.13 U	1.15 U	11,500 U	1.21 U	1.06 U	0.958 U	1.04 U	1,250,000	Eco	53,000,000	HH
Acetone	1.24 UJ	1.13 UJ	1.15 UJ	11,500 U	1.21 UJ	1.06 UJ	0.958 UJ	1.04 UJ	1,250,000	Eco	630,000,000	HH
Benzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	1,200	HH	1,200	HH
Bromobenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	1,800,000	HH	1,800,000	HH
Bromochloromethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	1,900	HH	1,900	HH
Bromodichloromethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	1,900	HH	1,900	HH
Bromoform	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	360,000	HH	360,000	HH
Bromomethane	0.247 UJ	0.226 UJ	0.231 UJ	2,300 UJ	0.242 UJ	0.212 UJ	0.192 UJ	0.208 UJ	17,000	HH	17,000	HH
Carbon Disulfide	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	1,000,000	Eco	3,700,000	HH
Carbon Tetrachloride	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	630	HH	630	HH
Chlorobenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	40,000	Eco	4,300,000	HH
Chloroethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	61,000,000	HH	61,000,000	HH
Chloroform	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	410	HH	410	HH
Chloromethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	300,000	HH	300,000	HH
cis-1,2-Dichloroethene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,500,000	Eco	3,100,000	HH
cis-1,3-Dichloropropene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	8,100	HH	8,100	HH
Dibromochloromethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	34,000	HH	34,000	HH
Dibromomethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	110,000	HH	110,000	HH
Dichlorodifluoromethane	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	**0.221 J**	0.208 U	730,000	Eco	780,000	HH
Dichloromethane (Methylene Chloride)	3.70 U	2.48 U	3.39 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	20,000	HH	20,000	HH
Ethylbenzene	0.247 U	0.226 U	0.231 U	**2,700 J**	0.242 U	0.212 U	0.192 U	0.208 U	2,260	Eco	12,000	HH
Hexachlorobutadiene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	22,000	HH	22,000	HH
Isopropylbenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,260	Eco	24,000,000	HH
m,p-Xylenes	0.495 U	0.452 U	0.461 U	**9,800**	0.242 U	0.424 U	**0.552 J**	0.416 U	120,000	Eco	2,700,000	HH
Naphthalene	0.247 UJ	0.226 UJ	0.231 UJ	**8,360**	0.242 UJ	0.212 UJ	0.192 UJ	0.208 UJ	23,000	HH	23,000	HH
n-Butylbenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	-	-	-	-
n-Propylbenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,260	Eco	21,000,000	HH
o-Xylene	0.247 U	0.226 U	0.231 U	**4,260 J**	0.242 U	0.212 U	**0.368 J**	0.208 U	1,000	Eco	19,000,000	HH
sec-Butylbenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,260	Eco	-	-
Styrene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	300,000	Eco	51,000,000	HH
tert-Butylbenzene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,260	Eco	-	-
Tetrachloroethene (PCE)	**11.0**	**3.73**	**8.88**	**403,000**	**8.12**	**0.605**	**0.668**	**5.19**	1,600	HH	1,600	HH
Toluene	**3.69**	**0.760**	**1.65**	**133,000**	0.242 U	**0.269 J**	**0.352 J**	0.208 U	200,000	Eco	24,000,000	HH
trans-1,2-Dichloroethene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	200,000	HH	200,000	HH
trans-1,3-Dichloropropene	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	8,100	HH	8,100	HH
Trichloroethene (TCE)	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	130	HH	130	HH
Trichlorofluoromethane	0.247 U	0.226 U	0.231 U	2,300 U	**0.325 J**	0.212 U	0.192 U	0.208 U	730,000	Eco	63,000,000	HH
Vinyl Acetate	1.24 UJ	1.13 UJ	1.15 UJ	11,500 U	1.21 UJ	1.06 UJ	0.958 UJ	1.04 UJ	4,100,000	HH	4,100,000	HH
Vinyl Chloride	0.247 U	0.226 U	0.231 U	2,300 U	0.242 U	0.212 U	0.192 U	0.208 U	2,200	HH	2,200	HH

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.

UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of combining primary and field duplicate results at this sampling location as described in Section 5.1.

[1] = Screening based on depth of sample with the exception of Gully Test Pit samples (Site ID suffix = "TPG") and Mercury Vapor Lamp Test Pit samples (Site ID suffix = "TPM"). The Mercury Vapor Lamp Test Pit samples were screened against the the minimum SLV for the two depth ranges. The Gully Test Pit COCs were screened against the minimum SLV for the two depth ranges, except for o-xylene, toluene, and PCE which were compared only to >3 ft SLVs due to more recent (2009) surface and subsurface samples that analyzed for a subset of analytes and superceed the Gully Test it data for these analytes.

Table 5-2b
2001/2002 Phase II Supplimental Landfill Site Inspection Soil Analytical Results
Volatile Organic Compounds
(Page 2 of 2)

Site ID	BIL17	BIL18	BIL19	BIL20	BIL21	BIL22*	BIL28TPM	BIL29TPM	**Selected SLV[1] (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV[1] (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	011016BIL17SS	011016BIL18SS	011016BIL19SS	011016BIL20SS	011016BIL21SS	011016BIL22SS	011017BIL28TPM	011017BIL29TPM				
Sample Date	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001				
Sample Depth or Interval (Feet bgs)	1.0	2.0	5.0	8.0	5.0	3.0	0.0-10.0	0.0-10.0				
Volatile Organic Compounds (µg/kg dry)												
1,1,1,2-Tetrachloroethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	9,300	HH	9,300	HH
1,1,1-Trichloroethane (TCA)	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	38,000,000	HH	38,000,000	HH
1,1,2,2-Tetrachloroethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,800	HH	2,800	HH
1,1,2-Trichloroethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,700	HH	2,700	HH
1,1-Dichloroethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	5,900	HH	5,900	HH
1,1-Dichloroethene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	680,000	HH	680,000	HH
1,1-Dichloropropene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	8,100	HH	8,100	HH
1,2,3-Trichlorobenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	20,000	Eco	490,000	HH
1,2,3-Trichloropropane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	95.0	HH	95.0	HH
1,2,4-Trichlorobenzene	0.218 UJ	0.220 UJ	0.174 U	0.229 UJ	0.200 UJ	0.212 UJ	255 U	230 U	20,000	Eco	99,000	HH
1,2,4-Trimethylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	**0.230 J**	0.212 U	**1,280**	**672**	200,000	Eco	980,000	HH
1,2-Dibromo-3-chloropropane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	69.0	HH	69.0	HH
1,2-Dibromoethane (EDB)	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	140	HH	140	HH
1,2-Dichlorobenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,260	Eco	19,000,000	HH
1,2-Dichloroethane (EDC)	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	590	HH	590	HH
1,2-Dichloropropane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	4,500	HH	4,500	HH
1,3,5-Trimethylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	**493 J**	**326 J**	150,000	HH	150,000	HH
1,3-Dichlorobenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,260	Eco	17,000	HH
1,3-Dichloropropane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	20,000,000	HH	20,000,000	HH
1,4-Dichlorobenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	17,000	HH	17,000	HH
2,2-Dichloropropane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	4,500	HH	4,500	HH
2-Butanone (MEK)	1.09 U	1.10 U	0.872 U	1.15 U	1.00 U	1.06 U	1,270 U	1,150 U	200,000,000	HH	200,000,000	HH
2-Chlorotoluene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	20,000,000	HH	20,000,000	HH
2-Hexanone	1.09 U	1.10 U	0.872 UJ	1.15 U	1.00 U	1.06 U	1,270 U	1,150 U	1,250,000	Eco	1,400,000	HH
4-Chlorotoluene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	72,000,000	HH	72,000,000	HH
4-Isopropyltoluene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	200,000	Eco	24,000,000	HH
4-Methyl-2-pentanone (MIBK)	1.09 U	1.10 U	0.872 U	1.15 U	1.00 U	1.06 U	1,270 U	1,150 U	1,250,000	Eco	53,000,000	HH
Acetone	1.09 UJ	1.10 UJ	0.872 U	1.15 UJ	1.00 UJ	1.06 UJ	1,270 U	1,150 U	1,250,000	Eco	630,000,000	HH
Benzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	1,200	HH	1,200	HH
Bromobenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	1,800,000	HH	1,800,000	HH
Bromochloromethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	1,900	HH	1,900	HH
Bromodichloromethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	1,900	HH	1,900	HH
Bromoform	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	360,000	HH	360,000	HH
Bromomethane	0.218 UJ	0.220 UJ	0.174 UJ	0.229 UJ	0.200 UJ	0.212 UJ	255 UJ	230 UJ	17,000	HH	17,000	HH
Carbon Disulfide	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	1,000,000	Eco	3,700,000	HH
Carbon Tetrachloride	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	630	HH	630	HH
Chlorobenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	40,000	Eco	4,300,000	HH
Chloroethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	61,000,000	HH	61,000,000	HH
Chloroform	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	410	HH	410	HH
Chloromethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	300,000	HH	300,000	HH
cis-1,2-Dichloroethene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,500,000	Eco	3,100,000	HH
cis-1,3-Dichloropropene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	8,100	HH	8,100	HH
Dibromochloromethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	34,000	HH	34,000	HH
Dibromomethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	110,000	HH	110,000	HH
Dichlorodifluoromethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	730,000	Eco	780,000	HH
Dichloromethane (Methylene Chloride)	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	20,000	HH	20,000	HH
Ethylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	**0.282 J**	0.212 U	255 U	230 U	2,260	Eco	12,000	HH
Hexachlorobutadiene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	22,000	HH	22,000	HH
Isopropylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,260	Eco	24,000,000	HH
m,p-Xylenes	0.437 U	0.440 U	0.349 U	0.458 U	0.400 U	0.424 U	509 U	460 U	120,000	Eco	2,700,000	HH
Naphthalene	0.218 UJ	0.220 UJ	0.735 UJ	0.229 UJ	0.200 UJ	0.212 UJ	**542**	**504**	23,000	HH	23,000	HH
n-Butylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	-	-	-	-
n-Propylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,260	Eco	21,000,000	HH
o-Xylene	0.218 U	0.220 U	0.174 U	0.229 U	**0.735**	0.212 U	255 U	230 U	1,000	Eco	19,000,000	HH
sec-Butylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,260	Eco	-	-
Styrene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	300,000	Eco	51,000,000	HH
tert-Butylbenzene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,260	Eco	-	-
Tetrachloroethene (PCE)	**1.07**	**0.734**	**1.13**	**3.42**	**0.707**	**3.29**	255 U	230 U	1,600	HH	1,600	HH
Toluene	0.218 U	**0.225 J**	**0.312 J**	**0.984**	**0.376 J**	0.212 U	255 U	230 U	200,000	Eco	24,000,000	HH
trans-1,2-Dichloroethene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	200,000	HH	200,000	HH
trans-1,3-Dichloropropene	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	8,100	HH	8,100	HH
Trichloroethene (TCE)	0.218 U	0.220 U	0.174 UJ	0.229 U	0.200 U	0.212 U	255 U	230 U	130	HH	130	HH
Trichlorofluoromethane	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	730,000	Eco	63,000,000	HH
Vinyl Acetate	1.09 UJ	1.10 UJ	0.872 U	1.15 UJ	1.00 UJ	1.06 UJ	1,270 U	1,150 U	4,100,000	HH	4,100,000	HH
Vinyl Chloride	0.218 U	0.220 U	0.174 U	0.229 U	0.200 U	0.212 U	255 U	230 U	2,200	HH	2,200	HH

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of combining primary and field duplicate results at this sampling location as described in Section 5.1.
[1] = Screening based on depth of sample with the exception of Gully Test Pit samples (Site ID suffix = "TPG") and Mercury Vapor Lamp Test Pit samples (Site ID
The Gully Test Pit COCs were screened against the minimum SLV for the two depth ranges, except for o-xylene, toluene, and PCE which were compared only t
Test it data for these analytes.

Table 5-2c
2001/2002 Phase II Supplimental Landfill Site InspectionSoil Analytical Results
Semivolatile Organic Compounds
(Page 1 of 2)

Site ID	BIL01TPG	BIL02TPG	BIL03TPG	BIL04TPG	BIL13	BIL14	BIL15	BIL16	BIL17	BIL18	BIL19	BIL20	BIL21	BIL22*	BIL28TPM	BIL29TPM	**Selected SLV[1] (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV[1] (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	011015BIL01TPG	011015BIL02TPG	011015BIL03TPG	011015BIL04TPG	011016BIL13SS	011016BIL14SS	011016BIL15SS	011016BIL16SS	011016BIL17SS	011016BIL18SS	011016BIL19SS	011016BIL20SS	011016BIL21SS	011016BIL22SS	011017BIL28TPM	011017BIL29TPM				
Sample Date	10/15/2001	10/15/2001	10/15/2001	10/15/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001				
Sample Depth or Interval (Feet bgs)	0.0-10.0	0.0-10.0	0.0-10.0	0.0-10.0	4.0	6.0	8.0	4.0	1.0	2.0	5.0	8.0	5.0	3.0	0.0-10.0	0.0-10.0				
Semivolatile Organic Compounds (µg/kg)																				
1,2,4-Trichlorobenzene	15.2 U	13.0 U	13.0 U	-	12.9 U	11.2 U	12.0 U	12.4 U	13.0 U	12.0 U	11.4 U	12.2 U	11.0 U	11.8 U	140 U	126 U	20,000	Eco	99,000	HH
1,2-Dichlorobenzene	18.9 U	16.1 U	16.2 U	-	16.0 U	13.9 U	14.9 U	15.3 U	16.1 U	14.9 U	14.2 U	15.1 U	13.6 U	14.6 U	173 U	157 U	2,260	Eco	19,000,000	HH
1,3-Dichlorobenzene	25.6 U	21.9 U	22.0 U	-	21.8 U	19.0 U	20.3 U	20.9 U	21.9 U	20.2 U	19.2 U	20.6 U	18.5 U	19.9 U	236 U	213 U	2,260	Eco	17,000	HH
1,4-Dichlorobenzene	29.3 U	25.0 U	25.1 U	-	24.9 U	21.7 U	23.1 U	23.8 U	25.0 U	23.1 U	22.0 U	23.5 U	21.1 U	22.7 U	269 U	244 U	17,000	HH	17,000	HH
2,4,5-Trichlorophenol	32.9 U	28.1 U	28.3 U	28.3 U	28.0 U	24.4 U	26.0 U	26.8 U	28.1 U	26.0 U	24.7 U	26.4 U	23.8 U	19.5 U	303 U	274 U	4,000	Eco	62,000,000	HH
2,4,6-Trichlorophenol	24.3 U	20.8 U	20.9 U	20.9 U	20.7 U	18.0 U	19.2 U	19.8 U	20.8 U	19.2 U	18.3 U	19.5 U	17.6 U	18.9 U	224 U	203 U	10,000	Eco	200,000	HH
2,4-Dichlorophenol	20.1 U	17.2 U	17.3 U	17.3 U	37.4 U	14.9 U	15.9 U	16.4 U	17.2 U	15.9 U	15.1 U	16.1 U	14.5 U	15.6 U	185 U	198 U	20,000	Eco	1,800,000	HH
2,4-Dimethylphenol	20.1 U	17.2 U	17.3 U	17.3 U	17.1 U	14.9 U	15.9 U	16.4 U	17.2 U	15.9 U	15.1 U	16.1 U	14.5 U	15.6 U	185 U	168 U	20,000	Eco	12,000,000	HH
2,4-Dinitrophenol	-	-	-	-	17.1 UJ	32.5 UJ	34.7 UJ	35.8 UJ	37.5 UJ	34.7 UJ	33.0 UJ	35.2 UJ	31.7 UJ	34.1 UJ	404 U	168 U	20,000	Eco	1,200,000	HH
2,4-Dinitrotoluene	23.8 U	20.3 U	20.4 U	-	20.2 U	17.6 U	18.8 U	19.4 U	20.3 U	18.8 U	17.9 U	19.1 U	17.2 U	18.5 U	219 U	366 U	5,500	HH	5,500	HH
2,6-Dinitrotoluene	32.9 U	28.1 U	28.3 U	-	28.0 UJ	24.4 UJ	26.0 UJ	26.8 UJ	28.1 UJ	26.0 U	24.7 UJ	26.4 UJ	23.8 UJ	25.6 UJ	303 U	259 U	240,000	HH	240,000	HH
2-Chloronaphthalene	5.49 U	4.69 U	4.71 U	-	4.67 U	4.60 U	4.34 U	4.47 U	4.68 U	4.34 U	4.12 U	4.40 U	3.97 U	4.27 U	50.5 U	45.7 U	82,000,000	HH	82,000,000	HH
2-Chlorophenol	27.5 U	23.4 U	23.6 U	23.6 U	23.3 U	20.3 U	21.7 U	22.3 U	23.4 U	21.7 U	20.6 U	22.0 U	19.8 U	21.3 U	252 U	228 U	60,000	Eco	5,100,000	HH
2-Methylphenol	22.0 U	18.8 U	18.9 U	18.9 U	18.7 U	16.2 U	17.4 U	17.9 U	18.7 U	17.4 U	16.5 U	17.6 U	15.9 U	17.1 U	202 U	183 U	50,000	Eco	31,000,000	HH
2-Nitroaniline	23.8 U	20.3 U	20.4 U	-	17.1 U	17.6 U	18.8 U	19.4 U	20.3 U	18.8 U	17.9 U	19.1 U	17.2 U	18.5 U	219 U	198 U	6,000,000	HH	6,000,000	HH
2-Nitrophenol	25.6 U	21.9 U	22.0 U	22.0 U	21.8 U	19.0 U	20.3 U	20.9 U	21.9 U	20.2 U	19.2 U	20.6 U	18.5 U	19.9 U	236 U	213 U	180,000,000	HH	180,000,000	HH
3,3'-Dichlorobenzidine	20.1 U	17.2 U	17.3 U	-	17.1 UJ	14.9 UJ	15.9 UJ	16.4 UJ	17.2 UJ	15.9 UJ	15.1 UJ	16.1 UJ	14.5 UJ	15.6 UJ	185 U	168 U	4,800	HH	4,800	HH
3-Nitroaniline	31.1 U	26.6 U	26.7 U	-	26.5 UJ	23.0 UJ	24.6 UJ	25.3 UJ	26.5 UJ	24.6 UJ	23.4 UJ	25.0 UJ	22.5 UJ	24.2 UJ	286 U	259 U	70,000	Eco	6,000,000	HH
4,6-Dinitro-2-methylphenol	-	-	-	-	57.6 UJ	50.1 UJ	24.6 UJ	55.1 UJ	57.8 UJ	53.5 UJ	50.9 UJ	54.3 UJ	48.9 UJ	52.6 UJ	623 U	564 U	49,000	HH	49,000	HH
4-Bromophenyl Phenyl Ether	24.3 U	20.8 U	20.9 U	-	20.7 U	18.0 U	19.2 U	19.8 U	20.8 U	19.2 U	18.3 U	19.5 U	17.6 U	18.9 U	224 U	203 U	-	-	-	-
4-Chloro-3-methylphenol	20.1 U	17.2 U	17.3 U	17.3 U	17.1 U	14.9 U	15.9 U	16.4 U	17.2 U	15.9 U	15.1 U	16.1 U	14.5 U	15.6 U	185 U	168 U	62,000,000	HH	62,000,000	HH
4-Chloroaniline	17.0 U	14.5 U	14.6 U	-	14.5 U	12.6 U	13.5 U	13.9 U	14.5 U	13.4 U	12.8 U	13.7 U	12.3 U	13.2 U	157 U	142 U	8,600	HH	8,600	HH
4-Chlorophenyl Phenyl Ether	30.8 U	26.3 U	26.4 U	-	26.1 U	22.7 U	24.3 U	25.0 U	26.2 U	24.3 U	23.1 U	24.7 U	22.2 U	23.9 U	283 U	256 U	-	-	-	-
4-Nitroaniline	31.1 U	26.6 U	26.7 U	-	26.5 UJ	23.0 UJ	24.6 UJ	25.3 UJ	26.5 UJ	24.6 UJ	23.4 UJ	25.0 UJ	22.5 UJ	24.2 UJ	286 U	259 U	40,000	Eco	86,000	HH
4-Nitrophenol	34.8 UJ	29.7 UJ	29.9 UJ	29.9 UJ	29.6 UJ	25.7 UJ	27.5 UJ	28.3 UJ	29.7 UJ	27.5 UJ	26.1 UJ	27.9 UJ	25.1 UJ	27.0 UJ	320 U	289 U	7,000	Eco	180,000,000	HH
Aniline	49.4 UJ	156 U	157 U	-	42.0 U	36.6 U	39.1 U	40.2 U	42.2 U	39.0 U	37.1 U	39.6 U	35.7 U	38.4 U	454 U	411 U	200,000	Eco	300,000	HH
Benzidine	34.6 UJ	29.5 UJ	29.7 UJ	-	29.4 UJ	25.6 UJ	27.3 UJ	28.2 UJ	29.5 UJ	27.3 UJ	26.0 UJ	27.7 UJ	25.0 UJ	26.9 UJ	318 U	288 U	55,000	HH	55,000	HH
Benzoic Acid	-	-	-	-	52.9 U	46.0 U	49.2 U	50.6 U	**553**	**191 J**	**301 J**	49.9 U	44.9 U	**300 J**	572 U	518 U	200,000	Eco	2,500,000,000	HH
Benzyl Alcohol	38.4 U	32.5 U	33.0 U	33.0 U	32.7 UJ	28.4 UJ	30.4 UJ	31.3 UJ	32.8 UJ	30.4 UJ	28.9 UJ	30.8 UJ	27.8 UJ	29.9 UJ	353 UJ	320 UJ	2,260	Eco	62,000,000	HH
Bis(2-chloroethoxy)methane	22.0 U	18.8 U	18.9 U	-	18.7 U	16.2 U	17.4 U	17.9 U	18.7 U	17.4 U	16.5 U	17.6 U	15.9 U	17.1 U	202 U	183 U	730,000	Eco	1,800,000	HH
Bis(2-chloroethyl) Ether	35.0 U	29.9 U	30.0 U	-	29.7 U	25.9 U	27.6 U	28.5 U	29.8 U	27.6 U	26.3 U	28.0 U	25.2 U	27.2 U	321 U	291 U	1,000	HH	1,000	HH
Bis(2-chloroisopropyl) Ether	47.6 U	40.6 U	40.9 U	-	40.5 U	35.2 U	37.6 U	38.7 U	40.6 U	37.6 U	35.7 U	38.2 U	34.4 U	37.0 U	438 U	396 U	1,000	HH	1,000	HH
Bis(2-ethylhexyl) Phthalate	**2,670 J**	**3,240 J**	**995 J**	**4,280 J**	**2,370**	**237 J**	**1,170**	**1,160**	**3,960**	**2,030**	**1,720**	**188 J**	**1,510**	**888**	690 UJ	625 UJ	4,500	Eco	150,000	HH
Butyl Benzyl Phthalate	34.8 U	**67.2 J**	29.9 U	-	29.6 U	25.7 U	27.5 U	**152**	**68.7 J**	27.5 U	26.1 U	**35.2 J**	25.1 U	27.0 U	320 U	289 U	450	Eco	910,000	HH
Carbazole	**425 J**	**577 J**	**281 J**	**2,650 J**	**448**	5.28 U	**205**	**128**	**490**	**2,840**	**1,630**	5.73 U	**1,070**	**592**	**707**	59.4 U	2,260	Eco	1,000,000	HH
Dibenzofuran	**67.7 J**	**89.1 J**	**42.4 J**	**810 J**	**94.9 J**	15.7 U	**21.7 J**	**20.9 J**	**67.1 J**	**419**	**214**	17.0 U	**161**	**83.0 J**	195 U	177 U	2.00	Eco	1,000,000	HH
Diethyl Phthalate	31.1 U	26.6 U	26.7 U	-	26.5 U	23.0 U	24.3 U	25.3 U	**73.4 J**	**28.9 J**	23.4 U	25.0 U	**30.4 J**	**31.8 J**	286 U	259 U	100,000	Eco	490,000,000	HH
Dimethyl Phthalate	20.1 U	17.2 U	17.3 U	-	17.1 U	14.9 U	15.9 U	16.4 U	17.2 U	15.9 U	15.1 U	16.1 U	14.5 U	15.6 U	185 U	168 U	150,000	HH	150,000	HH
Di-n-butyl Phthalate	159 U	136 U	137 U	-	135 UJ	118 UJ	126 UJ	130 UJ	136 UJ	126 UJ	120 UJ	128 UJ	115 UJ	124 UJ	1,460 U	1,330 U	450	Eco	62,000,000	HH
Di-n-octyl Phthalate	47.6 UJ	40.6 UJ	40.9 UJ	-	40.5 UJ	35.2 UJ	37.6 UJ	38.7 UJ	40.6 UJ	37.6 UJ	35.7 UJ	38.2 UJ	34.4 UJ	37.0 UJ	438 U	396 U	450	Eco	150,000	HH
Hexachlorobenzene	20.1 U	17.2 U	17.3 U	-	17.1 U	14.9 U	15.9 U	13.4 U	17.2 U	15.9 U	15.1 U	16.1 U	14.5 U	15.6 U	185 U	168 U	1,800	HH	1,800	HH
Hexachlorobutadiene	16.5 U	14.1 U	14.1 U	-	14.0 U	12.2 U	13.0 U	28.3 U	14.1 U	13.0 U	12.4 U	13.2 U	11.9 U	12.8 U	151 U	137 U	22,000	HH	22,000	HH
Hexachlorocyclopentadiene	25.8 U	22.0 U	22.2 U	-	21.9 U	19.1 U	20.4 U	21.0 U	22.0 U	20.4 U	19.4 U	20.7 U	16.6 U	20.0 U	237 UJ	215 UJ	10,000	Eco	3,700,000	HH
Hexachloroethane	34.8 U	29.7 U	29.9 U	-	29.6 U	25.7 U	27.5 U	16.4 U	29.7 U	27.5 U	26.1 U	27.9 U	25.1 U	27.0 U	320 U	289 U	150,000	HH	150,000	HH
Isophorone	25.6 U	21.9 U	22.0 U	-	21.8 U	19.0 U	20.3 U	20.9 U	21.4 U	20.2 U	19.2 U	20.6 U	18.5 U	19.9 U	236 U	213 U	1,800,000	HH	1,800,000	HH
Nitrobenzene	25.1 U	21.4 U	21.5 U	-	21.3 U	18.5 U	19.8 U	20.4 U	21.4 U	19.8 U	18.8 U	20.1 U	18.1 U	19.5 U	231 U	209 U	8,000	Eco	24,000	HH
N-Nitrosodimethylamine	-	-	-	-	17.1 UJ	10.8 UJ	15.9 UJ	16.4 UJ	17.2 UJ	15.9 UJ	15.1 UJ	16.1 UJ	14.5 UJ	15.6 UJ	135 UJ	168 UJ	34.0	HH	34.0	HH
N-Nitrosodi-n-propylamine	20.1 U	17.2 U	17.3 U	-	17.1 U	14.9 U	15.9 U	16.4 U	17.2 U	15.9 U	15.1 U	16.1 U	14.5 U	15.6 U	185 U	168 U	250	HH	250	HH
N-Nitrosodiphenylamine	-	-	-	-	12.5 U	14.9 U	11.6 U	11.9 U	12.5 U	11.6 U	11.0 U	11.7 U	10.6 U	11.4 U	185 U	122 U	20,000	Eco	350,000	HH
p-cresol (4-Methylphenol)	27.1 U	23.1 U	23.3 U	23.3 U	23.0 U	20.0 U	21.4 U	22.0 U	**64.0 J**	21.4 U	20.3 U	21.7 U	19.6 U	21.0 U	249 UJ	225 UJ	-	-	-	-
Pentachlorophenol	38.4 U	32.8 U	33.0 U	33.0 U	32.7 U	28.4 U	30.4 U	31.3 U	**201**	30.4 U	28.9 U	30.8 U	27.8 U	29.9 U	353 U	320 U	2,100	Eco	13,000	HH
Phenol	36.6 U	31.3 U	31.4 U	31.5 U	31.1 U	27.1 U	28.9 U	29.8 U	31.2 U	28.9 U	27.5 U	29.4 U	26.4 U	28.4 U	337 U	305 U	30,000	Eco	180,000,000	HH

Table 5-2c
2001/2002 Phase II Supplimental Landfill Site InspectionSoil Analytical Results
Semivolatile Organic Compounds
(Page 2 of 2)

Site ID	BIL01TPG	BIL02TPG	BIL03TPG	BIL04TPG	BIL13	BIL14	BIL15	BIL16	BIL17	BIL18	BIL19	BIL20	BIL21	BIL22*	BIL28TPM	BIL29TPM	**Selected SLV[1]**	**SLV Source**	**Selected SLV[1]**	**SLV Source**
Sample ID	011015BIL01TPG	011015BIL02TPG	011015BIL03TPG	011015BIL04TPG	011016BIL13SS	011016BIL14SS	011016BIL15SS	011016BIL16SS	011016BIL17SS	011016BIL18SS	011016BIL19SS	011016BIL20SS	011016BIL21SS	011016BIL22SS	011017BIL28TPM	011017BIL29TPM				
Sample Date	10/15/2001	10/15/2001	10/15/2001	10/15/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001				
Site ID	BIL01TPG	BIL02TPG	BIL03TPG	BIL04TPG	BIL13	BIL14	BIL15	BIL16	BIL17	BIL18	BIL19	BIL20	BIL21	BIL22*	BIL28TPM	BIL29TPM	**Selected SLV[1] (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV[1] (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	011015BIL01TPG	011015BIL02TPG	011015BIL03TPG	011015BIL04TPG	011016BIL13SS	011016BIL14SS	011016BIL15SS	011016BIL16SS	011016BIL17SS	011016BIL18SS	011016BIL19SS	011016BIL20SS	011016BIL21SS	011016BIL22SS	011017BIL28TPM	011017BIL29TPM				
Sample Date	10/15/2001	10/15/2001	10/15/2001	10/15/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/16/2001	10/17/2001	10/17/2001				
Sample Depth or Interval (Feet bgs)	0.0-10.0	0.0-10.0	0.0-10.0	0.0-10.0	4.0	6.0	8.0	4.0	1.0	2.0	5.0	8.0	5.0	3.0	0.0-10.0	0.0-10.0				
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)																				
2-Methylnaphthalene	2.86 U	**20.3**	2.45 U	**206 J**	**42.0**	2.11 U	2.26 U	**28.3**	**37.5**	**43.4**	**17.9**	2.29 U	2.06 U	2.22 U	**1,530**	**625**	4,100,000	HH	4,100,000	HH
Acenaphthene	**461**	**616**	**266**	**3,040 J**	**540**	**23.0**	**113**	**87.9**	**323**	**2,530**	6.80 U	7.27 U	**978**	**576**	83.3 U	**168**	19,000,000	HH	19,000,000	HH
Acenaphthylene	7.98 U	**20.3**	6.85 U	**22.0 J**	**65.4**	5.90 U	**27.5**	**35.8**	**78.1**	**111**	5.99 U	6.40 U	**71.4**	**51.4**	73.4 U	66.4 U	23,000	HH	23,000	HH
Anthracene	**1,450**	**1,810**	**891**	**7,550 J**	**872**	**62.3**	**307**	**295**	**773**	**8,440**	**5,640**	3.70 U	**4,650**	**1,780**	**1,750**	**503**	93,000,000	HH	93,000,000	HH
Fluorene	**223**	**349**	**185**	**1,400 J**	**272**	**17.6**	**89.7**	**71.5**	**244**	**1,610**	**977**	6.86 U	**673**	**371**	78.6 U	71.1 U	12,000,000	HH	12,000,000	HH
Naphthalene	**36.6**	**56.3**	7.35 U	**1,710 J**	**82.5**	6.34 U	6.77 U	**34.3**	**78.1**	**176**	**77.0**	6.87 U	**44.9**	**47.8**	**791**	**823**	23,000	HH	23,000	HH
Phenanthrene	**3,560**	**4,280**	**2,240**	**15,600 J**	**3,110**	**194**	**1,240**	**798**	**2,910**	**21,900**	2.93 U	**23.5**	**9,370**	**4,705**	**5,020**	**1,480**	93,000,000	HH	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	NC	NC	NC	NC	NC	NC	NC	NC	**4,406**	**34,767**	NC	NC	NC	**7,531 J**	**7,782 J**	**3,107 J**	29,000	Eco	-	-
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)																				
Benzo(a)anthracene	**6,460**	**8,750**	**4,540**	**13,500 J**	**10,100**	**418**	**3,020**	**4,590**	**9,620**	**28,200**	**31,200**	**173**	**23,100**	**9,420**	**9,780**	92.9 U	2,700	HH	2,700	HH
Benzo(a)pyrene	**7,030**	**8,130**	**6,070**	**12,700 J**	**9,840**	**533**	**3,160**	**3,310**	**10,500**	**34,000**	**19,200**	**135**	**15,800**	**7,695**	**7,100**	35.5 U	270	HH	270	HH
Benzo(g,h,i)perylene	**3,560**	**4,380**	**3,350**	**5,870 J**	**5,060**	**318**	**1,850**	**1,780**	**6,150**	**17,000**	**9,530**	**41.1**	**7,360**	**3,020**	27.8 U	25.1 U	27,000	HH	27,000	HH
Benzofluoranthenes, Total	**10,300 J**	**11,100 J**	**7,480 J**	**16,500 J**	**14,200**	**839**	**5,370**	**7,940**	**14,700**	**31,300**	**8,430**	**197**	**13,900**	**8,490**	**5,100**	**1,080**	2,700	HH	2,700	HH
Chrysene	**6,900**	**8,190**	**5,170**	**13,200 J**	**8,190**	**437**	**2,990**	**3,380**	**8,430**	**35,300 J**	**24,000**	**191 J**	**19,800**	**8,415**	**8,210**	**2,060**	270,000	HH	270,000	HH
Dibenz(a,h)anthracene	**793**	**760**	**498**	**904 J**	**685**	**52.8**	**324**	**280**	**695**	**1,940**	3.20 U	3.42 U	3.08 U	**573**	39.2 U	35.5 U	270	HH	270	HH
Fluoranthene	**11,800**	**16,700**	**10,600**	**33,500 J**	**19,500**	**1,100**	**6,830**	**9,800**	**19,400**	**48,300**	**30,700**	**169**	**25,800**	**17,850**	**13,600**	71.1 U	8,900,000	HH	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**4,610**	**4,240**	**3,790**	**7,660 J**	**6,260**	**382**	**2,140**	**1,990**	**6,990**	**20,000**	**11,300**	**52.8**	**8,930**	**2,033**	39.2 U	35.5 U	2,700	HH	2,700	HH
Pyrene	**14,700**	**20,000**	**12,000**	**33,700 J**	**23,100**	**1,220**	**7,670**	**11,600**	**22,900**	**67,100**	**37,700**	**214**	**31,600**	**24,150**	**15,500**	**2,540**	6,700,000	HH	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	NC	NC	NC	NC	NC	NC	NC	NC	**84,685**	**251,840**	NC	NC	NC	**73,156**	**54,272 J**	**4,750 J**	1,100	Eco	-	-

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
NC = not calculated
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of combining primary and field duplicate results at this sampling location as described in Section 5.1.
[1] = Screening based on depth of sample with the exception of Gully Test Pit samples (Site ID suffix = "TPG") and Mercury Vapor Lamp Test Pit samples (Site ID suffix = "TPM"). The Mercury Vapor Lamp Test Pit samples were screened against the the minimum SLV for the two depth ranges. The Gully Test Pit COCs were screened against the minimum SLV for the two depth ranges, except for LPAHs and HPAHs (excluding 2-Methylnaphthalene) which were compared only to >3 ft SLVs due to more recent (2009) surface and subsurface samples that analyzed for a subset of analytes and superceed the Gully Test Pit data for these analytes.

Table 5-2d
2001/2002 Phase II Supplimental Landfill Site Inspection Soil Analytical Results
Samples from Lead "Hot Spot" Areas

Site ID	BIL24*	BIL26	BIL27	BIL30	BIL31	BIL32	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	011017BIL24SS	011017BIL26SS	011017BIL27SS	011017BIL30SS	011017BIL31SS	011017BIL32SS		
Sample Date	10/17/2001	10/17/2001	10/17/2001	10/17/2001	10/17/2001	10/17/2001		
Sample Depth (Feet bgs)	3	2	3	2.5	2.5	2.5		
Metals (mg/kg)								
Lead	**614 J**	**711 J**	**954 J**	**110 J**	**87.6 J**	**115 J**	25.5	UPL

Notes:

mg/kg = milligram per kilogram
bgs = below ground surface
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of combining primary and field duplicate results at this sampling location as described in Section 5.1.

Table 5-2e
2001/2002 Phase II Supplimental Landfill Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
(Page 1 of 2)

Site ID	MW-01	MW-02	MW-03	MW-04*	MW-05	MW-06	MW-07	MW-08	MW-09	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	020501BIL02GW	020501BIL03GW	020501BIL05GW	020503BIL06GW	020503BIL09GW	020503BIL08GW	020503BIL10GW	020501BIL01GW	020501BIL04GW				
Sample Date	5/1/2002	5/1/2002	5/1/2002	5/3/2002	5/3/2002	5/3/2002	5/3/2002	5/1/2002	5/1/2002				
Sample Depth (Feet btc)	27.5	29.56	18.21	20.29	24.87	31.06	20.44	58.45	21.08				
Total PCB Aroclors (µg/L)													
Aroclor 1016	0.00222 U	0.00199 U	0.00218 U	0.00206 U	0.00218 U	0.00207 U	0.00233 U	0.00360 U	-	0.0000640	HH	0.0140	Eco
Aroclor 1221	0.00552 U	0.00496 U	0.00542 U	0.00513 U	0.00542 U	0.00515 U	0.00579 U	0.00894 U	-	0.0000640	HH	0.00680	HH
Aroclor 1232	0.00263 U	0.00236 U	0.00258 U	0.00244 U	0.00258 U	0.00245 U	0.00275 U	0.00426 U	-	0.0000640	HH	0.00680	HH
Aroclor 1242	0.00364 U	0.00327 U	0.00358 U	0.00338 U	0.00358 U	0.00340 U	0.00382 U	0.00590 U	-	0.0000640	HH	0.0140	Eco
Aroclor 1248	0.00172 U	0.00155 U	0.00169 U	0.00160 U	0.00169 U	0.00161 U	0.00181 U	0.00279 U	-	0.0000640	HH	0.0140	Eco
Aroclor 1254	0.00222 U	0.00199 U	0.00218 U	0.00206 U	0.00218 U	0.00207 U	0.00233 U	0.00360 U	-	0.0000640	HH	0.0140	Eco
Aroclor 1260	0.00121 U	0.00109 U	0.00119 U	0.00113 U	0.00119 U	0.00113 U	0.00127 U	0.00197 U	-	0.0000640	HH	0.0140	Eco
Total Metals (µg/L)													
Antimony	**1.56 J**	**0.879 J**	3.00 U	**3.89**	**0.798 J**	**1.26 J**	**0.586 J**	**2.98 J**	**0.294 J**	5.60	HH	15.0	HH
Arsenic	**18.9**	**7.00**	**0.138 J**	**2.45**	**3.60**	**9.92**	**17.5**	**1.08**	**0.728 J**	0.0180	HH	0.0380	HH
Barium	**140**	**64.9**	**7.15**	**304**	**50.8**	**139**	**174**	**100**	**128**	1,000	HH	7,300	HH
Beryllium	**0.435 J**	**0.396 J**	0.0142 U	**0.268 J**	0.0142 U	**0.222 J**	**0.344 J**	**0.307 J**	**0.324 J**	-	-	73.0	HH
Cadmium	0.00710 U	0.00710 U	**0.0100 J**	**4.68**	**0.110 J**	0.00710 U	**0.0260 J**	0.00710 U	**1.03**	-	-	18.0	HH
Chromium	**18.5**	**7.43**	1.95 U	**6.01**	1.00 U	**8.64**	**7.51**	**3.36**	**4.73**	-	-	55,000	HH
Copper	**14.3**	**5.08**	**2.34**	**201**	**2.33**	**35.9**	**47.0**	**13.2**	**39.7**	1,300	HH	1,500	HH
Iron	**6,100**	**2,320**	**33.1 J**	**12,200**	**20,600**	**34,000**	**42,900**	**4,560**	**929**	300	HH	26,000	HH
Lead	**7.95**	**2.78**	0.500 U	**78.2**	0.500 U	**3.63**	**4.13**	**1.90**	**1.05**	-	-	15.0	HH
Manganese	**157**	**71.7**	**3.17**	**327**	**2,110**	**2,560**	**2,440**	**411**	**355**	50.0	HH	880	HH
Mercury	0.131 U	0.131 U	0.131 U	0.131 U	0.131 U	0.131 U	0.131 U	0.131 U	0.131 U	-	-	11.0	HH
Nickel	**7.23**	**2.11**	**0.850 J**	**117**	**4.81**	**12.4**	**14.4**	**7.61**	**7.49**	610	HH	730	HH
Selenium	**2.01 J**	0.385 U	0.385 U	0.385 U	0.385 U	**0.530 J**	**0.539 J**	**8.23**	**5.63**	170	HH	180	HH
Silver	**0.154**	0.100 U	0.100 U	**0.658**	0.100 U	**0.108**	**0.131**	**0.0810 J**	0.100 U	-	-	180	HH
Thallium	**0.230 J**	**0.159 J**	**0.159 J**	**0.197 J**	**0.115 J**	**0.230 J**	**0.323 J**	**0.243 J**	**0.166 J**	0.240	HH	2.00	HH
Zinc	**57.6**	**23.7**	**4.27**	**1,745**	**61.6**	**21.5**	**54.8**	**11.2**	**28.9**	7,400	HH	11,000	HH
Total Petroleum Hydrocarbons (µg/L)													
Diesel Range Organics	**122 J**	**131 J**	100 U	**485**	**1,100**	**889**	**567**	**371**	**471**	-	-	90.0	HH
Residual Range Organics	**275 J**	**351 J**	**310 J**	**750**	**1,270**	**1,030**	**708**	**407**	**965**	-	-	290	HH
Gasoline Range Organics	100 U	100 U	100 U	100 U	**63.1 J**	100 U	**281**	100 U	100 U	-	-	100	HH
Total Butyltins (µg/L)													
Dibutyltin	**0.162**	**0.447 J**	**0.0113**	0.00111 U	**0.00501**	**0.0119**	0.00115 U	**0.231**	-	0.0630	Eco	0.0630	Eco
Monobutyltin	**0.0540**	**0.240 J**	**0.00682**	0.00105 U	**0.00449**	**0.00699**	0.00110 U	**0.0189**	-	0.0630	Eco	0.0630	Eco
Tetrabutyltin	0.00119 U	0.00110 U	0.00116 U	0.00111 U	0.00119 U	0.00116 U	0.00115 U	0.00114 U	-	0.0630	Eco	0.0630	Eco
Tributyltin	**0.0233**	**0.0601 J**	**0.0287 J**	0.00156 U	**0.0171**	**0.0213**	0.00163 U	**0.0284**	-	0.0630	Eco	0.0630	Eco

Table 5-2e
2001/2002 Phase II Supplimental Landfill Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
(Page 2 of 2)

Site ID										**Selected Discharge to Surface Water / Bioaccumulation**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID													
Sample Date													
Sample Depth (Feet btc)													
Total Herbicides (µg/L)													
2,4,5-T	0.0566 U	0.0566 U	0.0566 U	0.0566 U	0.0566 U	0.0566 U	0.0566 U	0.0566 U	-	36.0	Eco	36.0	Eco
2,4,5-TP (Silvex)	0.0227 U	0.0227 U	0.0277 U	0.0227 U	0.0227 U	0.0227 U	0.0227 U	0.0227 U	-	-	-	290	HH
2,4-D	0.0296 U	0.0296 U	0.0296 U	0.0296 U	0.0296 U	0.0296 U	0.0296 U	0.0296 U	-	4.00	Eco	4.00	Eco
2,4-DB	0.0557 U	0.0577 U	0.0577 U	0.0577 U	0.0577 U	0.0577 U	0.0577 U	0.0577 U	-	-	-	290	HH
4-Nitrophenol	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	**0.840**	-	150	Eco	150	Eco
Dalapon	0.0124 U	0.0124 U	0.0124 U	0.0124 U	0.0124 U	0.0124 U	0.0124 U	0.0124 U	-	-	-	1,100	HH
Dicamba	0.0221 U	0.0221 U	0.0221 U	0.0221 U	0.0221 U	0.0221 U	0.0221 U	0.0221 U	-	10.0	Eco	10.0	Eco
Dichloroprop	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	-	4.00	Eco	4.00	Eco
Dinoseb	0.0292 U	0.0292 U	0.0292 U	0.0292 U	0.0292 U	0.0292 U	0.0292 U	0.0292 U	-	0.0500	Eco	0.0500	Eco
MCPA	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	0.0114 U	-	2.60	Eco	2.60	Eco
MCPP	0.0134 U	0.0134 U	0.0134 U	0.0134 U	0.0134 U	0.0134 U	0.0134 U	0.0134 U	-	-	-	37.0	HH
Pentachlorophenol	0.0259 U	0.0259 U	0.0259 U	0.0259 U	0.0259 U	0.0259 U	0.0259 U	**0.112**	-	0.270	HH	0.470	HH
Total Pesticides (µg/L)													
4,4'-DDD	0.000513 UJ	0.000458 UJ	0.000531 U	0.000473 UJ	0.00227 UJ	0.000517 UJ	0.00208 U	0.000646 UJ	-	0.000310	HH	0.00100	Eco
4,4'-DDE	0.000425 UJ	0.000380 UJ	**0.00246 J**	0.000391 UJ	0.00227 UJ	0.000428 UJ	0.00208 U	0.000535 UJ	-	0.000220	HH	0.00100	Eco
4,4'-DDT	0.000544 UJ	0.000486 UJ	0.000563 U	0.000501 UJ	0.00227 UJ	0.000548 UJ	0.00208 U	0.000685 UJ	-	0.000220	HH	0.00100	Eco
Aldrin	0.000125 UJ	0.000111 UJ	0.000129 U	0.000115 UJ	0.00114 UJ	0.000126 UJ	0.00104 U	0.000157 UJ	-	0.0000490	HH	0.00330	HH
BHC (alpha)	0.000401 UJ	0.000358 UJ	0.000414 U	0.000369 UJ	0.00114 UJ	0.000403 UJ	0.00104 U	0.000505 UJ	-	0.00260	HH	0.00900	HH
BHC (beta)	0.000465 UJ	0.000415 UJ	0.000481 U	0.000428 UJ	0.00114 UJ	0.000468 UJ	0.00104 U	0.000586 UJ	-	0.00910	HH	0.0370	HH
BHC (delta)	0.000256 UJ	0.000228 UJ	0.000264 U	0.000235 UJ	0.00114 UJ	0.000257 UJ	0.00104 U	0.000322 UJ	-	0.00260	HH	0.00900	HH
BHC (gamma) Lindane	0.000784 UJ	0.000700 UJ	0.000811 U	0.000722 UJ	0.00114 UJ	0.000789 UJ	0.00104 U	0.000987 UJ	-	0.0800	Eco	0.0520	HH
Chlordane (technical)	0.00349 UJ	0.00312 UJ	0.00361 U	0.00321 UJ	0.0114 UJ	0.00351 UJ	0.0104 U	0.00439 UJ	-	0.000800	HH	0.00430	Eco
Dieldrin	0.000329 UJ	0.000294 UJ	**0.000982 J**	0.000303 UJ	0.00227 UJ	0.000331 UJ	0.00208 U	0.000414 UJ	-	0.0000520	HH	0.00350	HH
Endosulfan I	0.000543 UJ	0.000485 UJ	0.000562 U	0.000500 UJ	0.00114 UJ	0.000547 UJ	0.00104 U	0.000684 UJ	-	0.0560	Eco	0.0560	Eco
Endosulfan II	0.000412 UJ	0.000368 UJ	0.000426 U	0.000380 UJ	0.00227 UJ	0.000415 UJ	0.00208 U	0.000519 UJ	-	0.0560	Eco	0.0560	Eco
Endosulfan Sulfate	0.000585 UJ	0.000523 UJ	0.000605 U	0.000539 UJ	0.00227 UJ	0.000589 UJ	0.00208 U	0.000737 UJ	-	0.0510	Eco	0.0510	Eco
Endrin	0.000337 UJ	0.000301 UJ	0.000349 U	0.000311 UJ	0.00227 UJ	0.000340 UJ	0.00208 U	0.000425 UJ	-	0.0360	Eco	0.0360	Eco
Endrin Aldehyde	0.00106 UJ	0.000947 UJ	0.00110 U	0.000976 UJ	0.00227 UJ	0.00107 UJ	0.00208 U	0.00134 UJ	-	0.150	Eco	0.150	Eco
Endrin Ketone	0.000376 UJ	0.000335 UJ	0.000388 U	0.000346 UJ	0.00227 UJ	0.000378 UJ	0.00208 U	0.000473 UJ	-	0.0590	HH	11.0	HH
Heptachlor	0.000821 UJ	0.000733 UJ	0.000848 U	0.000756 UJ	0.00114 UJ	0.000826 UJ	0.00104 U	0.00103 UJ	-	0.0000790	HH	0.00380	Eco
Heptachlor Epoxide	0.000407 UJ	0.000364 UJ	0.000421 U	0.000375 UJ	0.00114 UJ	0.000410 UJ	0.00104 U	0.000513 UJ	-	0.0000390	HH	0.00380	Eco
Methoxychlor	0.000585 UJ	0.000522 UJ	0.000605 U	0.000539 UJ	0.0114 UJ	0.000589 UJ	0.0104 U	0.000737 UJ	-	0.0300	Eco	0.0300	Eco
Toxaphene	0.0127 UJ	0.0113 UJ	0.0131 U	0.0117 UJ	0.114 UJ	0.0128 UJ	0.104 U	0.0160 UJ	-	0.000280	HH	0.00200	Eco

Notes:

µg/L = microgram per liter
mg/L = milligram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-2f
2001/2002 Phase II Supplimental Landfill Site Inspection
Groundwater Analytical Results
Volatile Organic Compounds
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Site ID	MW-01	MW-02	MW-03	MW-04*	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	020501BIL02GW	020501BIL03GW	020501BIL05GW	020503BIL06GW				
Sample Date	5/1/2002	5/1/2002	5/1/2002	5/3/2002				
Sample Depth (Feet btc)	27.5	29.56	18.21	20.29				
Total Volatile Organic Compounds (µg/L)								
1,1,1,2-Tetrachloroethane	0.500 U	0.500 U	0.500 U	0.500 U	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	0.500 U	0.500 U	0.500 U	0.500 U	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	0.500 U	0.500 U	0.500 U	0.500 U	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	0.500 U	0.500 U	0.500 U	0.500 U	0.590	HH	0.230	HH
1,1-Dichloroethane	0.500 U	0.500 U	0.500 U	0.500 U	47.0	Eco	2.30	HH
1,1-Dichloroethene	0.500 U	0.500 U	0.500 U	0.500 U	25.0	Eco	25.0	Eco
1,1-Dichloropropene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.430	HH
1,2,3-Trichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.000720	HH
1,2,4-Trichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.000320	HH
1,2-Dibromoethane (EDB)	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.00630	HH
1,2-Dichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	0.500 U	0.500 U	0.500 U	0.500 U	0.380	HH	0.140	HH
1,2-Dichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	71.0	Eco	0.420	HH
1,3-Dichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	5,700	Eco	730	HH
1,4-Dichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	15.0	Eco	0.420	HH
2,2-Dichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	0.500	HH	0.390	HH
2-Butanone (MEK)	-	-	-	-	14,000	Eco	7,100	HH
2-Chlorotoluene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	730	HH
2-Hexanone	2.50 U	2.50 U	2.50 U	2.50 U	99.0	Eco	47.0	HH
4-Chlorotoluene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	2,600	HH
4-Isopropyltoluene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
4-Methyl-2-pentanone (MIBK)	2.50 U	2.50 U	2.50 U	2.50 U	170	Eco	170	Eco
Acetone	2.50 U	2.50 U	2.50 U	2.50 U	1,500	Eco	1,500	Eco
Benzene	0.500 U	0.500 U	0.500 U	0.500 U	2.20	HH	0.390	HH
Bromobenzene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	88.0	HH
Bromochloromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.550	HH	0.120	HH
Bromodichloromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.550	HH	0.120	HH
Bromoform	0.500 U	0.500 U	0.500 U	0.500 U	4.30	HH	7.20	HH
Bromomethane	1.00 U	1.00 U	1.00 U	1.00 U	16.0	Eco	8.70	HH
Carbon Disulfide	0.500 U	0.500 U	0.500 U	0.500 U	0.920	Eco	0.920	Eco
Carbon Tetrachloride	0.500 U	0.500 U	0.500 U	0.500 U	0.230	HH	0.190	HH
Chlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	50.0	Eco	50.0	Eco
Chloroethane	0.500 U	0.500 U	0.500 U	0.500 U	-	-	21,000	HH
Chloroform	0.500 U	0.500 U	0.500 U	**1.78**	5.70	HH	0.190	HH
Chloromethane	0.500 U	0.500 U	0.500 U	0.500 U	-	-	190	HH
cis-1,2-Dichloroethene	0.500 U	0.500 U	0.500 U	0.500 U	590	Eco	360	HH
cis-1,3-Dichloropropene	0.500 U	0.500 U	0.500 U	0.500 U	0.0550	Eco	0.0550	Eco
Dibromochloromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.400	HH	0.680	HH
Dibromomethane	0.500 U	0.500 U	0.500 U	0.500 U	-	-	8.20	HH
Dichlorodifluoromethane	0.500 U	0.500 U	0.500 U	0.500 U	-	-	390	HH
Dichloromethane (Methylene Chloride)	0.500 U	0.500 U	0.500 U	0.500 U	4.60	HH	4.40	HH
Ethylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	1.40	HH
Hexachlorobutadiene	0.500 U	0.500 U	0.500 U	0.500 U	0.440	HH	0.860	HH
Isopropylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
m,p-Xylenes	1.00 U	1.00 U	1.00 U	1.00 U	13.0	Eco	13.0	Eco
Naphthalene	0.500 U	0.500 U	0.500 U	0.500 U	620	Eco	0.140	HH
n-Butylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
n-Propylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
o-Xylene	0.500 U	0.500 U	0.500 U	0.500 U	350	Eco	350	Eco
sec-Butylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
Styrene	0.500 U	0.500 U	0.500 U	0.500 U	72.0	Eco	72.0	Eco
tert-Butylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
Tetrachloroethene (PCE)	0.500 U	0.500 U	**8.78**	0.500 U	0.690	HH	0.0930	HH
Toluene	0.500 U	0.500 U	0.500 U	0.500 U	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	0.500 U	0.500 U	0.500 U	0.500 U	140	HH	110	HH
trans-1,3-Dichloropropene	0.500 U	0.500 U	0.500 U	0.500 U	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	0.500 U	0.500 U	0.500 U	0.500 U	2.50	HH	0.0390	HH
Trichlorofluoromethane	0.500 U	0.500 U	0.500 U	0.500 U	-	-	1,300	HH
Vinyl Acetate	2.50 U	2.50 U	2.50 U	2.50 U	16.0	Eco	16.0	Eco
Vinyl Chloride	0.500 U	0.500 U	0.500 U	0.500 U	0.0250	HH	0.0250	HH

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-2f
2001/2002 Phase II Supplimental Landfill Site Inspection
Groundwater Analytical Results
Volatile Organic Compounds
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Site ID	MW-05	MW-06	MW-07	MW-08	MW-09	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	020503BIL09GW	020503BIL08GW	020503BIL10GW	020501BIL01GW	020501BIL04GW				
Sample Date	5/3/2002	5/3/2002	5/3/2002	5/1/2002	5/1/2002				
Sample Depth (Feet btc)	24.87	31.06	20.44	58.45	21.08				
Total Volatile Organic Compounds (µg/L)									
1,1,1,2-Tetrachloroethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.590	HH	0.230	HH
1,1-Dichloroethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	47.0	Eco	2.30	HH
1,1-Dichloroethene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	25.0	Eco	25.0	Eco
1,1-Dichloropropene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.430	HH
1,2,3-Trichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.000720	HH
1,2,4-Trichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.000320	HH
1,2-Dibromoethane (EDB)	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	0.00630	HH
1,2-Dichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.380	HH	0.140	HH
1,2-Dichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	71.0	Eco	0.420	HH
1,3-Dichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	5,700	Eco	730	HH
1,4-Dichlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	15.0	Eco	0.420	HH
2,2-Dichloropropane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500	HH	0.390	HH
2-Butanone (MEK)	-	-	2.50 U	-	-	14,000	Eco	7,100	HH
2-Chlorotoluene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	730	HH
2-Hexanone	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	99.0	Eco	47.0	HH
4-Chlorotoluene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	2,600	HH
4-Isopropyltoluene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
4-Methyl-2-pentanone (MIBK)	2.50 U	2.50 U	2.50 U	**3.04 J**	2.50 U	170	Eco	170	Eco
Acetone	**14.7**	2.50 U	**8.39**	**14.4**	**15.4**	1,500	Eco	1,500	Eco
Benzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.20	HH	0.390	HH
Bromobenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	88.0	HH
Bromochloromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.550	HH	0.120	HH
Bromodichloromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.550	HH	0.120	HH
Bromoform	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	4.30	HH	7.20	HH
Bromomethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	16.0	Eco	8.70	HH
Carbon Disulfide	0.500 U	0.500 U	0.500 U	0.500 U	**3.95**	0.920	Eco	0.920	Eco
Carbon Tetrachloride	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.230	HH	0.190	HH
Chlorobenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	50.0	Eco	50.0	Eco
Chloroethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	21,000	HH
Chloroform	0.500 U	0.500 U	0.500 U	0.500 U	**0.609 J**	5.70	HH	0.190	HH
Chloromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	190	HH
cis-1,2-Dichloroethene	0.500 U	0.500 U	**0.791 J**	0.500 U	0.500 U	590	Eco	360	HH
cis-1,3-Dichloropropene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.0550	Eco	0.0550	Eco
Dibromochloromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.400	HH	0.680	HH
Dibromomethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	8.20	HH
Dichlorodifluoromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	390	HH
Dichloromethane (Methylene Chloride)	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	4.60	HH	4.40	HH
Ethylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	1.40	HH
Hexachlorobutadiene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.440	HH	0.860	HH
Isopropylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
m,p-Xylenes	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	13.0	Eco	13.0	Eco
Naphthalene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	620	Eco	0.140	HH
n-Butylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
n-Propylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	7.30	Eco	7.30	Eco
o-Xylene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	350	Eco	350	Eco
sec-Butylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
Styrene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	72.0	Eco	72.0	Eco
tert-Butylbenzene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	-	-
Tetrachloroethene (PCE)	0.500 U	0.500 U	0.500 U	0.500 U	**1.95**	0.690	HH	0.0930	HH
Toluene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	140	HH	110	HH
trans-1,3-Dichloropropene	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	2.50	HH	0.0390	HH
Trichlorofluoromethane	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	-	-	1,300	HH
Vinyl Acetate	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	16.0	Eco	16.0	Eco
Vinyl Chloride	**0.531 J**	0.500 U	**0.507 J**	0.500 U	0.500 U	0.0250	HH	0.0250	HH

Notes:
µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-2g
2001/2002 Phase II Supplimental Landfill Site Inspection Groundwater Analytical Results
Semivolatile Organic Compounds
(Page 1 of 2)

Site ID	MW-01	MW-02	MW-03	MW-04*	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	020501BIL02GW	020501BIL03GW	020501BIL05GW	020503BIL06GW				
Sample Date	5/1/2002	5/1/2002	5/1/2002	5/3/2002				
Sample Depth (Feet btc)	27.5	29.56	18.21	20.29				
Total Semivolatile Organic Compounds (µg/L)								
1,2,4-Trichlorobenzene	0.0183 U	0.0197 U	0.0183 U	0.0100 U	35.0	HH	2.30	HH
1,2-Dichlorobenzene	0.0183 U	0.0197 U	0.0183 U	0.0160 U	14.0	Eco	14.0	Eco
1,3-Dichlorobenzene	0.0195 U	0.0209 U	0.0195 U	0.0170 U	71.0	Eco	0.420	HH
1,4-Dichlorobenzene	0.0172 U	0.0185 U	**0.0601 J**	0.0150 U	15.0	Eco	0.420	HH
2,4,5-Trichlorophenol	0.0126 U	0.0135 U	0.0126 U	0.0110 U	18.0	Eco	18.0	Eco
2,4,6-Trichlorophenol	0.0138 U	0.0148 U	0.0137 U	0.0120 U	1.40	HH	5.20	HH
2,4-Dichlorophenol	0.0172 U	0.0185 U	0.0172 U	0.0150 U	77.0	HH	110	HH
2,4-Dimethylphenol	0.0172 U	0.0185 U	0.0172 U	0.0150 U	42.0	Eco	42.0	Eco
2,4-Dinitrophenol	0.0344 U	0.0369 U	0.0344 U	0.0300 U	19.0	Eco	19.0	Eco
2,4-Dinitrotoluene	0.0149 U	0.0160 U	0.0149 U	0.0130 U	0.110	HH	0.220	HH
2,6-Dinitrotoluene	0.0229 U	0.0246 U	0.0229 U	0.0200 U	230	Eco	37.0	HH
2-Chloronaphthalene	0.00172 U	0.00185 U	0.00172 U	0.00150 U	32.0	Eco	32.0	Eco
2-Chlorophenol	0.0195 U	0.0209 U	0.0195 U	0.0170 U	81.0	HH	180	HH
2-Methylphenol	0.0275 U	0.0296 U	0.0275 U	0.0240 U	13.0	Eco	13.0	Eco
2-Nitroaniline	0.0206 U	0.0222 U	0.0206 U	0.0180 U	-	-	370	HH
2-Nitrophenol	0.0252 U	0.0271 U	0.0252 U	0.0220 U	10,000	HH	11,000	HH
3,3'-Dichlorobenzidine	0.0413 U	0.0443 U	0.0412 U	0.0360 U	0.0210	HH	0.130	HH
3-Nitroaniline	0.0378 U	0.0406 U	0.0378 U	0.0330 U	-	-	3.40	HH
4,6-Dinitro-2-methylphenol	0.0252 U	0.0271 U	0.0252 U	0.0220 U	13.0	HH	2.90	HH
4-Bromophenyl Phenyl Ether	0.0138 U	0.0148 U	0.0137 U	0.0120 U	1.50	Eco	1.50	Eco
4-Chloro-3-methylphenol	0.0619 U	0.0665 U	0.0619 U	0.0540 U	-	-	3700	HH
4-Chloroaniline	0.0447 U	0.0480 U	0.0447 U	0.0390 U	50.0	Eco	0.340	HH
4-Chlorophenyl Phenyl Ether	0.0172 U	0.0185 U	0.0172 U	0.0150 U	-	-	-	-
4-Nitroaniline	0.0241 U	0.0259 U	0.0241 U	0.0210 U	-	-	3.40	HH
4-Nitrophenol	0.0333 U	0.0357 U	0.0332 U	0.0290 U	150	Eco	150	Eco
Aniline	0.0573 U	0.0000616 U	0.0573 U	0.0500 U	2.20	Eco	2.20	Eco
Benzidine	0.0275 U	0.0296 U	0.0275 U	0.0240 U	0.0000860	HH	0.720	HH
Benzoic Acid	0.0229 U	0.0246 U	0.0229 U	0.0200 U	42.0	Eco	42.0	Eco
Benzyl Alcohol	0.0367 U	0.0394 U	0.0367 U	0.0320 U	8.60	Eco	8.60	Eco
Bis(2-chloroethoxy)methane	0.0206 U	0.0222 U	0.0206 U	0.0180 U	-	-	110	HH
Bis(2-chloroethyl) Ether	0.0218 U	0.0234 U	0.0218 U	0.0190 U	0.0300	HH	0.0120	HH
Bis(2-chloroisopropyl) Ether	0.0241 U	0.0259 U	0.0241 U	0.0210 U	1,400	HH	-	-
Bis(2-ethylhexyl) Phthalate	0.0745 U	0.0800 U	0.0745 U	**1.79**	1.20	HH	3.00	Eco
Butyl Benzyl Phthalate	0.214 U	0.230 U	0.214 U	0.187 U	19.0	Eco	19.0	Eco
Carbazole	0.00321 U	0.00345 U	0.00321 U	0.00280 U	-	-	-	-
Dibenzofuran	0.0161 U	0.0172 U	0.0160 U	0.0140 U	3.70	Eco	3.70	Eco
Diethyl Phthalate	0.0665 U	0.0714 U	0.0664 U	**0.192**	210	Eco	210	Eco
Dimethyl Phthalate	0.0183 U	0.0197 U	0.0183 U	0.0160 U	3.00	Eco	3.00	Eco
Di-n-butyl Phthalate	0.265 U	0.284 U	0.265 U	0.231 U	35.0	Eco	35.0	Eco
Di-n-octyl Phthalate	0.0390 U	0.0419 U	0.0389 U	**2.85**	1.20	HH	4.10	HH
Hexachlorobenzene	0.0229 U	0.0248 U	0.0229 U	0.0200 U	0.000280	HH	0.000300	Eco
Hexachlorobutadiene	0.0333 U	0.0357 U	0.0332 U	0.0290 U	0.440	HH	0.860	HH
Hexachlorocyclopentadiene	0.0298 U	0.0320 U	0.0298 U	0.0260 U	5.20	Eco	5.20	Eco
Hexachloroethane	0.0459 U	0.0493 U	0.0458 U	0.0400 U	1.40	HH	4.10	HH
Isophorone	**0.282**	**0.116 J**	0.0206 U	0.0180 U	35.0	HH	71.0	HH
Nitrobenzene	0.0516 U	0.0554 U	0.0515 U	0.0450 U	17.0	HH	0.120	HH
N-Nitrosodimethylamine	0.0378 U	0.0123 U	0.0378 U	0.0330 U	0.000690	HH	0.000420	HH
N-Nitrosodi-n-propylamine	0.0241 U	0.0259 U	0.0241 U	0.0210 U	0.00500	HH	0.00960	HH
N-Nitrosodiphenylamine	0.0115 U	0.0406 U	0.0115 U	0.0100 U	3.30	HH	14.0	HH
p-cresol (4-Methylphenol)	0.0264 U	0.0283 U	0.0263 U	0.0230 U	-	-	-	-
Pentachlorophenol	0.0195 U	0.0209 U	0.0195 U	0.0170 U	0.270	HH	0.470	HH
Phenol	0.0367 U	0.0394 U	0.0367 U	0.0320 U	110	Eco	110	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)								
2-Methylnaphthalene	**0.0385 J**	0.0185 U	0.0172 U	**0.233 J**	72.2	Eco	72.2	Eco
Acenaphthene	0.00183 U	0.00197 U	0.00183 U	0.00160 U	520	Eco	520	Eco
Acenaphthylene	0.00172 U	0.00185 U	0.00172 U	0.00150 U	307	Eco	0.140	HH
Anthracene	**0.0589**	0.00185 U	0.00172 U	0.00150 U	13.0	Eco	13.0	Eco
Fluorene	0.00161 U	0.00172 U	0.00160 U	0.00140 U	3.90	Eco	3.90	Eco
Naphthalene	**0.157**	0.00271 U	0.00252 U	**0.0400**	620	Eco	0.140	HH
Phenanthrene	**0.0800**	0.00271 U	0.00252 U	**0.211**	6.30	Eco	0.140	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)								
Benzo(a)anthracene	0.00505 U	0.00542 U	0.00504 U	0.00440 U	0.00380	HH	0.0270	Eco
Benzo(a)pyrene	0.00539 U	0.00579 U	0.00538 U	0.00470 U	0.00380	HH	0.00290	HH
Benzo(g,h,i)perylene	0.00390 U	0.00419 U	0.00389 U	0.00340 U	0.380	HH	0.290	HH
Benzofluoranthenes, Total	0.00436 U	0.00468 U	0.00435 U	0.00380 U	0.00380	HH	0.01400	Eco
Chrysene	0.00287 U	0.00308 U	0.00286 U	0.00250 U	0.00380	HH	2.04	Eco
Dibenz(a,h)anthracene	0.00310 U	0.00333 U	0.00309 U	0.00270 U	0.0180	HH	0.00290	HH
Fluoranthene	0.00218 U	0.00234 U	0.00218 U	0.00190 U	6.16	Eco	6.16	Eco
Indeno(1,2,3-cd)pyrene	0.00344 U	0.00369 U	0.00344 U	0.00300 U	0.00380	HH	0.0290	HH
Pyrene	0.00161 U	0.00172 U	0.00160 U	0.00140 U	10.1	Eco	10.1	Eco

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-2g
2001/2002 Phase II Supplimental Landfill Site Inspection Groundwater Analytical Results
Semivolatile Organic Compounds
(Page 2 of 2)

Site ID	MW-05	MW-06	MW-07	MW-08	MW-09	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	020503BIL09GW	020503BIL08GW	020503BIL10GW	020501BIL01GW	020501BIL04GW				
Sample Date	5/3/2002	5/3/2002	5/3/2002	5/1/2002	5/1/2002				
Sample Depth (Feet btc)	24.87	31.06	20.44	58.45	21.08				
Total Semivolatile Organic Compounds (µg/L)									
1,2,4-Trichlorobenzene	0.0179 U	0.184 U	0.0170 U	0.0160 UJ	0.227 U	35.0	HH	2.30	HH
1,2-Dichlorobenzene	0.0179 U	0.184 U	0.0170 U	0.0160 UJ	0.227 U	14.0	Eco	14.0	Eco
1,3-Dichlorobenzene	0.0191 U	0.196 U	0.0181 U	0.0170 UJ	0.241 U	71.0	Eco	0.420	HH
1,4-Dichlorobenzene	**0.0258 J**	0.173 U	0.0160 U	0.0150 UJ	0.213 U	15.0	Eco	0.420	HH
2,4,5-Trichlorophenol	0.0123 U	0.127 U	0.0117 U	0.0110 U	0.156 U	18.0	Eco	18.0	Eco
2,4,6-Trichlorophenol	0.0135 U	0.138 U	0.0128 U	0.0120 U	0.170 U	1.40	HH	5.20	HH
2,4-Dichlorophenol	0.0168 U	0.173 U	0.0160 U	0.0150 U	0.213 U	77.0	HH	110	HH
2,4-Dimethylphenol	0.0168 U	0.173 U	0.0160 U	0.0150 U	0.213 U	42.0	Eco	42.0	Eco
2,4-Dinitrophenol	0.0336 U	0.345 U	0.0319 U	0.0300 U	0.426 U	19.0	Eco	19.0	Eco
2,4-Dinitrotoluene	0.0146 U	0.150 U	0.0138 U	0.0130 UJ	0.185 U	0.110	HH	0.220	HH
2,6-Dinitrotoluene	0.0224 U	0.230 U	0.0213 U	0.0200 UJ	0.284 U	230	Eco	37.0	HH
2-Chloronaphthalene	0.00168 U	0.0173 U	0.00160 U	0.00150 UJ	0.0213 U	32.0	Eco	32.0	Eco
2-Chlorophenol	0.0191 U	0.196 U	0.0181 U	0.0170 U	0.241 U	81.0	HH	180	HH
2-Methylphenol	0.0269 U	0.276 U	0.0256 U	0.0240 U	0.341 U	13.0	Eco	13.0	Eco
2-Nitroaniline	0.0202 U	0.207 U	0.0192 U	0.0180 UJ	0.256 U	-	-	370	HH
2-Nitrophenol	0.0247 U	0.253 U	0.0234 U	0.0220 U	0.313 U	10,000	HH	11,000	HH
3,3'-Dichlorobenzidine	0.0404 U	0.414 U	0.0383 U	0.0360 UJ	0.511 U	0.0210	HH	0.130	HH
3-Nitroaniline	0.0370 U	0.380 U	0.0351 U	0.0330 UJ	0.469 U	-	-	3.40	HH
4,6-Dinitro-2-methylphenol	0.0247 U	0.253 U	0.0234 U	0.0220 U	0.313 U	13.0	HH	2.90	HH
4-Bromophenyl Phenyl Ether	0.0135 U	0.138 U	0.0128 U	0.0120 UJ	0.284 U	1.50	Eco	1.50	Eco
4-Chloro-3-methylphenol	0.0605 U	0.621 U	0.0575 U	0.0539 U	0.767 U	-	-	3700	HH
4-Chloroaniline	0.0437 U	0.449 U	0.0415 U	0.0390 UJ	0.554 U	50.0	Eco	0.340	HH
4-Chlorophenyl Phenyl Ether	0.0168 U	0.173 U	0.0160 U	0.0150 UJ	0.213 U	-	-	-	-
4-Nitroaniline	0.0235 U	0.242 U	0.0224 U	0.0210 UJ	0.298 U	-	-	3.40	HH
4-Nitrophenol	0.0325 U	-	0.0309 U	0.0290 U	0.412 U	150	Eco	150	Eco
Aniline	0.0561 U	0.575 U	0.0532 U	0.0500 UJ	0.710 U	2.20	Eco	2.20	Eco
Benzidine	0.0269 U	0.276 U	0.0252 U	0.0240 UJ	0.341 U	0.0000860	HH	0.720	HH
Benzoic Acid	0.0224 U	0.230 U	0.0213 U	0.0200 UJ	0.284 U	42.0	Eco	42.0	Eco
Benzyl Alcohol	0.0359 U	0.398 U	0.0341 U	0.0320 U	0.455 U	8.60	Eco	8.60	Eco
Bis(2-chloroethoxy)methane	0.0202 U	0.207 U	0.0192 U	0.0180 UJ	0.256 U	-	-	110	HH
Bis(2-chloroethyl) Ether	0.0213 U	0.219 U	0.0202 U	0.0190 UJ	0.270 U	0.0300	HH	0.0120	HH
Bis(2-chloroisopropyl) Ether	0.0235 U	0.242 U	0.0224 U	0.0210 UJ	0.298 U	1,400	HH	-	-
Bis(2-ethylhexyl) Phthalate	0.0729 U	0.748 U	0.0692 U	0.0649 UJ	0.923 U	1.20	HH	3.00	Eco
Butyl Benzyl Phthalate	0.210 U	2.15 U	0.199 U	0.187 UJ	2.66 U	19.0	Eco	19.0	Eco
Carbazole	0.00314 U	0.0322 U	0.00298 U	0.00280 UJ	0.0398 U	-	-	-	-
Dibenzofuran	0.0157 U	0.161 U	0.0149 U	0.0140 UJ	0.199 U	3.70	Eco	3.70	Eco
Diethyl Phthalate	0.0650 U	**1.90**	0.0618 U	0.0579 UJ	**1.03 J**	210	Eco	210	Eco
Dimethyl Phthalate	0.0179 U	0.184 U	0.0170 U	**0.235 J**	0.227 U	3.00	Eco	3.00	Eco
Di-n-butyl Phthalate	0.259 U	2.66 U	0.246 U	0.231 UJ	3.28 U	35.0	Eco	35.0	Eco
Di-n-octyl Phthalate	0.0381 U	**5.29**	0.0362 U	0.0340 UJ	**7.08**	1.20	HH	4.10	HH
Hexachlorobenzene	0.0224 U	0.230 U	0.0213 U	0.0200 UJ	0.284 U	0.000280	HH	0.000300	Eco
Hexachlorobutadiene	0.0325 U	0.334 U	0.0309 U	0.0290 UJ	0.412 U	0.440	HH	0.860	HH
Hexachlorocyclopentadiene	0.0291 U	0.229 U	0.0277 U	0.0260 UJ	0.369 U	5.20	Eco	5.20	Eco
Hexachloroethane	0.0448 U	0.460 U	0.0426 U	0.0400 UJ	0.568 U	1.40	HH	4.10	HH
Isophorone	0.0202 U	0.207 U	0.0192 U	0.0180 UJ	0.256 U	35.0	HH	71.0	HH
Nitrobenzene	0.0504 U	0.518 U	0.0479 U	0.0450 UJ	0.639 U	17.0	HH	0.120	HH
N-Nitrosodimethylamine	0.0370 U	0.380 U	0.0351 U	0.00330 UJ	0.469 U	0.000690	HH	0.000420	HH
N-Nitrosodi-n-propylamine	0.0235 U	0.242 U	0.0224 U	0.0210 UJ	0.298 U	0.00500	HH	0.00960	HH
N-Nitrosodiphenylamine	0.0112 U	0.115 U	0.0106 U	0.00999 UJ	0.142 U	3.30	HH	14.0	HH
p-cresol (4-Methylphenol)	0.0258 U	0.265 U	0.0245 U	0.0230 U	0.327 U	-	-	-	-
Pentachlorophenol	0.0191 U	0.196 U	0.0181 U	0.0170 U	0.241 U	0.270	HH	0.470	HH
Phenol	0.0359 U	**0.382 J**	0.0341 U	0.0320 U	0.455 U	110	Eco	110	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)									
2-Methylnaphthalene	0.0168 U	0.173 U	**0.0939 J**	0.0150 UJ	**0.360 J**	72.2	Eco	72.2	Eco
Acenaphthene	**0.111**	0.0184 U	0.00170 U	0.00160 UJ	**0.239**	520	Eco	520	Eco
Acenaphthylene	0.00168 U	0.0173 U	0.00160 U	0.00150 UJ	0.0213 U	307	Eco	0.140	HH
Anthracene	0.00168 U	0.0173 U	0.00160 U	0.00150 UJ	0.0213 U	13.0	Eco	13.0	Eco
Fluorene	0.00157 U	0.0161 U	0.00149 U	0.00140 UJ	0.0199 U	3.90	Eco	3.90	Eco
Naphthalene	**0.101**	0.0253 U	0.00234 U	0.00220 UJ	0.0313 U	620	Eco	0.140	HH
Phenanthrene	0.00247 U	0.0253 U	0.00234 U	0.00220 UJ	0.0313 U	6.30	Eco	0.140	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)									
Benzo(a)anthracene	*0.00493 U*	*0.0506 U*	*0.00426 U*	*0.00440 UJ*	*0.0625 U*	0.00380	HH	0.0270	Eco
Benzo(a)pyrene	0.00527 U	0.0541 U	0.00501 U	0.00470 UJ	0.0668 U	0.00380	HH	0.00290	HH
Benzo(g,h,i)perylene	*0.00381 U*	*0.0391 U*	*0.00362 U*	*0.00340 UJ*	*0.0483 U*	0.380	HH	0.290	HH
Benzofluoranthenes, Total	0.00426 U	0.0437 U	0.00405 U	0.00380 UJ	0.0540 U	0.00380	HH	0.01400	Eco
Chrysene	*0.00280 U*	*0.0288 U*	*0.00266 U*	*0.00250 UJ*	*0.0355 U*	0.00380	HH	2.04	Eco
Dibenz(a,h)anthracene	0.00303 U	0.0311 U	0.00288 U	0.00270 UJ	0.0384 U	0.0180	HH	0.00290	HH
Fluoranthene	0.00213 U	0.0219 U	0.00202 U	0.00190 UJ	0.0270 U	6.16	Eco	6.16	Eco
Indeno(1,2,3-cd)pyrene	0.00336 U	0.0345 U	0.00319 U	0.00300 UJ	0.0426 U	0.00380	HH	0.0290	HH
Pyrene	0.00157 U	0.0161 U	0.00149 U	0.00140 UJ	0.0199 U	10.1	Eco	10.1	Eco

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-3a
2007 Upland Source Evaluation Soil Analytical Results
PCB Aroclors, Metals, and Pesticides

Site ID	BIL01USE	BIL02USE	BIL03USE	BIL04USE	BIL05USE	BIL06USE	BIL07USE	BIL08USE	BIL09USE	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	070410BIL01SS	070410BIL02SS	070410BIL03SS	070410BIL04SS	070410BIL05SS	070410BIL06SS	070410BIL07SS	070410BIL08SS	070410BIL09SS		
Sample Date	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007		
Sample Depth (Feet bgs)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
PCB Aroclors (µg/kg dry)											
Aroclor 1016	*3.90 U*	*3.90 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.80 U*	371	Eco
Aroclor 1221	*3.90 U*	*3.90 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.80 U*	371	Eco
Aroclor 1232	*3.90 U*	*3.90 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.80 U*	371	Eco
Aroclor 1242	*3.90 U*	*3.90 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.90 U*	*3.90 U*	*4.00 U*	*3.80 U*	371	Eco
Aroclor 1248	3.90 U	3.90 U	3.90 U	3.90 U	4.00 U	3.90 U	3.90 U	4.00 U	3.80 U	371	Eco
Aroclor 1254	**26.0**	**27.0**	**19.0**	**8.30**	4.00 U	19.0 U	**49.0**	**24.0**	**5.50**	371	Eco
Aroclor 1260	**50.0**	**24.0**	**31.0 J**	**33.0**	**12.0**	**92.0**	**74.0**	**42.0**	**19.0**	371	Eco
Total PCBs as Aroclors (NDs at MDL)[1]	**79.9 J**	**54.9 J**	**53.9 J**	**45.2 J**	**20.0 J**	**115 J**	**127 J**	**70.0 J**	**28.3 J**	371	Eco
Metals (mg/kg dry)											
Aluminum	**17,400 J**	**19,100 J**	**17,400 J**	**10,500 J**	**10,800 J**	**11,200 J**	**14,800 J**	**15,500 J**	**16,000 J**	31,400	UPL
Antimony	0.300 UJ	0.200 UJ	0.200 UJ	0.200 UJ	0.200 UJ	0.200 UJ	0.300 UJ	0.300 UJ	0.300 UJ	0.270	Eco
Arsenic	**5.10**	**6.10**	**6.20**	**3.70**	**3.30**	**4.00**	**3.20**	**3.70**	**4.50**	5.40	UPL
Barium	**136**	**99.3**	**95.1**	**115**	**120**	**115**	**107**	**97.8**	**130**	330	Eco
Beryllium	**0.400**	**0.400**	**0.500**	**0.300**	**0.300**	**0.300**	**0.300**	**0.400**	**0.400**	21.0	Eco
Cadmium	**0.540**	**0.660**	**0.940**	**0.570**	**0.570**	**1.30**	**0.720**	**0.670**	**1.70**	0.360	Eco
Calcium	**6,920**	**6,680**	**6,710**	**4,770**	**4,500**	**4,380**	**6,060**	**5,840**	**5,410**	10,400	UPL
Chromium	**28.6**	**30.1**	**23.0**	**15.6**	**16.1**	**16.9**	**801**	**117**	**22.0**	28.1	UPL
Cobalt	**15.3 J**	**9.60 J**	**11.5 J**	**6.60 J**	**6.40 J**	**8.30 J**	**22.7 J**	**10.7 J**	**8.50 J**	19.9	UPL
Copper	**54.9**	**45.7**	**45.4**	**28.4**	**24.4**	**60.5**	**41.3**	**52.1**	**39.1**	56.7	UPL
Iron	**28,000 J**	**28,000 J**	**32,100 J**	**19,600 J**	**19,600 J**	**20,500 J**	**38,800 J**	**26,400 J**	**25,100 J**	36,900	UPL
Lead	**119 J**	**147 J**	**131 J**	**51.0 J**	**49.0 J**	**148 J**	**680 J**	**174 J**	**127 J**	25.5	UPL
Magnesium	**6,500**	**6,160**	**6,950**	**4,260**	**4,330**	**4,830**	**35,100**	**9,550**	**5,580**	12,400	UPL
Manganese	**405 J**	**408 J**	**450 J**	**273 J**	**263 J**	**284 J**	**614 J**	**391 J**	**366 J**	885	UPL
Mercury	**0.190**	**0.290**	**0.0700**	**0.0700**	**0.230**	**0.320**	**0.130**	**0.100**	**0.110**	0.0660	UPL
Nickel	**30.0**	**21.0**	**20.0**	**15.0**	**15.0**	**15.0**	**570**	**72.0**	**21.0**	38.0	Eco
Potassium	**1,280**	**1,220**	**1,360**	**1,480**	**1,570**	**1,400**	**1,060**	**1,210**	**1,870**	2,050	UPL
Selenium	**0.300**	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.300 U	0.300 U	0.300 U	0.520	Eco
Silver	**0.300**	**0.300**	**0.200**	0.200 U	**0.400**	**0.500**	0.300 U	0.300 U	0.300 U	4.20	Eco
Sodium	**530**	**570**	**530**	**460**	**480**	**430**	**420**	**550**	**560**	341	UPL
Thallium	0.300 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.300 U	0.300 U	0.300 U	1.00	Eco
Vanadium	**48.6**	**56.3**	**53.3**	**36.3**	**36.0**	**36.0**	**34.8**	**44.8**	**42.6**	104	UPL
Zinc	**151**	**143**	**157**	**138**	**144**	**221**	**194**	**180**	**189**	71.7	UPL
Pesticides (µg/kg dry)											
4,4'-DDD	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3.80 U	2.00 U	1.90 U	21.0	Eco
4,4'-DDE	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3.80 U	2.00 U	1.90 U	21.0	Eco
4,4'-DDT	**13.0**	**14.0**	**14.0**	5.00 U	2.00 U	**23.0**	**28.0**	**17.0**	**6.40**	21.0	Eco
Aldrin	0.990 U	0.980 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	0.990 U	0.970 U	4.90	Eco
BHC (alpha)	0.990 U	0.980 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	0.990 U	0.970 U	340	HH
BHC (beta)	0.990 U	0.980 U	0.980 U	6.80 U	0.990 U	0.980 U	12.0 U	3.50 U	0.970 U	960	HH
BHC (delta)	0.990 U	0.980 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	0.990 U	0.970 U	340	HH
BHC (gamma) Lindane	0.990 U	0.980 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	0.990 U	0.970 U	2,000	HH
Chlordane (alpha)	5.50 U	2.40 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	3.60 U	0.970 U	7,200	HH
Chlordane (gamma)	5.10 U	0.980 U	0.980 U	3.00 U	0.990 U	0.980 U	14.0 U	4.30 U	0.970 U	7,200	HH
Dieldrin	**2.10**	2.00 U	2.00 U	2.00 U	2.00 U	4.00 U	8.00 U	2.00 U	1.90 U	4.90	Eco
Endosulfan I	0.990 U	0.980 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	0.990 U	0.970 U	20,000	Eco
Endosulfan II	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3.80 U	2.00 U	1.90 U	20,000	Eco
Endosulfan Sulfate	2.00 U	2.00 U	8.00 U	2.00 U	2.00 U	2.00 U	3.80 U	2.00 U	1.90 U	20,000	Eco
Endrin	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	10.0 U	2.00 U	1.90 U	4.90	Eco
Endrin Aldehyde	2.00 U	2.00 U	10.0 U	5.50 U	2.00 U	5.40 U	5.80 U	5.10 U	1.90 U	4.90	Eco
Endrin Ketone	2.00 U	5.30 U	2.00 U	2.00 U	2.00 U	2.00 U	17.0 U	2.00 U	1.90 U	4.90	Eco
Heptachlor	0.990 U	0.980 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	0.990 U	0.970 U	480	HH
Heptachlor Epoxide	0.990 U	0.980 U	0.980 U	0.980 U	0.990 U	0.980 U	1.90 U	0.990 U	0.970 U	240	HH
Methoxychlor	9.90 U	9.80 U	9.80 U	9.80 U	9.90 U	9.80 U	19.0 U	9.90 U	9.70 U	500,000	Eco
Toxaphene	99.0 U	98.0 U	98.0 U	98.0 U	99.0 U	98.0 U	190 U	99.0 U	97.0 U	2,000	HH

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value

[1] Only Aroclors 1248, 1254, and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Landfill AOPC soil samples.
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV

Table 5-3b
2007 Upland Source Evaluation Soil Analytical Results
Semivolatile Organic Compounds

Site ID	BIL01USE	BIL02USE	BIL03USE	BIL04USE	BIL05USE	BIL06USE	BIL07USE	BIL08USE	BIL09USE	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	070410BIL01SS	070410BIL02SS	070410BIL03SS	070410BIL04SS	070410BIL05SS	070410BIL06SS	070410BIL07SS	070410BIL08SS	070410BIL09SS		
Sample Date	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007	4/10/2007		
Sample Depth (Feet bgs)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		
Semivolatile Organic Compounds (µg/kg dry)											
1,2,4-Trichlorobenzene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	20,000	Eco
1,2-Dichlorobenzene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	2,260	Eco
1,3-Dichlorobenzene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	2,260	Eco
1,4-Dichlorobenzene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	17,000	HH
2,4,5-Trichlorophenol	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	4,000	Eco
2,4,6-Trichlorophenol	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	10,000	Eco
2,4-Dichlorophenol	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	20,000	Eco
2,4-Dimethylphenol	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	20,000	Eco
2,4-Dinitrophenol	200 U	200 U	200 U	200 U	200 U	200 U	590 U	200 U	200 U	20,000	Eco
2,4-Dinitrotoluene	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	5,500	HH
2,6-Dinitrotoluene	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	240,000	HH
2-Chloronaphthalene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	82,000,000	HH
2-Chlorophenol	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	60,000	Eco
2-Methylphenol	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	50,000	Eco
2-Nitroaniline	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	6,000,000	HH
2-Nitrophenol	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	180,000,000	HH
3,3'-Dichlorobenzidine	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	4,800	HH
3-Nitroaniline	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	70,000	Eco
4,6-Dinitro-2-methylphenol	200 U	200 U	200 U	200 U	200 U	200 U	590 U	200 U	200 U	49,000	HH
4-Bromophenyl Phenyl Ether	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	-	-
4-Chloro-3-methylphenol	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	62,000,000	HH
4-Chloroaniline	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	8,600	HH
4-Chlorophenyl Phenyl Ether	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	-	-
4-Nitroaniline	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	40,000	Eco
4-Nitrophenol	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	7,000	Eco
Benzoic Acid	200 U	200 U	200 U	200 U	200 U	**130 J**	590 U	200 U	**140 J**	200,000	Eco
Benzyl Alcohol	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	**14.0 J**	2,260	Eco
Bis(2-chloroethoxy)methane	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	730,000	Eco
Bis(2-chloroethyl) Ether	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	1,000	HH
Bis(2-chloroisopropyl) Ether	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	1,000	HH
Bis(2-ethylhexyl) Phthalate	**140**	**140**	**170**	**97.0**	**92.0**	**150**	**420**	**280**	**140**	4,500	Eco
Butyl Benzyl Phthalate	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	450	Eco
Carbazole	**14.0 J**	**21.0**	**18.0 J**	**78.0**	20.0 U	**21.0**	**210**	**35.0**	**16.0 J**	2,260	Eco
Dibenzofuran	20.0 U	20.0 U	20.0 U	**31.0**	20.0 U	20.0 U	**36.0 J**	20.0 U	20.0 U	2.00	Eco
Diethyl Phthalate	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	100,000	Eco
Dimethyl Phthalate	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	150,000	HH
Di-n-butyl Phthalate	20.0 U	20.0 U	20.0 U	**99.0**	**15.0 J**	**1,800**	59.0 U	20.0 U	**70.0**	450	Eco
Di-n-octyl Phthalate	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	450	Eco
Hexachlorobenzene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	1,800	HH
Hexachlorobutadiene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	22,000	HH
Hexachlorocyclopentadiene	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	10,000	Eco
Hexachloroethane	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	150,000	HH
Isophorone	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	1,800,000	HH
Nitrobenzene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	8,000	Eco
N-Nitrosodimethylamine	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	34.0	HH
N-Nitrosodi-n-propylamine	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	250	HH
N-Nitrosodiphenylamine	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	20,000	Eco
p-cresol (4-Methylphenol)	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	50,000	Eco
Pentachlorophenol	99.0 U	98.0 U	98.0 U	99.0 U	99.0 U	99.0 U	300 U	98.0 U	99.0 U	2,100	Eco
Phenol	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	30,000	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)											
2-Methylnaphthalene	20.0 U	20.0 U	20.0 U	**11.0 J**	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	4,100,000	HH
Acenaphthene	**16.0 J**	**23.0**	**15.0 J**	**170**	20.0 U	**24.0**	**270**	**46.0**	20.0 U	19,000,000	HH
Acenaphthylene	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	23,000	HH
Anthracene	**35.0**	**65.0**	**30.0**	**180**	**15.0 J**	**34.0**	**740**	**110**	**30.0**	93,000,000	HH
Fluorene	20.0 U	**12.0 J**	20.0 U	**73.0**	20.0 U	**13.0 J**	**140**	**24.0**	**10.0 J**	12,000,000	HH
Naphthalene	20.0 U	20.0 U	20.0 U	**20.0**	20.0 U	20.0 U	59.0 U	20.0 U	20.0 U	23,000	HH
Phenanthrene	**180**	**300**	**200**	**1,500**	**66.0**	**180**	**3,000**	**550**	**160**	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**279 J**	**424 J**	**290 J**	**1,963 J**	**141 J**	**277 J**	**4,268 J**	**770 J**	**230 J**	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)											
Benzo(a)anthracene	**530**	**960**	**330**	**1,000**	**78.0**	**250**	**4,500**	**1,000**	**180**	2,700	HH
Benzo(a)pyrene	**600**	**1,200**	**360**	**1,600**	**85.0**	**240**	**6,200**	**1,300**	**140**	270	HH
Benzo(b)fluoranthene	**680**	**1,200**	**420**	**1,600**	**110**	**310**	**8,200**	**1,500**	**170**	2,700	HH
Benzo(g,h,i)perylene	**280**	**530**	**210**	**870**	**67.0**	**160**	**1,800**	**480**	**75.0**	27,000	HH
Benzo(k)fluoranthene	**450**	**1,100**	**310**	**1,200**	**77.0**	**220**	**2,500**	**990**	**130**	27,000	HH
Chrysene	**670**	**1,200**	**450**	**1,300**	**96.0**	**280**	**5,900**	**1,400**	**190**	270,000	HH
Dibenz(a,h)anthracene	**71.0**	**150**	**55.0**	**240**	**29.0**	**76.0**	**730**	**160**	**18.0 J**	270	HH
Fluoranthene	**1,300**	**2,100**	**580**	**2,700**	**150**	**460**	**14,000**	**2,800**	**300**	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**270**	**510**	**200**	**780**	**58.0**	**160**	**2,100**	**530**	**74.0**	2,700	HH
Pyrene	**1,200**	**2,400**	**730**	**3,100**	**130**	**360**	**9,100**	**2,900**	**240 J**	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**6,051**	**11,350**	**3,645**	**14,390**	**880.0**	**2,516**	**55,030**	**13,060**	**1,517 J**	1,100	Eco

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value

UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV

Table 5-4a
2002 Sandblast Preliminary Assessment/Site Inspection Soil Analytical Results
Drum Storage Area
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
(Page 1 of 2)

Site ID	DSA01	DSA02	DSA03	DSA04	DSA05	DSA06	DSA07	DSA08	DSA09	DSA10	DSA11*	DSA12*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	011204DSA01SS	011204DSA02SS	011204DSA03SS	011204DSA04SS	011204DSA05SS	011204DSA06SS	011204DSA07SS	011204DSA08SS	011204DSA09SS	011204DSA10SS	011204DSA11SS	011204DSA12SS		
Sample Date	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001		
Sample Depth (Feet bgs)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PCB Aroclors (µg/kg dry)														
Aroclor 1016	1.20 U	1.09 U	1.22 U	1.24 U	1.08 U	1.22 U	1.14 U	1.09 U	1.22 U	1.19 U	1.21 U	1.25 U	371	Eco
Aroclor 1221	5.13 U	4.66 U	5.23 U	5.29 U	4.63 U	5.22 U	4.87 U	4.68 U	5.21 U	5.10 U	5.19 U	5.51 U	371	Eco
Aroclor 1232	4.09 U	3.72 U	4.18 U	4.22 U	3.69 U	4.17 U	3.89 U	3.73 U	4.16 U	4.07 U	4.15 U	4.28 U	371	Eco
Aroclor 1242	2.19 U	1.99 U	2.23 U	2.26 U	1.97 U	2.23 U	2.08 U	2.00 U	2.22 U	2.17 U	2.22 U	2.29 U	371	Eco
Aroclor 1248	5.44 U	4.94 U	5.55 U	5.62 U	4.91 U	5.54 U	5.17 U	4.96 U	5.53 U	5.41 U	5.51 U	5.70 U	371	Eco
Aroclor 1254	1.70 U	1.54 U	1.73 U	1.75 U	1.53 U	1.73 U	1.61 U	1.55 U	1.73 U	1.69 U	1.72 U	1.78 U	371	Eco
Aroclor 1260	**2.00 J**	1.54 U	**2.23 J**	**2.08 J**	**7.79 J**	**16.8**	1.61 U	1.55 U	**2.12 J**	**2.48 J**	**21.1**	**8.30 J**	371	Eco
Total PCBs as Aroclors (NDs at MDL)[1]	**3.70 J**	3.08 U	**3.96 J**	**3.83 J**	**9.32 J**	**18.5 J**	3.22 U	3.10 U	**3.85 J**	**4.17 J**	**22.7 J**	**10.1 J**	371	Eco
Metals (mg/kg dry)														
Aluminum	**4,160 J**	**5,570 J**	**5,440 J**	**7,310 J**	**5,840 J**	**5,860 J**	**5,180 J**	**6,020 J**	**6,350 J**	**5,550 J**	**4,710 J**	**9,340 J**	31,400	UPL
Antimony	2.99 U	2.83 U	3.38 U	**1.83 J**	**1.65 J**	3.08 U	2.96 U	3.19 U	3.29 U	3.11 U	**5.08**	3.17 U	0.270	Eco
Arsenic	**4.42**	**3.82**	**5.75**	**3.70**	**6.74**	**8.19**	**53.7**	**7.24**	**6.86**	**7.39**	**42.7**	**6.99**	5.40	UPL
Barium	**35.5**	**129**	**89.6**	**67.3**	**27.7**	**63.9**	**73.4**	**49.9**	**49.6**	**65.2**	**61.0**	**82.4**	330	Eco
Beryllium	0.180 U	**0.169 J**	0.182 U	**0.193 J**	0.169 U	**0.179 J**	0.160 U	**0.229 J**	0.177 U	0.168 U	0.169 U	**0.236 J**	21.0	Eco
Cadmium	**0.897**	**0.836**	**1.50**	**0.741**	**0.779**	**1.05**	**0.676**	**0.962**	**0.908**	**0.963**	**1.42**	**1.23**	0.360	Eco
Calcium	**2,980 J**	**4,240 J**	**3,430**	**3,620 J**	**4,180 J**	**4,940 J**	**2,910 J**	**4,550 J**	**4,110 J**	**4,430 J**	**7,315 J**	**4,610 J**	10,400	UPL
Chromium	**8.14**	**5.46**	**10.6 J**	**12.2**	**54.1**	**8.30**	**12.8**	**10.1**	**7.46**	**17.2**	**1,365**	**48.8**	28.1	UPL
Cobalt	**9.99**	**12.1**	**8.75**	**8.45**	**12.7**	**11.1**	**9.09**	**13.5**	**12.1**	**13.6**	**23.7**	**12.6**	19.9	UPL
Copper	**17.0**	**16.1**	**26.8**	**21.9**	**27.4**	**24.9**	**54.9**	**21.6**	**16.0**	**13.2**	**158**	**42.9**	56.7	UPL
Iron	**18,600**	**21,700**	**16,800 J**	**18,100**	**28,600**	**20,600**	**18,500**	**25,300**	**25,200**	**24,100**	**40,450**	**22,150**	36,900	UPL
Lead	**42.7**	**13.8**	**43.8 J**	**14.8**	**29.9**	**37.6**	**8.58**	**114**	**35.8**	**37.8**	**344**	**144**	25.5	UPL
Magnesium	**2,690 J**	**3,510 J**	**4,350 J**	**4,140 J**	**6,150 J**	**2,980 J**	**2,310 J**	**3,790 J**	**4,120 J**	**4,510 J**	**42,250 J**	**5,600 J**	12,400	UPL
Manganese	**270 J**	**385 J**	**234 J**	**235 J**	**289 J**	**367 J**	**259 J**	**484 J**	**313 J**	**324 J**	**711 J**	**464 J**	885	UPL
Mercury	**0.170**	**0.0951**	**0.0325 J**	**0.0313 J**	**0.0525**	0.0306 U	**0.0616**	0.0256 U	**0.294**	**0.393**	**0.0818**	**0.0389 J**	0.0660	UPL
Nickel	**4.79**	**5.73**	**13.6 J**	**12.1**	**23.5**	**6.81**	**6.22**	**7.71**	**5.79**	**10.4**	**477**	**33.3**	38.0	Eco
Potassium	**669**	**716**	**445 J**	**515**	**348 J**	**822**	**751**	**857**	**475**	**722**	**476 J**	**684**	2,050	UPL
Selenium	0.385 U	0.365 U	0.435 U	0.370 U	0.405 U	**0.478 J**	0.381 U	0.411 U	0.423 U	0.401 U	0.403 U	**0.424 J**	0.520	Eco
Silver	**0.149 J**	**0.149 J**	**0.198 J**	**0.162 J**	**0.119 J**	**0.155 J**	**0.103 J**	**0.145 J**	**0.142 J**	**0.165 J**	**0.214 J**	**0.163 J**	4.20	Eco
Sodium	162 U	137 U	163 U	139 U	152 U	149 U	143 U	154 U	159 U	150 U	151 U	153 U	341	UPL
Thallium	**0.239 J**	**0.136 J**	**0.229 J**	**0.105 J**	**0.0691 J**	**0.0913 J**	**0.117 J**	**0.122 J**	**0.102 J**	**0.150 J**	**0.0771 J**	**0.0969 J**	1.00	Eco
Vanadium	**41.6**	**47.9**	**39.4**	**42.9**	**69.0**	**41.6**	**37.9**	**49.4**	**64.2**	**69.7**	**30.5**	**52.6**	104	UPL
Zinc	**30.3 J**	**34.7 J**	**46.1**	**45.9 J**	**85.3 J**	**53.7 J**	**32.6 J**	**39.9 J**	**39.8 J**	**38.6 J**	**552 J**	**96.8 J**	71.7	UPL
Petroleum Hydrocarbons (mg/kg dry)														
Diesel Range Organics	**34.4**	13.4 U	13.6 U	13.1 U	13.5 U	**21.0 J**	**13.5 J**	12.5 U	**16.0 J**	**22.7 J**	**91.0**	**51.3**	23,000	HH
Residual Range Organics	**191**	26.9 U	**55.6**	**34.7 J**	**28.0 J**	**125**	26.9 U	24.9 U	**38.2 J**	**66.9**	**378**	**115**	40,000	HH
Gasoline Range Organics	4.35 U	4.18 U	4.43 U	4.26 U	4.03 U	4.55 U	4.34 U	4.23 U	4.60 U	**3.49 J**	4.41 U	4.46 U	13,000	HH
Butyltins (µg/kg dry)														
Dibutyltin	-	-	-	-	-	-	-	-	-	-	**74.3**	-	28,000	Eco
Monobutyltin	-	-	-	-	-	-	-	-	-	-	**55.6**	-	28,000	Eco
Tetrabutyltin	-	-	-	-	-	-	-	-	-	-	0.471 U	-	28,000	Eco
Tributyltin	-	-	-	-	-	-	-	-	-	-	**409**	-	28,000	Eco

Table 5-4a
2002 Sandblast Preliminary Assessment/Site Inspection Soil Analytical Results
Drum Storage Area
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Herbicides, and Pesticides
(Page 2 of 2)

Site ID	DSA01	DSA02	DSA03	DSA04	DSA05	DSA06	DSA07	DSA08	DSA09	DSA10	DSA11*	DSA12*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	011204DSA01SS	011204DSA02SS	011204DSA03SS	011204DSA04SS	011204DSA05SS	011204DSA06SS	011204DSA07SS	011204DSA08SS	011204DSA09SS	011204DSA10SS	011204DSA11SS	011204DSA12SS		
Sample Date	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001		
Sample Depth (Feet bgs)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Herbicides (µg/kg dry)														
2,4,5-T	1.36 U	1.37 U	1.54 U	1.50 U	1.26 U	1.52 U	1.34 U	1.53 U	1.32 U	1.47 U	1.58 U	1.56 U	21.0	Eco
2,4,5-TP (Silvex)	1.98 U	2.00 U	2.26 U	2.20 U	1.84 U	2.22 U	1.96 U	2.24 U	1.93 U	2.15 U	2.31 U	2.29 U	21.0	Eco
2,4-D	0.512 U	0.516 U	0.582 U	5.68 U	0.476 U	0.573 U	0.506 U	0.579 U	0.499 U	0.556 U	0.596 U	0.591 U	21.0	Eco
2,4-DB	0.871 U	0.878 U	0.990 U	0.568 U	0.809 U	0.974 U	0.860 U	0.985 U	0.849 U	0.946 U	1.01 U	1.00 U	21.0	Eco
4-Nitrophenol	1.37 U	1.38 U	1.56 U	1.52 U	1.27 U	1.53 U	1.35 U	1.55 U	1.34 U	1.49 U	1.60 U	1.58 U	7,000	Eco
Dalapon	1.89 U	1.91 U	2.15 U	2.10 U	1.76 U	2.12 U	1.87 U	2.14 U	1.85 U	2.06 U	2.20 U	2.18 U	18,000,000	HH
Dicamba	1.51 U	1.52 U	1.71 U	1.67 U	1.40 U	1.69 U	1.49 U	1.71 U	1.47 U	1.64 U	1.76 U	1.74 U	18,000,000	HH
Dichloroprop	0.662 U	0.667 U	0.752 U	0.733 U	0.614 U	0.740 U	0.653 U	0.748 U	0.645 U	0.718 U	0.770 U	0.763 U	21.0	Eco
Dinoseb	0.512 U	0.516 U	0.582 U	0.568 U	0.476 U	0.573 U	0.506 U	0.579 U	0.499 U	0.556 U	0.596 U	0.591 U	620,000	HH
MCPA	0.936 U	0.943 U	1.06 U	1.04 U	0.868 U	1.05 U	0.923 U	1.06 U	0.912 U	1.02 U	1.09 U	1.08 U	21.0	Eco
MCPP	1.70 U	1.71 U	1.93 U	1.88 U	1.58 U	1.90 U	1.68 U	1.92 U	1.66 U	1.85 U	1.98 U	1.96 U	21.0	Eco
Pentachlorophenol	0.725 U	0.730 U	0.824 U	0.803 U	0.673 U	0.810 U	0.715 U	0.819 U	0.706 U	0.787 U	0.843 U	0.836 U	2,100	Eco
Pesticides (µg/kg dry)														
4,4'-DDD	0.192 U	0.207 U	0.217 U	0.201 U	0.185 U	0.219 U	0.201 U	0.209 U	0.203 U	0.206 U	0.386 U	2.25 U	21.0	Eco
4,4'-DDE	0.227 U	0.245 U	0.257 U	**0.604 J**	0.219 U	0.260 U	0.238 U	0.247 U	0.240 U	0.243 U	0.457 U	**2.44 J**	21.0	Eco
4,4'-DDT	**0.436 J**	0.275 U	**3.09**	**4.39**	**0.478 J**	0.292 U	0.268 U	0.278 U	0.270 U	0.274 U	0.514 U	**22.2 J**	21.0	Eco
Aldrin	0.425 U	0.458 U	0.482 U	0.446 U	0.410 U	0.487 U	0.446 U	0.436 U	0.450 U	0.456 U	0.856 U	1.12 U	4.90	Eco
BHC (alpha)	0.306 U	0.330 U	0.347 U	0.321 U	0.295 U	0.350 U	0.321 U	0.333 U	0.324 U	0.329 U	0.617 U	1.12 U	340	HH
BHC (beta)	0.417 U	0.450 U	0.473 U	0.438 U	0.402 U	0.477 U	0.438 U	0.454 U	0.441 U	0.448 U	0.840 U	1.12 U	960	HH
BHC (delta)	0.378 UJ	0.408 UJ	0.429 UJ	0.397 UJ	0.365 UJ	0.433 U	0.397 U	0.412 U	0.400 U	0.406 U	0.762 U	1.12 U	340	HH
BHC (gamma) Lindane	0.377 U	0.406 U	0.427 U	0.395 U	0.363 U	0.431 U	0.395 U	0.410 U	0.398 U	**2.17**	0.759 U	1.12 U	2,000	HH
Chlordane (technical)	1.39 U	1.50 U	1.57 U	1.46 U	1.34 U	1.59 U	1.46 U	1.51 U	1.47 U	1.49 U	2.79 U	11.2 U	7,200	HH
Dieldrin	0.323 U	0.348 U	**0.823 J**	**0.428 J**	0.312 U	0.370 U	0.339 U	0.352 U	0.342 U	0.347 U	0.651 U	2.25 U	4.90	Eco
Endosulfan I	0.420 U	0.452 U	0.476 U	0.441 U	0.405 U	0.480 U	0.440 U	0.457 U	0.444 U	0.450 U	0.845 U	1.12 U	20,000	Eco
Endosulfan II	0.381 U	0.411 U	0.432 U	0.400 U	0.367 U	0.436 U	0.400 U	0.415 U	0.403 U	0.409 U	**0.960 J**	2.25 U	20,000	Eco
Endosulfan Sulfate	**0.577 J**	0.387 U	0.406 U	0.377 U	0.346 U	0.410 U	0.376 U	0.390 U	0.379 U	0.385 U	0.722 U	2.25 U	20,000	Eco
Endrin	0.356 UJ	0.383 UJ	0.403 UJ	0.373 UJ	0.343 UJ	0.407 U	0.373 U	0.387 U	0.376 U	0.382 U	0.716 U	2.25 U	4.90	Eco
Endrin Aldehyde	0.402 U	0.433 U	0.455 U	**2.02 J**	0.387 U	0.460 U	0.422 U	0.437 U	0.425 U	0.431 U	0.809 U	2.25 U	4.90	Eco
Endrin Ketone	0.277 U	0.299 U	0.314 U	0.291 U	0.367 U	0.317 U	0.291 U	0.301 U	0.293 U	**1.87 J**	**2.53 J**	**3.61 J**	4.90	Eco
Heptachlor	0.339 U	0.366 U	0.385 U	0.356 U	0.327 U	0.388 U	0.356 U	0.369 U	0.359 U	0.364 U	0.683 U	1.12 U	480	HH
Heptachlor Epoxide	0.360 U	0.388 U	0.408 U	0.378 U	0.347 U	0.412 U	0.378 U	0.392 U	0.381 U	0.386 U	0.725 U	1.12 U	240	HH
Methoxychlor	1.36 U	1.46 U	1.54 U	1.42 U	1.31 U	1.55 U	1.42 U	1.48 U	1.44 U	1.46 U	2.73 U	11.2 U	500,000	Eco
Toxaphene	6.18 U	6.66 U	7.00 U	6.48 U	5.95 U	7.07 U	6.48 U	6.72 U	6.53 U	6.63 U	12.4 U	112 U	2,000	HH

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-4b
2002 Sandblast Preliminary Assessment/Site Inspection Soil Analytical Results
Drum Storage and Sandblast Areas
Volatile Organic Compounds
(Page 1 of 2)

Site ID	DSA01	DSA02	DSA03	DSA04	DSA05	DSA06	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	011204DSA01SS	011204DSA02SS	011204DSA03SS	011204DSA04SS	011204DSA05SS	011204DSA06SS		
Sample Date	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001		
Sample Depth (Feet bgs)	0.0	0.0	0.0	0.0	0.0	0.0		
Volatile Organic Compounds (µg/kg dry)								
1,1,1,2-Tetrachloroethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	9,300	HH
1,1,1-Trichloroethane (TCA)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	38,000,000	HH
1,1,2,2-Tetrachloroethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,800	HH
1,1,2-Trichloroethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,700	HH
1,1-Dichloroethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	5,900	HH
1,1-Dichloroethene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	680,000	HH
1,1-Dichloropropene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	8,100	HH
1,2,3-Trichlorobenzene	2.00 U	2.00 U	3.00 U	2.00 U	2.00 U	2.00 U	20,000	Eco
1,2,3-Trichloropropane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	95.0	HH
1,2,4-Trichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	20,000	Eco
1,2,4-Trimethylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	200,000	Eco
1,2-Dibromo-3-chloropropane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	69.0	HH
1,2-Dibromoethane (EDB)	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	140	HH
1,2-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,260	Eco
1,2-Dichloroethane (EDC)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	590	HH
1,2-Dichloropropane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	4,500	HH
1,3,5-Trimethylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	150,000	HH
1,3-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,260	Eco
1,3-Dichloropropane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	20,000,000	HH
1,4-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	17,000	HH
2,2-Dichloropropane	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	4,500	HH
2-Butanone (MEK)	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	200,000,000	HH
2-Chlorotoluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	20,000,000	HH
2-Hexanone	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ	1,250,000	Eco
4-Chlorotoluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	72,000,000	HH
4-Isopropyltoluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	200,000	Eco
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	1,250,000	Eco
Acetone	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	1,250,000	Eco
Benzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,200	HH
Bromobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800,000	HH
Bromochloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1,900	HH
Bromodichloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1,900	HH
Bromoform	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	360,000	HH
Bromomethane	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	17,000	HH
Carbon Disulfide	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1,000,000	Eco
Carbon Tetrachloride	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	630	HH
Chlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	40,000	Eco
Chloroethane	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	61,000,000	HH
Chloroform	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	410	HH
Chloromethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	300,000	HH
cis-1,2-Dichloroethene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500,000	Eco
cis-1,3-Dichloropropene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	8,100	HH
Dibromochloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	34,000	HH
Dibromomethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	110,000	HH
Dichlorodifluoromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	730,000	Eco
Dichloromethane (Methylene Chloride)	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	20,000	HH
Ethylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,260	Eco
Hexachlorobutadiene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	22,000	HH
Isopropylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,260	Eco
m,p-Xylenes	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	120,000	Eco
Naphthalene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	23,000	HH
n-Butylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	-	-
n-Propylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,260	Eco
o-Xylene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,000	Eco
sec-Butylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,260	Eco
Styrene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	300,000	Eco
tert-Butylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,260	Eco
Tetrachloroethene (PCE)	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,600	HH
Toluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	200,000	Eco
trans-1,2-Dichloroethene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	200,000	HH
trans-1,3-Dichloropropene	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	8,100	HH
Trichloroethene (TCE)	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	130	HH
Trichlorofluoromethane	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	730,000	Eco
Vinyl Acetate	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	4,100,000	HH
Vinyl Chloride	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,200	HH

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-4b
2002 Sandblast Preliminary Assessment/Site Inspection Soil Analytical Results
Drum Storage and Sandblast Areas
Volatile Organic Compounds
(Page 2 of 2)

Site ID	DSA07	DSA08	DSA09	DSA10	DSA11*	DSA12*	SBB18	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	011204DSA07SS	011204DSA08SS	011204DSA09SS	011204DSA10SS	011204DSA11SS	011204DSA12SS	011205SBB20SS		
Sample Date	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/5/2001		
Sample Depth (Feet bgs)	0.0	0.0	0.0	0.0	0.0	0.0	2.5		
Volatile Organic Compounds (µg/kg dry)									
1,1,1,2-Tetrachloroethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1,200 U	9,300	HH
1,1,1-Trichloroethane (TCA)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1,800 U	38,000,000	HH
1,1,2,2-Tetrachloroethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,500 U	2,800	HH
1,1,2-Trichloroethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,500 U	2,700	HH
1,1-Dichloroethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2,500 U	5,900	HH
1,1-Dichloroethene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3,000 U	680,000	HH
1,1-Dichloropropene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2,500 U	8,100	HH
1,2,3-Trichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,800 U	20,000	Eco
1,2,3-Trichloropropane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,800 U	95.0	HH
1,2,4-Trichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	20,000	Eco
1,2,4-Trimethylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	**12,000**	200,000	Eco
1,2-Dibromo-3-chloropropane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3,800 U	69.0	HH
1,2-Dibromoethane (EDB)	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1,800 U	140	HH
1,2-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500 U	2,260	Eco
1,2-Dichloroethane (EDC)	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1,800 U	590	HH
1,2-Dichloropropane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2,500 U	4,500	HH
1,3,5-Trimethylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	**6,500**	150,000	HH
1,3-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	2,260	Eco
1,3-Dichloropropane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,500 U	20,000,000	HH
1,4-Dichlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500 U	17,000	HH
2,2-Dichloropropane	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,500 U	4,500	HH
2-Butanone (MEK)	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	12,000 U	200,000,000	HH
2-Chlorotoluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	20,000,000	HH
2-Hexanone	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ	10.0 UJ	7,500 U	1,250,000	Eco
4-Chlorotoluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	72,000,000	HH
4-Isopropyltoluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	200,000	Eco
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0 U	10.0 U	10.0 U	2.00 U	10.0 U	10,000 U	1,250,000	Eco
Acetone	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	15.0 U	10,000 U	1,250,000	Eco
Benzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500 U	1,200	HH
Bromobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	1,800,000	HH
Bromochloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1,900 U	1,900	HH
Bromodichloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2,500 U	1,900	HH
Bromoform	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,500 U	360,000	HH
Bromomethane	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	6,200 UJ	17,000	HH
Carbon Disulfide	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2,500 UJ	1,000,000	Eco
Carbon Tetrachloride	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1,500 U	630	HH
Chlorobenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500 U	40,000	Eco
Chloroethane	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	6,200 UJ	61,000,000	HH
Chloroform	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1,800 U	410	HH
Chloromethane	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	5,000 UJ	300,000	HH
cis-1,2-Dichloroethene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500 U	2,500,000	Eco
cis-1,3-Dichloropropene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2,500 U	8,100	HH
Dibromochloromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2,500 U	34,000	HH
Dibromomethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	2,800 U	110,000	HH
Dichlorodifluoromethane	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	4,200 U	730,000	Eco
Dichloromethane (Methylene Chloride)	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	2.00 U	1,200 U	20,000	HH
Ethylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	2,260	Eco
Hexachlorobutadiene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	22,000	HH
Isopropylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3,000 U	2,260	Eco
m,p-Xylenes	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	**7,400**	120,000	Eco
Naphthalene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500 U	23,000	HH
n-Butylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	-	-
n-Propylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,800 U	2,260	Eco
o-Xylene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	**3,200 J**	1,000	Eco
sec-Butylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	2,260	Eco
Styrene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2,500 U	300,000	Eco
tert-Butylbenzene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 U	2,260	Eco
Tetrachloroethene (PCE)	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	**3.10 J**	**420,000**	1,600	HH
Toluene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	**39,000**	200,000	Eco
trans-1,2-Dichloroethene	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3,000 U	200,000	HH
trans-1,3-Dichloropropene	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U	1,800 U	8,100	HH
Trichloroethene (TCE)	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	**3,200 J**	130	HH
Trichlorofluoromethane	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	1,800 UJ	730,000	Eco
Vinyl Acetate	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	6,200 U	4,100,000	HH
Vinyl Chloride	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3,800 U	2,200	HH

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-4c
2002 Sandblast Preliminary Assessment/Site Inspection Soil Analytical Results
Drum Storage Area
Semivolatile Organic Compounds
(Page 1 of 2)

Site ID	DSA01	DSA02	DSA03	DSA04	DSA05	DSA06	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	011204DSA01SS	011204DSA02SS	011204DSA03SS	011204DSA04SS	011204DSA05SS	011204DSA06SS		
Sample Date	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001		
Sample Depth (Feet bgs)	0.0	0.0	0.0	0.0	0.0	0.0		
Semivolatile Organic Compounds (µg/kg dry)								
1,2,4-Trichlorobenzene	1.02 U	0.972 U	1.09 U	1.17 U	1.16 U	1.24 U	20,000	Eco
1,2-Dichlorobenzene	1.26 U	1.21 U	1.35 U	1.46 U	1.43 U	1.54 U	2,260	Eco
1,3-Dichlorobenzene	1.72 U	1.64 U	1.84 U	1.98 U	1.95 U	2.09 U	2,260	Eco
1,4-Dichlorobenzene	1.96 U	1.87 U	2.10 U	2.26 U	2.23 U	2.39 U	17,000	HH
2,4,5-Trichlorophenol	2.21 U	2.11 U	2.36 U	2.54 U	2.51 U	2.68 U	4,000	Eco
2,4,6-Trichlorophenol	1.63 UJ	1.56 UJ	1.74 UJ	1.88 UJ	1.85 UJ	1.98 UJ	10,000	Eco
2,4-Dichlorophenol	1.35 U	1.29 U	1.44 U	1.56 U	1.53 U	1.64 U	20,000	Eco
2,4-Dimethylphenol	1.35 U	1.29 U	1.44 U	1.56 U	1.53 U	1.64 U	20,000	Eco
2,4-Dinitrophenol	2.95 U	2.81 U	3.15 U	3.39 U	3.34 U	3.58 U	20,000	Eco
2,4-Dinitrotoluene	1.60 U	1.52 U	1.70 U	1.84 U	1.81 U	1.94 U	5,500	HH
2,6-Dinitrotoluene	2.21 UJ	2.11 UJ	2.36 UJ	2.54 UJ	2.51 UJ	2.68 UJ	240,000	HH
2-Chloronaphthalene	0.368 U	0.351 U	0.393 U	0.424 U	0.418 U	0.447 U	82,000,000	HH
2-Chlorophenol	1.84 U	1.76 U	1.97 U	2.12 U	2.09 U	2.24 U	60,000	Eco
2-Methylphenol	1.47 U	1.40 U	1.57 U	1.70 U	1.67 U	1.79 U	50,000	Eco
2-Nitroaniline	1.60 U	1.52 U	1.70 U	1.84 U	1.81 U	1.94 U	6,000,000	HH
2-Nitrophenol	1.72 U	1.64 U	1.84 U	1.98 U	1.95 U	2.09 U	180,000,000	HH
3,3'-Dichlorobenzidine	1.35 U	1.29 U	1.44 U	1.56 U	1.53 U	1.64 U	4,800	HH
3-Nitroaniline	2.09 U	1.99 U	2.23 U	2.40 U	2.37 U	2.53 U	70,000	Eco
4,6-Dinitro-2-methylphenol	1.51 U	4.33 U	4.85 U	5.23 U	5.15 U	5.52 U	49,000	HH
4-Bromophenyl Phenyl Ether	1.63 U	1.56 U	1.74 U	1.88 U	1.85 U	1.98 U	-	-
4-Chloro-3-methylphenol	1.35 U	1.29 U	1.44 U	1.56 U	1.53 U	1.64 U	62,000,000	HH
4-Chloroaniline	1.14 U	1.09 U	1.22 U	1.31 U	1.30 U	1.39 U	8,600	HH
4-Chlorophenyl Phenyl Ether	2.06 U	1.97 U	2.20 U	2.37 U	2.34 U	2.50 U	-	-
4-Nitroaniline	2.09 U	1.99 U	2.23 U	2.40 U	2.37 U	2.53 U	40,000	Eco
4-Nitrophenol	2.33 U	2.22 U	2.49 U	2.69 U	2.65 U	2.83 U	7,000	Eco
Aniline	6.14 U	5.85 U	6.56 U	7.07 U	6.96 U	7.45 U	200,000	Eco
Benzidine	2.32 UJ	2.21 UJ	2.48 UJ	2.67 UJ	2.63 UJ	2.82 UJ	55,000	HH
Benzoic Acid	**88.5 J**	**38.5 J**	4.46 U	**50.6 J**	**40.8 J**	**26.7 J**	200,000	Eco
Benzyl Alcohol	2.58 U	2.46 U	2.75 U	2.97 U	2.92 U	3.13 U	2,260	Eco
Bis(2-chloroethoxy)methane	1.47 U	1.40 U	1.57 U	1.70 U	1.67 U	1.79 U	730,000	Eco
Bis(2-chloroethyl) Ether	2.34 UJ	2.24 UJ	2.50 UJ	2.70 UJ	2.66 UJ	2.85 UJ	1,000	HH
Bis(2-chloroisopropyl) Ether	3.19 UJ	3.04 UJ	3.41 UJ	3.68 UJ	3.62 UJ	3.88 UJ	1,000	HH
Bis(2-ethylhexyl) Phthalate	61.7 UJ	29.3 U	48.1 UJ	35.3 U	**1,040**	160 UJ	4,500	Eco
Butyl Benzyl Phthalate	2.33 U	2.22 U	2.49 U	2.69 U	**9.05 J**	2.83 U	450	Eco
Carbazole	4.79 U	4.57 U	5.11 U	5.51 U	5.43 U	5.81 U	2,260	Eco
Dibenzofuran	1.42 U	**1.40 J**	1.52 U	1.64 U	**1.67 J**	**2.24 J**	2.00	Eco
Diethyl Phthalate	2.09 U	1.99 U	2.23 U	2.40 U	2.37 U	2.53 U	100,000	Eco
Dimethyl Phthalate	1.35 U	1.29 U	1.44 U	1.56 U	1.53 U	1.64 U	150,000	HH
Di-n-butyl Phthalate	61.4 UJ	58.5 UJ	65.6 UJ	70.7 UJ	141 UJ	130 UJ	450	Eco
Di-n-octyl Phthalate	3.19 U	3.04 U	3.41 U	3.68 U	3.62 U	3.88 U	450	Eco
Hexachlorobenzene	1.35 U	1.29 U	1.44 U	1.56 U	1.53 U	1.64 U	1,800	HH
Hexachlorobutadiene	1.10 U	1.05 U	1.18 U	1.27 U	1.25 U	1.34 U	22,000	HH
Hexachlorocyclopentadiene	1.73 UJ	1.65 UJ	1.85 UJ	1.99 UJ	1.96 UJ	2.10 UJ	10,000	Eco
Hexachloroethane	2.33 U	2.22 U	2.49 U	2.69 U	2.65 U	2.83 U	150,000	HH
Isophorone	1.72 U	1.64 U	1.84 U	1.98 U	1.95 U	2.09 U	1,800,000	HH
Nitrobenzene	1.68 U	1.60 U	1.80 U	1.94 U	1.91 U	2.04 U	8,000	Eco
N-Nitrosodimethylamine	1.35 U	1.29 U	1.05 U	1.56 U	1.53 U	1.64 U	34.0	HH
N-Nitrosodi-n-propylamine	1.35 U	1.29 U	1.44 U	1.56 U	1.53 U	1.64 U	250	HH
N-Nitrosodiphenylamine	0.982 U	0.937 U	1.44 U	1.13 U	1.11 U	1.19 U	20,000	Eco
p-cresol (4-Methylphenol)	1.82 U	1.73 U	1.94 U	2.09 U	2.06 U	2.21 U	-	-
Pentachlorophenol	2.58 UJ	2.46 UJ	2.75 UJ	2.97 UJ	2.92 UJ	3.13 UJ	2,100	Eco
Phenol	2.45 U	2.34 U	2.62 U	2.83 U	2.79 U	2.98 U	30,000	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)								
2-Methylnaphthalene	0.191 U	0.183 U	0.205 U	0.221 U	0.217 U	**2.98**	4,100,000	HH
Acenaphthene	0.607 U	**6.44**	0.649 U	0.700 U	**4.46**	0.738 U	19,000,000	HH
Acenaphthylene	0.535 U	0.510 U	**3.67**	0.616 U	0.607 U	0.650 U	23,000	HH
Anthracene	**1.72**	**4.21**	**5.25**	0.356 U	**9.19**	**11.3**	93,000,000	HH
Fluorene	0.573 U	**2.46**	**3.02**	0.660 U	**3.06**	**7.01**	12,000,000	HH
Naphthalene	0.574 U	0.548 U	**1.70**	0.662 U	**1.95**	**4.17**	23,000	HH
Phenanthrene	**5.64**	**19.4**	**21.8**	**5.80**	**31.3**	**49.8**	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**9.50 J**	**33.5 J**	**36.1 J**	**8.79 J**	**50.6 J**	**73.6 J**	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)								
Benzo(a)anthracene	0.749 U	**15.0**	**15.6**	**3.96**	**66.6**	**29.5**	2,700	HH
Benzo(a)pyrene	**10.2**	**20.4**	**20.3**	**7.49**	**151**	**43.5**	270	HH
Benzo(g,h,i)perylene	0.202 U	**9.72**	0.216 U	0.233 U	**107**	0.246 U	27,000	HH
Benzofluoranthenes, Total	**13.5**	**26.3**	**35.8**	**10.2**	**175**	**74.2**	2,700	HH
Chrysene	**6.50**	**16.3**	**22.8**	**6.36**	**68.4**	**45.9**	270,000	HH
Dibenz(a,h)anthracene	0.286 U	0.273 U	0.306 U	0.329 U	**25.8**	0.347 U	270	HH
Fluoranthene	**8.47**	**31.6**	**35.4**	**10.0**	**75.9**	**62.9**	8,900,000	HH
Indeno(1,2,3-cd)pyrene	0.286 U	**11.1**	**14.3**	**3.68**	**97.8**	0.347 U	2,700	HH
Pyrene	**11.0**	**31.0**	**32.3**	**10.0**	**83.8**	**68.6**	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**37.0 J**	**135 J**	**141 J**	**42.0 J**	**676**	**251 J**	1,100	Eco

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-4c
2002 Sandblast Preliminary Assessment/Site Inspection Soil Analytical Results
Drum Storage Area
Semivolatile Organic Compounds
(Page 2 of 2)

Site ID	DSA07	DSA08	DSA09	DSA10	DSA11*	DSA12*	SBB18	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	011204DSA07SS	011204DSA08SS	011204DSA09SS	011204DSA10SS	011204DSA11SS	011204DSA12SS	011205SBB20SS		
Sample Date	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/5/2001		
Sample Depth (Feet bgs)	0.0	0.0	0.0	0.0	0.0	0.0	2.5		
Semivolatile Organic Compounds (µg/kg dry)									
1,2,4-Trichlorobenzene	1.08 U	1.01 U	1.20 U	12.1 U	10.6 U	1.32 U	-	20,000	Eco
1,2-Dichlorobenzene	1.34 U	1.26 U	1.49 U	15.1 U	13.1 U	1.64 U	-	2,260	Eco
1,3-Dichlorobenzene	1.82 U	1.71 U	2.02 U	20.5 U	17.8 U	2.22 U	-	2,260	Eco
1,4-Dichlorobenzene	2.08 U	1.95 U	2.31 U	23.4 U	20.4 U	2.54 U	-	17,000	HH
2,4,5-Trichlorophenol	2.34 U	2.20 U	2.60 U	26.3 UJ	25.9 U	2.86 U	-	4,000	Eco
2,4,6-Trichlorophenol	1.73 UJ	1.63 UJ	1.92 UJ	19.5 UJ	19.1 UJ	2.11 UJ	-	10,000	Eco
2,4-Dichlorophenol	1.43 U	1.34 U	1.59 U	16.1 UJ	15.8 U	1.75 U	-	20,000	Eco
2,4-Dimethylphenol	1.43 U	1.34 U	1.59 U	16.1 UJ	15.8 U	1.75 U	-	20,000	Eco
2,4-Dinitrophenol	3.12 U	2.93 U	3.46 U	35.1 UJ	34.5 U	3.81 U	-	20,000	Eco
2,4-Dinitrotoluene	1.69 U	1.59 U	1.88 U	19.0 U	16.5 U	2.07 U	-	5,500	HH
2,6-Dinitrotoluene	2.34 UJ	2.20 UJ	2.60 UJ	26.3 UJ	22.9 UJ	2.86 UJ	-	240,000	HH
2-Chloronaphthalene	0.390 U	0.367 U	0.433 U	4.39 U	3.82 U	0.477 U	-	82,000,000	HH
2-Chlorophenol	1.95 U	1.83 U	2.17 U	21.9 UJ	21.5 U	2.38 U	-	60,000	Eco
2-Methylphenol	1.56 U	1.47 U	1.73 U	17.6 UJ	17.2 U	1.91 U	-	50,000	Eco
2-Nitroaniline	1.69 U	1.59 U	1.88 U	19.0 U	16.5 U	2.07 U	-	6,000,000	HH
2-Nitrophenol	1.82 U	1.71 U	2.02 U	20.5 UJ	20.1 U	2.22 U	-	180,000,000	HH
3,3'-Dichlorobenzidine	1.43 U	1.34 U	1.59 U	16.1 U	14.0 U	1.75 U	-	4,800	HH
3-Nitroaniline	2.21 U	2.08 U	2.45 U	24.9 U	21.6 U	2.70 U	-	70,000	Eco
4,6-Dinitro-2-methylphenol	4.81 U	4.52 U	5.34 U	54.1 UJ	53.2 U	5.88 U	-	49,000	HH
4-Bromophenyl Phenyl Ether	1.73 U	1.63 U	1.92 U	19.5 U	16.9 U	2.11 U	-	-	-
4-Chloro-3-methylphenol	1.43 U	1.34 U	1.59 U	16.1 UJ	15.8 U	1.75 U	-	62,000,000	HH
4-Chloroaniline	1.21 U	1.14 U	1.34 U	13.6 U	11.8 U	1.48 U	-	8,600	HH
4-Chlorophenyl Phenyl Ether	2.19 U	2.05 U	2.43 U	24.6 U	21.4 U	2.67 U	-	-	-
4-Nitroaniline	2.21 U	2.08 U	2.45 U	24.9 U	21.6 U	2.70 U	-	40,000	Eco
4-Nitrophenol	2.47 U	2.32 U	2.74 U	27.8 UJ	27.3 U	3.02 U	-	7,000	Eco
Aniline	6.50 U	6.11 U	7.22 U	73.2 U	63.7 U	7.95 U	-	200,000	Eco
Benzidine	2.46 UJ	2.31 UJ	2.73 UJ	27.7 UJ	24.1 UJ	3.00 UJ	-	55,000	HH
Benzoic Acid	4.42 U	4.15 U	**15.3 J**	49.7 U	43.3 U	5.40 U	-	200,000	Eco
Benzyl Alcohol	2.73 U	2.57 U	3.03 U	30.7 U	26.7 U	3.34 U	-	2,260	Eco
Bis(2-chloroethoxy)methane	1.56 U	1.47 U	1.73 U	17.6 U	15.3 U	1.91 U	-	730,000	Eco
Bis(2-chloroethyl) Ether	2.48 UJ	2.33 UJ	2.76 UJ	27.9 UJ	24.3 UJ	3.04 UJ	-	1,000	HH
Bis(2-chloroisopropyl) Ether	3.38 UJ	3.18 UJ	3.75 UJ	38.0 UJ	33.1 UJ	4.13 UJ	-	1,000	HH
Bis(2-ethylhexyl) Phthalate	32.5 U	88.6 UJ	151 UJ	366 U	**20,100**	**1,500**	**21,600 J**	4,500	Eco
Butyl Benzyl Phthalate	2.47 U	**3.67 J**	2.74 U	27.8 U	**125 J**	**15.7 J**	-	450	Eco
Carbazole	5.07 U	4.77 U	5.63 UJ	57.1 U	**157 J**	**240 J**	-	2,260	Eco
Dibenzofuran	1.51 U	1.42 U	**3.03 J**	17.0 U	**35.4 J**	**141 J**	**485 J**	2.00	Eco
Diethyl Phthalate	2.21 U	2.08 U	2.45 U	24.9 U	21.6 U	2.70 U	-	100,000	Eco
Dimethyl Phthalate	1.43 U	1.34 U	1.59 U	16.1 U	14.0 U	1.75 U	-	150,000	HH
Di-n-butyl Phthalate	65.0 UJ	61.1 UJ	72.2 UJ	127 UJ	637 UJ	131 UJ	-	450	Eco
Di-n-octyl Phthalate	3.38 U	3.18 U	**11.3 J**	38.0 U	33.1 U	**31.0**	-	450	Eco
Hexachlorobenzene	1.43 U	1.34 U	1.59 U	16.1 U	14.0 U	1.75 U	-	1,800	HH
Hexachlorobutadiene	1.17 U	1.10 U	1.30 U	13.2 U	11.5 U	1.43 U	-	22,000	HH
Hexachlorocyclopentadiene	1.83 UJ	1.72 UJ	2.04 UJ	20.6 UJ	17.9 UJ	2.24 UJ	-	10,000	Eco
Hexachloroethane	2.47 U	2.32 U	2.74 U	27.8 U	24.2 U	3.02 U	-	150,000	HH
Isophorone	1.82 U	1.71 U	2.02 U	20.5 U	17.8 U	2.22 U	-	1,800,000	HH
Nitrobenzene	1.78 U	1.67 U	1.98 U	20.0 U	17.4 U	2.18 U	-	8,000	Eco
N-Nitrosodimethylamine	1.43 U	1.34 U	1.59 U	16.1 U	14.0 U	1.75 U	-	34.0	HH
N-Nitrosodi-n-propylamine	1.43 U	1.34 U	1.59 U	16.1 U	14.0 U	1.75 U	-	250	HH
N-Nitrosodiphenylamine	1.04 U	0.977 U	1.15 U	11.7 U	10.2 U	1.27 U	-	20,000	Eco
p-cresol (4-Methylphenol)	1.93 U	1.81 U	2.14 U	21.7 UJ	21.3 U	2.35 U	-	-	-
Pentachlorophenol	2.73 UJ	2.57 UJ	3.03 UJ	30.7 UJ	30.2 UJ	3.34 UJ	-	2,100	Eco
Phenol	2.60 U	2.44 U	2.89 U	29.3 UJ	28.7 U	3.18 U	-	30,000	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)									
2-Methylnaphthalene	0.203 U	0.191 U	0.225 U	2.28 U	**22.9**	**150**	**124 J**	4,100,000	HH
Acenaphthene	**2.60**	**2.81**	**15.4**	**29.3**	**132**	**470**	**3,200 J**	19,000,000	HH
Acenaphthylene	0.567 U	0.533 U	0.629 U	6.38 U	**27.6**	**87.7**	**295 J**	23,000	HH
Anthracene	**2.08**	**2.20**	**18.0**	**80.5**	**304**	**822**	**2,040 J**	93,000,000	HH
Fluorene	**1.69**	**1.83**	**7.65**	**24.9**	**94.6**	**463**	**779 J**	12,000,000	HH
Naphthalene	0.609 U	0.572 U	0.676 U	6.85 U	**26.9**	**227**	**256 J**	23,000	HH
Phenanthrene	**11.3**	**13.6**	**59.0**	**345**	**1,054**	**3,020**	**6,550 J**	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**18.8 J**	**21.5 J**	**101 J**	**492 J**	**1,639**	**5,089**	**13,120 J**	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)									
Benzo(a)anthracene	**7.28**	**16.5**	**46.3**	**398**	**1,640**	**1,325**	**12,300 J**	2,700	HH
Benzo(a)pyrene	**14.0**	**25.4**	**52.0**	**435**	**2,045**	**1,580**	**11,700 J**	270	HH
Benzo(g,h,i)perylene	**6.89**	**13.7**	**21.2**	**195**	**1,015**	**559**	**3,350 J**	27,000	HH
Benzofluoranthenes, Total	**17.8**	**36.3**	**72.2**	**682**	**2,835**	**1,850**	**16,300 J**	2,700	HH
Chrysene	**9.89**	**20.3**	**56.6**	**465**	**1,640**	**1,620**	**12,000 J**	270,000	HH
Dibenz(a,h)anthracene	0.303 U	0.285 U	0.336 U	3.41 U	**418**	**216**	**1,080 J**	270	HH
Fluoranthene	**19.0**	**27.2**	**98.2**	**806**	**2,290**	**2,610**	**28,600 J**	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**7.02**	**14.3**	**21.1**	**202**	**998**	**547**	**4,170 J**	2,700	HH
Pyrene	**21.2**	**35.1**	**106**	**844**	**2,480**	**3,485**	**32,000 J**	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**85.6 J**	**153 J**	**402 J**	**3,348 J**	**12,525**	**11,941**	**105,200 J**	1,100	Eco

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-4d
2002 Sandblast Preliminary Assessment/Site Inspection Soil and Sandblast Grit Analytical Results
Sandblast Area
PCB Aroclors, Metals, Petroleum Hydrocarbons, and Butyltins
(Page 1 of 2)

Site ID	SBB01*	SBB03	SBB04	SBB05	SBB06	SBB07*	SBB09	SBB10	SBB11	SBB12	SBB13	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	011205SBB01SBG	011205SBB03SBG	011205SBB04SBG	011205SBB05SBG	011205SBB06SBG	011205SBB07SBG	011205SBB09SBG	011205SBB10SBG	011205SBB11SBG	011205SBB12SBG	011205SBB13SBG		
Sample Date	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001		
Sample Depth (Feet bgs)	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	2.0		
Medium	Sandblast Grit	Sandblast Grit	Sandblast Grit	Sandblast Grit	Sandblast Grit	Sandblast Grit	Sandblast Grit	Sandblast Grit	Sandblast Grit	Sandblast Grit	Soil		
PCB Aroclors (µg/kg dry)													
Aroclor 1016	1.28 U	1.23 U	1.19 U	1.29 U	1.25 U	1.43 U	1.22 U	1.18 U	1.17 U	1.24 U	1.41 U	371	Eco
Aroclor 1221	5.50 U	5.26 U	5.08 U	5.53 U	5.37 U	6.14 U	5.23 U	5.04 U	5.02 U	5.32 U	6.04 U	371	Eco
Aroclor 1232	4.39 U	4.20 U	4.06 U	4.42 U	4.29 U	4.90 U	4.17 U	4.02 U	4.00 U	4.24 U	4.82 U	371	Eco
Aroclor 1242	2.35 U	2.25 U	2.17 U	2.36 U	2.29 U	2.62 U	2.23 U	2.15 U	2.14 U	2.27 U	2.58 U	371	Eco
Aroclor 1248	5.84 U	5.59 U	5.40 U	5.87 U	5.70 U	6.52 U	5.55 U	5.35 U	5.32 U	5.64 U	6.41 U	371	Eco
Aroclor 1254	1.82 U	1.74 U	1.68 U	1.83 U	1.78 U	2.03 U	1.73 U	1.67 U	1.66 U	1.76 U	2.00 U	371	Eco
Aroclor 1260	**6.44 J**	**30.6**	**17.7**	**23.7**	**15.5**	**5.79 J**	**81.8**	**26.0**	**52.1**	**202**	2.00 U	371	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	**8.26 J**	**32.3 J**	**19.4 J**	**25.5 J**	**17.3 J**	**7.81 J**	**83.5 J**	**27.7 J**	**53.8 J**	**204 J**	4.00 U	371	Eco
Metals (mg/kg dry)													
Aluminum	**2,465 J**	**5,190**	**4,640 J**	**5,690 J**	**2,350**	**7,620**	**1,660**	**1,530**	**2,440**	**4,020**	**14,100**	31,400	UPL
Antimony	3.16 U	**2.71 J**	3.29 U	3.54 U	**1.92 J**	**2.60 J**	**1.28 J**	**1.81 J**	**2.74 J**	**13.7**	**1.20 J**	0.270	Eco
Arsenic	**2.37**	**4.70**	**5.93**	**3.04**	**0.866 J**	**5.12**	**2.12**	**6.02**	**4.64**	**6.24**	**6.24**	5.40	UPL
Barium	**22.4**	**119**	**58.2**	**97.0**	**27.7**	**70.9**	**16.2**	**27.2**	**44.4**	**78.2**	**59.6**	330	Eco
Beryllium	0.170 U	0.176 U	0.177 U	0.191 U	0.159 U	**0.218 J**	0.166 U	0.173 U	0.179 U	0.177 U	**0.525**	21.0	Eco
Cadmium	**0.717**	**1.04**	**0.663**	**0.649**	**0.470 J**	**1.04**	**0.895**	**2.14**	**1.45**	**2.19**	**1.02**	0.360	Eco
Calcium	**1,840 J**	**2,720**	**2,590 J**	**2,700 J**	**1,310**	**5,055**	**863**	**1,700**	**2,500**	**2,750**	**7,470**	10,400	UPL
Chromium	**1,215**	**536**	**358**	**69.7**	**880**	**127**	**67.4**	**637**	**648**	**705**	**21.7**	28.1	UPL
Cobalt	**25.0**	**14.9**	**9.44**	**7.97**	**16.3**	**11.9**	**2.52**	**17.4**	**14.3**	**15.1**	**19.7**	19.9	UPL
Copper	**32.2**	**58.1**	**28.6**	**25.0**	**25.0**	**56.2**	**23.1**	**82.8**	**73.7**	**183**	**73.7**	56.7	UPL
Iron	**32,300**	**25,200**	**19,700**	**17,300**	**22,100**	**21,800**	**10,100**	**44,500**	**39,500**	**39,400**	**41,500**	36,900	UPL
Lead	**124**	**1,200 J**	**262**	**300**	**501 J**	**119 J**	**502 J**	**272 J**	**415 J**	**863 J**	**19.3 J**	25.5	UPL
Magnesium	**43,500 J**	**19,800**	**14,000 J**	**4,000 J**	**31,400**	**6,175**	**1,370**	**19,500**	**18,600**	**13,900**	**9.75 J**	12,400	UPL
Manganese	**509 J**	**448**	**285 J**	**290 J**	**392**	**392**	**171**	**536**	**518**	**464**	**631**	885	UPL
Mercury	0.0301 U	**0.0404 J**	**0.0423 J**	0.0300 U	**0.0425**	**0.0461 J**	0.0269 U	0.0285 U	**0.0380 J**	**0.0425**	0.0338 U	0.0660	UPL
Nickel	**1,015**	**382**	**130**	**55.3**	**597**	**93.8**	**28.8**	**844**	**296**	**347**	**27.8**	38.0	Eco
Potassium	**138 J**	**918**	**338 J**	**894**	**173 J**	**601**	**172 J**	**144 J**	**236 J**	**323 J**	**464 J**	2,050	UPL
Selenium	0.407 U	**0.704 J**	0.424 U	0.456 U	0.380 U	**0.656 J**	**0.670 J**	0.412 U	0.428 U	0.422 U	**0.678 J**	0.520	Eco
Silver	**0.0667 J**	**0.212 J**	**0.0976 J**	**0.155 J**	**0.114 J**	**0.143 J**	**0.0627 J**	**0.102 J**	**0.139 J**	**0.259 J**	**0.174 J**	4.20	Eco
Sodium	153 U	157 U	159 U	171 U	143 U	166 U	149 U	155 U	161 U	158 U	**196 J**	341	UPL
Thallium	**0.0622 J**	**0.0681 J**	**0.0987 J**	**0.0802 J**	**0.0551 J**	**0.101 J**	0.0487 U	0.0505 U	**0.0687 J**	**0.0557 J**	**0.147 J**	1.00	Eco
Vanadium	**21.1**	**29.2**	**27.0**	**34.4**	**12.5**	**47.7**	**6.89**	**21.9**	**30.0**	**47.7**	**73.7**	104	UPL
Zinc	**84.1 J**	**229**	**113 J**	**83.0 J**	**112**	**107**	**129**	**120**	**176**	**328**	**50.3**	71.7	UPL
Petroleum Hydrocarbons (mg/kg dry)													
Diesel Range Organics	**94.0**	**31.6**	**33.4**	**19.5 J**	**63.1**	**22.1 J**	**30.3**	**66.4**	**46.4**	**53.4**	**22.1 J**	23,000	HH
Residual Range Organics	**388**	**224**	**177**	**165**	**469**	**106**	**328**	**448**	**321**	**511**	**124**	40,000	HH
Gasoline Range Organics	-	-	-	-	-	-	-	-	-	-	-	13,000	HH
Butyltins (µg/kg dry)													
Dibutyltin	0.589 U	**37.4**	0.653 U	0.755 U	0.695 U	0.842 U	0.721 U	0.582 U	0.683 U	0.651 U	0.786 U	28,000	Eco
Monobutyltin	1.30 U	1.40 U	**24.0**	1.66 U	1.53 U	1.86 U	1.59 U	1.28 U	1.51 U	1.43 U	1.73 U	28,000	Eco
Tetrabutyltin	0.455 U	0.492 U	0.505 U	0.583 U	0.537 U	0.651 U	0.557 U	0.449 U	0.528 U	0.503 U	0.607 U	28,000	Eco
Tributyltin	0.938 U	**45.4**	**38.9**	1.20 U	1.11 U	1.34 U	1.15 U	0.926 U	1.09 U	1.04 U	1.25 U	28,000	Eco

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-4d
2002 Sandblast Preliminary Assessment/Site Inspection Soil and Sandblast Grit Analytical Results
Sandblast Area
PCB Aroclors, Metals, Petroleum Hydrocarbons, and Butyltins
(Page 2 of 2)

Site ID	SBB14	SBB15	SBB15	SBB16	SBB16	SBB17	SBB17	SBB18	SBB18	SBB23	SBB24	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	011205SBB14SBG	011205SBB15SBG	011205SBB21SS	011205SBB16SBG	011206SBB22ss	011205SBB17SBG	011205SBB19SS	011205SBB18SBG	011205SBB20SS	011206SBB23SBG	011206SBB24SBG		
Sample Date	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/6/2001	12/5/2001	12/5/2001	12/5/2001	12/5/2001	12/6/2001	12/6/2001		
Sample Depth (Feet bgs)	2.0	0.0-0.5	1.0	0.0-0.5	1.5	0.0-0.5	3.0	0.0-0.5	2.5	0.0-0.5	0.0-0.5		
Medium	Sandblast Grit	Sandbl	Soil	Sandblast Grit	Soil	Sandblast Grit	Soil	Sandblast Grit	Soil	Sandblast Grit	Sandblast Grit		
PCB Aroclors (µg/kg dry)													
Aroclor 1016	1.24 U	1.09 U	1.22 U	1.18 U	1.33 U	1.23 U	1.38 U	1.20 U	1.45 U	1.32 U	1.28 U	371	Eco
Aroclor 1221	5.32 U	4.66 U	5.21 U	5.07 U	5.70 U	5.28 U	5.89 U	5.15 U	6.21 U	5.67 U	5.49 U	371	Eco
Aroclor 1232	4.24 U	3.72 U	4.16 U	4.05 U	4.55 U	4.21 U	4.70 U	4.11 U	4.95 U	4.53 U	4.38 U	371	Eco
Aroclor 1242	2.27 U	1.99 U	2.23 U	2.16 U	2.43 U	2.25 U	2.51 U	2.20 U	2.65 U	2.42 U	2.34 U	371	Eco
Aroclor 1248	5.64 U	4.95 U	5.54 U	5.39 U	6.05 U	5.60 U	6.26 U	5.46 U	6.59 U	6.02 U	5.82 U	371	Eco
Aroclor 1254	1.76 U	1.54 U	1.73 U	1.68 U	1.89 U	1.75 U	1.95 U	1.70 U	2.06 U	1.88 U	1.82 U	371	Eco
Aroclor 1260	**4.95 J**	**64.0**	**20.8**	**193**	**13.4**	**18.7**	**4.17 J**	**17.4**	2.06 U	**7.09 J**	**6.95 J**	371	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	**6.71 J**	**65.5 J**	**22.5 J**	**195 J**	**15.3 J**	**20.5 J**	**6.12 J**	**19.1 J**	4.12 U	**8.97 J**	**8.77 J**	371	Eco
Metals (mg/kg dry)													
Aluminum	**7,570**	**1,830**	**7,130**	**2,390**	**8,430**	**4,880**	**9,760**	**7,650**	**16,000 J**	**1,590**	**2,130**	31,400	UPL
Antimony	**1.19 J**	**1.14 J**	**0.510 J**	**1.13 J**	**0.832 J**	**0.858 J**	**1.06 J**	**9.51**	4.01 U	**0.406 J**	**0.249 J**	0.270	Eco
Arsenic	**3.14**	**0.794 J**	**3.91**	**2.89**	**4.51**	**1.52**	**4.80**	**80.9**	**1.64**	**0.981 J**	0.159 U	5.40	UPL
Barium	**73.6**	**26.0**	**59.4**	**63.1**	**51.0**	**54.7**	**82.1**	**118**	**112**	**10.7**	**12.3**	330	Eco
Beryllium	**0.184 J**	0.147 U	**0.351 J**	0.155 U	**0.318 J**	0.191 U	**0.482 J**	0.181 U	**0.598**	0.175 U	0.168 U	21.0	Eco
Cadmium	**1.26**	**2.61**	**0.613**	**1.04**	**1.27**	**0.677**	**0.978**	**1.42**	**0.867**	**0.429 J**	**0.305 J**	0.360	Eco
Calcium	**5,360**	**1,170**	**4,300**	**1,070**	**5,310**	**2,630**	**4,460**	**15,100**	**7,670 J**	**1,180**	**1,520**	10,400	UPL
Chromium	**55.9**	**1,100**	**21.9**	**783**	**51.8**	**625**	**53.4**	**533**	**25.1**	**931**	**1,320**	28.1	UPL
Cobalt	**11.6**	**13.9**	**11.5**	**13.7**	**12.1**	**15.0**	**15.1**	**19.3**	**16.3**	**20.3**	**21.6**	19.9	UPL
Copper	**58.3**	**23.4**	**45.7**	**36.7**	**57.0**	**25.1**	**45.3**	**319**	**65.7**	**18.8**	**15.8**	56.7	UPL
Iron	**22,500**	**24,200**	**19,000**	**22,800**	**22,600**	**22,200**	**19,800**	**39,000**	**33,600**	**22,700**	**27,900**	36,900	UPL
Lead	**508 J**	**280 J**	**134 J**	**783 J**	**390 J**	**516 J**	**31.9 J**	**258 J**	**31.2**	**67.5 J**	**51.5 J**	25.5	UPL
Magnesium	**5,850**	**32,600**	**5,160**	**22,000**	**6,660**	**22,300**	**5,480**	**19,600**	**11,400 J**	**33,500**	**47,500**	12,400	UPL
Manganese	**281**	**413**	**399**	**350**	**372**	**408**	**323**	**674**	**585 J**	**362**	**493**	885	UPL
Mercury	**0.0363**	0.0281 U	**0.0406 J**	**0.0335 J**	**0.0560**	**0.0345 J**	**0.0341 J**	0.0275 U	**0.153**	0.0263 U	0.0285 U	0.0660	UPL
Nickel	**33.4**	**444**	**18.8**	**586**	**32.2**	**399**	**40.7**	**321**	**23.9**	**1,060**	**617**	38.0	Eco
Potassium	**636**	**74.9 J**	**551**	**105 J**	**566**	**330 J**	**602**	**1,020**	**644**	**91.4 J**	**116 J**	2,050	UPL
Selenium	**0.558 J**	0.351 U	**0.511 J**	**0.586 J**	**0.642 J**	0.455 U	**0.835 J**	**0.675 J**	0.517 U	**0.453 J**	0.401 U	0.520	Eco
Silver	**0.165 J**	0.0440 U	**0.0882 J**	**0.0596 J**	**0.117 J**	**0.0813 J**	**0.265 J**	**0.268 J**	**0.146 J**	0.0524 U	0.0503 U	4.20	Eco
Sodium	**173 J**	132 U	158 U	139 U	171 U	171 U	195 U	163 U	**219 J**	157 U	150 U	341	UPL
Thallium	**0.118 J**	0.0429 U	**0.0915 J**	0.0455 U	**0.0981 J**	0.0558 U	**0.129 J**	**0.114 J**	**0.110 J**	0.0511 U	0.0490 U	1.00	Eco
Vanadium	**54.6**	**12.7**	**36.9**	**8.66**	**33.0**	**25.3**	**53.5**	**34.4**	**72.4**	**14.4**	**16.1**	104	UPL
Zinc	**74.5**	**1,160**	**58.2**	**230**	**94.2**	**145**	**62.6**	**703**	**77.6 J**	**56.1**	**57.9**	71.7	UPL
Petroleum Hydrocarbons (mg/kg dry)													
Diesel Range Organics	**39.8**	**740**	**972**	**107**	**23.6 J**	**45.7**	**21.2 J**	**69.0**	**1,440**	**92.0**	**97.9**	23,000	HH
Residual Range Organics	**369**	**325**	**158**	**1,340**	**98.4**	**328**	**45.6 J**	**523**	**641**	**639**	**607**	40,000	HH
Gasoline Range Organics	-	-	-	-	-	-	-	-	-	-	-	13,000	HH
Butyltins (µg/kg dry)													
Dibutyltin	0.613 U	-	-	**64.5**	0.799 U	0.706 U	0.769 U	**210 J**	0.850 U	0.738 U	0.709 U	28,000	Eco
Monobutyltin	1.35 U	-	-	**8.78**	1.76 U	**8.00**	1.69 U	**108 J**	1.87 U	1.63 U	1.56 U	28,000	Eco
Tetrabutyltin	0.473 U	-	-	0.531 U	0.618 U	0.546 U	0.594 U	**3.99 J**	0.657 U	0.571 U	0.548 U	28,000	Eco
Tributyltin	0.975 U	-	-	**23.6**	1.27 U	**39.2**	1.22 U	**1,860 J**	1.35 U	1.18 U	1.13 U	28,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-4e
2002 Sandblast Preliminary Assessment/Site Inspection Soil Analytical Results
Transformer Release Area
PCB Aroclors, Metals, Petroleum Hydrocarbons, and Butyltins

Site ID	TRA01	TRA01	TRA02	TRA03	TRA03	TRA04	TRA05	TRA05	TRA06*	TRA07	TRA07	TRA09*	TRA11	TRA12	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	011204TRA01SS	011204TRA14SS	011204TRA02SS	011204TRA03SS	011204TRA13SS	011204TRA04SS	011204TRA05SS	011206TRA16ss	011204TRA06SS	011204TRA07SS	011206TRA15ss	011204TRA09SS	011204TRA11SS	011204TRA12SS		
Sample Date	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/4/2001	12/6/2001	12/4/2001	12/4/2001	12/6/2001	12/4/2001	12/4/2001	12/4/2001		
Sample Depth (Feet bgs)	0.0-1.0	3.0	0.0-1.0	0.0-1.0	1.8	0.0-1.0	0.0-1.0	2.5	0.0-1.0	0.0-1.0	2.0	0.0-1.0	0.0-1.0	0.0-1.0		
PCB Aroclors (µg/kg dry)																
Aroclor 1016	1.20 U	1.38 U	1.16 U	1.22 U	1.28 U	1.25 U	1.25 U	1.28 U	1.28 U	1.31 U	1.24 U	1.32 U	1.27 U	1.27 U	371	Eco
Aroclor 1221	5.16 U	5.91 U	4.98 U	5.24 U	5.49 U	5.37 U	5.34 U	5.47 U	5.49 U	5.61 U	5.33 U	5.67 U	5.42 U	5.44 U	371	Eco
Aroclor 1232	4.12 U	4.72 U	3.98 U	4.18 U	4.39 U	4.28 U	4.26 U	4.36 U	4.39 U	4.48 U	4.25 U	4.52 U	4.33 U	4.35 U	371	Eco
Aroclor 1242	2.20 U	2.52 U	2.13 U	2.24 U	2.34 U	2.29 U	2.28 U	2.33 U	2.22 U	2.39 U	2.27 U	2.42 U	2.31 U	2.32 U	371	Eco
Aroclor 1248	5.47 U	6.28 U	5.29 U	5.57 U	5.83 U	5.70 U	5.67 U	5.80 U	5.83 U	5.95 U	5.66 U	6.02 U	5.75 U	5.78 U	371	Eco
Aroclor 1254	1.71 U	1.96 U	1.65 U	1.74 U	1.82 U	1.78 U	1.77 U	1.81 U	1.82 U	1.86 U	1.76 U	1.88 U	1.80 U	1.80 U	371	Eco
Aroclor 1260	**23.5**	1.96 U	**42.2**	**43.2**	**2.64 J**	**98.8**	**121**	1.81 U	**65.8**	**21.7**	**4.42 J**	**26.8**	**282**	**96.2**	371	Eco
Total PCBs as Aroclors (NDs at MDL)[1]	**25.2 J**	3.92 U	**43.9 J**	**44.9 J**	**4.46 J**	**101 J**	**123 J**	3.62 U	**67.6 J**	**23.6 J**	**6.18 J**	**28.7 J**	**284 J**	**98.0 J**	371	Eco
Metals (mg/kg dry)																
Aluminum	**5,280 J**	**8,170 J**	**2,260 J**	**2,370 J**	**6,280 J**	**2,560 J**	**2,800 J**	**8,620 J**	**1,915 J**	**6,350 J**	**9,320 J**	**8,905 J**	**3,090 J**	**2,590 J**	31,400	UPL
Antimony	**1.75 J**	**1.15 J**	2.83 U	**1.74 J**	**1.10 J**	**2.56 J**	**1.52 J**	3.33 U	**2.14 J**	**1.86 J**	3.01 U	**5.74 J**	**2.42 J**	3.43 U	0.270	Eco
Arsenic	**3.03**	**7.58**	**2.08**	**4.69**	**7.73**	**9.57**	**2.37**	**7.64**	**9.73**	**5.83**	**9.29**	**12.0**	**8.15**	**2.87**	5.40	UPL
Barium	**60.3**	**69.8**	**34.0**	**27.7**	**50.4**	**45.5**	**29.3**	**72.0**	**40.1**	**55.1**	**60.2**	**86.2**	**54.1**	**35.7**	330	Eco
Beryllium	0.162 U	**0.295 J**	0.153 U	0.157 U	**0.248 J**	0.176 U	0.171 U	**0.380 J**	0.168 U	0.190 U	**0.369 J**	**0.241 J**	0.190 U	0.185 U	21.0	Eco
Cadmium	**0.824**	**1.16**	**1.19**	**0.750**	**0.646**	**1.82**	**1.04**	**0.853**	**1.27**	**1.55**	**0.801**	**1.76**	**2.53**	**1.07**	0.360	Eco
Calcium	**2,970**	**5,530**	**1,760**	**1,830**	**4,600**	**2,230**	**1,800**	**5,650**	**2,760**	**3,490**	**5,970**	**4,610**	**2,680**	**2,610**	10,400	UPL
Chromium	**43.2 J**	**27.1 J**	**25.6 J**	**171 J**	**38.2 J**	**560 J**	**70.1 J**	**19.0 J**	**518 J**	**104 J**	**14.8 J**	**205 J**	**749 J**	**123 J**	28.1	UPL
Cobalt	**7.28**	**13.5**	**4.63**	**7.46**	**10.8**	**12.1**	**5.20**	**14.1**	**11.7**	**10.8**	**15.1**	**14.2**	**13.8**	**6.95**	19.9	UPL
Copper	**24.6**	**42.7**	**37.9**	**25.8**	**31.1**	**116**	**26.9**	**37.9**	**96.4**	**52.4**	**42.6**	**68.3**	**68.4**	**29.6**	56.7	UPL
Iron	**15,900 J**	**22,700 J**	**15,500 J**	**17,200 J**	**19,100 J**	**46,500 J**	**15,500 J**	**22,900 J**	**34,400 J**	**24,400 J**	**23,700 J**	**30,950 J**	**30,000 J**	**15,800 J**	36,900	UPL
Lead	**1,080 J**	**767 J**	**612 J**	**193 J**	**75.4 J**	**462 J**	**627 J**	**30.2 J**	**273 J**	**639 J**	**17.5 J**	**547 J**	**358 J**	**346 J**	25.5	UPL
Magnesium	**3,240 J**	**5,670 J**	**1,630 J**	**6,880 J**	**5,620 J**	**15,300 J**	**2,770 J**	**6,860 J**	**15,800 J**	**7,250 J**	**7,540 J**	**9,860 J**	**23,000 J**	**5,110 J**	12,400	UPL
Manganese	**206 J**	**475 J**	**226 J**	**211 J**	**350 J**	**558 J**	**229 J**	**531 J**	**426 J**	**386 J**	**418 J**	**603 J**	**529 J**	**198 J**	885	UPL
Mercury	0.0230 U	**0.0518**	0.0277 U	0.0283 U	**0.0329 J**	**0.0666**	**0.105**	**0.0254 J**	**0.0440**	**0.105**	0.0297 U	**0.0672**	**0.0301 J**	0.0268 U	0.0660	UPL
Nickel	**22.1 J**	**20.7 J**	**15.9 J**	**74.4 J**	**21.0 J**	**269 J**	**33.9 J**	**18.0 J**	**262 J**	**44.7 J**	**16.6 J**	**96.7 J**	**247 J**	**60.2 J**	38.0	Eco
Potassium	**268 J**	**509**	**137 J**	**119 J**	**363 J**	**158 J**	**144 J**	**499**	**145 J**	**331 J**	**564**	**386 J**	**186 J**	**225 J**	2,050	UPL
Selenium	0.39 U	0.46 U	**0.384 J**	0.38 U	0.43 U	0.42 U	0.41 U	**0.501 J**	**0.403 J**	**0.675 J**	0.39 U	**0.649 J**	0.45 U	0.44 U	0.520	Eco
Silver	**0.138 J**	**0.156 J**	**0.0840 J**	**0.0837 J**	**0.105 J**	**0.101 J**	**0.0847 J**	**0.159 J**	**0.110 J**	**0.173 J**	**0.141 J**	**0.167 J**	**0.118 J**	**0.0880 J**	4.20	Eco
Sodium	**419**	174 U	137 U	141 U	**183 J**	158 U	154 U	**267**	151 U	171 U	**249**	164 U	171 U	166 U	341	UPL
Thallium	**0.0803 J**	**0.152 J**	0.045 U	**0.0477 J**	**0.103 J**	0.052 U	**0.0519 J**	**0.255 J**	0.049 U	**0.145 J**	**0.156 J**	**0.0872 J**	0.056 U	0.054 U	1.00	Eco
Vanadium	**38.7**	**49.8**	**17.0**	**23.4**	**36.8**	**28.8**	**24.8**	**46.0**	**24.0**	**46.4**	**49.5**	**48.3**	**29.7**	**30.4**	104	UPL
Zinc	**82.7**	**85.4**	**121**	**75.6**	**69.6**	**211**	**91.9**	**47.8**	**175**	**190**	**45.6**	**259**	**211**	**119**	71.7	UPL
Petroleum Hydrocarbons (mg/kg dry)																
Diesel Range Organics	**30.3**	**70.6**	**70.4**	**59.3**	14.6 U	**54.7**	**48.2**	14.2 U	**39.7**	**35.1**	14.9 U	**16.1 J**	**122**	**40.9**	23,000	HH
Residual Range Organics	**168**	**1,280**	**550**	**1,010**	**35.0 J**	**453**	**525**	**29.8 J**	**301**	**195**	29.7 U	**140**	**276**	**407**	40,000	HH
Gasoline Range Organics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13,000	HH
Butyltins (µg/kg dry)																
Dibutyltin	0.65 U	0.80 U	0.58 U	0.58 U	0.76 U	0.70 U	0.68 U	0.77 U	**44.8**	0.69 U	0.72 U	0.67 U	**63.5**	0.78 U	28,000	Eco
Monobutyltin	1.03 U	1.77 U	1.29 U	0.92 U	1.67 U	1.54 U	1.49 U	1.71 U	**10.5**	1.10 U	1.59 U	1.48 U	**8.91**	1.73 U	28,000	Eco
Tetrabutyltin	0.50 U	0.62 U	0.45 U	0.45 U	0.59 U	0.54 U	0.52 U	0.60 U	0.51 U	0.54 U	0.56 U	0.52 U	0.60 U	0.61 U	28,000	Eco
Tributyltin	1.43 U	1.28 U	0.93 U	1.27 U	1.21 U	1.11 U	1.49 U	1.23 U	**427**	1.53 U	1.15 U	1.15 U	**65.8**	1.25 U	28,000	Eco

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5a
2004 Sandblast Supplemental Site Inspection Soil and Sandblast Grit Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, and Pesticides
(Page 1 of 3)

Site ID	DP10	DP11*	DP12	DP5	DP6	DP7*	DP8	DP9	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	041118SGA10SS	041118SGA11SS	041118SGA13SS	041116SGA02SS	041117SGA04SS	041117SGA05SS	041117SGA08SS	041117SGA09SS				
Sample Date	11/17/2004	11/17/2004	11/17/2004	11/16/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004				
Sample Depth (Feet bgs)	9.0-12.0	7.5-9.5	6.5-9.5	21.0-23.0	15.0-17.0	14.0-16.5	13.0-15.0	14.0-17.0				
Medium	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
PCB Aroclors (µg/kg dry)												
Aroclor 1016	-	-	-	2.61 U	2.85 U	2.76 U	2.65 U	3.00 U	371	Eco	21,000	HH
Aroclor 1221	-	-	-	2.61 U	2.85 U	2.76 U	2.65 U	3.00 U	371	Eco	540	HH
Aroclor 1232	-	-	-	2.61 U	2.85 U	2.76 U	2.65 U	3.00 U	371	Eco	540	HH
Aroclor 1242	-	-	-	2.61 U	2.85 U	2.76 U	2.65 U	3.00 U	371	Eco	740	HH
Aroclor 1248	-	-	-	2.61 U	2.85 U	2.76 U	2.65 U	3.00 U	371	Eco	740	HH
Aroclor 1254	-	-	-	1.43 U	1.57 U	1.51 U	1.45 U	1.65 U	371	Eco	740	HH
Aroclor 1260	-	-	-	1.43 U	1.57 U	1.51 U	1.45 U	1.65 U	371	Eco	740	HH
Total PCBs as Aroclors (NDs at MDL) [1]	-	-	-	2.86 U	3.14 U	3.02 U	2.90 U	3.30 U	371	Eco	740	HH
Metals (mg/kg dry)												
Aluminum	**15,600**	**13,600**	**17,000**	**10,200**	**12,900**	**11,550**	**7,460**	**12,500**	31,400	UPL	990,000	HH
Antimony	**0.194 J**	**0.218 J**	**0.285**	**0.256**	**0.228 J**	**0.433 J**	**0.107 J**	**0.184 J**	0.270	Eco	410	HH
Arsenic	**2.66**	**3.68**	**4.20**	**7.28**	**6.75**	**9.83 J**	**1.32**	**4.83**	5.40	UPL	5.40	UPL
Barium	**41.8**	**101**	**108**	**77.7**	**97.3**	**91.5**	**48.8**	**89.0**	330	Eco	60,000	HH
Beryllium	**0.314**	**0.371**	**0.372**	**0.454**	**0.379**	**0.380**	**0.258**	**0.488**	21.0	Eco	610	HH
Cadmium	0.0135 U	0.0130 U	0.0140 U	0.0125 U	0.0150 U	0.0135 U	0.0121 U	0.0143 U	0.360	Eco	150	HH
Calcium	**6,150**	**3,930**	**4,410**	**5,700**	**7,420**	**7,155**	**3,860**	**7,410**	10,400	UPL	10,400	UPL
Chromium	**23.6**	**20.1**	**26.4**	**19.0 J**	**19.9**	**21.3 J**	**10.5**	**20.3**	28.1	UPL	190	HH
Cobalt	**18.7**	**14.6**	**15.7**	**13.5**	**13.5**	**15.5 J**	**11.4**	**14.6**	19.9	UPL	300	HH
Copper	**67.6**	**30.0**	**33.5**	**47.4**	**51.6**	**51.9**	**26.7**	**53.3 J**	56.7	UPL	12,000	HH
Iron	**30,200**	**22,200**	**26,500**	**23,700**	**25,300**	**23,800**	**17,000**	**27,000**	36,900	UPL	720,000	HH
Lead	**6.06**	**5.24**	**5.70**	**6.23**	**5.35**	**6.64**	**2.60**	**5.37**	25.5	UPL	800	HH
Magnesium	**13,600**	**5,125**	**7,540**	**5,770**	**8,010**	**7,130**	**5,280**	**8,660**	12,400	UPL	12,400	UPL
Manganese	**500**	**411**	**818**	**423**	**481**	**439**	**380**	**599**	885	UPL	7,200	HH
Mercury	**0.0301**	**0.0203 J**	**0.0534**	**0.0362**	**0.0201 J**	**0.0544**	**0.0215 J**	**0.0209 J**	0.0660	UPL	93.0	HH
Nickel	**24.4**	**15.4**	**29.0**	**17.4**	**19.5**	**21.7**	**12.7**	**22.4**	38.0	Eco	6,100	HH
Potassium	**377**	**705**	**546**	**544**	**773**	**634**	**550**	**670**	2,050	UPL	2,050	UPL
Selenium	**0.343**	**0.324**	**0.316**	**0.407**	**0.322**	**0.602 J**	**0.180 J**	**0.302**	0.520	Eco	5,100	HH
Silver	**0.103 J**	**0.144 J**	**0.122 J**	**0.136 J**	**0.149 J**	**0.158 J**	**0.114 J**	**0.109 J**	4.20	Eco	1,500	HH
Sodium	**119**	12.4 U	**114 J**	11.9 U	**96.9 J**	**141**	11.5 U	**187 J**	341	UPL	341	UPL
Thallium	**0.0940 J**	**0.135 J**	**0.216 J**	**0.130 J**	**0.157 J**	**0.180 J**	**0.0765 J**	**0.145 J**	1.00	Eco	0.203	UPL
Vanadium	**53.3**	**65.0**	**72.2**	**54.3**	**60.3**	**57.9 J**	**45.0**	**52.2**	104	UPL	104	UPL
Zinc	**53.9**	**44.9**	**50.6**	**46.3**	**54.1**	**53.3**	**35.1**	**54.1**	71.7	UPL	310,000	HH
Petroleum Hydrocarbons (mg/kg dry)												
Diesel Range Organics	5.69 U	5.57 U	5.56 U	5.31 U	5.44 U	5.50 U	5.14 U	5.89 U	23,000	HH	23,000	HH
Residual Range Organics	11.3 U	11.1 U	11.1 U	10.6 U	10.9 U	11.0 U	10.2 U	11.7 U	40,000	HH	40,000	HH
Gasoline Range Organics	0.136 U	4.72 U	4.85 U	4.63 U	4.83 U	4.73 U	4.32 U	4.79 U	13,000	HH	13,000	HH
Butyltins (µg/kg dry)												
Dibutyltin	-	-	-	**5.73**	**7.75 J**	**16.6 J**	**28.3 J**	**3.62 J**	28,000	Eco	180,000	HH
Monobutyltin	-	-	-	**11.1**	**6.28 J**	**7.43 J**	**13.0 J**	**8.89 J**	28,000	Eco	180,000	HH
Tetrabutyltin	-	-	-	0.846 U	0.913 U	0.877 U	0.843 U	0.930 U	28,000	Eco	180,000	HH
Tributyltin	-	-	-	1.04 U	1.12 U	1.08 U	**2.58 J**	1.14 U	28,000	Eco	180,000	HH
Pesticides (µg/kg dry)												
4,4'-DDD	-	-	-	0.222 U	0.241 U	0.222 U	0.217 U	0.250 U	21.0	Eco	11,000	HH
4,4'-DDE	-	-	-	0.218 U	0.236 U	0.218 U	0.213 U	0.245 U	21.0	Eco	7,700	HH
4,4'-DDT	-	-	-	0.256 U	0.278 U	0.256 U	0.250 U	0.288 U	21.0	Eco	7,700	HH
Aldrin	-	-	-	0.112 U	0.122 U	0.112 U	0.110 U	0.126 U	4.90	Eco	130	HH
BHC (alpha)	-	-	-	0.109 U	0.118 U	0.109 U	0.107 U	0.122 U	340	HH	340	HH
BHC (beta)	-	-	-	0.121 U	0.131 U	0.121 U	0.118 U	0.136 U	960	HH	960	HH
BHC (delta)	-	-	-	0.109 U	0.118 U	0.109 U	0.107 U	0.122 U	340	HH	340	HH
BHC (gamma) Lindane	-	-	-	0.131 U	0.142 U	0.131 U	0.128 U	0.147 U	2,000	HH	2,000	HH
Chlordane (alpha)	-	-	-	0.118 U	0.128 U	0.117 U	0.115 U	0.132 U	7,200	HH	7,200	HH
Chlordane (gamma)	-	-	-	0.132 U	0.143 U	0.132 U	0.129 U	0.148 U	7,200	HH	7,200	HH
Dieldrin	-	-	-	0.264 U	0.287 U	0.264 U	0.259 U	0.298 U	4.90	Eco	130	HH
Endosulfan I	-	-	-	0.122 U	0.132 U	0.122 U	0.119 U	0.137 U	20,000	Eco	1,400,000	HH
Endosulfan II	-	-	-	0.278 U	0.302 U	0.277 U	0.272 U	0.312 U	20,000	Eco	1,400,000	HH
Endosulfan Sulfate	-	-	-	0.520 U	0.565 U	0.520 U	0.509 U	0.585 U	20,000	Eco	1,400,000	HH
Endrin	-	-	-	0.136 U	0.148 U	0.136 U	0.133 U	0.153 U	4.90	Eco	71,000	HH
Endrin Aldehyde	-	-	-	0.631 U	0.686 U	0.631 U	0.618 U	0.710 U	4.90	Eco	71,000	HH
Endrin Ketone	-	-	-	0.122 U	0.132 U	0.122 U	0.119 U	0.137 U	4.90	Eco	71,000	HH
Heptachlor	-	-	-	0.109 U	0.118 U	0.109 U	0.107 U	0.122 U	480	HH	480	HH
Heptachlor Epoxide	-	-	-	0.149 U	0.162 U	0.149 U	0.146 U	0.168 U	240	HH	240	HH
Methoxychlor	-	-	-	0.157 U	0.170 U	0.157 U	0.153 U	0.176 U	500,000	Eco	3,100,000	HH
Toxaphene	-	-	-	10.9 U	11.8 U	10.9 U	10.7 U	12.2 U	2,000	HH	2,000	HH

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5a
2004 Sandblast Supplemental Site Inspection Soil and Sandblast Grit Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, and Pesticides
(Page 2 of 3)

