WELL DRILLING LOG

BCM

Well/Boring No.: MW-4

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 11/30/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin-Hubes Inc.

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil Samples collected for analyses from 0-2 and 2-4

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION		ELEVATION
0	①	15	3,4,3,4	Fill: Black silt and fine sand (cinders?), trace concrete fragments, dry			TP14, PL3, Pumps NIR	
3.4	②	15	3,4,4,3	Fill: ~~Black~~ Fine Sand, trace coarse Sand and cinders, orange, slightly damp			NIR	
5	③	0	1,2,1/12	Black silt/cinders from 3.2-3.4 [illegible] gravel @ 3.4' Spoon wet on outside			NIR	
10								
14 / 15				End of Boring 14'				

WELL DRILLING LOG

BCM

Well/Boring No.: MW-5

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 11/30/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin Huber Inc.

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil Samples collected for analyses from 6.2

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION		HNU	ELEVATION
0	1	13	2222	Fill: Black Silty Sand, trace to little gravel, dry			TPH, PCBs Metals	NR	
	2	22	6778	Fill: Same as above to 3.2' with little to some gravel, black, wet. Sand: fine to medium, trace coarse sand, brown, wet		32		NR	
5									
10									
				End of Boring @ 13'					
15									

BCM

WELL DRILLING LOG

Well/Boring No.: MW-6

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 11/30/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin-Hebert Inc.

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil Samples collected for analyses from 0-2; Note: augers on angle. Developed 12/1/94 ~1:30pm 18-20 gallons

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION		ELEVATION
0	1	18	1, 4, 10, 8, 12	Fill: Black Silt and Cinders, Some surrounded Coarse gravel, black, dry			NR	
	2	18	78	Fill Same as above to 2.8		2.8		0.2
				Sand: fine-medium, little coarse sand and fine gravel, tan, wet				
5								
10				Cobble or boulder				
13				End of Boring @ 13'				

WELL DRILLING LOG

BCM

Well/Boring No.: MW-7

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 11/29/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin-Huber Inc.

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil Samples collected for analyses from 0-2. Well developed 12/1/94 <0.5gpm

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION		ELEVATION
0	1	12	2,3,3,2	Fill: Gravel and Cinders, local Silt, angular gravel, some silt, black, dry			TPH, PCBs metals	N.R.
	2	22	1,2,2,3	Fill Sand: Fine, with some med sand and silt, intermittent black staining, tan, wet @ 3'. Clay/silt 3.5-4				0.8-4
5	3	14	2,2,3,3	Sand: Same as above, black lenses material throughout, black, odor			TPH	2-8
	4	0	~~1,1,1,1~~					
	5	14	1/12,1,1	Sand: Fine to medium some silt, trace coarse sand, tan, wet				2-9
10	6	18	1/12,1/12	Sand: Same as above				5-13
	7	6	1,2,2,3	Sand: Fine to coarse, some silt, tan to gray, wet				
15								
20								
25								
30								

WELL DRILLING LOG

BCM

Well/Boring No.: MW-48

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 11/30/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin-Huber Inc

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks: Samples scanned using HNU for volatiles. Soil samples collected for analyses from 0-2 and 2-4

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		STRATA	WELL CONSTRUCTION		ELEVATION
0	1	19	3445	Fill: Silt with little subangular fine to med. gravel, black, dry			TPH	Nil
	2	18	3444	Fill: Sand and Silt, fine to coarse sand, little subrounded to subangular med. gravel, med gray mottled w/ black, dry			TPH, PCBs metals	0.4
5	3		1334	Fill Sand: fine to medium, little to trace silt and coarse sand, trace mottled w/ gray, wet				12-18
10								
14				End of Boring 14'				
15								

WELL DRILLING LOG

BCM

Well/Boring No.: MW-9

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 11/29/91

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin-Haber Inc.

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil Samples collected for analyses from 0-2

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION		ELEVATION
0	1	16	8,13,7,10	Fill: Coarse subangular gravel 0-0.5; Sand and gravel 0.5-1.1, black; Silt and fine sand, trace fine gravel, black 1.1-2.3; dry			HR	
	2	15	4,4,4,5				WIR	
5	3	2	2,6,6,8	Fill: Sand and silt, fine gravel, trace angular fine gravel and coarse sand, black, wet			NIR	
				Same as above 2				
				Sand: medium grained, tan, wet				
10								
13				End of Boring @ 13'				
15								
20								

BCM

WELL DRILLING LOG

Well/Boring No.: MW-10

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 11/29/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin Hubes Inc.