Site ID	HA1*	HA10	HA11	HA11	HA12	HA2	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	041122SGA14SS	041123SGA29SS	041123SGA30SS	041123SGA31SS	041123SGA33SS	041122SGA16SS				
Sample Date	11/22/2004	11/23/2004	11/23/2004	11/23/2004	11/23/2004	11/22/2004				
Sample Depth (Feet bgs)	0.5	0.5	1.0	3.0	4.0	0.5				
Medium	Soil	Soil	Soil	Soil	Soil	Soil				
PCB Aroclors (µg/kg dry)										
Aroclor 1016	3.41 U	2.90 U	3.48 U	3.47 U	-	3.01 U	371	Eco	21,000	HH
Aroclor 1221	3.41 U	2.90 U	3.48 U	3.47 U	-	3.01 U	371	Eco	540	HH
Aroclor 1232	3.41 U	2.90 U	3.48 U	3.47 U	-	3.01 U	371	Eco	540	HH
Aroclor 1242	3.41 U	2.90 U	3.48 U	3.47 U	-	3.01 U	371	Eco	740	HH
Aroclor 1248	3.41 U	2.90 U	3.48 U	3.47 U	-	3.01 U	371	Eco	740	HH
Aroclor 1254	1.87 U	1.59 U	1.91 U	1.91 U	-	1.65 U	371	Eco	740	HH
Aroclor 1260	**8.54 J**	1.59 U	**6.40 J**	1.91 U	-	**4.11 J**	371	Eco	740	HH
Total PCBs as Aroclors (NDs at MDL) [1]	**10.4 J**	3.18 U	**8.31 J**	3.82 U	-	**5.76 J**	371	Eco	740	HH
Metals (mg/kg dry)										
Aluminum	**11,390**	**3,770**	**15,000**	**23,100**	**14,600**	**7,100**	31,400	UPL	990,000	HH
Antimony	**0.316**	**0.0895 J**	**0.893**	**0.245 J**	**1.70**	**0.164 J**	0.270	Eco	410	HH
Arsenic	**4.44**	**0.613**	**3.26**	**3.05**	**8.22**	**0.936**	5.40	UPL	5.40	UPL
Barium	**100**	**49.2**	**112**	**123**	**104**	**64.1**	330	Eco	60,000	HH
Beryllium	**0.304**	**0.131 J**	**0.349**	**0.385**	**0.378**	**0.260**	21.0	Eco	610	HH
Cadmium	0.0127 U	0.0127 U	0.0129 U	0.0148 U	0.0133 U	0.0123 U	0.360	Eco	150	HH
Calcium	**6,245**	**3,740**	**10,200**	**9,860**	**7,090**	**4,390**	10,400	UPL	10,400	UPL
Chromium	**19.3**	**5.27**	**221**	**29.8**	**55.4**	**6.19**	28.1	UPL	190	HH
Cobalt	**15.9**	**11.0**	**16.0**	**19.7**	**14.7**	**14.0**	19.9	UPL	300	HH
Copper	**47.6**	**16.7**	**64.0**	**66.4**	**77.6**	**21.3**	56.7	UPL	12,000	HH
Iron	**28,450**	**19,400**	**33,300**	**35,200**	**27,600**	**23,200**	36,900	UPL	720,000	HH
Lead	**128**	**9.71**	**49.1**	**8.61**	**21.5**	**46.3**	25.5	UPL	800	HH
Magnesium	**7,850**	**2,600**	**9,110**	**13,900**	**7,590**	**3,900**	12,400	UPL	12,400	UPL
Manganese	**554**	**301**	**611**	**816**	**582**	**459**	885	UPL	7,200	HH
Mercury	**0.0149 J**	**0.0268**	**0.0359**	**0.0131 J**	**0.0219**	0.00528 U	0.0660	UPL	93.0	HH
Nickel	**20.2**	**5.35**	**58.6**	**26.9**	**28.3**	**6.81**	38.0	Eco	6,100	HH
Potassium	**787**	**360**	**627**	**615**	**654**	**778**	2,050	UPL	2,050	UPL
Selenium	**0.272**	**0.255 J**	**0.284**	**0.330**	**0.277**	**0.289**	0.520	Eco	5,100	HH
Silver	**0.123**	**0.0870**	**0.107**	**0.154**	**0.170**	**0.120**	4.20	Eco	1,500	HH
Sodium	12.1 U	12.1 U	12.3 U	**278**	12.7 U	11.7 U	341	UPL	341	UPL
Thallium	**0.116 J**	**0.0463 J**	**0.135 J**	**0.110 J**	**0.102 J**	**0.101 J**	1.00	Eco	0.203	UPL
Vanadium	**58.9**	**52.7**	**69.6**	**89.1**	**68.7**	**61.9**	104	UPL	104	UPL
Zinc	**88.0**	**31.1**	**90.9**	**58.5**	**120**	**103**	71.7	UPL	310,000	HH
Petroleum Hydrocarbons (mg/kg dry)										
Diesel Range Organics	**24.7 J**	**7.30 J**	-	5.74 U	5.53 U	5.03 U	23,000	HH	23,000	HH
Residual Range Organics	**216**	**153**	-	11.4 U	11.0 U	10.0 U	40,000	HH	40,000	HH
Gasoline Range Organics	4.68 U	0.121 U	-	**132**	4.89 U	4.37 U	13,000	HH	13,000	HH
Butyltins (µg/kg dry)										
Dibutyltin	0.831 U	0.763 U	-	0.887 U	-	0.774 U	28,000	Eco	180,000	HH
Monobutyltin	**6.26 J**	**3.45 J**	-	0.632 U	-	**4.08 J**	28,000	Eco	180,000	HH
Tetrabutyltin	0.853 U	0.783 U	-	0.910 U	-	0.795 U	28,000	Eco	180,000	HH
Tributyltin	1.05 U	0.963 U	-	1.12 U	-	0.977 U	28,000	Eco	180,000	HH
Pesticides (µg/kg dry)										
4,4'-DDD	0.236 U	0.200 U	0.255 U	0.256 U	-	0.208 U	21.0	Eco	11,000	HH
4,4'-DDE	0.231 U	0.196 U	0.250 U	0.251 U	-	0.204 U	21.0	Eco	7,700	HH
4,4'-DDT	**5.27**	0.230 U	0.294 U	0.295 U	-	0.240 U	21.0	Eco	7,700	HH
Aldrin	0.119 U	0.101 U	0.129 U	0.129 U	-	0.105 U	4.90	Eco	130	HH
BHC (alpha)	0.116 U	0.0981 U	0.125 U	0.126 U	-	0.102 U	340	HH	340	HH
BHC (beta)	2.09 U	0.109 U	0.139 U	0.139 U	-	1.87 U	960	HH	960	HH
BHC (delta)	0.116 U	0.0981 U	0.125 U	0.126 U	-	0.102 U	340	HH	340	HH
BHC (gamma) Lindane	0.139 U	0.118 U	0.150 U	0.151 U	-	0.122 U	2,000	HH	2,000	HH
Chlordane (alpha)	0.125 U	0.106 U	0.135 U	0.136 U	-	0.110 U	7,200	HH	7,200	HH
Chlordane (gamma)	0.140 U	0.119 U	0.151 U	0.152 U	-	0.123 U	7,200	HH	7,200	HH
Dieldrin	0.281 U	0.238 U	0.304 U	0.305 U	-	0.248 U	4.90	Eco	130	HH
Endosulfan I	0.129 U	0.110 U	0.140 U	0.141 U	-	0.114 U	20,000	Eco	1,400,000	HH
Endosulfan II	0.295 U	0.250 U	0.319 U	0.320 U	-	0.260 U	20,000	Eco	1,400,000	HH
Endosulfan Sulfate	0.553 U	0.469 U	0.598 U	0.600 U	-	0.488 U	20,000	Eco	1,400,000	HH
Endrin	0.145 U	0.123 U	0.156 U	0.157 U	-	0.128 U	4.90	Eco	71,000	HH
Endrin Aldehyde	0.671 U	0.569 U	0.725 U	0.728 U	-	0.592 U	4.90	Eco	71,000	HH
Endrin Ketone	0.129 U	0.110 U	0.140 U	0.141 U	-	0.114 U	4.90	Eco	71,000	HH
Heptachlor	0.116 U	0.0981 U	0.125 U	0.126 U	-	0.102 U	480	HH	480	HH
Heptachlor Epoxide	0.158 U	0.134 U	0.171 U	**0.634 J**	-	0.140 U	240	HH	240	HH
Methoxychlor	0.166 U	0.141 U	0.180 U	0.181 U	-	0.147 U	500,000	Eco	3,100,000	HH
Toxaphene	11.6 U	9.81 U	12.5 U	12.6 U	-	10.2 U	2,000	HH	2,000	HH

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
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bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5a
2004 Sandblast Supplemental Site Inspection Soil and Sandblast Grit Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, and Pesticides
(Page 3 of 3)

Site ID	HA3	HA4	HA5	HA6	HA7*	HA8	HA9	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	041122SGA17SS	041122SGA21SS	041122SGA23SS	041122SGA24SG	041122SGA25SG	041122SGA27SG	041123SGA28SS				
Sample Date	11/22/2004	11/22/2004	11/22/2004	11/22/2004	11/22/2004	11/22/2004	11/23/2004				
Sample Depth (Feet bgs)	0.5	3.0	3.0	0.0	0.0	0.0	0.5				
Medium	Soil	Soil	Soil	Sandblast Grit	Sandblast Grit	Sandblast Grit	Soil				
PCB Aroclors (µg/kg dry)											
Aroclor 1016	3.23 U	-	-	-	-	-	3.15 U	371	Eco	21,000	HH
Aroclor 1221	3.23 U	-	-	-	-	-	3.15 U	371	Eco	540	HH
Aroclor 1232	3.23 U	-	-	-	-	-	3.15 U	371	Eco	540	HH
Aroclor 1242	3.23 U	-	-	-	-	-	3.15 U	371	Eco	740	HH
Aroclor 1248	3.23 U	-	-	-	-	-	3.15 U	371	Eco	740	HH
Aroclor 1254	1.77 U	-	-	-	-	-	1.73 U	371	Eco	740	HH
Aroclor 1260	**26.1**	-	-	-	-	-	**11.9**	371	Eco	740	HH
Total PCBs as Aroclors (NDs at MDL)[1]	**27.9 J**	-	-	-	-	-	**13.6 J**	371	Eco	740	HH
Metals (mg/kg dry)											
Aluminum	**3,010**	**15,300**	**12,400**	-	-	-	**8,730**	31,400	UPL	990,000	HH
Antimony	**1.11**	**0.495**	**0.319**	-	-	-	**0.441**	0.270	Eco	410	HH
Arsenic	**4.97**	**2.30**	**4.99**	-	-	-	**3.85**	5.40	UPL	5.40	UPL
Barium	**20.9**	**106**	**110**	-	-	-	**86.0**	330	Eco	60,000	HH
Beryllium	**0.0587 J**	**0.387**	**0.433**	-	-	-	**0.243 J**	21.0	Eco	610	HH
Cadmium	**0.0561 J**	0.0143 U	0.0153 U	-	-	-	0.0122 U	0.360	Eco	150	HH
Calcium	**1,980**	**7,030**	**6,040**	-	-	-	**4,960**	10,400	UPL	10,400	UPL
Chromium	**16.1**	**35.4**	**21.1**	**2,650**	**2,305**	**2,480**	**18.2**	28.1	UPL	190	HH
Cobalt	**4.60**	**14.2**	**11.7**	-	-	-	**11.6**	19.9	UPL	300	HH
Copper	**27.4**	**63.6**	**40.2**	-	-	-	**31.0**	56.7	UPL	12,000	HH
Iron	**22,200 J**	**26,700**	**24,700**	-	-	-	**22,700**	36,900	UPL	720,000	HH
Lead	**3,260**	**19.2**	**9.39**	**117**	**68.4**	**66.6**	**354**	25.5	UPL	800	HH
Magnesium	**1,350**	**8,760**	**6,610**	-	-	-	**6,000**	12,400	UPL	12,400	UPL
Manganese	**167**	**366**	**317**	-	-	-	**345**	885	UPL	7,200	HH
Mercury	**0.0114 J**	**0.0804**	**0.0349**	-	-	-	**0.0163 J**	0.0660	UPL	93.0	HH
Nickel	**10.9**	**50.7**	**17.3**	-	-	-	**20.4**	38.0	Eco	6,100	HH
Potassium	**273**	**576**	**1,200**	-	-	-	**433**	2,050	UPL	2,050	UPL
Selenium	0.0781 U	**0.299**	**0.209 J**	-	-	-	**0.175 J**	0.520	Eco	5,100	HH
Silver	**0.0571**	**0.110**	**0.147**	-	-	-	**0.110**	4.20	Eco	1,500	HH
Sodium	12.3 U	**371**	14.6 U	-	-	-	11.7 U	341	UPL	341	UPL
Thallium	**0.0288 J**	**0.164 J**	**0.125 J**	-	-	-	**0.0922 J**	1.00	Eco	0.203	UPL
Vanadium	**28.7**	**71.0**	**59.4**	-	-	-	**55.1**	104	UPL	104	UPL
Zinc	**72.1**	**56.0**	**59.0**	-	-	-	**86.7**	71.7	UPL	310,000	HH
Petroleum Hydrocarbons (mg/kg dry)											
Diesel Range Organics	**1,090 J**	**1,280**	**6.44 J**	-	-	-	5.02 U	23,000	HH	23,000	HH
Residual Range Organics	**1,980 J**	**189**	12.1 U	-	-	-	10.0 U	40,000	HH	40,000	HH
Gasoline Range Organics	4.55 U	**3,960 J**	5.00 U	-	-	-	4.42 U	13,000	HH	13,000	HH
Butyltins (µg/kg dry)											
Dibutyltin	**3.53 J**	-	-	0.710 U	0.813 U	0.805 U	**3.93**	28,000	Eco	180,000	HH
Monobutyltin	**4.90 J**	-	-	0.506 U	0.579 U	0.573 U	0.570 U	28,000	Eco	180,000	HH
Tetrabutyltin	0.842 U	-	-	0.729 U	0.835 U	0.826 U	0.821 U	28,000	Eco	180,000	HH
Tributyltin	**1.65 J**	-	-	0.896 U	**2.53 J**	1.02 U	1.01 U	28,000	Eco	180,000	HH
Pesticides (µg/kg dry)											
4,4'-DDD	0.223 U	-	-	-	-	-	0.220 U	21.0	Eco	11,000	HH
4,4'-DDE	**0.835 J**	-	-	-	-	-	**1.70 J**	21.0	Eco	7,700	HH
4,4'-DDT	**9.83**	-	-	-	-	-	**3.39**	21.0	Eco	7,700	HH
Aldrin	0.113 U	-	-	-	-	-	0.111 U	4.90	Eco	130	HH
BHC (alpha)	0.109 U	-	-	-	-	-	0.108 U	340	HH	340	HH
BHC (beta)	3.78 U	-	-	-	-	-	**0.952 J**	960	HH	960	HH
BHC (delta)	**3.03 J**	-	-	-	-	-	0.108 U	340	HH	340	HH
BHC (gamma) Lindane	**9.68 J**	-	-	-	-	-	0.129 U	2,000	HH	2,000	HH
Chlordane (alpha)	0.118 U	-	-	-	-	-	0.116 U	7,200	HH	7,200	HH
Chlordane (gamma)	0.132 U	-	-	-	-	-	0.130 U	7,200	HH	7,200	HH
Dieldrin	0.266 U	-	-	-	-	-	0.262 U	4.90	Eco	130	HH
Endosulfan I	0.123 U	-	-	-	-	-	0.121 U	20,000	Eco	1,400,000	HH
Endosulfan II	**1.99 J**	-	-	-	-	-	0.275 U	20,000	Eco	1,400,000	HH
Endosulfan Sulfate	0.523 U	-	-	-	-	-	0.515 U	20,000	Eco	1,400,000	HH
Endrin	0.137 U	-	-	-	-	-	0.135 U	4.90	Eco	71,000	HH
Endrin Aldehyde	0.635 U	-	-	-	-	-	0.625 U	4.90	Eco	71,000	HH
Endrin Ketone	0.123 U	-	-	-	-	-	0.121 U	4.90	Eco	71,000	HH
Heptachlor	0.109 U	-	-	-	-	-	0.108 U	480	HH	480	HH
Heptachlor Epoxide	0.150 U	-	-	-	-	-	0.148 U	240	HH	240	HH
Methoxychlor	0.158 U	-	-	-	-	-	0.155 U	500,000	Eco	3,100,000	HH
Toxaphene	10.9 U	-	-	-	-	-	10.8 U	2,000	HH	2,000	HH

Notes:
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Table 5-5b
2004 Sandblast Supplemental Site Inspection Soil Analytical Results
Volatile Organic Compounds
(Page 1 of 3)

Site ID	DP10	DP11*	DP12	DP5	DP6	DP7*	DP8	DP9	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	041118SGA10SS	041118SGA11SS	041118SGA13SS	041116SGA02SS	041117SGA04SS	041117SGA05SS	041117SGA08SS	041117SGA09SS				
Sample Date	11/17/2004	11/17/2004	11/17/2004	11/16/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004				
Sample Depth (Feet bgs)	9.0-12.0	7.5-9.5	6.5-9.5	21.0-23.0	15.0-17.0	14.0-16.5	13.0-15.0	14.0-17.0				
Medium	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Volatile Organic Compounds (µg/kg dry)												
1,1,1,2-Tetrachloroethane	0.0444 U	0.0600 U	0.0607 U	0.0907 U	0.136 U	0.130 U	0.124 U	0.0979 U	9,300	HH	9,300	HH
1,1,1-Trichloroethane (TCA)	0.0651 U	0.0881 U	**0.0969 J**	0.133 U	0.199 U	0.191 U	0.181 U	0.144 U	38,000,000	HH	38,000,000	HH
1,1,2,2-Tetrachloroethane	0.0639 U	0.0864 U	0.0875 U	0.131 U	0.195 U	0.187 U	0.178 U	0.141 U	2,800	HH	2,800	HH
1,1,2-Trichloroethane	0.0901 U	0.122 U	0.123 U	0.184 U	0.275 U	0.264 U	0.251 U	0.199 U	2,700	HH	2,700	HH
1,1-Dichloroethane	0.0573 U	0.0775 U	0.0784 U	0.117 U	0.175 U	0.168 U	0.160 U	0.126 U	5,900	HH	5,900	HH
1,1-Dichloroethene	0.442 U	0.599 U	0.606 U	0.904 U	1.35 U	1.30 U	1.23 U	0.976 U	680,000	HH	680,000	HH
1,1-Dichloropropene	0.906 U	1.23 U	1.24 U	1.85 U	2.77 U	2.66 U	2.53 U	2.00 U	8,100	HH	8,100	HH
1,2,3-Trichlorobenzene	0.108 U	0.146 U	0.148 U	0.221 U	0.330 U	0.317 U	0.301 U	0.238 U	20,000	Eco	490,000	HH
1,2,3-Trichloropropane	0.0758 U	0.103 U	0.104 U	0.155 U	0.232 U	0.222 U	0.211 U	0.167 U	95.0	HH	95.0	HH
1,2,4-Trichlorobenzene	0.110 U	0.149 U	0.151 UJ	0.225 U	0.337 U	0.323 U	0.307 U	0.243 U	20,000	Eco	99,000	HH
1,2,4-Trimethylbenzene	0.0479 U	0.0648 U	0.0655 U	0.0978 U	0.146 U	0.140 U	0.133 U	0.106 U	200,000	Eco	980,000	HH
1,2-Dibromo-3-chloropropane	0.135 U	0.183 U	0.185 U	0.276 U	0.413 U	0.396 U	0.376 U	0.298 U	69.0	HH	69.0	HH
1,2-Dibromoethane (EDB)	0.0576 U	0.0780 U	0.0789 U	0.118 U	0.176 U	0.169 U	0.161 U	0.127 U	140	HH	140	HH
1,2-Dichlorobenzene	0.0576 U	0.0780 U	0.0789 U	0.118 U	0.176 U	0.169 U	0.161 U	0.127 U	2,260	Eco	19,000,000	HH
1,2-Dichloroethane (EDC)	0.0879 U	0.119 U	0.120 U	0.180 U	0.269 U	0.258 U	0.245 U	0.194 U	590	HH	590	HH
1,2-Dichloropropane	0.0429 U	0.0580 U	0.0587 U	0.0876 U	0.131 U	0.126 U	0.120 U	0.0946 U	4,500	HH	4,500	HH
1,3,5-Trimethylbenzene	0.0432 U	0.0585 U	0.0592 U	0.0883 U	0.132 U	0.127 U	0.120 U	0.0954 U	150,000	HH	150,000	HH
1,3-Dichlorobenzene	0.0391 U	0.0530 U	0.0536 U	0.0800 U	0.120 U	0.115 U	0.109 U	0.0864 U	2,260	Eco	17,000	HH
1,3-Dichloropropane	0.0608 U	0.0823 U	0.0833 U	0.124 U	0.186 U	0.178 U	0.169 U	0.134 U	20,000,000	HH	20,000,000	HH
1,4-Dichlorobenzene	0.0552 U	0.0748 U	0.0756 UJ	0.113 U	0.169 U	0.162 U	0.154 U	0.122 UJ	17,000	HH	17,000	HH
2,2-Dichloropropane	0.0765 U	0.103 U	0.105 U	0.156 U	0.234 U	0.224 U	0.213 U	0.169 U	4,500	HH	4,500	HH
2-Butanone (MEK)	2.08 U	2.81 U	2.84 U	4.24 U	6.34 U	6.09 U	5.79 U	4.58 U	200,000,000	HH	200,000,000	HH
2-Chlorotoluene	0.0491 U	0.0665 U	0.0673 U	0.100 U	0.150 U	0.144 U	0.137 U	0.108 U	20,000,000	HH	20,000,000	HH
2-Hexanone	1.24 U	1.67 U	1.69 U	2.53 U	3.78 U	3.63 U	3.45 U	2.73 U	1,250,000	Eco	1,400,000	HH
4-Chlorotoluene	0.0939 U	0.127 U	0.129 U	0.192 U	0.287 U	0.276 U	0.262 U	0.207 U	72,000,000	HH	72,000,000	HH
4-Isopropyltoluene	0.0634 U	0.0858 U	0.0868 U	0.130 U	0.194 U	0.186 U	0.177 U	0.140 U	200,000	Eco	24,000,000	HH
4-Methyl-2-pentanone (MIBK)	0.719 U	0.973 U	0.985 U	1.47 U	2.20 U	2.11 U	2.00 U	1.59 U	1,250,000	Eco	53,000,000	HH
Acetone	2.93 U	15.4 U	7.77 U	31.2 U	8.94 U	28.1 U	35.8 U	6.46 U	1,250,000	Eco	630,000,000	HH
Benzene	1.13 U	**0.506 J**	1.55 U	2.32 U	**0.631 J**	3.33 U	3.16 U	2.50 U	1,200	HH	1,200	HH
Bromobenzene	0.0450 U	0.0610 U	0.0617 U	0.0920 U	0.138 U	0.132 U	0.126 U	0.0994 U	1,800,000	HH	1,800,000	HH
Bromochloromethane	0.0520 U	0.0703 U	0.0711 U	0.106 U	0.159 U	0.152 U	0.145 U	0.115 U	1,900	HH	1,900	HH
Bromodichloromethane	0.0701 U	0.0949 U	0.0960 U	0.143 U	0.214 U	0.206 U	0.195 U	0.155 U	1,900	HH	1,900	HH
Bromoform	0.0702 U	0.0950 U	0.0961 U	0.144 U	0.215 U	0.206 U	0.196 U	0.155 U	360,000	HH	360,000	HH
Bromomethane	0.398 UJ	0.539 UJ	0.545 UJ	0.814 UJ	1.22 UJ	1.17 UJ	1.11 UJ	0.879 UJ	17,000	HH	17,000	HH
Carbon Disulfide	0.313 U	0.424 U	0.429 U	**1.04 J**	0.957 U	0.978 U	3.16 U	0.691 U	1,000,000	Eco	3,700,000	HH
Carbon Tetrachloride	0.0955 U	0.129 U	0.131 U	0.195 U	0.292 U	**0.528 J**	0.266 U	0.211 U	630	HH	630	HH
Chlorobenzene	0.0504 U	0.0682 U	0.0690 U	0.103 U	0.154 U	0.148 U	0.140 U	0.111 U	40,000	Eco	4,300,000	HH
Chloroethane	0.650 U	0.880 U	0.890 U	1.33 U	1.99 U	1.91 U	1.81 U	1.43 U	61,000,000	HH	61,000,000	HH
Chloroform	0.0603 U	0.0817 U	0.0826 U	0.123 U	0.184 U	0.177 U	0.168 U	0.133 U	410	HH	410	HH
Chloromethane	0.397 U	0.537 U	0.544 U	0.811 U	1.21 U	1.17 U	1.11 U	0.876 U	300,000	HH	300,000	HH
cis-1,2-Dichloroethene	0.102 U	**58.5**	**4.95**	0.209 U	**0.410 J**	0.300 U	**1.54 J**	**0.628 J**	2,500,000	Eco	3,100,000	HH
cis-1,3-Dichloropropene	0.0414 U	0.0560 U	0.0567 U	0.0846 U	0.127 U	0.122 U	0.115 U	0.0914 U	8,100	HH	8,100	HH
Dibromochloromethane	0.0732 U	0.0990 U	0.100 U	0.150 U	0.224 U	0.215 U	0.204 U	0.161 U	34,000	HH	34,000	HH
Dibromomethane	0.0735 U	0.0995 U	0.101 U	0.150 U	0.225 U	0.216 U	0.205 U	0.162 U	110,000	HH	110,000	HH
Dichlorodifluoromethane	**0.0630 J**	**0.0850 J**	0.0635 U	**0.162 J**	0.142 U	**0.467 J**	0.129 U	**0.132 J**	730,000	Eco	780,000	HH
Dichloromethane (Methylene Chloride)	0.186 U	0.252 U	0.255 U	**1.14 J**	0.569 U	**13.8**	0.519 U	2.50 U	20,000	HH	20,000	HH
Ethylbenzene	1.13 U	1.54 U	0.0384 U	2.32 U	3.47 U	3.33 U	3.16 U	2.50 U	2,260	Eco	12,000	HH
Hexachlorobutadiene	0.0665 U	0.0900 U	0.0910 U	0.136 U	0.203 U	0.195 U	0.185 U	0.147 U	22,000	HH	22,000	HH
Isopropylbenzene	0.0423 U	0.0573 U	0.0579 U	0.0865 U	0.129 U	0.124 U	0.118 U	0.0934 U	2,260	Eco	24,000,000	HH
m,p-Xylenes	2.27 U	0.129 U	3.11 U	4.64 U	6.93 U	0.281 U	6.32 U	5.01 U	120,000	Eco	2,700,000	HH
Naphthalene	0.467 U	0.633 U	0.640 U	0.955 U	1.43 U	1.37 U	1.30 U	1.03 U	23,000	HH	23,000	HH
n-Butylbenzene	0.105 U	0.142 U	0.144 U	0.215 U	0.321 U	0.308 U	0.293 U	0.232 U	-	-	-	-
n-Propylbenzene	0.0532 U	0.0720 U	0.0728 U	0.109 U	0.163 U	0.156 U	0.148 U	0.117 U	2,260	Eco	21,000,000	HH
o-Xylene	1.13 U	0.0515 U	1.55 U	2.32 U	**0.184 J**	3.33 U	3.16 U	2.50 U	1,000	Eco	19,000,000	HH
sec-Butylbenzene	0.0442 U	0.0599 U	0.0606 U	0.0904 U	0.135 U	0.130 U	0.123 U	0.0976 U	2,260	Eco	-	-
Styrene	0.0272 U	0.0368 U	0.0373 U	2.32 U	0.0832 U	0.0799 U	0.0759 U	0.0601 U	300,000	Eco	51,000,000	HH
tert-Butylbenzene	0.0273 U	0.0370 U	0.0374 U	0.0559 U	0.0836 U	0.0802 U	0.0762 U	0.0603 U	2,260	Eco	-	-
Tetrachloroethene (PCE)	**0.235 J**	**54.0**	**14.4**	0.234 U	0.350 U	0.336 U	**0.437 J**	0.253 U	1,600	HH	1,600	HH
Toluene	1.13 U	1.54 U	1.55 U	2.32 U	**5.20**	3.33 U	3.16 U	2.50 U	200,000	Eco	24,000,000	HH
trans-1,2-Dichloroethene	0.284 U	0.384 U	0.388 U	0.580 U	0.867 U	0.832 U	0.790 U	0.626 U	200,000	HH	200,000	HH
trans-1,3-Dichloropropene	0.0514 U	0.0696 U	0.0704 U	0.105 U	0.157 U	0.151 U	0.143 U	0.113 U	8,100	HH	8,100	HH
Trichloroethene (TCE)	**0.374 J**	**24.5**	**4.06**	**0.0809 J**	**0.298 J**	**0.150 J**	**0.108 J**	**0.230 J**	130	HH	130	HH
Trichlorofluoromethane	0.397 U	0.537 U	0.544 U	0.811 U	1.21 U	1.17 U	1.11 U	0.876 U	730,000	Eco	63,000,000	HH
Vinyl Acetate	1.15 U	1.55 U	1.57 U	2.34 U	3.50 U	3.36 U	3.19 U	2.53 U	4,100,000	HH	4,100,000	HH
Vinyl Chloride	0.211 U	0.286 U	0.289 U	0.431 U	0.645 U	0.619 U	0.588 U	0.466 U	2,200	HH	2,200	HH

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5b
2004 Sandblast Supplemental Site Inspection Soil Analytical Results
Volatile Organic Compounds
(Page 2 of 3)

Site ID	HA1*	HA10	HA11	HA11	HA12	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	041122SGA14SS	041123SGA29SS	041123SGA30SS	041123SGA31SS	041123SGA33SS				
Sample Date	11/22/2004	11/23/2004	11/23/2004	11/23/2004	11/23/2004				
Sample Depth (Feet bgs)	0.5	0.5	1.0	3.0	4.0				
Medium	Soil	Soil	Soil	Soil	Soil				
Volatile Organic Compounds (µg/kg dry)									
1,1,1,2-Tetrachloroethane	0.0575 U	0.0536 U	0.0656 U	0.0934 U	0.0473 U	9,300	HH	9,300	HH
1,1,1-Trichloroethane (TCA)	0.0844 U	0.0787 U	0.0963 U	0.137 U	0.0694 U	38,000,000	HH	38,000,000	HH
1,1,2,2-Tetrachloroethane	0.0828 U	0.0771 U	0.0944 U	0.135 U	0.0680 U	2,800	HH	2,800	HH
1,1,2-Trichloroethane	0.117 U	0.109 U	0.133 U	0.190 U	0.0960 U	2,700	HH	2,700	HH
1,1-Dichloroethane	0.0743 U	0.0692 U	0.0847 U	0.121 U	0.0610 U	5,900	HH	5,900	HH
1,1-Dichloroethene	0.574 U	0.534 U	0.654 U	0.932 U	0.471 U	680,000	HH	680,000	HH
1,1-Dichloropropene	1.18 U	1.09 U	1.34 U	1.91 U	0.966 U	8,100	HH	8,100	HH
1,2,3-Trichlorobenzene	0.140 U	0.130 U	0.160 U	0.227 U	0.115 U	20,000	Eco	490,000	HH
1,2,3-Trichloropropane	0.0983 U	0.0915 U	0.112 U	0.160 U	0.0807 U	95.0	HH	95.0	HH
1,2,4-Trichlorobenzene	0.143 U	0.133 U	0.163 U	0.232 U	0.117 U	20,000	Eco	99,000	HH
1,2,4-Trimethylbenzene	**0.523 J**	0.0578 U	**0.252 J**	0.101 U	0.0510 U	200,000	Eco	980,000	HH
1,2-Dibromo-3-chloropropane	0.175 UJ	0.163 UJ	0.200 UJ	0.284 UJ	0.144 UJ	69.0	HH	69.0	HH
1,2-Dibromoethane (EDB)	0.0747 U	0.0696 U	0.0852 U	0.121 U	0.0614 U	140	HH	140	HH
1,2-Dichlorobenzene	0.0747 U	0.0696 U	0.0852 U	0.121 U	0.0614 U	2,260	Eco	19,000,000	HH
1,2-Dichloroethane (EDC)	0.114 U	0.106 U	0.130 U	0.185 U	0.0937 U	590	HH	590	HH
1,2-Dichloropropane	0.0556 U	0.0518 U	0.0634 U	0.0903 U	0.0457 U	4,500	HH	4,500	HH
1,3,5-Trimethylbenzene	**0.0929 J**	0.0522 U	0.0639 U	0.0910 U	0.0460 U	150,000	HH	150,000	HH
1,3-Dichlorobenzene	0.0507 U	0.0473 U	0.0579 U	0.0824 U	0.0417 U	2,260	Eco	17,000	HH
1,3-Dichloropropane	0.0788 U	0.0734 U	0.0899 U	0.128 U	0.0648 U	20,000,000	HH	20,000,000	HH
1,4-Dichlorobenzene	0.0716 U	0.0667 U	0.0817 U	0.116 U	0.0589 U	17,000	HH	17,000	HH
2,2-Dichloropropane	0.0991 U	0.0924 U	0.113 U	0.161 U	0.0815 U	4,500	HH	4,500	HH
2-Butanone (MEK)	17.8 U	10.7 U	19.3 U	29.2 U	10.6 U	200,000,000	HH	200,000,000	HH
2-Chlorotoluene	0.0637 U	0.0593 U	0.0726 U	0.103 U	0.0523 U	20,000,000	HH	20,000,000	HH
2-Hexanone	1.60 U	1.49 U	1.83 U	2.60 U	1.32 U	1,250,000	Eco	1,400,000	HH
4-Chlorotoluene	0.122 U	0.113 U	0.139 U	0.198 U	0.100 U	72,000,000	HH	72,000,000	HH
4-Isopropyltoluene	**0.0833 J**	0.0766 U	**0.152 J**	**1.11 J**	0.0676 U	200,000	Eco	24,000,000	HH
4-Methyl-2-pentanone (MIBK)	0.933 U	0.869 U	1.06 U	1.52 U	0.766 U	1,250,000	Eco	53,000,000	HH
Acetone	95.4 U	144 U	329 U	292 U	76.6 U	1,250,000	Eco	630,000,000	HH
Benzene	1.47 U	1.37 U	**0.474 J**	**0.514 J**	**0.396 J**	1,200	HH	1,200	HH
Bromobenzene	0.0584 U	0.0544 U	0.0666 U	0.0949 U	0.0480 U	1,800,000	HH	1,800,000	HH
Bromochloromethane	0.0674 U	0.0628 U	0.0768 U	0.109 U	0.0554 U	1,900	HH	1,900	HH
Bromodichloromethane	0.0909 U	0.0847 U	0.104 U	0.148 U	0.0747 U	1,900	HH	1,900	HH
Bromoform	0.0911 UJ	0.0848 UJ	0.104 UJ	0.148 UJ	0.0748 UJ	360,000	HH	360,000	HH
Bromomethane	0.516 U	0.481 U	0.589 U	0.839 U	1.21 U	17,000	HH	17,000	HH
Carbon Disulfide	0.406 U	0.378 U	**0.549 J**	0.660 U	0.334 U	1,000,000	Eco	3,700,000	HH
Carbon Tetrachloride	0.124 U	0.115 U	0.141 U	0.201 U	0.102 U	630	HH	630	HH
Chlorobenzene	0.0653 U	0.0608 U	0.0745 U	0.106 U	0.0537 U	40,000	Eco	4,300,000	HH
Chloroethane	0.843 U	0.785 U	0.961 U	1.37 U	0.693 U	61,000,000	HH	61,000,000	HH
Chloroform	0.0783 U	0.0729 U	0.0892 U	0.127 U	0.0643 U	410	HH	410	HH
Chloromethane	0.515 U	0.480 U	0.587 U	0.836 U	0.423 U	300,000	HH	300,000	HH
cis-1,2-Dichloroethene	0.132 U	0.123 U	0.151 U	0.215 U	0.109 U	2,500,000	Eco	3,100,000	HH
cis-1,3-Dichloropropene	0.0537 U	0.0500 U	0.0612 U	0.0872 U	0.0441 U	8,100	HH	8,100	HH
Dibromochloromethane	0.0949 U	0.0884 U	0.108 U	0.154 U	0.0780 U	34,000	HH	34,000	HH
Dibromomethane	0.0953 U	0.0888 U	0.109 U	0.155 U	0.0783 U	110,000	HH	110,000	HH
Dichlorodifluoromethane	0.0602 U	0.0560 U	0.0686 U	0.0977 U	0.0494 U	730,000	Eco	780,000	HH
Dichloromethane (Methylene Chloride)	1.47 U	4.35 U	5.38 U	9.54 U	2.14 U	20,000	HH	20,000	HH
Ethylbenzene	1.47 U	1.37 U	1.68 U	2.39 U	1.21 U	2,260	Eco	12,000	HH
Hexachlorobutadiene	0.0862 U	0.0803 U	0.0983 U	0.140 U	0.0708 U	22,000	HH	22,000	HH
Isopropylbenzene	0.0549 U	0.0511 U	0.0626 U	0.0891 U	0.0451 U	2,260	Eco	24,000,000	HH
m,p-Xylenes	2.94 U	2.74 U	3.35 U	4.78 U	2.42 U	120,000	Eco	2,700,000	HH
Naphthalene	0.606 U	0.565 U	0.691 U	0.985 U	0.498 U	23,000	HH	23,000	HH
n-Butylbenzene	0.136 U	0.127 U	0.155 U	0.221 U	0.112 U	-	-	-	-
n-Propylbenzene	0.0690 U	0.0643 U	0.0787 U	0.112 U	0.0567 U	2,260	Eco	21,000,000	HH
o-Xylene	1.47 U	0.0411 U	1.68 U	2.39 U	1.21 U	1,000	Eco	19,000,000	HH
sec-Butylbenzene	0.0574 U	0.0534 U	0.0654 U	0.0932 U	0.0471 U	2,260	Eco	-	-
Styrene	1.47 U	1.37 U	0.0403 U	2.39 U	1.21 U	300,000	Eco	51,000,000	HH
tert-Butylbenzene	0.0355 U	0.0330 U	0.0404 U	0.0576 U	0.0291 U	2,260	Eco	-	-
Tetrachloroethene (PCE)	**0.162 J**	0.138 U	0.169 U	0.241 U	**0.950 J**	1,600	HH	1,600	HH
Toluene	1.47 U	1.37 U	**0.786 J**	**1.33 J**	1.21 U	200,000	Eco	24,000,000	HH
trans-1,2-Dichloroethene	0.368 U	0.343 U	0.419 U	0.597 U	0.302 U	200,000	HH	200,000	HH
trans-1,3-Dichloropropene	0.0666 U	0.0621 U	0.0760 U	0.108 U	0.0547 U	8,100	HH	8,100	HH
Trichloroethene (TCE)	**0.171 J**	0.0440 U	0.0538 U	0.0767 U	**0.0450 J**	130	HH	130	HH
Trichlorofluoromethane	0.515 U	0.480 U	0.587 U	0.836 U	0.423 U	730,000	Eco	63,000,000	HH
Vinyl Acetate	1.49 U	1.38 U	1.69 U	2.41 U	1.22 U	4,100,000	HH	4,100,000	HH
Vinyl Chloride	0.274 U	0.255 U	0.312 U	0.444 U	0.225 U	2,200	HH	2,200	HH

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5b
2004 Sandblast Supplemental Site Inspection Soil Analytical Results
Volatile Organic Compounds
(Page 3 of 3)

Site ID	HA2	HA3	HA4	HA5	HA9	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	041122SGA16SS	041122SGA17SS	041122SGA21SS	041122SGA23SS	041123SGA28SS				
Sample Date	11/22/2004	11/22/2004	11/22/2004	11/22/2004	11/23/2004				
Sample Depth (Feet bgs)	0.5	0.5	3.0	3.0	0.5				
Medium	Soil	Soil	Soil	Soil	Soil				
Volatile Organic Compounds (µg/kg dry)									
1,1,1,2-Tetrachloroethane	0.0443 U	0.0610 U	0.0553 U	0.0957 U	0.0553 U	9,300	HH	9,300	HH
1,1,1-Trichloroethane (TCA)	0.0650 U	0.0896 U	0.0812 U	0.140 U	0.0812 U	38,000,000	HH	38,000,000	HH
1,1,2,2-Tetrachloroethane	0.0638 U	0.0879 U	0.0797 U	0.138 U	0.0796 U	2,800	HH	2,800	HH
1,1,2-Trichloroethane	0.0899 U	0.124 U	0.112 U	0.194 U	0.112 U	2,700	HH	2,700	HH
1,1-Dichloroethane	0.0572 U	0.0788 U	0.0715 U	0.124 U	0.0714 U	5,900	HH	5,900	HH
1,1-Dichloroethene	0.442 U	0.609 U	0.552 U	0.954 U	0.551 U	680,000	HH	680,000	HH
1,1-Dichloropropene	0.905 U	1.25 U	1.13 U	1.95 U	1.13 U	8,100	HH	8,100	HH
1,2,3-Trichlorobenzene	0.108 U	0.149 U	0.135 U	0.233 U	0.135 U	20,000	Eco	490,000	HH
1,2,3-Trichloropropane	0.0756 U	0.104 U	0.0946 U	0.163 U	0.0945 U	95.0	HH	95.0	HH
1,2,4-Trichlorobenzene	0.110 U	0.152 U	0.137 U	0.238 U	0.137 U	20,000	Eco	99,000	HH
1,2,4-Trimethylbenzene	0.0478 U	0.0658 U	**14,300**	**3.96**	**0.215 J**	200,000	Eco	980,000	HH
1,2-Dibromo-3-chloropropane	0.135 UJ	0.186 UJ	0.168 UJ	0.291 UJ	0.168 UJ	69.0	HH	69.0	HH
1,2-Dibromoethane (EDB)	0.0575 U	0.0793 U	0.0719 U	0.124 U	0.0718 U	140	HH	140	HH
1,2-Dichlorobenzene	0.0575 U	0.0793 U	0.0719 U	0.124 U	0.0718 U	2,260	Eco	19,000,000	HH
1,2-Dichloroethane (EDC)	0.0878 U	0.121 U	0.110 U	0.190 U	0.110 U	590	HH	590	HH
1,2-Dichloropropane	0.0428 U	0.0590 U	0.0535 U	0.0925 U	0.0535 U	4,500	HH	4,500	HH
1,3,5-Trimethylbenzene	**0.0435 J**	**0.125 J**	**219**	**1.83 J**	0.0539 U	150,000	HH	150,000	HH
1,3-Dichlorobenzene	0.0391 U	0.0538 U	0.0488 U	0.0844 U	0.0488 U	2,260	Eco	17,000	HH
1,3-Dichloropropane	0.0607 U	0.0836 U	0.0759 U	0.131 U	0.0758 U	20,000,000	HH	20,000,000	HH
1,4-Dichlorobenzene	0.0551 U	0.0760 U	0.0689 U	0.119 U	0.0689 U	17,000	HH	17,000	HH
2,2-Dichloropropane	0.0763 U	0.105 U	0.0954 U	0.165 U	0.0953 U	4,500	HH	4,500	HH
2-Butanone (MEK)	14.4 U	19.8 U	2.59 U	4.48 U	8.89 U	200,000,000	HH	200,000,000	HH
2-Chlorotoluene	0.0490 U	0.0676 U	0.0613 U	0.106 U	0.0612 U	20,000,000	HH	20,000,000	HH
2-Hexanone	1.23 U	1.70 U	1.54 U	2.67 U	1.54 U	1,250,000	Eco	1,400,000	HH
4-Chlorotoluene	0.0938 U	0.129 U	0.117 U	0.203 U	0.117 U	72,000,000	HH	72,000,000	HH
4-Isopropyltoluene	**2.63**	**0.196 J**	**161**	**0.912 J**	**0.253 J**	200,000	Eco	24,000,000	HH
4-Methyl-2-pentanone (MIBK)	0.718 U	0.989 U	0.897 U	1.55 U	0.896 U	1,250,000	Eco	53,000,000	HH
Acetone	173 U	389 U	146 U	65.5 U	89.1 U	1,250,000	Eco	630,000,000	HH
Benzene	1.13 U	1.56 U	1.42 U	**0.600 J**	1.41 U	1,200	HH	1,200	HH
Bromobenzene	0.0450 U	0.0619 U	0.0562 U	0.0971 U	0.0561 U	1,800,000	HH	1,800,000	HH
Bromochloromethane	0.0519 U	0.0715 U	0.0648 U	0.112 U	0.0648 U	1,900	HH	1,900	HH
Bromodichloromethane	0.0700 U	0.0964 U	0.0875 U	0.151 U	0.0874 U	1,900	HH	1,900	HH
Bromoform	0.0701 UJ	0.0966 UJ	0.0876 UJ	0.151 UJ	0.0875 UJ	360,000	HH	360,000	HH
Bromomethane	0.397 U	0.548 U	1.42 U	0.859 U	0.496 U	17,000	HH	17,000	HH
Carbon Disulfide	0.313 U	0.431 U	1.42 U	0.675 U	0.390 U	1,000,000	Eco	3,700,000	HH
Carbon Tetrachloride	0.0953 U	0.131 U	0.119 U	0.206 U	0.119 U	630	HH	630	HH
Chlorobenzene	0.0503 U	0.0693 U	0.0628 U	0.109 U	0.0628 U	40,000	Eco	4,300,000	HH
Chloroethane	0.649 U	0.894 U	0.811 U	1.40 U	0.810 U	61,000,000	HH	61,000,000	HH
Chloroform	0.0602 U	0.0830 U	0.0753 U	0.130 U	0.0752 U	410	HH	410	HH
Chloromethane	0.396 U	0.546 U	0.495 U	0.856 U	0.495 U	300,000	HH	300,000	HH
cis-1,2-Dichloroethene	0.102 U	0.140 U	**120**	0.220 U	0.127 U	2,500,000	Eco	3,100,000	HH
cis-1,3-Dichloropropene	0.0413 U	0.0570 U	0.0517 U	0.0893 U	0.0516 U	8,100	HH	8,100	HH
Dibromochloromethane	0.0730 U	0.101 U	0.0913 U	0.158 U	0.0912 U	34,000	HH	34,000	HH
Dibromomethane	0.0734 U	0.101 U	0.0917 U	0.159 U	0.0916 U	110,000	HH	110,000	HH
Dichlorodifluoromethane	0.0463 U	0.0638 U	0.0579 U	0.100 U	0.0578 U	730,000	Eco	780,000	HH
Dichloromethane (Methylene Chloride)	2.27 U	2.46 U	6.37 U	5.63 U	2.43 U	20,000	HH	20,000	HH
Ethylbenzene	1.13 U	1.56 U	**37.4**	2.45 U	1.41 U	2,260	Eco	12,000	HH
Hexachlorobutadiene	0.0664 U	0.0914 U	0.0829 U	0.143 U	0.0829 U	22,000	HH	22,000	HH
Isopropylbenzene	0.0422 U	0.0582 U	**47.3**	0.0913 U	0.0527 U	2,260	Eco	24,000,000	HH
m,p-Xylenes	2.26 U	3.12 U	**40.0**	4.89 U	2.83 U	120,000	Eco	2,700,000	HH
Naphthalene	0.467 U	0.643 U	**19.5**	**2.04 J**	0.583 U	23,000	HH	23,000	HH
n-Butylbenzene	0.105 U	0.144 U	0.131 U	0.227 U	0.131 U	-	-	-	-
n-Propylbenzene	0.0531 U	0.0732 U	**122**	**0.409 J**	0.0663 U	2,260	Eco	21,000,000	HH
o-Xylene	1.13 U	1.56 U	**57.1**	**0.197 J**	1.41 U	1,000	Eco	19,000,000	HH
sec-Butylbenzene	0.0442 U	0.0609 U	**90.2**	**0.435 J**	0.0551 U	2,260	Eco	-	-
Styrene	1.13 U	1.56 U	0.0340 U	2.45 U	1.41 U	300,000	Eco	51,000,000	HH
tert-Butylbenzene	0.0273 U	0.0376 U	0.0341 U	0.0590 U	0.0341 U	2,260	Eco	-	-
Tetrachloroethene (PCE)	0.114 U	0.158 U	**9,410**	**5.84**	0.143 U	1,600	HH	1,600	HH
Toluene	1.13 U	1.56 U	**4.78**	2.45 U	1.41 U	200,000	Eco	24,000,000	HH
trans-1,2-Dichloroethene	0.283 U	0.390 U	**2.28**	0.612 U	0.354 U	200,000	HH	200,000	HH
trans-1,3-Dichloropropene	0.0513 U	0.0707 U	0.0641 U	0.111 U	0.0641 U	8,100	HH	8,100	HH
Trichloroethene (TCE)	**0.0667 J**	**0.0655 J**	**6,080**	**1.35 J**	**0.0614 J**	130	HH	130	HH
Trichlorofluoromethane	0.396 U	0.546 U	0.495 U	0.856 U	0.495 U	730,000	Eco	63,000,000	HH
Vinyl Acetate	1.14 U	1.58 U	1.43 U	2.47 U	1.43 U	4,100,000	HH	4,100,000	HH
Vinyl Chloride	0.211 U	0.290 U	0.263 U	0.455 U	0.263 U	2,200	HH	2,200	HH

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
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bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5c
2004 Sandblast Supplemental Site Inspection Soil Analytical Results
Semivolatile Organic Compounds
(Page 1 of 3)

Site ID	DP10	DP11*	DP12	DP5	DP6	DP7*	DP8	DP9	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**	**Selected SLV (>3 ft bgs)**	**SLV Source (>3 ft bgs)**
Sample ID	041118SGA10SS	041118SGA11SS	041118SGA13SS	041116SGA02SS	041117SGA04SS	041117SGA05SS	041117SGA08SS	041117SGA09SS				
Sample Date	11/17/2004	11/17/2004	11/17/2004	11/16/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004				
Sample Depth (Feet bgs)	9.0-12.0	7.5-9.5	6.5-9.5	21.0-23.0	15.0-17.0	14.0-16.5	13.0-15.0	14.0-17.0				
Medium	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Semivolatile Organic Compounds (µg/kg dry)												
1,2,4-Trichlorobenzene	1.04 U	1.02 U	1.03 UJ	0.998 U	1.00 U	0.981 U	0.935 U	1.01 U	20,000	Eco	99,000	HH
1,2-Dichlorobenzene	0.836 U	0.815 U	0.824 U	0.798 U	0.802 U	0.785 U	0.748 U	0.811 U	2,260	Eco	19,000,000	HH
1,3-Dichlorobenzene	1.05 U	1.02 U	1.03 U	1.00 U	1.01 U	0.985 U	0.939 U	1.02 U	2,260	Eco	17,000	HH
1,4-Dichlorobenzene	1.03 U	1.01 U	1.02 UJ	0.988 U	0.993 U	0.972 U	0.927 U	1.00 UJ	17,000	HH	17,000	HH
2,4,5-Trichlorophenol	0.955 U	0.931 U	0.941 U	0.912 U	0.917 U	0.897 U	0.855 U	0.927 U	4,000	Eco	62,000,000	HH
2,4,6-Trichlorophenol	0.973 U	0.949 U	0.959 U	0.930 U	0.934 U	0.914 U	0.872 U	0.945 U	10,000	Eco	200,000	HH
2,4-Dichlorophenol	1.09 U	1.06 U	1.08 U	1.04 U	1.05 U	1.03 U	0.977 U	1.06 U	20,000	Eco	1,800,000	HH
2,4-Dimethylphenol	0.941 UJ	0.918 UJ	0.928 UJ	0.899 UJ	0.904 UJ	0.884 UJ	0.843 UJ	0.914 UJ	20,000	Eco	12,000,000	HH
2,4-Dinitrophenol	8.60 U	8.39 U	8.48 U	8.22 U	8.26 U	8.08 U	7.70 U	8.35 U	20,000	Eco	1,200,000	HH
2,4-Dinitrotoluene	2.09 U	2.04 U	2.06 UJ	2.00 U	2.01 U	1.97 U	1.87 U	2.03 U	5,500	HH	5,500	HH
2,6-Dinitrotoluene	1.32 U	1.28 U	1.30 U	1.26 U	1.26 U	1.24 U	1.18 U	1.28 U	240,000	HH	240,000	HH
2-Chloronaphthalene	0.831 U	0.810 U	0.819 U	0.793 U	0.797 U	0.780 U	0.744 U	0.806 U	82,000,000	HH	82,000,000	HH
2-Chlorophenol	0.828 U	0.808 U	0.816 U	0.791 U	0.795 U	0.778 U	0.742 U	0.804 U	60,000	Eco	5,100,000	HH
2-Methylphenol	1.16 U	1.13 U	1.15 U	1.11 U	1.12 U	1.09 U	1.04 U	1.13 U	50,000	Eco	31,000,000	HH
2-Nitroaniline	0.668 U	0.652 U	0.659 U	0.638 U	0.641 U	0.628 U	0.598 U	0.649 U	6,000,000	HH	6,000,000	HH
2-Nitrophenol	1.40 U	1.37 U	1.38 U	1.34 U	1.35 U	1.32 U	1.26 U	1.36 U	180,000,000	HH	180,000,000	HH
3,3'-Dichlorobenzidine	5.34 U	5.21 U	5.26 U	5.10 U	5.13 U	5.02 U	4.78 U	5.18 U	4,800	HH	4,800	HH
3-Nitroaniline	3.61 U	3.52 U	3.55 U	3.44 U	3.46 U	3.39 U	3.23 U	3.50 U	70,000	Eco	6,000,000	HH
4,6-Dinitro-2-methylphenol	2.22 U	2.16 U	2.18 U	2.12 U	2.13 U	2.08 U	1.98 U	2.15 U	49,000	HH	49,000	HH
4-Bromophenyl Phenyl Ether	2.26 U	2.21 U	2.23 U	2.16 U	2.17 U	2.13 U	2.03 U	2.20 U	-	-	-	-
4-Chloro-3-methylphenol	1.10 U	1.07 U	1.08 U	1.05 U	1.05 U	1.03 U	0.984 U	1.07 U	62,000,000	HH	62,000,000	HH
4-Chloroaniline	1.14 U	1.12 U	1.13 U	1.09 U	1.10 U	1.08 U	1.02 U	1.11 U	8,600	HH	8,600	HH
4-Chlorophenyl Phenyl Ether	2.65 U	2.58 U	2.61 U	2.53 U	2.54 U	2.49 U	2.37 U	2.57 U	-	-	-	-
4-Nitroaniline	5.05 UJ	4.92 UJ	4.97 UJ	4.82 UJ	4.84 UJ	4.74 UJ	4.52 UJ	4.90 UJ	40,000	Eco	86,000	HH
4-Nitrophenol	10.1 U	9.83 U	9.93 U	9.63 U	9.67 U	9.47 U	9.02 U	9.78 U	7,000	Eco	180,000,000	HH
Aniline	2.3 U	2.2 U	2.2 U	2.2 U	2.2 U	2.1 U	2.0 U	2.2 U	200,000	Eco	300,000	HH
Benzidine	3.47 U	3.38 U	3.42 U	3.31 U	3.33 U	3.26 U	3.11 U	3.37 U	55,000	HH	55,000	HH
Benzoic Acid	19.7 U	19.2 U	19.4 U	18.8 U	18.9 U	18.5 U	17.6 U	19.1 U	200,000	Eco	2,500,000,000	HH
Benzyl Alcohol	2.45 U	2.39 U	2.41 U	2.34 U	2.35 U	2.30 U	2.19 U	2.38 U	2,260	Eco	62,000,000	HH
Bis(2-chloroethoxy)methane	2.36 U	2.30 U	2.33 U	2.26 U	2.27 U	2.22 U	2.12 U	2.29 U	730,000	Eco	1,800,000	HH
Bis(2-chloroethyl) Ether	1.93 U	1.88 U	1.90 U	1.85 U	1.85 U	1.81 U	1.73 U	1.88 U	1,000	HH	1,000	HH
Bis(2-chloroisopropyl) Ether	9.83 U	9.59 U	9.69 U	9.39 U	9.44 U	9.24 U	8.80 U	9.54 U	1,000	HH	1,000	HH
Bis(2-ethylhexyl) Phthalate	**32.1**	**75.0 J**	**6.67 J**	**11.2 J**	**10.9 J**	**147**	**266**	**44.1**	4,500	Eco	150,000	HH
Butyl Benzyl Phthalate	2.63 U	2.57 U	2.60 U	2.52 U	2.53 U	2.47 U	2.36 U	2.56 U	450	Eco	910,000	HH
Carbazole	2.45 U	2.39 U	2.41 U	2.34 U	2.35 U	2.30 U	2.19 U	2.38 U	2,260	Eco	1,000,000	HH
Dibenzofuran	0.569 U	0.555 U	0.560 U	0.543 U	0.546 U	0.534 U	0.509 U	0.552 U	2.00	Eco	1,000,000	HH
Diethyl Phthalate	4.44 U	4.33 U	4.38 U	4.24 U	4.26 U	4.17 U	3.98 U	4.31 U	100,000	Eco	490,000,000	HH
Dimethyl Phthalate	2.41 U	2.35 U	2.38 U	2.30 U	2.32 U	2.27 U	2.16 U	2.34 U	150,000	HH	150,000	HH
Di-n-butyl Phthalate	12.3 U	2.18 U	2.21 U	2.14 U	11.8 U	11.6 U	11.0 U	11.9 U	450	Eco	62,000,000	HH
Di-n-octyl Phthalate	2.26 U	2.21 U	2.23 U	2.16 U	**7.06 J**	**4.40 J**	2.03 U	2.20 U	450	Eco	150,000	HH
Hexachlorobenzene	0.651 U	0.635 U	0.642 U	0.622 U	0.625 U	0.612 U	0.583 U	0.632 U	1,800	HH	1,800	HH
Hexachlorobutadiene	0.900 U	0.877 U	0.887 U	0.859 U	0.864 U	0.845 U	0.805 U	0.873 U	22,000	HH	22,000	HH
Hexachlorocyclopentadiene	0.976 U	0.952 U	0.962 U	0.932 U	0.937 U	0.917 U	0.874 U	0.947 U	10,000	Eco	3,700,000	HH
Hexachloroethane	2.08 U	2.03 U	2.05 U	1.99 U	2.00 U	1.95 U	1.86 U	2.02 U	150,000	HH	150,000	HH
Isophorone	0.620 U	0.605 U	0.611 U	0.592 U	0.595 U	0.583 U	0.555 U	0.602 U	1,800,000	HH	1,800,000	HH
Nitrobenzene	3.70 U	3.61 U	3.65 U	3.54 U	3.56 U	3.48 U	3.32 U	3.60 U	8,000	Eco	24,000	HH
N-Nitrosodimethylamine	3.75 U	3.66 U	3.70 U	3.58 U	3.60 U	3.53 U	3.36 U	3.64 U	34.0	HH	34.0	HH
N-Nitrosodi-n-propylamine	1.65 U	1.61 U	1.63 U	1.58 U	1.58 U	1.55 U	1.48 U	1.60 U	250	HH	250	HH
N-Nitrosodiphenylamine	0.704 U	0.687 U	0.694 U	0.672 U	0.676 U	0.661 U	0.630 U	0.683 U	20,000	Eco	350,000	HH
p-cresol (4-Methylphenol)	1.45 U	1.42 U	1.43 U	1.39 U	1.39 U	1.36 U	1.30 U	1.41 U	-	-	-	-
Pentachlorophenol	2.39 UJ	2.33 UJ	2.35 UJ	2.28 UJ	2.29 UJ	2.24 UJ	2.14 UJ	2.32 UJ	2,100	Eco	13,000	HH
Phenol	0.890 U	0.868 U	0.877 U	0.850 U	0.854 U	0.836 U	0.797 U	0.864 U	30,000	Eco	180,000,000	HH
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)												
2-Methylnaphthalene	0.640 U	0.624 U	0.631 U	0.611 U	**7.98 J**	0.601 U	0.573 U	0.621 U	4,100,000	HH	4,100,000	HH
Acenaphthene	0.631 U	0.616 U	0.622 U	0.603 U	0.606 U	0.593 U	0.565 U	0.613 U	19,000,000	HH	19,000,000	HH
Acenaphthylene	0.725 U	0.707 U	0.714 U	0.692 U	0.696 U	0.681 U	0.649 U	0.704 U	23,000	HH	23,000	HH
Anthracene	0.468 U	0.456 U	0.461 U	0.447 U	0.449 U	0.439 U	0.419 U	0.454 U	93,000,000	HH	93,000,000	HH
Fluorene	0.795 U	0.775 U	0.784 U	0.759 U	0.763 U	0.747 U	0.712 U	0.772 U	12,000,000	HH	12,000,000	HH
Naphthalene	1.09 U	1.06 U	1.07 U	1.04 U	**4.24**	1.02 U	0.976 U	1.06 U	23,000	HH	23,000	HH
Phenanthrene	0.731 U	0.713 U	0.720 U	0.698 U	0.702 U	0.687 U	**1.82 J**	0.710 U	93,000,000	HH	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	NC	NC	NC	NC	NC	NC	NC	NC	29,000	Eco	-	-
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)												
Benzo(a)anthracene	1.24 U	1.21 U	1.23 U	1.19 U	1.19 U	1.17 U	1.11 U	1.21 U	2,700	HH	2,700	HH
Benzo(a)pyrene	0.779 U	0.760 U	0.768 U	0.744 U	0.748 U	**1.32 J**	0.697 U	0.756 U	270	HH	270	HH
Benzo(g,h,i)perylene	0.592 U	0.577 U	0.583 U	0.565 U	0.568 U	0.556 U	0.530 U	0.575 U	27,000	HH	27,000	HH
Benzofluoranthenes, Total	1.11 U	1.09 U	1.10 U	1.06 U	1.07 U	**2.72 J**	**2.97 J**	1.08 U	2,700	HH	2,700	HH
Chrysene	0.880 U	0.858 U	0.867 U	0.840 U	0.845 U	0.827 U	0.788 U	0.854 U	270,000	HH	270,000	HH
Dibenz(a,h)anthracene	0.764 U	0.745 U	0.753 U	0.730 U	0.734 U	0.718 U	0.684 U	0.742 U	270	HH	270	HH
Fluoranthene	1.24 U	1.21 U	1.23 U	1.19 U	1.19 U	**3.53**	**3.90**	1.21 U	8,900,000	HH	8,900,000	HH
Indeno(1,2,3-cd)pyrene	0.561 U	0.547 U	0.553 U	0.536 U	0.539 U	0.527 U	**0.511 J**	0.545 U	2,700	HH	2,700	HH
Pyrene	0.418 U	0.408 U	0.412 U	0.400 U	**3.71**	**3.31**	**2.60**	0.406 U	6,700,000	HH	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	NC	NC	NC	NC	NC	NC	NC	NC	1,100	Eco	-	-

Notes:
µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5c
2004 Sandblast Supplemental Site Inspection Soil Analytical Results
Semivolatile Organic Compounds
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Site ID	HA1*	HA10	HA11	HA11	HA12	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)	Selected SLV (>3 ft bgs)	SLV Source (>3 ft bgs)
Sample ID	041122SGA14SS	041123SGA29SS	041123SGA30SS	041123SGA31SS	041123SGA33SS				
Sample Date	11/22/2004	11/23/2004	11/23/2004	11/23/2004	11/23/2004				
Sample Depth (Feet bgs)	0.5	0.5	1.0	3.0	4.0				
Medium	Soil	Soil	Soil	Soil	Soil				
Semivolatile Organic Compounds (µg/kg dry)									
1,2,4-Trichlorobenzene	0.987 U	0.880 U	1.05 U	1.07 U	1.01 U	20,000	Eco	99,000	HH
1,2-Dichlorobenzene	0.790 U	0.703 U	0.837 U	0.857 U	0.808 U	2,260	Eco	19,000,000	HH
1,3-Dichlorobenzene	0.991 U	0.883 U	1.05 U	1.08 U	1.01 U	2,260	Eco	17,000	HH
1,4-Dichlorobenzene	0.978 U	0.871 U	1.04 U	1.06 U	1.00 U	17,000	HH	17,000	HH
2,4,5-Trichlorophenol	0.902 U	0.804 U	0.956 U	0.980 U	0.923 U	4,000	Eco	62,000,000	HH
2,4,6-Trichlorophenol	0.920 U	0.819 U	0.975 U	0.999 U	0.941 U	10,000	Eco	200,000	HH
2,4-Dichlorophenol	1.03 U	0.919 U	1.09 U	1.12 U	1.06 U	20,000	Eco	1,800,000	HH
2,4-Dimethylphenol	0.890 UJ	0.793 UJ	0.943 UJ	0.966 UJ	0.910 UJ	20,000	Eco	12,000,000	HH
2,4-Dinitrophenol	8.13 U	7.24 U	8.61 U	8.82 U	8.32 U	20,000	Eco	1,200,000	HH
2,4-Dinitrotoluene	1.98 U	1.76 U	2.09 U	2.15 U	2.02 U	5,500	HH	5,500	HH
2,6-Dinitrotoluene	1.24 U	1.11 U	1.32 U	1.35 U	1.27 U	240,000	HH	240,000	HH
2-Chloronaphthalene	0.785 U	0.699 U	0.832 U	0.852 U	0.803 U	82,000,000	HH	82,000,000	HH
2-Chlorophenol	0.783 U	0.697 U	0.829 U	0.850 U	0.801 U	60,000	Eco	5,100,000	HH
2-Methylphenol	1.10 U	0.978 U	1.16 U	1.19 U	1.12 U	50,000	Eco	31,000,000	HH
2-Nitroaniline	0.631 U	0.563 U	0.669 U	0.685 U	0.646 U	6,000,000	HH	6,000,000	HH
2-Nitrophenol	1.33 U	1.18 U	1.40 U	1.44 U	1.36 U	180,000,000	HH	180,000,000	HH
3,3'-Dichlorobenzidine	5.05 U	4.50 U	5.35 U	5.48 U	5.16 U	4,800	HH	4,800	HH
3-Nitroaniline	3.41 U	3.04 U	3.61 U	3.70 U	3.49 U	70,000	Eco	6,000,000	HH
4,6-Dinitro-2-methylphenol	2.09 U	1.86 U	2.22 U	2.27 U	2.14 U	49,000	HH	49,000	HH
4-Bromophenyl Phenyl Ether	2.14 U	1.91 U	2.27 U	2.32 U	2.19 U	-	-	-	-
4-Chloro-3-methylphenol	1.04 U	0.925 U	1.10 U	1.13 U	1.06 U	62,000,000	HH	62,000,000	HH
4-Chloroaniline	1.08 U	0.963 U	1.15 U	1.17 U	1.11 U	8,600	HH	8,600	HH
4-Chlorophenyl Phenyl Ether	2.50 U	2.23 U	2.65 U	2.71 U	2.56 U	-	-	-	-
4-Nitroaniline	4.77 U	4.25 U	5.05 U	5.18 U	4.88 U	40,000	Eco	86,000	HH
4-Nitrophenol	9.52 U	8.48 U	10.1 U	10.3 U	9.74 U	7,000	Eco	180,000,000	HH
Aniline	2.14 U	1.91 U	2.27 U	2.32 U	2.19 U	200,000	Eco	300,000	HH
Benzidine	3.28 U	2.92 U	3.48 U	3.56 U	3.35 U	55,000	HH	55,000	HH
Benzoic Acid	**108 J**	16.6 U	**27.3 J**	20.2 U	19.0 U	200,000	Eco	2,500,000,000	HH
Benzyl Alcohol	2.31 U	2.06 U	2.45 U	2.51 U	2.37 U	2,260	Eco	62,000,000	HH
Bis(2-chloroethoxy)methane	2.23 UJ	1.99 UJ	2.37 UJ	2.42 UJ	2.28 UJ	730,000	Eco	1,800,000	HH
Bis(2-chloroethyl) Ether	1.83 U	1.63 U	1.93 U	1.98 U	1.87 U	1,000	HH	1,000	HH
Bis(2-chloroisopropyl) Ether	9.29 U	8.28 U	9.85 U	10.1 U	9.50 U	1,000	HH	1,000	HH
Bis(2-ethylhexyl) Phthalate	**1,035**	1.90 U	**332**	2.31 U	**542**	4,500	Eco	150,000	HH
Butyl Benzyl Phthalate	**39.7 J**	2.22 U	2.64 U	2.70 U	2.55 U	450	Eco	910,000	HH
Carbazole	**19.4**	2.06 U	**9.49 J**	2.51 U	2.37 U	2,260	Eco	1,000,000	HH
Dibenzofuran	**2.48 J**	0.479 U	0.569 U	0.583 U	0.550 U	2.00	Eco	1,000,000	HH
Diethyl Phthalate	4.20 U	3.74 U	4.45 U	4.56 U	4.29 U	100,000	Eco	490,000,000	HH
Dimethyl Phthalate	2.28 U	2.03 U	2.42 U	2.47 U	2.33 U	150,000	HH	150,000	HH
Di-n-butyl Phthalate	2.16 UJ	1.89 UJ	2.24 UJ	13.1 UJ	19.0 UJ	450	Eco	62,000,000	HH
Di-n-octyl Phthalate	**127**	1.91 U	**61.6**	2.32 U	**88.1**	450	Eco	150,000	HH
Hexachlorobenzene	0.615 U	0.548 U	0.652 U	0.668 U	0.629 U	1,800	HH	1,800	HH
Hexachlorobutadiene	0.850 U	0.757 U	0.901 U	0.923 U	0.870 U	22,000	HH	22,000	HH
Hexachlorocyclopentadiene	0.922 U	0.822 U	0.977 U	1.00 U	0.943 U	10,000	Eco	3,700,000	HH
Hexachloroethane	1.97 U	1.75 U	2.08 U	2.13 U	2.01 U	150,000	HH	150,000	HH
Isophorone	0.586 U	0.522 U	0.621 U	0.636 U	0.600 U	1,800,000	HH	1,800,000	HH
Nitrobenzene	3.50 U	3.12 U	3.71 U	3.80 U	3.58 U	8,000	Eco	24,000	HH
N-Nitrosodimethylamine	3.55 U	3.16 U	3.76 U	3.85 U	3.63 U	34.0	HH	34.0	HH
N-Nitrosodi-n-propylamine	1.56 U	1.39 U	1.65 U	1.69 U	1.59 U	250	HH	250	HH
N-Nitrosodiphenylamine	0.665 U	0.593 U	0.705 U	0.722 U	0.680 U	20,000	Eco	350,000	HH
p-cresol (4-Methylphenol)	1.37 U	1.22 U	1.45 U	1.49 U	1.40 U	-	-	-	-
Pentachlorophenol	2.26 U	2.01 U	2.39 U	2.45 U	2.31 U	2,100	Eco	13,000	HH
Phenol	0.841 U	0.749 U	0.891 U	0.913 U	0.860 U	30,000	Eco	180,000,000	HH
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)									
2-Methylnaphthalene	**4.84 J**	0.539 U	0.641 U	0.656 U	**2.64 J**	4,100,000	HH	4,100,000	HH
Acenaphthene	**10.9**	0.531 U	**5.88**	0.648 U	**8.09**	19,000,000	HH	19,000,000	HH
Acenaphthylene	**4.33**	0.610 U	0.726 U	0.744 U	0.701 U	23,000	HH	23,000	HH
Anthracene	**14.7**	0.394 U	**8.55**	0.480 U	**6.41**	93,000,000	HH	93,000,000	HH
Fluorene	**8.53**	0.669 U	**7.13**	0.816 U	0.768 U	12,000,000	HH	12,000,000	HH
Naphthalene	**4.11**	0.918 U	**2.50**	1.12 U	1.05 U	23,000	HH	23,000	HH
Phenanthrene	**116 J**	**7.86**	**24.8**	0.750 U	**18.3**	93,000,000	HH	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**158 J**	**11.0 J**	**49.6 J**	4.56 U	NC	29,000	Eco	-	-
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)									
Benzo(a)anthracene	**183 J**	1.05 U	**48.3 J**	1.28 U	**26.5 J**	2,700	HH	2,700	HH
Benzo(a)pyrene	**160**	0.656 U	**40.4**	0.799 U	**28.9**	270	HH	270	HH
Benzo(g,h,i)perylene	**94.6 J**	0.498 U	**29.8 J**	0.607 U	**18.9 J**	27,000	HH	27,000	HH
Benzofluoranthenes, Total	**290**	0.939 U	**73.4**	1.14 U	**39.0**	2,700	HH	2,700	HH
Chrysene	**225**	0.741 U	**85.8**	0.903 U	**32.7**	270,000	HH	270,000	HH
Dibenz(a,h)anthracene	**34.2 J**	0.643 U	**1.23 J**	0.784 U	0.739 U	270	HH	270	HH
Fluoranthene	**218**	1.05 U	**52.7**	1.28 U	**41.6**	8,900,000	HH	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**83.6 J**	0.472 U	**26.5 J**	0.576 U	**15.3 J**	2,700	HH	2,700	HH
Pyrene	**367 J**	0.352 U	**51.6**	0.429 U	**44.8**	6,700,000	HH	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**1,364 J**	5.46 U	**336 J**	6.66 U	NC	1,100	Eco	-	-

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5c
2004 Sandblast Supplemental Site Inspection Soil Analytical Results
Semivolatile Organic Compounds
(Page 3 of 3)

Site ID	HA2	HA3	HA4	HA5	HA9	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)	Selected SLV (>3 ft bgs)	SLV Source (>3 ft bgs)
Sample ID	041122SGA16SS	041122SGA17SS	041122SGA21SS	041122SGA23SS	041123SGA28SS				
Sample Date	11/22/2004	11/22/2004	11/22/2004	11/22/2004	11/23/2004				
Sample Depth (Feet bgs)	0.5	0.5	3.0	3.0	0.5				
Medium	Soil	Soil	Soil	Soil	Soil				
Semivolatile Organic Compounds (µg/kg dry)									
1,2,4-Trichlorobenzene	0.895 U	9.57 U	1.07 U	1.06 U	0.939 U	20,000	Eco	99,000	HH
1,2-Dichlorobenzene	0.716 U	7.65 U	0.859 U	0.850 U	0.751 U	2,260	Eco	19,000,000	HH
1,3-Dichlorobenzene	0.898 U	9.60 U	1.08 U	1.07 U	0.942 U	2,260	Eco	17,000	HH
1,4-Dichlorobenzene	0.887 U	9.48 U	1.06 U	1.05 U	0.930 U	17,000	HH	17,000	HH
2,4,5-Trichlorophenol	0.818 U	8.75 U	0.981 U	0.971 U	0.858 U	4,000	Eco	62,000,000	HH
2,4,6-Trichlorophenol	0.834 U	8.92 U	1.00 U	0.990 U	0.875 U	10,000	Eco	200,000	HH
2,4-Dichlorophenol	0.935 U	10.0 U	1.12 U	1.11 U	0.981 U	20,000	Eco	1,800,000	HH
2,4-Dimethylphenol	0.807 UJ	8.62 U	0.967 U	0.957 UJ	0.846 UJ	20,000	Eco	12,000,000	HH
2,4-Dinitrophenol	7.37 U	78.8 U	8.84 U	8.75 U	7.73 U	20,000	Eco	1,200,000	HH
2,4-Dinitrotoluene	1.79 U	19.2 UJ	2.15 U	2.13 U	1.88 U	5,500	HH	5,500	HH
2,6-Dinitrotoluene	1.13 U	12.1 U	1.35 U	1.34 U	1.18 U	240,000	HH	240,000	HH
2-Chloronaphthalene	0.712 U	7.61 U	0.853 U	0.845 U	0.746 U	82,000,000	HH	82,000,000	HH
2-Chlorophenol	0.710 U	7.59 U	0.851 U	0.842 U	0.744 U	60,000	Eco	5,100,000	HH
2-Methylphenol	0.995 U	10.6 U	1.19 U	1.18 U	1.04 U	50,000	Eco	31,000,000	HH
2-Nitroaniline	0.573 U	6.12 U	0.687 U	0.680 U	0.600 U	6,000,000	HH	6,000,000	HH
2-Nitrophenol	1.20 U	12.8 U	1.44 U	1.43 U	1.26 U	180,000,000	HH	180,000,000	HH
3,3'-Dichlorobenzidine	4.58 U	48.9 U	5.49 U	5.43 U	4.80 U	4,800	HH	4,800	HH
3-Nitroaniline	3.09 U	33.0 U	3.70 U	3.67 U	3.24 U	70,000	Eco	6,000,000	HH
4,6-Dinitro-2-methylphenol	1.90 U	20.3 U	2.28 U	2.25 U	1.99 U	49,000	HH	49,000	HH
4-Bromophenyl Phenyl Ether	1.94 U	20.7 U	2.33 U	2.30 U	2.03 U	-	-	-	-
4-Chloro-3-methylphenol	0.942 U	10.1 UJ	1.13 U	1.12 U	0.987 U	62,000,000	HH	62,000,000	HH
4-Chloroaniline	0.981 U	10.5 U	1.18 U	1.16 U	1.03 U	8,600	HH	8,600	HH
4-Chlorophenyl Phenyl Ether	2.27 U	24.2 U	2.72 U	2.69 U	2.38 U	-	-	-	-
4-Nitroaniline	4.32 U	46.2 UJ	5.18 U	5.13 U	4.53 U	40,000	Eco	86,000	HH
4-Nitrophenol	8.64 U	92.3 UJ	10.4 U	10.3 U	9.05 U	7,000	Eco	180,000,000	HH
Aniline	1.94 U	20.7 U	2.33 U	2.30 U	2.03 U	200,000	Eco	300,000	HH
Benzidine	2.97 U	31.8 U	3.57 U	3.53 U	3.12 U	55,000	HH	55,000	HH
Benzoic Acid	**175 J**	180 U	20.2 U	20.0 U	17.7 U	200,000	Eco	2,500,000,000	HH
Benzyl Alcohol	2.10 U	22.4 U	2.52 U	2.49 U	**7.81**	2,260	Eco	62,000,000	HH
Bis(2-chloroethoxy)methane	2.02 UJ	21.6 U	2.43 U	2.40 UJ	2.12 UJ	730,000	Eco	1,800,000	HH
Bis(2-chloroethyl) Ether	1.66 U	17.7 U	1.99 U	1.97 U	1.74 U	1,000	HH	1,000	HH
Bis(2-chloroisopropyl) Ether	8.42 U	90.1 U	10.1 U	10.0 U	8.83 U	1,000	HH	1,000	HH
Bis(2-ethylhexyl) Phthalate	**174**	**2,220 J**	**19,800**	**127**	**220**	4,500	Eco	150,000	HH
Butyl Benzyl Phthalate	21.1 U	24.1 U	**31.7 J**	2.68 U	2.37 U	450	Eco	910,000	HH
Carbazole	**24.0**	**524**	2.52 U	2.49 U	**4.56 J**	2,260	Eco	1,000,000	HH
Dibenzofuran	**3.61 J**	**76.6**	**123**	0.578 U	**0.996 J**	2.00	Eco	1,000,000	HH
Diethyl Phthalate	3.81 U	40.7 U	4.56 U	4.52 U	3.99 U	100,000	Eco	490,000,000	HH
Dimethyl Phthalate	2.07 U	22.1 U	2.48 U	2.45 U	2.17 U	150,000	HH	150,000	HH
Di-n-butyl Phthalate	1.92 UJ	**73.7 J**	**23.9**	2.28 UJ	11.1 U	450	Eco	62,000,000	HH
Di-n-octyl Phthalate	1.94 U	20.7 U	2.33 U	**22.9 J**	**16.1 J**	450	Eco	150,000	HH
Hexachlorobenzene	0.558 U	5.96 U	0.669 U	0.662 U	0.585 U	1,800	HH	1,800	HH
Hexachlorobutadiene	0.771 U	8.24 U	0.924 U	0.915 U	0.808 U	22,000	HH	22,000	HH
Hexachlorocyclopentadiene	0.836 U	8.94 U	1.00 U	0.993 U	0.877 U	10,000	Eco	3,700,000	HH
Hexachloroethane	1.78 U	19.0 U	2.14 U	2.12 U	1.87 U	150,000	HH	150,000	HH
Isophorone	0.531 U	5.68 U	0.637 U	0.631 U	0.557 U	1,800,000	HH	1,800,000	HH
Nitrobenzene	3.17 U	33.9 U	3.81 U	3.77 U	3.33 U	8,000	Eco	24,000	HH
N-Nitrosodimethylamine	3.22 U	34.4 U	3.86 U	3.82 U	3.37 U	34.0	HH	34.0	HH
N-Nitrosodi-n-propylamine	1.41 U	15.1 U	1.69 U	1.68 U	1.48 U	250	HH	250	HH
N-Nitrosodiphenylamine	0.603 U	6.45 U	0.723 U	0.716 U	0.632 U	20,000	Eco	350,000	HH
p-cresol (4-Methylphenol)	1.24 U	13.3 U	1.49 U	1.48 U	**2.46 J**	-	-	-	-
Pentachlorophenol	2.05 U	21.9 UJ	2.45 U	2.43 U	2.14 U	2,100	Eco	13,000	HH
Phenol	0.762 U	8.15 U	0.914 U	0.905 U	0.799 U	30,000	Eco	180,000,000	HH
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)									
2-Methylnaphthalene	**2.53 J**	**31.8**	0.657 U	0.651 U	**1.29 J**	4,100,000	HH	4,100,000	HH
Acenaphthene	**16.1**	**296**	**328**	0.642 U	**5.41**	19,000,000	HH	19,000,000	HH
Acenaphthylene	**4.65**	**54.7**	**9.14**	0.737 U	**1.39 J**	23,000	HH	23,000	HH
Anthracene	**21.3**	**832**	**447**	0.476 U	**5.03**	93,000,000	HH	93,000,000	HH
Fluorene	**10.5**	**278**	**164**	0.809 U	0.714 U	12,000,000	HH	12,000,000	HH
Naphthalene	0.934 U	**78.2**	1.12 U	**2.04 J**	**2.56**	23,000	HH	23,000	HH
Phenanthrene	**115**	**3,250**	**1,580**	**2.47 J**	**38.2**	93,000,000	HH	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**168 J**	**4,789**	**2,529 J**	**6.41 J**	**53.3 J**	29,000	Eco	-	-
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)									
Benzo(a)anthracene	**114 J**	**6,440**	**2,030**	1.26 U	**62.3 J**	2,700	HH	2,700	HH
Benzo(a)pyrene	**108**	**6,470**	**1,970**	0.792 U	**74.1**	270	HH	270	HH
Benzo(g,h,i)perylene	**61.9 J**	**3,830**	**914**	**4.33 J**	**66.4 J**	27,000	HH	27,000	HH
Benzofluoranthenes, Total	**212**	**12,100**	**3,040**	**7.70**	**135**	2,700	HH	2,700	HH
Chrysene	**129**	**7,590**	**1,910**	0.895 U	**75.3**	270,000	HH	270,000	HH
Dibenz(a,h)anthracene	**25.4 J**	**1,430**	**347**	0.777 U	**16.5 J**	270	HH	270	HH
Fluoranthene	**216**	**20,700**	**4,330**	**6.29**	**71.9**	8,900,000	HH	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**60.8 J**	**3,910**	**939**	**3.52 J**	**49.8 J**	2,700	HH	2,700	HH
Pyrene	**217**	**21,900**	**5,470 J**	**9.14**	**79.3**	6,700,000	HH	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**932 J**	**72,270**	**17,910 J**	**26.4 J**	**496 J**	1,100	Eco	-	-

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5d
2004 Sandblast Supplemental Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Pesticides, and General Chemistry Parameters
(Page 1 of 2)

Site ID	DP1	DP10	DP11	DP12	DP12	DP2	DP3*	DP4	DP5*	DP7	DP9	Selected Discharge to Surface Water / Bioaccumulation	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	041116SGA01GW	041118SGA06GW	041119SGA12GW	041119SGA11GW	041122SGA11GW	041117SGA02GW	041117SGA03GW	041117SGA05GW	041118SGA07GW	041119SGA09GW	041119SGA10GW				
Sample Date	11/16/2004	11/17/2004	11/19/2004	11/19/2004	11/22/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/19/2004	11/19/2004				
Sample Depth (Feet bgs)	12.0-17.0	7.8-12.8	7.0-17.0	7.8-17.8	7.8-17.8	12.0-17.0	11.0-16.0	13.0-18.0	18.5-28.5	12.9-17.9	10.0-20.0				
Total PCB Aroclors (µg/L)															
Aroclor 1016	0.00226 U	-	-	-	-	0.00216 U	0.00207 U	0.00244 U	0.00208 U	0.00206 U	0.00237 U	0.0000640	HH	0.0140	Eco
Aroclor 1221	0.00226 U	-	-	-	-	0.00216 U	0.00207 U	0.00244 U	0.00208 U	0.00206 U	0.00237 U	0.0000640	HH	0.00680	HH
Aroclor 1232	0.00226 U	-	-	-	-	0.00216 U	0.00207 U	0.00244 U	0.00208 U	0.00206 U	0.00237 U	0.0000640	HH	0.00680	HH
Aroclor 1242	0.00226 U	-	-	-	-	0.00216 U	0.00207 U	0.00244 U	0.00208 U	0.00206 U	0.00237 U	0.0000640	HH	0.0140	Eco
Aroclor 1248	0.00226 U	-	-	-	-	0.00216 U	0.00207 U	0.00244 U	0.00208 U	0.00206 U	0.00237 U	0.0000640	HH	0.0140	Eco
Aroclor 1254	0.00248 U	-	-	-	-	0.00238 U	0.00228 U	0.00269 U	0.00228 U	0.00227 U	0.00261 U	0.0000640	HH	0.0140	Eco
Aroclor 1260	0.00248 U	-	-	-	-	0.00238 U	0.00228 U	0.00269 U	0.00228 U	0.00227 U	0.00261 U	0.0000640	HH	0.0140	Eco
Total Metals (µg/L)															
Aluminum	**12,400**	**6,730**	**17,900**	-	**17,500**	**2,250**	**93.7 J**	**1,080**	**280**	**494**	**74.2 J**	-	-	37,000	HH
Antimony	**0.898**	**0.362 J**	**1.57**	-	**0.233 J**	**0.934**	**0.476 J**	**0.586**	0.500 U	**0.477 J**	**0.317 J**	5.60	HH	15.0	HH
Arsenic	**4.61**	**1.87**	**7.70**	-	**0.262 J**	**2.50**	**0.978**	**1.17**	**0.114 J**	0.102 U	0.102 U	0.0180	HH	0.0380	HH
Barium	**83.7**	**26.2**	**97.8**	-	**70.2**	**12.5**	**3.76**	**11.7**	**24.9**	**16.2**	**8.99**	1,000	HH	7,300	HH
Beryllium	**0.307 J**	**0.157 J**	**0.219 J**	-	**0.785**	0.0782 U	0.0782 U	0.0782 U	0.0782 U	0.0782 U	0.0782 U	-	-	73.0	HH
Cadmium	0.0247 U	0.0247 U	0.0247 U	-	0.0247 U	0.0247 U	0.0247 U	0.0247 U	0.0247 U	0.0247 U	0.0247 U	-	-	18.0	HH
Calcium	**33,700**	**32,400**	**22,000**	-	**24,400**	**22,800**	**24,850**	**18,300**	**32,850**	**32,900**	**31,100**	-	-	-	-
Chromium	**10.7**	**16.2**	**21.5**	-	**31.8**	**9.37**	**4.65**	**8.08**	**4.74**	**2.61**	**5.26**	-	-	55,000	HH
Cobalt	**6.46**	**5.71**	**13.1**	-	**2.78 J**	**1.68 J**	0.770 U	0.770 U	**3.75 J**	0.770 U	0.770 U	-	-	11.0	HH
Copper	**36.5**	**19.0**	**43.4**	-	**204**	**7.29**	**1.38**	**3.80**	**2.55**	**3.84**	**1.44 J**	1,300	HH	1,500	HH
Iron	**16,500**	**9,820**	**25,900**	-	**23,700**	**3,220**	**84.4 J**	**1,290**	**546**	**613**	14.0 U	300	HH	26,000	HH
Lead	**5.01**	**2.58**	**6.82**	-	**13.7**	**1.08**	0.500 U	**0.652**	0.500 U	0.500 U	**0.0580 J**	-	-	15.0	HH
Magnesium	**11,800**	**15,400**	**14,400**	-	**8,700**	**6,130**	**5,835**	**5,130**	**10,400**	**9,310**	**8,300**	-	-	-	-
Manganese	**219**	**182**	**489**	-	**473**	**68.2**	**2.10 J**	**22.7**	**709**	**73.8**	**9.11**	50.0	HH	880	HH
Mercury	**0.0760 J**	0.0530 U	0.0530 U	-	0.0530 U	**0.100 J**	0.0530 U	0.0530 U	0.0530 U	0.0530 U	0.0530 U	-	-	11.0	HH
Nickel	**8.96 J**	**7.94 J**	**21.4**	-	**10.8**	**2.45 J**	0.370 U	**1.16 J**	**3.27 J**	**1.39 J**	**1.02 J**	610	HH	730	HH
Potassium	**2,050**	**1,050**	**3,210**	-	**2,150**	**898 J**	**916 J**	**1,520**	**1,540**	**2,060**	**2,260**	-	-	-	-
Selenium	**2.06**	**1.21**	**1.27**	-	**1.29**	**0.904**	**1.09**	**0.895**	**1.70**	**2.04**	**0.815**	170	HH	180	HH
Silver	**0.241**	**0.0690 J**	**0.166**	-	**0.376**	**0.0450 J**	0.0188 U	**0.0280 J**	**0.0195 J**	**0.0330 J**	**0.0270 J**	-	-	180	HH
Sodium	**10,700**	**8,240**	**42,900**	-	**21,400**	**6,350**	**6,445**	**6,420**	**10,750**	**7,160**	**8,630**	-	-	-	-
Thallium	**0.0920 J**	**0.0490 J**	**0.146 J**	-	**0.0530 J**	**0.0570 J**	0.0292 U	0.0292 U	**0.0855 J**	**0.0430 J**	0.0292 U	0.240	HH	2.00	HH
Vanadium	**31.5**	**22.8**	**47.0**	-	**77.6**	**9.25 J**	**2.43 J**	**5.40 J**	**2.08 J**	**3.35 J**	**1.82 J**	-	-	2.60	HH
Zinc	**30.7**	**19.9**	**44.4**	-	**21.2**	**8.58 J**	**3.87 J**	**6.88 J**	**5.19 J**	**4.19 J**	**2.88 J**	7,400	HH	11,000	HH
Dissolved Metals (µg/L)															
Aluminum	**277**	**7.06 J**	**28.4 J**	-	**1,370**	**15.1 J**	**5.88 J**	5.88 U	5.88 U	5.88 U	**12.5 J**	87.0	Eco	87.0	Eco
Antimony	**0.305 J**	**0.207 J**	**1.67**	-	**0.339 J**	**0.326 J**	**0.297 J**	**0.253 J**	**0.209 J**	**0.302 J**	**0.149 J**	5.60	HH	15.0	HH
Arsenic	**0.650**	**1.34**	**1.36**	-	**0.262 J**	**1.01**	**1.15**	**1.19**	**0.700**	**0.570**	**1.06**	0.0180	HH	0.0380	HH
Barium	**7.63**	**7.55**	**15.0**	-	**11.2**	**3.39**	**3.52**	**5.91**	**20.7**	**11.5**	**7.98**	4.00	Eco	4.00	Eco
Beryllium	0.0782 U	0.0782 U	0.0782 U	-	0.0782 U	0.0782 U	0.0782 U	0.0782 U	0.0782 U	0.0782 U	0.0782 U	5.30	Eco	5.30	Eco
Cadmium	0.0247 U	0.0247 U	0.0247 U	-	0.0247 U	**0.0300 J**	0.0247 U	0.0247 U	0.0247 U	0.0247 U	0.0247 U	0.250	Eco	0.250	Eco
Calcium	**28,000**	**30,400**	**16,800**	-	**10,800**	**22,200**	**25,350**	**18,500**	**29,650**	**34,100**	**31,300**	116,000	Eco	116,000	Eco
Chromium	**1.94**	**3.83**	**3.48**	-	**4.29**	**1.69**	**1.85**	**0.838**	**2.93**	**3.12**	**3.48**	74.0	Eco	74.0	Eco
Cobalt	**2.48 J**	**1.21 J**	**3.23 J**	-	**5.08**	**1.42 J**	**1.53 J**	0.770 U	**4.65 J**	**2.26 J**	0.770 U	23.0	Eco	11.0	HH
Copper	**1.12 J**	0.500 U	1.00 U	-	**4.38**	**0.752 J**	**0.804 J**	**0.782 J**	**0.958 J**	1.23 U	**1.08 J**	9.00	Eco	9.00	Eco
Iron	**228**	14.0 U	**37.3 J**	-	**476**	14.0 U	14.0 U	14.0 U	**105 J**	14.0 U	14.0 U	300	HH	1,000	Eco
Lead	**0.0960 J**	**0.0270 J**	0.500 U	-	**0.378 J**	**0.0350 J**	**0.0260 J**	0.0240 U	**0.0310 J**	0.500 U	0.500 U	2.50	Eco	2.50	Eco
Magnesium	**7,650**	**12,000**	**5,230**	-	**3,310**	**5,350**	**6,055**	**4,940**	**9,470**	**9,550**	**8,270**	82,000	Eco	82,000	Eco
Manganese	**92.3**	**16.7**	**106**	-	**31.3**	**9.85**	**1.71 J**	**4.63**	**587**	**59.6**	**6.87**	50.0	HH	120	Eco
Mercury	**0.0600 J**	0.0530 U	0.0530 U	-	0.0530 U	0.0530 U	0.0530 U	0.0530 U	**0.0550 J**	0.0530 U	0.0530 U	0.770	Eco	0.770	Eco
Nickel	**0.403 J**	0.370 U	10.0 U	-	**0.880 J**	0.370 U	0.370 U	0.370 U	**2.10 J**	10.0 U	10.0 U	52.0	Eco	52.0	Eco
Potassium	**1,050**	**604 J**	**2,210**	-	**1,610**	**527 J**	**720 J**	**1,230**	**1,115**	**2,080**	**1,880**	53,000	Eco	53,000	Eco
Selenium	**0.797**	**0.819**	**0.605**	-	**0.328 J**	**0.383 J**	**0.597**	**0.235 J**	**1.25**	**1.30**	**0.654**	5.00	Eco	5.00	Eco
Silver	**0.0470 J**	**0.0270 J**	0.0188 U	-	**0.0790 J**	**0.0270 J**	**0.0265 J**	**0.0340 J**	**0.0265 J**	0.0188 U	**0.0240 J**	0.120	Eco	0.120	Eco
Sodium	**10,900**	**8,530**	**47,700**	-	**26,400**	**6,860**	**7,135**	**6,560**	**11,700**	**7,240**	**9,110**	680,000	Eco	680,000	Eco
Thallium	0.0292 U	0.0292 U	**0.0310 J**	-	0.0292 U	0.0292 U	0.0292 U	0.0292 U	**0.0855 J**	**0.0460 J**	0.0292 U	0.240	HH	2.00	HH
Vanadium	**1.00 J**	**0.582 J**	10.0 U	-	**2.61 J**	**1.02 J**	**1.45 J**	**1.46 J**	0.488 U	10.0 U	10.0 U	20.0	Eco	2.60	HH
Zinc	**2.00 J**	2.00 U	2.00 U	-	**3.48 J**	2.00 U	2.00 U	2.00 U	**2.04 J**	**2.47 J**	2.00 U	120	Eco	120	Eco

Table 5-5d
2004 Sandblast Supplemental Site Inspection Groundwater Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Pesticides, and General Chemistry Parameters
(Page 2 of 2)

Site ID	DP1	DP10	DP11	DP12	DP12	DP2	DP3*	DP4	DP5*	DP7	DP9	**Selected Discharge to Surface Water / Bioaccumulation**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	041116SGA01GW	041118SGA06GW	041119SGA12GW	041119SGA11GW	041122SGA11GW	041117SGA02GW	041117SGA03GW	041117SGA05GW	041118SGA07GW	041119SGA09GW	041119SGA10GW				
Sample Date	11/16/2004	11/17/2004	11/19/2004	11/19/2004	11/22/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/19/2004	11/19/2004				
Sample Depth (Feet bgs)	12.0-17.0	7.8-12.8	7.0-17.0	7.8-17.8	7.8-17.8	12.0-17.0	11.0-16.0	13.0-18.0	18.5-28.5	12.9-17.9	10.0-20.0				
Total Petroleum Hydrocarbons (µg/L)															
Diesel Range Organics	-	74.7 U	-	-	-	-	-	-	89.7 U	87.0 U	76.8 U	-	-	90.0	HH
Residual Range Organics	-	92.5 U	-	-	-	-	-	-	111 U	**113 J**	95.2 U	-	-	290	HH
Gasoline Range Organics	-	**14.7 J**	**20.9 J**	13.0 U	-	-	-	-	13.0 U	13.0 U	13.0 UJ	-	-	100	HH
Total Butyltins (µg/L)															
Dibutyltin	0.000287 U	-	-	-	-	0.000236 U	0.000231 U	0.000248 U	-	-	-	0.0630	Eco	0.0630	Eco
Monobutyltin	0.000142 U	-	-	-	-	**0.00671 J**	0.000114 U	**0.00520 J**	-	-	-	0.0630	Eco	0.0630	Eco
Tetrabutyltin	0.000748 U	-	-	-	-	0.000615 U	0.000600 U	0.000645 U	-	-	-	0.0630	Eco	0.0630	Eco
Tributyltin	0.000552 U	-	-	-	-	0.000454 U	**0.00285 J**	**0.00435 J**	-	-	-	0.0630	Eco	0.0630	Eco
Total Pesticides (µg/L)															
4,4'-DDD	-	-	-	-	-	-	-	-	0.000453 U	0.000512 U	0.000575 U	0.000310	HH	0.00100	Eco
4,4'-DDE	-	-	-	-	-	-	-	-	0.000375 U	0.000424 U	0.000476 U	0.000220	HH	0.00100	Eco
4,4'-DDT	-	-	-	-	-	-	-	-	0.000480 U	0.000543 U	0.000609 U	0.000220	HH	0.00100	Eco
Aldrin	-	-	-	-	-	-	-	-	0.000110 U	0.000124 U	0.000140 U	0.0000490	HH	0.00330	HH
BHC (alpha)	-	-	-	-	-	-	-	-	0.000354 U	0.000400 U	0.000449 U	0.00260	HH	0.00900	HH
BHC (beta)	-	-	-	-	-	-	-	-	0.000411 U	0.000464 U	0.000521 U	0.00910	HH	0.0370	HH
BHC (delta)	-	-	-	-	-	-	-	-	0.000226 U	0.000255 U	0.000286 U	0.00260	HH	0.00900	HH
BHC (gamma) Lindane	-	-	-	-	-	-	-	-	**0.000930 J**	**0.00232**	**0.00249 J**	0.0800	Eco	0.0520	HH
Chlordane (alpha)	-	-	-	-	-	-	-	-	0.000339 U	0.000383 U	0.000429 U	0.000800	HH	0.00430	Eco
Chlordane (gamma)	-	-	-	-	-	-	-	-	0.000461 U	0.000521 U	0.000584 U	0.000800	HH	0.00430	Eco
Dieldrin	-	-	-	-	-	-	-	-	0.000290 U	0.000328 U	0.000368 U	0.0000520	HH	0.00350	HH
Endosulfan I	-	-	-	-	-	-	-	-	0.000480 U	0.000542 U	0.000608 U	0.0560	Eco	0.0560	Eco
Endosulfan II	-	-	-	-	-	-	-	-	0.00192 U	0.000411 U	0.000462 U	0.0560	Eco	0.0560	Eco
Endosulfan Sulfate	-	-	-	-	-	-	-	-	0.000517 U	0.000584 U	0.000655 U	0.0510	Eco	0.0510	Eco
Endrin	-	-	-	-	-	-	-	-	0.000298 U	0.000337 U	0.000378 U	0.0360	Eco	0.0360	Eco
Endrin Aldehyde	-	-	-	-	-	-	-	-	0.000936 U	0.00106 U	0.00119 U	0.150	Eco	0.150	Eco
Endrin Ketone	-	-	-	-	-	-	-	-	0.000332 U	0.000375 U	0.000421 U	0.0590	HH	11.0	HH
Heptachlor	-	-	-	-	-	-	-	-	0.000724 U	0.000819 U	0.000919 U	0.0000790	HH	0.00380	Eco
Heptachlor Epoxide	-	-	-	-	-	-	-	-	0.000360 U	0.000407 U	0.000456 U	0.0000390	HH	0.00380	Eco
Methoxychlor	-	-	-	-	-	-	-	-	**0.000983 J**	0.000584 U	**0.00521 J**	0.0300	Eco	0.0300	Eco
Toxaphene	-	-	-	-	-	-	-	-	0.0112 U	0.0127 U	0.0142 U	0.000280	HH	0.00200	Eco
General Chemistry Parameters (mg/L)															
Carbon, Total Organic	**1.67**	**1.41**	-	-	-	**1.84**	**1.49**	**1.51**	**2.41**	**1.80**	**1.84**	-	-	-	-
Total Suspended Solids	**232**	**494**	**457**	**944**	-	**17.0**	2.00 U	**18.0**	**22.0**	**7.00**	2.00 U	-	-	-	-

Notes:

µg/L = microgram per liter
mg/L = milligram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5e
2004 Sandblast Supplemental Site Inspection Groundwater Analytical Results
Volatile Organic Compounds
(Page 1 of 2)

Site ID	DP1	DP10	DP11	DP12	DP2	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	041116SGA01GW	041118SGA06GW	041119SGA12GW	041119SGA11GW	041117SGA02GW				
Sample Date	11/16/2004	11/17/2004	11/19/2004	11/19/2004	11/17/2004				
Sample Depth (Feet bgs)	12.0-17.0	7.8-12.8	7.0-17.0	7.8-17.8	12.0-17.0				
Total Volatile Organic Compounds (µg/L)									
1,1,1,2-Tetrachloroethane	0.0528 UJ	0.0528 U	0.0528 U	0.0528 U	0.0528 U	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	**0.104 J**	0.0477 U	**0.509 J**	**0.0997 J**	0.0477 U	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	0.0680 UJ	0.0680 U	0.0680 U	0.0680 U	0.0680 U	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	0.0627 UJ	0.0627 U	0.0627 U	0.0627 U	0.0627 U	0.590	HH	0.230	HH
1,1-Dichloroethane	**0.0555 J**	0.0360 U	**0.173 J**	0.0360 U	0.0360 U	47.0	Eco	2.30	HH
1,1-Dichloroethene	0.0595 UJ	0.0595 U	**0.0624 J**	0.0595 U	0.0595 U	25.0	Eco	25.0	Eco
1,1-Dichloropropene	0.0695 UJ	0.0695 U	0.0695 U	0.0695 U	0.0695 U	-	-	0.430	HH
1,2,3-Trichlorobenzene	0.0605 UJ	0.0605 U	0.0605 U	0.0605 U	0.0605 U	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	0.123 UJ	0.123 U	0.123 U	0.123 U	0.123 U	-	-	0.000720	HH
1,2,4-Trichlorobenzene	0.0513 UJ	1.0000 U	0.0513 U	0.05 U	0.0513 U	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	**0.0485 J**	**0.0317 J**	0.0283 U	**0.0415 J**	0.0283 U	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	0.222 UJ	0.222 U	0.222 U	0.222 U	0.222 U	-	-	0.000320	HH
1,2-Dibromoethane (EDB)	0.0637 UJ	0.0637 U	0.0637 U	0.0637 U	0.0637 U	-	-	0.00630	HH
1,2-Dichlorobenzene	0.0383 UJ	0.0383 U	0.0383 U	0.0383 U	0.0383 U	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	0.0533 UJ	0.0533 U	0.0533 U	0.0533 U	0.0533 U	0.380	HH	0.140	HH
1,2-Dichloropropane	0.0380 UJ	0.0380 U	0.0380 U	0.0380 U	0.0380 U	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	**0.0297 J**	0.0249 U	0.0249 U	0.0249 U	0.0249 U	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	0.0599 UJ	0.0599 U	0.0599 U	0.0599 U	0.0599 U	71.0	Eco	0.420	HH
1,3-Dichloropropane	0.0738 UJ	0.0738 U	0.0738 U	0.0738 U	0.0738 U	5,700	Eco	730	HH
1,4-Dichlorobenzene	0.0180 UJ	0.0180 U	0.0180 U	0.0180 U	0.0180 U	15.0	Eco	0.420	HH
2,2-Dichloropropane	0.0487 UJ	0.0487 U	0.0487 U	0.0487 U	**0.130 J**	0.500	HH	0.390	HH
2-Butanone (MEK)	1.71 UJ	1.71 U	1.71 U	1.71 U	1.71 U	14,000	Eco	7,100	HH
2-Chlorotoluene	0.0857 UJ	0.0857 U	0.0857 U	0.0857 U	0.0857 U	-	-	730	HH
2-Hexanone	0.99 UJ	0.993 U	0.993 U	0.993 U	0.993 U	99.0	Eco	47.0	HH
4-Chlorotoluene	0.0491 UJ	0.0491 U	0.0491 U	0.0491 U	0.0491 U	-	-	2,600	HH
4-Isopropyltoluene	0.0397 UJ	0.0397 U	0.0397 U	0.0397 U	0.0397 U	-	-	-	-
4-Methyl-2-pentanone (MIBK)	0.31 UJ	0.309 U	0.309 U	0.309 U	0.309 U	170	Eco	170	Eco
Acetone	1.20 UJ	1.20 U	**1.59 J**	**3.88 J**	1.20 U	1,500	Eco	1,500	Eco
Benzene	**0.0579 J**	**0.0545 J**	**0.137 J**	**0.0800 J**	0.0417 U	2.20	HH	0.390	HH
Bromobenzene	0.0475 UJ	0.0475 U	0.0475 U	0.0475 U	0.0475 U	-	-	88.0	HH
Bromochloromethane	0.0573 UJ	0.0573 U	0.0573 U	0.0573 U	0.0573 U	0.550	HH	0.120	HH
Bromodichloromethane	0.0785 UJ	0.0785 U	0.0785 U	0.0785 U	0.0785 U	0.550	HH	0.120	HH
Bromoform	0.0830 UJ	0.0830 U	0.0830 U	**0.151 J**	0.0830 U	4.30	HH	7.20	HH
Bromomethane	0.0748 UJ	1.00 U	1.00 U	1.00 U	1.00 U	16.0	Eco	8.70	HH
Carbon Disulfide	**0.0619 J**	0.0494 U	1.00 U	1.00 U	0.0494 U	0.920	Eco	0.920	Eco
Carbon Tetrachloride	0.0970 UJ	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.230	HH	0.190	HH
Chlorobenzene	0.0376 UJ	0.0376 U	0.0376 U	0.0376 U	0.0376 U	50.0	Eco	50.0	Eco
Chloroethane	0.187 UJ	0.187 U	0.187 U	0.187 U	0.187 U	-	-	21,000	HH
Chloroform	0.0717 UJ	0.0717 U	0.0717 U	0.0717 U	**0.174 J**	5.70	HH	0.190	HH
Chloromethane	0.110 UJ	0.110 U	0.110 U	0.110 U	0.110 U	-	-	190	HH
cis-1,2-Dichloroethene	**3.76 J**	0.0433 U	**150 J**	**4.86**	**0.693 J**	590	Eco	360	HH
cis-1,3-Dichloropropene	0.0301 UJ	0.0301 U	0.0301 U	0.0301 U	0.0301 U	0.0550	Eco	0.0550	Eco
Dibromochloromethane	0.0539 UJ	0.0539 U	0.0539 U	0.0539 U	0.0539 U	0.400	HH	0.680	HH
Dibromomethane	0.0864 UJ	0.0864 U	0.0864 U	0.0864 U	0.0864 U	-	-	8.20	HH
Dichlorodifluoromethane	0.0575 UJ	0.0575 U	0.0575 U	0.0575 U	0.0575 U	-	-	390	HH
Dichloromethane (Methylene Chloride)	0.0752 UJ	0.0752 U	1.00 U	0.0752 U	0.0752 U	4.60	HH	4.40	HH
Ethylbenzene	0.0226 UJ	**0.0400 J**	**0.0357 J**	**0.0447 J**	0.0226 U	7.30	Eco	1.40	HH
Hexachlorobutadiene	0.152 UJ	0.152 U	0.152 U	0.152 U	0.152 U	0.440	HH	0.860	HH
Isopropylbenzene	**0.0197 J**	0.0165 U	0.0165 U	0.0165 U	0.0165 U	7.30	Eco	7.30	Eco
m,p-Xylenes	**0.132 J**	**0.131 J**	0.0718 U	**0.132 J**	0.0718 U	13.0	Eco	13.0	Eco
Naphthalene	0.0317 UJ	1.00 U	0.0317 U	1.00 U	1.00 U	620	Eco	0.140	HH
n-Butylbenzene	0.0603 UJ	0.0603 U	0.0603 U	0.0603 U	0.0603 U	-	-	-	-
n-Propylbenzene	0.0356 UJ	0.0356 U	0.0356 U	0.0356 U	0.0356 U	7.30	Eco	7.30	Eco
o-Xylene	**0.0735 J**	**0.0503 J**	0.0265 U	**0.0486 J**	0.0265 U	350	Eco	350	Eco
sec-Butylbenzene	0.0358 UJ	0.0358 U	0.0358 U	0.0358 U	0.0358 U	-	-	-	-
Styrene	0.0279 UJ	0.0279 U	0.0279 U	0.0279 U	0.0279 U	72.0	Eco	72.0	Eco
tert-Butylbenzene	0.0535 UJ	0.0535 U	0.0535 U	0.0535 U	0.0535 U	-	-	-	-
Tetrachloroethene (PCE)	**5.08 J**	**0.584 J**	**54.5**	**9.44**	**1.76**	0.690	HH	0.0930	HH
Toluene	**0.221 J**	**0.289 J**	**0.177 J**	**0.154 J**	1.00 U	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	0.0584 UJ	0.0584 U	**1.09**	0.0584 U	0.0584 U	140	HH	110	HH
trans-1,3-Dichloropropene	0.0539 UJ	0.0539 U	0.0539 U	0.0539 U	0.0539 U	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	**2.03 J**	0.0641 U	**43.7**	**2.95**	**0.597 J**	2.50	HH	0.0390	HH
Trichlorofluoromethane	0.0620 UJ	0.0620 U	0.0620 U	0.0620 U	0.0620 U	-	-	1,300	HH
Vinyl Acetate	1.01 UJ	0.320 U	0.320 U	0.320 U	0.320 U	16.0	Eco	16.0	Eco
Vinyl Chloride	0.0604 UJ	0.0604 U	**0.132 J**	0.0604 U	0.0604 U	0.0250	HH	0.0250	HH

Notes:
µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5e
2004 Sandblast Supplemental Site Inspection Groundwater Analytical Results
Volatile Organic Compounds
(Page 2 of 2)

Site ID	DP3*	DP4	DP5*	DP7	DP9	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	041117SGA03GW	041117SGA05GW	041118SGA07GW	041119SGA09GW	041119SGA10GW				
Sample Date	11/17/2004	11/17/2004	11/17/2004	11/19/2004	11/19/2004				
Sample Depth (Feet bgs)	11.0-16.0	13.0-18.0	18.5-28.5	12.9-17.9	10.0-20.0				
Total Volatile Organic Compounds (µg/L)									
1,1,1,2-Tetrachloroethane	0.0528 U	0.0528 U	0.0528 U	0.0528 U	0.0528 U	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	**0.0701 J**	0.0477 U	**2.23**	**0.127 J**	**0.137 J**	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	0.0680 U	0.0680 U	0.0680 U	0.0680 U	0.0680 U	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	0.0627 U	0.0627 U	0.0627 U	0.0627 U	0.0627 U	0.590	HH	0.230	HH
1,1-Dichloroethane	0.0360 U	0.0360 U	**2.52**	**0.0982 J**	**0.178 J**	47.0	Eco	2.30	HH
1,1-Dichloroethene	0.0595 U	0.0595 U	**1.17**	0.0595 U	0.0595 U	25.0	Eco	25.0	Eco
1,1-Dichloropropene	0.0695 U	0.0695 U	0.0695 U	0.0695 U	0.0695 U	-	-	0.430	HH
1,2,3-Trichlorobenzene	0.0605 U	0.0605 U	0.0605 U	0.0605 U	0.0605 U	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	0.123 U	0.123 U	0.123 U	0.123 U	0.123 U	-	-	0.000720	HH
1,2,4-Trichlorobenzene	0.0513 U	0.0513 U	0.0513 U	0.0513 U	0.0513 UJ	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	0.0283 U	0.0283 U	0.0283 U	0.0283 U	0.0283 U	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	0.222 U	0.222 U	0.222 U	0.222 U	0.222 U	-	-	0.000320	HH
1,2-Dibromoethane (EDB)	0.0637 U	0.0637 U	0.0637 U	0.0637 U	0.0637 U	-	-	0.00630	HH
1,2-Dichlorobenzene	0.0383 U	0.0383 U	0.0383 U	0.0383 U	0.0383 U	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	0.0533 U	0.0533 U	0.0533 U	0.0533 U	0.0533 U	0.380	HH	0.140	HH
1,2-Dichloropropane	0.0380 U	0.0380 U	0.0380 U	0.0380 U	0.0380 U	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	0.0249 U	0.0249 U	0.0249 U	0.0249 U	0.0249 U	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	0.0599 U	0.0599 U	0.0599 U	0.0599 U	0.0599 U	71.0	Eco	0.420	HH
1,3-Dichloropropane	0.0738 U	0.0738 U	0.0738 U	0.0738 U	0.0738 U	5,700	Eco	730	HH
1,4-Dichlorobenzene	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	15.0	Eco	0.420	HH
2,2-Dichloropropane	**0.117 J**	0.0487 U	0.0487 U	**0.179 J**	0.0487 U	0.500	HH	0.390	HH
2-Butanone (MEK)	1.71 U	1.71 U	1.71 U	1.71 U	1.71 U	14,000	Eco	7,100	HH
2-Chlorotoluene	0.0857 U	0.0857 U	0.0857 U	0.0857 U	0.0857 U	-	-	730	HH
2-Hexanone	0.993 U	0.993 U	0.993 U	0.993 U	0.993 U	99.0	Eco	47.0	HH
4-Chlorotoluene	0.0491 U	0.0491 U	0.0491 U	0.0491 U	0.0491 U	-	-	2,600	HH
4-Isopropyltoluene	0.0397 U	0.0397 U	0.0397 U	0.0397 U	0.0397 U	-	-	-	-
4-Methyl-2-pentanone (MIBK)	0.309 U	0.309 U	0.309 U	0.309 U	0.309 U	170	Eco	170	Eco
Acetone	1.20 U	1.20 U	**1.22 J**	1.20 U	1.20 U	1,500	Eco	1,500	Eco
Benzene	0.0417 U	0.0417 U	**0.0621 J**	0.0417 U	**0.0546 J**	2.20	HH	0.390	HH
Bromobenzene	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	-	-	88.0	HH
Bromochloromethane	0.0573 U	0.0573 U	0.0573 U	0.0573 U	0.0573 U	0.550	HH	0.120	HH
Bromodichloromethane	0.0785 U	0.0785 U	0.0785 U	0.0785 U	0.0785 U	0.550	HH	0.120	HH
Bromoform	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	4.30	HH	7.20	HH
Bromomethane	0.0748 U	1.00 U	1.00 U	1.00 U	1.00 U	16.0	Eco	8.70	HH
Carbon Disulfide	0.0494 U	0.0494 U	1.00 U	1.00 U	0.0494 U	0.920	Eco	0.920	Eco
Carbon Tetrachloride	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.230	HH	0.190	HH
Chlorobenzene	0.0376 U	0.0376 U	0.0376 U	0.0376 U	0.0376 U	50.0	Eco	50.0	Eco
Chloroethane	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	-	-	21,000	HH
Chloroform	0.0717 U	0.0717 U	**0.0907 J**	0.0717 U	0.0717 U	5.70	HH	0.190	HH
Chloromethane	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	-	-	190	HH
cis-1,2-Dichloroethene	**0.842 J**	**0.0948 J**	**341**	**4.54**	**10.1**	590	Eco	360	HH
cis-1,3-Dichloropropene	0.0301 U	0.0301 U	0.0301 U	0.0301 U	0.0301 U	0.0550	Eco	0.0550	Eco
Dibromochloromethane	0.0539 U	0.0539 U	0.0539 U	0.0539 U	0.0539 U	0.400	HH	0.680	HH
Dibromomethane	0.0864 U	0.0864 U	0.0864 U	0.0864 U	0.0864 U	-	-	8.20	HH
Dichlorodifluoromethane	0.0575 U	0.0575 U	0.0575 U	0.0575 U	0.0575 U	-	-	390	HH
Dichloromethane (Methylene Chloride)	0.0752 U	0.0752 U	0.0752 U	1.00 U	0.0752 U	4.60	HH	4.40	HH
Ethylbenzene	0.0226 U	1.00 U	**0.0403 J**	0.0226 U	0.0226 U	7.30	Eco	1.40	HH
Hexachlorobutadiene	0.152 U	0.152 U	0.152 U	0.152 U	0.152 U	0.440	HH	0.860	HH
Isopropylbenzene	0.0165 U	0.0165 U	0.0165 U	0.0165 U	0.0165 U	7.30	Eco	7.30	Eco
m,p-Xylenes	0.0718 U	0.0718 U	**0.0823 J**	0.0718 U	0.0718 U	13.0	Eco	13.0	Eco
Naphthalene	0.0317 U	**0.0359 J**	1.00 U	**0.0452 J**	0.0317 U	620	Eco	0.140	HH
n-Butylbenzene	0.0603 U	0.0603 U	0.0603 U	0.0603 U	0.0603 U	-	-	-	-
n-Propylbenzene	0.0356 U	0.0356 U	0.0356 U	0.0356 U	0.0356 U	7.30	Eco	7.30	Eco
o-Xylene	0.0265 U	0.0265 U	**0.0304 J**	0.0265 U	0.0265 U	350	Eco	350	Eco
sec-Butylbenzene	0.0358 U	0.0358 U	0.0358 U	0.0358 U	0.0358 U	-	-	-	-
Styrene	0.0279 U	0.0279 U	0.0279 U	0.0279 U	0.0279 U	72.0	Eco	72.0	Eco
tert-Butylbenzene	0.0535 U	0.0535 U	0.0535 U	0.0535 U	0.0535 U	-	-	-	-
Tetrachloroethene (PCE)	**1.14**	**0.336 J**	**3.70**	**0.411 J**	**1.09**	0.690	HH	0.0930	HH
Toluene	1.00 U	1.00 U	**0.299 J**	0.0588 U	**0.0917 J**	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	0.0584 U	0.0584 U	**1.80**	0.0584 U	**0.0955 J**	140	HH	110	HH
trans-1,3-Dichloropropene	0.0539 U	0.0539 U	0.0539 U	0.0539 U	0.0539 U	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	**0.342 J**	**0.0904 J**	**2.12**	**0.121 J**	**0.534 J**	2.50	HH	0.0390	HH
Trichlorofluoromethane	0.0620 U	0.0620 U	0.0620 U	0.0620 U	0.0620 U	-	-	1,300	HH
Vinyl Acetate	0.320 U	0.320 U	0.320 U	0.320 U	0.320 U	16.0	Eco	16.0	Eco
Vinyl Chloride	0.0604 U	0.0604 U	**0.611 J**	0.0604 U	0.0604 U	0.0250	HH	0.0250	HH

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5f
2004 Sandblast Supplemental Site Inspection Groundwater Analytical Results
Total Semivolatile Organic Compounds

Site ID	DP1	DP10	DP11	DP2	DP3*	DP4	DP5*	DP7	DP9	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	041116SGA01GW	041118SGA06GW	041122SGA12GW	041117SGA02GW	041117SGA03GW	041117SGA05GW	041118SGA07GW	041119SGA09GW	041119SGA10GW				
Sample Date	11/16/2004	11/17/2004	11/22/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/19/2004	11/19/2004				
Sample Depth (Feet bgs)	12.0-17.0	7.8-12.8	7.0-17.0	12.0-17.0	11.0-16.0	13.0-18.0	18.5-28.5	12.9-17.9	10.0-20.0				
Total Semivolatile Organic Compounds (µg/L)													
1,2,4-Trichlorobenzene	0.0135 U	0.0123 UJ	0.0122 U	0.0123 U	0.0127 U	0.0129 U	0.0121 U	0.0151 U	0.0117 UJ	35.0	HH	2.30	HH
1,2-Dichlorobenzene	0.0305 U	0.0279 U	0.0276 U	0.0278 U	0.0287 U	0.0291 U	0.0273 U	0.0340 U	0.0264 U	14.0	Eco	14.0	Eco
1,3-Dichlorobenzene	0.0403 U	0.0368 U	0.0364 U	0.0367 U	0.0379 U	0.0385 U	0.0361 U	0.0449 U	0.0349 U	71.0	Eco	0.420	HH
1,4-Dichlorobenzene	0.0347 U	0.0317 U	0.0314 U	0.0316 U	0.0326 U	0.0331 U	0.0311 U	0.0387 U	0.0300 U	15.0	Eco	0.420	HH
2,4,5-Trichlorophenol	0.0487 UJ	0.0444 UJ	0.0440 UJ	0.0443 UJ	-	-	-	0.0542 UJ	0.0421 UJ	18.0	Eco	18.0	Eco
2,4,6-Trichlorophenol	0.0353 UJ	0.0322 UJ	0.0319 UJ	0.0321 UJ	-	-	-	0.0393 UJ	0.0305 UJ	1.40	HH	5.20	HH
2,4-Dichlorophenol	0.0204 UJ	0.0186 UJ	0.0185 UJ	0.0186 UJ	-	-	-	0.0228 UJ	0.0177 UJ	77.0	HH	110	HH
2,4-Dimethylphenol	0.201 UJ	0.183 UJ	0.182 UJ	0.183 UJ	-	-	-	0.224 UJ	0.174 UJ	42.0	Eco	42.0	Eco
2,4-Dinitrophenol	0.227 UJ	0.207 UJ	0.206 UJ	0.207 UJ	-	-	-	0.253 UJ	0.197 UJ	19.0	Eco	19.0	Eco
2,4-Dinitrotoluene	0.0631 U	0.0575 U	0.0570 U	0.0573 U	0.0592 U	0.0602 U	0.0564 U	0.0703 U	0.0545 U	0.110	HH	0.220	HH
2,6-Dinitrotoluene	0.0418 U	0.0381 U	0.0377 U	0.0380 U	0.0392 U	0.0398 U	0.0374 U	0.0465 U	0.0361 U	230	Eco	37.0	HH
2-Chloronaphthalene	0.00527 U	0.00481 U	0.00477 U	0.00480 U	0.00495 U	0.00503 U	0.00472 U	0.00588 U	0.00456 U	32.0	Eco	32.0	Eco
2-Chlorophenol	0.0463 UJ	0.0422 UJ	0.0418 UJ	0.0421 UJ	-	-	-	0.0515 UJ	0.0400 UJ	81.0	HH	180	HH
2-Methylphenol	0.0430 UJ	0.0392 UJ	0.0388 UJ	0.0391 UJ	-	-	-	0.0479 UJ	0.0371 UJ	13.0	Eco	13.0	Eco
2-Nitroaniline	0.0329 U	0.0300 U	0.0297 U	0.0299 U	0.0309 U	0.0313 U	0.0294 U	0.0366 U	0.0284 U	-	-	370	HH
2-Nitrophenol	0.0470 UJ	0.0429 UJ	0.0425 UJ	0.0428 UJ	-	-	-	0.0524 UJ	0.0406 UJ	10,000	HH	11,000	HH
3,3'-Dichlorobenzidine	0.206 U	0.188 U	0.186 U	0.187 U	0.193 U	0.196 U	0.184 U	0.229 U	0.178 U	0.0210	HH	0.130	HH
3-Nitroaniline	0.0621 U	0.0566 U	0.0561 U	0.0564 U	0.0583 U	0.0592 U	0.0556 U	0.0692 U	0.0537 U	-	-	3.40	HH
4,6-Dinitro-2-methylphenol	0.341 UJ	0.311 UJ	0.308 UJ	0.310 UJ	-	-	-	0.379 UJ	0.294 UJ	13.0	HH	2.90	HH
4-Bromophenyl Phenyl Ether	0.0241 U	0.0219 U	0.0217 U	0.0219 U	0.0226 U	0.0230 U	0.0215 U	0.0268 U	0.0208 U	1.50	Eco	1.50	Eco
4-Chloro-3-methylphenol	0.0268 UJ	0.0244 UJ	0.0242 UJ	0.0244 UJ	-	-	-	0.0299 UJ	0.0232 UJ	-	-	3700	HH
4-Chloroaniline	0.0795 U	0.0724 U	0.0718 U	0.0722 U	0.0746 U	0.0758 U	0.0711 U	0.0885 UJ	0.0687 UJ	50.0	Eco	0.340	HH
4-Chlorophenyl Phenyl Ether	0.0354 U	0.0323 U	0.0320 U	0.0322 U	0.0332 U	0.0338 U	0.0317 U	0.0394 U	0.0306 U	-	-	-	-
4-Nitroaniline	0.0426 U	0.0389 U	0.0385 U	0.0388 U	0.0400 U	0.0407 U	0.0382 U	0.0475 U	0.0368 U	-	-	3.40	HH
4-Nitrophenol	0.130 UJ	0.118 UJ	0.117 UJ	0.118 UJ	-	-	-	0.144 UJ	0.112 UJ	150	Eco	150	Eco
Aniline	0.330 U	0.031 U	0.298 U	0.300 U	0.310 U	0.314 U	0.295 U	0.367 U	0.285 U	2.20	Eco	2.20	Eco
Benzidine	1.10 UJ	1.00 UJ	0.993 UJ	0.999 UJ	1.03 UJ	1.05 UJ	0.983 UJ	1.22 U	0.950 U	0.0000860	HH	0.720	HH
Benzoic Acid	0.147 UJ	0.134 UJ	0.133 UJ	0.134 UJ	-	-	-	0.164 UJ	0.127 UJ	42.0	Eco	42.0	Eco
Benzyl Alcohol	0.0467 UJ	**0.0500 J**	0.0422 UJ	0.0425 UJ	-	-	**0.0523 J**	0.0520 UJ	0.0404 UJ	8.60	Eco	8.60	Eco
Bis(2-chloroethoxy)methane	0.0199 U	0.0181 U	0.0180 U	0.0181 U	0.0187 U	0.0190 U	0.0178 U	0.0222 U	0.0172 U	-	-	110	HH
Bis(2-chloroethyl) Ether	0.0356 U	0.0325 U	0.0322 U	0.0324 U	0.0334 U	0.0340 U	0.0319 U	0.0397 U	0.0308 U	0.0300	HH	0.0120	HH
Bis(2-chloroisopropyl) Ether	0.0471 U	0.0430 U	0.0426 U	0.0429 U	0.0443 U	0.0450 U	0.0422 U	0.0525 U	0.0407 U	1,400	HH	-	-
Bis(2-ethylhexyl) Phthalate	0.419 U	0.382 U	0.378 U	**0.408 J**	0.393 U	0.399 U	0.375 U	0.466 U	0.362 U	1.20	HH	3.00	Eco
Butyl Benzyl Phthalate	**0.120 J**	**0.171 J**	**0.228 J**	**0.173 J**	**0.131 J**	0.102 U	**0.141 J**	0.119 U	0.285 U	19.0	Eco	19.0	Eco
Carbazole	0.0238 U	0.0217 U	0.0215 U	0.0217 U	0.0224 U	0.0227 U	0.0213 U	0.0266 U	0.0206 U	-	-	-	-
Dibenzofuran	**0.0237 J**	0.0205 U	0.0204 U	0.0205 U	0.0212 U	0.0215 U	0.0202 U	**0.0421 J**	0.0195 U	3.70	Eco	3.70	Eco
Diethyl Phthalate	0.0612 U	0.0558 U	0.0553 U	0.0556 U	0.0575 U	0.0584 U	0.0548 U	0.0682 U	0.0529 U	210	Eco	210	Eco
Dimethyl Phthalate	0.0429 U	0.0391 U	0.0387 U	0.0390 U	0.0402 U	0.0409 U	0.0383 U	0.0477 U	0.0370 U	3.00	Eco	3.00	Eco
Di-n-butyl Phthalate	**0.180 J**	**0.239**	0.608 U	**0.129 J**	**0.170 J**	**0.100 J**	**0.153 J**	0.245 U	0.190 U	35.0	Eco	35.0	Eco
Di-n-octyl Phthalate	0.0300 U	0.0274 U	0.0271 U	0.0273 U	0.0282 U	0.0286 U	0.0268 U	0.0334 U	0.0259 U	1.20	HH	4.10	HH
Hexachlorobenzene	0.0275 U	0.0251 U	0.0248 U	0.0250 U	0.0258 U	0.0262 U	0.0246 U	0.0306 U	0.0237 U	0.000280	HH	0.000300	Eco
Hexachlorobutadiene	0.0162 U	0.0147 U	0.0146 U	0.0147 U	0.0152 U	0.0154 U	0.0145 U	0.0180 U	0.0140 U	0.440	HH	0.860	HH
Hexachlorocyclopentadiene	0.341 U	0.311 U	0.308 UJ	0.310 U	0.320 U	0.325 U	0.305 U	0.379 UJ	0.294 UJ	5.20	Eco	5.20	Eco
Hexachloroethane	0.0419 U	0.0382 U	0.0378 U	0.0381 U	0.0393 U	0.0399 U	0.0375 U	0.0466 U	0.0362 U	1.40	HH	4.10	HH
Isophorone	0.0311 U	0.0284 U	0.0281 U	0.0283 U	0.0292 U	0.0297 U	0.0278 U	**0.0842 J**	**0.0486 J**	35.0	HH	71.0	HH
Nitrobenzene	0.0571 U	0.0521 U	0.0516 U	0.0519 U	0.0537 U	0.0545 U	0.0511 U	0.0636 U	0.0494 U	17.0	HH	0.120	HH
N-Nitrosodimethylamine	1.10 UJ	1.00 UJ	0.993 U	0.999 UJ	1.03 UJ	1.05 UJ	0.983 UJ	1.22 U	0.950 U	0.000690	HH	0.000420	HH
N-Nitrosodi-n-propylamine	0.0405 U	0.0370 U	0.0366 U	0.0369 U	0.0381 U	0.0387 U	0.0363 U	0.0452 U	0.0350 U	0.00500	HH	0.00960	HH
N-Nitrosodiphenylamine	0.00934 U	0.00852 U	0.00844 U	0.00849 U	0.00877 U	0.00891 U	0.00836 U	0.0104 U	0.00807 U	3.30	HH	14.0	HH
p-cresol (4-Methylphenol)	0.0485 UJ	0.0442 UJ	0.0438 UJ	0.0441 UJ	-	-	-	0.0540 UJ	0.0419 UJ	-	-	-	-
Pentachlorophenol	0.220 UJ	0.200 UJ	0.199 UJ	0.200 UJ	-	-	-	0.245 UJ	0.190 UJ	0.270	HH	0.470	HH
Phenol	**0.0276 J**	**0.0291 J**	0.00457 UJ	**0.0228 J**	**0.0192 J**	**0.0111 J**	-	0.00563 UJ	0.00437 UJ	110	Eco	110	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)													
2-Methylnaphthalene	**0.0683 J**	**0.153**	0.0148 U	0.0149 U	**0.0195 J**	**0.0210 J**	**0.0258 J**	**0.114**	0.0142 U	72.2	Eco	72.2	Eco
Acenaphthene	**0.0173 J**	**0.00812 J**	0.00338 U	0.00340 U	**0.00547 J**	0.00356 U	**0.00811 J**	**0.0230 J**	0.00323 U	520	Eco	520	Eco
Acenaphthylene	0.00264 U	0.00240 U	0.00238 U	0.00240 U	0.00248 U	0.00252 U	0.00236 U	0.00294 U	0.00228 U	307	Eco	0.140	HH
Anthracene	0.00209 U	0.00190 U	0.00189 U	0.00190 U	0.00196 U	0.00199 U	0.00187 U	**0.0126 J**	0.00180 U	13.0	Eco	13.0	Eco
Fluorene	**0.0210 J**	**0.00982 J**	0.00169 U	**0.00584 J**	**0.00835 J**	0.00178 U	**0.0157 J**	**0.0351**	0.00161 U	3.90	Eco	3.90	Eco
Naphthalene	0.0191 UJ	0.0174 UJ	**0.0222 J**	0.0174 U	**0.0254 J**	**0.0359 J**	0.0171 U	**0.0452 J**	0.0165 U	620	Eco	0.140	HH
Phenanthrene	**0.0198 J**	**0.0140 J**	**0.00759 J**	**0.0111 J**	**0.00975 J**	**0.00795 J**	**0.00849 J**	**0.144**	0.00351 U	6.30	Eco	0.140	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)													
Benzo(a)anthracene	0.00571 U	0.00521 U	0.00516 U	0.00519 U	0.00537 U	0.00545 U	0.00511 U	0.00636 U	0.00494 U	0.00380	HH	0.0270	Eco
Benzo(a)pyrene	0.00363 U	0.00331 U	0.00328 U	0.00330 U	0.00341 U	0.00346 U	0.00324 U	**0.00895 J**	0.00313 U	0.00380	HH	0.00290	HH
Benzo(g,h,i)perylene	0.00560 U	0.00511 U	0.00506 U	0.00509 U	0.00526 U	0.00535 U	0.00501 U	0.00624 U	0.00484 U	0.380	HH	0.290	HH
Benzofluoranthenes, Total	0.0131 U	0.0119 U	0.0118 U	0.0119 U	0.0123 U	0.0125 U	0.0117 U	**0.0173 J**	0.0113 U	0.00380	HH	0.01400	Eco
Chrysene	0.00923 U	0.00842 U	0.00834 U	0.00839 U	0.00867 U	0.00881 U	0.00826 U	0.0103 U	0.00798 U	0.00380	HH	2.04	Eco
Dibenz(a,h)anthracene	0.00341 U	0.00311 U	0.00308 U	0.00310 U	0.00320 U	0.00325 U	0.00305 U	**0.00671 J**	0.00294 U	0.0180	HH	0.00290	HH
Fluoranthene	0.00626 U	0.00571 U	0.00566 U	0.00569 U	0.00588 U	0.00597 U	0.00560 U	**0.0311**	0.00541 U	6.16	Eco	6.16	Eco
Indeno(1,2,3-cd)pyrene	0.00308 UJ	0.00281 UJ	0.00278 U	0.00280 UJ	0.00289 UJ	0.00294 UJ	0.00275 UJ	**0.00797 J**	0.00266 U	0.00380	HH	0.0290	HH
Pyrene	0.00319 U	0.00291 U	0.00288 U	**0.00317 J**	**0.00329 J**	0.00304 U	0.00285 U	**0.0261**	0.00275 U	10.1	Eco	10.1	Eco

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-5g
2004 Sandblast Supplemental Site Inspection Groundwater Analytical Results
Dissolved Semivolatile Organic Compounds

Site ID	DP1	DP10	DP2	DP3*	DP4	DP5*	DP7	DP9	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	041116SGA01GW	041118SGA06GW	041117SGA02GW	041117SGA03GW	041117SGA05GW	041118SGA07GW	041119SGA09GW	041119SGA10GW				
Sample Date	11/16/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/17/2004	11/19/2004	11/19/2004				
Sample Depth (Feet bgs)	12.0-17.0	7.8-12.8	12.0-17.0	11.0-16.0	13.0-18.0	18.5-28.5	12.9-17.9	10.0-20.0				
Dissolved Semivolatile Organic Compounds (µg/L)												
1,2,4-Trichlorobenzene	0.0123 U	0.0125 U	0.0129 U	0.0127 U	0.0120 U	0.0121 U	0.0134 U	0.0139 UJ	35.0	HH	2.30	HH
1,2-Dichlorobenzene	0.0279 U	0.0282 U	0.0292 U	0.0287 U	0.0272 U	0.0273 U	0.0303 U	0.0313 U	14.0	Eco	14.0	Eco
1,3-Dichlorobenzene	0.0368 U	0.0373 U	0.0385 U	0.0379 U	0.0359 U	0.0361 U	0.0400 U	0.0413 U	71.0	Eco	0.420	HH
1,4-Dichlorobenzene	0.0317 U	0.0321 U	0.0332 U	0.0326 U	0.0310 U	0.0311 U	0.0344 U	0.0356 U	15.0	Eco	0.420	HH
2,4,5-Trichlorophenol	-	-	0.0465 U	0.0457 UJ	-	-	-	0.0499 UJ	18.0	Eco	18.0	Eco
2,4,6-Trichlorophenol	-	-	0.0337 U	0.0331 UJ	-	-	-	0.0361 UJ	1.40	HH	5.20	HH
2,4-Dichlorophenol	-	-	0.0195 U	0.0192 UJ	-	-	-	0.0209 UJ	77.0	HH	110	HH
2,4-Dimethylphenol	-	-	0.192 U	0.189 UJ	-	-	-	0.206 UJ	42.0	Eco	42.0	Eco
2,4-Dinitrophenol	-	-	0.217 U	0.214 UJ	-	-	-	0.233 UJ	19.0	Eco	19.0	Eco
2,4-Dinitrotoluene	0.0576 U	0.0583 U	0.0602 U	0.0592 U	0.0562 U	0.0564 U	0.0625 U	0.0646 U	0.110	HH	0.220	HH
2,6-Dinitrotoluene	0.0381 U	0.0386 U	0.0399 U	0.0392 U	0.0372 U	0.0374 U	0.0414 U	0.0428 U	230	Eco	37.0	HH
2-Chloronaphthalene	0.00481 U	0.00487 U	0.00504 U	0.00495 U	0.00470 U	0.00472 U	0.00523 U	0.00541 U	32.0	Eco	32.0	Eco
2-Chlorophenol	-	-	0.0442 U	0.0434 UJ	-	-	-	0.0474 UJ	81.0	HH	180	HH
2-Methylphenol	-	-	0.0410 U	0.0404 UJ	-	-	-	0.0440 UJ	13.0	Eco	13.0	Eco
2-Nitroaniline	0.0300 U	0.0304 U	0.0314 U	0.0309 U	0.0293 U	0.0294 U	0.0326 U	0.0337 U	-	-	370	HH
2-Nitrophenol	-	-	0.0449 U	0.0442 UJ	-	-	-	0.0482 UJ	10,000	HH	11,000	HH
3,3'-Dichlorobenzidine	0.188 U	0.190 U	0.196 U	0.193 U	0.183 U	0.184 U	0.204 U	0.211 U	0.0210	HH	0.130	HH
3-Nitroaniline	0.0567 U	0.0574 U	0.0593 U	0.0583 U	0.0553 U	0.0556 U	0.0615 U	0.0636 U	-	-	3.40	HH
4,6-Dinitro-2-methylphenol	-	-	0.325 U	0.320 UJ	-	-	-	0.349 UJ	13.0	HH	2.90	HH
4-Bromophenyl Phenyl Ether	0.0220 U	0.0222 U	0.0230 U	0.0226 U	0.0214 U	0.0215 U	0.0239 U	0.0247 U	1.50	Eco	1.50	Eco
4-Chloro-3-methylphenol	-	-	0.0256 U	0.0252 UJ	-	-	-	0.0275 UJ	-	-	3700	HH
4-Chloroaniline	0.0725 U	0.0734 U	0.0759 U	0.0746 U	0.0708 U	0.0711 U	0.0788 UJ	0.0814 UJ	50.0	Eco	0.340	HH
4-Chlorophenyl Phenyl Ether	0.0323 U	0.0327 U	0.0338 U	0.0332 U	0.0315 U	0.0317 U	0.0351 U	0.0363 U	-	-	-	-
4-Nitroaniline	0.0389 U	0.0394 U	0.0407 U	0.0400 U	0.0380 U	0.0382 U	0.0423 U	0.0437 U	-	-	3.40	HH
4-Nitrophenol	-	-	0.124 U	0.122 UJ	-	-	-	0.133 UJ	150	Eco	150	Eco
Benzidine	1.00 UJ	1.02 UJ	1.05 UJ	1.03 UJ	0.979 UJ	0.983 UJ	1.09 U	1.13 U	0.0000860	HH	0.720	HH
Benzoic Acid	-	-	0.141 U	0.138 UJ	-	**0.317 J**	-	0.151 UJ	42.0	Eco	42.0	Eco
Benzyl Alcohol	-	-	0.0446 U	0.0439 UJ	-	-	-	0.0479 UJ	8.60	Eco	8.60	Eco
Bis(2-chloroethoxy)methane	0.0182 U	0.0184 U	0.0190 U	0.0187 U	0.0177 U	0.0178 U	0.0197 U	0.0204 U	-	-	110	HH
Bis(2-chloroethyl) Ether	0.0325 U	0.0329 U	0.0340 U	0.0334 U	0.0317 U	0.0319 U	0.0353 U	0.0365 U	0.0300	HH	0.0120	HH
Bis(2-chloroisopropyl) Ether	0.0430 U	0.0436 U	0.0450 U	0.0443 U	0.0420 U	0.0422 U	0.0467 U	0.0483 U	1,400	HH	-	-
Bis(2-ethylhexyl) Phthalate	0.382 U	0.387 U	0.400 U	0.393 U	0.373 U	0.375 U	0.415 U	0.429 U	1.20	HH	3.00	Eco
Butyl Benzyl Phthalate	**0.117 J**	**0.108 J**	**0.154 J**	**0.155 J**	**0.135 J**	**0.137 J**	0.327 U	0.338 U	19.0	Eco	19.0	Eco
Carbazole	0.0218 U	0.0220 U	0.0228 U	0.0224 U	0.0213 U	0.0213 U	0.0236 U	0.0244 U	-	-	-	-
Dibenzofuran	0.0206 U	0.0208 U	0.0215 U	0.0212 U	0.0201 U	0.0202 U	0.0223 U	0.0231 U	3.70	Eco	3.70	Eco
Diethyl Phthalate	**0.0585 J**	0.0565 U	0.0584 U	0.0575 U	0.0546 U	0.0548 U	**0.101 J**	**0.0687 J**	210	Eco	210	Eco
Dimethyl Phthalate	0.0391 U	0.0396 U	0.0409 U	0.0402 U	0.0382 U	0.0383 U	0.0425 U	0.0439 U	3.00	Eco	3.00	Eco
Di-n-butyl Phthalate	**0.130 J**	**0.124 J**	**0.207 J**	**0.177 J**	**0.148 J**	**0.157 J**	0.218 U	0.275 U	35.0	Eco	35.0	Eco
Di-n-octyl Phthalate	0.0274 U	0.0277 U	0.0286 U	0.0282 U	0.0267 U	0.0268 U	0.0297 U	0.0307 U	1.20	HH	4.10	HH
Hexachlorobenzene	0.0251 U	0.0254 U	0.0262 U	0.0258 U	0.0245 U	0.0246 U	0.0272 U	0.0282 U	0.000280	HH	0.000300	Eco
Hexachlorobutadiene	0.0147 U	0.0149 U	0.0154 U	0.0152 U	0.0144 U	0.0145 U	0.0160 U	0.0166 U	0.440	HH	0.860	HH
Hexachlorocyclopentadiene	0.311 U	0.315 U	0.325 U	0.320 U	0.304 U	0.305 U	0.338 UJ	0.349 UJ	5.20	Eco	5.20	Eco
Hexachloroethane	0.0382 U	0.0387 U	0.0400 U	0.0393 U	0.0373 U	0.0375 U	0.0415 U	0.0429 U	1.40	HH	4.10	HH
Isophorone	0.0284 U	0.0287 U	0.0297 U	0.0292 U	0.0277 U	0.0278 U	**0.0782 J**	**0.0483 J**	35.0	HH	71.0	HH
Nitrobenzene	0.0522 U	0.0528 U	0.0546 U	0.0537 U	0.0509 U	0.0511 U	0.0566 U	0.0586 U	17.0	HH	0.120	HH
N-Nitrosodimethylamine	1.00 UJ	1.02 UJ	1.05 UJ	1.03 UJ	0.979 UJ	0.983 UJ	1.09 U	1.13 U	0.000690	HH	0.000420	HH
N-Nitrosodi-n-propylamine	0.0370 U	0.0375 U	0.0387 U	0.0381 U	0.0361 UJ	0.0363 U	0.0402 U	0.0416 U	0.00500	HH	0.00960	HH
N-Nitrosodiphenylamine	0.00853 U	0.00863 U	0.00892 U	0.00877 U	0.00833 U	0.00836 U	0.00926 U	0.00957 U	3.30	HH	14.0	HH
p-cresol (4-Methylphenol)	-	-	0.0463 U	0.0455 UJ	-	-	-	0.0497 UJ	-	-	-	-
Pentachlorophenol	-	-	0.210 U	0.206 UJ	-	-	-	0.225 UJ	0.270	HH	0.470	HH
Phenol	-	-	0.00483 U	**0.0192 J**	**0.00999 J**	-	-	**0.0248 J**	110	Eco	110	Eco
Dissolved Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)												
2-Methylnaphthalene	**0.0158 J**	**0.280**	**0.193**	**0.0176 J**	**0.0369 J**	0.0147 U	**0.0203 J**	0.0168 U	72.2	Eco	72.2	Eco
Acenaphthene	**0.00491 J**	0.00345 U	**0.0104 J**	**0.00547 J**	0.00333 U	0.00334 U	**0.0348**	**0.0175 J**	520	Eco	520	Eco
Acenaphthylene	0.00241 U	0.00244 U	**0.00361 J**	0.00248 U	0.00235 U	0.00236 U	0.00261 U	0.00270 U	307	Eco	0.140	HH
Anthracene	0.00191 U	0.00193 U	0.00199 U	0.00196 U	0.00186 U	0.00187 U	0.00207 U	0.00214 U	13.0	Eco	13.0	Eco
Fluorene	**0.00731 J**	**0.00691 J**	**0.0116 J**	**0.00654 J**	**0.00714 J**	0.00167 U	0.00185 U	0.00191 U	3.90	Eco	3.90	Eco
Naphthalene	**0.0399 J**	**0.200**	**0.151**	**0.0350 J**	**0.186**	**0.0289 J**	0.0190 U	0.0196 U	620	Eco	0.140	HH
Phenanthrene	**0.00957 J**	**0.00801 J**	**0.0190 J**	**0.0111 J**	**0.0157 J**	**0.00427 J**	0.00403 U	0.00417 U	6.30	Eco	0.140	HH
Dissolved High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)												
Benzo(a)anthracene	0.00522 U	0.00528 U	0.00546 U	0.00537 U	0.00509 U	0.00511 U	0.00566 U	0.00586 U	0.00380	HH	0.0270	Eco
Benzo(a)pyrene	0.00331 U	0.00335 U	0.00346 U	0.00341 U	0.00323 U	0.00324 U	**0.00714 J**	0.00372 U	0.00380	HH	0.00290	HH
Benzo(g,h,i)perylene	0.00512 U	0.00518 U	0.00535 U	0.00526 U	0.00500 U	0.00501 U	0.00556 U	0.00574 U	0.380	HH	0.290	HH
Benzofluoranthenes, Total	0.0119 U	0.0121 U	0.0125 U	0.0123 U	0.0117 U	0.0117 U	0.0130 U	0.0134 U	0.00380	HH	0.01400	Eco
Chrysene	0.00843 U	0.00853 U	0.00881 U	0.00867 U	0.00823 U	0.00826 U	0.00915 U	0.00946 U	0.00380	HH	2.04	Eco
Dibenz(a,h)anthracene	0.00311 U	0.00315 U	0.00325 U	0.00320 U	0.00304 U	0.00305 U	**0.00381 J**	0.00349 U	0.0180	HH	0.00290	HH
Fluoranthene	0.00572 U	0.00579 U	0.00598 U	0.00588 U	0.00558 U	0.00560 U	0.00621 U	0.00642 U	6.16	Eco	6.16	Eco
Indeno(1,2,3-cd)pyrene	0.00281 UJ	0.00284 UJ	0.00294 UJ	0.00289 UJ	0.00274 UJ	0.00275 UJ	**0.00630 J**	0.00315 U	0.00380	HH	0.0290	HH
Pyrene	0.00291 U	0.00294 U	0.00304 U	0.00299 U	0.00284 U	0.00285 U	0.00316 U	0.00327 U	10.1	Eco	10.1	Eco

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-6
2002 Pistol Range Preliminary Assessment/Site Investigation Soil Analytical Results
Metals in mg/kg

			Analyte	Antimony	Arsenic	Copper	Lead	Mercury	Nickel	Zinc
			Selected SLV (0-3 ft bgs)	0.270	5.40	56.7	25.5	0.0660	38.0	71.7
			SLV Source (0-3 ft bgs)	Eco	UPL	UPL	UPL	UPL	Eco	UPL
Site ID	**Sample ID**	**Sample Date**	**Depth** (Feet bgs)							
PFR01	021119PFR01SS	11/19/2002	0.0-0.5	-	-	**52.3**	**185**	0.0500 U	**24.0 J**	**164**
PFR01	021119PFR02SS	11/19/2002	1.0-1.5	-	-	**46.8**	**37.0**	0.0600 U	**21.0 J**	**95.0**
PFR03	021119PFR03SS	11/19/2002	0.0-0.5	6.00 UJ	6.00 U	**46.8 J**	**758**	0.0500 U	**21.0 J**	**199**
PFR04	021119PFR04SS	11/19/2002	0.0-0.5	-	-	**46.0**	**84.0**	0.0600 U	**26.0 J**	**95.0**
PFR04	021119PFR05SS	11/19/2002	1.0-1.5	-	-	**50.2**	**30.0**	0.0600 U	**26.0 J**	**74.0**
PFR06	021119PFR06SS	11/19/2002	0.0-0.5	-	-	**38.7**	**124**	0.0500 U	**20.0 J**	**121**
PFR06	021119PFR07SS	11/19/2002	1.0-1.5	-	-	**46.4**	**160**	0.0600 U	**23.0 J**	**140**
PFR08	021119PFR08SS	11/19/2002	0.0-0.5	-	-	**37.6**	**269**	0.0600 U	**19.0 J**	**168**
PFR08	021119PFR09SS	11/19/2002	1.0-1.5	-	-	**53.1**	**48.0**	0.0500 U	**25.0 J**	**80.0**
PFR10	021119PFR10SS	11/19/2002	0.0-0.5	-	-	**46.5**	**78.0**	0.0600 U	**32.0 J**	**106**
PFR12	021119PFR12SS	11/19/2002	0.0-0.5	-	-	-	**81.0**	-	-	-
PFR12	021119PFR13SS	11/19/2002	1.0-1.5	-	-	-	**42.0**	-	-	-
PFR14	021119PFR14SS	11/19/2002	0.0-0.5	-	-	-	**98.0**	-	-	-
PFR14	021119PFR15SS	11/19/2002	1.0-1.5	-	-	-	**16.0**	-	-	-
PFR16	021119PFR16SS	11/19/2002	0.0-0.5	-	-	-	**52.0**	-	-	-
PFR17*	021119PFR17SS	11/19/2002	0.0-0.5	-	-	-	**36.5**	-	-	-
PFR17	021119PFR19SS	11/19/2002	1.0-1.5	-	-	-	**11.0**	-	-	-
PFR20*	021119PFR20SS	11/19/2002	0.0-0.5	-	-	-	**78.0**	-	-	-
PFR22	021119PFR22SS	11/19/2002	0.0-0.5	-	-	-	**39.0**	-	-	-
PFR22	021119PFR23SS	11/19/2002	1.0-1.5	-	-	-	**18.0**	-	-	-
PFR24	021119PFR24SS	11/19/2002	0.0-0.5	-	-	-	**60.0**	-	-	-
PFR25	021119PFR25SS	11/19/2002	0.0-0.5	-	-	-	**56.0**	-	-	-
PFR25	021119PFR26SS	11/19/2002	1.0-1.5	-	-	-	**24.0**	-	-	-
PFR27*	021119PFR27SS	11/19/2002	0.0-0.5	-	-	-	**45.0**	-	-	-
PFR29	021119PFR29SS	11/19/2002	0.0-0.5	-	-	-	**95.0**	-	-	-
PFR29	021119PFR30SS	11/19/2002	1.0-1.5	-	-	-	**57.0**	-	-	-
PFR31	021119PFR31SS	11/19/2002	0.0-0.5	-	-	-	**93.0**	-	-	-
PFR32	021119PFR32SS	11/19/2002	0.0-0.5	-	-	-	**59.0**	-	-	-
PFR32	021119PFR33SS	11/19/2002	1.0-1.5	-	-	-	**25.0**	-	-	-
PFR34	021119PFR34SS	11/19/2002	0.0-0.5	-	-	-	**156**	-	-	-
PFR35	021119PFR35SS	11/19/2002	0.0-0.5	-	-	-	**176**	-	-	-
PFR35	021119PFR37SS	11/19/2002	1.0-1.5	-	-	-	**21.0**	-	-	-
PFR38	021119PFR38SS	11/19/2002	0.0-0.5	-	-	-	**171**	-	-	-
PFR39	021119PFR39SS	11/19/2002	0.0-0.5	-	-	-	**527**	-	-	-
PFR39	021119PFR40SS	11/19/2002	1.0-1.5	-	-	-	**573**	-	-	-
PFR41	021119PFR41SS	11/19/2002	0.0-0.5	-	-	-	**733**	-	-	-
PFR42	021119PFR42SS	11/19/2002	0.0-0.5	-	-	-	**266**	-	-	-
PFR42	021119PFR43SS	11/19/2002	1.0-1.5	-	-	-	**43.0**	-	-	-
PFR44	021121PFR44SS	11/21/2002	0.0-0.5	-	-	-	**756**	-	-	-
PFR45	021121PFR45SS	11/21/2002	0.0-0.5	-	-	-	**761**	-	-	-
PFR45	021121PFR46SS	11/21/2002	1.0-1.5	-	-	-	**694**	-	-	-
PFR47	021121PFR47SS	11/21/2002	0.0-0.5	-	-	-	**543**	-	-	-
PFR48	021121PFR48SS	11/21/2002	0.0-0.5	5.00 UJ	5.00 U	**16.5 J**	**915**	-	-	-
PFR48	021121PFR49SS	11/21/2002	1.0-1.5	5.00 UJ	5.00 U	**19.0 J**	**835**	-	-	-
PFR50	021121PFR50SS	11/21/2002	0.0-0.5	5.00 UJ	5.00 U	**18.3 J**	**817**	-	-	-
PFR50	021121PFR51SS	11/21/2002	1.0-1.5	5.00 UJ	5.00 U	**15.6 J**	**1,110**	-	-	-
PFR52*	021121PFR52SS	11/21/2002	0.0-0.5	-	-	-	**60.5**	-	-	-
PFR52	021121PFR54SS	11/21/2002	1.0-1.5	-	-	-	**61.0**	-	-	-
PFR55	021121PFR55SS	11/21/2002	0.0-0.5	-	-	-	**46.0**	-	-	-
PFR56	021121PFR56SS	11/21/2002	0.0-0.5	-	-	-	**391**	-	-	-
PFR56	021121PFR57SS	11/21/2002	1.0-1.5	-	-	-	**410**	-	-	-
PFR58	021121PFR58SS	11/21/2002	0.0-0.5	-	-	-	**31.0**	-	-	-
PFR59	021121PFR59SS	11/21/2002	0.0-0.5	-	-	-	**19.0**	-	-	-
PFR60	021121PFR60SS	11/21/2002	0.0-0.5	-	-	-	**22.0**	-	-	-
PFR60	021121PFR61SS	11/21/2002	1.0-1.5	-	-	-	**28.0**	-	-	-
PFR62	021121PFR62SS	11/21/2002	0.0-0.5	-	-	-	**30.0**	-	-	-
PFR63	021121PFR63SS	11/21/2002	0.0-0.5	-	-	-	**15.0**	-	-	-
PFR63	021121PFR64SS	11/21/2002	1.0-1.5	-	-	-	**10.0**	-	-	-
PFR65*	021121PFR65SS	11/21/2002	0.0-0.5	-	-	-	**7.50**	0.0500 U	-	-
PFR67*	021121PFR67SS	11/21/2002	0.0-0.5	-	-	-	**29.5**	0.0600 U	-	-
PFR69*	021121PFR69SS	11/21/2002	0.0-0.5	-	-	-	**32.0**	0.0400 U	-	-
PFR71*	021121PFR71SS	11/21/2002	0.0-0.5	-	-	-	**26.0**	0.0600 U	-	-
PFR73	021121PFR73SS	11/21/2002	0.0-0.5	-	-	-	**45.0**	-	-	-

Notes:

mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 5-7
2002 Bulb Slope Reconnaissance Investigation Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, and General Chemistry Parameters

Site ID	AREA A04	AREA A05	AREA B06	AREA B07	AREA C01	AREA C02*	AREA C08	AREA C09	PILE #3 BANK #1	PILE #3 BANK #2	PILE #3 BANK #3	PILE #3 BANK #4	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	021120BSA04SS	021120BSA05SS	021120BSB06SS	021120BSB07SS	021120BSC01SS	021120BSC02SS	021120BSC08SS	021120BSC09SS	020419P3B1SD	020419P3B2SD	020419P3B3SD	020419P3B4SD		
Sample Date	11/20/2002	11/20/2002	11/20/2002	11/20/2002	11/20/2002	11/20/2002	11/20/2002	11/20/2002	4/19/2002	4/19/2002	4/19/2002	4/19/2002		
Sample Depth (Feet bgs)	0.17-0.33	0.17-0.33	0.17-0.33	0.17-0.33	0.08-0.25	0.17-0.33	0.17-0.33	0.17-0.33	0.0	0.0	0.0	0.0		
PCB Aroclors (µg/kg)														
Aroclor 1016	20.0 U	19.0 U	19.0 U	20.0 U	20.0 U	19.0 U	20.0 U	20.0 U	67.0 U	67.0 U	67.0 U	67.0 U	371	Eco
Aroclor 1221	40.0 U	39.0 U	38.0 U	39.0 U	39.0 U	38.0 U	39.0 U	40.0 U	134 U	134 U	134 U	134 U	371	Eco
Aroclor 1232	20.0 U	19.0 U	19.0 U	20.0 U	20.0 U	19.0 U	20.0 U	20.0 U	67.0 U	67.0 U	67.0 U	67.0 U	371	Eco
Aroclor 1242	20.0 U	19.0 U	19.0 U	20.0 U	20.0 U	19.0 U	20.0 U	20.0 U	67.0 U	67.0 U	67.0 U	67.0 U	371	Eco
Aroclor 1248	20.0 U	19.0 U	19.0 U	20.0 U	20.0 U	19.0 U	20.0 U	20.0 U	67.0 U	67.0 U	67.0 U	67.0 U	371	Eco
Aroclor 1254	20.0 U	19.0 U	19.0 U	20.0 U	20.0 U	19.0 U	20.0 U	20.0 U	67.0 U	67.0 U	67.0 U	67.0 U	371	Eco
Aroclor 1260	**78.0**	**37.0**	**160**	**35.0**	**27.0**	19.0 U	**51.0**	20.0 U	67.0 U	**76.1**	67.0 U	**251**	371	Eco
Total PCBs as Aroclors (NDs at MDL)[1]	**78.0**	**37.0**	**160**	**35.0**	**27.0**	19.0 U	**51.0**	20.0 U	67.0 U	**76.1**	67.0 U	**251**	371	Eco
Metals (mg/kg)														
Lead	**234**	**202**	**444**	**170**	**67.0**	**47.5**	**142**	**25.0**	**196**	**247**	**289**	**597**	25.5	UPL
Mercury	**0.380**	**0.740**	**0.500**	**0.180**	**0.0600**	**0.0850**	**0.0500**	**0.130**	**0.150**	**0.584**	**0.452**	**1.54**	0.0660	UPL
Petroleum Hydrocarbons (mg/kg)														
Diesel Range Organics	**30.0**	**170**	**79.0**	**32.0**	**11.0**	**18.0**	**33.0**	**8.30**	-	-	-	-	23,000	HH
Residual Range Organics	**180**	**410**	**160**	**200**	**52.0**	**67.5**	**100**	**44.0**	-	-	-	-	40,000	HH
General Chemistry Parameters (mg/kg)														
Carbon, Total Organic	**54,200**	**69,200**	**43,600**	**38,900**	**24,400**	**17,200**	**19,400**	**18,100**	-	-	-	-	-	-
Solids, Total	**908,000**	**918,000**	**819,000**	**793,000**	**747,000**	**714,000**	**768,000**	**700,000**	**723,000**	**692,000**	**800,000**	**855,000**	-	-

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
ND = non detect
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclor 1260 was included in summing Total PCBs as Aroclors because all other aroclors were undected in Bulb Slope AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-1
Upland OU and River OU Enumeration of Samples Included in the
Bradford Island Remedial Investigation

Upland OU	Matrix									
	Soil (0-1 ft)	Soil (0-3 ft)	Soil (0-10 ft)	Soil (>10 ft)	Soil Gas	Groundwater	Groundwater - DP	Seep Water	Surface Water	Lagoon Sediment
Bulb Slope AOPC	**12**	**-**	-	-	-	-	-	-	-	-
Landfill AOPC	**32**	**44**	**58**	-	-	**57**	-	**5**	4	-
Pistol Range AOPC	**65**	**-**	-	-	-	-	**2**	-	-	**5**
Sandblast AOPC	**85**	**118**	**121**	**6**	5	**20**	**12**	**-**	-	**-**
Reference Area	**14**	**-**	-	-	-	**4**	-	-	-	-

River OU	Matrix						
	Sediment	Tissue					Surface Water
		Crayfish	Sculpin	Smallmouth Bass	Clam	Largescale Sucker	
Forebay	**19**	17	**17**	19	**19**	**1**	5
Forebay - Pre-Sediment Removal	5	-	-	-	4	-	-
Forebay - Eagle Creek	2	-	-	-	-	-	-
Forebay - Goose Island	**2**	1	**1**	-	1	-	-
Downstream	6	-	-	-	-	-	-
Reference	**18**	20	**18**	19	18	-	5

Notes:

Analytical suites are not the same for all samples

The number of samples listed in this table include both the samples used in this RI Report from the Historical Investigations (Section 5) and Recent Investigations (Section 6).

- = no samples collected in this area for this matrix

Table 6-10a
Post-Removal Forebay Area Crayfish Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 1 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	P01-CF	P02-CF	P03-CF	P04-CF	P05-CF	P06-CF		
Sample ID	08021901CF	08021902CF	08022003CF	08021904CF	08021505CF	08021406CF		
Sample Date	2/19/2008	2/19/2008	2/20/2008	2/19/2008	2/15/2008	2/14/2008		
Percent Lipds	1.2	1.7	0.62	0.55	1.4	1.1		
PCB Aroclors (µg/kg wet)								
Aroclor 1016	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	0.570	HH
Aroclor 1221	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	0.570	HH
Aroclor 1232	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	0.570	HH
Aroclor 1242	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	0.570	HH
Aroclor 1248	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.570	HH
Aroclor 1254	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	19.0 U	0.570	HH
Aroclor 1260	1.90 U	1.90 U	1.90 U	8.60 U	7.10 U	17.0 U	0.570	HH
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	9.80 U	10.0 U	0.570	HH
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	0.570	HH
Total PCBs as Aroclors (NDs at MDL) [1]	2.60 U	2.60 U	2.60 U	8.60 U	9.80 U	19.0 U	0.570	HH
PCB Dioxin-Like Congeners (µg/kg wet)								
PCB 77	**0.00376**	-	-	**0.00654**	**0.0148**	**0.0207**	0.0760	HH
PCB 81	0.000239 EMPC	-	-	**0.000446**	0.000823 EMPC	**0.00132**	0.0250	HH
PCB 105	**0.0146**	-	-	**0.0931**	**0.0566**	0.0863 EMPC	0.250	HH
PCB 114	**0.00661**	-	-	**0.351**	**0.355**	**0.804**	0.250	HH
PCB 118	**0.206**	-	-	**3.52**	**6.34**	**14.0**	0.250	HH
PCB 123	**0.00475**	-	-	**0.247**	**0.206**	**0.460**	0.250	HH
PCB 126	**0.000800**	-	-	0.00351 U	**0.00360**	**0.00783**	0.0000760	HH
PCB 156	**0.0382 C**	-	-	**2.28 C**	**1.62 C**	**3.91 C**	0.250	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						0.250	HH
PCB 167	**0.0230**	-	-	**1.18**	**0.629**	**1.53**	0.250	HH
PCB 169	0.000597 U	-	-	0.00295 U	0.00180 U	0.00120 U	0.000250	HH
PCB 189	**0.00269**	-	-	**0.0683**	**0.0414**	**0.0821**	0.250	HH
Total PCBs as Congeners (KM, capped)	**1.44 J**	-	-	**16.8 J**	**16.9 J**	**42.6 J**	0.570	HH
Metals (mg/kg wet)								
Aluminum	**94.3**	**157**	**96.6**	**106**	**149**	**139**	--	--
Antimony	**0.0210**	**0.0160**	**0.0500**	**0.0160**	**0.0630**	**0.133**	--	--
Arsenic	**0.610**	**0.680**	**0.420**	**0.550**	**0.640**	**0.520**	0.000760	HH
Barium	**72.2**	**75.6**	**68.5**	**62.1**	**84.3**	**80.4**	--	--
Beryllium	**0.00300 J**	**0.00380 J**	**0.00310 J**	**0.00410 J**	**0.00370 J**	**0.00330 J**	--	--
Cadmium	**0.193**	**0.210**	**0.101**	**0.129**	**0.137**	**0.149**	0.150	Eco
Chromium	**0.700**	**0.200**	**0.300**	**0.700**	**1.20**	**0.800**	--	--
Cobalt	**0.209**	**0.241**	**0.192**	**0.232**	**0.239**	**0.223**	--	--
Copper	**22.2 J**	**36.0 J**	**19.7 J**	**17.3 J**	**26.5 J**	**26.1 J**	--	--
Lead	**0.292 J**	**0.795 J**	**0.732 J**	**0.566 J**	**2.66 J**	**0.653 J**	0.120	Eco
Mercury	**0.0232**	**0.0218**	**0.0190**	**0.0167**	**0.0239**	**0.0251**	0.0490	HH
Methyl Mercury	**0.0370**	**0.0250**	**0.0310**	**0.0340**	**0.0360**	**0.0350**	--	--
Nickel	**4.83**	**4.48**	**4.31**	**4.72**	**5.34**	**4.68**	--	--
Thallium	**0.0177**	**0.0292**	**0.0149**	**0.0195**	**0.0258**	**0.0236**	--	--
Vanadium	**0.400**	**0.600**	**0.400**	**0.400**	**0.500**	**0.500**	--	--
Zinc	**23.2 J**	**21.0 J**	**19.3 J**	**21.6 J**	**22.8 J**	**21.6 J**	--	--
Semivolatile Organic Compounds (µg/kg wet)								
Bis(2-ethylhexyl) Phthalate	66.0 U	-	-	66.0 U	**67.0 J**	**67.0 J**	81.9	HH
Butyl Benzyl Phthalate	7.30 U	-	-	7.30 U	7.30 U	7.30 U	310	Eco
Carbazole	9.10 U	-	-	9.10 U	9.10 U	9.10 U	-	-
Di-n-butyl Phthalate	16.0 U	-	-	180 U	16.0 U	16.0 U	626	Eco
Di-n-octyl Phthalate	11.0 U	-	-	11.0 U	11.0 U	11.0 U	626	Eco
p-cresol (4-Methylphenol)	7.70 U	-	-	7.70 U	7.70 U	7.70 U	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)								
Acenaphthene	0.110 U	-	-	0.110 U	**0.140 J**	**0.260 J**	15,000	HH
Anthracene	**0.0850 J**	-	-	0.0650 U	**0.160 J**	0.0650 U	15,000	HH
Fluorene	**0.160 J**	-	-	0.150 U	**0.150 J**	**0.210 J**	15,000	HH
Phenanthrene	**0.470**	-	-	0.360 U	**0.620**	**0.790**	15,000	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)								
Benzo(a)anthracene	**0.280 J**	-	-	0.0660 U	**0.290 J**	0.0660 U	1.57	HH
Benzo(a)pyrene	0.0810 U	-	-	**0.120 J**	0.0810 U	0.0810 U	0.157	HH
Benzo(b)fluoranthene	0.0700 U	-	-	0.0700 U	**0.100 J**	0.0700 U	1.57	HH
Benzo(g,h,i)perylene	0.0730 U	-	-	0.0730 U	0.0730 U	0.0730 U	15.7	HH
Benzo(k)fluoranthene	0.0560 U	-	-	0.0560 U	**0.110 J**	0.0560 U	15.7	HH
Chrysene	0.0760 U	-	-	0.0760 U	**0.200 J**	0.0760 U	157	HH
Dibenz(a,h)anthracene	0.0590 U	-	-	0.0590 U	0.0590 U	0.0590 U	0.157	HH
Fluoranthene	**0.260 J**	-	-	**0.210 J**	**0.400 J**	**0.540**	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 U	-	-	0.0640 U	0.0640 U	0.0640 U	1.57	HH
Pyrene	**0.270 J**	-	-	**0.170 J**	**0.410 J**	**0.470 J**	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] The crayfish Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Forebay crayfish samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-10a
Post-Removal Forebay Area Crayfish Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 2 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	P07-CF	P08-CF	P13-CF	P14-CF	P15-CF	P16-CF		
Sample ID	08021407CF	08021408CF	08021413CF	08022014CF	08021915CF	08022216CF		
Sample Date	2/14/2008	2/14/2008	2/14/2008	2/20/2008	2/19/2008	2/22/2008		
Percent Lipds	0.61	0.74	0.82	0.58	0.87	1.1		
PCB Aroclors (µg/kg wet)								
Aroclor 1016	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	0.570	HH
Aroclor 1221	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	0.570	HH
Aroclor 1232	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	0.570	HH
Aroclor 1242	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	0.570	HH
Aroclor 1248	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.570	HH
Aroclor 1254	1.90 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	0.570	HH
Aroclor 1260	4.00 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	0.570	HH
Aroclor 1262	2.60 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	0.570	HH
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	0.570	HH
Total PCBs as Aroclors (NDs at MDL) [1]	4.00 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	0.570	HH
PCB Dioxin-Like Congeners (µg/kg wet)								
PCB 77	**0.0105**	**0.00433**	**0.00211**	**0.00174**	**0.00438**	**0.00514**	0.0760	HH
PCB 81	0.000361 U	0.000228 U	0.000215 U	0.000125 U	0.000273 U	0.000289 U	0.0250	HH
PCB 105	**0.134**	**0.0347**	0.00489 EMPC	0.00367 EMPC	**0.00746**	**0.0132**	0.250	HH
PCB 114	**0.121**	**0.0484**	**0.00370**	**0.00569**	**0.00407**	**0.00661**	0.250	HH
PCB 118	**4.40**	**0.847**	**0.0955**	**0.112**	**0.122**	**0.248**	0.250	HH
PCB 123	**0.0690**	**0.0302**	**0.00242**	**0.00581**	**0.00337**	**0.00682**	0.250	HH
PCB 126	0.00260 U	0.00130 U	**0.000306**	**0.000238**	**0.000468**	0.00110 U	0.0000760	HH
PCB 156	**0.655 C**	**0.211 C**	**0.0138 C**	**0.0263 C**	**0.0169 C**	**0.0280 C**	0.250	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						0.250	HH
PCB 167	**0.222**	**0.0971**	**0.00853**	**0.0228**	**0.0121**	**0.0215**	0.250	HH
PCB 169	0.00222 U	0.000487 U	0.000249 U	0.000257 U	0.000350 U	0.000539 U	0.000250	HH
PCB 189	**0.0160**	**0.00548**	**0.00117**	0.00162 EMPC	**0.00126**	0.00155 EMPC	0.250	HH
Total PCBs as Congeners (KM, capped)	**12.4 J**	**3.12 J**	**0.591 J**	**0.825 J**	**0.816 J**	**1.34 J**	0.570	HH
Metals (mg/kg wet)								
Aluminum	**71.4**	**114**	**92.8**	**92.8**	**100**	**78.3**	--	--
Antimony	**0.0150**	**0.0200**	**0.0110 J**	**0.00900 J**	**0.0110 J**	**0.0390**	--	--
Arsenic	**0.380**	**0.460**	**0.390**	**0.390**	**0.420**	**0.460**	0.000760	HH
Barium	**64.9**	**55.5**	**59.2**	**51.7**	**73.0**	**58.3**	--	--
Beryllium	**0.00260 J**	**0.00340 J**	**0.00260 J**	**0.00310 J**	**0.00300 J**	**0.00170 J**	--	--
Cadmium	**0.0870**	**0.0740**	**0.0650**	**0.0730**	**0.0830**	**0.0620**	0.150	Eco
Chromium	**0.500**	**0.800**	**0.600**	**0.700**	**1.00**	**0.300**	--	--
Cobalt	**0.211**	**0.236**	**0.213**	**0.247**	**0.245**	**0.262**	--	--
Copper	**15.5 J**	**20.3 J**	**15.6 J**	**18.8 J**	**18.9 J**	**14.8 J**	--	--
Lead	**0.334 J**	**0.649 J**	**0.130 J**	**0.0980 J**	**0.140 J**	**1.41 J**	0.120	Eco
Mercury	**0.0221**	**0.0215**	**0.0263**	**0.0244**	**0.0207**	**0.0208**	0.0490	HH
Methyl Mercury	**0.0290**	**0.0290**	**0.0340**	**0.0330**	**0.0250**	**0.0300**	--	--
Nickel	**5.35**	**4.83**	**4.96**	**4.71**	**4.80**	**4.41**	--	--
Thallium	**0.0117**	**0.0155**	**0.0146**	**0.0166**	**0.0166**	**0.0194**	--	--
Vanadium	**0.300**	**0.400**	**0.400**	**0.500**	**0.500**	**0.400**	--	--
Zinc	**19.5 J**	**20.9 J**	**19.9 J**	**21.4 J**	**20.3 J**	**16.9 J**	--	--
Semivolatile Organic Compounds (µg/kg wet)								
Bis(2-ethylhexyl) Phthalate	66.0 U	**110 J**	66.0 U	66.0 U	66.0 U	**88.0 J**	81.9	HH
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	310	Eco
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	-	-
Di-n-butyl Phthalate	58.0 U	16.0 U	39.0 U	48.0 U	16.0 U	16.0 U	626	Eco
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	626	Eco
p-cresol (4-Methylphenol)	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)								
Acenaphthene	0.110 U	**0.130 J**	0.110 U	**0.140 J**	**0.200 J**	0.110 U	15,000	HH
Anthracene	0.0650 U	**0.0690 J**	0.0650 U	0.0650 U	**0.130 J**	0.0650 U	15,000	HH
Fluorene	0.150 U	**0.150 J**	0.150 U	0.150 U	**0.180 J**	0.150 U	15,000	HH
Phenanthrene	0.360 U	**0.510**	0.360 U	**0.460 J**	**0.860**	**0.510**	15,000	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)								
Benzo(a)anthracene	**0.230 J**	**0.260 J**	**0.260 J**	**0.270 J**	**0.350 J**	0.0660 U	1.57	HH
Benzo(a)pyrene	0.0810 U	0.0810 U	0.0810 U	0.0810 U	**0.170 J**	0.0810 U	0.157	HH
Benzo(b)fluoranthene	**0.0960 J**	**0.0980 J**	**0.110 J**	**0.140 J**	**0.220 J**	0.0700 U	1.57	HH
Benzo(g,h,i)perylene	0.0730 U	0.0730 U	**0.160 J**	**0.0980 J**	**0.390 J**	0.0730 U	15.7	HH
Benzo(k)fluoranthene	**0.0860 J**	**0.0980 J**	**0.0970 J**	**0.110 J**	**0.160 J**	0.0560 U	15.7	HH
Chrysene	**0.100 J**	**0.120 J**	0.0760 U	**0.140 J**	**0.310 J**	0.0760 U	157	HH
Dibenz(a,h)anthracene	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.157	HH
Fluoranthene	**0.170 J**	**0.260 J**	**0.230 J**	**0.300 J**	**0.750**	**0.360 J**	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 U	0.0640 U	0.0640 U	**0.160 J**	**0.180 J**	0.0640 U	1.57	HH
Pyrene	**0.160 J**	**0.290 J**	**0.280 J**	**0.340 J**	**1.20**	**0.280 J**	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] The crayfish Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Forebay crayfish samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-10a
Post-Removal Forebay Area Crayfish Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 3 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	P17-CF	P18-CF	P19-CF	P20-CF	P21-CF		
Sample ID	08021917CF	08021918CF	08021919CF	08021920CF	08021921CF		
Sample Date	2/19/2008	2/19/2008	2/19/2008	2/19/2008	2/19/2008		
Percent Lipds	0.48	0.73	0.93	0.71	0.72		
PCB Aroclors (µg/kg wet)							
Aroclor 1016	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	0.570	HH
Aroclor 1221	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	0.570	HH
Aroclor 1232	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	0.570	HH
Aroclor 1242	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	0.570	HH
Aroclor 1248	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.570	HH
Aroclor 1254	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	0.570	HH
Aroclor 1260	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	0.570	HH
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	0.570	HH
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	0.570	HH
Total PCBs as Aroclors (NDs at MDL) [1]	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	0.570	HH
PCB Dioxin-Like Congeners (µg/kg wet)							
PCB 77	**0.00157**	**0.00412**	**0.00267**	**0.00338**	**0.00366**	0.0760	HH
PCB 81	0.000164 U	0.000313 EMPC	0.000218 U	**0.000211**	**0.000250**	0.0250	HH
PCB 105	**0.00636**	**0.00737**	**0.0111**	**0.0110**	**0.0127**	0.250	HH
PCB 114	**0.00214**	**0.00610**	0.00261 EMPC	**0.00361**	**0.00389**	0.250	HH
PCB 118	**0.0824**	**0.173**	**0.111**	**0.152**	**0.156**	0.250	HH
PCB 123	**0.00211**	**0.00506**	0.00311 EMPC	**0.00362**	**0.00400**	0.250	HH
PCB 126	0.000397 U	**0.000469**	0.000650 U	0.000748 U	0.000547 U	0.0000760	HH
PCB 156	**0.0136 C**	**0.0257 C**	**0.0139 C**	**0.0192 C**	**0.0191 C**	0.250	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					0.250	HH
PCB 167	**0.0118**	**0.0177**	**0.0120**	**0.0141**	**0.0144**	0.250	HH
PCB 169	0.000167 U	0.000254 U	0.000240 U	0.000298 U	0.000265 U	0.000250	HH
PCB 189	**0.000926**	**0.00158**	**0.000923**	0.00109 EMPC	**0.00123**	0.250	HH
Total PCBs as Congeners (KM, capped)	**0.536 J**	**1.12 J**	**0.766 J**	**0.911 J**	**0.967 J**	0.570	HH
Metals (mg/kg wet)							
Aluminum	**109**	**85.6**	**97.9**	**103**	**103**	--	--
Antimony	**0.0280**	**0.0190**	**0.0180**	**0.0100 J**	**0.0110 J**	--	--
Arsenic	**0.410**	**0.410**	**0.500**	**0.440**	**0.460**	0.000760	HH
Barium	**54.1**	**59.9**	**71.8**	**64.8**	**55.3**	--	--
Beryllium	**0.00380 J**	**0.00240 J**	**0.00350 J**	**0.00330 J**	**0.00340 J**	--	--
Cadmium	**0.0620**	**0.0610**	**0.128**	**0.118**	**0.0810**	0.150	Eco
Chromium	**0.600**	**0.700**	**0.800**	**0.600**	**0.700**	--	--
Cobalt	**0.245**	**0.235**	**0.227**	**0.237**	**0.261**	--	--
Copper	**10.5 J**	**13.0 J**	**20.4 J**	**17.4 J**	**20.0 J**	--	--
Lead	**0.754 J**	**0.577 J**	**0.249 J**	**0.0990 J**	**0.106 J**	0.120	Eco
Mercury	**0.0215**	**0.0206**	**0.0214**	**0.0157**	**0.0315**	0.0490	HH
Methyl Mercury	**0.0290**	**0.0280**	**0.0260**	**0.0270**	**0.0400**	--	--
Nickel	**5.09**	**4.62**	**4.75**	**4.44**	**4.49**	--	--
Thallium	**0.0152**	**0.0148**	**0.0214**	**0.0192**	**0.0167**	--	--
Vanadium	**0.500**	**0.400**	**0.400**	**0.400**	**0.400**	--	--
Zinc	**18.5 J**	**19.2 J**	**20.8 J**	**19.9 J**	**21.7 J**	--	--
Semivolatile Organic Compounds (µg/kg wet)							
Bis(2-ethylhexyl) Phthalate	66.0 U	66.0 U	66.0 U	66.0 U	66.0 U	81.9	HH
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	310	Eco
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	-	-
Di-n-butyl Phthalate	76.0 U	16.0 U	16.0 U	37.0 U	38.0 U	626	Eco
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	626	Eco
p-cresol (4-Methylphenol)	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)							
Acenaphthene	0.110 U	0.110 U	**0.210 J**	**0.110 J**	0.110 U	15,000	HH
Anthracene	0.0650 U	0.0650 U	0.0650 U	0.0650 U	0.0650 U	15,000	HH
Fluorene	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	15,000	HH
Phenanthrene	**0.420 J**	**0.420 J**	0.360 U	0.360 U	**0.440 J**	15,000	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)							
Benzo(a)anthracene	**0.250 J**	**0.270 J**	**0.230 J**	0.0660 U	0.0660 U	1.57	HH
Benzo(a)pyrene	0.0810 U	0.0810 U	0.0810 U	0.0810 U	**0.160 J**	0.157	HH
Benzo(b)fluoranthene	0.0700 U	0.0700 U	0.0700 U	0.0700 U	**0.240 J**	1.57	HH
Benzo(g,h,i)perylene	0.0730 U	0.0730 U	0.0730 U	0.0730 U	**0.170 J**	15.7	HH
Benzo(k)fluoranthene	0.0560 U	0.0560 U	0.0560 U	0.0560 U	**0.150 J**	15.7	HH
Chrysene	**0.0850 J**	**0.110 J**	**0.0820 J**	0.0760 U	0.0760 U	157	HH
Dibenz(a,h)anthracene	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.157	HH
Fluoranthene	**0.320 J**	**0.450 J**	**0.250 J**	**0.230 J**	**0.500**	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 U	0.0640 U	0.0640 U	0.0640 U	**0.180 J**	1.57	HH
Pyrene	**0.290 J**	**0.450 J**	**0.230 J**	**0.200 J**	**0.380 J**	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] The crayfish Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Forebay crayfish samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-10b
Post-Removal Reference Area Crayfish Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 1 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P100-CF	P105-CF	P22-CF	P33-CF	P38/42-CF	P38-CF
Sample ID	080312100CF	080314105CF	08022622CF	08022233CF	08021838/42CF	08021838CF
Sample Date	3/12/2002	3/14/2002	2/26/2008	2/26/2008	2/18/2008	2/18/2008
Percent Lipds	0.76	0.70	0.48	0.68	-	0.44
PCB Aroclors (µg/kg wet)						
Aroclor 1016	2.40 U	3.00 U	2.40 U	2.40 U	-	4.60 U
Aroclor 1221	2.60 U	3.30 U	2.60 U	2.60 U	-	5.00 U
Aroclor 1232	2.30 U	2.90 U	2.30 U	2.30 U	-	4.40 U
Aroclor 1242	2.20 U	2.80 U	2.20 U	2.20 U	-	4.30 U
Aroclor 1248	0.510 U	0.640 U	0.510 U	0.510 U	-	0.980 U
Aroclor 1254	1.80 U	2.30 U	1.80 U	1.80 U	-	3.50 U
Aroclor 1260	1.90 U	2.40 U	1.90 U	1.90 U	-	3.70 U
Aroclor 1262	2.50 U	3.20 U	2.50 U	2.50 U	-	4.80 U
Aroclor 1268	2.00 U	2.50 U	2.00 U	2.00 U	-	3.90 U
Total PCBs as Aroclors (NDs at MDL) [1]	2.60 U	3.30 U	2.60 U	2.60 U	-	5.00 U
PCB Dioxin-Like Congeners (µg/kg wet)						
PCB 77	**0.00402**	-	**0.00130**	**0.00239**	**0.00288**	-
PCB 81	0.000193 EMPC	-	0.000135 U	**0.000176**	0.000175 U	-
PCB 105	**0.0118**	-	**0.00197**	**0.00762**	**0.00898**	-
PCB 114	**0.00458**	-	**0.00262**	**0.00320**	**0.00292**	-
PCB 118	**0.149**	-	**0.0526**	**0.0953**	**0.107**	-
PCB 123	**0.00417**	-	**0.00193**	**0.00271**	**0.00245**	-
PCB 126	**0.000481**	-	0.000207 U	0.000273 U	**0.000377**	-
PCB 156	**0.0244 C**	-	**0.0143 C**	**0.0147 C**	**0.0127 C**	-
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.0180**	-	**0.00980**	**0.00944**	**0.00888**	-
PCB 169	0.000325 U	-	0.000180 U	0.000158 U	0.000126 U	-
PCB 189	**0.00165**	-	**0.00124**	**0.000956**	**0.000767**	-
Total PCBs as Congeners (KM, capped)	**0.946 J**	-	**0.366 J**	**0.634 J**	**0.719 J**	-
Metals (mg/kg wet)						
Aluminum	**124 J**	**94.2 J**	**134 J**	**73.8 J**	-	**115 J**
Antimony	**0.0120 J**	**0.00800 J**	**0.00900 J**	**0.0200**	-	**0.0130 J**
Arsenic	**0.349**	**0.378**	**0.343**	**0.363**	-	**0.275**
Barium	**65.8**	**40.2**	**54.8**	**44.7**	-	**61.2**
Beryllium	**0.00320 J**	**0.00310 J**	**0.00260 J**	**0.00330 J**	-	**0.00370 J**
Cadmium	**0.121**	**0.0760**	**0.0460**	**0.0480**	-	**0.0560**
Chromium	**0.780**	**0.120 J**	**1.23**	**0.310**	-	**0.170 J**
Cobalt	**0.280**	**0.261**	**0.336**	**0.372**	-	**0.347**
Copper	**17.6 J**	**19.6 J**	**16.8 J**	**13.9 J**	-	**13.9 J**
Lead	**0.541**	**0.183**	**0.201**	**0.282**	-	**0.317**
Mercury	**0.0183 J**	**0.0169 J**	**0.0142 J**	**0.0137 J**	-	**0.0172 J**
Methyl Mercury	**0.0264**	**0.0364**	**0.0295**	**0.0367**	-	**0.0239**
Nickel	**2.15**	**1.28**	**2.51**	**1.12**	-	**1.43**
Thallium	**0.0200**	**0.0140**	**0.0214**	**0.0214**	-	**0.0236**
Vanadium	**0.425**	**0.378**	**0.715**	**0.658**	-	**0.637**
Zinc	**19.7**	**20.6**	**18.5**	**18.0**	-	**21.4**
Semivolatile Organic Compounds (µg/kg wet)						
Bis(2-ethylhexyl) Phthalate	66.0 U	-	66.0 U	**70.0 J**	-	**69.0 J**
Butyl Benzyl Phthalate	7.30 U	-	7.30 U	7.30 U	-	7.30 U
Carbazole	9.10 U	-	9.10 U	9.10 U	-	9.10 U
Di-n-butyl Phthalate	39.0 U	-	80.0 U	50.0 U	-	92.0 U
Di-n-octyl Phthalate	11.0 U	-	**32.0 J**	11.0 U	-	11.0 U
p-cresol (4-Methylphenol)	7.70 U	-	7.70 U	7.70 U	-	7.70 U
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)						
Acenaphthene	0.110 U	-	0.110 U	0.110 U	-	0.110 U
Anthracene	0.0650 U	-	0.0650 U	0.0650 U	-	0.0650 U
Fluorene	0.150 U	-	0.150 U	0.150 U	-	0.150 U
Phenanthrene	0.360 U	-	0.360 U	**0.460 J**	-	0.360 U
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)						
Benzo(a)anthracene	0.0660 U	-	0.0660 U	0.0660 U	-	0.0660 U
Benzo(a)pyrene	0.0810 U	-	0.0810 U	0.0810 U	-	0.0810 U
Benzo(b)fluoranthene	0.0700 U	-	0.0700 U	0.0700 U	-	0.0700 U
Benzo(g,h,i)perylene	0.0730 U	-	0.0730 U	0.0730 U	-	0.0730 U
Benzo(k)fluoranthene	0.0560 U	-	0.0560 U	0.0560 U	-	0.0560 U
Chrysene	0.0760 U	-	0.0760 U	0.0760 U	-	0.0760 U
Dibenz(a,h)anthracene	0.0590 U	-	0.0590 U	0.0590 U	-	0.0590 U
Fluoranthene	0.490 U	-	0.490 U	0.490 U	-	0.500 U
Indeno(1,2,3-cd)pyrene	0.0640 U	-	0.0640 U	0.0640 U	-	0.0640 U
Pyrene	0.490 U	-	0.490 U	0.490 U	-	0.500 U

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
ND = Non Detect
- = Not Analyzed
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] The crayfish Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area crayfish samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-10b
Post-Removal Reference Area Crayfish Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 2 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P42-CF	P72-CF	P73-CF	P74-CF	P75-CF	P76-CF	P78-CF
Sample ID	08022842CF	08030372CF	08030373CF	08030374CF	08030375CF	08030376CF	08030378CF
Sample Date	2/28/2008	3/3/2008	3/3/2008	3/3/2008	3/3/2008	3/3/2008	3/3/2008
Percent Lipds	1.0	0.80	1.0	0.55	0.37	0.70	0.82
PCB Aroclors (µg/kg wet)							
Aroclor 1016	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U
Aroclor 1221	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U
Aroclor 1232	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U
Aroclor 1242	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
Aroclor 1248	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U
Aroclor 1254	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U
Aroclor 1260	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors [1]	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U
PCB Dioxin-Like Congeners (µg/kg wet)							
PCB 77	-	**0.00262**	**0.00329**	**0.00299**	**0.00257**	**0.00187**	**0.00209**
PCB 81	-	0.000169 U	0.000161 EMPC	**0.000167**	0.000194 U	0.000127 U	0.000104 U
PCB 105	-	**0.00357**	**0.00603**	**0.0127**	**0.0106**	**0.00301**	**0.00334**
PCB 114	-	**0.00369**	**0.00351**	**0.00390**	**0.00364**	**0.00252**	**0.00236**
PCB 118	-	**0.0958**	**0.111**	**0.138**	**0.157**	**0.0636**	**0.0697**
PCB 123	-	**0.00247**	**0.00307**	**0.00376**	**0.00372**	**0.00196**	**0.00205**
PCB 126	-	**0.000450**	**0.000455**	0.000376 U	0.00196 U	0.000231 U	0.000267 U
PCB 156	-	**0.0173 C**	**0.0169 C**	**0.0188 C**	**0.0222 C**	**0.0123 C**	**0.0130 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						
PCB 167	-	**0.0106**	**0.0106**	**0.0136**	**0.0167**	**0.00846**	**0.00816**
PCB 169	-	0.0000992 U	0.000154 U	0.000103 U	0.000171 U	0.000105 U	0.0000911 U
PCB 189	-	**0.00133**	**0.00119**	**0.00104**	**0.00125**	**0.000851**	**0.000907**
Total PCBs as Congeners (KM, capped)	-	**0.692 J**	**0.735 J**	**0.774 J**	**0.952 J**	**0.456 J**	**0.496 J**
Metals (mg/kg wet)							
Aluminum	**115 J**	**221 J**	**141 J**	**131 J**	**137 J**	**110 J**	**177 J**
Antimony	**0.0390**	**0.0310**	**0.0260**	**0.0120 J**	**0.00800 J**	**0.0230**	**0.0150**
Arsenic	**0.397**	**0.636**	**0.460**	**0.420**	**0.287**	**0.356**	**0.401**
Barium	**53.4**	**120**	**70.7**	**47.7**	**47.4**	**85.7**	**81.4**
Beryllium	**0.00320 J**	**0.00610 J**	**0.00310 J**	**0.00390 J**	**0.00290 J**	**0.00260 J**	**0.00340 J**
Cadmium	**0.0720**	**0.201**	**0.0840**	**0.0840**	**0.0670**	**0.116**	**0.102**
Chromium	**0.470**	**0.590**	**0.280 J**	**0.140 J**	0.130 U	**0.160 J**	**0.280 J**
Cobalt	**0.339**	**0.387**	**0.358**	**0.397**	**0.297**	**0.248**	**0.356**
Copper	**18.2 J**	**33.2 J**	**19.3 J**	**18.3 J**	**13.1 J**	**17.6 J**	**19.8 J**
Lead	**1.04**	**1.55**	**0.597**	**0.0900**	**0.0560**	**0.503**	**0.683**
Mercury	**0.0151 J**	**0.0206 J**	**0.0246 J**	**0.0169 J**	**0.0176 J**	**0.0195 J**	**0.0153 J**
Methyl Mercury	**0.0211**	**0.0299**	**0.0219**	**0.0258**	**0.0268**	**0.0296**	**0.0301**
Nickel	**1.57**	**2.24**	**1.36**	**1.18**	**0.992**	**1.30**	**1.33**
Thallium	**0.0240**	**0.0318**	**0.0192**	**0.0234**	**0.0198**	**0.0158**	**0.0219**
Vanadium	**0.711**	**0.733**	**0.593**	**0.710**	**0.570**	**0.346**	**0.494**
Zinc	**21.1**	**36.5**	**22.0**	**22.3**	**20.4**	**20.9**	**22.1**
Semivolatile Organic Compounds (µg/kg wet)							
Bis(2-ethylhexyl) Phthalate	**87.0 J**	66.0 U	66.0 U	66.0 U	66.0 U	66.0 U	66.0 U
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U
Di-n-butyl Phthalate	16.0 U	16.0 U	16.0 U	110 U	79.0 U	16.0 U	45.0 U
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)							
Acenaphthene	0.110 U	**0.190 J**	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
Anthracene	0.0650 U	**0.190 J**	0.0650 U	0.0650 U	0.0650 U	0.0650 U	0.0650 U
Fluorene	0.150 U	**0.250 J**	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U
Phenanthrene	0.360 U	**0.450 J**	0.360 U	0.360 U	0.360 U	0.360 U	**0.590**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)							
Benzo(a)anthracene	0.0660 U	**0.400 J**	0.0660 U	**0.310 J**	0.0660 U	0.0660 U	0.0660 U
Benzo(a)pyrene	0.0810 U	**0.120 J**	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U
Benzo(b)fluoranthene	0.0700 U	**0.230 J**	0.0700 U	**0.200 J**	0.0700 U	0.0700 U	0.0700 U
Benzo(g,h,i)perylene	0.0730 U	0.480 U	0.0730 U	0.500 U	0.0730 U	0.0730 U	0.0730 U
Benzo(k)fluoranthene	0.0560 U	**0.200 J**	0.0560 U	**0.180 J**	0.0560 U	0.0560 U	0.0560 U
Chrysene	**0.0910 J**	**0.270 J**	0.0760 U	**0.260 J**	0.0760 U	0.0760 U	0.0760 U
Dibenz(a,h)anthracene	0.0590 U	**0.160 J**	0.0590 U	**0.120 J**	0.0590 U	0.0590 U	0.0590 U
Fluoranthene	0.500 U	0.480 U	0.500 U	0.500 U	0.480 U	0.490 U	0.490 U
Indeno(1,2,3-cd)pyrene	0.0640 U	**0.180 J**	0.0640 U	**0.130 J**	0.0640 U	0.0640 U	0.0640 U
Pyrene	0.500 U	0.480 U	0.500 U	0.500 U	0.480 U	0.490 U	0.490 U

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
ND = Non Detect
- = Not Analyzed
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] The crayfish Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area crayfish samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-10b
Post-Removal Reference Area Crayfish Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 3 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P79-CF	P82-CF	P90-CF	P91-CF	P92-CF	P94-CF	P98-CF
Sample ID	08030379CF	08030382CF	08031290CF	08031291CF	08031292CF	08031294CF	08031298CF
Sample Date	3/3/2008	3/3/2008	3/12/2008	3/12/2008	3/12/2008	3/12/2008	3/12/2008
Percent Lipds	1.2	0.70	0.23	0.81	0.56	0.50	0.42
PCB Aroclors (µg/kg wet)							
Aroclor 1016	2.40 U	2.40 U	2.40 U	4.80 U	2.40 U	2.40 U	2.40 U
Aroclor 1221	2.60 U	2.60 U	2.60 U	5.20 U	2.60 U	2.60 U	2.60 U
Aroclor 1232	2.30 U	2.30 U	2.30 U	4.60 U	2.30 U	2.30 U	2.30 U
Aroclor 1242	2.20 U	2.20 U	2.20 U	4.40 U	2.20 U	2.20 U	2.20 U
Aroclor 1248	0.510 U	0.510 U	0.510 U	1.10 U	0.510 U	0.510 U	0.510 U
Aroclor 1254	1.80 U	1.80 U	1.80 U	3.60 U	1.80 U	1.80 U	1.80 U
Aroclor 1260	1.90 U	1.90 U	1.90 U	3.80 U	1.90 U	1.90 U	1.90 U
Aroclor 1262	2.50 U	2.50 U	2.50 U	5.00 U	2.50 U	2.50 U	2.50 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	4.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors [1]	2.60 U	2.60 U	2.60 U	5.20 U	2.60 U	2.60 U	2.60 U
PCB Dioxin-Like Congeners (µg/kg wet)							
PCB 77	**0.00349**	**0.00466**	**0.00187**	**0.00380**	**0.00190**	**0.00274**	**0.00228**
PCB 81	0.000162 U	0.000250 EMPC	0.000204 U	0.000188 U	0.000401 U	0.000151 U	0.000146 EMPC
PCB 105	**0.00799**	**0.0248**	**0.0155**	**0.0143**	**0.00225**	**0.00400**	**0.00433**
PCB 114	**0.00356**	**0.00815**	**0.00471**	**0.00417**	**0.00286**	**0.00302**	**0.00347**
PCB 118	**0.122**	**0.323**	**0.264**	**0.163**	**0.0697**	**0.112**	**0.101**
PCB 123	**0.00326**	**0.00736**	**0.00645**	**0.00372**	**0.00226**	**0.00291**	**0.00300**
PCB 126	**0.000530**	0.000792 U	0.000329 U	**0.000402**	0.000275 U	0.000243 EMPC	0.000261 EMPC
PCB 156	**0.0188 C**	**0.0391 C**	**0.0296 C**	**0.0204 C**	**0.0151 C**	**0.0167 C**	**0.0201 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						
PCB 167	**0.0112**	**0.0301**	**0.0273**	**0.0134**	**0.00947**	**0.0123**	**0.0166**
PCB 169	0.000114 U	0.000200 U	0.000223 U	0.000237 U	0.000301 U	0.000307 U	0.0000971 U
PCB 189	**0.00131**	**0.00220**	**0.00129**	0.00114 EMPC	**0.00131**	**0.000936**	**0.00132**
Total PCBs as Congeners (KM, capped)	**0.876 J**	**1.94 J**	**1.12 J**	**1.02 J**	**0.498 J**	**0.650 J**	**0.609 J**
Metals (mg/kg wet)							
Aluminum	**167 J**	**196 J**	**157 J**	**124 J**	**160 J**	**101 J**	**71.2 J**
Antimony	**0.0150**	**0.00800 J**	**0.00700 J**	**0.00600 J**	**0.00800 J**	**0.0190**	**0.0110 J**
Arsenic	**0.458**	**0.404**	**0.280**	**0.459**	**0.360**	**0.338**	**0.308**
Barium	**89.0**	**74.5**	**49.0**	**78.2**	**83.3**	**79.4**	**68.6**
Beryllium	**0.00400 J**	**0.00420 J**	**0.00390 J**	**0.00310 J**	**0.00400 J**	**0.00270 J**	**0.00330 J**
Cadmium	**0.129**	**0.0690**	**0.0520**	**0.0890**	**0.147**	**0.112**	**0.119**
Chromium	**0.530**	**0.780**	**1.06**	**0.310**	**0.530**	**0.530**	**0.570**
Cobalt	**0.350**	**0.395**	**0.338**	**0.439**	**0.298**	**0.258**	**0.224**
Copper	**28.0 J**	**17.4 J**	**12.2 J**	**18.6 J**	**19.5 J**	**14.6 J**	**13.3 J**
Lead	**0.387**	**0.151**	**0.153**	**0.0890**	**0.244**	**0.416**	**0.364**
Mercury	**0.0105 J**	**0.0181 J**	**0.0190 J**	**0.0185 J**	**0.0221 J**	**0.0182 J**	**0.0173 J**
Methyl Mercury	**0.0254**	**0.0333**	**0.0344**	**0.0221**	**0.0201**	**0.0200**	**0.0181**
Nickel	**1.87**	**2.42**	**3.44**	**1.82**	**2.00**	**1.85**	**2.36**
Thallium	**0.0216**	**0.0254**	**0.0147**	**0.0370**	**0.0197**	**0.0195**	**0.0158**
Vanadium	**0.557**	**0.754**	**0.703**	**0.804**	**0.509**	**0.355**	**0.261**
Zinc	**24.0**	**21.6**	**22.4**	**20.2**	**20.9**	**19.0**	**18.6**
Semivolatile Organic Compounds (µg/kg wet)							
Bis(2-ethylhexyl) Phthalate	66.0 U	66.0 U	66.0 U	66.0 U	**76.0 J**	66.0 U	66.0 U
Butyl Benzyl Phthalate	7.30 U	**15.0 J**	**18.0 J**	7.30 U	7.30 U	7.30 U	**31.0 J**
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U
Di-n-butyl Phthalate	16.0 U	70.0 U	73.0 U	40.0 U	38.0 U	55.0 U	57.0 U
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)							
Acenaphthene	**0.120 J**	**0.130 J**	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
Anthracene	0.0650 U	**0.0980 J**	0.0650 U	0.0650 U	0.0650 U	0.0650 U	0.0650 U
Fluorene	0.150 U	**0.180 J**	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U
Phenanthrene	**0.510**	**0.580**	0.360 U	0.360 U	0.360 U	0.360 U	0.360 U
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)							
Benzo(a)anthracene	0.0660 U	0.0660 U	0.0660 U	0.0660 U	0.0660 U	0.0660 U	0.0660 U
Benzo(a)pyrene	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U
Benzo(b)fluoranthene	0.0700 U	0.0700 U	**0.0820 J**	0.0700 U	0.0700 U	0.0700 U	**0.0860 J**
Benzo(g,h,i)perylene	0.0730 U	0.0730 U	0.0730 U	0.0730 U	0.0730 U	0.0730 U	0.490 U
Benzo(k)fluoranthene	0.0560 U	0.0560 U	**0.0720 J**	0.0560 U	0.0560 U	0.0560 U	**0.0920 J**
Chrysene	0.0760 U	0.0760 U	**0.110 J**	0.0760 U	0.0760 U	0.0760 U	**0.120 J**
Dibenz(a,h)anthracene	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	**0.0720 J**
Fluoranthene	0.490 U	0.490 U	0.450 U	0.500 U	0.500 U	0.490 U	0.490 U
Indeno(1,2,3-cd)pyrene	0.0640 U	0.0640 U	0.0640 U	0.0640 U	0.0640 U	0.0640 U	**0.0870 J**
Pyrene	0.490 U	0.490 U	0.450 U	0.500 U	0.500 U	0.490 U	0.490 U

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
ND = Non Detect
- = Not Analyzed
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] The crayfish Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area crayfish samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-11a
Post-Removal Forebay Area Sculpin Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, and Metals
(Page 1 of 2)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	SF-01	SF-02	SF-03	SF-04	SF-05	SF-06	SF-07	SF-08		
Sample ID	F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8		
Sample Date	9/17/2008	9/17/2008	9/17/2008	9/17/2008	10/22/2008	9/19/2008	10/21/2008	9/17/2008		
Percent Lipids	3.59	4.83	3.94	2.56	4.38	7.69	4.62	4.05		
PCB Aroclors (µg/kg wet)										
Aroclor 1016	2.40 U	2.40 U	12.0 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	35.0	Eco
Aroclor 1221	2.60 U	2.60 U	13.0 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	35.0	Eco
Aroclor 1232	2.30 U	2.30 U	12.0 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	35.0	Eco
Aroclor 1242	2.20 U	2.20 U	11.0 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	35.0	Eco
Aroclor 1248	0.510 U	0.510 U	2.60 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	35.0	Eco
Aroclor 1254	13.0 U	43.0 U	**1,700**	**470**	**130**	130 U	28.0 U	20.0 U	35.0	Eco
Aroclor 1260	1.90 U	36.0 U	9.50 U	1.90 U	1.90 U	82.0 U	1.90 U	1.90 U	35.0	Eco
Aroclor 1262	2.50 U	2.50 U	13.0 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	35.0	Eco
Aroclor 1268	2.00 U	2.00 U	10.0 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	35.0	Eco
Total PCBs as Aroclors (NDs at MDLs) [1]	13.0 U	43.0 U	**1700**	**470**	**130**	130 U	28.0 U	20.0 U	35.0	Eco
PCB Dioxin-Like Congeners (µg/kg wet)										
PCB 77	**0.0108**	**0.0199**	**0.443**	**0.111**	**0.0400**	**0.0487**	**0.0128**	**0.0298**	0.160	Eco
PCB 81	0.000449 EMPC	0.000807 EMPC	0.295 U	0.00950 U	0.00523 U	0.00388 U	0.000553 U	**0.00145**	0.0800	Eco
PCB 105	**0.383**	**0.881**	**269**	**38.2**	**21.4**	**5.13**	**0.600**	**0.752**	20.0	Eco
PCB 114	**0.0448**	**0.162**	**19.9**	**3.51**	**2.89**	**0.356**	**0.0553**	**0.0734**	20.0	Eco
PCB 118	**1.63**	**6.70**	**757**	**111**	**86.9**	**19.3**	**2.43**	**3.00**	20.0	Eco
PCB 123	**0.0229**	**0.0610**	**11.8**	**1.66**	**0.920**	**0.268**	**0.0326**	**0.0376**	20.0	Eco
PCB 126	**0.00321**	**0.00731**	0.405 EMPC	**0.0540**	**0.0291**	**0.0117**	**0.00435**	**0.00597**	0.00580	Eco
PCB 156	**0.306 C**	**1.22 C**	**118 C**	**21.9 C**	**25.4 C**	**2.02 C**	**0.340 C**	**0.428 C**	20.0	Eco
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**								20.0	Eco
PCB 167	**0.0979**	**0.322**	**30.8**	**5.23**	**3.52**	**0.766**	**0.116**	**0.140**	20.0	Eco
PCB 169	0.00246 U	0.00704 U	0.164 U	0.0232 U	0.0288 U	0.00551 U	**0.00365**	0.00363 U	0.0200	Eco
PCB 189	**0.0128**	**0.0881**	**2.48**	**0.400**	**0.501**	**0.0437**	**0.0135**	**0.0157**	20.0	Eco
Total PCBs as Congeners (KM, capped)	**14.9 J**	**48.8 J**	**4773 J**	**915 J**	**559 J**	**141 J**	**22.9 J**	**26.1 J**	35.0	Eco
Metals (mg/kg wet)										
Arsenic	**0.289**	**0.334**	**0.272**	**0.435**	**0.308**	**0.421**	**0.232**	**0.332**	6.60	Eco
Cadmium	**0.0148**	**0.0183**	**0.0224**	**0.0279**	**0.0140**	**0.00720**	**0.0194**	**0.0134**	0.150	Eco
Lead	**0.0750**	**0.0740**	**0.0546**	**0.0499**	**0.136**	0.0214 U	**0.0393**	**0.0813**	0.120	Eco
Mercury	**0.114 J**	**0.240 J**	**0.308 J**	**0.122 J**	**0.143 J**	**0.0327 J**	**0.188 J**	**0.131 J**	0.0740	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclor 1254 was included in summing sculpin Total PCBs as Aroclors because all other aroclors were undected in Forebay sculpin samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV

Table 6-11a
Post-Removal Forebay Area Sculpin Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, and Metals
(Page 2 of 2)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	SF-09	SF-10	SF-11	SF-12	SF-13	SF-14	SF-15	SF-16	SF-17		
Sample ID	F-9	F-10	F-11	F-12	F-13	F-14	F-15	F-16	F-17		
Sample Date	9/19/2008	10/21/2008	9/17/2008	2/22/2008	2/22/2008	10/22/2008	10/21/2008	10/21/2008	10/21/2008		
Percent Lipids	4.22	3.15	4.85	4.39	1.51	3.69	1.88	3.23	4.24		
PCB Aroclors (µg/kg wet)											
Aroclor 1016	2.40 U	2.40 U	2.40 U	14.0 UJ	8.20 UJ	2.40 U	2.40 U	2.40 U	2.40 U	35.0	Eco
Aroclor 1221	2.60 U	2.60 U	2.60 U	27.0 UJ	69.0 UJ	2.60 U	2.60 U	2.60 U	2.60 U	35.0	Eco
Aroclor 1232	2.30 U	2.30 U	2.30 U	38.0 UJ	62.0 UJ	2.30 U	2.30 U	2.30 U	2.30 U	35.0	Eco
Aroclor 1242	2.20 U	2.20 U	2.20 U	23.0 UJ	35.0 UJ	2.20 U	2.20 U	2.20 U	2.20 U	35.0	Eco
Aroclor 1248	0.510 U	0.510 U	0.510 U	13.0 UJ	6.70 UJ	0.510 U	0.510 U	0.510 U	0.510 U	35.0	Eco
Aroclor 1254	27.0 U	19.0 U	28.0 U	23.0 UJ	35.0 UJ	29.0 U	27.0 U	37.0 U	32.0 U	35.0	Eco
Aroclor 1260	13.0 U	1.90 U	1.90 U	38.0 UJ	6.50 UJ	1.90 U	1.90 U	1.90 U	1.90 U	35.0	Eco
Aroclor 1262	2.50 U	2.50 U	2.50 U	9.30 UJ	8.60 UJ	2.50 U	2.50 U	2.50 U	2.50 U	35.0	Eco
Aroclor 1268	2.00 U	2.00 U	2.00 U	7.50 UJ	6.90 UJ	2.00 U	2.00 U	2.00 U	2.00 U	35.0	Eco
Total PCBs as Aroclors (NDs at MDLs) [1]	27.0 U	19.0 U	28.0 U	23.0 UJ	35.0 UJ	29.0 U	27.0 U	37.0 U	32.0 U	35.0	Eco
PCB Dioxin-Like Congeners (µg/kg wet)											
PCB 77	**0.0114**	**0.0143**	**0.0142**	**0.0292 J**	**0.00431 J**	**0.0153**	**0.00464**	**0.0187**	**0.0154**	0.160	Eco
PCB 81	0.000382 EMPC	0.000524 U	0.000710 EMPC	0.000818 UJ	0.000225 UJ	0.000756 U	0.000278 U	0.000846 EMPC	0.00111 U	0.0800	Eco
PCB 105	**0.325**	**0.652**	**0.527**	**1.21 J**	**0.303 J**	**0.997**	**0.549**	**0.530**	**1.57**	20.0	Eco
PCB 114	**0.0327**	**0.0478**	**0.0682**	**0.0638 J**	**0.0212 J**	**0.0818**	**0.0488**	**0.239**	**0.128**	20.0	Eco
PCB 118	**1.36**	**2.09**	**2.88**	**3.84 J**	**0.870 J**	**3.75**	**1.86**	**7.34**	**4.80**	20.0	Eco
PCB 123	**0.0214**	**0.0241**	**0.0394**	**0.0303 J**	0.0128 EMPC	**0.0487**	**0.0196**	**0.160**	**0.0566**	20.0	Eco
PCB 126	**0.00321**	**0.00420**	**0.00550**	**0.0102 J**	**0.00239 J**	**0.00632**	**0.00290**	**0.00726**	**0.00596**	0.00580	Eco
PCB 156	**0.179 C**	**0.337 C**	**0.414 C**	**0.283 C J**	**0.123 C J**	**0.485 C**	**0.381 C**	**1.55 C**	**0.759 C**	20.0	Eco
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**									20.0	Eco
PCB 167	**0.0716**	**0.0935**	**0.165**	**0.131 J**	**0.0432 J**	**0.179**	**0.0875**	**0.671**	**0.193**	20.0	Eco
PCB 169	0.00218 U	0.00322 U	0.00479 U	0.00405 UJ	0.00145 UJ	0.00562 U	0.00369 U	0.00416 U	0.00370 U	0.0200	Eco
PCB 189	**0.00813**	**0.0136**	**0.0209**	**0.00962 J**	**0.00586 J**	**0.0158**	**0.0205**	**0.0413**	**0.0248**	20.0	Eco
Total PCBs as Congeners (KM, capped)	**12.3 J**	**23.1 J**	**24.1 J**	**39.6 J**	**9.87 J**	**35.3 J**	**19.4 J**	**35.6 J**	**40.7 J**	35.0	Eco
Metals (mg/kg wet)											
Arsenic	**0.243**	**0.407**	**0.269**	**0.402**	**0.280**	**0.401**	**0.243**	**0.244**	**0.184**	6.60	Eco
Cadmium	**0.0165**	**0.0135**	**0.0121**	**0.0162**	**0.0453**	**0.0194**	**0.0325**	**0.0214**	**0.0272**	0.150	Eco
Lead	**0.0833**	**0.0459**	**0.0334**	**0.0876**	**0.306**	**0.0315**	**0.0313**	**0.0918**	**0.0384**	0.120	Eco
Mercury	**0.162 J**	**0.0655 J**	**0.210 J**	**0.0543 J**	**0.0525 J**	**0.125 J**	**0.221 J**	**0.298 J**	**0.110 J**	0.0740	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclor 1254 was included in summing sculpin Total PCBs as Aroclors because all other aroclors were undected in Forebay sculpin samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV

Table 6-11b
Post-Removal Reference Area Sculpin Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, and Metals
(Page 1 of 2)

Area	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	SR-01	SR-02	SR-03	SR-04	SR-05	SR-06	SR-07	SR-08	SR-09
Sample ID	R-1	R-2	R-3	R-4	R-5	R-6	R-7	R-8	R-9
Sample Date	7/23/2008	7/24/2008	3/14/2008	10/9/2008	7/24/2008	2/26/2008	3/10/2008	10/9/2008	7/24/2008
Percent Lipids	3.5	3.7	2.3	4.3	5.0	1.9	4.2	3.2	5.0
PCB Aroclors (µg/kg wet)									
Aroclor 1016	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U
Aroclor 1221	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U
Aroclor 1232	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U
Aroclor 1242	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
Aroclor 1248	45.0 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U
Aroclor 1254	1.80 U	17.0 U	19.0 U	21.0 U	23.0 U	22.0 U	17.0 U	39.0 U	19.0 U
Aroclor 1260	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors (NDs at MDLs) [1]	45.0 U	17.0 U	19.0 U	21.0 U	23.0 U	22.0 U	17.0 U	39.0 U	19.0 U
PCB Dioxin-Like Congeners (µg/kg wet)									
PCB 77	**0.0114**	**0.0129**	**0.0107**	**0.0138**	**0.0217**	**0.00519**	**0.00981 J**	**0.0139**	**0.0132**
PCB 81	0.000938 EMPC	0.00140 EMPC	0.00136 EMPC	0.000689 EMPC	0.00198 EMPC	0.000711 U	0.00141 EMPC	0.00119 EMPC	0.00104 EMPC
PCB 105	**0.505**	**0.685**	**0.972**	**0.455**	**1.04**	**0.358**	**0.591 J**	**0.593**	**0.531**
PCB 114	**0.0320**	**0.0471**	**0.0821**	**0.0272**	**0.0716**	**0.0250**	**0.0392 J**	**0.0376**	**0.0347**
PCB 118	**1.54**	**2.18**	**3.87**	**1.27**	**3.49**	**1.05**	**1.71 J**	**1.79**	**1.72**
PCB 123	**0.0202**	**0.0258**	**0.0445**	**0.0214**	**0.0453**	**0.0153**	**0.0255 J**	**0.0216**	**0.0232**
PCB 126	**0.00306**	**0.00364**	**0.00462**	**0.00254**	**0.00589**	**0.00272**	**0.00397 J**	**0.00340**	0.00335 EMPC
PCB 156	**0.183 C**	**0.239 C**	**0.464 C**	**0.148 C**	**0.438 C**	**0.140 C**	**0.187 C J**	**0.192 C**	**0.178 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**								
PCB 167	**0.0708**	**0.0912**	**0.175**	**0.0606**	**0.149**	**0.0519**	**0.0770 J**	**0.0739**	**0.0811**
PCB 169	0.00336 U	0.00403 U	0.00777 U	0.00214 U	0.00756 U	0.00290 U	0.00395 UJ	0.00294 U	0.00384 U
PCB 189	**0.00691**	**0.00859**	0.000318 U	**0.00520**	**0.0172**	**0.00598**	**0.00673 J**	**0.00640**	**0.00593**
Total PCBs as Congeners (KM, capped)	**16.8 J**	**21.9 J**	**37.5 J**	**15.9 J**	**38.3 J**	**12.2 J**	**19.2 J**	**18.1 J**	**18.4 J**
Metals (mg/kg wet)									
Arsenic	**0.323**	**0.449**	**0.418**	**0.302**	**0.484**	**0.323**	**0.239**	**0.294**	**0.311**
Cadmium	**0.0244**	**0.0128**	**0.0158**	**0.0135**	**0.0114**	**0.0204**	**0.00970**	**0.0112**	**0.00870**
Lead	**0.0453**	**0.0526**	**0.0249**	**0.0239**	**0.0280**	**0.0370**	**0.0532**	**0.0402**	**0.0319**
Mercury	**0.0757 J**	**0.0694 J**	**0.0908 J**	**0.0889 J**	**0.102 J**	**0.102 J**	**0.0683 J**	**0.137 J**	**0.0533 J**

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Non Detect
RDL = reported detection limit
- = Not Analyzed
bold = analyte detected above MDL.
J = The reported value is an estimate.

[1] The sculpin Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area sculpin samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-11b
Post-Removal Reference Area Sculpin Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, and Metals
(Page 2 of 2)

Area	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	SR-10	SR-11	SR-12	SR-13	SR-14	SR-15	SR-16	SR-17	SR-18
Sample ID	R-10	R-11	R-12	R-13	R-14	R-15	R-16	R-17	R-18
Sample Date	7/23/2008	3/3/2008	10/9/2008	7/23/2008	10/10/2008	10/9/2008	10/10/2008	10/9/2008	7/24/2008
Percent Lipids	5.5	3.3	4.1	3.6	4.9	2.9	4.1	5.5	3.4
PCB Aroclors (µg/kg wet)									
Aroclor 1016	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U
Aroclor 1221	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U
Aroclor 1232	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U
Aroclor 1242	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
Aroclor 1248	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U
Aroclor 1254	28.0 U	24.0 U	13.0 U	36.0 U	20.0 U	35.0 U	38.0 U	30.0 U	44.0 U
Aroclor 1260	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors (NDs at MDLs) [1]	28.0 U	24.0 U	13.0 U	36.0 U	20.0 U	35.0 U	38.0 U	30.0 U	44.0 U
PCB Dioxin-Like Congeners (µg/kg wet)									
PCB 77	**0.0178**	**0.0138**	**0.0177**	**0.0213**	**0.0194**	**0.0160**	**0.0140**	**0.0259**	**0.0132**
PCB 81	0.00139 EMPC	0.00142 EMPC	0.000998 EMPC	0.00156 EMPC	0.00157 EMPC	0.00149 EMPC	0.000829 EMPC	0.00221 EMPC	0.00122 EMPC
PCB 105	**0.692**	**0.937**	**0.828**	**0.885**	**0.614**	**0.694**	**0.442**	**0.908**	**0.717**
PCB 114	**0.0478**	**0.0683**	**0.0544**	**0.0605**	**0.0403**	**0.0644**	**0.0337**	**0.0578**	**0.0439**
PCB 118	**2.19**	**3.13**	**2.80**	**2.79**	**1.92**	**3.11**	**1.61**	**2.85**	**1.93**
PCB 123	**0.0298**	**0.0358**	**0.0333**	**0.0470**	0.0320 EMPC	**0.0423**	**0.0219**	**0.0402**	**0.0313**
PCB 126	**0.00380**	**0.00519**	**0.00593**	**0.00483**	**0.00520**	**0.00493**	**0.00313**	**0.00552**	**0.00391**
PCB 156	**0.270 C**	**0.374 C**	**0.322 C**	**0.402 C**	**0.203 C**	**0.402 C**	**0.193 C**	**0.350 C**	**0.257 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**								
PCB 167	**0.101**	**0.142**	**0.136**	**0.170**	**0.0968**	**0.146**	**0.0910**	**0.139**	**0.0992**
PCB 169	0.00456 U	0.00586 U	0.00384 U	0.00505 U	0.00366 U	0.00929 U	0.00488 U	0.00712 U	0.00467 U
PCB 189	**0.00963**	**0.0142**	**0.0115**	**0.00974**	**0.00690**	**0.0154**	**0.00820**	**0.0110 EMPC**	**0.00920**
Total PCBs as Congeners (KM, capped)	**24.0 J**	**32.4 J**	**27.5 J**	**31.5 J**	**22.3 J**	**27.2 J**	**17.3 J**	**30.5 J**	**24.2 J**
Metals (mg/kg wet)									
Arsenic	**0.473**	**0.370**	**0.484**	**0.427**	**0.398**	**0.350**	**0.355**	**0.461**	**0.407**
Cadmium	**0.0169**	**0.0156**	**0.0116**	**0.0146**	**0.0141**	**0.0154**	**0.0264**	**0.0176**	**0.0130**
Lead	**0.0252**	**0.0758**	0.0214 U	**0.0347**	**0.0312**	**0.0268**	**0.0314**	**0.0286**	**0.0341**
Mercury	**0.0790 J**	**0.112 J**	**0.0880 J**	**0.0922 J**	**0.0448 J**	**0.141 J**	**0.0902 J**	**0.0554 J**	**0.0862 J**

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Non Detect
RDL = reported detection limit
- = Not Analyzed
bold = analyte detected above MDL.
J = The reported value is an estimate.

[1] The sculpin Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area sculpin samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-12a
Post-Removal Forebay Area Surface Water Analytical Results for High-Volume XAD Device Samples
PCB Aroclors, PCB Dioxin-Like Congeners, and Semivolatile Organic Compounds
(Page 1 of 2)

Area	Forebay			Forebay			Forebay			**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Site ID	P52			P53			P54						
Sample ID	08021252XAD			08022453XAD			08021354XAD						
Sample Date	2/12/2008			2/24/2008			2/13/2008						
Preparation Fraction	Column	Filter	Column+ Filter (ND=RDL/MDL)	Column	Filter	Column+ Filter (ND=RDL/MDL)	Column	Filter	Column+ Filter (ND=RDL/MDL)				
PCB Dioxin-Like Congeners (pg/L)													
PCB 77	0.0330 U	0.0310 U	0.0640 U	0.0770 EMPC	**0.0560**	**0.133 J**	0.0330 U	**0.0460**	**0.0790 J**	--	--	5,200	HH
PCB 81	0.00980 U	0.00450 U	0.0143 U	0.00590 U	0.00520 U	0.0111 U	0.00640 U	0.00600 U	0.0124 U	--	--	5,200	HH
PCB 105	**0.119**	**0.221**	**0.340**	**0.163**	**0.339**	**0.502**	**0.114**	**0.332**	**0.446**	--	--	5,200	HH
PCB 114	0.0120 U	0.0170 U	0.0290 U	0.00900 U	0.0200 U	0.0290 U	0.00800 U	0.0250 U	0.0330 U	--	--	100	HH
PCB 118	**0.360**	**0.518**	**0.878**	**0.499**	**1.07**	**1.57**	**0.325**	**0.947**	**1.27**	--	--	5,200	HH
PCB 123	0.00700 U	0.0130 U	0.0200 U	0.00900 EMPC	0.0170 U	0.0260 U	0.00370 U	0.0180 U	0.0217 U	--	--	5,200	HH
PCB 126	0.00540 U	0.00410 U	0.00950 U	0.00600 U	0.00570 U	0.0117 U	0.00420 U	0.0112 U	0.0154 U	--	--	5.20	HH
PCB 156	0.0260 C U	**0.0850 C**	**0.111 C J**	**0.0360 C**	**0.319 C**	**0.355 C**	0.0230 C U	**0.359 C**	**0.382 C J**	--	--	1,000	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**									--	--	1,000	HH
PCB 167	**0.0140**	**0.0330**	**0.0470**	**0.0130**	**0.139**	**0.152**	**0.0100**	**0.148**	**0.158**	--	--	52,000	HH
PCB 169	0.00290 U	0.00170 U	0.00460 U	0.00140 U	0.00660 U	0.00800 U	0.00210 U	0.00880 U	0.0109 U	--	--	52.0	HH
PCB 189	0.00400 U	0.00700 U	0.0110 U	0.00220 U	**0.0640**	**0.0662 J**	0.00250 U	0.0900 EMPC	0.0925 U	--	--	5,200	HH
Total PCBs as Congeners (KM, capped)	**97.7 J**	**14.7 J**	**112 J**	**153 J**	**55.7 J**	**209 J**	**95.7 J**	**61.2 J**	**157 J**	64.0	HH	14,000	Eco
Semivolatile Organic Compounds (ng/L)													
Bis(2-ethylhexyl) Phthalate	11.8 U	4.51 U	16.3 U	10.5 U	3.74 U	14.2 U	8.77 U	4.63 U	13.4 U	1,200	HH	3,000	Eco
Butyl Benzyl Phthalate	0.418 U	0.198 U	0.616 U	0.316 U	0.157 U	0.473 U	2.29 U	0.155 U	2.45 U	19,000	Eco	19,000	Eco
Di-n-butyl Phthalate	1.97 U	0.266 U	2.24 U	0.800 U	0.281 U	1.08 U	0.925 U	0.247 U	1.17 U	35,000	Eco	35,000	Eco
Di-n-octyl Phthalate	0.314 U	0.249 U	0.563 U	0.154 U	0.0960 U	0.250 U	0.852 U	0.160 U	1.01 U	1,200	HH	4,100	HH
Low Molecular Weight PAHs (LPAHs) (ng/L)													
Acenaphthene	**0.706**	0.0329 U	**0.739 J**	**1.12**	0.0282 U	**1.15 J**	**0.894**	0.015 U	**0.909 J**	520,000	Eco	520,000	Eco
Anthracene	0.0754 U	**0.0317**	**0.107 J**	0.0787 U	**0.0267**	**0.105 J**	0.0569 U	**0.0288**	**0.0857 J**	13,000	Eco	13,000	Eco
Phenanthrene	**1.39**	0.0919 U	**1.48 J**	**1.27**	0.107 U	**1.38 J**	**1.50**	0.105 U	**1.61 J**	6,300	Eco	140	HH
High Molecular Weight PAHs (HPAHs) (ng/L)													
Benzo(a)anthracene	0.0116 U	0.0519 U	0.0635 U	0.00830 EMPC	0.0288 U	0.0371 U	**0.0083**	0.0475 U	**0.0558 J**	3.80	HH	27.0	Eco
Benzo(a)pyrene	0.0246 U	0.0441 U	0.0687 U	0.0151 U	0.0467 U	0.0618 U	0.0269 U	0.0457 U	0.0726 U	3.80	HH	2.90	HH
Benzo(b)fluoranthene	0.0173 U	**0.0713**	**0.0886 J**	0.0107 U	0.0333 U	0.0440 U	0.0182 U	0.0774 EMPC	0.0956 U	3.80	HH	29.0	HH
Benzo(g,h,i)perylene	0.0118 U	0.0390 U	0.0508 U	0.0139 U	0.0241 U	0.0380 U	0.0098 U	0.0523 U	0.0621 U	380	HH	290	HH
Benzo(j,k)flouranthenes	0.0185 U	0.0430 U	0.0615 U	0.0115 U	0.0318 U	0.0433 U	0.0208 U	0.0497 U	0.0705 U	3.80	HH	14.0	Eco
Chrysene	**0.0512**	0.0844 U	**0.136 J**	**0.0385**	0.0626 U	**0.101 J**	**0.0494**	**0.113**	**0.162 J**	3.80	HH	2,040	Eco
Dibenz(a,h)anthracene	0.0211 U	0.0187 U	0.0398 U	0.0190 U	0.0250 U	0.0440 U	0.0142 U	0.0395 U	0.0537 U	18.0	HH	2.90	HH
Fluoranthene	0.516 U	**0.143**	**0.659 J**	0.538 U	**0.120**	**0.658 J**	0.561 U	**0.194**	**0.755 J**	6,160	Eco	6,160	Eco
Indeno(1,2,3-cd)pyrene	0.0127 U	0.0459 U	0.0586 U	0.0148 U	0.0308 U	0.0456 U	0.0101 U	0.0365 U	0.0466 U	3.80	HH	29.0	HH

Notes:
ng/L = Nanogram per liter
pg/L = Picogram per liter
Eco = Ecological
HH = Human Health
MDL = Method detection limit
ND = Non Detect
RDL = reported detection limit
SLV = Screening level value
- = Result not available or not calculated

-- = SLV for analyte not available
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-12a
Post-Removal Forebay Area Surface Water Analytical Results for High-Volume XAD Device Samples
PCB Aroclors, PCB Dioxin-Like Congeners, and Semivolatile Organic Compounds
(Page 2 of 2)

Area	Forebay			Forebay			**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Site ID	P55			P56						
Sample ID	08022555XAD			08022156XAD						
Sample Date	2/25/2008			2/21/2008						
Preparation Fraction	Column	Filter	Column+ Filter (ND=RDL/MDL)	Column	Filter	Column+ Filter (ND=RDL/MDL)				
PCB Dioxin-Like Congeners (pg/L)										
PCB 77	0.0480 EMPC	0.0390 U	0.0870 U	0.0290 U	**0.0510**	**0.0800 J**	--	--	5,200	HH
PCB 81	0.00600 U	0.00730 U	0.0133 U	0.00760 U	0.00840 U	0.0160 U	--	--	5,200	HH
PCB 105	**0.147**	**0.339**	**0.486**	**0.119**	**0.421**	**0.540**	--	--	5,200	HH
PCB 114	0.0150 U	0.0210 U	0.0360 U	0.0100 U	0.0200 U	0.0300 U	--	--	100	HH
PCB 118	**0.448**	**0.825**	**1.27**	**0.361**	**1.07**	**1.43**	--	--	5,200	HH
PCB 123	0.00600 U	0.0150 U	0.0210 U	0.0100 EMPC	0.0230 U	0.0330 U	--	--	5,200	HH
PCB 126	0.00600 U	0.00460 U	0.0106 U	0.00570 U	0.00590 U	0.0116 U	--	--	5.20	HH
PCB 156	0.0280 C U	**0.110 C**	**0.138 C J**	0.0230 C U	**0.101 C**	**0.124 C J**	--	--	1,000	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						--	--	1,000	HH
PCB 167	0.0140 U	**0.0490**	**0.0630 J**	0.0110 EMPC	**0.0440**	**0.0550 J**	--	--	52,000	HH
PCB 169	0.00230 U	0.00400 U	0.00630 U	0.00180 U	0.00240 U	0.00420 U	--	--	52.0	HH
PCB 189	0.00220 U	0.00600 U	0.00820 U	0.00180 U	0.00800 U	0.00980 U	--	--	5,200	HH
Total PCBs as Congeners (KM, capped)	**154 J**	**22.6 J**	**177 J**	**138 J**	**26.4 J**	**164 J**	64.0	HH	14,000	Eco
Semivolatile Organic Compounds (ng/L)										
Bis(2-ethylhexyl) Phthalate	7.92 U	3.47 U	11.4 U	6.52 U	3.41 U	9.93 U	1,200	HH	3,000	Eco
Butyl Benzyl Phthalate	0.273 U	0.150 U	0.423 U	0.260 U	0.181 U	0.441 U	19,000	Eco	19,000	Eco
Di-n-butyl Phthalate	0.574 U	0.200 U	0.774 U	0.562 U	0.303 U	0.865 U	35,000	Eco	35,000	Eco
Di-n-octyl Phthalate	0.126 U	0.208 U	0.334 U	0.110 U	0.139 U	0.249 U	1,200	HH	4,100	HH
Low Molecular Weight PAHs (LPAHs) (ng/L)										
Acenaphthene	**1.26**	0.0191 U	**1.28 J**	**1.03**	0.0275 U	**1.06 J**	520,000	Eco	520,000	Eco
Anthracene	0.103 U	**0.0181**	**0.121 J**	0.0797 U	**0.0316**	**0.111 J**	13,000	Eco	13,000	Eco
Phenanthrene	**1.28**	0.0660 U	**1.35 J**	**1.39**	**0.188**	**1.58**	6,300	Eco	140	HH
High Molecular Weight PAHs (HPAHs) (ng/L)										
Benzo(a)anthracene	**0.0152**	0.0299 U	**0.0451 J**	**0.0120**	0.0480 U	**0.0600 J**	3.80	HH	27.0	Eco
Benzo(a)pyrene	0.0164 U	0.0221 U	0.0385 U	0.0131 U	0.0582 U	0.0713 U	3.80	HH	2.90	HH
Benzo(b)fluoranthene	0.0110 U	0.0422 U	0.0532 U	0.00920 EMPC	**0.0825**	**0.0917 J**	3.80	HH	29.0	HH
Benzo(g,h,i)perylene	0.0194 U	0.0289 U	0.0483 U	0.0195 U	0.0410 U	0.0605 U	380	HH	290	HH
Benzo(j,k)flouranthenes	0.0122 U	0.0376 U	0.0498 U	0.0100 U	0.0443 U	0.0543 U	3.80	HH	14.0	Eco
Chrysene	**0.0514**	0.0728 U	**0.124 J**	**0.0464**	**0.125**	**0.171 J**	3.80	HH	2,040	Eco
Dibenz(a,h)anthracene	0.0212 U	0.0232 U	0.0444 U	0.0107 U	0.0240 U	0.0347 U	18.0	HH	2.90	HH
Fluoranthene	0.562 U	**0.112**	**0.674 J**	0.572 U	**0.212**	**0.784 J**	6,160	Eco	6,160	Eco
Indeno(1,2,3-cd)pyrene	0.0200 U	0.0293 U	0.0493 U	0.0202 U	0.0367 U	0.0569 U	3.80	HH	29.0	HH

Notes:
ng/L = Nanogram per liter
pg/L = Picogram per liter
Eco = Ecological
HH = Human Health
MDL = Method detection limit
ND = Non Detect
RDL = reported detection limit
SLV = Screening level value
- = Result not available or not calculated

-- = SLV for analyte not available
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-12b
Post-Removal Reference Area Surface Water Analytical Results for High-Volume XAD Device Samples
PCB Aroclors, PCB Dioxin-Like Congeners, and Semivolatile Organic Compounds
(Page 1 of 2)

Area	Reference			Reference			Reference		
Site ID	P57			P58			P59		
Sample ID	08022757XAD			08030758XAD			08022959XAD		
Sample Date	2/27/2008			3/7/2008			2/29/2008		
Preparation Fraction	Column	Filter	Column+ Filter (ND=RDL/MDL)	Column	Filter	Column+ Filter (ND=RDL/MDL)	Column	Filter	Column+ Filter (ND=RDL/MDL)
PCB Dioxin-Like Congeners (pg/L)									
PCB 77	**0.0470**	0.0320 U	**0.0790 J**	**0.0920**	**0.0470**	**0.139**	0.0430 U	0.0390 U	0.0820 U
PCB 81	0.00730 U	0.00550 U	0.0128 U	0.00700 U	0.00430 U	0.0113 U	0.00700 U	0.00470 U	0.0117 U
PCB 105	**0.125**	**0.262**	**0.387**	**0.178**	**0.282**	**0.460**	**0.149**	**0.297**	**0.446**
PCB 114	0.0110 U	0.0140 U	0.0250 U	0.0110 U	0.0200 U	0.0310 U	0.0170 U	0.0170 U	0.0340 U
PCB 118	**0.378**	**0.743**	**1.12**	**0.593**	**0.932**	**1.53**	**0.489**	**0.884**	**1.37**
PCB 123	0.00700 U	0.0170 U	0.0240 U	0.0140 U	0.0190 U	0.0330 U	0.00900 U	0.0200 U	0.0290 U
PCB 126	0.00680 U	0.00550 U	0.0123 U	0.00600 U	0.00700 U	0.0130 U	0.00390 U	0.00630 U	0.0102 U
PCB 156	0.0260 C U	**0.0850 C**	**0.111 C**	0.0360 C U	**0.0940 C**	**0.130 C**	0.0320 C U	**0.0990 C**	**0.131 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**								
PCB 167	0.0130 U	**0.0410**	**0.0540**	0.0180 U	**0.0570**	**0.0750**	0.0150 U	**0.0560**	**0.0710**
PCB 169	0.00300 U	0.00170 U	0.00470 U	0.00240 U	0.00340 U	0.00580 U	0.00100 U	0.00200 U	0.00300 U
PCB 189	0.00360 U	0.00500 U	0.00860 U	0.00210 U	0.00400 U	0.00610 U	0.00200 U	0.00600 U	0.00800 U
Total PCBs as Congeners (KM, capped)	**154 J**	**24.3 J**	**178 J**	**109 J**	**21.2 J**	**130 J**	**149 J**	**22.8 J**	**172 J**
Semivolatile Organic Compounds (ng/L)									
Bis(2-ethylhexyl) Phthalate	17.0 U	2.76 U	19.8 U	15.5 U	6.76 U	22.3 U	9.13 U	2.75 U	11.9 U
Butyl Benzyl Phthalate	0.450 U	0.203 U	0.653 U	0.501 U	5.47 U	5.97 U	0.322 U	0.158 U	0.480 U
Di-n-butyl Phthalate	0.657 U	0.290 U	0.947 U	0.733 U	0.548 U	1.28 U	0.642 U	0.243 U	0.885 U
Di-n-octyl Phthalate	0.187 U	0.129 U	0.316 U	0.202 U	1.09 U	1.29 U	0.155 U	0.120 U	0.275 U
Low Molecular Weight PAHs (LPAHs) (ng/L)									
Acenaphthene	**1.28**	0.0161 U	**1.30 J**	**0.862**	0.0262 U	**0.888 J**	**2.41**	0.0213 U	**2.43 J**
Anthracene	0.0846 U	**0.0109**	**0.0955 J**	0.0687 U	**0.0194**	**0.0881 J**	0.133 U	**0.0172**	**0.150 J**
Phenanthrene	**1.26**	0.0571 U	**1.32 J**	**1.20**	0.0877 U	**1.29 J**	**1.52**	0.0722 U	**1.59 J**
High Molecular Weight PAHs (HPAHs) (ng/L)									
Benzo(a)anthracene	0.00930 EMPC	0.0205 U	0.0298 U	0.0177 U	0.0209 U	0.0386 U	**0.0162**	0.0276 U	**0.0438 J**
Benzo(a)pyrene	0.0171 U	0.0195 U	0.0366 U	0.0146 U	0.0226 U	0.0372 U	0.0204 U	0.0300 U	0.0504 U
Benzo(b)fluoranthene	0.0120 U	0.0235 U	0.0355 U	0.0100 U	0.0230 U	0.0330 U	0.0146 U	0.0327 U	0.0473 U
Benzo(g,h,i)perylene	0.0199 U	0.0254 U	0.0453 U	0.0121 U	0.0174 U	0.0295 U	0.0148 U	0.0224 U	0.0372 U
Benzo(j,k)flouranthenes	0.0136 U	0.0222 U	0.0358 U	0.0110 U	0.0209 U	0.0319 U	0.0159 U	0.0326 U	0.0485 U
Chrysene	**0.0393**	0.0450 U	**0.0843 J**	**0.0482**	0.0588 U	**0.107 J**	**0.0457**	0.0731 U	**0.119 J**
Dibenz(a,h)anthracene	0.0179 U	0.0224 U	0.0403 U	0.0215 U	0.0289 U	0.0504 U	0.0163 U	0.0182 U	0.0345 U
Fluoranthene	0.485 U	0.0793 U	0.564 U	0.591 U	**0.101**	**0.692 J**	**0.626**	**0.129**	**0.755 J**
Indeno(1,2,3-cd)pyrene	0.0222 U	0.0276 U	0.0498 U	0.0128 U	0.0187 U	0.0315 U	0.0164 U	0.0147 U	0.0311 U

Notes:
ng/L = Nanogram per liter
pg/L = Picogram per liter
MDL = Method detection limit
ND = Non Detect
RDL = reported detection limit
- = Result not available or not calculated
J = The reported value is an estimate.

KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.

Table 6-12b
Post-Removal Reference Area Surface Water Analytical Results for High-Volume XAD Device Samples
PCB Aroclors, PCB Dioxin-Like Congeners, and Semivolatile Organic Compounds
(Page 2 of 2)

Area	Reference			Reference		
Site ID	P60			P61		
Sample ID	08030460XAD			08030661XAD		
Sample Date	3/4/2008			3/6/2008		
Preparation Fraction	Column	Filter	Column+ Filter (ND=RDL/MDL)	Column	Filter	Column+ Filter (ND=RDL/MDL)
PCB Dioxin-Like Congeners (pg/L)						
PCB 77	0.0410 U	**0.0570**	**0.0980**	**0.0800**	**0.0710**	**0.151**
PCB 81	0.00620 U	0.00470 U	0.0109 U	0.00660 U	0.00570 U	0.0123 U
PCB 105	**0.144**	**0.3270**	**0.471**	**0.160**	**0.403**	**0.563**
PCB 114	0.0100 U	0.0200 U	0.0300 U	0.00900 U	0.0220 U	0.0310 U
PCB 118	**0.553**	**1.080**	**1.63**	**0.552**	**1.22**	**1.77**
PCB 123	0.0140 U	0.0260 U	0.0400 U	0.0110 U	0.0260 U	0.0370 U
PCB 126	0.00410 U	0.0080 U	0.0121 U	0.00700 U	0.00800 U	0.0150 U
PCB 156	C 0.0300 U	**0.115 C**	**0.145 C**	0.0340 C U	**0.104 C**	**0.138 C**
PCB 157						
PCB 167	0.0160 U	**0.0700**	**0.0860**	0.0180 U	**0.0600**	**0.0780**
PCB 169	0.00160 U	0.00320 U	0.00480 U	0.00140 U	0.00240 U	0.00380 U
PCB 189	0.00200 U	0.00400 U	0.00600 U	0.00140 U	0.00500 U	0.00640 U
Total PCBs as Congeners (KM, capped)	**146 J**	**26.7 J**	**172 J**	**123 J**	**25.6 J**	**148 J**
Semivolatile Organic Compounds (ng/L)						
Bis(2-ethylhexyl) Phthalate	5.77 U	13.0 U	18.8 U	8.37 U	5.01 U	13.4 U
Butyl Benzyl Phthalate	0.299 U	0.452 U	0.751 U	0.263 U	0.402 U	0.665 U
Di-n-butyl Phthalate	0.626 U	0.595 U	1.22 U	0.517 U	0.324 U	0.841 U
Di-n-octyl Phthalate	0.0990 U	0.285 U	0.384 U	0.0910 U	0.180 U	0.271 U
Low Molecular Weight PAHs (LPAHs) (ng/L)						
Acenaphthene	**1.57**	0.0328 U	**1.60 J**	**0.971**	0.0141 U	**0.985 J**
Anthracene	0.0804 U	**0.0218**	**0.102 J**	0.0594 U	**0.0238**	**0.0832 J**
Phenanthrene	**1.46**	0.108 U	**1.57 J**	**1.23**	0.114 U	**1.34 J**
High Molecular Weight PAHs (HPAHs) (ng/L)						
Benzo(a)anthracene	**0.0159**	0.0374 U	**0.0533 J**	**0.0115**	0.0376 U	**0.0491 J**
Benzo(a)pyrene	0.0172 U	0.0392 U	0.0564 U	0.0131 U	0.0405 U	0.0536 U
Benzo(b)fluoranthene	0.0114 U	**0.0555**	**0.0669 J**	0.00870 U	**0.0512**	**0.0599 J**
Benzo(g,h,i)perylene	0.0163 U	0.0344 U	0.0507 U	0.0203 U	0.0400 U	0.0603 U
Benzo(j,k)flouranthenes	0.0124 U	0.0344 U	0.0468 U	0.00930 U	0.0551 U	0.0644 U
Chrysene	**0.0661**	0.0832 U	**0.149 J**	**0.0562**	0.0930 U	**0.149 J**
Dibenz(a,h)anthracene	0.0147 U	0.0224 U	0.0371 U	0.0179 U	0.0221 U	0.0400 U
Fluoranthene	**0.630**	**0.139**	**0.769**	**0.620**	**0.163**	**0.783**
Indeno(1,2,3-cd)pyrene	0.0182 U	0.0328 U	0.0510 U	0.0222 U	0.0417 U	0.0639 U

Notes:
ng/L = Nanogram per liter
pg/L = Picogram per liter
MDL = Method detection limit
ND = Non Detect
RDL = reported detection limit
- = Result not available or not calculated
J = The reported value is an estimate.

KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.

Table 6-12c
Post-Removal Forebay Surface Water Analytical Results for Grab Samples
Metals, Petroleum Hydrocarbons, and General Chemistry Parameters

Area	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Site ID	P52	P53	P54	P55	P56				
Sample ID	08021252SW	08022453SW	08021354SW	08022555SW	08022156SW				
Sample Date	2/12/2008	2/24/2008	2/13/2008	2/25/2008	2/21/2008				
Total Metals (µg/L)									
Aluminum	145 U	**91.0**	152 U	**99.0**	**141**	--	--	37000	HH
Antimony	7.00 U	7.00 U	7.00 U	50.0 U	7.00 U	5.6	HH	15	HH
Arsenic	**0.810**	**0.930**	**0.880**	**0.920**	**1.01**	0.018	HH	0.038	HH
Barium	**22.0**	**25.0**	**23.0**	**24.0**	**27.0**	1000	HH	7300	HH
Beryllium	**0.00900**	0.0200 U	**0.00300**	0.0200 U	0.0200 U	--	--	73	HH
Cadmium	**0.0130**	**0.0170 J**	**0.00900**	**0.0190 J**	**0.0130 J**	--	--	18	HH
Chromium	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	--	--	55000	HH
Cobalt	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	--	--	11	HH
Copper	**0.670**	**0.670**	**0.670**	**0.790**	**0.720**	1300	HH	1500	HH
Lead	**0.0790**	**0.175**	**0.0870**	**0.108**	**0.140**	--	--	15	HH
Mercury	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U	--	--	11	HH
Nickel	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	610	HH	730	HH
Thallium	**0.0330**	**0.0260**	**0.0310**	**0.0280**	**0.0280**	0.24	HH	2	HH
Vanadium	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	--	--	2.6	HH
Zinc	7.00 U	7.00 U	7.00 U	7.00 U	7.00 U	7400	HH	11000	HH
Dissolved Metals (µg/L)									
Aluminum	50 U	20.0 U	50.0 U	20.0 U	20.0 U	87	Eco	87	Eco
Antimony	7.00 U	7.00 U	7.00 U	50.0 U	7.00 U	5.6	HH	15	HH
Arsenic	**0.720**	**0.890**	**0.820**	**0.940**	**0.890**	0.018	HH	0.038	HH
Barium	**21.0**	**24.0**	**22.0**	**23.0**	**24.0**	4	Eco	4	Eco
Beryllium	**0.00300**	0.0200 U	**0.00400**	0.0200 U	0.0200 U	5.3	Eco	5.3	Eco
Cadmium	**0.00800**	0.00700 U	0.00800 U	0.00700 U	**0.0100 J**	0.25	Eco	0.25	Eco
Chromium	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	74	Eco	74	Eco
Cobalt	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	23	Eco	11	HH
Copper	**0.520**	**0.450**	**0.440**	**0.480**	**0.460**	9	Eco	9	Eco
Lead	**0.0360**	**0.0220**	0.00300 U	**0.0140 J**	0.00900 U	2.5	Eco	2.5	Eco
Mercury	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.77	Eco	0.77	Eco
Nickel	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	52	Eco	52	Eco
Thallium	**0.0300**	**0.0240**	**0.0310**	**0.0230**	**0.0240**	0.24	HH	2	HH
Vanadium	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	20	Eco	2.6	HH
Zinc	**7.50**	7.00 U	7.00 U	7.00 U	7.00 U	120	Eco	120	Eco
Total Petroleum Hydrocarbons (µg/L)									
Diesel Range Organics	**15.0 J**	11.0 U	**15.0 J**	11.0 U	11.0 U	--	--	90	HH
Residual Range Organics	110 U	100 U	120 U	100 U	19.0 U	--	--	290	HH
Dissolved Petroleum Hydrocarbons (µg/L)									
Diesel Range Organics	**15.0 J**	**14.0 J**	**28.0 J**	**46.0 J**	**18.0 J**	--	--	90	HH
Residual Range Organics	110 U	19.0 U	120 U	100 U	100 U	--	--	290	HH
General Chemistry Parameters (mg/L)									
Total Chloride	**3.20**	**4.20**	**2.90**	**3.30**	**3.30**	230	Eco	230	Eco
Total Sulfate	**13.3**	**14.7**	**13.8**	**14.7**	**14.9**	--	--	--	--
Total Nitrate+Nitrite Nitrogen	**0.200**	**0.300**	**0.200**	**0.200**	**0.200**	--	--	10	HH
Total Organic Carbon	**1.90**	**1.80**	**1.80**	**1.90**	**1.70**	--	--	--	--
Dissolved Organic Carbon	**2.10**	**1.80**	**1.80**	**1.70**	**1.80**	--	--	--	--

Notes:

µg/L = Microgram per liter
mg/L = Milligram per liter
Eco = Ecological
HH = Human Health
MDL = Method detection limit
SLV = Screening level value
- = Result not available

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV

Table 6-12d
Reference Area Surface Water Analytical Results for Grab Samples
Metals, Petroleum Hydrocarbons, and General Chemistry Parameters

Area	Reference	Reference	Reference	Reference	Reference
Site ID	P57*	P58	P59	P60	P61
Sample ID	08022757SW	08030758SW	08022959SW	08030460SW	08030661SW
Sample Date	2/27/2008	3/7/2008	2/29/2008	3/4/2008	3/6/2008
Total Metals (µg/L)					
Aluminum	**91.0**	**118**	**123**	**100**	**115**
Antimony	7.00 U	7.00 U	7.00 U	**9.30 J**	7.00 U
Arsenic	**0.910**	1.05 U	**1.22**	**1.25**	**1.22**
Barium	**21.0**	**22.1**	**25.0**	**25.3**	**25.6**
Beryllium	0.0200 U	0.00800 U	**0.0210**	**0.00900 J**	**0.0110 J**
Cadmium	**0.0100 J**	0.0200 U	**0.0210**	0.0200 U	0.0200 U
Chromium	2.00 U	2.00 U	2.00 U	2.00 U	**2.00 J**
Cobalt	**2.00 J**	2.00 U	2.00 U	2.00 U	2.00 U
Copper	**0.605**	**0.770**	**0.710**	**0.760**	**0.830**
Lead	**0.0580**	**0.203**	**0.0910**	**0.0770**	**0.0920**
Mercury	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U
Nickel	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Thallium	**0.0205**	0.0200 U	0.0370 U	0.0240 U	0.0270 U
Vanadium	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Zinc	7.00 U	7.00 U	7.00 U	7.00 U	7.00 U
Dissolved Metals (µg/L)					
Aluminum	**27.0 J**	20.0 U	20.0 U	20.0 U	20.0 U
Antimony	7.00 U	7.00 U	7.00 U	7.00 U	7.00 U
Arsenic	**0.935**	1.15 U	**1.26**	1.10 U	1.14 U
Barium	**21.5**	**22.2**	**23.5**	**23.3**	**23.5**
Beryllium	0.0200 U	0.00800 U	0.00800 U	0.00800 U	0.00800 U
Cadmium	0.00700 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U
Chromium	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Cobalt	**2.20 J**	2.00 U	2.00 U	2.00 U	2.00 U
Copper	**0.450**	**0.550**	**0.550**	**0.600**	**0.610**
Lead	**0.0140 J**	**0.0150**	0.0090 U	0.00900 U	**0.0240**
Mercury	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U
Nickel	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Thallium	**0.0185 J**	**0.0200**	0.0240 U	0.0200 U	0.0200 U
Vanadium	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
Zinc	7.00 U	7.00 U	7.00 U	7.00 U	7.00 U
Total Petroleum Hydrocarbons (µg/L)					
Diesel Range Organics	11.0 U	12.0 U	**13.0 J**	**14.0 J**	**19.0 J**
Residual Range Organics	100 U	20 U	**24 J**	**22 J**	**71 J**
Dissolved Petroleum Hydrocarbons (µg/L)					
Diesel Range Organics	11.0 U	12.0 U	11.0 U	**13.0 J**	12.0 U
Residual Range Organics	100 U	21 U	**24 J**	**20 J**	**21 J**
General Chemistry Parameters (mg/L)					
Total Chloride	**3.30**	**3.20**	**3.50**	**3.50**	**3.30**
Total Sulfate	**14.0**	**13.9**	**14.5**	**14.3**	**14.5**
Total Nitrate+Nitrite Nitrogen	**0.200**	**0.250**	**0.290**	**0.300**	**0.310**
Total Organic Carbon	**1.70**	**1.90**	**1.80**	**2.00**	**2.10**
Dissolved Organic Carbon	**1.70**	**1.80**	**1.80**	**1.80**	**2.30**

Notes:

µg/L = Microgram per liter
mg/L Milligram per liter
MDL = Method detection limit
- = Result not available
J = The reported value is an estimate.

U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-13a
Goose Island Area Crayfish, Sculpin, and Clam Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds

Area	Forebay - Goose Island	Forebay - Goose Island	Forebay - Goose Island	**Selected SLV (Crayfish)**	**SLV Source (Crayfish)**	**Selected SLV (Sculpin and Clam)**	**SLV Source (Sculpin and Clam)**
Site ID	P110	P110	P110				
Sample ID	090429110CF	090429110SC	090429110TC				
Sample Date	4/29/2009	4/29/2009	4/29/2009				
Percent Lipds	0.62	4.2	3.0				
Medium	Crayfish Tissue	Sculpin Tissue	Clam Tissue				
PCB Aroclors (µg/kg wet)							
Aroclor 1016	2.40 U	-	6.10 UJ	0.570	HH	35.0	Eco
Aroclor 1221	2.60 U	-	5.90 UJ	0.570	HH	35.0	Eco
Aroclor 1232	2.30 U	-	9.70 UJ	0.570	HH	35.0	Eco
Aroclor 1242	2.20 U	-	6.60 UJ	0.570	HH	35.0	Eco
Aroclor 1248	0.510 U	-	5.20 UJ	0.570	HH	35.0	Eco
Aroclor 1254	1.80 U	-	14.0 UJ	0.570	HH	35.0	Eco
Aroclor 1260	1.90 U	-	6.30 UJ	0.570	HH	35.0	Eco
Aroclor 1262	2.50 U	-	3.20 UJ	0.570	HH	35.0	Eco
Aroclor 1268	2.00 U	-	2.00 UJ	0.570	HH	35.0	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	2.60 U	-	14.0 UJ	0.570	HH	35.0	Eco
PCB Dioxin-Like Congeners (µg/kg wet)							
PCB 77	**0.00226**	**0.00799**	**0.0337**	0.0760	HH	0.160	Eco
PCB 81	0.000145 U	0.000882 EMPC	0.00217 EMPC	0.0250	HH	0.0800	Eco
PCB 105	**0.00624**	**0.362**	**0.352**	0.250	HH	20.0	Eco
PCB 114	**0.00235**	**0.0220**	**0.0228**	0.250	HH	20.0	Eco
PCB 118	**0.0870**	**0.872**	**1.59**	0.250	HH	20.0	Eco
PCB 123	**0.00256**	**0.0163**	**0.0280**	0.250	HH	20.0	Eco
PCB 126	0.000261 EMPC	**0.00315**	**0.00307**	0.0000760	HH	0.00580	Eco
PCB 156	**0.0133 C**	**0.106 C**	**0.0969 C**	0.250	HH	20.0	Eco
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**			0.250	HH	20.0	Eco
PCB 167	**0.0112**	**0.0348**	**0.0925**	0.250	HH	20.0	Eco
PCB 169	0.000164 U	0.00131 U	0.00108 U	0.000250	HH	0.0200	Eco
PCB 189	**0.000662**	**0.00383**	**0.00157**	0.250	HH	20.0	Eco
Total PCBs as Congeners (KM, capped)	**0.587 J**	**8.14 J**	**21.4 J**	0.570	HH	35.0	Eco
Metals (mg/kg wet)							
Aluminum	**147**	-	**75.5**	--	--	--	--
Antimony	**0.00800 J**	-	0.00100 U	--	--	--	--
Arsenic	**0.303**	-	**1.59**	0.000760	HH	6.60	Eco
Barium	**57.0**	-	**1.66**	--	--	--	--
Beryllium	**0.00400 J**	-	**0.00200 J**	--	--	--	--
Cadmium	**0.0769**	-	**0.243**	0.150	Eco	0.150	Eco
Chromium	**0.190**	-	**0.492**	--	--	--	--
Cobalt	**0.391**	-	**0.0996**	--	--	--	--
Copper	**15.5**	-	**6.75**	--	--	--	--
Lead	**0.471**	-	**0.0615**	0.120	Eco	0.120	Eco
Mercury	**0.0359 J**	-	**0.0163 J**	0.0490	HH	0.0740	Eco
Methyl Mercury	-	-	-	--	--	--	--
Nickel	**1.21**	-	**0.221**	--	--	--	--
Thallium	**0.0128**	-	**0.00650**	--	--	--	--
Vanadium	**0.729**	-	**0.253**	--	--	--	--
Zinc	**20.3**	-	**20.5**	--	--	--	--
Semivolatile Organic Compounds (µg/kg wet)							
Bis(2-ethylhexyl) Phthalate	66.0 U	-	66.0 U	81.9	HH	1,760	Eco
Butyl Benzyl Phthalate	7.30 U	-	7.30 U	310	Eco	310	Eco
Carbazole	7.70 U	-	7.70 U	-	-	--	--
Di-n-butyl Phthalate	140 U	-	170 U	626	Eco	626	Eco
Di-n-octyl Phthalate	11.0 U	-	11.0 U	626	Eco	626	Eco
p-cresol (4-Methylphenol)	11.0 U	-	**29.0 J**	-	-	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)							
Acenaphthene	0.500 U	-	**0.680**	15,000	HH	19,000	Eco
Anthracene	**0.430 J**	-	**1.20**	15,000	HH	19,000	Eco
Fluorene	**0.510**	-	**1.80**	15,000	HH	19,000	Eco
Phenanthrene	**0.820**	-	**10.0**	15,000	HH	19,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)							
Benzo(a)anthracene	0.500 U	-	**3.40**	1.57	HH	1,000	Eco
Benzo(a)pyrene	0.0610 U	-	**0.750**	0.157	HH	1,000	Eco
Benzo(b)fluoranthene	**0.150 J**	-	**2.20**	1.57	HH	1,000	Eco
Benzo(g,h,i)perylene	**0.110 J**	-	**0.740**	15.7	HH	1,000	Eco
Benzo(k)fluoranthene	**0.110 J**	-	**1.30**	15.7	HH	1,000	Eco
Chrysene	0.200 U	-	**2.50**	157	HH	1,000	Eco
Dibenz(a,h)anthracene	0.0450 U	-	**0.480 J**	0.157	HH	1,000	Eco
Fluoranthene	0.500 U	-	**18.0**	19,000	Eco	19,000	Eco
Indeno(1,2,3-cd)pyrene	**0.150 J**	-	**0.890**	1.57	HH	1,000	Eco
Pyrene	0.500 U	-	**5.40**	1,000	Eco	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect
J = The reported value is an estimate.

[1] Only Aroclor 1254 was included in summing clam Total PCBs as Aroclors because all other aroclors were undected in Forebay clam samples.
The crayfish Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Forebay crayfish samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-13b
Mouth of Eagle Creek and Goose Island Area Sediment Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size

Area	Forebay - Eagle Creek	Forebay - Eagle Creek	Forebay - Goose Island	Forebay - Goose Island		
Site ID	P43	P44	P110	P111		
Sample ID	08032043SD	08032044SD	090427110SD	090429111SD	**Selected SLV**	**SLV Source**
Sample Date	3/20/2008	3/20/2008	4/27/2009	4/29/2009		
PCB Aroclors (µg/kg dry)						
Aroclor 1016	1.70 U	1.70 U	2.50 U	2.70 U	0.0480	HH
Aroclor 1221	1.70 U	1.70 U	2.50 U	2.70 U	0.0480	HH
Aroclor 1232	1.70 U	1.70 U	2.50 U	2.70 U	0.0480	HH
Aroclor 1242	1.70 U	1.70 U	2.50 U	2.70 U	0.0480	HH
Aroclor 1248	**76.0**	1.70 U	2.50 U	2.70 U	0.0480	HH
Aroclor 1254	1.70 U	1.70 U	2.50 U	**9.90 J**	0.0480	HH
Aroclor 1260	1.70 U	1.70 U	2.50 UJ	2.70 UJ	0.0480	HH
Aroclor 1262	1.70 U	1.70 U	-	-	0.0480	HH
Aroclor 1268	1.70 U	1.70 U	-	-	0.0480	HH
Total PCBs as Aroclors (NDs at MDL) [1]	**77.7 J**	3.40 U	5.00 U	**12.6 J**	0.0480	HH
PCB Dioxin-Like Congeners (µg/kg dry)						
PCB 77	-	-	**0.00285**	**0.00353**	0.00640	HH
PCB 81	-	-	**0.000135**	0.000150 EMPC	0.00210	HH
PCB 105	-	-	**0.0249**	**0.0277**	0.0210	HH
PCB 114	-	-	**0.00129**	**0.00137**	0.0210	HH
PCB 118	-	-	**0.0657**	**0.0695**	0.0260	HH
PCB 123	-	-	**0.000963**	0.000970 EMPC	0.0260	HH
PCB 126	-	-	0.000255 EMPC	0.000419 EMPC	0.00000620	HH
PCB 156	-	-	**0.00850 C**	**0.0104 C**	0.0260	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**				0.0260	HH
PCB 167	-	-	**0.00402**	**0.00381**	0.0260	HH
PCB 169	-	-	0.000241 U	0.000250 U	0.0000210	HH
PCB 189	-	-	**0.000615**	**0.000869**	0.140	HH
Total PCBs as Congeners (KM, capped)	-	-	**1.20 J**	**1.34 J**	0.0480	HH
Metals (mg/kg dry)						
Aluminum	**16,300**	**18,000**	**17,100**	**18,800**	38,000	UPL
Antimony	**0.0400 J**	**0.0800 J**	**0.440**	**0.580**	3.00	Eco
Arsenic	**0.680**	**3.23**	**4.00**	**4.25**	6.00	Eco
Barium	**74.4**	**110**	**112**	**131**	315	UPL
Beryllium	**0.353**	**0.371**	**0.561**	**0.505**	0.847	UPL
Cadmium	0.0750 U	0.131 U	**0.887**	**1.17**	0.674	UPL
Chromium	**20.2**	**23.5**	**20.6**	**21.6**	37.0	Eco
Cobalt	**11.0**	**9.93**	**11.6**	**11.2**	15.2	UPL
Copper	**16.6**	**24.8**	**32.6**	**34.2**	55.6	UPL
Lead	**4.19**	**10.9**	**13.1**	**13.6**	35.0	Eco
Mercury	**0.00700**	**0.0290**	**0.181**	**0.179**	0.214	UPL
Nickel	**19.9**	**15.6**	**19.4**	**18.1**	21.2	UPL
Thallium	0.0560 U	0.156 U	**0.272**	**0.435**	0.354	UPL
Vanadium	**70.3**	**62.5**	**61.5**	**59.3**	70.6	UPL
Zinc	**52.7**	**65.1**	**115**	**148**	123	Eco
Petroleum Hydrocarbons (mg/kg dry)						
Diesel Range Organics	**2.90 J**	**13.0 J**	**53.0 J**	**49.0 J**	--	--
Residual Range Organics	150 U	150 U	**480**	**410**	--	--
Semivolatile Organic Compounds (µg/kg dry)						
Bis(2-ethylhexyl) Phthalate	200 U	200 U	**13.0 J**	**9.90 J**	750	Eco
Butyl Benzyl Phthalate	9.90 U	9.90 U	1.80 U	1.90 U	110	Eco
Carbazole	1.30 U	**2.20 J**	1.60 U	1.70 U	140	Eco
Di-n-butyl Phthalate	9.90 U	11.0 U	**10.0 J**	**5.60 J**	110	Eco
Di-n-octyl Phthalate	1.20 U	1.20 U	1.50 U	1.60 U	110	Eco
p-cresol (4-Methylphenol)	2.90 U	2.90 U	**8.50 J**	3.70 U	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)						
Acenaphthene	1.00 U	1.00 U	1.20 U	1.30 U	*290*	*Eco*
Anthracene	1.40 U	**2.60 J**	1.70 U	1.80 U	57.0	Eco
Fluorene	1.70 U	1.70 U	2.10 U	2.20 U	*77.0*	*Eco*
Phenanthrene	**2.30 J**	**6.50 J**	**3.80 J**	**4.60 J**	42.0	Eco
Total LPAHs (KM, capped; NDs at MDL)	**6.40 J**	**11.8 J**	**8.80 J**	**9.90 J**	76.0	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)						
Benzo(a)anthracene	1.40 U	**6.60 J**	**4.20 J**	**7.80 J**	32.0	Eco
Benzo(a)pyrene	1.60 U	**7.10 J**	**8.70 J**	**13.0 J**	32.0	Eco
Benzo(b)fluoranthene	2.50 U	**11.0**	**6.50 J**	**15.0**	27.0	Eco
Benzo(g,h,i)perylene	2.30 U	**5.00 J**	**5.60 J**	**9.90 J**	300	Eco
Benzo(k)fluoranthene	2.50 U	**3.40 J**	3.00 U	**4.10 J**	27.0	Eco
Chrysene	**1.80 J**	**13.0**	**5.80 J**	**11.0 J**	57.0	Eco
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.70 U	2.80 U	33.0	Eco
Fluoranthene	2.20 U	**11.0**	**7.30 J**	**9.60 J**	111	Eco
Indeno(1,2,3-cd)pyrene	1.90 U	**4.60 J**	**5.00 J**	**7.10 J**	17.0	Eco
Pyrene	**3.40 J**	**17.0**	**7.20 J**	**8.80 J**	53.0	Eco
Total HPAHs (KM, capped; NDs at MDL)	**17.2 J**	**80.9 J**	**55.7 J**	**89.1 J**	193	Eco
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)						
Total PAHs (KM, capped; NDs at MDL)	**19.5 J**	**90.8 J**	**60.1 J**	**96.1 J**	1600	Eco
General Chemistry Parameters (mg/kg dry) and Grain Size (%)						
Carbon, Total Organic	**2,300**	**5,700**	**25,600**	**11,000**	--	--
Gravel (>2.00 mm)	**15.2**	**37.4**	**5.84**	**1.94**	--	--
Sand, Very Coarse (1.00 - 2.00 mm)	**10.9**	**9.70**	**7.41**	**1.77**	--	--
Sand, Coarse (0.50 - 1.00 mm)	**27.7**	**13.3**	**5.99**	**1.31**	--	--
Sand, Medium (0.25 - 0.50 mm)	**27.5**	**13.9**	**5.74**	**2.04**	--	--
Sand, Fine (0.125 - 0.25 mm)	**14.5**	**14.6**	**7.56**	**5.34**	--	--
Sand, Very Fine (0.0625 - 0.125 mm)	**2.23**	**5.84**	**8.44**	**14.3**	--	--
Silt (0.039 - 0.0625 mm)	**2.00**	**6.09**	**42.9**	**59.6**	--	--
Clay (<0.039 mm)	**0.470**	**0.920**	**11.8**	**10.3**	--	--

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
ND = Non Detect
SLV = screening level value
RDL = reported detection limit
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

[1] Only Aroclors 1248 and 1254 were included in summing sediment Total PCBs as Aroclors because all other aroclors were undected in Forebay sediment
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-14
Post-Removal Downstream Area Sediment Analytical Results
PCB Aroclors, PCB Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size

Area	Downstream	Downstream	Downstream	Downstream	Downstream	Downstream	Selected SLV	SLV Source
Site ID	P46	P47	P48	P49	P50	P51		
Sample ID	08031046SD	08031047SD	08031048SD	08031049SD	08031150SD	08031151SD		
Sample Date	3/10/2008	3/10/2008	3/10/2008	3/10/2008	3/11/2008	3/11/2008		
PCB Aroclors (µg/kg dry)								
Aroclor 1016	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1221	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1232	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1242	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1248	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1254	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1260	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1262	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1268	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Total PCBs as Aroclors (NDs at MDL) [1]	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
PCB Dioxin-Like Congeners (µg/kg dry)								
PCB 77	0.000259 EMPC	0.000531 EMPC	**0.000478**	**0.00160**	**0.00201**	**0.000573**	0.00640	HH
PCB 81	0.0000831 U	0.0000707 U	0.0000492 U	**0.000260**	0.000100 U	0.0000981 U	0.00210	HH
PCB 105	**0.00179**	**0.00626**	**0.00426**	**0.00943**	**0.0197**	**0.00398**	0.0210	HH
PCB 114	0.0000976 U	**0.000383**	**0.000239**	**0.000650**	**0.000957**	**0.000315**	0.0210	HH
PCB 118	**0.00409**	**0.0132**	**0.00918**	**0.0167**	**0.0456**	**0.0109**	0.0260	HH
PCB 123	0.000168 EMPC	**0.000271**	**0.000130**	**0.000497**	**0.000874**	**0.000226**	0.0260	HH
PCB 126	0.000113 U	0.0000805 U	0.0000787 U	0.000171 U	**0.000211**	0.0000962 U	0.00000620	HH
PCB 156	0.000604 EMPC	**0.00182 C**	0.00139 C EMPC	**0.00289 C**	**0.00625 C**	**0.00174 C**	0.0260	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						0.0260	HH
PCB 167	**0.000320**	**0.000697**	**0.000554**	**0.00103**	**0.00261**	**0.000765**	0.0260	HH
PCB 169	0.0000697 U	0.0000894 U	0.0000630 U	0.0000900 U	0.000154 U	0.0000837 U	0.0000210	HH
PCB 189	0.0000733 U	0.000115 EMPC	**0.0000970**	**0.000254**	**0.000596**	**0.000140**	0.140	HH
Total PCBs as Congeners (KM, capped)	**0.0880 J**	**0.215 J**	**0.173 J**	**0.418 J**	**0.917 J**	**0.213 J**	0.0480	HH
Metals (mg/kg dry)								
Aluminum	**20,700**	**10,600**	**11,100**	**10,600**	**18,800**	**21,600**	38,000	UPL
Antimony	**0.240 J**	**0.0600 J**	**0.0800 J**	**0.120 J**	**0.230 J**	**0.400 J**	3.00	Eco
Arsenic	**5.84**	**3.72**	**2.48**	**2.80**	**3.25**	**5.71**	6.00	Eco
Barium	**161**	**96.5**	**99.0**	**124**	**172**	**140**	315	UPL
Beryllium	**0.444**	**0.288**	**0.286**	**0.300**	**0.472**	**0.513**	0.847	UPL
Cadmium	**0.209**	**0.290**	**0.229**	**0.345**	**0.791**	**0.308**	0.674	UPL
Chromium	**25.0**	**16.1**	**20.1**	**19.7**	**22.8**	**29.9**	37.0	Eco
Cobalt	**10.1**	**7.05**	**6.93**	**8.06**	**8.53**	**11.5**	15.2	UPL
Copper	**20.0**	**12.5**	**13.3**	**14.5**	**20.9**	**24.1**	55.6	UPL
Lead	**8.18**	**8.50**	**6.67**	**11.6**	**12.7**	**9.00**	35.0	Eco
Mercury	**0.0340**	**0.0330**	**0.0690**	**0.0480**	**0.136**	**0.0580**	0.214	UPL
Nickel	**12.5**	**13.2**	**13.0**	**13.6**	**14.1**	**15.2**	21.2	UPL
Thallium	**0.163**	**0.165**	0.130 U	**0.205**	**0.234**	**0.178**	0.354	UPL
Vanadium	**65.0**	**43.8**	**44.6**	**47.4**	**49.8**	**73.5**	70.6	UPL
Zinc	**67.7**	**79.6**	**56.7**	**105**	**117**	**70.5**	123	Eco
Petroleum Hydrocarbons (mg/kg dry)								
Diesel Range Organics	**8.20 J**	**8.10 J**	**8.70 J**	**5.90 J**	**21.0**	**25.0**	--	--
Residual Range Organics	140 U	140 U	150 U	**41.0 J**	180 U	150 U	--	--
Semivolatile Organic Compounds (µg/kg dry)								
Bis(2-ethylhexyl) Phthalate	200 U	200 U	200 U	200 U	200 U	200 U	750	Eco
Butyl Benzyl Phthalate	1.50 U	1.50 U	1.50 U	9.90 U	1.50 U	1.50 U	110	Eco
Carbazole	1.30 U	1.30 U	1.30 U	1.30 U	**1.60 J**	1.30 U	140	Eco
Di-n-butyl Phthalate	11.0 U	11.0 U	14.0 U	10.0 U	9.90 U	9.80 U	110	Eco
Di-n-octyl Phthalate	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	110	Eco
p-cresol (4-Methylphenol)	2.90 U	2.90 U	2.90 U	2.90 U	**130**	**3.40 J**	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)								
Acenaphthene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	290	Eco
Anthracene	**2.70 J**	1.40 U	1.40 U	1.40 U	**3.10 J**	**1.60 J**	57.0	Eco
Fluorene	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	77.0	Eco
Phenanthrene	**4.80 J**	1.30 U	1.30 U	**2.20 J**	**4.90 J**	**4.00 J**	42.0	Eco
Total LPAHs (KM, capped; NDs at MDL)	**10.2 J**	5.40 U	5.40 U	**6.30 J**	**10.7 J**	**8.30 J**	76.0	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)								
Benzo(a)anthracene	**9.60 J**	**1.70 J**	**1.80 J**	**3.30 J**	**12.0**	**3.70 J**	32.0	Eco
Benzo(a)pyrene	**11.0**	**1.90 J**	1.60 U	**4.30 J**	**14.0**	**4.50 J**	32.0	Eco
Benzo(b)fluoranthene	**9.70 J**	2.50 U	2.50 U	**4.50 J**	**16.0**	**3.30 J**	27.0	Eco
Benzo(g,h,i)perylene	**5.80 J**	2.30 U	2.30 U	**2.80 J**	**6.80 J**	2.30 U	300	Eco
Benzo(k)fluoranthene	**4.20 J**	2.50 U	2.50 U	2.50 U	**6.50 J**	2.50 U	27.0	Eco
Chrysene	**9.60 J**	**1.60 J**	1.40 U	**3.50 J**	**18.0**	**3.40 J**	57.0	Eco
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.20 U	2.20 U	**2.30 J**	2.20 U	33.0	Eco
Fluoranthene	**20.0**	**2.90 J**	2.20 U	**4.30 J**	**22.0**	**6.20 J**	111	Eco
Indeno(1,2,3-cd)pyrene	**6.30 J**	1.90 U	1.90 U	**2.80 J**	**8.20 J**	1.90 U	17.0	Eco
Pyrene	**20.0**	**2.60 J**	**1.80 J**	**4.60 J**	**21.0**	**6.40 J**	53.0	Eco
Total HPAHs (KM, capped; NDs at MDL)	**98.4 J**	**19.2 J**	**16.0 J**	**34.5 J**	**127 J**	**35.1 J**	193	Eco
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)								
Total PAHs (KM, capped; NDs at MDL)	**107 J**	**21.4 J**	**16.8 J**	**37.5 J**	**137 J**	**40.6 J**	1600	Eco
General Chemistry Parameters (mg/kg dry) and Grain Size (%)								
Carbon, Total Organic	**3,600**	**3,400**	**3,600**	**7,500**	**11,500**	**5,200**	--	--
Gravel (>2.00 mm)	**0.0600**	**0.640**	**1.66**	**0.530**	**1.53**	**4.58**	--	--
Sand, Very Coarse (1.00 - 2.00 mm)	**0.160**	**2.42**	**1.03**	**0.380**	**2.02**	**6.61**	--	--
Sand, Coarse (0.50 - 1.00 mm)	**0.330**	**15.6**	**1.57**	**0.630**	**2.86**	**10.3**	--	--
Sand, Medium (0.25 - 0.50 mm)	**11.6**	**43.8**	**31.1**	**6.31**	**2.92**	**24.4**	--	--
Sand, Fine (0.125 - 0.25 mm)	**65.3**	**26.7**	**35.6**	**66.4**	**10.2**	**30.1**	--	--
Sand, Very Fine (0.0625 - 0.125 mm)	**20.6**	**3.89**	**9.19**	**16.2**	**35.7**	**9.35**	--	--
Silt (0.039 - 0.0625 mm)	**0.0200**	**8.13**	**15.1**	**5.33**	**39.1**	**9.71**	--	--
Clay (<0.039 mm)	**8.74**	**0.440**	**1.97**	**1.31**	**5.76**	**1.22**	--	--

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
ND = Non Detect
RDL = reported detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

[1] Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Downstream sediment samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-2a
2009 Landfill Soil Analytical Results
Volatile and Semivolatile Organic Compounds, Total Solids, and Grain Size

Site ID	L-01	L-01	L-02	L-02	L-03	L-03	L-04*	L-04	LF-EUA	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	090129-L-L1-0-1So	090129-L-L1-1-3So	090129-L-L2-0-1So	090129-L-L2-1-3So	090129-L-L3-0-1So	090129-L-L3-1-3So	090129-L-L4-0-1So	090129-L-L4-1-3So	090319-LF-EUA-So		
Sample Date	1/29/2009	1/29/2009	1/29/2009	1/29/2009	1/29/2009	1/29/2009	1/29/2009	1/29/2009	3/19/2009		
Sample Depth (Feet bgs)	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-0.17		
Volatile Organic Compounds (µg/kg dry)											
o-Xylene	0.0950 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0620 U	0.0590 U	-	1,000	Eco
Tetrachloroethene (PCE)	**2.90 J**	**25.0 J**	**1.50 J**	**19.0 J**	**5.90 J**	**2.80 J**	**9.70 J**	**27.0 J**	-	1,600	HH
Toluene	**1.30 J**	**3.90 J**	**0.350 J**	**0.900 J**	**0.690 J**	**0.170 J**	**1.46 J**	**1.80 J**	-	200,000	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)											
Acenaphthene	**66.0**	**170**	**220**	**1,900**	**700**	**360**	**1,160**	**420**	-	19,000,000	HH
Acenaphthylene	**3.40**	**12.0**	**15.0**	**41.0**	**13.0**	**15.0**	**19.0**	**13.0**	-	23,000	HH
Anthracene	**99.0**	**400**	**650**	**2,100**	**880**	**900**	**1,070**	**740**	-	93,000,000	HH
Fluorene	**33.0**	**99.0**	**130**	**630**	**340**	**210**	**510**	**240**	-	12,000,000	HH
Naphthalene	**5.00**	**22.0**	**14.0**	**140**	**49.0**	**49.0**	**79.0**	**57.0**	-	23,000	HH
Phenanthrene	**350**	**1,500**	**2,000**	**7,400**	**3,400**	**2,800**	**4,200**	**2,800**	-	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**556**	**2,203**	**3,029**	**12,211**	**5,382**	**4,334**	**7,043**	**4,270**	-	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)											
Benzo(a)anthracene	**690**	**4,500**	**4,100**	**11,000**	**4,500**	**4,800**	**4,500**	**4,800**	-	2,700	HH
Benzo(a)pyrene	**820**	**5,800**	**4,700**	**16,000**	**5,900**	**5,800**	**5,800**	**6,200**	-	270	HH
Benzo(b)fluoranthene	**990**	**7,100**	**5,700**	**16,000**	**6,400**	**6,500**	**6,500**	**7,200**	-	2,700	HH
Benzo(g,h,i)perylene	**460**	**3,300**	**2,500**	**9,500**	**3,300**	**3,100**	**3,250**	**3,500**	-	27,000	HH
Benzo(k)fluoranthene	**310**	**2,400**	**2,000**	**5,900**	**2,300**	**2,400**	**2,300**	**2,500**	-	27,000	HH
Chrysene	**790**	**5,000**	**4,900**	**14,000**	**5,000**	**5,400**	**5,150**	**5,600**	-	270,000	HH
Dibenz(a,h)anthracene	**130**	**970**	**710**	**2,300**	**1,000**	**900**	**900**	**1,100**	-	270	HH
Fluoranthene	**1,200**	**7,700**	**7,000**	**21,000**	**8,200**	**8,700**	**8,700**	**8,600**	-	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**620**	**4,500**	**3,500**	**13,000**	**4,600**	**4,400**	**4,450**	**4,900**	-	2,700	HH
Pyrene	**1,200**	**7,500**	**6,700**	**21,000**	**7,900**	**9,400**	**8,150**	**8,600**	-	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**7,210**	**48,770**	**41,810**	**129,700**	**49,100**	**51,400**	**49,700**	**53,000**	-	1,100	Eco
Total Solids (mg/kg) and Grain Size (%)											
Solids, Total	**750,000**	**820,000**	**807,000**	**835,000**	**833,000**	**836,000**	**828,000**	**858,000**	**667,000**	-	-
Gravel (>2.00 mm)	-	-	-	-	-	-	-	-	**52.6**	-	-
Sand, Very Coarse (1.00 - 2.00 mm)	-	-	-	-	-	-	-	-	**7.81**	-	-
Sand, Coarse (0.50 - 1.00 mm)	-	-	-	-	-	-	-	-	**5.66**	-	-
Sand, Medium (0.25 - 0.50 mm)	-	-	-	-	-	-	-	-	**6.07**	-	-
Sand, Fine (0.125 - 0.25 mm)	-	-	-	-	-	-	-	-	**7.17**	-	-
Sand, Very Fine (0.0625 - 0.125 mm)	-	-	-	-	-	-	-	-	**6.05**	-	-
Silt (0.039 - 0.0625 mm)	-	-	-	-	-	-	-	-	**16.6**	-	-
Clay (<0.039 mm)	-	-	-	-	-	-	-	-	**2.88**	-	-

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-2b
2008-2009 Landfill AOPC Quarterly Groundwater Analytical Results
Metals, Petroleum Hydrocarbons, Butyltins, Volatile Organic Compounds, Semivolatile Organic Compounds, and General Chemistry Parameters
(Page 1 of 3)

Site ID	MW-01	MW-01	MW-01	MW-01	MW-02	MW-02	MW-02	MW-02	MW-03	MW-03	MW-03	MW-03	MW-04	MW-04	MW-04	MW-04	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	080416MW1 GW	080718MW1GW	081024MW1GW	090115MW1GW	080416MW2 GW	080715MW2GW	081022MW2GW	090113MW2GW	080417MW3 GW	080717MW3GW	081023MW3GW	090113MW3GW	080417MW4 GW	080717MW4GW	081023MW4GW	090114MW4GW				
Sample Date	4/16/2008	7/18/2008	10/24/2008	1/15/2009	4/16/2008	7/15/2008	10/22/2008	1/13/2009	4/17/2008	7/17/2008	10/23/2008	1/13/2009	4/17/2008	7/17/2008	10/23/2008	1/14/2009				
Sample Depth (Feet btc)	25	28	31	31	27	27	27	28	16	19	20	19	27	26	23	18				
Sample Depth (Feet btc)	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater				
Total Metals (µg/L)																				
Arsenic	**21.3**	**19.6**	**16.2**	**15.8**	**6.93**	**9.06**	**8.81**	**8.20**	**0.350 J**	**0.400 J**	**0.520**	0.500 U	**0.550**	**0.300 J**	**0.340 J**	0.500 U	0.0180	HH	0.0380	HH
Iron	**75.5**	**7,910**	**2,620**	**4,710**	**185**	**178**	**174**	**198**	**112**	57.8 U	**9.40 J**	60.6 U	**746**	**14,700**	**28,100**	**156**	300	HH	26,000	HH
Lead	**0.558**	**6.36**	**1.70**	**1.44**	**0.397**	**0.556**	**0.343**	**0.377**	**0.154**	0.0560 U	0.0200 U	**0.0400**	**26.9**	**4.96**	**1.65**	**7.45**	-	-	15.0	HH
Manganese	**3.85**	**291**	**69.0**	**77.6**	**6.74**	**4.50 J**	**2.50**	**3.25**	**6.25**	**4.20 J**	**0.810**	**2.07**	**53.2**	**780**	**1,260**	**36.8**	50.0	HH	880	HH
Mercury	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.0	HH
Dissolved Metals (µg/L)																				
Arsenic	**19.3**	**18.3**	-	**14.2**	**7.98**	**9.11**	**8.54**	**8.30**	0.500 U	**0.220 J**	**0.640**	0.500 U	0.500 U	**0.410 J**	**0.370 J**	0.500 U	0.0180	HH	0.0380	HH
Calcium	**42,000**	-	-	-	**9,510**	-	-	-	**12,300**	-	-	-	**98,000**	-	-	-	116,000	Eco	116,000	Eco
Iron	**14.6 J**	**534**	-	20.0 U	**20.1**	20.0 U	**7.50 J**	20.0 U	**5.80 J**	4.00 U	4.00 U	20.0 U	**8.80 J**	**13,200**	**29,600**	27.7 U	300	HH	1,000	Eco
Lead	**0.281**	**0.536**	-	**0.0160 J**	0.00900 U	0.0520 U	0.0230 U	**0.0270 J**	**0.0120 J**	0.0300 U	0.0200 U	0.00600 U	**3.50**	**1.62**	**0.372**	**3.16**	2.50	Eco	2.50	Eco
Magnesium	**2,810**	-	-	-	**1,210**	-	-	-	**4,200**	-	-	-	**7,550**	-	-	-	82,000	Eco	82,000	Eco
Manganese	**0.280**	**22.8**	-	**11.3**	**0.120**	**1.10 J**	0.400 U	**0.330**	**0.550**	**0.400 J**	0.400 U	**0.450**	**53.1**	**737**	**1,340**	**37.1**	50.0	HH	120	Eco
Mercury	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.770	Eco	0.770	Eco
Potassium	**4,620**	-	-	-	**5,020**	-	-	-	**808 J**	-	-	-	**3,750**	-	-	-	53,000	Eco	53,000	Eco
Sodium	**355,000**	-	-	-	**77,400**	-	-	-	**4,100**	-	-	-	**4,040**	-	-	-	680,000	Eco	680,000	Eco
Total Petroleum Hydrocarbons (µg/L)																				
Diesel Range Organics	12.0 U	-	**480**	-	110 U	110 U	13.0 U	**19.0 J**	110 U	110 U	**13.0 J**	**23.0 J**	120 U	**130**	**120**	**210**	-	-	90.0	HH
Residual Range Organics	21.0 U	-	**200**	-	110 U	110 U	120 U	**57.0 J**	110 U	110 U	110 U	**51.0 J**	110 U	140 U	**160**	**160**	-	-	290	HH
Gasoline Range Organics	13.0 U	13.0 U	**14.0 J**	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	**18.0 J**	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	-	-	100	HH
Total Butyltins (µg/L)																				
Dibutyltin	0.00810 U	-	-	-	0.00810 U	0.00730 U	0.00730 U	0.00730 U	**0.0150 J**	**0.0910 J**	0.00730 U	0.00730 U	0.00810 U	**0.110 J**	0.00730 U	0.00730 U	0.0630	Eco	0.0630	Eco
Monobutyltin	0.0110 U	-	-	-	0.0110 U	**0.0290 J**	0.0290 U	0.0290 U	0.0110 U	0.0290 UJ	0.0290 U	0.0290 U	0.0110 U	0.0290 UJ	0.0290 U	0.0290 U	0.0630	Eco	0.0630	Eco
Total Volatile Organic Compounds (µg/L)																				
Chloroform	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	**2.20**	**0.100 J**	0.0820 U	**3.70**	5.70	HH	0.190	HH
Tetrachloroethene (PCE)	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	**6.80**	**7.20**	**5.90**	**5.70**	**0.250 J**	0.0970 U	0.0970 U	**0.230 J**	0.690	HH	0.0930	HH
Vinyl Chloride	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	**0.410 J**	**0.330 J**	0.0440 U	0.0250	HH	0.0250	HH
Total Semivolatile Organic Compounds (µg/L)																				
1,4-Dichlorobenzene	0.0310 U	-	-	-	0.0290 U	0.0290 U	0.0310 UJ	0.0330 U	0.0300 U	0.0320 U	0.0300 UJ	0.0300 U	0.0310 U	0.0290 U	0.0300 UJ	0.0340 U	15.0	Eco	0.420	HH
4-Nitrophenol	0.300 U	-	-	-	0.280 U	0.280 U	0.300 U	0.320 U	0.290 U	0.310 U	0.290 U	0.290 U	0.300 U	0.280 U	0.290 U	0.330 U	150	Eco	150	Eco
Phenanthrene	0.0230 U	-	-	-	0.0220 U	0.0220 U	0.0240 U	0.0250 U	0.0230 U	0.0240 U	0.0230 U	0.0230 U	0.0240 U	0.0220 U	0.0230 U	0.0260 U	6.30	Eco	0.140	HH
Phenol	0.0660 U	-	-	-	0.0630 U	0.0630 U	0.0680 U	0.0700 U	0.0650 U	0.0690 U	0.0650 U	0.0650 U	0.0670 U	0.0630 U	0.0640 U	0.0740 U	110	Eco	110	Eco
General Chemistry Parameters (mg/L)																				
Dissolved Bromide	**0.0720 J**	-	-	-	0.0100 U	-	-	-	0.0100 U	-	-	-	0.0100 U	-	-	-	-	-	-	-
Dissolved Chloride	**5.30**	-	-	-	**3.80**	-	-	-	**0.900**	-	-	-	**1.60**	-	-	-	230	Eco	230	Eco
Dissolved Fluoride	**0.500**	-	-	-	**0.0600 J**	-	-	-	0.200 U	-	-	-	**0.121 J**	-	-	-	-	-	1.50	HH
Dissolved Sulfate	**708**	-	-	-	**93.8**	-	-	-	**4.20**	-	-	-	**7.70**	-	-	-	-	-	-	-
Dissolved Ammonia	0.0500 U	-	-	-	0.0500 U	-	-	-	**0.100**	-	-	-	0.0500 U	-	-	-	-	-	-	-
Dissolved Nitrate+Nitrite	**0.470**	-	-	-	**0.0260 J**	-	-	-	**0.570**	-	-	-	**0.320**	-	-	-	-	-	10.0	HH
Total Organic Carbon	**2.80**	-	-	-	**1.30**	-	-	-	**1.80**	-	-	-	**3.90**	-	-	-	-	-	-	-
Dissolved Organic Carbon	**2.80**	-	-	-	**1.30**	-	-	-	**1.70**	-	-	-	**4.10 J**	-	-	-	-	-	-	-
Dissolved Bicarbonate as CaCO3	**66.0**	-	-	-	**96.0**	-	-	-	**44.0**	-	-	-	**287**	-	-	-	-	-	-	-
Dissolved Carbonate as CaCO3	1.00 U	-	-	-	1.00 U	-	-	-	1.00 U	-	-	-	1.00 U	-	-	-	-	-	-	-

Notes:

µg/L = microgram per liter
mg/L = milligram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-2b
2008-2009 Landfill AOPC Quarterly Groundwater Analytical Results
Metals, Petroleum Hydrocarbons, Butyltins, Volatile Organic Compounds, Semivolatile Organic Compounds, and General Chemistry Parameters
(Page 2 of 3)

Site ID	MW-05	MW-05	MW-05	MW-05	MW-06	MW-06*	MW-06*	MW-06*	MW-07*	MW-07	MW-07	MW-07	MW-08	MW-08	MW-08	MW-08	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	080416MW5 GW	080716MW5GW	081022MW5GW	090114MW5GW	080417MW6 GW	080716MW6GW	081022MW6GW	090114MW6GW	080416MW7 GW	080717MW07GW	081021MW7GW	090112MW7GW	080418MW8GW	080716MW8GW	081023MW8GW	090115MW8GW				
Sample Date	4/16/2008	7/16/2008	10/22/2008	1/14/2009	4/17/2008	7/16/2008	10/22/2008	1/14/2009	4/16/2008	7/17/2008	10/21/2008	1/12/2009	4/18/2008	7/16/2008	10/23/2008	1/15/2009				
Sample Depth (Feet btc)	30	30	30	32	28	28	28	30	28	30	20	20	58	55.5	55	57				
Sample Depth (Feet btc)	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater				
Total Metals (µg/L)																				
Arsenic	**2.65**	**2.85**	**4.16**	**2.30**	**2.69**	**3.21**	**3.50**	**2.90**	**15.9**	**16.8**	**17.4**	**18.7**	**6.86**	**5.76**	**5.40**	**7.20**	0.0180	HH	0.0380	HH
Iron	**19,300**	**21,500**	**25,100**	**21,300**	**25,100**	**23,800**	**25,850**	**28,150**	**29,000**	**30,700**	**36,600**	**35,700**	**854**	**631**	33.7 U	**112**	300	HH	26,000	HH
Lead	**0.442**	0.0740 U	0.0680 U	**0.102**	**0.0560**	0.0300 U	0.0200 U	0.00600 U	**0.272**	0.136 U	0.0380 U	**0.129**	**0.463**	**0.540**	**0.338**	**0.140**	-	-	15.0	HH
Manganese	**2,210**	**2,460**	**2,840**	**4,220**	**3,280**	**2,930**	**3,110**	**5,385**	**1,445**	**1,710**	**2,000**	**3,300**	**265**	**173**	**172**	**270**	50.0	HH	880	HH
Mercury	-	-	0.0500 U	-	-	-	0.0500 U	-	-	-	0.0500 U	-	**0.0300 J**	-	-	-	-	-	11.0	HH
Dissolved Metals (µg/L)																				
Arsenic	**2.52**	**2.97**	**3.68**	**2.30**	**2.33**	**3.18**	**3.54**	**2.90**	**10.7**	**14.7**	**15.7**	**16.7**	**7.92**	**5.65**	**5.24**	**7.10**	0.0180	HH	0.0380	HH
Calcium	**66,300**	-	-	-	**76,600**	-	-	-	**43,100**	-	-	-	**172,000**	-	-	-	116,000	Eco	116,000	Eco
Iron	**18,800**	**19,800**	**24,400**	**19,900**	**24,200**	**22,750**	**25,650**	**27,150**	**25,650**	**27,900**	**35,400**	**33,800**	**5.80 J**	20.0 U	**8.90 J**	4.00 U	300	HH	1,000	Eco
Lead	**0.0140 J**	0.0300 U	0.0200 U	**0.0130 J**	**0.0170 J**	0.00600 U	0.00600 U	0.00600 U	0.00900 U	0.00600 U	0.0200 U	0.0300 U	0.00900 U	0.0460 U	**0.227**	**0.0130 J**	2.50	Eco	2.50	Eco
Magnesium	**21,800**	-	-	-	**25,800**	-	-	-	**16,850**	-	-	-	**13,000**	-	-	-	82,000	Eco	82,000	Eco
Manganese	**2,200**	**2,360**	**2,760**	**3,790**	**3,200**	**3,015**	**3,115**	**5,545**	**1,455**	**1,650**	**1,940**	**3,410**	**238**	**151**	**172**	**266**	50.0	HH	120	Eco
Mercury	-	-	0.0500 U	-	-	-	0.0500 U	-	-	-	0.0500 U	-	0.0300 U	-	-	-	0.770	Eco	0.770	Eco
Potassium	**7,310**	-	-	-	**7,240**	-	-	-	**3,195**	-	-	-	**12,900**	-	-	-	53,000	Eco	53,000	Eco
Sodium	**15,400**	-	-	-	**41,300**	-	-	-	**7,340**	-	-	-	**740,000**	-	-	-	680,000	Eco	680,000	Eco
Total Petroleum Hydrocarbons (µg/L)																				
Diesel Range Organics	**490**	**980**	**730**	**970**	**360**	**465**	**395**	**515**	110 U	110 U	**97.0 J**	**77.0 J**	**15.0 J**	**110**	**440**	**53.0 J**	-	-	90.0	HH
Residual Range Organics	**180**	**370**	**260**	**330**	120 U	**230**	170 U	**140**	110 U	110 U	130 U	**80.0 J**	22.0 U	100 U	**150**	**52.0 J**	-	-	290	HH
Gasoline Range Organics	**120 J**	**110 J**	**32.0 J**	**90.0 J**	**30.0 J**	**35.5 J**	**30.0 J**	**29.5 J**	**13.0 J**	13.0 U	13.0 U	13.0 U	13.0 U	**14.0 J**	**13.0 J**	13.0 U	-	-	100	HH
Total Butyltins (µg/L)																				
Dibutyltin	0.00810 U	0.00730 U	0.00730 U	0.00730 U	0.00810 U	0.00730 U	0.00730 U	0.00730 U	0.00810 U	**0.130 J**	0.00730 U	0.00730 U	0.00810 U	0.00730 U	0.00730 U	**0.0130 J**	0.0630	Eco	0.0630	Eco
Monobutyltin	0.0110 U	0.0290 U	0.0290 U	0.0290 U	0.0110 U	0.0290 U	0.0290 U	0.0290 U	0.0110 U	0.0290 UJ	0.0290 U	0.0290 U	0.0290 U	0.0290 U	0.0290 U	0.0290 U	0.0630	Eco	0.0630	Eco
Total Volatile Organic Compounds (µg/L)																				
Chloroform	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	5.70	HH	0.190	HH
Tetrachloroethene (PCE)	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.0970 U	0.690	HH	0.0930	HH
Vinyl Chloride	**0.180 J**	**0.310 J**	**0.390 J**	**0.250 J**	**0.160 J**	**0.170 J**	**0.160 J**	**0.205 J**	**0.955**	**0.880**	**0.340 J**	**0.680**	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0250	HH	0.0250	HH
Total Semivolatile Organic Compounds (µg/L)																				
1,4-Dichlorobenzene	0.0290 U	0.0290 U	0.0290 UJ	0.0290 U	0.0290 U	0.0290 U	0.0310 UJ	0.0300 U	0.0310 U	0.0290 U	0.0320 U	0.0310 U	0.0330 U	0.0290 U	0.0290 UJ	0.0290 U	15.0	Eco	0.420	HH
4-Nitrophenol	0.280 U	0.280 U	0.280 U	0.280 U	0.280 U	0.280 U	0.300 U	0.290 U	0.300 U	0.280 U	0.310 U	0.300 U	0.320 U	0.280 U	0.280 U	0.280 U	150	Eco	150	Eco
Phenanthrene	**0.210**	**0.300**	0.0220 U	0.0220 U	0.0220 U	0.0220 U	0.0230 U	0.0230 U	0.0240 U	0.0220 U	0.0240 U	0.0240 U	0.0250 U	0.0220 U	**3.90**	0.0220 U	6.30	Eco	0.140	HH
Phenol	0.0630 U	0.0630 U	0.0630 U	0.0630 U	0.0630 U	0.0630 U	0.0660 U	0.0640 U	0.0670 U	0.0630 U	0.0690 U	0.0670 U	0.0710 U	0.0630 U	0.0630 U	0.0630 U	110	Eco	110	Eco
General Chemistry Parameters (mg/L)																				
Dissolved Bromide	**0.0200 J**	-	-	-	**0.0290 J**	-	-	-	0.0100 U	-	-	-	**0.0490 J**	-	-	-	-	-	-	-
Dissolved Chloride	**4.70**	-	-	-	**22.6**	-	-	-	**1.40**	-	-	-	**13.5**	-	-	-	230	Eco	230	Eco
Dissolved Fluoride	**0.120 J**	-	-	-	**0.200**	-	-	-	**0.300**	-	-	-	0.0120 U	-	-	-	-	-	1.50	HH
Dissolved Sulfate	**1.70**	-	-	-	**13.7**	-	-	-	**1.30**	-	-	-	**1,790**	-	-	-	-	-	-	-
Dissolved Ammonia	**1.51**	-	-	-	**1.16**	-	-	-	**0.690**	-	-	-	**0.300**	-	-	-	-	-	-	-
Dissolved Nitrate+Nitrite	0.00500 UJ	-	-	-	**0.150**	-	-	-	0.00500 U	-	-	-	0.00500 U	-	-	-	-	-	10.0	HH
Total Organic Carbon	**9.40**	-	-	-	**9.30**	-	-	-	**7.05**	-	-	-	**2.80**	-	-	-	-	-	-	-
Dissolved Organic Carbon	**8.70 J**	-	-	-	**9.30**	-	-	-	**7.55 J**	-	-	-	**2.90**	-	-	-	-	-	-	-
Dissolved Bicarbonate as CaCO3	**305**	-	-	-	**356**	-	-	-	**196**	-	-	-	**44.0**	-	-	-	-	-	-	-
Dissolved Carbonate as CaCO3	1.00 U	-	-	-	1.00 U	-	-	-	1.00 U	-	-	-	1.00 U	-	-	-	-	-	-	-

Notes:

µg/L = microgram per liter
mg/L = milligram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-2b
2008-2009 Landfill AOPC Quarterly Groundwater Analytical Results
Metals, Petroleum Hydrocarbons, Butyltins, Volatile Organic Compounds, Semivolatile Organic Compounds, and General Chemistry Parameters
(Page 3 of 3)

Site ID	MW-09	MW-09	S2	S2	S2	S2	S4	S4	S4	S4	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	080417MW9GW	090114MW9GW	08041852SP	08041852SW	090111S2SP	090111S2SW	08041754 SP	08041754 SW	090111S4SP	090111S4SW				
Sample Date	4/17/2008	1/14/2009	4/18/2008	4/18/2008	1/11/2009	1/11/2009	4/17/2008	4/17/2008	1/11/2009	1/11/2009				
Sample Depth (Feet btc)	15.5	15	0.0	1.0	0.0	0.5	0.0	1.0	0.0	0.5				
Sample Depth (Feet btc)	Groundwater	Groundwater	Seep Water	Surface Water	Seep Water	Surface Water	Seep Water	Surface Water	Seep Water	Surface Water				
Total Metals (µg/L)														
Arsenic	0.720 U	0.500 U	1.01 U	1.10 U	**0.500**	**0.900**	**12.8**	**1.17**	**1.10**	**0.800**	0.0180	HH	0.0380	HH
Iron	**2,550**	**532**	**5,300**	**251**	**433**	**167**	**121,000**	**446**	**271**	**188**	300	HH	26,000	HH
Lead	**0.718**	**0.871**	**2.23**	**0.243**	**0.342**	**0.105**	**25.7**	**0.407**	**0.113**	**0.289**	-	-	15.0	HH
Manganese	**103**	**10.4**	**75.0**	**11.1**	**15.5**	**6.37**	**3,240**	**13.6**	**8.90**	**5.90**	50.0	HH	880	HH
Mercury	**0.0300 J**	-	**0.0300 J**	0.0300 U	-	-	-	-	-	-	-	-	11.0	HH
Dissolved Metals (µg/L)														
Arsenic	**1.40**	0.500 U	0.520 U	**1.01**	**0.500**	**0.800**	**1.00**	**0.870**	**1.00**	**0.800**	0.0180	HH	0.0380	HH
Calcium	**11,600**	-	**22,600**	**20,500**	-	-	**76,400**	**19,900**	-	-	116,000	Eco	116,000	Eco
Iron	**176**	20.0 U	**14.9 J**	4.00 U	20.0 U	20.0 U	**9.70 J**	**9.20 J**	20.0 U	20.0 U	300	HH	1,000	Eco
Lead	**0.107**	**0.0440**	**0.0650**	**0.0160 J**	0.0300 U	**0.0100 J**	**0.0180 J**	0.00900 U	**0.00800 J**	**0.0100 J**	2.50	Eco	2.50	Eco
Magnesium	**2,560**	-	**5,070**	**6,330**	-	-	**16,600**	**6,190**	-	-	82,000	Eco	82,000	Eco
Manganese	**48.9**	**10.4**	**5.41**	**0.490**	0.160 U	**1.01**	**1.99**	**0.560**	0.140 U	**0.930**	50.0	HH	120	Eco
Mercury	0.0300 U	-	0.0300 U	0.0300 U	-	-	-	-	-	-	0.770	Eco	0.770	Eco
Potassium	**2,680**	-	**771 J**	**1,490 J**	-	-	**4,160**	**1,510 J**	-	-	53,000	Eco	53,000	Eco
Sodium	**11,800**	-	**19,700**	**7,900**	-	-	**6,680**	**7,630**	-	-	680,000	Eco	680,000	Eco
Total Petroleum Hydrocarbons (µg/L)														
Diesel Range Organics	**65.0 J**	**110 J**	13.0 U	12.0 U	**29.0 J**	**26.0 J**	120 U	120 U	**130**	**30.0 J**	-	-	90.0	HH
Residual Range Organics	**130**	**130**	23.0 U	20.0 U	110 U	100 U	120 U	120 U	**130**	100 U	-	-	290	HH
Gasoline Range Organics	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	-	-	100	HH
Total Butyltins (µg/L)														
Dibutyltin	0.00810 U	0.00730 U	0.00810 U	0.00810 U	0.00730 U	0.00730 U	0.00810 U	0.00810 U	0.00730 U	0.00730 U	0.0630	Eco	0.0630	Eco
Monobutyltin	0.0290 U	0.0290 U	0.0290 U	0.0290 U	0.0290 U	0.0290 U	0.0110 U	0.0110 U	0.0290 U	0.0290 U	0.0630	Eco	0.0630	Eco
Total Volatile Organic Compounds (µg/L)														
Chloroform	**0.220 J**	**0.450 J**	0.0820 U	0.0820 U	0.0820 U	0.0820 U	**0.740**	0.0820 U	**2.80**	0.0820 U	5.70	HH	0.190	HH
Tetrachloroethene (PCE)	**2.60**	**4.80**	**0.150 J**	0.0970 U	0.0970 U	0.0970 U	**1.70**	0.0970 U	**4.40**	0.0970 U	0.690	HH	0.0930	HH
Vinyl Chloride	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0250	HH	0.0250	HH
Total Semivolatile Organic Compounds (µg/L)														
1,4-Dichlorobenzene	0.0290 U	0.0310 U	0.0330 U	0.0290 U	0.0300 U	0.0290 U	0.0290 U	0.0310 U	0.0300 U	0.0290 U	15.0	Eco	0.420	HH
4-Nitrophenol	0.280 U	0.300 U	0.320 U	0.280 U	0.290 U	0.280 U	0.280 U	0.300 U	0.290 U	0.280 U	150	Eco	150	Eco
Phenanthrene	0.0220 U	0.0240 U	0.0250 U	0.0220 U	0.0230 U	0.0220 U	0.0220 U	0.0230 U	0.0230 U	0.0220 U	6.30	Eco	0.140	HH
Phenol	0.0630 U	0.0670 U	0.0710 U	0.0630 U	0.0650 U	0.0630 U	0.0630 U	0.0660 U	0.0640 U	0.0630 U	110	Eco	110	Eco
General Chemistry Parameters (mg/L)														
Dissolved Bromide	0.0100 U	-	0.0100 U	0.0100 U	-	-	0.0100 U	0.0100 U	-	-	-	-	-	-
Dissolved Chloride	**0.900**	-	**1.10**	**3.70**	-	-	**1.60**	**3.70**	-	-	230	Eco	230	Eco
Dissolved Fluoride	0.0120 U	-	**0.0310 J**	**0.147 J**	-	-	**0.0930 J**	**0.150 J**	-	-	-	-	1.50	HH
Dissolved Sulfate	**16.2**	-	**13.6**	**14.5**	-	-	**20.4**	**14.4**	-	-	-	-	-	-
Dissolved Ammonia	**0.0800**	-	0.0500 U	0.0500 U	-	-	0.0500 U	0.0500 U	-	-	-	-	-	-
Dissolved Nitrate+Nitrite	**0.00700 J**	-	**1.11**	**0.360**	-	-	**0.180**	**0.440**	-	-	-	-	10.0	HH
Total Organic Carbon	**4.50**	-	**2.50**	**2.10**	-	-	**3.40**	**2.00**	-	-	-	-	-	-
Dissolved Organic Carbon	**6.10 J**	-	**2.50**	**2.30 J**	-	-	**3.50 J**	**2.10 J**	-	-	-	-	-	-
Dissolved Bicarbonate as CaCO3	**46.0**	-	**102**	**76.0**	-	-	**256**	**76.0**	-	-	-	-	-	-
Dissolved Carbonate as CaCO3	1.00 U	-	1.00 U	1.00 U	-	-	1.00 U	1.00 U	-	-	-	-	-	-

Notes:
µg/L = microgram per liter
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btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3a
2009 Sandblast Area AOPC - Laydown Area Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Pesticides, and General Chemistry Parameters
(Page 1 of 2)

Site ID	LD-01	LD-01	LD-02	LD-02	LD-03	LD-03	LD-04	LD-04	LD-05	LD-05	LD-06	LD-07	LD-08	LD-09	LD-10	LD-11*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	090320-LD-1So-0-1	090320-LD-1So-1-3	090320-LD-2So-0-1	090320-LD-2So-1-3	090320-LD-3So-0-1	090320-LD-3So-1-3	090320-LD-4So-0-1	090320-LD-4So-1-3	090320-LD-5So-0-1	090320-LD-5So-1-3	090319-LD-6-So	090319-LD-7-So	090319-LD-8-So	090319-LD-9-So	090319-LD-10-So	090319-LD-11-So		
Sample Date	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009		
Sample Depth (Feet bgs)	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17		
PCB Aroclors (µg/kg dry)																		
Aroclor 1016	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	371	Eco
Aroclor 1221	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	371	Eco
Aroclor 1232	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	371	Eco
Aroclor 1242	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	371	Eco
Aroclor 1248	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	371	Eco
Aroclor 1254	**700**	**23.0**	**280**	**16.0**	**160**	**11.0**	2.10 U	2.10 U	**1,500**	**230**	2.10 U	2.10 U	2.10 U	2.10 U	**1,700**	**475**	371	Eco
Aroclor 1260	**690**	**22.0**	**130**	**18.0**	**160**	**11.0**	2.10 U	2.10 U	**480**	**130**	**50.0**	**660 J**	2.10 U	**7.50 J**	**440**	**215**	371	Eco
Aroclor 1262	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	371	Eco
Aroclor 1268	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	11.0 U	2.10 U	371	Eco
Total PCBs as Aroclors (NDs at MDL)[1]	**1390**	**45.0**	**410**	**34.0**	**320**	**22.0**	4.20 U	4.20 U	**1980**	**360**	**52.1 J**	**662 J**	4.20 U	**9.60 J**	**2140**	**690**	371	Eco
Metals (mg/kg dry)																		
Aluminum	**10,100**	**15,400**	**12,200**	**16,200**	**9,960**	**15,600**	**12,200**	**15,000**	**16,100**	**17,400**	**6,360**	**12,100**	**24,300**	**18,600**	**12,800**	**21,100**	31,400	UPL
Antimony	**1.72 J**	**0.140 J**	**1.07 J**	**0.0900 J**	**0.310 J**	**0.0800 J**	**0.130 J**	**0.0700 J**	**0.560 J**	**0.170 J**	0.360 U	**0.540 J**	0.160 U	0.170 U	**0.830 J**	**0.455 J**	0.270	Eco
Arsenic	**5.89**	**7.26**	**5.79**	**5.30**	**2.96**	**5.70**	**3.86**	**6.44**	**5.04**	**5.80**	**1.86**	**5.50**	**4.81**	**4.22**	**15.0**	**7.63**	5.40	UPL
Barium	**95.3**	**103**	**114**	**91.3**	**70.4**	**85.1**	**111**	**93.7**	**113**	**138**	**72.3**	**93.6**	**109**	**101**	**104**	**133**	330	Eco
Beryllium	**0.240 J**	**0.470 J**	**0.260 J**	**0.530 J**	**0.320 J**	**0.370 J**	**0.350 J**	**0.410 J**	**0.370 J**	**0.500 J**	**0.230 J**	**0.290 J**	**0.630 J**	**0.520 J**	**0.280 J**	**0.505 J**	21.0	Eco
Cadmium	**6.45**	**0.259**	**7.92**	**0.154**	**1.31**	**0.134**	**0.235**	**0.0770**	**17.3**	**0.383**	**0.379**	**4.88**	**0.146**	**0.276**	**3.98**	**7.73**	0.360	Eco
Calcium	**5,060 J**	**7,120 J**	**5,240 J**	**7,850 J**	**5,290 J**	**8,080 J**	**6,400 J**	**7,470 J**	**7,290 J**	**9,030 J**	**4,520 J**	**7,610 J**	**10,700 J**	**9,680 J**	**5,520 J**	**8,840 J**	10,400	UPL
Chromium	**94.9 J**	**19.5 J**	**49.5 J**	**17.3 J**	**33.3 J**	**15.4 J**	**12.0 J**	**16.8 J**	**35.7 J**	**29.3 J**	**169 J**	**33.1 J**	**18.6 J**	**22.5 J**	**129 J**	**80.7 J**	28.1	UPL
Cobalt	**12.8**	**16.1**	**13.4**	**15.6**	**10.0**	**15.9**	**10.6**	**14.4**	**13.3**	**18.4**	**10.6**	**12.5**	**15.7**	**16.2**	**12.7**	**18.6**	19.9	UPL
Copper	**189 J**	**60.6 J**	**195 J**	**60.5 J**	**103 J**	**55.4 J**	**32.6 J**	**51.7 J**	**165 J**	**64.8 J**	**30.8 J**	**73.7 J**	**71.4 J**	**57.2 J**	**298 J**	**158 J**	56.7	UPL
Iron	**44,800**	**29,000**	**42,400**	**29,900**	**26,700**	**28,000**	**28,000**	**27,200**	**40,400**	**32,500**	**28,400**	**33,100**	**33,000**	**30,800**	**39,300**	**41,400**	36,900	UPL
Lead	**765**	**26.5**	**963**	**11.6**	**233**	**18.7**	**279**	**13.4**	**311**	**34.9**	**591**	**988**	**15.4**	**80.1**	**408**	**95.8**	25.5	UPL
Magnesium	**6,250**	**8,060**	**5,590**	**8,920**	**5,020**	**9,490**	**6,020**	**8,140**	**7,470**	**10,700**	**8,260**	**6,070**	**13,700**	**10,300**	**7,100**	**10,600**	12,400	UPL
Manganese	**526**	**512**	**614**	**466**	**391**	**460**	**360**	**430**	**500**	**487**	**342**	**526**	**789**	**678**	**508**	**598**	885	UPL
Mercury	**0.497**	**0.0470**	**0.267**	**0.0330**	**0.0940**	**0.0400**	**0.0170 J**	**0.0570**	**0.723**	**0.106**	**0.0480**	**0.0370**	**0.0650**	**0.0490**	**0.358**	**0.124**	0.0660	UPL
Nickel	**57.7 J**	**20.4 J**	**41.5 J**	**20.8 J**	**26.3 J**	**25.2 J**	**16.7 J**	**19.4 J**	**42.2 J**	**35.3 J**	**61.8 J**	**26.3 J**	**24.4 J**	**24.3 J**	**71.9 J**	**57.0 J**	38.0	Eco
Potassium	**610**	**895**	**636**	**809**	**429**	**705**	**630**	**860**	**835**	**1,010**	**580**	**1,230**	**1,480**	**1,250**	**827**	**1,100**	2,050	UPL
Selenium	**0.800 J**	**0.700 J**	**0.900 J**	**0.800 J**	**0.500 J**	**0.600 J**	**0.800 J**	**0.600 J**	**0.600 J**	**0.700 J**	0.500 U	**0.600 J**	**0.600 J**	**0.700 J**	**0.800 J**	**0.750 J**	0.520	Eco
Silver	**0.376**	**0.0700 J**	**0.406**	**0.0550 J**	**0.135**	**0.0450 J**	**0.0660**	**0.0520 J**	**0.431**	**0.0650**	**0.107**	**0.148**	**0.0740**	**0.0880**	**0.270**	**0.128**	4.20	Eco
Sodium	**413**	**391**	**391**	**382**	**373**	**547**	**453**	**365**	**470**	**461**	**269**	**285**	**350**	**444**	**433**	**459**	341	UPL
Thallium	**0.0790**	**0.115**	**0.0940**	**0.0940**	**0.0580**	**0.104**	**0.0830**	**0.126**	**0.0920**	**0.108**	**0.0340**	**0.104**	**0.112**	**0.120**	**0.212**	**0.124**	1.00	Eco
Vanadium	**67.7**	**68.1**	**74.0**	**66.6**	**68.9**	**63.4**	**84.7**	**69.4**	**75.0**	**77.5**	**67.3**	**65.0**	**62.4**	**75.0**	**72.9**	**80.0**	104	UPL
Zinc	**377 J**	**61.6 J**	**456 J**	**59.4 J**	**164 J**	**58.8 J**	**56.6 J**	**50.0 J**	**210 J**	**75.2 J**	**132 J**	**548 J**	**65.5 J**	**70.2 J**	**412 J**	**219 J**	71.7	UPL
Petroleum Hydrocarbons (mg/kg dry)																		
Diesel Range Organics	**260**	**6.30 J**	**410**	**7.50 J**	**85.0**	**50.0**	**5.90 J**	**5.90 J**	**160**	**14.0 J**	**61.0**	**170**	**3.60 J**	**13.0 J**	**260**	**38.5**	23,000	HH
Residual Range Organics	**1,300**	**25.0 J**	**2,300**	**23.0 J**	**860**	**82.0 J**	**21.0 J**	**16.0 J**	**270**	**52.0 J**	**290**	**430**	**30.0 J**	**85.0 J**	**1,200**	**170**	40,000	HH
Gasoline Range Organics	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	**1.60 J**	**3.40 J**	1.50 U	1.50 U	**3.10 J**	1.50 U	13,000	HH
Butyltins (µg/kg dry)																		
Dibutyltin	**5.80**	0.290 U	**4.80**	0.280 U	**2.50**	0.290 U	0.270 U	0.270 U	**1.20 J**	0.300 U	**5.70**	**13.0**	0.310 U	**0.800 J**	**3.40**	0.290 U	28,000	Eco
Monobutyltin	**2.20**	0.250 U	**1.60**	0.250 U	**0.570 J**	0.250 U	0.240 U	0.240 U	**1.10 J**	0.260 U	**2.10**	**2.10**	0.270 U	**0.420 J**	**2.50**	**0.900 J**	28,000	Eco
Tributyltin	**3.00**	0.360 U	**1.80**	0.350 U	0.340 U	0.360 U	0.340 U	0.340 U	0.340 U	0.370 U	**36.0**	0.440 U	0.390 U	0.400 U	**3.10**	0.360 U	28,000	Eco

Table 6-3a
2009 Sandblast Area AOPC - Laydown Area Soil Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Pesticides, and General Chemistry Parameters
(Page 2 of 2)

Site ID	LD-01	LD-01	LD-02	LD-02	LD-03	LD-03	LD-04	LD-04	LD-05	LD-05	LD-06	LD-07	LD-08	LD-09	LD-10	LD-11*	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	090320-LD-1So-0-1	090320-LD-1So-1-3	090320-LD-2So-0-1	090320-LD-2So-1-3	090320-LD-3So-0-1	090320-LD-3So-1-3	090320-LD-4So-0-1	090320-LD-4So-1-3	090320-LD-5So-0-1	090320-LD-5So-1-3	090319-LD-6-So	090319-LD-7-So	090319-LD-8-So	090319-LD-9-So	090319-LD-10-So	090319-LD-11-So		
Sample Date	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009		
Sample Depth (Feet bgs)	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17		
Pesticides (µg/kg dry)																		
4,4'-DDD	1.90 U	0.110 U	0.640 U	0.140 U	**0.690 J**	0.570 U	0.110 U	0.110 U	3.40 U	0.200 U	**0.990 J**	10.0 U	0.110 U	0.110 U	5.00 U	0.550 U	21.0	Eco
4,4'-DDE	5.00 U	0.190 U	7.80 U	0.640 U	4.40 U	1.00 U	0.110 U	0.110 U	5.10 U	0.970 U	0.610 U	5.00 U	0.110 U	**0.610 J**	0.550 U	1.70 U	21.0	Eco
4,4'-DDT	**130**	**3.00**	**28.0**	**2.80**	**24.0**	**2.40**	**0.840 J**	0.170 U	**140**	**27.0**	5.10 U	78.0 U	0.270 U	**1.80**	**140**	**53.0**	21.0	Eco
Aldrin	**4.40 J**	0.160 U	1.00 U	0.160 U	0.980 U	0.160 U	0.160 U	0.160 U	0.800 U	0.160 U	0.800 U	5.00 U	0.160 U	0.160 U	5.00 U	0.160 U	4.90	Eco
BHC (alpha)	0.550 U	0.110 U	1.00 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.550 U	0.110 U	0.550 U	0.550 U	0.110 U	0.110 U	0.550 U	0.110 U	340	HH
BHC (beta)	0.900 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.900 U	0.180 U	0.900 U	0.900 U	0.180 U	0.180 U	0.900 U	0.180 U	960	HH
BHC (delta)	0.380 U	0.0740 U	0.490 U	0.0740 U	0.200 U	0.0740 U	0.0740 U	0.0740 U	0.370 U	0.0740 U	0.370 U	0.370 U	0.0740 U	0.0740 U	5.00 U	0.0740 U	340	HH
BHC (gamma) Lindane	0.400 U	0.0800 U	1.00 U	0.0800 U	0.980 U	0.0800 U	0.0800 U	0.0800 U	0.400 U	**0.200 J**	0.400 U	5.00 U	0.0800 U	0.120 U	37.0 U	0.0800 U	2,000	HH
Chlordane (alpha)	**1.50 J**	0.100 U	0.470 U	0.100 U	**0.660 J**	0.100 U	0.100 U	0.100 U	0.810 U	0.100 U	**0.860 J**	0.800 U	0.100 U	0.100 U	5.00 U	0.100 U	7,200	HH
Chlordane (gamma)	**40.0**	**0.760 J**	**12.0**	**0.890 J**	**7.60**	**0.610 J**	0.0900 U	0.0900 U	**86.0**	**9.20**	5.00 U	9.90 U	0.0900 U	1.00 U	**97.0**	**19.5**	7,200	HH
Dieldrin	8.70 U	1.00 U	3.90 U	1.00 U	1.90 U	1.00 U	0.140 U	0.140 U	31.0 U	3.60 U	0.700 U	18.0 U	0.140 U	1.00 U	31.0 U	5.70 U	4.90	Eco
Endosulfan I	5.00 U	0.0630 U	1.00 U	**0.260 J**	**2.20**	**0.140 J**	0.0630 U	0.0630 U	9.50 U	**2.00**	0.740 U	5.00 U	0.0660 U	0.0630 U	8.30 U	**6.45**	20,000	Eco
Endosulfan II	5.60 U	0.140 U	8.40 U	0.140 U	0.980 U	0.290 U	0.140 U	0.140 U	4.90 U	0.970 U	0.700 U	5.00 U	0.140 U	0.140 U	5.00 U	1.00 U	20,000	Eco
Endosulfan Sulfate	2.50 U	0.110 U	**1.80**	0.110 U	0.980 U	0.110 U	0.110 U	0.110 U	**0.630 J**	0.110 U	**1.70 J**	5.00 U	0.110 U	0.110 U	**3.30 J**	0.110 U	20,000	Eco
Endrin	5.00 U	0.0940 U	1.10 U	1.00 U	0.980 U	0.0940 U	0.0940 U	0.0940 U	**17.0**	**2.10**	0.470 U	6.80 U	0.0940 U	0.0940 U	**15.0**	**3.00 J**	4.90	Eco
Endrin Aldehyde	9.60 U	0.220 U	2.80 U	0.160 U	1.10 U	0.170 U	0.120 U	0.120 U	**16.0**	**1.90**	0.600 U	5.00 U	0.120 U	0.120 U	**11.0**	**4.40**	4.90	Eco
Endrin Ketone	20.0 U	1.00 U	2.90 U	1.00 U	2.70 U	0.170 U	0.0930 U	0.0930 U	**13.0**	0.690 U	5.00 U	21.0 U	0.0930 U	0.190 U	8.50 U	1.10 U	4.90	Eco
Heptachlor	0.600 U	0.120 U	0.530 U	0.120 U	**0.180 J**	0.120 U	0.120 U	0.120 U	4.90 U	0.120 U	0.600 U	**2.90 J**	0.120 U	0.120 U	5.00 U	0.120 U	480	HH
Heptachlor Epoxide	5.00 U	0.0840 U	1.50 U	0.0970 U	0.980 U	0.130 U	0.0840 U	0.0840 U	0.870 U	0.350 U	0.420 U	0.420 U	0.0840 U	0.0840 U	0.420 U	1.00 U	240	HH
Methoxychlor	6.90 U	0.190 U	**1.20**	1.00 U	**1.00**	0.190 U	0.190 U	0.190 U	4.90 U	0.970 U	2.00 U	5.10 U	0.190 U	0.190 U	4.40 U	1.00 U	500,000	Eco
Toxaphene	2,200 U	50.0 U	230 U	44.0 U	180 U	31.0 U	4.80 U	4.80 U	2,900 U	330 U	110 U	980 U	19.0 U	17.0 U	1,700 U	440 U	2,000	HH
General Chemistry Parameters (mg/kg)																		
Carbon, Total Organic	**29,900**	**3,000**	**35,900**	**1,300**	**17,600**	**1,300**	**1,000**	**1,100**	**7,400**	**1,500**	**13,200**	**26,600**	**9,500**	**30,600**	**52,800**	**9,550**	-	-
Solids, Total	**836,000**	**831,000**	**824,000**	**850,000**	**867,000**	**838,000**	**901,000**	**878,000**	**860,000**	**789,000**	**859,000**	**694,000**	**768,000**	**737,000**	**871,000**	**854,000**	-	-

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
- = Not Analyzed
-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3b
2009 Sandblast Area AOPC - Laydown Area Soil Analytical Results
Volatile Organic Compounds
(Page 1 of 2)

Site ID	LD-01	LD-01	LD-02	LD-02	LD-03	LD-03	LD-04	LD-04	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	090320-LD-1So-0-1	090320-LD-1So-1-3	090320-LD-2So-0-1	090320-LD-2So-1-3	090320-LD-3So-0-1	090320-LD-3So-1-3	090320-LD-4So-0-1	090320-LD-4So-1-3		
Sample Date	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009		
Sample Depth (Feet bgs)	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0		
Volatile Organic Compounds (µg/kg dry)										
1,1,1,2-Tetrachloroethane	0.190 U	0.180 U	0.180 U	0.180 U	0.210 U	0.180 U	0.180 U	0.180 U	9,300	HH
1,1,1-Trichloroethane (TCA)	0.160 U	0.150 U	0.150 U	0.150 U	0.170 U	0.150 U	0.150 U	0.150 U	38,000,000	HH
1,1,2,2-Tetrachloroethane	0.0940 U	0.0890 U	0.0890 U	0.0890 U	0.110 U	0.0890 U	0.0890 U	0.0890 U	2,800	HH
1,1,2-Trichloroethane	0.0930 U	0.0880 U	0.0880 U	0.0880 U	0.100 U	0.0880 U	0.0880 U	0.0880 U	2,700	HH
1,1-Dichloroethane	0.0510 U	0.0480 U	0.0480 U	0.0480 U	0.0550 U	0.0480 U	0.0480 U	0.0480 U	5,900	HH
1,1-Dichloroethene	0.0740 U	0.0700 U	0.0700 U	0.0700 U	0.0800 U	0.0700 U	0.0700 U	0.0700 U	680,000	HH
1,1-Dichloropropene	0.160 U	0.150 U	0.150 U	0.150 U	0.170 U	0.150 U	0.150 U	0.150 U	8,100	HH
1,2,3-Trichlorobenzene	0.150 U	0.140 U	0.140 U	0.140 U	0.160 U	0.140 U	0.140 U	0.140 U	20,000	Eco
1,2,3-Trichloropropane	0.290 U	0.270 U	0.270 U	0.270 U	0.310 U	0.270 U	0.270 U	0.270 U	95.0	HH
1,2,4-Trichlorobenzene	0.240 U	0.220 U	0.220 U	0.220 U	0.250 U	0.220 U	0.220 U	0.220 U	20,000	Eco
1,2,4-Trimethylbenzene	**0.110 J**	0.0930 U	0.0930 U	**0.110 J**	0.110 U	**0.0980 J**	0.0930 U	0.0930 U	200,000	Eco
1,2-Dibromo-3-chloropropane	0.830 U	0.780 U	0.780 U	0.780 U	0.890 U	0.780 U	0.780 U	0.780 U	69.0	HH
1,2-Dibromoethane (EDB)	0.210 U	0.190 U	0.190 U	0.190 U	0.220 U	0.190 U	0.190 U	0.190 U	140	HH
1,2-Dichlorobenzene	0.0670 U	0.0630 U	0.0630 U	0.0630 U	0.0720 U	0.0630 U	0.0630 U	0.0630 U	2,260	Eco
1,2-Dichloroethane (EDC)	0.0570 U	0.0540 U	0.0540 U	0.0540 U	0.0620 U	0.0540 U	0.0540 U	0.0540 U	590	HH
1,2-Dichloropropane	0.0690 U	0.0650 U	0.0650 U	0.0650 U	0.0740 U	0.0650 U	0.0650 U	0.0650 U	4,500	HH
1,3,5-Trimethylbenzene	0.0430 U	0.0400 U	0.0400 U	0.0400 U	0.0460 U	0.0400 U	0.0400 U	0.0400 U	150,000	HH
1,3-Dichlorobenzene	0.0740 U	0.0700 U	0.0700 U	0.0700 U	0.0800 U	0.0700 U	0.0700 U	0.0700 U	2,260	Eco
1,3-Dichloropropane	0.0630 U	0.0590 U	0.0590 U	0.0590 U	0.0670 U	0.0590 U	0.0590 U	0.0590 U	20,000,000	HH
1,4-Dichlorobenzene	0.110 U	0.100 U	0.100 U	0.100 U	0.120 U	0.100 U	0.100 U	0.100 U	17,000	HH
2,2-Dichloropropane	0.110 U	0.100 U	0.100 U	0.100 U	0.120 U	0.100 U	0.100 U	0.100 U	4,500	HH
2-Butanone (MEK)	1.70 U	**4.30 J**	**12.0 J**	1.60 U	**4.90 J**	**2.40 J**	1.60 U	1.60 U	200,000,000	HH
2-Chlorotoluene	0.0540 U	0.0510 U	0.0510 U	0.0510 U	0.0580 U	0.0510 U	0.0510 U	0.0510 U	20,000,000	HH
2-Hexanone	0.830 U	0.780 U	0.780 U	0.780 U	0.890 U	0.780 U	0.780 U	0.780 U	1,250,000	Eco
4-Chlorotoluene	0.0980 U	0.0920 U	0.0920 U	0.0920 U	0.110 U	0.0920 U	0.0920 U	0.0920 U	72,000,000	HH
4-Isopropyltoluene	0.0880 U	0.0830 U	0.0830 U	0.0830 U	0.0940 U	0.0830 U	0.0830 U	0.0830 U	200,000	Eco
4-Methyl-2-pentanone (MIBK)	0.260 U	0.240 U	**0.330 J**	0.240 U	0.280 U	0.240 U	0.240 U	0.240 U	1,250,000	Eco
Acetone	**88.0**	**54.0**	**160**	**9.90 J**	**67.0**	**22.0**	**7.90 J**	**10.0 J**	1,250,000	Eco
Benzene	**0.490 J**	0.140 U	**0.340 J**	0.140 U	**0.180 J**	0.140 U	**0.210 J**	0.140 U	1,200	HH
Bromobenzene	0.0980 U	0.0920 U	0.0920 U	0.0920 U	0.110 U	0.0920 U	0.0920 U	0.0920 U	1,800,000	HH
Bromochloromethane	0.270 U	0.250 U	0.250 U	0.250 U	0.290 U	0.250 U	0.250 U	0.250 U	1,900	HH
Bromodichloromethane	0.0470 U	0.0440 U	0.0440 U	0.0440 U	0.0500 U	0.0440 U	0.0440 U	0.0440 U	1,900	HH
Bromoform	0.270 U	0.250 U	0.250 U	0.250 U	0.290 U	0.250 U	0.250 U	0.250 U	360,000	HH
Bromomethane	0.450 U	0.420 U	**0.480 J**	0.420 U	0.480 U	0.420 U	**4.40 J**	0.420 U	17,000	HH
Carbon Disulfide	**0.180 J**	**0.490 J**	**0.180 J**	**0.590 J**	**0.240 J**	**2.70 J**	**1.60 J**	**0.580 J**	1,000,000	Eco
Carbon Tetrachloride	0.0830 U	0.0780 U	0.0780 U	0.0780 U	0.0890 U	0.0780 U	0.0780 U	0.0780 U	630	HH
Chlorobenzene	0.0570 U	0.0540 U	0.0540 U	0.0540 U	0.0620 U	0.0540 U	0.0540 U	0.0540 U	40,000	Eco
Chloroethane	0.320 U	0.300 U	0.300 U	0.300 U	0.340 U	0.300 U	0.300 U	0.300 U	61,000,000	HH
Chloroform	0.0510 U	0.0480 U	0.0480 U	0.0480 U	0.0550 U	0.0480 U	0.0480 U	0.0480 U	410	HH
Chloromethane	0.0610 U	0.0570 U	0.0570 U	0.0570 U	0.0650 U	0.0570 U	0.0570 U	0.0570 U	300,000	HH
cis-1,2-Dichloroethene	0.0860 U	0.0810 U	0.0810 U	0.0810 U	0.0920 U	0.0810 U	0.0810 U	0.0810 U	2,500,000	Eco
cis-1,3-Dichloropropene	0.0330 U	0.0310 U	0.0310 U	0.0310 U	0.0360 U	0.0310 U	0.0310 U	0.0310 U	8,100	HH
Dibromochloromethane	0.170 U	0.160 U	0.160 U	0.160 U	0.190 U	0.160 U	0.160 U	0.160 U	34,000	HH
Dibromomethane	0.190 U	0.180 U	0.180 U	0.180 U	0.210 U	0.180 U	0.180 U	0.180 U	110,000	HH
Dichlorodifluoromethane	0.0760 U	0.0720 U	0.0720 U	0.0720 U	0.0820 U	0.0720 U	0.0720 U	0.0720 U	730,000	Eco
Dichloromethane (Methylene Chloride)	**0.280 J**	**0.280 J**	**0.370 J**	**0.300 J**	**0.460 J**	**0.630 J**	0.140 U	**0.310 J**	20,000	HH
Ethylbenzene	0.0440 U	0.0410 U	0.0410 U	0.0410 U	0.0470 U	0.0410 U	0.0410 U	0.0410 U	2,260	Eco
Hexachlorobutadiene	0.180 U	0.170 U	0.170 U	0.170 U	0.200 U	0.170 U	0.170 U	0.170 U	22,000	HH
Isopropylbenzene	0.0330 U	0.0310 U	0.0310 U	0.0310 U	0.0360 U	0.0310 U	0.0310 U	0.0310 U	2,260	Eco
m,p-Xylenes	0.0990 U	0.0930 U	0.0930 U	0.0930 U	0.110 U	0.0930 U	0.0930 U	0.0930 U	120,000	Eco
Naphthalene	0.340 U	0.320 U	0.320 U	0.320 U	0.370 U	0.320 U	**0.500 J**	0.320 U	23,000	HH
n-Butylbenzene	0.0930 U	0.0880 U	0.0880 U	0.0880 U	0.100 U	0.0880 U	0.0880 U	0.0880 U	-	-
n-Propylbenzene	0.0660 U	0.0620 U	0.0620 U	0.0620 U	0.0710 U	0.0620 U	0.0620 U	0.0620 U	2,260	Eco
o-Xylene	0.0630 U	0.0590 U	0.0590 U	0.0590 U	0.0670 U	0.0590 U	0.0590 U	0.0590 U	1,000	Eco
sec-Butylbenzene	0.0690 U	0.0650 U	0.0650 U	0.0650 U	0.0740 U	0.0650 U	0.0650 U	0.0650 U	2,260	Eco
Styrene	0.0810 U	0.0760 U	0.0760 U	0.0760 U	0.0860 U	0.0760 U	0.0760 U	0.0760 U	300,000	Eco
tert-Butylbenzene	0.0570 U	0.0540 U	0.0540 U	0.0540 U	0.0620 U	0.0540 U	0.0540 U	0.0540 U	2,260	Eco
Tetrachloroethene (PCE)	0.130 U	0.120 U	0.120 U	0.120 U	0.140 U	0.120 U	0.120 U	0.120 U	1,600	HH
Toluene	**0.460 J**	**0.110 J**	**0.340 J**	**0.120 J**	**0.240 J**	**0.150 J**	0.0440 U	**0.140 J**	200,000	Eco
trans-1,2-Dichloroethene	0.0510 U	0.0480 U	0.0480 U	0.0480 U	0.0550 U	0.0480 U	0.0480 U	0.0480 U	200,000	HH
trans-1,3-Dichloropropene	0.110 U	0.100 U	0.100 U	0.100 U	0.120 U	0.100 U	0.100 U	0.100 U	8,100	HH
Trichloroethene (TCE)	0.140 U	0.130 U	0.130 U	0.130 U	0.150 U	0.130 U	0.130 U	0.130 U	130	HH
Trichlorofluoromethane	0.0570 U	0.0540 U	0.0540 U	0.0540 U	0.0620 U	0.0540 U	0.0540 U	0.0540 U	730,000	Eco
Vinyl Acetate	0.640 U	0.600 U	0.600 U	0.600 U	0.680 U	0.600 U	0.600 U	0.600 U	4,100,000	HH
Vinyl Chloride	0.0610 U	0.0570 U	0.0570 U	0.0570 U	0.0650 U	0.0570 U	0.0570 U	0.0570 U	2,200	HH

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3b
2009 Sandblast Area AOPC - Laydown Area Soil Analytical Results
Volatile Organic Compounds
(Page 2 of 2)

Site ID	LD-05	LD-05	LD-06	LD-07	LD-08	LD-09	LD-10	LD-11*	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	090320-LD-5So-0-1	090320-LD-5So-1-3	090319-LD-6-So	090319-LD-7-So	090319-LD-8-So	090319-LD-9-So	090319-LD-10-So	090319-LD-11-So		
Sample Date	3/20/2009	3/20/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009		
Sample Depth (Feet bgs)	0.0-1.0	1.0-3.0	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17		
Volatile Organic Compounds (µg/kg dry)										
1,1,1,2-Tetrachloroethane	0.180 U	0.190 U	0.190 U	0.220 U	0.200 U	0.220 U	0.240 U	0.230 U	9,300	HH
1,1,1-Trichloroethane (TCA)	**0.580 J**	0.160 U	0.160 U	0.180 U	0.170 U	0.190 U	0.200 U	**0.490 J**	38,000,000	HH
1,1,2,2-Tetrachloroethane	0.0890 U	0.0920 U	0.0920 U	0.110 U	0.0990 U	0.110 U	0.120 U	0.120 U	2,800	HH
1,1,2-Trichloroethane	0.0880 U	0.0910 U	0.0910 U	0.110 U	0.0970 U	0.110 U	0.120 U	0.120 U	2,700	HH
1,1-Dichloroethane	**0.290 J**	0.0500 U	0.0500 U	0.0580 U	0.0530 U	0.0590 U	0.0620 U	0.0610 U	5,900	HH
1,1-Dichloroethene	0.0700 U	0.0730 U	0.0720 U	0.0840 U	0.0780 U	0.0860 U	0.0910 U	0.0880 U	680,000	HH
1,1-Dichloropropene	0.150 U	0.160 U	0.160 U	0.180 U	0.170 U	0.190 U	0.200 U	0.190 U	8,100	HH
1,2,3-Trichlorobenzene	0.140 U	0.150 U	0.150 U	0.170 U	0.160 U	0.180 U	0.190 U	0.180 U	20,000	Eco
1,2,3-Trichloropropane	0.270 U	0.280 U	0.280 U	0.330 U	0.300 U	0.330 U	0.350 U	0.340 U	95.0	HH
1,2,4-Trichlorobenzene	0.220 U	0.230 U	0.230 U	0.270 U	0.250 U	0.270 U	0.290 U	0.280 U	20,000	Eco
1,2,4-Trimethylbenzene	**0.260 J**	**0.160 J**	**0.380 J**	**0.190 J**	**0.240 J**	0.120 U	0.120 U	**0.205 J**	200,000	Eco
1,2-Dibromo-3-chloropropane	0.780 U	0.810 U	0.810 U	0.940 U	0.860 U	0.960 U	1.10 U	0.980 U	69.0	HH
1,2-Dibromoethane (EDB)	0.190 U	0.200 U	0.200 U	0.230 U	0.210 U	0.240 U	0.250 U	0.240 U	140	HH
1,2-Dichlorobenzene	0.0630 U	0.0650 U	0.0650 U	0.0760 U	0.0700 U	0.0770 U	0.0820 U	0.0790 U	2,260	Eco
1,2-Dichloroethane (EDC)	0.0540 U	0.0560 U	0.0560 U	0.0650 U	0.0600 U	0.0660 U	0.0700 U	0.0680 U	590	HH
1,2-Dichloropropane	0.0650 U	0.0670 U	0.0670 U	0.0780 U	0.0720 U	0.0800 U	0.0840 U	0.0820 U	4,500	HH
1,3,5-Trimethylbenzene	**0.0930 J**	0.0420 U	**0.100 J**	0.0480 U	0.0450 U	0.0490 U	0.0520 U	0.0510 U	150,000	HH
1,3-Dichlorobenzene	0.0700 U	0.0730 U	0.0720 U	0.0840 U	0.0780 U	0.0860 U	0.0910 U	0.0880 U	2,260	Eco
1,3-Dichloropropane	0.0590 U	0.0610 U	0.0610 U	0.0710 U	0.0650 U	0.0720 U	0.0760 U	0.0740 U	20,000,000	HH
1,4-Dichlorobenzene	**0.160 J**	**0.140 J**	0.110 U	0.120 U	0.120 U	0.130 U	0.130 U	0.130 U	17,000	HH
2,2-Dichloropropane	0.100 U	0.110 U	0.110 U	0.120 U	0.120 U	0.130 U	0.130 U	0.130 U	4,500	HH
2-Butanone (MEK)	**13.0 J**	**2.30 J**	**14.0 J**	**13.0 J**	**12.0 J**	**15.0 J**	**32.0**	**8.80 J**	200,000,000	HH
2-Chlorotoluene	0.0510 U	0.0530 U	0.0530 U	0.0620 U	0.0570 U	0.0630 U	0.0660 U	0.0640 U	20,000,000	HH
2-Hexanone	0.780 U	0.810 U	0.810 U	0.940 U	0.860 U	0.960 U	1.10 U	0.980 U	1,250,000	Eco
4-Chlorotoluene	0.0920 U	0.0950 U	0.0950 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U	72,000,000	HH
4-Isopropyltoluene	**0.350 J**	0.0860 U	**1.60 J**	**0.340 J**	**0.290 J**	**12.0 J**	**0.900 J**	0.110 U	200,000	Eco
4-Methyl-2-pentanone (MIBK)	**0.550 J**	0.250 U	**0.690 J**	**0.500 J**	0.270 U	0.300 U	**0.670 J**	**0.510 J**	1,250,000	Eco
Acetone	**150**	**18.0 J**	**150**	**180**	**150**	**250**	**330**	**124**	1,250,000	Eco
Benzene	**0.450 J**	0.150 U	**1.20 J**	**0.540 J**	**0.310 J**	0.220 U	**0.700 J**	**0.390 J**	1,200	HH
Bromobenzene	0.0920 U	0.0950 U	0.0950 U	0.120 U	0.110 U	0.120 U	0.120 U	0.120 U	1,800,000	HH
Bromochloromethane	0.250 U	0.260 U	0.260 U	0.300 U	0.280 U	0.310 U	0.330 U	0.320 U	1,900	HH
Bromodichloromethane	0.0440 U	0.0460 U	0.0460 U	0.0530 U	0.0490 U	0.0540 U	0.0570 U	0.0560 U	1,900	HH
Bromoform	0.250 U	0.260 U	0.260 U	0.300 U	0.280 U	0.310 U	0.330 U	0.320 U	360,000	HH
Bromomethane	**0.500 J**	**0.840 J**	0.440 U	**0.530 J**	**0.570 J**	0.520 U	0.550 U	0.530 U	17,000	HH
Carbon Disulfide	**0.530 J**	**1.40 J**	**1.60 J**	**0.750 J**	**6.90**	**0.830 J**	**0.360 J**	**0.715 J**	1,000,000	Eco
Carbon Tetrachloride	0.0780 U	0.0810 U	0.0810 U	0.0940 U	0.0860 U	0.0960 U	0.110 U	0.0980 U	630	HH
Chlorobenzene	0.0540 U	0.0560 U	0.0560 U	0.0650 U	0.0600 U	0.0660 U	0.0700 U	0.0680 U	40,000	Eco
Chloroethane	0.300 U	0.310 U	0.310 U	0.360 U	0.340 U	0.370 U	0.390 U	0.380 U	61,000,000	HH
Chloroform	0.0480 U	0.0500 U	0.0500 U	0.0580 U	0.0530 U	0.0590 U	0.0620 U	0.0610 U	410	HH
Chloromethane	0.0570 U	0.0590 U	0.0590 U	0.0690 U	0.0630 U	0.0700 U	0.0740 U	0.0720 U	300,000	HH
cis-1,2-Dichloroethene	0.0810 U	0.0840 U	0.0840 U	0.0970 U	0.0900 U	0.0990 U	0.110 U	0.110 U	2,500,000	Eco
cis-1,3-Dichloropropene	0.0310 U	0.0320 U	0.0320 U	0.0380 U	0.0350 U	0.0380 U	0.0400 U	0.0390 U	8,100	HH
Dibromochloromethane	0.160 U	0.170 U	0.170 U	0.200 U	0.180 U	0.200 U	0.210 U	0.210 U	34,000	HH
Dibromomethane	0.180 U	0.190 U	0.190 U	0.220 U	0.200 U	0.220 U	0.240 U	0.230 U	110,000	HH
Dichlorodifluoromethane	**16.0**	0.0750 U	**0.260 J**	0.0870 U	0.0800 U	0.0880 U	0.0930 U	**0.695 J**	730,000	Eco
Dichloromethane (Methylene Chloride)	**0.770 J**	**0.480 J**	0.150 U	**0.390 J**	**0.500 J**	0.180 U	**0.240 J**	**0.430 J**	20,000	HH
Ethylbenzene	**0.180 J**	**0.0720 J**	**0.320 J**	**0.0720 J**	**0.0770 J**	0.0500 U	0.0530 U	**0.100 J**	2,260	Eco
Hexachlorobutadiene	0.170 U	0.180 U	0.180 U	0.210 U	0.190 U	0.210 U	0.220 U	0.220 U	22,000	HH
Isopropylbenzene	0.0310 U	0.0320 U	0.0320 U	0.0380 U	0.0350 U	0.0380 U	0.0400 U	0.0390 U	2,260	Eco
m,p-Xylenes	**0.410 J**	**0.150 J**	**0.440 J**	**0.140 J**	**0.140 J**	0.120 U	0.120 U	**0.250 J**	120,000	Eco
Naphthalene	**1.50 J**	**0.520 J**	**0.850 J**	**0.540 J**	**0.470 J**	0.390 U	0.420 U	**0.550 J**	23,000	HH
n-Butylbenzene	0.0880 U	0.0910 U	**0.0920 J**	0.110 U	0.0970 U	0.110 U	0.120 U	0.120 U	-	-
n-Propylbenzene	0.0620 U	0.0640 U	**0.150 J**	0.0750 U	0.0690 U	0.0760 U	0.0800 U	0.0780 U	2,260	Eco
o-Xylene	**0.180 J**	0.0610 U	**0.170 J**	0.0710 U	0.0650 U	0.0720 U	0.0760 U	0.0740 U	1,000	Eco
sec-Butylbenzene	0.0650 U	0.0670 U	0.0670 U	0.0780 U	0.0720 U	0.0800 U	0.0840 U	0.0820 U	2,260	Eco
Styrene	0.0760 U	0.0790 U	0.0790 U	0.0910 U	0.0840 U	0.0930 U	0.0980 U	0.0960 U	300,000	Eco
tert-Butylbenzene	0.0540 U	0.0560 U	0.0560 U	0.0650 U	0.0600 U	0.0660 U	0.0700 U	0.0680 U	2,260	Eco
Tetrachloroethene (PCE)	0.120 U	0.130 U	0.130 U	0.150 U	0.140 U	0.150 U	0.160 U	0.160 U	1,600	HH
Toluene	**0.630 J**	**0.360 J**	**1.50 J**	**0.800 J**	**0.630 J**	**5.80 J**	**0.990 J**	**0.415 J**	200,000	Eco
trans-1,2-Dichloroethene	0.0480 U	0.0500 U	0.0500 U	0.0580 U	0.0530 U	0.0590 U	0.0620 U	0.0610 U	200,000	HH
trans-1,3-Dichloropropene	0.100 U	0.110 U	0.110 U	0.120 U	0.120 U	0.130 U	0.130 U	0.130 U	8,100	HH
Trichloroethene (TCE)	0.130 U	0.140 U	0.140 U	0.160 U	0.150 U	0.160 U	0.170 U	0.170 U	130	HH
Trichlorofluoromethane	0.0540 U	0.0560 U	0.0560 U	0.0650 U	0.0600 U	0.0660 U	0.0700 U	0.0680 U	730,000	Eco
Vinyl Acetate	0.600 U	0.620 U	0.620 U	0.720 U	0.670 U	0.740 U	0.780 U	0.760 U	4,100,000	HH
Vinyl Chloride	0.0570 U	0.0590 U	0.0590 U	0.0690 U	0.0630 U	0.0700 U	0.0740 U	0.0720 U	2,200	HH

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3c
2009 Sandblast Area AOPC - Laydown Area Soil Analytical Results
Semivolatile Organic Compounds
(Page 1 of 2)

Site ID	LD-01	LD-01	LD-02	LD-02	LD-03	LD-03	LD-04	LD-04	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	090320-LD-1So-0-1	090320-LD-1So-1-3	090320-LD-2So-0-1	090320-LD-2So-1-3	090320-LD-3So-0-1	090320-LD-3So-1-3	090320-LD-4So-0-1	090320-LD-4So-1-3		
Sample Date	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009	3/20/2009		
Sample Depth (Feet bgs)	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0	0.0-1.0	1.0-3.0		
Semivolatile Organic Compounds (µg/kg dry)										
1,2,4-Trichlorobenzene	38.0 U	1.50 U	38.0 U	1.50 U	38.0 U	1.50 U	1.50 U	1.50 U	20,000	Eco
1,2-Dichlorobenzene	33.0 U	1.30 U	33.0 U	1.30 U	33.0 U	1.30 U	1.30 U	1.30 U	2,260	Eco
1,3-Dichlorobenzene	40.0 U	1.60 U	40.0 U	1.60 U	40.0 U	1.60 U	1.60 U	1.60 U	2,260	Eco
1,4-Dichlorobenzene	48.0 U	1.90 U	48.0 U	1.90 U	48.0 U	1.90 U	1.90 U	1.90 U	17,000	HH
2,4,5-Trichlorophenol	75.0 U	3.00 U	75.0 U	3.00 U	75.0 U	3.00 U	3.00 U	3.00 U	4,000	Eco
2,4,6-Trichlorophenol	45.0 U	1.80 U	45.0 U	1.80 U	45.0 U	1.80 U	1.80 U	1.80 U	10,000	Eco
2,4-Dichlorophenol	45.0 U	1.80 U	45.0 U	1.80 U	45.0 U	1.80 U	1.80 U	1.80 U	20,000	Eco
2,4-Dimethylphenol	140 U	5.50 U	140 U	5.50 U	140 U	5.50 U	5.50 U	5.50 U	20,000	Eco
2,4-Dinitrophenol	900 U	36.0 U	900 U	36.0 U	900 U	36.0 U	36.0 U	36.0 U	20,000	Eco
2,4-Dinitrotoluene	70.0 U	2.80 U	70.0 U	2.80 U	70.0 U	2.80 U	2.80 U	2.80 U	5,500	HH
2,6-Dinitrotoluene	70.0 U	2.80 U	70.0 U	2.80 U	70.0 U	2.80 U	2.80 U	2.80 U	240,000	HH
2-Chloronaphthalene	90.0 U	3.60 U	90.0 U	3.60 U	90.0 U	3.60 U	3.60 U	3.60 U	82,000,000	HH
2-Chlorophenol	43.0 U	1.70 U	43.0 U	1.70 U	43.0 U	1.70 U	1.70 U	1.70 U	60,000	Eco
2-Methylphenol	85.0 U	3.40 U	85.0 U	3.40 U	85.0 U	3.40 U	3.40 U	3.40 U	50,000	Eco
2-Nitroaniline	68.0 U	2.70 U	68.0 U	2.70 U	68.0 U	2.70 U	2.70 U	2.70 U	6,000,000	HH
2-Nitrophenol	65.0 U	2.60 U	65.0 U	2.60 U	65.0 U	2.60 U	2.60 U	2.60 U	180,000,000	HH
3,3'-Dichlorobenzidine	93.0 U	3.70 U	93.0 U	3.70 U	93.0 U	3.70 U	3.70 U	3.70 U	4,800	HH
3-Nitroaniline	65.0 U	2.60 U	65.0 U	2.60 U	65.0 U	2.60 U	2.60 U	2.60 U	70,000	Eco
4,6-Dinitro-2-methylphenol	43.0 U	1.70 U	43.0 U	1.70 U	43.0 U	1.70 U	1.70 U	1.70 U	49,000	HH
4-Bromophenyl Phenyl Ether	35.0 U	1.40 U	35.0 U	1.40 U	35.0 U	1.40 U	1.40 U	1.40 U	-	-
4-Chloro-3-methylphenol	53.0 U	2.10 U	53.0 U	2.10 U	53.0 U	2.10 U	2.10 U	2.10 U	62,000,000	HH
4-Chloroaniline	53.0 U	2.10 U	53.0 U	2.10 U	53.0 U	2.10 U	2.10 U	2.10 U	8,600	HH
4-Chlorophenyl Phenyl Ether	50.0 U	2.00 U	50.0 U	2.00 U	50.0 U	2.00 U	2.00 U	2.00 U	-	-
4-Nitroaniline	85.0 U	3.40 U	85.0 U	3.40 U	85.0 U	3.40 U	3.40 U	3.40 U	40,000	Eco
4-Nitrophenol	750 U	30.0 U	750 U	30.0 U	750 U	30.0 U	30.0 U	30.0 U	7,000	Eco
Aniline	38.0 U	1.50 U	38.0 U	1.50 U	38.0 U	1.50 U	1.50 U	1.50 U	200,000	Eco
Benzoic Acid	2,400 U	96.0 U	2,400 U	96.0 U	2,400 U	96.0 U	96.0 U	96.0 U	200,000	Eco
Benzyl Alcohol	93.0 U	3.70 U	93.0 U	3.70 U	93.0 U	3.70 U	3.70 U	3.70 U	2,260	Eco
Bis(2-chloroethoxy)methane	33.0 U	1.30 U	33.0 U	1.30 U	33.0 U	1.30 U	1.30 U	1.30 U	730,000	Eco
Bis(2-chloroethyl) Ether	60.0 U	2.40 U	60.0 U	2.40 U	60.0 U	2.40 U	2.40 U	2.40 U	1,000	HH
Bis(2-chloroisopropyl) Ether	30.0 U	1.20 U	30.0 U	1.20 U	30.0 U	1.20 U	1.20 U	1.20 U	1,000	HH
Bis(2-ethylhexyl) Phthalate	**7,600**	**360**	**9,200**	**39.0 J**	**3,500**	**170**	**170**	**15.0 J**	4,500	Eco
Butyl Benzyl Phthalate	38.0 U	1.50 U	38.0 U	1.50 U	38.0 U	1.50 U	1.50 U	1.50 U	450	Eco
Carbazole	**270**	**2.20 J**	**280**	**6.50 J**	**530**	**9.20**	**1.40 J**	1.30 U	2,260	Eco
Dibenzofuran	**69.0 J**	1.30 U	**45.0 J**	**3.30 J**	**220**	**1.90 J**	1.30 U	1.30 U	2.00	Eco
Diethyl Phthalate	88.0 U	3.50 U	88.0 U	3.50 U	88.0 U	3.50 U	3.50 U	3.50 U	100,000	Eco
Dimethyl Phthalate	45.0 U	1.80 U	45.0 U	1.80 U	45.0 U	1.80 U	1.80 U	1.80 U	150,000	HH
Di-n-butyl Phthalate	**180 J**	**28.0**	**130 J**	2.60 U	65.0 U	**3.70 J**	2.60 U	2.60 U	450	Eco
Di-n-octyl Phthalate	30.0 U	1.20 U	30.0 U	1.20 U	30.0 U	1.20 U	1.20 U	1.20 U	450	Eco
Hexachlorobenzene	53.0 U	2.10 U	53.0 U	2.10 U	53.0 U	2.10 U	2.10 U	2.10 U	1,800	HH
Hexachlorobutadiene	35.0 U	1.40 U	35.0 U	1.40 U	35.0 U	1.40 U	1.40 U	1.40 U	22,000	HH
Hexachlorocyclopentadiene	380 U	15.0 U	380 U	15.0 U	380 U	15.0 U	15.0 U	15.0 U	10,000	Eco
Hexachloroethane	55.0 U	2.20 U	55.0 U	2.20 U	55.0 U	2.20 U	2.20 U	2.20 U	150,000	HH
Isophorone	40.0 U	1.60 U	40.0 U	1.60 U	40.0 U	1.60 U	1.60 U	1.60 U	1,800,000	HH
Nitrobenzene	50.0 U	2.00 U	50.0 U	2.00 U	50.0 U	2.00 U	2.00 U	2.00 U	8,000	Eco
N-Nitrosodimethylamine	160 U	6.10 U	160 U	6.10 U	160 U	6.10 U	6.10 U	6.10 U	34.0	HH
N-Nitrosodi-n-propylamine	80.0 U	3.20 U	80.0 U	3.20 U	80.0 U	3.20 U	3.20 U	3.20 U	250	HH
N-Nitrosodiphenylamine	55.0 U	2.20 U	55.0 U	2.20 U	55.0 U	2.20 U	2.20 U	2.20 U	20,000	Eco
p-cresol (4-Methylphenol)	73.0 U	2.90 U	73.0 U	2.90 U	73.0 U	2.90 U	2.90 U	2.90 U	50,000	Eco
Pentachlorophenol	220 U	8.50 U	220 U	8.50 U	220 U	8.50 U	8.50 U	8.50 U	2,100	Eco
Phenol	48.0 U	**2.40 J**	48.0 U	**35.0**	48.0 U	1.90 U	**2.00 J**	**3.00 J**	30,000	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)										
2-Methylnaphthalene	**40.0 J**	1.20 U	**40.0 J**	**3.30 J**	**43.0 J**	1.20 U	1.20 U	1.20 U	4,100,000	HH
Acenaphthene	**160 J**	**1.10 J**	**140 J**	**9.00**	**430**	**4.10 J**	**1.50 J**	1.00 U	19,000,000	HH
Acenaphthylene	35.0 U	1.40 U	**37.0 J**	1.40 U	35.0 U	1.40 U	1.40 U	1.40 U	23,000	HH
Anthracene	**330**	**1.80 J**	**280**	**14.0**	**780**	**11.0**	**2.00 J**	1.40 U	93,000,000	HH
Fluorene	**130 J**	1.70 U	**120 J**	**9.70**	**380**	**3.80 J**	1.70 U	1.70 U	12,000,000	HH
Naphthalene	**66.0 J**	1.30 U	**69.0 J**	**6.30 J**	**62.0 J**	**2.20 J**	1.30 U	1.30 U	23,000	HH
Phenanthrene	**1,900**	**15.0**	**1,900**	**71.0**	**4,000**	**59.0**	**16.0**	1.30 U	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**2,621 J**	**21.2 J**	**2,546 J**	**111 J**	**5,687 J**	**81.5 J**	**23.5 J**	8.10 U	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)										
Benzo(a)anthracene	**1,500**	**15.0**	**2,700**	**37.0**	**2,100**	**71.0**	**27.0**	1.40 U	2,700	HH
Benzo(a)pyrene	**1,400**	**19.0**	**2,800**	**35.0**	**1,900**	**72.0**	**38.0**	1.60 U	270	HH
Benzo(b)fluoranthene	**2,000**	**27.0**	**4,100**	**45.0**	**2,600**	**100**	**53.0**	2.50 U	2,700	HH
Benzo(g,h,i)perylene	**950**	**21.0**	**2,000**	**33.0**	**1,100**	**54.0**	**42.0**	2.30 U	27,000	HH
Benzo(k)fluoranthene	**770**	**10.0**	**1,400**	**16.0**	**880**	**36.0**	**19.0**	2.50 U	27,000	HH
Chrysene	**1,900**	**21.0**	**3,500**	**42.0**	**2,300**	**85.0**	**39.0**	**1.80 J**	270,000	HH
Dibenz(a,h)anthracene	**270**	**4.40 J**	**640**	**7.00**	**350**	**15.0**	**9.70**	2.20 U	270	HH
Fluoranthene	**3,100**	**29.0**	**4,700**	**71.0**	**5,000**	**130**	**36.0**	2.20 U	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**1,100**	**16.0**	**2,200**	**25.0**	**1,300**	**55.0**	**35.0**	1.90 U	2,700	HH
Pyrene	**2,800**	**29.0**	**4,400**	**76.0**	**4,200**	**120**	**47.0**	**2.10 J**	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**15,790**	**191 J**	**28,440**	**387**	**21,730**	**738**	**346**	**16.5 J**	1,100	Eco