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil Samples collected for analyses from 0-2 and 2-4. Well developed 12/1/94 ~ 2 gpm 50 gallons

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION	HNU	ELEVATION
0	X 1	14	1,2,2,2	Fill: Subrounded coarse gravel and fine-medium Sand; Some Silt; black, dry			4.5	
	X 2	13	1,2,3,2	Fill: Same as above; wet (hydrocarbon viscous liquid)			28	
5								
0								
3				End of Boring @ 13'				
15								

WELL DRILLING LOG

BCM

Well/Boring No.: MW-11

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 10/1/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardin Huber Inc

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil Samples collected for analyses from 0-2 and 2-4

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION		HNU	ELEVATION
0	①	19	3346	Fill: Black Silt, and Cinders, trace ballast 0-0.2, dry Sand @ bottom of spoon		2	TPH, PCBs, metals	0.6	
	②	9	2332	Sand: Fine-med dry trace coarse sand and fine gravel, brown, dry.			TPH	N.C.	
5	③	23	1,1,2,2	Sand: Same as above to 4.5' then fine to coarse sand with some silt, gray, wet		4.5		N.C.	
10		0	Shelby tube						
		26 27	10/1/94 Shelby tube	Clay/Silt gray at bottom of tube and ~~brown clay and sand @ top of tube~~ black sand @ top					
15				End of Boring 15'					

WELL DRILLING LOG

BCM

Well/Boring No.: MW-12

Project: Amtrak, Wilmington Delaware

Sheet 1 of 1

BCM Project No. 00-4891-04 Logged By: M. Bonaker Date(s): 12/1/94

Well/Boring Location:

Drilling Method 4 1/4-inch ID Hollow Stem Augers Drilling Contractor: Hardman Harbert Inc.

Depth to Groundwater: Date: Reference:

Elevations: Ground Surface: Inner Casing: Outer Casing:

Water Table: Date: Reference:

Remarks Samples scanned using HNU for volatiles. Soil samples collected for analyses from 0-2' and 2-4'

DEPTH	SAMPLE NO.	RECOVERY	BLOWS		GRAPHICAL LOGS: STRATA	GRAPHICAL LOGS: WELL CONSTRUCTION		ELEVATION
0	①	13	5,6,7,7	Fill: Black silt and cinders, coarse gravel 0-0.2', dry		2	TPH	N.R.
	②	18	2,3,3,3	Sand: Fine-medium, trace subangular gravel, orange, dry. Black cinders from 0.2-3.4'			TPH, PCBs, metals	N.R.
5	③	19	3,3,3,2	Sand: Fine-med, trace silt, coarse sand and fine gravel, brown, silt/clay from 0.2-4, orange, wet				N.R.
10		27	Spoon tube	Brown sand and clay @ top of tube				
14 15				End of Boring 14'				

KLING STUBBINS

ARCHITECTURE
ENGINEERING
INTERIORS
PLANNING

Amtrak
Central Electrification and Traffic Control Facility (CETC)

Site Permitting

Sediment and Stormwater Plan Narrative Report

March 14, 2007

Project Numb[illegible]