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3c
2009 Sandblast Area AOPC - Laydown Area Soil Analytical Results
Semivolatile Organic Compounds
(Page 2 of 2)

Site ID	LD-05	LD-05	LD-06	LD-07	LD-08	LD-09	LD-10	LD-11*	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	090320-LD-5So-0-1	090320-LD-5So-1-3	090319-LD-6-So	090319-LD-7-So	090319-LD-8-So	090319-LD-9-So	090319-LD-10-So	090319-LD-11-So		
Sample Date	3/20/2009	3/20/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009	3/19/2009		
Sample Depth (Feet bgs)	0.0-1.0	1.0-3.0	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17	0.0-0.17		
Semivolatile Organic Compounds (µg/kg dry)										
1,2,4-Trichlorobenzene	1.50 U	1.50 U	15.0 U	15.0 U	1.50 U	1.50 U	15.0 U	1.50 U	20,000	Eco
1,2-Dichlorobenzene	1.30 U	1.30 U	13.0 U	13.0 U	1.30 U	1.30 U	13.0 U	1.30 U	2,260	Eco
1,3-Dichlorobenzene	1.60 U	1.60 U	16.0 U	16.0 U	1.60 U	1.60 U	16.0 U	1.60 U	2,260	Eco
1,4-Dichlorobenzene	1.90 U	1.90 U	19.0 U	19.0 U	1.90 U	1.90 U	19.0 U	1.90 U	17,000	HH
2,4,5-Trichlorophenol	3.00 U	3.00 U	30.0 U	30.0 U	3.00 U	3.00 U	30.0 U	3.00 U	4,000	Eco
2,4,6-Trichlorophenol	1.80 U	1.80 U	18.0 U	18.0 U	1.80 U	1.80 U	18.0 U	1.80 U	10,000	Eco
2,4-Dichlorophenol	1.80 U	1.80 U	18.0 U	18.0 U	1.80 U	1.80 U	18.0 U	1.80 U	20,000	Eco
2,4-Dimethylphenol	5.50 U	5.50 U	55.0 U	55.0 U	5.50 U	5.50 U	55.0 U	5.50 U	20,000	Eco
2,4-Dinitrophenol	36.0 U	36.0 U	360 U	360 U	36.0 U	36.0 U	360 U	36.0 U	20,000	Eco
2,4-Dinitrotoluene	2.80 U	2.80 U	28.0 U	28.0 U	2.80 U	2.80 U	28.0 U	2.80 U	5,500	HH
2,6-Dinitrotoluene	2.80 U	2.80 U	28.0 U	28.0 U	2.80 U	2.80 U	28.0 U	2.80 U	240,000	HH
2-Chloronaphthalene	3.60 U	3.60 U	36.0 U	36.0 U	3.60 U	3.60 U	36.0 U	3.60 U	82,000,000	HH
2-Chlorophenol	1.70 U	1.70 U	17.0 U	17.0 U	1.70 U	1.70 U	17.0 U	1.70 U	60,000	Eco
2-Methylphenol	3.40 U	3.40 U	34.0 U	34.0 U	3.40 U	3.40 U	34.0 U	3.40 U	50,000	Eco
2-Nitroaniline	2.70 U	2.70 U	27.0 U	27.0 U	2.70 U	2.70 U	27.0 U	2.70 U	6,000,000	HH
2-Nitrophenol	2.60 U	2.60 U	26.0 U	26.0 U	2.60 U	2.60 U	26.0 U	2.60 U	180,000,000	HH
3,3'-Dichlorobenzidine	3.70 U	3.70 U	37.0 U	37.0 U	3.70 U	3.70 U	37.0 U	3.70 U	4,800	HH
3-Nitroaniline	2.60 U	2.60 U	26.0 U	26.0 U	2.60 U	2.60 U	26.0 U	2.60 U	70,000	Eco
4,6-Dinitro-2-methylphenol	1.70 U	1.70 U	17.0 U	17.0 U	1.70 U	1.70 U	17.0 U	1.70 U	49,000	HH
4-Bromophenyl Phenyl Ether	1.40 U	1.40 U	14.0 U	14.0 U	1.40 U	1.40 U	14.0 U	1.40 U	-	-
4-Chloro-3-methylphenol	2.10 U	2.10 U	21.0 U	21.0 U	2.10 U	2.10 U	21.0 U	2.10 U	62,000,000	HH
4-Chloroaniline	2.10 U	2.10 U	21.0 U	21.0 U	2.10 U	2.10 U	21.0 U	2.10 U	8,600	HH
4-Chlorophenyl Phenyl Ether	2.00 U	2.00 U	20.0 U	20.0 U	2.00 U	2.00 U	20.0 U	2.00 U	-	-
4-Nitroaniline	3.40 U	3.40 U	34.0 U	34.0 U	3.40 U	3.40 U	34.0 U	3.40 U	40,000	Eco
4-Nitrophenol	30.0 U	30.0 U	300 U	300 U	30.0 U	30.0 U	300 U	30.0 U	7,000	Eco
Aniline	1.50 U	1.50 U	15.0 U	15.0 U	1.50 U	1.50 U	15.0 U	1.50 U	200,000	Eco
Benzoic Acid	96.0 U	96.0 U	**980 J**	960 U	96.0 U	**100 J**	960 U	**120 J**	200,000	Eco
Benzyl Alcohol	3.70 U	3.70 U	37.0 U	37.0 U	3.70 U	3.70 U	37.0 U	3.70 U	2,260	Eco
Bis(2-chloroethoxy)methane	1.30 U	1.30 U	13.0 U	13.0 U	1.30 U	1.30 U	13.0 U	1.30 U	730,000	Eco
Bis(2-chloroethyl) Ether	2.40 U	2.40 U	24.0 U	24.0 U	2.40 U	2.40 U	24.0 U	2.40 U	1,000	HH
Bis(2-chloroisopropyl) Ether	1.20 U	1.20 U	12.0 U	12.0 U	1.20 U	1.20 U	12.0 U	1.20 U	1,000	HH
Bis(2-ethylhexyl) Phthalate	**980**	**320**	**9,900**	**13,000**	**260**	**630**	**13,000**	**895**	4,500	Eco
Butyl Benzyl Phthalate	1.50 U	1.50 U	15.0 U	15.0 U	1.50 U	1.50 U	15.0 U	1.50 U	450	Eco
Carbazole	**46.0**	**9.50**	**150**	**240**	**2.60 J**	**22.0**	**130**	**32.5**	2,260	Eco
Dibenzofuran	**10.0**	**1.80 J**	**59.0 J**	**58.0 J**	1.30 U	**4.50 J**	**38.0 J**	**7.80 J**	2.00	Eco
Diethyl Phthalate	3.50 U	3.50 U	35.0 U	35.0 U	3.50 U	3.50 U	35.0 U	**8.80 J**	100,000	Eco
Dimethyl Phthalate	1.80 U	1.80 U	**32.0 J**	**30.0 J**	1.80 U	1.80 U	**41.0 J**	1.80 U	150,000	HH
Di-n-butyl Phthalate	**46.0**	**22.0**	**130**	**52.0 J**	**7.60 J**	**6.10 J**	**280**	**165**	450	Eco
Di-n-octyl Phthalate	1.20 U	1.20 U	12.0 U	12.0 U	1.20 U	1.20 U	12.0 U	1.20 U	450	Eco
Hexachlorobenzene	2.10 U	2.10 U	21.0 U	21.0 U	2.10 U	2.10 U	21.0 U	2.10 U	1,800	HH
Hexachlorobutadiene	1.40 U	1.40 U	14.0 U	14.0 U	1.40 U	1.40 U	14.0 U	1.40 U	22,000	HH
Hexachlorocyclopentadiene	15.0 U	15.0 U	150 U	150 U	15.0 U	15.0 U	150 U	15.0 U	10,000	Eco
Hexachloroethane	2.20 U	2.20 U	22.0 U	22.0 U	2.20 U	2.20 U	22.0 U	2.20 U	150,000	HH
Isophorone	1.60 U	1.60 U	16.0 U	16.0 U	1.60 U	1.60 U	16.0 U	1.60 U	1,800,000	HH
Nitrobenzene	2.00 U	2.00 U	20.0 U	20.0 U	2.00 U	2.00 U	20.0 U	2.00 U	8,000	Eco
N-Nitrosodimethylamine	6.10 U	6.10 U	61.0 U	61.0 U	6.10 U	6.10 U	61.0 U	6.10 U	34.0	HH
N-Nitrosodi-n-propylamine	3.20 U	3.20 U	32.0 U	32.0 U	3.20 U	3.20 U	32.0 U	3.20 U	250	HH
N-Nitrosodiphenylamine	2.20 U	2.20 U	**27.0 J**	22.0 U	2.20 U	2.20 U	22.0 U	2.20 U	20,000	Eco
p-cresol (4-Methylphenol)	2.90 U	2.90 U	29.0 U	29.0 U	2.90 U	2.90 U	29.0 U	2.90 U	50,000	Eco
Pentachlorophenol	**11.0 J**	8.50 U	85.0 U	85.0 U	8.50 U	8.50 U	85.0 U	**32.0 J**	2,100	Eco
Phenol	**3.70 J**	1.90 U	19.0 U	19.0 U	1.90 U	1.90 U	19.0 U	1.90 U	30,000	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)										
2-Methylnaphthalene	**6.90**	1.20 U	**29.0 J**	**27.0 J**	1.20 U	**2.80 J**	**36.0 J**	**7.60 J**	4,100,000	HH
Acenaphthene	**30.0**	**4.70 J**	**210**	**110**	1.00 U	**14.0**	**99.0 J**	**20.0**	19,000,000	HH
Acenaphthylene	**4.60 J**	1.40 U	**15.0 J**	**31.0 J**	1.40 U	**2.60 J**	**25.0 J**	**3.15 J**	23,000	HH
Anthracene	**90.0**	**13.0**	**220**	**270**	**2.90 J**	**29.0**	**170**	**55.0**	93,000,000	HH
Fluorene	**29.0**	**5.20 J**	**130**	**130**	1.70 U	**13.0**	**75.0 J**	**17.5**	12,000,000	HH
Naphthalene	**8.90**	**4.00 J**	**78.0 J**	**41.0 J**	**3.90 J**	**6.70 J**	**45.0 J**	**8.75 J**	23,000	HH
Phenanthrene	**460**	**79.0**	**1,100**	**1,800**	**16.0**	**180**	**810**	**260**	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**623 J**	**107 J**	**1,753 J**	**2,382 J**	**25.8 J**	**245 J**	**1,224 J**	**364 J**	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)										
Benzo(a)anthracene	**530**	**96.0**	**960**	**1,800**	**16.0**	**190**	**660**	**275**	2,700	HH
Benzo(a)pyrene	**450**	**86.0**	**1,100**	**1,600**	**17.0**	**200**	**670**	**265**	270	HH
Benzo(b)fluoranthene	**640**	**120**	**1,500**	**2,600**	**25.0**	**290**	**1,100**	**365**	2,700	HH
Benzo(g,h,i)perylene	**280**	**54.0**	**820**	**1,100**	**11.0**	**120**	**440**	**165**	27,000	HH
Benzo(k)fluoranthene	**220**	**45.0**	**560**	**860**	**8.30 J**	**89.0**	**360**	**125**	27,000	HH
Chrysene	**620**	**120**	**1,100**	**2,100**	**20.0**	**220**	**870**	**305**	270,000	HH
Dibenz(a,h)anthracene	**91.0**	**18.0**	**240**	**350**	2.20 U	**38.0**	**130**	**47.0**	270	HH
Fluoranthene	**1,100**	**170**	**1,700**	**3,300**	**31.0**	**350**	**1,300**	**555**	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**320**	**60.0**	**880**	**1,200**	**12.0**	**130**	**450**	**180**	2,700	HH
Pyrene	**950**	**150**	**1,600**	**2,800**	**28.0**	**310**	**1,300**	**500**	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**5,201**	**919**	**10,460**	**17,710**	**171 J**	**1,937**	**7,280**	**2,782**	1,100	Eco

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3d
2009 Sandblast Area AOPC - Soil Analytical Results
Lead

Location	Sample ID	Sample Date	Sample Grain Size	Sample Interval (feet bgs)	Lead
Metals by EPA Method 6010B (mg/kg dry)					
SB-01	090127-SB-SB1-0-1So	1/27/2009	<250um	0.0-1.0	**398**
SB-01	090127-SB-SB1-0-1So	1/27/2009	<2mm	0.0-1.0	**258**
SB-01	090127-SB-SB1-1-3So	1/27/2009	<250um	1.0-3.0	**16.2**
SB-01	090127-SB-SB1-1-3So	1/27/2009	<2mm	1.0-3.0	**13.9**
SB-02	090127-SB-SB2-0-1So	1/27/2009	<250um	0.0-1.0	**220**
SB-02	090127-SB-SB2-0-1So	1/27/2009	<2mm	0.0-1.0	**176**
SB-02	090127-SB-SB2-1-3So	1/27/2009	<250um	1.0-3.0	**12.0**
SB-02	090127-SB-SB2-1-3So	1/27/2009	<2mm	1.0-3.0	**8.10 J**
SB-03	090127-SB-SB3-0-1So	1/27/2009	<250um	0.0-1.0	**921**
SB-03	090127-SB-SB3-0-1So	1/27/2009	<2mm	0.0-1.0	**768**
SB-03	090127-SB-SB3-1-3So	1/27/2009	<250um	1.0-3.0	**44.8**
SB-03	090127-SB-SB3-1-3So	1/27/2009	<2mm	1.0-3.0	**25.2**
SB-04	090127-SB-SB4-0-1So	1/27/2009	<250um	0.0-1.0	**90.8**
SB-04	090127-SB-SB4-0-1So	1/27/2009	<2mm	0.0-1.0	**52.7**
SB-04	090127-SB-SB4-1-3So	1/27/2009	<250um	1.0-3.0	**9.5 J**
SB-04	090127-SB-SB4-1-3So	1/27/2009	<2mm	1.0-3.0	**6.90 J**
SB-05	090127-SB-SB5-0-1So	1/27/2009	<250um	0.0-1.0	**525**
SB-05	090127-SB-SB5-0-1So	1/27/2009	<2mm	0.0-1.0	**451**
SB-05	090127-SB-SB5-1-3So	1/27/2009	<250um	1.0-3.0	**738**
SB-05	090127-SB-SB5-1-3So	1/27/2009	<2mm	1.0-3.0	**426**
SB-06*	090127-SB-SB6-0-1So	1/27/2009	<250um	0.0-1.0	**90.6**
SB-06*	090127-SB-SB6-0-1So	1/27/2009	<2mm	0.0-1.0	**42.4**
SB-06	090127-SB-SB6-1-3So	1/27/2009	<250um	1.0-3.0	**6.80 J**
SB-06	090127-SB-SB6-1-3So	1/27/2009	<2mm	1.0-3.0	**6.50 J**
SB-07	090127-SB-SB7-0-1So	1/27/2009	<250um	0.0-1.0	**99.4**
SB-07	090127-SB-SB7-0-1So	1/27/2009	<2mm	0.0-1.0	**90.0**
SB-07	090127-SB-SB7-1-3So	1/27/2009	<250um	1.0-3.0	**6.60 J**
SB-07	090127-SB-SB7-1-3So	1/27/2009	<2mm	1.0-3.0	**14.8**
SB-08	090127-SB-SB8-0-1So	1/27/2009	<250um	0.0-1.0	**53.9**
SB-08	090127-SB-SB8-0-1So	1/27/2009	<2mm	0.0-1.0	**27.5**
SB-08	090127-SB-SB8-1-3So	1/27/2009	<250um	1.0-3.0	**7.90 J**
SB-08	090127-SB-SB8-1-3So	1/27/2009	<2mm	1.0-3.0	**6.70 J**
Selected SLV (0-3 ft bgs)					**25.5**

Notes:
mg/kg = milligram per kilogram
bgs = below ground surface
MDL = Method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
The source for the selected lead SLV is the Reference area UPL.
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3e
2009 Sandblast Area AOPC - Erodibility Study Surface Soil Grab Sample Analytical Results
Petroleum Hydrocarbons and Volatile Organic Compounds

Site ID	SB-EUA-02	SB-EUA-04	SB-EUA-06	SB-EUA-08	SB-EUB-02	SB-EUB-03	SB-EUB-12	SB-EUB-15	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	090318-SB-EUA-2So	090318-SB-EUA-4So	090318-SB-EUA-6So	090318-SB-EUA-8So	090318-SB-EUB-2So	090318-SB-EUB-3So	090318-SB-EUB-12So	090318-SB-EUB-15So		
Sample Date	3/18/2009	3/18/2009	3/18/2009	3/18/2009	3/18/2009	3/18/2009	3/18/2009	3/18/2009		
Sample Depth (Feet bgs)	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.1	0.0-0.17	0.0-0.17		
Petroleum Hydrocarbons (mg/kg dry)										
Gasoline Range Organics	1.50 U	**3.20 J**	**2.10 J**	**1.80 J**	1.50 U	1.50 U	1.50 U	**2.90 J**	13,000	HH
Volatile Organic Compounds (µg/kg dry)										
1,1,1,2-Tetrachloroethane	9.40 U	0.190 U	0.190 U	0.210 U	0.200 U	0.240 U	0.210 U	0.210 U	9,300	HH
1,1,1-Trichloroethane (TCA)	4.30 U	0.160 U	0.160 U	0.180 U	0.170 U	0.200 U	0.170 U	0.180 U	38,000,000	HH
1,1,2,2-Tetrachloroethane	7.40 U	0.0900 U	0.0930 U	0.110 U	0.0990 U	0.120 U	0.110 U	0.110 U	2,800	HH
1,1,2-Trichloroethane	7.90 U	0.0890 U	0.0920 U	0.110 U	0.0980 U	0.120 U	0.100 U	0.110 U	2,700	HH
1,1-Dichloroethane	9.30 U	0.0490 U	0.0510 U	0.0560 U	0.0540 U	0.0630 U	0.0550 U	0.0560 U	5,900	HH
1,1-Dichloroethene	7.30 U	0.0710 U	0.0740 U	0.0820 U	0.0780 U	0.0920 U	0.0800 U	0.0810 U	680,000	HH
1,1-Dichloropropene	9.40 U	0.160 U	0.160 U	0.180 U	0.170 U	0.200 U	0.170 U	0.180 U	8,100	HH
1,2,3-Trichlorobenzene	12.0 U	0.150 U	0.150 U	0.170 U	0.160 U	0.190 U	0.160 U	0.170 U	20,000	Eco
1,2,3-Trichloropropane	17.0 U	0.280 U	0.290 U	0.320 U	0.300 U	0.360 U	0.310 U	0.320 U	95.0	HH
1,2,4-Trichlorobenzene	6.50 U	0.230 U	0.230 U	0.260 U	0.250 U	0.290 U	0.250 U	0.260 U	20,000	Eco
1,2,4-Trimethylbenzene	3.70 U	**0.280 J**	**0.180 J**	**0.230 J**	**0.160 J**	**0.220 J**	**0.240 J**	0.110 U	200,000	Eco
1,2-Dibromo-3-chloropropane	140 U	0.790 U	0.820 U	0.910 U	0.870 U	1.10 U	0.890 U	0.900 U	69.0	HH
1,2-Dibromoethane (EDB)	6.90 U	0.200 U	0.200 U	0.230 U	0.220 U	0.250 U	0.220 U	0.220 U	140	HH
1,2-Dichlorobenzene	6.60 U	0.0640 U	0.0660 U	0.0740 U	0.0700 U	0.0830 U	0.0720 U	0.0730 U	2,260	Eco
1,2-Dichloroethane (EDC)	9.70 U	0.0550 U	0.0570 U	0.0630 U	0.0600 U	0.0710 U	0.0620 U	0.0630 U	590	HH
1,2-Dichloropropane	11.0 U	0.0660 U	0.0680 U	0.0760 U	0.0720 U	0.0850 U	0.0740 U	0.0750 U	4,500	HH
1,3,5-Trimethylbenzene	6.50 U	0.0410 U	0.0420 U	0.0470 U	0.0450 U	0.0530 U	0.0460 U	0.0460 U	150,000	HH
1,3-Dichlorobenzene	6.10 U	0.0710 U	0.0740 U	0.0820 U	0.0780 U	0.0920 U	0.0800 U	0.0810 U	2,260	Eco
1,3-Dichloropropane	5.30 U	0.0600 U	0.0620 U	0.0690 U	0.0660 U	0.0770 U	0.0670 U	0.0680 U	20,000,000	HH
1,4-Dichlorobenzene	5.70 U	0.110 U	0.110 U	0.120 U	0.120 U	0.140 U	0.120 U	0.120 U	17,000	HH
2,2-Dichloropropane	9.50 U	0.110 U	0.110 U	0.120 U	0.120 U	0.140 U	0.120 U	0.120 U	4,500	HH
2-Butanone (MEK)	290 U	**21.0 J**	**5.00 J**	**32.0**	**9.90 J**	**39.0**	**50.0**	**32.0**	200,000,000	HH
2-Chlorotoluene	4.90 U	0.0520 U	0.0540 U	0.0600 U	0.0570 U	0.0670 U	0.0580 U	0.0590 U	20,000,000	HH
2-Hexanone	170 U	**5.50 J**	0.820 U	**4.70 J**	0.870 U	1.10 U	**8.80 J**	0.900 U	1,250,000	Eco
4-Chlorotoluene	5.50 U	0.0930 U	0.0960 U	0.110 U	0.110 U	0.120 U	0.110 U	0.110 U	72,000,000	HH
4-Isopropyltoluene	6.10 U	0.0840 U	0.0870 U	0.0970 U	**2.50 J**	**0.480 J**	0.0940 U	**0.990 J**	200,000	Eco
4-Methyl-2-pentanone (MIBK)	460 U	**0.770 J**	0.260 U	**0.790 J**	0.270 U	0.320 U	**1.20 J**	0.280 U	1,250,000	Eco
Acetone	230 U	**170**	**47.0**	**290**	**98.0**	**350**	**540**	**270**	1,250,000	Eco
Benzene	5.70 U	0.300 U	**0.160 J**	**0.470 J**	**0.200 J**	0.380 U	**1.00 J**	0.230 U	1,200	HH
Bromobenzene	8.20 U	0.0930 U	0.0960 U	0.110 U	0.110 U	0.120 U	0.110 U	0.110 U	1,800,000	HH
Bromochloromethane	9.40 U	0.260 U	0.270 U	0.300 U	0.280 U	0.330 U	0.290 U	0.290 U	1,900	HH
Bromodichloromethane	6.20 U	0.0450 U	0.0460 U	0.0520 U	0.0490 U	0.0580 U	0.0500 U	0.0510 U	1,900	HH
Bromoform	13.0 U	0.260 U	0.270 U	0.300 U	0.280 U	0.330 U	0.290 U	0.290 U	360,000	HH
Bromomethane	29.0 U	0.430 U	**5.00 J**	0.490 U	**1.20 J**	0.550 U	0.480 U	0.490 U	17,000	HH
Carbon Disulfide	7.40 U	**0.680 J**	**0.670 J**	**1.00 J**	**0.620 J**	**0.940 J**	**0.960 J**	**0.700 J**	1,000,000	Eco
Carbon Tetrachloride	11.0 U	0.0790 U	0.0820 U	0.0910 U	0.0870 U	0.110 U	0.0890 U	0.0900 U	630	HH
Chlorobenzene	6.60 U	0.0550 U	0.0570 U	0.0630 U	0.0600 U	0.0710 U	0.0620 U	0.0630 U	40,000	Eco
Chloroethane	24.0 U	0.310 U	0.320 U	0.350 U	0.340 U	0.400 U	0.340 U	0.350 U	61,000,000	HH
Chloroform	**19.0 J**	0.0490 U	0.0510 U	**0.260 J**	0.0540 U	0.0630 U	**0.290 J**	0.0560 U	410	HH
Chloromethane	8.70 U	0.0580 U	**0.250 J**	0.0670 U	**0.230 J**	0.0750 U	0.0650 U	0.0660 U	300,000	HH
cis-1,2-Dichloroethene	**12.0 J**	0.0820 U	0.0850 U	0.0950 U	0.0900 U	0.110 U	0.0920 U	0.0940 U	2,500,000	Eco
cis-1,3-Dichloropropene	8.30 U	0.0320 U	0.0330 U	0.0370 U	0.0350 U	0.0410 U	0.0360 U	0.0360 U	8,100	HH
Dibromochloromethane	9.10 U	0.170 U	0.170 U	0.190 U	0.180 U	0.210 U	0.190 U	0.190 U	34,000	HH
Dibromomethane	18.0 U	0.190 U	0.190 U	0.210 U	0.200 U	0.240 U	0.210 U	0.210 U	110,000	HH
Dichlorodifluoromethane	**94.0**	0.0730 U	0.0760 U	0.0840 U	0.0800 U	0.0940 U	0.0820 U	0.0830 U	730,000	Eco
Dichloromethane (Methylene Chloride)	**460**	**0.390 J**	**0.330 J**	**0.550 J**	0.160 U	0.190 U	0.160 U	0.170 U	20,000	HH
Ethylbenzene	6.10 U	**0.110 J**	0.0430 U	**0.100 J**	0.0460 U	0.0540 U	**0.200 J**	0.0480 U	2,260	Eco
Hexachlorobutadiene	15.0 U	0.180 U	0.180 U	0.200 U	0.190 U	0.230 U	0.200 U	0.200 U	22,000	HH
Isopropylbenzene	6.10 U	0.0320 U	0.0330 U	0.0370 U	0.0350 U	0.0410 U	0.0360 U	0.0360 U	2,260	Eco
m,p-Xylenes	13.0 U	**0.190 J**	0.0980 U	**0.240 J**	0.110 U	0.130 U	**0.360 J**	0.110 U	120,000	Eco
Naphthalene	7.90 U	**0.540 J**	0.340 U	0.380 U	0.360 U	0.420 U	**0.450 J**	0.370 U	23,000	HH
n-Butylbenzene	6.50 U	0.0890 U	0.0920 U	0.110 U	0.0980 U	0.120 U	0.100 U	0.110 U	-	-
n-Propylbenzene	5.70 U	0.0630 U	0.0650 U	0.0730 U	0.0690 U	0.0810 U	0.0710 U	0.0720 U	2,260	Eco
o-Xylene	6.90 U	0.0600 U	0.0620 U	0.0690 U	0.0660 U	0.0770 U	0.0670 U	0.0680 U	1,000	Eco
sec-Butylbenzene	6.50 U	0.0660 U	0.0680 U	0.0760 U	0.0720 U	0.0850 U	0.0740 U	0.0750 U	2,260	Eco
Styrene	6.10 U	0.0770 U	0.0800 U	0.0890 U	0.0850 U	0.100 U	0.0860 U	0.0880 U	300,000	Eco
tert-Butylbenzene	4.30 U	0.0550 U	0.0570 U	0.0630 U	0.0600 U	0.0710 U	0.0620 U	0.0630 U	2,260	Eco
Tetrachloroethene (PCE)	8.30 U	0.130 U	0.130 U	0.140 U	0.140 U	0.160 U	0.140 U	0.140 U	1,600	HH
Toluene	6.10 U	**0.770 J**	**0.240 J**	**1.30 J**	**0.550 J**	**0.860 J**	**1.20 J**	**0.760 J**	200,000	Eco
trans-1,2-Dichloroethene	9.90 U	0.0490 U	0.0510 U	0.0560 U	0.0540 U	0.0630 U	0.0550 U	0.0560 U	200,000	HH
trans-1,3-Dichloropropene	12.0 U	0.110 U	0.110 U	0.120 U	0.120 U	0.140 U	0.120 U	0.120 U	8,100	HH
Trichloroethene (TCE)	13.0 U	0.140 U	0.140 U	0.160 U	0.150 U	0.170 U	0.150 U	0.150 U	130	HH
Trichlorofluoromethane	11.0 U	0.0550 U	0.0570 U	0.0630 U	0.0600 U	0.0710 U	0.0620 U	0.0630 U	730,000	Eco
Vinyl Acetate	52.0 U	0.610 U	0.630 U	0.700 U	0.670 U	0.790 U	0.680 U	0.690 U	4,100,000	HH
Vinyl Chloride	13.0 U	0.0580 U	0.0600 U	0.0670 U	0.0640 U	0.0750 U	0.0650 U	0.0660 U	2,200	HH

Notes:

µg/kg = microgram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV

Table 6-3f
2009 Sandblast Area AOPC - Erodibility Study Surface Soil Composite Sample Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Butyltins, Pesticides, General Chemistry Parameters, and Grain Size

Site ID	SB-EUA*	SB-EUB	**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Sample ID	090318-SB-EUA-So	090318-SB-EUB-So		
Sample Date	3/18/2009	3/18/2009		
Sample Depth (Feet bgs)	0.0-0.17	0.0-0.17		
PCB Aroclors (µg/kg dry)				
Aroclor 1016	2.10 U	2.10 U	371	Eco
Aroclor 1221	2.10 U	2.10 U	371	Eco
Aroclor 1232	2.10 U	2.10 U	371	Eco
Aroclor 1242	2.10 U	2.10 U	371	Eco
Aroclor 1248	2.10 U	2.10 U	371	Eco
Aroclor 1254	2.10 U	2.10 U	371	Eco
Aroclor 1260	**27.0**	**67.0**	371	Eco
Aroclor 1262	2.10 U	2.10 U	371	Eco
Aroclor 1268	2.10 U	2.10 U	371	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	**29.1 J**	**69.1 J**	371	Eco
Metals (mg/kg dry)				
Aluminum	**13,000**	**8,050**	31,400	UPL
Antimony	**0.220 J**	**0.340 J**	0.270	Eco
Arsenic	**5.91**	**5.94**	5.40	UPL
Barium	**108**	**75.8**	330	Eco
Beryllium	**0.350 J**	**0.240 J**	21.0	Eco
Cadmium	**0.458**	**1.06**	0.360	Eco
Calcium	**5,920 J**	**4,400 J**	10,400	UPL
Chromium	**108 J**	**162 J**	28.1	UPL
Cobalt	**13.4**	**10.9**	19.9	UPL
Copper	**46.4 J**	**71.6 J**	56.7	UPL
Iron	**30,800**	**27,700**	36,900	UPL
Lead	**302**	**319**	25.5	UPL
Magnesium	**8,140**	**7,350**	12,400	UPL
Manganese	**479**	**369**	885	UPL
Mercury	**0.0390**	**0.0330**	0.0660	UPL
Nickel	**57.5 J**	**74.9 J**	38.0	Eco
Potassium	**1,110**	**643**	2,050	UPL
Selenium	**0.650 J**	**0.500 J**	0.520	Eco
Silver	**0.127**	**0.175**	4.20	Eco
Sodium	**310**	**264**	341	UPL
Thallium	**0.117**	**0.0670**	1.00	Eco
Vanadium	**69.8**	**59.3**	104	UPL
Zinc	**123 J**	**203 J**	71.7	UPL
Petroleum Hydrocarbons (mg/kg dry)				
Diesel Range Organics	**33.0 J**	**69.0**	23,000	HH
Residual Range Organics	**400**	**1,000**	40,000	HH
Gasoline Range Organics	-	-	13,000	HH
Butyltins (µg/kg dry)				
Dibutyltin	**6.70**	**9.10**	28,000	Eco
Monobutyltin	**8.25**	**3.20**	28,000	Eco
Tributyltin	**12.8**	**3.20**	28,000	Eco
Pesticides (µg/kg dry)				
4,4'-DDD	0.110 U	0.300 U	21.0	Eco
4,4'-DDE	**0.440 J**	**0.250 J**	21.0	Eco
4,4'-DDT	**4.40**	**10.0**	21.0	Eco
Aldrin	0.160 U	0.160 U	4.90	Eco
BHC (alpha)	0.110 U	0.110 U	340	HH
BHC (beta)	0.180 U	0.660 U	960	HH
BHC (delta)	0.140 U	**0.0780 J**	340	HH
BHC (gamma) Lindane	0.0800 U	1.30 U	2,000	HH
Chlordane (alpha)	0.100 U	0.100 U	7,200	HH
Chlordane (gamma)	0.630 U	0.660 U	7,200	HH
Dieldrin	0.140 U	0.810 U	4.90	Eco
Endosulfan I	0.110 U	0.660 U	20,000	Eco
Endosulfan II	0.140 U	**0.240 J**	20,000	Eco
Endosulfan Sulfate	0.110 U	**0.770**	20,000	Eco
Endrin	0.0940 U	0.660 U	4.90	Eco
Endrin Aldehyde	0.630 U	0.700 U	4.90	Eco
Endrin Ketone	0.630 U	2.90 U	4.90	Eco
Heptachlor	**0.185 J**	**0.380 J**	480	HH
Heptachlor Epoxide	0.0840 U	0.180 U	240	HH
Methoxychlor	0.630 U	1.50 U	500,000	Eco
Toxaphene	43.0 U	190 U	2,000	HH
General Chemistry Parameters (mg/kg) and Grain Size (%)				
Carbon, Total Organic	**25,400**	**36,200**	-	-
Solids, Total	**752,000**	**755,000**	-	-
Gravel (>2.00 mm)	**27.8**	**34.2**	-	-
Sand, Very Coarse (1.00 - 2.00 mm)	**6.48**	**5.89**	-	-
Sand, Coarse (0.50 - 1.00 mm)	**4.98**	**5.83**	-	-
Sand, Medium (0.25 - 0.50 mm)	**7.38**	**7.18**	-	-
Sand, Fine (0.125 - 0.25 mm)	**10.7**	**10.3**	-	-
Sand, Very Fine (0.0625 - 0.125 mm)	**7.53**	**7.71**	-	-
Silt (0.039 - 0.0625 mm)	**31.2**	**25.1**	-	-
Clay (<0.039 mm)	**6.62**	**5.16**	-	-

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

[1] Only Aroclors 1254 and 1260 were included in summing Total PCBs as Aroclors because all other aroclors were undected in Sandlbast Area AOPC soil samples.
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3g
2009 Sandblast Area AOPC - Erodibility Study Surface Soil Composite Sample Analytical Results
Semivolatile Organic Compounds

Site ID	SB-EUA*	SB-EUB	Selected SLV (0-3 ft bgs)	SLV Source (0-3 ft bgs)
Sample ID	090318-SB-EUA-So	090318-SB-EUB-So		
Sample Date	3/18/2009	3/18/2009		
Sample Depth (Feet bgs)	0.0-0.17	0.0-0.17		
Semivolatile Organic Compounds (µg/kg dry)				
1,2,4-Trichlorobenzene	38.0 U	75.0 U	20,000	Eco
1,2-Dichlorobenzene	33.0 U	65.0 U	2,260	Eco
1,3-Dichlorobenzene	40.0 U	80.0 U	2,260	Eco
1,4-Dichlorobenzene	48.0 U	95.0 U	17,000	HH
2,4,5-Trichlorophenol	75.0 U	150 U	4,000	Eco
2,4,6-Trichlorophenol	45.0 U	90.0 U	10,000	Eco
2,4-Dichlorophenol	45.0 U	90.0 U	20,000	Eco
2,4-Dimethylphenol	140 U	280 U	20,000	Eco
2,4-Dinitrophenol	900 U	1,800 U	20,000	Eco
2,4-Dinitrotoluene	70.0 U	140 U	5,500	HH
2,6-Dinitrotoluene	70.0 U	140 U	240,000	HH
2-Chloronaphthalene	90.0 U	180 U	82,000,000	HH
2-Chlorophenol	43.0 U	85.0 U	60,000	Eco
2-Methylphenol	85.0 U	170 U	50,000	Eco
2-Nitroaniline	68.0 U	140 U	6,000,000	HH
2-Nitrophenol	65.0 U	130 U	180,000,000	HH
3,3'-Dichlorobenzidine	93.0 U	190 U	4,800	HH
3-Nitroaniline	65.0 U	130 U	70,000	Eco
4,6-Dinitro-2-methylphenol	43.0 U	85.0 U	49,000	HH
4-Bromophenyl Phenyl Ether	35.0 U	70.0 U	-	-
4-Chloro-3-methylphenol	53.0 U	110 U	62,000,000	HH
4-Chloroaniline	53.0 U	110 U	8,600	HH
4-Chlorophenyl Phenyl Ether	50.0 U	100 U	-	-
4-Nitroaniline	85.0 U	170 U	40,000	Eco
4-Nitrophenol	750 U	1,500 U	7,000	Eco
Aniline	38.0 U	75.0 U	200,000	Eco
Benzoic Acid	2,400 U	4,800 U	200,000	Eco
Benzyl Alcohol	93.0 U	190 U	2,260	Eco
Bis(2-chloroethoxy)methane	33.0 U	65.0 U	730,000	Eco
Bis(2-chloroethyl) Ether	60.0 U	120 U	1,000	HH
Bis(2-chloroisopropyl) Ether	30.0 U	60.0 U	1,000	HH
Bis(2-ethylhexyl) Phthalate	**58,000**	**260,000**	4,500	Eco
Butyl Benzyl Phthalate	38.0 U	75.0 U	450	Eco
Carbazole	**37.5 J**	**91.0 J**	2,260	Eco
Dibenzofuran	33.0 U	65.0 U	2.00	Eco
Diethyl Phthalate	88.0 U	180 U	100,000	Eco
Dimethyl Phthalate	45.0 U	90.0 U	150,000	HH
Di-n-butyl Phthalate	65.0 U	130 U	450	Eco
Di-n-octyl Phthalate	30.0 U	60.0 U	450	Eco
Hexachlorobenzene	53.0 U	110 U	1,800	HH
Hexachlorobutadiene	35.0 U	70.0 U	22,000	HH
Hexachlorocyclopentadiene	380 U	750 U	10,000	Eco
Hexachloroethane	55.0 U	110 U	150,000	HH
Isophorone	40.0 U	80.0 U	1,800,000	HH
Nitrobenzene	50.0 U	100 U	8,000	Eco
N-Nitrosodimethylamine	160 U	310 U	34.0	HH
N-Nitrosodi-n-propylamine	80.0 U	160 U	250	HH
N-Nitrosodiphenylamine	55.0 U	110 U	20,000	Eco
p-cresol (4-Methylphenol)	73.0 U	150 U	50,000	Eco
Pentachlorophenol	220 U	430 U	2,100	Eco
Phenol	48.0 U	95.0 U	30,000	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)				
2-Methylnaphthalene	30.0 U	60.0 U	4,100,000	HH
Acenaphthene	**34.5 J**	**68.0 J**	19,000,000	HH
Acenaphthylene	35.0 U	70.0 U	23,000	HH
Anthracene	**53.5 J**	**150 J**	93,000,000	HH
Fluorene	43.0 U	85.0 U	12,000,000	HH
Naphthalene	33.0 U	65.0 U	23,000	HH
Phenanthrene	**360**	**940**	93,000,000	HH
Total LPAHs (KM, capped; NDs at MDL)	**549 J**	**1,356 J**	29,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)				
Benzo(a)anthracene	**455**	**1,200**	2,700	HH
Benzo(a)pyrene	**435**	**1,000**	270	HH
Benzo(b)fluoranthene	**645**	**1,600**	2,700	HH
Benzo(g,h,i)perylene	**270**	**590**	27,000	HH
Benzo(k)fluoranthene	**230**	**570**	27,000	HH
Chrysene	**575**	**1,500**	270,000	HH
Dibenz(a,h)anthracene	**95.5 J**	**220 J**	270	HH
Fluoranthene	**825**	**2,100**	8,900,000	HH
Indeno(1,2,3-cd)pyrene	**300**	**690**	2,700	HH
Pyrene	**775**	**1,900**	6,700,000	HH
Total HPAHs (KM, capped; NDs at MDL)	**4,606 J**	**11,370 J**	1,100	Eco

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
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Eco = Ecological
HH = Human Health
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SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3h
2008-2009 Sandblast Area AOPC Quarterly Groundwater Analytical Results
Metals, Petroleum Hydrocarbons, Butyltins, Polycyclic Aromatic Hydrodarbons, and General Chemistry Parameters
(Page 1 of 2)

Site ID	MW-11*	MW-11	MW-11*	MW-11*	MW-12	MW-12	MW-12	MW-12	MW-13	MW-13*	MW-13	MW-13	MW-14	MW-14	MW-14	MW-14	MW-15	MW-15	MW-15	MW-15	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	080415MW11GW	080715MW11GW	081020MW11GW	090112MW11GW	080415MW12GW	080715MW12GW	081021MW12GW	090113MW12GW	080414MW13GW	080714MW13GW	081020MW13GW	090112MW13GW	080414MW14GW	080714MW14GW	081021MW14GW	090113MW14GW	080414MW15GW	080714MW15GW	081021MW15GW	090113MW15GW				
Sample Date	4/15/2008	7/15/2008	10/20/2008	1/12/2009	4/15/2008	7/15/2008	10/21/2008	1/13/2009	4/14/2008	7/14/2008	10/20/2008	1/12/2009	4/14/2008	7/14/2008	10/21/2008	1/13/2009	4/14/2008	7/14/2008	10/21/2008	1/13/2009				
Sample Depth (Feet btc)	31	31	31	31	28	21	26	26	31	31	31	30	18	18	18	18	17	17	17	17				
Total Metals (µg/L)																								
Arsenic	**11.6**	**1.13**	**0.690**	**0.600**	**0.610**	**0.760**	**0.710**	**0.600**	**1.86**	**0.785**	**0.860**	**1.00**	**0.790**	**1.02**	**1.12**	**1.00**	**0.540**	**0.750**	**0.590**	**0.600**	0.0180	HH	0.0380	HH
Iron	**1,500**	**179**	**88.9**	**148**	50.4 U	**108**	**14.1 J**	20.0 U	55.6 U	**222**	**312**	**265**	**188**	**25.7**	**12.9 J**	43.2 U	**163**	**190**	**36.8**	**90.6**	300	HH	26,000	HH
Vanadium	**5.90 J**	**0.860**	**0.315**	**0.365**	**1.10 J**	**1.27**	**0.960**	**1.43**	**1.00 J**	0.200 U	0.0700 U	**0.130 J**	**1.80 J**	**1.64**	**2.00**	**1.72**	**1.40 J**	**1.68**	**1.30**	**1.57**	-	-	2.60	HH
Dissolved Metals (µg/L)																								
Arsenic	**8.99**	**1.11**	**0.610**	**0.550**	**0.610**	**0.870**	**0.620**	**0.800**	**1.79**	**0.780**	**0.900**	**0.900**	**0.840**	**1.01**	**0.970**	**0.900**	**0.510**	**0.630**	**0.620**	**0.600**	0.0180	HH	0.0380	HH
Calcium	**6,690**	-	-	-	**30,900**	-	-	-	**44,300**	-	-	-	**22,700**	-	-	-	**28,200**	-	-	-	116,000	Eco	116,000	Eco
Iron	4.00 U	**52.5**	20.0 U	20.0 U	4.00 U	**7.10 J**	20.0 U	20.0 U	**12.4 J**	**202**	**270**	**202**	4.00 U	4.00 U	4.00 U	20.0 U	**6.40 J**	4.00 U	4.00 U	20.0 U	300	HH	1,000	Eco
Magnesium	**883**	-	-	-	**8,430**	-	-	-	**14,000**	-	-	-	**6,140**	-	-	-	**7,120**	-	-	-	82,000	Eco	82,000	Eco
Potassium	**2,610**	-	-	-	**2,260**	-	-	-	**1,480 J**	-	-	-	**1,170 J**	-	-	-	**782 J**	-	-	-	53,000	Eco	53,000	Eco
Sodium	**89,400**	-	-	-	**13,400**	-	-	-	**18,400**	-	-	-	**6,860**	-	-	-	**7,620**	-	-	-	680,000	Eco	680,000	Eco
Vanadium	**3.10 J**	0.690 U	**0.205 J**	**0.145 J**	0.800 U	**1.05**	**0.820**	**1.17**	**1.10 J**	0.200 U	0.0700 U	0.0700 U	**1.10 J**	**1.68**	**1.98**	**1.64**	**0.900 J**	**1.19**	**1.22**	**1.41**	20.0	Eco	2.60	HH
Total Petroleum Hydrocarbons (µg/L)																								
Diesel Range Organics	12.0 U	**18.0 J**	11.0 U	110 U	120 U	**17.0 J**	12.0 U	12.0 U	12.0 U	100 U	12.0 U	120 U	11.0 U	100 U	12.0 U	13.0 U	13.0 U	110 U	12.0 U	120 U	-	-	90.0	HH
Residual Range Organics	20.0 U	110 U	19.0 U	110 U	22.0 U	110 U	21.0 U	110 U	20.0 U	100 U	21.0 U	120 U	19.0 U	100 U	20.0 U	120 U	22.0 U	110 U	20.0 U	120 U	-	-	290	HH
Gasoline Range Organics	**13.5 J**	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	**15.0 J**	**23.5 J**	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	-	-	100	HH
Total Butyltins (µg/L)																								
Monobutyltin	**0.0260 J**	0.0290 U	0.0290 U	0.0290 U	0.0110 U	0.0290 U	0.0290 U	0.0290 U	**0.0140 J**	0.0290 U	0.0290 U	0.0290 U	0.0110 U	0.0290 U	0.0290 U	0.0290 U	0.0110 U	0.0290 U	0.0290 U	0.0290 U	0.0630	Eco	0.0630	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)																								
Phenanthrene	0.0230 U	0.0220 U	0.0220 U	0.0220 U	0.0230 U	0.0220 U	0.0220 U	0.0220 U	**0.0840 J**	0.0220 U	0.0220 U	0.0240 U	0.0240 U	0.0220 U	0.0220 U	0.0250 U	0.0230 U	0.0240 U	0.0220 U	0.0240 U	6.30	Eco	0.140	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)																								
Benzo(b)fluoranthene	0.0180 U	0.0170 U	0.0170 U	0.0170 U	**0.0180 J**	0.0170 U	0.0170 U	0.0170 U	0.0200 U	0.0170 U	0.0170 U	0.0190 U	0.0190 U	0.0170 U	0.0170 U	0.0200 U	0.0180 U	0.0190 U	0.0170 U	0.0190 U	0.00380	HH	0.0290	HH
Benzo(k)fluoranthene	0.0250 U	0.0240 U	0.0240 U	0.0240 U	0.0250 U	0.0240 U	0.0240 U	0.0240 U	0.0270 U	0.0240 U	0.0240 U	0.0260 U	0.0260 U	0.0240 U	0.0240 U	0.0280 U	0.0250 U	0.0270 U	0.0240 U	0.0260 U	0.00380	HH	0.290	HH
General Chemistry Parameters (mg/L)																								
Dissolved Bromide	**0.0140 J**	-	-	-	**0.0160 J**	-	-	-	0.0100 U	-	-	-	0.0100 U	-	-	-	0.0100 U	-	-	-	-	-	-	-
Dissolved Chloride	**2.50**	-	-	-	**4.40**	-	-	-	**3.00**	-	-	-	**2.10**	-	-	-	**2.40**	-	-	-	230	Eco	230	Eco
Dissolved Fluoride	**0.200**	-	-	-	**0.0820 J**	-	-	-	**0.0690 J**	-	-	-	**0.0550 J**	-	-	-	**0.0510 J**	-	-	-	-	-	1.50	HH
Dissolved Sulfate	**25.0**	-	-	-	**10.1**	-	-	-	**14.5**	-	-	-	**13.1**	-	-	-	**13.1**	-	-	-	-	-	-	-
Dissolved Ammonia	**0.0650 J**	-	-	-	**0.0500 J**	-	-	-	**0.100**	-	-	-	**0.0400 J**	-	-	-	**0.0300 J**	-	-	-	-	-	-	-
Dissolved Nitrate+Nitrite	**0.0185 J**	-	-	-	**0.110**	-	-	-	**0.00700 J**	-	-	-	**0.200**	-	-	-	**0.0260 J**	-	-	-	-	-	10.0	HH
Total Organic Carbon	**1.00**	-	-	-	**1.90**	-	-	-	**0.800**	-	-	-	**0.800**	-	-	-	**1.00**	-	-	-	-	-	-	-
Dissolved Organic Carbon	**1.80 J**	-	-	-	**1.70**	-	-	-	**0.700**	-	-	-	**2.50 J**	-	-	-	**1.00**	-	-	-	-	-	-	-
Dissolved Carbonate as CaCO3	**38.0 J**	-	-	-	1.00 U	-	-	-	1.00 U	-	-	-	1.00 U	-	-	-	1.00 U	-	-	-	-	-	-	-

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3h
2008-2009 Sandblast Area AOPC Quarterly Groundwater Analytical Results
Metals, Petroleum Hydrocarbons, Butyltins, Polycyclic Aromatic Hydrodarbons, and General Chemistry Parameters
(Page 2 of 2)

Site ID	MW-13	MW-13	MW-14	MW-14	MW-14	MW-14	MW-15	MW-15	MW-15	MW-15	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	081020MW13GW	090112MW13GW	080414MW14GW	080714MW14GW	081021MW14GW	090113MW14GW	080414MW15GW	080714MW15GW	081021MW15GW	090113MW15GW				
Sample Date	10/20/2008	1/12/2009	4/14/2008	7/14/2008	10/21/2008	1/13/2009	4/14/2008	7/14/2008	10/21/2008	1/13/2009				
Sample Depth (Feet btc)	31	30	18	18	18	18	17	17	17	17				
Total Metals (µg/L)														
Arsenic	**0.860**	**1.00**	**0.790**	**1.02**	**1.12**	**1.00**	**0.540**	**0.750**	**0.590**	**0.600**	0.0180	HH	0.0380	HH
Iron	**312**	**265**	**188**	**25.7**	**12.9 J**	43.2 U	**163**	**190**	**36.8**	**90.6**	300	HH	26,000	HH
Vanadium	0.0700 U	**0.130 J**	**1.80 J**	**1.64**	**2.00**	**1.72**	**1.40 J**	**1.68**	**1.30**	**1.57**	-	-	2.60	HH
Dissolved Metals (µg/L)														
Arsenic	**0.900**	**0.900**	**0.840**	**1.01**	**0.970**	**0.900**	**0.510**	**0.630**	**0.620**	**0.600**	0.0180	HH	0.0380	HH
Calcium	-	-	**22,700**	-	-	-	**28,200**	-	-	-	116,000	Eco	116,000	Eco
Iron	**270**	**202**	4.00 U	4.00 U	4.00 U	20.0 U	**6.40 J**	4.00 U	4.00 U	20.0 U	300	HH	1,000	Eco
Magnesium	-	-	**6,140**	-	-	-	**7,120**	-	-	-	82,000	Eco	82,000	Eco
Potassium	-	-	**1,170 J**	-	-	-	**782 J**	-	-	-	53,000	Eco	53,000	Eco
Sodium	-	-	**6,860**	-	-	-	**7,620**	-	-	-	680,000	Eco	680,000	Eco
Vanadium	0.0700 U	0.0700 U	**1.10 J**	**1.68**	**1.98**	**1.64**	**0.900 J**	**1.19**	**1.22**	**1.41**	20.0	Eco	2.60	HH
Total Petroleum Hydrocarbons (µg/L)														
Diesel Range Organics	12.0 U	120 U	11.0 U	100 U	12.0 U	13.0 U	13.0 U	110 U	12.0 U	120 U	-	-	90.0	HH
Residual Range Organics	21.0 U	120 U	19.0 U	100 U	20.0 U	120 U	22.0 U	110 U	20.0 U	120 U	-	-	290	HH
Gasoline Range Organics	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	13.0 U	-	-	100	HH
Total Butyltins (µg/L)														
Monobutyltin	0.0290 U	0.0290 U	0.0110 U	0.0290 U	0.0290 U	0.0290 U	0.0110 U	0.0290 U	0.0290 U	0.0290 U	0.0630	Eco	0.0630	Eco
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)														
Phenanthrene	0.0220 U	0.0240 U	0.0240 U	0.0220 U	0.0220 U	0.0250 U	0.0230 U	0.0240 U	0.0220 U	0.0240 U	6.30	Eco	0.140	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)														
Benzo(b)fluoranthene	0.0170 U	0.0190 U	0.0190 U	0.0170 U	0.0170 U	0.0200 U	0.0180 U	0.0190 U	0.0170 U	0.0190 U	0.00380	HH	0.0290	HH
Benzo(k)fluoranthene	0.0240 U	0.0260 U	0.0260 U	0.0240 U	0.0240 U	0.0280 U	0.0250 U	0.0270 U	0.0240 U	0.0260 U	0.00380	HH	0.290	HH
General Chemistry Parameters (mg/L)														
Dissolved Bromide	-	-	0.0100 U	-	-	-	0.0100 U	-	-	-	-	-	-	-
Dissolved Chloride	-	-	**2.10**	-	-	-	**2.40**	-	-	-	230	Eco	230	Eco
Dissolved Fluoride	-	-	**0.0550 J**	-	-	-	**0.0510 J**	-	-	-	-	-	1.50	HH
Dissolved Sulfate	-	-	**13.1**	-	-	-	**13.1**	-	-	-	-	-	-	-
Dissolved Ammonia	-	-	**0.0400 J**	-	-	-	**0.0300 J**	-	-	-	-	-	-	-
Dissolved Nitrate+Nitrite	-	-	**0.200**	-	-	-	**0.0260 J**	-	-	-	-	-	10.0	HH
Total Organic Carbon	-	-	**0.800**	-	-	-	**1.00**	-	-	-	-	-	-	-
Dissolved Organic Carbon	-	-	**2.50 J**	-	-	-	**1.00**	-	-	-	-	-	-	-
Dissolved Carbonate as CaCO3	-	-	1.00 U	-	-	-	1.00 U	-	-	-	-	-	-	-

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3i
2008-2009 Sandblast Area AOPC Quarterly Groundwater Analytical Results
Volatile Organic Compounds
(Page 1 of 3)

Site ID	MW-11*	MW-11	MW-11*	MW-11*	MW-12	MW-12	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	080415MW11GW	080715MW11GW	081020MW11GW	090112MW11GW	080415MW12GW	080715MW12GW				
Sample Date	4/15/2008	7/15/2008	10/20/2008	1/12/2009	4/15/2008	7/15/2008				
Sample Depth (Feet btc)	31	31	31	31	28	21				
Total Volatile Organic Compounds (µg/L)										
1,1,1,2-Tetrachloroethane	0.0450 U	-	-	-	0.0450 U	-	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	0.0620 U	-	-	-	**1.90**	-	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	0.0880 U	-	-	-	0.0880 U	-	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	0.0940 U	-	-	-	0.0940 U	-	0.590	HH	0.230	HH
1,1-Dichloroethane	0.0590 U	-	-	-	**5.00**	-	47.0	Eco	2.30	HH
1,1-Dichloroethene	0.100 U	-	-	-	**2.10**	-	25.0	Eco	25.0	Eco
1,1-Dichloropropene	0.0620 U	-	-	-	0.0620 U	-	-	-	0.430	HH
1,2,3-Trichlorobenzene	0.0840 U	-	-	-	0.0840 U	-	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	0.240 U	-	-	-	0.240 U	-	-	-	0.000720	HH
1,2,4-Trichlorobenzene	0.180 U	-	-	-	0.180 U	-	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	0.0620 U	-	-	-	0.0620 U	-	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	0.500 U	-	-	-	0.500 U	-	-	-	0.000320	HH
1,2-Dibromoethane (EDB)	0.0720 U	-	-	-	0.0720 U	-	-	-	0.00630	HH
1,2-Dichlorobenzene	0.0690 U	-	-	-	0.0690 U	-	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	0.0660 U	-	-	-	0.0660 U	-	0.380	HH	0.140	HH
1,2-Dichloropropane	0.0620 U	-	-	-	0.0620 U	-	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	0.0660 U	-	-	-	0.0660 U	-	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	0.0820 U	-	-	-	0.0820 U	-	71.0	Eco	0.420	HH
1,3-Dichloropropane	0.0570 U	-	-	-	0.0570 U	-	5,700	Eco	730	HH
1,4-Dichlorobenzene	0.0840 U	-	-	-	0.0840 U	-	15.0	Eco	0.420	HH
2,2-Dichloropropane	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.420 U	0.500	HH	0.390	HH
2-Butanone (MEK)	2.30 U	-	-	-	2.30 U	-	14,000	Eco	7,100	HH
2-Chlorotoluene	0.0790 U	-	-	-	0.0790 U	-	-	-	730	HH
2-Hexanone	2.40 U	-	-	-	2.40 U	-	99.0	Eco	47.0	HH
4-Chlorotoluene	0.0570 U	-	-	-	0.0570 U	-	-	-	2,600	HH
4-Isopropyltoluene	0.0700 U	-	-	-	0.0700 U	-	-	-	-	-
4-Methyl-2-pentanone (MIBK)	1.40 U	-	-	-	1.40 U	-	170	Eco	170	Eco
Acetone	3.00 U	-	-	-	3.00 U	-	1,500	Eco	1,500	Eco
Benzene	0.0620 U	-	-	-	0.0620 U	-	2.20	HH	0.390	HH
Bromobenzene	0.0660 U	-	-	-	0.0660 U	-	-	-	88.0	HH
Bromochloromethane	0.0990 U	-	-	-	0.0990 U	-	0.550	HH	0.120	HH
Bromodichloromethane	0.0550 U	-	-	-	0.0550 U	-	0.550	HH	0.120	HH
Bromoform	0.0990 U	-	-	-	0.0990 U	-	4.30	HH	7.20	HH
Bromomethane	0.120 U	-	-	-	0.120 U	-	16.0	Eco	8.70	HH
Carbon Disulfide	**0.255 J**	-	-	-	**0.200 J**	-	0.920	Eco	0.920	Eco
Carbon Tetrachloride	0.0480 U	-	-	-	0.0480 U	-	0.230	HH	0.190	HH
Chlorobenzene	0.0640 U	-	-	-	0.0640 U	-	50.0	Eco	50.0	Eco
Chloroethane	0.130 U	-	-	-	0.130 U	-	-	-	21,000	HH
Chloroform	**0.180 J**	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.410 U	5.70	HH	0.190	HH
Chloromethane	0.110 U	-	-	-	0.110 U	-	-	-	190	HH
cis-1,2-Dichloroethene	0.0660 U	0.0660 U	0.0660 U	0.0660 U	**550**	**660**	590	Eco	360	HH
cis-1,3-Dichloropropene	0.0550 U	-	-	-	0.0550 U	-	0.0550	Eco	0.0550	Eco
Dibromochloromethane	0.0720 U	-	-	-	0.0720 U	-	0.400	HH	0.680	HH
Dibromomethane	0.120 U	-	-	-	0.120 U	-	-	-	8.20	HH
Dichlorodifluoromethane	0.0750 U	-	-	-	0.0750 U	-	-	-	390	HH
Dichloromethane (Methylene Chloride)	**0.175 J**	-	-	-	0.0840 U	-	4.60	HH	4.40	HH
Ethylbenzene	0.0680 U	-	-	-	0.0680 U	-	7.30	Eco	1.40	HH
Hexachlorobutadiene	0.150 U	-	-	-	0.150 U	-	0.440	HH	0.860	HH
Isopropylbenzene	0.0760 U	-	-	-	0.0760 U	-	7.30	Eco	7.30	Eco
m,p-Xylenes	0.110 U	-	-	-	0.110 U	-	13.0	Eco	13.0	Eco
Naphthalene	0.0960 U	-	-	-	0.0960 U	-	620	Eco	0.140	HH
n-Butylbenzene	0.0850 U	-	-	-	0.0850 U	-	-	-	-	-
n-Propylbenzene	0.00590 U	-	-	-	0.00590 U	-	7.30	Eco	7.30	Eco
o-Xylene	0.0680 U	-	-	-	0.0680 U	-	350	Eco	350	Eco
sec-Butylbenzene	0.0710 U	-	-	-	0.0710 U	-	-	-	-	-
Styrene	0.0770 U	-	-	-	0.0770 U	-	72.0	Eco	72.0	Eco
tert-Butylbenzene	0.0590 U	-	-	-	0.0590 U	-	-	-	-	-
Tetrachloroethene (PCE)	0.0970 U	0.0970 U	0.0970 U	0.0970 U	**5.10**	**5.10**	0.690	HH	0.0930	HH
Toluene	**0.510 J**	-	-	-	**0.580**	-	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	0.0690 U	-	-	-	**1.70**	-	140	HH	110	HH
trans-1,3-Dichloropropene	0.0750 U	-	-	-	0.0750 U	-	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	0.0730 U	0.0730 U	0.0730 U	0.0730 U	**3.20**	**3.00**	2.50	HH	0.0390	HH
Trichlorofluoromethane	0.0990 U	-	-	-	0.0990 U	-	-	-	1,300	HH
Vinyl Acetate	0.910 U	-	-	-	0.910 U	-	16.0	Eco	16.0	Eco
Vinyl Chloride	0.0440 U	0.0440 U	0.0440 U	0.0440 U	**4.10**	**0.900 J**	0.0250	HH	0.0250	HH

Notes:

µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3i
2008-2009 Sandblast Area AOPC Quarterly Groundwater Analytical Results
Volatile Organic Compounds
(Page 2 of 3)

Site ID	MW-12	MW-12	MW-13	MW-13*	MW-13	MW-13	MW-14	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	081021MW12GW	090113MW12GW	080414MW13GW	080714MW13GW	081020MW13GW	090112MW13GW	080414MW14GW				
Sample Date	10/21/2008	1/13/2009	4/14/2008	7/14/2008	10/20/2008	1/12/2009	4/14/2008				
Sample Depth (Feet btc)	26	26	31	31	31	30	18				
Total Volatile Organic Compounds (µg/L)											
1,1,1,2-Tetrachloroethane	-	-	0.0450 U	-	-	-	0.0450 U	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	-	-	0.0620 U	-	-	-	**0.220 J**	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	-	-	0.0880 U	-	-	-	0.0880 U	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	-	-	0.0940 U	-	-	-	0.0940 U	0.590	HH	0.230	HH
1,1-Dichloroethane	-	-	0.0590 U	-	-	-	**0.320 J**	47.0	Eco	2.30	HH
1,1-Dichloroethene	-	-	0.100 U	-	-	-	0.100 U	25.0	Eco	25.0	Eco
1,1-Dichloropropene	-	-	0.0620 U	-	-	-	0.0620 U	-	-	0.430	HH
1,2,3-Trichlorobenzene	-	-	0.0840 U	-	-	-	0.0840 U	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	-	-	0.240 U	-	-	-	0.240 U	-	-	0.000720	HH
1,2,4-Trichlorobenzene	-	-	0.180 U	-	-	-	0.180 U	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	-	-	0.0620 U	-	-	-	0.0620 U	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	-	-	0.500 U	-	-	-	0.500 U	-	-	0.000320	HH
1,2-Dibromoethane (EDB)	-	-	0.0720 U	-	-	-	0.0720 U	-	-	0.00630	HH
1,2-Dichlorobenzene	-	-	0.0690 U	-	-	-	0.0690 U	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	-	-	0.0660 U	-	-	-	0.0660 U	0.380	HH	0.140	HH
1,2-Dichloropropane	-	-	0.0620 U	-	-	-	0.0620 U	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	-	-	0.0660 U	-	-	-	0.0660 U	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	-	-	0.0820 U	-	-	-	0.0820 U	71.0	Eco	0.420	HH
1,3-Dichloropropane	-	-	0.0570 U	-	-	-	0.0570 U	5,700	Eco	730	HH
1,4-Dichlorobenzene	-	-	0.0840 U	-	-	-	0.0840 U	15.0	Eco	0.420	HH
2,2-Dichloropropane	0.210 U	0.210 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.500	HH	0.390	HH
2-Butanone (MEK)	-	-	2.30 U	-	-	-	2.30 U	14,000	Eco	7,100	HH
2-Chlorotoluene	-	-	0.0790 U	-	-	-	0.0790 U	-	-	730	HH
2-Hexanone	-	-	2.40 U	-	-	-	2.40 U	99.0	Eco	47.0	HH
4-Chlorotoluene	-	-	0.0570 U	-	-	-	0.0570 U	-	-	2,600	HH
4-Isopropyltoluene	-	-	0.0700 U	-	-	-	0.0700 U	-	-	-	-
4-Methyl-2-pentanone (MIBK)	-	-	1.40 U	-	-	-	1.40 U	170	Eco	170	Eco
Acetone	-	-	3.00 U	-	-	-	3.00 U	1,500	Eco	1,500	Eco
Benzene	-	-	0.0620 U	-	-	-	0.0620 U	2.20	HH	0.390	HH
Bromobenzene	-	-	0.0660 U	-	-	-	0.0660 U	-	-	88.0	HH
Bromochloromethane	-	-	0.0990 U	-	-	-	0.0990 U	0.550	HH	0.120	HH
Bromodichloromethane	-	-	0.0550 U	-	-	-	0.0550 U	0.550	HH	0.120	HH
Bromoform	-	-	0.0990 U	-	-	-	0.0990 U	4.30	HH	7.20	HH
Bromomethane	-	-	0.120 U	-	-	-	0.120 U	16.0	Eco	8.70	HH
Carbon Disulfide	-	-	**0.170 J**	-	-	-	**0.120 J**	0.920	Eco	0.920	Eco
Carbon Tetrachloride	-	-	0.0480 U	-	-	-	0.0480 U	0.230	HH	0.190	HH
Chlorobenzene	-	-	0.0640 U	-	-	-	0.0640 U	50.0	Eco	50.0	Eco
Chloroethane	-	-	0.130 U	-	-	-	0.130 U	-	-	21,000	HH
Chloroform	0.210 U	0.210 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	5.70	HH	0.190	HH
Chloromethane	-	-	0.110 U	-	-	-	0.110 U	-	-	190	HH
cis-1,2-Dichloroethene	**600**	**530**	**2.00**	**2.10**	**2.50**	**2.40**	**46.0**	590	Eco	360	HH
cis-1,3-Dichloropropene	-	-	0.0550 U	-	-	-	0.0550 U	0.0550	Eco	0.0550	Eco
Dibromochloromethane	-	-	0.0720 U	-	-	-	0.0720 U	0.400	HH	0.680	HH
Dibromomethane	-	-	0.120 U	-	-	-	0.120 U	-	-	8.20	HH
Dichlorodifluoromethane	-	-	0.0750 U	-	-	-	0.0750 U	-	-	390	HH
Dichloromethane (Methylene Chloride)	-	-	0.0840 U	-	-	-	0.0840 U	4.60	HH	4.40	HH
Ethylbenzene	-	-	0.0680 U	-	-	-	0.0680 U	7.30	Eco	1.40	HH
Hexachlorobutadiene	-	-	0.150 U	-	-	-	0.150 U	0.440	HH	0.860	HH
Isopropylbenzene	-	-	0.0760 U	-	-	-	0.0760 U	7.30	Eco	7.30	Eco
m,p-Xylenes	-	-	0.110 U	-	-	-	0.110 U	13.0	Eco	13.0	Eco
Naphthalene	-	-	0.0960 U	-	-	-	0.0960 U	620	Eco	0.140	HH
n-Butylbenzene	-	-	0.0850 U	-	-	-	0.0850 U	-	-	-	-
n-Propylbenzene	-	-	0.00590 U	-	-	-	0.00590 U	7.30	Eco	7.30	Eco
o-Xylene	-	-	0.0680 U	-	-	-	0.0680 U	350	Eco	350	Eco
sec-Butylbenzene	-	-	0.0710 U	-	-	-	0.0710 U	-	-	-	-
Styrene	-	-	0.0770 U	-	-	-	0.0770 U	72.0	Eco	72.0	Eco
tert-Butylbenzene	-	-	0.0590 U	-	-	-	0.0590 U	-	-	-	-
Tetrachloroethene (PCE)	**6.20**	**5.80**	**0.360 J**	**0.470 J**	**0.660**	**0.710**	**1.50**	0.690	HH	0.0930	HH
Toluene	-	-	**0.260 J**	-	-	-	**0.640**	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	-	-	0.0690 U	-	-	-	**0.110 J**	140	HH	110	HH
trans-1,3-Dichloropropene	-	-	0.0750 U	-	-	-	0.0750 U	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	**3.40**	**3.00**	**1.90**	**2.95**	**3.40**	**3.10**	**0.820**	2.50	HH	0.0390	HH
Trichlorofluoromethane	-	-	0.0990 U	-	-	-	0.0990 U	-	-	1,300	HH
Vinyl Acetate	-	-	0.910 U	-	-	-	0.910 U	16.0	Eco	16.0	Eco
Vinyl Chloride	**0.480 J**	**1.60**	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0250	HH	0.0250	HH

Notes:
µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3i
2008-2009 Sandblast Area AOPC Quarterly Groundwater Analytical Results
Volatile Organic Compounds
(Page 3 of 3)

Site ID	MW-14	MW-14	MW-14	MW-15	MW-15	MW-15	MW-15	**Selected Discharge to Surface Water / Bioaccumulation SLV**	**SLV Source**	**Selected Direct Contact SLV**	**SLV Source**
Sample ID	080714MW14GW	081021MW14GW	090113MW14GW	080414MW15GW	080714MW15GW	081021MW15GW	090113MW15GW				
Sample Date	7/14/2008	10/21/2008	1/13/2009	4/14/2008	7/14/2008	10/21/2008	1/13/2009				
Sample Depth (Feet btc)	18	18	18	17	17	17	17				
Total Volatile Organic Compounds (µg/L)											
1,1,1,2-Tetrachloroethane	-	-	-	0.0450 U	-	-	-	186	Eco	0.520	HH
1,1,1-Trichloroethane (TCA)	-	-	-	0.0620 U	-	-	-	11.0	Eco	11.0	Eco
1,1,2,2-Tetrachloroethane	-	-	-	0.0880 U	-	-	-	0.170	HH	0.0670	HH
1,1,2-Trichloroethane	-	-	-	0.0940 U	-	-	-	0.590	HH	0.230	HH
1,1-Dichloroethane	-	-	-	0.0590 U	-	-	-	47.0	Eco	2.30	HH
1,1-Dichloroethene	-	-	-	0.100 U	-	-	-	25.0	Eco	25.0	Eco
1,1-Dichloropropene	-	-	-	0.0620 U	-	-	-	-	-	0.430	HH
1,2,3-Trichlorobenzene	-	-	-	0.0840 U	-	-	-	8.00	Eco	2.30	HH
1,2,3-Trichloropropane	-	-	-	0.240 U	-	-	-	-	-	0.000720	HH
1,2,4-Trichlorobenzene	-	-	-	0.180 U	-	-	-	35.0	HH	2.30	HH
1,2,4-Trimethylbenzene	-	-	-	0.0620 U	-	-	-	7.30	Eco	7.30	Eco
1,2-Dibromo-3-chloropropane	-	-	-	0.500 U	-	-	-	-	-	0.000320	HH
1,2-Dibromoethane (EDB)	-	-	-	0.0720 U	-	-	-	-	-	0.00630	HH
1,2-Dichlorobenzene	-	-	-	0.0690 U	-	-	-	14.0	Eco	14.0	Eco
1,2-Dichloroethane (EDC)	-	-	-	0.0660 U	-	-	-	0.380	HH	0.140	HH
1,2-Dichloropropane	-	-	-	0.0620 U	-	-	-	0.500	HH	0.390	HH
1,3,5-Trimethylbenzene	-	-	-	0.0660 U	-	-	-	7.30	Eco	7.30	Eco
1,3-Dichlorobenzene	-	-	-	0.0820 U	-	-	-	71.0	Eco	0.420	HH
1,3-Dichloropropane	-	-	-	0.0570 U	-	-	-	5,700	Eco	730	HH
1,4-Dichlorobenzene	-	-	-	0.0840 U	-	-	-	15.0	Eco	0.420	HH
2,2-Dichloropropane	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.500	HH	0.390	HH
2-Butanone (MEK)	-	-	-	2.30 U	-	-	-	14,000	Eco	7,100	HH
2-Chlorotoluene	-	-	-	0.0790 U	-	-	-	-	-	730	HH
2-Hexanone	-	-	-	2.40 U	-	-	-	99.0	Eco	47.0	HH
4-Chlorotoluene	-	-	-	0.0570 U	-	-	-	-	-	2,600	HH
4-Isopropyltoluene	-	-	-	0.0700 U	-	-	-	-	-	-	-
4-Methyl-2-pentanone (MIBK)	-	-	-	1.40 U	-	-	-	170	Eco	170	Eco
Acetone	-	-	-	3.00 U	-	-	-	1,500	Eco	1,500	Eco
Benzene	-	-	-	0.0620 U	-	-	-	2.20	HH	0.390	HH
Bromobenzene	-	-	-	0.0660 U	-	-	-	-	-	88.0	HH
Bromochloromethane	-	-	-	0.0990 U	-	-	-	0.550	HH	0.120	HH
Bromodichloromethane	-	-	-	0.0550 U	-	-	-	0.550	HH	0.120	HH
Bromoform	-	-	-	0.0990 U	-	-	-	4.30	HH	7.20	HH
Bromomethane	-	-	-	0.120 U	-	-	-	16.0	Eco	8.70	HH
Carbon Disulfide	-	-	-	**0.120 J**	-	-	-	0.920	Eco	0.920	Eco
Carbon Tetrachloride	-	-	-	0.0480 U	-	-	-	0.230	HH	0.190	HH
Chlorobenzene	-	-	-	0.0640 U	-	-	-	50.0	Eco	50.0	Eco
Chloroethane	-	-	-	0.130 U	-	-	-	-	-	21,000	HH
Chloroform	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	0.0820 U	5.70	HH	0.190	HH
Chloromethane	-	-	-	0.110 U	-	-	-	-	-	190	HH
cis-1,2-Dichloroethene	**10.0**	**0.620**	**50.0**	**0.440 J**	**0.170 J**	**0.0800 J**	0.0660 U	590	Eco	360	HH
cis-1,3-Dichloropropene	-	-	-	0.0550 U	-	-	-	0.0550	Eco	0.0550	Eco
Dibromochloromethane	-	-	-	0.0720 U	-	-	-	0.400	HH	0.680	HH
Dibromomethane	-	-	-	0.120 U	-	-	-	-	-	8.20	HH
Dichlorodifluoromethane	-	-	-	0.0750 U	-	-	-	-	-	390	HH
Dichloromethane (Methylene Chloride)	-	-	-	0.0840 U	-	-	-	4.60	HH	4.40	HH
Ethylbenzene	-	-	-	0.0680 U	-	-	-	7.30	Eco	1.40	HH
Hexachlorobutadiene	-	-	-	0.150 U	-	-	-	0.440	HH	0.860	HH
Isopropylbenzene	-	-	-	0.0760 U	-	-	-	7.30	Eco	7.30	Eco
m,p-Xylenes	-	-	-	0.110 U	-	-	-	13.0	Eco	13.0	Eco
Naphthalene	-	-	-	0.0960 U	-	-	-	620	Eco	0.140	HH
n-Butylbenzene	-	-	-	0.0850 U	-	-	-	-	-	-	-
n-Propylbenzene	-	-	-	0.00590 U	-	-	-	7.30	Eco	7.30	Eco
o-Xylene	-	-	-	0.0680 U	-	-	-	350	Eco	350	Eco
sec-Butylbenzene	-	-	-	0.0710 U	-	-	-	-	-	-	-
Styrene	-	-	-	0.0770 U	-	-	-	72.0	Eco	72.0	Eco
tert-Butylbenzene	-	-	-	0.0590 U	-	-	-	-	-	-	-
Tetrachloroethene (PCE)	**1.10**	**0.380 J**	**1.80**	**1.80**	**1.60**	**2.10**	**1.10**	0.690	HH	0.0930	HH
Toluene	-	-	-	**0.230 J**	-	-	-	9.80	Eco	9.80	Eco
trans-1,2-Dichloroethene	-	-	-	0.0690 U	-	-	-	140	HH	110	HH
trans-1,3-Dichloropropene	-	-	-	0.0750 U	-	-	-	0.0550	Eco	0.0550	Eco
Trichloroethene (TCE)	**0.610**	**0.140 J**	**0.890**	**0.270 J**	**0.230 J**	**0.250 J**	0.0730 U	2.50	HH	0.0390	HH
Trichlorofluoromethane	-	-	-	0.0990 U	-	-	-	-	-	1,300	HH
Vinyl Acetate	-	-	-	0.910 U	-	-	-	16.0	Eco	16.0	Eco
Vinyl Chloride	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0440 U	0.0250	HH	0.0250	HH

Notes:
µg/L = microgram per liter
btc = below top of well casing
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-3j
2009 Sandblast Area AOPC Soil Gas Analytical Results
Volatile Organic Compounds

Site ID	SB-10	SB-11	SB-12*	SB-13	SB-14	Selected SLV	SLV Source
Sample ID	090126-SB-SB10-3_5-4SG	090126-SB-SB11-3_5-4SG	090126-SB-SB12-3_5-4SG	090126-SB-SB13-3_5-4SG	090126-SB-SB14-3_5-4SG		
Sample Date	1/26/2009	1/26/2009	1/26/2009	1/26/2009	1/26/2009		
Sample Depth (Feet bgs)	3.5-4.0	3.5-4.0	3.5-4.0	3.5-4.0	3.5-4.0		
Total Volatile Organic Compounds (µg/m^3)							
1,1,1-Trichloroethane (TCA)	**8.10 J**	**13.0**	**98.0 J**	**5.20 J**	**16.0 J**	22,000,000	HH
1,1,2,2-Tetrachloroethane	1.90 U	2.70 U	110 U	5.80 U	6.00 U	210	HH
1,1,2-Trichloroethane	2.00 U	2.90 U	110 U	6.20 U	6.30 U	770	HH
1,1-Dichloroethane	0.980 U	1.40 U	56.0 U	3.00 U	3.10 U	7,700	HH
1,1-Dichloroethene	0.840 U	1.20 U	48.0 U	2.60 U	2.70 U	880,000	HH
1,2,4-Trichlorobenzene	12.0 U	17.0 U	660 U	36.0 U	37.0 U	8,800	HH
1,2,4-Trimethylbenzene	**95.0**	**930**	**18,500**	**2,000**	**270**	31,000	HH
1,2-Dibromoethane (EDB)	1.20 U	1.70 U	66.0 U	3.60 U	3.70 U	20.0	HH
1,2-Dichlorobenzene	1.60 U	2.40 U	93.0 U	5.10 U	5.20 U	880,000	HH
1,2-Dichloroethane (EDC)	0.860 U	1.20 U	49.0 U	2.70 U	2.70 U	470	HH
1,2-Dichloropropane	0.980 U	1.40 U	56.0 U	3.00 U	3.10 U	1,200	HH
1,3,5-Trimethylbenzene	**30.0**	**240**	**6,250**	**610**	**68.0**	26,000	HH
1,3-Butadiene	**10.0**	**2.20 J**	23.0 U	**12.0**	**210**	410	HH
1,3-Dichlorobenzene	1.80 U	2.60 U	100 U	5.60 U	5.80 U	1,100	HH
1,4-Dichlorobenzene	1.80 U	2.60 U	100 U	5.60 U	5.80 U	1,100	HH
1,4-Dioxane	**1.10 J**	1.10 U	43.0 U	2.40 U	2.40 U	1,600	HH
2,2,4-Trimethylpentane	**1.80 J**	1.20 U	48.0 U	2.60 U	2.70 U	31,000	HH
2-Butanone (MEK)	**31.0**	1.70 U	66.0 U	3.60 U	**16.0**	22,000,000	HH
2-Hexanone	2.40 U	3.40 U	130 U	7.30 U	7.50 U	130,000	HH
2-Propanol	1.50 U	2.20 U	84.0 U	4.60 U	4.80 U	31,000,000	HH
3-Chloropropene	2.60 U	3.90 U	150 U	8.20 U	8.50 U	2,000	HH
4-Ethyltoluene	**85.0**	**260**	**9,150**	**680**	**74.0**	22,000,000	HH
4-Methyl-2-pentanone (MIBK)	**2.10 J**	1.10 U	42.0 U	2.30 U	2.40 U	13,000,000	HH
Acetone	**97.0**	21.0 U	86.0 U	4.70 U	**83.0**	140,000,000	HH
alpha-Chlorotoluene	1.60 U	2.30 U	89.0 U	4.90 U	5.00 U	250	HH
Benzene	**18.0**	**2.10 J**	27.0 U	**7.00 J**	**85.0**	1,600	HH
Bromodichloromethane	0.610 U	0.890 U	34.0 U	1.90 U	1.90 U	330	HH
Bromoform	3.10 U	4.60 U	180 U	9.70 U	10.0 U	11,000	HH
Bromomethane	1.40 U	2.00 U	80.0 U	4.40 U	4.50 U	22,000	HH
Carbon Disulfide	4.70 U	**1.80 J**	27.0 U	**5.90 J**	**42.0**	3,100,000	HH
Carbon Tetrachloride	1.10 U	1.70 U	65.0 U	3.50 U	3.60 U	820	HH
Chlorobenzene	1.10 U	1.60 U	63.0 U	3.50 U	3.60 U	220,000	HH
Chloroethane	0.640 U	0.930 U	36.0 U	2.00 U	2.00 U	44,000,000	HH
Chloroform	**0.750 J**	1.10 U	42.0 U	2.30 U	2.40 U	530	HH
Chloromethane	0.940 U	1.40 U	53.0 U	2.90 U	3.00 U	390,000	HH
cis-1,2-Dichloroethene	**330**	**69.0**	**145 J**	**8.60 J**	**21.0**	260,000	HH
cis-1,3-Dichloropropene	0.550 U	0.800 U	31.0 U	1.70 U	1.80 U	3,100	HH
Cyclohexane	**3.00 J**	0.760 U	30.0 U	**1.80 J**	**24.0**	26,000,000	HH
Dibromochloromethane	1.80 U	2.60 U	100 U	5.60 U	5.80 U	450	HH
Dichlorodifluoromethane	**3.20 J**	**3.00 J**	76.0 U	4.20 U	4.30 U	880,000	HH
Dichloromethane (Methylene Chloride)	**1.80 J**	1.50 U	60.0 U	3.30 U	3.40 U	26,000	HH
Ethanol	**13.0**	**13.0 J**	100 U	5.70 U	5.80 U	--	--
Ethylbenzene	**82.0**	**27.0**	**1,550**	**78.0**	**25.0**	4,900	HH
Freon 113	1.20 U	1.70 U	66.0 U	3.60 U	3.70 U	130,000,000	HH
Freon 114	1.50 U	2.20 U	84.0 U	4.60 U	4.70 U	130,000,000	HH
Heptane	**36.0**	9.00 U	**87.0 J**	**7.60 J**	**67.0**	3,100,000	HH
Hexachlorobutadiene	17.0 U	25.0 U	970 U	53.0 U	55.0 U	560	HH
Hexane	**12.0**	**1.30 J**	42.0 U	**8.60 J**	**110**	3,100,000	HH
Isopropylbenzene	**4.30 J**	**12.0**	**675**	**42.0**	**5.40 J**	1,800,000	HH
m,p-Xylenes	**350**	**100**	**5,850**	**310**	**61.0**	440,000	HH
Methyl tert-butyl ether	1.40 U	2.10 U	81.0 U	4.40 U	4.50 U	47,000	HH
n-Propylbenzene	**21.0**	**56.0**	**2,300**	**170**	**16.0 J**	4,400,000	HH
o-Xylene	**120**	**52.0**	**2,800**	**150**	**28.0**	3,100,000	HH
Styrene	1.30 U	1.90 U	73.0 U	4.00 U	4.10 U	4,400,000	HH
Tetrachloroethene (PCE)	**610**	**800**	**34,000**	**1,800**	**730**	2,100	HH
Tetrahydrofuran	1.10 U	1.60 U	61.0 U	3.30 U	3.40 U	--	--
Toluene	**300**	**1,200**	**47,500**	**2,400**	**2,000**	22,000,000	HH
trans-1,2-Dichloroethene	**4.00 J**	2.60 U	100 U	5.60 U	5.80 U	260,000	HH
trans-1,3-Dichloropropene	0.960 U	1.40 U	55.0 U	3.00 U	3.10 U	3,100	HH
Trichloroethene (TCE)	**360**	**33.0**	**610 J**	**27.0**	**41.0**	140	HH
Trichlorofluoromethane	**2.20 J**	1.70 U	68.0 U	3.70 U	3.80 U	3,100,000	HH
Vinyl Chloride	0.930 U	1.40 U	53.0 U	2.90 U	3.00 U	2,800	HH

Notes:

µg/m3 = microgram per cubic meter
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-4a
2009 Pistol Range AOPC Soil and Lagoon Sediment Analytical Results
Metals, General Chemistry Parameters, and Grain Size

Sample Description	Pistol Range Soil Composite Samples		Lagoon Sediment Grab Samples					**Selected SLV (0-3 ft bgs)**	**SLV Source (0-3 ft bgs)**
Site ID	PR-EUA	PR-EUB	PR-04	PR-05	PR-06*	PR-07	PR-08		
Sample ID	090319-PR-EUA-So	090319-PR-EUB-So	090111-PR4-0-1SD	090111-PR5-0-1SD	090111-PR6-0-1SD	090111-PR7-0-1SD	090111-PR8-0-1SD		
Sample Date	3/19/2009	3/19/2009	1/11/2009	1/11/2009	1/11/2009	1/11/2009	1/11/2009		
Sample Depth (Feet bgs or brb)	0.0-0.17	0.0-0.17	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0		
Metals (mg/kg dry)									
Copper	-	-	**24.4**	**23.9**	**25.4**	**21.7**	**20.2**	55.6	UPL
Lead	-	-	**27.5**	**30.2**	**33.0**	**24.9**	**20.0**	35.0	Eco
Nickel	-	-	**14.5**	**15.0**	**15.4**	**13.2**	**12.9**	21.2	UPL
Zinc	-	-	**160 J**	**171 J**	**174 J**	**146 J**	**128 J**	123	Eco
General Chemistry Parameters and Grain Size (%)									
Carbon, Total Organic	-	-	**9,500**	**10,700**	**19,600 J**	**14,500**	**12,200**	--	--
Solids, Total	**800,000**	**756,000**	**688,000**	**690,000**	**678,000**	**637,000**	**609,000**	--	--
Gravel (>2.00 mm)	**32.7**	**20.3**	**2.22**	**0.320**	**0.0750**	**1.76**	**0.270**	--	--
Sand, Very Coarse (1.00 - 2.00 mm)	**10.2**	**4.62**	**0.940**	**0.390**	**0.125**	**0.490**	**0.300**	--	--
Sand, Coarse (0.50 - 1.00 mm)	**7.66**	**6.67**	**2.01**	**3.73**	**3.26**	**2.65**	**0.760**	--	--
Sand, Medium (0.25 - 0.50 mm)	**7.51**	**9.14**	**3.57**	**4.37**	**3.18**	**3.91**	**1.70**	--	--
Sand, Fine (0.125 - 0.25 mm)	**7.80**	**10.6**	**5.54**	**5.49**	**4.52**	**5.93**	**5.27**	--	--
Sand, Very Fine (0.0625 - 0.125 mm)	**6.08**	**8.73**	**18.1**	**10.9**	**12.5**	**16.4**	**24.9**	--	--
Silt (0.039 - 0.0625 mm)	**18.7**	**25.3**	**60.3**	**62.0**	**63.2**	**58.1**	**60.2**	--	--
Clay (<0.039 mm)	**6.40**	**10.1**	**7.96**	**9.83**	**10.1**	**4.35**	**2.73**	--	--

Notes:

mg/kg = milligram per kilogram
bgs = below ground surface
brb = below river bottom
Eco = Ecological
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed

-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-4b
2009 Pistol Range AOPC Groundwater Analytical Results
Metals and General Chemistry Parameters

Site ID	PR-01	PR-02D*	Selected Discharge to Surface Water / Bioaccumulation SLV	SLV Source	Selected Direct Contact SLV	SLV Source
Sample ID	090202-PR-PR1-16-20GW	090202-PR-PR2D-9-19GW				
Sample Date	2/2/2009	2/2/2009				
Sample Depth (Feet bgs)	16.0-20.0	9.0-19.0				
Total Metals (mg/L)						
Copper	**0.0548 J**	**0.0400 J**	1.30	HH	1.50	HH
Lead	**0.0105**	**0.0125 J**	--	--	0.0150	HH
Nickel	**0.0501**	**0.0215 J**	0.610	HH	0.730	HH
Zinc	**0.149**	**0.0781 J**	7.40	HH	11.0	HH
Dissolved Metals (mg/L)						
Copper	**0.000800 J**	**0.000665 J**	0.00900	Eco	0.00900	Eco
Lead	0.0000200 U	0.0000200 U	0.00250	Eco	0.00250	Eco
Nickel	**0.003900 J**	0.00200 U	0.0520	Eco	0.0520	Eco
Zinc	**0.004100 J**	**0.00210 J**	0.120	Eco	0.120	Eco
General Chemistry Parameters (mg/L)						
Solids, Total Dissolved	**307**	**219**	--	--	--	--
Total Suspended Solids	5.00 U	**3,170 J**	--	--	--	--

Notes:

mg/L = milligram per liter
bgs = below ground surface
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-5a
2009 Reference Area Soil Analytical Results
Metals, Polycyclic Aromatic Hydrodarbons, Total Solids, and Grain Size

Site ID	R-01	R-02	R-03	R-04	R-05	R-06	R-07*	R-08	R-09	R-10	R-11	R-12	R-13	R-14
Sample ID	090128-R-R1-0-0.5So	090128-R-R2-0-0.5So	090128-R-R3-0-0.5So	090128-R-R4-0-0.5So	090128-R-R5-0-0.5So	090128-R-R6-0-0.5So	090128-R-R7-0-0.5So	090128-R-R8-0-0.5So	090128-R-R9-0-0.5So	090128-R-R10-0-0.5So	090128-R-R11-0-0.5So	090128-R-R12-0-0.5So	090128-R-R13-0-0.5So	090128-R-R14-0-0.5So
Sample Date	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009	1/28/2009
Sample Depth (Feet bgs)	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Metals (mg/kg)														
Aluminum	**21,300**	**20,300**	**19,000**	**21,800**	**26,200**	**15,900**	**22,200**	**23,700**	**16,500**	**19,900**	**26,300**	**23,200**	**28,900**	**33,200**
Antimony	**0.120 J**	**0.130 J**	**0.130 J**	**0.170 J**	**0.130 J**	**0.130 J**	**0.140 J**	**0.110 J**	**0.180 J**	**0.120 J**	**0.130 J**	**0.0700 J**	**0.110 J**	**0.120 J**
Arsenic	**3.55**	**3.27**	**2.04**	**4.70**	**2.64**	**5.18**	**1.78**	**4.55**	**4.20**	**3.38**	**3.16**	**1.09**	**2.03**	**1.80**
Barium	**81.5**	**118**	**95.2**	**131**	**182**	**91.6**	**75.0**	**137**	**88.7**	**98.8**	**122**	**57.4**	**145**	**112**
Beryllium	**0.433**	**0.513**	**0.579**	**0.504**	**0.625**	**0.393**	**0.564**	**0.459**	**0.387**	**0.448**	**0.492**	**0.319**	**0.531**	**0.629**
Cadmium	**0.164**	**0.156**	**0.162**	**0.150**	**0.175**	**0.0990**	**0.340**	**0.194**	**0.105**	**0.143**	**0.155**	**0.102**	**0.132**	**0.191**
Calcium	**7,160**	**9,120**	**8,720**	**6,110**	**9,060**	**4,310**	**8,500**	**7,700**	**4,760**	**6,810**	**6,970**	**3,510**	**7,590**	**8,880**
Chromium	**21.8**	**21.4**	**23.4**	**21.7**	**27.3**	**19.2**	**18.8**	**23.1**	**17.8**	**18.8**	**23.5**	**15.5**	**26.4**	**25.9**
Cobalt	**19.1**	**18.3**	**19.2**	**15.8**	**17.9**	**12.8**	**19.9**	**17.5**	**11.4**	**17.0**	**17.2**	**9.66**	**16.6**	**18.5**
Copper	**37.6**	**45.1**	**35.3**	**33.0**	**49.4**	**22.8**	**43.7**	**30.3**	**29.4**	**35.5**	**44.4**	**32.0**	**49.2**	**58.2**
Iron	**29,900**	**26,400**	**29,100**	**28,500**	**32,000**	**24,500**	**33,500**	**30,300**	**27,300**	**29,200**	**33,000**	**22,900**	**34,000**	**37,000**
Lead	**14.9**	**17.4**	**26.5**	**19.5**	**19.2**	**15.4**	**24.0**	**22.3**	**15.4**	**13.1**	**14.6**	**12.5**	**19.0**	**14.6**
Magnesium	**10,500**	**6,770**	**5,160**	**6,700**	**8,300**	**4,770**	**3,710**	**8,740**	**5,100**	**8,450**	**10,100**	**9,080**	**10,100**	**12,000**
Manganese	**589**	**685**	**526**	**733**	**716**	**498**	**920**	**622**	**423**	**627**	**650**	**415**	**580**	**799**
Mercury	**0.0430**	**0.0550**	**0.0680**	**0.0590**	**0.0510**	**0.0430**	**0.0620**	**0.0490**	**0.0440**	**0.0480**	**0.0340 J**	**0.0470**	**0.0480**	**0.0400**
Nickel	**18.2**	**19.0**	**20.8**	**15.7**	**23.8**	**11.5**	**17.6**	**19.6**	**12.9**	**20.9**	**19.5**	**12.8**	**22.9**	**26.1**
Potassium	**923**	**1,490**	**1,920**	**1,200**	**1,930**	**1,020**	**1,240**	**1,740**	**1,070**	**1,290**	**1,370**	**572 J**	**1,200**	**1,710**
Selenium	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.500 U	0.400 U	0.400 U	0.500 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Silver	**0.0870**	**0.0950**	**0.0530 J**	**0.0660**	**0.0450 J**	**0.187**	**0.0515 J**	**0.0270 J**	0.0230 U	**0.0440 J**	**0.0370 J**	0.0220 U	**0.0330 J**	**0.0370 J**
Sodium	**324**	**131**	**123**	**139**	**131**	**136**	**69.6 J**	**279**	**222**	**142**	**186**	**124**	**276**	**115**
Thallium	**0.153**	**0.203**	0.100 U	**0.143**	0.103 U	**0.147**	**0.154**	**0.190**	**0.142**	0.0980 U	**0.128**	0.0420 U	0.0930 U	0.0810 U
Vanadium	**79.4**	**69.6**	**83.7**	**82.0**	**91.8**	**69.4**	**75.1**	**81.0**	**75.2**	**73.7**	**90.2**	**43.0**	**89.1**	**99.3**
Zinc	**54.7 J**	**68.5 J**	**66.7 J**	**58.8 J**	**65.9 J**	**45.6 J**	**59.9 J**	**66.7 J**	**50.6 J**	**52.9 J**	**56.0 J**	**55.1 J**	**56.5 J**	**65.8 J**
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)														
Acenaphthene	**1.90 J**	**1.20 J**	**3.40 J**	1.00 U	**1.60 J**	**1.20 J**	**1.75 J**	**1.80 J**	1.00 U	**1.50 J**	1.00 U	**1.40 J**	1.00 U	1.00 U
Acenaphthylene	1.40 U	1.40 U	**1.60 J**	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Anthracene	**2.70 J**	**2.00 J**	**4.90 J**	**1.50 J**	**1.90 J**	**2.00 J**	**3.30 J**	**2.20 J**	**3.50 J**	**2.10 J**	1.40 U	**1.70 J**	**1.80 J**	1.40 U
Fluorene	1.70 U	1.70 U	**3.20 J**	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Naphthalene	1.30 U	**1.60 J**	**2.20 J**	1.30 U	1.30 U	**1.30 J**	**1.80 J**	**1.60 J**	1.30 U	**1.70 J**	1.30 U	1.30 U	1.30 U	1.30 U
Phenanthrene	**16.0**	**16.0**	**34.0**	**9.10 J**	**13.0**	**9.60 J**	**16.0**	**18.0**	**13.0**	**11.0**	**5.50 J**	**9.60 J**	**8.30 J**	**5.80 J**
Total LPAHs (KM, capped; NDs at MDL)	**24.5 J**	**23.3 J**	**49.3 J**	**14.7 J**	**20.5 J**	**16.6 J**	**25.7 J**	**26.5 J**	**20.5 J**	**19.2 J**	**12.3 J**	**16.6 J**	**14.1 J**	**12.6 J**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)														
Benzo(a)anthracene	**16.0**	**17.0**	**34.0**	**9.90 J**	**17.0**	**11.0**	**20.5**	**16.0**	**13.0**	**10.0**	**7.40 J**	**12.0**	**8.00 J**	**4.60 J**
Benzo(a)pyrene	**20.0**	**22.0**	**45.0**	**11.0**	**20.0**	**16.0**	**26.5**	**22.0**	**15.0**	**15.0**	**8.30 J**	**16.0**	**10.0**	**7.70 J**
Benzo(b)fluoranthene	**27.0**	**29.0**	**55.0**	**16.0**	**27.0**	**19.0**	**33.0**	**27.0**	**22.0**	**18.0**	**13.0**	**20.0**	**12.0**	**9.10 J**
Benzo(g,h,i)perylene	**14.0**	**16.0**	**32.0**	**11.0**	**16.0**	**13.0**	**20.5**	**15.0**	**11.0**	**12.0**	**8.20 J**	**9.70 J**	**7.30 J**	**5.80 J**
Benzo(k)fluoranthene	**8.30 J**	**9.70 J**	**19.0**	**6.70 J**	**9.50 J**	**7.70 J**	**10.8 J**	**8.70 J**	**7.10 J**	**6.90 J**	**3.40 J**	**7.20 J**	**4.30 J**	**2.70 J**
Chrysene	**20.0**	**23.0**	**45.0**	**13.0**	**22.0**	**17.0**	**25.5**	**21.0**	**15.0**	**15.0**	**8.90 J**	**15.0**	**10.0**	**6.40 J**
Dibenz(a,h)anthracene	**4.30 J**	2.20 U	**6.90 J**	2.20 U	**3.60 J**	**3.70 J**	**4.90 J**	**4.40 J**	2.20 U	2.20 U	**2.70 J**	2.20 U	2.20 U	2.20 U
Fluoranthene	**31.0**	**33.0**	**66.0**	**19.0**	**31.0**	**22.0**	**39.5**	**31.0**	**26.0**	**21.0**	**13.0**	**21.0**	**15.0**	**10.0**
Indeno(1,2,3-cd)pyrene	**17.0**	**16.0**	**34.0**	**12.0**	**16.0**	**12.0**	**22.0**	**17.0**	**12.0**	**5.20 J**	**8.20 J**	**12.0**	**7.60 J**	**6.00 J**
Pyrene	**29.0**	**31.0**	**64.0**	**18.0**	**30.0**	**23.0**	**39.0**	**31.0**	**26.0**	**21.0**	**15.0**	**24.0**	**14.0**	**10.0**
Total HPAHs (KM, capped; NDs at MDL)	**187 J**	**199 J**	**401 J**	**119 J**	**192 J**	**144 J**	**242 J**	**193 J**	**149 J**	**126 J**	**88.1 J**	**139 J**	**90.4 J**	**64.5 J**
General Chemistry Parameters (mg/kg) and Grain Size (%)														
Carbon, Total Organic	**37,200**	**39,800**	**53,100**	**50,800**	**55,300**	**37,300**	**38,800**	**44,600**	**29,900**	**42,700**	**33,100**	**77,800**	**39,200**	**46,100**
Solids, Total	**671,000**	**653,000**	**661,000**	**661,000**	**633,000**	**720,000**	**834,000**	**679,000**	**717,000**	**698,000**	**676,000**	**664,000**	**653,000**	**655,000**
Gravel (>2.00 mm)	**22.8**	**31.6**	**27.4**	**32.9**	**22.6**	**29.4**	**33.4**	**32.7**	**13.1**	**32.3**	**13.5**	**15.4**	**26.2**	**25.9**
Sand, Very Coarse (1.00 - 2.00 mm)	**14.2**	**14.9**	**20.5**	**15.3**	**14.2**	**7.50**	**20.9**	**15.2**	**9.29**	**15.3**	**9.05**	**16.2**	**14.2**	**12.8**
Sand, Coarse (0.50 - 1.00 mm)	**11.1**	**7.95**	**14.2**	**9.55**	**9.50**	**8.30**	**11.7**	**10.7**	**8.28**	**11.1**	**7.22**	**14.5**	**8.83**	**10.8**
Sand, Medium (0.25 - 0.50 mm)	**8.07**	**5.26**	**7.95**	**7.39**	**7.07**	**12.2**	**5.94**	**6.92**	**11.3**	**8.48**	**8.98**	**10.4**	**5.67**	**6.62**
Sand, Fine (0.125 - 0.25 mm)	**7.05**	**5.49**	**5.37**	**6.25**	**5.81**	**8.51**	**4.08**	**5.55**	**13.6**	**6.98**	**9.89**	**8.86**	**5.64**	**5.26**
Sand, Very Fine (0.0625 - 0.125 mm)	**5.38**	**4.79**	**3.31**	**4.31**	**4.26**	**5.81**	**3.26**	**4.19**	**11.3**	**4.48**	**7.26**	**8.76**	**5.18**	**4.00**
Silt (0.039 - 0.0625 mm)	**22.4**	**21.9**	**14.9**	**18.1**	**25.8**	**21.4**	**9.76**	**18.4**	**24.9**	**17.0**	**29.0**	**23.2**	**22.5**	**23.7**
Clay (<0.039 mm)	**10.9**	**11.0**	**6.37**	**8.03**	**11.9**	**12.1**	**10.2**	**8.09**	**8.98**	**7.08**	**17.7**	**5.84**	**14.1**	**13.2**

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
bgs = below ground surface
MDL = method detection limit
ND = non detect
- = Not Analyzed
-- = SLV for analyte not available

J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped

Table 6-5b
2008-2009 Reference Area Quarterly Groundwater Analytical Results
Metals, Petroleum Hydrocarbons, Butyltins, Volatile Organic Compounds, Semivolatile Organic Compounds, and General Chemistry Parameters

Site ID	MW-10*	MW-10*	MW-10*	MW-10*
Sample ID	080415MW10GW	080716MW10GW	081022MW10GW	090113MW10GW
Sample Date	4/15/2008	7/16/2008	10/22/2008	1/13/2009
Sample Depth (Feet btc)	40	52	50	52
Total Metals (µg/L)				
Aluminum	**211**	**48.4**	**174**	**6.45**
Antimony	**0.0800**	**0.0300 J**	**0.0250 J**	**0.0710 J**
Arsenic	1.32 U	**1.23**	**1.68**	**1.60**
Barium	**26.5**	**20.8**	**18.5**	**17.3**
Beryllium	**0.0100 J**	0.0200 U	0.0200 U	0.0200 U
Cadmium	0.0570 U	0.0200 U	**0.0490**	0.00500 U
Calcium	**29,350**	**30,950**	**29,150**	**30,550 J**
Chromium	0.570 U	**0.210**	**3.98 J**	**0.145 J**
Cobalt	**0.295**	**0.170**	**0.323**	**0.0710**
Copper	0.670 U	**0.260**	**1.12**	**0.125**
Iron	434 U	**116**	**451 J**	37.0 U
Lead	0.363 U	**0.130**	**0.248**	**0.102**
Magnesium	**8,315**	**8,140**	**7,620**	**7,710**
Manganese	**245**	**259**	**208**	**204**
Mercury	0.0300 U	0.0500 U	0.0500 U	0.0500 U
Nickel	0.500 U	**1.07**	**6.62**	**0.570**
Potassium	**4,800**	**4,955**	**4,705**	**4,945**
Selenium	0.400 U	0.500 U	0.400 U	0.400 U
Silver	0.0660 U	0.00900 U	0.00900 U	**0.00900 J**
Sodium	**5,625**	**5,255**	**4,940**	**5,015**
Thallium	0.00800 U	0.00500 U	0.00500 U	0.00500 U
Vanadium	**1.55 J**	**0.175 J**	**0.320**	0.0700 U
Zinc	**6.15 J**	**1.75**	**8.28 J**	**2.25 J**
Dissolved Metals (µg/L)				
Aluminum	**2.25**	**2.35**	**2.60**	**2.00 J**
Antimony	**0.0500 J**	0.0100 U	**0.0140 J**	0.0100 U
Arsenic	**1.32**	**1.13**	**1.47**	**1.55**
Barium	**22.9**	**19.5**	**17.4**	**15.3**
Beryllium	0.00800 U	0.0200 U	0.0200 U	0.0200 U
Cadmium	**0.0310**	0.0200 U	**0.0425**	0.00500 U
Calcium	**29,800**	**30,100**	**28,950**	**29,800 J**
Chromium	**0.180 J**	**0.120 J**	**0.290**	**0.0600 J**
Cobalt	0.0790 U	**0.109**	**0.139**	**0.0630**
Copper	0.300 U	**0.0950 J**	**0.315**	**0.0800 J**
Iron	**10.7 J**	**9.80 J**	**24.9**	20.0 U
Lead	**0.0220 J**	0.0300 U	0.0680 U	**0.00600 J**
Magnesium	**8,085**	**7,840**	**7,360**	**7,475**
Manganese	**218**	**228**	**197**	**187**
Mercury	0.0300 U	0.0500 U	0.0500 U	0.0500 U
Nickel	0.500 U	**1.07**	**1.41**	**0.660**
Potassium	**4,880**	**4,710**	**4,710**	**4,840**
Selenium	0.400 U	0.500 U	0.400 U	0.400 U
Silver	**0.117**	0.00900 U	0.00900 U	0.00900 U
Sodium	5,440 U	**4,975**	**4,825**	**4,875**
Thallium	0.00800 U	0.00500 U	0.00500 U	0.00500 U
Vanadium	0.800 U	0.0700 U	0.0700 U	0.0700 U
Zinc	10.0 U	**1.30**	**3.15**	**1.15 J**
Total Petroleum Hydrocarbons (µg/L)				
Diesel Range Organics	14.0 U	-	-	-
Residual Range Organics	24.0 U	-	-	-
Gasoline Range Organics	13.0 U	-	-	-
Total Butyltins (µg/L)				
Dibutyltin	0.00810 U	-	-	-
Monobutyltin	**0.0345 J**	-	-	-
Total Volatile Organic Compounds (µg/L)				
Chloroform	0.0820 U	-	-	-
Tetrachloroethene (PCE)	0.0970 U	-	-	-
Vinyl Chloride	0.0440 U	-	-	-
Total Semivolatile Organic Compounds (µg/L)				
1,4-Dichlorobenzene	0.0330 U	-	-	-
4-Nitrophenol	0.320 U	-	-	-
Phenol	0.0700 U	-	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/L)				
Phenanthrene	0.0250 U	-	-	-
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/L)				
Benzo(b)fluoranthene	**0.0250 J**	-	-	-
Benzo(k)fluoranthene	0.0270 U	-	-	-
General Chemistry Parameters (mg/L)				
Dissolved Bromide	0.0100 U	-	-	-
Dissolved Chloride	**1.80**	-	-	-
Dissolved Fluoride	**0.0270 J**	-	-	-
Dissolved Sulfate	**6.80**	-	-	-
Dissolved Ammonia	**0.0200 J**	-	-	-
Dissolved Nitrate+Nitrite	**0.0240 J**	-	-	-
Total Organic Carbon	**0.600**	-	-	-
Dissolved Organic Carbon	**0.500**	-	-	-
Dissolved Bicarbonate as CaCO3	**118**	-	-	-
Dissolved Carbonate as CaCO3	1.00 U	-	-	-

Notes:
µg/L = microgram per liter
mg/L = milligram per liter
btc = below top of well casing
MDL = method detection limit
- = Not Analyzed
-- = SLV for analyte not available
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-6a
Forebay Area Smallmouth Bass and Largescale Sucker Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 1 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay		
Site ID	1	2	3	4	5	6	7		
Sample ID	060605100SB	060605101SB	060605200SB	060605201SB	060605202SB	060605203SB	060605204SB		
Sample Date	6/5/2006	6/5/2006	6/5/2006	6/5/2006	6/5/2006	6/5/2006	6/5/2006		
Percent Lipids	2	3.2	1.7	1.7	1.4	2.8	3.6		
Tissue Type	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	**Selected SLV**	**SLV Source**
PCB Aroclors (µg/kg wet)									
Aroclor 1016	2.40 UJ	24.0 UJ	2.40 UJ	2.40 UJ	2.40 UJ	2.50 UJ	2.40 UJ	0.570	HH
Aroclor 1221	2.60 UJ	26.0 UJ	2.60 UJ	2.60 UJ	2.60 UJ	2.70 UJ	2.60 UJ	0.570	HH
Aroclor 1232	2.30 UJ	23.0 UJ	2.30 UJ	2.30 UJ	2.30 UJ	2.40 UJ	2.30 UJ	0.570	HH
Aroclor 1242	2.20 UJ	22.0 UJ	2.20 UJ	2.20 UJ	2.20 UJ	2.30 UJ	2.20 UJ	0.570	HH
Aroclor 1248	0.510 UJ	5.10 UJ	68.0 UJ	0.510 UJ	5.00 UJ	12.0 UJ	11.0 UJ	0.570	HH
Aroclor 1254	28.0 UJ	**1,300 J**	240 UJ	67.0 UJ	**51.0 J**	95.0 UJ	38.0 UJ	0.570	HH
Aroclor 1260	24.0 UJ	19.0 UJ	150 UJ	48.0 UJ	25.0 UJ	73.0 UJ	37.0 UJ	0.570	HH
Aroclor 1262	2.50 UJ	25.0 UJ	98.0 UJ	21.0 UJ	8.40 UJ	21.0 UJ	12.0 UJ	0.570	HH
Aroclor 1268	2.00 UJ	20.0 UJ	2.00 UJ	2.00 UJ	2.00 UJ	2.10 UJ	2.00 UJ	0.570	HH
Total PCBs as Aroclors (NDs at MDL) [1]	30.2 UJ	**1,322 J**	242 UJ	69.2 UJ	**53.2 J**	97.3 UJ	40.2 UJ	0.570	HH
PCB Congeners (µg/kg wet)									
PCB 77	**0.0241 J**	**0.165 J**	**0.205 J**	**0.0448 J**	**0.0315 J**	**0.0703 J**	**0.0624 J**	0.0760	HH
PCB 81	**0.00143 J**	**0.0195 J**	**0.0238 J**	**0.00384 J**	**0.00205 J**	**0.00422 J**	**0.00324 J**	0.0250	HH
PCB 105	**0.966 J**	**50.4 J**	**45.5 J**	**2.98 J**	**1.23 J**	**3.54 J**	**1.54 J**	0.250	HH
PCB 114	**0.0926 J**	**3.20 J**	**4.04 J**	**0.281 J**	**0.106 J**	**0.337 J**	**0.120 J**	0.250	HH
PCB 118	**3.31 J**	**138 J**	**132 J**	**8.31 J**	**3.61 J**	**10.8 J**	**3.75 J**	0.250	HH
PCB 123	**0.0557 J**	**1.60 J**	**2.45 J**	**0.118 J**	**0.0633 J**	**0.217 J**	**0.0695 J**	0.250	HH
PCB 126	**0.00505 J**	**0.0553 J**	**0.0755 J**	**0.00974 J**	**0.00807 J**	**0.0159 J**	**0.0111 J**	0.0000760	HH
PCB 156	**0.654 C J**	**26.6 C J**	**31.4 C J**	**2.22 C J**	**0.735 C J**	**2.89 C J**	**0.846 C J**	0.250	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**							0.250	HH
PCB 167	**0.226 J**	**6.50 J**	**9.65 J**	**0.428 J**	**0.239 J**	**0.961 J**	**0.250 J**	0.250	HH
PCB 169	0.00152 UJ	0.00728 UJ	0.00449 UJ	0.00275 UJ	0.00129 UJ	0.00503 UJ	0.00260 UJ	0.000250	HH
PCB 189	**0.0216 J**	**0.482 J**	**0.531 J**	**0.0759 J**	**0.0250 J**	**0.113 J**	**0.0390 J**	0.250	HH
Total PCBs as Congeners (KM, capped)	**33.7 J**	**1440 J**	**879 J**	**96.7 J**	**42.0 J**	**137 J**	**59.3 J**	0.570	HH
Metals (mg/kg wet)									
Aluminum	**9.89**	**6.66**	**11.3**	**4.00**	**4.75**	**1.26 J**	**1.37**	-	-
Antimony	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	-	-
Arsenic	**0.170**	**0.700**	**0.170**	**0.390**	**0.330**	**0.350**	**0.560**	0.000760	HH
Barium	**2.32**	**1.30**	**1.95**	**2.43**	**1.73**	**0.870**	**0.960**	-	-
Beryllium	**0.000600**	**0.000500**	0.000500 U	0.000500 U	0.000500 U	**0.000700**	**0.000600**	-	-
Cadmium	**0.0110**	**0.00700**	**0.0230**	**0.00600**	**0.00600**	**0.0110**	**0.00700**	0.150	Eco
Chromium	**0.190**	0.130 U	**0.270**	0.120 U	**0.290**	0.140 U	0.130 U	-	-
Cobalt	**0.0553**	**0.0516**	**0.0582**	**0.0452**	**0.0537**	**0.0594**	**0.0447**	-	-
Copper	**1.06**	**0.583**	**1.42**	**0.721**	**0.767**	**0.482**	**0.439**	-	-
Lead	**0.0200**	**0.0180**	**0.00800**	**0.0170**	**0.00900**	**0.00500 J**	**0.00500**	0.120	Eco
Mercury	**0.0710 J**	**0.342 J**	**0.131 J**	**0.187 J**	**0.0760 J**	**0.283 J**	**0.315 J**	0.0490	HH
Methyl Mercury	-	-	-	-	-	-	-	-	-
Nickel	**0.309**	**0.271**	**0.399**	**0.225**	**0.357**	**0.304 J**	**0.213**	-	-
Thallium	**0.0148**	**0.0198**	**0.0112**	**0.0146**	**0.0154**	**0.00930**	**0.0177**	-	-
Vanadium	**0.0700**	**0.0400**	**0.0600**	**0.0400**	**0.0400**	**0.0300**	**0.0300**	-	-
Zinc	**13.9**	**12.9**	**15.1**	**15.1**	**14.8**	**18.0**	**12.2**	-	-
Semivolatile Organic Compounds (µg/kg wet)									
Bis(2-ethylhexyl) Phthalate	66.0 UJ	**140 J**	**100 J**	66.0 UJ	66.0 UJ	**130 J**	**89.0 J**	81.9	HH
Butyl Benzyl Phthalate	7.30 UJ	7.30 UJ	7.30 UJ	7.30 UJ	7.30 UJ	7.30 UJ	7.30 UJ	310	Eco
Carbazole	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	-	-
Di-n-butyl Phthalate	16.0 UJ	48.0 UJ	16.0 UJ	16.0 UJ	36.0 UJ	16.0 UJ	16.0 UJ	626	Eco
Di-n-octyl Phthalate	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	626	Eco
p-cresol (4-Methylphenol)	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)									
Acenaphthene	**0.200 J**	0.110 UJ	**0.300 J**	**0.160 J**	**0.200 J**	**0.790 J**	0.110 UJ	15,000	HH
Anthracene	**0.110 J**	**0.230 J**	**0.320 J**	**0.0780 J**	**0.180 J**	**2.20 J**	**0.320 J**	15,000	HH
Fluorene	**0.410 J**	0.150 UJ	**0.670 J**	**0.300 J**	**0.370 J**	**1.30 J**	**0.970**	15,000	HH
Phenanthrene	**0.610**	**1.30**	**0.870 J**	**0.540**	**0.790**	**2.20 J**	**1.60**	15,000	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)									
Benzo(a)anthracene	0.0660 UJ	0.0660 UJ	**1.20 J**	0.0660 UJ	0.0660 UJ	**5.00 J**	0.0660 UJ	1.57	HH
Benzo(a)pyrene	0.0810 UJ	0.0810 UJ	**0.770 J**	0.0810 UJ	0.0810 UJ	**3.50 J**	0.0810 UJ	0.157	HH
Benzo(b)fluoranthene	**0.110 J**	0.0700 UJ	0.140 UJ	0.0700 UJ	0.0700 UJ	**2.20 J**	0.0700 UJ	1.57	HH
Benzo(g,h,i)perylene	0.0730 UJ	0.0730 UJ	**0.420 J**	0.0730 UJ	0.0730 UJ	**1.50 J**	0.0730 UJ	15.7	HH
Benzo(k)fluoranthene	**0.110 J**	0.0560 UJ	**1.40 J**	0.0560 UJ	0.0560 UJ	**3.80 J**	0.0560 UJ	15.7	HH
Chrysene	0.0760 UJ	0.0760 UJ	**0.530 J**	0.0760 UJ	0.0760 UJ	**2.30 J**	0.0760 UJ	157	HH
Dibenz(a,h)anthracene	0.0590 UJ	0.0590 UJ	**0.410 J**	0.0590 UJ	0.0590 UJ	**1.90 J**	0.0590 UJ	0.157	HH
Fluoranthene	0.0900 UJ	0.0900 UJ	**0.840 J**	0.0900 UJ	0.0900 UJ	**3.30 J**	0.0900 UJ	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 UJ	0.0640 UJ	**0.700 J**	0.0640 UJ	0.0640 UJ	**2.80 J**	0.0640 UJ	1.57	HH
Pyrene	**0.140 J**	0.0980 UJ	**0.590 J**	0.0980 UJ	**0.110 J**	0.490 UJ	0.0980 UJ	1,000	Eco

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclors 1242 and 1254 were included in summing bass Total PCBs as Aroclors because all other aroclors were undected in Forebay smallmouth bass samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-6a
Forebay Area Smallmouth Bass and Largescale Sucker Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 2 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay		
Site ID	12	13	14	8	9	10	11		
Sample ID	060606102SB	060606103SB	060606104SB	060605205SB	060605207SB	060605208SB	060605209SB		
Sample Date	6/6/2006	6/6/2006	6/6/2006	6/5/2006	6/5/2006	6/5/2006	6/5/2006		
Percent Lipids	2.1	2.4	2.4	2.8	2.5	2.4	4.1		
Tissue Type	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	**Selected SLV**	**SLV Source**
PCB Aroclors (µg/kg wet)									
Aroclor 1016	2.40 UJ	120 UJ	6.00 UJ	24.0 UJ	4.70 UJ	2.40 UJ	240 UJ	0.570	HH
Aroclor 1221	2.60 UJ	20.0 UJ	32.0 UJ	26.0 UJ	25.0 UJ	2.60 UJ	260 UJ	0.570	HH
Aroclor 1232	2.30 UJ	8.90 UJ	12.0 UJ	23.0 UJ	14.0 UJ	2.30 UJ	230 UJ	0.570	HH
Aroclor 1242	2.20 UJ	3.80 UJ	10.0 UJ	22.0 UJ	4.40 UJ	2.20 UJ	220 UJ	0.570	HH
Aroclor 1248	33.0 UJ	61.0 UJ	4.20 UJ	5.10 UJ	9.10 UJ	12.0 UJ	51.0 UJ	0.570	HH
Aroclor 1254	85.0 UJ	420 UJ	11.0 UJ	**1,300 J**	25.0 UJ	96.0 UJ	**14,000 J**	0.570	HH
Aroclor 1260	300 UJ	200 UJ	26.0 UJ	19.0 UJ	67.0 UJ	78.0 UJ	190 UJ	0.570	HH
Aroclor 1262	110 UJ	160 UJ	16.0 UJ	25.0 UJ	24.0 UJ	50.0 UJ	250 UJ	0.570	HH
Aroclor 1268	5.90 UJ	9.90 UJ	5.00 UJ	20.0 UJ	6.40 UJ	16.0 UJ	200 UJ	0.570	HH
Total PCBs as Aroclors (NDs at MDL)[1]	87.2 UJ	424 UJ	21.0 UJ	**1,322 J**	29.4 UJ	98.2 UJ	**14,220 J**	0.570	HH
PCB Congeners (µg/kg wet)									
PCB 77	**0.102 J**	**0.186 J**	**0.0217 J**	**0.214 J**	**0.0367 J**	**0.0772 J**	**3.53 J**	0.0760	HH
PCB 81	**0.00807 J**	**0.0117 J**	**0.00121 J**	**0.0191 J**	**0.00233 J**	**0.00576 J**	0.0231 UJ	0.0250	HH
PCB 105	**11.2 J**	**57.7 J**	**0.717 J**	**66.3 J**	**2.09 J**	**3.91 J**	**766 J**	0.250	HH
PCB 114	**1.68 J**	**4.47 J**	**0.0594 J**	**4.87 J**	**0.173 J**	**0.332 J**	**65.7 J**	0.250	HH
PCB 118	**52.4 J**	**164 J**	**2.42 J**	**199 J**	**6.43 J**	**10.3 J**	**2,180 J**	0.250	HH
PCB 123	**0.948 J**	**2.07 J**	**0.0323 J**	**1.94 J**	**0.0810 J**	**0.136 J**	**35.6 J**	0.250	HH
PCB 126	**0.0262 J**	**0.0453 J**	**0.00642 J**	**0.0857 J**	**0.00890 J**	**0.0143 J**	**1.26 J**	0.0000760	HH
PCB 156	**12.8 C J**	**38.6 C J**	**0.541 C J**	**44.6 C J**	**1.36 C J**	**2.39 C J**	**403 C J**	0.250	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**							0.250	HH
PCB 167	**3.65 J**	**7.99 J**	**0.161 J**	**9.35 J**	**0.311 J**	**0.574 J**	**116 J**	0.250	HH
PCB 169	0.00824 UJ	0.0145 UJ	0.00347 UJ	0.0112 UJ	0.00327 UJ	0.00508 UJ	0.127 UJ	0.000250	HH
PCB 189	**0.324 J**	**0.661 J**	**0.0311 J**	**0.841 J**	**0.0491 J**	**0.0910 J**	**9.30 J**	0.250	HH
Total PCBs as Congeners (KM, capped)	**325 J**	**1306 J**	**32.1 J**	**1733 J**	**69.6 J**	**149 J**	**19303 J**	0.570	HH
Metals (mg/kg wet)									
Aluminum	**15.5**	**2.49**	**1.06**	**4.72**	**2.25**	**1.33**	**3.90**	-	-
Antimony	0.00500 U	0.00600 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00600 U	-	-
Arsenic	**0.310**	**0.350**	**0.560**	**0.520**	**0.450**	**0.490**	**0.600**	0.000760	HH
Barium	**1.34**	**1.28**	**0.720**	**1.13**	**0.860**	**1.57**	**1.96**	-	-
Beryllium	0.000500 U	0.000600 U	0.000500 U	0.000500 U	0.000500 U	0.000500 U	0.000600 U	-	-
Cadmium	**0.00700**	**0.00400**	**0.0190**	**0.0130**	**0.00900**	**0.00400**	**0.00600**	0.150	Eco
Chromium	**0.200**	0.150 U	0.120 U	0.130 U	0.120 U	0.140 U	0.140 U	-	-
Cobalt	**0.0567**	**0.0758**	**0.0469**	**0.0588**	**0.0441**	**0.0575**	**0.0650**	-	-
Copper	**0.688**	**0.540**	**0.560**	**0.769**	**0.586**	**0.434**	**0.588**	-	-
Lead	**0.00900**	**0.00500**	**0.0100**	**0.00500**	**0.0100**	**0.00400**	**0.00500**	0.120	Eco
Mercury	**0.131 J**	**0.512 J**	**0.383 J**	**0.367 J**	**0.305 J**	**0.372 J**	**0.251 J**	0.0490	HH
Methyl Mercury	-	-	-	-	-	-	-	-	-
Nickel	**0.282**	**0.392**	**0.273**	**0.324**	**0.213**	**0.292**	**0.338**	-	-
Thallium	**0.0188**	**0.0128**	**0.0153**	**0.0157**	**0.0162**	**0.0133**	**0.0153**	-	-
Vanadium	**0.130**	**0.0700**	**0.0600**	**0.0500**	**0.0400**	**0.0500**	**0.0500**	-	-
Zinc	**12.3**	**15.5**	**16.1**	**14.8**	**13.3**	**13.3**	**14.4**	-	-
Semivolatile Organic Compounds (µg/kg wet)									
Bis(2-ethylhexyl) Phthalate	66.0 UJ	66.0 UJ	**120 J**	**190**	66.0 UJ	66.0 UJ	66.0 UJ	81.9	HH
Butyl Benzyl Phthalate	7.30 UJ	7.30 UJ	**33.0 J**	7.30 UJ	7.30 UJ	7.30 UJ	7.30 UJ	310	Eco
Carbazole	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	-	-
Di-n-butyl Phthalate	16.0 UJ	71.0 UJ	**150 J**	16.0 UJ	16.0 UJ	37.0 UJ	16.0 UJ	626	Eco
Di-n-octyl Phthalate	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	626	Eco
p-cresol (4-Methylphenol)	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)									
Acenaphthene	**0.260 J**	**0.280 J**	**0.230 J**	**0.260 J**	0.110 UJ	**0.390 J**	**0.350 J**	15,000	HH
Anthracene	**0.220 J**	**0.320 J**	0.0650 UJ	**0.160 J**	**0.170 J**	**0.450 J**	**0.450 J**	15,000	HH
Fluorene	**0.460 J**	**0.670**	**0.550**	**0.650**	**0.400 J**	**0.850 J**	0.150 UJ	15,000	HH
Phenanthrene	**1.00**	**1.90**	**0.760**	**1.10**	**0.980**	**2.00 J**	**2.10**	15,000	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)									
Benzo(a)anthracene	0.0660 UJ	0.0660 UJ	0.0660 UJ	0.0660 UJ	0.0660 UJ	**1.00 J**	0.0660 UJ	1.57	HH
Benzo(a)pyrene	0.0810 UJ	0.0810 UJ	0.0810 UJ	0.0810 UJ	0.0810 UJ	**0.720 J**	0.0810 UJ	0.157	HH
Benzo(b)fluoranthene	0.0700 UJ	0.0700 UJ	0.0700 UJ	0.0700 UJ	0.0700 UJ	0.140 UJ	0.0700 UJ	1.57	HH
Benzo(g,h,i)perylene	0.0730 UJ	0.0730 UJ	0.0730 UJ	0.0730 UJ	0.0730 UJ	0.150 UJ	0.0730 UJ	15.7	HH
Benzo(k)fluoranthene	0.0560 UJ	0.0560 UJ	0.0560 UJ	0.0560 UJ	0.0560 UJ	**1.40 J**	0.0560 UJ	15.7	HH
Chrysene	0.0760 UJ	0.0760 UJ	0.0760 UJ	0.0760 UJ	0.0760 UJ	**0.500 J**	0.0760 UJ	157	HH
Dibenz(a,h)anthracene	0.0590 UJ	0.0590 UJ	0.0590 UJ	0.0590 UJ	0.0590 UJ	0.120 UJ	0.0590 UJ	0.157	HH
Fluoranthene	0.0900 UJ	**0.730**	0.0900 UJ	0.0900 UJ	0.0900 UJ	**1.30 J**	**0.490**	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 UJ	0.0640 UJ	0.0640 UJ	0.0640 UJ	0.0640 UJ	**0.720 J**	0.0640 UJ	1.57	HH
Pyrene	0.0980 UJ	0.0980 UJ	0.0980 UJ	0.0980 UJ	0.0980 UJ	**0.720 J**	0.0980 UJ	1,000	Eco

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclors 1242 and 1254 were included in summing bass Total PCBs as Aroclors because all other aroclors were undected in Forebay smallmouth bass samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-6a
Forebay Area Smallmouth Bass and Largescale Sucker Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 3 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay		
Site ID	15	16	17	18	19	SUCKER		
Sample ID	060606210SB	060815402SB	060815403SB	060815405SB	060815406SB	070505LS		
Sample Date	6/6/2006	8/15/2006	8/15/2006	8/15/2006	8/15/2006	5/5/2007		
Percent Lipids	1.7	5.3	5.5	4.7	6.6	10.4		
Tissue Type	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Smallmouth Bass	Largescale Sucker	**Selected SLV**	**SLV Source**
PCB Aroclors (µg/kg wet)								
Aroclor 1016	10.0 UJ	2.40 UJ	120 UJ	24.0 UJ	9.90 UJ	2.40 U	0.570	HH
Aroclor 1221	20.0 UJ	2.60 UJ	130 UJ	26.0 UJ	2.60 UJ	2.60 U	0.570	HH
Aroclor 1232	10.0 UJ	2.30 UJ	120 UJ	23.0 UJ	9.90 UJ	2.30 U	0.570	HH
Aroclor 1242	8.50 UJ	**260 J**	110 UJ	22.0 UJ	4.70 UJ	2.20 U	0.570	HH
Aroclor 1248	10.0 UJ	0.510 UJ	26.0 UJ	5.10 UJ	5.70 UJ	0.510 U	0.570	HH
Aroclor 1254	16.0 UJ	**330 J**	**18,000 J**	**1,400 J**	13.0 UJ	**160**	0.570	HH
Aroclor 1260	31.0 UJ	1.90 UJ	95.0 UJ	19.0 UJ	37.0 UJ	1.90 U	0.570	HH
Aroclor 1262	10.0 UJ	2.50 UJ	130 UJ	25.0 UJ	12.0 UJ	-	0.570	HH
Aroclor 1268	2.50 UJ	2.00 UJ	100 UJ	20.0 UJ	3.50 UJ	2.00 U	0.570	HH
Total PCBs as Aroclors (NDs at MDL) [1]	24.5 UJ	**590 J**	**18,110 J**	**1,422 J**	17.7 UJ	**160**	0.570	HH
PCB Congeners (µg/kg wet)								
PCB 77	**0.0236 J**	**0.334 J**	**8.95 J**	**0.577 J**	**0.0568 J**	**0.110**	0.0760	HH
PCB 81	**0.00130 J**	**0.0198 J**	**1.19 J**	0.00615 UJ	**0.00358 J**	**0.00902**	0.0250	HH
PCB 105	**1.60 J**	**30.1 J**	**1,300 J**	**109 J**	**0.738 J**	**4.35**	0.250	HH
PCB 114	**0.122 J**	**2.33 J**	**89.8 J**	**11.2 J**	**0.115 J**	**0.289**	0.250	HH
PCB 118	**4.97 J**	**92.1 J**	**3,270 J**	**312 J**	**3.82 J**	**10.3**	0.250	HH
PCB 123	**0.0574 J**	**1.20 J**	**55.3 J**	**6.10 J**	**0.0750 J**	**0.179**	0.250	HH
PCB 126	**0.00755 J**	0.0480 UJ	**3.03 J**	**0.125 J**	**0.0123 J**	**0.0191**	0.0000760	HH
PCB 156	**1.20 C J**	**16.9 C J**	**486 C J**	**83.0 C J**	**0.791 C J**	**1.77 C**	0.250	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						0.250	HH
PCB 167	**0.270 J**	**4.71 J**	**140 J**	**21.0 J**	**0.356 J**	**0.565**	0.250	HH
PCB 169	0.00318 UJ	0.0151 UJ	0.607 UJ	0.0280 UJ	0.00439 UJ	**0.0111**	0.000250	HH
PCB 189	**0.0407 J**	**0.402 J**	**10.1 J**	**1.88 J**	**0.0419 J**	**0.0780**	0.250	HH
Total PCBs as Congeners (KM, capped)	**54.8 J**	**1193 J**	**26505 J**	**2482 J**	**40.7 J**	**201 J**	0.570	HH
Metals (mg/kg wet)								
Aluminum	**10.3**	**4.24**	**1.33**	**1.97**	**7.54**	**19.7 J**	-	-
Antimony	0.00500 U	0.00600 U	0.00600 U	0.00600 U	0.00500 U	0.00600 U	-	-
Arsenic	**0.540**	**0.190**	**0.290**	**0.450**	**0.410**	**0.350**	0.000760	HH
Barium	**0.980**	**2.64**	**1.74**	**1.24**	**1.66**	**1.92**	-	-
Beryllium	0.000500 U	0.000600 U	0.000600 U	0.000600 U	0.000500 U	0.000600 U	-	-
Cadmium	**0.0280**	**0.00500**	**0.00700**	**0.00500**	**0.00700**	**0.0420**	0.150	Eco
Chromium	**0.860**	0.150 U	0.150 U	0.150 U	0.130 U	**0.480**	-	-
Cobalt	**0.0519**	**0.0625**	**0.0566**	**0.0508**	**0.0457**	**0.0775**	-	-
Copper	**0.619**	**0.905**	**0.591**	**0.364**	**0.505**	**0.728**	-	-
Lead	**0.0360**	**0.0120**	**0.00800**	**0.0160**	**0.00500**	**0.0440**	0.120	Eco
Mercury	**0.203 J**	**0.301 J**	**0.165 J**	**0.498 J**	**0.147 J**	**0.139 J**	0.0490	HH
Methyl Mercury	-	-	-	-	-	-	-	-
Nickel	**0.333**	**0.327**	**0.295**	**0.281**	**0.228**	**0.343**	-	-
Thallium	**0.0215**	**0.00790**	**0.0136**	**0.0145**	**0.0142**	**0.00560**	-	-
Vanadium	**0.0500**	**0.0800**	**0.0700**	**0.0800**	**0.0900**	**0.170**	-	-
Zinc	**13.4**	**15.8**	**14.9**	**13.2**	**11.4**	**17.5**	-	-
Semivolatile Organic Compounds (µg/kg wet)								
Bis(2-ethylhexyl) Phthalate	**1,600**	5,000 U	66.0 UJ	66.0 UJ	66.0 UJ	66.0 U	81.9	HH
Butyl Benzyl Phthalate	7.30 UJ	**440**	7.30 UJ	7.30 UJ	7.30 UJ	7.30 U	310	Eco
Carbazole	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 UJ	9.10 U	-	-
Di-n-butyl Phthalate	16.0 UJ	16.0 UJ	16.0 UJ	16.0 UJ	16.0 UJ	16.0 U	626	Eco
Di-n-octyl Phthalate	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 UJ	11.0 U	626	Eco
p-cresol (4-Methylphenol)	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 UJ	7.70 U	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)								
Acenaphthene	**0.300 J**	**1.40 J**	**1.50 J**	**1.50 J**	**1.60 J**	1.10 U	15,000	HH
Anthracene	**0.400 J**	**17.0 J**	**5.70 J**	**6.00 J**	**6.60 J**	**4.50 J**	15,000	HH
Fluorene	**0.520 J**	**4.70 J**	**2.40 J**	**3.70 J**	**3.30 J**	1.50 U	15,000	HH
Phenanthrene	**1.00 J**	**5.70 J**	**4.60 J**	**5.20 J**	**5.40 J**	**3.80 J**	15,000	HH
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)								
Benzo(a)anthracene	**1.20 J**	**17.0 J**	0.660 UJ	0.660 UJ	0.660 UJ	0.660 U	1.57	HH
Benzo(a)pyrene	**0.740 J**	**6.80 J**	**7.10 J**	**6.40 J**	**7.40 J**	**6.30**	0.157	HH
Benzo(b)fluoranthene	0.140 UJ	**4.20 J**	**3.90 J**	**4.40 J**	**4.40 J**	0.700 U	1.57	HH
Benzo(g,h,i)perylene	0.150 UJ	**2.60 J**	**2.80 J**	**3.10 J**	**3.30 J**	**2.00 J**	15.7	HH
Benzo(k)fluoranthene	**1.60 J**	**7.70 J**	**7.20 J**	**7.20 J**	**7.60 J**	**11.0**	15.7	HH
Chrysene	**0.620 J**	**10.0 J**	**4.50 J**	**4.60 J**	**4.90 J**	0.760 U	157	HH
Dibenz(a,h)anthracene	0.120 UJ	**3.40 J**	**3.40 J**	**3.40 J**	**4.10 J**	**3.70 J**	0.157	HH
Fluoranthene	**0.960 J**	**5.90 J**	**5.90 J**	**6.30 J**	**6.50 J**	**5.90**	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.130 UJ	**5.60 J**	**5.30 J**	**6.00 J**	**6.10 J**	**6.50**	1.57	HH
Pyrene	**0.670 J**	**7.20 J**	**4.90 J**	**5.00 J**	**5.30 J**	**7.40**	1,000	Eco

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclors 1242 and 1254 were included in summing bass Total PCBs as Aroclors because all other aroclors were undected in Forebay smallmouth bass
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-6b
Reference Area Smallmouth Bass Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 1 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	20	21	22	23	24	25
Sample ID	071027R01SB	071027R02SB	071027R03SB	071027R04SB	071027R05SB	071027R06SB
Sample Date	10/27/2007	10/27/2007	10/27/2007	10/27/2007	10/27/2007	10/27/2007
Percent Lipids	6.2	7	7.2	8.5	7.9	5.9
PCB Aroclors (µg/kg wet)						
Aroclor 1016	3.50 U	4.70 U	3.40 U	2.40 U	9.90 U	2.40 U
Aroclor 1221	4.70 U	2.60 U	2.60 U	2.60 U	20.0 U	2.60 U
Aroclor 1232	6.10 U	5.90 U	3.90 U	2.30 U	9.90 U	2.30 U
Aroclor 1242	4.50 UJ	6.30 UJ	2.20 UJ	2.20 UJ	**14.0 J**	**9.50 J**
Aroclor 1248	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U
Aroclor 1254	**59.0 J**	**32.0 J**	**51.0 J**	9.60 UJ	**110 J**	**58.0 J**
Aroclor 1260	1.90 U	1.90 U	1.90 U	14.0 U	1.90 U	1.90 U
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors (NDs at MDL) [1]	**63.5 J**	**38.3 J**	**53.2 J**	11.8 UJ	**124 J**	**67.5 J**
PCB Congeners (µg/kg wet)						
PCB 77	**0.0470**	**0.0358**	**0.0435**	**0.0254**	**0.195**	**0.0381**
PCB 81	0.00681 U	0.00574 U	0.00504 U	0.00547 U	0.0205 U	0.00944 U
PCB 105	**1.15**	**1.07**	**1.11**	**0.498**	**4.06**	**1.16**
PCB 114	**0.0770**	**0.0723**	**0.0652**	**0.0292**	**0.300**	0.0856 EMPC
PCB 118	**3.30**	**3.05**	**3.01**	**1.33**	**10.2**	**3.14**
PCB 123	**0.0554**	**0.0477**	0.0435 EMPC	**0.0248**	**0.184**	0.0470 EMPC
PCB 126	0.0112 U	0.0116 EMPC	0.0122 U	**0.00561**	0.0301 U	0.0157 U
PCB 156	**0.468 C**	**0.402 C**	**0.378 C**	**0.194 C**	**1.39 C**	**0.490 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.193**	**0.169**	**0.157**	**0.0843**	**0.536**	**0.181**
PCB 169	0.00551 U	0.00890 U	0.00536 U	0.00227 U	0.0109 U	0.00489 U
PCB 189	0.0165 EMPC	**0.0174**	0.0168 EMPC	**0.0133**	**0.0677**	0.0195 EMPC
Total PCBs as Congeners (KM, capped)	**47.9 J**	**41.8 J**	**44.7 J**	**22.1 J**	**164 J**	**44.4 J**
Metals (mg/kg wet)						
Aluminum	**0.802**	**1.55**	**1.13**	**0.330 J**	**0.663**	**2.11**
Antimony	0.00500 U	0.00500 U	0.00600 U	0.00600 U	0.00500 U	0.00500 U
Arsenic	**0.311**	**0.406**	**0.434**	**0.159**	**0.761**	**0.277 J**
Barium	**1.06**	**0.837**	**1.20**	**0.430**	**0.456**	**0.748**
Beryllium	0.000500 U	0.000500 U	0.000600 U	0.000600 U	0.000500 U	0.000500 U
Cadmium	**0.00800 J**	**0.00500 J**	**0.00600 J**	**0.00500 J**	**0.00400 J**	**0.00600 J**
Chromium	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Cobalt	0.0255 U	0.0309 U	0.0278 U	0.0248 U	0.0255 U	0.0267 U
Copper	**0.571**	**0.344**	**0.457**	**0.336**	**0.327**	**0.419**
Lead	0.0130 U	0.0140 U	0.0140 U	0.0150 U	0.0140 U	0.0130 U
Mercury	**0.106 J**	**0.217 J**	**0.0904 J**	**0.130 J**	**0.144 J**	**0.0548 J**
Methyl Mercury	-	-	-	-	-	-
Nickel	**0.324**	**0.399**	**0.328**	0.298 U	0.306 U	0.277 U
Thallium	**0.0159**	**0.0201**	**0.0205**	**0.0120**	**0.0189**	**0.0165**
Vanadium	**0.0400 J**	**0.0400 J**	**0.0400 J**	**0.0500 J**	**0.0300 J**	**0.0300 J**
Zinc	**13.4**	**13.9**	**12.9**	**13.4**	**11.2**	**14.6 J**
Semivolatile Organic Compounds (µg/kg wet)						
Bis(2-ethylhexyl) Phthalate	66.0 U	2,500 U	2,400 U	1,800 U	1,800 U	1,500 U
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U
Di-n-butyl Phthalate	220 U	16.0 U	150 U	280 U	150 U	230 U
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 UJ
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)						
Acenaphthene	**0.700 J**	**0.770**	**1.00 J**	**0.560 J**	**0.820**	**0.570 J**
Anthracene	**0.0900 J**	0.650 U	**0.380 J**	0.0650 UJ	0.650 U	0.310 U
Fluorene	**1.00 J**	1.80 U	**1.40 J**	**1.50 J**	2.00 U	**0.890 J**
Phenanthrene	**2.50 J**	**3.70 J**	**3.00**	**3.10 J**	**4.60 J**	**2.20**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)						
Benzo(a)anthracene	0.0660 UJ	0.660 U	0.260 U	0.0660 UJ	0.660 U	0.140 U
Benzo(a)pyrene	0.0810 UJ	0.810 U	0.320 U	0.0810 UJ	0.810 U	0.170 U
Benzo(b)fluoranthene	0.0700 UJ	0.700 U	0.280 U	0.0700 UJ	0.700 U	0.140 U
Benzo(g,h,i)perylene	0.0730 UJ	0.730 U	0.290 U	0.0730 UJ	0.730 U	0.150 U
Benzo(k)fluoranthene	0.0560 UJ	0.560 U	0.220 U	0.0560 UJ	0.560 U	0.120 U
Chrysene	0.0760 UJ	0.760 U	0.300 U	0.0760 UJ	0.760 U	0.160 U
Dibenz(a,h)anthracene	0.0590 UJ	0.590 U	0.230 U	0.0590 UJ	0.590 U	0.120 U
Fluoranthene	0.0900 UJ	**1.90 J**	**1.40 J**	0.0900 UJ	**2.50 J**	1.20 U
Indeno(1,2,3-cd)pyrene	0.0640 UJ	0.640 U	0.250 U	0.0640 UJ	0.640 U	0.130 U
Pyrene	0.0980 UJ	0.980 U	**0.420 J**	0.0980 UJ	0.980 U	0.200 U

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
- = Not Analyzed
ND = Non Detect
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] Only Aroclor 1242 and 1254 were included in summing bass Total PCBs as Aroclors because all other aroclors were undected in Reference Area smallmouth bass samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-6b
Reference Area Smallmouth Bass Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 2 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	26	27	28	29	30	31	32
Sample ID	071115R07SB	080517R10SB	080517R11SB	080517R12SB	080517R13SB	080517R14SB	080521R15SB
Sample Date	11/15/2007	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/21/2008
Percent Lipids	5.4	6.1	4.7	2.5	5.1	3.7	4.2
PCB Aroclors (µg/kg wet)							
Aroclor 1016	3.80 U	2.40 U	7.90 U	4.80 U	2.40 U	6.00 U	3.10 U
Aroclor 1221	3.80 U	2.60 U	18.0 U	2.60 U	2.60 U	20.0 U	2.60 U
Aroclor 1232	3.10 U	2.30 U	10.0 U	5.10 U	2.30 U	9.90 U	10.0 U
Aroclor 1242	2.20 UJ	**5.60 J**	10.0 UJ	2.20 UJ	**2.40 J**	2.20 UJ	2.20 UJ
Aroclor 1248	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U	6.90 U	0.510 U
Aroclor 1254	**27.0 J**	**34.0 J**	**37.0 J**	**29.0 J**	**80.0 J**	17.0 UJ	**47.0 J**
Aroclor 1260	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U	46.0 U	1.90 U
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	21.0 U	2.50 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	3.40 U	2.00 U
Total PCBs as Aroclors (NDs at MDL) [1]	**29.2 J**	**39.6 J**	**47.0 J**	**31.2 J**	**82.4 J**	19.2 UJ	**49.2 J**
PCB Congeners (µg/kg wet)							
PCB 77	**0.0301**	**0.0754**	**0.0362**	**0.0436**	**0.0701**	**0.0548**	**0.0493**
PCB 81	0.00253 U	**0.00552**	**0.00256**	**0.00263**	**0.00326**	**0.00263**	**0.00235**
PCB 105	**1.01**	**3.50**	**0.940**	**1.00**	**1.91**	**1.37**	**1.31**
PCB 114	0.0684 EMPC	**0.272**	**0.0599**	**0.0802**	**0.123**	**0.145**	**0.0872**
PCB 118	**3.11**	**11.8**	**2.58**	**3.63**	**4.85**	**6.21**	**3.74**
PCB 123	**0.0531**	**0.148**	**0.0430**	**0.0553**	**0.0811**	**0.104**	**0.0606**
PCB 126	0.0107 U	**0.0259**	**0.00603**	**0.00955**	**0.0126**	**0.0143**	**0.00945**
PCB 156	**0.448 C**	**1.89 C**	**0.290 C**	**0.430 C**	**0.638 C**	**0.882 C**	**0.447 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						
PCB 167	**0.168**	**0.571**	**0.117**	**0.211**	**0.242**	**0.380**	**0.180**
PCB 169	0.00857 U	0.00812 U	0.00130 U	0.00186 U	0.00279 U	0.00307 U	0.00154 U
PCB 189	0.0232 EMPC	**0.102**	**0.0147**	**0.0217**	**0.0313**	**0.0444**	**0.0197**
Total PCBs as Congeners (KM, capped)	**41.7 J**	**117 J**	**35.8 J**	**39.8 J**	**69.0 J**	**50.2 J**	**43.1 J**
Metals (mg/kg wet)							
Aluminum	**1.55**	**1.52**	**3.86**	**10.1**	**2.44**	**0.970**	**5.41**
Antimony	0.00600 U	**0.0250**	**0.00300 J**	**0.00300 J**	0.00200 U	**0.00300 J**	0.00200 U
Arsenic	**0.270**	**0.640**	**0.240**	**0.420**	**0.290**	**0.430**	**0.230**
Barium	**1.50**	**0.915**	**0.875**	**1.72**	**0.871**	**1.65**	**1.11**
Beryllium	0.000600 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U
Cadmium	**0.00400 J**	**0.143**	**0.130**	**0.111**	**0.140**	**0.125**	**0.111**
Chromium	0.100 U	**7.15**	**0.210 J**	**0.160 J**	**0.0900 J**	**0.0900 J**	**0.0700 J**
Cobalt	0.0361 U	**0.0838**	**0.0576**	**0.0602**	**0.0487**	**0.0551**	**0.0748**
Copper	**0.575**	**0.680**	**0.490**	**0.500**	**0.700**	**0.440**	**0.690**
Lead	0.0140 U	**1.81**	**1.70**	**1.43**	**1.69**	**1.47**	**1.47**
Mercury	**0.0932 J**	**0.333 J**	**0.0630 J**	**0.102 J**	**0.141 J**	**0.233 J**	**0.0600 J**
Methyl Mercury	-	-	-	-	-	-	-
Nickel	**0.408**	**1.48**	**1.38**	**1.34**	**1.18**	**1.31**	**1.29**
Thallium	**0.0149**	**0.0261**	**0.0152**	**0.0149**	**0.0123**	**0.0152**	**0.0118**
Vanadium	**0.0600**	0.00600 U	**0.0510 J**	**0.102**	**0.0480 J**	**0.0710**	**0.0730**
Zinc	**12.9**	**15.1**	**14.8**	**13.1**	**12.8**	**13.0**	**11.5**
Semivolatile Organic Compounds (µg/kg wet)							
Bis(2-ethylhexyl) Phthalate	1,700 U	66.0 U	**150 J**	66.0 U	66.0 U	66.0 U	66.0 U
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U
Carbazole	9.10 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U
Di-n-butyl Phthalate	87.0 U	100 U	100 U	100 U	100 U	100 U	100 U
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	7.70 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)							
Acenaphthene	**1.00 J**	**0.970**	**0.810**	0.110 U	**0.980**	**0.510**	**0.900**
Anthracene	**0.220 J**	0.0650 U	0.0650 U	0.0650 U	0.0650 U	0.0650 U	0.0650 U
Fluorene	**1.30 J**	**1.50**	**1.20**	0.150 U	**1.60**	**0.920**	**1.60**
Phenanthrene	**2.40**	**2.10**	**2.40**	**1.40**	**2.40**	**2.00**	**4.70**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)							
Benzo(a)anthracene	0.190 U	**0.940**	**0.560**	0.0660 U	0.0660 U	0.0660 U	0.0660 U
Benzo(a)pyrene	0.230 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U
Benzo(b)fluoranthene	0.200 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U
Benzo(g,h,i)perylene	0.200 U	0.0730 U	0.0730 U	0.0730 U	0.0730 U	0.0730 U	0.0730 U
Benzo(k)fluoranthene	0.160 U	0.0560 U	0.0560 U	0.0560 U	0.0560 U	0.0560 U	0.0560 U
Chrysene	0.210 U	**0.550**	0.0760 U	0.0760 U	0.0760 U	0.0760 U	0.0760 U
Dibenz(a,h)anthracene	0.170 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U
Fluoranthene	**0.690 J**	0.0900 U	0.0900 U	0.0900 U	0.0900 U	0.0900 U	**1.40**
Indeno(1,2,3-cd)pyrene	0.180 U	0.0640 U	0.0640 U	0.0640 U	0.0640 U	0.0640 U	0.0640 U
Pyrene	**0.380 J**	0.0980 U	0.0980 U	0.0980 U	0.0980 U	0.0980 U	0.0980 U

Notes:

µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
- = Not Analyzed
ND = Non Detect
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] Only Aroclor 1242 and 1254 were included in summing bass Total PCBs as Aroclors because all other aroclors were undected in Reference Area smallmouth bass samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-6b
Reference Area Smallmouth Bass Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 3 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	33	34	35	36	37	38
Sample ID	080521R16SB	080521R17SB	080521R18SB	080521R19SB	080521R20SB	080521R21SB
Sample Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Percent Lipids	2.6	4.1	4.2	5.3	4.1	2.8
PCB Aroclors (µg/kg wet)						
Aroclor 1016	5.90 U	5.20 U	4.50 U	5.40 U	7.30 U	4.50 U
Aroclor 1221	6.90 U	5.90 U	7.40 U	20.0 U	12.0 U	3.70 U
Aroclor 1232	5.70 U	3.90 U	4.40 U	5.40 U	10.0 U	11.0 U
Aroclor 1242	2.20 UJ	2.90 UJ	10.0 UJ	2.20 UJ	10.0 UJ	3.80 UJ
Aroclor 1248	33.0 U	0.510 U	0.510 U	0.510 U	0.510 U	0.510 U
Aroclor 1254	130 UJ	**47.0 J**	**46.0 J**	**85.0 J**	**37.0 J**	**58.0 J**
Aroclor 1260	140 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U
Aroclor 1262	110 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Aroclor 1268	10.0 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors (NDs at MDL) [1]	132 UJ	**49.9 J**	**56.0 J**	**87.2 J**	**47.0 J**	**58.0 J**
PCB Congeners (µg/kg wet)						
PCB 77	**0.172**	**0.0537**	**0.0597**	**0.0701**	**0.0528**	**0.0497**
PCB 81	**0.0159**	**0.00340**	**0.00406**	**0.00376**	**0.00202**	**0.00311**
PCB 105	**23.4**	**1.32**	**2.00**	**2.09**	**1.44**	**1.68**
PCB 114	**2.91**	**0.0826**	**0.132**	**0.137**	**0.0971**	**0.106**
PCB 118	**98.6**	**3.65**	**5.97**	**5.35**	**4.78**	**4.46**
PCB 123	**1.83**	**0.0648**	**0.0840**	**0.0802**	**0.0761**	**0.0691**
PCB 126	**0.0746**	**0.00901**	**0.0134**	**0.0129**	**0.0107**	**0.00865**
PCB 156	**20.0 C**	**0.420 C**	**0.786 C**	**0.714 C**	**0.557 C**	**0.544 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**6.54**	**0.175**	**0.286**	**0.242**	**0.276**	**0.198**
PCB 169	0.00662 U	0.00216 U	0.00482 U	0.00596 U	0.00356 U	0.00210 U
PCB 189	**0.532**	**0.0209**	**0.0386**	**0.0375**	**0.0295**	**0.0205**
Total PCBs as Congeners (KM, capped)	**499 J**	**44.2 J**	**60.6 J**	**77.9 J**	**52.9 J**	**52.8 J**
Metals (mg/kg wet)						
Aluminum	**1.13**	**3.02**	**0.680**	**4.01**	**3.95**	**2.28**
Antimony	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U
Arsenic	**0.180**	**0.240**	**0.290**	**0.320**	**0.440**	**0.390**
Barium	**1.42**	**1.22**	**0.843**	**0.957**	**1.36**	**1.70**
Beryllium	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U	0.00200 U
Cadmium	**0.138**	**0.126**	**0.117**	**0.124**	**0.129**	**0.112**
Chromium	**0.130 J**	**0.0600 J**	**0.0600 J**	**0.0400 J**	**0.0700 J**	**0.0800 J**
Cobalt	**0.0704**	**0.0601**	**0.0552**	**0.0523**	**0.0536**	**0.0574**
Copper	**0.630**	**0.590**	**0.410**	**0.370**	**0.730**	**0.430**
Lead	**1.66**	**1.65**	**1.53**	**1.62**	**1.59**	**1.42**
Mercury	**0.123 J**	**0.0650 J**	**0.178 J**	**0.105 J**	**0.176 J**	**0.0730 J**
Methyl Mercury	-	-	-	-	-	-
Nickel	**1.79**	**1.38**	**1.29**	**1.23**	**1.18**	**1.33**
Thallium	**0.0113**	**0.0139**	**0.0109**	**0.0133**	**0.0218**	**0.0180**
Vanadium	**0.104**	**0.0510 J**	**0.0600**	**0.0800**	**0.0660**	**0.0570**
Zinc	**12.8**	**12.7**	**12.3**	**14.3**	**14.8**	**15.5**
Semivolatile Organic Compounds (µg/kg wet)						
Bis(2-ethylhexyl) Phthalate	66.0 U	66.0 U	66.0 U	66.0 U	**81.0 J**	66.0 U
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U
Carbazole	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U	7.70 U
Di-n-butyl Phthalate	100 U	100 U	100 U	100 U	100 U	100 U
Di-n-octyl Phthalate	**15.0 J**	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)						
Acenaphthene	**0.540**	**0.870**	**0.990**	**1.30**	**0.800**	**0.540**
Anthracene	0.0650 U	0.0650 U	0.0650 U	0.0650 U	0.0650 U	0.0650 U
Fluorene	**0.940**	**1.40**	**1.70**	**2.10**	**1.50**	**0.990**
Phenanthrene	**3.70**	**3.80**	**4.10**	**5.10**	**2.30**	**3.60**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)						
Benzo(a)anthracene	0.0660 U	0.0660 U	0.0660 U	0.0660 U	**0.610**	0.0660 U
Benzo(a)pyrene	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U	0.0810 U
Benzo(b)fluoranthene	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U
Benzo(g,h,i)perylene	0.0730 U	0.0730 U	0.0730 U	0.0730 U	0.0730 U	0.0730 U
Benzo(k)fluoranthene	0.0560 U	0.0560 U	0.0560 U	0.0560 U	0.0560 U	0.0560 U
Chrysene	0.0760 U	0.0760 U	0.0760 U	0.0760 U	0.0760 U	0.0760 U
Dibenz(a,h)anthracene	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U	0.0590 U
Fluoranthene	**1.20**	**1.00**	**1.10**	**1.60**	**0.750**	**0.780**
Indeno(1,2,3-cd)pyrene	0.0640 U	0.0640 U	0.0640 U	0.0640 U	0.0640 U	0.0640 U
Pyrene	0.0980 U	0.0980 U	0.0980 U	0.0980 U	0.0980 U	0.0980 U

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
- = Not Analyzed
ND = Non Detect
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] Only Aroclor 1242 and 1254 were included in summing bass Total PCBs as Aroclors because all other aroclors were undected in Reference Area smallmouth bass samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-7a
Pre-Removal Sediment Analytical Results
PCB Aroclors, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size

Area	Forebay Pre-Sediment Removal	Forebay Pre-Sediment Removal	Forebay Pre-Sediment Removal	Forebay Pre-Sediment Removal	Forebay Pre-Sediment Removal	Selected SLV	SLV Source
Site ID	A1	A2*	A3	A4	A5		
Sample ID	070926A1 SD	070926A2 SD	070927A3 SD	070925A4 SD	070925A5 SD		
Sample Date	9/26/2007	9/26/2007	9/27/2007	9/25/2007	9/25/2007		
PCB Aroclors (µg/kg dry)							
Aroclor 1016	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Aroclor 1221	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Aroclor 1232	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Aroclor 1242	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Aroclor 1248	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Aroclor 1254	**130**	**44.0**	5.80 U	**100**	**13.0**	0.0480	HH
Aroclor 1260	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Aroclor 1262	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Aroclor 1268	2.60 U	2.80 U	5.80 U	3.00 U	2.80 U	0.0480	HH
Total PCBs as Aroclors (NDs at MDL) [1]	**133 J**	**46.8 J**	11.6 U	**103 J**	**15.8 J**	0.0480	HH
Metals (mg/kg dry)							
Aluminum	**8,830**	**14,000 J**	**13,400**	**13,100**	**11,900**	38,000	UPL
Antimony	**0.0500**	**0.115**	**0.130 J**	**0.170**	**0.170**	3.00	Eco
Arsenic	**5.68**	**4.24**	**2.00**	**2.33**	**2.36**	6.00	Eco
Barium	**89.8**	**116**	**93.3**	**108**	**149**	315	UPL
Beryllium	**0.353**	**0.358**	**0.314**	**0.331**	**0.280**	0.847	UPL
Cadmium	**0.265**	**0.608 J**	**0.498**	**0.540**	**0.490**	0.674	UPL
Chromium	**14.8**	**22.0**	**15.2**	**16.3**	**16.1**	37.0	Eco
Cobalt	**10.4**	**10.1**	**5.87**	**7.48**	**7.03**	15.2	UPL
Copper	**38.9**	**28.2 J**	**15.3**	**17.8**	**15.9**	55.6	UPL
Lead	**7.27**	**18.4 J**	**9.39**	**9.78**	**9.11**	35.0	Eco
Mercury	**0.0620**	**0.0915 J**	**0.224**	**0.269**	**0.366**	0.214	UPL
Nickel	**15.9**	**15.8**	**9.92**	**12.5**	**11.4**	21.2	UPL
Thallium	**0.112**	**0.171 J**	**0.132**	**0.165**	**0.139**	0.354	UPL
Vanadium	**34.6**	**58.2**	**45.9**	**58.6**	**56.8**	70.6	UPL
Zinc	**46.0**	**93.6**	**87.4**	**102**	**108**	123	Eco
Petroleum Hydrocarbons (mg/kg dry)							
Diesel Range Organics	**35.0**	**11.7 J**	**16.0 J**	**12.0 J**	**8.80 J**	--	--
Residual Range Organics	**77.0 J**	**63.5 J**	**120 J**	**98.0 J**	**70.0 J**	--	--
Semivolatile Organic Compounds (µg/kg dry)							
Bis(2-ethylhexyl) Phthalate	7.00 UJ	**15.5 J**	**16.0 J**	**180 J**	**51.0 J**	750	Eco
Butyl Benzyl Phthalate	3.20 U	3.20 U	**10.0 J**	3.20 U	3.20 U	110	Eco
Carbazole	1.30 U	1.30 U	**2.60 J**	1.30 U	1.30 U	140	Eco
Di-n-butyl Phthalate	**9.10 J**	**11.4 J**	**24.0 J**	**14.0 J**	**12.0 J**	110	Eco
Di-n-octyl Phthalate	1.70 U	1.70 U	2.90 U	1.70 U	1.70 U	110	Eco
p-cresol (4-Methylphenol)	2.90 U	**4,100**	4.70 U	**4.40 J**	2.90 U	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)							
Acenaphthene	1.40 U	1.40 U	2.40 U	1.40 U	1.40 U	290	Eco
Anthracene	**4.30 J**	14.0 U	2.30 U	1.40 U	1.40 U	57.0	Eco
Fluorene	1.10 U	1.10 U	1.90 U	1.10 U	1.10 U	77.0	Eco
Phenanthrene	**9.10**	**3.25 J**	**2.90 J**	**4.50 J**	**5.00 J**	42.0	Eco
Total LPAHs (KM, capped; NDs at MDL)	**15.9 J**	**19.8 J**	**9.50 J**	**8.40 J**	**8.90 J**	76.0	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)							
Benzo(a)anthracene	**5.70 J**	**3.05 J**	**3.70 J**	**3.30 J**	**3.50 J**	32.0	Eco
Benzo(a)pyrene	**32.0**	16.0 U	2.60 U	**6.10 J**	**7.40 J**	32.0	Eco
Benzo(b)fluoranthene	**11.0**	**7.05 J**	**4.20 J**	**6.40 J**	**7.40 J**	27.0	Eco
Benzo(g,h,i)perylene	**5.40 J**	**3.70 J**	**5.20 J**	**4.40 J**	**4.70 J**	300	Eco
Benzo(k)fluoranthene	**3.20 J**	**3.40 J**	**3.30 J**	**2.30 J**	**2.50 J**	27.0	Eco
Chrysene	**7.90**	**5.35 J**	**4.10 J**	**4.70 J**	**5.20 J**	57.0	Eco
Dibenz(a,h)anthracene	1.50 U	**2.50 J**	**3.10 J**	1.50 U	1.50 U	33.0	Eco
Fluoranthene	**13.0**	**7.10 J**	**4.40 J**	**7.10 J**	**8.30**	111	Eco
Indeno(1,2,3-cd)pyrene	**6.30 J**	**4.60 J**	**13.0 J**	**4.00 J**	**3.90 J**	17.0	Eco
Pyrene	**13.0**	**6.85 J**	**4.50 J**	**6.60 J**	**7.80 J**	53.0	Eco
Total HPAHs (KM, capped; NDs at MDL)	**99.0 J**	**48.4 J**	**48.1 J**	**46.4 J**	**52.2 J**	193	Eco
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)							
Total PAHs (KM, capped; NDs at MDL)	**114 J**	**57.2 J**	**56.0 J**	**53.8 J**	**60.1 J**	1600	Eco
General Chemistry Parameters (mg/kg) and Grain Size (%)							
Carbon, Total Organic	**10,200**	**5,500**	**10,900**	**9,200**	**7,300**	--	--
Gravel (>2.00 mm)	**40.0**	**49.4**	**29.3**	**0.350**	**0.0600**	--	--
Sand, Very Coarse (1.00 - 2.00 mm)	**15.8**	**11.9**	**1.46**	**0.590**	**0.610**	--	--
Sand, Coarse (0.50 - 1.00 mm)	**13.5**	**14.4**	**1.19**	**0.940**	**0.830**	--	--
Sand, Medium (0.25 - 0.50 mm)	**7.59**	**9.57**	**1.26**	**2.93**	**2.92**	--	--
Sand, Fine (0.125 - 0.25 mm)	**5.68**	**6.83**	**2.75**	**19.8**	**34.1**	--	--
Sand, Very Fine (0.0625 - 0.125 mm)	**4.24**	**4.12**	**6.11**	**30.6**	**29.4**	--	--
Silt (0.039 - 0.0625 mm)	**12.0**	**10.0**	**34.2**	**33.9**	**26.7**	--	--
Clay (<0.039 mm)	**1.37**	**2.38**	**6.36**	**6.65**	**6.76**	--	--

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available
J = The reported value is an estimate.

[1] Only Aroclor 1248 and 1254 were included in summing sediment Total PCBs as Aroclors because all other aroclors were undected in Forebay sediment samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-7b
Pre-Removal Clam Tissue Analytical Results
PCB Aroclors, Metals, and Semivolatile Organic Compounds

Area	Forebay Pre-Sediment Removal	Forebay Pre-Sediment Removal	Forebay Pre-Sediment Removal	Forebay Pre-Sediment Removal	Selected SLV	SLV Source
Site ID	A1*	A2	A3	A5		
Sample ID	070926A1TC	070926A2TC	070927A3TC	070925A5TC		
Sample Date	9/26/2007	9/26/2007	9/27/2007	9/25/2007		
Percent Lipids	3.4	3.6	3.3	3.5		
PCB Aroclors (µg/kg wet)						
Aroclor 1016	2.40 U	2.40 U	2.40 U	4.70 U	35.0	Eco
Aroclor 1221	2.60 U	2.60 U	2.60 U	5.10 U	35.0	Eco
Aroclor 1232	2.30 U	2.30 U	2.30 U	4.50 U	35.0	Eco
Aroclor 1242	2.20 U	2.20 U	2.20 U	4.40 U	35.0	Eco
Aroclor 1248	0.510 U	0.510 U	0.510 U	1.00 U	35.0	Eco
Aroclor 1254	**355**	**250**	**180**	**120**	35.0	Eco
Aroclor 1260	1.90 U	1.90 U	1.90 U	3.80 U	35.0	Eco
Aroclor 1262	-	-	-	-	35.0	Eco
Aroclor 1268	2.00 U	2.00 U	2.00 U	4.00 U	35.0	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	**355 J**	**250 J**	**180 J**	**120 J**	35.0	Eco
Metals (mg/kg wet)						
Aluminum	**196**	**166**	**184**	**151**	--	--
Antimony	0.00500 U	0.00500 UJ	0.00500 U	0.00500 U	--	--
Arsenic	**2.56**	**3.03**	**3.13**	**2.56**	6.60	Eco
Barium	**2.51**	**2.68**	**2.25**	**2.07**	--	--
Beryllium	**0.00565**	**0.00420**	**0.00550**	**0.00360**	--	--
Cadmium	**0.438**	**0.454**	**0.426**	**0.340**	0.150	Eco
Chromium	**0.700**	**1.20**	**1.20**	**0.600**	--	--
Cobalt	**0.143**	**0.135**	**0.172**	**0.121**	--	--
Copper	**10.8**	**12.3**	**13.5**	**10.1**	--	--
Lead	**0.133**	**0.101**	**0.184**	**0.104**	0.120	Eco
Mercury	**0.0101**	**0.0114 J**	**0.0132**	**0.0114**	0.0740	Eco
Methyl Mercury	-	-	-	-	--	--
Nickel	**0.304**	**0.394**	**0.343**	**0.275**	--	--
Thallium	**0.0192**	**0.0159**	**0.0155**	**0.0162**	--	--
Vanadium	**0.493**	**0.416**	**0.540**	**0.391**	--	--
Zinc	**28.2**	**23.7**	**25.0**	**25.1**	--	--
Semivolatile Organic Compounds (µg/kg wet)						
Bis(2-ethylhexyl) Phthalate	66.0 U	66.0 U	66.0 U	-	1,760	Eco
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	-	310	Eco
Carbazole	9.10 U	9.10 U	9.10 U	-	--	--
Di-n-butyl Phthalate	**71.0 J**	16.0 U	**59.0 J**	-	626	Eco
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	-	626	Eco
p-cresol (4-Methylphenol)	7.70 U	7.70 U	7.70 U	-	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)						
Acenaphthene	**0.225 J**	**0.240 J**	**0.250 J**	-	19,000	Eco
Anthracene	**0.945**	**1.10 J**	**1.00**	-	19,000	Eco
Fluorene	**1.30**	**1.30**	**1.30**	-	19,000	Eco
Phenanthrene	**6.60**	**7.00**	**6.70**	-	19,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)						
Benzo(a)anthracene	**1.02**	**0.670**	**0.600**	-	1,000	Eco
Benzo(a)pyrene	0.0810 U	0.0810 U	0.0810 U	-	1,000	Eco
Benzo(b)fluoranthene	0.0700 U	0.0700 U	0.0700 U	-	1,000	Eco
Benzo(g,h,i)perylene	0.0730 U	0.0730 U	0.0730 U	-	1,000	Eco
Benzo(k)fluoranthene	0.0560 U	0.0560 U	0.0560 U	-	1,000	Eco
Chrysene	**2.55**	**2.50**	**2.10**	-	1,000	Eco
Dibenz(a,h)anthracene	0.0590 U	0.0590 U	0.0590 U	-	1,000	Eco
Fluoranthene	**12.5**	**12.0**	**12.0**	-	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 U	0.0640 U	0.0640 U	-	1,000	Eco
Pyrene	**2.80**	**2.80**	**2.70**	-	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
- = Not Analyzed
-- = SLV for analyte not available
J = The reported value is an estimate.

[1] Only Aroclor 1254 was included in summing clam Total PCBs as Aroclors because all other aroclors were undected in Forebay clam samples.
U = The analyte was not detected at or above the MDL.
UJ = The analyte was not detected. The reported MDL is an estimate.
bold = analyte detected above MDL.
= The reported concentration exceeds the selected SLV
* = The data displayed are the result of averaging primary and field duplicate results at this sampling location as described in Section 5.1

Table 6-8a
Post-Removal Forebay Area Sediment Analytical Results
PCB Aroclors, PCB Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size
(Page 1 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay		
Site ID	P04	P05	P06	P07	P08	P09		
Sample ID	08022604SD	08031905SD	08031806SD	08021507SD	08021508SD	08021409SD	**Selected SLV**	**SLV Source**
Sample Date	2/26/2008	3/19/2008	3/18/2008	2/15/2008	2/15/2008	2/14/2008		
PCB Aroclors (µg/kg dry)								
Aroclor 1016	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1221	1.70 U	1.70 U	1.70 U	2.20 U	12.0 U	1.70 U	0.0480	HH
Aroclor 1232	1.70 U	1.70 U	1.70 U	7.90 U	7.40 U	1.70 U	0.0480	HH
Aroclor 1242	1.70 U	1.70 U	1.70 U	4.30 U	5.70 U	1.70 U	0.0480	HH
Aroclor 1248	1.70 U	1.70 U	1.70 U	3.50 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1254	**27.0**	1.70 U	**4.60 J**	2.50 U	1.90 U	2.60 U	0.0480	HH
Aroclor 1260	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1262	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1268	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Total PCBs as Aroclors (NDs at MDL) [1]	**28.7 J**	3.40 U	**6.30 J**	6.00 U	3.60 U	4.30 U	0.0480	HH
PCB Dioxin-Like Congeners (µg/kg dry)								
PCB 77	**0.00709**	**0.000209**	**0.000596**	**0.00110**	**0.00121**	**0.00199**	0.00640	HH
PCB 81	0.00340 EMPC	0.0000773 U	0.000106 U	0.000192 EMPC	0.000103 EMPC	0.000140 U	0.00210	HH
PCB 105	**1.08**	**0.00954**	**0.0246**	**0.0475**	**0.0335**	**0.0572**	0.0210	HH
PCB 114	**0.0603**	**0.000631**	**0.00160**	**0.00280**	**0.00185**	**0.00327**	0.0210	HH
PCB 118	**2.65**	**0.0294**	**0.0687**	**0.131**	**0.0926**	**0.145**	0.0260	HH
PCB 123	**0.0363**	0.000610 EMPC	0.00111 EMPC	0.00190 EMPC	**0.00144**	**0.00204**	0.0260	HH
PCB 126	0.00269 U	0.0000725 U	0.000318 U	0.000203 U	0.000177 EMPC	0.000219 EMPC	0.00000620	HH
PCB 156	**0.380 C**	**0.00350 C**	**0.00765 C**	**0.0120 C**	**0.0104 C**	**0.0195 C**	0.0260	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						0.0260	HH
PCB 167	**0.113**	**0.00152**	**0.00255**	**0.00452**	**0.00430**	**0.00633**	0.0260	HH
PCB 169	0.000879 U	0.0000479 U	0.0000626 U	0.0000923 U	0.0000881 U	0.000126 U	0.0000210	HH
PCB 189	**0.00901**	0.000127 EMPC	0.000241 EMPC	0.000331 EMPC	0.000347 EMPC	**0.000787**	0.140	HH
Total PCBs as Congeners (KM, capped)	**29.7 J**	**0.301 J**	**0.778 J**	**1.69 J**	**1.08 J**	**2.10 J**	0.0480	HH
Metals (mg/kg dry)								
Aluminum	**11,200**	**11,300**	**10,800**	**22,900**	**13,500**	**13,300**	38,000	UPL
Antimony	**0.180 J**	0.0400 UJ	**0.0400 J**	**0.140 J**	**0.150 J**	**0.210 J**	3.00	Eco
Arsenic	**3.24**	**1.40**	**2.22**	**5.39**	**4.24**	**2.73**	6.00	Eco
Barium	**121**	**53.1**	**71.2**	**202**	**147**	**123**	315	UPL
Beryllium	**0.367**	**0.215**	**0.295**	**0.597**	**0.398**	**0.369**	0.847	UPL
Cadmium	**0.509**	0.121 U	**0.175**	**0.429**	**0.430**	**0.694**	0.674	UPL
Chromium	**16.0**	**24.1**	**16.9**	**33.5**	**18.4**	**18.5**	37.0	Eco
Cobalt	**7.60**	**8.83**	**10.8**	**10.3**	**7.86**	**7.36**	15.2	UPL
Copper	**20.3**	**19.9**	**24.4**	**33.1**	**19.9**	**19.1**	55.6	UPL
Lead	**10.5**	**3.30**	**5.03**	**9.03**	**8.53**	**10.1**	35.0	Eco
Mercury	**0.264**	**0.0160**	**0.0230**	**0.102**	**0.117**	**0.174**	0.214	UPL
Nickel	**11.8**	**12.8**	**13.8**	**16.4**	**12.6**	**11.5**	21.2	UPL
Thallium	**0.172**	0.108 U	0.132 U	**0.218**	**0.203**	**0.207**	0.354	UPL
Vanadium	**35.1**	**40.3**	**45.0**	**59.3**	**37.9**	**37.4**	70.6	UPL
Zinc	**86.1**	**57.4**	**58.2**	**83.4**	**81.9**	**88.9**	123	Eco
Petroleum Hydrocarbons (mg/kg dry)								
Diesel Range Organics	**21.0**	**2.60 J**	**4.70 J**	**16.0 J**	**13.0 J**	**22.0**	-	-
Residual Range Organics	**98.0 J**	140 U	150 U	**71.0 J**	**55.0 J**	**120 J**	-	-
Semivolatile Organic Compounds (µg/kg dry)								
Bis(2-ethylhexyl) Phthalate	**340**	200 U	200 U	200 U	200 U	200 U	750	Eco
Butyl Benzyl Phthalate	1.50 U	10.0 U	9.80 U	1.50 U	1.50 U	1.50 U	110	Eco
Carbazole	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	140	Eco
Di-n-butyl Phthalate	10.0 U	15.0 U	9.80 U	9.90 U	9.80 U	9.90 U	110	Eco
Di-n-octyl Phthalate	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	110	Eco
p-cresol (4-Methylphenol)	2.90 U	2.90 U	2.90 U	**4.80 J**	2.90 U	2.90 U	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)								
Acenaphthene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	290	Eco
Anthracene	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	57.0	Eco
Fluorene	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	77.0	Eco
Phenanthrene	**3.30 J**	**1.40 J**	1.30 U	**3.40 J**	1.30 U	**1.80 J**	42.0	Eco
Total LPAHs (KM, capped; NDs at MDL)	**7.40 J**	**5.50 J**	5.40 U	**7.50 J**	5.40 U	**5.90 J**	76.0	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)								
Benzo(a)anthracene	**3.90 J**	**1.60 J**	1.40 U	1.40 U	1.40 U	**2.70 J**	32.0	Eco
Benzo(a)pyrene	**4.40 J**	**1.70 J**	1.60 U	1.60 U	1.60 U	**4.50 J**	32.0	Eco
Benzo(b)fluoranthene	**6.10 J**	2.50 U	2.50 U	2.50 U	2.50 U	**5.80 J**	27.0	Eco
Benzo(g,h,i)perylene	**3.90 J**	2.30 U	2.30 U	2.30 U	2.30 U	**3.30 J**	300	Eco
Benzo(k)fluoranthene	**2.50 J**	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	27.0	Eco
Chrysene	**7.80 J**	**1.80 J**	**1.50 J**	**1.40 J**	1.40 U	**4.20 J**	57.0	Eco
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	33.0	Eco
Fluoranthene	**5.50 J**	**3.00 J**	2.20 U	**2.50 J**	2.20 U	**3.70 J**	111	Eco
Indeno(1,2,3-cd)pyrene	**3.30 J**	1.90 U	1.90 U	1.90 U	1.90 U	**3.20 J**	17.0	Eco
Pyrene	**5.60 J**	**2.40 J**	**1.80 J**	**2.00 J**	1.30 U	**3.50 J**	53.0	Eco
Total HPAHs (KM, capped; NDs at MDL)	**45.2 J**	**19.2 J**	**15.4 J**	**16.2 J**	19.3 U	**35.3 J**	193	Eco
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)								
Total PAHs (KM, capped; NDs at MDL)	**50.3 J**	**22.3 J**	**16.6 J**	**20.5 J**	24.7 U	**38.1 J**	1600	Eco
General Chemistry Parameters (mg/kg dry) and Grain Size (%)								
Carbon, Total Organic	**10,100**	**15,400**	**2,400**	**5,100**	**5,600**	**12,500**	-	-
Gravel (>2.00 mm)	**0.290**	**31.0**	**32.5**	**26.7**	**18.2**	**0.640**	-	-
Sand, Very Coarse (1.00 - 2.00 mm)	**0.380**	**17.6**	**8.42**	**8.50**	**4.82**	**0.280**	-	-
Sand, Coarse (0.50 - 1.00 mm)	**0.830**	**23.9**	**16.3**	**9.36**	**4.96**	**0.710**	-	-
Sand, Medium (0.25 - 0.50 mm)	**5.87**	**16.4**	**17.4**	**17.8**	**10.0**	**1.78**	-	-
Sand, Fine (0.125 - 0.25 mm)	**33.3**	**6.58**	**11.6**	**18.9**	**30.8**	**14.1**	-	-
Sand, Very Fine (0.0625 - 0.125 mm)	**23.1**	**2.74**	**5.08**	**6.12**	**11.3**	**30.3**	-	-
Silt (0.039 - 0.0625 mm)	**40.4**	**6.47**	**7.40**	**16.0**	**17.5**	**44.8**	-	-
Clay (<0.039 mm)	**7.59**	**1.66**	**1.22**	**3.67**	**5.60**	**6.99**	-	-

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
ND = Non Detect
SLV = screening level value
RDL = reported detection limit
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

[1] Only Aroclors 1248 and 1254 were included in summing sediment Total PCBs as Aroclors because all other aroclors were undected in Forebay sediment samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-8a
Post-Removal Forebay Area Sediment Analytical Results
PCB Aroclors, PCB Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size
(Page 2 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay		
Site ID	P10	P11	P13	P14	P15	P16		
Sample ID	08021410SD	08021411SD	08031713SD	08031814SD	08022115SD	08022116SD	**Selected SLV**	**SLV Source**
Sample Date	2/14/2008	2/14/2008	3/17/2008	3/18/2008	2/21/2008	2/21/2008		
PCB Aroclors (µg/kg dry)								
Aroclor 1016	10.0 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1221	21.0 U	20.0 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1232	8.20 U	6.30 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1242	2.20 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1248	1.90 U	4.00 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1254	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1260	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1262	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1268	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Total PCBs as Aroclors (NDs at MDL) [1]	3.60 U	5.70 U	3.40 U	3.40 U	3.40 U	3.40 U	0.0480	HH
PCB Dioxin-Like Congeners (µg/kg dry)								
PCB 77	**0.00198**	**0.00231**	**0.00163**	**0.000417**	**0.00240**	**0.00217**	0.00640	HH
PCB 81	0.000147 EMPC	0.000129 U	0.0000910 U	0.0000694 U	0.000138 U	0.0000754 U	0.00210	HH
PCB 105	**0.0311**	**0.0211**	**0.0124**	**0.00287**	**0.0188**	**0.0168**	0.0210	HH
PCB 114	0.00171 EMPC	**0.00117**	**0.000661**	0.000136 EMPC	0.000965 EMPC	**0.000813**	0.0210	HH
PCB 118	**0.0794**	**0.0528**	**0.0384**	**0.00690**	**0.0516**	**0.0408**	0.0260	HH
PCB 123	**0.00119**	**0.000859**	**0.000661**	0.000107 EMPC	**0.000796**	**0.000833**	0.0260	HH
PCB 126	0.000252 EMPC	0.000212 EMPC	0.000199 EMPC	0.0000662 U	0.000296 EMPC	**0.000238**	0.00000620	HH
PCB 156	**0.0106 C**	**0.00874 C**	**0.00473 C**	**0.00113 C**	**0.00653 C**	**0.00661 C**	0.0260	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						0.0260	HH
PCB 167	**0.00391**	**0.00349**	**0.00246**	**0.000461**	**0.00337**	**0.00287**	0.0260	HH
PCB 169	0.000123 U	0.000111 U	0.000104 U	0.0000484 U	0.000161 EMPC	0.000132 U	0.0000210	HH
PCB 189	**0.000617**	**0.000589**	**0.000620 EMPC**	0.000814 U	0.000534 EMPC	**0.000452**	0.140	HH
Total PCBs as Congeners (KM, capped)	**1.24 J**	**1.12 J**	**0.684 J**	**0.143 J**	**0.973 J**	**0.836 J**	0.0480	HH
Metals (mg/kg dry)								
Aluminum	**14,200**	**16,500**	**13,500**	**15,600**	**14,600**	**13,100**	38,000	UPL
Antimony	**0.240 J**	**0.210 J**	**0.280 J**	**0.120 J**	**0.200 J**	**0.200 J**	3.00	Eco
Arsenic	**2.87**	**3.08**	**3.06**	**3.49**	**2.93**	**2.74**	6.00	Eco
Barium	**126**	**134**	**118**	**188**	**141**	**120**	315	UPL
Beryllium	**0.437**	**0.468**	**0.385**	**0.251**	**0.425**	**0.417**	0.847	UPL
Cadmium	**0.691**	**0.719**	**0.531**	**0.307**	**0.652**	**0.690**	0.674	UPL
Chromium	**17.6**	**20.9**	**20.0**	**26.8**	**21.6**	**19.2**	37.0	Eco
Cobalt	**7.55**	**8.52**	**9.33**	**15.1**	**10.0**	**8.04**	15.2	UPL
Copper	**24.0**	**23.6**	**19.4**	**18.4**	**21.0**	**20.9**	55.6	UPL
Lead	**10.1**	**11.3**	**10.0**	**7.04**	**10.3**	**11.0**	35.0	Eco
Mercury	**0.306**	**0.244**	**0.00800**	**0.0410**	**0.109**	**0.373**	0.214	UPL
Nickel	**12.2**	**15.1**	**19.0**	**51.5**	**17.8**	**14.2**	21.2	UPL
Thallium	**0.182**	**0.194**	**0.193**	**0.179**	**0.197**	**0.196**	0.354	UPL
Vanadium	**37.1**	**45.2**	**49.5**	**30.9**	**54.7**	**45.2**	70.6	UPL
Zinc	**87.9**	**97.2**	**113**	**59.3**	**104**	**97.9**	123	Eco
Petroleum Hydrocarbons (mg/kg dry)								
Diesel Range Organics	**27.0**	**28.0**	**11.0 J**	**4.60 J**	**24.0**	**26.0**	-	-
Residual Range Organics	**150 J**	**160 J**	180 U	140 U	**170 J**	**150 J**	-	-
Semivolatile Organic Compounds (µg/kg dry)								
Bis(2-ethylhexyl) Phthalate	200 U	200 U	200 U	200 U	**140 J**	**38.0 J**	750	Eco
Butyl Benzyl Phthalate	1.50 U	1.50 U	1.50 U	9.90 U	1.50 U	1.50 U	110	Eco
Carbazole	1.30 U	1.30 U	**1.40 J**	1.30 U	1.30 U	1.30 U	140	Eco
Di-n-butyl Phthalate	9.90 U	10.0 U	19.0 U	14.0 U	10.0 U	9.90 U	110	Eco
Di-n-octyl Phthalate	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	110	Eco
p-cresol (4-Methylphenol)	2.90 U	2.90 U	**6.50 J**	**7.30 J**	2.90 U	**21.0**	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)								
Acenaphthene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	290	Eco
Anthracene	1.40 U	**2.00 J**	**2.70 J**	1.40 U	1.40 U	**1.90 J**	57.0	Eco
Fluorene	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	77.0	Eco
Phenanthrene	**1.90 J**	**7.10 J**	**5.40 J**	**2.10 J**	**4.60 J**	**5.00 J**	42.0	Eco
Total LPAHs (KM, capped; NDs at MDL)	**6.00 J**	**11.8 J**	**10.8 J**	**6.20 J**	**8.70 J**	**9.60 J**	76.0	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)								
Benzo(a)anthracene	**2.30 J**	**7.40 J**	**12.0**	**2.20 J**	**2.10 J**	**5.90 J**	32.0	Eco
Benzo(a)pyrene	**3.00 J**	**7.50 J**	**6.10 J**	**2.00 J**	1.60 U	**6.50 J**	32.0	Eco
Benzo(b)fluoranthene	**4.10 J**	**9.10 J**	**6.00 J**	2.50 U	2.50 U	**8.00 J**	27.0	Eco
Benzo(g,h,i)perylene	**2.90 J**	**4.40 J**	**3.50 J**	2.30 U	2.30 U	**5.00 J**	300	Eco
Benzo(k)fluoranthene	2.50 U	**3.30 J**	**4.90 J**	2.50 U	2.50 U	**3.10 J**	27.0	Eco
Chrysene	**4.10 J**	**9.30 J**	**20.0**	**2.40 J**	**3.40 J**	**7.60 J**	57.0	Eco
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	33.0	Eco
Fluoranthene	**3.80 J**	**10.0**	**5.30 J**	**3.20 J**	**4.00 J**	**9.70 J**	111	Eco
Indeno(1,2,3-cd)pyrene	**2.20 J**	**4.70 J**	**3.60 J**	1.90 U	1.90 U	**5.40 J**	17.0	Eco
Pyrene	**3.70 J**	**12.0**	**8.90 J**	**3.20 J**	**5.30 J**	**11.0**	53.0	Eco
Total HPAHs (KM, capped; NDs at MDL)	**30.5 J**	**69.9 J**	**72.5 J**	**23.0 J**	**25.1 J**	**64.4 J**	193	Eco
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)								
Total PAHs (KM, capped; NDs at MDL)	**33.7 J**	**80.1 J**	**81.4 J**	**25.0 J**	**29.1 J**	**72.4 J**	1600	Eco
General Chemistry Parameters (mg/kg dry) and Grain Size (%)								
Carbon, Total Organic	**15,000**	**14,200**	**11,900**	**15,400**	**10,600**	**12,500**	-	-
Gravel (>2.00 mm)	**1.91**	**0.400**	**2.02**	**40.0**	**4.61**	**0.500**	-	-
Sand, Very Coarse (1.00 - 2.00 mm)	**0.660**	**0.230**	**3.36**	**13.7**	**0.890**	**0.260**	-	-
Sand, Coarse (0.50 - 1.00 mm)	**0.660**	**0.550**	**4.42**	**16.4**	**1.36**	**0.580**	-	-
Sand, Medium (0.25 - 0.50 mm)	**2.06**	**1.53**	**7.39**	**8.63**	**8.82**	**2.73**	-	-
Sand, Fine (0.125 - 0.25 mm)	**9.54**	**10.1**	**25.6**	**8.36**	**36.7**	**15.2**	-	-
Sand, Very Fine (0.0625 - 0.125 mm)	**18.9**	**24.3**	**27.2**	**4.77**	**24.6**	**28.1**	-	-
Silt (0.039 - 0.0625 mm)	**62.3**	**52.4**	**30.0**	**8.95**	**28.3**	**40.4**	-	-
Clay (<0.039 mm)	**12.9**	**11.3**	**4.12**	**1.04**	**5.57**	**9.88**	-	-

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
ND = Non Detect
SLV = screening level value
RDL = reported detection limit
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

[1] Only Aroclors 1248 and 1254 were included in summing sediment Total PCBs as Aroclors because all other aroclors were undected in Forebay sediment samples.
-- = SLV for analyte not available
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-8a
Post-Removal Forebay Area Sediment Analytical Results
PCB Aroclors, PCB Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size
(Page 3 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	P17	P18	P21	P65	P67	P88	P89		
Sample ID	08022117SD	08021118SD	08021221SD	08022965SD	08030367SD	08031788SD	08031789SD		
Sample Date	2/21/2008	2/11/2008	2/12/2008	2/29/2008	3/3/2008	3/17/2008	3/17/2008		
PCB Aroclors (µg/kg dry)									
Aroclor 1016	9.90 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1221	29.0 U	13.0 U	16.0 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1232	18.0 U	7.50 U	14.0 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1242	1.70 U	2.90 U	5.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1248	1.90 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1254	2.20 U	1.70 U	2.40 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1260	1.70 U	1.70 U	4.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1262	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Aroclor 1268	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	0.0480	HH
Total PCBs as Aroclors (NDs at MDL) [1]	4.10 U	3.40 U	4.10 U	3.40 U	3.40 U	3.40 U	3.40 U	0.0480	HH
PCB Dioxin-Like Congeners (µg/kg dry)									
PCB 77	**0.00151**	**0.00132**	**0.00147**	**0.00104**	**0.000289**	**0.000409**	**0.000341**	0.00640	HH
PCB 81	0.0000802 U	0.000115 U	0.0000934 U	0.000102 U	0.0000693 U	0.0000662 U	0.0000486 U	0.00210	HH
PCB 105	**0.0120**	**0.0113**	**0.0125**	**0.00849**	**0.00130**	**0.00402**	**0.00306**	0.0210	HH
PCB 114	**0.000665**	**0.000621**	**0.000666**	**0.000429**	0.0000580 EMPC	**0.000267**	**0.000174**	0.0210	HH
PCB 118	**0.0274**	**0.0290**	**0.0299**	**0.0209**	**0.00271**	**0.0127**	**0.0100**	0.0260	HH
PCB 123	**0.000459**	**0.000582**	**0.000569**	0.000327 EMPC	0.0000640 EMPC	0.000201 U	0.000158 U	0.0260	HH
PCB 126	**0.000173**	0.000123 EMPC	**0.000189**	0.000135 EMPC	0.0000479 U	0.0000635 U	0.0000693 U	0.00000620	HH
PCB 156	**0.00448 C**	**0.00381 C**	**0.00470 C**	**0.00308 C**	**0.000399 C**	**0.00135 C**	0.000935 C U	0.0260	HH
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**							0.0260	HH
PCB 167	**0.00184**	**0.00190**	**0.00190**	**0.00137**	0.000173 EMPC	0.000710 U	0.000640 U	0.0260	HH
PCB 169	0.000109 U	0.0000841 U	0.000103 U	0.0000931 U	0.0000479 U	0.0000485 U	0.0000454 U	0.0000210	HH
PCB 189	**0.000428 EMPC**	0.000217 EMPC	**0.000332**	**0.000242**	0.0000479 U	**0.000100**	**0.0000980**	0.140	HH
Total PCBs as Congeners (KM, capped)	**0.588 J**	**0.523 J**	**0.571 J**	**0.399 J**	**0.0611 J**	**0.204 J**	**0.151 J**	0.0480	HH
Metals (mg/kg dry)									
Aluminum	**11,000**	**12,400**	**12,100**	**12,500**	**14,400**	**10,400**	**9,000**	38,000	UPL
Antimony	**0.150 J**	**0.150 J**	**0.200 J**	**0.160 J**	**0.0400 J**	**0.140 J**	**0.0900 J**	3.00	Eco
Arsenic	**2.33**	**5.39**	**3.29**	**2.86**	**3.24**	**2.81**	**2.02**	6.00	Eco
Barium	**98.8**	**128**	**129**	**112**	**79.6**	**125**	**85.7**	315	UPL
Beryllium	**0.334**	**0.398**	**0.390**	**0.307**	**0.331**	**0.270**	**0.228**	0.847	UPL
Cadmium	**0.460**	**0.396**	**0.579**	**0.423**	0.115 U	**0.312**	**0.256**	0.674	UPL
Chromium	**15.3**	**20.7**	**17.8**	**18.4**	**27.1**	**15.9**	**10.1**	37.0	Eco
Cobalt	**7.24**	**8.78**	**8.31**	**6.71**	**8.95**	**7.12**	**4.82**	15.2	UPL
Copper	**16.5**	**20.1**	**19.5**	**14.9**	**27.0**	**15.6**	**11.3**	55.6	UPL
Lead	**8.13**	**16.8**	**10.6**	**10.7**	**4.31**	**7.58**	**5.28**	35.0	Eco
Mercury	**0.263**	**0.0910 J**	**0.167**	**0.118 J**	**0.0220**	**0.0430**	**0.0360**	0.214	UPL
Nickel	**13.0**	**13.4**	**14.2**	**11.4**	**16.1**	**11.6**	**6.39**	21.2	UPL
Thallium	**0.135**	**0.158**	**0.187**	**0.178**	0.122 U	**0.143**	0.113 U	0.354	UPL
Vanadium	**36.5**	**39.1**	**36.9**	**36.5**	**29.5**	**35.5**	**27.5**	70.6	UPL
Zinc	**69.0**	**78.2**	**94.1**	**101**	**50.3**	**86.3**	**59.1**	123	Eco
Petroleum Hydrocarbons (mg/kg dry)									
Diesel Range Organics	**54.0**	**10.0 J**	**10.0 J**	**9.30 J**	**3.10 J**	**7.90 J**	**4.00 J**	-	-
Residual Range Organics	**180 J**	**62.0 J**	**67.0 J**	150 U	**17.0 J**	130 U	150 U	-	-
Semivolatile Organic Compounds (µg/kg dry)									
Bis(2-ethylhexyl) Phthalate	200 U	200 U	200 U	200 U	200 U	200 U	200 U	750	Eco
Butyl Benzyl Phthalate	1.50 U	1.50 U	1.50 U	1.50 U	9.90 U	9.80 U	9.80 U	110	Eco
Carbazole	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	140	Eco
Di-n-butyl Phthalate	10.0 U	10.0 U	10.0 U	9.90 U	11.0 U	14.0 U	14.0 U	110	Eco
Di-n-octyl Phthalate	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	110	Eco
p-cresol (4-Methylphenol)	2.90 U	2.90 U	2.90 U	**11.0**	2.90 U	2.90 U	**18.0**	-	-
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)									
Acenaphthene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	290	Eco
Anthracene	**1.90 J**	1.40 U	1.40 U	**1.50 J**	1.40 U	1.40 U	1.40 U	57.0	Eco
Fluorene	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	77.0	Eco
Phenanthrene	**7.40 J**	**2.90 J**	1.30 U	**2.20 J**	1.30 U	**1.70 J**	1.30 U	42.0	Eco
Total LPAHs (KM, capped; NDs at MDL)	**12.0 J**	**7.00 J**	5.40 U	**6.40 J**	5.40 U	**5.80 J**	5.40 U	76.0	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)									
Benzo(a)anthracene	**6.00 J**	**2.00 J**	1.40 U	**7.00 J**	1.40 U	1.40 U	1.40 U	32.0	Eco
Benzo(a)pyrene	**7.20 J**	**2.60 J**	1.60 U	**6.10 J**	1.60 U	1.60 U	1.60 U	32.0	Eco
Benzo(b)fluoranthene	**7.50 J**	**4.00 J**	2.50 U	**5.60 J**	2.50 U	2.50 U	2.50 U	27.0	Eco
Benzo(g,h,i)perylene	**6.20 J**	**2.60 J**	2.30 U	**4.20 J**	2.30 U	2.30 U	2.30 U	300	Eco
Benzo(k)fluoranthene	2.50 U	2.50 U	2.50 U	**3.20 J**	2.50 U	2.50 U	2.50 U	27.0	Eco
Chrysene	**7.90 J**	**3.20 J**	**1.80 J**	**12.0**	1.40 U	**1.70 J**	1.40 U	57.0	Eco
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	33.0	Eco
Fluoranthene	**12.0**	**4.80 J**	**2.70 J**	**4.60 J**	2.20 U	**2.60 J**	2.20 U	111	Eco
Indeno(1,2,3-cd)pyrene	**5.70 J**	**2.50 J**	1.90 U	**4.10 J**	1.90 U	1.90 U	1.90 U	17.0	Eco
Pyrene	**17.0**	**4.80 J**	**2.20 J**	**4.40 J**	1.30 U	**2.20 J**	1.30 U	53.0	Eco
Total HPAHs (KM, capped; NDs at MDL)	**73.9 J**	**30.5 J**	**17.5 J**	**53.4 J**	19.3 U	**17.2 J**	19.3 U	193	Eco
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)									
Total PAHs (KM, capped; NDs at MDL)	**83.4 J**	**34.9 J**	**18.6 J**	**58.4 J**	24.7 U	**19.5 J**	24.7 U	1600	Eco
General Chemistry Parameters (mg/kg dry) and Grain Size (%)									
Carbon, Total Organic	**16,200**	**8,600**	**11,600**	**6,100**	**1,100**	**3,000**	**2,100**	-	-
Gravel (>2.00 mm)	**1.19**	**3.69**	**19.3**	**0.180**	**20.7**	**47.9**	**66.2**	-	-
Sand, Very Coarse (1.00 - 2.00 mm)	**0.950**	**1.96**	**1.00**	**0.210**	**10.6**	**6.39**	**4.70**	-	-
Sand, Coarse (0.50 - 1.00 mm)	**2.32**	**3.67**	**1.40**	**0.540**	**20.2**	**7.02**	**9.54**	-	-
Sand, Medium (0.25 - 0.50 mm)	**9.88**	**18.1**	**4.86**	**5.14**	**19.6**	**15.6**	**12.2**	-	-
Sand, Fine (0.125 - 0.25 mm)	**19.8**	**31.9**	**22.0**	**43.6**	**8.95**	**12.1**	**8.80**	-	-
Sand, Very Fine (0.0625 - 0.125 mm)	**25.3**	**18.6**	**17.9**	**18.3**	**4.72**	**3.53**	**1.92**	-	-
Silt (0.039 - 0.0625 mm)	**34.8**	**22.1**	**34.8**	**22.3**	**10.7**	**6.35**	**2.86**	-	-
Clay (<0.039 mm)	**7.13**	**4.75**	**8.06**	**4.60**	**4.21**	**0.860**	**0.460**	-	-

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
ND = Non Detect
SLV = screening level value
RDL = reported detection limit
UPL = Reference Area Upper Prediction Limit
- = Not Analyzed
-- = SLV for analyte not available

[1] Only Aroclors 1248 and 1254 were included in summing sediment Total PCBs as Aroclors because all other aroclors were undected in Forebay sediment samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-8b
Post-Removal Reference Area Sediment Analytical Results
PCB Aroclors, PCB Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size
(Page 1 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P22	P24	P26	P27	P28	P29
Sample ID	08030522SD	08030524SD	08030426SD	08030427SD	08030428SD	08022229SD
Sample Date	3/5/2008	3/5/2008	3/4/2008	3/4/2008	3/4/2008	2/22/2008
PCB Aroclors (µg/kg dry)						
Aroclor 1016	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1221	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1232	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1242	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1248	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1254	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1260	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1262	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Aroclor 1268	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
Total PCBs as Aroclors (NDs at MDL) [1]	1.70 U	1.70 U	1.70 U	1.70 U	1.80 U	1.70 U
PCB Dioxin-Like Congeners (µg/kg dry)						
PCB 77	**0.000989**	**0.000983**	**0.000699**	**0.00139**	**0.00111**	**0.00140**
PCB 81	0.0000630 EMPC	0.0000786 U	0.0000490 EMPC	0.000100 EMPC	0.0000832 U	0.0000730 EMPC
PCB 105	**0.00892**	**0.00801**	**0.00717**	**0.0132**	**0.00906**	**0.0109**
PCB 114	**0.000410**	**0.000485**	**0.000378**	**0.000798**	**0.000479**	**0.000602**
PCB 118	**0.0222**	**0.0224**	**0.0209**	**0.0642**	**0.0221**	**0.0283**
PCB 123	0.000380 U	0.000429 U	0.000442 U	**0.00122**	0.000408 U	0.000446 U
PCB 126	0.000175 EMPC	0.000147 EMPC	**0.000117**	**0.000234**	0.000185 EMPC	**0.000205**
PCB 156	**0.00254 C**	**0.00258 C**	**0.00242 C**	**0.00517 C**	**0.00282 C**	**0.00319 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.00118**	**0.00130**	**0.00125**	**0.00384**	**0.00118**	**0.00146**
PCB 169	0.0000685 U	0.000102 U	0.0000571 U	0.0000971 U	0.000110 U	0.0000811 U
PCB 189	**0.000225**	**0.000260**	0.000264 EMPC	**0.000351**	**0.000416**	0.000357 EMPC
Total PCBs as Congeners (KM, capped)	**0.413 J**	**0.448 J**	**0.361 J**	**0.932 J**	**0.458 J**	**0.585 J**
Metals (mg/kg dry)						
Aluminum	**21,300**	**18,200**	**33,000**	**20,700**	**29,800**	**11,500**
Antimony	**0.200 J**	**0.210 J**	**0.320 J**	**0.520 J**	**0.220 J**	**0.340 J**
Arsenic	**3.72**	**4.00**	**5.67**	**4.12**	**4.98**	**3.63**
Barium	**207**	**205**	**247**	**225**	**242**	**109**
Beryllium	**0.540**	**0.552**	**0.633**	**0.621**	**0.694**	**0.319**
Cadmium	**0.467**	**0.411**	**0.368**	**0.444**	**0.592**	**0.593**
Chromium	**19.5**	**17.9**	**23.3**	**23.2**	**23.3**	**19.0**
Cobalt	**10.7**	**11.4**	**14.7**	**12.6**	**13.3**	**7.73**
Copper	**33.9**	**37.5**	**40.0**	**45.7**	**43.1**	**17.2**
Lead	**10.5**	**10.0**	**15.1**	**11.1**	**14.1**	**10.3**
Mercury	**0.130**	**0.108**	**0.0630**	**0.196**	**0.130**	**0.225 J**
Nickel	**14.0**	**14.1**	**17.1**	**17.0**	**17.2**	**14.9**
Thallium	**0.240**	**0.234**	**0.360**	**0.280**	**0.318**	**0.236**
Vanadium	**46.1 J**	**50.9 J**	**55.4 J**	**50.9 J**	**66.5 J**	**42.6 J**
Zinc	**75.9**	**70.2**	**82.3**	**74.7**	**88.9**	**82.7**
Petroleum Hydrocarbons (mg/kg dry)						
Diesel Range Organics	**12.0 J**	**9.80 J**	**18.0**	**25.0**	**15.0 J**	**15.0 J**
Residual Range Organics	**34.0 J**	180 U	**52.0 J**	**73.0 J**	**47.0 J**	**41.0 J**
Semivolatile Organic Compounds (µg/kg dry)						
Bis(2-ethylhexyl) Phthalate	**6.60 J**	**4.90 J**	**29.0 J**	**6.70 J**	**11.0 J**	**15.0 J**
Butyl Benzyl Phthalate	1.50 U	1.50 U	1.50 U	**2.50 J**	1.60 U	1.50 U
Carbazole	1.30 U	1.30 U	1.30 U	1.30 U	1.40 U	1.30 U
Di-n-butyl Phthalate	**5.20 J**	**4.10 J**	2.60 UJ	**6.30 J**	**7.40 J**	2.60 UJ
Di-n-octyl Phthalate	1.20 U	1.20 U	1.20 U	1.20 U	1.30 U	1.20 U
p-cresol (4-Methylphenol)	**210**	**170**	**7.10 J**	**130**	**120**	**9.10 J**
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)						
Acenaphthene	1.00 U	1.00 U	1.00 U	1.00 U	1.10 U	1.00 U
Anthracene	1.40 U	1.40 U	1.40 U	1.40 U	1.50 U	1.40 U
Fluorene	1.70 UJ	1.70 UJ	1.70 UJ	1.70 UJ	1.80 UJ	1.70 UJ
Phenanthrene	**2.30 J**	**2.20 J**	**3.60 J**	**3.30 J**	**2.10 J**	**3.70 J**
Total LPAHs (KM, capped; NDs at MDL)	**6.40 J**	**6.30 J**	**7.70 J**	**7.40 J**	**6.50 J**	**7.80 J**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)						
Benzo(a)anthracene	**1.80 J**	**1.60 J**	**2.30 J**	**3.60 J**	**3.60 J**	**3.30 J**
Benzo(a)pyrene	**1.60 J**	1.60 U	**3.20 J**	1.60 U	**4.80 J**	**3.80 J**
Benzo(b)fluoranthene	2.50 U	2.50 U	**4.40 J**	**4.80 J**	**5.80 J**	**5.00 J**
Benzo(g,h,i)perylene	2.30 U	2.30 U	**4.70 J**	**3.20 J**	**3.60 J**	**3.50 J**
Benzo(k)fluoranthene	2.50 U	2.50 U	2.50 U	2.50 U	2.60 U	2.50 U
Chrysene	**9.70 J**	**2.10 J**	**3.70 J**	**3.50 J**	**4.90 J**	**4.00 J**
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.20 U	2.20 U	2.30 U	2.20 U
Fluoranthene	**3.60 J**	**2.60 J**	**6.40 J**	**6.20 J**	**6.10 J**	2.20 UJ
Indeno(1,2,3-cd)pyrene	1.90 UJ	1.90 UJ	**3.30 J**	**2.70 J**	**3.20 J**	1.90 UJ
Pyrene	**2.60 J**	**1.70 J**	**7.00 J**	**4.50 J**	**4.90 J**	**4.90 J**
Total HPAHs (KM, capped; NDs at MDL)	**27.8 J**	**18.1 J**	**39.5 J**	**33.3 J**	**41.5 J**	**32.1 J**
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)						
Total PAHs (KM, capped; NDs at MDL)	**31.6 J**	**21.2 J**	**43.9 J**	**37.8 J**	**45.0 J**	**35.2 J**
General Chemistry Parameters (mg/kg dry) and Grain Size (%)						
Carbon, Total Organic	**11,900**	**10,200**	**10,700**	**12,400**	**16,700**	**9,100**
Clay (<0.039 mm)	**4.16**	**7.22**	**3.82**	**4.97**	**6.56**	**4.26**
Gravel (>2.00 mm)	**0.290**	**3.17**	**8.84**	**36.4**	**0.250**	**0.660**
Sand, Coarse (0.50 - 1.00 mm)	**3.21**	**3.77**	**8.71**	**2.26**	**0.560**	**1.44**
Sand, Fine (0.125 - 0.25 mm)	**12.0**	**10.9**	**6.01**	**4.80**	**4.66**	**6.71**
Sand, Medium (0.25 - 0.50 mm)	**8.44**	**3.34**	**5.06**	**1.78**	**1.11**	**5.90**
Sand, Very Coarse (1.00 - 2.00 mm)	**0.770**	**2.99**	**8.44**	**4.84**	**0.230**	**0.380**
Sand, Very Fine (0.0625 - 0.125 mm)	**24.6**	**28.5**	**20.7**	**19.5**	**25.4**	**29.0**
Silt (0.039 - 0.0625 mm)	**50.1**	**51.0**	**38.5**	**51.7**	**64.9**	**54.8**

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Non Detect
RDL = reported detection limit
- = Not Analyzed
J = The reported value is an estimate.
bold = analyte detected above MDL/RDL.

[1] The sediment Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area sediment samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-8b
Post-Removal Reference Area Sediment Analytical Results
PCB Aroclors, PCB Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size
(Page 2 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P34	P35	P36	P37	P38	P39
Sample ID	08022534SD	08022535SD	08022536SD	08022637SD	08022738SD	08022739SD
Sample Date	2/25/2008	2/25/2008	2/25/2008	2/26/2008	2/27/2008	2/27/2008
PCB Aroclors (µg/kg dry)						
Aroclor 1016	1.70 U	10.0 U	1.70 U	1.70 U	13.0 U	1.70 U
Aroclor 1221	1.70 U	6.00 U	1.70 U	9.80 U	11.0 U	1.70 U
Aroclor 1232	1.70 U	10.0 U	1.70 U	11.0 U	12.0 U	1.70 U
Aroclor 1242	1.70 U	16.0 U	1.70 U	14.0 U	1.70 U	1.70 U
Aroclor 1248	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1254	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1260	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1262	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1268	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Total PCBs as Aroclors (NDs at MDL) [1]	1.70 U	16.00 U	1.70 U	14.00 U	13.00 U	1.70 U
PCB Dioxin-Like Congeners (µg/kg dry)						
PCB 77	**0.00201**	**0.00104**	**0.000965**	**0.00102**	**0.00113**	**0.000637**
PCB 81	**0.000143**	0.0000750 U	0.0000896 U	0.0000639 U	0.0000767 U	0.0000556 U
PCB 105	**0.0275**	**0.00818**	**0.00803**	**0.00653**	**0.00985**	**0.00534**
PCB 114	**0.00163**	**0.000382**	**0.000372**	0.000352 EMPC	**0.000422**	0.000337 EMPC
PCB 118	**0.0705**	**0.0199**	**0.0207**	**0.0157**	**0.0356**	**0.0131**
PCB 123	**0.000980**	0.000309 U	0.000401 U	**0.000374**	**0.000656**	0.000235 EMPC
PCB 126	**0.000337**	**0.000126**	0.000139 U	**0.000175**	**0.000184**	0.000115 EMPC
PCB 156	**0.00850 C**	**0.00242 C**	**0.00240 C**	**0.00225 C**	**0.00312 C**	**0.00180 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.00320**	0.00110 U	0.00101 U	**0.000918**	**0.00186**	**0.000761**
PCB 169	0.000179 U	0.0000711 U	0.0000891 U	0.0000860 EMPC	0.0000951 U	0.000200 U
PCB 189	**0.000573**	0.000248 EMPC	**0.000237**	**0.000197**	**0.000188**	0.000159 EMPC
Total PCBs as Congeners (KM, capped)	**1.20 J**	**0.405 J**	**0.402 J**	**0.378 J**	**0.591 J**	**0.272 J**
Metals (mg/kg dry)						
Aluminum	**15,100**	**9,890**	**10,100**	**11,200**	**10,100**	**9,380**
Antimony	**0.350 J**	**0.370 J**	**0.260 J**	**0.260 J**	**0.250 J**	**0.220 J**
Arsenic	**3.37**	**3.64**	**3.74**	**4.49**	**3.76**	**3.71**
Barium	**146**	**124**	**120**	**123**	**101**	**98.5**
Beryllium	**0.379**	**0.310**	**0.283**	**0.328**	**0.298**	**0.274**
Cadmium	**0.748**	**0.536**	**0.508**	**0.523**	**0.478**	**0.398**
Chromium	**27.2**	**16.5**	**16.6**	**16.9**	**15.6**	**15.8**
Cobalt	**10.8**	**7.18**	**7.13**	**7.94**	**6.86**	**6.58**
Copper	**20.1**	**14.6**	**14.4**	**15.7**	**14.2**	**13.7**
Lead	**11.5**	**11.0**	**11.3**	**13.2**	**11.2**	**11.4**
Mercury	**0.154 J**	**0.193 J**	**0.120 J**	**0.101 J**	**0.114 J**	**0.119 J**
Nickel	**25.6**	**12.9**	**11.9**	**13.7**	**11.8**	**11.6**
Thallium	**0.245**	**0.205**	**0.208**	**0.234**	**0.197**	**0.185**
Vanadium	**40.5 J**	**30.3 J**	**33.5 J**	**41.9 J**	**37.2 J**	**31.8 J**
Zinc	**93.6**	**92.1**	**98.5**	**109**	**93.3**	**94.6**
Petroleum Hydrocarbons (mg/kg dry)						
Diesel Range Organics	**31.0**	**7.00 J**	**16.0 J**	**9.70 J**	**11.0 J**	**11.0 J**
Residual Range Organics	**100 J**	160 U	**34.0 J**	**41.0 J**	**29.0 J**	**29.0 J**
Semivolatile Organic Compounds (µg/kg dry)						
Bis(2-ethylhexyl) Phthalate	**7.50 J**	**11.0 J**	**11.0 J**	**5.50 J**	**5.90 J**	**6.80 J**
Butyl Benzyl Phthalate	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	**3.80 J**
Carbazole	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U
Di-n-butyl Phthalate	**7.80 J**	**6.40 J**	**5.80 J**	**4.70 J**	**8.60 J**	**4.60 J**
Di-n-octyl Phthalate	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
p-cresol (4-Methylphenol)	**4.50 J**	2.90 U	**6.30 J**	2.90 U	2.90 U	2.90 U
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)						
Acenaphthene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Anthracene	1.40 U	**2.30 J**	1.40 U	1.40 U	1.40 U	1.40 U
Fluorene	1.70 UJ	1.70 UJ	1.70 UJ	1.70 UJ	1.70 UJ	1.70 UJ
Phenanthrene	**3.00 J**	**2.30 J**	**3.20 J**	**4.40 J**	**2.60 J**	1.30 U
Total LPAHs (KM, capped; NDs at MDL)	**7.10 J**	**7.30 J**	**7.30 J**	**8.50 J**	**6.70 J**	5.40 UJ
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)						
Benzo(a)anthracene	**2.90 J**	**2.20 J**	**3.30 J**	**3.90 J**	**2.50 J**	1.40 U
Benzo(a)pyrene	1.60 U	1.60 U	**6.20 J**	**4.60 J**	1.60 U	1.60 U
Benzo(b)fluoranthene	**5.50 J**	**3.70 J**	**8.30 J**	**6.90 J**	**4.20 J**	2.50 U
Benzo(g,h,i)perylene	**3.60 J**	**2.70 J**	**7.90 J**	**4.60 J**	2.30 U	2.30 U
Benzo(k)fluoranthene	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Chrysene	**4.40 J**	**3.10 J**	**4.80 J**	**4.80 J**	**3.20 J**	1.40 U
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
Fluoranthene	**5.10 J**	**5.60 J**	**5.50 J**	**9.70 J**	**4.10 J**	**2.30 J**
Indeno(1,2,3-cd)pyrene	1.90 UJ	**2.20 J**	**8.80 J**	**4.90 J**	**2.30 J**	1.90 UJ
Pyrene	**4.80 J**	**3.30 J**	**7.10 J**	**7.80 J**	**3.60 J**	**2.10 J**
Total HPAHs (KM, capped; NDs at MDL)	**32.7 J**	**27.9 J**	**56.3 J**	**51.6 J**	**26.5 J**	**16.4 J**
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)						
Total PAHs (KM, capped; NDs at MDL)	**36.3 J**	**33.0 J**	**60.1 J**	**56.6 J**	**29.7 J**	**17.1 J**
General Chemistry Parameters (mg/kg dry) and Grain Size (%)						
Carbon, Total Organic	**14,800**	**7,300**	**7,000**	**6,600**	**6,400**	**5,500**
Clay (<0.039 mm)	**7.39**	**4.18**	**3.78**	**3.41**	**3.50**	**4.38**
Gravel (>2.00 mm)	**1.39**	**1.37**	**0.180**	**0.000**	**0.220**	**0.0600**
Sand, Coarse (0.50 - 1.00 mm)	**2.83**	**1.16**	**0.470**	**0.710**	**0.670**	**0.450**
Sand, Fine (0.125 - 0.25 mm)	**13.9**	**37.6**	**43.6**	**49.0**	**45.9**	**47.7**
Sand, Medium (0.25 - 0.50 mm)	**7.30**	**5.68**	**2.77**	**5.09**	**5.56**	**11.1**
Sand, Very Coarse (1.00 - 2.00 mm)	**1.74**	**0.0100**	**0.280**	**0.0500**	**0.350**	**0.130**
Sand, Very Fine (0.0625 - 0.125 mm)	**26.2**	**18.2**	**18.4**	**17.8**	**18.9**	**12.0**
Silt (0.039 - 0.0625 mm)	**43.9**	**31.6**	**29.1**	**30.6**	**30.1**	**25.7**

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Non Detect
RDL = reported detection limit
- = Not Analyzed
J = The reported value is an estimate.
bold = analyte detected above MDL/RDL.

[1] The sediment Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area sediment samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-8b
Post-Removal Reference Area Sediment Analytical Results
PCB Aroclors, PCB Congeners, Metals, Petroleum Hydrocarbons, Semivolatile Organic Compounds, General Chemistry Parameters, and Grain Size
(Page 3 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P40	P41	P42	P85	P86	P87
Sample ID	08022740SD	08022741SD	08022742SD	08030685SD	08030686SD	08030687SD
Sample Date	2/27/2008	2/27/2008	2/27/2008	3/6/2008	3/6/2008	3/6/2008
PCB Aroclors (µg/kg dry)						
Aroclor 1016	3.40 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1221	6.20 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1232	10.0 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1242	13.0 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1248	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1254	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1260	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1262	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Aroclor 1268	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Total PCBs as Aroclors (NDs at MDL) [1]	13.00 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
PCB Dioxin-Like Congeners (µg/kg dry)						
PCB 77	**0.000883**	**0.000709**	**0.000434**	**0.00127**	**0.000734**	**0.000890**
PCB 81	**0.0000580**	0.0000927 U	0.0000700 U	0.0000748 U	0.0000680 U	0.0000988 U
PCB 105	**0.00746**	**0.00489**	**0.00296**	**0.0103**	**0.00582**	**0.00691**
PCB 114	**0.000345**	**0.000284**	**0.000154**	**0.000542**	**0.000328**	**0.000336**
PCB 118	**0.0244**	**0.0139**	**0.00831**	**0.0298**	**0.0141**	**0.0168**
PCB 123	**0.000406**	**0.000272**	0.000172 EMPC	**0.000679**	**0.000309**	**0.000342**
PCB 126	0.000147 EMPC	0.0000930 EMPC	0.0000583 U	0.000184 EMPC	**0.0000840**	**0.000123**
PCB 156	**0.00246 C**	**0.00165 C**	**0.000930 C**	**0.00374 C**	**0.00204 C**	**0.00266 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.00140**	**0.000870**	0.000482 EMPC	**0.00197**	**0.000915**	**0.00120**
PCB 169	0.000100 U	0.000100 U	0.0000542 U	0.000200 U	0.000100 U	0.000100 U
PCB 189	**0.000181**	**0.000132**	**0.0000720**	**0.000250**	**0.000158**	**0.000243**
Total PCBs as Congeners (KM, capped)	**0.442 J**	**0.273 J**	**0.161 J**	**0.634 J**	**0.326 J**	**0.409 J**
Metals (mg/kg dry)						
Aluminum	**10,700**	**8,550**	**7,380**	**33,500**	**22,100**	**29,400**
Antimony	**0.190 J**	**0.160 J**	**0.150 J**	**0.180 J**	**0.270 J**	**0.290 J**
Arsenic	**3.75**	**3.36**	**3.03**	**5.10**	**6.04**	**5.36**
Barium	**117**	**104**	**86.3**	**312**	**201**	**231**
Beryllium	**0.303**	**0.244**	**0.194**	**0.748**	**0.522**	**0.628**
Cadmium	**0.413**	**0.332**	**0.262**	**0.449**	**0.484**	**0.558**
Chromium	**18.2**	**13.5**	**12.8**	**27.3**	**23.0**	**26.5**
Cobalt	**7.11**	**6.08**	**5.68**	**15.2**	**10.0**	**12.9**
Copper	**13.6**	**10.5**	**8.22**	**47.8**	**30.7**	**39.2**
Lead	**11.6**	**9.59**	**8.65**	**13.1**	**11.7**	**13.4**
Mercury	**0.167 J**	**0.0870 J**	**0.0410**	**0.0870**	**0.166**	**0.128**
Nickel	**12.3**	**11.2**	**9.87**	**18.2**	**13.3**	**16.1**
Thallium	**0.208**	**0.172**	**0.145**	**0.337**	**0.233**	**0.346**
Vanadium	**33.4 J**	**30.4 J**	**25.7 J**	**76.9 J**	**50.4 J**	**66.3 J**
Zinc	**101**	**88.0**	**85.1**	**76.1**	**81.2**	**89.3**
Petroleum Hydrocarbons (mg/kg dry)						
Diesel Range Organics	**31.0**	**8.10 J**	**7.40 J**	**31.0**	**11.0 J**	**13.0 J**
Residual Range Organics	**50.0 J**	150 U	150 U	**73.0 J**	180 U	**32.0 J**
Semivolatile Organic Compounds (µg/kg dry)						
Bis(2-ethylhexyl) Phthalate	**7.50 J**	**6.80 J**	**5.70 J**	**110 J**	**5.80 J**	**15.0 J**
Butyl Benzyl Phthalate	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 UJ
Carbazole	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 UJ
Di-n-butyl Phthalate	**11.0 J**	**3.80 J**	**3.50 J**	2.60 UJ	**4.10 J**	**4.30 J**
Di-n-octyl Phthalate	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 UJ
p-cresol (4-Methylphenol)	2.90 U	2.90 U	2.90 U	**5.50 J**	**6.60 J**	**7.90 J**
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg dry)						
Acenaphthene	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 UJ
Anthracene	1.40 U	**1.40 J**	1.40 U	1.40 U	1.40 U	1.40 UJ
Fluorene	1.70 UJ	1.70 UJ	1.70 UJ	1.70 UJ	1.70 UJ	1.70 UJ
Phenanthrene	**1.30 J**	**5.90 J**	1.30 U	**1.90 J**	**2.00 J**	**3.60 J**
Total LPAHs (KM, capped; NDs at MDL)	**5.40 J**	**10.0 J**	5.40 UJ	**6.00 J**	**6.10 J**	**7.70 J**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg dry)						
Benzo(a)anthracene	1.40 U	**10.0**	1.40 U	1.40 U	**1.80 J**	**3.00 J**
Benzo(a)pyrene	1.60 U	**11.0**	1.60 U	**2.80 J**	1.60 U	**2.60 J**
Benzo(b)fluoranthene	2.50 U	**17.0**	2.50 U	**3.60 J**	**2.70 J**	**3.50 J**
Benzo(g,h,i)perylene	2.30 U	**7.30 J**	2.30 U	2.30 U	2.30 U	**2.30 J**
Benzo(k)fluoranthene	2.50 U	**5.00 J**	2.50 U	2.50 U	2.50 U	2.50 UJ
Chrysene	**1.90 J**	**9.80**	1.40 U	1.40 U	**2.40 J**	**3.10 J**
Dibenz(a,h)anthracene	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 UJ
Fluoranthene	**2.30 J**	**31.0 J**	2.20 UJ	2.20 UJ	**3.60 J**	**5.00 J**
Indeno(1,2,3-cd)pyrene	1.90 UJ	**8.40 J**	1.90 UJ	1.90 UJ	1.90 UJ	**2.00 J**
Pyrene	**1.80 J**	**23.0 J**	**1.50 J**	**2.70 J**	**2.10 J**	**4.90 J**
Total HPAHs (KM, capped; NDs at MDL)	**16.9 J**	**125 J**	**19.5 J**	**18.9 J**	**21.4 J**	**30.5 J**
Total Polycyclic Aromatic Hydrodarbons (PAHs) (µg/kg dry)						
Total PAHs (KM, capped; NDs at MDL)	**19.6 J**	**133 J**	**24.9 J**	**21.5 J**	**24.0 J**	**35.7 J**
General Chemistry Parameters (mg/kg dry) and Grain Size (%)						
Carbon, Total Organic	**5,900**	**5,100**	**2,900**	**12,800**	**8,100**	**10,300**
Clay (<0.039 mm)	**2.89**	**2.94**	**1.65**	**6.16**	**4.49**	**4.80**
Gravel (>2.00 mm)	**1.23**	**0.000**	**0.0200**	**10.8**	**18.8**	**1.47**
Sand, Coarse (0.50 - 1.00 mm)	**0.520**	**0.420**	**0.470**	**1.61**	**3.24**	**1.46**
Sand, Fine (0.125 - 0.25 mm)	**46.6**	**38.3**	**40.5**	**10.0**	**5.43**	**5.77**
Sand, Medium (0.25 - 0.50 mm)	**14.0**	**36.3**	**47.9**	**1.45**	**2.02**	**1.36**
Sand, Very Coarse (1.00 - 2.00 mm)	**0.210**	**0.110**	**0.0700**	**2.59**	**8.47**	**1.98**
Sand, Very Fine (0.0625 - 0.125 mm)	**9.20**	**7.21**	**3.87**	**33.4**	**18.3**	**25.2**
Silt (0.039 - 0.0625 mm)	**22.3**	**16.3**	**7.31**	**36.2**	**43.1**	**60.6**

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Non Detect
RDL = reported detection limit
- = Not Analyzed
J = The reported value is an estimate.
bold = analyte detected above MDL/RDL.

[1] The sediment Total PCBs as Aroclors is shown as the maximum MDL because all aroclors were undected in Reference Area sediment samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-9a
Post-Removal Forebay Area Clam Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 1 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	P04	P05	P06	P07	P08	P09		
Sample ID	08022604TC	08031905TC	08031806TC	08021507TC	08021508TC	08021409TC		
Sample Date	2/26/2008	3/19/2008	3/18/2008	2/15/2008	2/15/2008	2/14/2008		
Percent Lipds	3.0	3.0	2.9	2.6	2.6	2.3		
PCB Aroclors (µg/kg wet)								
Aroclor 1016	18.0 U	2.40 U	2.40 U	19.0 U	23.0 U	23.0 U	35.0	Eco
Aroclor 1221	20.0 U	2.60 U	2.60 U	20.0 U	20.0 U	20.0 U	35.0	Eco
Aroclor 1232	40.0 U	2.30 U	2.30 U	27.0 U	25.0 U	30.0 U	35.0	Eco
Aroclor 1242	48.0 U	2.20 U	2.20 U	35.0 U	29.0 U	30.0 U	35.0	Eco
Aroclor 1248	0.510 U	0.510 U	0.510 U	26.0 U	13.0 U	6.00 U	35.0	Eco
Aroclor 1254	**120 J**	**23.0 J**	**32.0 J**	74.0 U	55.0 U	49.0 U	35.0	Eco
Aroclor 1260	1.90 U	1.90 U	1.90 U	11.0 U	9.40 U	8.50 U	35.0	Eco
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	35.0	Eco
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	35.0	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	**120 J**	**23.0 J**	**32.0 J**	74.0 U	55.0 U	49.0 U	35.0	Eco
PCB Dioxin-Like Congeners (µg/kg wet)								
PCB 77	**0.0690**	**0.0410**	**0.0523**	**0.0359**	**0.0348**	-	0.160	Eco
PCB 81	0.00330 EMPC	0.00270 EMPC	0.00197 EMPC	0.00156 EMPC	0.00142 EMPC	-	0.0800	Eco
PCB 105	**6.20**	**1.02**	**1.73**	**0.924**	**0.741**	-	20.0	Eco
PCB 114	**0.445**	**0.0774**	**0.126**	**0.0655**	**0.0525**	-	20.0	Eco
PCB 118	**64.7**	**10.3**	**15.9**	**12.1**	**7.97**	-	20.0	Eco
PCB 123	**1.15**	**0.239**	**0.293**	**0.229**	**0.152**	-	20.0	Eco
PCB 126	**0.0110**	**0.00527**	**0.00574**	**0.00457**	**0.00417**	-	0.00580	Eco
PCB 156	**3.61 C**	**0.614 C**	**0.828 C**	**0.584 C**	**0.405 C**	-	20.0	Eco
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						20.0	Eco
PCB 167	**3.80**	**0.956**	**1.18**	**0.944**	**0.566**	-	20.0	Eco
PCB 169	0.0165 U	0.00173 U	0.00660 U	0.00560 U	0.00473 U	-	0.0200	Eco
PCB 189	**0.0101**	**0.00277**	**0.00403**	**0.00222**	**0.00212**	-	20.0	Eco
Total PCBs as Congeners (KM, capped)	**312 J**	**65.8 J**	**95.1 J**	**65.7 J**	**51.5 J**	-	35.0	Eco
Metals (mg/kg wet)								
Aluminum	**61.1**	**13.2**	**10.9**	**21.9**	**21.7**	**76.8**	--	--
Antimony	0.00200 U	0.00400 U	0.00400 U	0.00200 U	**0.00700 J**	**0.00200 J**	--	--
Arsenic	**2.48**	**2.44**	**2.26**	**2.38**	**2.24**	**2.12**	6.60	Eco
Barium	**2.14**	**1.23**	**1.35**	**2.23**	**1.62**	**2.45**	--	--
Beryllium	**0.00240 J**	**0.00100 J**	**0.00100 J**	**0.00170 J**	**0.00230 J**	**0.00280 J**	--	--
Cadmium	**0.369**	**0.383**	**0.406**	**0.377**	**0.351**	**0.305**	0.150	Eco
Chromium	**0.700**	**0.380**	**0.340**	**0.900**	**0.800**	**0.700**	--	--
Cobalt	**0.133**	**0.0790**	**0.0700**	**0.117**	**0.0970**	**0.148**	--	--
Copper	**10.4**	**9.63**	**9.45**	**9.80**	**9.36**	**8.36**	--	--
Lead	**0.0570**	**0.0260**	**0.0280**	**0.0330**	**0.0310**	**0.0890**	0.120	Eco
Mercury	**0.0160**	**0.00780**	**0.00660**	**0.00850**	**0.00710**	**0.0341**	0.0740	Eco
Methyl Mercury	**0.00460**	**0.00480**	**0.00490**	**0.00410**	**0.00350**	**0.00480**	--	--
Nickel	**0.281**	**0.114**	**0.117**	**0.306**	**0.263**	**0.336**	--	--
Thallium	**0.00660**	**0.00720**	**0.00970**	**0.00570**	**0.0119**	**0.00630**	--	--
Vanadium	**0.301**	**0.0810**	**0.0850**	**0.117**	**0.141**	**0.314**	--	--
Zinc	**26.5**	**19.8**	**19.9**	**20.6**	**18.0**	**22.3**	--	--
Semivolatile Organic Compounds (µg/kg wet)								
Bis(2-ethylhexyl) Phthalate	**150 J**	**670**	**740**	**130 J**	**130 J**	**150 J**	1,760	Eco
Butyl Benzyl Phthalate	7.30 U	**14.0 J**	7.30 U	7.30 U	7.30 U	11.0 U	310	Eco
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	13.0 U	--	--
Di-n-butyl Phthalate	16.0 U	16.0 U	16.0 U	16.0 U	16.0 U	56.0 U	626	Eco
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	16.0 U	626	Eco
p-cresol (4-Methylphenol)	**25.0 J**	**18.0 J**	**14.0 J**	**20.0 J**	**10.0 J**	11.0 U	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)								
Acenaphthene	**0.990**	**1.10**	**1.10 J**	**1.10**	**0.910**	**0.940**	19,000	Eco
Anthracene	0.0650 U	**0.960 J**	**1.00 J**	0.0650 U	**0.990**	**0.280 J**	19,000	Eco
Fluorene	**2.30**	**3.00**	**2.80 J**	**2.50**	**2.40**	**2.00**	19,000	Eco
Phenanthrene	**9.10**	**8.90**	**9.60 J**	**12.0**	**11.0**	**9.80**	19,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)								
Benzo(a)anthracene	0.0660 U	12.0 U	15.0 U	0.0660 U	**0.800**	**1.20**	1,000	Eco
Benzo(a)pyrene	0.0810 U	0.410 U	0.410 U	0.0810 U	**0.440 J**	0.610 U	1,000	Eco
Benzo(b)fluoranthene	0.0700 U	0.350 U	0.350 U	0.800 U	**0.530**	**0.950**	1,000	Eco
Benzo(g,h,i)perylene	**0.300 J**	0.370 U	0.370 U	0.0730 U	**0.0900 J**	**0.360 J**	1,000	Eco
Benzo(k)fluoranthene	0.0560 U	0.280 U	0.280 U	0.0560 U	0.0560 U	0.0560 U	1,000	Eco
Chrysene	0.0760 U	5.60 U	6.60 U	0.0760 U	**3.00**	**4.00**	1,000	Eco
Dibenz(a,h)anthracene	0.0590 U	0.300 U	0.300 U	0.0590 U	0.0590 U	0.0590 U	1,000	Eco
Fluoranthene	**11.0**	**11.0**	**12.0 J**	16.0 U	**12.0**	11.0 U	19,000	Eco
Indeno(1,2,3-cd)pyrene	**2.50**	0.320 U	0.320 U	0.0640 U	**0.0900 J**	**0.320 J**	1,000	Eco
Pyrene	0.0980 U	4.90 U	5.30 U	0.0980 U	**1.70**	2.30 U	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclor 1254 was included in summing Total PCBs as Aroclors because all other aroclors were undected in Forebay clam samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-9a
Post-Removal Forebay Area Clam Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 2 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	P10	P11	P13	P14	P15	P16		
Sample ID	08021410TC	08021411TC	08031713TC	08031814TC	08022115TC	08022116TC		
Sample Date	2/14/2008	2/14/2008	3/17/2008	3/18/2008	2/21/2008	2/21/2008		
Percent Lipds	2.0	2.6	2.7	2.8	2.6	2.3		
PCB Aroclors (µg/kg wet)								
Aroclor 1016	23.0 U	21.0 U	2.40 U	2.40 U	19.0 U	17.0 U	35.0	Eco
Aroclor 1221	20.0 U	20.0 U	2.60 U	2.60 U	20.0 U	20.0 U	35.0	Eco
Aroclor 1232	34.0 U	36.0 U	2.30 U	2.30 U	35.0 U	30.0 U	35.0	Eco
Aroclor 1242	19.0 U	19.0 U	2.20 U	2.20 U	17.0 U	15.0 U	35.0	Eco
Aroclor 1248	12.0 U	9.90 U	0.510 U	0.510 U	4.60 U	4.50 U	35.0	Eco
Aroclor 1254	36.0 U	32.0 U	**22.0**	**22.0**	32.0 U	30.0 U	35.0	Eco
Aroclor 1260	6.90 U	6.40 U	1.90 U	1.90 U	6.70 U	6.80 U	35.0	Eco
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	35.0	Eco
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	35.0	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	36.0 U	32.0 U	**22.0**	**22.0**	32.0 U	30.0 U	35.0	Eco
PCB Dioxin-Like Congeners (µg/kg wet)								
PCB 77	**0.0269**	**0.0336**	**0.0375**	**0.0388**	**0.0333**	**0.0301**	0.160	Eco
PCB 81	0.000693 EMPC	0.00142 EMPC	**0.00194**	0.00208 EMPC	0.00131 EMPC	0.00154 EMPC	0.0800	Eco
PCB 105	**0.455**	**0.407**	**0.437**	**0.464**	**0.397**	**0.361**	20.0	Eco
PCB 114	**0.0281**	**0.0238**	**0.0260**	**0.0274**	**0.0231**	**0.0209**	20.0	Eco
PCB 118	**4.09**	**2.26**	**2.73**	**2.87**	**2.30**	**2.17**	20.0	Eco
PCB 123	**0.0837**	**0.0462**	**0.0512**	**0.0595**	**0.0471**	**0.0420**	20.0	Eco
PCB 126	**0.00337**	**0.00413**	**0.00506**	**0.00531**	**0.00386**	**0.00402**	0.00580	Eco
PCB 156	**0.228 C**	**0.136 C**	**0.157 C**	**0.171 C**	**0.133 C**	**0.128 C**	20.0	Eco
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**						20.0	Eco
PCB 167	**0.302**	**0.146**	**0.209**	**0.213**	**0.157**	**0.149**	20.0	Eco
PCB 169	0.00337 U	0.00327 U	0.00135 U	0.00109 U	0.00356 U	0.00353 U	0.0200	Eco
PCB 189	**0.00152**	**0.00171**	**0.00166**	**0.00203**	**0.00156**	**0.00156**	20.0	Eco
Total PCBs as Congeners (KM, capped)	**30.6 J**	**26.7 J**	**33.1 J**	**34.0 J**	**26.9 J**	**25.5 J**	35.0	Eco
Metals (mg/kg wet)								
Aluminum	**81.4**	**33.7**	**9.53**	**9.42**	**18.7**	**15.9**	--	--
Antimony	**0.00200 J**	0.00200 U	0.00400 U	0.00400 U	0.00200 U	0.00200 U	--	--
Arsenic	**1.79**	**2.04**	**2.49**	**2.47**	**2.43**	**2.11**	6.60	Eco
Barium	**2.22**	**2.04**	**1.74**	**1.18**	**1.77**	**1.63**	--	--
Beryllium	**0.00270 J**	**0.00190 J**	**0.00150 J**	**0.00170 J**	**0.00160 J**	**0.00140 J**	--	--
Cadmium	**0.286**	**0.321**	**0.461**	**0.442**	**0.366**	**0.321**	0.150	Eco
Chromium	**0.600**	**0.700**	**0.560**	**0.390**	**0.900**	**0.600**	--	--
Cobalt	**0.140**	**0.135**	**0.0980**	**0.0720**	**0.120**	**0.104**	--	--
Copper	**7.00**	**7.95**	**11.4**	**9.72**	**10.4**	**8.67**	--	--
Lead	**0.0610**	**0.0510**	**0.0290**	**0.0290**	**0.0370**	**0.0350**	0.120	Eco
Mercury	**0.00870**	**0.0108**	**0.00720**	**0.0169**	**0.0132**	**0.0103**	0.0740	Eco
Methyl Mercury	**0.00500**	**0.00500**	**0.00530**	**0.00650**	**0.00530**	**0.00480**	--	--
Nickel	**0.348**	**0.320**	**0.136**	**0.0950**	**0.242**	**0.222**	--	--
Thallium	**0.00500**	**0.00570**	**0.00710**	**0.00720**	**0.00580**	**0.00470**	--	--
Vanadium	**0.311**	**0.196**	**0.0850**	**0.0930**	**0.136**	**0.175**	--	--
Zinc	**22.9**	**23.5**	**17.8**	**16.3**	**20.8**	**17.7**	--	--
Semivolatile Organic Compounds (µg/kg wet)								
Bis(2-ethylhexyl) Phthalate	**97.0 J**	**120 J**	**890**	**720**	**180 J**	**130 J**	1,760	Eco
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	**13.0 J**	7.30 U	7.30 U	310	Eco
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	--	--
Di-n-butyl Phthalate	16.0 U	16.0 U	16.0 U	16.0 U	16.0 U	16.0 U	626	Eco
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	**38.0 J**	11.0 U	11.0 U	626	Eco
p-cresol (4-Methylphenol)	7.70 U	**14.0 J**	**8.60 J**	7.70 U	7.70 U	7.70 U	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)								
Acenaphthene	**0.800**	**0.970**	**4.10**	**0.840**	**1.00 J**	**0.820**	19,000	Eco
Anthracene	**0.440 J**	**0.850**	**2.30 J**	**1.10 J**	**0.940 J**	**0.980**	19,000	Eco
Fluorene	**1.60**	**2.30**	**3.80**	**2.70**	**2.50 J**	**2.00**	19,000	Eco
Phenanthrene	**6.70**	**12.0**	**15.0**	**9.60**	**13.0 J**	**8.00**	19,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)								
Benzo(a)anthracene	**0.480 J**	**2.10**	22.0 U	15.0 U	0.0660 UJ	**0.990**	1,000	Eco
Benzo(a)pyrene	0.0810 U	**0.580**	0.410 U	0.410 U	0.0810 UJ	0.0810 U	1,000	Eco
Benzo(b)fluoranthene	**0.400 J**	**0.810**	0.350 U	0.350 U	**0.780 J**	**0.600**	1,000	Eco
Benzo(g,h,i)perylene	0.0730 U	**0.120 J**	2.50 U	0.370 U	**0.240 J**	**0.270 J**	1,000	Eco
Benzo(k)fluoranthene	**0.160 J**	0.0560 U	0.280 U	0.280 U	0.0560 UJ	0.0560 U	1,000	Eco
Chrysene	**2.90**	**3.00**	6.70 U	7.80 U	0.0760 UJ	**3.20**	1,000	Eco
Dibenz(a,h)anthracene	0.0590 U	0.0590 U	0.300 U	0.300 U	0.0590 UJ	0.0590 U	1,000	Eco
Fluoranthene	**8.90**	**13.0**	**14.0**	**12.0**	**6.30 J**	**11.0**	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 U	**0.0800 J**	0.320 U	0.320 U	0.0640 UJ	**0.400 J**	1,000	Eco
Pyrene	**2.40**	**2.20**	7.20 U	4.60 U	**3.60 J**	**1.60**	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclor 1254 was included in summing Total PCBs as Aroclors because all other aroclors were undected in Forebay clam samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-9a
Post-Removal Forebay Area Clam Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 3 of 3)

Area	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	Forebay	**Selected SLV**	**SLV Source**
Site ID	P17	P18	P21	P65	P67	P88	P89		
Sample ID	08022117TC	08021118TC	08021221TC	08022965TC	08030367TC	08031788TC	08031789TC		
Sample Date	2/21/2008	2/12/2008	2/12/2008	2/29/2008	3/3/2008	3/17/2008	3/17/2008		
Percent Lipds	2.2	2.4	2.4	3.3	3.7	2.8	2.6		
PCB Aroclors (µg/kg wet)									
Aroclor 1016	17.0 U	17.0 U	15.0 U	2.40 U	2.40 U	2.40 U	2.40 U	35.0	Eco
Aroclor 1221	20.0 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	2.60 U	35.0	Eco
Aroclor 1232	31.0 U	23.0 U	19.0 U	2.30 U	2.30 U	2.30 U	2.30 U	35.0	Eco
Aroclor 1242	15.0 U	22.0 U	10.0 U	2.20 U	2.20 U	2.20 U	2.20 U	35.0	Eco
Aroclor 1248	9.20 U	9.90 U	4.60 U	0.510 U	0.510 U	0.510 U	0.510 U	35.0	Eco
Aroclor 1254	28.0 U	28.0 U	30.0 U	**21.0**	**21.0**	**23.0**	**21.0**	35.0	Eco
Aroclor 1260	5.90 U	5.90 U	6.20 U	1.90 U	1.90 U	1.90 U	1.90 U	35.0	Eco
Aroclor 1262	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	35.0	Eco
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	35.0	Eco
Total PCBs as Aroclors (NDs at MDL) [1]	28.0 U	28.0 U	30.0 U	**21.0**	**21.0**	**23.0**	**21.0**	35.0	Eco
PCB Dioxin-Like Congeners (µg/kg wet)									
PCB 77	**0.0307**	**0.0339**	**0.0320**	**0.0420**	-	**0.0398**	**0.0359**	0.160	Eco
PCB 81	0.00155 EMPC	0.00142 EMPC	0.00138 EMPC	**0.00246**	-	**0.00201**	**0.00238**	0.0800	Eco
PCB 105	**0.365**	**0.377**	**0.371**	**0.478**	-	**0.476**	**0.444**	20.0	Eco
PCB 114	**0.0202**	**0.0228**	**0.0216**	**0.0291**	-	**0.0287**	**0.0273**	20.0	Eco
PCB 118	**2.08**	**2.13**	**2.05**	**2.54**	-	**2.76**	**2.67**	20.0	Eco
PCB 123	**0.0384**	**0.0413**	**0.0392**	**0.0438**	-	**0.0520**	**0.0544**	20.0	Eco
PCB 126	**0.00339**	**0.00363**	**0.00400**	**0.00530**	-	**0.00510**	**0.00472**	0.00580	Eco
PCB 156	**0.120 C**	**0.124 C**	**0.121 C**	**0.156 C**	-	**0.168 C**	**0.158 C**	20.0	Eco
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**							20.0	Eco
PCB 167	**0.134**	**0.131**	**0.125**	**0.154**	-	**0.185**	**0.201**	20.0	Eco
PCB 169	0.00340 U	0.00366 U	0.00362 U	0.000940 U	-	0.000901 U	0.00110 U	0.0200	Eco
PCB 189	**0.00167**	**0.00160**	**0.00166**	**0.00221**	-	**0.00218**	**0.00181**	20.0	Eco
Total PCBs as Congeners (KM, capped)	**24.5 J**	**25.9 J**	**24.6 J**	**33.1 J**	-	**33.2 J**	**31.6 J**	35.0	Eco
Metals (mg/kg wet)									
Aluminum	**35.2**	**34.5**	**49.2**	**83.2**	**15.2**	**9.37**	**18.9**	--	--
Antimony	**0.00300 J**	0.00200 U	**0.00400 J**	0.00400 U	0.00500 U	0.00400 U	0.00400 U	--	--
Arsenic	**1.88**	**1.88**	**2.07**	**2.31**	**2.15**	**2.34**	**2.38**	6.60	Eco
Barium	**1.76**	**2.05**	**2.29**	**3.05**	**1.64**	**1.49**	**1.62**	--	--
Beryllium	**0.00210 J**	**0.00180 J**	**0.00250 J**	**0.00380 J**	**0.00120 J**	**0.000700 J**	**0.00170 J**	--	--
Cadmium	**0.287**	**0.342**	**0.313**	**0.355**	**0.396**	**0.396**	**0.412**	0.150	Eco
Chromium	**0.600**	**0.700**	**0.800**	**0.480**	**0.300**	**0.330**	**0.530**	--	--
Cobalt	**0.115**	**0.110**	**0.124**	**0.138**	**0.0720**	**0.0670**	**0.0840**	--	--
Copper	**8.00**	**8.31**	**8.29**	**9.56**	**9.00**	**8.86**	**9.61**	--	--
Lead	**0.0370**	**0.0580**	**0.0580**	**0.0800**	**0.0330**	**0.0210**	**0.0260**	0.120	Eco
Mercury	**0.0116**	**0.0102**	**0.00770**	**0.00880**	**0.00860**	**0.0101**	**0.00580**	0.0740	Eco
Methyl Mercury	**0.00400**	**0.00510**	**0.00360**	**0.00480**	**0.00630**	**0.00430**	**0.00360**	--	--
Nickel	**0.238**	**0.303**	**0.324**	**0.227**	**0.144**	**0.126**	**0.178**	--	--
Thallium	**0.00450**	**0.00600**	**0.00590**	**0.00850**	**0.00950**	**0.00710**	**0.00700**	--	--
Vanadium	**0.205**	**0.207**	**0.204**	**0.426**	**0.104**	**0.0780**	**0.107**	--	--
Zinc	**20.2**	**25.1**	**23.5**	**25.0**	**24.3**	**20.4**	**21.6**	--	--
Semivolatile Organic Compounds (µg/kg wet)									
Bis(2-ethylhexyl) Phthalate	**67.0 J**	**130 J**	**110 J**	**760**	**830**	**710**	**750 J**	1,760	Eco
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	7.30 U	7.30 U	**15.0 J**	7.30 U	310	Eco
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	--	--
Di-n-butyl Phthalate	16.0 U	16.0 U	40.0 U	16.0 U	16.0 U	16.0 U	16.0 UJ	626	Eco
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 UJ	626	Eco
p-cresol (4-Methylphenol)	7.70 U	7.70 U	7.70 U	**31.0 J**	**8.60 J**	**9.30 J**	7.70 U	--	--
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)									
Acenaphthene	**0.670**	**0.910**	**0.980**	**0.420 J**	0.110 U	**0.460 J**	**1.10**	19,000	Eco
Anthracene	**0.460 J**	**1.20**	**0.790**	0.330 U	0.330 U	**0.800 J**	**1.50**	19,000	Eco
Fluorene	**1.60**	**2.20**	**2.10**	**1.70**	**0.920**	**1.50 J**	**2.90**	19,000	Eco
Phenanthrene	**6.90**	**9.70**	**8.50**	**7.90**	**4.50**	**5.30 J**	**12.0**	19,000	Eco
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)									
Benzo(a)anthracene	**0.680**	**1.30**	**0.970**	0.330 U	0.330 U	17.0 UJ	1.30 U	1,000	Eco
Benzo(a)pyrene	0.0810 U	0.620 U	**0.380 J**	0.410 U	0.410 U	0.410 UJ	0.860 U	1,000	Eco
Benzo(b)fluoranthene	**0.710**	**0.640**	**0.550**	0.350 U	0.350 U	0.350 UJ	0.740 U	1,000	Eco
Benzo(g,h,i)perylene	0.0730 U	**0.130 J**	**0.130 J**	0.370 U	0.370 U	0.370 UJ	0.500 U	1,000	Eco
Benzo(k)fluoranthene	0.0560 U	**0.250 J**	0.0560 U	0.280 U	0.280 U	0.280 UJ	0.580 U	1,000	Eco
Chrysene	**2.60**	**1.90**	**3.70**	0.380 U	0.380 U	6.50 UJ	2.50 U	1,000	Eco
Dibenz(a,h)anthracene	0.0590 U	0.0590 U	0.0590 U	0.300 U	0.300 U	0.300 UJ	0.500 U	1,000	Eco
Fluoranthene	**9.40**	14.0 U	**11.0**	14.0 U	8.60 U	**7.60 J**	**16.0**	19,000	Eco
Indeno(1,2,3-cd)pyrene	0.0640 U	**0.0850 J**	0.0640 U	0.320 U	0.320 U	0.320 UJ	0.500 U	1,000	Eco
Pyrene	**2.90**	2.90 U	1.50 U	0.490 U	0.490 U	4.00 UJ	**6.30**	1,000	Eco

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
Eco = Ecological
HH = Human Health
MDL = method detection limit
SLV = screening level value
RDL = reported detection limit
- = Not Analyzed
-- = SLV for analyte not available
ND = Non Detect

[1] Only Aroclor 1254 was included in summing Total PCBs as Aroclors because all other aroclors were undected in Forebay clam samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
J = The reported value is an estimate.
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.
bold = analyte detected above MDL/RDL.
= The reported concentration exceeds the selected SLV

Table 6-9b
Post-Removal Reference Area Clam Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 1 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P22	P24	P26	P27	P28	P29
Sample ID	08030522TC	08030524TC	08030426TC	08030427TC	08030428TC	08022229TC
Sample Date	3/5/2008	3/5/2008	3/4/2008	3/4/2008	3/4/2008	2/22/2008
Percent Lipds	2.9	2.6	3.0	3.1	2.7	3.0
PCB Aroclors (µg/kg wet)						
Aroclor 1016	13.0 U	11.0 U	11.0 U	12.0 U	8.90 U	13.0 U
Aroclor 1221	14.0 U	14.0 U	14.0 U	8.20 U	9.60 U	16.0 U
Aroclor 1232	19.0 U	18.0 U	22.0 U	27.0 U	18.0 U	26.0 U
Aroclor 1242	13.0 U	7.90 U	11.0 U	12.0 U	12.0 U	13.0 U
Aroclor 1248	5.70 U	5.70 U	7.60 U	8.30 U	5.70 U	7.70 U
Aroclor 1254	**36.0**	**30.0**	**35.0**	**37.0**	**33.0**	**32.0**
Aroclor 1260	6.40 U	6.20 U	6.50 U	6.80 U	6.60 U	5.70 U
Aroclor 1262	9.30 U	7.20 U	7.70 U	7.80 U	7.50 U	8.00 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors (NDs at MDL) [1]	**36.0**	**30.0**	**35.0**	**37.0**	**33.0**	**32.0**
PCB Dioxin-Like Congeners (µg/kg wet)						
PCB 77	**0.0378**	**0.0338**	**0.0332**	**0.0343**	**0.0373**	**0.0364**
PCB 81	**0.00189**	**0.00204**	0.00143 EMPC	0.000961 EMPC	**0.00211**	**0.00207**
PCB 105	**0.438**	**0.399**	**0.350**	**0.370**	**0.434**	**0.406**
PCB 114	**0.0267**	**0.0228**	**0.0213**	**0.0242**	**0.0258**	**0.0236**
PCB 118	**2.42**	**2.22**	**1.91**	**2.13**	**2.66**	**2.14**
PCB 123	**0.0484**	**0.0423**	**0.0390**	**0.0421**	**0.0540**	**0.0403**
PCB 126	**0.00501**	**0.00444**	**0.00407**	**0.00451**	**0.00504**	**0.00405**
PCB 156	**0.138 C**	**0.126 C**	**0.137 C**	**0.149 C**	**0.152 C**	**0.125 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.149**	**0.127**	**0.151**	**0.167**	**0.170**	**0.130**
PCB 169	0.000809 U	0.000933 U	0.00153 U	0.00170 U	0.000872 U	0.000900 U
PCB 189	**0.00183**	**0.00175**	**0.00144**	0.00151 EMPC	**0.00185**	**0.00168**
Total PCBs as Congeners (KM, capped)	**30.8 J**	**28.3 J**	**31.6 J**	**32.9 J**	**31.3 J**	**29.7 J**
Metals (mg/kg wet)						
Aluminum	**34.3**	**50.4**	**46.5**	**52.2**	**39.8**	**16.8**
Antimony	**0.00500**	0.00400 U	0.00400 U	0.00400 U	0.00400 U	0.00400 U
Arsenic	**2.53**	**2.03**	**2.51**	**2.46**	**2.32**	**2.22**
Barium	**1.79**	**2.11**	**1.77**	**1.80**	**2.17**	**1.89**
Beryllium	0.000400 U	**0.000900**	**0.00110**	0.000400 U	**0.000900**	0.000400 U
Cadmium	**0.307**	**0.275**	**0.377**	**0.370**	**0.340**	**0.254**
Chromium	**0.510**	**0.600**	**0.730**	**0.690**	**0.660**	**0.480**
Cobalt	**0.132**	**0.132**	**0.124**	**0.141**	**0.150**	**0.116**
Copper	**9.67**	**8.91**	**10.7**	**10.7**	**10.4**	**8.46**
Lead	**0.0660**	**0.0570**	**0.0570**	**0.0590**	**0.0570**	**0.0690**
Mercury	**0.0179**	**0.00600**	**0.0128**	**0.00890**	**0.0130**	**0.00760**
Methyl Mercury	**0.00990**	**0.00470**	**0.00490**	**0.00470**	**0.00520**	**0.00780**
Nickel	**0.311**	**0.405**	**0.338**	**0.347**	**0.347**	**0.408**
Thallium	**0.00590**	**0.00530**	**0.00650**	**0.00630**	**0.00560**	**0.00560**
Vanadium	**0.169**	**0.170**	**0.172**	**0.182**	**0.150**	**0.135**
Zinc	**18.7**	**19.9**	**21.0**	**20.2**	**19.4**	**19.8**
Semivolatile Organic Compounds (µg/kg wet)						
Bis(2-ethylhexyl) Phthalate	**310**	**320**	**430**	**680**	**340**	**680**
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	**57.0 J**	7.30 U	7.30 U
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U
Di-n-butyl Phthalate	16.0 U	16.0 U	16.0 U	16.0 U	16.0 U	16.0 U
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	**44.0**	**52.0**	**18.0 J**	**42.0**	**55.0**	**63.0**
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)						
Acenaphthene	**0.710**	**0.480 J**	**0.730**	**0.450 J**	**0.510**	**1.20 J**
Anthracene	1.40 U	3.20 U	1.40 U	1.30 UJ	3.20 U	**1.80 J**
Fluorene	**2.00**	**1.50**	**2.00**	**1.60 J**	**1.50**	**3.10 J**
Phenanthrene	**9.10**	**6.70**	**9.00**	**8.10 J**	**7.50**	**14.0 J**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)						
Benzo(a)anthracene	18.0 U	3.70 U	26.0 U	15.0 UJ	7.30 U	12.0 UJ
Benzo(a)pyrene	0.410 U	0.410 U	0.410 U	0.410 UJ	0.410 U	0.410 UJ
Benzo(b)fluoranthene	0.350 U	0.350 U	0.350 U	0.350 UJ	0.350 U	0.350 UJ
Benzo(g,h,i)perylene	0.370 U	0.370 U	0.370 U	0.370 UJ	0.370 U	0.370 UJ
Benzo(k)fluoranthene	0.280 U	0.280 U	0.280 U	0.280 UJ	0.280 U	0.280 UJ
Chrysene	5.50 U	5.30 U	5.30 U	13.0 UJ	6.30 U	1.30 UJ
Dibenz(a,h)anthracene	0.300 U	0.300 U	0.300 U	0.300 UJ	0.300 U	0.300 UJ
Fluoranthene	**11.0**	**8.50**	**11.0**	**10.0 J**	**9.30**	**17.0 J**
Indeno(1,2,3-cd)pyrene	0.320 U	**1.70 J**	0.320 U	0.320 UJ	0.320 U	0.320 UJ
Pyrene	3.70 U	2.00 U	4.10 U	2.80 UJ	2.40 U	5.60 UJ

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
ND = Non Detect
- = Not Analyzed
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] Only Aroclors 1254 was included in summing clam Total PCBs as Aroclors because all other aroclors were undected in Reference Area clam samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-9b
Post-Removal Reference Area Clam Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 2 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P34	P35	P36	P37	P38	P39
Sample ID	08022534TC	08022535TC	08022536TC	08022637TC	08022738TC	08022739TC
Sample Date	2/25/2008	2/25/2008	2/25/2008	2/26/2008	2/27/2008	2/27/2008
Percent Lipds	2.8	3.6	3.5	3.1	3.2	3.2
PCB Aroclors (µg/kg wet)						
Aroclor 1016	12.0 U	9.50 U	8.40 U	9.70 U	15.0 U	15.0 U
Aroclor 1221	15.0 U	8.80 U	12.0 U	16.0 U	6.30 U	7.40 U
Aroclor 1232	23.0 U	28.0 U	19.0 U	29.0 U	35.0 U	33.0 U
Aroclor 1242	13.0 U	14.0 U	13.0 U	9.30 U	12.0 U	11.0 U
Aroclor 1248	6.40 U	9.10 U	9.90 U	9.90 U	9.40 U	9.60 U
Aroclor 1254	**32.0**	**37.0**	**38.0**	**35.0**	**37.0**	**38.0**
Aroclor 1260	5.90 U	7.70 U	7.60 U	7.30 U	8.10 U	7.50 U
Aroclor 1262	8.10 U	8.10 U	7.70 U	3.70 U	7.60 U	9.10 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors (NDs at MDL) [1]	**32.0**	**37.0**	**38.0**	**35.0**	**37.0**	**38.0**
PCB Dioxin-Like Congeners (µg/kg wet)						
PCB 77	**0.0361**	**0.0428**	**0.0443**	**0.0384**	**0.0371**	**0.0432**
PCB 81	0.00223 EMPC	**0.00260**	**0.00251**	0.00167 EMPC	0.00199 EMPC	0.00213 EMPC
PCB 105	**0.424**	**0.484**	**0.484**	**0.419**	**0.416**	**0.484**
PCB 114	**0.0246**	**0.0299**	**0.0272**	**0.0240**	**0.0233**	**0.0287**
PCB 118	**2.20**	**2.47**	**2.42**	**2.18**	**2.14**	**2.52**
PCB 123	**0.0384**	**0.0461**	**0.0439**	**0.0418**	**0.0368**	**0.0469**
PCB 126	**0.00403**	**0.00535**	**0.00519**	**0.00464**	**0.00474**	**0.00533**
PCB 156	**0.129 C**	**0.148 C**	**0.154 C**	**0.138 C**	**0.135 C**	**0.166 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.127**	**0.139**	**0.139**	**0.146**	**0.123**	**0.154**
PCB 169	0.000939 U	0.000901 U	0.00132 U	0.000698 U	0.000987 U	0.00101 U
PCB 189	**0.00198**	**0.00223**	**0.00240**	**0.00209**	**0.00195**	**0.00234**
Total PCBs as Congeners (KM, capped)	**30.4 J**	**34.5 J**	**33.7 J**	**30.2 J**	**28.6 J**	**34.3 J**
Metals (mg/kg wet)						
Aluminum	**29.2**	**12.0**	**17.1**	**14.5**	**20.6**	**19.9**
Antimony	**0.00400**	0.00500 U	0.00400 U	0.00400 U	0.00400 U	0.00400 U
Arsenic	**2.00**	**2.28**	**2.38**	**2.22**	**2.24**	**2.46**
Barium	**1.78**	**1.79**	**1.72**	**1.83**	**1.71**	**1.97**
Beryllium	**0.000400**	**0.000700**	0.000400 U	**0.000500**	0.000400 U	**0.000900**
Cadmium	**0.247**	**0.308**	**0.356**	**0.320**	**0.335**	**0.385**
Chromium	**0.490**	**0.450**	**0.470**	**0.540**	**0.460**	**0.570**
Cobalt	**0.121**	**0.100**	**0.0969**	**0.106**	**0.0974**	**0.104**
Copper	**8.18**	**9.57**	**9.61**	**10.1**	**9.50**	**10.4**
Lead	**0.0670**	**0.0660**	**0.0650**	**0.0650**	**0.0670**	**0.0670**
Mercury	**0.00850**	**0.0121**	**0.00610**	**0.00460**	**0.0113**	**0.00630**
Methyl Mercury	**0.00750**	**0.00610**	**0.00590**	**0.00610**	**0.00590**	**0.00610**
Nickel	**0.324**	**0.392**	**0.389**	**0.359**	**0.289**	**0.341**
Thallium	**0.00630**	**0.00820**	**0.00740**	**0.00640**	**0.00810**	**0.00660**
Vanadium	**0.188**	**0.0860**	**0.104**	**0.124**	**0.171**	**0.138**
Zinc	**20.5**	**22.9**	**23.2**	**20.3**	**21.7**	**23.0**
Semivolatile Organic Compounds (µg/kg wet)						
Bis(2-ethylhexyl) Phthalate	**440**	**510**	**510**	**400**	**480**	**350**
Butyl Benzyl Phthalate	7.30 U	7.30 U	7.30 U	**74.0 J**	7.30 U	7.30 U
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U
Di-n-butyl Phthalate	16.0 U	16.0 U	16.0 U	16.0 U	16.0 U	16.0 U
Di-n-octyl Phthalate	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	**20.0 J**	**45.0**	**72.0**	**110**	**36.0 J**	**52.0**
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)						
Acenaphthene	**0.610**	**0.650**	**1.00**	**0.910**	**0.530 J**	**0.590**
Anthracene	1.50 U	1.90 U	1.90 U	2.00 U	1.40 UJ	1.60 U
Fluorene	**1.90**	**2.40**	**2.70**	**2.70**	**1.90 J**	**2.10**
Phenanthrene	**9.40**	**12.0**	**12.0**	**13.0**	**9.30 J**	**10.0**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)						
Benzo(a)anthracene	16.0 U	22.0 U	26.0 U	27.0 U	20.0 UJ	27.0 U
Benzo(a)pyrene	0.410 U	0.410 U	0.410 U	0.410 U	0.410 UJ	0.410 U
Benzo(b)fluoranthene	0.350 U	0.350 U	0.350 U	0.350 U	0.350 UJ	0.350 U
Benzo(g,h,i)perylene	0.370 U	**0.500 J**	0.370 U	0.370 U	**0.850 J**	**1.40 J**
Benzo(k)fluoranthene	0.280 U	0.280 U	0.280 U	0.280 U	0.280 UJ	0.280 U
Chrysene	4.60 U	3.70 U	4.00 U	4.10 U	6.20 UJ	4.80 U
Dibenz(a,h)anthracene	0.300 U	0.300 U	0.300 U	0.300 U	0.300 UJ	0.300 U
Fluoranthene	**11.0**	**14.0**	**14.0**	**14.0**	**11.0 J**	**12.0**
Indeno(1,2,3-cd)pyrene	0.320 U	**1.40 J**	**0.830 J**	**0.800 J**	0.320 UJ	**1.50 J**
Pyrene	3.70 U	4.30 U	4.80 U	4.60 U	3.70 UJ	3.80 U

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
ND = Non Detect
- = Not Analyzed
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] Only Aroclors 1254 was included in summing clam Total PCBs as Aroclors because all other aroclors were undected in Reference Area clam samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 6-9b
Post-Removal Reference Area Clam Tissue Analytical Results
PCB Aroclors, PCB Dioxin-Like Congeners, Metals, and Semivolatile Organic Compounds
(Page 3 of 3)

Area	Reference	Reference	Reference	Reference	Reference	Reference
Site ID	P40	P41	P42	P85	P86	P87
Sample ID	08022740TC	08022741TC	08022742TC	08030685TC	08030686TC	08030687TC
Sample Date	2/27/2008	2/27/2008	2/27/2008	3/6/2008	3/6/2008	3/6/2008
Percent Lipds	3.3	3.3	3.1	2.8	2.7	3.1
PCB Aroclors (µg/kg wet)						
Aroclor 1016	12.0 U	14.0 U	12.0 U	14.0 U	12.0 U	9.50 U
Aroclor 1221	12.0 U	7.50 U	16.0 U	12.0 U	9.10 U	9.20 U
Aroclor 1232	22.0 U	31.0 U	20.0 U	28.0 U	24.0 U	26.0 U
Aroclor 1242	9.70 U	14.0 U	9.40 U	9.90 U	9.20 U	9.50 U
Aroclor 1248	8.70 U	8.90 U	8.20 U	9.90 U	7.10 U	5.50 U
Aroclor 1254	**37.0**	**39.0**	**35.0**	**34.0**	**31.0**	**33.0**
Aroclor 1260	6.90 U	7.70 U	7.50 U	6.70 U	6.20 U	6.60 U
Aroclor 1262	9.90 U	7.80 U	9.10 U	8.20 U	7.90 U	8.40 U
Aroclor 1268	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Total PCBs as Aroclors (NDs at MDL) [1]	**37.0**	**39.0**	**35.0**	**34.0**	**31.0**	**33.0**
PCB Dioxin-Like Congeners (µg/kg wet)						
PCB 77	**0.0463**	**0.0468**	**0.0414**	**0.0408**	**0.0384**	**0.0357**
PCB 81	**0.00275**	**0.00221**	**0.00203**	0.00188 EMPC	**0.00180**	0.00151 EMPC
PCB 105	**0.535**	**0.556**	**0.488**	**0.478**	**0.440**	**0.414**
PCB 114	**0.0308**	**0.0330**	**0.0281**	**0.0271**	**0.0249**	**0.0247**
PCB 118	**2.77**	**2.82**	**2.53**	**2.64**	**2.29**	**2.27**
PCB 123	**0.0532**	**0.0506**	**0.0438**	**0.0500**	**0.0412**	**0.0409**
PCB 126	**0.00564**	**0.00536**	**0.00512**	0.00588 U	**0.00446**	**0.00451**
PCB 156	**0.158 C**	**0.161 C**	**0.145 C**	**0.137 C**	**0.123 C**	**0.125 C**
PCB 157	**PCB 156 and 157 are coeluting congeners and are represented with one concentration.**					
PCB 167	**0.146**	**0.146**	**0.137**	**0.165**	**0.123**	**0.131**
PCB 169	0.00125 U	0.00103 U	0.00101 U	0.00173 U	0.00117 U	0.00157 U
PCB 189	**0.00241**	**0.00237**	**0.00217**	**0.00201**	**0.00171**	**0.00172**
Total PCBs as Congeners (KM, capped)	**32.9 J**	**32.8 J**	**29.7 J**	**30.7 J**	**27.0 J**	**26.9 J**
Metals (mg/kg wet)						
Aluminum	**11.5**	**16.9**	**8.00**	**36.3**	**26.7**	**83.4**
Antimony	0.00400 U	**0.00800**	0.00400 U	0.00400 U	0.00400 U	0.00400 U
Arsenic	**2.41**	**2.44**	**2.26**	**2.62**	**2.09**	**2.01**
Barium	**1.82**	**1.71**	**1.87**	**1.81**	**2.02**	**2.38**
Beryllium	0.000400 U	**0.000800**	0.000400 U	0.000400 U	0.000400 U	**0.00140**
Cadmium	**0.363**	**0.347**	**0.353**	**0.405**	**0.298**	**0.328**
Chromium	**0.470**	**0.490**	**0.470**	**0.760**	**0.570**	**0.460**
Cobalt	**0.0929**	**0.0965**	**0.0902**	**0.129**	**0.138**	**0.147**
Copper	**9.94**	**9.65**	**9.10**	**11.6**	**9.24**	**9.67**
Lead	**0.0570**	**0.0600**	**0.0490**	**0.0530**	**0.0550**	**0.0720**
Mercury	**0.00620**	**0.00720**	**0.00510**	**0.00710**	**0.00640**	**0.0135**
Methyl Mercury	**0.00160**	**0.00550**	**0.00140**	**0.00320**	**0.00460**	**0.00500**
Nickel	**0.273**	**0.289**	**0.402**	**0.346**	**0.333**	**0.482**
Thallium	**0.00660**	**0.0105**	**0.00570**	**0.00610**	**0.00650**	**0.00800**
Vanadium	**0.0840**	**0.104**	**0.0740**	**0.150**	**0.127**	**0.286**
Zinc	**22.4**	**21.3**	**22.1**	**18.5**	**21.0**	**22.2**
Semivolatile Organic Compounds (µg/kg wet)						
Bis(2-ethylhexyl) Phthalate	**460**	**390**	**600**	**330**	**370**	**390**
Butyl Benzyl Phthalate	7.30 U	7.30 U	**57.0 J**	7.30 U	7.30 U	7.30 U
Carbazole	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U	9.10 U
Di-n-butyl Phthalate	16.0 U	16.0 UJ	16.0 U	35.0 U	48.0 U	16.0 U
Di-n-octyl Phthalate	11.0 U	11.0 UJ	11.0 U	11.0 U	11.0 U	11.0 U
p-cresol (4-Methylphenol)	**52.0**	**60.0**	**30.0 J**	**38.0**	**13.0 J**	**35.0 J**
Low Molecular Weight Polycyclic Aromatic Hydrodarbons (LPAHs) (µg/kg wet)						
Acenaphthene	**0.270 J**	**0.330 J**	**0.810 J**	**0.670**	**0.470**	**0.720**
Anthracene	1.60 U	1.30 UiJ	**0.850 J**	1.50 U	2.90 U	1.40 U
Fluorene	**2.00**	**1.80**	**2.30 J**	**1.90**	**1.80**	**2.20**
Phenanthrene	**8.30**	**8.80**	**8.80 J**	**8.60**	**8.20**	**10.0**
High Molecular Weight Polycyclic Aromatic Hydrodarbons (HPAHs) (µg/kg wet)						
Benzo(a)anthracene	21.0 U	26.0 UiJ	20.0 UJ	20.0 U	8.50 U	22.0 U
Benzo(a)pyrene	0.410 U	0.410 U	0.410 UJ	0.410 U	0.410 U	0.410 U
Benzo(b)fluoranthene	0.350 U	0.350 U	0.350 UJ	0.350 U	0.350 U	0.350 U
Benzo(g,h,i)perylene	**1.40 J**	**0.600 J**	0.370 UJ	0.370 U	0.370 U	0.370 U
Benzo(k)fluoranthene	0.280 U	0.280 U	0.280 UJ	0.280 U	0.280 U	0.280 U
Chrysene	5.80 U	5.10 UiJ	6.50 UJ	5.80 U	5.10 U	5.20 U
Dibenz(a,h)anthracene	0.300 U	0.300 U	0.300 UJ	0.300 U	0.300 U	0.300 U
Fluoranthene	**13.0**	**12.0**	**13.0 J**	**11.0**	**12.0**	**13.0**
Indeno(1,2,3-cd)pyrene	**2.00 J**	**1.80 J**	0.320 UJ	0.320 U	0.320 U	0.320 U
Pyrene	3.30 U	3.50 UiJ	4.00 UJ	2.90 U	3.20 U	4.10 U

Notes:
µg/kg = microgram per kilogram
mg/kg = milligram per kilogram
MDL = method detection limit
RDL = reported detection limit
ND = Non Detect
- = Not Analyzed
bold = analyte detected above MDL/RDL.
J = The reported value is an estimate.

[1] Only Aroclors 1254 was included in summing clam Total PCBs as Aroclors because all other aroclors were undected in Reference Area clam samples.
KM, capped = Kaplan–Meier-based with Efron's bias correction, capped
U = The analyte was not detected at or above the MDL (except PCB congeners).
For PCB congeners, the analyte was not detected at or above the RDL/EMPC.
UJ = The analyte was not detected. The reported MDL (non-congeners) or RDL/EMPC (congeners) is an estimate.
EMPC = The analyte was not positively identified; the associated numerical value is the Estimated Maximum Potential Concentration.

Table 7-1
Upland OU Limited and Estimated Data Sets
Bradford Island Remedial Investigation

	Limited Data Set (Sample Size less than 8)	High Proportion of Estimated Data		
		Majority of Detected Data is Estimated (J-flagged)[1]	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > HH SLV	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > Eco SLV
Landfill AOPC				
Soil (0-1 ft bgs)	Dibutyltin, monobutyltin, tetrabutyltin, tributyltin, 4-nitrophenol, pentachlorophenol, chlordane (technical), and total benzofluoranthenes	1 metal, 3 SVOCs, 3 VOCs	NA	Butyl benzyl phthalate and ethylbenzene
Soil (0-3 ft bgs)	4-Nitrophenol, pentachlorophenol, chlordane (technical), and total benzofluoranthenes	2 metals, 4 SVOCs, 4 VOCs	Thallium and dibenz(a,h)anthracene	Selenium, butyl benzyl phthalate, and ethylbenzene
Soil (0-10 ft bgs)	-	3 metals, GRO, 6 SVOCs, 7 VOCs	Thallium and dibenz(a,h)anthracene	NA
Mass Wasting Soil Subset	All herbicides, TPHs, and VOCs; & aniline	4 SVOCs, 1 VOC	-	Dibenzofuran
Groundwater	Dissolved antimony, barium, beryllium, cadmium, chromium, copper, nickel, selenium, silver, thallium, and zinc	4 metals (total), 1 metal (dissolved), 1 pesticide, GRO, 3 SVOCs, 3 VOCs	Total antimony and thallium; dieldrin; GRO 1,4-dichlorobenzene; and vinyl chloride	Lead (dissolved) and dieldrin
Seep Water	All analytes	1 metal (total), 3 metals (dissolved), DRO	DRO	-
Surface Water	All analytes	3 metals (dissolved), DRO	DRO	-
Sandblast AOPC				
Soil (0-1 ft bgs)	-	5 metals, 12 pesticides, GRO, 14 SVOCs, 26 VOCs	NA	Antimony, selenium, aldrin, dieldrin, endrin aldehyde, endrin ketone, dibenzofuran, di-n butyl phthalate, and pentachlorophenol
Soil (0-3 ft bgs)	-	5 metals, 12 pesticides, GRO, 13 SVOCs, 26 VOCs	Thallium, 1,1-dichloroethane, benzene, chloroform, and trichloroethene (TCE)	Antimony, selenium, aldrin, dieldrin, endrin aldehyde, endrin ketone, dibenzofuran, di-n butyl phthalate, pentachlorophenol, and ethylbenzene
Soil (0-10 ft bgs)	-	5 metals, 12 pesticides, GRO, 14 SVOCs, 25 VOCs	Thallium, 1,1-dichloroethane, benzene, chloroform, and trichloroethene (TCE)	NA
Soil (>10 ft bgs)	All analytes	4 metals, 1 butyltin, 4 SVOCs, 8 VOCS	Thallium	NA

Table 7-1
Upland OU Limited and Estimated Data Sets
Bradford Island Remedial Investigation

	Limited Data Set (Sample Size less than 8)	High Proportion of Estimated Data		
		Majority of Detected Data is Estimated (J-flagged)[1]	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > HH SLV	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > Eco SLV
Erodible Soil Subset	All metals, butyltins, pesticides, PCBs, SVOCs, & DRO and RRO	2 metals, 4 pesticides, DRO, GRO, 4 SVOCs, 15 VOCs	Dibenz(a,h)anthracene	Selenium
Groundwater	Dissolved calcium, magnesium, potassium, and sodium; & the majority of VOCs	1 butyltin, DRO, GRO, 2 SVOCs, 7 VOCs, 1 metal (dissolved)	Potassium (dissolved), DRO, GRO, benzo(b)fluoranthene, chloroform, and vinyl chloride	Monobutyltin
DP Groundwater	All butyltins, pesticides, PCBs, and TPHs; & the following total and dissolved SVOCs: 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-nitrophenol, benzoic acid, benzyl alcohol, p-cresol (4-methylphenol), pentachlorophenol, and phenol (dissolved only)	8 metals (total), 10 metals (dissolved), 1 pesticide, RRO, GRO, 18 SVOCs (total), 15 SVOCs (dissolved), 19 VOCs	Total & dissolved thallium and vanadium; RRO; total SVOCs benzo(a)pyrene, benzofluoranthenes (total), bis(2-ethylhexyl) phthalate, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene; dissolved SVOCs benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene; and total VOCs 2,2-dichloropropane, benzene, chloroform, naphthalene, trichloroethene (TCE), and vinyl chloride	Dissolved aluminum and cadmium; total SVOCs benzo(a)pyrene and benzofluoranthenes (total); dissolved SVOC benzo(a)pyrene; and total VOC carbon disulfide
Soil Gas	All VOCs	15 VOCs	-	NA
Pistol Range AOPC				
Soil (0-1 ft bgs)	Antimony and arsenic	-	-	-
DP Groundwater	All analytes	1 metal (total), 2 metals (dissolved	-	-
Lagoon Sediment	All analytes	-	-	-
Bulb Slope AOPC				
Soil (0-1 ft bgs)	-	-	-	-
All Four AOPC Combined				
Soil (0-1 ft bgs)	-	5 metals, 12 pesticides, GRO, 12 SVOCs, 26 VOCs	NA	Antimony, selenium, aldrin, dieldrin, endrin aldehyde, endrin ketone, butyl benzyl phthalate, dibenzofuran, di-n-butyl phthalate, pentachlorophenol, and ethylbenzene
Soil (0-3 ft bgs)	-	5 metals, 12 pesticides, GRO, 11 SVOCs, 26 VOCs	Thallium, 1,1-dichloroethane, benzene, chloroform,and trichloroethene (TCE)	Antimony, selenium, aldrin, dieldrin, endrin ketone, butyl benzyl phthalate, dibenzofuran, pentachlorophenol, and ethylbenzene

Table 7-1
Upland OU Limited and Estimated Data Sets
Bradford Island Remedial Investigation

	Limited Data Set (Sample Size less than 8)	High Proportion of Estimated Data		
		Majority of Detected Data is Estimated (J-flagged)[1]	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > HH SLV	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > Eco SLV
Soil (0-10 ft bgs)	-	5 metals, 12 pesticides, GRO, 11 SVOCs, 27 VOCs	Thallium, 1,1-dichloroethane, benzene, chloroform, and trichloroethene (TCE)	NA
Groundwater	Dissolved antimony, barium, beryllium, cadmium, chromium, copper, nickel, selenium, silver, thallium, and zinc	5 metals (total), 1 pesticide, GRO, 7 SVOCs, 9 VOCs	Total antimony and thallium; dieldrin; GRO 1,4-dichlorobenzene; chloroform; and vinyl chloride	Dieldrin
DP Groundwater	All butyltins, PCBs, TPHs, pesticides; & the following total and dissovled SVOCs: 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-nitrophenol, benzoic acid, benzyl alcohol, p-cresol, pentachlorophenol, and phenol (dissolved only)	8 metals (total), 10 metals (dissolved), RRO, GRO, 1 pesticide, 18 SVOCs (total), 15 SVOCs (dissolved), 19 VOCs	Total & dissolved thallium and vanadium; RRO; total SVOCs benzo(a)pyrene, benzofluoranthenes (total), bis(2-ethylhexyl) phthalate, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene; dissolved SVOCs benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene; and total VOCs benzene, chloroform, naphthalene, trichloroethene (TCE), and vinyl chloride	Dissolved aluminum and cadmium; total SVOCs benzo(a)pyrene and benzofluoranthenes (total); dissolved SVOC benzo(a)pyrene; and total VOC carbon disulfide
Reerence Area				
Soil (0-1 ft bgs)	-	1 metal, 7 SVOCs	NA	NA
Groundwater	All analytes	5 metals (total), 5 metals (dissolved), 1 butyltin, 1 SVOC,	NA	NA

Notes:
1) Detected analytes are listed if they were estimated (J-flagged) in 50% or more of the total number of detected samples
* Analytes were listed, but there is no SLV available

DRO = diesel range organic
Eco = Ecological
GRO = gasoline range organic
HH = Human health
NA = not applicable
RRO = residual range organic
SLV = screening level value

Table 7-2
River OU Limited and Estimated Data Sets
Bradford Island Remedial Investigation

	Limited Data Set (Sample Size less than 8)	High Proportion of Estimated Data		
		Majority of Detected Data is Estimated (J-flagged)[1]	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > HH SLV	Majority of Detected Data is Estimated (J-flagged)[1] *AND* MRL is > Eco SLV
Pre-Removal Sediment Forebay				
Sediment	All analytes	DRO, RRO, 17 SVOCs	-	Anthracene and benzo(a)pyrene
Clam	All analytes	1 metal, 1 SVOC	NA	-
Random Forebay				
Surface Water	All analytes	2 metals (total) 3 metals (dissolved), DRO	Dissolved cadmium; and total & dissolved DRO	Dissolved cadmium
Sediment	-	DRO, RRO, Aroclor 1254, 14 SVOCs	Aroclor 1254	Aroclor 1254
Clam	-	2 metals, 9 SVOCs	NA	-
Crayfish	-	1 metal, 13 SVOCs	Benzo(a)pyrene and bis(2-ethylhexyl) phthalate	-
Sculpin	-	-	NA	-
Smallmouth Bass	-	1 metal, 10 SVOCs	Benzo(b)fluoranthene, bis(2-ethylhexyl) phthalate, and dibenz(a,h)anthracene	Bis(2-ethylhexyl) phthalate
Largescale Sucker	All analytes	1 metal, 4 SVOCs	Dibenz(a,h)anthracene	-
Targeted Forebay - Eagle Creek				
Sediment	All analytes	2 metals, DRO, 10 SVOCs	-	-
Targeted Forebay - Goose Island				
Sediment	All analytes	DRO, Aroclor 1254, 13 SVOCs	Aroclor 1254	Aroclor 1254
Clam	All analytes	1 metal, 2 SVOCs	NA	-
Crayfish	All analytes	2 metals, 5 SVOCs	-	-
Downstream				
Sediment	All analytes	DRO, RRO, 14 SVOCs,	-	-
Reference Area				
Surface Water	All analytes	4 metals (dissolved), 5 metals (total), DRO and RRO (total & dissolved)	NA	NA
Sediment	-	DRO, RRO, 15 SVOCs	NA	NA
Clam	-	2 metals, 4 SVOCs	NA	NA
Crayfish	-	1 metal, 13 SVOCs	NA	NA
Sculpin	-	-	NA	NA
Smallmouth Bass	-	3 metals, Aroclor 1242, 4 SVOCs	NA	NA

Table 7-2
River OU Limited and Estimated Data Sets
Bradford Island Remedial Investigation

Notes:
1) Detected analytes are listed if they were estimated (J-flagged) in 50% or more of the total number of detected samples
* Analytes were listed, but there is no SLV available

DRO = diesel range organic
Eco = Ecological
GRO = gasoline range organic
HH = Human health
NA = not applicable
RRO = residual range organic
SLV = screening level value

Table 7-3
Upland OU Non-detects Above SLVs
Bradford Island Remedial Investigation

	100% NDs with MDLs > HH SLV	< 100% NDs with MDLs > HH SLV	100% NDs with MDLs > Eco SLV	< 100% NDs with MDLs > Eco SLV
Landfill AOPC				
Soil (0-1 ft bgs)	NA	NA	Herbicides 2,4,5-TP (silvex), 2,4-D, 2,4-DB, and MCPA; pesticides 4,4'-DDD, endrin aldehyde, endrin ketone, and endrin; SVOC di-n-octyl phthalate; and VOCs 1,2-dichlorobenzene, 1,3-dichlorobenzene, isopropylbenzene, n-propylbenzene, sec-butylbenzene, and tert-butylbenzene	Antimony, mercury, and selenium; herbicides 2,4,5-T, dichloroprop, and MCPP; pesticide dieldrin; and SVOCs dibenzofuran, di-n-butyl phthalate, and dibenz(a,h)anthracene
Soil (0-3 ft bgs)	N-Nitrosodimethylamine, N-nitrosodi-n-propylamine, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), benzene, bromochloromethane, bromodichloromethane, carbon tetrachloride, chloroform, trichloroethene (TCE), and vinyl chloride	Thallium and dibenz(a,h)anthracene	Herbicides 2,4,5-TP (silvex), 2,4-D, 2,4-DB, and MCPA; pesticides 4,4'-DDD, endrin aldehyde, endrin ketone, and endrin; SVOC di-n-octyl phthalate; and VOCs 1,2-dichlorobenzene, 1,3-dichlorobenzene, isopropylbenzene, n-propylbenzene, sec-butylbenzene, and tert-butylbenzene	Antimony, mercury, and selenium; herbicides 2,4,5-T, dichloroprop, and MCPP; pesticide dieldrin; and SVOCs dibenzofuran, di-n-butyl phthalate, and dibenz(a,h)anthracene
Soil (0-10 ft bgs)	N-nitrosodimethylamine, N-nitrosodi-n-propylamine, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), benzene, bromochloromethane, bromodichloromethane, carbon tetrachloride, chloroform, trichloroethene (TCE), and vinyl chloride	Thallium and dibenz(a,h)anthracene	NA	NA
Mass Wasting Soil Subset	N-Nitrosodimethylamine, N-nitrosodi-n-propylamine, 1,2,3-trichloropropane, and 1,2-dibromo-3-chloropropane	Thallium	Antimony; herbicides 2,4,5-T, 2,4,5-TP (Silvex), 2,4-D, 2,4-DB, dichloroprop, MCPA, and MCPP; and pesticides endrin aldehyde, endrin ketone, and endrin	Dieldrin and dibenzofuran

Table 7-3
Upland OU Non-detects Above SLVs
Bradford Island Remedial Investigation

	100% NDs with MDLs > HH SLV	< 100% NDs with MDLs > HH SLV	100% NDs with MDLs > Eco SLV	< 100% NDs with MDLs > Eco SLV
Groundwater	Dissolved antimony and thallium; herbicides MCPA and MCPP; pesticides 4,4'-DDD, 4,4'-DDT, aldrin, BHC (alpha), BHC (beta), BHC (delta), chlordane (alpha), chlordane (gamma), chlordane (technical), dieldrin, endrin ketone, endrin, heptachlor epoxide, heptachlor, and toxaphene; all PCBs as Aroclors; SVOCs 1,2,4-trichlorobenzene, 1,3-dichlorobenzene, 2,4,6-trichlorophenol, 2,4-dinitrotoluene, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloroaniline, 4-nitroaniline, acenaphthylene, benzidine, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, benzofluoranthenes (total), bis(2-chloroethyl) ether, chrysene, dibenz(a,h)anthracene, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, Indeno(1,2,3-cd)pyrene, nitrobenzene, N-nitrosodimethylamine, N-nitrosodi-n-propylamine, N-nitrosodiphenylamine, and pentachlorophenol; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), 1,2-dichloropropane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2,2-dichloropropane, benzene, bromochloromethane, bromodichloromethane, cis-1,3-dichloropropene, dibromochloromethane, dichloromethane, hexachlorobutadiene, naphthalene, trans-1,3-dichloropropene, and trichloroethene (TCE)	Total antimony, arsenic, and thallium and dissolved arsenic; pesticide 4,4'-DDE; DRO and RRO; SVOCs 1,4-dichlorobenzene, bis(2-ethylhexyl) phthalate, di-n-octyl phthalate, naphthalene; and VOCs carbon tetrachloride, chloroform, tetrachloroethene (PCE), and vinyl chloride	Dissolved cadmium, copper, and silver; herbicides dinoseb and MCPA; all PCBs as Aroclors; pesticides 4,4'-DDD, 4,4'-DDT, chlordane (alpha), chlordane (gamma), chlordane (technical), endosulfan II, endosulfan sulfate, endrin, heptachlor epoxide, heptachlor, methoxychlor, and toxaphene; SVOCs 2,4,5-trichlorophenol, 2,4-dinitrophenol, 3,3'-dichlorobenzidine, 4-bromophenyl phenyl ether, aniline, benzidine, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, benzofluoranthenes (total), benzyl alcohol, chrysene, dibenz(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, hexachlorobenzene, hexachlorobutadiene, hexachlorocyclopentadiene, indeno(1,2,3-cd)pyrene, and pentachlorophenol; VOCs cis-1,3-dichloropropene and trans-1,3-dichloropropene	Dissolved lead; pesticides 4,4'-DDEand dieldrin; SVOCs benzoic acid, bis(2-ethylhexyl) phthalate, dimethyl phthalate, and phenanthrene; and VOC carbon disulfide

Table 7-3
Upland OU Non-detects Above SLVs
Bradford Island Remedial Investigation

	100% NDs with MDLs > HH SLV	< 100% NDs with MDLs > HH SLV	100% NDs with MDLs > Eco SLV	< 100% NDs with MDLs > Eco SLV
Seep Water	Total & dissolved thallium; herbicides MCPA and MCPP; pesticides 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, aldrin, BHC (alpha), BHC (beta), BHC (delta), chlordane (alpha), chlordane (gamma), dieldrin, endrin, heptachlor epoxide, heptachlor, and toxaphene; all PCBs as Aroclors; GRO; SVOCs 1,2,4-trichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2,4,6-trichlorophenol, 2,4-dinitrotoluene, 3,3'-dichlorobenzidine, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloroaniline, 4-nitroaniline, acenaphthylene, benzidine, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-chloroethyl) ether, bis(2-ethylhexyl) phthalate, chrysene, dibenz(a,h)anthracene, di-n-octyl phthalate, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, indeno(1,2,3-cd)pyrene, naphthalene, nitrobenzene, N-nitrosodimethylamine, N-nitrosodi-n-propylamine, N-nitrosodiphenylamine, and pentachlorophenol; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), 1,2-dichloropropane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 2,2-dichloropropane, benzene, bromochloromethane, bromodichloromethane, carbon tetrachloride, cis-1,3-dichloropropene, dibromochloromethane, dichloromethane, hexachlorobutadiene, naphthalene, tetrachloroethene (PCE), trans-1,3-dichloropropene, and vinyl chloride	Total & dissolved arsenic; DRO and RRO; and VOCs chloroform and tetrachloroethene (PCE)	Dissolved cadmium, mercury, and silver; herbicides dinoseb and MCPA; all PCBs as Aroclors; pesticides 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, chlordane (alpha), chlordane (gamma), dieldrin, endosulfan sulfate, endrin, heptachlor epoxide, heptachlor, methoxychlor, and toxaphene; SVOCs 3,3'-dichlorobenzidine, 4-bromophenyl phenyl ether, aniline, benzidine, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-ethylhexyl) phthalate, chrysene, dibenz(a,h)anthracene, dibenzofuran, dimethyl phthalate, fluorene, hexachlorobenzene, and indeno(1,2,3-cd)pyrene; and VOCs 1,1-dichloropropene, carbon disulfide, cis-1,3-dichloropropene, and trans-1,3-dichloropropene	-
Surface Water	Tetrachloroethene (PCE) and vinyl chloride	Arsenic and DRO	-	-

Table 7-3
Upland OU Non-detects Above SLVs
Bradford Island Remedial Investigation

	100% NDs with MDLs > HH SLV	< 100% NDs with MDLs > HH SLV	100% NDs with MDLs > Eco SLV	< 100% NDs with MDLs > Eco SLV
Sandblast AOPC				
Soil (0-1 ft bgs)	NA	NA	-	Antimony, 4,4'-DDT, aldrin, dieldrin, endrin aldehyde, endrin ketone, endrin, dibenzofuran, and di-n-butyl phthalate
Soil (0-3 ft bgs)	Toxaphene, N-nitrosodimethylamine, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), bromodichloromethane, carbon tetrachloride, and vinyl chloride	Benzene and chloroform	1,2-Dichlorobenzene	Antimony, 4,4'-DDT, aldrin, dieldrin, endrin aldehyde, endrin ketone, endrin, dibenzofuran, di-n-butyl phthalate, isopropylbenzene, and n-propylbenzene
Soil (0-10 ft bgs)	Toxaphene, N-nitrosodimethylamine, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), bromodichloromethane, carbon tetrachloride, and vinyl chloride	Benzene and chloroform	NA	NA
Soil (>10 ft bgs)	-	-	NA	NA
Erodible Soil Subset	N-Nitrosodimethylamine and 1,2-dibromo-3-chloropropane	-	Dibenzofuran	-
Groundwater	SVOC benzo(k)fluoranthene; and VOCs 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), and 2,2-dichloropropane	DRO; SVOC benzo(b)fluoranthene; and VOCs chloroform, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride	trans-1,3-Dichloropropene	-
DP Groundwater	Pesticides 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, aldrin, dieldrin, heptachlor epoxide, heptachlor, and toxaphene; all PCBs as Aroclors; total and dissolved SVOCs 3,3'-dichlorobenzidine, benzidine, benzo(a)anthracene, total benzofluoranthenes (dissolved only), benzo(g,h,i)perylene, bis(2-chloroethyl) ether, chrysene, hexachlorobenzene, N-nitrosodimethylamine, and N-nitrosodi-n-propylamine; and VOCs 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, and 1,2-dibromoethane (EDB)	Total arsenic and dissolved vanadium; total and dissolved SVOCs benzo(a)pyrene, total benzofluoranthenes (total only), dibenz(a,h)anthracene; and VOCs naphthalene, trichloroethene (TCE), and vinyl chloride	Toxaphene and total & dissolved hexachlorobenzene	Carbon disulfide

Table 7-3
Upland OU Non-detects Above SLVs
Bradford Island Remedial Investigation

	100% NDs with MDLs > HH SLV	< 100% NDs with MDLs > HH SLV	100% NDs with MDLs > Eco SLV	< 100% NDs with MDLs > Eco SLV
Soil Gas	1,2-Dibromoethane (EDB) and hexachlorobutadiene	-	NA	NA
Pistol Range AOPC				
Soil (0-1 ft bgs)	Arsenic	-	Antimony	-
DP Groundwater	-	-	-	-
Lagoon Sediment	-	-	-	-
Bulb Slope AOPC				
Soil (0-1 ft bgs)	-	-	-	-

Notes:

DRO = diesel range organic
Eco = Ecological
GRO = gasoline range organic
HH = Human health
NA = not applicable
RRO = residual range organic
SLV = screening level value

Table 7-4
Upland OU Non-detects Without SLVs
Bradford Island Remedial Investigation

	100% NDs without HH SLVs	< 100% NDs without HH SLVs	100% NDs without Eco SLVs	< 100% NDs without Eco SLVs
Landfill AOPC				
Soil (0-1 ft bgs)	NA	NA	Herbicides dalapon, dicamba, and dinoseb; SVOCs 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-bromophenyl phenyl ether, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, benzidine, bis(2-chloroethyl) ether, bis(2-chloroisopropyl) ether, hexachlorobutadiene, hexachloroethane, isophorone, N-nitrosodimethylamine, and N-nitrosodi-n-propylamine; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,3-dichloropropane, 2,2-dichloropropane, 2-chlorotoluene, 4-chlorotoluene, bromobenzene, bromoform, chloroethane, cis-1,3 dichloropropene, hexachlorobutadiene, n-butylbenzene, trans-1,3-dichloropropene, and vinyl acetate	DRO, RRO and GRO
Soil (0-3 ft bgs)	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	Herbicides dalapon, dicamba, and dinoseb; SVOCs 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-bromophenyl phenyl ether, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, benzidine, bis(2-chloroethyl) ether, bis(2-chloroisopropyl) ether, hexachlorobutadiene, hexachloroethane, isophorone, N-nitrosodimethylamine, and N-nitrosodi-n-propylamine; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,3-dichloropropane, 2,2-dichloropropane, 2-chlorotoluene, 4-chlorotoluene, bromobenzene, bromoform, chloroethane, cis-1,3 dichloropropene, hexachlorobutadiene, n-butylbenzene, trans-1,3-dichloropropene, and vinyl acetate	DRO, RRO and GRO
Soil (0-10 ft bgs)	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	NA	NA

Table 7-4
Upland OU Non-detects Without SLVs
Bradford Island Remedial Investigation

	100% NDs without HH SLVs	< 100% NDs without HH SLVs	100% NDs without Eco SLVs	< 100% NDs without Eco SLVs
Mass Wasting Soil Subset	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	Herbicides dalapon, dicamba, and dinoseb; DRO, RRO and GRO; SVOCs 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-bromophenyl phenyl ether, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, bis(2-chloroethyl) ether, bis(2-chloroisopropyl) ether, hexachlorobutadiene, hexachloroethane, isophorone, N-nitrosodimethylamine, and N-nitrosodi-n-propylamine; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,3-dichloropropane, 2,2-dichloropropane, 2-chlorotoluene, 4-chlorotoluene, bromobenzene, bromoform, chloroethane, cis-1,3-dichloropropene, hexachlorobutadiene, n-butylbenzene, and trans-1,3-dichloropropene	-
Groundwater	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, bis(2-chloroisopropyl) ether, carbazole, 2-chloroethylvinylether, 4-isopropyltoluene, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	Herbicides 2,4,5-TP, 2,4-DB, dalapon, and MCPP; pesticide endrin ketone; SVOCs 2-nitroaniline, 2-nitrophenol, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, 4-nitroaniline, bis(2-chloroethoxy)methane, bis(2-chloroisopropyl) ether, and carbazole; and VOCs 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 2-chlorotoluene, 4-chlorotoluene, 4-isopropyltoluene, bromobenzene, bromochloromethane, bromodichloromethane, chloroethane, chloromethane, dibromochloromethane, dibromomethane, dichlorodifluoromethane, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, and trichlorofluoromethane	DRO, RRO, and GRO
Seep Water	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, bis(2-chloroisopropyl) ether, carbazole, 4-isopropyltoluene, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	Herbicides 2,4,5-TP (silvex), 2,4-DB, dalapon, and MCPP; GRO; SVOCs 2-nitroaniline, 2-nitrophenol, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, 4-nitroaniline, bis(2-chloroethoxy)methane, bis(2-chloroisopropyl) ether, and carbazole; and VOCs 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 2-chlorotoluene, 4-chlorotoluene, 4-isopropyltoluene, bromobenzene, bromochloromethane, bromodichloromethane, chloroethane, chloromethane, dibromochloromethane, dibromomethane, dichlorodifluoromethane, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, and trichlorofluoromethane	DRO and RRO
Surface Water	-	-	-	DRO, RRO, and GRO

Table 7-4
Upland OU Non-detects Without SLVs
Bradford Island Remedial Investigation

	100% NDs without HH SLVs	< 100% NDs without HH SLVs	100% NDs without Eco SLVs	< 100% NDs without Eco SLVs
Sandblast AOPC				
Soil (0-1 ft bgs)	NA	NA	Herbicides dalapon, dicamba, and dinoseb; SVOCs 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-bromophenyl phenyl ether, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, benzidine, bis(2-chloroethyl) ether, bis(2-chloroisopropyl) ether, hexachlorobutadiene, hexachloroethane, isophorone, N-nitrosodimethylamine, and N-nitrosodi-n-propylamine; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,3-dichloropropane, 2,2-dichloropropane, 2-chlorotoluene, 4-chlorotoluene, bromobenzene, bromoform, chloroethane, cis-1,3 dichloropropene, hexachlorobutadiene, trans-1,3-dichloropropene, and vinyl acetate	DRO, RRO and GRO; and n-butylbenzene
Soil (0-3 ft bgs)	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, and tert-butylbenzene	n-Butylbenzene and sec-butylbenzene	Herbicides dalapon, dicamba, and dinoseb; SVOCs 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-bromophenyl phenyl ether, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, benzidine, bis(2-chloroethyl) ether, bis(2-chloroisopropyl) ether, hexachlorobutadiene, hexachloroethane, isophorone, N-nitrosodimethylamine, and N-nitrosodi-n-propylamine; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,3-dichloropropane, 2,2-dichloropropane, 2-chlorotoluene, 4-chlorotoluene, bromobenzene, bromoform, chloroethane, cis-1,3 dichloropropene, hexachlorobutadiene, trans-1,3-dichloropropene, and vinyl acetate	DRO, RRO and GRO; and n-butylbenzene
Soil (0-10 ft bgs)	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, and tert-butylbenzene	n-Butylbenzene and sec-butylbenzene	NA	NA
Soil (>10 ft bgs)	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	NA	NA

Table 7-4
Upland OU Non-detects Without SLVs
Bradford Island Remedial Investigation

	100% NDs without HH SLVs	< 100% NDs without HH SLVs	100% NDs without Eco SLVs	< 100% NDs without Eco SLVs
Erodible Soil Subset	4-Bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	SVOCs 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3'-dichlorobenzidine, 4,6-dinitro-2-methylphenol, 4-bromophenyl phenyl ether, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, bis(2-chloroethyl) ether, bis(2-chloroisopropyl) ether, hexachlorobutadiene, hexachloroethane, isophorone, N-nitrosodimethylamine, and N-nitrosodi-n-propylamine; and VOCs 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 1,3-dichloropropane, 2,2-dichloropropane, 2-chlorotoluene, 4-chlorotoluene, bromobenzene, bromoform, chloroethane, cis-1,3-dichloropropene, hexachlorobutadiene, n-butylbenzene, trans-1,3-dichloropropene, and vinyl acetate	GRO
Groundwater	4-Isopropyltoluene, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	RRO; and VOCs 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 2-chlorotoluene, 4-chlorotoluene, 4-isopropyltoluene, bromobenzene, bromochloromethane, bromodichloromethane, chloroethane, chloromethane, dibromochloromethane, dibromomethane, dichlorodifluoromethane, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, and trichlorofluoromethane	DRO and GRO
DP Groundwater	Total and dissolved SVOCs 4-bromophenyl phenyl ether, 4-chlorophenyl phenyl ether bis(2-chloroisopropyl) ether, and carbazole; and VOCs 4-isopropyltoluene, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene	-	Endrin ketone; DRO; total and dissolved SVOCs 2-nitroaniline, 2-nitrophenol, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, 4-chlorophenyl phenyl ether, 4-nitroaniline, bis(2-chloroethoxy)methane, bis(2-chloroisopropyl) ether, and carbazole; and VOCs 1,1-dichloropropene, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, 1,2-dibromoethane (EDB), 2-chlorotoluene, 4-chlorotoluene, 4-isopropyltoluene, bromobenzene, bromochloromethane, bromodichloromethane, chloroethane, chloromethane, dibromochloromethane, dibromomethane, dichlorodifluoromethane, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, and trichlorofluoromethane	RRO and GRO
Soil Gas	Tetrahydrofuran	Ethanol	NA	NA
Pistol Range AOPC				
Soil (0-1 ft bgs)	-	-	-	-
DP Groundwater	-	-	-	-
Lagoon Sediment	-	-	-	-
Bulb Slope AOPC				
Soil (0-1 ft bgs)	-	-	-	-

Table 7-4
Upland OU Non-detects Without SLVs
Bradford Island Remedial Investigation

	100% NDs without HH SLVs	< 100% NDs without HH SLVs	100% NDs without Eco SLVs	< 100% NDs without Eco SLVs

Notes:

DRO = diesel range organic
Eco = Ecological
GRO = gasoline range organic
HH = Human health
NA = not applicable
RRO = residual range organic
SLV = screening level value

Table 7-5
River OU Non-detects Above SLVs
Bradford Island Remedial Investigation

	100% NDs with MDLs > HH SLV	< 100% NDs with MDLs > HH SLV	100% NDs with MDLs > Eco SLV	< 100% NDs with MDLs > Eco SLV
Pre-Removal Sediment Forebay				
Sediment	Aroclors 1016, 1221, 1232, 1242, 1248, 1260, 1262, and 1268	Aroclor 1254 and Total PCBs as Aroclors	Aroclors 1016, 1221, 1232, 1242, 1248, 1260, 1262, and 1268	Aroclor 1254 and Total PCBs as Aroclors
Clam	NA	NA	-	-
Random Forebay				
Surface Water	Total & dissolved antimony and vanadium	-	-	Dissolved cadmium; and total aluminum
Sediment	Aroclors 1016, 1221, 1232, 1242, 1248, 1260, 1262, and 1268	Aroclor 1254 and Total PCBs as Aroclors	Aroclors 1016, 1221, 1232, 1242, 1248, and 1260	Aroclor 1254 and Total PCBs as Aroclors
Clam	NA	NA	Aroclors 1232 and 1242	Aroclor 1254 and Total PCBs as Aroclors
Crayfish	Aroclors 1016, 1221, 1232, 1242, 1254, 1260, 1262, 1268, and Total PCBs as Aroclors	-	-	-
Sculpin	NA	NA	Aroclors 1221, 1232, 1260	Aroclor 1254 and Total PCBs as Aroclors
Smallmouth Bass	Aroclors 1016, 1221, 1232, 1248, 1260, 1262, and 1268	Aroclors 1242 and 1254, Total PCBs as Aroclors, and bis(2-ethylhexyl) phthalate	Aroclors 1016, 1221, 1232, 1248, 1260, 1262, and 1268	Aroclors 1242 and 1254, Total PCBs as Aroclors, and bis(2-ethylhexyl) phthalate
Largescale Sucker	Aroclors 1016, 1221, 1232, 1242, 1260, and 1268	-	-	-
Targeted Forebay - Eagle Creek				
Sediment	Aroclors 1016, 1221, 1232, 1242, 1254, 1260, 1262, and 1268	Aroclor 1248 and Total PCBs as Aroclors	-	Total PCBs as Aroclors
Targeted Forebay - Goose Island				
Sediment	Aroclors 1016, 1221, 1232, 1242, 1248, and 1260	Aroclor 1254 and Total PCBs as Aroclors	Aroclors 1016, 1221, 1232, 1242, 1248, and 1260	Aroclor 1254 and Total PCBs as Aroclors
Clam	NA	NA	-	-
Crayfish	Aroclors 1016, 1221, 1232, 1242, 1254, 1260, 1262, 1268, and Total PCBs as Aroclors	-	-	-
Downstream				
Sediment	All PCBs as Aroclors	-	-	-

Notes:
* Non-detect analytes were listed, but there is no SLV available

DRO = diesel range organic
Eco = Ecological
GRO = gasoline range organic
HH = Human health
NA = not applicable
RRO = residual range organic
SLV = screening level value

Table 7-6
River OU Non-detects Without SLVs
Bradford Island Remedial Investigation

	100% NDs without HH SLV	< 100% NDs without HH SLV	100% NDs without Eco SLV	< 100% NDs without Eco SLV
Pre-Removal Sediment Forebay				
Sediment	di-n-octyl phthalate	bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, carbazole, and p-cresol	-	-
Clam	NA	NA	Antimony, carbazole, and p-cresol	-
Random Forebay				
Surface Water	-	-	Total and dissolved RRO	Total DRO
Sediment	butyl benzyl phthalate, di-n-butyl phthalate, and di-n-octyl phthalate	RRO, bis(2-ethylhexyl) phthalate, carbazole, and p-cresol	-	RRO
Clam	NA	NA	Carbazole	Antimony and p-cresol
Crayfish	Carbazole and p-cresol	-	Carbazole and p-cresol	-
Sculpin	NA	NA	-	-
Smallmouth Bass	Antimony, carbazole, and p-cresol	Beryllium and chromium	Antimony, carbazole, and p-cresol	Beryllium and chromium
Largescale Sucker	Antimony, beryllium, carbazole, and p-cresol	-	Antimony, beryllium, carbazole, and p-cresol	-
Targeted Forebay - Eagle Creek				
Sediment	RRO, bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, di-n-butyl phthalate, di-n-octyl phthalate, and p-cresol	Carbazole	RRO	-
Targeted Forebay - Goose Island				
Sediment	Butyl benzyl phthalate, carbazole, di-n-octyl phthalate	p-Cresol	-	-
Clam	NA	NA	Antimony and carbazole	-
Crayfish	Carbazole and p-cresol	-	Carbazole and p-cresol	-
Downstream				
Sediment	bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, di-n-butyl phthalate, and di-n-octyl phthalate	RRO, carbazole, and p-cresol	-	RRO

Notes:
* Non-detect analytes were listed, but there is no SLV available

DRO = diesel range organic
Eco = Ecological
GRO = gasoline range organic
HH = Human health
NA = not applicable
RRO = residual range organic
SLV = screening level value

Table 8-1
COIs for which Upland OU Soil Concentrations are Statistically Higher than Reference Area

Media	Analyte Group	Area of Potential concern (AOPC)				
		Landfill	Sandblast Area	Pistol Range[1]	Bulb Slope	All Four AOPCs Combined
Soils 0-1 ft bgs	Metals	Antimony Cadmium Lead Mercury Silver [2] Sodium Zinc	Antimony [2] Arsenic Cadmium Chromium Lead Nickel Selenium Silver Zinc	Lead Nickel Zinc	Lead Mercury	Antimony [2] Arsenic Cadmium Chromium Lead Mercury [2] Nickel Selenium Silver [2] Zinc
	Organics	all PAHs (no other organic COIs were evaluated)	all PAHs (no other organic COIs were evaluated)	all PAHs (no other organic COIs were evaluated)	all PAHs (no other organic COIs were evaluated)	all PAHs (no other organic COIs were evaluated)
Soils 0-3 ft bgs	Metals	Antimony Arsenic Cadmium Lead Mercury Silver [2] Sodium Zinc	Antimony [2] Arsenic Cadmium Chromium Lead Nickel Selenium Silver Zinc	(No subsurface samples)	(No subsurface samples)	Antimony [2] Arsenic Cadmium Chromium Lead Mercury [2] Nickel Selenium Silver [2] Zinc
	Organics	all PAHs (no other organic COIs were evaluated)	all PAHs (no other organic COIs were evaluated)			all PAHs (no other organic COIs were evaluated)
Soils 0-10 ft bgs	Metals	Antimony Cadmium Lead Mercury Nickel Selenium Silver Sodium Zinc	Antimony [2] Arsenic Cadmium Chromium Lead Nickel Selenium Silver Zinc	(No subsurface samples)	(No subsurface samples)	Antimony [2] Arsenic Cadmium Chromium Lead Mercury [2] Nickel Selenium Silver [2] Zinc
	Organics	all PAHs (no other organics were evaluated)	all PAHs (no other organics were evaluated)			all PAHs (no other organics were evaluated)

Notes
ft bgs - feet below ground surface
PAHs - polycyclic aromatic hydrocarbons
[1] Results from all Pistol Range AOPC samples (0-1.5 ft bgs) were included in the statistical comparison for the Depth Group 0-1 ft bgs for the Pistol Range AOPC and All Four AOPCs Combined.
[2] A portion of Upland AOPC data contained elevated MDLs/MRLs. Hence, the results were concluded to be not significant due to data censoring at median MDL/MRL for non-detects. Examination of the box-and-whisker plots in Appendix L indicated that these analytes should be considered as having higher concentrations than the Reference concentrations.

Table 8-2
COIs for which Upland OU Groundwater and Seep Water Concentrations are Higher than Reference Area

Media	Analyte Group	Area of Potential Concern (AOPC)	
		Landfill	**Sandblast Area**
Groundwater (total)	**Metals**	All metals analyzed	Arsenic Iron Vanadium (No other metals were analyzed in samples from montoring wells. Direct push results were not compared to MW-10.)
	Organics	GRO, DRO, RRO Butyltins Chloroform Tetrachloroethene (PCE) Vinyl Chloride 1,4-Dichlorobenzene Phenol Phenanthrene (Other organics may be elevated, but reference area data is not available for comparison)	GRO, DRO Chloroform Tetrachloroethene (PCE) Vinyl Chloride Phenanthrene (A few other VOCs may be elevated, but reference area data is not available for comparison) (Other organics were only analyzed in direct push samples. These results were not compared to MW-10.)
Groundwater (dissolved)	**Metals**	Arsenic Barium Calcium Iron Lead Magnesium Manganese Nickel Potassium Sodium Zinc	Arsenic Calcium Iron Magnesium Sodium Vanadium (No other metals were analyzed in samples from montoring wells. Direct push results were not compared to MW-10.)
	Organics	(not analyzed)	(not analyzed)
Seep Water	**Metals**	Arsenic Barium Copper Iron Lead Mercury Selenium	(no seep samples collected)
	Organics	DRO, RRO Chloroform Tetrachloroethene (PCE)	

Notes:
Only compounds that were analyzed in samples from MW-10 (Reference Area Well) were evaluated.
See Appendix L, Table L-3.

Table 8-3
COIs for which Forebay Sediment or Tissue Concentrations are Statistically Higher than Reference Area Concentrations

Chemical Class	Media				
	Sediment[1]	**Clams**	**Crayfish**	**Sculpin[2]**	**Smallmouth Bass**
Metals		Beryllium Cadmium	Antimony Arsenic Chromium Mercury Methyl Mercury Nickel	Cadmium Lead Mercury	Aluminum Barium Copper Mercury Zinc
PAHs and TPH	RRO	Acenaphthene Benzo(a)anthracene Benzo(b)fluoranthene Chrysene Pyrene	Acenaphthene Benzo(a)anthracene Benzo(g,h,i)perylene Fluoranthene Phenanthrene Pyrene		Anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene Indeno(1,2,3-cd)pyrene pyrene
Phthalates					Bis(2-ethylhexyl) Phthalate
PCBs	Selected Dioxin-like Congeners	Selected Dioxin-like Congeners	Selected Dioxin-like Congeners Total PCBs (as Congeners)	Selected Dioxin-like Congeners Total PCBs (as Congeners)	All Dioxin-like Congeners Total PCBs (as Congeners)

Notes
PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls
TPH = total petroleum hydrocarbons
RRO = residual range organics
[1] Sediment was the only media analyzed for TPH
[2] Due to insufficient sample volume, Scuplin were only analyzed for four metals (arsenic, cadmium, lead, and mercury), and they were not analyzed for PAHs or Phthalates.

Table 8-4
COIs for which Maximum Forebay Surface Water Total Concentrations Exceed Maximum Reference Area Concentrations

Chemical Class	Media Surface Water (total concentrations)
Metals	Aluminum Barium
PAHs	Benzo(a)anthracene Benzo(b)fluoranthene Chrysene Phenanthrene Indeno(1,2,3-cd)pyrene
Phthalates	none
PCBs	Selected Dioxin-like Congeners Total PCBs (as Congeners)

Notes
PAHs = polycyclic aromatic hydrocarbons
PCBs = polychlorinated biphenyls

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(1 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Metals	Total	Aluminum	0-1 ft	mg/kg	--	No	--	--	--	--	No
Soil	Metals	Total	Antimony	0-1 ft	mg/kg	**Yes**	**Yes**	4.20	0.27	**Yes**	4	**Yes**
Soil	Metals	Total	Arsenic	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Barium	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Beryllium	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cadmium	0-1 ft	mg/kg	**Yes**	**Yes**	2.09	0.360	**Yes**	14	**Yes**
Soil	Metals	Total	Chromium	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cobalt	0-1 ft	mg/kg	--	No	--	--	--	--	No
Soil	Metals	Total	Copper	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Lead	0-1 ft	mg/kg	**Yes**	**Yes**	741	25.5	**Yes**	18	**Yes**
Soil	Metals	Total	Manganese	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Mercury	0-1 ft	mg/kg	**Yes**	**Yes**	4.15	0.0660	**Yes**	18	**Yes**
Soil	Metals	Total	Nickel	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Selenium	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Silver	0-1 ft	mg/kg	**Yes**	**Yes**	1.50	4.20	No	0	No
Soil	Metals	Total	Thallium	0-1 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Vanadium	0-1 ft	mg/kg	--	No	--	--	--	--	No
Soil	Metals	Total	Zinc	0-1 ft	mg/kg	**Yes**	**Yes**	635	71.7	**Yes**	18	**Yes**
Soil	Metals	Total	Aluminum	0-3 ft	mg/kg	--	No	--	--	--	--	No
Soil	Metals	Total	Antimony	0-3 ft	mg/kg	**Yes**	**Yes**	4.20	0.27	**Yes**	6	**Yes**
Soil	Metals	Total	Arsenic	0-3 ft	mg/kg	**Yes**	**Yes**	30.1	5.40	**Yes**	5	**Yes**
Soil	Metals	Total	Barium	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Beryllium	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cadmium	0-3 ft	mg/kg	**Yes**	**Yes**	3.54	0.360	**Yes**	16	**Yes**
Soil	Metals	Total	Chromium	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cobalt	0-3 ft	mg/kg	--	No	--	--	--	--	No
Soil	Metals	Total	Copper	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Lead	0-3 ft	mg/kg	**Yes**	**Yes**	1,660	25.5	**Yes**	26	**Yes**
Soil	Metals	Total	Manganese	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Mercury	0-3 ft	mg/kg	**Yes**	**Yes**	4.15	0.0660	**Yes**	19	**Yes**
Soil	Metals	Total	Nickel	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Selenium	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Silver	0-3 ft	mg/kg	**Yes**	**Yes**	1.50	4.20	No	0	No
Soil	Metals	Total	Thallium	0-3 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Vanadium	0-3 ft	mg/kg	--	No	--	--	--	--	No
Soil	Metals	Total	Zinc	0-3 ft	mg/kg	**Yes**	**Yes**	1,140	71.7	**Yes**	20	**Yes**
Soil	Metals	Total	Aluminum	0-10 ft	mg/kg	**Yes**	No	23,100	990,000	No	0	No
Soil	Metals	Total	Antimony	0-10 ft	mg/kg	**Yes**	**Yes**	8.19	410	No	0	No
Soil	Metals	Total	Arsenic	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Barium	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Beryllium	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cadmium	0-10 ft	mg/kg	**Yes**	**Yes**	3.54	150	No	0	No
Soil	Metals	Total	Chromium	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(2 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Metals	Total	Cobalt	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Copper	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Lead	0-10 ft	mg/kg	**Yes**	**Yes**	1,660	800	**Yes**	6	**Yes**
Soil	Metals	Total	Manganese	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Mercury	0-10 ft	mg/kg	**Yes**	**Yes**	4.15	93.0	No	0	No
Soil	Metals	Total	Nickel	0-10 ft	mg/kg	**Yes**	**Yes**	1,760	6,100	No	0	No
Soil	Metals	Total	Selenium	0-10 ft	mg/kg	**Yes**	**Yes**	0.879	5,100	No	0	No
Soil	Metals	Total	Silver	0-10 ft	mg/kg	**Yes**	**Yes**	1.52	1,500	No	0	No
Soil	Metals	Total	Thallium	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Vanadium	0-10 ft	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Zinc	0-10 ft	mg/kg	**Yes**	**Yes**	1,140	310,000	No	0	No
Soil	Butyltins	Total	Dibutyltin	0-1 ft	ug/kg	--	--	20.2	28,000	No	0	No
Soil	Butyltins	Total	Monobutyltin	0-1 ft	ug/kg	--	--	38.0	28,000	No	0	No
Soil	Butyltins	Total	Tributyltin	0-1 ft	ug/kg	--	--	165	28,000	No	0	No
Soil	Butyltins	Total	Dibutyltin	0-3 ft	ug/kg	--	--	20.2	28,000	No	0	No
Soil	Butyltins	Total	Monobutyltin	0-3 ft	ug/kg	--	--	38.0	28,000	No	0	No
Soil	Butyltins	Total	Tributyltin	0-3 ft	ug/kg	--	--	165	28,000	No	0	No
Soil	Butyltins	Total	Dibutyltin	0-10 ft	ug/kg	**Yes**	**--**	20.2	180,000	No	0	No
Soil	Butyltins	Total	Monobutyltin	0-10 ft	ug/kg	**Yes**	**--**	38.0	180,000	No	0	No
Soil	Butyltins	Total	Tributyltin	0-10 ft	ug/kg	**Yes**	**--**	165	180,000	No	0	No
Soil	Herbicides	Total	2,4,5-T	0-1 ft	ug/kg	--	--	93.0	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	Dichloroprop	0-1 ft	ug/kg	--	--	180	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	MCPP	0-1 ft	ug/kg	--	--	14,000	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	2,4,5-T	0-3 ft	ug/kg	--	--	93.0	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	Dichloroprop	0-3 ft	ug/kg	--	--	180	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	MCPP	0-3 ft	ug/kg	--	--	14,000	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	2,4,5-T	0-10 ft	ug/kg	**Yes**	**--**	93.0	6,200,000	No	0	No
Soil	Herbicides	Total	Dichloroprop	0-10 ft	ug/kg	**Yes**	**--**	180	NV	***Yes***	--	***Yes***
Soil	Herbicides	Total	MCPP	0-10 ft	ug/kg	**Yes**	**--**	14,000	620,000	No	0	No
Soil	Pesticides	Total	4,4'-DDE	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDT	0-1 ft	ug/kg	**Yes**	**--**	28.0	21.0	**Yes**	2	**Yes**
Soil	Pesticides	Total	BHC (alpha)	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (beta)	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (alpha)	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (technical)	0-1 ft	ug/kg	--	--	1,560	7,200	No	0	No
Soil	Pesticides	Total	Dieldrin	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan II	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan Sulfate	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Heptachlor	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Heptachlor Epoxide	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDE	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDT	0-3 ft	ug/kg	**Yes**	**--**	28.0	21.0	**Yes**	2	**Yes**
Soil	Pesticides	Total	BHC (alpha)	0-3 ft	ug/kg	No	--	--	--	--	--	No

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(3 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Pesticides	Total	BHC (beta)	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (alpha)	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (technical)	0-3 ft	ug/kg	--	--	1,560	7,200	No	0	No
Soil	Pesticides	Total	Dieldrin	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan II	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan Sulfate	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Heptachlor	0-3 ft	ug/kg	**Yes**	**--**	3.07	480	No	0	No
Soil	Pesticides	Total	Heptachlor Epoxide	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDE	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDT	0-10 ft	ug/kg	**Yes**	**--**	28.0	7,700	No	0	No
Soil	Pesticides	Total	BHC (alpha)	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (beta)	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (alpha)	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (technical)	0-10 ft	ug/kg	--	--	1,560	7,200	No	0	No
Soil	Pesticides	Total	Dieldrin	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan II	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan Sulfate	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Heptachlor	0-10 ft	ug/kg	**Yes**	**--**	3.07	480	No	0	No
Soil	Pesticides	Total	Heptachlor Epoxide	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	PCB Aroclors	Total	Aroclor 1248	0-1 ft	ug/kg	**Yes**	--	968	371	**Yes**	1	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1254	0-1 ft	ug/kg	**Yes**	**--**	78.6	371	No	0	No
Soil	PCB Aroclors	Total	Aroclor 1260	0-1 ft	ug/kg	**Yes**	**--**	660	371	**Yes**	2	**Yes**
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-1 ft	ug/kg	**Yes**	**--**	996	371	**Yes**	3	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1248	0-3 ft	ug/kg	**Yes**	--	968	371	**Yes**	1	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1254	0-3 ft	ug/kg	**Yes**	**--**	86.1	371	No	0	No
Soil	PCB Aroclors	Total	Aroclor 1260	0-3 ft	ug/kg	**Yes**	**--**	660	371	**Yes**	2	**Yes**
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-3 ft	ug/kg	**Yes**	**--**	996	371	**Yes**	3	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1248	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	PCB Aroclors	Total	Aroclor 1254	0-10 ft	ug/kg	**Yes**	**--**	499	740	No	0	No
Soil	PCB Aroclors	Total	Aroclor 1260	0-10 ft	ug/kg	**Yes**	**--**	660	740	No	0	No
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-10 ft	ug/kg	**Yes**	**--**	996	740	**Yes**	1	**Yes**
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-1 ft	mg/kg	--	--	1,000	23,000	No	0	No
Soil	NWTPH-Dx	Total	Residual Range Organics	0-1 ft	mg/kg	--	--	9,450	40,000	No	0	No
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-3 ft	mg/kg	**Yes**	--	1,000	23,000	No	0	No
Soil	NWTPH-Dx	Total	Residual Range Organics	0-3 ft	mg/kg	**Yes**	--	9,450	40,000	No	0	No
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-10 ft	mg/kg	**Yes**	**--**	9,740	23,000	No	0	No
Soil	NWTPH-Dx	Total	Residual Range Organics	0-10 ft	mg/kg	**Yes**	**--**	41,900	40,000	**Yes**	1	**Yes**
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-1 ft	mg/kg	--	--	23,900	13,000	**Yes**	1	**Yes**
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-3 ft	mg/kg	--	--	23,900	13,000	**Yes**	1	**Yes**
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-10 ft	mg/kg	**Yes**	**--**	23,900	13,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	2-Methylnaphthalene	0-1 ft	ug/kg	**Yes**	**--**	1,530	4,100,000	No	0	No
Soil	SVOCs	Total	Acenaphthene	0-1 ft	ug/kg	**Yes**	**--**	2,600	19,000,000	No	0	No
Soil	SVOCs	Total	Acenaphthylene	0-1 ft	ug/kg	**Yes**	**--**	78.1	23,000	No	0	No

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(4 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	SVOCs	Total	Anthracene	0-1 ft	ug/kg	**Yes**	--	2,700	93,000,000	No	0	No
Soil	SVOCs	Total	Benzo(a)anthracene	0-1 ft	ug/kg	**Yes**	--	32,000	2,700	**Yes**	7	**Yes**
Soil	SVOCs	Total	Benzo(a)pyrene	0-1 ft	ug/kg	**Yes**	--	33,000	270	**Yes**	17	**Yes**
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-1 ft	ug/kg	**Yes**	--	65,000	2,700	**Yes**	5	**Yes**
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-1 ft	ug/kg	**Yes**	--	18,000	27,000	No	0	No
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-1 ft	ug/kg	**Yes**	--	65,000	27,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-1 ft	ug/kg	--	--	14,700	2,700	**Yes**	2	**Yes**
Soil	SVOCs	Total	Benzoic Acid	0-1 ft	ug/kg	**Yes**	--	553	200,000	No	0	No
Soil	SVOCs	Total	Benzyl Alcohol	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-1 ft	ug/kg	**Yes**	--	21,000	4,500	**Yes**	2	**Yes**
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-1 ft	ug/kg	**Yes**	--	68.7	450	No	0	No
Soil	SVOCs	Total	Carbazole	0-1 ft	ug/kg	**Yes**	--	2,650	2,260	**Yes**	1	**Yes**
Soil	SVOCs	Total	Chrysene	0-1 ft	ug/kg	**Yes**	--	32,000	270,000	No	0	No
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-1 ft	ug/kg	**Yes**	--	9,900	270	**Yes**	8	**Yes**
Soil	SVOCs	Total	Dibenzofuran	0-1 ft	ug/kg	**Yes**	--	810	2.00	**Yes**	11	**Yes**
Soil	SVOCs	Total	Diethyl Phthalate	0-1 ft	ug/kg	**Yes**	--	73.4	100,000	No	0	No
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-1 ft	ug/kg	**Yes**	--	1,800	450	**Yes**	1	**Yes**
Soil	SVOCs	Total	Fluoranthene	0-1 ft	ug/kg	**Yes**	--	54,000	8,900,000	No	0	No
Soil	SVOCs	Total	Fluorene	0-1 ft	ug/kg	**Yes**	--	1,200	12,000,000	No	0	No
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-1 ft	ug/kg	**Yes**	--	19,000	2,700	**Yes**	5	**Yes**
Soil	SVOCs	Total	Naphthalene	0-1 ft	ug/kg	**Yes**	--	823	23,000	No	0	No
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-1 ft	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Pentachlorophenol	0-1 ft	ug/kg	**Yes**	--	201	2,100	No	0	No
Soil	SVOCs	Total	Phenanthrene	0-1 ft	ug/kg	**Yes**	--	12,000	23,000	No	0	No
Soil	SVOCs	Total	Pyrene	0-1 ft	ug/kg	**Yes**	--	40,000	6,700,000	No	0	No
Soil	SVOCs	Total	Total HPAHs (KM, capped)	0-1 ft	ug/kg	**Yes**	--	367,900	1,100	**Yes**	21	**Yes**
Soil	SVOCs	Total	Total LPAHs (KM, capped)	0-1 ft	ug/kg	**Yes**	--	18,674	29,000	No	0	No
Soil	SVOCs	Total	2-Methylnaphthalene	0-3 ft	ug/kg	**Yes**	--	1,530	4,100,000	No	0	No
Soil	SVOCs	Total	Acenaphthene	0-3 ft	ug/kg	**Yes**	--	2,600	19,000,000	No	0	No
Soil	SVOCs	Total	Acenaphthylene	0-3 ft	ug/kg	**Yes**	--	111	23,000	No	0	No
Soil	SVOCs	Total	Anthracene	0-3 ft	ug/kg	**Yes**	--	8,440	93,000,000	No	0	No
Soil	SVOCs	Total	Benzo(a)anthracene	0-3 ft	ug/kg	**Yes**	--	32,000	2,700	**Yes**	13	**Yes**
Soil	SVOCs	Total	Benzo(a)pyrene	0-3 ft	ug/kg	**Yes**	--	34,000	270	**Yes**	23	**Yes**
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-3 ft	ug/kg	**Yes**	--	65,000	2,700	**Yes**	9	**Yes**
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-3 ft	ug/kg	**Yes**	--	18,000	27,000	No	0	No
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-3 ft	ug/kg	**Yes**	--	65,000	27,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-3 ft	ug/kg	--	--	31,300	2,700	**Yes**	4	**Yes**
Soil	SVOCs	Total	Benzoic Acid	0-3 ft	ug/kg	**Yes**	--	553	200,000	No	0	No
Soil	SVOCs	Total	Benzyl Alcohol	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-3 ft	ug/kg	**Yes**	--	21,000	4,500	**Yes**	2	**Yes**
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-3 ft	ug/kg	**Yes**	--	68.7	450	No	0	No
Soil	SVOCs	Total	Carbazole	0-3 ft	ug/kg	**Yes**	--	2,840	2,260	**Yes**	2	**Yes**
Soil	SVOCs	Total	Chrysene	0-3 ft	ug/kg	**Yes**	--	35,300	270,000	No	0	No

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(5 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-3 ft	ug/kg	**Yes**	--	9,900	270	**Yes**	14	**Yes**
Soil	SVOCs	Total	Dibenzofuran	0-3 ft	ug/kg	**Yes**	--	810	2.00	**Yes**	13	**Yes**
Soil	SVOCs	Total	Diethyl Phthalate	0-3 ft	ug/kg	**Yes**	--	73.4	100,000	No	0	No
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-3 ft	ug/kg	**Yes**	--	1,800	450	**Yes**	1	**Yes**
Soil	SVOCs	Total	Fluoranthene	0-3 ft	ug/kg	**Yes**	--	54,000	8,900,000	No	0	No
Soil	SVOCs	Total	Fluorene	0-3 ft	ug/kg	**Yes**	--	1,610	12,000,000	No	0	No
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-3 ft	ug/kg	**Yes**	--	20,000	2,700	**Yes**	10	**Yes**
Soil	SVOCs	Total	Naphthalene	0-3 ft	ug/kg	**Yes**	--	823	23,000	No	0	No
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Pentachlorophenol	0-3 ft	ug/kg	**Yes**	--	201	2,100	No	0	No
Soil	SVOCs	Total	Phenanthrene	0-3 ft	ug/kg	**Yes**	--	21,900	23,000	No	0	No
Soil	SVOCs	Total	Pyrene	0-3 ft	ug/kg	**Yes**	--	67,100	6,700,000	No	0	No
Soil	SVOCs	Total	Total HPAHs (KM, capped)	0-3 ft	ug/kg	**Yes**	--	367,900	1,100	**Yes**	27	**Yes**
Soil	SVOCs	Total	Total LPAHs (KM, capped)	0-3 ft	ug/kg	**Yes**	--	34,767	29,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	2-Methylnaphthalene	0-10 ft	ug/kg	**Yes**	--	1,530	4,100,000	No	0	No
Soil	SVOCs	Total	Acenaphthene	0-10 ft	ug/kg	**Yes**	--	3,040	19,000,000	No	0	No
Soil	SVOCs	Total	Acenaphthylene	0-10 ft	ug/kg	**Yes**	--	111	23,000	No	0	No
Soil	SVOCs	Total	Anthracene	0-10 ft	ug/kg	**Yes**	--	8,440	93,000,000	No	0	No
Soil	SVOCs	Total	Benzo(a)anthracene	0-10 ft	ug/kg	**Yes**	--	32,000	2,700	**Yes**	22	**Yes**
Soil	SVOCs	Total	Benzo(a)pyrene	0-10 ft	ug/kg	**Yes**	--	34,000	270	**Yes**	33	**Yes**
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-10 ft	ug/kg	**Yes**	--	65,000	2,700	**Yes**	9	**Yes**
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-10 ft	ug/kg	**Yes**	--	18,000	27,000	No	0	No
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-10 ft	ug/kg	**Yes**	--	65,000	27,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-10 ft	ug/kg	--	--	31,300	2,700	**Yes**	13	**Yes**
Soil	SVOCs	Total	Benzoic Acid	0-10 ft	ug/kg	**Yes**	--	553	2,500,000,000	No	0	No
Soil	SVOCs	Total	Benzyl Alcohol	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-10 ft	ug/kg	**Yes**	--	21,000	150,000	No	0	No
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-10 ft	ug/kg	**Yes**	--	152	910,000	No	0	No
Soil	SVOCs	Total	Carbazole	0-10 ft	ug/kg	**Yes**	--	2,840	NV	***Yes***	--	***Yes***
Soil	SVOCs	Total	Chrysene	0-10 ft	ug/kg	**Yes**	--	35,300	270,000	No	0	No
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-10 ft	ug/kg	**Yes**	--	9,900	270	**Yes**	21	**Yes**
Soil	SVOCs	Total	Dibenzofuran	0-10 ft	ug/kg	**Yes**	--	810	1,000,000	No	0	No
Soil	SVOCs	Total	Diethyl Phthalate	0-10 ft	ug/kg	**Yes**	--	73.4	490,000,000	No	0	No
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-10 ft	ug/kg	**Yes**	--	1,800	62,000,000	No	0	No
Soil	SVOCs	Total	Fluoranthene	0-10 ft	ug/kg	**Yes**	--	54,000	8,900,000	No	0	No
Soil	SVOCs	Total	Fluorene	0-10 ft	ug/kg	**Yes**	--	1,610	12,000,000	No	0	No
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-10 ft	ug/kg	**Yes**	--	20,000	2,700	**Yes**	17	**Yes**
Soil	SVOCs	Total	Naphthalene	0-10 ft	ug/kg	**Yes**	--	1,710	23,000	No	0	No
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Pentachlorophenol	0-10 ft	ug/kg	**Yes**	--	201	13,000	No	0	No
Soil	SVOCs	Total	Phenanthrene	0-10 ft	ug/kg	**Yes**	--	21,900	23,000	No	0	No
Soil	SVOCs	Total	Pyrene	0-10 ft	ug/kg	**Yes**	--	67,100	6,700,000	No	0	No
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-1 ft	ug/kg	--	--	14,300	200,000	No	0	No

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-1 ft	ug/kg	--	--	5,410	150,000	No	0	No
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-1 ft	ug/kg	--	--	12.0	20,000	No	0	No
Soil	VOCs	Total	Ethylbenzene	0-1 ft	ug/kg	--	--	2,700	2,260	**Yes**	1	**Yes**
Soil	VOCs	Total	m,p-Xylenes	0-1 ft	ug/kg	--	--	9,800	120,000	No	0	No
Soil	VOCs	Total	Naphthalene	0-1 ft	ug/kg	--	--	8,360	23,000	No	0	No
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-1 ft	ug/kg	**Yes**	--	65.0	1,600	No	0	No
Soil	VOCs	Total	Toluene	0-1 ft	ug/kg	**Yes**	--	5.30	200,000	No	0	No
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-3 ft	ug/kg	**Yes**	--	14,300	200,000	No	0	No
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-3 ft	ug/kg	**Yes**	--	5,410	150,000	No	0	No
Soil	VOCs	Total	4-Isopropyltoluene	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Dichlorodifluoromethane	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-3 ft	ug/kg	**Yes**	--	12.0	20,000	No	0	No
Soil	VOCs	Total	Ethylbenzene	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	m,p-Xylenes	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Naphthalene	0-3 ft	ug/kg	**Yes**	--	8,360	23,000	No	0	No
Soil	VOCs	Total	Styrene	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-3 ft	ug/kg	**Yes**	--	65.0	1,600	No	0	No
Soil	VOCs	Total	Toluene	0-3 ft	ug/kg	**Yes**	--	5.30	200,000	No	0	No
Soil	VOCs	Total	Trichlorofluoromethane	0-3 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-10 ft	ug/kg	**Yes**	--	14,300	980,000	No	0	No
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-10 ft	ug/kg	**Yes**	--	5,410	150,000	No	0	No
Soil	VOCs	Total	4-Isopropyltoluene	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Dichlorodifluoromethane	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-10 ft	ug/kg	**Yes**	--	12.0	20,000	No	0	No
Soil	VOCs	Total	Ethylbenzene	0-10 ft	ug/kg	**Yes**	--	2,700	12,000	No	0	No
Soil	VOCs	Total	m,p-Xylenes	0-10 ft	ug/kg	**Yes**	--	9,800	2,700,000	No	0	No
Soil	VOCs	Total	Naphthalene	0-10 ft	ug/kg	**Yes**	--	8,360	23,000	No	0	No
Soil	VOCs	Total	o-Xylene	0-10 ft	ug/kg	**Yes**	--	4,260	19,000,000	No	0	No
Soil	VOCs	Total	Styrene	0-10 ft	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-10 ft	ug/kg	**Yes**	--	403,000	1,600	**Yes**	1	**Yes**
Soil	VOCs	Total	Toluene	0-10 ft	ug/kg	**Yes**	--	133,000	24,000,000	No	0	No
Soil	VOCs	Total	Trichlorofluoromethane	0-10 ft	ug/kg	No	--	--	--	--	--	No
Groundwater[3]	Metals	Dissolved	Arsenic	N/A	mg/L	**Yes**	**Yes**	0.0193	0.0000180	**Yes**	29	**Yes**
Groundwater[3]	Metals	Dissolved	Barium	N/A	mg/L	--	**Yes**	0.134	0.00400	**Yes**	3	**Yes**
Groundwater[3]	Metals	Dissolved	Calcium	N/A	mg/L	--	**Yes**	172	116	**Yes**	1	**Yes**
Groundwater[3]	Metals	Dissolved	Iron	N/A	mg/L	**Yes**	**Yes**	35.4	0.300	**Yes**	16	**Yes**
Groundwater[3]	Metals	Dissolved	Lead	N/A	mg/L	**Yes**	**Yes**	0.00350	0.00144	**Yes**	3	**Yes**
Groundwater[3]	Metals	Dissolved	Magnesium	N/A	mg/L	--	**Yes**	25.8	82.0	No	0	No
Groundwater[3]	Metals	Dissolved	Manganese	N/A	mg/L	**Yes**	**Yes**	5.54	0.0500	**Yes**	20	**Yes**
Groundwater[3]	Metals	Dissolved	Nickel	N/A	mg/L	--	**Yes**	0.0187	0.0340	No	0	No
Groundwater[3]	Metals	Dissolved	Potassium	N/A	mg/L	--	**Yes**	12.9	53.0	No	0	No
Groundwater[3]	Metals	Dissolved	Sodium	N/A	mg/L	--	**Yes**	740	680	**Yes**	1	**Yes**

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Groundwater[3]	Metals	Dissolved	Zinc	N/A	mg/L	--	**Yes**	0.197	0.077	**Yes**	1	**Yes**
Groundwater[3]	Metals	Total	Antimony	N/A	mg/L	--	**Yes**	0.00389	0.00560	No	0	No
Groundwater[3]	Metals	Total	Arsenic	N/A	mg/L	**Yes**	**Yes**	0.0213	0.0000180	**Yes**	43	**Yes**
Groundwater[3]	Metals	Total	Barium	N/A	mg/L	--	**Yes**	0.304	1.00	No	0	No
Groundwater[3]	Metals	Total	Beryllium	N/A	mg/L	--	**Yes**	0.000435	0.0730	No	0	No
Groundwater[3]	Metals	Total	Cadmium	N/A	mg/L	--	**Yes**	0.00560	0.0180	No	0	No
Groundwater[3]	Metals	Total	Chromium	N/A	mg/L	--	**Yes**	0.0185	55.0	No	0	No
Groundwater[3]	Metals	Total	Copper	N/A	mg/L	--	**Yes**	0.201	1.30	No	0	No
Groundwater[3]	Metals	Total	Iron	N/A	mg/L	**Yes**	**Yes**	42.9	0.300	**Yes**	34	**Yes**
Groundwater[3]	Metals	Total	Lead	N/A	mg/L	**Yes**	**Yes**	0.0782	0.0150	**Yes**	2	**Yes**
Groundwater[3]	Metals	Total	Manganese	N/A	mg/L	**Yes**	**Yes**	5.38	0.0500	**Yes**	35	**Yes**
Groundwater[3]	Metals	Total	Mercury	N/A	mg/L	**Yes**	**Yes**	0.000330	0.0110	No	0	No
Groundwater[3]	Metals	Total	Nickel	N/A	mg/L	--	**Yes**	0.117	0.610	No	0	No
Groundwater[3]	Metals	Total	Selenium	N/A	mg/L	--	**Yes**	0.0329	0.170	No	0	No
Groundwater[3]	Metals	Total	Silver	N/A	mg/L	--	**Yes**	0.000658	0.180	No	0	No
Groundwater[3]	Metals	Total	Thallium	N/A	mg/L	--	**Yes**	0.000323	0.000240	**Yes**	2	**Yes**
Groundwater[3]	Metals	Total	Zinc	N/A	mg/L	--	**Yes**	2.66	7.40	No	0	No
Groundwater[3]	Butyltins	Total	Dibutyltin	N/A	ug/L	**Yes**	**--**	0.447	0.0630	**Yes**	6	**Yes**
Groundwater[3]	Butyltins	Total	Monobutyltin	N/A	ug/L	**Yes**	**--**	0.240	0.0630	**Yes**	1	**Yes**
Groundwater[3]	Butyltins	Total	Tributyltin	N/A	ug/L	--	--	0.0601	0.0630	No	0	No
Groundwater[3]	Herbicides	Total	4-Nitrophenol	N/A	ug/L	--	--	0.840	150	No	0	No
Groundwater[3]	Herbicides	Total	Dichloroprop	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	Herbicides	Total	Pentachlorophenol	N/A	ug/L	--	--	0.112	0.270	No	0	No
Groundwater[3]	Pesticides	Total	4,4'-DDE	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	Pesticides	Total	Dieldrin	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	NWTPH-Dx	Total	Diesel Range Organics	N/A	mg/L	**Yes**	**--**	1.80	0.0900	**Yes**	30	**Yes**
Groundwater[3]	NWTPH-Dx	Total	Residual Range Organics	N/A	mg/L	**Yes**	**--**	1.90	0.290	**Yes**	12	**Yes**
Groundwater[3]	NWTPH-Gx	Total	Gasoline Range Organics	N/A	mg/L	**Yes**	**--**	0.430	0.100	**Yes**	5	**Yes**
Groundwater[3]	SVOCs	Total	1,4-Dichlorobenzene	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	2-Methylnaphthalene	N/A	ug/L	**Yes**	**--**	0.360	72.2	No	0	No
Groundwater[3]	SVOCs	Total	2-Methylphenol	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Acenaphthene	N/A	ug/L	**Yes**	**--**	0.239	520	No	0	No
Groundwater[3]	SVOCs	Total	Anthracene	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Benzoic Acid	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	N/A	ug/L	**Yes**	**--**	48.0	1.20	**Yes**	6	**Yes**
Groundwater[3]	SVOCs	Total	Diethyl Phthalate	N/A	ug/L	**Yes**	**--**	1.90	210	No	0	No
Groundwater[3]	SVOCs	Total	Dimethyl Phthalate	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Di-n-octyl Phthalate	N/A	ug/L	**Yes**	**--**	7.08	1.20	**Yes**	3	**Yes**
Groundwater[3]	SVOCs	Total	Isophorone	N/A	ug/L	**Yes**	**--**	0.282	35.0	No	0	No

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(8 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Groundwater[3]	SVOCs	Total	Naphthalene	N/A	ug/L	**Yes**	**--**	0.157	0.140	**Yes**	1	**Yes**
Groundwater[3]	SVOCs	Total	p-cresol (4-Methylphenol)	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Phenanthrene	N/A	ug/L	**Yes**	**--**	3.90	0.140	**Yes**	4	**Yes**
Groundwater[3]	SVOCs	Total	Phenol	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Pyrene	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	1,2,4-Trimethylbenzene	N/A	ug/L	**Yes**	**--**	5.20	7.30	No	0	No
Groundwater[3]	VOCs	Total	4-Methyl-2-pentanone (MIBK)	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Acetone	N/A	ug/L	**Yes**	**--**	15.4	1,500	No	0	No
Groundwater[3]	VOCs	Total	Carbon Disulfide	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Carbon Tetrachloride	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Chloroform	N/A	ug/L	**Yes**	**--**	3.70	0.190	**Yes**	7	**Yes**
Groundwater[3]	VOCs	Total	cis-1,2-Dichloroethene	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Ethylbenzene	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Isopropylbenzene	N/A	ug/L	**Yes**	**--**	4.60	7.30	No	0	No
Groundwater[3]	VOCs	Total	n-Propylbenzene	N/A	ug/L	**Yes**	**--**	2.00	7.30	No	0	No
Groundwater[3]	VOCs	Total	Tetrachloroethene (PCE)	N/A	ug/L	**Yes**	**--**	8.78	0.0930	**Yes**	13	**Yes**
Groundwater[3]	VOCs	Total	Vinyl Chloride	N/A	ug/L	**Yes**	**--**	0.955	0.0250	**Yes**	16	**Yes**
Seep Water[3]	Metals	Dissolved	Antimony	N/A	mg/L	--	**Yes**	0.00228	0.00560	No	0	No
Seep Water[3]	Metals	Dissolved	Arsenic	N/A	mg/L	--	No	--	--	--	--	No
Seep Water[3]	Metals	Dissolved	Barium	N/A	mg/L	--	**Yes**	0.277	0.00400	**Yes**	1	**Yes**
Seep Water[3]	Metals	Dissolved	Calcium	N/A	mg/L	--	**Yes**	76.4	116	No	0	No
Seep Water[3]	Metals	Dissolved	Copper	N/A	mg/L	--	**Yes**	0.00109	0.00580	No	0	No
Seep Water[3]	Metals	Dissolved	Iron	N/A	mg/L	--	**Yes**	3.21	0.300	**Yes**	1	**Yes**
Seep Water[3]	Metals	Dissolved	Lead	N/A	mg/L	--	**Yes**	0.0000650	0.00144	No	0	No
Seep Water[3]	Metals	Dissolved	Magnesium	N/A	mg/L	--	**Yes**	16.6	82.0	No	0	No
Seep Water[3]	Metals	Dissolved	Manganese	N/A	mg/L	--	**Yes**	1.48	0.0500	**Yes**	1	**Yes**
Seep Water[3]	Metals	Dissolved	Nickel	N/A	mg/L	--	**Yes**	0.00222	0.0340	No	0	No
Seep Water[3]	Metals	Dissolved	Potassium	N/A	mg/L	--	No	--	--	--	--	No
Seep Water[3]	Metals	Dissolved	Sodium	N/A	mg/L	--	**Yes**	19.7	680	No	0	No
Seep Water[3]	Metals	Dissolved	Zinc	N/A	mg/L	--	**Yes**	0.0856	0.077	**Yes**	1	**Yes**
Seep Water[3]	Metals	Total	Arsenic	N/A	mg/L	--	**Yes**	0.0128	0.0000180	**Yes**	4	**Yes**
Seep Water[3]	Metals	Total	Barium	N/A	mg/L	--	**Yes**	0.0742	1.00	No	0	No
Seep Water[3]	Metals	Total	Chromium	N/A	mg/L	--	No	--	--	--	--	No
Seep Water[3]	Metals	Total	Copper	N/A	mg/L	--	**Yes**	0.00272	1.30	No	0	No
Seep Water[3]	Metals	Total	Iron	N/A	mg/L	--	**Yes**	121	0.300	**Yes**	4	**Yes**
Seep Water[3]	Metals	Total	Lead	N/A	mg/L	--	**Yes**	0.0257	0.0150	**Yes**	1	**Yes**
Seep Water[3]	Metals	Total	Manganese	N/A	mg/L	--	**Yes**	3.24	0.0500	**Yes**	3	**Yes**
Seep Water[3]	Metals	Total	Mercury	N/A	mg/L	--	No	--	--	--	--	No
Seep Water[3]	Metals	Total	Nickel	N/A	mg/L	--	No	--	--	--	--	No

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(9 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Seep Water[3]	Metals	Total	Selenium	N/A	mg/L	--	**Yes**	0.00111	0.170	No	0	No
Seep Water[3]	NWTPH-Dx	Total	Diesel Range Organics	N/A	mg/L	--	--	0.130	0.0900	**Yes**	1	**Yes**
Seep Water[3]	NWTPH-Dx	Total	Residual Range Organics	N/A	mg/L	--	--	0.130	0.290	No	0	No
Seep Water[3]	SVOCs	Total	Benzoic Acid	N/A	ug/L	--	--	5.90	42.0	No	0	No
Seep Water[3]	VOCs	Total	Chloroform	N/A	ug/L	--	--	2.80	0.190	**Yes**	2	**Yes**
Seep Water[3]	VOCs	Total	Tetrachloroethene (PCE)	N/A	ug/L	--	--	4.40	0.0930	**Yes**	3	**Yes**
Surface Water[3]	Metals	Dissolved	Arsenic	N/A	mg/L	--	--	0.00101	0.0000180	**Yes**	4	**Yes**
Surface Water[3]	Metals	Dissolved	Calcium	N/A	mg/L	--	--	20.5	116	No	0	No
Surface Water[3]	Metals	Dissolved	Iron	N/A	mg/L	--	--	0.00920	0.300	No	0	No
Surface Water[3]	Metals	Dissolved	Lead	N/A	mg/L	--	--	0.0000160	0.00144	No	0	No
Surface Water[3]	Metals	Dissolved	Magnesium	N/A	mg/L	--	--	6.33	82.0	No	0	No
Surface Water[3]	Metals	Dissolved	Manganese	N/A	mg/L	--	--	0.00101	0.0500	No	0	No
Surface Water[3]	Metals	Dissolved	Potassium	N/A	mg/L	--	--	1.51	53.0	No	0	No
Surface Water[3]	Metals	Dissolved	Sodium	N/A	mg/L	--	--	7.90	680	No	0	No
Surface Water[3]	Metals	Total	Arsenic	N/A	mg/L	--	--	0.00117	0.0000180	**Yes**	3	**Yes**
Surface Water[3]	Metals	Total	Iron	N/A	mg/L	--	--	0.446	0.300	**Yes**	1	**Yes**
Surface Water[3]	Metals	Total	Lead	N/A	mg/L	--	--	0.000407	0.0150	No	0	No
Surface Water[3]	Metals	Total	Manganese	N/A	mg/L	--	--	0.0136	0.0500	No	0	No
Surface Water[3]	NWTPH-Dx	Total	Diesel Range Organics	N/A	mg/L	--	--	0.0300	0.0900	No	0	No

Notes

(1) Only evaluated for analytes with a sample size of 20 or more. See the Data Summary for the Landfill AOPC - Appendix I, Table I-1.

(2) Only applicable to inorganics. For soils, see the statistical comparison of Site soil concentrations to Reference Area concentrations; Appendix L, Tables L-1 and L-2.
For groundwater and seep water, see Table 8-3 and Appendix L, Table L-3.

(3) The groundwater, seep water, and surface water SLVs are the lower of the Direct Contact Water SLV and the Discharge to Surface Water-Bioaccumulative SLV; see Appendix J.

Table 9-1
Preliminary-COPC Identification for Landfill AOPC Data
Bradford Island - Upland Operable Unit
(10 of 10)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?

'--' = Not evaluated
% = percent
BHC = hexachlorocyclohexane
ft = feet
Max = maximum
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
N/A = not applicable
NV = No Value
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PCB = polychlorinated biphenyl
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
ug/L = micrograms per liter
VOC = volatile organic carbon

Table 9-10
Preliminary COPC Identification for Targeted Eagle Creek Data
Bradford Island - Upland Operable Unit
(1 of 2)

Medium	Analyte Group	Analyte	Unit	Detection Rate > 5%?[1]	Higher Conc than Reference Area?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Sediment	Metals	Aluminum	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Antimony	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Arsenic	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Barium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Beryllium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Chromium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Cobalt	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Copper	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Lead	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Mercury	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Nickel	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Vanadium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	Zinc	mg/kg	--	No	--	--	--	--	No
Sediment	NWTPH-Dx	Diesel Range Organics	mg/kg	--	--	13.0	NV	***Yes***	--	***Yes***
Sediment	PCB Aroclors	Aroclor 1248	ug/kg	--	--	76.0	0.048	**Yes**	1	**Yes**
Sediment	PCB Aroclors	Total PCBs As Aroclors	ug/kg	--	--	77.7	0.048	**Yes**	1	**Yes**
Sediment	SVOCs	Anthracene	ug/kg	--	--	2.60	57.0	No	0	No
Sediment	SVOCs	Benzo(a)anthracene	ug/kg	--	--	6.60	32.0	No	0	No
Sediment	SVOCs	Benzo(a)pyrene	ug/kg	--	--	7.10	32.0	No	0	No
Sediment	SVOCs	Benzo(b)fluoranthene	ug/kg	--	--	11.0	27.0	No	0	No
Sediment	SVOCs	Benzo(g,h,i)perylene	ug/kg	--	--	5.00	300	No	0	No
Sediment	SVOCs	Benzo(k)fluoranthene	ug/kg	--	--	3.40	27.0	No	0	No
Sediment	SVOCs	Carbazole	ug/kg	--	--	2.20	140	No	0	No
Sediment	SVOCs	Chrysene	ug/kg	--	--	13.0	57.0	No	0	No
Sediment	SVOCs	Fluoranthene	ug/kg	--	--	11.0	111	No	0	No
Sediment	SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	--	--	4.60	17.0	No	0	No
Sediment	SVOCs	Phenanthrene	ug/kg	--	--	6.50	42.0	No	0	No
Sediment	SVOCs	Pyrene	ug/kg	--	--	17.0	53.0	No	0	No
Sediment	SVOCs	Total LPAH (KM, capped)	ug/kg	--	--	11.8	76.0	No	0	No
Sediment	SVOCs	Total HPAH (KM, capped)	ug/kg	--	--	80.9	193	No	0	No
Sediment	SVOCs	Total PAHs (KM, capped)	ug/kg	--	--	90.8	1610	No	0	No

Table 9-10
Preliminary COPC Identification for Targeted Eagle Creek Data
Bradford Island - Upland Operable Unit
(2 of 2)

Notes
(1) Only evaluated for analytes with a sample size of 20 or more.
(2) Only evaluated for inorganics, see Appendix L, Table L-7
All concentrations are totals and in dry weight.

'--' = Not evaluated
% = percent
Max = maximum
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
Min = minimum
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PCB = polychlorinated biphenyl
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
W = Wet Weight

Table 9-11
River OU Preliminary COPC Summary
Bradford Island - River Operable Unit
(1 of 3)

Medium	Analyte Group	Random Forebay Preliminary COPCs	Targeted Goose Island Preliminary COPCs	Targeted Eagle Creek Preliminary COPCs
Detection Frequency > 5%, Detected > Reference (Inorganics), and Detected > SLV				
Sediment	Metals	None	Cadmium, Thallium, and Zinc	None
	TPH	None*	None*	None*
	PCB Aroclors	Aroclor 1254 and Total PCBs as Aroclors	Aroclor 1254 and Total PCBs as Aroclors	Aroclor 1248 and Total PCBs as Aroclors
	PCB Congeners	PCBs 77, 105, 114, 118, 123, 126, 156+157, and 167; and Total PCBs as Congeners	PCBs 105 and 118; and Total PCBs as Congeners	-
	PAHs	None	None	None
	SVOCs	None	None	None
Tissue-Clam	Metals	Cadmium	None*	(No clam samples)
	TPH	-	-	
	PCB Aroclors	Aroclor 1254 and Total PCBs as Aroclors	ND	
	PCB Congeners	PCBs 118 and 126; and Total PCBs as Congeners	None	
	PAHs	None	None	
	SVOCs	None*	None*	
Tissue- Crayfish	Metals	Arsenic	None	(No crayfish samples)
	TPH	-	-	
	PCB Aroclors	ND	ND	
	PCB Congeners	PCBs 114, 118, 123, 126, 156+157, and 167; and Total PCBs as Congeners	Total PCBs as Congeners	
	PAHs	Benzo(a)pyrene	None	
	SVOCs	Bis(2-ethylhexyl) Phthalate	ND	
Tissue - Sculpin	Metals	Lead and Mercury	-	(No sculpin samples)
	TPH	-	-	
	PCB Aroclors	Aroclor 1254 and Total PCBs as Aroclors	-	
	PCB Congeners	PCBs 77, 105, 118, 126, 156+157, and 167; and Total PCBs as Congeners	None	
	PAHs	-	-	

Table 9-11
River OU Preliminary COPC Summary
Bradford Island - River Operable Unit
(2 of 3)

	SVOCs	-	-	

Table 9-11
River OU Preliminary COPC Summary
Bradford Island - River Operable Unit
(3 of 3)

Detection Frequency > 5%, Detected > Reference (Inorganics), and Detected > SLV				
Tissue-Smallmouth Bass	Metals	Mercury	(No bass samples)	(No bass samples)
	TPH	-		
	PCB Aroclors	Aroclor 1242, Aroclor 1254, and Total PCBs as Aroclors		
	PCB Congeners	PCBs 77, 81, 105, 114, 118, 123, 126, 156+157, 167, and 189; and Total PCBs as Congeners		
	PAHs	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene		
	SVOCs	Bis(2-ethylhexyl) Phthalate and Butyl Benzyl Phthalate		
Surface Water	Metals (Total)	None	(No surface water samples)	(No surface water samples)
	Metals (Dissolved)	Arsenic and Barium		
	TPH	None		
	PCB Congeners	Total PCBs as Congeners		
	PAHs	None		
	SVOCs	-		
Detection Frequency > 5%, Detected > Reference (Inorganics), and No SLV				
Sediment	TPH	DRO and RRO	DRO and RRO	DRO
Tissue-Clam	Metals	Beryllium	Beryllium	(No clam samples)
	SVOCs	p-cresol (4-Methylphenol)	p-cresol (4-Methylphenol)	
Tissue- Crayfish	Metals	Antimony, Chromium, and Nickel	None	(No crayfish samples)
Tissue-Smallmouth Bass	Metals	Aluminum, Barium, Copper, and Zinc	(No bass samples)	(No bass samples)

* See the section of the table for COFIs retained due to lack of SLVs
"-" = Not Analyzed
ND = Not Detected

Table 9-12
Comparison of Downstream Sediment Data to SLVs and River Reference Area
Bradford Island - River Operable Unit
(1 of 2)

Analyte Group	IUPAC #	Analyte	Unit	Max Detected Value	Lower of HH and Eco Sediment SLV	Reference Area Sediment 95% UPL	No. of Detections > SLV and Ref UPL
Metals		Aluminum	mg/kg	21,600	NV	38,000	0
Metals		Antimony	mg/kg	0.400	3.00	0.427	0
Metals		Arsenic	mg/kg	5.84	6.00	5.86	0
Metals		Barium	mg/kg	172	NV	315	0
Metals		Beryllium	mg/kg	0.513	0.600	0.847	0
Metals		Cadmium	mg/kg	0.791	37.0	0.674	1
Metals		Chromium	mg/kg	29.9	37.0	28.0	0
Metals		Cobalt	mg/kg	11.5	NV	15.2	0
Metals		Copper	mg/kg	24.1	36.0	55.6	0
Metals		Lead	mg/kg	12.7	35.0	14.5	0
Metals		Mercury	mg/kg	0.136	0.200	0.214	0
Metals		Nickel	mg/kg	15.2	18.0	21.2	0
Metals		Thallium	mg/kg	0.234	NV	0.354	0
Metals		Vanadium	mg/kg	73.5	NV	70.6	1
Metals		Zinc	mg/kg	117	123	106	0
NWTPH-Dx		Diesel Range Organics	mg/kg	25.0	NV	31.7	0
NWTPH-Dx		Residual Range Organics	mg/kg	41.0	NV	100	0
PCB Congeners	-	Total PCBs As Congeners (KM, capped)	ug/kg	0.917	0.0480	0.941	0
PCB Congeners	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	0.00201	0.00640	0.00165	0
PCB Congeners	81	3,4,4',5-Tetrachlorobiphenyl	ug/kg	0.000260	0.00210	0.000143	0
PCB Congeners	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	0.0197	0.0210	0.0177	0
PCB Congeners	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	0.000957	0.0210	0.00163	0
PCB Congeners	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	0.0456	0.0260	0.0552	0
PCB Congeners	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	0.000874	0.0260	0.00122	0
PCB Congeners	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	0.000211	0.0000062	0.000337	0
PCB Congeners	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	0.00625	0.0260	0.00579	0
PCB Congeners	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	0.00261	0.0260	0.00384	0
PCB Congeners	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	0.000596	0.140	0.000573	0
SVOCs		Anthracene	ug/kg	3.10	57.0	2.30	0
SVOCs		Benzo(a)anthracene	ug/kg	12.0	32.0	10.0	0
SVOCs		Benzo(a)pyrene	ug/kg	14.0	32.0	11.0	0

Table 9-12
Comparison of Downstream Sediment Data to SLVs and River Reference Area
Bradford Island - River Operable Unit
(2 of 2)

Analyte Group	IUPAC #	Analyte	Unit	Max Detected Value	Lower of HH and Eco Sediment SLV	Reference Area Sediment 95% UPL	No. of Detections > SLV and Ref UPL
SVOCs		Benzo(b)fluoranthene	ug/kg	16.0	27.0	17.0	0
SVOCs		Benzo(g,h,i)perylene	ug/kg	6.80	300	7.90	0
SVOCs		Benzo(k)fluoranthene	ug/kg	6.50	27.0	5.00	0
SVOCs		Carbazole	ug/kg	1.60	140	1.40	0
SVOCs		Chrysene	ug/kg	18.0	57.0	9.80	0
SVOCs		Dibenz(a,h)anthracene	ug/kg	2.30	33.0	2.30	0
SVOCs		Fluoranthene	ug/kg	22.0	111	31.0	0
SVOCs		Indeno(1,2,3-cd)pyrene	ug/kg	8.20	17.0	8.80	0
SVOCs		p-cresol (4-Methylphenol)	ug/kg	130	48.0	210	0
SVOCs		Phenanthrene	ug/kg	4.90	42.0	5.90	0
SVOCs		Pyrene	ug/kg	21.0	53.0	12.7	0
SVOCs		Total LPAH (KM, capped)	ug/kg	10.7	76.0	7.30	0
SVOCs		Total HPAH (KM, capped)	ug/kg	127	193	76.0	0
SVOCs		Total PAHs (KM, capped)	ug/kg	137	1610	76.0	0

Notes
All concentrations are in dry weight and total.

% = percent
COPC = C
Max = maximum
mg/kg = milligrams per kilogram
NV = no value
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
UPL = upper prediction limit

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(1 of 26)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	Metals	Total	Aluminum	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Antimony	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	13.7	0.270	**Yes**	36
Soil	Metals	Total	Arsenic	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	80.9	5.40	**Yes**	25
Soil	Metals	Total	Barium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Beryllium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Cadmium	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	17.3	0.360	**Yes**	48
Soil	Metals	Total	Chromium	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	2,650	28.1	**Yes**	42
Soil	Metals	Total	Cobalt	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Copper	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Lead	0-1 ft	<250um	mg/kg	--	**Yes**	921	25.5	**Yes**	8
Soil	Metals	Total	Lead	0-1 ft	<2mm	mg/kg	--	**Yes**	768	25.5	**Yes**	8
Soil	Metals	Total	Lead	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	3,260	25.5	**Yes**	56
Soil	Metals	Total	Manganese	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Mercury	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Nickel	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	1,060	38	**Yes**	32
Soil	Metals	Total	Selenium	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	0.900	0.520	**Yes**	17
Soil	Metals	Total	Silver	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	0.431	4.20	No	0
Soil	Metals	Total	Thallium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Vanadium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Zinc	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	1,160	71.7	**Yes**	42
Soil	Metals	Total	Aluminum	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Antimony	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	13.7	0.270	**Yes**	44
Soil	Metals	Total	Arsenic	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	80.9	5.40	**Yes**	34
Soil	Metals	Total	Barium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Beryllium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Cadmium	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	17.3	0.360	**Yes**	58
Soil	Metals	Total	Chromium	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	2,650	28.1	**Yes**	49
Soil	Metals	Total	Cobalt	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Copper	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Lead	0-3 ft	<250um	mg/kg	--	**Yes**	921	25.5	**Yes**	10
Soil	Metals	Total	Lead	0-3 ft	<2mm	mg/kg	--	**Yes**	768	25.5	**Yes**	9
Soil	Metals	Total	Lead	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	3,260	25.5	**Yes**	65
Soil	Metals	Total	Manganese	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Mercury	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Nickel	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	1,060	38	**Yes**	34
Soil	Metals	Total	Selenium	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	0.900	0.520	**Yes**	26
Soil	Metals	Total	Silver	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	0.431	4.20	No	0
Soil	Metals	Total	Thallium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Vanadium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Zinc	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	1,160	71.7	**Yes**	47
Soil	Metals	Total	Aluminum	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Antimony	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	13.7	410	No	0
Soil	Metals	Total	Arsenic	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	80.9	5.40	**Yes**	35
Soil	Metals	Total	Barium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Beryllium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	Metals	Total	Cadmium	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	17.3	150	No	0
Soil	Metals	Total	Chromium	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	2,650	28.1	**Yes**	50
Soil	Metals	Total	Cobalt	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Copper	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Lead	0-10 ft	<250um	mg/kg	--	**Yes**	921	800	**Yes**	1
Soil	Metals	Total	Lead	0-10 ft	<2mm	mg/kg	--	**Yes**	768	800	No	0
Soil	Metals	Total	Lead	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	3,260	800	**Yes**	6
Soil	Metals	Total	Manganese	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Mercury	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Nickel	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	1,060	6,100	No	0
Soil	Metals	Total	Selenium	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	0.900	5,100	No	0
Soil	Metals	Total	Silver	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	0.431	1,500	No	0
Soil	Metals	Total	Thallium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Vanadium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--
Soil	Metals	Total	Zinc	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	1,160	310,000	No	0
Soil	Butyltins	Total	Dibutyltin	0-1 ft	N/A	ug/kg	**Yes**	--	210	28,000	No	0
Soil	Butyltins	Total	Monobutyltin	0-1 ft	N/A	ug/kg	**Yes**	--	108	28,000	No	0
Soil	Butyltins	Total	Tetrabutyltin	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Butyltins	Total	Tributyltin	0-1 ft	N/A	ug/kg	**Yes**	--	1,860	28,000	No	0
Soil	Butyltins	Total	Dibutyltin	0-3 ft	N/A	ug/kg	**Yes**	--	210	28,000	No	0
Soil	Butyltins	Total	Monobutyltin	0-3 ft	N/A	ug/kg	**Yes**	--	108	28,000	No	0
Soil	Butyltins	Total	Tetrabutyltin	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Butyltins	Total	Tributyltin	0-3 ft	N/A	ug/kg	**Yes**	--	1,860	28,000	No	0
Soil	Butyltins	Total	Dibutyltin	0-10 ft	N/A	ug/kg	**Yes**	--	210	180,000	No	0
Soil	Butyltins	Total	Monobutyltin	0-10 ft	N/A	ug/kg	**Yes**	--	108	180,000	No	0
Soil	Butyltins	Total	Tetrabutyltin	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Butyltins	Total	Tributyltin	0-10 ft	N/A	ug/kg	**Yes**	--	1,860	180,000	No	0
Soil	Pesticides	Total	4,4'-DDD	0-1 ft	N/A	ug/kg	**Yes**	--	0.990	21.0	No	0
Soil	Pesticides	Total	4,4'-DDE	0-1 ft	N/A	ug/kg	**Yes**	--	2.44	21.0	No	0
Soil	Pesticides	Total	4,4'-DDT	0-1 ft	N/A	ug/kg	**Yes**	--	140	21.0	**Yes**	7
Soil	Pesticides	Total	Aldrin	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	BHC (beta)	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	BHC (delta)	0-1 ft	N/A	ug/kg	**Yes**	--	3.03	340	No	0
Soil	Pesticides	Total	BHC (gamma) Lindane	0-1 ft	N/A	ug/kg	**Yes**	--	9.68	2,000	No	0
Soil	Pesticides	Total	Chlordane (alpha)	0-1 ft	N/A	ug/kg	--	--	1.50	7,200	No	0
Soil	Pesticides	Total	Chlordane (gamma)	0-1 ft	N/A	ug/kg	--	--	97.0	7,200	No	0
Soil	Pesticides	Total	Dieldrin	0-1 ft	N/A	ug/kg	**Yes**	--	0.823	4.90	No	0
Soil	Pesticides	Total	Endosulfan I	0-1 ft	N/A	ug/kg	**Yes**	--	6.45	20,000	No	0
Soil	Pesticides	Total	Endosulfan II	0-1 ft	N/A	ug/kg	**Yes**	--	1.99	20,000	No	0
Soil	Pesticides	Total	Endosulfan Sulfate	0-1 ft	N/A	ug/kg	**Yes**	--	3.30	20,000	No	0
Soil	Pesticides	Total	Endrin	0-1 ft	N/A	ug/kg	**Yes**	--	17.0	4.90	**Yes**	2
Soil	Pesticides	Total	Endrin Aldehyde	0-1 ft	N/A	ug/kg	**Yes**	--	16.0	4.90	**Yes**	2
Soil	Pesticides	Total	Endrin Ketone	0-1 ft	N/A	ug/kg	**Yes**	--	13.0	4.90	**Yes**	1
Soil	Pesticides	Total	Heptachlor	0-1 ft	N/A	ug/kg	**Yes**	--	2.90	480	No	0

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	Pesticides	Total	Heptachlor Epoxide	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	Methoxychlor	0-1 ft	N/A	ug/kg	**Yes**	--	1.20	500,000	No	0
Soil	Pesticides	Total	4,4'-DDD	0-3 ft	N/A	ug/kg	**Yes**	--	0.990	21.0	No	0
Soil	Pesticides	Total	4,4'-DDE	0-3 ft	N/A	ug/kg	**Yes**	--	2.44	21.0	No	0
Soil	Pesticides	Total	4,4'-DDT	0-3 ft	N/A	ug/kg	**Yes**	--	140	21.0	**Yes**	8
Soil	Pesticides	Total	Aldrin	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	BHC (beta)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	BHC (delta)	0-3 ft	N/A	ug/kg	**Yes**	--	3.03	340	No	0
Soil	Pesticides	Total	BHC (gamma) Lindane	0-3 ft	N/A	ug/kg	**Yes**	--	9.68	2,000	No	0
Soil	Pesticides	Total	Chlordane (alpha)	0-3 ft	N/A	ug/kg	**Yes**	--	1.50	7,200	No	0
Soil	Pesticides	Total	Chlordane (gamma)	0-3 ft	N/A	ug/kg	**Yes**	--	97.0	7,200	No	0
Soil	Pesticides	Total	Dieldrin	0-3 ft	N/A	ug/kg	**Yes**	--	0.823	4.90	No	0
Soil	Pesticides	Total	Endosulfan I	0-3 ft	N/A	ug/kg	**Yes**	--	6.45	20,000	No	0
Soil	Pesticides	Total	Endosulfan II	0-3 ft	N/A	ug/kg	**Yes**	--	1.99	20,000	No	0
Soil	Pesticides	Total	Endosulfan Sulfate	0-3 ft	N/A	ug/kg	**Yes**	--	3.30	20,000	No	0
Soil	Pesticides	Total	Endrin	0-3 ft	N/A	ug/kg	**Yes**	--	17.0	4.90	**Yes**	2
Soil	Pesticides	Total	Endrin Aldehyde	0-3 ft	N/A	ug/kg	**Yes**	--	16.0	4.90	**Yes**	2
Soil	Pesticides	Total	Endrin Ketone	0-3 ft	N/A	ug/kg	**Yes**	--	13.0	4.90	**Yes**	1
Soil	Pesticides	Total	Heptachlor	0-3 ft	N/A	ug/kg	**Yes**	--	2.90	480	No	0
Soil	Pesticides	Total	Heptachlor Epoxide	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	Methoxychlor	0-3 ft	N/A	ug/kg	**Yes**	--	1.20	500,000	No	0
Soil	Pesticides	Total	4,4'-DDD	0-10 ft	N/A	ug/kg	**Yes**	--	0.990	11,000	No	0
Soil	Pesticides	Total	4,4'-DDE	0-10 ft	N/A	ug/kg	**Yes**	--	2.44	7,700	No	0
Soil	Pesticides	Total	4,4'-DDT	0-10 ft	N/A	ug/kg	**Yes**	--	140	7,700	No	0
Soil	Pesticides	Total	Aldrin	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	BHC (beta)	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	BHC (delta)	0-10 ft	N/A	ug/kg	**Yes**	--	3.03	340	No	0
Soil	Pesticides	Total	BHC (gamma) Lindane	0-10 ft	N/A	ug/kg	**Yes**	--	9.68	2,000	No	0
Soil	Pesticides	Total	Chlordane (alpha)	0-10 ft	N/A	ug/kg	**Yes**	--	1.50	7,200	No	0
Soil	Pesticides	Total	Chlordane (gamma)	0-10 ft	N/A	ug/kg	**Yes**	--	97.0	7,200	No	0
Soil	Pesticides	Total	Dieldrin	0-10 ft	N/A	ug/kg	**Yes**	--	0.823	130	No	0
Soil	Pesticides	Total	Endosulfan I	0-10 ft	N/A	ug/kg	**Yes**	--	6.45	1,400,000	No	0
Soil	Pesticides	Total	Endosulfan II	0-10 ft	N/A	ug/kg	**Yes**	--	1.99	1,400,000	No	0
Soil	Pesticides	Total	Endosulfan Sulfate	0-10 ft	N/A	ug/kg	**Yes**	--	3.30	1,400,000	No	0
Soil	Pesticides	Total	Endrin	0-10 ft	N/A	ug/kg	**Yes**	--	17.0	71,000	No	0
Soil	Pesticides	Total	Endrin Aldehyde	0-10 ft	N/A	ug/kg	**Yes**	--	16.0	71,000	No	0
Soil	Pesticides	Total	Endrin Ketone	0-10 ft	N/A	ug/kg	**Yes**	--	13.0	71,000	No	0
Soil	Pesticides	Total	Heptachlor	0-10 ft	N/A	ug/kg	**Yes**	--	2.90	480	No	0
Soil	Pesticides	Total	Heptachlor Epoxide	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	Pesticides	Total	Methoxychlor	0-10 ft	N/A	ug/kg	**Yes**	--	1.20	3,100,000	No	0
Soil	PCB Aroclors	Total	Aroclor 1254	0-1 ft	N/A	ug/kg	**Yes**	--	1,700	371	**Yes**	4
Soil	PCB Aroclors	Total	Aroclor 1260	0-1 ft	N/A	ug/kg	**Yes**	--	690	371	**Yes**	4
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-1 ft	N/A	ug/kg	**Yes**	--	2,140	371	**Yes**	6
Soil	PCB Aroclors	Total	Aroclor 1254	0-3 ft	N/A	ug/kg	**Yes**	--	1,700	371	**Yes**	4

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	PCB Aroclors	Total	Aroclor 1260	0-3 ft	N/A	ug/kg	**Yes**	--	690	371	**Yes**	4
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-3 ft	N/A	ug/kg	**Yes**	--	2,140	371	**Yes**	6
Soil	PCB Aroclors	Total	Aroclor 1254	0-10 ft	N/A	ug/kg	**Yes**	--	1,700	740	**Yes**	2
Soil	PCB Aroclors	Total	Aroclor 1260	0-10 ft	N/A	ug/kg	**Yes**	--	690	740	No	0
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-10 ft	N/A	ug/kg	**Yes**	--	2,140	740	**Yes**	3
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-1 ft	N/A	mg/kg	**Yes**	--	1,090	23,000	No	0
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-1 ft	N/A	mg/kg	**Yes**	--	3.49	13,000	No	0
Soil	NWTPH-Dx	Total	Residual Range Organics	0-1 ft	N/A	mg/kg	**Yes**	--	2,300	40,000	No	0
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-3 ft	N/A	mg/kg	**Yes**	--	1,440	23,000	No	0
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-3 ft	N/A	mg/kg	**Yes**	--	3,960	13,000	No	0
Soil	NWTPH-Dx	Total	Residual Range Organics	0-3 ft	N/A	mg/kg	**Yes**	--	2,300	40,000	No	0
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-10 ft	N/A	mg/kg	**Yes**	--	1,440	23,000	No	0
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-10 ft	N/A	mg/kg	**Yes**	--	3,960	13,000	No	0
Soil	NWTPH-Dx	Total	Residual Range Organics	0-10 ft	N/A	mg/kg	**Yes**	--	2,300	40,000	No	0
Soil	SVOCs	Total	2-Methylnaphthalene	0-1 ft	N/A	ug/kg	**Yes**	--	150	4,100,000	No	0
Soil	SVOCs	Total	Acenaphthene	0-1 ft	N/A	ug/kg	**Yes**	--	470	19,000,000	No	0
Soil	SVOCs	Total	Acenaphthylene	0-1 ft	N/A	ug/kg	**Yes**	--	87.7	23,000	No	0
Soil	SVOCs	Total	Anthracene	0-1 ft	N/A	ug/kg	**Yes**	--	832	93,000,000	No	0
Soil	SVOCs	Total	Benzo(a)anthracene	0-1 ft	N/A	ug/kg	**Yes**	--	6,440	2,700	**Yes**	1
Soil	SVOCs	Total	Benzo(a)pyrene	0-1 ft	N/A	ug/kg	**Yes**	--	6,470	270	**Yes**	13
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-1 ft	N/A	ug/kg	--	--	4,100	2,700	**Yes**	1
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-1 ft	N/A	ug/kg	**Yes**	--	3,830	27,000	No	0
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-1 ft	N/A	ug/kg	--	--	1,400	27,000	No	0
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-1 ft	N/A	ug/kg	--	--	12,100	2,700	**Yes**	2
Soil	SVOCs	Total	Benzoic Acid	0-1 ft	N/A	ug/kg	**Yes**	--	980	200,000	No	0
Soil	SVOCs	Total	Benzyl Alcohol	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	260,000	4,500	**Yes**	8
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	124	450	No	0
Soil	SVOCs	Total	Carbazole	0-1 ft	N/A	ug/kg	**Yes**	--	530	2,260	No	0
Soil	SVOCs	Total	Chrysene	0-1 ft	N/A	ug/kg	**Yes**	--	7,590	270,000	No	0
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-1 ft	N/A	ug/kg	**Yes**	--	1,430	270	**Yes**	5
Soil	SVOCs	Total	Dibenzofuran	0-1 ft	N/A	ug/kg	**Yes**	--	220	2.00	**Yes**	16
Soil	SVOCs	Total	Diethyl Phthalate	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Dimethyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	41.0	150,000	No	0
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	280	450	No	0
Soil	SVOCs	Total	Di-n-octyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	127	450	No	0
Soil	SVOCs	Total	Fluoranthene	0-1 ft	N/A	ug/kg	**Yes**	--	20,700	8,900,000	No	0
Soil	SVOCs	Total	Fluorene	0-1 ft	N/A	ug/kg	**Yes**	--	462	12,000,000	No	0
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-1 ft	N/A	ug/kg	**Yes**	--	3,910	2,700	**Yes**	1
Soil	SVOCs	Total	Naphthalene	0-1 ft	N/A	ug/kg	**Yes**	--	227	23,000	No	0
Soil	SVOCs	Total	N-Nitrosodiphenylamine	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Pentachlorophenol	0-1 ft	N/A	ug/kg	**Yes**	--	32.0	2,100	No	0
Soil	SVOCs	Total	Phenanthrene	0-1 ft	N/A	ug/kg	**Yes**	--	4,000	23,000	No	0

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(5 of 26)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	SVOCs	Total	Phenol	0-1 ft	N/A	ug/kg	**Yes**	--	3.70	30,000	No	0
Soil	SVOCs	Total	Pyrene	0-1 ft	N/A	ug/kg	**Yes**	--	21,900	6,700,000	No	0
Soil	SVOCs	Total	Total HPAHs (KM, capped)	0-1 ft	N/A	ug/kg	**Yes**	--	72,270	1,100	**Yes**	15
Soil	SVOCs	Total	Total LPAHs (KM, capped)	0-1 ft	N/A	ug/kg	**Yes**	--	5,687	29,000	No	0
Soil	SVOCs	Total	2-Methylnaphthalene	0-3 ft	N/A	ug/kg	**Yes**	--	150	4,100,000	No	0
Soil	SVOCs	Total	Acenaphthene	0-3 ft	N/A	ug/kg	**Yes**	--	3,200	19,000,000	No	0
Soil	SVOCs	Total	Acenaphthylene	0-3 ft	N/A	ug/kg	**Yes**	--	295	23,000	No	0
Soil	SVOCs	Total	Anthracene	0-3 ft	N/A	ug/kg	**Yes**	--	2,040	93,000,000	No	0
Soil	SVOCs	Total	Benzo(a)anthracene	0-3 ft	N/A	ug/kg	**Yes**	--	12,300	2,700	**Yes**	2
Soil	SVOCs	Total	Benzo(a)pyrene	0-3 ft	N/A	ug/kg	**Yes**	--	11,700	270	**Yes**	15
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-3 ft	N/A	ug/kg	--	--	4,100	2,700	**Yes**	1
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-3 ft	N/A	ug/kg	**Yes**	--	3,830	27,000	No	0
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-3 ft	N/A	ug/kg	--	--	1,400	27,000	No	0
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-3 ft	N/A	ug/kg	**Yes**	--	16,300	2,700	**Yes**	4
Soil	SVOCs	Total	Benzoic Acid	0-3 ft	N/A	ug/kg	**Yes**	--	980	200,000	No	0
Soil	SVOCs	Total	Benzyl Alcohol	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	260,000	4,500	**Yes**	10
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	124	450	No	0
Soil	SVOCs	Total	Carbazole	0-3 ft	N/A	ug/kg	**Yes**	--	530	2,260	No	0
Soil	SVOCs	Total	Chrysene	0-3 ft	N/A	ug/kg	**Yes**	--	12,000	270,000	No	0
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-3 ft	N/A	ug/kg	**Yes**	--	1,430	270	**Yes**	7
Soil	SVOCs	Total	Dibenzofuran	0-3 ft	N/A	ug/kg	**Yes**	--	485	2.00	**Yes**	19
Soil	SVOCs	Total	Diethyl Phthalate	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Dimethyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	41.0	150,000	No	0
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	280	450	No	0
Soil	SVOCs	Total	Di-n-octyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	127	450	No	0
Soil	SVOCs	Total	Fluoranthene	0-3 ft	N/A	ug/kg	**Yes**	--	28,600	8,900,000	No	0
Soil	SVOCs	Total	Fluorene	0-3 ft	N/A	ug/kg	**Yes**	--	779	12,000,000	No	0
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-3 ft	N/A	ug/kg	**Yes**	--	4,170	2,700	**Yes**	2
Soil	SVOCs	Total	Naphthalene	0-3 ft	N/A	ug/kg	**Yes**	--	256	23,000	No	0
Soil	SVOCs	Total	N-Nitrosodiphenylamine	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Pentachlorophenol	0-3 ft	N/A	ug/kg	**Yes**	--	32.0	2,100	No	0
Soil	SVOCs	Total	Phenanthrene	0-3 ft	N/A	ug/kg	**Yes**	--	6,550	23,000	No	0
Soil	SVOCs	Total	Phenol	0-3 ft	N/A	ug/kg	**Yes**	--	35.0	30,000	No	0
Soil	SVOCs	Total	Pyrene	0-3 ft	N/A	ug/kg	**Yes**	--	32,000	6,700,000	No	0
Soil	SVOCs	Total	Total HPAHs (KM, capped)	0-3 ft	N/A	ug/kg	**Yes**	--	105,200	1,100	**Yes**	19
Soil	SVOCs	Total	Total LPAHs (KM, capped)	0-3 ft	N/A	ug/kg	**Yes**	--	13,120	29,000	No	0
Soil	SVOCs	Total	2-Methylnaphthalene	0-10 ft	N/A	ug/kg	**Yes**	--	150	4,100,000	No	0
Soil	SVOCs	Total	Acenaphthene	0-10 ft	N/A	ug/kg	**Yes**	--	3,200	19,000,000	No	0
Soil	SVOCs	Total	Acenaphthylene	0-10 ft	N/A	ug/kg	**Yes**	--	295	23,000	No	0
Soil	SVOCs	Total	Anthracene	0-10 ft	N/A	ug/kg	**Yes**	--	2,040	93,000,000	No	0
Soil	SVOCs	Total	Benzo(a)anthracene	0-10 ft	N/A	ug/kg	**Yes**	--	12,300	2,700	**Yes**	2
Soil	SVOCs	Total	Benzo(a)pyrene	0-10 ft	N/A	ug/kg	**Yes**	--	11,700	270	**Yes**	15

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(6 of 26)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-10 ft	N/A	ug/kg	--	--	4,100	2,700	**Yes**	1
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-10 ft	N/A	ug/kg	**Yes**	--	3,830	27,000	No	0
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-10 ft	N/A	ug/kg	--	--	1,400	27,000	No	0
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-10 ft	N/A	ug/kg	**Yes**	--	16,300	2,700	**Yes**	4
Soil	SVOCs	Total	Benzoic Acid	0-10 ft	N/A	ug/kg	**Yes**	--	980	2,500,000,000	No	0
Soil	SVOCs	Total	Benzyl Alcohol	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	260,000	150,000	**Yes**	1
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	124	910,000	No	0
Soil	SVOCs	Total	Carbazole	0-10 ft	N/A	ug/kg	**Yes**	--	530	NV	***Yes***	--
Soil	SVOCs	Total	Chrysene	0-10 ft	N/A	ug/kg	**Yes**	--	12,000	270,000	No	0
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-10 ft	N/A	ug/kg	**Yes**	--	1,430	270	**Yes**	7
Soil	SVOCs	Total	Dibenzofuran	0-10 ft	N/A	ug/kg	**Yes**	--	485	1,000,000	No	0
Soil	SVOCs	Total	Diethyl Phthalate	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Dimethyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	41.0	150,000	No	0
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	280	62,000,000	No	0
Soil	SVOCs	Total	Di-n-octyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	127	150,000	No	0
Soil	SVOCs	Total	Fluoranthene	0-10 ft	N/A	ug/kg	**Yes**	--	28,600	8,900,000	No	0
Soil	SVOCs	Total	Fluorene	0-10 ft	N/A	ug/kg	**Yes**	--	779	12,000,000	No	0
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-10 ft	N/A	ug/kg	**Yes**	--	4,170	2,700	**Yes**	2
Soil	SVOCs	Total	Naphthalene	0-10 ft	N/A	ug/kg	**Yes**	--	256	23,000	No	0
Soil	SVOCs	Total	N-Nitrosodiphenylamine	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Pentachlorophenol	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	SVOCs	Total	Phenanthrene	0-10 ft	N/A	ug/kg	**Yes**	--	6,550	23,000	No	0
Soil	SVOCs	Total	Phenol	0-10 ft	N/A	ug/kg	**Yes**	--	35.0	180,000,000	No	0
Soil	SVOCs	Total	Pyrene	0-10 ft	N/A	ug/kg	**Yes**	--	32,000	6,700,000	No	0
Soil	VOCs	Total	1,1,1-Trichloroethane (TCA)	0-1 ft	N/A	ug/kg	**Yes**	--	0.580	38,000,000	No	0
Soil	VOCs	Total	1,1-Dichloroethane	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-1 ft	N/A	ug/kg	**Yes**	--	0.523	200,000	No	0
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-1 ft	N/A	ug/kg	**Yes**	--	0.125	150,000	No	0
Soil	VOCs	Total	1,4-Dichlorobenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	2-Butanone (MEK)	0-1 ft	N/A	ug/kg	**Yes**	--	50.0	200,000,000	No	0
Soil	VOCs	Total	2-Hexanone	0-1 ft	N/A	ug/kg	**Yes**	--	8.80	1,250,000	No	0
Soil	VOCs	Total	4-Isopropyltoluene	0-1 ft	N/A	ug/kg	**Yes**	--	12.0	200,000	No	0
Soil	VOCs	Total	4-Methyl-2-pentanone (MIBK)	0-1 ft	N/A	ug/kg	**Yes**	--	1.20	1,250,000	No	0
Soil	VOCs	Total	Acetone	0-1 ft	N/A	ug/kg	**Yes**	--	540	1,250,000	No	0
Soil	VOCs	Total	Benzene	0-1 ft	N/A	ug/kg	**Yes**	--	1.20	1,200	No	0
Soil	VOCs	Total	Bromomethane	0-1 ft	N/A	ug/kg	**Yes**	--	5.00	17,000	No	0
Soil	VOCs	Total	Carbon Disulfide	0-1 ft	N/A	ug/kg	**Yes**	--	6.90	1,000,000	No	0
Soil	VOCs	Total	Chloroform	0-1 ft	N/A	ug/kg	**Yes**	--	19.0	410	No	0
Soil	VOCs	Total	Chloromethane	0-1 ft	N/A	ug/kg	**Yes**	--	0.250	300,000	No	0
Soil	VOCs	Total	cis-1,2-Dichloroethene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Dichlorodifluoromethane	0-1 ft	N/A	ug/kg	**Yes**	--	94.0	730,000	No	0
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-1 ft	N/A	ug/kg	**Yes**	--	460	20,000	No	0

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	VOCs	Total	Ethylbenzene	0-1 ft	N/A	ug/kg	**Yes**	--	0.320	2,260	No	0
Soil	VOCs	Total	Isopropylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	m,p-Xylenes	0-1 ft	N/A	ug/kg	**Yes**	--	0.440	120,000	No	0
Soil	VOCs	Total	Naphthalene	0-1 ft	N/A	ug/kg	**Yes**	--	1.50	23,000	No	0
Soil	VOCs	Total	n-Butylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	n-Propylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	o-Xylene	0-1 ft	N/A	ug/kg	**Yes**	--	0.180	1,000	No	0
Soil	VOCs	Total	sec-Butylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-1 ft	N/A	ug/kg	**Yes**	--	3.10	1,600	No	0
Soil	VOCs	Total	Toluene	0-1 ft	N/A	ug/kg	**Yes**	--	5.80	200,000	No	0
Soil	VOCs	Total	trans-1,2-Dichloroethene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Trichloroethene (TCE)	0-1 ft	N/A	ug/kg	**Yes**	--	0.171	130	No	0
Soil	VOCs	Total	1,1,1-Trichloroethane (TCA)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	1,1-Dichloroethane	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-3 ft	N/A	ug/kg	**Yes**	--	14,300	200,000	No	0
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-3 ft	N/A	ug/kg	**Yes**	--	6,500	150,000	No	0
Soil	VOCs	Total	1,4-Dichlorobenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	2-Butanone (MEK)	0-3 ft	N/A	ug/kg	**Yes**	--	50.0	200,000,000	No	0
Soil	VOCs	Total	2-Hexanone	0-3 ft	N/A	ug/kg	**Yes**	--	8.80	1,250,000	No	0
Soil	VOCs	Total	4-Isopropyltoluene	0-3 ft	N/A	ug/kg	**Yes**	--	161	200,000	No	0
Soil	VOCs	Total	4-Methyl-2-pentanone (MIBK)	0-3 ft	N/A	ug/kg	**Yes**	--	1.20	1,250,000	No	0
Soil	VOCs	Total	Acetone	0-3 ft	N/A	ug/kg	**Yes**	--	540	1,250,000	No	0
Soil	VOCs	Total	Benzene	0-3 ft	N/A	ug/kg	**Yes**	--	1.20	1,200	No	0
Soil	VOCs	Total	Bromomethane	0-3 ft	N/A	ug/kg	**Yes**	--	5.00	17,000	No	0
Soil	VOCs	Total	Carbon Disulfide	0-3 ft	N/A	ug/kg	**Yes**	--	6.90	1,000,000	No	0
Soil	VOCs	Total	Chloroform	0-3 ft	N/A	ug/kg	**Yes**	--	19.0	410	No	0
Soil	VOCs	Total	Chloromethane	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	cis-1,2-Dichloroethene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Dichlorodifluoromethane	0-3 ft	N/A	ug/kg	**Yes**	--	94.0	730,000	No	0
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-3 ft	N/A	ug/kg	**Yes**	--	460	20,000	No	0
Soil	VOCs	Total	Ethylbenzene	0-3 ft	N/A	ug/kg	**Yes**	--	37.4	2,260	No	0
Soil	VOCs	Total	Isopropylbenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	m,p-Xylenes	0-3 ft	N/A	ug/kg	**Yes**	--	7,400	120,000	No	0
Soil	VOCs	Total	Naphthalene	0-3 ft	N/A	ug/kg	**Yes**	--	19.5	23,000	No	0
Soil	VOCs	Total	n-Butylbenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	n-Propylbenzene	0-3 ft	N/A	ug/kg	**Yes**	--	122	2,260	No	0
Soil	VOCs	Total	o-Xylene	0-3 ft	N/A	ug/kg	**Yes**	--	3,200	1,000	**Yes**	1
Soil	VOCs	Total	sec-Butylbenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-3 ft	N/A	ug/kg	**Yes**	--	420,000	1,600	**Yes**	2
Soil	VOCs	Total	Toluene	0-3 ft	N/A	ug/kg	**Yes**	--	39,000	200,000	No	0
Soil	VOCs	Total	trans-1,2-Dichloroethene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Trichloroethene (TCE)	0-3 ft	N/A	ug/kg	**Yes**	--	6,080	130	**Yes**	2
Soil	VOCs	Total	1,1,1-Trichloroethane (TCA)	0-10 ft	N/A	ug/kg	**Yes**	--	0.580	38,000,000	No	0
Soil	VOCs	Total	1,1-Dichloroethane	0-10 ft	N/A	ug/kg	No	--	--	--	--	--

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(8 of 26)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-10 ft	N/A	ug/kg	**Yes**	--	14,300	980,000	No	0
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-10 ft	N/A	ug/kg	**Yes**	--	6,500	150,000	No	0
Soil	VOCs	Total	1,4-Dichlorobenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	2-Butanone (MEK)	0-10 ft	N/A	ug/kg	**Yes**	--	50.0	200,000,000	No	0
Soil	VOCs	Total	2-Hexanone	0-10 ft	N/A	ug/kg	**Yes**	--	8.80	1,400,000	No	0
Soil	VOCs	Total	4-Isopropyltoluene	0-10 ft	N/A	ug/kg	**Yes**	--	161	NV	***Yes***	--
Soil	VOCs	Total	4-Methyl-2-pentanone (MIBK)	0-10 ft	N/A	ug/kg	**Yes**	--	1.20	53,000,000	No	0
Soil	VOCs	Total	Acetone	0-10 ft	N/A	ug/kg	**Yes**	--	540	630,000,000	No	0
Soil	VOCs	Total	Benzene	0-10 ft	N/A	ug/kg	**Yes**	--	1.20	1,200	No	0
Soil	VOCs	Total	Bromomethane	0-10 ft	N/A	ug/kg	**Yes**	--	5.00	17,000	No	0
Soil	VOCs	Total	Carbon Disulfide	0-10 ft	N/A	ug/kg	**Yes**	--	6.90	3,700,000	No	0
Soil	VOCs	Total	Chloroform	0-10 ft	N/A	ug/kg	**Yes**	--	19.0	410	No	0
Soil	VOCs	Total	Chloromethane	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	cis-1,2-Dichloroethene	0-10 ft	N/A	ug/kg	**Yes**	--	120	3,100,000	No	0
Soil	VOCs	Total	Dichlorodifluoromethane	0-10 ft	N/A	ug/kg	**Yes**	--	94.0	780,000	No	0
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-10 ft	N/A	ug/kg	**Yes**	--	460	20,000	No	0
Soil	VOCs	Total	Ethylbenzene	0-10 ft	N/A	ug/kg	**Yes**	--	37.4	12,000	No	0
Soil	VOCs	Total	Isopropylbenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	m,p-Xylenes	0-10 ft	N/A	ug/kg	**Yes**	--	7,400	2,700,000	No	0
Soil	VOCs	Total	Naphthalene	0-10 ft	N/A	ug/kg	**Yes**	--	19.5	23,000	No	0
Soil	VOCs	Total	n-Butylbenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	n-Propylbenzene	0-10 ft	N/A	ug/kg	**Yes**	--	122	21,000,000	No	0
Soil	VOCs	Total	o-Xylene	0-10 ft	N/A	ug/kg	**Yes**	--	3,200	19,000,000	No	0
Soil	VOCs	Total	sec-Butylbenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-10 ft	N/A	ug/kg	**Yes**	--	420,000	1,600	**Yes**	2
Soil	VOCs	Total	Toluene	0-10 ft	N/A	ug/kg	**Yes**	--	39,000	24,000,000	No	0
Soil	VOCs	Total	trans-1,2-Dichloroethene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--
Soil	VOCs	Total	Trichloroethene (TCE)	0-10 ft	N/A	ug/kg	**Yes**	--	6,080	130	**Yes**	2
Groundwater[3]	Metals	Dissolved	Arsenic	N/A	N/A	mg/L	**Yes**	**Yes**	0.00899	0.000018	**Yes**	20
Groundwater[3]	Metals	Dissolved	Calcium	N/A	N/A	mg/L	--	**Yes**	44.3	116	No	0
Groundwater[3]	Metals	Dissolved	Iron	N/A	N/A	mg/L	**Yes**	**Yes**	0.270	0.300	No	0
Groundwater[3]	Metals	Dissolved	Magnesium	N/A	N/A	mg/L	--	**Yes**	14.0	82.0	No	0
Groundwater[3]	Metals	Dissolved	Potassium	N/A	N/A	mg/L	--	No	--	--	--	--
Groundwater[3]	Metals	Dissolved	Sodium	N/A	N/A	mg/L	--	**Yes**	89.4	680	No	0
Groundwater[3]	Metals	Dissolved	Vanadium	N/A	N/A	mg/L	**Yes**	**Yes**	0.00310	0.00260	**Yes**	1
Groundwater[3]	Metals	Total	Arsenic	N/A	N/A	mg/L	**Yes**	**Yes**	0.0116	0.000018	**Yes**	20
Groundwater[3]	Metals	Total	Iron	N/A	N/A	mg/L	**Yes**	**Yes**	1.50	0.300	**Yes**	2
Groundwater[3]	Metals	Total	Vanadium	N/A	N/A	mg/L	**Yes**	**Yes**	0.00590	0.00260	**Yes**	1
Groundwater[3]	Butyltins	Total	Monobutyltin	N/A	N/A	ug/L	**Yes**	--	0.0260	0.0630	No	0
Groundwater[3]	NWTPH-Dx	Total	Diesel Range Organics	N/A	N/A	mg/L	**Yes**	--	0.0180	0.0900	No	0
Groundwater[3]	NWTPH-Gx	Total	Gasoline Range Organics	N/A	N/A	mg/L	**Yes**	--	0.0235	0.100	No	0
Groundwater[3]	SVOCs	Total	Benzo(b)fluoranthene	N/A	N/A	ug/L	No	--	--	--	--	--
Groundwater[3]	SVOCs	Total	Phenanthrene	N/A	N/A	ug/L	No	--	--	--	--	--

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Groundwater[3]	VOCs	Total	1,1,1-Trichloroethane (TCA)	N/A	N/A	ug/L	**Yes**	--	1.90	11.0	No	0
Groundwater[3]	VOCs	Total	1,1-Dichloroethane	N/A	N/A	ug/L	**Yes**	--	5.00	2.30	**Yes**	1
Groundwater[3]	VOCs	Total	1,1-Dichloroethene	N/A	N/A	ug/L	**Yes**	--	2.10	25.0	No	0
Groundwater[3]	VOCs	Total	Carbon Disulfide	N/A	N/A	ug/L	--	--	0.255	0.920	No	0
Groundwater[3]	VOCs	Total	Chloroform	N/A	N/A	ug/L	No	--	--	--	--	--
Groundwater[3]	VOCs	Total	cis-1,2-Dichloroethene	N/A	N/A	ug/L	**Yes**	--	660	360	**Yes**	4
Groundwater[3]	VOCs	Total	Dichloromethane (Methylene Chloride)	N/A	N/A	ug/L	--	--	0.175	4.40	No	0
Groundwater[3]	VOCs	Total	Tetrachloroethene (PCE)	N/A	N/A	ug/L	**Yes**	--	6.20	0.0930	**Yes**	16
Groundwater[3]	VOCs	Total	Toluene	N/A	N/A	ug/L	--	--	0.640	9.8	No	0
Groundwater[3]	VOCs	Total	trans-1,2-Dichloroethene	N/A	N/A	ug/L	--	--	1.70	110	No	0
Groundwater[3]	VOCs	Total	Trichloroethene (TCE)	N/A	N/A	ug/L	**Yes**	--	3.40	0.039	**Yes**	15
Groundwater[3]	VOCs	Total	Vinyl Chloride	N/A	N/A	ug/L	**Yes**	--	4.10	0.025	**Yes**	4
Groundwater - DP[3]	Metals	Dissolved	Aluminum	N/A	N/A	mg/L	**--**	--	1.37	0.0870	**Yes**	2
Groundwater - DP[3]	Metals	Dissolved	Antimony	N/A	N/A	mg/L	--	--	0.00167	0.00560	No	0
Groundwater - DP[3]	Metals	Dissolved	Arsenic	N/A	N/A	mg/L	--	--	0.00136	0.0000180	**Yes**	10
Groundwater - DP[3]	Metals	Dissolved	Barium	N/A	N/A	mg/L	--	--	0.0207	0.00400	**Yes**	8
Groundwater - DP[3]	Metals	Dissolved	Cadmium	N/A	N/A	mg/L	--	--	0.0000300	0.000170	No	0
Groundwater - DP[3]	Metals	Dissolved	Calcium	N/A	N/A	mg/L	--	--	34.1	116	No	0
Groundwater - DP[3]	Metals	Dissolved	Chromium	N/A	N/A	mg/L	--	--	0.00429	0.0540	No	0
Groundwater - DP[3]	Metals	Dissolved	Cobalt	N/A	N/A	mg/L	--	--	0.00508	0.0110	No	0
Groundwater - DP[3]	Metals	Dissolved	Copper	N/A	N/A	mg/L	--	--	0.00438	0.00580	No	0
Groundwater - DP[3]	Metals	Dissolved	Iron	N/A	N/A	mg/L	--	--	0.476	0.300	**Yes**	1
Groundwater - DP[3]	Metals	Dissolved	Lead	N/A	N/A	mg/L	--	--	0.000378	0.00144	No	0
Groundwater - DP[3]	Metals	Dissolved	Magnesium	N/A	N/A	mg/L	--	--	12.0	82.0	No	0
Groundwater - DP[3]	Metals	Dissolved	Manganese	N/A	N/A	mg/L	--	--	0.587	0.0500	**Yes**	4
Groundwater - DP[3]	Metals	Dissolved	Mercury	N/A	N/A	mg/L	--	--	0.0000600	0.000770	No	0
Groundwater - DP[3]	Metals	Dissolved	Nickel	N/A	N/A	mg/L	--	--	0.00210	0.0340	No	0
Groundwater - DP[3]	Metals	Dissolved	Potassium	N/A	N/A	mg/L	--	--	2.21	53.0	No	0
Groundwater - DP[3]	Metals	Dissolved	Selenium	N/A	N/A	mg/L	--	--	0.00130	0.00500	No	0
Groundwater - DP[3]	Metals	Dissolved	Silver	N/A	N/A	mg/L	--	--	0.0000790	0.000120	No	0
Groundwater - DP[3]	Metals	Dissolved	Sodium	N/A	N/A	mg/L	--	--	47.7	680	No	0
Groundwater - DP[3]	Metals	Dissolved	Thallium	N/A	N/A	mg/L	--	--	0.0000855	0.000240	No	0
Groundwater - DP[3]	Metals	Dissolved	Vanadium	N/A	N/A	mg/L	--	--	0.00261	0.00260	**Yes**	1
Groundwater - DP[3]	Metals	Dissolved	Zinc	N/A	N/A	mg/L	--	--	0.00348	0.077	No	0
Groundwater - DP[3]	Metals	Total	Aluminum	N/A	N/A	mg/L	**--**	--	17.9	37.0	No	0
Groundwater - DP[3]	Metals	Total	Antimony	N/A	N/A	mg/L	**--**	--	0.00157	0.00560	No	0
Groundwater - DP[3]	Metals	Total	Arsenic	N/A	N/A	mg/L	**--**	--	0.00770	0.0000180	**Yes**	8
Groundwater - DP[3]	Metals	Total	Barium	N/A	N/A	mg/L	**--**	--	0.0978	1.00	No	0
Groundwater - DP[3]	Metals	Total	Beryllium	N/A	N/A	mg/L	**--**	--	0.000785	0.0730	No	0
Groundwater - DP[3]	Metals	Total	Calcium	N/A	N/A	mg/L	**--**	--	33.7	NV	***Yes***	--

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Groundwater - DP[3]	Metals	Total	Chromium	N/A	N/A	mg/L	--	--	0.0318	55.0	No	0
Groundwater - DP[3]	Metals	Total	Cobalt	N/A	N/A	mg/L	--	--	0.0131	0.0110	**Yes**	1
Groundwater - DP[3]	Metals	Total	Copper	N/A	N/A	mg/L	--	--	0.204	1.30	No	0
Groundwater - DP[3]	Metals	Total	Iron	N/A	N/A	mg/L	--	--	25.9	0.300	**Yes**	8
Groundwater - DP[3]	Metals	Total	Lead	N/A	N/A	mg/L	--	--	0.0137	0.0150	No	0
Groundwater - DP[3]	Metals	Total	Magnesium	N/A	N/A	mg/L	--	--	15.4	NV	***Yes***	--
Groundwater - DP[3]	Metals	Total	Manganese	N/A	N/A	mg/L	--	--	0.709	0.0500	**Yes**	7
Groundwater - DP[3]	Metals	Total	Mercury	N/A	N/A	mg/L	--	--	0.000100	0.0110	No	0
Groundwater - DP[3]	Metals	Total	Nickel	N/A	N/A	mg/L	--	--	0.0214	0.610	No	0
Groundwater - DP[3]	Metals	Total	Potassium	N/A	N/A	mg/L	--	--	3.21	NV	***Yes***	--
Groundwater - DP[3]	Metals	Total	Selenium	N/A	N/A	mg/L	--	--	0.00206	0.170	No	0
Groundwater - DP[3]	Metals	Total	Silver	N/A	N/A	mg/L	--	--	0.000376	0.180	No	0
Groundwater - DP[3]	Metals	Total	Sodium	N/A	N/A	mg/L	--	--	42.9	NV	***Yes***	--
Groundwater - DP[3]	Metals	Total	Thallium	N/A	N/A	mg/L	--	--	0.000146	0.000240	No	0
Groundwater - DP[3]	Metals	Total	Vanadium	N/A	N/A	mg/L	--	--	0.0776	0.00260	**Yes**	7
Groundwater - DP[3]	Metals	Total	Zinc	N/A	N/A	mg/L	--	--	0.0444	7.40	No	0
Groundwater - DP[3]	Butyltins	Total	Monobutyltin	N/A	N/A	ug/L	--	--	0.00671	0.0630	No	0
Groundwater - DP[3]	Butyltins	Total	Tributyltin	N/A	N/A	ug/L	--	--	0.00435	0.0630	No	0
Groundwater - DP[3]	Pesticides	Total	BHC (gamma) Lindane	N/A	N/A	ug/L	--	--	0.00249	0.0520	No	0
Groundwater - DP[3]	Pesticides	Total	Methoxychlor	N/A	N/A	ug/L	--	--	0.00521	0.0300	No	0
Groundwater - DP[3]	NWTPH-Dx	Total	Residual Range Organics	N/A	N/A	mg/L	--	--	0.113	0.290	No	0
Groundwater - DP[3]	NWTPH-Gx	Total	Gasoline Range Organics	N/A	N/A	mg/L	--	--	0.0209	0.100	No	0
Groundwater - DP[3]	SVOCs	Dissolved	2-Methylnaphthalene	N/A	N/A	ug/L	--	--	0.280	72.2	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Acenaphthene	N/A	N/A	ug/L	--	--	0.0348	520	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Acenaphthylene	N/A	N/A	ug/L	--	--	0.00361	0.140	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Benzo(a)pyrene	N/A	N/A	ug/L	--	--	0.00714	0.00290	**Yes**	1
Groundwater - DP[3]	SVOCs	Dissolved	Benzoic Acid	N/A	N/A	ug/L	--	--	0.317	42.0	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Butyl Benzyl Phthalate	N/A	N/A	ug/L	--	--	0.155	19.0	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Dibenz(a,h)anthracene	N/A	N/A	ug/L	--	--	0.00381	0.00290	**Yes**	1
Groundwater - DP[3]	SVOCs	Dissolved	Diethyl Phthalate	N/A	N/A	ug/L	--	--	0.101	210	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Di-n-butyl Phthalate	N/A	N/A	ug/L	--	--	0.207	35.0	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Fluorene	N/A	N/A	ug/L	--	--	0.0116	3.90	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Indeno(1,2,3-cd)pyrene	N/A	N/A	ug/L	--	--	0.00630	0.00380	**Yes**	1
Groundwater - DP[3]	SVOCs	Dissolved	Isophorone	N/A	N/A	ug/L	--	--	0.0782	35.0	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Naphthalene	N/A	N/A	ug/L	--	--	0.200	0.140	**Yes**	3
Groundwater - DP[3]	SVOCs	Dissolved	Phenanthrene	N/A	N/A	ug/L	--	--	0.0190	0.140	No	0
Groundwater - DP[3]	SVOCs	Dissolved	Phenol	N/A	N/A	ug/L	--	--	0.0248	110	No	0
Groundwater - DP[3]	SVOCs	Total	2-Methylnaphthalene	N/A	N/A	ug/L	--	--	0.153	72.2	No	0
Groundwater - DP[3]	SVOCs	Total	Acenaphthene	N/A	N/A	ug/L	--	--	0.0230	520	No	0
Groundwater - DP[3]	SVOCs	Total	Anthracene	N/A	N/A	ug/L	--	--	0.0126	13.0	No	0

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Groundwater - DP[3]	SVOCs	Total	Benzo(a)pyrene	N/A	N/A	ug/L	--	--	0.00895	0.00290	**Yes**	1
Groundwater - DP[3]	SVOCs	Total	Benzofluoranthenes, Total	N/A	N/A	ug/L	--	--	0.0173	0.00380	**Yes**	1
Groundwater - DP[3]	SVOCs	Total	Benzyl Alcohol	N/A	N/A	ug/L	--	--	0.0523	8.60	No	0
Groundwater - DP[3]	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	N/A	N/A	ug/L	--	--	0.408	1.20	No	0
Groundwater - DP[3]	SVOCs	Total	Butyl Benzyl Phthalate	N/A	N/A	ug/L	--	--	0.228	19.0	No	0
Groundwater - DP[3]	SVOCs	Total	Dibenz(a,h)anthracene	N/A	N/A	ug/L	--	--	0.00671	0.00290	**Yes**	1
Groundwater - DP[3]	SVOCs	Total	Dibenzofuran	N/A	N/A	ug/L	--	--	0.0421	3.70	No	0
Groundwater - DP[3]	SVOCs	Total	Di-n-butyl Phthalate	N/A	N/A	ug/L	--	--	0.239	35.0	No	0
Groundwater - DP[3]	SVOCs	Total	Fluoranthene	N/A	N/A	ug/L	--	--	0.0311	6.16	No	0
Groundwater - DP[3]	SVOCs	Total	Fluorene	N/A	N/A	ug/L	--	--	0.0351	3.90	No	0
Groundwater - DP[3]	SVOCs	Total	Indeno(1,2,3-cd)pyrene	N/A	N/A	ug/L	--	--	0.00797	0.00380	**Yes**	1
Groundwater - DP[3]	SVOCs	Total	Isophorone	N/A	N/A	ug/L	--	--	0.0842	35.0	No	0
Groundwater - DP[3]	SVOCs	Total	Naphthalene	N/A	N/A	ug/L	--	--	0.0452	0.140	No	0
Groundwater - DP[3]	SVOCs	Total	Phenanthrene	N/A	N/A	ug/L	--	--	0.144	0.140	**Yes**	1
Groundwater - DP[3]	SVOCs	Total	Phenol	N/A	N/A	ug/L	--	--	0.0291	110	No	0
Groundwater - DP[3]	SVOCs	Total	Pyrene	N/A	N/A	ug/L	--	--	0.0261	10.1	No	0
Groundwater - DP[3]	VOCs	Total	1,1,1-Trichloroethane (TCA)	N/A	N/A	ug/L	--	--	2.22	11.0	No	0
Groundwater - DP[3]	VOCs	Total	1,1-Dichloroethane	N/A	N/A	ug/L	--	--	2.52	2.30	**Yes**	1
Groundwater - DP[3]	VOCs	Total	1,1-Dichloroethene	N/A	N/A	ug/L	--	--	1.16	25.0	No	0
Groundwater - DP[3]	VOCs	Total	1,2,4-Trimethylbenzene	N/A	N/A	ug/L	--	--	0.0485	7.30	No	0
Groundwater - DP[3]	VOCs	Total	1,3,5-Trimethylbenzene	N/A	N/A	ug/L	--	--	0.0297	7.30	No	0
Groundwater - DP[3]	VOCs	Total	2,2-Dichloropropane	N/A	N/A	ug/L	--	--	0.179	0.390	No	0
Groundwater - DP[3]	VOCs	Total	Acetone	N/A	N/A	ug/L	--	--	3.88	1500	No	0
Groundwater - DP[3]	VOCs	Total	Benzene	N/A	N/A	ug/L	--	--	0.137	0.390	No	0
Groundwater - DP[3]	VOCs	Total	Bromoform	N/A	N/A	ug/L	--	--	0.151	4.30	No	0
Groundwater - DP[3]	VOCs	Total	Carbon Disulfide	N/A	N/A	ug/L	--	--	0.0619	0.920	No	0
Groundwater - DP[3]	VOCs	Total	Chloroform	N/A	N/A	ug/L	--	--	0.174	0.190	No	0
Groundwater - DP[3]	VOCs	Total	cis-1,2-Dichloroethene	N/A	N/A	ug/L	--	--	341	360	No	0
Groundwater - DP[3]	VOCs	Total	Ethylbenzene	N/A	N/A	ug/L	--	--	0.0447	1.40	No	0
Groundwater - DP[3]	VOCs	Total	Isopropylbenzene	N/A	N/A	ug/L	--	--	0.0197	7.30	No	0
Groundwater - DP[3]	VOCs	Total	m,p-Xylenes	N/A	N/A	ug/L	--	--	0.132	13.0	No	0
Groundwater - DP[3]	VOCs	Total	Naphthalene	N/A	N/A	ug/L	--	--	0.0452	0.140	No	0
Groundwater - DP[3]	VOCs	Total	o-Xylene	N/A	N/A	ug/L	--	--	0.0735	350	No	0
Groundwater - DP[3]	VOCs	Total	Tetrachloroethene (PCE)	N/A	N/A	ug/L	--	--	54.5	0.0930	**Yes**	10
Groundwater - DP[3]	VOCs	Total	Toluene	N/A	N/A	ug/L	--	--	0.299	9.80	No	0
Groundwater - DP[3]	VOCs	Total	trans-1,2-Dichloroethene	N/A	N/A	ug/L	--	--	1.80	110	No	0
Groundwater - DP[3]	VOCs	Total	Trichloroethene (TCE)	N/A	N/A	ug/L	--	--	43.7	0.0390	**Yes**	9
Groundwater - DP[3]	VOCs	Total	Vinyl Chloride	N/A	N/A	ug/L	--	--	0.611	0.0250	**Yes**	2
Soil Gas	VOCs	Total	1,1,1-Trichloroethane (TCA)	N/A	N/A	ug/m^3	--	--	98.0	22,000,000	No	0
Soil Gas	VOCs	Total	1,2,4-Trimethylbenzene	N/A	N/A	ug/m^3	--	--	18,500	31,000	No	0

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV
Soil Gas	VOCs	Total	1,3,5-Trimethylbenzene	N/A	N/A	ug/m^3	--	--	6,250	26,000	No	0
Soil Gas	VOCs	Total	1,3-Butadiene	N/A	N/A	ug/m^3	--	--	210	410	No	0
Soil Gas	VOCs	Total	1,4-Dioxane	N/A	N/A	ug/m^3	--	--	1.10	1,600	No	0
Soil Gas	VOCs	Total	2,2,4-Trimethylpentane	N/A	N/A	ug/m^3	--	--	1.80	NV	***Yes***	--
Soil Gas	VOCs	Total	2-Butanone (MEK)	N/A	N/A	ug/m^3	--	--	31.0	22,000,000	No	0
Soil Gas	VOCs	Total	4-Ethyltoluene	N/A	N/A	ug/m^3	--	--	9,150	NV	***Yes***	--
Soil Gas	VOCs	Total	4-Methyl-2-pentanone (MIBK)	N/A	N/A	ug/m^3	--	--	2.10	13,000,000	No	0
Soil Gas	VOCs	Total	Acetone	N/A	N/A	ug/m^3	--	--	97.0	140,000,000	No	0
Soil Gas	VOCs	Total	Benzene	N/A	N/A	ug/m^3	--	--	85.0	1,600	No	0
Soil Gas	VOCs	Total	Carbon Disulfide	N/A	N/A	ug/m^3	--	--	42.0	3,100,000	No	0
Soil Gas	VOCs	Total	Chloroform	N/A	N/A	ug/m^3	--	--	0.750	530	No	0
Soil Gas	VOCs	Total	cis-1,2-Dichloroethene	N/A	N/A	ug/m^3	--	--	330	260,000	No	0
Soil Gas	VOCs	Total	Cyclohexane	N/A	N/A	ug/m^3	--	--	24.0	26,000,000	No	0
Soil Gas	VOCs	Total	Dichlorodifluoromethane	N/A	N/A	ug/m^3	--	--	3.20	880,000	No	0
Soil Gas	VOCs	Total	Dichloromethane (Methylene Chloride)	N/A	N/A	ug/m^3	--	--	1.80	26,000	No	0
Soil Gas	VOCs	Total	Ethanol	N/A	N/A	ug/m^3	--	--	13.0	NV	***Yes***	--
Soil Gas	VOCs	Total	Ethylbenzene	N/A	N/A	ug/m^3	--	--	1,550	4,900	No	0
Soil Gas	VOCs	Total	Heptane	N/A	N/A	ug/m^3	--	--	87.0	NV	***Yes***	--
Soil Gas	VOCs	Total	Hexane	N/A	N/A	ug/m^3	--	--	110	3,100,000	No	0
Soil Gas	VOCs	Total	Isopropylbenzene	N/A	N/A	ug/m^3	--	--	675	1,800,000	No	0
Soil Gas	VOCs	Total	m,p-Xylenes	N/A	N/A	ug/m^3	--	--	5,850	440,000	No	0
Soil Gas	VOCs	Total	n-Propylbenzene	N/A	N/A	ug/m^3	--	--	2,300	4,400,000	No	0
Soil Gas	VOCs	Total	o-Xylene	N/A	N/A	ug/m^3	--	--	2,800	3,100,000	No	0
Soil Gas	VOCs	Total	Tetrachloroethene (PCE)	N/A	N/A	ug/m^3	--	--	34,000	2,100	**Yes**	1
Soil Gas	VOCs	Total	Toluene	N/A	N/A	ug/m^3	--	--	47,500	22,000,000	No	0
Soil Gas	VOCs	Total	trans-1,2-Dichloroethene	N/A	N/A	ug/m^3	--	--	4.00	260,000	No	0
Soil Gas	VOCs	Total	Trichloroethene (TCE)	N/A	N/A	ug/m^3	--	--	610	140	**Yes**	2
Soil Gas	VOCs	Total	Trichlorofluoromethane	N/A	N/A	ug/m^3	--	--	2.20	3,100,000	No	0

Notes

(1) Only evaluated for analytes with a sample size of 20 or more. See the Data Summary for the Sandblast Area AOPC - Appendix I, Table I-2.

(2) Only applicable to inorganics. For soils, see the statistical comparison of Site soil concentrations to Reference Area concentrations; Appendix L, Tables L-1 and L-2.
For groundwater, see Table 8-3 and Appendix L, Table L-3. Direct push groundwater samples are not compared to Reference Area monitoring well data.

(3) The groundwater SLVs are the lower of the Direct Contact Water SLV and the Discharge to Surface Water-Bioaccumulative SLV; see Appendix J.

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(13 of 26)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV

(4) Total DDT is evaluated in the ERA for the Upland OU; see Section 12 and Appendix N.

'--' = Not evaluated
% = percent
BHC = hexachlorocyclohexane
DP = Direct Push
ft = feet
Max = maximum
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
mm = millimeter
N/A = not applicable
NV = No Value
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PCB = polychlorinated biphenyl
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
ug/L = micrograms per liter
ug/m3 = micrograms per cubic meter
um = micrometer
VOC = volatile organic carbon

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(14 of 26)

Retain as Preliminary COPC?
No
Yes
Yes
No
No
Yes
Yes
No
No
Yes
Yes
Yes
No
No
Yes
Yes
No
No
No
Yes
No
Yes
Yes
No
No
Yes
Yes
No
No
Yes
Yes
Yes
No
No
Yes
Yes
No
No
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Yes
No
No
Yes
No
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(15 of 26)

Retain as Preliminary COPC?
No
Yes
No
No
Yes
No
Yes
No
No
No
No
No
No
No
No
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No
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No
No
Yes
Yes
Yes
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(16 of 26)

Retain as Preliminary COPC?
No
No
No
No
Yes
No
No
No
No
No
No
No
No
No
No
Yes
Yes
Yes
No
No
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No
Yes
Yes
Yes
Yes

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(17 of 26)

Retain as Preliminary COPC?
Yes
Yes
Yes
No
Yes
No
No
No
No
No
No
No
No
No
No
No
No
No
Yes
Yes
Yes
No
No
Yes
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Yes
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Yes
Yes
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No
Yes
No
No
No
No
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(18 of 26)

Retain as Preliminary COPC?
No
No
Yes
No
No
No
No
No
Yes
Yes
Yes
No
No
Yes
No
No
Yes
No
No
No
Yes
Yes
No
No
No
No
No
No
Yes
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No
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No
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No
No
Yes
No
No
No
No
No
Yes
Yes

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(19 of 26)

Retain as Preliminary COPC?
Yes
No
No
Yes
No
No
Yes
No
Yes
No
Yes
No
No
No
No
No
No
No
Yes
No
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No
No
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(20 of 26)

Retain as Preliminary COPC?
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
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No
No
Yes
No
Yes
No
No
Yes
No
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(21 of 26)

Retain as Preliminary COPC?
No
No
No
No
No
Yes
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
Yes
No
No
Yes
Yes
No
No
No
No
No
Yes
Yes
Yes
Yes
No
No
No
No
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(22 of 26)

Retain as Preliminary COPC?
No
Yes
No
No
No
Yes
No
Yes
No
No
Yes
Yes
Yes
No
Yes
Yes
No
No
No
No
No
Yes
No
No
Yes
No
No
No
No
No
No
No
Yes
No
No
No
Yes
No
No
Yes

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(23 of 26)

Retain as Preliminary COPC?
No
Yes
No
Yes
No
Yes
Yes
No
No
Yes
No
No
Yes
No
Yes
No
No
No
No
No
No
No
No
No
Yes
No
No
Yes
No
No
No
Yes
No
Yes
No
No
No
No
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(24 of 26)

Retain as Preliminary COPC?
Yes
Yes
No
No
No
Yes
No
No
No
No
Yes
No
No
Yes
No
No
No
Yes
No
No
No
No
No
No
No
No
No
No
No
No
No
No
No
Yes
No
No
Yes
Yes
No
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(25 of 26)

Retain as Preliminary COPC?
No
No
No
Yes
No
Yes
No
No
No
No
No
No
No
No
No
Yes
No
Yes
No
No
No
No
No
Yes
No
No
Yes
No

Table 9-2
Preliminary-COPC Identification for Sandblast AOPC Data
Bradford Island - Upland Operable Unit
(26 of 26)

Retain as Preliminary COPC?

Table 9-3
Preliminary-COPC Identification for Pistol Range AOPC Data
Bradford Island - Upland Operable Unit
(1 of 1)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Metals	Total	Lead	0-1.5 ft	mg/kg	**Yes**	**Yes**	1,110	25.5	**Yes**	52	**Yes**
Soil	Metals	Total	Nickel	0-1.5 ft	mg/kg	--	**Yes**	32.0	38	No	0	No
Soil	Metals	Total	Zinc	0-1.5 ft	mg/kg	--	**Yes**	199	71.7	**Yes**	10	**Yes**
Lagoon Sediment	Metals	Total	Copper	N/A	mg/kg	--	No	25.4	55.6	No	0	No
Lagoon Sediment	Metals	Total	Lead	N/A	mg/kg	--	**Yes**	33.0	35	No	0	No
Lagoon Sediment	Metals	Total	Nickel	N/A	mg/kg	--	No	15.4	21.2	No	0	No
Lagoon Sediment	Metals	Total	Zinc	N/A	mg/kg	--	**Yes**	174	123	**Yes**	5	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Copper	N/A	mg/L	--	--	0.000800	0.00900	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Nickel	N/A	mg/L	--	--	0.00390	0.0520	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Zinc	N/A	mg/L	--	--	0.00410	0.077	No	0	No
Groundwater - DP[3]	Metals	Total	Copper	N/A	mg/L	--	--	0.0548	1.30	No	0	No
Groundwater - DP[3]	Metals	Total	Lead	N/A	mg/L	--	--	0.0125	0.0150	No	0	No
Groundwater - DP[3]	Metals	Total	Nickel	N/A	mg/L	--	--	0.0501	0.610	No	0	No
Groundwater - DP[3]	Metals	Total	Zinc	N/A	mg/L	--	--	0.149	7.40	No	0	No

Notes
(1) Only evaluated for analytes with a sample size of 20 or more. See the Data Summary for the Pistol Range AOPC - Appendix I, Table I-3.
(2) Only applicable to inorganics. For soils, see the statistical comparison of Site soil concentrations to Reference Area concentrations; Appendix L, Tables L-1 and L-2.
For sediments, the maximum concentrations were compared to the maximum Reference Area sediment concentrations.
Direct push groundwater samples are not compared to Reference Area monitoring well data.
(3) The groundwater SLVs are the lower of the Direct Contact Water SLV and the Discharge to Surface Water-Bioaccumulative SLV; see Appendix J.

'--' = Not evaluated
% = percent
DP = Direct Push
ft = feet
Max = maximum
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
N/A = not applicable
No. = number
SLV = screening level value

Table 9-4
Preliminary-COPC Identification for Bulb Slope AOPC Data
Bradford Island - Upland Operable Unit
(1 of 1)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Metals	Total	Lead	0-1 ft	mg/kg	--	**Yes**	597	25.5	**Yes**	11	**Yes**
Soil	Metals	Total	Mercury	0-1 ft	mg/kg	--	**Yes**	1.54	0.066	**Yes**	10	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1260	0-1 ft	ug/kg	--	--	251	371	No	0	No
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-1 ft	ug/kg	--	--	251	371	No	0	No
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-1 ft	mg/kg	--	--	170	23,000	No	0	No
Soil	NWTPH-Dx	Total	Residual Range Organics	0-1 ft	mg/kg	--	--	410	40,000	No	0	No

Notes
(1) Only evaluated for analytes with a sample size of 20 or more. See the Data Summary for the Bulb Slope AOPC - Appendix I, Table I-4.
(2) Only applicable to inorganics in soil. See the statistical comparison of Site soil concentrations to Reference Area concentrations; Appendix L, Tables L-1 and L-2.

'--' = Not evaluated
% = percent
ft = feet
Max = maximum
mg/kg = milligrams per kilogram
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
PCB = polychlorinated biphenyl
SLV = screening level value
ug/kg = micrograms per kilogram

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(1 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Metals	Total	Aluminum	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Antimony	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	13.7	0.270	**Yes**	40	**Yes**
Soil	Metals	Total	Arsenic	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	80.9	5.40	**Yes**	29	**Yes**
Soil	Metals	Total	Barium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Beryllium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cadmium	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	17.3	0.360	**Yes**	62	**Yes**
Soil	Metals	Total	Chromium	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	2,650	28.1	**Yes**	50	**Yes**
Soil	Metals	Total	Cobalt	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Copper	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Lead	0-1 ft	<250um	mg/kg	--	**Yes**	921	25.5	**Yes**	8	**Yes**
Soil	Metals	Total	Lead	0-1 ft	<2mm	mg/kg	--	**Yes**	768	25.5	**Yes**	8	**Yes**
Soil	Metals	Total	Lead	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	3,260	25.5	**Yes**	137	**Yes**
Soil	Metals	Total	Manganese	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Mercury	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	4.15	0.0660	**Yes**	43	**Yes**
Soil	Metals	Total	Nickel	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	1,060	38.0	**Yes**	38	**Yes**
Soil	Metals	Total	Selenium	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	0.900	0.520	**Yes**	18	**Yes**
Soil	Metals	Total	Silver	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	1.50	4.20	No	0	No
Soil	Metals	Total	Thallium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Vanadium	0-1 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Zinc	0-1 ft	N/A	mg/kg	**Yes**	**Yes**	1,160	71.7	**Yes**	70	**Yes**
Soil	Metals	Total	Aluminum	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Antimony	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	13.7	0.270	**Yes**	50	**Yes**
Soil	Metals	Total	Arsenic	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	80.9	5.40	**Yes**	39	**Yes**
Soil	Metals	Total	Barium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Beryllium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cadmium	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	17.3	0.360	**Yes**	74	**Yes**
Soil	Metals	Total	Chromium	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	2,650	28.1	**Yes**	59	**Yes**
Soil	Metals	Total	Cobalt	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Copper	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Lead	0-3 ft	<250um	mg/kg	--	**Yes**	921	25.5	**Yes**	10	**Yes**
Soil	Metals	Total	Lead	0-3 ft	<2mm	mg/kg	--	**Yes**	768	25.5	**Yes**	9	**Yes**
Soil	Metals	Total	Lead	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	3,260	25.5	**Yes**	154	**Yes**
Soil	Metals	Total	Manganese	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Mercury	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	4.15	0.0660	**Yes**	47	**Yes**
Soil	Metals	Total	Nickel	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	1,610	38.0	**Yes**	42	**Yes**
Soil	Metals	Total	Selenium	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	0.900	0.520	**Yes**	28	**Yes**
Soil	Metals	Total	Silver	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	1.50	4.20	No	0	No
Soil	Metals	Total	Thallium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Vanadium	0-3 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Zinc	0-3 ft	N/A	mg/kg	**Yes**	**Yes**	1,160	71.7	**Yes**	77	**Yes**
Soil	Metals	Total	Aluminum	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Antimony	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	13.7	410	No	0	No
Soil	Metals	Total	Arsenic	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	80.9	5.40	**Yes**	42	**Yes**
Soil	Metals	Total	Barium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Beryllium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Cadmium	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	17.3	150	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(2 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Metals	Total	Chromium	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	2,650	28.1	**Yes**	67	**Yes**
Soil	Metals	Total	Cobalt	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Copper	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Lead	0-10 ft	<250um	mg/kg	--	**Yes**	921	800	**Yes**	1	**Yes**
Soil	Metals	Total	Lead	0-10 ft	<2mm	mg/kg	--	**Yes**	768	800	No	0	No
Soil	Metals	Total	Lead	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	3,260	800	**Yes**	16	**Yes**
Soil	Metals	Total	Manganese	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Mercury	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	4.15	93.0	No	0	No
Soil	Metals	Total	Nickel	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	1,760	6,100	No	0	No
Soil	Metals	Total	Selenium	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	0.900	5,100	No	0	No
Soil	Metals	Total	Silver	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	1.52	1,500	No	0	No
Soil	Metals	Total	Thallium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Vanadium	0-10 ft	N/A	mg/kg	**Yes**	No	--	--	--	--	No
Soil	Metals	Total	Zinc	0-10 ft	N/A	mg/kg	**Yes**	**Yes**	1,160	310,000	No	0	No
Soil	Butyltins	Total	Dibutyltin	0-1 ft	N/A	ug/kg	**Yes**	--	210	28,000	No	0	No
Soil	Butyltins	Total	Monobutyltin	0-1 ft	N/A	ug/kg	**Yes**	--	108	28,000	No	0	No
Soil	Butyltins	Total	Tetrabutyltin	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Butyltins	Total	Tributyltin	0-1 ft	N/A	ug/kg	**Yes**	--	1,860	28,000	No	0	No
Soil	Butyltins	Total	Dibutyltin	0-3 ft	N/A	ug/kg	**Yes**	--	210	28,000	No	0	No
Soil	Butyltins	Total	Monobutyltin	0-3 ft	N/A	ug/kg	**Yes**	--	108	28,000	No	0	No
Soil	Butyltins	Total	Tetrabutyltin	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Butyltins	Total	Tributyltin	0-3 ft	N/A	ug/kg	**Yes**	--	1,860	28,000	No	0	No
Soil	Butyltins	Total	Dibutyltin	0-10 ft	N/A	ug/kg	**Yes**	--	210	180,000	No	0	No
Soil	Butyltins	Total	Monobutyltin	0-10 ft	N/A	ug/kg	**Yes**	--	108	180,000	No	0	No
Soil	Butyltins	Total	Tetrabutyltin	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Butyltins	Total	Tributyltin	0-10 ft	N/A	ug/kg	**Yes**	--	1,860	180,000	No	0	No
Soil	Herbicides	Total	2,4,5-T	0-1 ft	N/A	ug/kg	**Yes**	--	93.0	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	Dichloroprop	0-1 ft	N/A	ug/kg	**Yes**	--	180	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	MCPP	0-1 ft	N/A	ug/kg	**Yes**	--	14,000	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	2,4,5-T	0-3 ft	N/A	ug/kg	**Yes**	--	93.0	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	Dichloroprop	0-3 ft	N/A	ug/kg	**Yes**	--	180	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	MCPP	0-3 ft	N/A	ug/kg	**Yes**	--	14,000	21.0	**Yes**	2	**Yes**
Soil	Herbicides	Total	2,4,5-T	0-10 ft	N/A	ug/kg	**Yes**	--	93.0	6,200,000	No	0	No
Soil	Herbicides	Total	Dichloroprop	0-10 ft	N/A	ug/kg	**Yes**	--	180	NV	***Yes***	--	***Yes***
Soil	Herbicides	Total	MCPP	0-10 ft	N/A	ug/kg	**Yes**	--	14,000	620,000	No	0	No
Soil	Pesticides	Total	4,4'-DDD	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDE	0-1 ft	N/A	ug/kg	**Yes**	--	17.0	21.0	No	0	No
Soil	Pesticides	Total	4,4'-DDT	0-1 ft	N/A	ug/kg	**Yes**	--	140	21.0	**Yes**	9	**Yes**
Soil	Pesticides	Total	Aldrin	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (alpha)	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (beta)	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (delta)	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (gamma) Lindane	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (alpha)	0-1 ft	N/A	ug/kg	**Yes**	--	4.00	7,200	No	0	No
Soil	Pesticides	Total	Chlordane (gamma)	0-1 ft	N/A	ug/kg	**Yes**	--	97.0	7,200	No	0	No
Soil	Pesticides	Total	Chlordane (technical)	0-1 ft	N/A	ug/kg	--	--	1,560	7,200	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(3 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Pesticides	Total	Dieldrin	0-1 ft	N/A	ug/kg	**Yes**	--	2.10	4.90	No	0	No
Soil	Pesticides	Total	Endosulfan I	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan II	0-1 ft	N/A	ug/kg	**Yes**	--	8.84	20,000	No	0	No
Soil	Pesticides	Total	Endosulfan Sulfate	0-1 ft	N/A	ug/kg	**Yes**	--	5.97	20,000	No	0	No
Soil	Pesticides	Total	Endrin	0-1 ft	N/A	ug/kg	**Yes**	--	17.0	4.90	**Yes**	2	**Yes**
Soil	Pesticides	Total	Endrin Aldehyde	0-1 ft	N/A	ug/kg	**Yes**	--	16.0	4.90	**Yes**	2	**Yes**
Soil	Pesticides	Total	Endrin Ketone	0-1 ft	N/A	ug/kg	**Yes**	--	13.0	4.90	**Yes**	1	**Yes**
Soil	Pesticides	Total	Heptachlor	0-1 ft	N/A	ug/kg	**Yes**	--	2.90	480	No	0	No
Soil	Pesticides	Total	Heptachlor Epoxide	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Methoxychlor	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDD	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDE	0-3 ft	N/A	ug/kg	**Yes**	--	17.0	21.0	No	0	No
Soil	Pesticides	Total	4,4'-DDT	0-3 ft	N/A	ug/kg	**Yes**	--	140	21.0	**Yes**	10	**Yes**
Soil	Pesticides	Total	Aldrin	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (alpha)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (beta)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (delta)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (gamma) Lindane	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (alpha)	0-3 ft	N/A	ug/kg	**Yes**	--	4.00	7,200	No	0	No
Soil	Pesticides	Total	Chlordane (gamma)	0-3 ft	N/A	ug/kg	**Yes**	--	97.0	7,200	No	0	No
Soil	Pesticides	Total	Chlordane (technical)	0-3 ft	N/A	ug/kg	--	--	1,560	7,200	No	0	No
Soil	Pesticides	Total	Dieldrin	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan I	0-3 ft	N/A	ug/kg	**Yes**	--	6.45	20,000	No	0	No
Soil	Pesticides	Total	Endosulfan II	0-3 ft	N/A	ug/kg	**Yes**	--	8.84	20,000	No	0	No
Soil	Pesticides	Total	Endosulfan Sulfate	0-3 ft	N/A	ug/kg	**Yes**	--	5.97	20,000	No	0	No
Soil	Pesticides	Total	Endrin	0-3 ft	N/A	ug/kg	**Yes**	--	17.0	4.90	**Yes**	2	**Yes**
Soil	Pesticides	Total	Endrin Aldehyde	0-3 ft	N/A	ug/kg	**Yes**	--	16.0	4.90	**Yes**	2	**Yes**
Soil	Pesticides	Total	Endrin Ketone	0-3 ft	N/A	ug/kg	**Yes**	--	13.0	4.90	**Yes**	1	**Yes**
Soil	Pesticides	Total	Heptachlor	0-3 ft	N/A	ug/kg	**Yes**	--	3.07	480	No	0	No
Soil	Pesticides	Total	Heptachlor Epoxide	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Methoxychlor	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDD	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	4,4'-DDE	0-10 ft	N/A	ug/kg	**Yes**	--	17.0	7,700	No	0	No
Soil	Pesticides	Total	4,4'-DDT	0-10 ft	N/A	ug/kg	**Yes**	--	140	7,700	No	0	No
Soil	Pesticides	Total	Aldrin	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (alpha)	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (beta)	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (delta)	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	BHC (gamma) Lindane	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Chlordane (alpha)	0-10 ft	N/A	ug/kg	**Yes**	--	4.00	7,200	No	0	No
Soil	Pesticides	Total	Chlordane (gamma)	0-10 ft	N/A	ug/kg	**Yes**	--	97.0	7,200	No	0	No
Soil	Pesticides	Total	Chlordane (technical)	0-10 ft	N/A	ug/kg	**Yes**	--	1,560	7,200	No	0	No
Soil	Pesticides	Total	Dieldrin	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Endosulfan I	0-10 ft	N/A	ug/kg	**Yes**	--	6.45	1,400,000	No	0	No
Soil	Pesticides	Total	Endosulfan II	0-10 ft	N/A	ug/kg	**Yes**	--	8.84	1,400,000	No	0	No
Soil	Pesticides	Total	Endosulfan Sulfate	0-10 ft	N/A	ug/kg	**Yes**	--	5.97	1,400,000	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(4 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	Pesticides	Total	Endrin	0-10 ft	N/A	ug/kg	**Yes**	--	17.0	71,000	No	0	No
Soil	Pesticides	Total	Endrin Aldehyde	0-10 ft	N/A	ug/kg	**Yes**	--	16.0	71,000	No	0	No
Soil	Pesticides	Total	Endrin Ketone	0-10 ft	N/A	ug/kg	**Yes**	--	13.0	71,000	No	0	No
Soil	Pesticides	Total	Heptachlor	0-10 ft	N/A	ug/kg	**Yes**	--	3.07	480	No	0	No
Soil	Pesticides	Total	Heptachlor Epoxide	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	Pesticides	Total	Methoxychlor	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	PCB Aroclors	Total	Aroclor 1248	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	PCB Aroclors	Total	Aroclor 1254	0-1 ft	N/A	ug/kg	**Yes**	--	1,700	371	**Yes**	4	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1260	0-1 ft	N/A	ug/kg	**Yes**	--	690	371	**Yes**	6	**Yes**
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-1 ft	N/A	ug/kg	**Yes**	--	2,140	371	**Yes**	9	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1248	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	PCB Aroclors	Total	Aroclor 1254	0-3 ft	N/A	ug/kg	**Yes**	--	1,700	371	**Yes**	4	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1260	0-3 ft	N/A	ug/kg	**Yes**	--	690	371	**Yes**	6	**Yes**
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-3 ft	N/A	ug/kg	**Yes**	--	2,140	371	**Yes**	9	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1248	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	PCB Aroclors	Total	Aroclor 1254	0-10 ft	N/A	ug/kg	**Yes**	--	1,700	740	**Yes**	2	**Yes**
Soil	PCB Aroclors	Total	Aroclor 1260	0-10 ft	N/A	ug/kg	**Yes**	--	690	740	No	0	No
Soil	PCB Aroclors	Total	Total PCBs as Aroclors	0-10 ft	N/A	ug/kg	**Yes**	--	2,140	740	**Yes**	4	**Yes**
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-1 ft	N/A	mg/kg	**Yes**	--	1,090	23,000	No	0	No
Soil	NWTPH-Dx	Total	Residual Range Organics	0-1 ft	N/A	mg/kg	**Yes**	--	9,450	40,000	No	0	No
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-3 ft	N/A	mg/kg	**Yes**	--	1,440	23,000	No	0	No
Soil	NWTPH-Dx	Total	Residual Range Organics	0-3 ft	N/A	mg/kg	**Yes**	--	9,450	40,000	No	0	No
Soil	NWTPH-Dx	Total	Diesel Range Organics	0-10 ft	N/A	mg/kg	**Yes**	--	9,740	23,000	No	0	No
Soil	NWTPH-Dx	Total	Residual Range Organics	0-10 ft	N/A	mg/kg	**Yes**	--	41,900	40,000	**Yes**	1	**Yes**
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-1 ft	N/A	mg/kg	**Yes**	--	23,900	13,000	**Yes**	1	**Yes**
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-3 ft	N/A	mg/kg	**Yes**	--	23,900	13,000	**Yes**	1	**Yes**
Soil	NWTPH-Gx	Total	Gasoline Range Organics	0-10 ft	N/A	mg/kg	**Yes**	--	23,900	13,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	2-Methylnaphthalene	0-1 ft	N/A	ug/kg	**Yes**	--	1,530	4,100,000	No	0	No
Soil	SVOCs	Total	Acenaphthene	0-1 ft	N/A	ug/kg	**Yes**	--	2,600	19,000,000	No	0	No
Soil	SVOCs	Total	Acenaphthylene	0-1 ft	N/A	ug/kg	**Yes**	--	87.7	23,000	No	0	No
Soil	SVOCs	Total	Anthracene	0-1 ft	N/A	ug/kg	**Yes**	--	2,700	93,000,000	No	0	No
Soil	SVOCs	Total	Benzo(a)anthracene	0-1 ft	N/A	ug/kg	**Yes**	--	32,000	2,700	**Yes**	8	**Yes**
Soil	SVOCs	Total	Benzo(a)pyrene	0-1 ft	N/A	ug/kg	**Yes**	--	33,000	270	**Yes**	30	**Yes**
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-1 ft	N/A	ug/kg	**Yes**	--	65,000	2,700	**Yes**	6	**Yes**
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-1 ft	N/A	ug/kg	**Yes**	--	18,000	27,000	No	0	No
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-1 ft	N/A	ug/kg	**Yes**	--	65,000	27,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-1 ft	N/A	ug/kg	**Yes**	--	14,700	2,700	**Yes**	4	**Yes**
Soil	SVOCs	Total	Benzoic Acid	0-1 ft	N/A	ug/kg	**Yes**	--	980	200,000	No	0	No
Soil	SVOCs	Total	Benzyl Alcohol	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	260,000	4,500	**Yes**	10	**Yes**
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	124	450	No	0	No
Soil	SVOCs	Total	Carbazole	0-1 ft	N/A	ug/kg	**Yes**	--	2,650	2,260	**Yes**	1	**Yes**
Soil	SVOCs	Total	Chrysene	0-1 ft	N/A	ug/kg	**Yes**	--	32,000	270,000	No	0	No
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-1 ft	N/A	ug/kg	**Yes**	--	9,900	270	**Yes**	13	**Yes**
Soil	SVOCs	Total	Dibenzofuran	0-1 ft	N/A	ug/kg	**Yes**	--	810	2.00	**Yes**	27	**Yes**
Soil	SVOCs	Total	Diethyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	73.4	100,000	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(5 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	SVOCs	Total	Dimethyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	41.0	150,000	No	0	No
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	1,800	450	**Yes**	1	**Yes**
Soil	SVOCs	Total	Di-n-octyl Phthalate	0-1 ft	N/A	ug/kg	**Yes**	--	127	450	No	0	No
Soil	SVOCs	Total	Fluoranthene	0-1 ft	N/A	ug/kg	**Yes**	--	54,000	8,900,000	No	0	No
Soil	SVOCs	Total	Fluorene	0-1 ft	N/A	ug/kg	**Yes**	--	1,200	12,000,000	No	0	No
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-1 ft	N/A	ug/kg	**Yes**	--	19,000	2,700	**Yes**	6	**Yes**
Soil	SVOCs	Total	Naphthalene	0-1 ft	N/A	ug/kg	**Yes**	--	823	23,000	No	0	No
Soil	SVOCs	Total	N-Nitrosodiphenylamine	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Pentachlorophenol	0-1 ft	N/A	ug/kg	**Yes**	--	201	2,100	No	0	No
Soil	SVOCs	Total	Phenanthrene	0-1 ft	N/A	ug/kg	**Yes**	--	12,000	23,000	No	0	No
Soil	SVOCs	Total	Phenol	0-1 ft	N/A	ug/kg	No	--	3.70	30,000	No	0	No
Soil	SVOCs	Total	Pyrene	0-1 ft	N/A	ug/kg	**Yes**	--	40,000	6,700,000	No	0	No
Soil	SVOCs	Total	Total HPAHs (KM, capped)	0-1 ft	N/A	ug/kg	**Yes**	**--**	367,900	1,100	**Yes**	36	**Yes**
Soil	SVOCs	Total	Total LPAHs (KM, capped)	0-1 ft	N/A	ug/kg	**Yes**	**--**	18,674	29,000	No	0	No
Soil	SVOCs	Total	2-Methylnaphthalene	0-3 ft	N/A	ug/kg	**Yes**	--	1,530	4,100,000	No	0	No
Soil	SVOCs	Total	Acenaphthene	0-3 ft	N/A	ug/kg	**Yes**	--	3,200	19,000,000	No	0	No
Soil	SVOCs	Total	Acenaphthylene	0-3 ft	N/A	ug/kg	**Yes**	--	295	23,000	No	0	No
Soil	SVOCs	Total	Anthracene	0-3 ft	N/A	ug/kg	**Yes**	--	8,440	93,000,000	No	0	No
Soil	SVOCs	Total	Benzo(a)anthracene	0-3 ft	N/A	ug/kg	**Yes**	--	32,000	2,700	**Yes**	15	**Yes**
Soil	SVOCs	Total	Benzo(a)pyrene	0-3 ft	N/A	ug/kg	**Yes**	--	34,000	270	**Yes**	38	**Yes**
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-3 ft	N/A	ug/kg	**Yes**	--	65,000	2,700	**Yes**	10	**Yes**
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-3 ft	N/A	ug/kg	**Yes**	--	18,000	27,000	No	0	No
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-3 ft	N/A	ug/kg	**Yes**	--	65,000	27,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-3 ft	N/A	ug/kg	**Yes**	--	31,300	2,700	**Yes**	8	**Yes**
Soil	SVOCs	Total	Benzoic Acid	0-3 ft	N/A	ug/kg	**Yes**	--	980	200,000	No	0	No
Soil	SVOCs	Total	Benzyl Alcohol	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	260,000	4,500	**Yes**	12	**Yes**
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	124	450	No	0	No
Soil	SVOCs	Total	Carbazole	0-3 ft	N/A	ug/kg	**Yes**	--	2,840	2,260	**Yes**	2	**Yes**
Soil	SVOCs	Total	Chrysene	0-3 ft	N/A	ug/kg	**Yes**	--	35,300	270,000	No	0	No
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-3 ft	N/A	ug/kg	**Yes**	--	9,900	270	**Yes**	21	**Yes**
Soil	SVOCs	Total	Dibenzofuran	0-3 ft	N/A	ug/kg	**Yes**	--	810	2.00	**Yes**	32	**Yes**
Soil	SVOCs	Total	Diethyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	73.4	100,000	No	0	No
Soil	SVOCs	Total	Dimethyl Phthalate	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	1,800	450	**Yes**	1	**Yes**
Soil	SVOCs	Total	Di-n-octyl Phthalate	0-3 ft	N/A	ug/kg	**Yes**	--	127	450	No	0	No
Soil	SVOCs	Total	Fluoranthene	0-3 ft	N/A	ug/kg	**Yes**	--	54,000	8,900,000	No	0	No
Soil	SVOCs	Total	Fluorene	0-3 ft	N/A	ug/kg	**Yes**	--	1,610	12,000,000	No	0	No
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-3 ft	N/A	ug/kg	**Yes**	--	20,000	2,700	**Yes**	12	**Yes**
Soil	SVOCs	Total	Naphthalene	0-3 ft	N/A	ug/kg	**Yes**	--	823	23,000	No	0	No
Soil	SVOCs	Total	N-Nitrosodiphenylamine	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Pentachlorophenol	0-3 ft	N/A	ug/kg	**Yes**	--	201	2,100	No	0	No
Soil	SVOCs	Total	Phenanthrene	0-3 ft	N/A	ug/kg	**Yes**	--	21,900	23,000	No	0	No
Soil	SVOCs	Total	Phenol	0-3 ft	N/A	ug/kg	**Yes**	--	35.0	30,000	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(6 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	SVOCs	Total	Pyrene	0-3 ft	N/A	ug/kg	**Yes**	--	67,100	6,700,000	No	0	No
Soil	SVOCs	Total	Total HPAHs (KM, capped)	0-3 ft	N/A	ug/kg	**Yes**	**--**	367,900	1,100	**Yes**	46	**Yes**
Soil	SVOCs	Total	Total LPAHs (KM, capped)	0-3 ft	N/A	ug/kg	**Yes**	**--**	34,767	29,000	No	1	No
Soil	SVOCs	Total	2-Methylnaphthalene	0-10 ft	N/A	ug/kg	**Yes**	--	1,530	4,100,000	No	0	No
Soil	SVOCs	Total	Acenaphthene	0-10 ft	N/A	ug/kg	**Yes**	--	3,200	19,000,000	No	0	No
Soil	SVOCs	Total	Acenaphthylene	0-10 ft	N/A	ug/kg	**Yes**	--	295	23,000	No	0	No
Soil	SVOCs	Total	Anthracene	0-10 ft	N/A	ug/kg	**Yes**	--	8,440	93,000,000	No	0	No
Soil	SVOCs	Total	Benzo(a)anthracene	0-10 ft	N/A	ug/kg	**Yes**	--	32,000	2,700	**Yes**	24	**Yes**
Soil	SVOCs	Total	Benzo(a)pyrene	0-10 ft	N/A	ug/kg	**Yes**	--	34,000	270	**Yes**	48	**Yes**
Soil	SVOCs	Total	Benzo(b)fluoranthene	0-10 ft	N/A	ug/kg	**Yes**	--	65,000	2,700	**Yes**	10	**Yes**
Soil	SVOCs	Total	Benzo(g,h,i)perylene	0-10 ft	N/A	ug/kg	**Yes**	--	18,000	27,000	No	0	No
Soil	SVOCs	Total	Benzo(k)fluoranthene	0-10 ft	N/A	ug/kg	**Yes**	--	65,000	27,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	Benzofluoranthenes, Total	0-10 ft	N/A	ug/kg	**Yes**	--	31,300	2,700	**Yes**	17	**Yes**
Soil	SVOCs	Total	Benzoic Acid	0-10 ft	N/A	ug/kg	**Yes**	--	980	2,500,000,000	No	0	No
Soil	SVOCs	Total	Benzyl Alcohol	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	260,000	150,000	**Yes**	1	**Yes**
Soil	SVOCs	Total	Butyl Benzyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	152	910,000	No	0	No
Soil	SVOCs	Total	Carbazole	0-10 ft	N/A	ug/kg	**Yes**	--	2,840	NV	***Yes***	--	***Yes***
Soil	SVOCs	Total	Chrysene	0-10 ft	N/A	ug/kg	**Yes**	--	35,300	270,000	No	0	No
Soil	SVOCs	Total	Dibenz(a,h)anthracene	0-10 ft	N/A	ug/kg	**Yes**	--	9,900	270	**Yes**	28	**Yes**
Soil	SVOCs	Total	Dibenzofuran	0-10 ft	N/A	ug/kg	**Yes**	--	810	1,000,000	No	0	No
Soil	SVOCs	Total	Diethyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	73.4	490,000,000	No	0	No
Soil	SVOCs	Total	Dimethyl Phthalate	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Di-n-butyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	1,800	62,000,000	No	0	No
Soil	SVOCs	Total	Di-n-octyl Phthalate	0-10 ft	N/A	ug/kg	**Yes**	--	127	150,000	No	0	No
Soil	SVOCs	Total	Fluoranthene	0-10 ft	N/A	ug/kg	**Yes**	--	54,000	8,900,000	No	0	No
Soil	SVOCs	Total	Fluorene	0-10 ft	N/A	ug/kg	**Yes**	--	1,610	12,000,000	No	0	No
Soil	SVOCs	Total	Indeno(1,2,3-cd)pyrene	0-10 ft	N/A	ug/kg	**Yes**	--	20,000	2,700	**Yes**	19	**Yes**
Soil	SVOCs	Total	Naphthalene	0-10 ft	N/A	ug/kg	**Yes**	--	1,710	23,000	No	0	No
Soil	SVOCs	Total	N-Nitrosodiphenylamine	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	p-cresol (4-Methylphenol)	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	SVOCs	Total	Pentachlorophenol	0-10 ft	N/A	ug/kg	**Yes**	--	201	13,000	No	0	No
Soil	SVOCs	Total	Phenanthrene	0-10 ft	N/A	ug/kg	**Yes**	--	21,900	23,000	No	0	No
Soil	SVOCs	Total	Phenol	0-10 ft	N/A	ug/kg	**Yes**	--	35.0	180,000,000	No	0	No
Soil	SVOCs	Total	Pyrene	0-10 ft	N/A	ug/kg	**Yes**	--	67,100	6,700,000	No	0	No
Soil	VOCs	Total	1,1,1-Trichloroethane (TCA)	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,1-Dichloroethane	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-1 ft	N/A	ug/kg	**Yes**	--	14,300	200,000	No	0	No
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-1 ft	N/A	ug/kg	**Yes**	--	5,410	150,000	No	0	No
Soil	VOCs	Total	1,4-Dichlorobenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	2-Butanone (MEK)	0-1 ft	N/A	ug/kg	**Yes**	--	50.0	200,000,000	No	0	No
Soil	VOCs	Total	2-Hexanone	0-1 ft	N/A	ug/kg	**Yes**	--	8.80	1,250,000	No	0	No
Soil	VOCs	Total	4-Isopropyltoluene	0-1 ft	N/A	ug/kg	**Yes**	--	12.0	200,000	No	0	No
Soil	VOCs	Total	4-Methyl-2-pentanone (MIBK)	0-1 ft	N/A	ug/kg	**Yes**	--	1.20	1,250,000	No	0	No
Soil	VOCs	Total	Acetone	0-1 ft	N/A	ug/kg	**Yes**	--	540	1,250,000	No	0	No
Soil	VOCs	Total	Benzene	0-1 ft	N/A	ug/kg	**Yes**	--	1.20	1,200	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(7 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	VOCs	Total	Bromomethane	0-1 ft	N/A	ug/kg	**Yes**	--	5.00	17,000	No	0	No
Soil	VOCs	Total	Carbon Disulfide	0-1 ft	N/A	ug/kg	**Yes**	--	6.90	1,000,000	No	0	No
Soil	VOCs	Total	Chloroform	0-1 ft	N/A	ug/kg	**Yes**	--	19.0	410	No	0	No
Soil	VOCs	Total	Chloromethane	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	cis-1,2-Dichloroethene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Dichlorodifluoromethane	0-1 ft	N/A	ug/kg	**Yes**	--	94.0	730,000	No	0	No
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-1 ft	N/A	ug/kg	**Yes**	--	460	20,000	No	0	No
Soil	VOCs	Total	Ethylbenzene	0-1 ft	N/A	ug/kg	**Yes**	--	2,700	2,260	**Yes**	1	**Yes**
Soil	VOCs	Total	Isopropylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	m,p-Xylenes	0-1 ft	N/A	ug/kg	**Yes**	--	9,800	120,000	No	0	No
Soil	VOCs	Total	Naphthalene	0-1 ft	N/A	ug/kg	**Yes**	--	8,360	23,000	No	0	No
Soil	VOCs	Total	n-Butylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	n-Propylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	o-Xylene	0-1 ft	N/A	ug/kg	**Yes**	--	0.180	1,000	No	0	No
Soil	VOCs	Total	sec-Butylbenzene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Styrene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-1 ft	N/A	ug/kg	**Yes**	--	65.0	1,600	No	0	No
Soil	VOCs	Total	Toluene	0-1 ft	N/A	ug/kg	**Yes**	--	5.80	200,000	No	0	No
Soil	VOCs	Total	trans-1,2-Dichloroethene	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Trichloroethene (TCE)	0-1 ft	N/A	ug/kg	**Yes**	--	0.171	130	No	0	No
Soil	VOCs	Total	Trichlorofluoromethane	0-1 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,1,1-Trichloroethane (TCA)	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,1-Dichloroethane	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-3 ft	N/A	ug/kg	**Yes**	--	14,300	200,000	No	0	No
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-3 ft	N/A	ug/kg	**Yes**	--	6,500	150,000	No	0	No
Soil	VOCs	Total	1,4-Dichlorobenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	2-Butanone (MEK)	0-3 ft	N/A	ug/kg	**Yes**	--	50.0	200,000,000	No	0	No
Soil	VOCs	Total	2-Hexanone	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	4-Isopropyltoluene	0-3 ft	N/A	ug/kg	**Yes**	--	161	200,000	No	0	No
Soil	VOCs	Total	4-Methyl-2-pentanone (MIBK)	0-3 ft	N/A	ug/kg	**Yes**	--	1.20	1,250,000	No	0	No
Soil	VOCs	Total	Acetone	0-3 ft	N/A	ug/kg	**Yes**	--	540	1,250,000	No	0	No
Soil	VOCs	Total	Benzene	0-3 ft	N/A	ug/kg	**Yes**	--	1.20	1,200	No	0	No
Soil	VOCs	Total	Bromomethane	0-3 ft	N/A	ug/kg	**Yes**	--	5.00	17,000	No	0	No
Soil	VOCs	Total	Carbon Disulfide	0-3 ft	N/A	ug/kg	**Yes**	--	6.90	1,000,000	No	0	No
Soil	VOCs	Total	Chloroform	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Chloromethane	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	cis-1,2-Dichloroethene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Dichlorodifluoromethane	0-3 ft	N/A	ug/kg	**Yes**	--	94.0	730,000	No	0	No
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-3 ft	N/A	ug/kg	**Yes**	--	460	20,000	No	0	No
Soil	VOCs	Total	Ethylbenzene	0-3 ft	N/A	ug/kg	**Yes**	--	2,700	2,260	**Yes**	1	**Yes**
Soil	VOCs	Total	Isopropylbenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	m,p-Xylenes	0-3 ft	N/A	ug/kg	**Yes**	--	9,800	120,000	No	0	No
Soil	VOCs	Total	Naphthalene	0-3 ft	N/A	ug/kg	**Yes**	--	8,360	23,000	No	0	No
Soil	VOCs	Total	n-Butylbenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	n-Propylbenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	o-Xylene	0-3 ft	N/A	ug/kg	**Yes**	--	3,200	1,000	**Yes**	1	**Yes**

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(8 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil	VOCs	Total	sec-Butylbenzene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Styrene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-3 ft	N/A	ug/kg	**Yes**	--	420,000	1,600	**Yes**	2	**Yes**
Soil	VOCs	Total	Toluene	0-3 ft	N/A	ug/kg	**Yes**	--	39,000	200,000	No	0	No
Soil	VOCs	Total	trans-1,2-Dichloroethene	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Trichloroethene (TCE)	0-3 ft	N/A	ug/kg	**Yes**	--	6,080	130	**Yes**	2	**Yes**
Soil	VOCs	Total	Trichlorofluoromethane	0-3 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,1,1-Trichloroethane (TCA)	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,1-Dichloroethane	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	1,2,4-Trimethylbenzene	0-10 ft	N/A	ug/kg	**Yes**	--	14,300	980,000	No	0	No
Soil	VOCs	Total	1,3,5-Trimethylbenzene	0-10 ft	N/A	ug/kg	**Yes**	--	6,500	150,000	No	0	No
Soil	VOCs	Total	1,4-Dichlorobenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	2-Butanone (MEK)	0-10 ft	N/A	ug/kg	**Yes**	--	50.0	200,000,000	No	0	No
Soil	VOCs	Total	2-Hexanone	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	4-Isopropyltoluene	0-10 ft	N/A	ug/kg	**Yes**	--	161	NV	***Yes***	--	***Yes***
Soil	VOCs	Total	4-Methyl-2-pentanone (MIBK)	0-10 ft	N/A	ug/kg	**Yes**	--	1.20	53,000,000	No	0	No
Soil	VOCs	Total	Acetone	0-10 ft	N/A	ug/kg	**Yes**	--	540	630,000,000	No	0	No
Soil	VOCs	Total	Benzene	0-10 ft	N/A	ug/kg	**Yes**	--	1.20	1,200	No	0	No
Soil	VOCs	Total	Bromomethane	0-10 ft	N/A	ug/kg	**Yes**	--	5.00	17,000	No	0	No
Soil	VOCs	Total	Carbon Disulfide	0-10 ft	N/A	ug/kg	**Yes**	--	6.90	3,700,000	No	0	No
Soil	VOCs	Total	Chloroform	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Chloromethane	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	cis-1,2-Dichloroethene	0-10 ft	N/A	ug/kg	**Yes**	--	120	3,100,000	No	0	No
Soil	VOCs	Total	Dichlorodifluoromethane	0-10 ft	N/A	ug/kg	**Yes**	--	94.0	780,000	No	0	No
Soil	VOCs	Total	Dichloromethane (Methylene Chloride)	0-10 ft	N/A	ug/kg	**Yes**	--	460	20,000	No	0	No
Soil	VOCs	Total	Ethylbenzene	0-10 ft	N/A	ug/kg	**Yes**	--	2,700	12,000	No	0	No
Soil	VOCs	Total	Isopropylbenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	m,p-Xylenes	0-10 ft	N/A	ug/kg	**Yes**	--	9,800	2,700,000	No	0	No
Soil	VOCs	Total	Naphthalene	0-10 ft	N/A	ug/kg	**Yes**	--	8,360	23,000	No	0	No
Soil	VOCs	Total	n-Butylbenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	n-Propylbenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	o-Xylene	0-10 ft	N/A	ug/kg	**Yes**	--	4,260	19,000,000	No	0	No
Soil	VOCs	Total	sec-Butylbenzene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Styrene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Tetrachloroethene (PCE)	0-10 ft	N/A	ug/kg	**Yes**	--	420,000	1,600	**Yes**	3	**Yes**
Soil	VOCs	Total	Toluene	0-10 ft	N/A	ug/kg	**Yes**	--	133,000	24,000,000	No	0	No
Soil	VOCs	Total	trans-1,2-Dichloroethene	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Soil	VOCs	Total	Trichloroethene (TCE)	0-10 ft	N/A	ug/kg	**Yes**	--	6,080	130	**Yes**	2	**Yes**
Soil	VOCs	Total	Trichlorofluoromethane	0-10 ft	N/A	ug/kg	No	--	--	--	--	--	No
Lagoon Sediment	Metals	Total	Copper	N/A	N/A	mg/kg	--	--	25.4	55.6	No	0	No
Lagoon Sediment	Metals	Total	Lead	N/A	N/A	mg/kg	--	--	33.0	35	No	0	No
Lagoon Sediment	Metals	Total	Nickel	N/A	N/A	mg/kg	--	--	15.4	21.2	No	0	No
Lagoon Sediment	Metals	Total	Zinc	N/A	N/A	mg/kg	--	--	174	123	**Yes**	5	**Yes**
Groundwater[3]	Metals	Dissolved	Arsenic	N/A	N/A	mg/L	**Yes**	**Yes**	0.0193	0.0000180	**Yes**	49	**Yes**
Groundwater[3]	Metals	Dissolved	Barium	N/A	N/A	mg/L	--	**Yes**	0.134	0.00400	**Yes**	3	**Yes**

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(9 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Groundwater[3]	Metals	Dissolved	Calcium	N/A	N/A	mg/L	--	**Yes**	172	116	**Yes**	1	**Yes**
Groundwater[3]	Metals	Dissolved	Iron	N/A	N/A	mg/L	**Yes**	**Yes**	35.4	0.300	**Yes**	16	**Yes**
Groundwater[3]	Metals	Dissolved	Lead	N/A	N/A	mg/L	**Yes**	**Yes**	0.00350	0.00144	**Yes**	3	**Yes**
Groundwater[3]	Metals	Dissolved	Magnesium	N/A	N/A	mg/L	--	**Yes**	25.8	82.0	No	0	No
Groundwater[3]	Metals	Dissolved	Manganese	N/A	N/A	mg/L	**Yes**	**Yes**	5.55	0.0500	**Yes**	20	**Yes**
Groundwater[3]	Metals	Dissolved	Nickel	N/A	N/A	mg/L	--	**Yes**	0.0187	0.0340	No	0	No
Groundwater[3]	Metals	Dissolved	Potassium	N/A	N/A	mg/L	--	**Yes**	12.9	53.0	No	0	No
Groundwater[3]	Metals	Dissolved	Sodium	N/A	N/A	mg/L	--	**Yes**	740	680	**Yes**	1	**Yes**
Groundwater[3]	Metals	Dissolved	Vanadium	N/A	N/A	mg/L	**Yes**	**Yes**	0.00310	0.00260	**Yes**	1	**Yes**
Groundwater[3]	Metals	Dissolved	Zinc	N/A	N/A	mg/L	--	**Yes**	0.197	0.077	**Yes**	1	**Yes**
Groundwater[3]	Metals	Total	Antimony	N/A	N/A	mg/L	--	**Yes**	0.00389	0.00560	No	0	No
Groundwater[3]	Metals	Total	Arsenic	N/A	N/A	mg/L	**Yes**	**Yes**	0.0213	0.0000180	**Yes**	63	**Yes**
Groundwater[3]	Metals	Total	Barium	N/A	N/A	mg/L	--	**Yes**	0.304	1.00	No	0	No
Groundwater[3]	Metals	Total	Beryllium	N/A	N/A	mg/L	--	**Yes**	0.000435	0.0730	No	0	No
Groundwater[3]	Metals	Total	Cadmium	N/A	N/A	mg/L	--	**Yes**	0.00560	0.0180	No	0	No
Groundwater[3]	Metals	Total	Chromium	N/A	N/A	mg/L	--	**Yes**	0.0185	55.0	No	0	No
Groundwater[3]	Metals	Total	Copper	N/A	N/A	mg/L	--	**Yes**	0.201	1.30	No	0	No
Groundwater[3]	Metals	Total	Iron	N/A	N/A	mg/L	**Yes**	**Yes**	42.9	0.300	**Yes**	36	**Yes**
Groundwater[3]	Metals	Total	Lead	N/A	N/A	mg/L	**Yes**	**Yes**	0.0782	0.0150	**Yes**	2	**Yes**
Groundwater[3]	Metals	Total	Manganese	N/A	N/A	mg/L	**Yes**	**Yes**	5.39	0.0500	**Yes**	35	**Yes**
Groundwater[3]	Metals	Total	Mercury	N/A	N/A	mg/L	**Yes**	**Yes**	0.000330	0.0110	No	0	No
Groundwater[3]	Metals	Total	Nickel	N/A	N/A	mg/L	--	**Yes**	0.117	0.610	No	0	No
Groundwater[3]	Metals	Total	Selenium	N/A	N/A	mg/L	--	**Yes**	0.0329	0.170	No	0	No
Groundwater[3]	Metals	Total	Silver	N/A	N/A	mg/L	--	**Yes**	0.000658	0.180	No	0	No
Groundwater[3]	Metals	Total	Thallium	N/A	N/A	mg/L	--	**Yes**	0.000323	0.000240	**Yes**	2	**Yes**
Groundwater[3]	Metals	Total	Vanadium	N/A	N/A	mg/L	**Yes**	**Yes**	0.00590	0.00260	**Yes**	1	**Yes**
Groundwater[3]	Metals	Total	Zinc	N/A	N/A	mg/L	--	**Yes**	2.66	7.40	No	0	No
Groundwater[3]	Butyltins	Total	Dibutyltin	N/A	N/A	ug/L	**Yes**	--	0.447	0.0630	**Yes**	6	**Yes**
Groundwater[3]	Butyltins	Total	Monobutyltin	N/A	N/A	ug/L	**Yes**	--	0.240	0.0630	**Yes**	1	**Yes**
Groundwater[3]	Butyltins	Total	Tributyltin	N/A	N/A	ug/L	**--**	--	0.0601	0.0630	No	0	No
Groundwater[3]	Herbicides	Total	4-Nitrophenol	N/A	N/A	ug/L	--	--	0.840	150	No	0	No
Groundwater[3]	Herbicides	Total	Dichloroprop	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	Herbicides	Total	Pentachlorophenol	N/A	N/A	ug/L	--	--	0.112	0.270	No	0	No
Groundwater[3]	Pesticides	Total	4,4'-DDE	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	Pesticides	Total	Dieldrin	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	NWTPH-Dx	Total	Diesel Range Organics	N/A	N/A	mg/L	**Yes**	--	1.80	0.0900	**Yes**	30	**Yes**
Groundwater[3]	NWTPH-Dx	Total	Residual Range Organics	N/A	N/A	mg/L	**Yes**	--	1.90	0.290	**Yes**	12	**Yes**
Groundwater[3]	NWTPH-Gx	Total	Gasoline Range Organics	N/A	N/A	mg/L	**Yes**	--	0.430	0.100	**Yes**	5	**Yes**
Groundwater[3]	SVOCs	Total	1,4-Dichlorobenzene	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	2-Methylnaphthalene	N/A	N/A	ug/L	**Yes**	--	0.360	72.2	No	0	No
Groundwater[3]	SVOCs	Total	2-Methylphenol	N/A	N/A	ug/L	No	--	--	--	--	--	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(10 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Groundwater[3]	SVOCs	Total	Acenaphthene	N/A	N/A	ug/L	**Yes**	--	0.239	520	No	0	No
Groundwater[3]	SVOCs	Total	Anthracene	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Benzo(b)fluoranthene	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Benzoic Acid	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	N/A	N/A	ug/L	**Yes**	--	48.0	1.20	**Yes**	6	**Yes**
Groundwater[3]	SVOCs	Total	Diethyl Phthalate	N/A	N/A	ug/L	**Yes**	--	1.90	210	No	0	No
Groundwater[3]	SVOCs	Total	Dimethyl Phthalate	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Di-n-octyl Phthalate	N/A	N/A	ug/L	**Yes**	--	7.08	1.20	**Yes**	3	**Yes**
Groundwater[3]	SVOCs	Total	Isophorone	N/A	N/A	ug/L	**Yes**	--	0.282	35.0	No	0	No
Groundwater[3]	SVOCs	Total	Naphthalene	N/A	N/A	ug/L	**Yes**	--	0.157	0.140	**Yes**	1	**Yes**
Groundwater[3]	SVOCs	Total	p-cresol (4-Methylphenol)	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Phenanthrene	N/A	N/A	ug/L	**Yes**	--	3.90	0.140	**Yes**	4	**Yes**
Groundwater[3]	SVOCs	Total	Phenol	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	SVOCs	Total	Pyrene	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	1,1,1-Trichloroethane (TCA)	N/A	N/A	ug/L	**Yes**	--	1.90	11.0	No	0	No
Groundwater[3]	VOCs	Total	1,1-Dichloroethane	N/A	N/A	ug/L	**Yes**	--	5.00	2.30	**Yes**	1	**Yes**
Groundwater[3]	VOCs	Total	1,1-Dichloroethene	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	1,2,4-Trimethylbenzene	N/A	N/A	ug/L	**Yes**	--	5.20	7.30	No	0	No
Groundwater[3]	VOCs	Total	4-Methyl-2-pentanone (MIBK)	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Acetone	N/A	N/A	ug/L	**Yes**	--	15.4	1500	No	0	No
Groundwater[3]	VOCs	Total	Carbon Disulfide	N/A	N/A	ug/L	**Yes**	--	3.95	0.920	**Yes**	1	**Yes**
Groundwater[3]	VOCs	Total	Carbon Tetrachloride	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Chloroform	N/A	N/A	ug/L	**Yes**	--	3.70	0.190	**Yes**	7	**Yes**
Groundwater[3]	VOCs	Total	cis-1,2-Dichloroethene	N/A	N/A	ug/L	**Yes**	--	660	360	**Yes**	4	**Yes**
Groundwater[3]	VOCs	Total	Dichloromethane (Methylene Chloride)	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Ethylbenzene	N/A	N/A	ug/L	No	--	--	--	--	--	No
Groundwater[3]	VOCs	Total	Isopropylbenzene	N/A	N/A	ug/L	**Yes**	--	4.60	7.30	No	0	No
Groundwater[3]	VOCs	Total	n-Propylbenzene	N/A	N/A	ug/L	**Yes**	--	2.00	7.30	No	0	No
Groundwater[3]	VOCs	Total	Tetrachloroethene (PCE)	N/A	N/A	ug/L	**Yes**	--	8.78	0.0930	**Yes**	29	**Yes**
Groundwater[3]	VOCs	Total	Toluene	N/A	N/A	ug/L	**Yes**	--	0.640	9.80	No	0	No
Groundwater[3]	VOCs	Total	trans-1,2-Dichloroethene	N/A	N/A	ug/L	**Yes**	--	1.70	110	No	0	No
Groundwater[3]	VOCs	Total	Trichloroethene (TCE)	N/A	N/A	ug/L	**Yes**	--	3.40	0.0390	**Yes**	15	**Yes**
Groundwater[3]	VOCs	Total	Vinyl Chloride	N/A	N/A	ug/L	**Yes**	--	4.10	0.0250	**Yes**	20	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Aluminum	N/A	N/A	mg/L	--	--	1.37	0.0870	**Yes**	2	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Antimony	N/A	N/A	mg/L	--	--	0.00167	0.00560	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Arsenic	N/A	N/A	mg/L	--	--	0.00136	0.0000180	**Yes**	10	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Barium	N/A	N/A	mg/L	--	--	0.0207	0.00400	**Yes**	8	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Cadmium	N/A	N/A	mg/L	--	--	0.0000300	0.000170	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Calcium	N/A	N/A	mg/L	--	--	34.1	116	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Chromium	N/A	N/A	mg/L	--	--	0.00429	0.0540	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Cobalt	N/A	N/A	mg/L	--	--	0.00508	0.0110	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Groundwater - DP[3]	Metals	Dissolved	Copper	N/A	N/A	mg/L	--	--	0.00438	0.00580	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Iron	N/A	N/A	mg/L	--	--	0.476	0.300	**Yes**	1	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Lead	N/A	N/A	mg/L	--	--	0.000378	0.00144	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Magnesium	N/A	N/A	mg/L	--	--	12.0	82.0	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Manganese	N/A	N/A	mg/L	--	--	0.587	0.0500	**Yes**	4	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Mercury	N/A	N/A	mg/L	--	--	0.0000600	0.000770	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Nickel	N/A	N/A	mg/L	--	--	0.00390	0.0340	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Potassium	N/A	N/A	mg/L	--	--	2.21	53.0	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Selenium	N/A	N/A	mg/L	--	--	0.00130	0.00500	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Silver	N/A	N/A	mg/L	--	--	0.0000790	0.000120	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Sodium	N/A	N/A	mg/L	--	--	47.7	680	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Thallium	N/A	N/A	mg/L	--	--	0.0000855	0.000240	No	0	No
Groundwater - DP[3]	Metals	Dissolved	Vanadium	N/A	N/A	mg/L	--	--	0.00261	0.00260	**Yes**	1	**Yes**
Groundwater - DP[3]	Metals	Dissolved	Zinc	N/A	N/A	mg/L	--	--	0.00410	0.077	No	0	No
Groundwater - DP[3]	Metals	Total	Aluminum	N/A	N/A	mg/L	--	--	17.9	37.0	No	0	No
Groundwater - DP[3]	Metals	Total	Antimony	N/A	N/A	mg/L	--	--	0.00157	0.00560	No	0	No
Groundwater - DP[3]	Metals	Total	Arsenic	N/A	N/A	mg/L	--	--	0.00770	0.0000180	**Yes**	8	**Yes**
Groundwater - DP[3]	Metals	Total	Barium	N/A	N/A	mg/L	--	--	0.0978	1.00	No	0	No
Groundwater - DP[3]	Metals	Total	Beryllium	N/A	N/A	mg/L	--	--	0.000785	0.0730	No	0	No
Groundwater - DP[3]	Metals	Total	Calcium	N/A	N/A	mg/L	--	--	33.7	NV	***Yes***	--	***Yes***
Groundwater - DP[3]	Metals	Total	Chromium	N/A	N/A	mg/L	--	--	0.0318	55.0	No	0	No
Groundwater - DP[3]	Metals	Total	Cobalt	N/A	N/A	mg/L	--	--	0.0131	0.0110	**Yes**	1	**Yes**
Groundwater - DP[3]	Metals	Total	Copper	N/A	N/A	mg/L	--	--	0.204	1.30	No	0	No
Groundwater - DP[3]	Metals	Total	Iron	N/A	N/A	mg/L	--	--	25.9	0.300	**Yes**	8	**Yes**
Groundwater - DP[3]	Metals	Total	Lead	N/A	N/A	mg/L	--	--	0.0137	0.0150	No	0	No
Groundwater - DP[3]	Metals	Total	Magnesium	N/A	N/A	mg/L	--	--	15.4	NV	***Yes***	--	***Yes***
Groundwater - DP[3]	Metals	Total	Manganese	N/A	N/A	mg/L	--	--	0.709	0.0500	**Yes**	7	**Yes**
Groundwater - DP[3]	Metals	Total	Mercury	N/A	N/A	mg/L	--	--	0.000100	0.0110	No	0	No
Groundwater - DP[3]	Metals	Total	Nickel	N/A	N/A	mg/L	--	--	0.0501	0.610	No	0	No
Groundwater - DP[3]	Metals	Total	Potassium	N/A	N/A	mg/L	--	--	3.21	NV	***Yes***	--	***Yes***
Groundwater - DP[3]	Metals	Total	Selenium	N/A	N/A	mg/L	--	--	0.00206	0.170	No	0	No
Groundwater - DP[3]	Metals	Total	Silver	N/A	N/A	mg/L	--	--	0.000376	0.180	No	0	No
Groundwater - DP[3]	Metals	Total	Sodium	N/A	N/A	mg/L	--	--	42.9	NV	***Yes***	--	***Yes***
Groundwater - DP[3]	Metals	Total	Thallium	N/A	N/A	mg/L	--	--	0.000146	0.000240	No	0	No
Groundwater - DP[3]	Metals	Total	Vanadium	N/A	N/A	mg/L	--	--	0.0776	0.00260	**Yes**	7	**Yes**
Groundwater - DP[3]	Metals	Total	Zinc	N/A	N/A	mg/L	--	--	0.149	7.40	No	0	No
Groundwater - DP[3]	Butyltins	Total	Monobutyltin	N/A	N/A	ug/L	--	--	0.00671	0.0630	No	0	No
Groundwater - DP[3]	Butyltins	Total	Tributyltin	N/A	N/A	ug/L	--	--	0.00435	0.0630	No	0	No
Groundwater - DP[3]	Pesticides	Total	BHC (gamma) Lindane	N/A	N/A	ug/L	--	--	0.00249	0.0520	No	0	No
Groundwater - DP[3]	Pesticides	Total	Methoxychlor	N/A	N/A	ug/L	--	--	0.00521	0.0300	No	0	No
Groundwater - DP[3]	NWTPH-Dx	Total	Residual Range Organics	N/A	N/A	mg/L	--	--	0.113	0.290	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
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Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Groundwater - DP[3]	NWTPH-Gx	Total	Gasoline Range Organics	N/A	N/A	mg/L	--	--	0.0209	0.100	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	2-Methylnaphthalene	N/A	N/A	ug/L	--	--	0.280	72.2	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Acenaphthene	N/A	N/A	ug/L	--	--	0.0348	520	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Acenaphthylene	N/A	N/A	ug/L	--	--	0.00361	0.140	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Benzo(a)pyrene	N/A	N/A	ug/L	--	--	0.00714	0.00290	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Dissolved	Benzoic Acid	N/A	N/A	ug/L	--	--	0.317	42.0	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Butyl Benzyl Phthalate	N/A	N/A	ug/L	--	--	0.155	19.0	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Dibenz(a,h)anthracene	N/A	N/A	ug/L	--	--	0.00381	0.00290	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Dissolved	Diethyl Phthalate	N/A	N/A	ug/L	--	--	0.101	210	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Di-n-butyl Phthalate	N/A	N/A	ug/L	--	--	0.207	35.0	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Fluorene	N/A	N/A	ug/L	--	--	0.0116	3.90	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Indeno(1,2,3-cd)pyrene	N/A	N/A	ug/L	--	--	0.00630	0.00380	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Dissolved	Isophorone	N/A	N/A	ug/L	--	--	0.0782	35.0	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Naphthalene	N/A	N/A	ug/L	--	--	0.200	0.140	**Yes**	3	**Yes**
Groundwater - DP[3]	SVOCs	Dissolved	Phenanthrene	N/A	N/A	ug/L	--	--	0.0190	0.140	No	0	No
Groundwater - DP[3]	SVOCs	Dissolved	Phenol	N/A	N/A	ug/L	--	--	0.0248	110	No	0	No
Groundwater - DP[3]	SVOCs	Total	2-Methylnaphthalene	N/A	N/A	ug/L	--	--	0.153	72.2	No	0	No
Groundwater - DP[3]	SVOCs	Total	Acenaphthene	N/A	N/A	ug/L	--	--	0.0230	520	No	0	No
Groundwater - DP[3]	SVOCs	Total	Anthracene	N/A	N/A	ug/L	--	--	0.0126	0.140	No	0	No
Groundwater - DP[3]	SVOCs	Total	Benzo(a)pyrene	N/A	N/A	ug/L	--	--	0.00895	0.00290	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Total	Benzofluoranthenes, Total	N/A	N/A	ug/L	--	--	0.0173	0.00380	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Total	Benzyl Alcohol	N/A	N/A	ug/L	--	--	0.0523	8.60	No	0	No
Groundwater - DP[3]	SVOCs	Total	Bis(2-ethylhexyl) Phthalate	N/A	N/A	ug/L	--	--	0.408	1.20	**Yes**	0	No
Groundwater - DP[3]	SVOCs	Total	Butyl Benzyl Phthalate	N/A	N/A	ug/L	--	--	0.228	19.0	No	0	No
Groundwater - DP[3]	SVOCs	Total	Dibenz(a,h)anthracene	N/A	N/A	ug/L	--	--	0.00671	0.00290	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Total	Dibenzofuran	N/A	N/A	ug/L	--	--	0.0421	3.70	No	0	No
Groundwater - DP[3]	SVOCs	Total	Di-n-butyl Phthalate	N/A	N/A	ug/L	--	--	0.239	35.0	No	0	No
Groundwater - DP[3]	SVOCs	Total	Fluoranthene	N/A	N/A	ug/L	--	--	0.0311	35.0	No	0	No
Groundwater - DP[3]	SVOCs	Total	Fluorene	N/A	N/A	ug/L	--	--	0.0351	3.90	No	0	No
Groundwater - DP[3]	SVOCs	Total	Indeno(1,2,3-cd)pyrene	N/A	N/A	ug/L	--	--	0.00797	0.00380	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Total	Isophorone	N/A	N/A	ug/L	--	--	0.0842	35.0	No	0	No
Groundwater - DP[3]	SVOCs	Total	Naphthalene	N/A	N/A	ug/L	--	--	0.0452	0.140	No	0	No
Groundwater - DP[3]	SVOCs	Total	Phenanthrene	N/A	N/A	ug/L	--	--	0.144	0.140	**Yes**	1	**Yes**
Groundwater - DP[3]	SVOCs	Total	Phenol	N/A	N/A	ug/L	--	--	0.0291	110	No	0	No
Groundwater - DP[3]	SVOCs	Total	Pyrene	N/A	N/A	ug/L	--	--	0.0261	10.1	No	0	No
Groundwater - DP[3]	VOCs	Total	1,1,1-Trichloroethane (TCA)	N/A	N/A	ug/L	--	--	2.23	11.0	No	0	No
Groundwater - DP[3]	VOCs	Total	1,1-Dichloroethane	N/A	N/A	ug/L	--	--	2.52	2.30	**Yes**	1	**Yes**
Groundwater - DP[3]	VOCs	Total	1,1-Dichloroethene	N/A	N/A	ug/L	--	--	1.17	25.0	No	0	No
Groundwater - DP[3]	VOCs	Total	1,2,4-Trimethylbenzene	N/A	N/A	ug/L	--	--	0.0485	7.30	No	0	No
Groundwater - DP[3]	VOCs	Total	1,3,5-Trimethylbenzene	N/A	N/A	ug/L	--	--	0.0297	7.30	No	0	No
Groundwater - DP[3]	VOCs	Total	2,2-Dichloropropane	N/A	N/A	ug/L	--	--	0.179	0.390	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(13 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Groundwater - DP[3]	VOCs	Total	Acetone	N/A	N/A	ug/L	--	--	3.88	1500	No	0	No
Groundwater - DP[3]	VOCs	Total	Benzene	N/A	N/A	ug/L	--	--	0.137	0.390	No	0	No
Groundwater - DP[3]	VOCs	Total	Bromoform	N/A	N/A	ug/L	--	--	0.151	4.30	No	0	No
Groundwater - DP[3]	VOCs	Total	Carbon Disulfide	N/A	N/A	ug/L	--	--	0.0619	0.920	No	0	No
Groundwater - DP[3]	VOCs	Total	Chloroform	N/A	N/A	ug/L	--	--	0.174	0.190	No	0	No
Groundwater - DP[3]	VOCs	Total	cis-1,2-Dichloroethene	N/A	N/A	ug/L	--	--	341	360	No	0	No
Groundwater - DP[3]	VOCs	Total	Ethylbenzene	N/A	N/A	ug/L	--	--	0.045	1.40	No	0	No
Groundwater - DP[3]	VOCs	Total	Isopropylbenzene	N/A	N/A	ug/L	--	--	0.0197	7.30	No	0	No
Groundwater - DP[3]	VOCs	Total	m,p-Xylenes	N/A	N/A	ug/L	--	--	0.132	13.0	No	0	No
Groundwater - DP[3]	VOCs	Total	Naphthalene	N/A	N/A	ug/L	--	--	0.0452	0.140	No	0	No
Groundwater - DP[3]	VOCs	Total	o-Xylene	N/A	N/A	ug/L	--	--	0.0735	350	No	0	No
Groundwater - DP[3]	VOCs	Total	Tetrachloroethene (PCE)	N/A	N/A	ug/L	--	--	54.5	0.0930	**Yes**	10	**Yes**
Groundwater - DP[3]	VOCs	Total	Toluene	N/A	N/A	ug/L	--	--	0.299	9.80	No	0	No
Groundwater - DP[3]	VOCs	Total	trans-1,2-Dichloroethene	N/A	N/A	ug/L	--	--	1.80	110	No	0	No
Groundwater - DP[3]	VOCs	Total	Trichloroethene (TCE)	N/A	N/A	ug/L	--	--	43.7	0.0390	**Yes**	9	**Yes**
Groundwater - DP[3]	VOCs	Total	Vinyl Chloride	N/A	N/A	ug/L	--	--	0.611	0.0250	**Yes**	2	**Yes**
Seep Water[3]	Metals	Dissolved	Antimony	N/A	N/A	mg/L	--	--	0.00228	0.00560	No	0	No
Seep Water[3]	Metals	Dissolved	Arsenic	N/A	N/A	mg/L	--	--	0.00100	0.0000180	**Yes**	3	**Yes**
Seep Water[3]	Metals	Dissolved	Barium	N/A	N/A	mg/L	--	--	0.277	0.00400	**Yes**	1	**Yes**
Seep Water[3]	Metals	Dissolved	Calcium	N/A	N/A	mg/L	--	--	76.4	116	No	0	No
Seep Water[3]	Metals	Dissolved	Copper	N/A	N/A	mg/L	--	--	0.00109	0.00580	No	0	No
Seep Water[3]	Metals	Dissolved	Iron	N/A	N/A	mg/L	--	--	3.21	0.300	**Yes**	1	**Yes**
Seep Water[3]	Metals	Dissolved	Lead	N/A	N/A	mg/L	--	--	0.0000650	0.00144	No	0	No
Seep Water[3]	Metals	Dissolved	Magnesium	N/A	N/A	mg/L	--	--	16.6	82.0	No	0	No
Seep Water[3]	Metals	Dissolved	Manganese	N/A	N/A	mg/L	--	--	1.48	0.0500	**Yes**	1	**Yes**
Seep Water[3]	Metals	Dissolved	Nickel	N/A	N/A	mg/L	--	--	0.00222	0.0340	No	0	No
Seep Water[3]	Metals	Dissolved	Potassium	N/A	N/A	mg/L	--	--	4.16	53.0	No	0	No
Seep Water[3]	Metals	Dissolved	Sodium	N/A	N/A	mg/L	--	--	19.7	680	No	0	No
Seep Water[3]	Metals	Dissolved	Zinc	N/A	N/A	mg/L	--	--	0.0856	0.077	**Yes**	1	**Yes**
Seep Water[3]	Metals	Total	Arsenic	N/A	N/A	mg/L	--	--	0.0128	0.0000180	**Yes**	4	**Yes**
Seep Water[3]	Metals	Total	Barium	N/A	N/A	mg/L	--	--	0.0742	1.00	No	0	No
Seep Water[3]	Metals	Total	Chromium	N/A	N/A	mg/L	--	--	0.00105	55.0	No	0	No
Seep Water[3]	Metals	Total	Copper	N/A	N/A	mg/L	--	--	0.00272	1.30	No	0	No
Seep Water[3]	Metals	Total	Iron	N/A	N/A	mg/L	--	--	121	0.300	**Yes**	4	**Yes**
Seep Water[3]	Metals	Total	Lead	N/A	N/A	mg/L	--	--	0.0257	0.0150	**Yes**	1	**Yes**
Seep Water[3]	Metals	Total	Manganese	N/A	N/A	mg/L	--	--	3.24	0.0500	**Yes**	3	**Yes**
Seep Water[3]	Metals	Total	Mercury	N/A	N/A	mg/L	--	--	0.0000300	0.0110	No	0	No
Seep Water[3]	Metals	Total	Nickel	N/A	N/A	mg/L	--	--	0.00232	0.610	No	0	No
Seep Water[3]	Metals	Total	Selenium	N/A	N/A	mg/L	--	--	0.00111	0.170	No	0	No
Seep Water[3]	NWTPH-Dx	Total	Diesel Range Organics	N/A	N/A	mg/L	--	--	0.130	0.0900	**Yes**	1	**Yes**
Seep Water[3]	NWTPH-Dx	Total	Residual Range Organics	N/A	N/A	mg/L	--	--	0.130	0.290	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(14 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Seep Water[3]	SVOCs	Total	Benzoic Acid	N/A	N/A	ug/L	--	--	5.90	42.0	No	0	No
Seep Water[3]	VOCs	Total	Chloroform	N/A	N/A	ug/L	--	--	2.80	0.190	**Yes**	2	**Yes**
Seep Water[3]	VOCs	Total	Tetrachloroethene (PCE)	N/A	N/A	ug/L	--	--	4.40	0.0930	**Yes**	3	**Yes**
Surface Water[3]	Metals	Dissolved	Arsenic	N/A	N/A	mg/L	--	--	0.00101	0.0000180	**Yes**	4	**Yes**
Surface Water[3]	Metals	Dissolved	Calcium	N/A	N/A	mg/L	--	--	20.5	116	No	0	No
Surface Water[3]	Metals	Dissolved	Iron	N/A	N/A	mg/L	--	--	0.00920	0.300	No	0	No
Surface Water[3]	Metals	Dissolved	Lead	N/A	N/A	mg/L	--	--	0.0000160	0.00144	No	0	No
Surface Water[3]	Metals	Dissolved	Magnesium	N/A	N/A	mg/L	--	--	6.33	82.0	No	0	No
Surface Water[3]	Metals	Dissolved	Manganese	N/A	N/A	mg/L	--	--	0.00101	0.0500	No	0	No
Surface Water[3]	Metals	Dissolved	Potassium	N/A	N/A	mg/L	--	--	1.51	53.0	No	0	No
Surface Water[3]	Metals	Dissolved	Sodium	N/A	N/A	mg/L	--	--	7.90	680	No	0	No
Surface Water[3]	Metals	Total	Arsenic	N/A	N/A	mg/L	--	--	0.00117	0.0000180	**Yes**	3	**Yes**
Surface Water[3]	Metals	Total	Iron	N/A	N/A	mg/L	--	--	0.446	0.300	**Yes**	1	**Yes**
Surface Water[3]	Metals	Total	Lead	N/A	N/A	mg/L	--	--	0.000407	0.0150	No	0	No
Surface Water[3]	Metals	Total	Manganese	N/A	N/A	mg/L	--	--	0.0136	0.0500	No	0	No
Surface Water[3]	NWTPH-Dx	Total	Diesel Range Organics	N/A	N/A	mg/L	--	--	0.0300	0.0900	No	0	No
Soil Gas	VOCs	Total	1,1,1-Trichloroethane (TCA)	N/A	N/A	ug/m3	--	--	98.0	22,000,000	No	0	No
Soil Gas	VOCs	Total	1,2,4-Trimethylbenzene	N/A	N/A	ug/m3	--	--	18,500	31,000	No	0	No
Soil Gas	VOCs	Total	1,3,5-Trimethylbenzene	N/A	N/A	ug/m3	--	--	6,250	26,000	No	0	No
Soil Gas	VOCs	Total	1,3-Butadiene	N/A	N/A	ug/m3	--	--	210	410	No	0	No
Soil Gas	VOCs	Total	1,4-Dioxane	N/A	N/A	ug/m3	--	--	1.10	1,600	No	0	No
Soil Gas	VOCs	Total	2,2,4-Trimethylpentane	N/A	N/A	ug/m3	--	--	1.80	NV	**Yes**	--	**Yes**
Soil Gas	VOCs	Total	2-Butanone (MEK)	N/A	N/A	ug/m3	--	--	31.0	22,000,000	No	0	No
Soil Gas	VOCs	Total	4-Ethyltoluene	N/A	N/A	ug/m3	--	--	9,150	NV	***Yes***	--	***Yes***
Soil Gas	VOCs	Total	4-Methyl-2-pentanone (MIBK)	N/A	N/A	ug/m3	--	--	2.10	13,000,000	No	0	No
Soil Gas	VOCs	Total	Acetone	N/A	N/A	ug/m3	--	--	97.0	140,000,000	No	0	No
Soil Gas	VOCs	Total	Benzene	N/A	N/A	ug/m3	--	--	85.0	1,600	No	0	No
Soil Gas	VOCs	Total	Carbon Disulfide	N/A	N/A	ug/m3	--	--	42.0	3,100,000	No	0	No
Soil Gas	VOCs	Total	Chloroform	N/A	N/A	ug/m3	--	--	0.750	530	No	0	No
Soil Gas	VOCs	Total	cis-1,2-Dichloroethene	N/A	N/A	ug/m3	--	--	330	260,000	No	0	No
Soil Gas	VOCs	Total	Cyclohexane	N/A	N/A	ug/m3	--	--	24.0	26,000,000	No	0	No
Soil Gas	VOCs	Total	Dichlorodifluoromethane	N/A	N/A	ug/m3	--	--	3.20	880,000	No	0	No
Soil Gas	VOCs	Total	Dichloromethane (Methylene Chloride)	N/A	N/A	ug/m3	--	--	1.80	26,000	No	0	No
Soil Gas	VOCs	Total	Ethanol	N/A	N/A	ug/m3	--	--	13.0	NV	***Yes***	--	***Yes***
Soil Gas	VOCs	Total	Ethylbenzene	N/A	N/A	ug/m3	--	--	1,550	4,900	No	0	No
Soil Gas	VOCs	Total	Heptane	N/A	N/A	ug/m3	--	--	87.0	NV	***Yes***	--	***Yes***
Soil Gas	VOCs	Total	Hexane	N/A	N/A	ug/m3	--	--	110	3,100,000	No	0	No
Soil Gas	VOCs	Total	Isopropylbenzene	N/A	N/A	ug/m3	--	--	675	1,800,000	No	0	No
Soil Gas	VOCs	Total	m,p-Xylenes	N/A	N/A	ug/m3	--	--	5,850	440,000	No	0	No
Soil Gas	VOCs	Total	n-Propylbenzene	N/A	N/A	ug/m3	--	--	2,300	4,400,000	No	0	No
Soil Gas	VOCs	Total	o-Xylene	N/A	N/A	ug/m3	--	--	2,800	3,100,000	No	0	No
Soil Gas	VOCs	Total	Tetrachloroethene (PCE)	N/A	N/A	ug/m3	--	--	34,000	2,100	**Yes**	1	**Yes**
Soil Gas	VOCs	Total	Toluene	N/A	N/A	ug/m3	--	--	47,500	22,000,000	No	0	No
Soil Gas	VOCs	Total	trans-1,2-Dichloroethene	N/A	N/A	ug/m3	--	--	4.00	260,000	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(15 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Soil Gas	VOCs	Total	Trichloroethene (TCE)	N/A	N/A	ug/m3	--	--	610	140	**Yes**	2	**Yes**
Soil Gas	VOCs	Total	Trichlorofluoromethane	N/A	N/A	ug/m3	--	--	2.20	3,100,000	No	0	No

Table 9-5
Preliminary-COPC Identification for Combined Data from all Four AOPCs
Bradford Island - Upland Operable Unit
(16 of 16)

Medium	Analyte Group	Total / Dissolved	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in AOPC than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?

Notes
(1) Only evaluated for analytes with a sample size of 20 or more. See the Data Summary for All Four AOPCs Combined - Appendix I, Table I-5.
(2) Only applicable to inorganics. For soils, see the statistical comparison of Site soil concentrations to Reference Area concentrations; Appendix L, Tables L-1 and L-2.
For groundwater and seep water, see Table 8-3 and Appendix L, Table L-3. Direct push groundwater samples are not compared to Reference Area monitoring well data.
(3) The groundwater, seep water, and surface water SLVs are the lower of the Direct Contact Water SLV and the Discharge to Surface Water-Bioaccumulative SLV; see Appendix J.
(4) Total DDT is evaluated in the ERA for the Upland OU; see Section 12 and Appendix N.

'--' = Not evaluated
% = percent
BHC = hexachlorocyclohexane
DP = Direct Push
ft = feet
Max = maximum
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
N/A = not applicable
NV = No Value
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PCB = polychlorinated biphenyl
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
ug/L = micrograms per liter
ug/m3 = micrograms per cubic meter

Table 9-6
Preliminary-COPC Identification for Potentially Erodible or Mass Wasting Soil
Bradford Island - Upland Operable Unit
(1 of 4)

AOPC	Medium	Analyte Group	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate	Detection Rate > 5%?[1]	Higher Conc than Reference Sediments?[2]	Max Detected Value	Selected Sediment SLV[3]	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Landfill	Soil	Metals	Aluminum	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Landfill	Soil	Metals	Arsenic	0-1 ft	N/A	mg/kg	100%	--	**Yes**	6.20	6.00	**Yes**	2	**Yes**
Landfill	Soil	Metals	Barium	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Landfill	Soil	Metals	Beryllium	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Landfill	Soil	Metals	Cadmium	0-1 ft	N/A	mg/kg	100%	--	**Yes**	1.70	0.674	**Yes**	4	**Yes**
Landfill	Soil	Metals	Chromium	0-1 ft	N/A	mg/kg	100%	--	**Yes**	801	37.0	**Yes**	2	**Yes**
Landfill	Soil	Metals	Cobalt	0-1 ft	N/A	mg/kg	100%	--	**Yes**	22.7	15.2	**Yes**	2	**Yes**
Landfill	Soil	Metals	Copper	0-1 ft	N/A	mg/kg	100%	--	**Yes**	60.5	55.6	**Yes**	2	**Yes**
Landfill	Soil	Metals	Lead	0-1 ft	N/A	mg/kg	100%	--	**Yes**	680	35.0	**Yes**	9	**Yes**
Landfill	Soil	Metals	Manganese	0-1 ft	N/A	mg/kg	100%	--	--	614	1100	No	0	No
Landfill	Soil	Metals	Mercury	0-1 ft	N/A	mg/kg	100%	--	**Yes**	0.320	0.214	**Yes**	3	**Yes**
Landfill	Soil	Metals	Nickel	0-1 ft	N/A	mg/kg	100%	--	**Yes**	570	21.2	**Yes**	3	**Yes**
Landfill	Soil	Metals	Selenium	0-1 ft	N/A	mg/kg	20%	--	--	0.848	NV	***Yes***	--	***Yes***
Landfill	Soil	Metals	Silver	0-1 ft	N/A	mg/kg	50%	--	--	0.500	4.50	No	0	No
Landfill	Soil	Metals	Thallium	0-1 ft	N/A	mg/kg	10%	--	**Yes**	0.378	0.354	**Yes**	1	**Yes**
Landfill	Soil	Metals	Vanadium	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Landfill	Soil	Metals	Zinc	0-1 ft	N/A	mg/kg	100%	--	**Yes**	221	123	**Yes**	9	**Yes**
Landfill	Soil	Pesticides	4,4'-DDT	0-1 ft	N/A	ug/kg	70%	--	--	28.0	0.040	**Yes**	7	**Yes**
Landfill	Soil	Pesticides	Dieldrin	0-1 ft	N/A	ug/kg	10%	--	--	2.10	0.0010	**Yes**	1	**Yes**
Landfill	Soil	PCB Aroclors	Aroclor 1254	0-1 ft	N/A	ug/kg	70%	--	--	49.0	0.0480	**Yes**	7	**Yes**
Landfill	Soil	PCB Aroclors	Aroclor 1260	0-1 ft	N/A	ug/kg	90%	--	--	92.0	0.0480	**Yes**	9	**Yes**
Landfill	Soil	PCB Aroclors	Total PCBs as Aroclors	0-1 ft	N/A	ug/kg	90%	--	--	127	0.0480	**Yes**	9	**Yes**
Landfill	Soil	SVOCs	2-Methylnaphthalene	0-1 ft	N/A	ug/kg	10%	--	--	11.0	NV	***Yes***	--	***Yes***
Landfill	Soil	SVOCs	Acenaphthene	0-1 ft	N/A	ug/Kg	79%	--	--	1,160	290	**Yes**	2	**Yes**
Landfill	Soil	SVOCs	Acenaphthylene	0-1 ft	N/A	ug/kg	29%	--	--	19.0	160	No	0	No
Landfill	Soil	SVOCs	Anthracene	0-1 ft	N/A	ug/kg	93%	--	--	1,070	57	**Yes**	8	**Yes**
Landfill	Soil	SVOCs	Benzo(a)anthracene	0-1 ft	N/A	ug/kg	93%	--	--	4,500	32	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Benzo(a)pyrene	0-1 ft	N/A	ug/kg	93%	--	--	6,200	32	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Benzo(b)fluoranthene	0-1 ft	N/A	ug/kg	93%	--	--	8,200	27	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Benzo(g,h,i)perylene	0-1 ft	N/A	ug/kg	93%	--	--	3,300	300	**Yes**	8	**Yes**
Landfill	Soil	SVOCs	Benzo(k)fluoranthene	0-1 ft	N/A	ug/kg	93%	--	--	2,500	27	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Benzoic Acid	0-1 ft	N/A	ug/kg	30%	--	--	300	NV	***Yes***	--	***Yes***
Landfill	Soil	SVOCs	Benzyl Alcohol	0-1 ft	N/A	ug/kg	10%	--	--	14.0	NV	***Yes***	--	***Yes***
Landfill	Soil	SVOCs	Bis(2-ethylhexyl) Phthalate	0-1 ft	N/A	ug/kg	90%	--	--	420	750	No	0	No
Landfill	Soil	SVOCs	Carbazole	0-1 ft	N/A	ug/kg	80%	--	--	210	140	**Yes**	1	**Yes**
Landfill	Soil	SVOCs	Chrysene	0-1 ft	N/A	ug/kg	93%	--	--	5,900	57	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Dibenz(a,h)anthracene	0-1 ft	N/A	ug/kg	93%	--	--	1,000	33	**Yes**	11	**Yes**
Landfill	Soil	SVOCs	Dibenzofuran	0-1 ft	N/A	ug/kg	20%	--	--	36.0	5100	No	0	No
Landfill	Soil	SVOCs	Di-n-butyl Phthalate	0-1 ft	N/A	ug/kg	40%	--	--	1,800	110	**Yes**	1	**Yes**
Landfill	Soil	SVOCs	Fluoranthene	0-1 ft	N/A	ug/kg	93%	--	--	14,000	111	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Fluorene	0-1 ft	N/A	ug/kg	71%	--	--	510	77	**Yes**	4	**Yes**
Landfill	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	0-1 ft	N/A	ug/kg	93%	--	--	4,600	17	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Naphthalene	0-1 ft	N/A	ug/kg	36%	--	--	79.0	176	No	0	No
Landfill	Soil	SVOCs	Phenanthrene	0-1 ft	N/A	ug/Kg	93%	--	--	4,200	42	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Pyrene	0-1 ft	N/A	ug/kg	93%	--	--	9,100	53	**Yes**	13	**Yes**

Table 9-6
Preliminary-COPC Identification for Potentially Erodible or Mass Wasting Soil
Bradford Island - Upland Operable Unit
(2 of 4)

AOPC	Medium	Analyte Group	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate	Detection Rate > 5%?[1]	Higher Conc than Reference Sediments?[2]	Max Detected Value	Selected Sediment SLV[3]	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Landfill	Soil	SVOCs	Total LPAHs (KM, capped)	0-1 ft	N/A	ug/kg	93%	--	**--**	7,043	76	**Yes**	13	**Yes**
Landfill	Soil	SVOCs	Total HPAHs (KM, capped)	0-1 ft	N/A	ug/kg	93%	--	**--**	55,030	193	**Yes**	13	**Yes**
Landfill	Soil	VOCs	Tetrachloroethene (PCE)	0-1 ft	N/A	ug/kg	80%	--	--	9.70	NV	***Yes***	--	***Yes***
Landfill	Soil	VOCs	Toluene	0-1 ft	N/A	ug/kg	80%	--	--	1.46	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	Metals	Aluminum	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Antimony	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Arsenic	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Barium	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Beryllium	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Cadmium	0-1 ft	N/A	mg/kg	100%	--	**Yes**	1.06	0.674	**Yes**	1	**Yes**
Sandblast Area	Soil	Metals	Chromium	0-1 ft	N/A	mg/kg	100%	--	**Yes**	162	37.0	**Yes**	2	**Yes**
Sandblast Area	Soil	Metals	Cobalt	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Copper	0-1 ft	N/A	mg/kg	100%	--	**Yes**	71.6	55.6	**Yes**	1	**Yes**
Sandblast Area	Soil	Metals	Lead	0-1 ft	<250um	mg/kg	100%	--	**Yes**	90.8	35	**Yes**	1	**Yes**
Sandblast Area	Soil	Metals	Lead	0-1 ft	<2mm	mg/kg	100%	--	**Yes**	52.7	35	**Yes**	1	**Yes**
Sandblast Area	Soil	Metals	Lead	0-1 ft	N/A	mg/kg	100%	--	**Yes**	319	35	**Yes**	2	**Yes**
Sandblast Area	Soil	Metals	Manganese	0-1 ft	N/A	mg/kg	100%	--	--	479	1100	No	0	No
Sandblast Area	Soil	Metals	Mercury	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Nickel	0-1 ft	N/A	mg/kg	100%	--	**Yes**	74.9	21.2	**Yes**	2	**Yes**
Sandblast Area	Soil	Metals	Selenium	0-1 ft	N/A	mg/kg	100%	--	--	0.650	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	Metals	Silver	0-1 ft	N/A	mg/kg	100%	--	--	0.175	4.50	No	0	No
Sandblast Area	Soil	Metals	Thallium	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Vanadium	0-1 ft	N/A	mg/kg	100%	--	No	--	--	--	--	No
Sandblast Area	Soil	Metals	Zinc	0-1 ft	N/A	mg/kg	100%	--	**Yes**	203	123	**Yes**	1	**Yes**
Sandblast Area	Soil	Butyltins	Dibutyltin	0-1 ft	N/A	ug/kg	100%	--	--	9.10	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	Butyltins	Monobutyltin	0-1 ft	N/A	ug/kg	100%	--	--	8.25	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	Butyltins	Tributyltin	0-1 ft	N/A	ug/kg	100%	--	--	12.8	2.3	**Yes**	2	**Yes**
Sandblast Area	Soil	Pesticides	4,4'-DDE	0-1 ft	N/A	ug/kg	100%	--	--	0.440	0.0400	**Yes**	2	**Yes**
Sandblast Area	Soil	Pesticides	4,4'-DDT	0-1 ft	N/A	ug/kg	100%	--	--	10.0	0.0400	**Yes**	2	**Yes**
Sandblast Area	Soil	Pesticides	BHC (delta)	0-1 ft	N/A	ug/kg	50%	--	--	0.0780	0.900	No	0	No
Sandblast Area	Soil	Pesticides	Endosulfan II	0-1 ft	N/A	ug/kg	50%	--	--	0.240	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	Pesticides	Endosulfan Sulfate	0-1 ft	N/A	ug/kg	50%	--	--	0.770	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	Pesticides	Heptachlor	0-1 ft	N/A	ug/kg	100%	--	--	0.380	10.0	No	0	No
Sandblast Area	Soil	PCB Aroclors	Aroclor 1260	0-1 ft	N/A	ug/kg	100%	--	--	67.0	0.0480	**Yes**	2	**Yes**
Sandblast Area	Soil	PCB Aroclors	Total PCBs as Aroclors	0-1 ft	N/A	ug/kg	100%	--	--	69.1	0.0480	**Yes**	2	**Yes**
Sandblast Area	Soil	NWTPH-Dx	Diesel Range Organics	0-1 ft	N/A	mg/kg	100%	--	--	69.0	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	NWTPH-Dx	Residual Range Organics	0-1 ft	N/A	mg/kg	100%	--	--	1,000	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	NWTPH-Gx	Gasoline Range Organics	0-1 ft	N/A	mg/kg	50%	--	--	3.20	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	SVOCs	Acenaphthene	0-1 ft	N/A	ug/kg	100%	--	--	68.0	290	No	0	No
Sandblast Area	Soil	SVOCs	Anthracene	0-1 ft	N/A	ug/kg	100%	--	--	150	57	**Yes**	1	**Yes**
Sandblast Area	Soil	SVOCs	Benzo(a)anthracene	0-1 ft	N/A	ug/kg	100%	--	--	1,200	32	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Benzo(a)pyrene	0-1 ft	N/A	ug/kg	100%	--	--	1,000	32	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Benzo(b)fluoranthene	0-1 ft	N/A	ug/kg	100%	--	--	1,600	27	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Benzo(g,h,i)perylene	0-1 ft	N/A	ug/kg	100%	--	--	590	300	**Yes**	1	**Yes**

Table 9-6
Preliminary-COPC Identification for Potentially Erodible or Mass Wasting Soil
Bradford Island - Upland Operable Unit
(3 of 4)

AOPC	Medium	Analyte Group	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate	Detection Rate > 5%?[1]	Higher Conc than Reference Sediments?[2]	Max Detected Value	Selected Sediment SLV[3]	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Sandblast Area	Soil	SVOCs	Benzo(k)fluoranthene	0-1 ft	N/A	ug/kg	100%	--	--	570	27	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Bis(2-ethylhexyl) Phthalate	0-1 ft	N/A	ug/kg	100%	--	--	260,000	750	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Carbazole	0-1 ft	N/A	ug/kg	100%	--	--	91.0	140	No	0	No
Sandblast Area	Soil	SVOCs	Chrysene	0-1 ft	N/A	ug/kg	100%	--	--	1,500	57	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Dibenz(a,h)anthracene	0-1 ft	N/A	ug/kg	100%	--	--	220	33	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Fluoranthene	0-1 ft	N/A	ug/kg	100%	--	--	2,100	111	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	0-1 ft	N/A	ug/kg	100%	--	--	690	17	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Phenanthrene	0-1 ft	N/A	ug/kg	100%	--	--	940	42	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Pyrene	0-1 ft	N/A	ug/kg	100%	--	--	1,900	53	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Total LPAHs (KM, capped)	0-1 ft	N/A	ug/kg	100%	--	**--**	1,356	76	**Yes**	2	**Yes**
Sandblast Area	Soil	SVOCs	Total HPAHs (KM, capped)	0-1 ft	N/A	ug/kg	100%	--	**--**	11,370	193	**Yes**	2	**Yes**
Sandblast Area	Soil	VOCs	1,2,4-Trimethylbenzene	0-1 ft	N/A	ug/kg	75%	--	--	0.280	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	2-Butanone (MEK)	0-1 ft	N/A	ug/kg	88%	--	--	50.0	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	2-Hexanone	0-1 ft	N/A	ug/kg	38%	--	--	8.80	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	4-Isopropyltoluene	0-1 ft	N/A	ug/kg	38%	--	--	2.50	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	0-1 ft	N/A	ug/kg	38%	--	--	1.20	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Acetone	0-1 ft	N/A	ug/kg	88%	--	--	540	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Benzene	0-1 ft	N/A	ug/kg	50%	--	--	1.00	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Bromomethane	0-1 ft	N/A	ug/kg	25%	--	--	5.00	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Carbon Disulfide	0-1 ft	N/A	ug/kg	88%	--	--	1.00	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Chloroform	0-1 ft	N/A	ug/kg	38%	--	--	19.0	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Chloromethane	0-1 ft	N/A	ug/kg	25%	--	--	0.250	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	cis-1,2-Dichloroethene	0-1 ft	N/A	ug/kg	13%	--	--	12.0	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Dichlorodifluoromethane	0-1 ft	N/A	ug/kg	13%	--	--	94.0	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Dichloromethane (Methylene Chloride)	0-1 ft	N/A	ug/kg	50%	--	--	460	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Ethylbenzene	0-1 ft	N/A	ug/kg	38%	--	--	0.200	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	m,p-Xylenes	0-1 ft	N/A	ug/kg	38%	--	--	0.360	NV	***Yes***	--	***Yes***
Sandblast Area	Soil	VOCs	Naphthalene	0-1 ft	N/A	ug/kg	25%	--	--	0.540	176	No	0	No
Sandblast Area	Soil	VOCs	Toluene	0-1 ft	N/A	ug/kg	88%	--	--	1.30	NV	***Yes***	--	***Yes***
Bulb Slope	Soil	Metals	Lead	0-1 ft	N/A	mg/kg	100%	**--**	**Yes**	597	35	**Yes**	11	**Yes**
Bulb Slope	Soil	Metals	Mercury	0-1 ft	N/A	mg/kg	100%	**--**	**Yes**	1.54	0.214	**Yes**	6	**Yes**
Bulb Slope	Soil	PCB Aroclors	Aroclor 1260	0-1 ft	N/A	ug/kg	67%	**--**	--	251	0.0480	**Yes**	8	**Yes**
Bulb Slope	Soil	PCB Aroclors	Total PCBs as Aroclors	0-1 ft	N/A	ug/kg	67%	**--**	--	251	0.0480	**Yes**	8	**Yes**
Bulb Slope	Soil	NWTPH-Dx	Diesel Range Organics	0-1 ft	N/A	mg/kg	100%	**--**	--	170	NV	***Yes***	--	***Yes***
Bulb Slope	Soil	NWTPH-Dx	Residual Range Organics	0-1 ft	N/A	mg/kg	100%	**--**	--	410	NV	***Yes***	--	***Yes***

Notes

(1) Only evaluated for analytes with a sample size of 20 or more.

(2) Only applicable to inorganics. See the comparison of potentially erodible and mass wasting soil concentrations to Reference Area sediment concentrations; Appendix L, Table L-8.

(3) Total DDT is evaluated in the ERA and HHRA for the Upland OU; see Sections 11 and 12 and Appendix O.

The subset of Landfill AOPC soil potentially suseptible to mass wasting is comprised of the following samples: BIL01USE through BIL09USE, BIL13SSI, and L-01 through L-04.

The Sandblast Area AOPC potentially erodible soil subset is comprised of the following samples: SB-EUA, SB-EUB, SB-EUA-02, SB-EUA-04, SB-EUA-06, SB-EUA-08, SB-EUB-02, SB-EUB-03, SB-EUB-12, SB-EUB-15, and SB-04.

The entire Bulb Slope AOPC is potentially suseptible to mass wasting.

Table 9-6
Preliminary-COPC Identification for Potentially Erodible or Mass Wasting Soil
Bradford Island - Upland Operable Unit
(4 of 4)

AOPC	Medium	Analyte Group	Analyte	Depth Category (Soil)	Sieve Size (Sieved Soil)	Unit	Detection Rate	Detection Rate > 5%?[1]	Higher Conc than Reference Sediments?[2]	Max Detected Value	Selected Sediment SLV[3]	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?

'--' = Not evaluated
% = percent
BHC = hexachlorocyclohexane
ft = feet
Max = maximum
mg/kg = milligrams per kilogram
N/A = not applicable
NV = No Value
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PCB = polychlorinated biphenyl
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
VOC = volatile organic carbon

Table 9-7
Upland OU Preliminary COPC Summary
Bradford Island - Upland Operable Unit
(1 of 6)

Medium	Depth Category (Soil)	Analyte Group	Landfill AOPC Preliminary COPCs	Sandblast Area AOPC Preliminary COPCs	Pistol Range AOPC Preliminary COPCs	Bulb Slope AOPC Preliminary COPCs	All Four AOPCs Combined Preliminary COPCs
Detection Frequency > 5%, Detected > Reference (Inorganics), and Detected > SLV							
Soil	0-1 ft bgs	Metals	Antimony, Cadmium, Lead, Mercury, and Zinc	Antimony, Arsenic, Cadmium, Chromium, Lead, Nickel, Selenium, and Zinc	Lead and Zinc	Lead and Mercury	Antimony, Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, and Zinc
		Organotins	None	None	-	-	None
		Herbicides	2,4,5-T, Dichloroprop, and MCPP	ND	-	-	2,4,5-T, Dichloroprop, and MCPP
		Pesticides	4,4'-DDT	4,4'-DDT, Endrin, Endrin Aldehyde, and Endrin Ketone	-	-	4,4'-DDT, Endrin, Endrin Aldehyde, and Endrin Ketone
		PCBs	Aroclor 1248, Aroclor 1260, and Total PCBs as Aroclors	Arochlor 1254, Aroclor 1260, and Total PCBs as Aroclors	-	None	Aroclor 1248, Arochlor 1254, Aroclor 1260, and Total PCBs as Aroclors
		TPH	GRO	None	-	None	GRO
		PAHs	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Total HPAHs	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Total HPAHs	-	-	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Total HPAHs
		SVOCs	Bis(2-ethylhexyl)phthalate, Carbazole, Dibenzofuran, and Di-n-butyl phthalate	Bis(2-ethylhexyl) phthalate and Dibenzofuran	-	-	Bis(2-ethylhexyl)phthalate, Carbazole, Dibenzofuran, and Di-n-butyl phthalate
		VOCs	Ethylbenzene	None	-	-	Ethylbenzene
	0-3 ft bgs	Metals	Antimony, Arsenic, Cadmium, Lead, Mercury, and Zinc	Antimony, Arsenic, Cadmium, Chromium, Lead, Nickel, Selenium, and Zinc	(No subsurface samples)	(No subsurface samples)	Antimony, Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, and Zinc
		Organotins	None	None			None
		Herbicides	2,4,5-T, Dichloroprop, and MCPP	ND			2,4,5-T, Dichloroprop, and MCPP
		Pesticides	4,4'-DDT	4,4'-DDT, Endrin, Endrin Aldehyde, and Endrin Ketone			4,4'-DDT, Endrin, Endrin Aldehyde, and Endrin Ketone
		PCBs	Aroclor 1248, Aroclor 1260, and Total PCBs as Aroclors	Arochlor-1254, Aroclor 1260, and Total PCBs as Aroclors			Aroclor 1248, Arochlor 1254, Aroclor 1260, and Total PCBs as Aroclors
		TPH	GRO	None			GRO

Table 9-7
Upland OU Preliminary COPC Summary
Bradford Island - Upland Operable Unit
(2 of 6)

Medium	Depth Category (Soil)	Analyte Group	Landfill AOPC Preliminary COPCs	Sandblast Area AOPC Preliminary COPCs	Pistol Range AOPC Preliminary COPCs	Bulb Slope AOPC Preliminary COPCs	All Four AOPCs Combined Preliminary COPCs
Detection Frequency > 5%, Detected > Reference (Inorganics), and Detected > SLV							
Soil (Continued)	0-3 ft bgs (Continued)	PAHs	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Total HPAHs, and Total LPAHs	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Total HPAHs	(No subsurface samples)	(No subsurface samples)	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Total HPAHs
		SVOCs	Bis(2-ethylhexyl)phthalate Carbazole, Dibenzofuran, and Di-n-butyl phthalate	Bis(2-ethylhexyl) phthalate and Dibenzofuran			Bis(2-ethylhexyl)phthalate Carbazole, Dibenzofuran, and Di-n-butyl phthalate
		VOCs	None	o-Xylene, PCE, and TCE			Ethylbenzene, o-Xylene, PCE, and TCE
	0-10 ft bgs	Metals	Lead	Arsenic, Chromium, and Lead	(No deeper samples)	(No deeper samples)	Arsenic, Chromium, and Lead
		Organotins	None	None			None
		Herbicides	None*	ND			None*
		Pesticides	None	None			None
		PCBs	Total PCBs as Aroclors	Arochlor-1254 and Total PCBs as Aroclors			Arochlor 1254 and Total PCBs as Aroclors
		TPH	GRO and RRO	None			GRO and RRO
		PAHs	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene			Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzofluoranthenes (Total), Dibenz(a,h)anthracene, and Indeno(1,2,3-cd)pyrene
		SVOCs	None*	Bis(2-ethylhexyl) phthalate			Bis(2-ethylhexyl) phthalate
		VOCs	PCE	PCE and TCE			PCE and TCE

Table 9-7
Upland OU Preliminary COPC Summary
Bradford Island - Upland Operable Unit
(3 of 6)

Medium	Depth Category (Soil)	Analyte Group	Landfill AOPC Preliminary COPCs	Sandblast Area AOPC Preliminary COPCs	Pistol Range AOPC Preliminary COPCs	Bulb Slope AOPC Preliminary COPCs	All Four AOPCs Combined Preliminary COPCs
Detection Frequency > 5%, Detected > Reference (Inorganics), and Detected > SLV							
Erodible Soil	0-1 ft bgs	Metals	Arsenic, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Thallium, and Zinc	Cadmium, Chromium, Copper, Lead, Nickel, and Zinc	(Not evaluated)	Lead and Mercury	(Not evaluated)
		Organotins	-	Tributyltin		-	
		Herbicides	ND	-		-	
		Pesticides	4,4'-DDT and Dieldrin	4,4'-DDT and 4,4'-DDE		-	
		PCBs	Aroclor 1254, Aroclor 1260, and Total PCBs as Aroclors	Aroclor 1260 and Total PCBs as Aroclors		Aroclor 1260 and Total PCBs as Aroclors	
		TPH	ND	None*		None*	
		PAHs	Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Phenanthrene, Pyrene, Total LPAHs, and Total HPAHs	Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, Pyrene, Total LPAHs, and Total HPAHs		-	
		SVOCs	Carbazole and Di-n-butyl Phthalate	Bis(2-ethylhexyl) phthalate		-	
		VOCs	None*	None*		-	

Table 9-7
Upland OU Preliminary COPC Summary
Bradford Island - Upland Operable Unit
(4 of 6)

Medium	Depth Category (Soil)	Analyte Group	Landfill AOPC Preliminary COPCs	Sandblast Area AOPC Preliminary COPCs	Pistol Range AOPC Preliminary COPCs	Bulb Slope AOPC Preliminary COPCs	All Four AOPCs Combined Preliminary COPCs
Detection Frequency > 5%, Detected > Reference (Inorganics), and Detected > SLV							
Groundwater		Metals (Total)	**MW:** Arsenic, Iron, Lead, Manganese, and Thallium	**MW:** Arsenic, Iron, and Vanadium **DP:** Arsenic, Cobalt, Iron, Manganese, and Vanadium	None	(No goundwater samples)	**MW:** Arsenic, Iron, Lead, Manganese, Thallium, and Vanadium **DP:** Arsenic, Cobalt, Iron, Manganese, and Vanadium
		Metals (Dissolved)	**MW:** Arsenic, Barium, Cacium, Iron, Lead, Manganese, Sodium, and Zinc	**MW:** Arsenic and Vanadium **DP:** Aluminum, Arsenic, Barium, Iron, Manganese, and Vanadium	None		**MW:** Arsenic, Barium, Cacium, Iron, Lead, Manganese, Sodium, Vanadium, and Zinc **DP:** Aluminum, Arsenic, Barium, Iron, Manganese, and Vanadium
		Organotins	**MW:** Dibutyltin and Monobutyltin	None	-		**MW:** Dibutyltin and Monobutyltin
		Herbicides	None	-	-		None
		Pesticides	None	None	-		None
		PCBs	ND	ND	-		ND
		TPH	**MW:** DRO, GRO, and RRO	None	-		**MW:** DRO, GRO, and RRO
		PAHs (Total)	**MW:** Naphthalene and Phenanthrene	**DP:** Benzo(a)pyrene, Benzofluoranthenes (Total), Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Phenanthrene	-		**MW:** Naphthalene and Phenanthrene **DP:** Benzo(a)pyrene, Benzofluoranthenes (Total), Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Phenanthrene
		PAHs (Dissolved)	-	**DP:** Benzo(a)pyrene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Naphthalene	-		**DP:** Benzo(a)pyrene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, and Naphthalene
		SVOCs	**MW:** Bis(2-ethylhexyl)phthalate and Di-n-octyl phthalate	None	-		**MW:** Bis(2-ethylhexyl)phthalate and Di-n-octyl phthalate
		VOCs	**MW:** Chloroform, PCE, and Vinyl Chloride	**MW:** 1,1-Dichloroethane, cis-1,2-Dichloroethene, PCE, TCE, and Vinyl Chloride **DP:** 1,1-Dichloroethane, PCE, TCE, and Vinyl Chloride	-		**MW:** 1,1-Dichloroethane, Carbon Disulfide, Chloroform, cis-1,2-Dichloroethene, PCE, TCE, and Vinyl Chloride **DP:** 1,1-Dichloroethane, PCE, TCE, and Vinyl Chloride

Table 9-7
Upland OU Preliminary COPC Summary
Bradford Island - Upland Operable Unit
(5 of 6)

Medium	Depth Category (Soil)	Analyte Group	Landfill AOPC Preliminary COPCs	Sandblast Area AOPC Preliminary COPCs	Pistol Range AOPC Preliminary COPCs	Bulb Slope AOPC Preliminary COPCs	All Four AOPCs Combined Preliminary COPCs
Detection Frequency > 5%, Detected > Reference (Inorganics), and Detected > SLV							
Seep Water		Metals (Total)	Arsenic, Iron, Lead, and Manganese	(No seep water samples)	(No seep water samples)	(No seep water samples)	Arsenic, Iron, Lead, and Manganese
		Metals (Dissolved)	Barium, Iron, Manganese, and Zinc				Barium, Iron, Manganese, and Zinc
		Organotins	ND				ND
		Herbicides	ND				ND
		Pesticides	ND				ND
		PCBs	ND				ND
		TPH	DRO				DRO
		PAHs	ND				ND
		SVOCs	None				None
		VOCs	Chloroform and PCE				Chloroform and PCE
Surface Water		Metals (Total)	Arsenic and Iron	(No surface water samples)	(No surface water samples)	(No surface water samples)	Arsenic and Iron
		Metals (Dissolved)	Arsenic				Arsenic
		Organotins	ND				ND
		Herbicides	-				-
		Pesticides	-				-
		PCBs	-				-
		TPH	None				None
		PAHs	ND				ND
		SVOCs	ND				ND
		VOCs	ND				ND
Lagoon Sediment		Metals	(No lagoon sediment)	(No lagoon sediment)	Zinc	(No lagoon sediment)	Zinc
Soil Gas		VOCs	(No soil gas samples)	PCE and TCE	(No soil gas samples)	(No soil gas samples)	PCE and TCE
Detection Frequency > 5%, Detected > Reference (Inorganics), and No SLV							
Soil	0-10 ft bgs	Herbicides	Dichloroprop	None	(No deeper samples)	(No deeper samples)	Dichloroprop
		SVOCs	Carbazole	Carbazole			Carbazole
		VOCs	None	4-Isopropyltoluene			4-Isopropyltoluene
Erodible Soil	0-1 ft bgs	Metals	Selenium	Selenium	(Not evaluated)	None	(Not evaluated)
		Organotins	-	Dibutyltin and Monobutyltin		-	
		Pesticides	None	Endosulfan II and Endosulfan Sulfate		-	
		TPH	ND	DRO, RRO, and GRO		DRO and RRO	
		PAHs	2-Methylnaphthalene	None		None	
		SVOCs	Benzoic Acid and Benzyl Alcohol	None		-	
		VOCs	PCE and Toluene	All detected VOCs except Napthalene		-	
Groundwater		Metals (Total)	None	**DP:** Calcium, Magnesium, Potassium, and Sodium	None	(No goundwater samples)	**DP:**Calcium, Magnesium, Potassium, and Sodium
Soil Gas		VOCs	(No soil gas samples)	2,2,4-Trimethylpentane, 4-Ethyltoluene, Ethanol, and Heptane	(No soil gas samples)	(No soil gas samples)	2,2,4-Trimethylpentane, 4-Ethyltoluene, Ethanol, and Heptane

Notes

Table 9-7
Upland OU Preliminary COPC Summary
Bradford Island - Upland Operable Unit
(6 of 6)

Medium	Depth Category (Soil)	Analyte Group	Landfill AOPC Preliminary COPCs	Sandblast Area AOPC Preliminary COPCs	Pistol Range AOPC Preliminary COPCs	Bulb Slope AOPC Preliminary COPCs	All Four AOPCs Combined Preliminary COPCs

* See the section of the table for COFIs retained due to lack of SLVs
"-" = Not Analyzed
COPC = contaminant of potential concern
ND = no detected

Table 9-8
Preliminary COPC Identification for Forebay Random Data
Bradford Island - River Operable Unit
(1 of 6)

Medium	Analyte Group	Basis	Total/ Dissolved	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in Forebay than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Dections > SLV	Retain as Preliminary COPC?
Surface Water - Grab	Metals	W	Dissolved		Arsenic	ug/L	--	--	0.940	0.018	**Yes**	5	**Yes**
Surface Water - Grab	Metals	W	Dissolved		Barium	ug/L	--	--	24.0	4	**Yes**	5	**Yes**
Surface Water - Grab	Metals	W	Dissolved		Beryllium	ug/L	--	--	0.00400	5.3	No	0	No
Surface Water - Grab	Metals	W	Dissolved		Cadmium	ug/L	--	--	0.0100	0.17	No	0	No
Surface Water - Grab	Metals	W	Dissolved		Copper	ug/L	--	--	0.520	5.8	No	0	No
Surface Water - Grab	Metals	W	Dissolved		Lead	ug/L	--	--	0.0360	1.44	No	0	No
Surface Water - Grab	Metals	W	Dissolved		Thallium	ug/L	--	--	0.0310	0.24	No	0	No
Surface Water - Grab	Metals	W	Dissolved		Zinc	ug/L	--	--	7.50	77	No	0	No
Surface Water - Grab	Metals	W	Total		Aluminum	ug/L	--	**Yes**	141	37000	No	0	No
Surface Water - Grab	Metals	W	Total		Arsenic	ug/L	--	No	--	--	--	--	No
Surface Water - Grab	Metals	W	Total		Barium	ug/L	--	**Yes**	27.0	1000	No	0	No
Surface Water - Grab	Metals	W	Total		Beryllium	ug/L	--	No	--	--	--	--	No
Surface Water - Grab	Metals	W	Total		Cadmium	ug/L	--	No	--	--	--	--	No
Surface Water - Grab	Metals	W	Total		Copper	ug/L	--	No	--	--	--	--	No
Surface Water - Grab	Metals	W	Total		Lead	ug/L	--	No	--	--	--	--	No
Surface Water - Grab	Metals	W	Total		Thallium	ug/L	--	No	--	--	--	--	No
Surface Water - Grab	NWTPH-Dx	W	Dissolved		Diesel Range Organics	ug/L	--	--	46.0	90	No	0	No
Surface Water - Grab	NWTPH-Dx	W	Total		Diesel Range Organics	ug/L	--	--	15.0	90	No	0	No
Surface Water - XAD	PCB Congeners	W	C+F	-	Total PCBs As Congeners (KM, capped)	pg/L	--	--	209	64.0	**Yes**	5	**Yes**
Surface Water - XAD	PCB Congeners	W	C+F	77	3,3',4,4'-Tetrachlorobiphenyl	pg/L	--	--	0.133	5200	No	0	No
Surface Water - XAD	PCB Congeners	W	C+F	105	2,3,3',4,4'-Pentachlorobiphenyl	pg/L	--	--	0.540	5200	No	0	No
Surface Water - XAD	PCB Congeners	W	C+F	118	2,3',4,4',5-Pentachlorobiphenyl	pg/L	--	--	1.57	5200	No	0	No
Surface Water - XAD	PCB Congeners	W	C+F	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	pg/L	--	--	0.382	1000	No	0	No
Surface Water - XAD	PCB Congeners	W	C+F	167	2,3',4,4',5,5'-Hexachlorobiphenyl	pg/L	--	--	0.158	52000	No	0	No
Surface Water - XAD	PCB Congeners	W	C+F	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	pg/L	--	--	0.0662	5200	No	0	No
Surface Water - XAD	SVOCs	W	C+F		Acenaphthene	ng/L	--	--	1.28	520000	No	0	No
Surface Water - XAD	SVOCs	W	C+F		Anthracene	ng/L	--	--	0.121	13000	No	0	No
Surface Water - XAD	SVOCs	W	C+F		Benzo(a)anthracene	ng/L	--	--	0.0600	3.80	No	0	No
Surface Water - XAD	SVOCs	W	C+F		Benzo(b)fluoranthene	ng/L	--	--	0.0917	3.80	No	0	No
Surface Water - XAD	SVOCs	W	C+F		Chrysene	ng/L	--	--	0.171	3.80	No	0	No
Surface Water - XAD	SVOCs	W	C+F		Fluoranthene	ng/L	--	--	0.784	6160	No	0	No
Surface Water - XAD	SVOCs	W	C+F		Phenanthrene	ng/L	--	--	1.61	140	No	0	No
Sediment	Metals	D	Total		Aluminum	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Antimony	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Arsenic	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Barium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Beryllium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Cadmium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Chromium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Cobalt	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Copper	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Lead	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Mercury	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Nickel	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Thallium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D	Total		Vanadium	mg/kg	--	No	--	--	--	--	No

Table 9-8
Preliminary COPC Identification for Forebay Random Data
Bradford Island - River Operable Unit
(2 of 6)

Medium	Analyte Group	Basis	Total/ Dissolved	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in Forebay than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Dections > SLV	Retain as Preliminary COPC?
Sediment	Metals	D	Total		Zinc	mg/kg	--	No	--	--	--	--	No
Sediment	NWTPH-Dx	D	Total		Diesel Range Organics	mg/kg	--	--	54.0	NV	***Yes***	--	***Yes***
Sediment	NWTPH-Dx	D	Total		Residual Range Organics	mg/kg	--	--	180	NV	***Yes***	--	***Yes***
Sediment	PCB Aroclors	D	Total		Aroclor 1254	ug/kg	--	--	27.0	0.048	**Yes**	2	**Yes**
Sediment	PCB Aroclors	D	Total		Total PCBs As Aroclors	ug/kg	--	--	28.7	0.048	**Yes**	2	**Yes**
Sediment	PCB Congeners	D	Total	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	29.7	0.048	**Yes**	19	**Yes**
Sediment	PCB Congeners	D	Total	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.00709	0.0064	**Yes**	1	**Yes**
Sediment	PCB Congeners	D	Total	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	1.08	0.021	**Yes**	7	**Yes**
Sediment	PCB Congeners	D	Total	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.0603	0.021	**Yes**	1	**Yes**
Sediment	PCB Congeners	D	Total	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	2.65	0.026	**Yes**	14	**Yes**
Sediment	PCB Congeners	D	Total	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	0.0363	0.026	**Yes**	1	**Yes**
Sediment	PCB Congeners	D	Total	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.000238	6.2E-06	**Yes**	3	**Yes**
Sediment	PCB Congeners	D	Total	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	0.380	0.026	**Yes**	1	**Yes**
Sediment	PCB Congeners	D	Total	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	0.113	0.026	**Yes**	1	**Yes**
Sediment	PCB Congeners	D	Total	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	0.00901	0.14	No	0	No
Sediment	SVOCs	D	Total		Anthracene	ug/kg	--	--	2.70	57.0	No	0	No
Sediment	SVOCs	D	Total		Benzo(a)anthracene	ug/kg	--	--	12.0	32.0	No	0	No
Sediment	SVOCs	D	Total		Benzo(a)pyrene	ug/kg	--	--	7.50	32.0	No	0	No
Sediment	SVOCs	D	Total		Benzo(b)fluoranthene	ug/kg	--	--	9.10	27.0	No	0	No
Sediment	SVOCs	D	Total		Benzo(g,h,i)perylene	ug/kg	--	--	6.20	300	No	0	No
Sediment	SVOCs	D	Total		Benzo(k)fluoranthene	ug/kg	--	--	4.90	27.0	No	0	No
Sediment	SVOCs	D	Total		Bis(2-ethylhexyl) Phthalate	ug/kg	--	--	340	750	No	0	No
Sediment	SVOCs	D	Total		Carbazole	ug/kg	--	--	1.40	140	No	0	No
Sediment	SVOCs	D	Total		Chrysene	ug/kg	--	--	20.0	57.0	No	0	No
Sediment	SVOCs	D	Total		Fluoranthene	ug/kg	--	--	12.0	111	No	0	No
Sediment	SVOCs	D	Total		Indeno(1,2,3-cd)pyrene	ug/kg	--	--	5.70	17.0	No	0	No
Sediment	SVOCs	D	Total		p-cresol (4-Methylphenol)	ug/kg	--	--	21.0	48.0	No	0	No
Sediment	SVOCs	D	Total		Phenanthrene	ug/kg	--	--	7.40	42.0	No	0	No
Sediment	SVOCs	D	Total		Pyrene	ug/kg	--	--	17.0	53.0	No	0	No
Sediment	SVOCs	D	Total		Total LPAH (KM, capped)	ug/kg	--	--	12.0	76.0	No	0	No
Sediment	SVOCs	D	Total		Total HPAH (KM, capped)	ug/kg	--	--	73.9	193	No	0	No
Sediment	SVOCs	D	Total		Total PAHs (KM, capped)	ug/kg	--	--	83.4	1610	No	0	No
Tissue - Crayfish	Metals	W	Total		Aluminum	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Antimony	mg/kg	--	**Yes**	0.133	NV	***Yes***	--	***Yes***
Tissue - Crayfish	Metals	W	Total		Arsenic	mg/kg	--	**Yes**	0.680	0.00076	**Yes**	17	**Yes**
Tissue - Crayfish	Metals	W	Total		Barium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Beryllium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Cadmium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Chromium	mg/kg	--	**Yes**	1.20	NV	***Yes***	--	***Yes***
Tissue - Crayfish	Metals	W	Total		Cobalt	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Copper	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Lead	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Mercury	mg/kg	--	**Yes**	0.0315	0.049	No	0	No
Tissue - Crayfish	Metals	W	Total		Methyl Mercury	mg/kg	--	**Yes**	0.0400	0.049	No	0	No
Tissue - Crayfish	Metals	W	Total		Nickel	mg/kg	--	**Yes**	5.35	NV	***Yes***	--	***Yes***
Tissue - Crayfish	Metals	W	Total		Thallium	mg/kg	--	No	--	--	--	--	No

Table 9-8
Preliminary COPC Identification for Forebay Random Data
Bradford Island - River Operable Unit
(3 of 6)

Medium	Analyte Group	Basis	Total/ Dissolved	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in Forebay than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Dections > SLV	Retain as Preliminary COPC?
Tissue - Crayfish	Metals	W	Total		Vanadium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W	Total		Zinc	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	PCB Congeners	W	Total	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	42.6	0.57	**Yes**	14	**Yes**
Tissue - Crayfish	PCB Congeners	W	Total	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.0207	0.076	No	0	No
Tissue - Crayfish	PCB Congeners	W	Total	81	3,4,4',5-Tetrachlorobiphenyl	ug/kg	--	--	0.00132	0.025	No	0	No
Tissue - Crayfish	PCB Congeners	W	Total	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	0.134	0.25	No	0	No
Tissue - Crayfish	PCB Congeners	W	Total	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.804	0.25	**Yes**	3	**Yes**
Tissue - Crayfish	PCB Congeners	W	Total	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	14.0	0.25	**Yes**	5	**Yes**
Tissue - Crayfish	PCB Congeners	W	Total	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	0.460	0.25	**Yes**	1	**Yes**
Tissue - Crayfish	PCB Congeners	W	Total	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.00783	0.000076	**Yes**	7	**Yes**
Tissue - Crayfish	PCB Congeners	W	Total	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	3.91	0.25	**Yes**	4	**Yes**
Tissue - Crayfish	PCB Congeners	W	Total	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	1.53	0.25	**Yes**	3	**Yes**
Tissue - Crayfish	PCB Congeners	W	Total	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	0.0821	0.25	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Acenaphthene	ug/kg	--	--	0.260	15,000	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Anthracene	ug/kg	--	--	0.160	15,000	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Benzo(a)anthracene	ug/kg	--	--	0.350	1.57	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Benzo(a)pyrene	ug/kg	--	--	0.170	0.157	Yes	2	**Yes**
Tissue - Crayfish	SVOCs	W	Total		Benzo(b)fluoranthene	ug/kg	--	--	0.240	1.57	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Benzo(g,h,i)perylene	ug/kg	--	--	0.390	15.7	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Benzo(k)fluoranthene	ug/kg	--	--	0.160	15.7	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Bis(2-ethylhexyl) Phthalate	ug/kg	--	--	110	81.9	Yes	2	**Yes**
Tissue - Crayfish	SVOCs	W	Total		Chrysene	ug/kg	--	--	0.310	157	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Fluoranthene	ug/kg	--	--	0.750	19,000	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Fluorene	ug/kg	--	--	0.210	15,000	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Indeno(1,2,3-cd)pyrene	ug/kg	--	--	0.180	1.57	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Phenanthrene	ug/kg	--	--	0.860	15,000	No	0	No
Tissue - Crayfish	SVOCs	W	Total		Pyrene	ug/kg	--	--	1.20	1,000	No	0	No
Tissue - Smallmouth Bass	Metals	W	Total		Aluminum	mg/kg	--	**Yes**	15.5	NV	***Yes***	--	***Yes***
Tissue - Smallmouth Bass	Metals	W	Total		Arsenic	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Barium	mg/kg	--	**Yes**	2.64	NV	***Yes***	--	***Yes***
Tissue - Smallmouth Bass	Metals	W	Total		Beryllium	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Cadmium	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Chromium	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Cobalt	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Copper	mg/kg	--	**Yes**	1.42	NV	***Yes***	--	***Yes***
Tissue - Smallmouth Bass	Metals	W	Total		Lead	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Mercury	mg/kg	--	**Yes**	0.512	0.049	**Yes**	19	**Yes**
Tissue - Smallmouth Bass	Metals	W	Total		Nickel	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Thallium	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Vanadium	mg/kg	--	No	--	--	--	--	No
Tissue - Smallmouth Bass	Metals	W	Total		Zinc	mg/kg	--	**Yes**	18.0	NV	***Yes***	--	***Yes***
Tissue - Smallmouth Bass	PCB Aroclors	W	Total		Aroclor 1242	ug/kg	--	--	260	0.57	**Yes**	1	**Yes**
Tissue - Smallmouth Bass	PCB Aroclors	W	Total		Aroclor 1254	ug/kg	--	--	18,000	0.57	**Yes**	7	**Yes**
Tissue - Smallmouth Bass	PCB Aroclors	W	Total		Total PCBs As Aroclors	ug/kg	--	--	18,110	0.57	**Yes**	7	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	26,505	0.57	**Yes**	19	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	8.95	0.076	**Yes**	10	**Yes**

Table 9-8
Preliminary COPC Identification for Forebay Random Data
Bradford Island - River Operable Unit
(4 of 6)

Medium	Analyte Group	Basis	Total/ Dissolved	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in Forebay than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Dections > SLV	Retain as Preliminary COPC?
Tissue - Smallmouth Bass	PCB Congeners	W	Total	81	3,4,4',5-Tetrachlorobiphenyl	ug/kg	--	--	1.19	0.025	**Yes**	1	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	1,300	0.25	**Yes**	19	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	89.8	0.25	**Yes**	12	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	3,270	0.25	**Yes**	19	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	55.3	0.25	**Yes**	9	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	3.03	0.000076	**Yes**	18	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	486	0.25	**Yes**	19	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	140	0.25	**Yes**	15	**Yes**
Tissue - Smallmouth Bass	PCB Congeners	W	Total	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	10.1	0.25	**Yes**	9	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Acenaphthene	ug/kg	--	--	1.60	15,000	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Anthracene	ug/kg	--	--	17.0	15,000	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Benzo(a)anthracene	ug/kg	--	--	17.0	1.57	Yes	2	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Benzo(a)pyrene	ug/kg	--	--	7.40	0.157	Yes	8	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Benzo(b)fluoranthene	ug/kg	--	--	4.40	1.57	Yes	5	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Benzo(g,h,i)perylene	ug/kg	--	--	3.30	15.7	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Benzo(k)fluoranthene	ug/kg	--	--	7.70	15.7	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Bis(2-ethylhexyl) Phthalate	ug/kg	--	--	1,600	81.9	Yes	7	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Butyl Benzyl Phthalate	ug/kg	--	--	440	310	Yes	1	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Chrysene	ug/kg	--	--	10.0	157	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Dibenz(a,h)anthracene	ug/kg	--	--	4.10	0.157	Yes	6	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Di-n-butyl Phthalate	ug/kg	--	--	150	626	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Fluoranthene	ug/kg	--	--	6.50	19,000	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Fluorene	ug/kg	--	--	4.70	15,000	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Indeno(1,2,3-cd)pyrene	ug/kg	--	--	6.10	1.57	Yes	5	**Yes**
Tissue - Smallmouth Bass	SVOCs	W	Total		Phenanthrene	ug/kg	--	--	5.70	15,000	No	0	No
Tissue - Smallmouth Bass	SVOCs	W	Total		Pyrene	ug/kg	--	--	7.20	1,000	No	0	No
Tissue - Clam	Metals	W	Total		Aluminum	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Antimony	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Arsenic	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Barium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Beryllium	mg/kg	--	**Yes**	0.00380	NV	***Yes***	--	***Yes***
Tissue - Clam	Metals	W	Total		Cadmium	mg/kg	--	**Yes**	0.461	0.15	**Yes**	19	**Yes**
Tissue - Clam	Metals	W	Total		Chromium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Cobalt	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Copper	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Lead	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Mercury	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Methyl Mercury	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Nickel	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Thallium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Vanadium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W	Total		Zinc	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	PCB Aroclors	W	Total		Aroclor 1254	ug/kg	--	--	120	35	**Yes**	1	**Yes**
Tissue - Clam	PCB Aroclors	W	Total		Total PCBs As Aroclors	ug/kg	--	--	120	35	**Yes**	1	**Yes**
Tissue - Clam	PCB Congeners	W	Total	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	312	35	**Yes**	5	**Yes**
Tissue - Clam	PCB Congeners	W	Total	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.0690	0.16	No	0	No

Table 9-8
Preliminary COPC Identification for Forebay Random Data
Bradford Island - River Operable Unit
(5 of 6)

Medium	Analyte Group	Basis	Total/ Dissolved	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in Forebay than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Dections > SLV	Retain as Preliminary COPC?
Tissue - Clam	PCB Congeners	W	Total	81	3,4,4',5-Tetrachlorobiphenyl	ug/kg	--	--	0.00246	0.08	No	0	No
Tissue - Clam	PCB Congeners	W	Total	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	6.20	20	No	0	No
Tissue - Clam	PCB Congeners	W	Total	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.445	20	No	0	No
Tissue - Clam	PCB Congeners	W	Total	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	64.7	20	**Yes**	1	**Yes**
Tissue - Clam	PCB Congeners	W	Total	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	1.15	20	No	0	No
Tissue - Clam	PCB Congeners	W	Total	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.0110	0.0058	**Yes**	1	**Yes**
Tissue - Clam	PCB Congeners	W	Total	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	3.61	20	No	0	No
Tissue - Clam	PCB Congeners	W	Total	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	3.80	20	No	0	No
Tissue - Clam	PCB Congeners	W	Total	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	0.0101	20	No	0	No
Tissue - Clam	SVOCs	W	Total		Acenaphthene	ug/kg	--	--	4.10	19,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Anthracene	ug/kg	--	--	2.30	19,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Benzo(a)anthracene	ug/kg	--	--	2.10	1,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Benzo(a)pyrene	ug/kg	--	--	0.580	1,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Benzo(b)fluoranthene	ug/kg	--	--	0.950	1,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Benzo(g,h,i)perylene	ug/kg	--	--	0.360	1,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Benzo(k)fluoranthene	ug/kg	--	--	0.250	1,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Bis(2-ethylhexyl) Phthalate	ug/kg	--	--	890	1,760	No	0	No
Tissue - Clam	SVOCs	W	Total		Butyl Benzyl Phthalate	ug/kg	--	--	15.0	310	No	0	No
Tissue - Clam	SVOCs	W	Total		Chrysene	ug/kg	--	--	4.00	1,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Di-n-octyl Phthalate	ug/kg	--	--	38.0	626	No	0	No
Tissue - Clam	SVOCs	W	Total		Fluoranthene	ug/kg	--	--	16.0	19,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Fluorene	ug/kg	--	--	3.80	19,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Indeno(1,2,3-cd)pyrene	ug/kg	--	--	2.50	1,000	No	0	No
Tissue - Clam	SVOCs	W	Total		p-cresol (4-Methylphenol)	ug/kg	--	--	31.0	NV	***Yes***	--	***Yes***
Tissue - Clam	SVOCs	W	Total		Phenanthrene	ug/kg	--	--	15.0	19,000	No	0	No
Tissue - Clam	SVOCs	W	Total		Pyrene	ug/kg	--	--	6.30	1,000	No	0	No
Tissue - Sculpin	Metals	W	Total		Arsenic	mg/kg	--	No	--	--	--	--	No
Tissue - Sculpin	Metals	W	Total		Cadmium	mg/kg	--	**Yes**	0.0453	0.15	No	0	No
Tissue - Sculpin	Metals	W	Total		Lead	mg/kg	--	**Yes**	0.306	0.12	**Yes**	2	**Yes**
Tissue - Sculpin	Metals	W	Total		Mercury	mg/kg	--	**Yes**	0.308	0.074	**Yes**	13	**Yes**
Tissue - Sculpin	PCB Aroclors	W	Total		Aroclor 1254	ug/kg	--	--	1,700	35	**Yes**	3	**Yes**
Tissue - Sculpin	PCB Aroclors	W	Total		Total PCBs As Aroclors	ug/kg	--	--	1,700	35	**Yes**	3	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	4,773	35	**Yes**	9	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.443	0.16	**Yes**	1	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	81	3,4,4',5-Tetrachlorobiphenyl	ug/kg	--	--	0.00145	0.08	No	0	No
Tissue - Sculpin	PCB Congeners	W	Total	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	269	20	**Yes**	3	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	19.9	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	Total	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	757	20	**Yes**	3	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	11.8	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	Total	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.0540	0.0058	**Yes**	9	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	118	20	**Yes**	3	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	30.8	20	**Yes**	1	**Yes**
Tissue - Sculpin	PCB Congeners	W	Total	169	3,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	0.00365	0.020	No	0	No
Tissue - Sculpin	PCB Congeners	W	Total	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	2.48	20	No	0	No

Table 9-8
Preliminary COPC Identification for Forebay Random Data
Bradford Island - River Operable Unit
(6 of 6)

Medium	Analyte Group	Basis	Total/ Dissolved	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Significantly Higher Conc in Forebay than Reference?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Dections > SLV	Retain as Preliminary COPC?

Notes
(1) Only evaluated for analytes with a sample size of 20 or more.
(2) Only applicable to inorganics. For sediment and tissue the statistical comparison of Forebay concentrations to Reference Area concentrations; Table 8-3 and Appendix L, Tables L-4, L-5, and L-6.
For surface water, see Table 8-4.
(3) Total PCB TEQs are evaluated in the HHRA and ERA for the River OU; see Sections 11 and 12 and Appendices M and N.

'--' = Not evaluated
% = percent
D = Dry weight
Max = maximum
MDL = method detection limit
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
Min = minimum
ND = non-detect
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PCB = polychlorinated biphenyl
C + F = Column and filter
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
ug/L = micrograms per liter
W = Wet Weight

Table 9-9
Preliminary COPC Identification for Targeted Goose Island Data
Bradford Island - River Operable Unit
(1 of 4)

Medium	Analyte Group	Basis	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Higher Conc than Reference Area?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Sediment	Metals	D		Aluminum	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Antimony	mg/kg	--	**Yes**	0.580	3.00	No	0	No
Sediment	Metals	D		Arsenic	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Barium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Beryllium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Cadmium	mg/kg	--	**Yes**	1.17	0.674	**Yes**	2	**Yes**
Sediment	Metals	D		Chromium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Cobalt	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Copper	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Lead	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Mercury	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Nickel	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Thallium	mg/kg	--	**Yes**	0.435	0.354	**Yes**	1	**Yes**
Sediment	Metals	D		Vanadium	mg/kg	--	No	--	--	--	--	No
Sediment	Metals	D		Zinc	mg/kg	--	**Yes**	148	123	**Yes**	1	**Yes**
Sediment	NWTPH-Dx	D		Diesel Range Organics	mg/kg	--	--	53.0	NV	***Yes***	--	***Yes***
Sediment	NWTPH-Dx	D		Residual Range Organics	mg/kg	--	--	480	NV	***Yes***	--	***Yes***
Sediment	PCB Aroclors	D		Aroclor 1254	ug/kg	--	--	9.90	0.048	**Yes**	1	**Yes**
Sediment	PCB Aroclors	D		Total PCBs As Aroclors	ug/kg	--	--	12.6	0.048	**Yes**	1	**Yes**
Sediment	PCB Congeners	D	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	1.34	0.048	**Yes**	2	**Yes**
Sediment	PCB Congeners	D	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.00353	0.0064	No	0	No
Sediment	PCB Congeners	D	81	3,4,4',5-Tetrachlorobiphenyl	ug/kg	--	--	0.000135	0.0021	No	0	No
Sediment	PCB Congeners	D	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	0.0277	0.021	**Yes**	2	**Yes**
Sediment	PCB Congeners	D	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.00137	0.021	No	0	No
Sediment	PCB Congeners	D	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.0695	0.026	**Yes**	2	**Yes**
Sediment	PCB Congeners	D	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	0.000963	0.026	No	0	No
Sediment	PCB Congeners	D	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	0.0104	0.026	No	0	No
Sediment	PCB Congeners	D	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	0.00402	0.026	No	0	No
Sediment	PCB Congeners	D	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	0.000869	0.14	No	0	No
Sediment	SVOCs	D		Benzo(a)anthracene	ug/kg	--	--	7.80	32.0	No	0	No
Sediment	SVOCs	D		Benzo(a)pyrene	ug/kg	--	--	13.0	32.0	No	0	No
Sediment	SVOCs	D		Benzo(b)fluoranthene	ug/kg	--	--	15.0	27.0	No	0	No
Sediment	SVOCs	D		Benzo(g,h,i)perylene	ug/kg	--	--	9.90	300	No	0	No
Sediment	SVOCs	D		Benzo(k)fluoranthene	ug/kg	--	--	4.10	27.0	No	0	No
Sediment	SVOCs	D		Bis(2-ethylhexyl) Phthalate	ug/kg	--	--	13.0	750	No	0	No
Sediment	SVOCs	D		Chrysene	ug/kg	--	--	11.0	57.0	No	0	No
Sediment	SVOCs	D		Di-n-butyl Phthalate	ug/kg	--	--	10.0	110	No	0	No
Sediment	SVOCs	D		Fluoranthene	ug/kg	--	--	9.60	111	No	0	No

Table 9-9
Preliminary COPC Identification for Targeted Goose Island Data
Bradford Island - River Operable Unit
(2 of 4)

Medium	Analyte Group	Basis	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Higher Conc than Reference Area?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Sediment	SVOCs	D		Indeno(1,2,3-cd)pyrene	ug/kg	--	--	7.10	17.0	No	0	No
Sediment	SVOCs	D		p-cresol (4-Methylphenol)	ug/kg	--	--	8.50	48.0	No	0	No
Sediment	SVOCs	D		Phenanthrene	ug/kg	--	--	4.60	42.0	No	0	No
Sediment	SVOCs	D		Pyrene	ug/kg	--	--	8.80	53.0	No	0	No
Sediment	SVOCs	D		Total LPAH (KM, capped)	ug/kg	--	--	9.90	76.0	No	0	No
Sediment	SVOCs	D		Total HPAH (KM, capped)	ug/kg	--	--	89.1	193	No	0	No
Sediment	SVOCs	D		Total PAHs (KM, capped)	ug/kg	--	--	96.1	1610	No	0	No
Tissue - Crayfish	Metals	W		Aluminum	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Antimony	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Arsenic	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Barium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Beryllium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Cadmium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Chromium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Cobalt	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Copper	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Lead	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Mercury	mg/kg	--	**Yes**	0.0359	0.049	No	0	No
Tissue - Crayfish	Metals	W		Nickel	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Thallium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Vanadium	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	Metals	W		Zinc	mg/kg	--	No	--	--	--	--	No
Tissue - Crayfish	PCB Congeners	W	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	0.587	0.57	**Yes**	1	**Yes**
Tissue - Crayfish	PCB Congeners	W	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.00226	0.076	No	0	No
Tissue - Crayfish	PCB Congeners	W	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	0.00624	0.25	No	0	No
Tissue - Crayfish	PCB Congeners	W	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.00235	0.25	No	0	No
Tissue - Crayfish	PCB Congeners	W	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.0870	0.25	No	0	No
Tissue - Crayfish	PCB Congeners	W	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	0.00256	0.25	No	0	No
Tissue - Crayfish	PCB Congeners	W	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	0.0133	0.25	No	0	No
Tissue - Crayfish	PCB Congeners	W	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	0.0112	0.25	No	0	No
Tissue - Crayfish	PCB Congeners	W	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	0.000662	0.25	No	0	No
Tissue - Crayfish	SVOCs	W		Anthracene	ug/kg	--	--	0.430	15,000	No	0	No
Tissue - Crayfish	SVOCs	W		Benzo(b)fluoranthene	ug/kg	--	--	0.150	1.57	No	0	No
Tissue - Crayfish	SVOCs	W		Benzo(g,h,i)perylene	ug/kg	--	--	0.110	15.7	No	0	No
Tissue - Crayfish	SVOCs	W		Benzo(k)fluoranthene	ug/kg	--	--	0.110	15.7	No	0	No
Tissue - Crayfish	SVOCs	W		Fluorene	ug/kg	--	--	0.510	15,000	No	0	No
Tissue - Crayfish	SVOCs	W		Indeno(1,2,3-cd)pyrene	ug/kg	--	--	0.150	1.57	No	0	No
Tissue - Crayfish	SVOCs	W		Phenanthrene	ug/kg	--	--	0.820	15,000	No	0	No

Table 9-9
Preliminary COPC Identification for Targeted Goose Island Data
Bradford Island - River Operable Unit
(3 of 4)

Medium	Analyte Group	Basis	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Higher Conc than Reference Area?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Tissue - Clam	Metals	W		Aluminum	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Arsenic	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Barium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Beryllium	mg/kg	--	**Yes**	0.00200	NV	***Yes***	--	***Yes***
Tissue - Clam	Metals	W		Cadmium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Chromium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Cobalt	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Copper	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Lead	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Mercury	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Nickel	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Thallium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Vanadium	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	Metals	W		Zinc	mg/kg	--	No	--	--	--	--	No
Tissue - Clam	PCB Congeners	W	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	21.4	35	No	0	No
Tissue - Clam	PCB Congeners	W	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.0337	0.16	No	0	No
Tissue - Clam	PCB Congeners	W	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	0.352	20	No	0	No
Tissue - Clam	PCB Congeners	W	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.0228	20	No	0	No
Tissue - Clam	PCB Congeners	W	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	1.59	20	No	0	No
Tissue - Clam	PCB Congeners	W	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	0.0280	20	No	0	No
Tissue - Clam	PCB Congeners	W	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.00307	0.0058	No	0	No
Tissue - Clam	PCB Congeners	W	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	0.0969	20	No	0	No
Tissue - Clam	PCB Congeners	W	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	0.0925	20	No	0	No
Tissue - Clam	PCB Congeners	W	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	0.00157	20	No	0	No
Tissue - Clam	SVOCs	W		Acenaphthene	ug/kg	--	--	0.680	19,000	No	0	No
Tissue - Clam	SVOCs	W		Anthracene	ug/kg	--	--	1.20	19,000	No	0	No
Tissue - Clam	SVOCs	W		Benzo(a)anthracene	ug/kg	--	--	3.40	1,000	No	0	No
Tissue - Clam	SVOCs	W		Benzo(a)pyrene	ug/kg	--	--	0.750	1,000	No	0	No
Tissue - Clam	SVOCs	W		Benzo(b)fluoranthene	ug/kg	--	--	2.20	1,000	No	0	No
Tissue - Clam	SVOCs	W		Benzo(g,h,i)perylene	ug/kg	--	--	0.740	1,000	No	0	No
Tissue - Clam	SVOCs	W		Benzo(k)fluoranthene	ug/kg	--	--	1.30	1,000	No	0	No
Tissue - Clam	SVOCs	W		Chrysene	ug/kg	--	--	2.50	1,000	No	0	No
Tissue - Clam	SVOCs	W		Dibenz(a,h)anthracene	ug/kg	--	--	0.480	1,000	No	0	No
Tissue - Clam	SVOCs	W		Fluoranthene	ug/kg	--	--	18.0	19,000	No	0	No
Tissue - Clam	SVOCs	W		Fluorene	ug/kg	--	--	1.80	19,000	No	0	No
Tissue - Clam	SVOCs	W		Indeno(1,2,3-cd)pyrene	ug/kg	--	--	0.890	1,000	No	0	No
Tissue - Clam	SVOCs	W		p-cresol (4-Methylphenol)	ug/kg	--	--	29.0	NV	***Yes***	--	***Yes***
Tissue - Clam	SVOCs	W		Phenanthrene	ug/kg	--	--	10.0	19,000	No	0	No

Table 9-9
Preliminary COPC Identification for Targeted Goose Island Data
Bradford Island - River Operable Unit
(4 of 4)

Medium	Analyte Group	Basis	IUPAC #	Analyte	Unit	Detection Rate > 5%?[1]	Higher Conc than Reference Area?[2]	Max Detected Value	Selected SLV	Maximum Detected Value > SLV?	No. of Detections > SLV	Retain as Preliminary COPC?
Tissue - Clam	SVOCs	W		Pyrene	ug/kg	--	--	5.40	1,000	No	0	No
Tissue - Sculpin	PCB Congeners	W	-	Total PCBs As Congeners (KM, capped)	ug/kg	--	--	8.14	35	No	0	No
Tissue - Sculpin	PCB Congeners	W	77	3,3',4,4'-Tetrachlorobiphenyl	ug/kg	--	--	0.00799	0.16	No	0	No
Tissue - Sculpin	PCB Congeners	W	105	2,3,3',4,4'-Pentachlorobiphenyl	ug/kg	--	--	0.362	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	114	2,3,4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.0220	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	118	2,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.872	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	123	2,3',4,4',5'-Pentachlorobiphenyl	ug/kg	--	--	0.0163	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	126	3,3',4,4',5-Pentachlorobiphenyl	ug/kg	--	--	0.00315	0.0058	No	0	No
Tissue - Sculpin	PCB Congeners	W	156 + 157	2,3,3',4,4',5-Hexachlorobiphenyl + 2,3,3',4,4',5'-Hexachlorobiphenyl	ug/kg	--	--	0.106	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	167	2,3',4,4',5,5'-Hexachlorobiphenyl	ug/kg	--	--	0.0348	20	No	0	No
Tissue - Sculpin	PCB Congeners	W	189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	ug/kg	--	--	0.00383	20	No	0	No

Notes
(1) Only evaluated for analytes with a sample size of 20 or more.
(2) Only evaluated for inorganics, see Appendix L, Table L-7
(3) Total PCB TEQs are evaluated in the HHRA and ERA for the River OU; see Sections 11 and 12 and Appendices M and N.
All concentrations are totals.

'--' = Not evaluated
% = percent
D = Dry weight
Max = maximum
mg/kg = milligrams per kilogram
Min = minimum
No. = number
NWTPH-Dx = northwest total petroleum hydrocarbon-diesel-extended
NWTPH-Gx =northwest total petroleum hydrocarbon-gasoline-extended
PCB = polychlorinated biphenyl
SLV = screening level value
SVOC = semi-volatile organic carbon
ug/kg = micrograms per kilogram
W = Wet Weight

Table 11-1
Summary of COPCs Recommended for Risk Management - Landfill AOPC
Bradford Island - Upland Operable Unit
(1 of 1)

Media	Chemicals of Potential Concern (COPCs) (1) (2)
Soil	Arsenic cPAHs Tetrachloroethene (PCE)
	Chromium Lead PCE Degradation Products (3)
Groundwater	Arsenic Bis(2-ethylhexyl) Phthalate Chloroform Diesel Range Organics Di-n-octyl Phthalate Manganese Residual Range Organics Tetrachloroethene (PCE) Vinyl Chloride
	1,2,4-Trimethylbenzene Antimony Barium Gasoline Range Organics Zinc Lead Mercury Thallium n-Propylbenzene Isopropylbenzene Tributyltin PCE Degradation Products (3)
Seepwater	Arsenic Chloroform Diesel Range Organics Lead Manganese Tetrachloroethene (PCE)
	Antimony Mercury Residual Range Organics PCE Degradation Products (3)
Surface Water (at Shoreline)	Arsenic
	Lead

cPAHs = Carcinogenic polynuclear aromatic hydrocarbons

Shaded indicates COPC selection rationales were not based on C/SLV>1 (i.e., selection was due to: multi-media, C/SLV>0.1, degradation product, no SLV, etc.,)

(1) Not all COPCs apply to all receptors and exposure pathways within that medium.

(2) Additional COPCs were identified and discussed for the erodible soil/mass wasting scenarios (see Appendix O, Section 0.2.1.6)

(3) Degradation products are dichloroethenes, TCE, and vinyl chloride.

Table 11-2
Summary of COPCs Recommended for Risk Management - Sandblast Area AOPC
Bradford Island - Upland Operable Unit
(1 of 1)

Media	Chemicals of Potential Concern (COPCs) (1) (2)
Soil	Arsenic cPAHs Chromium Lead Tetrachloroethene (PCE)
	PCE Degradation Products (3)
Soil Gas	Tetrachloroethene (PCE) Trichloroethene (TCE)
	PCE Degradation Products (3)
Groundwater	1,1-Dichloroethane Arsenic cPAHs Tetrachloroethene (PCE) Trichloroethene (TCE) Vinyl Chloride
	Diesel Range Organics Gasoline Range Organics Vanadium PCE Degradation Products (3)

cPAHs = Carcinogenic polynuclear aromatic hydrocarbons

Shaded indicates COPC selection rationales were not based on C/SLV>1 (i.e., selection was due to: multi-media, C/SLV>0.1, degradation product, no SLV, etc.,)

(1) Not all COPCs apply to all receptors and exposure pathways within that medium.

(2) Additional COPCs were identified and discussed for the erodible soil/mass wasting scenarios (see Appendix O, Section 0.2.1.6)

(3) Degradation products are dichloroethenes, TCE, and vinyl chloride.

Table 11-3
Summary of COPCs Recommended for Risk Management - River OU
Bradford Island - River Operable Unit
(1 of 1)

Media	Chemicals of Potential Concern (COPCs) (1) (2)
Random Forebay Tissue - Crayfish	Arsenic Polychlorinated Biphenyls (PCBs)
Random Forebay Tissue - Small Mouth Bass	cPAHs Bis(2-ethylhexyl) Phthalate Mercury PCBs Barium
Random Forebay Sediment	PCBs Mercury Bis(2-ethylhexyl) Phthalate
Forebay Surface Water	Arsenic PCBs Aluminum Lead
Eagle Creek Sediment	Anthracene cPAHs Diesel Range Organics Fluoranthene Phenanthrene Pyrene PCBs
Goose Island Tissue - Crayfish	PCBs
Goose Island Sediment	PCBs Bis(2-ethylhexyl) Phthalate

cPAHs = Carcinogenic polynuclear aromatic hydrocarbons

Shaded indicates COPC selection rationales were not based on C/SLV>1 (i.e., selection was due to: multi-media, C/SLV>0.1, degradation product, no SLV, etc.,)

(1) Not all COPCs apply to all receptors and exposure pathways within that medium.

(2) Additional COPCs were identified and discussed for the erodible soil/mass wasting scenarios (see Appendix O, Section 0.2.1.6)

Table 12-1
Summary of CPECs Recommended for Risk Management - Upland OU
Bradford Island - Upland Operable Unit
(1 of 1)

AOPC	Medium	CPECs
Landfill	Soil	Antimony, Chromium*, Copper*, Lead, Mercury, Nickel*, and total HPAHs
Sandblast Area	Soil	Antimony, Cadmium, Chromium, Lead, Mercury*, Nickel, Bis(2-ethylhexyl) phthalate, and total HPAHs
Pistol Range	Soil	Lead
Bulb Slope	Soil	Lead, Mercury

Notes
AOPC - area of potential concern
CPEC - chemical of potential ecological concern
HPAHs - high molecular weight polycyclic aromatic hydrocarbons

* These metals were eliminated as CPECs based on the statistical background comparison, but were ultimately retained for risk management based on the additional evaluation performed in Section O.3.1.2 of Appendix O.

Note: In addition to the CPECs listed in this table, CPECs in soils identified based on the evaluation of potential transport to the River OU via mass wasting or erosion are also recommended for risk management (see Section O.3.1.5 of Appendix O).

Table 12-2
Summary of CPECs Recommended for Risk Management - River OU
Bradford Island - River Operable Unit
(1 of 1)

Data Set	Receptor Group	Medium	CPECs
Random Forebay	Benthic Community	Sediment	PCBs
	Fish and Shellfish	Clam Tissue	Cadmium
		Sculpin Tissue	Cadmium, Lead, Mercury and PCBs
		Bass Tissue	Mercury and PCBs
		Sediment	Cadmium, Lead, Mercury and PCBs
	Birds	Crayfish Tissue	PCBs
		Sculpin Tissue	Mercury and PCBs
		Bass Tissue	Mercury and PCBs
		Sediment	Mercury and PCBs
	Mammals	Sculpin Tissue	Mercury and PCBs
		Bass Tissue	Mercury and PCBs
		Sediment	Mercury and PCBs
Eagle Creek	All	Sediment	PCBs

Notes

CPECs - chemicals of potential ecological concern

PCBs - polychlorinated biphenyls (as Aroclors and 209 congeners)

Note: Although CPEC concentrations in media collected from the targeted Goose Island samples indicate acceptable risk levels, Goose Island will be maintained as part of the Forebay evaluation in the forthcoming FS in response to DEQ's request.

APPENDIX A

DATABASE OVERVIEW

A.0 Brief Overview of Database Structure

The Bradford Island Remdial Investigation Database is composed of tables which are classified as "core database" tables and "Remedial Investigation specific" tables. The core database tables (names with prefix = "DB_") contain data that are essential to the structure of housing the results of chemical analyses. The Remedial Investigation specific tables (names with prefix = "RI_") contain supporting information about the samples used in the RI/RA report. All relationships between the "DB" tables are maped in the relational structure of the database. This can be viewed using the "Relationships" feature in Access. A PDF document of this relationships map is also provided in this deliverables package (Bradford Data Relationships Diagram.pdf).

A short description of each table's function in the database follows. Descriptions of the fields within the tables are given in the design view for each table in Access. Further detail about the fields for each table is provided in the Bradford Data Table Definitions.pdf file. An FDGC-compliant metadata file for the database (Bradford Metadata.txt) is also provided with this deliverables package.

A.0.1 DB Tables

DB_Compounds: Gives Chemical names,aliases, and IUPAC numbers (where applicable) for CAS numbers in the database.

DB_Depth_MP-Codes: Contains descriptions for codes which describe measuring points for depths (example: ARB = Above River Bottom).

DB_Extmeth_ID: Contains short descriptions for extraction methods used in analyzing samples (when available)

DB_Laboratories: Contains information on laboratories used to analyze samples.

DB_Location: Contains location information such as X/Y coordinates, Area, and Operational Unit (OU) designations for all sampling sites.

DB_Matrix: Contains descriptions of codes used to designate media (soil, groundwater, etc.) of samples.

DB_Methods: Provides descriptions of codes used to identify analytical methods used to analyze samples.

DB_PF_Codes: Contains descriptions of codes used to designate the preparation fraction of a sample result (e.g. total, dissolved, or particulate).

DB_Results: This is the "raw" results table. DB_Results contains the results of analyses run on both primary and field duplcate samples as reported by the lab. Fields that reflect the results of URS data quality reviews of the analytical results are also provided in this table.DB_Results contains Data that were used in the current RI/RA report and historical data that were not used in the current RI/RA report.

DB_SA_Codes: Contains descriptions of codes used to designate the sample analysis type for the result. For example, final primary results are designated as "N1" and final field duplicate results are designated as "FD".

DB_Samples: Contains information about the samples, such as sampling dates and sampling techniques.

DB_WellScreens: Contains information about the wells, such as screen interval depth and measuring point surveyed elevations.

A.0.2 RI Tables

RI_Reports: Contains the reports in which results for each sample were reported. Often, a sample result was included in more than one report. Information for each report is given, and the ideal source report for the sample result is given in the "Main Reports" field.

RI_Results_Processed: Contains the analytical results only for samples used in the RI/RA report after processing which combined primary sample results with corresponding field duplicate results. This is the data set that was used for statistical analysis and reporting in the RI/RA report. This table can be linked to the same DB Tables as the "DB_Results" table through the identically-named fields.

Properties

DateCreated:	2/6/2008 8:55:08 AM	DefaultView:	Datasheet
GUID:	{guid {9A9262B5-5136-4030-BD81-1790D380020D}}	LastUpdated:	11/23/2010 12:38:10 AM
NameMap:	Long binary data	OrderBy:	DB_COMPOUNDS.Chem_Name
OrderByOn:	True	Orientation:	Left-to-Right
RecordCount:	627	Updatable:	True

Columns

Name	Type	Size
CAS_Num_NumOnly	Text	150

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	1
ColumnWidth:	Default
DataUpdatable:	False
Description:	where an entry has an official CAS number, this field provides that number without hyphens
DisplayControl:	Text Box
GUID:	{guid {718AA5F6-DCD9-4AEA-A79E-EFD1B2EDCEA6}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	CAS_Num_NumOnly
SourceTable:	DB_COMPOUNDS
UnicodeCompression:	False

CAS_Num	Text	150

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Chemical Abstracts Service number identifying the compound, when available. When CAS numbers are not available, an arbitrary identifier is assigned to the analyte.
DisplayControl:	Text Box
GUID:	{guid {7FA0B8C9-C20F-461B-B4E5-FA7AFDBB696A}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	CAS_Num
SourceTable:	DB_COMPOUNDS
UnicodeCompression:	False

Chem_Name	Text	150

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	3630
DataUpdatable:	False
Description:	A common name for the analyte.
DisplayControl:	Text Box
GUID:	{guid {38DD0C16-B916-4A75-B631-69D79D3E214D}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	2
Required:	False
SourceField:	Chem_Name
SourceTable:	DB_COMPOUNDS
UnicodeCompression:	False

Chem_Alias	Text	150

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Used to group similar analytes that have different names. An example would be giving Chem_name 3-&4-Methylphenol a Chem_Alias of p-Cresol (4-Methylphenol) so that these analytes may be considered together in data workup.
DisplayControl:	Text Box
GUID:	{guid {D80AA80C-4E04-48FE-BC73-2B23D53FF284}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	Chem_Alias
SourceTable:	DB_COMPOUNDS
UnicodeCompression:	True

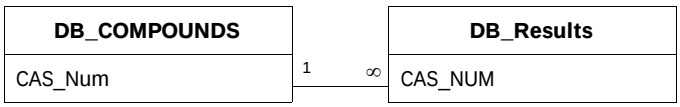
IUPAC_Num	Integer	2

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	1425
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Used for PCB congener data. Number assigned by IUPAC to compound.
DisplayControl:	Text Box
GUID:	{guid {8269F940-EAC9-4DC9-AF34-D2ECB4451A90}}

OrdinalPosition:	4
Required:	False
SourceField:	IUPAC_Num
SourceTable:	DB_COMPOUNDS

Relationships

DB_COMPOUNDSDB_Results



Attributes:	Enforced, Cascade Updates, Cascade Deletes
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
CAS_Num	1
Clustered:	False
DistinctCount:	627
Foreign:	False
IgnoreNulls:	False
Name:	CAS_Num
Primary:	False
Required:	False
Unique:	False
Fields:	
CAS_Num	Ascending
IUPAC_Num	1
Clustered:	False
DistinctCount:	210
Foreign:	False
IgnoreNulls:	False
Name:	IUPAC_Num
Primary:	False
Required:	False
Unique:	False
Fields:	
IUPAC_Num	Ascending
PrimaryKey	1
Clustered:	False
DistinctCount:	627
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
CAS_Num	Ascending

Properties

DateCreated:	11/4/2009 5:11:28 PM	DefaultView:	Datasheet
GUID:	{guid {438809A9-5A4D-4CF6-8363-228A3D2AC17C}}	LastUpdated:	5/26/2010 12:38:25 PM
NameMap:	Long binary data	OrderByOn:	False
Orientation:	Left-to-Right	RecordCount:	7
Updatable:	True		

Columns

Name	Type	Size
Depth_MP	Text	50

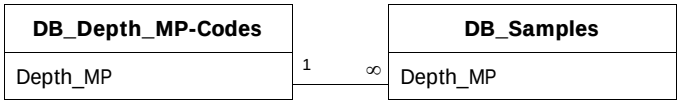
AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Code used to identify the Measuring Point from which sample Depth was measured.
DisplayControl:	Text Box
GUID:	{guid {ADE3F574-A80B-42FE-8418-4A2EC9D5ECB5}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	Depth_MP
SourceTable:	DB_Depth_MP-Codes
UnicodeCompression:	True

Definition	Text	255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	6615
DataUpdatable:	False
Description:	Depth_MP code definition
DisplayControl:	Text Box
GUID:	{guid {2CC52135-F773-4425-BD8A-D23F7080166A}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	Definition
SourceTable:	DB_Depth_MP-Codes
UnicodeCompression:	True

Relationships

DB_Depth_MP-CodesDB_Samples



Attributes:	Enforced
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
PrimaryKey	1

Clustered:	False
DistinctCount:	7
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
Depth_MP	Ascending

Properties

DateCreated:	2/12/2008 9:03:07 AM	DefaultView:	Datasheet
GUID:	{guid {4BF76F9A-B92E-4E07-9DD9-7F91FD8191BC}}	LastUpdated:	5/26/2010 12:38:35 PM
NameMap:	Long binary data	OrderByOn:	True
Orientation:	Left-to-Right	RecordCount:	210
Updatable:	True		

Columns

Name	Type	Size
EXTRACTION	Text	255

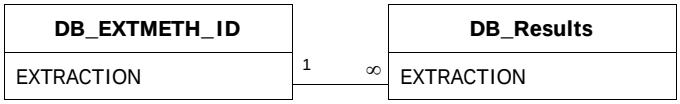
AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2145
DataUpdatable:	False
Description:	Extraction method code
DisplayControl:	Text Box
GUID:	{guid {A70EAE64-E099-47DF-A948-4051DAC80496}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	EXTRACTION
SourceTable:	DB_EXTMETH_ID
UnicodeCompression:	False

METHOD_NAME	Text	255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	7575
DataUpdatable:	False
Description:	Definition of extraction method code
DisplayControl:	Text Box
GUID:	{guid {56FD40A5-019F-4A7C-AFE3-DA20FC8B88F3}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	METHOD_NAME
SourceTable:	DB_EXTMETH_ID
UnicodeCompression:	False

Relationships

DB_EXTMETH_IDDB_Results



Attributes:	Enforced
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
PrimaryKey	1

Clustered:	False
DistinctCount:	210
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
EXTRACTION	Ascending

Properties

DateCreated:	11/18/2009 5:47:30 PM	DefaultView:	Datasheet
GUID:	{guid {ABDEDFBE-0768-496B-946F-B9281D8F2184}}	LastUpdated:	5/26/2010 1:33:02 PM
NameMap:	Long binary data	OrderByOn:	False
Orientation:	Left-to-Right	RecordCount:	16
Updatable:	True		

Columns

Name	Type	Size
LAB_ID	Text	10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Short identifier for laboratory
DisplayControl:	Text Box
GUID:	{guid {FC69E0D5-CC87-4A4F-A10B-D98AD69059E0}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	LAB_ID
SourceTable:	DB_Laboratories
UnicodeCompression:	False

Lab_Name	Text	255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	8430
DataUpdatable:	False
Description:	Name of the laboratory
DisplayControl:	Text Box
GUID:	{guid {1BC78875-DBFF-4492-BFE8-719307C3E303}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	Lab_Name
SourceTable:	DB_Laboratories
UnicodeCompression:	True

Lab_City	Text	100

AllowZeroLength:	True
Attributes:	Variable Length

CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	City where laboratory is located
DisplayControl:	Text Box
GUID:	{guid {2E7D0DCC-9316-4387-80FD-4C5D684157BB}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	2
Required:	False
SourceField:	Lab_City
SourceTable:	DB_Laboratories
UnicodeCompression:	True

Lab_StateProv Text 50

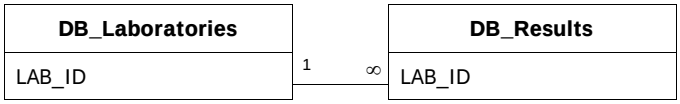
AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	1605
DataUpdatable:	False
Description:	State or province where laboratory is located
DisplayControl:	Text Box
GUID:	{guid {33FDCC50-8039-4FCC-ABA1-E69574E15FE4}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	Lab_StateProv
SourceTable:	DB_Laboratories
UnicodeCompression:	True

Lab_Country Text 100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2355
DataUpdatable:	False
Description:	Country where laboratory is located
DisplayControl:	Text Box
GUID:	{guid {89153912-5A95-4944-91DC-EBEEB5DC58AB}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	4
Required:	False
SourceField:	Lab_Country
SourceTable:	DB_Laboratories
UnicodeCompression:	True

Relationships

DB_LaboratoriesDB_Results



Attributes:	Enforced
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
PrimaryKey	1

Clustered:	False
DistinctCount:	16
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
LAB_ID	Ascending

Properties

DateCreated:	1/22/2008 3:48:06 PM	DefaultView:	Datasheet
GUID:	{guid {1ADF8C1E-4882-4E1D-9EAD-663E69055E69}}	LastUpdated:	6/9/2010 9:34:21 PM
LinkChildFields:	SITE_ID	LinkMasterFields:	SITE_ID
NameMap:	Long binary data	OrderByOn:	True
Orientation:	Left-to-Right	RecordCount:	624
SubdatasheetName:	Table.DB_Samples	Updatable:	True

Columns

Name	Type	Size
SITE_ID	Text	50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	1710
DataUpdatable:	False
Description:	Unique identifier for sample site location
DisplayControl:	Text Box
GUID:	{guid {5833E5FE-727C-42AD-8549-E39A63F1FF75}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	SITE_ID
SourceTable:	DB_Location
UnicodeCompression:	False

X	Double	8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	X-Coordinate for location
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {F9AB1F82-BF7D-47E0-AD17-15D5E0BBE1B2}}
OrdinalPosition:	1
Required:	False
SourceField:	X
SourceTable:	DB_Location

Y	Double	8

AllowZeroLength:	False
Attributes:	Fixed Size

CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Y-Coordinate for location
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {77832336-2F11-4395-A72F-6222AF46F57A}}
OrdinalPosition:	2
Required:	False
SourceField:	Y
SourceTable:	DB_Location

Datum Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	4710
DataUpdatable:	False
Description:	Reference datum of location coordinates
DisplayControl:	Text Box
GUID:	{guid {76A58A3E-5A26-4D47-8C1E-AD9B37AB0157}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	Datum
SourceTable:	DB_Location
UnicodeCompression:	True

Description Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	7740
DataUpdatable:	False
Description:	Brief Description of site and/or important comments about this location
DisplayControl:	Text Box
GUID:	{guid {6038321F-0865-4026-BCA6-08DCD5F376D6}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	4
Required:	False
SourceField:	Description
SourceTable:	DB_Location
UnicodeCompression:	True

Area Text 100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	3045
DataUpdatable:	False
Description:	Categorical area of sample location, includes Area of Potential Concern (AOPC) designations (e.g. Forebay, Sandblast) and others (e.g. Reference, Forebay - Goose Island)
DisplayControl:	Text Box
GUID:	{guid {BC504161-4AE0-4ED2-B4B1-E0165DCC6B57}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	5
Required:	False
SourceField:	Area
SourceTable:	DB_Location
UnicodeCompression:	True

OU Text 100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Operable Unit designation ("River" or "Upland")
DisplayControl:	Text Box
GUID:	{guid {AA8E52A6-0068-4EAE-892B-91EF49EC184A}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	6
Required:	False
SourceField:	OU
SourceTable:	DB_Location
UnicodeCompression:	True

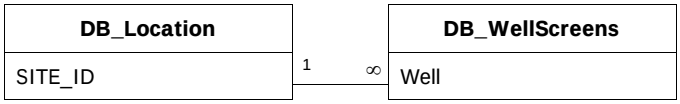
Relationships

DB_LocationDB_Samples

DB_Location			DB_Samples
SITE_ID	1	∞	SITE_ID

Attributes:	Enforced, Cascade Updates
RelationshipType:	One-To-Many

DB_LocationDB_WellScreens



Attributes:	Enforced, Cascade Updates
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
Loc_Num	1
Clustered:	False
DistinctCount:	624
Foreign:	False
IgnoreNulls:	False
Name:	Loc_Num
Primary:	False
Required:	False
Unique:	False
Fields:	
SITE_ID	Ascending
PrimaryKey	1
Clustered:	False
DistinctCount:	624
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
SITE_ID	Ascending

Properties

DateCreated:	2/11/2008 1:15:18 PM	DefaultView:	Datasheet
GUID:	{guid {78CFFE20-8B48-4D85-8BB6-1C3F3594D46B}}	LastUpdated:	5/26/2010 12:39:40 PM
NameMap:	Long binary data	OrderByOn:	True
Orientation:	Left-to-Right	RecordCount:	69
Updatable:	True		

Columns

Name	Type	Size
Matrix_ID	Text	5

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	1
ColumnWidth:	Default
DataUpdatable:	False
Description:	Unique identifier code for material sample was taken from
DisplayControl:	Text Box
GUID:	{guid {F81D70F4-05D2-40BB-87C6-A0B3B812EB8B}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	Matrix_ID
SourceTable:	DB_Matrix
UnicodeCompression:	False

Matrix_Name	Text	100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	6450
DataUpdatable:	False
Description:	Definition of the Matrix_ID code
DisplayControl:	Text Box
GUID:	{guid {EA696FD5-83B1-451F-9F17-0FD4CA1B7951}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	Matrix_Name
SourceTable:	DB_Matrix
UnicodeCompression:	False

Phase	Text	50

AllowZeroLength:	True
Attributes:	Variable Length

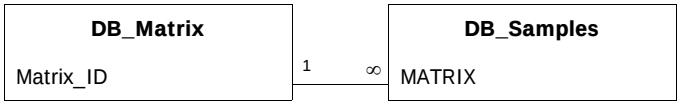
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	field used to group matricies by thier general type of material (solid, liquid, gas, tissue, or unknown)
DisplayControl:	Text Box
GUID:	{guid {52D26EC7-D5C9-4B14-878F-B3D87EA7EF36}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	2
Required:	False
SourceField:	Phase
SourceTable:	DB_Matrix
UnicodeCompression:	True

Report_Phase Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	field used to group matricies by thier general type of material (solid, sediment, liquid, gas, tissue, or unknown). Specifically designed to link to RI_SLVs_ALL table
DisplayControl:	Text Box
GUID:	{guid {CECFB780-C58D-4B6B-B037-51595B231F72}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	Report_Phase
SourceTable:	DB_Matrix
UnicodeCompression:	True

Relationships

DB_MatrixDB_Samples



Attributes:	Enforced
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
Matrix_ID	1

Clustered:	False
DistinctCount:	69
Foreign:	False
IgnoreNulls:	False
Name:	Matrix_ID
Primary:	False
Required:	False
Unique:	False
Fields:	
Matrix_ID	Ascending
PrimaryKey	1
Clustered:	False
DistinctCount:	69
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
Matrix_ID	Ascending

Properties

DateCreated:	2/12/2008 9:17:46 AM	DefaultView:	Datasheet
GUID:	{guid {27202F45-B1AB-43A2-B666-DD73D52AE7DE}}	LastUpdated:	5/26/2010 12:40:05 PM
NameMap:	Long binary data	OrderByOn:	True
Orientation:	Left-to-Right	RecordCount:	1307
Updatable:	True		

Columns

Name	Type	Size
METHOD_ID	Text	20

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	1950
DataUpdatable:	False
Description:	Unique identifier code for the analytical method used to perform the chemical analysis
DisplayControl:	Text Box
GUID:	{guid {9BAF8C8A-8C84-4165-845D-ACFD1054C82D}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	METHOD_ID
SourceTable:	DB_METHODS
UnicodeCompression:	False

Method_Name	Text	125

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	10665
DataUpdatable:	False
Description:	Definition of Method_ID. A description of the analytical method
DisplayControl:	Text Box
GUID:	{guid {1D3509D7-3495-4A44-BEFC-A5D46C5DEA14}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	Method_Name
SourceTable:	DB_METHODS
UnicodeCompression:	False

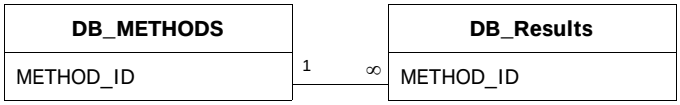
Method_Category	Text	100

AllowZeroLength:	True

Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2070
DataUpdatable:	False
Description:	A field used to group analytical methods into types of analyses, such as metals, VOCs, SVOCs, etc. Not all Method_IDs in this table are grouped, but all Method IDs that are on used on samples in this database have a Method_Category grouping.
DisplayControl:	Text Box
GUID:	{guid {F37CA44F-0C5A-4519-BD47-6AE91E0008DA}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	2
Required:	False
SourceField:	Method_Category
SourceTable:	DB_METHODS
UnicodeCompression:	True

Relationships

DB_METHODSDB_Results



Attributes:	Enforced, Cascade Updates
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
PrimaryKey	1

Clustered:	False
DistinctCount:	1307
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
METHOD_ID	Ascending

Properties

DateCreated:	2/11/2008 3:13:29 PM	DefaultView:	Datasheet
GUID:	{guid {D14372E0-548C-48C0-B668-7DDA0F337921}}	LastUpdated:	5/26/2010 12:40:42 PM
NameMap:	Long binary data	OrderByOn:	False
Orientation:	Left-to-Right	RecordCount:	28
Updatable:	True		

Columns

Name	Type	Size
PF_CODE	Text	255

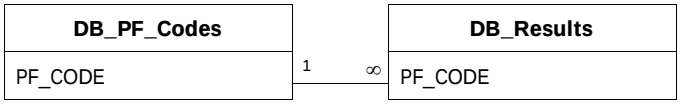
AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Unique identifier Code for the Preparation Fraction of the sample for the analysis. Mainly used to designate Total versus Dissolved samples, but also identifies results from TCLP or SPLP tests
DisplayControl:	Text Box
GUID:	{guid {B7CAF328-F962-4155-85DF-5DCED109BB01}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	PF_CODE
SourceTable:	DB_PF_Codes
UnicodeCompression:	False

PF_DESC	Text	255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2805
DataUpdatable:	False
Description:	Definition of the PF_Code.
DisplayControl:	Text Box
GUID:	{guid {3DCE4B88-520F-496C-8795-02985374925A}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	PF_DESC
SourceTable:	DB_PF_Codes
UnicodeCompression:	False

Relationships

DB_PF_CodesDB_Results



Attributes:	Enforced
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
PrimaryKey	1

Clustered:	False
DistinctCount:	28
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
PF_CODE	Ascending

Properties

DateCreated:	1/22/2008 1:49:48 PM	DefaultView:	Datasheet
GUID:	{guid {390B8CFD-C76B-438D-8FA3-822FF7DF9880}}	LastUpdated:	11/23/2010 12:49:52 AM
NameMap:	Long binary data	OrderByOn:	True
Orientation:	Left-to-Right	RecordCount:	163851
Updatable:	True		

Columns

Name	Type	Size
SAMP_ID	Text	100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	1860
DataUpdatable:	False
Description:	Identification number for sample given by field sampling crew
DisplayControl:	Text Box
GUID:	{guid {87060AFA-EB3B-4493-BDB9-C585B7B2CFB7}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	SAMP_ID
SourceTable:	DB_Results
UnicodeCompression:	False

RES_CODE	Text	10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Preliminary code used to determine the type of chemical result. Assigned by Lab
DisplayControl:	Text Box
GUID:	{guid {7FA8A274-56B7-42E9-A491-C0DF393C5D6D}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	RES_CODE
SourceTable:	DB_Results
UnicodeCompression:	False

RES_COLUMN	Text	25

AllowZeroLength:	True

Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	The column number of a multiple column test.
DisplayControl:	Text Box
GUID:	{guid {AF988388-6D47-401A-A178-2F4835A115E4}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	2
Required:	False
SourceField:	RES_COLUMN
SourceTable:	DB_Results
UnicodeCompression:	False

RES_ORIG Text 25

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Points to the originating result of a result set of record in a multiple column or dilution test
DisplayControl:	Text Box
GUID:	{guid {2A460663-213A-425A-816D-4CF83B8E8928}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	RES_ORIG
SourceTable:	DB_Results
UnicodeCompression:	False

SURROG_FLG Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	“T” (True) for a Surrogate result and “F” (False) otherwise. Blank for data from Axys Labs
DisplayControl:	Text Box
GUID:	{guid {27A3FB7E-F15C-42FB-B46B-648ABD882D65}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	4
Required:	False
SourceField:	SURROG_FLG
SourceTable:	DB_Results

	UnicodeCompression:	False	
CASE_ID		Text	25
	AllowZeroLength:	True	
	Attributes:	Variable Length	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	Description:	used to associate Primary results with Quality Control results. Blank for data from Axys Labs	
	DisplayControl:	Text Box	
	GUID:	{guid {AEE33BB7-F2B2-493E-AC6D-00756D25E06B}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	OrdinalPosition:	5	
	Required:	False	
	SourceField:	CASE_ID	
	SourceTable:	DB_Results	
	UnicodeCompression:	False	
SDG_ID		Text	25
	AllowZeroLength:	True	
	Attributes:	Variable Length	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	Description:	Sample Delivery Group ID. Assigned by lab	
	DisplayControl:	Text Box	
	GUID:	{guid {273996DD-1C79-4CC8-99D6-060DF40490B4}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	OrdinalPosition:	6	
	Required:	False	
	SourceField:	SDG_ID	
	SourceTable:	DB_Results	
	UnicodeCompression:	False	
BATCH_ID		Text	25
	AllowZeroLength:	True	
	Attributes:	Variable Length	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	Description:	Unique identifier for lab batches. Assigned by lab	
	DisplayControl:	Text Box	
	GUID:	{guid {2DC45E38-9EBE-4601-B271-30A107A71ACF}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	OrdinalPosition:	7	

Required:	False
SourceField:	BATCH_ID
SourceTable:	DB_Results
UnicodeCompression:	False

BLANK_ID Text 25

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Field Blank ID.
DisplayControl:	Text Box
GUID:	{guid {F80F1BE9-7A79-4969-8A1A-4DF5BC48A4F1}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	8
Required:	False
SourceField:	BLANK_ID
SourceTable:	DB_Results
UnicodeCompression:	False

METHOD_ID Text 25

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Laboratory analytical method name code.
DisplayControl:	Text Box
GUID:	{guid {C574A466-963C-425F-9799-2217E88786DB}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	9
Required:	False
SourceField:	METHOD_ID
SourceTable:	DB_Results
UnicodeCompression:	False

EXTRACTION Text 25

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Extraction Method ID.
DisplayControl:	Text Box
GUID:	{guid {04FFBEBF-3445-435C-929D-9C904A0AE988}}
IMEMode:	0
IMESentenceMode:	3

OrdinalPosition:	10
Required:	False
SourceField:	EXTRACTION
SourceTable:	DB_Results
UnicodeCompression:	False

LAB_ID Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	ID code for Laboratory running the sample
DisplayControl:	Text Box
GUID:	{guid {380F9D4E-35FC-42EA-9C99-7F56C82C83A4}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	11
Required:	False
SourceField:	LAB_ID
SourceTable:	DB_Results
UnicodeCompression:	False

LSAMP_ID Text 25

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Lab Sample ID. Assigned by lab
DisplayControl:	Text Box
GUID:	{guid {B55E4CA8-3F7C-458D-A0E4-D1E149397945}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	12
Required:	False
SourceField:	LSAMP_ID
SourceTable:	DB_Results
UnicodeCompression:	False

LSAMP_ID2 Text 25

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Lab Sample ID of QC Duplicates. Assigned by Lab.
DisplayControl:	Text Box
GUID:	{guid {2FB74E58-C9FA-466B-90CE-2539F25A174F}}
IMEMode:	0

IMESentenceMode:	3
OrdinalPosition:	13
Required:	False
SourceField:	LSAMP_ID2
SourceTable:	DB_Results
UnicodeCompression:	False

CAS_NUM Text 150

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Chemical Abstracts Registry Number for the Parameter, if available.
DisplayControl:	Text Box
GUID:	{guid {8BA1A2AC-6A36-48C5-860B-E4A8A0EB7C29}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	14
Required:	False
SourceField:	CAS_NUM
SourceTable:	DB_Results
UnicodeCompression:	False

RESULT Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Concentration of analyte in sample
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {BCA281D6-D708-40C9-AAE8-267FA2CB0AB7}}
OrdinalPosition:	15
Required:	False
SourceField:	RESULT
SourceTable:	DB_Results

COELUTIONS Text 100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	3030
DataUpdatable:	False
Description:	IUPAC numbers of the coeluting isomers. For congerner data.
DisplayControl:	Text Box
GUID:	{guid {81904A82-2FBD-45DB-B83F-4827F1613BDB}}
IMEMode:	0

	IMESentenceMode:	3	
	OrdinalPosition:	16	
	Required:	False	
	SourceField:	COELUTIONS	
	SourceTable:	DB_Results	
	UnicodeCompression:	True	
MDL		Double	8
	AllowZeroLength:	False	
	Attributes:	Fixed Size	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	DecimalPlaces:	Auto	
	Description:	Method Detection Limit	
	DisplayControl:	Text Box	
	GUID:	{guid {BA6331C2-AC4D-402D-A2E2-D64A18B3B1E6}}	
	OrdinalPosition:	17	
	Required:	False	
	SourceField:	MDL	
	SourceTable:	DB_Results	
UNITS		Text	10
	AllowZeroLength:	True	
	Attributes:	Variable Length	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	Description:	Units for results	
	DisplayControl:	Text Box	
	GUID:	{guid {376C6B6D-CB9A-4C12-8C69-71FCF8941704}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	OrdinalPosition:	19	
	Required:	False	
	SourceField:	UNITS	
	SourceTable:	DB_Results	
	UnicodeCompression:	False	
MRL		Double	8
	AllowZeroLength:	False	
	Attributes:	Fixed Size	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	DecimalPlaces:	Auto	
	Description:	Method Reporting Limit. Blank for data from Axys Labs.	
	DisplayControl:	Text Box	
	Format:	General Number	
	GUID:	{guid {9DB2F380-74F9-4153-8740-4F3B9C64CC9E}}	

OrdinalPosition:	20
Required:	False
SourceField:	MRL
SourceTable:	DB_Results

RDL Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Detection limit that reflects conditions such as dilution factors and moisture content. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {0B852564-E57D-4251-8333-168C44F9F375}}
OrdinalPosition:	21
Required:	False
SourceField:	RDL
SourceTable:	DB_Results

Qc_Dup_Original_Conc Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	The concentration of the analyte in the original (unspiked) sample. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {52E14C7D-CA85-4579-9E29-4332AEB77685}}
OrdinalPosition:	22
Required:	False
SourceField:	Qc_Dup_Original_Conc
SourceTable:	DB_Results

Qc_Original_Conc Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	The concentration of the analyte in the original (unspiked) sample. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {A1D55B18-FBE5-4499-82E7-2AD7B377345C}}

OrdinalPosition:	23
Required:	False
SourceField:	Qc_Original_Conc
SourceTable:	DB_Results

Quantitation_Limit Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	sample concentration equivalent to the lowest calibration standard falling above the MDL. Blank for datr from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {A0968705-5519-4C04-9416-CDF3047EDA5A}}
OrdinalPosition:	24
Required:	False
SourceField:	Quantitation_Limit
SourceTable:	DB_Results

SPK_CONC Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	The concentration of the analyte added to spike the sample.
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {F22C7F8A-45EF-4D14-BA58-4D2E2CE7E48F}}
OrdinalPosition:	25
Required:	False
SourceField:	SPK_CONC
SourceTable:	DB_Results

QC_DUP_SPIKE_ADDED Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	The concentration of the analyte added to spike the sample for duplicate spikes. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {B2CA2B2C-F94E-459B-9A79-EE154055E936}}
OrdinalPosition:	26

Required:	False
SourceField:	QC_DUP_SPIKE_ADDED
SourceTable:	DB_Results

SPK_RECOVER Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Constituent Recovery Percentage (%).
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {C9AEB095-3DD0-4067-A917-23F5CB0B25C4}}
OrdinalPosition:	27
Required:	False
SourceField:	SPK_RECOVER
SourceTable:	DB_Results

DUPSPK_RECOVER Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Constituent Recovery Percentage (%) of Control Sample and Matrix Spike duplicates.
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {29E5E9EE-6BE4-445C-9363-AEBB158E1FE7}}
OrdinalPosition:	28
Required:	False
SourceField:	DUPSPK_RECOVER
SourceTable:	DB_Results

T_CONC Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Target concentration for Matrix Spikes. Blank for data from Axys Labs
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {D376FAE7-F63B-4E46-9425-6B3958F551C0}}
OrdinalPosition:	29

Required:	False
SourceField:	T_CONC
SourceTable:	DB_Results

SPK_RES_CONC Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Measured (result) concentration of Control Samples and Matrix Spikes.
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {BA147369-31FC-48CC-BB50-59F11DE3842F}}
OrdinalPosition:	30
Required:	False
SourceField:	SPK_RES_CONC
SourceTable:	DB_Results

DUPSPK_RES_CONC Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2160
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Measured (result) concentration of Control Sample and Matrix Spike duplicates.
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {5023BE5C-9D24-41C1-B993-0265ADC0B8EA}}
OrdinalPosition:	31
Required:	False
SourceField:	DUPSPK_RES_CONC
SourceTable:	DB_Results

RPD Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	The relative percentage difference calculated as specified by the Laboratory QC program.
DisplayControl:	Text Box
GUID:	{guid {10758E75-D529-4397-ABE4-C56502B38EB9}}
OrdinalPosition:	32

	Required:	False	
	SourceField:	RPD	
	SourceTable:	DB_Results	
SPK_LCL		Double	8
	AllowZeroLength:	False	
	Attributes:	Fixed Size	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	DecimalPlaces:	Auto	
	Description:	Lower control limit for spike recovery. Reported as percentage multiplied by 100.	
	DisplayControl:	Text Box	
	Format:	General Number	
	GUID:	{guid {4BE477C1-409E-4283-BD13-D55A1C06D1E1}}	
	OrdinalPosition:	33	
	Required:	False	
	SourceField:	SPK_LCL	
	SourceTable:	DB_Results	
SPK_UCL		Double	8
	AllowZeroLength:	False	
	Attributes:	Fixed Size	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	DecimalPlaces:	Auto	
	Description:	Upper control limit for spike recovery. Reported as percentage multiplied by 100.	
	DisplayControl:	Text Box	
	Format:	General Number	
	GUID:	{guid {FBC01176-9470-413A-8E9B-4D777C085059}}	
	OrdinalPosition:	34	
	Required:	False	
	SourceField:	SPK_UCL	
	SourceTable:	DB_Results	
RPD_CL		Double	8
	AllowZeroLength:	False	
	Attributes:	Fixed Size	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	DecimalPlaces:	Auto	
	Description:	Relative percent difference control limit. Reported as percentage multiplied by 100. For CAS-Kelso EDD's, includes RPD's from the "Dup_RPD" Field	
	DisplayControl:	Text Box	

GUID:	{guid {A5553593-2526-4E16-875B-14CBEC70341F}}
OrdinalPosition:	35
Required:	False
SourceField:	RPD_CL
SourceTable:	DB_Results

QC_Level Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Data validation QC level.
DisplayControl:	Text Box
GUID:	{guid {96DDD43E-CABB-4B8A-B14C-8A04F134556E}}
OrdinalPosition:	36
Required:	False
SourceField:	QC_Level
SourceTable:	DB_Results

REPORTABLE_RESULT Text 5

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Yes for a result that is considered reportable, and No for other results. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {C2D5732D-004A-4668-BC72-152F160BA3B4}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	37
Required:	False
SourceField:	REPORTABLE_RESULT
SourceTable:	DB_Results
UnicodeCompression:	True

PF_CODE Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Preparation Fraction Code. Typically <T>otal, <D>issolved, or <N>ot applicable to total or dissolved.
DisplayControl:	Text Box
GUID:	{guid {12BFC87F-FF16-45D0-9453-722F9332FB56}}

IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	38
Required:	False
SourceField:	PF_CODE
SourceTable:	DB_Results
UnicodeCompression:	False

PF_Chem Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	PF_Code merged with CAS_NUM
DisplayControl:	Text Box
GUID:	{guid {78C378AE-32D3-4B12-B15A-BCBFB0966799}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	39
Required:	False
SourceField:	PF_Chem
SourceTable:	DB_Results
UnicodeCompression:	True

QC_DUP_SPIKE_STATUS Text 5

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Used to indicate whether the duplicate spike recovery was within control limits. Use the * to indicate failure. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {AF43D316-8CD2-4447-9998-D1C9CED61C81}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	40
Required:	False
SourceField:	QC_DUP_SPIKE_STATUS
SourceTable:	DB_Results
UnicodeCompression:	True

QC_RPD_STATUS Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default

ColumnWidth:	Default
DataUpdatable:	False
Description:	Used to indicate whether the relative percent difference was within control limits. Use the * to indicate failure. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {75C6E4BF-95CB-4B1A-83A5-B31E1417BBAD}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	41
Required:	False
SourceField:	QC_RPD_STATUS
SourceTable:	DB_Results
UnicodeCompression:	True

QC_SPIKE_STATUS Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Used to indicate whether the spike recovery was within control limits. Use the * to indicate failure. Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {9EDE207A-3A6C-4B0A-B30B-78E3911F7C0D}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	42
Required:	False
SourceField:	QC_SPIKE_STATUS
SourceTable:	DB_Results
UnicodeCompression:	True

URS_REVIEW_QUAL Text 100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	data qualifier resulting from a URS internal data QC review.
DisplayControl:	Text Box
GUID:	{guid {BD9EF1C1-11FD-404D-8CDE-0206A6825647}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	43
Required:	False
SourceField:	URS_REVIEW_QUAL
SourceTable:	DB_Results
UnicodeCompression:	True

ALL_QUALIFIERS	Text	10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Lab assigned data qualifiers with data qualifier changes resulting from a URS internal data QC review (URS_REVIEW_QUAL) - Excludes coeluter flags in congener data loaded into database before 9/22/2008.
DisplayControl:	Text Box
GUID:	{guid {AEE21AB7-DC3C-43A1-A458-04D9F7B29147}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	44
Required:	False
SourceField:	ALL_QUALIFIERS
SourceTable:	DB_Results
UnicodeCompression:	True

PosVal_MDL	Double	8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Detection limit specified by data validation and used by URS for reporting and statistics. Values are in this field only for non-rejected non-detect results.
DisplayControl:	Text Box
GUID:	{guid {D455942C-3E8A-49D6-B2CA-A75F1887BCFA}}
OrdinalPosition:	45
Required:	False
SourceField:	PosVal_MDL
SourceTable:	DB_Results

PostVal_MDL_NOTE	Text	225

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Note as to reason for selection of PostVal_MDL.
DisplayControl:	Text Box
GUID:	{guid {344F463D-46FA-4522-91C4-0C020185A880}}

IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	46
Required:	False
SourceField:	PostVal_MDL_NOTE
SourceTable:	DB_Results
UnicodeCompression:	True

PostVal_MRL Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Reporting limit specified by data validation and used by URS for reporting and statistics.
DisplayControl:	Text Box
GUID:	{guid {55F663ED-13DE-44DD-B7EC-85ED839B00D0}}
OrdinalPosition:	47
Required:	False
SourceField:	PostVal_MRL
SourceTable:	DB_Results

PostVal_MRL_NOTE Text 225

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Note as to reason for selection of PostVal_MRL.
DisplayControl:	Text Box
GUID:	{guid {D3881DD8-9E53-4A38-8DA4-DA41F2BAE448}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	48
Required:	False
SourceField:	PostVal_MRL_NOTE
SourceTable:	DB_Results
UnicodeCompression:	True

LAB_QUALIFIER Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Qualifier flags assigned by the laboratory. Filled with coelusion codes in Axys data.

DisplayControl:	Text Box
GUID:	{guid {BE39D984-2E61-4F57-AF24-901287C1898A}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	49
Required:	False
SourceField:	LAB_QUALIFIER
SourceTable:	DB_Results
UnicodeCompression:	False

DILUTION_FACT Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Effective test dilution factor.
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {A6EA31CC-5929-44FF-B241-F4B86EC74207}}
OrdinalPosition:	52
Required:	False
SourceField:	DILUTION_FACT
SourceTable:	DB_Results

TEST_TYPE Text 25

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Type of Test (Values include Initial or Dilution). Blank for data from CAS-Kelso Labs.
DisplayControl:	Text Box
GUID:	{guid {6BAAC0A9-26D5-4901-B7BB-B9BFD4205D57}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	53
Required:	False
SourceField:	TEST_TYPE
SourceTable:	DB_Results
UnicodeCompression:	True

LB_PREP_DATE Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default

DataUpdatable:	False
Description:	Date sample was prepared (mm/dd/yyyy)
Format:	Short Date
GUID:	{guid {C0FC4518-E49F-4446-9F3B-1E2C123A3727}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	54
Required:	False
SourceField:	LB_PREP_DATE
SourceTable:	DB_Results

LB_PREP_TIME Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Time sample was prepared (24-hour time)
Format:	Short Time
GUID:	{guid {1F62534E-CB99-437B-AE56-CBA35ED7BB51}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	55
Required:	False
SourceField:	LB_PREP_TIME
SourceTable:	DB_Results

LB_TST_DATE Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Date sample was tested (mm/dd/yyyy)
Format:	Short Date
GUID:	{guid {55B38796-3741-43A5-A3E4-B88796EBC3AD}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	56
Required:	False
SourceField:	LB_TST_DATE
SourceTable:	DB_Results

LB_TST_TIME Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Time sample was tested (24-hour time)

Format:	Short Time
GUID:	{guid {1E33DCFD-BB68-4491-A1C0-B278CF017928}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	57
Required:	False
SourceField:	LB_TST_TIME
SourceTable:	DB_Results

SA_CODE Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Code for describing the sample Type. Distinguishes between <N>ormal (primary) samples and different types of QC samples.
DisplayControl:	Text Box
GUID:	{guid {740E595D-95F3-46CC-89C4-92D7E3E672FD}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	58
Required:	False
SourceField:	SA_CODE
SourceTable:	DB_Results
UnicodeCompression:	False

BASIS Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Indicates whether results are reported on a <D>ry or <W>et basis, or <N>ot applicable to Dry/Wet basis (e.g. Gaseous phase samples)
DisplayControl:	Text Box
GUID:	{guid {B5DAB881-1360-40C8-8FEF-0C486F8B6CC3}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	59
Required:	False
SourceField:	BASIS
SourceTable:	DB_Results
UnicodeCompression:	False

MOISTURE Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False

ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Percent moisture of the sample.
DisplayControl:	Text Box
Format:	General Number
GUID:	{guid {7A67174A-9D47-4EA7-8B59-081325D60329}}
OrdinalPosition:	60
Required:	False
SourceField:	MOISTURE
SourceTable:	DB_Results

NOTE Text 75

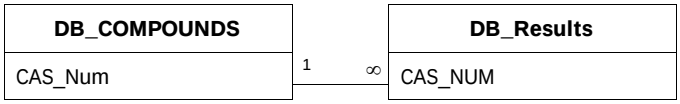
AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Result-specific comments.
DisplayControl:	Text Box
GUID:	{guid {474EC515-5024-45CD-B02D-5879D9306AF6}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	61
Required:	False
SourceField:	NOTE
SourceTable:	DB_Results
UnicodeCompression:	False

TEST_NOTE Text 75

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Lab/User notes for tests. Blank for data from Axys Labs.
DisplayControl:	Text Box
GUID:	{guid {E4117731-AA4C-486F-8E1A-2025FC6960C0}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	62
Required:	False
SourceField:	TEST_NOTE
SourceTable:	DB_Results
UnicodeCompression:	False

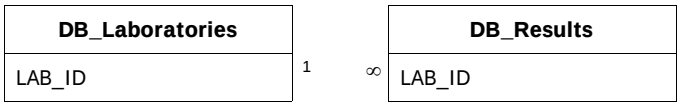
Relationships

DB_COMPOUNDSDB_Results



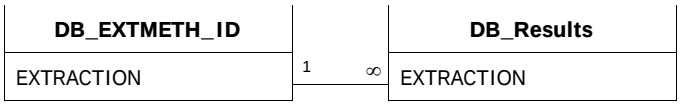
Attributes: Enforced, Cascade Updates, Cascade Deletes
RelationshipType: One-To-Many

DB_LaboratoriesDB_Results



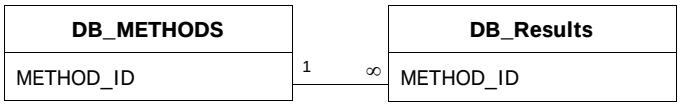
Attributes: Enforced
RelationshipType: One-To-Many

DB_EXTMETH_IDDB_Results



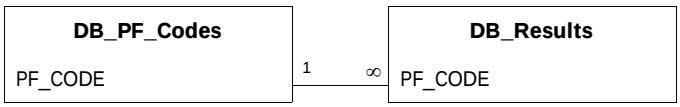
Attributes: Enforced
RelationshipType: One-To-Many

DB_METHODSDB_Results



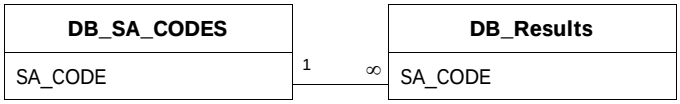
Attributes: Enforced, Cascade Updates
RelationshipType: One-To-Many

DB_PF_CodesDB_Results



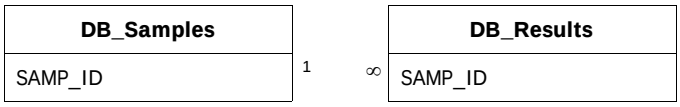
Attributes: Enforced
RelationshipType: One-To-Many

DB_SA_CODESDB_Results



Attributes:	Enforced
RelationshipType:	One-To-Many

DB_SamplesDB_Results



Attributes:	Enforced, Cascade Updates, Cascade Deletes
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
BLANK_ID	1
Clustered:	False
DistinctCount:	1
Foreign:	False
IgnoreNulls:	False
Name:	BLANK_ID
Primary:	False
Required:	False
Unique:	False
Fields:	
BLANK_ID	Ascending
CAS_NUM	1
Clustered:	False
DistinctCount:	605
Foreign:	False
IgnoreNulls:	False
Name:	CAS_NUM
Primary:	False
Required:	False
Unique:	False
Fields:	
CAS_NUM	Ascending
CASE_ID	1
Clustered:	False
DistinctCount:	13
Foreign:	False
IgnoreNulls:	False
Name:	CASE_ID
Primary:	False
Required:	False

Unique:	False
Fields:	
CASE_ID	Ascending
DB_COMPOUNDSDB_Results	1
Clustered:	False
DistinctCount:	605
Foreign:	True
IgnoreNulls:	False
Name:	DB_COMPOUNDSDB_Results
Primary:	False
Required:	False
Unique:	False
Fields:	
CAS_NUM	Ascending
DB_LaboratoriesDB_Results	1
Clustered:	False
DistinctCount:	15
Foreign:	True
IgnoreNulls:	False
Name:	DB_LaboratoriesDB_Results
Primary:	False
Required:	False
Unique:	False
Fields:	
LAB_ID	Ascending
EXTMETH_IDResults	1
Clustered:	False
DistinctCount:	40
Foreign:	True
IgnoreNulls:	False
Name:	EXTMETH_IDResults
Primary:	False
Required:	False
Unique:	False
Fields:	
EXTRACTION	Ascending
LAB_ID	1
Clustered:	False
DistinctCount:	15
Foreign:	False
IgnoreNulls:	False
Name:	LAB_ID
Primary:	False
Required:	False
Unique:	False
Fields:	
LAB_ID	Ascending
LSAMP_ID	1
Clustered:	False
DistinctCount:	2537
Foreign:	False
IgnoreNulls:	False
Name:	LSAMP_ID

Primary:	False
Required:	False
Unique:	False
Fields:	
LSAMP_ID	Ascending
METHOD_ID	1
Clustered:	False
DistinctCount:	88
Foreign:	False
IgnoreNulls:	False
Name:	METHOD_ID
Primary:	False
Required:	False
Unique:	False
Fields:	
METHOD_ID	Ascending
METHODSResults	1
Clustered:	False
DistinctCount:	88
Foreign:	True
IgnoreNulls:	False
Name:	METHODSResults
Primary:	False
Required:	False
Unique:	False
Fields:	
METHOD_ID	Ascending
PF_CODE	1
Clustered:	False
DistinctCount:	8
Foreign:	False
IgnoreNulls:	False
Name:	PF_CODE
Primary:	False
Required:	False
Unique:	False
Fields:	
PF_CODE	Ascending
PF_CodesResults	1
Clustered:	False
DistinctCount:	8
Foreign:	True
IgnoreNulls:	False
Name:	PF_CodesResults
Primary:	False
Required:	False
Unique:	False
Fields:	
PF_CODE	Ascending
QAQC_ID	1
Clustered:	False
DistinctCount:	556
Foreign:	False

IgnoreNulls:	False
Name:	QAQC_ID
Primary:	False
Required:	False
Unique:	False
Fields:	
BATCH_ID	Ascending
RES_CODE	1
Clustered:	False
DistinctCount:	20
Foreign:	False
IgnoreNulls:	False
Name:	RES_CODE
Primary:	False
Required:	False
Unique:	False
Fields:	
RES_CODE	Ascending
SA_CODE	1
Clustered:	False
DistinctCount:	22
Foreign:	False
IgnoreNulls:	False
Name:	SA_CODE
Primary:	False
Required:	False
Unique:	False
Fields:	
SA_CODE	Ascending
SA_CODESResults	1
Clustered:	False
DistinctCount:	22
Foreign:	True
IgnoreNulls:	False
Name:	SA_CODESResults
Primary:	False
Required:	False
Unique:	False
Fields:	
SA_CODE	Ascending
SAMP_ID	1
Clustered:	False
DistinctCount:	2357
Foreign:	False
IgnoreNulls:	False
Name:	SAMP_ID
Primary:	False
Required:	False
Unique:	False
Fields:	
SAMP_ID	Ascending
SamplesResults	1
Clustered:	False

	DistinctCount:	2357
	Foreign:	True
	IgnoreNulls:	False
	Name:	SamplesResults
	Primary:	False
	Required:	False
	Unique:	False
	Fields:	
	SAMP_ID	Ascending
SDG_ID		1
	Clustered:	False
	DistinctCount:	164
	Foreign:	False
	IgnoreNulls:	False
	Name:	SDG_ID
	Primary:	False
	Required:	False
	Unique:	False
	Fields:	
	SDG_ID	Ascending

Properties

DateCreated:	2/11/2008 3:14:11 PM	DefaultView:	Datasheet
GUID:	{guid {024554C8-2BF4-4925-BC83-FB3B7AE3541E}}	LastUpdated:	5/26/2010 12:45:20 PM
NameMap:	Long binary data	OrderByOn:	False
Orientation:	Left-to-Right	RecordCount:	22
Updatable:	True		

Columns

Name	Type	Size
SA_CODE	Text	10

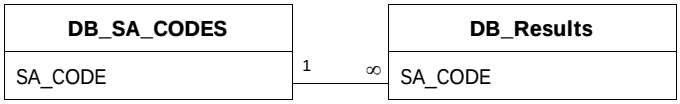
AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Unique identifier Code for SAmple types. Mainly used to delinieate primary sample results from those of field duplicates and various types of lab QA/QC analysis results
DisplayControl:	Text Box
GUID:	{guid {44444C33-315F-4646-8F46-CD8771D154C4}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	SA_CODE
SourceTable:	DB_SA_CODES
UnicodeCompression:	False

DEFINITION	Text	250

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	13020
DataUpdatable:	False
Description:	Definition and description of the SA_CODE.
DisplayControl:	Text Box
GUID:	{guid {765F6133-B654-44DE-9E4D-2D16E229D3C9}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	DEFINITION
SourceTable:	DB_SA_CODES
UnicodeCompression:	False

Relationships

DB_SA_CODESDB_Results



Attributes:	Enforced
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
PrimaryKey	1

Clustered:	False
DistinctCount:	22
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True
Unique:	True
Fields:	
SA_CODE	Ascending

Properties

DateCreated:	2/11/2008 1:37:15 PM	DefaultView:	Datasheet
GUID:	{guid {F9995C41-4574-447C-970E-62A7236646AD}}	LastUpdated:	11/23/2010 10:22:58 AM
NameMap:	Long binary data	OrderByOn:	True
Orientation:	Left-to-Right	RecordCount:	2368
Updatable:	True		

Columns

Name	Type	Size
SAMP_ID	Text	100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	3285
DataUpdatable:	False
Description:	Unique identifier for each sample
DisplayControl:	Text Box
GUID:	{guid {335986F6-0F91-47B1-9CD5-4086848862C0}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	SAMP_ID
SourceTable:	DB_Samples
UnicodeCompression:	False

SITE_ID	Text	50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Identification code for the site from which the sample was taken
DisplayControl:	Text Box
GUID:	{guid {A78D581C-D188-45EC-BF4A-5344A1E1DE32}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	SITE_ID
SourceTable:	DB_Samples
UnicodeCompression:	True

USED_IN_RI	Yes/No	1

AllowZeroLength:	False
Attributes:	Fixed Size

CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Yes if sample included in 2010 Remedial Investigation Report data set. No if not included in 2010 Remedial Investigation Report data set.
DisplayControl:	Text Box
Format:	Yes/No
GUID:	{guid {4703586F-8E98-4E57-BB76-487157D13781}}
OrdinalPosition:	2
Required:	False
SourceField:	USED_IN_RI
SourceTable:	DB_Samples

Sample_Description Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	6660
DataUpdatable:	False
Description:	Description of samples/sampling event
DisplayControl:	Text Box
GUID:	{guid {9E6C912B-3FB9-40D2-B522-83F35A582ACE}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	Sample_Description
SourceTable:	DB_Samples
UnicodeCompression:	True

SAMP_DATE Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	date when sample was taken (MMDDYYYY)
GUID:	{guid {ECC00136-C4F5-4B5D-97D0-6C1FDBB26BB2}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	4
Required:	False
SourceField:	SAMP_DATE
SourceTable:	DB_Samples

Mo-Yr_Sampled Date/Time 8

AllowZeroLength:	False

Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Month and Year of sample collection only. Formatted as a date with the day as the first day of the month. Used to link Samples table with Reports Submitted table.
GUID:	{guid {29113B66-9E29-4E98-AA0E-3E8B78F41E36}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	5
Required:	False
SourceField:	Mo-Yr_Sampled
SourceTable:	DB_Samples

SAMP_TIME Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Time when sample was taken, when available in 24-hour time format (HH:MM)
Format:	Short Time
GUID:	{guid {EDEB7F07-E99D-423E-90BC-DEB3F501A7CF}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	6
Required:	False
SourceField:	SAMP_TIME
SourceTable:	DB_Samples

SAMP_DEPTH Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Depth sample collected, where applicable
DisplayControl:	Text Box
GUID:	{guid {06579C97-FBB2-45D3-B683-8B097BA7926C}}
OrdinalPosition:	7
Required:	False
SourceField:	SAMP_DEPTH
SourceTable:	DB_Samples

S_DEPTH Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Starting depth of sample collection, where applicable
DisplayControl:	Text Box
GUID:	{guid {8E8014C1-2595-46CF-A3B5-D3744E7822AF}}
OrdinalPosition:	8
Required:	False
SourceField:	S_DEPTH
SourceTable:	DB_Samples

E_DEPTH Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Ending depth of sample collection, where applicable
DisplayControl:	Text Box
GUID:	{guid {0BEE40FD-DBF7-4015-BD37-2AB23A4924A3}}
OrdinalPosition:	9
Required:	False
SourceField:	E_DEPTH
SourceTable:	DB_Samples

DEPTH_UNIT Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Unit of measurement for depth
DisplayControl:	Text Box
GUID:	{guid {4E1CE17C-A9A9-4020-91DE-0013FAF047E7}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	10
Required:	False
SourceField:	DEPTH_UNIT
SourceTable:	DB_Samples
UnicodeCompression:	False

Depth_MP Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General

ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Measuring Point basis for Sample Depth. Examples: Below Ground Surface (BGS), Below Top of Casing (BTC), Above River Bottom (ARB), Below Water Surface (BWS)
DisplayControl:	Text Box
GUID:	{guid {75706405-71C3-4B01-97EA-ABECE139A413}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	11
Required:	False
SourceField:	Depth_MP
SourceTable:	DB_Samples
UnicodeCompression:	True

SAMP_TECNQ Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Sampling Technique used in gathering sample
DisplayControl:	Text Box
GUID:	{guid {40430AEE-6C98-4158-9FDF-848F1AF9F80D}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	12
Required:	False
SourceField:	SAMP_TECNQ
SourceTable:	DB_Samples
UnicodeCompression:	False

CUSTODY Text 20

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Custody tracking number, where given by lab
DisplayControl:	Text Box
GUID:	{guid {3AADD7DB-75E6-4EAD-8342-432298BA0460}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	13
Required:	False
SourceField:	CUSTODY
SourceTable:	DB_Samples
UnicodeCompression:	False

LB_RCV_DATE	Date/Time	8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Date Laboratory received sample, where given by lab
GUID:	{guid {EAE6279E-6130-4308-B781-5B1044ECF6EC}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	14
Required:	False
SourceField:	LB_RCV_DATE
SourceTable:	DB_Samples

MATRIX	Text	10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Matrix of sample - See Matrix table for definitions
DisplayControl:	Text Box
GUID:	{guid {F062B2D3-0972-4F49-B3F4-6E5B45AD6636}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	15
Required:	False
SourceField:	MATRIX
SourceTable:	DB_Samples
UnicodeCompression:	False

COMMENTS	Text	200

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	5310
DataUpdatable:	False
Description:	Comments about the sample
DisplayControl:	Text Box
GUID:	{guid {0627A689-2E35-46AB-B728-9D7DA37278BB}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	16
Required:	False
SourceField:	COMMENTS
SourceTable:	DB_Samples
UnicodeCompression:	True

UPLOAD_DATE	Text	200

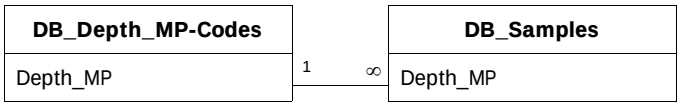
AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	3510
DataUpdatable:	False
Description:	Date sample uploaded into database
DisplayControl:	Text Box
GUID:	{guid {1BA231A3-6201-4F6C-8209-B2DCA53FA2A2}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	17
Required:	False
SourceField:	UPLOAD_DATE
SourceTable:	DB_Samples
UnicodeCompression:	False

UPLOADED_BY Text 20

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Initials of person uploading data into database
DisplayControl:	Text Box
GUID:	{guid {8546989C-EF11-4F7E-BB8B-4ED3557075D2}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	18
Required:	False
SourceField:	UPLOADED_BY
SourceTable:	DB_Samples
UnicodeCompression:	True

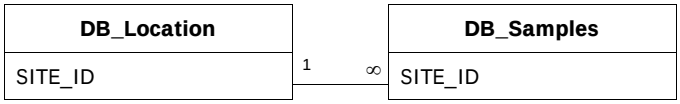
Relationships

DB_Depth_MP-CodesDB_Samples



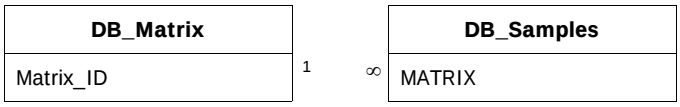
Attributes:	Enforced
RelationshipType:	One-To-Many

DB_LocationDB_Samples



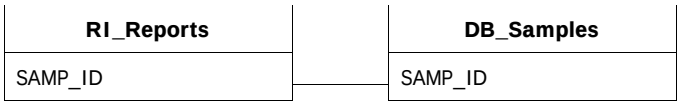
Attributes:	Enforced, Cascade Updates
RelationshipType:	One-To-Many

DB_MatrixDB_Samples



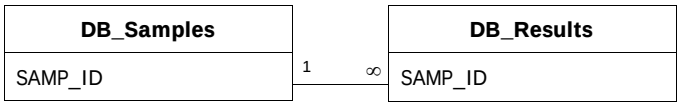
Attributes:	Enforced
RelationshipType:	One-To-Many

RI_ReportsDB_Samples



Attributes:	Unique, Not Enforced, Right Join
RelationshipType:	One-To-One

DB_SamplesDB_Results



Attributes:	Enforced, Cascade Updates, Cascade Deletes
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
Codes-Depth_MPSamples	1

Clustered:	False
DistinctCount:	8
Foreign:	True
IgnoreNulls:	False
Name:	Codes-Depth_MPSamples
Primary:	False
Required:	False
Unique:	False

	Fields:	
	Depth_MP	Ascending
LocationSamples		1
	Clustered:	False
	DistinctCount:	624
	Foreign:	True
	IgnoreNulls:	False
	Name:	LocationSamples
	Primary:	False
	Required:	False
	Unique:	False
	Fields:	
	SITE_ID	Ascending
MatrixSamples		1
	Clustered:	False
	DistinctCount:	25
	Foreign:	True
	IgnoreNulls:	False
	Name:	MatrixSamples
	Primary:	False
	Required:	False
	Unique:	False
	Fields:	
	MATRIX	Ascending
PrimaryKey		1
	Clustered:	False
	DistinctCount:	2368
	Foreign:	False
	IgnoreNulls:	False
	Name:	PrimaryKey
	Primary:	True
	Required:	True
	Unique:	True
	Fields:	
	SAMP_ID	Ascending
SITE_ID		1
	Clustered:	False
	DistinctCount:	624
	Foreign:	False
	IgnoreNulls:	False
	Name:	SITE_ID
	Primary:	False
	Required:	False
	Unique:	False
	Fields:	
	SITE_ID	Ascending

Properties

DateCreated:	5/15/2008 9:22:54 AM	DefaultView:	Datasheet
GUID:	{guid {3E953C14-4A65-46CF-8E22-74D621E832DE}}	LastUpdated:	5/26/2010 12:59:47 PM
NameMap:	Long binary data	OrderByOn:	False
Orientation:	Left-to-Right	RecordCount:	15
Updatable:	True		

Columns

Name	Type	Size
Well	Text	10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Well Number (SITE_ID in location table)
DisplayControl:	Text Box
GUID:	{guid {1A5B8A84-7436-494A-ABDC-DA96DEBBC145}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	Well
SourceTable:	DB_WellScreens
UnicodeCompression:	False

MP_Elev	Double	8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Measuring Point (at top of PVC casing) Elevation (feet)
DisplayControl:	Text Box
GUID:	{guid {17632314-A398-4FF2-8B94-94ED564CA69F}}
OrdinalPosition:	1
Required:	False
SourceField:	MP_Elev
SourceTable:	DB_WellScreens

Ground_Elev	Double	8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False

ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Ground Surface Elevation (feet) measured at top of concrete at base of well
DisplayControl:	Text Box
GUID:	{guid {E24AEB70-5ABC-46D8-8265-8B01F2F33270}}
OrdinalPosition:	2
Required:	False
SourceField:	Ground_Elev
SourceTable:	DB_WellScreens

Elev_Datum Text 15

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Reference datum for elevations
DisplayControl:	Text Box
GUID:	{guid {9BA2025E-8949-48DF-AAD6-35644C72AC2C}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	Elev_Datum
SourceTable:	DB_WellScreens
UnicodeCompression:	True

Screen_Top_bgs Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	1635
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Top of Screen (feet below ground surface)
DisplayControl:	Text Box
GUID:	{guid {DFFA996F-B2B5-42CB-AC65-1DD1833A7933}}
OrdinalPosition:	4
Required:	False
SourceField:	Screen_Top_bgs
SourceTable:	DB_WellScreens

Screen_Bottom_bgs Double 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default

ColumnWidth:	1950
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Bottom of Screen (feet below ground surface)
DisplayControl:	Text Box
GUID:	{guid {57C4B01A-EBEB-4006-83FA-56709E0E2854}}
OrdinalPosition:	5
Required:	False
SourceField:	Screen_Bottom_bgs
SourceTable:	DB_WellScreens

Well_Bottom_btc Double 8

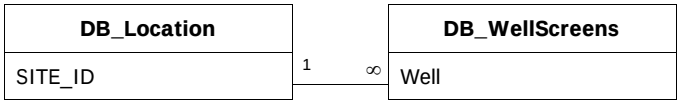
AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	1725
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Bottom of well (feet below top of PVC casing) - measured in field with DTW probe
DisplayControl:	Text Box
GUID:	{guid {399500E6-69BB-496A-9AB8-3F43A20E8BAC}}
OrdinalPosition:	6
Required:	False
SourceField:	Well_Bottom_btc
SourceTable:	DB_WellScreens

Comment Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	8235
DataUpdatable:	False
Description:	Comment about well
DisplayControl:	Text Box
GUID:	{guid {7D8D2F15-1EE1-4765-BF1B-6E76A0E45B27}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	7
Required:	False
SourceField:	Comment
SourceTable:	DB_WellScreens
UnicodeCompression:	True

Relationships

DB_LocationDB_WellScreens



Attributes:	Enforced, Cascade Updates
RelationshipType:	One-To-Many

Table Indexes

Name	Number of Fields
LocationWellScreens	1

Clustered:	False
DistinctCount:	15
Foreign:	True
IgnoreNulls:	False
Name:	LocationWellScreens
Primary:	False
Required:	False
Unique:	False
Fields:	
Well	Ascending

Properties

DateCreated:	7/15/2009 3:29:17 PM	DefaultView:	Datasheet
GUID:	{guid {1C321A27-EA27-4B83-A054-7FC700155F63}}	LastUpdated:	5/26/2010 1:35:37 PM
NameMap:	Long binary data	OrderByOn:	False
Orientation:	Left-to-Right	RecordCount:	1029
Updatable:	True		

Columns

Name	Type	Size
SAMP_ID	Text	100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	1
ColumnWidth:	2055
DataUpdatable:	False
DisplayControl:	Text Box
GUID:	{guid {854A28B8-DD87-4DF7-8399-774870B66E5E}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	SAMP_ID
SourceTable:	RI_Reports
UnicodeCompression:	False

Main Reports	Text	255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	5730
DataUpdatable:	False
Description:	(<year>-<Report Name>) Report that is best source for data from sample or group of samples. Multiple reports are given (separated by "; ") if data from a single sample was reported in two separate reports and were not combined in a single report.
DisplayControl:	Text Box
GUID:	{guid {1D32D6C7-7992-4674-9F60-77197BF5E7E7}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1
Required:	False
SourceField:	Main Reports
SourceTable:	RI_Reports
UnicodeCompression:	False

Main_Report_Originator	Text	50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Name of organization, company, or individual(s) that produced the Main Report.
DisplayControl:	Text Box
GUID:	{guid {35FE54E1-4AD6-4B2C-B339-51C8005F99BA}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	2
Required:	False
SourceField:	Main_Report_Originator
SourceTable:	RI_Reports
UnicodeCompression:	True

Report_01_Name	Text	255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	7920
DataUpdatable:	False
Description:	Title of Report 01
DisplayControl:	Text Box
GUID:	{guid {91C26E5C-E89B-4E78-8ED9-6A3036D12450}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	3
Required:	False
SourceField:	Report_01_Name
SourceTable:	RI_Reports
UnicodeCompression:	False

Report_01_Date	Date/Time	8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Date that Report 01 was produced. If only the month and year was available, the date is given as the first day of that month and year.
GUID:	{guid {F1F85959-30B5-401B-B3A3-2E0220105B56}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	4
Required:	False
SourceField:	Report_01_Date

	SourceTable:	RI_Reports	
Report_01_Originator		Text	50
	AllowZeroLength:	True	
	Attributes:	Variable Length	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	Description:	Name of organization, company, or individual(s) that produced Report 01.	
	DisplayControl:	Text Box	
	GUID:	{guid {93BF6398-5733-42B0-A299-2DA0CE79220C}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	OrdinalPosition:	5	
	Required:	False	
	SourceField:	Report_01_Originator	
	SourceTable:	RI_Reports	
	UnicodeCompression:	True	
Report_02_Name		Text	255
	AllowZeroLength:	True	
	Attributes:	Variable Length	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	Description:	Title of Report 02	
	DisplayControl:	Text Box	
	GUID:	{guid {32676149-4F2B-4756-A539-05C571369F4C}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	OrdinalPosition:	6	
	Required:	False	
	SourceField:	Report_02_Name	
	SourceTable:	RI_Reports	
	UnicodeCompression:	False	
Report_02_Date		Date/Time	8
	AllowZeroLength:	False	
	Attributes:	Fixed Size	
	CollatingOrder:	General	
	ColumnHidden:	False	
	ColumnOrder:	Default	
	ColumnWidth:	Default	
	DataUpdatable:	False	
	Description:	Date that Report 02 was produced. If only the month and year was available, the date is given as the first day of that month and year.	
	GUID:	{guid {70B22AB1-CE5C-48D4-8727-75A6E29EC115}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	OrdinalPosition:	7	

Required:	False
SourceField:	Report_02_Date
SourceTable:	RI_Reports

Report_02_Originator Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Name of organization, company, or individual(s) that produced Report 02.
DisplayControl:	Text Box
GUID:	{guid {FE352FB4-25AF-4A93-9C9A-776B5A3B836C}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	8
Required:	False
SourceField:	Report_02_Originator
SourceTable:	RI_Reports
UnicodeCompression:	True

Report_03_Name Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Title of Report 03
DisplayControl:	Text Box
GUID:	{guid {9FCC840E-9070-4433-A551-6FEDA7046387}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	9
Required:	False
SourceField:	Report_03_Name
SourceTable:	RI_Reports
UnicodeCompression:	False

Report_03_Date Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Date that Report 03 was produced. If only the month and year was available, the date is given as the first day of that month and year.
GUID:	{guid {B9C0C7D8-9161-47D9-B79A-250D00FDD28C}}
IMEMode:	0

IMESentenceMode:	3
OrdinalPosition:	10
Required:	False
SourceField:	Report_03_Date
SourceTable:	RI_Reports

Report_03_Originator Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Name of organization, company, or individual(s) that produced Report 03.
DisplayControl:	Text Box
GUID:	{guid {02CE9188-1E61-44E4-9952-96C9752CA385}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	11
Required:	False
SourceField:	Report_03_Originator
SourceTable:	RI_Reports
UnicodeCompression:	True

Report_04_Name Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Title of Report 04
DisplayControl:	Text Box
GUID:	{guid {98C62C92-B551-45EB-9AA3-824E75B37C6E}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	12
Required:	False
SourceField:	Report_04_Name
SourceTable:	RI_Reports
UnicodeCompression:	False

Report_04_Date Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Date that Report 04 was produced. If only the month and year was available, the date is given as the first day of that month and year.

GUID:	{guid {A3E6AF46-CBA1-4CEC-A9BC-CE1BF8D60C93}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	13
Required:	False
SourceField:	Report_04_Date
SourceTable:	RI_Reports

Report_04_Originator Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Name of organization, company, or individual(s) that produced Report 04.
DisplayControl:	Text Box
GUID:	{guid {4F6C8281-1D8B-4F8C-9B5C-8C272B5C2D5A}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	14
Required:	False
SourceField:	Report_04_Originator
SourceTable:	RI_Reports
UnicodeCompression:	True

Report_05_Name Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Title of Report 05
DisplayControl:	Text Box
GUID:	{guid {B4E0BDA2-636C-4C68-B29F-ED8FF5232AA0}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	15
Required:	False
SourceField:	Report_05_Name
SourceTable:	RI_Reports
UnicodeCompression:	False

Report_05_Date Date/Time 8

AllowZeroLength:	False
Attributes:	Fixed Size
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False

Description:	Date that Report 05 was produced. If only the month and year was available, the date is given as the first day of that month and year.
GUID:	{guid {99EED908-2923-43E0-9C68-F7F3EE2553EC}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	16
Required:	False
SourceField:	Report_05_Date
SourceTable:	RI_Reports

Report_05_Originator Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Name of organization, company, or individual(s) that produced Report 05.
DisplayControl:	Text Box
GUID:	{guid {517EA4BE-1119-4544-AEE3-A0143F1710B3}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	17
Required:	False
SourceField:	Report_05_Originator
SourceTable:	RI_Reports
UnicodeCompression:	True

Relationships

RI_ReportsDB_Samples

RI_Reports	DB_Samples
SAMP_ID	SAMP_ID

Attributes:	Unique, Not Enforced, Right Join
RelationshipType:	One-To-One

Table Indexes

Name	Number of Fields
PrimaryKey	1

Clustered:	False
DistinctCount:	1029
Foreign:	False
IgnoreNulls:	False
Name:	PrimaryKey
Primary:	True
Required:	True

Unique:	True
Fields:	
SAMP_ID	Ascending

Properties

DateCreated:	2/1/2010 3:08:36 PM	DefaultView:	Datasheet
GUID:	{guid {A88CC396-08C0-4080-AD50-00FE6CA816B8}}	LastUpdated:	11/23/2010 10:17:03 AM
NameMap:	Long binary data	OrderByOn:	True
Orientation:	Left-to-Right	RecordCount:	82459
Updatable:	True		

Columns

Name	Type	Size
SAMP_ID	Text	100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Identification number for sample given by field sampling crew
DisplayControl:	Text Box
GUID:	{guid {9D6B4876-895B-44B8-B176-47BA18988097}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	False
SourceField:	SAMP_ID
SourceTable:	RI_Results_Processed
UnicodeCompression:	False

LAB_ID	Text	10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	ID code for Laboratory running the sample
DisplayControl:	Text Box
GUID:	{guid {2E1AE098-1E04-4F37-9FB9-01608EC7C292}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	2
Required:	False
SourceField:	LAB_ID
SourceTable:	RI_Results_Processed
UnicodeCompression:	False

METHOD_ID	Text	25

AllowZeroLength:	True
Attributes:	Variable Length

CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Laboratory analytical method name code.
DisplayControl:	Text Box
GUID:	{guid {A78B84DE-AB6A-4771-9A74-243F81DD4C2E}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	10
Required:	False
SourceField:	METHOD_ID
SourceTable:	RI_Results_Processed
UnicodeCompression:	False

CAS_NUM Text 150

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Chemical Abstracts Registry Number for the Parameter, if available.
DisplayControl:	Text Box
GUID:	{guid {16B755CE-B0F5-42E6-9247-797C78131DDD}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	13
Required:	False
SourceField:	CAS_NUM
SourceTable:	RI_Results_Processed
UnicodeCompression:	True

COELUTIONS Text 100

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	IUPAC numbers of the coeluting isomers. For congerner data.
DisplayControl:	Text Box
GUID:	{guid {830A56CB-BD95-43AC-A264-92490A1D59DB}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	14
Required:	False
SourceField:	COELUTIONS
SourceTable:	RI_Results_Processed
UnicodeCompression:	True

PF_CODE Text 10

AllowZeroLength:	True

Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Preparation Fraction Code. Typically <T>otal, <D>issolved, or <N>ot applicable to total or dissolved.
DisplayControl:	Text Box
GUID:	{guid {F12C8C1E-CF75-42A1-BEC7-54D30FB54F55}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	15
Required:	False
SourceField:	PF_CODE
SourceTable:	RI_Results_Processed
UnicodeCompression:	False

BASIS Text 10

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Indicates whether results are reported on a <D>ry or <W>et basis, or <N>ot applicable to Dry/Wet basis (e.g. Gaseous phase samples)
DisplayControl:	Text Box
GUID:	{guid {4CD0020A-FDE5-4A9C-AB0F-B5F0A76833F9}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	17
Required:	False
SourceField:	BASIS
SourceTable:	RI_Results_Processed
UnicodeCompression:	False

UNITS Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Units for results
DisplayControl:	Text Box
GUID:	{guid {EEED1E6C-7B27-43E2-80C4-5B46554CDBD7}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	24
Required:	False
SourceField:	UNITS

SourceTable:	RI_Results_Processed
UnicodeCompression:	False

ResultCOMB Double 8

AllowZeroLength:	False
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Analytical result. Null for undetected results. Result combination with corresponding field duplicate sample where applicable.
DisplayControl:	Text Box
GUID:	{guid {E12E6A57-DED4-4282-8701-6A0BD20D18B0}}
OrdinalPosition:	30
Required:	False
SourceField:	ResultCOMB
SourceTable:	RI_Results_Processed

PosVal_MDLCOMB Double 8

AllowZeroLength:	False
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2520
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Detection limit specified by data validation and used by URS for reporting and statistics. Result combination with corresponding field duplicate sample where applicable.
DisplayControl:	Text Box
GUID:	{guid {ADED3E95-9DC1-425F-A842-DC406222F887}}
OrdinalPosition:	37
Required:	False
SourceField:	PosVal_MDLCOMB
SourceTable:	RI_Results_Processed

PostVal_MRLCOMB Double 8

AllowZeroLength:	False
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2520
DataUpdatable:	False
DecimalPlaces:	Auto
Description:	Reporting limit specified by data validation and used by URS for reporting and statistics. Result combination with corresponding field duplicate sample where applicable.
DisplayControl:	Text Box
GUID:	{guid {12C7CE9B-69FF-41BD-9813-81B63CD96FCF}}

OrdinalPosition:	38
Required:	False
SourceField:	PostVal_MRLCOMB
SourceTable:	RI_Results_Processed

ALL_QUALIFIERSCOMB Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2355
DataUpdatable:	False
Description:	Lab assigned data qualifiers with data qualifier changes resulting from a URS internal data QC review (URS_REVIEW_QUAL). Result combination with corresponding field duplicate sample where applicable.
DisplayControl:	Text Box
GUID:	{guid {2595C0DD-2109-4469-80AC-E97C546442DE}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	42
Required:	False
SourceField:	ALL_QUALIFIERSCOMB
SourceTable:	RI_Results_Processed
UnicodeCompression:	False

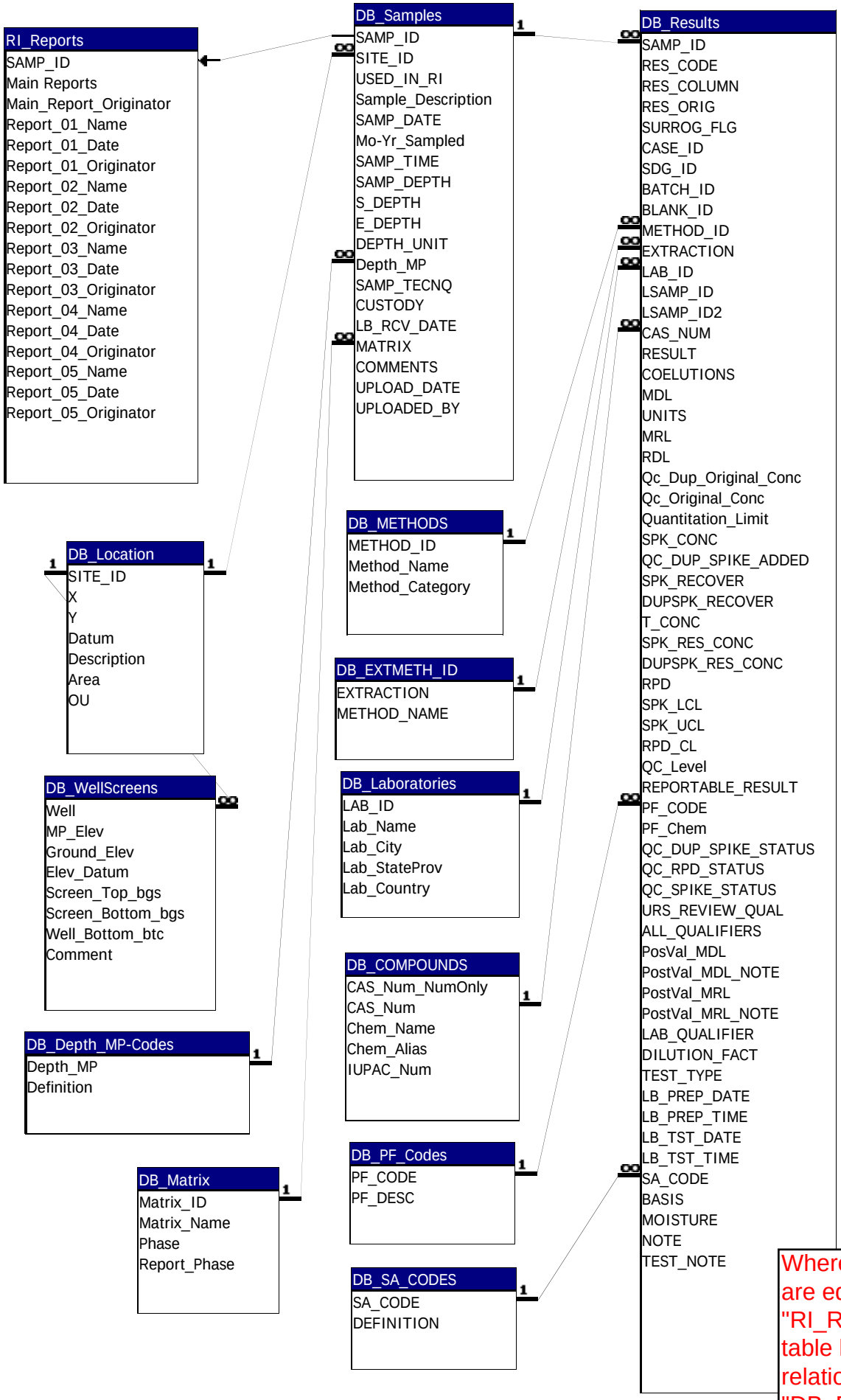
PostVal_MDLCOMB_NOTE Text 255

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	Default
DataUpdatable:	False
Description:	Note as to reason for selection of PostVal_MDLCOMB.
DisplayControl:	Text Box
GUID:	{guid {D5D2F5BC-C516-4420-B8B7-6B39CF1B69DB}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	43
Required:	False
SourceField:	PostVal_MDLCOMB_NOTE
SourceTable:	RI_Results_Processed
UnicodeCompression:	False

PostVal_MRLCOMB_NOTE Text 50

AllowZeroLength:	True
Attributes:	Variable Length
CollatingOrder:	General
ColumnHidden:	False
ColumnOrder:	Default
ColumnWidth:	2115
DataUpdatable:	False

Description:	Note as to reason for selection of PostVal_MRLCOMB.
DisplayControl:	Text Box
GUID:	{guid {AC827DC3-7763-413C-96AB-D1C949A54771}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	44
Required:	False
SourceField:	PostVal_MRLCOMB_NOTE
SourceTable:	RI_Results_Processed
UnicodeCompression:	True


RI_Reports
SAMP_ID
Main Reports
Main_Report_Originator
Report_01_Name
Report_01_Date
Report_01_Originator
Report_02_Name
Report_02_Date
Report_02_Originator
Report_03_Name
Report_03_Date
Report_03_Originator
Report_04_Name
Report_04_Date
Report_04_Originator
Report_05_Name
Report_05_Date
Report_05_Originator
DB_Samples
SAMP_ID
SITE_ID
USED_IN_RI
Sample_Description
SAMP_DATE
Mo-Yr_Sampled
SAMP_TIME
SAMP_DEPTH
S_DEPTH
E_DEPTH
DEPTH_UNIT
Depth_MP
SAMP_TECNQ
CUSTODY
LB_RCV_DATE
MATRIX
COMMENTS
UPLOAD_DATE
UPLOADED_BY
DB_Results
SAMP_ID
RES_CODE
RES_COLUMN
RES_ORIG
SURROG_FLG
CASE_ID
SDG_ID
BATCH_ID
BLANK_ID
METHOD_ID
EXTRACTION
LAB_ID
LSAMP_ID
LSAMP_ID2
CAS_NUM
RESULT
COELUTIONS
MDL
UNITS
MRL
RDL
Qc_Dup_Original_Conc
Qc_Original_Conc
Quantitation_Limit
SPK_CONC
QC_DUP_SPIKE_ADDED
SPK_RECOVER
DUPSPK_RECOVER
T_CONC
SPK_RES_CONC
DUPSPK_RES_CONC
RPD
SPK_LCL
SPK_UCL
RPD_CL
QC_Level
REPORTABLE_RESULT
PF_CODE
PF_Chem
QC_DUP_SPIKE_STATUS
QC_RPD_STATUS
QC_SPIKE_STATUS
URS_REVIEW_QUAL
ALL_QUALIFIERS
PosVal_MDL
PostVal_MDL_NOTE
PostVal_MRL
PostVal_MRL_NOTE
LAB_QUALIFIER
DILUTION_FACT
TEST_TYPE
LB_PREP_DATE
LB_PREP_TIME
LB_TST_DATE
LB_TST_TIME
SA_CODE
BASIS
MOISTURE
NOTE
TEST_NOTE
DB_METHODS
METHOD_ID
Method_Name
Method_Category
DB_Location
SITE_ID
X
Y
Datum
Description
Area
OU
DB_EXTMETH_ID
EXTRACTION
METHOD_NAME
DB_WellScreens
Well
MP_Elev
Ground_Elev
Elev_Datum
Screen_Top_bgs
Screen_Bottom_bgs
Well_Bottom_btc
Comment
DB_Laboratories
LAB_ID
Lab_Name
Lab_City
Lab_StateProv
Lab_Country
DB_COMPOUNDS
CAS_Num_NumOnly
CAS_Num
Chem_Name
Chem_Alias
IUPAC_Num
DB_Depth_MP-Codes
Depth_MP
Definition
DB_PF_Codes
PF_CODE
PF_DESC
DB_Matrix
Matrix_ID
Matrix_Name
Phase
Report_Phase
DB_SA_CODES
SA_CODE
DEFINITION
Where the field names are equal, the "RI_Results_Processed" table has the same relationships as the "DB_Results" Table.

APPENDIX B

BORING LOGS

HTRW DRILLING LOG

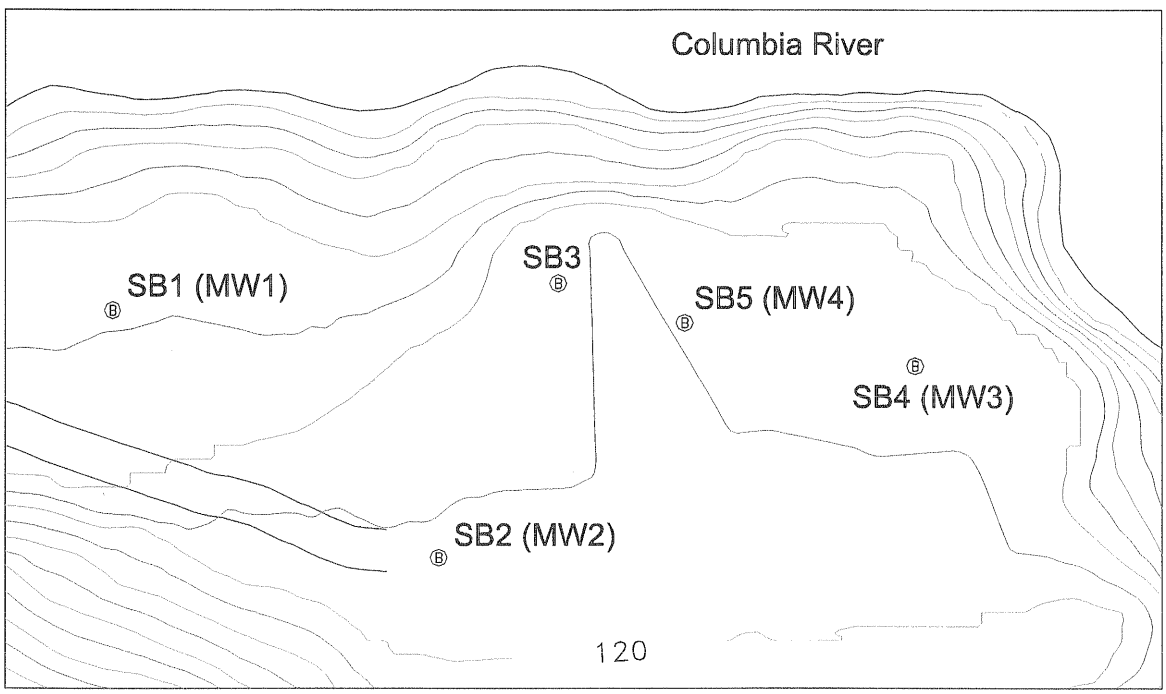
DISTRICT Portland		HOLE NUMBER SB3
1 COMPANY NAME Tetra Tech, Inc.	2 DRILL SUBCONTRACTOR Cascade Drilling	SHEET 1 OF SHEETS 2
3 PROJECT USCOE Bradford Island Landfill	4 LOCATION Bradford Island Landfill	
5 NAME OF DRILLER Steve Hughes	6 MANUFACTURERS DESIGNATION OF DRILL CME 75	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 4.25" ID (9.25 OD) HAS 18" long, 2" OD split spoon sampler 140 lbs with 30-inch drop	8 HOLE LOCATION Central landfill	
	9 SURFACE ELEVATION Not surveyed	
	10 DATE STARTED 8/17/98	11 DATE COMPLETED 8/17/98
12 OVERBURDEN THICKNESS N/A	15 DEPTH GROUNDWATER ENCOUNTERED N/A	
13 DEPTH DRILLED INTO ROCK N/A	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A	
14 TOTAL DEPTH OF HOLE 7'	17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A	

18 GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
0	--	--	0

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS/SVOCs	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY

22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
	X			

LOCATION SKETCH/COMMENTS:



PROJECT	HOLE NO.
Bradford Island	SB3

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	PROJECT	INSPECTOR	SHEET	SHEETS
SB3	Bradford Island	Carlotta Cellucci	2	OF 2

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	0	Grassy cover					
	1						
	2						
	3						
	4						
Basalt	5	Fractured basalt to contact at approximately 5.5' with well graded fine to very fine grained, moist gray sand (SW) (100% sand) dense				12 6 4	
SW	6						
	7	Refusal at 7' BLS					
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						
	16						
	17						

PROJECT	HOLD NO.
Bradford Island	SB3

ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Key to Log of Boring

Sheet 1 of 1

Elevation feet	Depth, feet	SAMPLES: Type	SAMPLES: Number	SAMPLES: Sampling Resistance, blows / 6 in.	SAMPLES: Recovery, inches	SAMPLES: Headspace PID [FID], ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
1	2	3	4	5	6	7	8	9	10	11	12

COLUMN DESCRIPTIONS

1 **Elevation:** Elevation in feet referenced to mean sea level (MSL) or site datum.

2 **Depth:** Depth in feet below the ground surface.

3 **Sample Type:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.

4 **Sample Number:** Sample identification number.

5 **Sampling Resistance:** Number of blows to advance driven sampler each 6-inch drive interval, or distance noted, using a 140-lb hammer with a 30-inch drop; "NA" indicates data not recorded.

6 **Recovery:** Length in inches of sample actually recovered in driven or pushed sampler; "NA" indicates data not recorded.

7 **Headspace PID/FID:** Photo-ionization/flame ionization device sample headspace reading in parts per million (ppm).

8 **Graphic Log:** Graphic depiction of subsurface material encountered; typical symbols are explained below.

9 **USCS Code:** Unified Soil Classification System (USCS) group symbol code for associated soil strata.

10 **Material Description:** Description of material encountered; may include color, moisture, grain size, and density/consistency.

11 **Well Completion Schematic:** Schematic of piezometer or well installation; materials are listed in header block and alongside well schematic; graphic symbols are explained below.

12 **Field Notes and Well Details:** Comments and observations regarding drilling or sampling made by driller or field personnel. Well construction materials and installation details are also listed in this column.

TYPICAL SOIL GRAPHIC SYMBOLS

- SAND (SP)
- CLAY (CL)
- SILT (ML)
- SANDSTONE
- SAND with silt (SP-SM)
- Plastic CLAY (CH)
- Silty CLAY (CL/ML)
- Rock Fragments / Gravel
- Silty SAND (SM)
- Clayey SAND (SC)
- Silty GRAVEL (GM)
- Non-soil Fill

TYPICAL WELL GRAPHIC SYMBOLS

- Blank well casing in concrete
- Blank well casing in filter sand
- Blank well casing in bentonite-cement slurry
- Slotted well casing in filter sand
- Blank well casing in bentonite chips
- Native backfill or slough

TYPICAL SAMPLER GRAPHIC SYMBOLS

- 2-inch-OD split spoon sampler (SPT)
- 2.5-inch-OD split spoon with brass liners (modified California)
- Thin-walled tube sampler (Shelby tube)

OTHER GRAPHIC SYMBOLS

- First water encountered at time of drilling (ATD)
- Static water level measured in well on specified date
- Change in material properties within a stratum
- Inferred or gradational lithologic contact

GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Report: ENV_12W_CLEVELAND_W/USCS_KEY; File: BRADFORD.GPJ; 1/12/2000 keyowwell

Project: Bradford Island Landfill **Project Location: Bonneville Dam, Oregon** **Project Number: 53-F0072173.02**	**Log of Boring SB-6** Sheet 1 of 2

Date(s) Drilled	**9/29/99**	Geologist	**G. Lukert**	Reviewer	
Drilling Method	**Hollow-Stem Auger**	Drilling Contractor	**Cascade Drilling, Inc.**	Total Depth of Borehole	**19.0 feet**
Drill Bit Size/Type	**8-7/8-inch-OD auger bit**	Sampling Method	**Split spoon**	Ground Surface Elevation	**110.82 feet MSL**
Groundwater Level(s)	**14.60 feet bgs on 9/29/99**	Hammer Data	**140 lb / 30-inch drop**	Coordinates	**N 723,668.16 E 1,633,059.45**
Borehole Backfill	**Bentonite-Portland cement grout**	Comments	**Refer to site plan for location**		

Elevation feet	Depth, feet	SAMPLES Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID [FID], ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	FIELD NOTES
	0							Surface conditions: brown, silty SAND with rounded cobbles [Fill]	
110	1								
	2								
108	3								
	4	01	1-1-2	0	0.0 [0.5]		GM	Silty GRAVEL; yellowish brown (10YR 5/4), ~60% gravel, ~40% fines, some cobbles to 4 inches diameter, slightly micaceous, dry, very loose, no odor [FILL]	No recovery in driven sampler; collected sample from cuttings.
106	5								
	6								
104	7								
	8								Metal debris observed at 7.5 ft.
102	9	02	5-3-3	4	64 [32]		SM	Silty SAND with gravel; very dark gray (10YR 3/1), ~50% sand, ~40% silt, ~10% gravel, some wood debris, damp, loose, no odor [FILL]	
	10								
100	11								
	12								
98	13								

Report: ENV_12S_CLEVELAND+/-USCS_2FT/IN; File: BRADFORD.GPJ; 1/12/2000 SB-06

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Log of Boring SB-6

Elevation feet	Depth, feet	SAMPLES Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID [FID], ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	FIELD NOTES
	13								
		03	2-4-3	4	134 [105]		SM/ML	Silty SAND to sandy SILT; very dark grayish brown (10YR 3/2), some wood debris, trace gravel, wet, loose, no odor [FILL]	
	14								
96	15								
	16								
94	17								
	18								
92	19								
								Boring terminated at 19.0 feet bgs due to refusal	
	20								
90	21								
	22								
88	23								
	24								
86	25								
	26								
84	27								
	28								
82	29								

Report: ENV_12S_CLEVELAND+/-USCS_2FT/IN; File: BRADFORD.GPJ; 1/12/2000 SB-06

Project: Bradford Island Landfill **Project Location: Bonneville Dam, Oregon** **Project Number: 53-F0072173.02**	**Log of Boring DH-2002Z** Sheet 1 of 4

Date(s) Drilled	**Not recorded**	Geologist	**G. Lukert**	Reviewer	
Drilling Method	**Hollow-Stem Auger (0-6 ft); Mud Rotary (6-116 ft)**	Drilling Contractor	**Cascade Drilling, Inc.**	Total Depth of Borehole	**116.0 feet**
Drill Bit Size/Type	**4-7/8-inch and 3-inch tricone bits**	Sampling Method	**No samples collected**	Ground Surface Elevation	**Not available**
Groundwater Level(s)	**Not measured**	Hammer Data	**Not applicable**	Coordinates	**Not available**
Borehole Backfill	**Bentonite-Portland cement grout**	Comments	**Refer to site plan for location**		

Elevation feet	Depth, feet	SAMPLES: Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						0-18 ft: debris, gravel, concrete fragments, wood pieces in cuttings	Started drilling with hollow-stem auger.
	5							Hit concrete with augers; switched to mud rotary drilling.
	10							
	15						18-60 ft: no cuttings generated	
	20							No cuttings generated.
	25							
	30							

Report: ENV_12S_CLEVELAND+/-USCS; File: BRADFORD.GPJ; 1/12/2000 DH-2002Z

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Log of Boring DH-2002Z

Elevation feet	Depth, feet	SAMPLES: Type Number	SAMPLES: Sampling Resistance, blows / 6 in.	SAMPLES: Recovery, inches	SAMPLES: Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	30						18-60 ft: no cuttings generated	
	35							
	40							No cuttings generated.
	45							
	50							
	55							Borehole collapsed at 54 ft bgs. Began drilling with outer casing advanced to 60 ft. Switched to 3-inch-dia. tricone bit.
	60						60-70 ft: charred wood in cuttings	
	65							

Report: ENV_12S_CLEVELAND+/-USCS; File: BRADFORD.GPJ; 1/12/2000 DH-2002Z

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Log of Boring DH-2002Z

Elevation feet	Depth, feet	SAMPLES: Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	65						60-70 ft: charred wood in cuttings	
	70						70-80 ft: basalt, some black silt in cuttings	
	75							
	80						80-116 ft: weathered basalt and quartz fragments in cuttings	
	85							Advanced casing to 65 ft bgs, and continued drilling with 3-inch-dia. bit.
	90							
	95							
	100							

Report: ENV_12S_CLEVELAND+/-USCS; File: BRADFORD.GPJ; 1/12/2000 DH-2002Z

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Log of Boring DH-2002Z

Elevation feet	Depth, feet	SAMPLES: Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
							80-116 ft: weathered basalt and quartz fragments in cuttings	
	105							
	110							
	115							
							Boring terminated at 116.0 feet bgs	
	120							
	125							
	130							
	135							

Report: ENV_12S_CLEVELAND+/-USCS; File: BRADFORD.GPJ; 1/12/2000 DH-2002Z

Project: Bradford Island **Project Location:** Cascade Locks, Oregon **Project Number:** 25695767.00003	**Log of Boring DP-01-05** Sheet 1 of 1

Date(s) Drilled	**11/16/04 - 11/16/2004**	Logged By	**BPM**	Checked By	**JOD**
Drilling Method	**GeoProbe**	Drill Bit Size/Type	**N/A**	Total Depth of Borehole	**17.5 feet**
Drill Rig Type	**GeoProbe**	Drilling Contractor	**Geotech Explorations, Inc.**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**11.5 feet bgs**	Sampling Method(s)	**1 1/4" dia. Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Bentonite Grout**	Location	**Riverfront - Landfill Access Road**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						GP	**3" ASPHALTIC CONCRETE** **POORLY-GRADED GRAVEL [GP]**, gray, fine grained, angular to subangular. [FILL]	
			MC1	2.5	BKGD				
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, tan to brown, dry, loose, gravel is fine grained, subrounded to rounded, sand is medium coarse.	
	5								
			MC2	3	BKGD			*Basalt cobble at 7.5'-8.5'* *Graded to moist, dark brown with fine grained sand from 8.5'-9.5'*	
	10							∇	
			MC3	3.5	BKGD			*Cobble encountered. Dry, may be pulverized by drive rod.*	
	15						GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, trace silt, dark greenish-gray, moist, gravel is fine grained, subangular to subrounded, sand is fine grained.	
			MC4	2.5	BKGD				
								Boring terminated at a depth of 17.5 feet bgs on 11/16/04 and backfilled with bentonite grout upon completion.	
	20								
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-01-05

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-02-05

Sheet 1 of 1

Date(s) Drilled	11/16/04 - 11/17/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	20.0 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	11.3 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Riverfront - Landfill Access Road		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						GP	**3" BROKEN ASPHALTIC CONCRETE** **POORLY-GRADED GRAVEL [GP]**, gray to tannish-brown, dry, loose, fine grained, angular to subangular, [FILL].	
			MC1	3			GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, gray to tannish-brown, moist, gravel is fine grained, angular, sand is fine to coarse grained. [FILL]	
	5								
			MC2	3					
	10								
			MC3	3	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, gravel is coarse grained	
							SP	**POORLY-GRADED SAND WITH GRAVEL [SP]**, brown, sand is medium to coarse grained, gravel is fine grained, subrounded. *Coarse basalt gravel encountered. Subrounded to subangular.*	
	15								
			MC4	2	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]** *Dark gray, medium grained sand matrix from 18'-19'. Brown to gray from 19'-20'.*	
	20							Boring terminated at a depth of 20 feet bgs on 11/17/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-02-05

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-03-05

Sheet 1 of 1

Date(s) Drilled	11/16/04 - 11/17/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	20.0 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	11.2 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Riverfront - Landfill Access Road		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						GP	**3" ASPHALTIC CONCRETE** **POORLY-GRADED GRAVEL [GP]**, gray, dry, fine grained.	
			MC1	4	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, gray to brown, dry, gravel is fine grained, subangular to subrounded, sand is tan, medium to coarse grained. *Graded to moist.*	
	5								
			MC2	3	BKGD			*Graded to moist, dark brown with fine grained sand from 8.5'-9.5'* *Coarse basalt gravel at 9.5'.*	
	10							∇	
			MC3	5	BKGD				
							SP	**POORLY-GRADED SAND [SP]**, trace silt, tan to brown.	
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, brown to dark gray, wet, gravel is medium to coarse grained, sand is coarse grained.	
	15								
			MC4	4	BKGD		SP	**POORLY-GRADED SAND [SP]**, trace silt, tan to orangish-brown, moist, sand is coarse grained.	
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, moist to dry. *2" Dry gray gravel from 18.6'-18.8'.*	
	20							Boring terminated at a depth of 20 feet bgs on 11/17/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-03-05

URS

Project: Bradford Island **Project Location: Cascade Locks, Oregon** **Project Number: 25695767.00003**	**Log of Boring DP-04-05** Sheet 1 of 1

Date(s) Drilled	**11/16/04 - 11/17/2004**	Logged By	**BPM**	Checked By	**JOD**
Drilling Method	**GeoProbe**	Drill Bit Size/Type	**N/A**	Total Depth of Borehole	**20.0 feet**
Drill Rig Type	**GeoProbe**	Drilling Contractor	**Geotech Explorations, Inc.**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**10.2 feet bgs**	Sampling Method(s)	**1 1/4" dia. Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Bentonite Grout**	Location	**Riverfront - Landfill Access Road**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						GP	**3" ASPHALTIC CONCRETE** **POORLY-GRADED GRAVEL [GP]**, gray, fine grained.	
			MC1	4	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, gravel is gray to brown, fine grained with trace coarse, sand is tan to brown, medium to coarse grained. *Moist.*	
	5								
			MC2	3	BKGD		GP	**POORLY-GRADED GRAVEL [GP]**, dry, coarse grained.	
	10						GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, gravel is gray to brown, fine grained with trace coarse gravel, sand is tan to brown, medium to coarse grained. *Sand grades to orange-brown-tan, medium to fine grained.*	
			MC3	5	BKGD				
	15								
			MC4	4	BKGD		SP	**POORLY-GRADED SAND WITH SILT [SP]**, trace gravel, sand is fine to medium grained.	
	20							Boring terminated at a depth of 20 feet bgs on 11/17/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-04-05

URS

Project: Bradford Island **Project Location: Cascade Locks, Oregon** **Project Number: 25695767.00003**	**Log of Boring DP-05-05** Sheet 1 of 2

Date(s) Drilled	**11/16/04 - 11/19/2004**	Logged By	**BPM**	Checked By	**JOD**
Drilling Method	**GeoProbe**	Drill Bit Size/Type	**N/A**	Total Depth of Borehole	**28.5 feet**
Drill Rig Type	**GeoProbe**	Drilling Contractor	**Geotech Explorations, Inc.**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**22.0 feet bgs**	Sampling Method(s)	**1 1/4" dia. Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Bentonite Grout**	Location	**Grassy, rocky field North of sandblast building.**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, gray to brownish-tan, dry, loose, gravel is coarse to fine grained, sand is medium grained.	
			MC1	4	BKGD				
	5							*Moist.* *Basalt cobble encountered.*	
			MC2	2	BKGD				
								Mottled red-orange.	
	10							*Refusal/bent rod. Pulled rod and set up adjacent to borehole. Moist to wet from 10'-11', moist from 11'-12'.*	
			MC3	4.5	BKGD			*Basalt cobble encountered.*	
	15							*Dry.*	
			MC4	4	BKGD		SP	**POORLY-GRADED SAND WITH GRAVEL [SP]**, trace silt, tan to brown, medium dense.	
							GM	**SILTY GRAVEL WITH SAND [GM]**, greenish-gray, moist, hard, gravel is coarse to fine grained.	
	20						SM	**SILTY SAND [SM]**, trace gravel, olive gray to brown, moist, soft, sand is medium grained.	
			MC5	5	BKGD		OL	**ORGANIC SANDY SILT [OL]**, trace gravel, black, wood debris, root matter. ▽	
							SM	**SILTY SAND [SM]**, greenish-gray, moist to dry, weak to moderate cementation, sand is crystalline, white, medium to fine grained.	
	25						SP	**POORLY-GRADED SAND [SP]**, orange-brown to red-brown,	

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-05-05

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-05-05

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	25		MC6	1	BKGD			moderate to strong cementation.	
								Refusal. Sample tube stuck in drive rod. Boring terminated at a depth of 28.5 feet bgs on 11/19/04 and backfilled with bentonite grout upon completion.	
	30								
	35								
	40								
	45								
	50								

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-06-05

Sheet 1 of 1

Date(s) Drilled	11/17/04 - 11/17/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	20.0 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	15.0 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Grassy, rocky area North of sandblast building, adjacent to septic tank.		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0							**6" SURFACE SANDY SOIL**	
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, trace cobbles, dark brown, gravel is fine grained, angular to subangular, sand is medium to coarse. No bedding structures.	
			MC1	4	BKGD				
								Sand grades to brown, medium to fine grained.	
	5							*Grades to gray, sand grades to medium to coarse.*	
			MC2	1.5	BKGD			*Refusal due to large cobbles. Moved drill rig 6 feet to southeast.*	
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, trace cobbles, brown, gravel is fine grained, sand is medium coarse. *Moist.*	
	10								
			MC3	5	BKGD				
	15						GP	**POORLY-GRADED GRAVEL [GP]**, brown, saturated, loose, gravel is fine grained, rounded, sand is coarse grained.	
			MC4	5	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, tannish-brown to gray, sand grades to fine grained.	
							SM	**SILTY SAND [SM]**, black, some organics.	
							SP	**POORLY-GRADED SAND [SP]**, green, <5% organics, white, crystalline sand.	
	20							Boring terminated at a depth of 20 feet bgs on 11/17/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-06-05

URS

Project: Bradford Island **Project Location:** Cascade Locks, Oregon **Project Number:** 25695767.00003	**Log of Boring DP-07-05** Sheet 1 of 1

Date(s) Drilled	**11/17/04 - 11/22/2004**	Logged By	**BPM**	Checked By	**JOD**
Drilling Method	**GeoProbe**	Drill Bit Size/Type	**N/A**	Total Depth of Borehole	**20.0 feet**
Drill Rig Type	**GeoProbe**	Drilling Contractor	**Geotech Explorations, Inc.**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**13.5 feet bgs**	Sampling Method(s)	**1 1/4" dia. Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Bentonite Grout**	Location	**Grassy, rocky area North of sandblast building.**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0							**SILTY SAND [SM]** trace cobbles, brown, fine grained.	
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, trace cobbles, tan to brown, moist, gravel is fine to coarse grained, subangular.	
			MC1	4	BKGD				
							GP	**POORLY-GRADED GRAVEL [GP]**, gray, dry, coarse grained.	
	5								
			MC2	4	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, trace silt, gray with orange mottling, moist, gravel is fine grained, sand is medium to fine grained. *Tan to brown.*	
	10								
			MC3	3	BKGD			*Wood debris.* *Cobbles encountered.*	
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, wet, gravel is coarse grained, sand is medium to coarse grained.	
	15								
			MC4	5	BKGD		GM	**SILTY GRAVEL WITH SAND [GM]**, tan to brown, gravel is fine grained, rounded. *Woody debris from 18'-19'.*	
							SM	**SILTY SAND [SM]**, trace gravel, black to green, organics.	
	20							Boring terminated at a depth of 20 feet bgs on 11/22/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-07-05

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-08-05

Sheet 1 of 1

Date(s) Drilled	11/17/04 - 11/17/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	20.0 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	13.5 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Grassy, cobbly area North of sandblast building.		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						SM	**SILTY SAND [SM]** trace cobbles, brown, moist to wet.	
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, trace cobbles, dry to moist, gravel is gray to brown, fine grained, angular to subrounded, sand is tan to brown, coarse grained.	
			MC1	4	BKGD				
								Cobbles encountered.	
	5								
								Cobbles encountered.	
			MC2	4	BKGD				
								Decreasing gravel, increasing medium grained sand, moist.	
	10								
			MC3		BKGD				
							GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, dark gray to brown, wet, loose, gravel is coarse grained, sand is coarse grained.	
	15						GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, dark greenish-gray, moist, gravel is fine grained, subangular to subrounded, sand is medium to fine grained.	
			MC4		BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, reddish-gray, dry, gravel is rounded.	
							SM	**SILTY SAND [SM]**, trace organics, green, very hard, fine grained.	
	20							Boring terminated at a depth of 20 feet bgs on 11/17/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-08-05

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-09-05

Date(s) Drilled	11/17/04 - 11/22/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	20.0 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	16 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Grassy, cobbly area at toe slope of the North side of the sandblast building.		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						SM	**SILTY SAND [SM]** trace gravel, brown to orange, wet.	
			MC1	5	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, brown to gray, dry to moist, gravel is coarse to fine grained, sand is coarse to medium grained.	
	5							*Gravel and sand grade to fine grained.*	
			MC2	3	BKGD			*3" of sand, orange to brown mottling, dry.* *Cobbles encountered from 8'-10', dark brown.*	
	10							*Grades to gray, gravel coarsens.*	
			MC3	5	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, gray, dry, coarse grained.	
							SP	**POORLY-GRADED SAND WITH GRAVEL [SP]**, tan to brown, moist to wet, loose from 13.5'-15', hard at 15'.	
	15						GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, tan to gray, wet, loose. ▽	
			MC4	5	BKGD			*Cobbles encountered. Increased tan, coarse to medium sand from 18'-18.5'.*	
							GP	**POORLY-GRADED GRAVEL [GP]**, dark gray.	
	20							Boring terminated at a depth of 20 feet bgs on 11/22/04 and backfilled with bentonite grout upon completion.	
	25								

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-10-05

Sheet 1 of 1

Date(s) Drilled	11/18/04 - 11/18/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	14.0 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	8.5 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Grassy, gravelly area adjacent to hazardous material storage area.		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, dark brown, hard, gravel is fine to medium grained, subangular to subrounded, sand is coarse to medium grained.	
			MC1	5	BKGD				
	5								
			MC2	5	BKGD		SM	**SILTY SAND [SM]**, light greenish-gray, moist to wet, medium grained.	
							SP	**POORLY-GRADED SAND [SP]**, trace gravel, tan to greenish-gray, medium grained. ∇ *Basalt cobbles encountered.*	
	10						GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, dark gray to brown, wet, loose, coarse grained.	
			MC3	4	BKGD		SP	**POORLY-GRADED SAND WITH SILT AND GRAVEL [SP]**, tan to brown with orange to red mottling, hard.	
	15							Boring terminated at a depth of 14 feet bgs on 11/18/04 and backfilled with bentonite grout upon completion.	
	20		MC4	4	BKGD				
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-10-05

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-11-05

Sheet 1 of 1

Date(s) Drilled	11/18/04 - 11/22/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	21.5 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	8.5 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Hazardous Material Storage Area		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0						SP GP	*2" sandblast grit on ground surface.* **POORLY-GRADED GRAVEL WITH SAND [GP]**, black to gray, angular to subangular.	
			MC1	5	BKGD				
	5						SP-SM	**POORLY-GRADED SAND WITH SILT [SP-SM]**, trace gravel, tan to brown, dry to moist, loose.	
			MC2	2.5	BKGD		SP	**POORLY-GRADED SAND WITH GRAVEL [SP]**, brown to gray with orange to red mottling, moist to wet. *Soft from 7'-8', moist to wet.* *Soft from 8.5'-9', moist to wet.*	
	10		MC3	5	BKGD			*Increased gravel, rounded, weathered.* *Very hard, sand is medium to fine grained.* *Graded to gray.* *Wet, soft, loose, medium to coarse sand from 16'-17'.*	
	15		MC4	5	BKGD		SP	**POORLY-GRADED SAND [SP]**, trace gravel, dark gray, hard, sand is medium to fine grained, gravel is fine grained basalt.	
	20		MC5	0	BKGD				
								Refusal. Boring terminated at a depth of 21.5 feet bgs on 11/22/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-11-05

URS

Project: Bradford Island
Project Location: Cascade Locks, Oregon
Project Number: 25695767.00003

Log of Boring DP-12-05

Sheet 1 of 1

Date(s) Drilled	11/18/04 - 11/22/2004	Logged By	BPM	Checked By	JOD
Drilling Method	GeoProbe	Drill Bit Size/Type	N/A	Total Depth of Borehole	21.0 feet
Drill Rig Type	GeoProbe	Drilling Contractor	Geotech Explorations, Inc.	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	7.5 feet bgs	Sampling Method(s)	1 1/4" dia. Macrocore	Hammer Data	N/A
Borehole Backfill	Bentonite Grout	Location	Hazardous Material Storage Area		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery, (ft.)	Headspace OVA, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	REMARKS
	0		MC1	5	BKGD		GP	**POORLY-GRADED GRAVEL WITH SAND [GP]**, black to greenish brown. Sandblast grit present to 2.5', no red or green color, medium grained. [FILL] *Cobbles encountered.* *Metal debris. [FILL]*	
	5						SM	**SILTY SAND [SM]**, trace gravel, tan to brown, dry to moist, soft, loose, fine to medium grained, no bedding structures. *Grades to medium dense, mottling from 6'-7.75'.*	
			MC2	5	BKGD		SP	**POORLY-GRADED SAND WITH GRAVEL [SP]**, trace silt, grayish-brown, moist to wet, loose, sand is medium to coarse grained, gravel is fine grained, weathered, rounded. ∇ *Moist to wet from 7.5'-9'.* *Orange to red mottling.*	
	10						SM	**SILTY SAND [SM]**, light gray with orange mottling.	
			MC3	5	BKGD		SP	**POORLY-GRADED SAND [SP]**, trace basalt pebbles, very hard.	
	15		MC4	5	BKGD				
	20		MC5	0	BKGD				
								Refusal. Boring terminated at a depth of 21 feet bgs on 11/22/04 and backfilled with bentonite grout upon completion.	
	25								

Report: PORT_ENV_PID; File: ARMY CORPS - BRADFORD ISLAND GEOPROBE.GPJ; 8/12/2005 DP-12-05

URS

Project: Bradford Island - Upland OU Remedial Investigation **Project Location: Bonneville Dam, Oregon** **Project Number: 25696931**	**Log of Boring PR1** Sheet 1 of 1

Date(s) Drilled	**2/2/2009**	Logged By	**N. Moody**	Checked By	**JOD**
Drilling Method	**Direct Push**	Drill Bit Size/Type	**Percussion Hammer**	Total Depth of Borehole	**20.0 feet bgs**
Drill Rig Type	**AMS Power Probe**	Drilling Contractor	**PSW**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**10.0 feet bgs**	Sampling Method(s)	**2 Inch x 5 foot Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Hydrated Bentonite Chips**	Location	**Pistol Range**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0		MC1	2.25			**GRAVELLY SILT [ML]**, brown to dark brown, dry to moist, stiff, medium to fine grained gravel.	
	5						*Cobble @ 4.5 feet bgs* **SILTY SAND WITH GRAVEL [SM]**, brown to brownish yellow, dry to moist, medium to fine grained sand, coarse gravel.	
			MC2	1.5				
	10						∇	
			MC3	2.5			**SILT WITH GRAVEL [ML]**, dark brown to olive gray, moist, fine to coarse gravels.	
	15						*Becomes wet @ 14.5 feet bgs* **POORLY GRADED GRAVEL WITH SILT AND SAND [GP-GM]**, dark brown, wet, fine to medium gravel.	
			MC4	3.5			**SILT [ML]**, yellowish brown, moist, hard.	
							POORLY GRADED SAND [SP], yellowish brown, moist, fine to medium grained.	
	20						Terminated boring at 20 feet bgs on 2/2/2009. Installed a stainless steel temporary well screen from 16 to 20 feet bgs. Collected groundwater sample: 090202-PR-PR1-16-20GW	
	25							
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR1

URS

Project: Bradford Island - Upland OU Remedial Investigation **Project Location: Bonneville Dam, Oregon** **Project Number: 25696931**	**Log of Boring PR2A** Sheet 1 of 1

Date(s) Drilled	**2/2/2009**	Logged By	**N. Moody**	Checked By	**JOD**
Drilling Method	**Direct Push**	Drill Bit Size/Type	**Percussion Hammer**	Total Depth of Borehole	**14.0 feet bgs**
Drill Rig Type	**AMS Power Probe**	Drilling Contractor	**PSW**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**Not Encountered**	Sampling Method(s)	**2 Inch x 5 foot Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Hydrated Bentonite Chips**	Location	**Pistol Range**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0						*3" Woody debris on surface*	
							SILT [ML], brown to dark brown, moist, stiff with some fine grained angular gravels.	
			MC1	2.5				
	5						**GRAVELLY SILT WITH SAND [ML]**, brownish yellow, dry to moist, stiff, fine gravel, fine sand.	
			MC2	3.0				
							POORLY GRADED GRAVEL [GP], coarse subangular to angular gravel.	
	10						**GRAVELLY SILT WITH SAND [ML]**, brownish yellow, dry to moist, stiff, fine gravel, fine sand.	
			MC3	0.5			**POORLY GRADED SAND [SP]**, highly cemented sand, dry.	
							Terminated boring at 14 feet bgs due to refusal on 2/2/2009.	
	15							
	20							
	25							
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR2A

URS

Project: Bradford Island - Upland OU Remedial Investigation **Project Location: Bonneville Dam, Oregon** **Project Number: 25696931**	**Log of Boring PR2B** Sheet 1 of 1

Date(s) Drilled	**2/2/2009**	Logged By	**N. Moody**	Checked By	**JOD**
Drilling Method	**Direct Push**	Drill Bit Size/Type	**Percussion Hammer**	Total Depth of Borehole	**17.0 feet bgs**
Drill Rig Type	**AMS Power Probe**	Drilling Contractor	**PSW**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**Not Encountered**	Sampling Method(s)	**2 Inch x 5 foot Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Hydrated Bentonite Chips**	Location	**Pistol Range**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0						*No recovery 0.0-5.0 feet bgs*	
			MC1	0				
	5						**GRAVELLY SILT WITH SAND [ML]**, dark brown, moist to dry.	
			MC2	2.5			**POORLY GRADED GRAVEL [GP]**, coarse subangular to angular gravel.	
							GRAVELLY SILT WITH SAND [ML], dark brown, moist to dry.	
	10							
			MC3	2.5				
	15						**POORLY GRADED SAND [SP]**, highly cemented sand, dry.	
			MC4	0.4				
							Terminated boring at 17 feet bgs due to refusal on 2/2/2009.	
	20							
	25							
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR2B

URS

Project: Bradford Island - Upland OU Remedial Investigation Project Location: Bonneville Dam, Oregon Project Number: 25696931	Log of Boring PR2C Sheet 1 of 1

Date(s) Drilled	2/2/2009	Logged By	N. Moody	Checked By	JOD
Drilling Method	Direct Push	Drill Bit Size/Type	Percussion Hammer	Total Depth of Borehole	16.0 feet bgs
Drill Rig Type	AMS Power Probe	Drilling Contractor	PSW	Approximate Surface Elevation	N/A
Groundwater Level and Date Measured	Not Encountered	Sampling Method(s)	2 Inch x 5 foot Macrocore	Hammer Data	N/A
Borehole Backfill	Hydrated Bentonite Chips	Location	Pistol Range		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0						**GRAVELLY SILT WITH SAND [ML]**, dark brown, dry to moist, medium to fine sand.	
			MC1	2.5				
	5							
							POORLY GRADED GRAVEL [GP], coarse subangular to angular gravel, dry to moist.	
			MC2	2.0			**GRAVELLY SILT WITH SAND [ML]**, dark brown, dry to moist, medium to fine sand.	
	10							
			MC3	2.5				
							POORLY GRADED SAND [SP], brown, medium grained, dry, cemented.	
	15		MC4	0				
							Terminated boring at 16 feet bgs due to refusal on 2/2/2009.	
	20							
	25							
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR2C

URS

Project: Bradford Island - Upland OU Remedial Investigation **Project Location: Bonneville Dam, Oregon** **Project Number: 25696931**	**Log of Boring PR2D** Sheet 1 of 1

Date(s) Drilled	**2/2/2009**	Logged By	**N. Moody**	Checked By	**JOD**
Drilling Method	**Direct Push**	Drill Bit Size/Type	**Percussion Hammer**	Total Depth of Borehole	**20.0 feet bgs**
Drill Rig Type	**AMS Power Probe**	Drilling Contractor	**PSW**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**10.9 feet bgs**	Sampling Method(s)	**2 Inch x 5 foot Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Hydrated Bentonite Chips**	Location	**Pistol Range**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0		MC1	2.5			**GRAVELLY SILT WITH SAND [ML]**, brown to dark brown, dry to moist, stiff, medium to fine sand.	
	5		MC2	2			**SILTY SAND WITH GRAVEL [SM]**, brown, medium to fine sand, coarse gravel.	
	10		MC3	1.0			**SILT WITH GRAVEL [ML]**, dark brown to olive gray, fine to coarse gravel.	
	15		MC4	1.75			**POORLY GRADED GRAVEL WITH SILT AND SAND [GP-GM]**, dark brown, very soft, fine to medium gravel, wet.	
	20						**SILT [ML]**, dark brown. Terminate boring at 20 feet bgs on 2/2/2009. Installed a stainless steel temporary well screen from 16 to 20 feet bgs. After 10 minutes, water level probe dry. Pulled rods and inserted temporary 3/4" PVC temporary well with slotted screen (0.010 inch) from 9 to 19 feet bgs. Collected groundwater sample: 090202-PR-PR2D-9-196W.	
	25							
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR2D

URS

Project: Bradford Island - Upland OU Remedial Investigation **Project Location: Bonneville Dam, Oregon** **Project Number: 25696931**	**Log of Boring PR2E** Sheet 1 of 1

Date(s) Drilled	**2/2/2009**	Logged By	**N. Moody**	Checked By	**JOD**
Drilling Method	**Direct Push**	Drill Bit Size/Type	**Percussion Hammer**	Total Depth of Borehole	**25.0 feet bgs**
Drill Rig Type	**AMS Power Probe**	Drilling Contractor	**PSW**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**Not Encountered**	Sampling Method(s)	**2 Inch x 5 foot Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Hydrated Bentonite Chips**	Location	**Pistol Range**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0		MC1	2.5			**GRAVELLY SILT WITH SAND [ML]**, dark brown, dry to moist, stiff, medium to fine sand.	
	5						**SILTY SAND WITH GRAVEL [SM]**, brown, medium to fine sand, coarse gravel.	
			MC2	0			*No recovery 5.0-10.0 feet bgs*	
	10		MC3	2.5			**SILT WITH GRAVEL [ML]**, dark brown to olive gray, dry to moist, fine to coarse gravel.	
							POORLY GRADED GRAVEL [GP], dry, fine to coarse gravel.	
	15		MC4	2.5			**SILT [ML]**, yelowish brown, dry to moist, stiff.	
	20		MC5	2.5			**POORLY GRADED SAND [SP]**, yellowish brown, dry, fine to medium sand.	
	25						Terminate boring at 25 feet bgs on 2/2/2009 because no saturated soil encountered.	
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR2E

URS

Project: Bradford Island - Upland OU Remedial Investigation **Project Location: Bonneville Dam, Oregon** **Project Number: 25696931**	**Log of Boring PR3A** Sheet 1 of 1

Date(s) Drilled	**1/27/2009**	Logged By	**N. Moody**	Checked By	**JOD**
Drilling Method	**Direct Push**	Drill Bit Size/Type	**Percussion Hammer**	Total Depth of Borehole	**27.0 feet bgs**
Drill Rig Type	**AMS Power Probe**	Drilling Contractor	**PSW**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**Not Encountered**	Sampling Method(s)	**2 Inch x 5 foot Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Hydrated Bentonite Chips**	Location	**Pistol Range**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0						**SANDY SILT [ML]**, dark brown, moist, stiff with some subangular coarse gravels.	
			MC1	1.5				
	5						**SILTY SAND [SM]**, dark brown, moist, fine to medium grained sand.	
			MC2	1.5			**POORLY GRADED GRAVEL [GP]**, coarse grained.	
							SILTY SAND [SM], dark brown, moist, fine to medium grained sand, some coarse gravels.	
	10							
			MC3	1.5				
	15							
			MC4	1.5			**POORLY GRADED GRAVEL [GP]**, coarse grained.	
	20							
			MC5	1.5				
	25						*Grades with trace silt*	
							Boring terminated at 27 feet bgs due to refusal on 1/27/2009.	
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR3A

URS

Project: Bradford Island - Upland OU Remedial Investigation **Project Location: Bonneville Dam, Oregon** **Project Number: 25696931**	**Log of Boring PR3B** Sheet 1 of 2

Date(s) Drilled	**1/27/2009**	Logged By	**N. Moody**	Checked By	**JOD**
Drilling Method	**Direct Push**	Drill Bit Size/Type	**Percussion Hammer**	Total Depth of Borehole	**40.0 feet bgs**
Drill Rig Type	**AMS Power Probe**	Drilling Contractor	**PSW**	Approximate Surface Elevation	**N/A**
Groundwater Level and Date Measured	**Not Encountered**	Sampling Method(s)	**2 Inch x 5 foot Macrocore**	Hammer Data	**N/A**
Borehole Backfill	**Hydrated Bentonite Chips**	Location	**Pistol Range**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	0		MC1	3			**SANDY SILT [ML]**, dark brown, moist, stiff, fine sand, trace coarse gravels.	
	5						**POORLY GRADED GRAVEL [GP]**, coarse grained, subangular cobble pieces.	
			MC2	3			**SILTY SAND [SM]**, dark brown, moist, stiff, trace coarse gravels.	
	10		MC3	0.5			*Becomes dry to moist with some fine to coarse grained gravels*	
	15		MC4	.25			**POORLY GRADED GRAVEL [GP]**, dark to light gray, dry to moist with trace dark brown silty sand.	
	20		MC5	1.5				
	25						**SILT [ML]**, dark brown, wet, soft.	
			MC6	2.5			**SANDY SILT [ML]**, brown, moist to dry, stiff.	
							SILTY SAND [SM], brown, moist to dry, stiff, fine grained sand.	
	30							

Report: PORT_ENV_PID; File: BRADFORD ISLAND.GPJ; 3/17/2009 PR3B

URS

Project: Bradford Island - Upland OU Remedial Investigation
Project Location: Bonneville Dam, Oregon
Project Number: 25696931

Log of Boring PR3B

Elevation, feet	Depth, feet	SAMPLES Type	Number	Recovery (ft)	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	REMARKS
	30							
			MC7				**POORLY GRADED SAND [SP]**, dark brown, moist, medium grained sand with fine gravels.	
							Becomes moist to wet @ 34-35 feet bgs	
	35						*Grades to fine to medium grained sand with trace fine subangular gravel*	
			MC8	37.5				
	40						Terminate boring at 40 feet bgs on 1/27/2009. Installed a stainless steel temporary screen from 31 to 35 feet bgs and dry. No groundwater sample collected.	
	45							
	50							
	55							
	60							
	65							

HTRW DRILLING LOG

DISTRICT Portland		HOLE NUMBER SB1
1 COMPANY NAME Tetra Tech, Inc.	2 DRILL SUBCONTRACTOR Cascade Drilling	SHEET 1 OF SHEETS 3

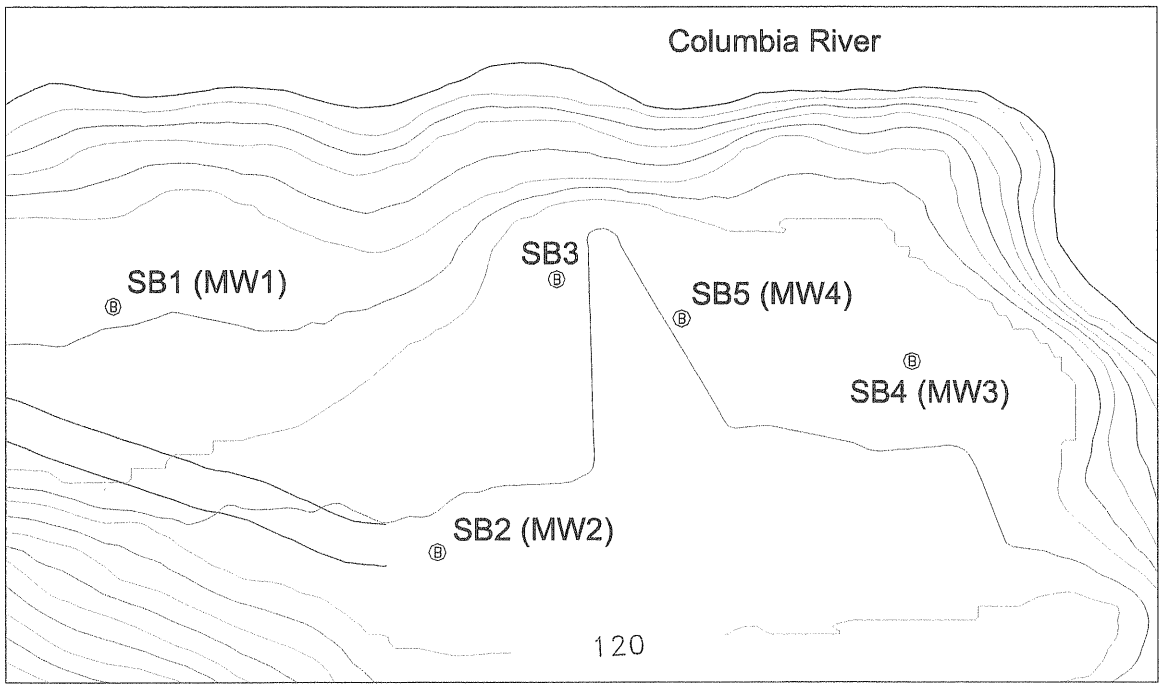
3 PROJECT USCOE Bradford Island Landfill	4 LOCATION Bradford Island Landfill
5 NAME OF DRILLER Steve Hughes	6 MANUFACTURERS DESIGNATION OF DRILL CME 75
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 4.25" ID (9.25 OD) HSA 18" long, 2" OD split spoon sampler 140 lbs with 30-inch drop	8 HOLE LOCATION West end of landfill (723653.80 North) (1632933.91 East)
	9 SURFACE ELEVATION 102.84' (TOC = 105.50')
	10 DATE STARTED 8/17/98 — 11 DATE COMPLETED 8/17/98
12 OVERBURDEN THICKNESS 28'	15 DEPTH GROUNDWATER ENCOUNTERED No Groundwater
13 DEPTH DRILLED INTO ROCK 2' (fractured)	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED No groundwater after >24 hours
14 TOTAL DEPTH OF HOLE 30'	17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18 GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
0	0	0	0

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS/SVOCs	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY
	1	1	PCB – 1	Chlor herbs - 1	TPH - 1	

22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
Well installed		X		

LOCATION SKETCH/COMMENTS:



PROJECT	HOLE NO.
Bradford Island	SB1

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: SB1

PROJECT: Bradford Island

INSPECTOR: Carlotta Cellucci

SHEET 2 OF 3 SHEETS

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
ML ? ? ?	0	Grassy cover underlain by brown sandy silt with gravel (ML) (sand 10%, gravel 30%, fines 60%) loose, dry					Background PID reading = 2.8
	1						
	2						
	3						
	4						
	5	No recovery				40 50	No recovery at 5' drilled to 6' BLS
	6	No recovery (1" slough)	2.7			31 64 72	About 1" of slough in sampler at 6' BLS
ML	7	Dark brown clayey silt (ML) with gravel, moist, firm (gravel 5%, fines 95%) grading, to silty clay (CL) at approximately 7.5' BLS, low plasticity (95% fines, 5% gravel)	2.7			13 13 17	2' of recovery in 2.5' sampler at 7' BLS
CL	8						
	9						
CL	10	Same as above with areas of orange oxidation in spots grading to gray silty clay (CL) with gravel at approximately 11' BLS (95% fines, 5% gravel)	3.1			7 7 7	1.25' of recovery Background PID = 3.1
	11						
	12						
	13						Very hard at 13' BLS
	14						
	15	No recovery				86 120	No recovery
	16						Very hard at 16' BLS
SM	17	Gray silty clayey sand (SM), dry/moist, well graded, (45% fines, 55% sand) possible ash flow	2.7			28 41 60	1.25' recovery

PROJECT: Bradford Island

HOLD NO. SB1

ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: SB1

PROJECT: Bradford Island

INSPECTOR: Carlotta Cellucci

SHEET 3 OF 3 SH

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	18						
	19						
ML	20	Gray gravelly, clayey silt (ML) (20% gravel, 80% fines) low plasticity, very stiff	2.3		8/17/98-BIL-SB1-SS01 (1200)	28 46 60	PID background = 2.3: 2' Recovery in 1st sampler
	21		2.7			19 46 70	3" of Recovery; 2nd sampler at 20'; PID background 2.0
CL	22	Same with increasing clay content (20% gravel, 80% fines) grading at 22.5' to gray silty gravelly clay (CL), low plasticity, moist, very stiff (5% gravel, 95% fines)	2.0			25 48 56	4th sampler hammered at 22' BLS
	23		1.6			28 45 60	Full recovery 5th sampler hammered at 22.5' BLS
	24						1.5' Recovery Background PID = 1.6
	25						
	26						
CL	27	Same as above to contact at approximately 28' with weathered rock/sand stone/ash tuff, well graded angular macrocrystalline (100% sand/crushed rock)	1.6			25 46	1.25' Recovery
Ash tuff	28						
	29	Drilled to 29.5' BLS					
	30						
	31						
	32						
	33						
	34						
	35						

PROJECT: Bradford Island

HOLD NO.: SB1

ENG FORM 5056A-4, AUG 94

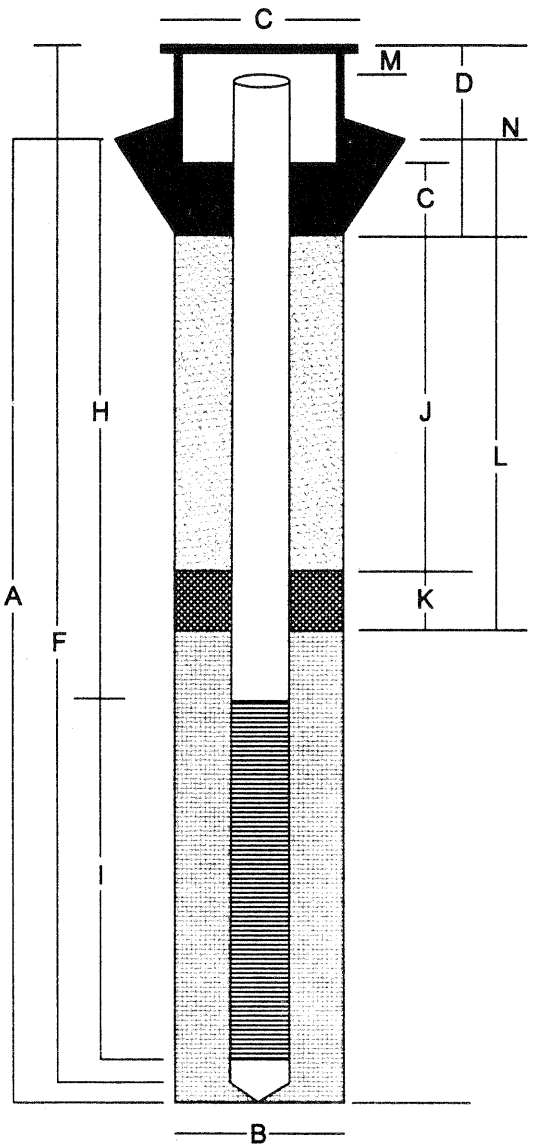
(Proponent: CECW-EG)

Above-ground Monitoring Well Construction Log

Project Name: USCOE BRADFORD ISLAND **Well No.:** MW01 (SB1) **Date:** 8/17/98

Project No: 10022-03 **Drilling Method:** HSA

Geologist: Carlotta Cellucci



A: Total Boring Depth:	30'
B: Boring Diameter:	9.25"
C: Diameter of Protective Casing:	5" ID
D: Length of Protective Casing:	5'
Type of Protective Casing:	Steel mountment
E: Interval of Surface Grout:	0-4'
F: Total Riser Casing Length:	31.4'
Length of Sediment Sump:	1"
Casing Type:	Sch. 80, Flush threaded PVC
G: Inner Diameter:	1.62" (2" OD)
H: Depth to Screen:	20'
I: Screen Length:	10'
Screen Intrval:	20'-30'
Screen / Slot Type:	0.010" Factory slot
J: Depth to Top of Seal:	4'
K: Thickness of Seal:	13'
Type of seal material:	Pure gold medium Bentonite chips
L: Depth to Top of Filter Pack:	17'
Type of Filter Pack:	20/40 Colorado silica sand
M: Top of Casing Elevation:	105.50' above msl
N: Surface Elevation:	102.84' above msl

NOTE: Well was not surged after placement of sand pack, because there was no water in the well.

HTRW DRILLING LOG

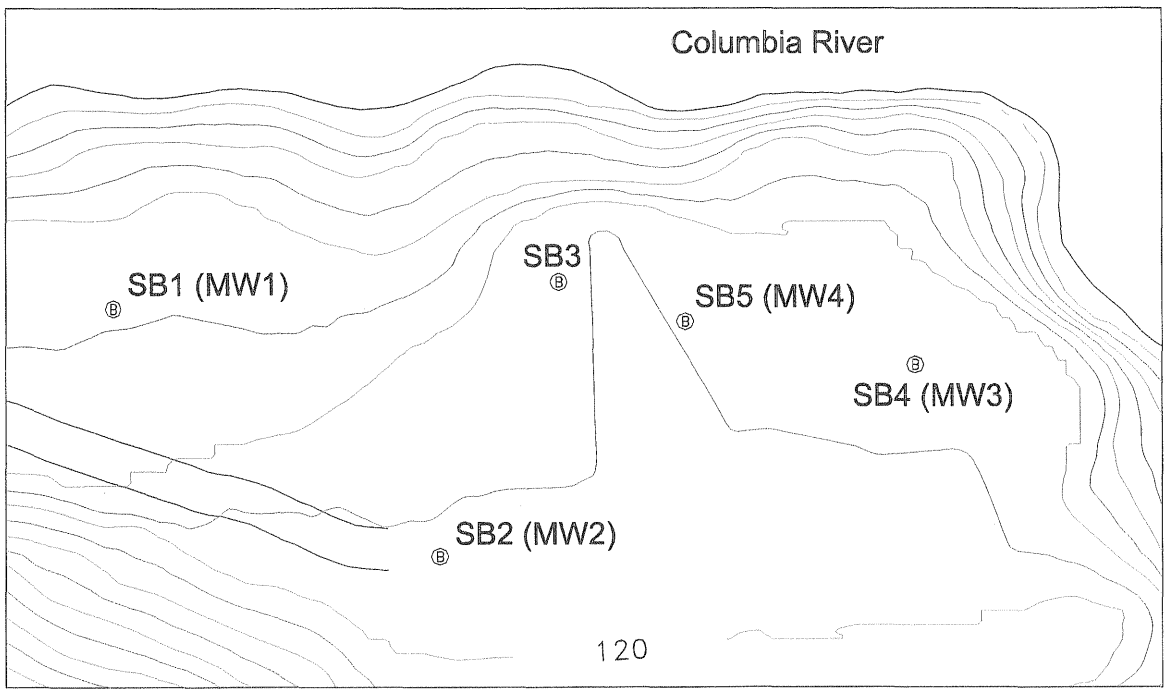
DISTRICT Portland		HOLE NUMBER SB2
1 COMPANY NAME Tetra Tech, Inc.	2 DRILL SUBCONTRACTOR Cascade Drilling	SHEET 1 OF SHEETS 3
3 PROJECT USCOE Bradford Island Landfill	4 LOCATION Bradford Island Landfill	
5 NAME OF DRILLER Steve Hughes	6 MANUFACTURERS DESIGNATION OF DRILL CME 75	
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 4.25" ID (9.25 OD) HSA 18" long, 2" OD split spoon sampler 140 lbs with 30-inch drop	8 HOLE LOCATION Pesticide wash area (723564.81 North) (1633051.27 East)	
	9 SURFACE ELEVATION 114.21' (TOC = 116.56')	
	10 DATE STARTED 8/17/98	11 DATE COMPLETED 8/17/98
12 OVERBURDEN THICKNESS 30'	15 DEPTH GROUNDWATER ENCOUNTERED No Groundwater Encountered/Dry Hole	
13 DEPTH DRILLED INTO ROCK ~2' (weathered)	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 32.32 below TOC after 24 hours	
14 TOTAL DEPTH OF HOLE 32'	17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18 GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
0	--	--	0

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS/SVOCs	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY

22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
		X		

LOCATION SKETCH/COMMENTS:



PROJECT	HOLE NO.
Bradford Island	SB2

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: SB2

PROJECT: Bradford Island

INSPECTOR:

SHEET 2 OF 3 SHEETS

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	0	Grassy cover	2.0				Background PID reading = 2.0
	1						
	2						
	3						
	4						
SM	5	Very dark gray clayey sand (SM) with gravel, well graded, moist (20% fines, 15% gravel, 65% sand), loose-firm.	0.2			28 48 56	Background PID dropped to 0.0 2' of recovery
	6						
CL	7	Contact at 6.5' BLS with brown sandy silty clay with gravel, (CL) (25% sand, 65% fines, 5% gravel) firm, moist, low plasticity					
	8						
	9						
Weathered Basalt	10	Brown sandy clay matrix with basalt fragments to cobble size, some moisture in fractures and between matrix and basalt cobbles. Cobbles are angular to subrounded (10-20% matrix, 80-90% fractured basalt)	0.0			18 26 50	1.5' recovery
	11						
	12						
	13						
	14						
Weathered Basalt	15	Same as above, gray-black fractured basalt in a brown sandy clay matrix. Sand and basalt fragments are angular to subrounded (10-20% matrix, 80-90% fractured basalt)	0.0			23 50	8" recovery
	16						
	17						

PROJECT: Bradford Island

HOLD NO.: SB2

ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	SHEET	SHEETS
SB2	3	3

PROJECT: Bradford Island

INSPECTOR:

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	18						
	19						
CL Weathered rock	20	Brown sandy clay with gravel (CL) (10% gravel, 20% sand, 70% fines) low plasticity, moist, firm to contact at approximately 20.5' with desiccated rock (sand with angular gravel) (5% gravel, 95% sand) moist, well graded, angular, dense (granite or macrocrystalline volcanic)	0.0 0.0			28 50	1.25' recovery
	21						
	22						
	23						
	24						
	25	Gray weathered/desiccated sand stone (ash tuff?), very dense, well graded, moist	0.0			26 50	1' + 3 " slough
	26						
	27						
	28						
	29						
Weathered rock	30	Red rhyolitic cobble underlain by gray sand/sandstone/ash tuff (weathered) well graded sandstone fragments are angular, very dense, moist	0.0			40 50	1' + 3 " slough recovery
	31						
Weathered rock	32	Gray weathered sandstone/ash tuff, fragmented Total Depth = 32'	0.0			50	6" recovery
	33						
	34						
	35						

PROJECT: Bradford Island

HOLD NO.: SB2

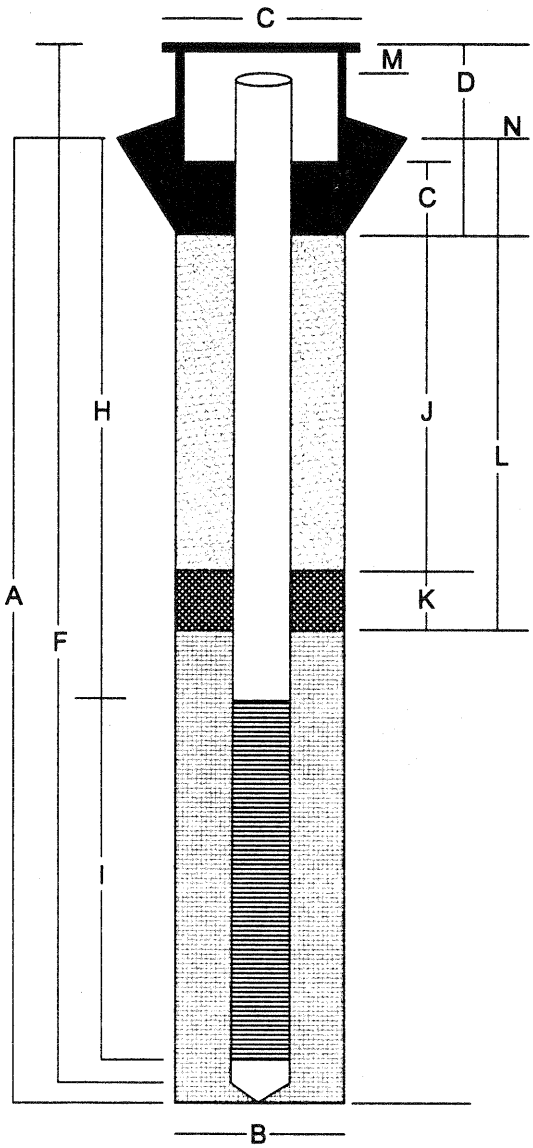
ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

Above-ground Monitoring Well Construction Log

Project Name: USCOE BRADFORD ISLAND **Well No.:** MW02 (SB2) **Date:** 8/17/98

Project No: 10022-03 **Drilling Method:** HSA

Geologist: Carlotta Cellucci



A: Total Boring Depth:	32'
B: Boring Diameter:	9.25"
C: Diameter of Protective Casing:	5" ID
D: Length of Protective Casing:	5'
Type of Protective Casing:	Steel mountment
E: Interval of Surface Grout:	0-4'
F: Total Riser Casing Length:	34.14'
Length of Sediment Sump:	1"
Casing Type:	Sch. 80, Flush threaded PVC
G: Inner Diameter:	1.62" (2" OD)
H: Depth to Screen:	22'
I: Screen Length:	10'
Screen Intrval:	22'-32'
Screen / Slot Type:	0.010" Factory slot
J: Depth to Top of Seal:	4'
K: Thickness of Seal:	16'
Type of seal material:	Pure gold medium Bentonite chips
L: Depth to Top of Filter Pack:	20'
Type of Filter Pack:	20/40 Colorado silica sand
M: Top of Casing Elevation:	116.56' above msl
N: Surface Elevation:	114.21' above msl

NOTE: Well was not surged after placement of sand pack, because there was no water in the well at that time. Well was surged by hand prior to well development.

HTRW DRILLING LOG

DISTRICT Portland		HOLE NUMBER SB4
1 COMPANY NAME Tetra Tech, Inc.	2 DRILL SUBCONTRACTOR Cascade Drilling	SHEET 1 OF SHEETS 3

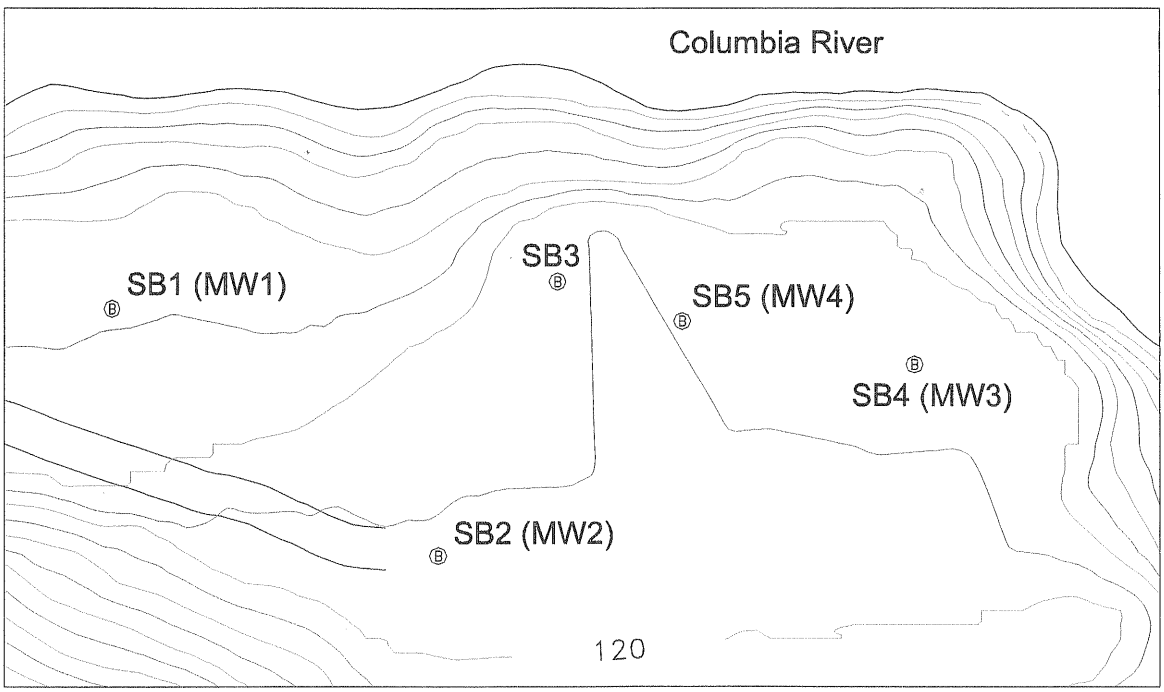
3 PROJECT USCOE Bradford Island Landfill	4 LOCATION Bradford Island Landfill
5 NAME OF DRILLER Steve Hughes	6 MANUFACTURERS DESIGNATION OF DRILL CME 75
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 4.25" ID (9.25 OD) HSA 18" long, 2" OD split spoon sampler 140 lbs with 30-inch drop	8 HOLE LOCATION East end of Landfill (723633.77 north) (1633220.55 east)
	9 SURFACE ELEVATION 112.99' (TOC = 115.22')
	10 DATE STARTED 8/17/98 — 11 DATE COMPLETED 8/17/98
12 OVERBURDEN THICKNESS N/A	15 DEPTH GROUNDWATER ENCOUNTERED Approximately 18'
13 DEPTH DRILLED INTO ROCK Approximately 0.5' (Fractured)	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 17.65 after 20 hours
14 TOTAL DEPTH OF HOLE 21'	17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A

18 GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
0	--	--	0

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS/SVOCs	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY
	1					

22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
		X		

LOCATION SKETCH/COMMENTS:



PROJECT Bradford Island	HOLE NO. SB4

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: SB4

PROJECT: Bradford Island

INSPECTOR: Carlotta Cellucci

SHEET 2 OF 3 SHEETS

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	0	Grassy cover					
	1						
	2						
	3						
	4						
SM	5	Brown silty sand with gravel (SM) (fines 20%, gravel 5%, sand 75%) very dense, dry, well graded	0.0			50	1' of recovery
	6						
	7						
	8						
	9						
SM	10	Same as above with clay (SM) (fines 40%, gravel 5%, sand 55%) very dense, dry to moist, well graded, appears to be weathered basalt (i.e., clayey matrix with basalt/volcanic sand and gravel)	0.0			50	6" of recovery Material packing augers had to pull augers and clean out material.
	11						
	12						
	13						
	14						
	15	No recovery				86 120	No recovery. Material packed auger and bit again at 15' BLS had to pull augers and clean out again. Drilled with center rod and plug
	16						
	17						

PROJECT: Bradford Island

HOLD NO. SB4

ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: SB4

PROJECT: Bradford Island

INSPECTOR: Carlotta Cellucci

SHEET 3 OF 3 SH

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	18						Became wet at approximately 18' BLS
	19						
Weathered rock	20	Brown weathered rock in silty sand matrix (fines 5%, sand 25%, gravel/angular rock 70%) wet, very dense, well graded	0.0		8/17/98-BIL-SB4-SS-01 (1805) VOCs only (Not submitted to the laboratory for analysis)	8 50	1' of recovery in 1st sampler
	21	second sampler driven at 20' BLS = Fractured basalt in a sand matrix with large volume of free water				50	3" of recovery in 2nd sampler
	22	Refusal at 21' BLS (Hard rock)					
	23						
	24						
	25						
	26						
	27						
	28						
	29						
	30						
	31						
	32						
	33						
	34						
	35						

PROJECT: Bradford Island

HOLD NO.: SB4

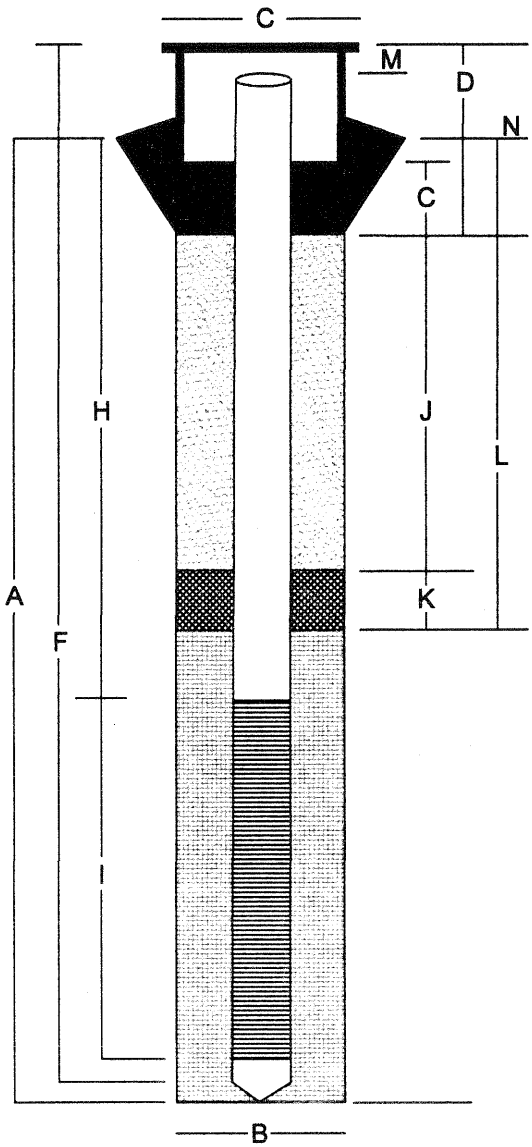
ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

Above-ground Monitoring Well Construction Log

Project Name: USCOE BRADFORD ISLAND **Well No.:** MW03 (SB4) **Date:** 8/17/98

Project No: 10022-03 **Drilling Method:** HSA

Geologist: Carlotta Cellucci



A:	Total Boring Depth:	21'
B:	Boring Diameter:	9.25"
C:	Diameter of Protective Casing:	5" ID
D:	Length of Protective Casing:	5'
	Type of Protective Casing:	Steel mountment
E:	Interval of Surface Grout:	0-3'
F:	Total Riser Casing Length:	22.57'
	Length of Sediment Sump:	1"
	Casing Type:	Sch. 80, Flush threaded PVC
G:	Inner Diameter:	1.62" (2" OD)
H:	Depth to Screen:	11'
I:	Screen Length:	10'
	Screen Intrval:	11'-21'
	Screen / Slot Type:	0.010" Factory slot
J:	Depth to Top of Seal:	3'
K:	Thickness of Seal:	6'
	Type of seal material:	Pure gold medium Bentonite chips
L:	Depth to Top of Filter Pack:	9'
	Type of Filter Pack:	20/40 Colorado silica sand
M:	Top of Casing Elevation:	115.22' above msl
N:	Surface Elevation:	112.99' above msl

NOTE: After placement of sand pack, surged well for 5 minutes, Sand settled 4-inches. Replaced sand and surged again for 5 more minutes; sand did not settle.

HTRW DRILLING LOG

DISTRICT Portland		HOLE NUMBER SB5
1 COMPANY NAME Tetra Tech, Inc.	2 DRILL SUBCONTRACTOR Cascade Drilling	SHEET 1 OF SHEETS 3

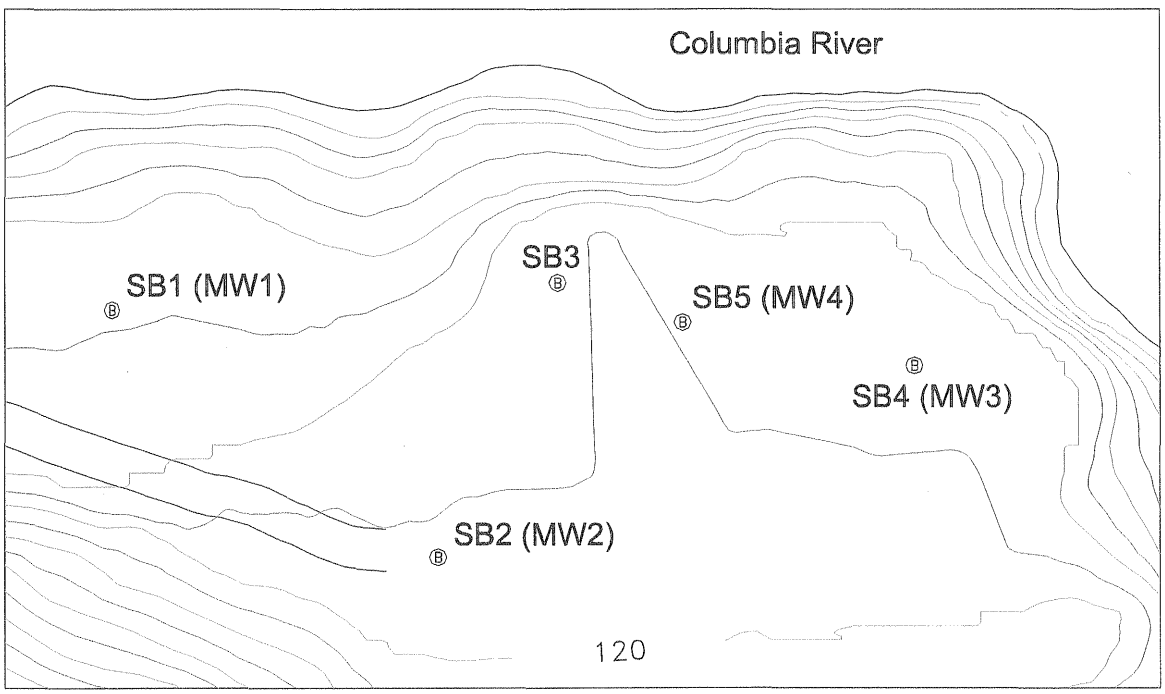
3 PROJECT USCOE Bradford Island Landfill	4 LOCATION Bradford Island Landfill
5 NAME OF DRILLER Steve Hughes	6 MANUFACTURERS DESIGNATION OF DRILL CME 75
7 SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 4.25" ID (9.25 OD) HSA 18" long, 2" OD split spoon sampler 140 lbs with 30-inch drop	8 HOLE LOCATION Northeast area of landfill (723649.42 north) (1633138.74 east)
	9 SURFACE ELEVATION 114.47' (TOC = 114.79')
	10 DATE STARTED 8/18/98 — 11 DATE COMPLETED 8/18/98
12 OVERBURDEN THICKNESS approximately 30'	15 DEPTH GROUNDWATER ENCOUNTERED Between 15-20' BGS
13 DEPTH DRILLED INTO ROCK Decompose <1'	16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 17.25 after 4 hours
14 TOTAL DEPTH OF HOLE 30'	17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A

18 GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
0	--	--	0

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS/SVOCs	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE RECOVERY

22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
		X		

LOCATION SKETCH/COMMENTS:



PROJECT	HOLE NO.
Bradford Island	SB5

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER SB5

PROJECT: Bradford Island

INSPECTOR: Carlotta Cellucci

SHEET 2 OF 3 SHEETS

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	0	Grassy cover					
	1						
	2						
	3						
	4						
SM	5	Brown silty sand with gravel (SM) (fines 25%, gravel 5%, sand 70%) dry to moist, dense, well graded	1.1			11 11 20	6" recovery (2" of which are slough) Background PID <1.1
	6						
	7						
	8						
	9						
SM	10	Mottled black/orange/brown silty sand (SM) with gravel (fines 10%, sand 75%, gravel 15%) moist, dense, well graded	0.4			5 5 5	6" of recovery Background PID = 0.3
	11						
	12						
	13						
	14						
	15	No recovery Sampler wet				3 6 4	No recovery
	16						
	17						

PROJECT: Bradford Island

HOLD NO. SB5

ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER	PROJECT	INSPECTOR	SHEET SHEETS
SB5	Bradford Island	Carlotta Cellucci	3 OF 3

ELEV (a)	DEPTH (FEET) (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO (e)	ANALYTICAL SAMPLE NO. (f)	BLOW COUNT (g)	REMARKS (h)
	18						
	19						
	20	No recovery				50	No recovery Background PID = 0.1
CL	21	Gray gravelly (fractured volcanics) clay (CL) (fines 60%, fractured rock 40%) very stiff, moist-wet, low plasticity	0.1			10 33 50	2.75' recovery
	22						
	23						
	24						
SM	25	Gray gravelly, clayey sand (SM) (gravel 10%, fines 10%, sand 80%) gravel = angular volcanics, sand is volcanic/angular wet, dense, well graded	1.0			50	5" recovery Background PID = 0.8
	26						
	27						
	28						
	29						
Weather-ed Rock	30	Gray decomposed volcanics in a gravelly clay matrix, moist, very dense, well graded, all gravel and rock is angular	0.3			31 50	2' recovery Background PID = 0.3
	31	Total Depth = 30'					
	32						
	33						
	34	**NOTE: A large piece of metal was wrapped around the augers when they were removed from the boring.**					
	35						

PROJECT	HOLD NO.
Bradford Island	SB5

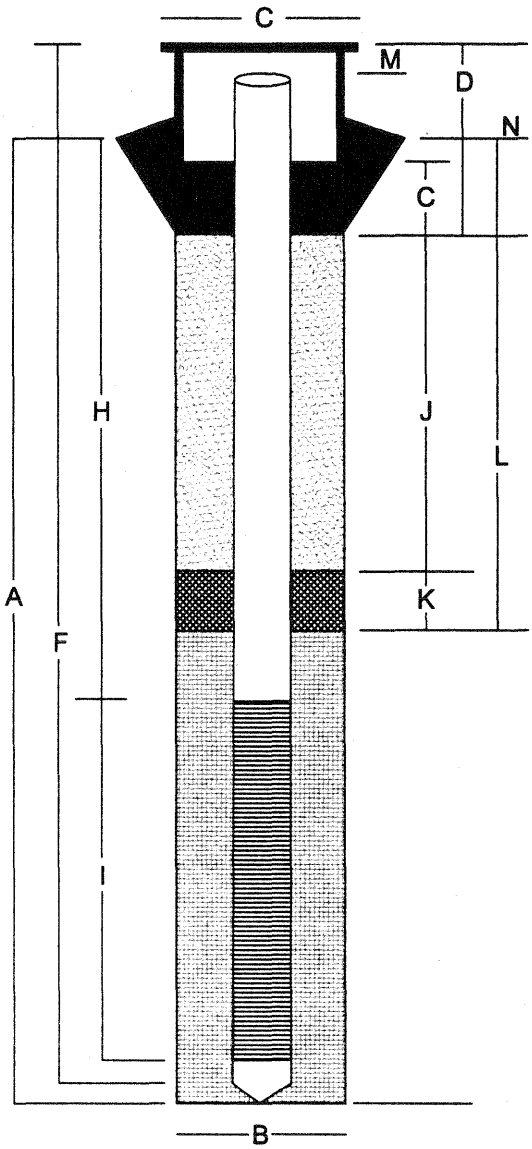
ENG FORM 5056A-4, AUG 94 (Proponent: CECW-EG)

Above-ground Monitoring Well Construction Log

Project Name: USCOE BRADFORD ISLAND **Well No.:** MW04 (SB5) **Date:** 8/18/98

Project No: 10022-03 **Drilling Method:** HSA

Geologist: Carlotta Cellucci



A: Total Boring Depth:	30'
B: Boring Diameter:	9.25"
C: Diameter of Protective Casing:	5"
D: Length of Protective Casing:	5'
Type of Protective Casing:	Steel mountment
E: Interval of Surface Grout:	0-4'
F: Total Riser Casing Length:	31.85'
Length of Sediment Sump:	1"
Casing Type:	Sch. 80, Flush threaded PVC
G: Inner Diameter:	1.62" (2" OD)
H: Depth to Screen:	10'
I: Screen Length:	20'
Screen Intrval:	10'-30'
Screen / Slot Type:	0.010" Factory slot
J: Depth to Top of Seal:	4'
K: Thickness of Seal:	4'
Type of seal material:	Pure gold medium Bentonite chips
L: Depth to Top of Filter Pack:	8'
Type of Filter Pack:	20/40 Colorado silica sand
M: Top of Casing Elevation:	114.79' above msl
N: Surface Elevation:	114.47' above msl

NOTE: After placement of sand pack, surged well for 5 minutes, Sand settled 1' inch. Replaced sand and surged again for 5 more minutes; sand did not settle.

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Key to Log of Boring

Sheet 1 of 1

Elevation feet	Depth, feet	SAMPLES: Type	SAMPLES: Number	SAMPLES: Sampling Resistance, blows / 6 in.	SAMPLES: Recovery, inches	SAMPLES: Headspace PID [FID], ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
1	2	3	4	5	6	7	8	9	10	11	12

COLUMN DESCRIPTIONS

1 **Elevation:** Elevation in feet referenced to mean sea level (MSL) or site datum.

2 **Depth:** Depth in feet below the ground surface.

3 **Sample Type:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.

4 **Sample Number:** Sample identification number.

5 **Sampling Resistance:** Number of blows to advance driven sampler each 6-inch drive interval, or distance noted, using a 140-lb hammer with a 30-inch drop; "NA" indicates data not recorded.

6 **Recovery:** Length in inches of sample actually recovered in driven or pushed sampler; "NA" indicates data not recorded.

7 **Headspace PID/FID:** Photo-ionization/flame ionization device sample headspace reading in parts per million (ppm).

8 **Graphic Log:** Graphic depiction of subsurface material encountered; typical symbols are explained below.

9 **USCS Code:** Unified Soil Classification System (USCS) group symbol code for associated soil strata.

10 **Material Description:** Description of material encountered; may include color, moisture, grain size, and density/consistency.

11 **Well Completion Schematic:** Schematic of piezometer or well installation; materials are listed in header block and alongside well schematic; graphic symbols are explained below.

12 **Field Notes and Well Details:** Comments and observations regarding drilling or sampling made by driller or field personnel. Well construction materials and installation details are also listed in this column.

TYPICAL SOIL GRAPHIC SYMBOLS

- SAND (SP)
- CLAY (CL)
- SILT (ML)
- SANDSTONE
- SAND with silt (SP-SM)
- Plastic CLAY (CH)
- Silty CLAY (CL/ML)
- Rock Fragments / Gravel
- Silty SAND (SM)
- Clayey SAND (SC)
- Silty GRAVEL (GM)
- Non-soil Fill

TYPICAL WELL GRAPHIC SYMBOLS

- Blank well casing in concrete
- Blank well casing in filter sand
- Blank well casing in bentonite-cement slurry
- Slotted well casing in filter sand
- Blank well casing in bentonite chips
- Native backfill or slough

TYPICAL SAMPLER GRAPHIC SYMBOLS

- 2-inch-OD split spoon sampler (SPT)
- 2.5-inch-OD split spoon with brass liners (modified California)
- Thin-walled tube sampler (Shelby tube)

OTHER GRAPHIC SYMBOLS

- First water encountered at time of drilling (ATD)
- Static water level measured in well on specified date
- Change in material properties within a stratum
- Inferred or gradational lithologic contact

GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Report: ENV_12W_CLEVELAND_W/USCS_KEY; File: BRADFORD.GPJ; 1/12/2000 keyowwell

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Log of Boring SB-7 (MW-5)

Sheet 1 of 3

Date(s) Drilled and Installed	**9/29/99 and 9/30/99**	Geologist	**G. Lukert**	Reviewer	
Drilling Method	**Hollow-Stem Auger**	Drilling Contractor	**Cascade Drilling, Inc.**	Total Depth of Borehole	**36.5 feet**
Sampling Method	**Split spoon**	Drill Bit Size/Type	**8-7/8-inch-OD auger bit**	Top of Casing Elevation	**114.07 feet MSL**
Size and Type of Well Casing	**1-7/8-inch-I.D. Schedule 80 PVC**	Screen Perforation	**0.010-inch slot (10-34.5 feet)**	Ground Surface Elevation	**112.36 feet MSL**
Seal or Backfill	**Bentonite-cement slurry 1-6 feet, bentonite chips 6-9 feet**	Location	**North side of landfill**	Coordinates	**N 723,665.69 E 1,633,072.42**

Elevation feet	Depth, feet	SAMPLES Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID [FID], ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
112	0							Surface conditions: brown, silty SAND with rounded cobbles [Fill]		6-3/16-in.-dia. steel casing set in concrete to 1 ft
	1									
110	2									8-7/8-in.-dia. borehole (0-35 ft)
	3									1-7/8-in.-I.D. blank Schedule 80 PVC casing to 10 ft
108	4	01	1-1-1	2	0.0 [0.0]		ML	SILT; dark yellowish brown (10YR 3/4), trace fine sand, slightly micaceous, dry, soft, no odor [FILL]		
	5									Bentonite-Portland cement slurry (1-6 ft)
106	6									
	7									Bentonite chips (6-9 ft)
104	8									
	9	02	7-5-7	0				**No recovery in sampled interval 9-10.5 feet; apparent void space 7.5-10 feet**		20/40 silica sand (9-35 ft)
102	10									
	11									1-7/8-in.-I.D. Schedule 80 PVC screen, 0.010-in. slot (10-35 ft)
100	12									
	13									

Report: ENV_12W_CLEVELAND+/-USCS_2FT/IN; File: BRADFORD.GPJ; 1/12/2000 SB-07

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

Log of Boring SB-7 (MW-5)

Elevation feet	Depth, feet	SAMPLES Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID [FID], ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	13									8-7/8-in.-dia. borehole (0-35 ft)
98	14	03	8-3-4	2	0.0 [0.0]		SM	Silty SAND with gravel; very dark gray (2.5Y 3/1), ~60% sand, ~30% medium plasticity silt, ~10% rounded to subrounded gravel, wet, loose, no odor [FILL]		
	15									20/40 silica sand (9-35 ft)
96	16									
	17									1-7/8-in.-I.D. Schedule 80 PVC screen, 0.010-in. slot (10-35 ft)
94	18									
	19									
92	20	04	10-12-9	2	0.0 [0.0]		SM/ML	Silty SAND to sandy SILT; very dark gray (2.5Y 3/1), slightly micaceous, damp to wet, medium dense, no odor [FILL]		
	21									
90	22									
	23									
88	24	05	4-6-5	4	43 [0.0]		SM	Silty SAND; dark gray (2.5Y 4/1), trace angular volcanic gravel, wood fragments, damp to wet, medium dense		
	25									
86	26									
	27									
84	28									
	29									

Report: ENV_12W_CLEVELAND+/-USCS_2FT/IN; File: BRADFORD.GPJ; 1/12/2000 SB-07

Project: Bradford Island Landfill
Project Location: Bonneville Dam, Oregon
Project Number: 53-F0072173.02

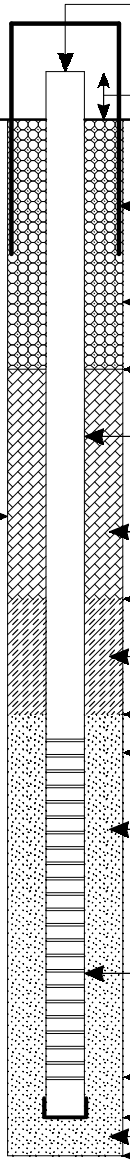
Log of Boring SB-7 (MW-5)

Elevation feet	Depth, feet	SAMPLES Type Number	Sampling Resistance, blows / 6 in.	Recovery, inches	Headspace PID [FID], ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	29									8-7/8-in.-dia. borehole (0-35 ft)
82	30	06	1-2-4	18	375 [0.0]		SC	CLAYEY SAND with silt; dark gray (2.5Y 4/1), ~60% poorly graded sand, ~35% medium plasticity fines, ~5% angular gravel, wet, loose		
	31									20/40 silica sand (9-35 ft)
80	32									
	33									1-7/8-in.-I.D. Schedule 80 PVC screen, 0.010-in. slot (10-35 ft)
78	34									
76	35	07	5-9-14	14	32 [0.0]		[Rock]	Weathered SANDSTONE; very dark gray (2.5Y 3/1), angular volcanic fragments (35.0-35.5 ft), trace clay, damp to wet, medium dense		Native soil (sampled interval)
	36									
	37							**Bottom of boring at 36.5 feet bgs**		
74	38									
	39									
72	40									
	41									
70	42									
	43									
68	44									
	45									

Report: ENV_12W_CLEVELAND+/-USCS_2FT/IN; File: BRADFORD.GPJ; 1/12/2000 SB-07

Project: Bradford Island Landfill **Project Location: Bonneville Dam, Oregon** **Project Number: 53-F0072173.02**	**MONITORING WELL CONSTRUCTION LOG FOR WELL MW-5**

Well Location	**Boring SB-7, north side of landfill**		Date(s) Installed **9/30/99**	Time	**0930**
Installed By	**Cascade Drilling, Inc.**	Observed By	**G. Lukert**	Total Depth	**36.5 feet**
Method of Installation	**Hollow-stem auger**				
Screened Interval	**10 - 35 feet**	Completion Zone	**Unconfined aquifer above slideblock**		
Remarks	**Well installed at coordinate location N 723,665.69 E 1,633,072.42**				



Elevation of Top of Riser Pipe: **114.07 ft MSL**

Height of Riser Above Ground: **1.71 ft**

Ground Elevation: **112.36 ft MSL**

ID/Type of Surface Casing:
6-3/16-inch-dia. steel

Type of Surface Seal:
Concrete

Depth of Surface Seal: **1.0 ft**

ID/Type of Riser Pipe:
1-7/8-inch-I.D. Schedule 80 PVC

Boring Diameter:
8-7/8 inches

Type of Backfill:
Bentonite/Portland cement slurry

Depth of Seal: **6.0 ft**

Type of Seal:
Bentonite chips

Depth of Top of Filter Pack: **9.0 ft**

Depth of Top of Screen: **10.0 ft**

Type of Filter Pack:
20/40 silica sand

ID/Type of Screen:
1-7/8-inch-I.D. Schedule 80 PVC
Screen Slot Size:
0.010-inch

Depth of Bottom of Screen: **34.5 ft**

Depth of Bottom of Plugged Blank Casing: **35.0 ft**

Type/Depth of Backfill/Seal Below Well:
Native soil (sampled interval)

Total Depth of Boring: **36.5 ft**

NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_ABOVE_GROUND; File: BRADFORD.GPJ; 1/8/00

Project: Bradford Island Landfill **Project Location:** Cascade Locks, Oregon **Project Number:** 52-00080001.00	**Log of Boring MW-6** Sheet 1 of 2

Date(s) Drilled	4/22/02	Logged By	CM	Checked By	BM
Drilling Method	Air Rotary	Drill Bit Size/Type		Total Depth of Borehole	35.0 feet
Drill Rig Type		Drilling Contractor	Enviromental West	Approximate Surface Elevation	110.00' MSL
Groundwater Level and Date Measured	16.36 feet [btoc] [4/22/02]	Sampling Method(s)	Split Spoon Sampler	Hammer Data	140 lb. Automatic
Borehole Backfill	Monitoring Well Installed	Location	Bradford Island Landfill		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS
110	0						GW	**COBBLES [GW]**, dark grey, [angular basalt, maximum size 1.0' to 2.0'], [Fill for drill rig pad].		
							ML	**CLAYEY SILT [ML]**, brown, [10YR-4/3], [trace sand], [fines medium plastic], soft, [moist], [Fill/Alluvium].		
105	5									
							SM	**SILTY SAND WITH GRAVEL [SM]**, dark yellowish brown [10YR-4/3], [well graded], [gravel maximum size 1/4", rounded to subrounded], medium dense, [wet to saturated], [Fill/Alluvium].		
100	10		1	20	1.5					
95	15		2	28-6"	0.0					
							CL	**SILTY CLAY [CL]**, black [10YR], [slightly plastic], [wood debris], [slight petroleum odor and sheen], soft, wet to saturated,[Fill/Alluvium].		
90	20		3	25	0.2					
							SM	**SILTY SAND [SM]**, dark greenish grey [Glex 1-3/1], [trace gravel, gravel angular with a maximum size 1" and consists of siltstone], [saturated], [Weathered Slide Block].		
85	25		4	9	0.2					
80	30									

Report: PORT_GEO_WELL_NO_DD; File: BRADISL.GPJ; 12/4/2003 MW-6

URS

Project: Bradford Island Landfill
Project Location: Cascade Locks, Oregon
Project Number: 52-00080001.00

Log of Boring MW-6

Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic		REMARKS
80	30		5	50-5"	.42			**SILTSTONE [SLST]**, dark olive grey [5Y-3/2], [weathered to clays and silts], [fractures], very dense, [moist to wet], [Slide Block].			
75	35							Boring terminated at a depth of 35.0' [bgs] on 4/22/2002 and a monitoring well was installed upon completion.			
70	40										
65	45										
60	50										
55	55										
50	60										
45	65										

Report: PORT_GEO_WELL_NO_DD; File: BRADISL.GPJ; 12/4/2003 MW-6

URS

Project: Bradford Island Landfill **Project Location:** Cascade Locks, Oregon **Project Number:** 52-00080001.00	**Log of Boring MW-7** Sheet 1 of 2

Date(s) Drilled	**4/22/02**	Logged By	**CM**	Checked By	**BM**
Drilling Method	**Air Rotary**	Drill Bit Size/Type		Total Depth of Borehole	**45.5 feet**
Drill Rig Type		Drilling Contractor	**Enviromental West**	Approximate Surface Elevation	**104.24' MSL**
Groundwater Level and Date Measured	**8.96 feet [btoc] [4/22/02]**	Sampling Method(s)	**Split Spoon Sampler**	Hammer Data	**140 lb. Automatic**
Borehole Backfill	**Monitoring Well Installed**	Location	**Bradford Island Landfill**		

Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS
	0						SC	**CLAYEY SAND WITH GRAVEL [SC]**, very dark brown [7.5YR-2.5/2], [well graded sand with angular to rounded grains], loose, [damp to moist], [Fill/Alluvium].		
100	5		1	16	1.5		CL	**SANDY CLAY [CL]**, dark brown [10YR-3/3], [trace gravel], [plastic], [gravel had rounded to subrounded grains], soft, [moist], [Fill/Alluvium].		
95	10		2	80-11"	1.33			*Grades to dark greenish grey, wet to saturated.*		
								More gravel in cuttings, gravel consists of dark grey siltstone clasts, friable.		
90	15		3	50-1"	0.0					
							SC	**CLAYEY SAND [SC]**, dark greenish grey [Glex 1-3/1], [trace silt], [sand rounded to subrounded], [moist to wet], [Weathered Slide Block].		
85	20		4	50-3"	.17			**SILTSTONE [SLST]**, dark greenish grey, [weathered to silts and clays in fractures of rock], [moist to wet], [Slide Block].		
80	25		5	50-2"	.17			*Sand present in cuttings and sampler.*		
								Less sand in cuttings.		
75	30									

Report: PORT_GEO_WELL_NO_DD; File: BRADISL.GPJ; 12/4/2003 MW-7

URS

Project: Bradford Island Landfill
Project Location: Cascade Locks, Oregon
Project Number: 52-00080001.00

Log of Boring MW-7

Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic		REMARKS
	30		6	90-10"	.5		GW	**GRAVELLY SAND [GW]**, dark greyish green [Glex 1-3/2], [trace clay], [gravel consists of siltstone clasts with hard angular basalt], [wet], [Slide Block].			
70								**SILTSTONE [SLST]**, dark greenish grey, [weathered to silts and clays in fractures], [moist to wet], [Slide Block].			
	35		7	50-2"	0.0						
65											
	40		8	50-2"	.083			*Basalt chips in cuttings.*			
60											
	45		9	50-2"	0.0						
								Boring terminated at a depth of 45.5' [bgs] on 04/22/2002 and a monitoing well was installed upon completion.			
55											
	50										
50											
	55										
45											
	60										
40											
	65										

Report: PORT_GEO_WELL_NO_DD; File: BRADISL.GPJ; 12/4/2003 MW-7

URS

Project: Bradford Island Landfill Project Location: Cascade Locks, Oregon Project Number: 52-00080001.00	**Log of Boring MW-8** Sheet 1 of 2

Date(s) Drilled	4/23/02	Logged By	CM	Checked By	BM
Drilling Method	Air Rotary	Drill Bit Size/Type		Total Depth of Borehole	62.0 feet
Drill Rig Type		Drilling Contractor	Enviromental West	Approximate Surface Elevation	112.49' MSL
Groundwater Level and Date Measured	57.78 feet [btoc] [4/22/02]	Sampling Method(s)	Split Spoon Sampler	Hammer Data	140 lb. Automatic
Borehole Backfill	Monitoring Well Installed	Location	Bradford Island Landfill		

Elevation, feet	Depth, feet	SAMPLES: Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS
	0						ML	**CLAYEY SILT [ML]**, dark brownish yellow [10YR-3/4], [trace fine sand], soft, [dry to damp], [Landfill].		
110										
	5						SM	**SILTY SAND WITH GRAVEL [SM]**, dark brownish yellow [10YR-3/4], [gravel maximum size 1/4", rounded], [damp], [Landfill].		
105										
	10									
100										
							CL	**SILTY CLAY [CL]**, black [10YR-2/1], [wood fragments], [slight petroleum sheen and odor], soft, [wet to saturated], [Fill/Alluvium].		
	15									
95										
	20									
90										
							SM	**SILTY SAND [SM]**, dark greenish grey [Glex 1-3/1], [trace gravel, angular, maximum size 1"], [saturated], [Weathered Slide Block].		
	25									
85										
							SC	**CLAYEY SAND WITH SILT [SC]**, dark greenish grey [Glex 1-3/1], [fines medium plastic], [wet to saturated], [Weathered Slide Block].		
	30									

Report: PORT_GEO_WELL_NO_DD; File: BRADISL.GPJ; 12/4/2003 MW-8

URS

Project: Bradford Island Landfill
Project Location: Cascade Locks, Oregon
Project Number: 52-00080001.00

Log of Boring MW-8

Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS
	30									
80								**SILTSTONE [SLST]**, dark olive grey [5Y-3/2], [weathered to clays and silts], very dense, [moist to wet], [Slide Block].		
	35									Begin Coring
			1		1.5		GP	**GRAVEL**[GP], grey, [hard rounded to subrounded gravels of basalt maximum size 1/2"].		
75								**CONGLOMERATE**, grey, [clasts consists of hard angular to rounded basalt up to 1.0'], [matrix consists of a plastic sandy to silty clay], [Slide Block].		
	40									
			2		2.0					
70										
	45									End Coring due to poor recovery
65										
	50									
60										Resume Coring
	55							*Chloritic alteration in basalt vesicles.*		
55									▽	
	60									
50								Boring terminated at a depth of 62.0' [bgs] on 04/23/2002 and a monitoring well was installed upon completion.		
	65									

Report: PORT_GEO_WELL_NO_DD; File: BRADISL.GPJ; 12/4/2003 MW-8

URS

Project: Bradford Island Landfill **Project Location:** Cascade Locks, Oregon **Project Number:** 52-00080001.00	**Log of Boring MW-9** Sheet 1 of 1

Date(s) Drilled	4/23/02	Logged By	CM	Checked By	BM
Drilling Method	Air Rotary	Drill Bit Size/Type		Total Depth of Borehole	18.0 feet
Drill Rig Type		Drilling Contractor	Enviromental West	Approximate Surface Elevation	112.18' MSL
Groundwater Level and Date Measured	14.97 feet [btoc] [05/01/02	Sampling Method(s)	Split Spoon Sampler	Hammer Data	140 lb. Automatic
Borehole Backfill	Monitoring Well Installed	Location	Bradford Island Landfill		

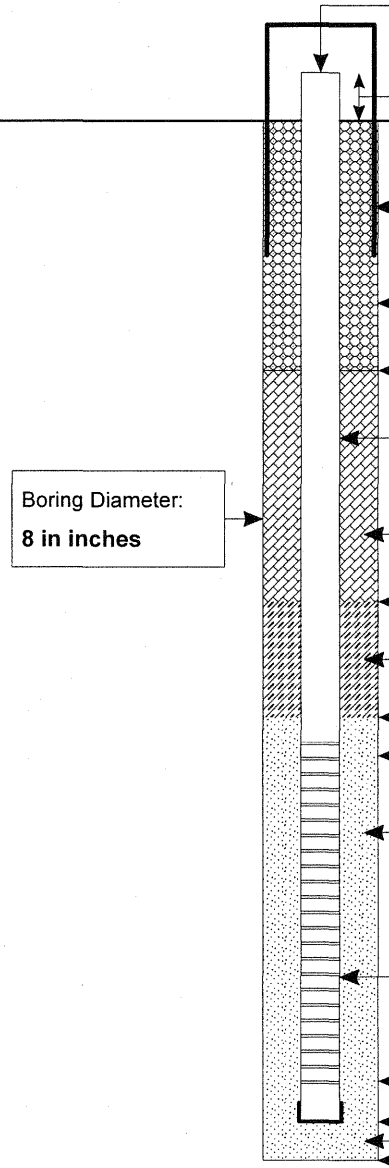
Elevation, feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	REMARKS
	0						GW	**WELL GRADED GRAVEL [GW]**, dark grey, some cobbles, 1-2' in diameter, angular basalt, [Fill for Drilling Pad].		
110										
	5						SC	**CLAYEY SAND WITH SILT [SC]**, dark yellowish-brown, [10YR-3/4], well graded, [rounded to sub-rounded], [wood debris], loose, [moist], [Fill/Alluvium].		
105										
	10	◪	1	50/6"	.25		SM	**SILTY SAND [SM]**, yellowish-brown, [10YR-5/4], [medium coarse sand, rounded to sub-rounded], [saturated], [Fill/Alluvium].		
100										
	15		2	50/0"	0			**SILTSTONE [SLST]**, dark olive grey [5Y-3/2], [weathered to clays and silts in fractures], very dense, [wet to saturated], [Slide Block]. ▽		
95										
								Boring terminated at a depth of 18.0' [bgs] on 04/23/2002 and a monitoring well was installed upon completion.		
	20									
90										
	25									
85										
	30									

Report: PORT_GEO_WELL_NO_DD; File: BRADISL.GPJ; 12/4/2003 MW-9

URS

Project: Bradford Island Landfill **Project Location: Cascade Locks, Oregon** **Project Number: 52-00080001.00**	**MONITORING WELL CONSTRUCTION LOG FOR WELL MW-6**

Well Location	**Bradford Island**		Date(s) Installed **4/22/2002**	Time	
Installed By	**CM**	Observed By	**CM**	Total Depth	**35.0 feet**
Method of Installation	**Air Rotary**				
Screened Interval	**25-30 ft bgs**	Completion Zone	**24-31 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **113.02**

Height of Riser Above Ground: **3.02 ft**

Ground Elevation: **110.00 ft MSL**

ID/Type of Surface Casing: **6 in Steel**

Type of Surface Seal: **Concrete**

Depth of Surface Seal: **1.0 ft**

ID/Type of Riser Pipe: **2 in Sch. 40 PVC**

Boring Diameter: **8 in inches**

Type of Backfill: **Bentonite Grout**

Depth of Seal: **14.0 ft**

Type of Seal: **Bentonite Chips**

Depth of Top of Filter Pack: **24.0 ft**

Depth of Top of Screen: **25.0 ft**

Type of Filter Pack: **20/40 Silica Sand**

ID/Type of Screen: **2 in Sch. 40 PVC**
Screen Slot Size: **0.010 in**

Depth of Bottom of Screen: **30.0 ft**

Depth of Bottom of Plugged Blank Casing: **30.0 ft**

Type/Depth of Backfill/Seal Below Well: **Bentonite Chips/5 ft**

Total Depth of Boring: **35.0 ft**

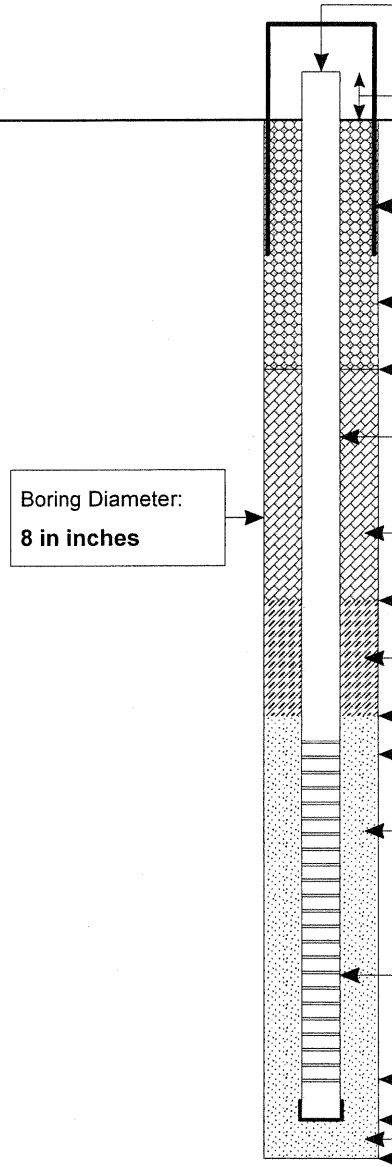
NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_ABOVE_GROUND; File: BRADISL.GPJ; 8/14/2002 MW-6

URS

Project: Bradford Island Landfill Project Location: Cascade Locks, Oregon Project Number: 52-00080001.00	MONITORING WELL CONSTRUCTION LOG FOR WELL MW-7

Well Location	**Bradford Island**		Date(s) Installed **4/22/2002**	Time	
Installed By	**CM**	Observed By	**CM**	Total Depth	**45.5 feet**
Method of Installation	**Air Rotary**				
Screened Interval	**5-30 ft bgs**	Completion Zone	**3-32 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **106.92**

Height of Riser Above Ground: **2.68 ft**

Ground Elevation: **104.24 ft MSL**

ID/Type of Surface Casing:
6 in Steel

Type of Surface Seal:
Concrete

Depth of Surface Seal: **1.0 ft**

ID/Type of Riser Pipe:
2 in Sch. 40 PVC

Boring Diameter:
8 in inches

Type of Backfill:
Bentonite Grout

Depth of Seal: **3.0 ft**

Type of Seal:
Bentonite Chips

Depth of Top of Filter Pack: **3.0 ft**

Depth of Top of Screen: **5.0 ft**

Type of Filter Pack:
20/40 Silica Sand

ID/Type of Screen:
2 in Sch. 40 PVC
Screen Slot Size:
0.010 in

Depth of Bottom of Screen: **30.0 ft**

Depth of Bottom of Plugged Blank Casing: **30.0 ft**

Type/Depth of Backfill/Seal Below Well:
Bentonite Chips/15.5 ft

Total Depth of Boring: **45.5 ft**

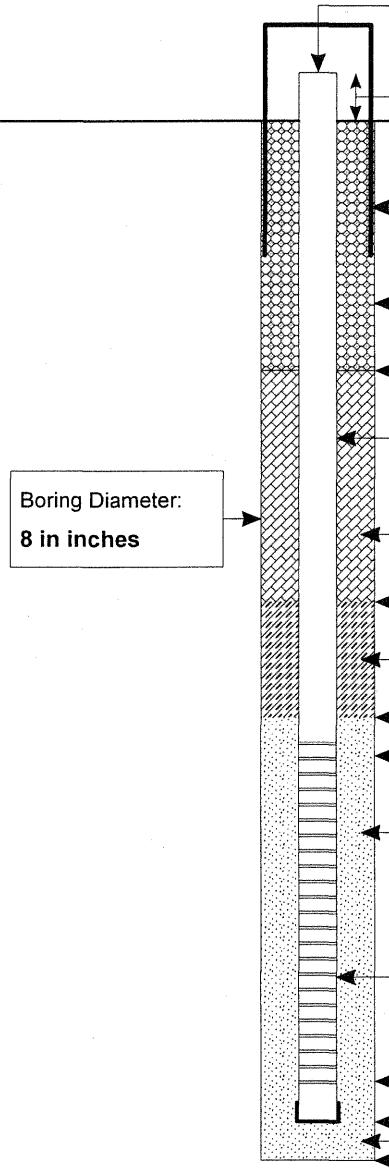
NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_ABOVE_GROUND; File: BRADISL.GPJ; 8/14/2002 MW-7

URS

Project: Bradford Island Landfill Project Location: Cascade Locks, Oregon Project Number: 52-00080001.00	MONITORING WELL CONSTRUCTION LOG FOR WELL MW-8

Well Location	**Bradford Island**		Date(s) Installed **4/23/2002**	Time	
Installed By	**CM**	Observed By	**CM**	Total Depth	**62.0 feet**
Method of Installation	**Air Rotary**				
Screened Interval	**53-58 ft bgs**	Completion Zone	**50-58 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **115.29**

Height of Riser Above Ground: **2.80 ft**

Ground Elevation: **112.49 ft MSL**

ID/Type of Surface Casing:
6 in Steel

Type of Surface Seal:
Concrete

Depth of Surface Seal: **1.0 ft**

ID/Type of Riser Pipe:
2 in Sch. 40 PVC

Boring Diameter:
8 in inches

Type of Backfill:
Bentonite Grout

Depth of Seal: **45.0 ft**

Type of Seal:
Bentonite Chips

Depth of Top of Filter Pack: **50.0 ft**

Depth of Top of Screen: **53.0 ft**

Type of Filter Pack:
20/40 Silica Sand

ID/Type of Screen:
2 in Sch. 40 PVC
Screen Slot Size:
0.010 in

Depth of Bottom of Screen: **58.0 ft**

Depth of Bottom of Plugged Blank Casing: **58.0 ft**

Type/Depth of Backfill/Seal Below Well:
Bentonite Chips/58-62 ft

Total Depth of Boring: **62.0 ft**

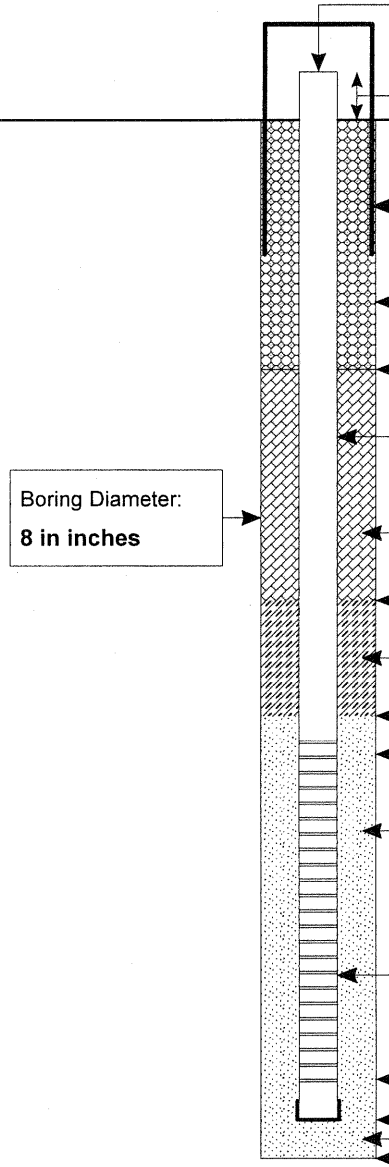
NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_ABOVE_GROUND; File: BRADISL.GPJ; 8/14/2002 MW-8

URS

Project: Bradford Island Landfill Project Location: Cascade Locks, Oregon Project Number: 52-00080001.00	MONITORING WELL CONSTRUCTION LOG FOR WELL MW-9

Well Location	**Bradford Island**			Date(s) Installed **4/23/2002**	Time
Installed By	**CM**	Observed By	**CM**	Total Depth	**18.0 feet**
Method of Installation	**Air Rotary**				
Screened Interval	**10-15 ft bgs**	Completion Zone	**9-16 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **115.16**

Height of Riser Above Ground: **2.98 ft**

Ground Elevation: **112.18 ft MSL**

ID/Type of Surface Casing:
6 in Steel

Type of Surface Seal:
Concrete

Depth of Surface Seal: **1.0 ft**

ID/Type of Riser Pipe:
2 in Sch. 40 PVC

Boring Diameter:
8 in inches

Type of Backfill:
Bentonite Grout

Depth of Seal: **7.0 ft**

Type of Seal:
Bentonite Chips

Depth of Top of Filter Pack: **9.0 ft**

Depth of Top of Screen: **10.0 ft**

Type of Filter Pack:
20/40 Silica Sand

ID/Type of Screen:
2 in Sch. 40 PVC
Screen Slot Size:
0.010 in

Depth of Bottom of Screen: **15.0 ft**

Depth of Bottom of Plugged Blank Casing: **15.0 ft**

Type/Depth of Backfill/Seal Below Well:
Bentonite Chips/15-18 ft bgs

Total Depth of Boring: **18.0 ft**

NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_ABOVE_GROUND; File: BRADISL.GPJ; 8/14/2002 MW-9

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-10

Sheet 1 of 2

Date(s) Drilled and Installed	**4/3 - 4/5/2008**	Geologist	**MC**	Reviewer	**NM**
Drilling Method	**Sonic**	Drilling Contractor	**Boart Longyear**	Total Depth of Borehole	**57.6 ft. [bgs]**
Sampling Method	**Continuous Core**	Drill Bit Size/Type	**4 in. core with 6 in. casing**	Approximate Surface Elevation	**129.28 ft. MSL**
Drill Rig Type	**Prosonic Spider**	Groundwater Level(s)	**16.53 ft. [bgs] [4/16/08]**	Hammer Data	**n/a**
Borehole Backfill	**Monitoring Well Installed**	Comments	**MSL: mean sea level, bgs: below ground surface**	Location	**Bradford Island Reference Area**

Elevation feet	Depth, feet	SAMPLES Type	Number		Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	0								**Basalt BOULDER**, dark grey, dry, hard, fresh.		Stickup Monument; Concrete; 2" Schedule PVC Riser
			1		4			SM	**Silty SAND with Gravel [SM]**, brown to orange-brown, moist, loose, well-graded sand with root fragments. Moderate plasticity fines. Subrounded gravel with some hard, angular clasts, few cobbles. [Colluvium]		
	5					0.0			*Light yellow-brown, no root fragments.*		
			2		6			ML	**Sandy SILT with Gravel [ML]**, brown, medium stiff, moist, low plasticity fines. Poorly-graded fine sand. Rounded gravel with few hard, angular clasts. [Colluvium]		
	10					0.0			*Dark olive-brown, stiff, moderately plastic fines with yellow-brown, loose coarse-grained sand.*		
	15		3		10	0.2			*Increasingly fine, angular gravel, moist to wet.*		Baroid Hole Plug 3/8" Bentonite Chips [hydrated]
									Basalt BOULDER, dark grey, moist, hard, fresh.		
	20					0.0			**SILTSTONE**, greenish-grey, dry, dense, friable, moderately weathered to soft silt and clay with irregularly-spaced 1/8-in [chloritic] laminae . Fine-grained matrix with rock texture. Trace fine, angular gravel-sized basalt clasts. [Weathered Slide Block]		
	25		4		10	0.3			*Dry to moist.*		
	30										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-10

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-10

Elevation feet	Depth, feet	SAMPLES Type	Number		Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	30					0.2			*Increased [chloritic] alteration throughout.*		
	35		5		10	0.3			*As above, with dark brown moderate plasticity clay laminae, up to 1/2", increasingly soft.*		
								CL	**Sandy CLAY with Gravel [CL]**, dark brown-black, wet, soft, low plasticity. Trace subangular gravel. [Weathered Slide Block]		
	40					0.6			**SILTSTONE**, dark greenish-grey, moist to wet, dense, slightly weathered to stiff silt and clay with irregularly-spaced 1/8-in [chloritic] laminae. Fine-grained matrix with rock texture. Trace fine, angular gravel-sized basalt clasts. [Slide Block]		
			6		6						Oglebay Norton 10-20 Silica Sand
	45					0.0			*Wet.*		
									Basalt BOULDER, dark grey, moist, hard, fresh.		0.010 in. - Slot Schedule 40 PVC screen
			7		4						
	50					0.1			**SILTSTONE**, dark greenish-grey, moist to wet, dense, fresh with irregularly-spaced 1/8-in [chloritic] laminae. Trace fine, angular basalt gravel clasts partially weathered to silty sand. [Slide Block]		
			8		7.6						
	55										Schedule 40 PVC Sump
									Boring terminated at a depth of 57.6' [bgs] on 4/5/2008 and a monitoring well was installed upon completion.		
	60										
	65										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-10

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-11

Sheet 1 of 2

Date(s) Drilled and Installed	**4/3/2008**	Geologist	**MC**	Reviewer	**NM**
Drilling Method	**Sonic**	Drilling Contractor	**Boart Longyear**	Total Depth of Borehole	**37.0 ft. [bgs]**
Sampling Method	**Continuous Core**	Drill Bit Size/Type	**4 in. core with 6 in. casing**	Approximete Surface Elevation	**99.45 ft. MSL**
Drill Rig Type	**Prosonic Truck Mount**	Groundwater Level(s)	**7.74 ft. [bgs] [4/15/08]**	Hammer Data	**n/a**
Borehole Backfill	**Monitoring Well Installed**	Comments	**MSL: mean sea level, bgs: below ground surface**	Location	**Bradford Island Sandblast Area**

Elevation feet	Depth, feet	SAMPLES Type	Number		Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	0							GM	**Asphalt**		Flush to Grade Monument
									Silty GRAVEL [GM], dark brown, dry, rounded, well-graded gravel with few cobbles. Low plasticity, hard silt. [Colluvium]		Concrete
			1		7			SM	**Silty SAND with Gravel [SM]**, brown to yellow-brown, dry to moist, low plasticity medium stiff fines. Rounded to subangular, well-graded gravel with some cobbles. [Colluvium]		
									Trace gravel, no cobbles.		
	5					0.2					2" Schedule PVC Riser
								MH	**Clayey SILT with Gravel [MH]**, orange-brown, moist, high plasticity hard fines with thinly laminated 1/8" orange-brown and yellow-brown zones. Rounded well-graded gravel with some cobbles and oxidized zones surrounding some clasts. [Colluvium]		
	10		2		5	1.2			*Fewer cobbles.*		
			3		3			ML	**Clayey SILT with Gravel [ML]**, grey, moist, hard low plasticity fines. Rounded to subrounded gravel with some cobbles and trace well graded sand. [Weathered Slide Block]		
	15					0.3					Baroid Hole Plug 3/8" Bentonite Chips [hydrated]
			4		2				*Increasing sand, decreasing clay.*		
									Basalt BOULDER, dark grey, dry, hard and fresh.		
	20		5		6	0.1		ML	**Sandy SILT with Gravel [ML]**, grey, moist, stiff low plasticity fines. Poorly graded medium to fine-grained sand. Rounded gravel with few cobbles. [Weathered Slide Block]		
	25		6		4	0.2			*Wet.*		Oglebay Norton 10-20 Silica Sand; 0.010 in. - Slot Schedule 40 PVC screen
	30										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-11

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-11

Elevation feet	Depth, feet	SAMPLES Type	Number		Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	30		7		7	0.4			*Increasing low plasticity clay, decreasing sand.*		
	35		8		3	0.0					Schedule 40 PVC Sump
									Boring terminated at a depth of 37' [bgs] on 4/3/2008 and a monitoring well was installed upon completion.		
	40										
	45										
	50										
	55										
	60										
	65										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-11

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-12

Sheet 1 of 1

Date(s) Drilled and Installed	**3/26/2008**	Geologist	**MC**	Reviewer	**NM**
Drilling Method	**Hollow Stem Auger [HSA]**	Drilling Contractor	**Boart Longyear**	Total Depth of Borehole	**26.5 ft. [bgs]**
Sampling Method	**Split Spoon Sampler**	Drill Bit Size/Type	**6 5/8 in. I.D. HSA with center bit**	Approximete Surface Elevation	**96.93 ft. MSL**
Drill Rig Type	**CME-75 HT**	Groundwater Level(s)	**24.08 ft. [bgs] [4/15/08]**	Hammer Data	**140 lb. , 30 in. drop automatic hammer**
Borehole Backfill	**Monitoring Well Installed**	Comments	**MSL: mean sea level, bgs: below ground surface**	Location	**Bradford Island Sandblast Area**

Elevation feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	0							GW	**Sandy GRAVEL with Silt [GW]**, grey-brown, dry to moist, subrounded to rounded well-graded gravel. Loose fine sand. Low plasticity silt. [Colluvium]		Stickup Monument; Concrete; 2" Schedule PVC Riser
	5		1	61/3 in.	.5	0.2		ML	**Gravelly SILT with Sand [ML]**, brown to orange-brown, moist, low plasticity, stiff silt. Rounded to subrounded, well-graded gravel with some cobbles. Loose fine sand. [Colluvium] *Trace low plasticity clay.*		Steel cable in auger cuttings from 4' to 5' bgs.
	10		2	10	NR	NS					Baroid Hole Plug 3/8" Bentonite Chips [hydrated]
	15		3	39	0.3	0.4		CL	**Silty CLAY [CL]**, grey-brown, moist, low plasticity hard fines. Some rounded gravel and cobbles. [Colluvium]		Oglebay Norton 10-20 Silica Sand; 0.010 in. - Slot Schedule 40 PVC screen
	20		4	22	0.5	0.5		CL	**Silty CLAY [CL]**, dark grey, moist, low plasticity, stiff fines. Little subangular to subrounded gravel. [Weathered Slide Block]		
								ML	**Sandy SILT [ML]**, grey-green with yellow and grey mottling, moist, low plasticity, very stiff silt. Loose fine sand. Some angular gravel. [Weathered Slide Block] *Wet.*		
	25		5	61/8 in.	0.3	0.2			**SILTSTONE**, dark grey, wet, slightly weathered to low plasticity silt and clay in fractures. Fine grained matrix with some subrounded to subangular gravel clasts. [Slide Block]		Schedule 40 PVC Sump
	30								Boring terminated at a depth of 26.3' [bgs] due to auger refusal on 3/26/2008 and a monitoring well was installed upon completion.		

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-12

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-13

Sheet 1 of 2

Date(s) Drilled and Installed	**4/2/2008**	Geologist	**MC**	Reviewer	**NM**
Drilling Method	**Sonic**	Drilling Contractor	**Boart Longyear**	Total Depth of Borehole	**37.0 ft. [bgs]**
Sampling Method	**Continuous Core**	Drill Bit Size/Type	**4 in. core with 6 in. casing**	Approximete Surface Elevation	**97.82 ft. MSL**
Drill Rig Type	**Prosonic Truck Mount**	Groundwater Level(s)	**16.62 ft. [bgs] [4/14/08]**	Hammer Data	**n/a**
Borehole Backfill	**Monitoring Well Installed**	Comments	**MSL: mean sea level, bgs: below ground surface**	Location	**Bradford Island Sandblast Area**

Elevation feet	Depth, feet	SAMPLES Type	Number		Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	0							GM	**Asphalt**		Flush to Grade Monument
									Silty GRAVEL [GM], brown, dry to moist, rounded, well-graded gravel with some cobbles. Matrix consists of low plasticity stiff, silt with trace loose fine sand. [Colluvium]		Concrete
											2" Schedule PVC Riser
			1		7						
									Decreasing sand, increasing low plasticity clay, increasingly angular gravel.		
	5					0.6		ML	**Clayey SILT with Gravel [ML]**, mottled grey, brown, and greenish-grey, moist, low plasticity, medium stiff fines. Subangular to subrounded gravel with some cobbles. Fractures in matrix are filled with yellow-brown, low plasticity clay. [Weathered Slide Block]		
	10					0.0			*Brown, subrounded to rounded gravel, green low plasticity clay on fracture surfaces.*		
			2		9						
								ML	**Gravelly SILT with Sand [ML]**, brown fines with yellow-orange sand, dry, low plasticity, hard fines. Subangular to subrounded gravel with some rounded cobbles. Loose, poorly graded, medium-fine sand. [Weathered Slide Block]		
	15					0.3					Baroid Hole Plug 3/8" Bentonite Chips [hydrated]
			3		5						
	20					0.6		ML	**Sandy SILT with Gravel [ML]**, grey to dark greenish grey, moist, low plasticity medium stiff silt. Loose, poorly graded fine sand. Subrounded to rounded gravel with some cobbles. [Weathered Slide Block]		
			4		5						
	25					0.5					Oglebay Norton 10-20 Silica Sand
									Wet.		0.010 in. - Slot Schedule 40 PVC screen
	30										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-13

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-13

Elevation feet	Depth, feet	SAMPLES Type	Number		Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	30		5		11	0.4			*As above.*		
	35					0.5					Schedule 40 PVC Sump
									Boring terminated at a depth of 37' [bgs] on 4/2/2008 and a monitoring well was installed upon completion.		
	40										
	45										
	50										
	55										
	60										
	65										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-13

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-14

Sheet 1 of 1

Date(s) Drilled and Installed	**3/25/2008**	Geologist	**MC**	Reviewer	**NM**
Drilling Method	**Hollow Stem Auger [HSA]**	Drilling Contractor	**Boart Longyear**	Total Depth of Borehole	**24.0 ft. [bgs]**
Sampling Method	**Split Spoon Sampler**	Drill Bit Size/Type	**6 5/8 in. I.D. HSA with center bit**	Approximate Surface Elevation	**86.84 ft. MSL**
Drill Rig Type	**CME-75 HT**	Groundwater Level(s)	**13.11 ft. [bgs] [4/14/08]**	Hammer Data	**140 lb. , 30 in. drop automatic hammer**
Borehole Backfill	**Monitoring Well Installed**	Comments	**MSL: mean sea level, bgs: below ground surface**	Location	**Bradford Island Sandblast Area**

Elevation feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	0					33.2		GW	**Asphalt** **Sandy GRAVEL with Silt [GW]**, grey-brown, dry to moist, subrounded to rounded well-graded gravel with some cobbles. Matrix consists of loose fine sand and nonplastic silt. Slight solvent odor. [Colluvium]		Flush to Grade Monument Concrete Collected bag headspace sample from auger cuttings @ 2' due to odor.
	5		1	13	.8	17.6		GM	**Silty GRAVEL with Clay [GM]**, grey-brown, dry to moist, subrounded, well graded gravel with some cobbles. Low plasticity stiff fines. Slight solvent odor. [Colluvium] *No odor @ 6 ft.*		2" Schedule PVC Riser Baroid Hole Plug 3/8" Bentonite Chips [hydrated]
	10		2	5	.3	14.1		CL	**Silty CLAY with Gravel [CL]**, mottled yellow, grey, and brown, moist, low plasticity, medium stiff fines. Subrounded, well graded gravel. [Colluvium] *Wet.*		Oglebay Norton 10-20 Silica Sand 0.010 in. - Slot Schedule 40 PVC screen
	15		3	13	.5	1.0			**SILTSTONE**, greenish-grey, wet, slightly weathered to low plasticity silt and clay. Fine-grained matrix with rock texture and some subrounded to subangular gravel-sized clasts. [Slide Block]		
	20		4	7	.6	1.6		GW	**Sandy GRAVEL [GW]**, greenish-grey, wet, subrounded, well graded gravel with loose coarse sand. [Slide Block]		
									SILTSTONE, greenish-grey, wet, moderately weathered to low plasticity, stiff silt and clay. Fine-grained matrix with rock texture and some subrounded to subangular gravel-sized clasts. [Slide Block]		Schedule 40 PVC Sump
	25								Boring terminated at a depth of 24' [bgs] on 3/25/2008 and a monitoring well was installed upon completion.		
	30										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-14

URS

Project: Bradford Island
Project Location: Bonneville Dam, Oregon
Project Number: 25696679

Log of Boring MW-15

Sheet 1 of 1

Date(s) Drilled and Installed	**3/24/2008**	Geologist	**MC**	Reviewer	**NM**
Drilling Method	**Hollow Stem Auger [HSA]**	Drilling Contractor	**Boart Longyear**	Total Depth of Borehole	**22.9 ft. [bgs]**
Sampling Method	**Split Spoon Sampler**	Drill Bit Size/Type	**6 5/8 in. I.D. HSA with center bit**	Approximate Surface Elevation	**87.09 ft. MSL**
Drill Rig Type	**CME-75 HT**	Groundwater Level(s)	**13.28 ft. [bgs] [4/14/08]**	Hammer Data	**140 lb. , 30 in. drop automatic hammer**
Borehole Backfill	**Monitoring Well Installed**	Comments	**MSL: mean sea level, bgs: below ground surface**	Location	**Bradford Island Sandblast Area**

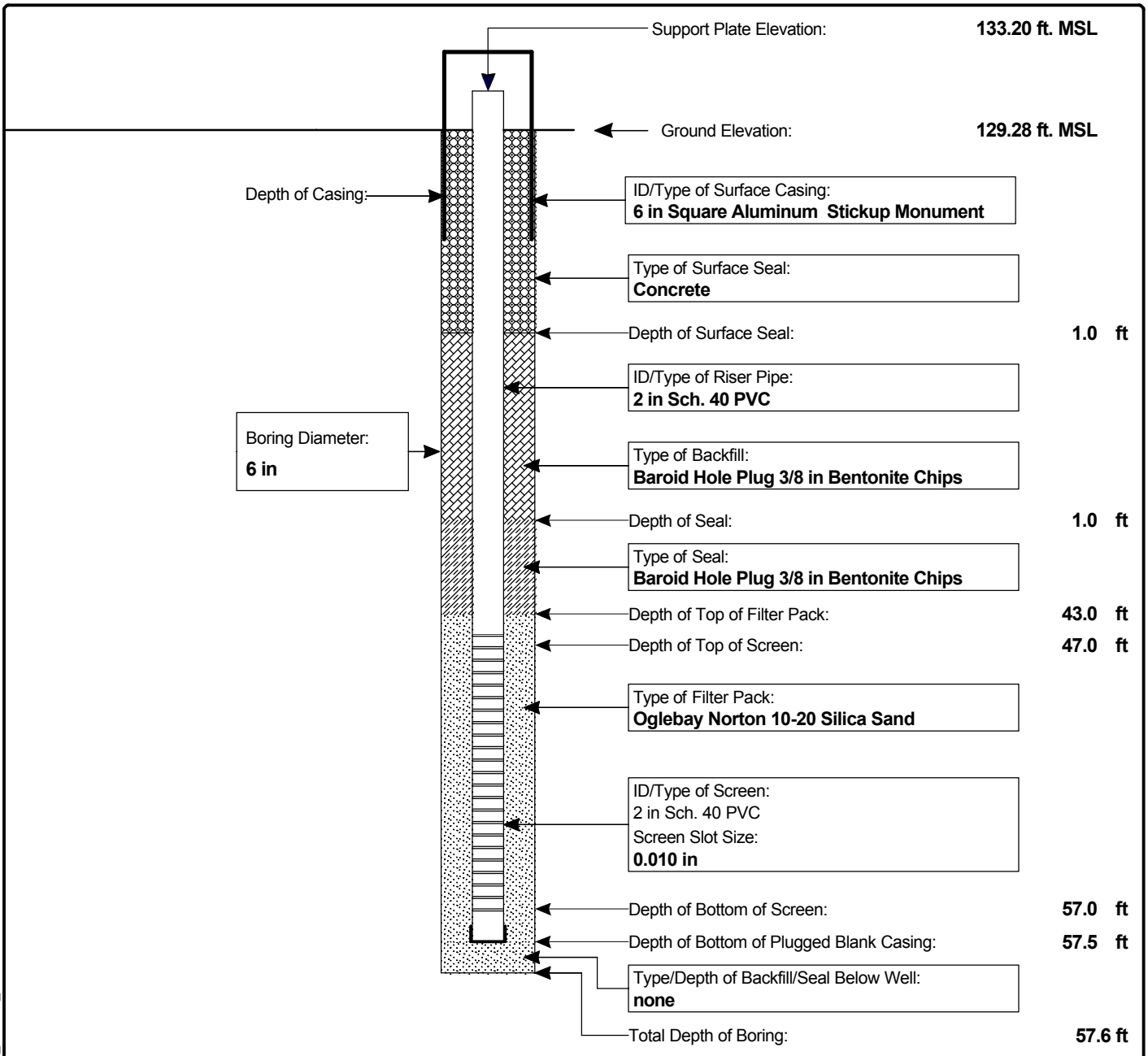
Elevation feet	Depth, feet	SAMPLES Type	Number	Sampling Resistance, Blows/12 in.	Recovery, (feet)	Headspace PID, ppm	Graphic Log	Lithologic Log (USCS Code)	MATERIAL DESCRIPTION	Well Completion Schematic	FIELD NOTES AND WELL DETAILS
	0							GW	**Asphalt.**		Flush to Grade Monument
									Sandy Gravel with Silt [GW], grey-brown, dry to moist, rounded well-graded gravel with cobbles. Loose poorly-graded fine sand. Nonplastic medium stiff silt. [Colluvium]		Concrete
											2" Schedule 40 PVC Riser
	5		1	14	.4	1.2			*Moist.*		
								GM	**Silty GRAVEL [GM]**, grey-brown, moist, rounded, well-graded gravel with few cobbles. Low plasticity stiff to very stiff silt with trace clay. [Colluvium]		Baroid Hole Plug 3/8" Bentonite Chips [hydrated]
	10		2	24	.5	1.0					Oglebay Norton 10-20 Silica Sand
									Wet.		0.010 in. - Slot Schedule 40 PVC screen
								CL	**Gravelly CLAY [CL]**, grey-brown, wet, low plasticity, hard clay with trace silt. Rounded, well graded gravel. [Weathered Slide Block]		
	15		3	31	.9	0.6					
								SM	**Basalt Boulder**, red-brown, wet, moderately weathered and highly fractured with low plasticity hard green clay infilling. [Weathered Slide Block]		
									Silty SAND [SM], yellow-brown, wet, well-graded loose sand. Low plasticity soft silt. [Weathered Slide Block]		
	20		4	3	.3	0.9					Schedule 40 PVC Sump
									Boring terminated at a depth of 22.9' [bgs] on 3/24/2008 and a monitoring well was installed upon completion.		
	25										
	30										

Report: PORT_ENV_WELL; File: BRADISL.GPJ; 6/6/2008 MW-15

URS

Project: Bradford Island **Project Location: Bonneville Dam, Oregon** **Project Number: 25696679**	**MONITORING WELL CONSTRUCTION LOG FOR WELL MW-10**

Well Location	**Bradford Island Reference Area**			Date Completed	**4/8/2008**
Installed By	**Boart Longyear**	Observed By	**MC**	Total Depth	**57.6 ft. bgs**
Method of Installation	**Sonic**				
Screened Interval	**47-57 ft bgs**	Completion Zone	**45-57.6 ft bgs**		
Remarks					



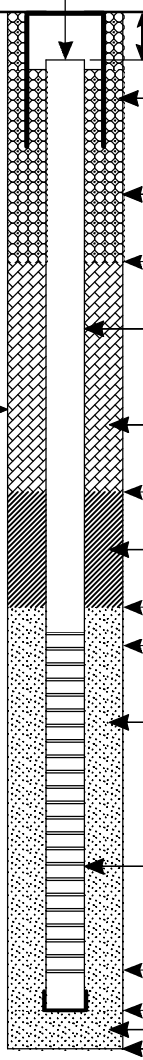
NOTE: DIAGRAM IS NOT TO SCALE

Report: PORT_ENV_WELL_ABOVE_GROUND; File: BRADISL.GPJ; 6/6/2008 MW-10

URS

Project: Bradford Island Project Location: Bonneville Dam, Oregon Project Number: 25696679	MONITORING WELL CONSTRUCTION LOG FOR WELL MW-11

Well Location	**Bradford Island Sandblast Area**		Date(s) Installed	**4/3/2008**	Time
Installed By	**Boart Longyear**	Observed By	**MC**	Total Depth (ft)	**37.0 ft. bgs**
Method of Installation	**Sonic**				
Screened Interval	**26-36 ft bgs**	Completion Zone	**26.5-37 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **98.12 ft. MSL**

Depth of Riser Below Ground Surface: **-1.33 ft**

Ground Elevation: **99.45 ft MSL**

ID/Type of Surface Casing:
8 in Flush to Grade Monument

Type of Surface Seal:
Concrete

Depth of Surface Seal: **1.0 ft**

ID/Type of Riser Pipe:
2 in Sch. 40 PVC

Boring Diameter:
6 in

Type of Backfill:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Seal: **1.0 ft**

Type of Seal:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Top of Filter Pack: **24.5 ft**

Depth of Top of Screen: **26.0 ft**

Type of Filter Pack:
Oglebay Norton 10-20 Silica Sand

ID/Type of Screen:
2 in Sch. 40 PVC
Screen Slot Size:
0.010 in

Depth of Bottom of Screen: **36.0 ft**

Depth of Bottom of Plugged Blank Casing: **36.4 ft**

Type/Depth of Backfill/Seal Below Well:
none

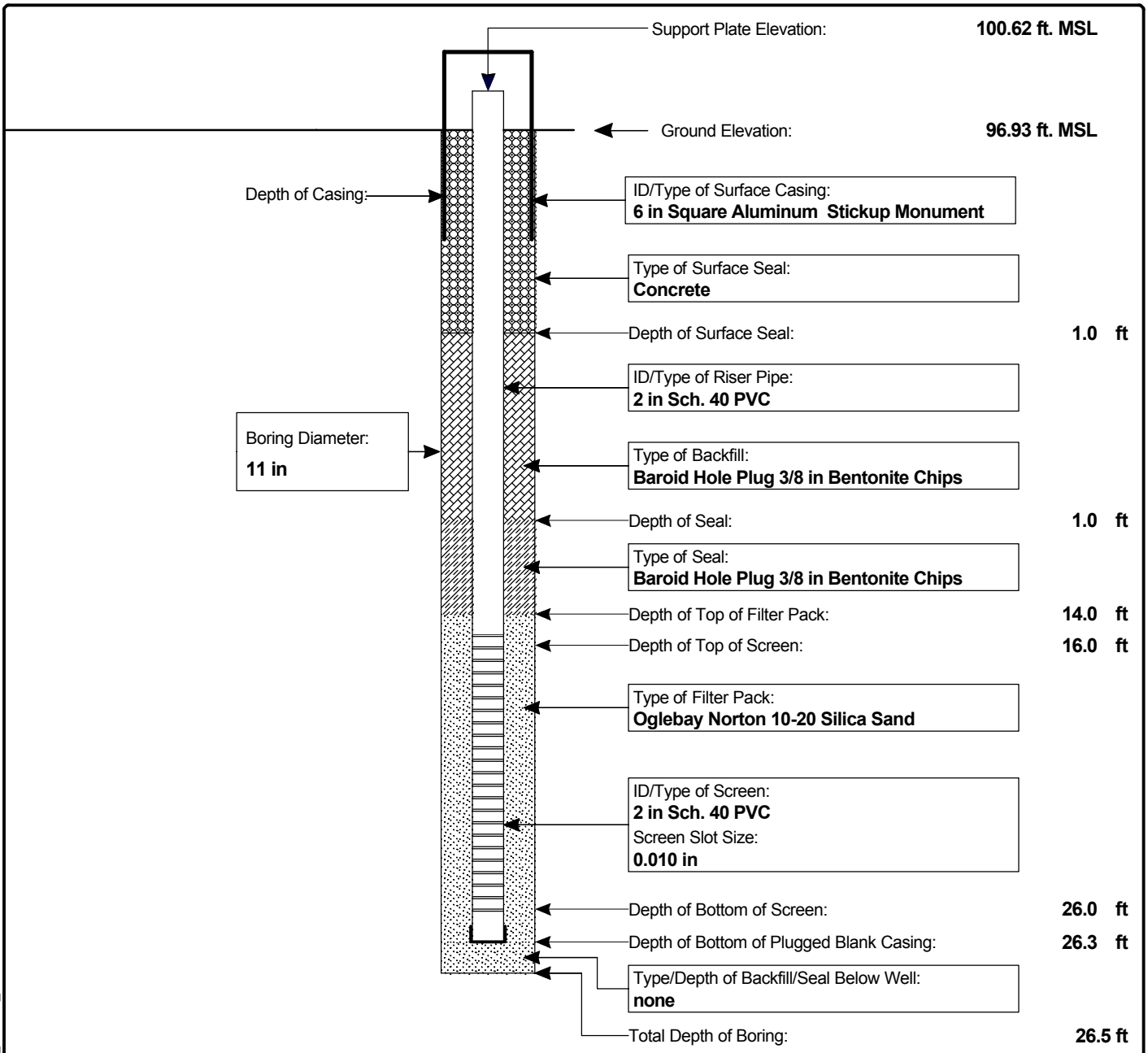
Total Depth of Boring: **37.0 ft**

NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_BELOW_GROUND; File: BRADISL.GPJ; 6/6/2008 MW-11

Project: Bradford Island **Project Location: Bonneville Dam, Oregon** **Project Number: 25696679**	**MONITORING WELL CONSTRUCTION LOG FOR WELL MW-12**

Well Location	**Bradford Island Sandblast Area**			Date Completed	**3/26/2008**
Installed By	**Boart Longyear**	Observed By	**MC**	Total Depth	**26.5 ft. bgs**
Method of Installation	**Hollow Stem Auger**				
Screened Interval	**16-26 ft bgs**	Completion Zone	**22-26.3 ft bgs**		
Remarks					



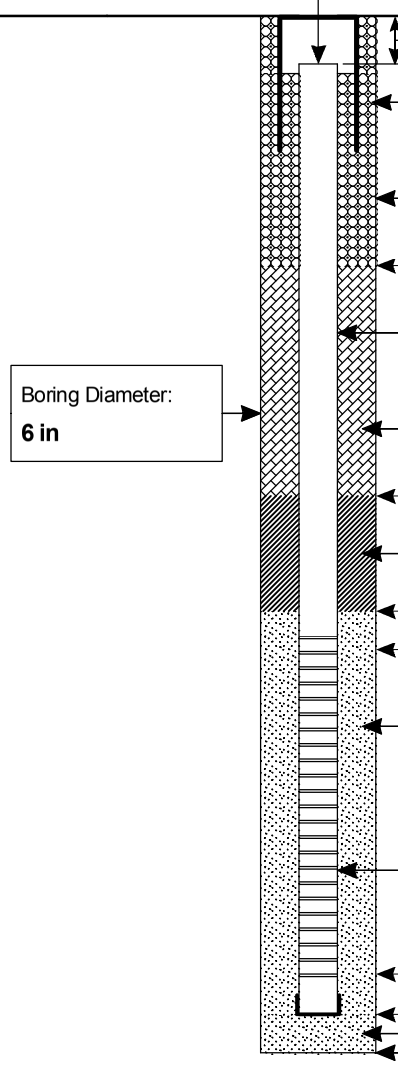
NOTE: DIAGRAM IS NOT TO SCALE

Report: PORT_ENV_WELL_ABOVE_GROUND; File: BRADISL.GPJ; 6/6/2008 MW-12

URS

Project: Bradford Island Project Location: Bonneville Dam, Oregon Project Number: 25696679	MONITORING WELL CONSTRUCTION LOG FOR WELL MW-13

Well Location	**Bradford Island Sandblast Area**		Date(s) Installed	**4/2/2008**	Time
Installed By	**Boart Longyear**	Observed By	**MC**	Total Depth (ft)	**37.0 ft. bgs**
Method of Installation	**Sonic**				
Screened Interval	**26-36 ft bgs**	Completion Zone	**26-37 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **97.55 ft. MSL**

Depth of Riser Below Ground Surface: **-0.27 ft**

Ground Elevation: **97.82 ft MSL**

ID/Type of Surface Casing:
8 in Flush to Grade Monument

Type of Surface Seal:
Concrete

Depth of Surface Seal: **1.0 ft**

ID/Type of Riser Pipe:
2 in Sch. 40 PVC

Boring Diameter:
6 in

Type of Backfill:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Seal: **1.0 ft**

Type of Seal:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Top of Filter Pack: **24.0 ft**

Depth of Top of Screen: **26.0 ft**

Type of Filter Pack:
Oglebay Norton 10-20 Silica Sand

ID/Type of Screen:
2 in Sch. 40 PVC
Screen Slot Size:
0.010 in

Depth of Bottom of Screen: **36.0 ft**

Depth of Bottom of Plugged Blank Casing: **36.4 ft**

Type/Depth of Backfill/Seal Below Well:
none

Total Depth of Boring: **37.0 ft**

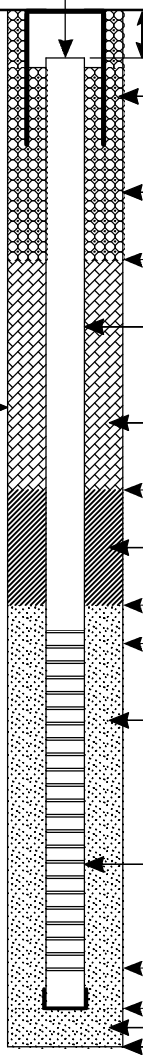
NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_BELOW_GROUND; File: BRADISL.GPJ; 6/6/2008 MW-13

URS

Project: Bradford Island Project Location: Bonneville Dam, Oregon Project Number: 25696679	MONITORING WELL CONSTRUCTION LOG FOR WELL MW-14

Well Location	**Bradford Island Sandblast Area**			Date(s) Installed **3/25/2008**	Time
Installed By	**Boart Longyear**	Observed By	**MC**	Total Depth (ft)	**24.0 ft. bgs**
Method of Installation	**Hollow Stem Auger**				
Screened Interval	**13-23 ft bgs**	Completion Zone	**13-24 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **86.67 ft. MSL**

Depth of Riser Below Ground Surface: **-0.17 ft**

Ground Elevation: **86.84 ft MSL**

ID/Type of Surface Casing:
8 in Flush to Grade Monument

Type of Surface Seal:
Concrete

Depth of Surface Seal: **0.7 ft**

ID/Type of Riser Pipe:
2 in Sch. 40 PVC

Boring Diameter:
11 in

Type of Backfill:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Seal: **0.7 ft**

Type of Seal:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Top of Filter Pack: **11.0 ft**

Depth of Top of Screen: **13.0 ft**

Type of Filter Pack:
Oglebay Norton 10-20 Silica Sand

ID/Type of Screen:
2 in Sch. 40 PVC
Screen Slot Size:
0.010 in

Depth of Bottom of Screen: **23.0 ft**

Depth of Bottom of Plugged Blank Casing: **23.5 ft**

Type/Depth of Backfill/Seal Below Well:
none

Total Depth of Boring: **24.0 ft**

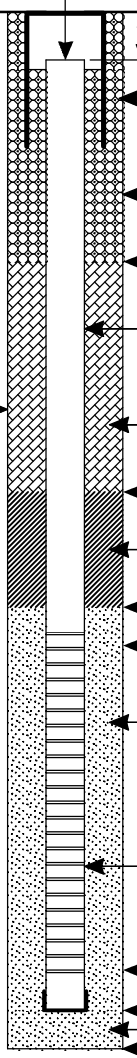
NOTE: DIAGRAM IS NOT TO SCALE

Report: ENV_WELL_CONSTR_BELOW_GROUND; File: BRADISL.GPJ; 6/6/2008 MW-14

URS

Project: Bradford Island Project Location: Bonneville Dam, Oregon Project Number: 25696679	MONITORING WELL CONSTRUCTION LOG FOR WELL MW-15

Well Location	**Bradford Island Sandblast Area**		Date(s) Installed	**3/24/2008**	Time
Installed By	**Boart Longyear**	Observed By	**MC**	Total Depth (ft)	**22.9 ft. bgs**
Method of Installation	**Hollow Stem Auger**				
Screened Interval	**12-22 ft bgs**	Completion Zone	**12-23 ft bgs**		
Remarks					



Elevation of Top of Riser Pipe: **86.86 ft. MSL**

Depth of Riser Below Ground Surface: **-0.23 ft**

Ground Elevation: **87.09 ft MSL**

ID/Type of Surface Casing:
8 in Flush to Grade Monument

Type of Surface Seal:
Concrete

Depth of Surface Seal: **0.9 ft**

ID/Type of Riser Pipe:
2 in Sch. 40 PVC

Boring Diameter:
11 in

Type of Backfill:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Seal: **0.9 ft**

Type of Seal:
Baroid Hole Plug 3/8 in Bentonite Chips

Depth of Top of Filter Pack: **9.5 ft**

Depth of Top of Screen: **12.0 ft**

Type of Filter Pack:
Oglebay Norton 10-20 Silica Sand

ID/Type of Screen:
2 in Sch. 40 PVC
Screen Slot Size:
0.010 in

Depth of Bottom of Screen: **22.0 ft**

Depth of Bottom of Plugged Blank Casing: **22.5 ft**

Type/Depth of Backfill/Seal Below Well:
none

Total Depth of Boring: **22.9 ft**

NOTE: DIAGRAM IS NOT TO SCALE

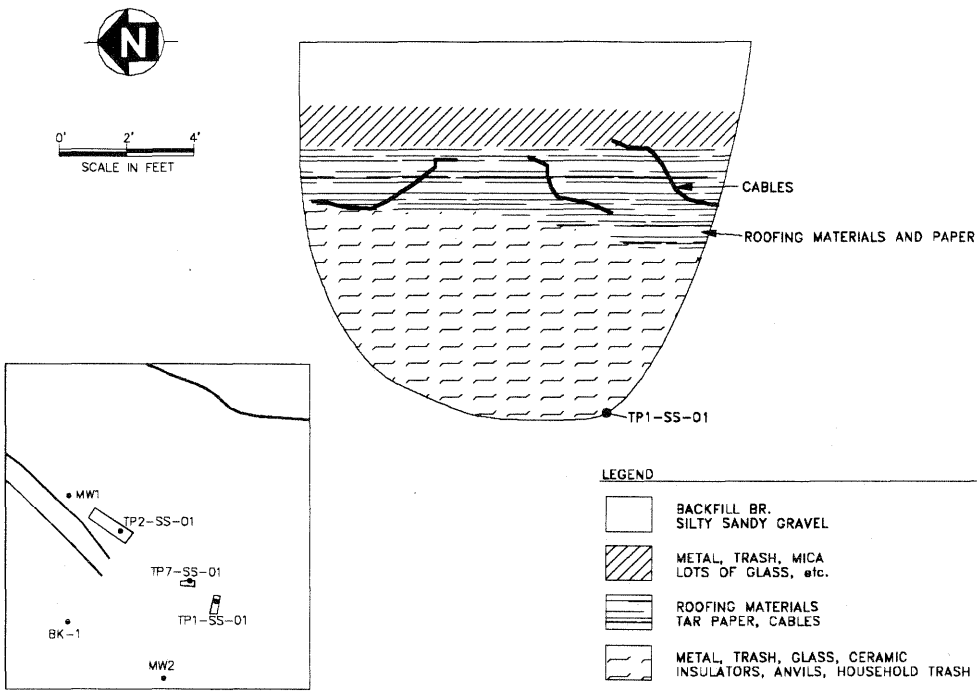
Report: ENV_WELL_CONSTR_BELOW_GROUND; File: BRADISL.GPJ; 6/6/2008 MW-15

URS

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP1 Test Pit Location: North Central Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 13 X 5 X 11 deep

Associated Photographs: 1-17 through 1-25

Grab Sample No. 8-19-98-BIL-TP1-SS-01

Time/Date Collected: 0950 / 8/19/98 Depth Collected: 10' BLS Location: TP1 S/SW

PID Reading: 0.0 USCS Designation: GM Soil Color: Very Dark Brown/Black

Soil Description: Silty sandy gravel with trash (fines 10%, gravel/sand 90% - matrix of trash only) wet, loose-dense, well graded.

Grab Sample No.

Time/Date Collected: Depth Collected: Location:

PID Reading: USCS Designation: Soil Color:

Soil Description:

Comments: Also collected asbestos samples from material removed from TP1: 8-20-98-BIL-ASB-01 – roofing paper – black at 1415 and 8-20-98-BIL-ASB-02 – silver roofing coating/mastic at 1418

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP1 Test Pit Location: North Central Landfill Page 2 of 3

Temperature: 60's Wind Speed: <5 mph Wind Direction: Variable

General Weather Conditions: Partly cloudy Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-11' BLS Soil Color: Brown USCS Designation: GW

PID Reading: 3.2 (background) Description: Brown silty, sandy, gravel (fines 10%, sand 20%, gravel 70%) dry-wet, well graded, loose-dense with trash from 2' BLS as described on page 3 attached.

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

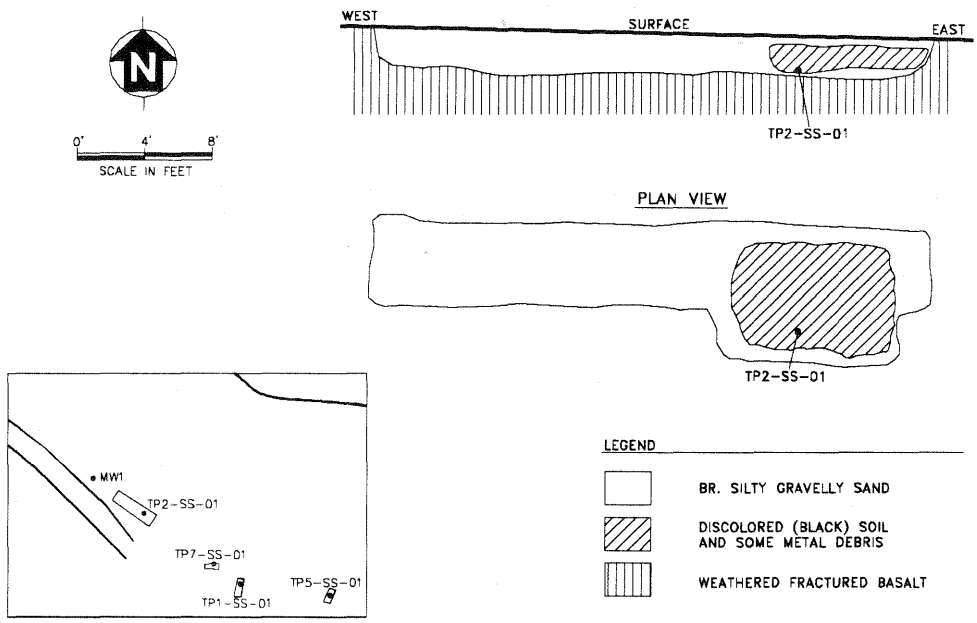
PID Reading: Description:

Feet BLS	Description	PID
2.5	Top of buried trash, mostly household with mica sheets and small books, and lots of glass fragments	(Background @ 3.2)
4	Buried cables and assorted metal	
6	Buried roofing paper and assorted metal	(Background @ 2.5)
8	Abundance of roofing paper	(Background @ 1.0)
10 to 11	Assorted metal, roofing paper, and cloth, SE corner of bucket wet Sample TP1-SS-01 bucket contained broken glass, broken pieces of ceramic insulators, rusted pieces of metal, and household trash (bottle of nail polish), metal nails	Background dropped to 0.0 0.3 0.0

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP2 Test Pit Location: West Edge of Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 31' X 8' X 2-2.5' deep

Associated Photographs: Camera damaged, photos lost

Grab Sample No. 8-19-98-BIL-TP2-SS-01

Time/Date Collected: 1225 / 8/19/98 Depth Collected: 2' BLS Location: TP2 East End (25' E of West end)

PID Reading: 0.0 USCS Designation: SM Soil Color: Dark Brown

Soil Description: Dark brown silty, gravelly sand (fines 25%, gravel 30%, sand 45%) dry to moist, dense, well graded with glass fragments and small pieces of metal/nails.

Grab Sample No.

Time/Date Collected: Depth Collected: Location:

PID Reading: USCS Designation: Soil Color:

Soil Description:

Comments:

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP2 Test Pit Location: West Edge of Landfill Page 2 of 3

Temperature: High 60's Wind Speed: <5 mph Wind Direction: Variable

General Weather Conditions: Partly cloudy to clear Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-2.5' BLS Soil Color: Brown USCS Designation: SM

PID Reading: 0.0 Description: Brown silty, gravelly sand (fines 25%, gravel 30%, sand 45%) dry, dense, well graded.

Depth Range: >2.5' Soil Color: Dark Gray/Black USCS Designation:

PID Reading: 0.0 Description: Weathered, fractured basalt, microcrystalline, very hard

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

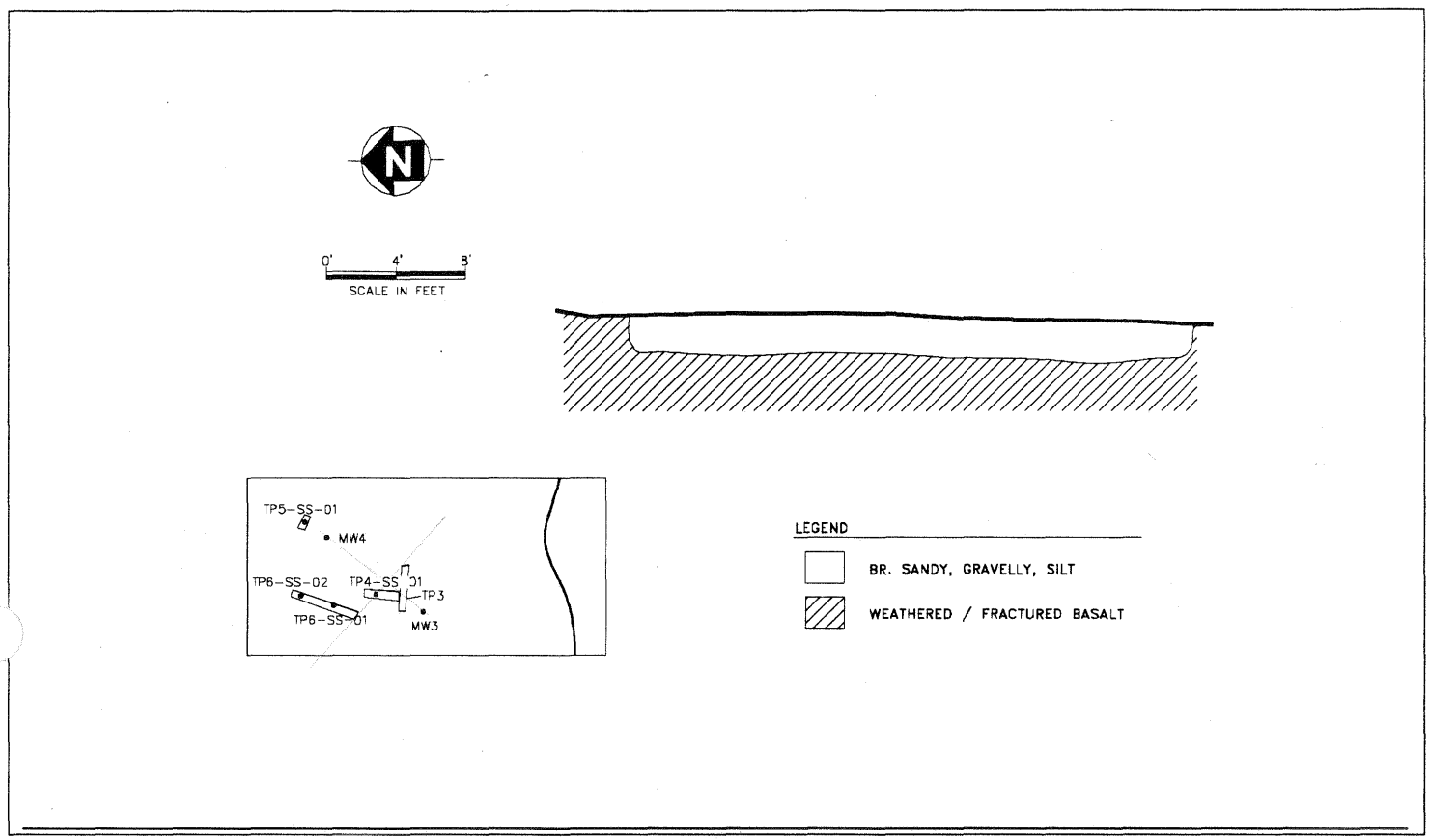
PID Reading: Description:

Feet BLS	Feet East of Western Edge	Contents	PID
2	Entire Length	Fractured basalt contact. Black, microcrystalline, very hard	0.0
1.5-2.5' contact with basalt	22' (37' from MW1) (West end of TP2 is 15' East of MW1)	Black discolored soil with some metal and cables to basalt contact at 2.5 feet BLS. (Western edge of landfill)	0.0

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP3 Test Pit Location: East end of Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 31' X 4' X 2' deep

Associated Photographs: 2-1

Grab Sample No.

Time/Date Collected: _____ Depth Collected: _____ Location: _____

PID Reading: _____ USCS Designation: _____ Soil Color: _____

Soil Description: _____

Grab Sample No.

Time/Date Collected: _____ Depth Collected: _____ Location: _____

PID Reading: _____ USCS Designation: _____ Soil Color: _____

Soil Description: _____

Comments: _____

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP3 Test Pit Location: East end of Landfill Page 2 of 2

Temperature: 70's Wind Speed: 5 mph Wind Direction: SE

General Weather Conditions: Clear, light wind Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-2' BLS Soil Color: Brown USCS Designation: ML

PID Reading: 0.0 Description: Brown sandy gravelly silt (sand 15%, gravel 25%, fines 60%) dry, dense/firm, low plasticity.

Depth Range: >2' Soil Color: Brown/Black USCS Designation:

PID Reading: 0.0 Description: Weathered and fractured basalt

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

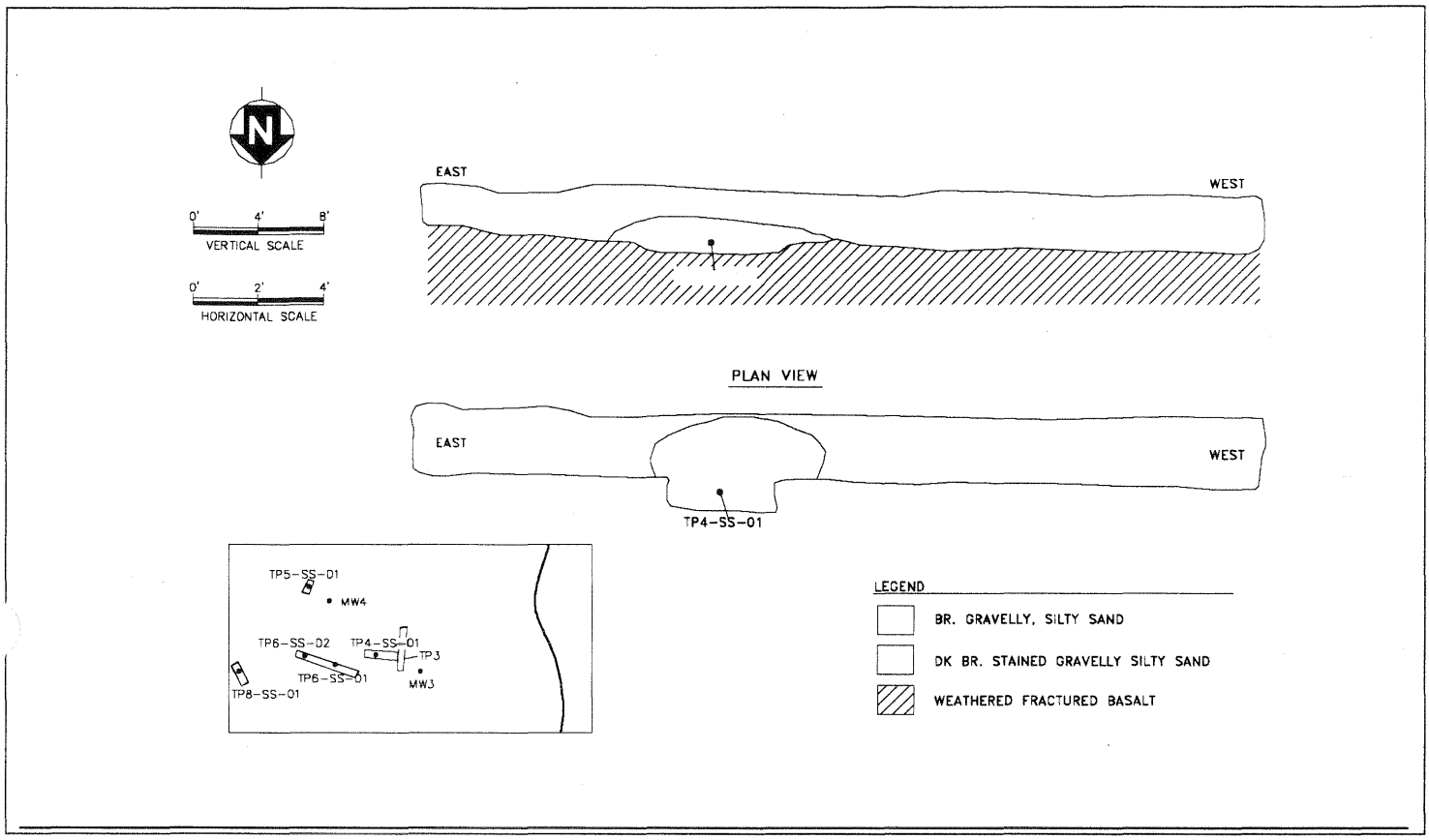
Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP4 Test Pit Location: East end of Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 24.5' X 4' X 3.7'

Associated Photographs: N/A

Grab Sample No. 8-19-98-BIL-TP4-SS-01

Time/Date Collected: 1525 / 8/19/98 Depth Collected: 3.7' Location: TP4

PID Reading: 0.0 USCS Designation: SM Soil Color: Dark Brown

Soil Description: Dark brown gravelly, silty sand (gravel 30%, fines 15%, sand 55%)
dry-moist, well graded, dense.

Grab Sample No.

Time/Date Collected: Depth Collected: Location:

PID Reading: USCS Designation: Soil Color:

Soil Description:

Comments:

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP4 Test Pit Location: East end of Landfill Page 2 of 2

Temperature: 70's Wind Speed: <5 mph Wind Direction: Variable

General Weather Conditions: Clear, sunny Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-3' BLS Soil Color: Brown USCS Designation: SM

PID Reading: 0.0 Description: Brown gravelly, silty sand (gravel 30%, fines 15%, sand 55%) dry, well graded, dense.

Depth Range: >3' Soil Color: Dark Gray/Black USCS Designation:

PID Reading: 0.0 Description: Weathered, fractured basalt

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

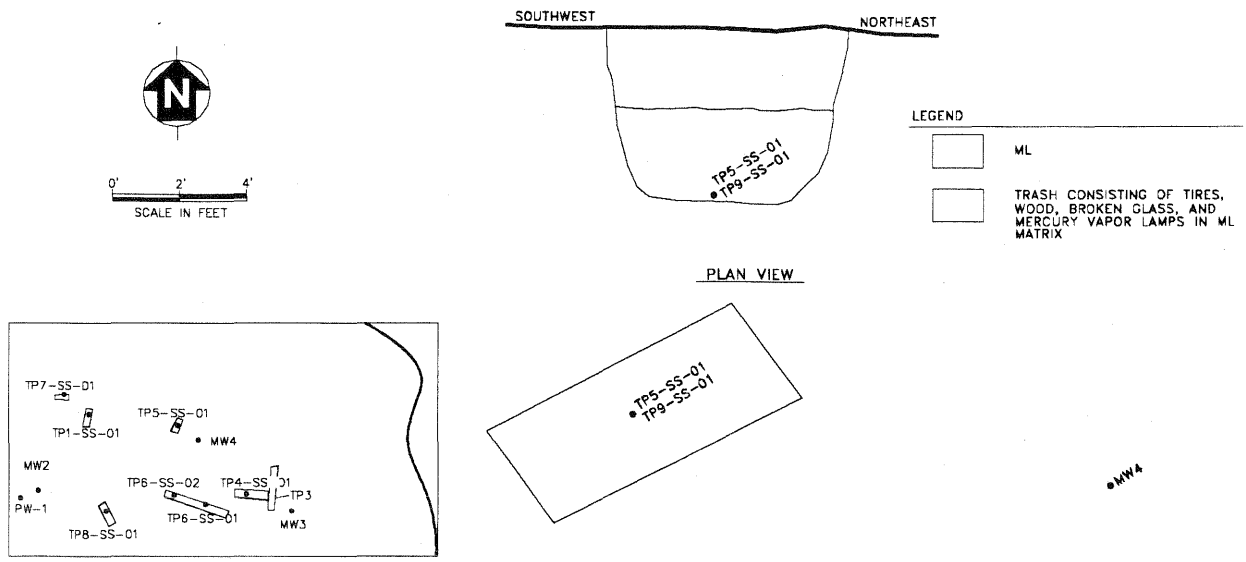
Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP5 Test Pit Location: North Central Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 7' X 4' X 5' deep

Associated Photographs: 2-2 through 2-9

Grab Sample No. 8-20-98-BIL-TP5-SS-01 / 8-20-98-BIL-TP9-SS-01

Time/Date Collected: 0855 / 8/20/98 Depth Collected: 5' BLS Location: TP5

PID Reading: 0.0 USCS Designation: ML Soil Color: Black

Soil Description: Black stained sandy, gravelly, silt (sand 10%, gravel/cobbles 25%, fines 65%), wet/saturated/oily, firm, low plasticity.

Grab Sample No.

Time/Date Collected: Depth Collected: Location:

PID Reading: USCS Designation: Soil Color:

Soil Description:

Comments: Collected TP5-SS-01 in duplicate; TP9-SS-01 as Blind duplicate from this test pit (0955)

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP5 Test Pit Location: North Central Landfill Page 2 of 3

Temperature: 70's Wind Speed: None / <5 mph Wind Direction: Variable

General Weather Conditions: Clear to partly cloudy Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-2.5' BLS Soil Color: Brown USCS Designation: ML

PID Reading: 0.0 Description: Brown sandy, gravelly silt (sand 10%, gravel/cobble 25%, fines 65%) dry, firm, low plasticity.

Depth Range: 2.5'-5' (TD) Soil Color: Black USCS Designation:

PID Reading: 0.0 Description: Debris in above matrix (50% debris), matrix is black and oily. Types of debris are listed in the table on page 3 of 3 below.

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Test Pit No. TP5

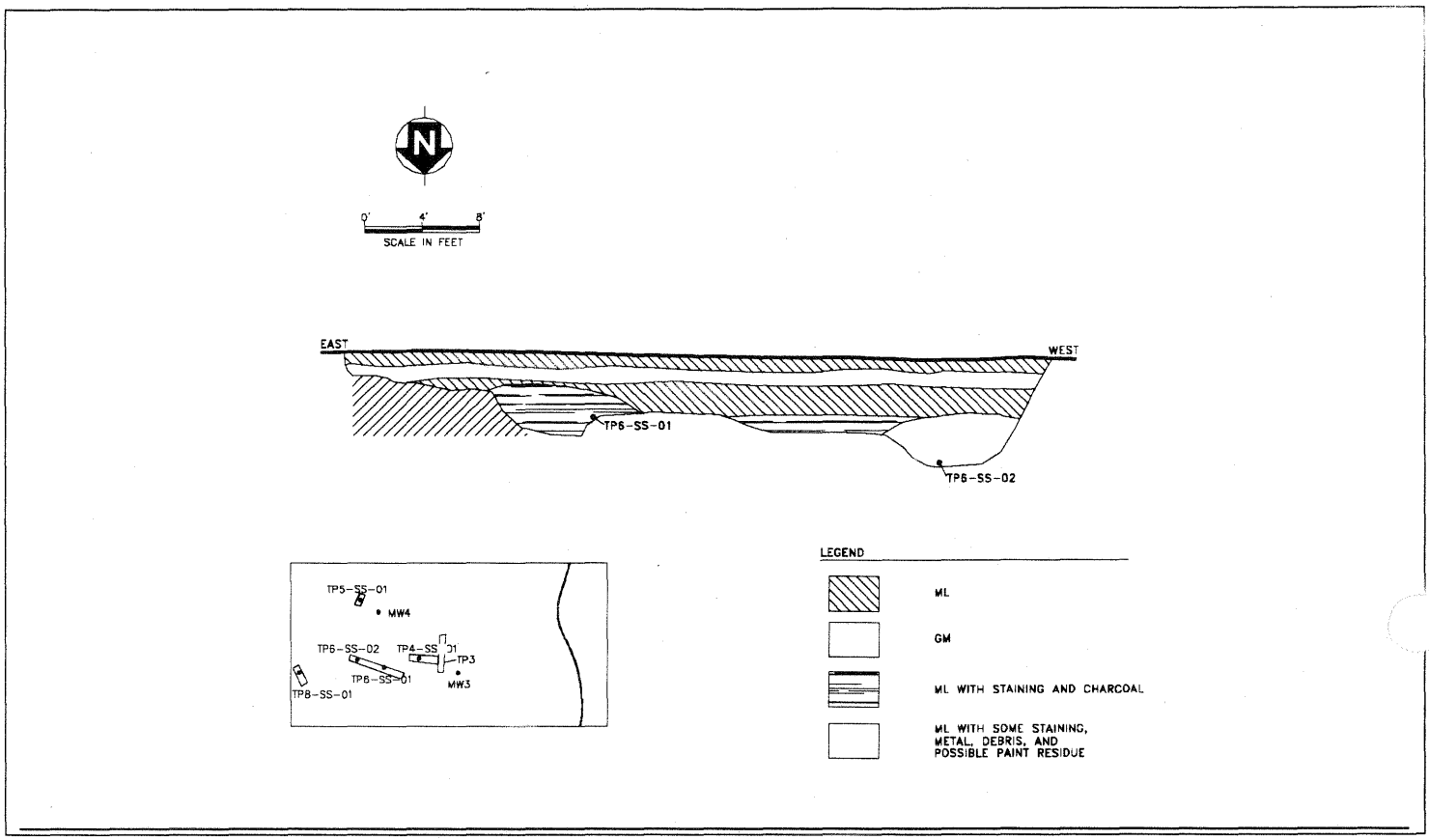
8/19/98

Feet BLS	Contents	PID
2.5	Beginning of trash – tire (discolored-black soil matrix)	0.0
3.0	Wood cover underlain by lots of broken glass then more tires	0.0
5	Broken glass, mercury vapor lamps	0.0

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP6 Test Pit Location: East end of Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 47' X 4' X 1.5'-6.5' deep

Associated Photographs: 2-10 through 2-12 and 3-1 through 3-3

Grab Sample No. 8-20-98-BIL-TP6-SS-01

Time/Date Collected: 1050 / 8/20/98 Depth Collected: 4' Location: 17' west of east end TP6

PID Reading: 0.0 USCS Designation: ML Soil Color: Black/Very Dark Brown

Soil Description: Black/Very dark brown stained sandy, gravelly, silt (sand 10%, gravel 35%, fines 55%) moist, firm, well graded, low plasticity.

Grab Sample No. 8-20-98-BIL-TP6-SS-02

Time/Date Collected: 1140 / 8/20/98 Depth Collected: 6.5' Location: 40' west of east end of TP6

PID Reading: 0.0 USCS Designation: ML Soil Color: Brown/Dark Brown

Soil Description: Brown-Dark Brown, sandy, gravelly, silt (sand 20%, gravel/cobbles 15%, fines 65%) moist, firm, low plasticity with metal and possibly paint waste.

Comments: East end of TP6 is 46 feet west of monitoring well MW3

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP6 Test Pit Location: East end of Landfill Page 2 of 2

Temperature: 70's Wind Speed: 5 mph Wind Direction: South

General Weather Conditions: Partly cloudy, sunny Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-1' BLS Soil Color: Brown USCS Designation: ML

PID Reading: 0.0 Description: Brown sandy, gravelly, silt (sand 31%, gravel 25%, fines 65%), dry, firm, low plasticity.

Depth Range: 1-2' Soil Color: Brown USCS Designation: GM

PID Reading: 0.0 Description: Brown silty sandy gravel (fines 10%, sand 10%, gravel 80%) moist, firm, low plasticity.

Depth Range: 2-6.5' Soil Color: Dark Brown-Brown USCS Designation: ML

PID Reading: 0.0 Description: Dark Brown-Brown sandy gravelly silt (sand 20%, gravel/cobbles 15%, fines 65%) moist, firm, low plasticity with mica flakes, staining, with metal debris and possible paint residue 40' west of east end of TP6.

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

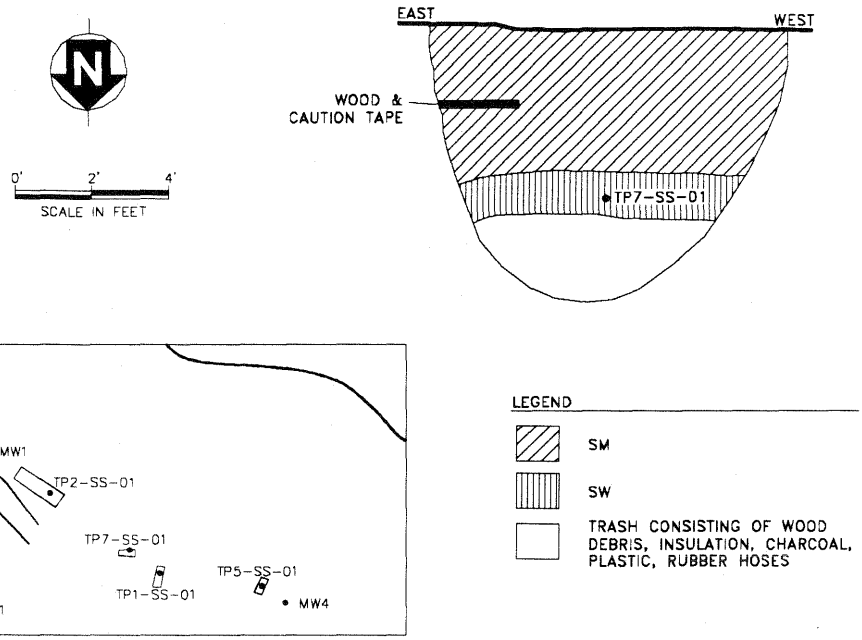
Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP7 Test Pit Location: Central Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 9' X 4' X 7' deep

Associated Photographs: 3-4 through 3-6

Grab Sample No. 8-20-98-BIL-TP7-SS-01

Time/Date Collected: 1350 / 8/20/98 Depth Collected: 4.5 Location: Central Landfill

PID Reading: 0.0 USCS Designation: SW Soil Color: Gray

Soil Description: Gray, fine grained, well graded sand (100%), moist, dense.

Grab Sample No.

Time/Date Collected: Depth Collected: Location:

PID Reading: USCS Designation: Soil Color:

Soil Description:

Comments:

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP7 Test Pit Location: Central Landfill Page 2 of 2

Temperature: 70's Wind Speed: <5 mph Wind Direction: SE

General Weather Conditions: Partly cloudy Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-4' BLS Soil Color: Brown USCS Designation: SM

PID Reading: 0.0 Description: Brown silty, gravelly, sand (fines 15%, gravel 25%, sand 60%) dry, well graded, dense.

Depth Range: 4'- 7' (total depth) Soil Color: Gray USCS Designation: SW

PID Reading: 0.0 Description: Gray sand, well graded, moist, dense, mixed with debris from 5-7' BLS

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

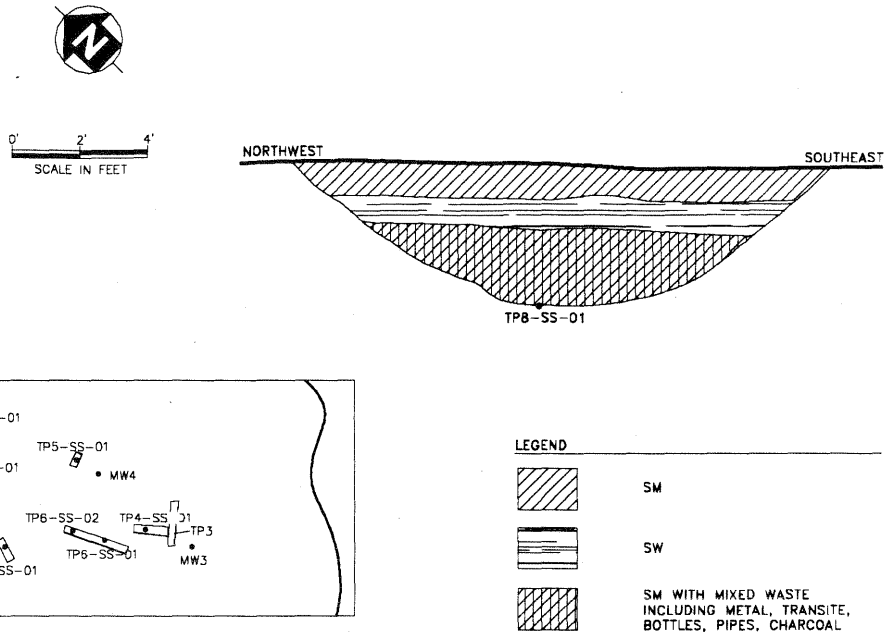
Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP8 Test Pit Location: South Central Landfill

EXCAVATION DIAGRAM



Final Test Pit Dimensions (Sq.Ft.): 15' X 4' X 4' deep

Associated Photographs: 3-7 through 3-9

Grab Sample No. 8-20-98-BIL-TP8-SS-01

Time/Date Collected: 1450 / 8/20/98 Depth Collected: 4' Location: South Central Landfill

PID Reading: 0.0 USCS Designation: SM Soil Color: Brown-Dark Brown

Soil Description: Brown-Dark Brown silty, gravelly, sand (fines 10%, gravel 30%, sand 60%) moist, dense, well graded.

Grab Sample No.

Time/Date Collected: Depth Collected: Location:

PID Reading: USCS Designation: Soil Color:

Soil Description:

Comments: Also collected asbestos sample: 8-20-98-ASB-03 – Dark gray transite collected at 1500.

Test Pit Log
Site Inspection
Former Bradford Island Landfill Site
Cascade Locks, Oregon
TC-10022-03

Test Pit No: TP8 Test Pit Location: South Central Landfill Page 2 of 2

Temperature: 70's Wind Speed: <5 mph Wind Direction: SE

General Weather Conditions: Partly cloudy Log Prepared By: Carlotta Cellucci

Soil Description

Depth Range: 0-1' BLS Soil Color: Brown USCS Designation: SM

PID Reading: 0.0 Description: Brown silty, gravelly, sand (fines 10%, gravel 25-30%, sand 60-65%) dry, well graded, dense.

Depth Range: 1-2' BLS Soil Color: Gray USCS Designation: SW

PID Reading: 0.0 Description: Gray sand (100%), well graded, dry-moist, dense.

Depth Range: 2-4' BLS Soil Color: Brown-Dark Brown USCS Designation: SM

PID Reading: 0.0 Description: Brown-Dark Brown stained silty, gravelly, sand (fines 10%, gravel/cobbles 25-30%, sand 60-65%), moist, well graded, dense with mixed waste including charcoal, metal debris and pipes, glass and bottles, and transite.

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Depth Range: Soil Color: USCS Designation:

PID Reading: Description:

Project: Bradford Island Landfill **Project Location:** Cascade Locks, Oregon **Project Number:** 52-0080001.00	**Log of Test Pit** **TP-1-2001**

Date(s) Excavated	10/15/2001	Logged By	BPM	Checked By	BPM
Length of Excavation	60.0 feet	Width of Excavation	20.0 feet	Depth of Excavation	10.0 feet
Excavation Equipment	Kamatsu PC200	Excavation Contractor	PNE	Approximate Surface Elevation	N/A
Water Observations	N/A			Weather	N/A
Location	Gully Area			Surface Condition	Mix of Vegetative Cover, Concrete Rubble and Fill

Elevation feet	Depth, feet	Sample Type	Sample Number	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0				**Poorly sorted landfill debris consisting of asphalt, wire, wire cable, metal buckets, ceramic insulators (3), sandblast grit (red & green), burned debris, scrap metal, electric motor, plastic planters, concrete rubble, hose, steel-reinforced wood planks, (3) 55-gallon drums (empty).**	
	1		17			
	2		18			
	3		22 23			
	4		13 16		*Sandblast grit (red and green) found throughout eastern 3/4 of excavation. Waste visible in all sides of excavation except the west. Possilble petroleum stained sediments on eastern half of gully. Most of landfill debris concentrated in eastern half of excavation.*	
	5		19 21			
	6		14			
	7					
	8		15 20		**SILTY SAND [SM]**, yellowish-orange to orange brown, [with subangular to round cobbles up to 1" in size], [Fill/Alluvium].	
	9					
	10				Test Pit terminated at a depth of 10.0 feet [bgs], on 11/06/2001 and backfilled with soil cuttings upon completion.	
	11					
	12					
	13					
	14					
	15					

Report: GEO_TP_PORT_NO_MC; File: USACE.GPJ; 8/14/2002 TP-1-2001

URS

Project: Bradford Island Landfill **Project Location:** Cascade Locks, Oregon **Project Number:** 52-0080001.00	**Log of Test Pit TP-2-2001**

Date(s) Excavated	10/16/2001	Logged By	BPM	Checked By	BPM
Length of Excavation	20.0 feet	Width of Excavation	20.0 feet	Depth of Excavation	10.0 feet
Excavation Equipment	Kamatsu PC200	Excavation Contractor	PNE	Approximate Surface Elevation	N/A
Water Observations	N/A			Weather	N/A
Location	MVL Area			Surface Condition	Vegetative Cover and Fill. [Planter Containers]

Elevation feet	Depth, feet	Sample Type	Sample Number	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0				**BROWN SILT WITH SAND [ML].**	
	1					
	2					
	3				**BLACK SILTY SAND [SM]**, with landfill oily debris. Debris observed includes crushed glass (suspected hy-vapor lamps), and wood crates. Other lamps encountered include incandescent bulbs, vehicle headlights. Metal debris and wire found.	
	4					
	5		7 8 10		*Oil odor and sheen observed on silty sand. Base of excavation is still oily. No visible fill at the base of excavation to the northwest. Fill still present to the east and south.*	
	6		9			
	7				*Sandblast grit observed from ~1.0' [bgs] to the base of the excavation on the north and west sidewalls.*	
	8		5 6 11 12			
	9					
	10				Test Pit terminated at a depth of 10.0 feet [bgs], on 11/06/2001 and backfilled with soil cuttings upon completion.	
	11					
	12					
	13					
	14					
	15					

Report: GEO_TP_PORT_NO_MC; File: USACE.GPJ; 8/14/2002 TP-2-2001

URS

Project: Bradford Island Landfill **Project Location:** Cascade Locks, Oregon **Project Number:** 52-0080001.00	**Log of Test Pit TP-3-2001**

Date(s) Excavated	10/17/2001	Logged By	BPM	Checked By	BPM
Length of Excavation	10.0 feet	Width of Excavation	10.0 feet	Depth of Excavation	3.0 feet
Excavation Equipment	Kamatsu PC200	Excavation Contractor	PNE	Approximate Surface Elevation	N/A
Water Observations	N/A			Weather	N/A
Location	04 Hot Spot			Surface Condition	Vegetative Cover and Fill

Elevation feet	Depth, feet	Sample Type	Sample Number	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0				**Poorly sorted landfill debris consisting of treated wood (creosote odor), wire, and misc. plastic and metal debris. Sandblast grit observed in center of the excavation. Sandy gravel matrix present.**	
	1					
	2				Sandblast grit observed in test pit is interpreted as the "Hot Spot". Soil samples were collected around (not in) sandblast grit.	
	3		24 25 26 27		Test Pit terminated at a deoth of 3.0 feet [bgs], on 10/17/2001 and backfilled with soil cuttings uopn completion.	
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					

Report: GEO_TP_PORT_NO_MC; File: USACE.GPJ; 8/14/2002 TP-3-2001

URS

Project: Bradford Island Landfill **Project Location:** Cascade Locks, Oregon **Project Number:** 52-0080001.00	**Log of Test Pit TP-4-2001**

Date(s) Excavated	10/17/2001	Logged By	BPM	Checked By	BPM
Length of Excavation	3.0 feet	Width of Excavation	3.0 feet	Depth of Excavation	3.0 feet
Excavation Equipment	Kamatsu PC200	Excavation Contractor	PNE	Approximate Surface Elevation	N/A
Water Observations	N/A			Weather	N/A
Location	MW4 Hot Spot			Surface Condition	Vegetative Cover

Elevation feet	Depth, feet	Sample Type	Sample Number	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0				**POORLY GRADED GRAVEL WITH SAND [GP]**, gravel to pea size, gray and brown, no odor, hard-dense, [dry].	
	1				*No fill (debris) observed.*	
	2					
	3		30 31 32		Test Pit terminated at a depth of 3.0 feet [bgs], on 10/17/2001 and backfilled with soil cuttings upon completion.	
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					
	15					

Report: GEO_TP_PORT_NO_MC; File: USACE.GPJ; 8/14/2002 TP-4-2001

URS

APPENDIX C

PHOTOGRAPHIC SUMMARY

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
1	1939

Direction Photo Taken:

N/A

Description:

July, 1939 aerial photograph of eastern portion of Bradford Island.

Photo No.	Date:
2	1948

Direction Photo Taken:

N/A

Description:

September, 1948 aerial photograph of eastern portion of Bradford Island.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
3	1954

Direction Photo Taken:

N/A

Description:

April, 1954 aerial photograph of eastern portion of Bradford Island.

Photo No.	Date:
4	1966

Direction Photo Taken:

N/A

Description:

June, 1966 aerial photograph of eastern portion of Bradford Island.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
7	1973

Direction Photo Taken:

N/A

Description:

May, 1973 aerial photograph of eastern portion of Bradford Island.

Photo No.	Date:
8	1981

Direction Photo Taken:

N/A

Description:

October, 1981 aerial photograph of eastern portion of Bradford Island.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
9	1988

Direction Photo Taken:

N/A

Description:

1988 aerial photograph of eastern portion of Bradford Island.

Photo No.	Date:
10	1995

Direction Photo Taken:

N/A

Description:

1995, aerial photograph of eastern portion of Bradford Island.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
11	May 2001

Direction Photo Taken:

Southeast

Description:

Landfill AOPC:
View of the Landfill AOPC at the Northeast tip of Bradford Island. Monitoring wells MW-1, MW-2, and MW-5 are visible. This photo was taken prior to the installation of monitoring wells MW-6 through MW-9.

Photo No.	Date:
12	12/11/01

Direction Photo Taken:

West

Description:

Landfill AOPC:
View of monitoring wells MW-1 through MW-5 located within the Landfill AOPC. This photo was taken prior to the installation of monitoring wells MW-6 through MW-9.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
13	Oct. 2001

Direction Photo Taken:

East

Description:

Landfill AOPC:
Mercury vapor lamp excavation done as part of the Landfill AOPC characterization in 2001.

Photo No.	Date:
14	4/30/00

Direction Photo Taken:

West

Description:

Landfill AOPC:
View of the sampling equipment used during the groundwater monitoring and sampling activities within the Landfill AOPC. The field geologist is set up at monitoring well MW-1.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
15	1/11/09

Direction Photo Taken:

N/A

Description:

Landfill AOPC:
View of one of the seep sample locations.

Photo No.	Date:
16	4/13/00

Direction Photo Taken:

N/A

Description:

Landfill AOPC:
View of one of the seep sample locations and the sampling equipment used to collect one of the seep samples.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
17	3/23/01

Direction Photo Taken:

East

Description:

Landfill AOPC:
View of the steep bank on the northeast end of Bradford Island.

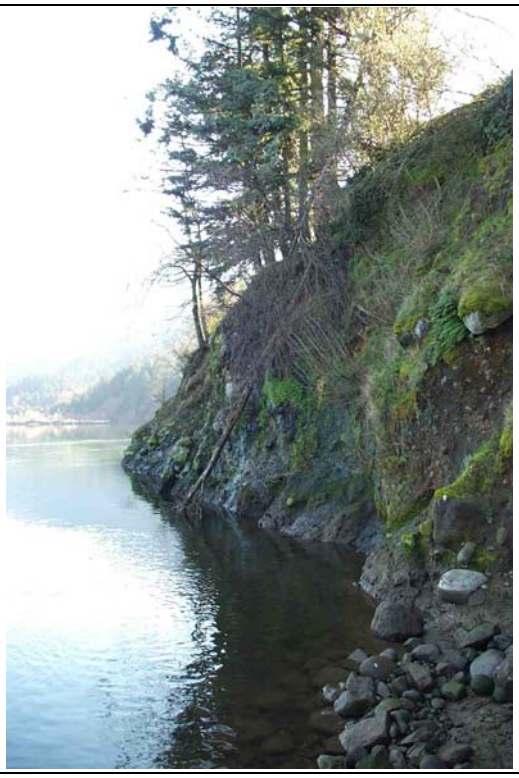


Photo No.	Date:
18	3/20/08

Direction Photo Taken:

South

Description:

Reference Area:
View of the Reference Area monitoring well location (MW-10). The field personnel are standing at the approximate location of the monitoring well.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
19	11/19/01

Direction Photo Taken:

East

Description:

Sandblast Area AOPC:
View of the Sandblast Building and adjacent Septic Tank Drain Field located in the grass covered area to the left of the building.

Photo No.	Date:
20	3/7/00

Direction Photo Taken:

West

Description:

Sandblast Area AOPC:
View of the Sandblast Building in the background and the Spend Sandblast Grit Area in the foreground.

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
21	3/20/08

Direction Photo Taken:

East

Description:

Sandblast Area AOPC:
View of the Spent Sandblast Grit Area east of the Sandblast Building.

Photo No.	Date:
22	1/11/09

Direction Photo Taken:

West

Description:

Sandblast Area AOPC:
View of the Sandblast Building in the background and the Spend Sandblast Grit Area in the foreground.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
23	1/11/09

Direction Photo Taken:

East

Description:

Sandblast Area AOPC:
View of the Spent Sandblast Grit Area adjacent to the Sandblast Building on the hillside above the Equipment Laydown Area

Photo No.	Date:
24	11/19/01

Direction Photo Taken:

N/A

Description:

Sandblast Area AOPC:
View of sandblast grit observed on ground surface during site reconnaissance near the Current Hazardous Materials Storage Area.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
25	3/7/00

Direction Photo Taken:

South

Description:

Sandblast Area AOPC:
View of the north side of the Current Hazardous Materials Storage Area.

Photo No.	Date:
26	11/19/01

Direction Photo Taken:

West

Description:

Sandblast Area AOPC:
View of the east side of the Current Hazardous Materials Storage Area.

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
27	3/15/00

Direction Photo Taken:

West

Description:

Sandblast Area AOPC:
View of the Equipment Laydown Area looking west along the Landfill access road.

Photo No.	Date:
28	1/11/09

Direction Photo Taken:

East

Description:

Sandblast Area AOPC:
View of the Equipment Laydown Area looking east along the Landfill access road.

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
29	03/20/09

Direction Photo Taken:

East

Description:

Sandblast Area AOPC:
View of the eastern end of the Equipment Laydown Area. Locations of surface soil grab sample stations LD-09, LD-10 and LD-11 are shown with red circles. LD-10 and LD-11 were collected from stockpiled soils below plastic liner. Access road to Landfill AOPC visible in background.

Photo No.	Date:
30	3/18/09

Direction Photo Taken:

South

Description:

Sandblast Area AOPC:
View of the Erodable Soils Area in the foreground. This temporary feature was a result of contruction activities in late 2008. The following year, this slope was naturally revegetated (see Photo 31). Monitoring well MW-12 and the Sandblast Building are visible in the background.

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
31	6/30/10

Direction Photo Taken:

South

Description:

Sandblast Area AOPC:
View of the vegetated slope adjacent to the Sandblast Building, which is visible in the background. The previous year, this area was unvegetated (as shown in Photo 30) due to late 2008 construction activities and identified as the Erodable Soils Area.

Photo No.	Date:
32	6/30/10

Direction Photo Taken:

Southeast

Description:

Sandblast Area AOPC:
Closer view of the vegetated slope adjacent to the Sandblast Building. The previous year, this area was unvegetated (as shown in Photo 30) due to late 2008 construction activities.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
33	11/19/01

Direction Photo Taken:

Southeast

Description:

Sandblast Area AOPC:
View of the access road to the Former Hazardous Materials Storage Area, which is visible in the background.

Photo No.	Date:
34	6/30/10

Direction Photo Taken:

West

Description:

Sandblast Area AOPC:
View of the storage pad within the Former Hazardous Materials Storage Area

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
35	1958

Direction Photo Taken:

N/A

Description:

Pistol Range AOPC:
1958 aerial photo view of area of the Pistol Range AOPC. Vegetation along bank is well established. Photo indicates a small building and backstop in place. The Sandblast Building is visible to the north.

Photo No.	Date:
36	02/02/09

Direction Photo Taken:

East

Description:

Pistol Range AOPC:
View of the drilling subcontractor advancing drill rods at boring PR2C within the center of the Pistol Range AOPC.

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
37	11/22/02

Direction Photo Taken:

Southwest

Description:

Pistol Range AOPC:
View to the southwest from the top of the backstop. The debris from the firing shed (which has collapsed) is visible in the center of the photo and an access road is visible on the left (southern portion of the Pistol Range AOPC).

38	Date:
	01/11/09

Direction Photo Taken:

West

Description:

Pistol Range AOPC:
View of the five sediment sample stations (circled in red) located in the lagoon adjacent to the Pistol Range AOPC.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
39	11/20/02

Direction Photo Taken:

West

Description:

Bulb Slope AOPC:
View of landfill access road and upper boundary of Bulb Slope.

Photo No.	Date:
40	11/20/02

Direction Photo Taken:

South

Description:

Bulb Slope AOPC:
View of Bulb Slope AOPC just above the waterline. Concrete debris and glass debris are visible near the center of the photograph.
.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
41	12/21/00

Direction Photo Taken:

West

Description:

River OU:
View facing downstream of Bradford Island in the center and the Bonneville Dam and Spillway visible in the background on the right side.

Photo No.	Date:
42	2/28/02

Direction Photo Taken:

East

Description:

River OU:
View facing upstream of the barge set up during the electrical equipment removal off the northeast portion of Bradford Island. Picture Rock and Boat Rock are visible in the background.

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
43	3/5/02

Direction Photo Taken:

West-Northwest

Description:

River OU:
View facing downstream of the Bonneville Dam and Spillway in the background.

Photo No.	Date:
44	3/20/08

Direction Photo Taken:

West

Description:

River OU:
View downstream inside the Forebay on the south side of Bradford Island, which is not visible in this photo. The Oregon shore of the river and Interstate 84 are visible in this photo.

Appendix C: Photographic Log

Client Name:	Site Location:	URS Project No.
United States Army Corps of Engineers	Bonneville Lock and Dam – Oregon/Washington	25697026

Photo No.	Date:
45	2/12/08

Direction Photo Taken:

East

Description:

River OU:
View upstream with the north side of Goose Island on the right side of the photo.

Photo No.	Date:
46	2/27/08

Direction Photo Taken:

N/A

Description:

River OU:
View of typical sediment sample collection from VanVeen sampler.

APPENDIX D

GROUNDWATER ELEVATIONS

Table D-1
Groundwater Elevations for the Landfill and Sandblast Area AOPCs and the Reference Area
Bradford Island - Upland Operable Unit
(1 of 2)

Area	Well	Measuring Date	Measuring Point Elevation (ft msl)	Depth to Water (ft btc)	Groundwater Elevation (ft msl)	Bonneville Forebay Elevation (ft msl)
Landfill AOPC	MW-1	7/12/1999	105.5	28.81	76.69	71.80
Landfill AOPC	MW-1	11/8/1999	105.5	26.5	79.00	75.00
Landfill AOPC	MW-1	1/10/2000	105.5	26.9	78.60	74.20
Landfill AOPC	MW-1	10/24/2001	105.5	7.67	97.83	74.90
Landfill AOPC	MW-1	12/6/2001	105.5	7.36	98.14	74.10
Landfill AOPC	MW-1	5/1/2002	105.5	7.93	97.57	76.00
Landfill AOPC	MW-1	4/16/2008	105.5	27.12	78.38	75.10*
Landfill AOPC	MW-1	7/14/2008	105.5	27.76	77.74	73.80
Landfill AOPC	MW-1	10/20/2008	105.5	-	78.28	76.10
Landfill AOPC	MW-1	1/12/2009	105.5	27.42	78.08	74.20
Landfill AOPC	MW-2	7/12/1999	116.56	9.05	107.51	71.80
Landfill AOPC	MW-2	11/8/1999	116.56	9.54	107.02	75.00
Landfill AOPC	MW-2	1/10/2000	116.56	8.18	108.38	74.20
Landfill AOPC	MW-2	10/24/2001	116.56	10.01	106.55	74.90
Landfill AOPC	MW-2	12/6/2001	116.56	9.21	107.35	74.10
Landfill AOPC	MW-2	5/1/2002	116.56	8.85	107.71	76.00
Landfill AOPC	MW-2	4/16/2008	116.56	10.25	106.31	75.10*
Landfill AOPC	MW-2	7/14/2008	116.56	10.1	106.46	73.80
Landfill AOPC	MW-2	10/20/2008	116.56	-	106.56	76.10
Landfill AOPC	MW-2	1/12/2009	116.56	9.44	107.12	74.20
Landfill AOPC	MW-3	7/12/1999	115.21	17.22	97.99	71.80
Landfill AOPC	MW-3	11/8/1999	115.21	15.6	99.61	75.00
Landfill AOPC	MW-3	1/10/2000	115.21	10.73	104.48	74.20
Landfill AOPC	MW-3	10/24/2001	115.21	17.43	97.78	74.90
Landfill AOPC	MW-3	12/6/2001	115.21	10.21	105.00	74.10
Landfill AOPC	MW-3	5/1/2002	115.21	14.8	100.41	76.00
Landfill AOPC	MW-3	4/17/2008	115.21	13.46	101.75	75.10*
Landfill AOPC	MW-3	7/14/2008	115.21	17.3	97.91	73.80
Landfill AOPC	MW-3	10/20/2008	115.21	-	97.16	76.10
Landfill AOPC	MW-3	1/12/2009	115.21	12.48	102.73	74.20
Landfill AOPC	MW-4	7/12/1999	114.79	16.84	97.95	71.80
Landfill AOPC	MW-4	11/8/1999	114.79	15.77	99.02	75.00
Landfill AOPC	MW-4	1/10/2000	114.79	11.75	103.04	74.20
Landfill AOPC	MW-4	10/24/2001	114.79	17.35	97.44	74.90
Landfill AOPC	MW-4	12/6/2001	114.79	11.47	103.32	74.10
Landfill AOPC	MW-4	5/1/2002	114.79	14.51	100.28	76.00
Landfill AOPC	MW-4	4/17/2008	114.79	13.36	101.43	75.10*
Landfill AOPC	MW-4	7/14/2008	114.79	16.81	97.98	73.80
Landfill AOPC	MW-4	10/20/2008	114.79	-	97.24	76.10
Landfill AOPC	MW-4	1/12/2009	114.79	12.47	102.32	74.20
Landfill AOPC	MW-5	11/8/1999	114.07	19.1	94.97	75.00
Landfill AOPC	MW-5	1/10/2000	114.07	16.47	97.6	74.20
Landfill AOPC	MW-5	10/24/2001	114.07	20.76	93.31	74.90
Landfill AOPC	MW-5	12/6/2001	114.07	16.54	97.53	74.10
Landfill AOPC	MW-5	5/1/2002	114.07	18.12	95.95	76.00
Landfill AOPC	MW-5	4/16/2008	113.9	17.24	96.83	75.10*
Landfill AOPC	MW-5	7/14/2008	113.9	19.33	94.57	73.80
Landfill AOPC	MW-5	10/20/2008	113.9	-	93.34	76.10
Landfill AOPC	MW-5	1/12/2009	113.9	16.81	97.09	74.20

Table D-1
Groundwater Elevations for the Landfill and Sandblast Area AOPCs and the Reference Area
Bradford Island - Upland Operable Unit
(2 of 2)

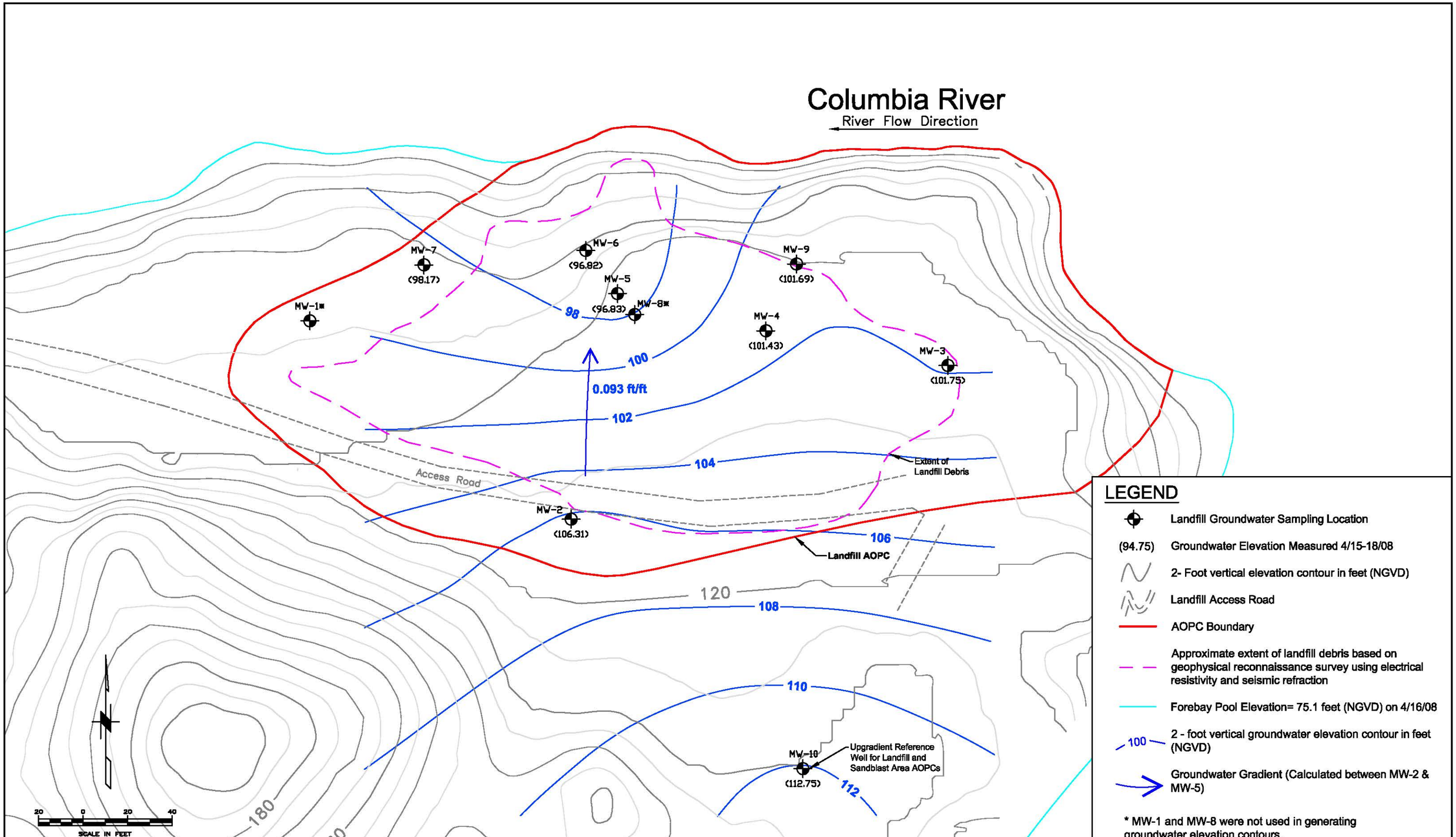
Area	Well	Measuring Date	Measuring Point Elevation (ft msl)	Depth to Water (ft btc)	Groundwater Elevation (ft msl)	Bonneville Forebay Elevation (ft msl)
Landfill AOPC	MW-6	5/1/2002	113.02	17.06	95.96	76.00
Landfill AOPC	MW-6	4/17/2008	112.8	16.2	96.82	75.10*
Landfill AOPC	MW-6	7/14/2008	112.8	18.24	94.56	73.80
Landfill AOPC	MW-6	10/20/2008	112.8	-	93.39	76.10
Landfill AOPC	MW-6	1/12/2009	112.8	15.72	97.08	74.20
Landfill AOPC	MW-7	5/1/2002	106.92	9.45	97.47	76.00
Landfill AOPC	MW-7	4/16/2008	106.73	8.75	98.17	75.10*
Landfill AOPC	MW-7	7/14/2008	106.73	9.67	97.06	73.80
Landfill AOPC	MW-7	10/20/2008	106.73	-	97.71	76.10
Landfill AOPC	MW-7	1/12/2009	106.73	8.33	98.40	74.20
Landfill AOPC	MW-8	5/1/2002	115.29	56.66	58.68	76.00
Landfill AOPC	MW-8	4/18/2008	115.13	41.63	73.66	75.10*
Landfill AOPC	MW-8	7/14/2008	115.13	26.66	88.47	73.80
Landfill AOPC	MW-8	10/20/2008	115.13	-	88.52	76.10
Landfill AOPC	MW-8	1/12/2009	115.13	25.16	89.97	74.20
Landfill AOPC	MW-9	5/1/2002	115.16	14.97	100.19	76.00
Landfill AOPC	MW-9	4/17/2008	114.98	13.47	101.69	75.10*
Landfill AOPC	MW-9	7/14/2008	114.98	15.99	98.99	73.80
Landfill AOPC	MW-9	10/20/2008	114.98	-	99.04	76.10
Landfill AOPC	MW-9	1/12/2009	114.98	12.6	102.38	74.20
Reference Area	MW-10	4/15/2008	133.2	20.45	112.75	75.10*
Reference Area	MW-10	7/14/2008	133.2	25.94	107.26	73.80
Reference Area	MW-10	10/20/2008	133.2	-	104.29	76.10
Reference Area	MW-10	1/12/2009	133.2	19.52	113.68	74.20
Sandblast Area AOPC	MW-11	4/15/2008	98.12	6.41	91.71	75.10*
Sandblast Area AOPC	MW-11	7/14/2008	98.12	8.05	90.07	73.80
Sandblast Area AOPC	MW-11	10/20/2008	98.12	-	90.72	76.10
Sandblast Area AOPC	MW-11	1/12/2009	98.12	7.06	91.06	74.20
Sandblast Area AOPC	MW-12	4/15/2008	100.62	24.08	76.54	75.10*
Sandblast Area AOPC	MW-12	7/14/2008	100.62	26.05	74.57	73.80
Sandblast Area AOPC	MW-12	10/20/2008	100.62	-	76.26	76.10
Sandblast Area AOPC	MW-12	1/12/2009	100.62	23.1	77.52	74.20
Sandblast Area AOPC	MW-13	4/14/2008	97.55	16.35	81.2	75.10*
Sandblast Area AOPC	MW-13	7/14/2008	97.55	17.08	80.47	73.80
Sandblast Area AOPC	MW-13	10/20/2008	97.55	-	80.5	76.10
Sandblast Area AOPC	MW-13	1/12/2009	97.55	15.62	81.93	74.20
Sandblast Area AOPC	MW-14	4/14/2008	86.67	12.94	73.73	75.10*
Sandblast Area AOPC	MW-14	7/14/2008	86.67	13.61	73.06	73.80
Sandblast Area AOPC	MW-14	10/20/2008	86.67	-	75.9	76.10
Sandblast Area AOPC	MW-14	1/12/2009	86.67	12.59	74.08	74.20
Sandblast Area AOPC	MW-15	4/14/2008	86.86	13.05	73.81	75.10*
Sandblast Area AOPC	MW-15	7/14/2008	86.86	13.81	73.05	73.80
Sandblast Area AOPC	MW-15	10/20/2008	86.86	-	75.96	76.10
Sandblast Area AOPC	MW-15	1/12/2009	86.86	12.76	74.1	74.20

Bonneville Forebay Elevation data from USACE (http://www.cbr.washington.edu/dart/river.html)
ft msl = feet above mean sea level
ft btc = feet below top of well casing
* = measured on April 16, 2008
"-" = Not evaluated

Table D-2
Groundwater Elevation Gradients for the Landfill andSandblast Area AOPCs
Bradford Island - Upland Operable Unit
(1 of 1)

Date	Landfill AOPC	Sandblast AOPC	
	Gradient Between MW-02 and MW-05 (north)	Gradient Between MW-11 and MW-14 (northwest)	Gradient Between MW-11 and MW-15 (north)
11/8/1999	0.118	-	-
1/10/2000	0.105	-	-
10/24/2001	0.129	-	-
12/6/2001	0.096	-	-
5/1/2002	0.115	-	-
April 2008	0.093	0.082	0.117
7/14/2008	0.116	0.078	0.111
10/20/2008	0.129	0.068	0.097
1/12/2009	0.098	0.078	0.111
Average	0.111	0.077	0.109
Avg Nov to April	0.102	0.080	0.114
Avg May to Oct	0.122	0.073	0.104

Gradient units in feet/feet (vertical/horizontal)



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BRADFORD ISLAND

CASCADE LOCKS, OREGON

LANDFILL AOPC

GROUNDWATER ELEVATION CONTOURS
APRIL 2008 (WET SEASON)

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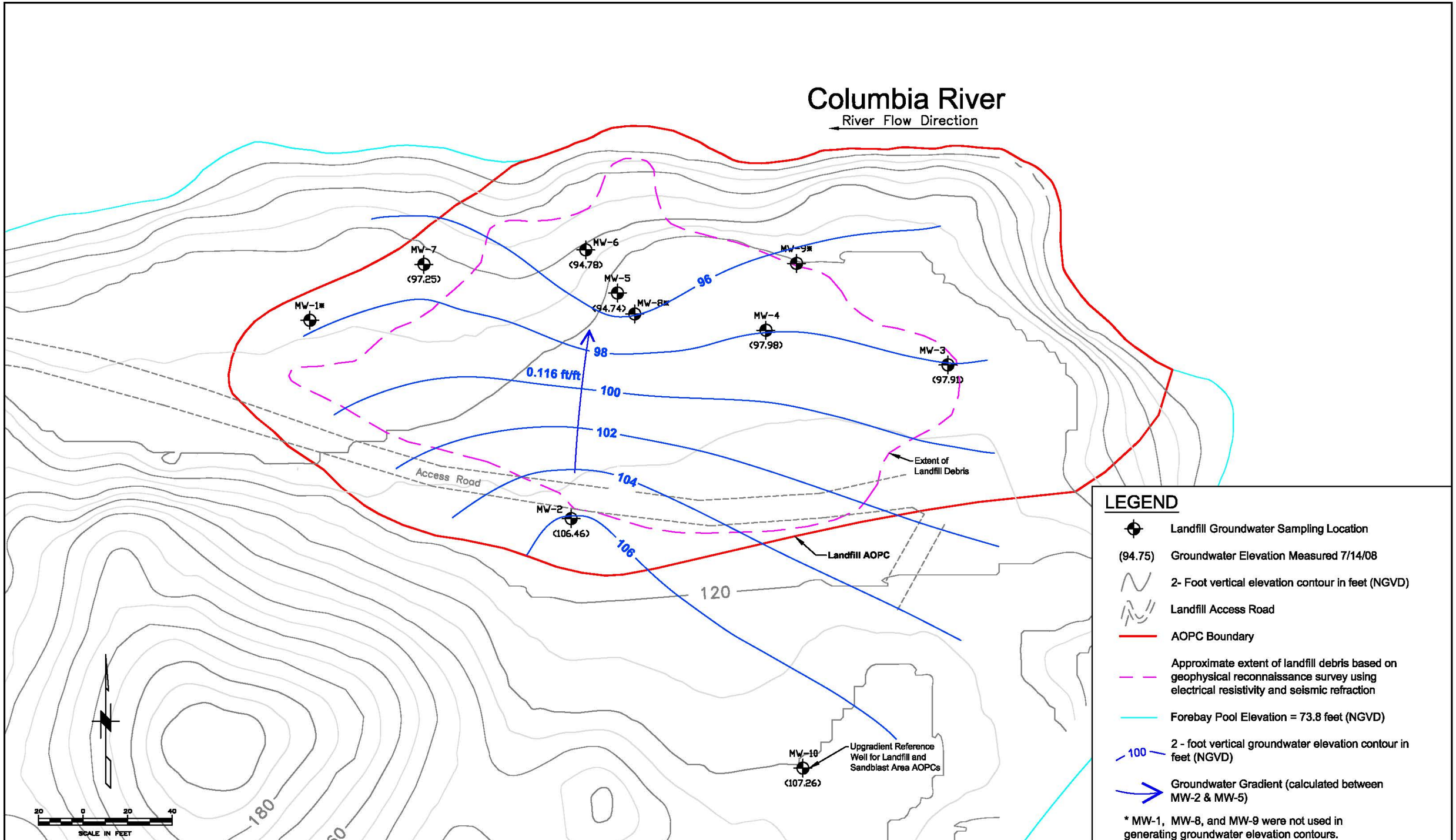

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LANDFILL AOPC

GROUNDWATER ELEVATION CONTOURS
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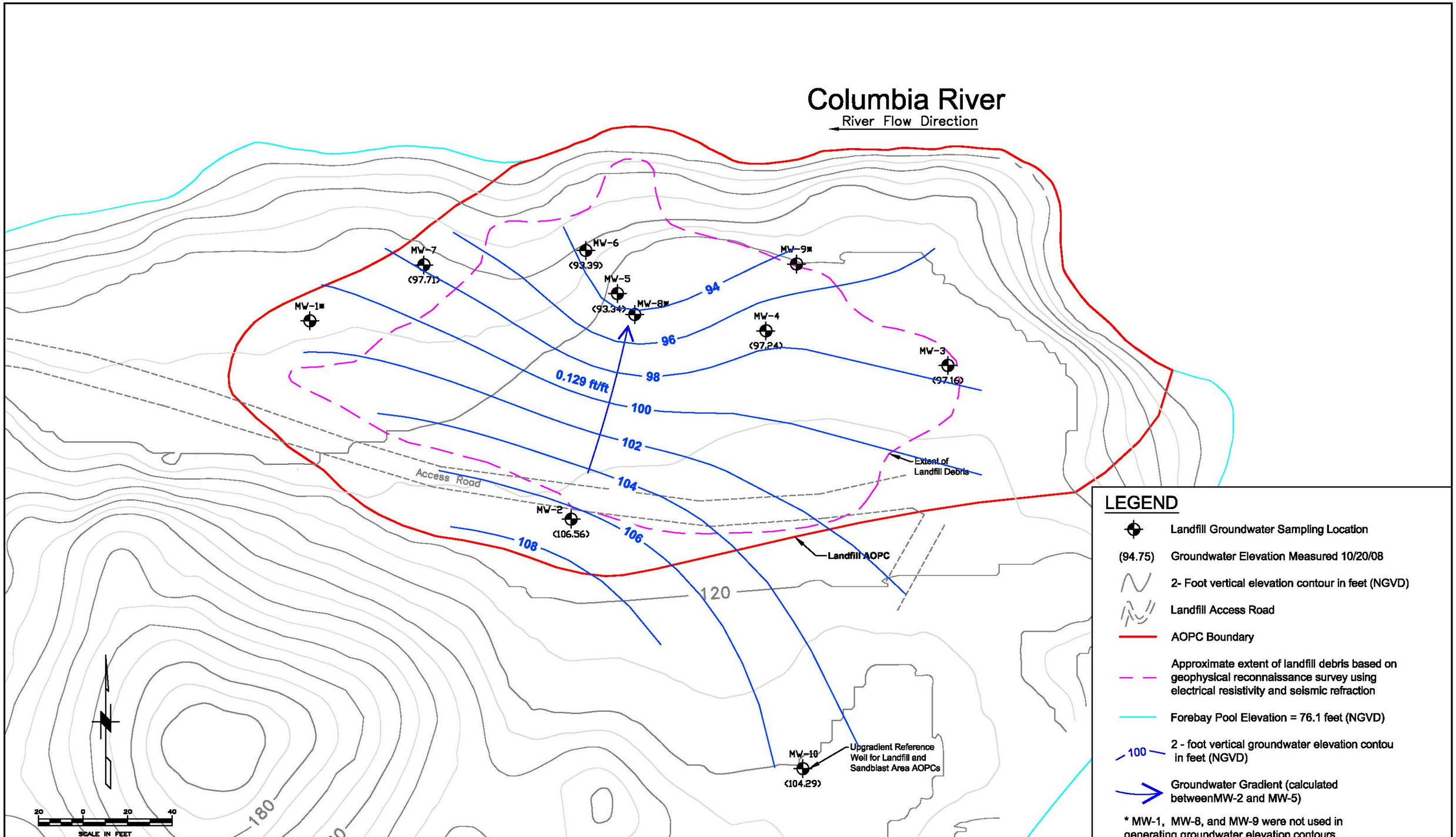

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LANDFILL AOPC

GROUNDWATER ELEVATION CONTOURS
OCTOBER 2008 (DRY SEASON)

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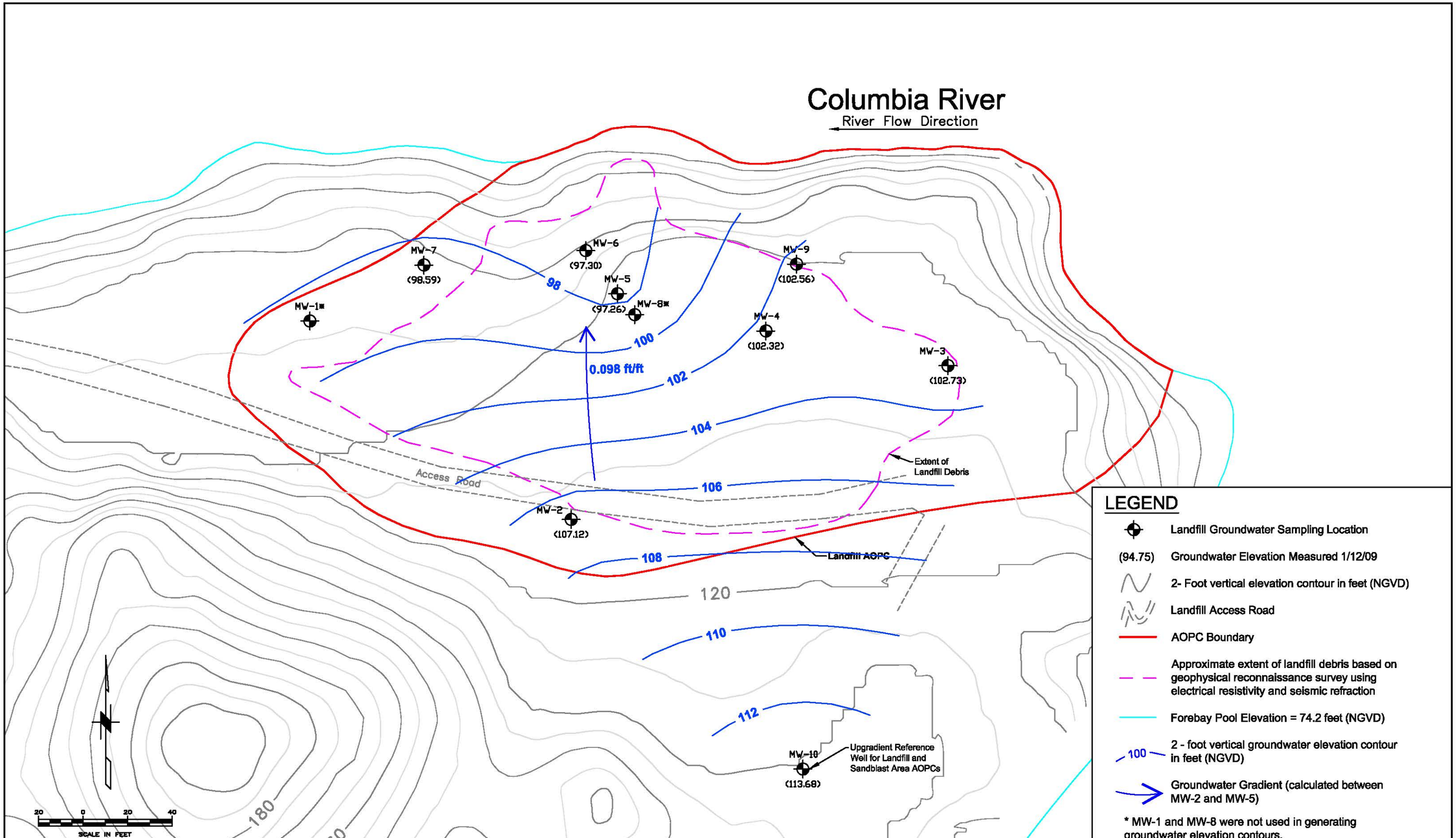

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LANDFILL AOPC

GROUNDWATER ELEVATION CONTOURS
JANUARY 2009 (WET SEASON)

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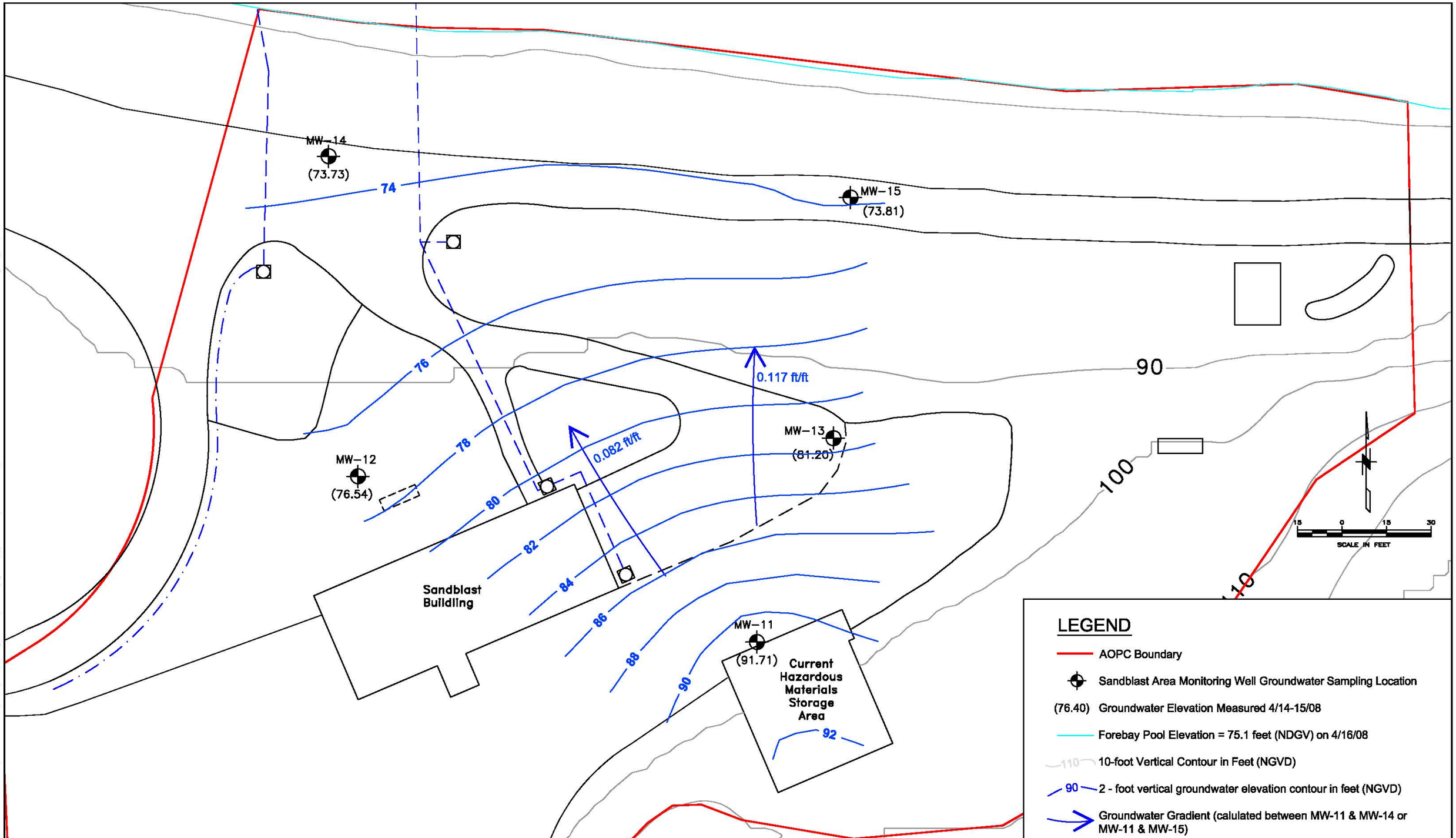

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CASCADE LOCKS, OREGON

SANDBLAST AREA AOPC

GROUNDWATER ELEVATON CONTOURS
APRIL 2008 (WET SEASON)

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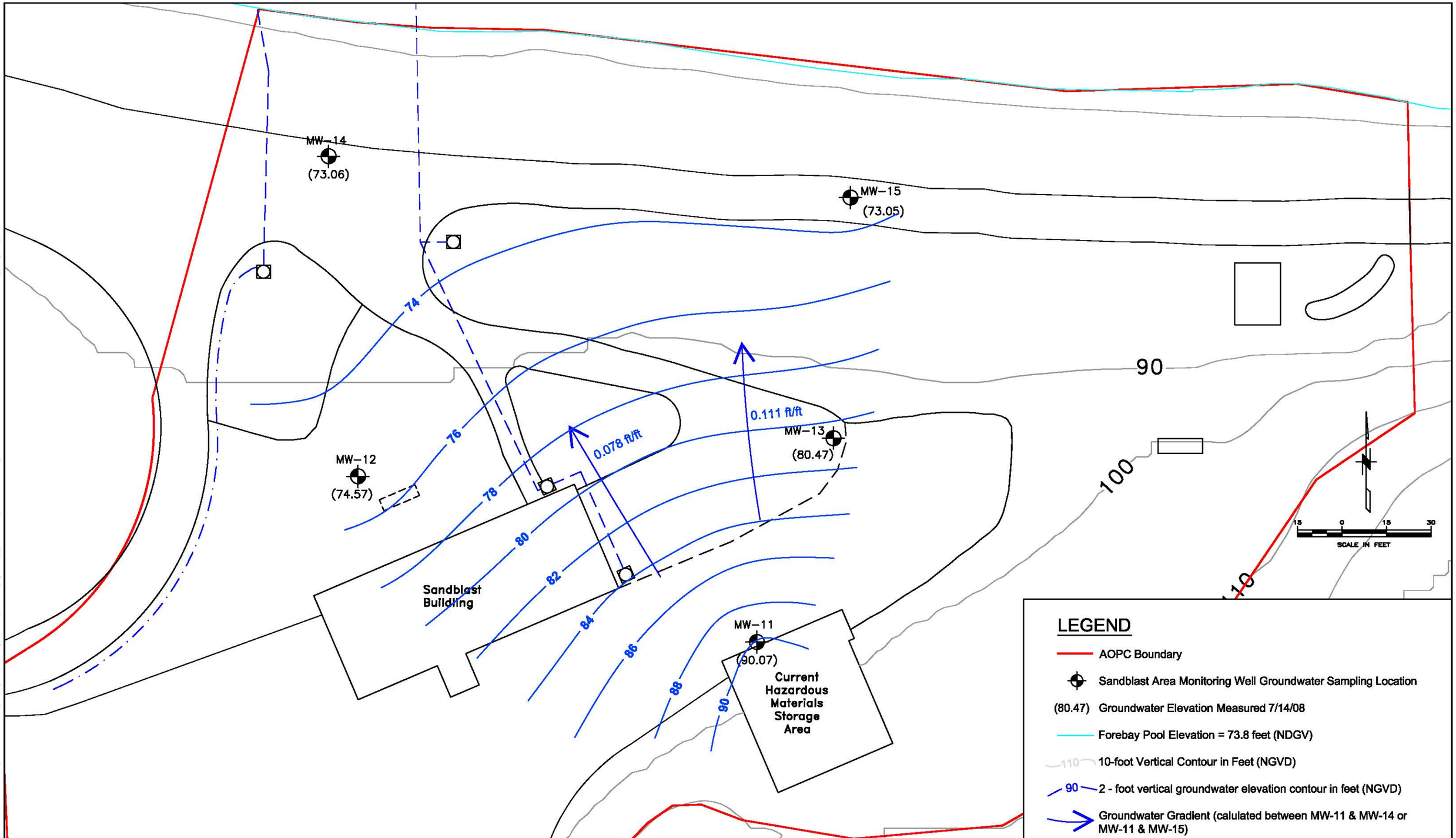

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SANDBLAST AREA AOPC

GROUNDWATER ELEVATON CONTOURS
JULY 2008 (DRY SEASON)

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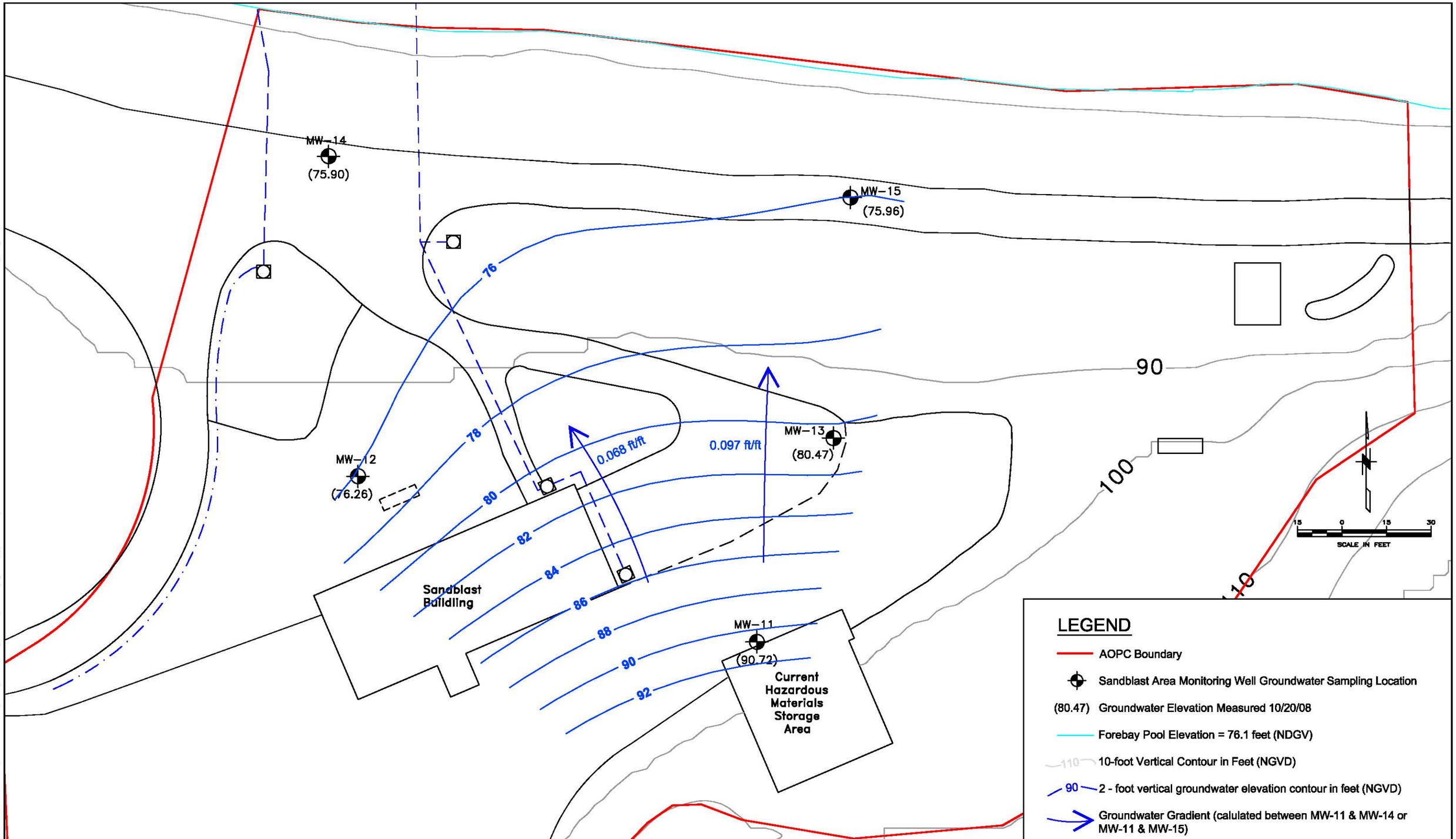

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SANDBLAST AREA AOPC

GROUNDWATER ELEVATON CONTOURS
OCTOBER 2008 (DRY SEASON)

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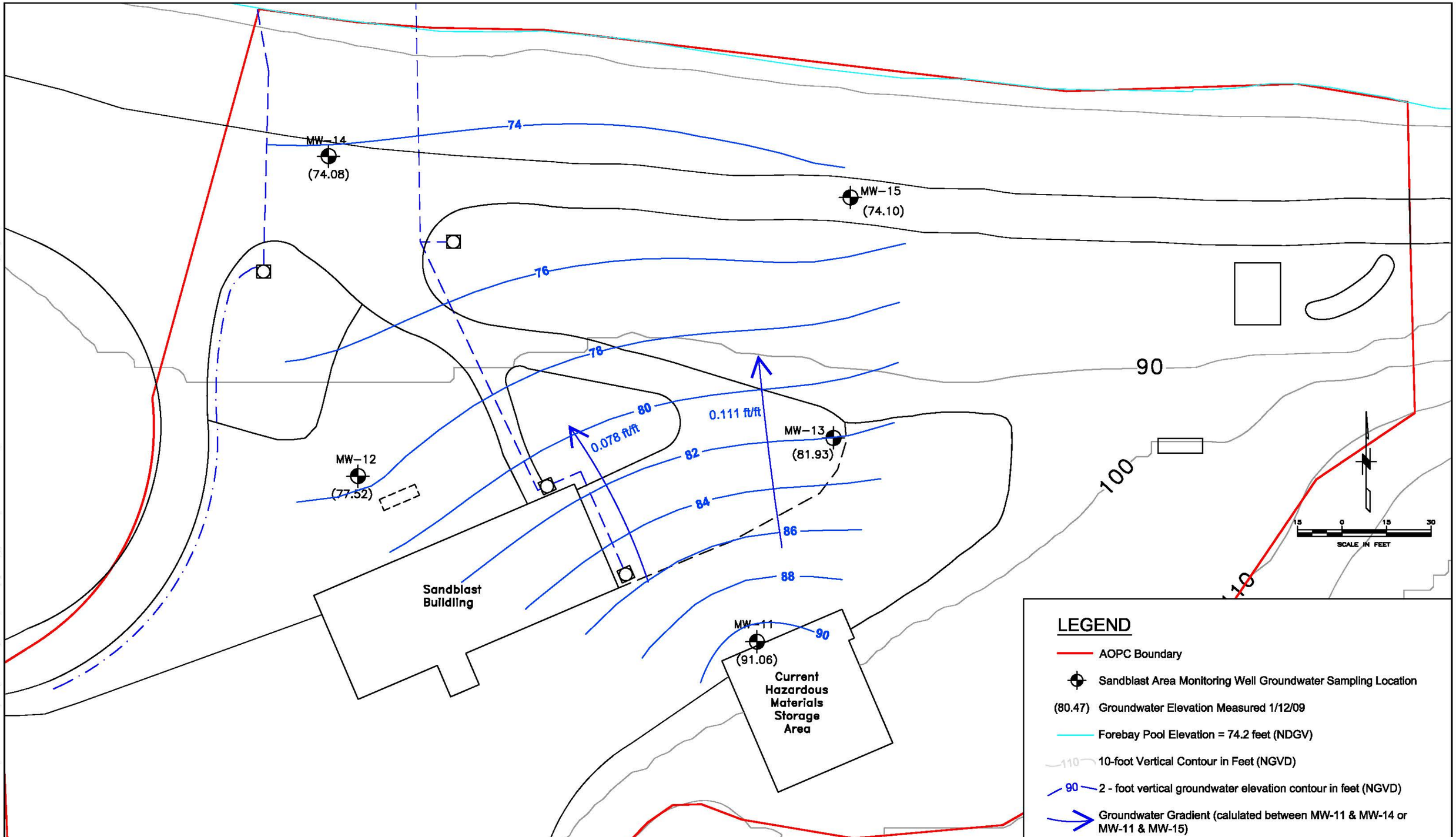

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SANDBLAST AREA AOPC

GROUNDWATER ELEVATON CONTOURS
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