DRAFT

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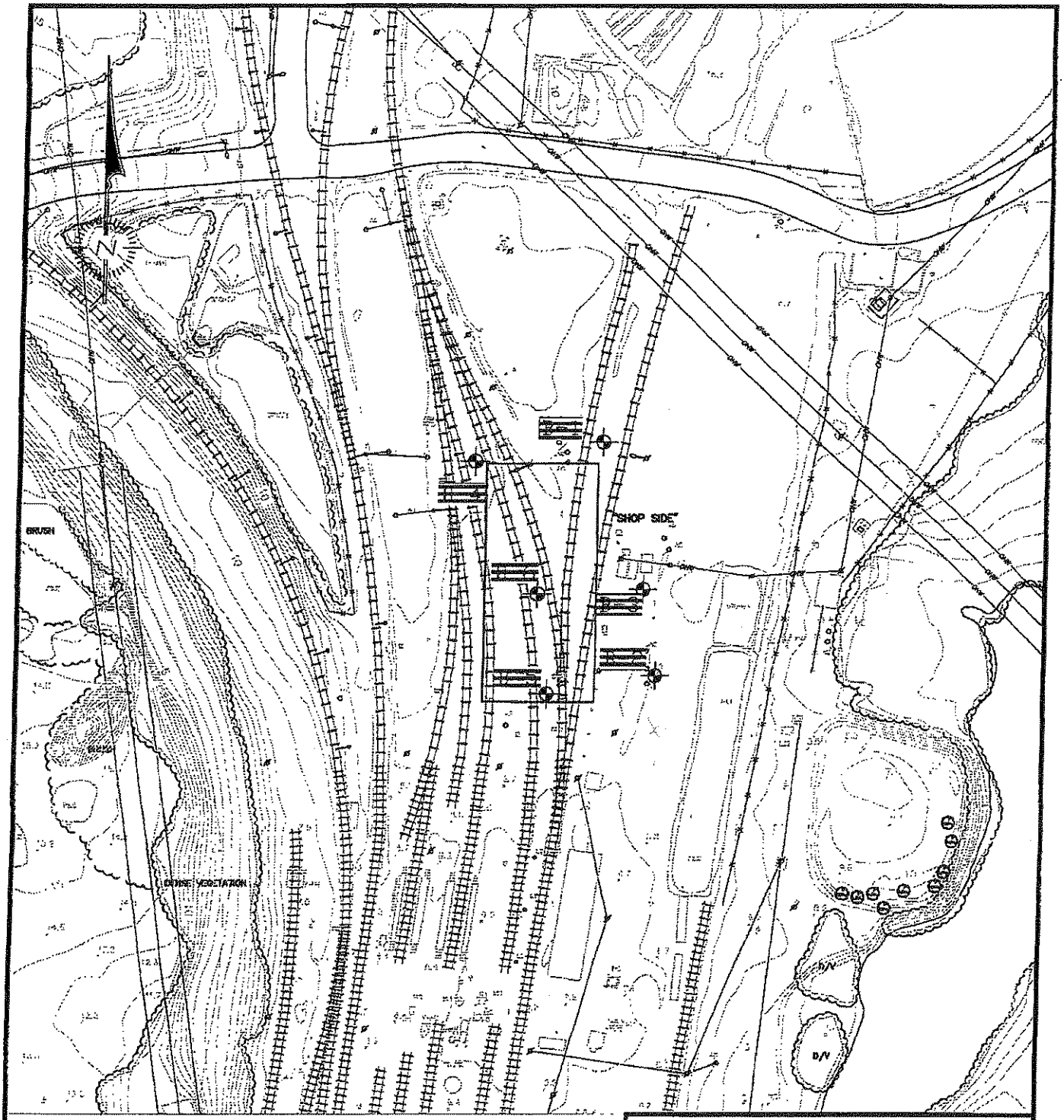


REFERENCE:

DRAWING PREPARED BY NAVE NEWELL, INC.

0' 100' 200'

BORING LOCATION PLAN
CONSOLIDATED M/W BUILDING
AMTRAK MAINTENANCE FACILITY
WILMINGTON, DE

GeoSystems Consultants, Inc.

PROJECT NO.: 04G625	FIGURE 1
JANUARY 2005	

M:\Projects\2004\04G625\G

c:\MW Bldg\0431A-x10-VERIFY.dwg, 01/14/2005 09:28:05 AM, 1:1

LOG of BORING NO. B-1

DATE: Jan. 4, 2005 SURFACE ELEVATION: 7.8 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		19	SS	Dense black silty coarse to fine sand, trace fine gravel (cinders)						
		16	SS	- becoming grayish brown with pieces of wood	3.5					
5		18	SS	- 2" black contaminated, 3" white clay	3.3					
		11	SS	Medium dense silty coarse to fine sand, trace fine gravel; saturated						
		9	SS	- trace coarse to fine gravel			18.1			X
10		9	SS							
					-7.2					
15		woh	SS	Soft brownish gray silty clay and peat		0.1				
20		woh	SS			0.0				
					-17.2					
25		5	SS	Loose gray fine micaceous silty fine sand						
30		18	SS	Dense brown micaceous silty medium to fine sand, trace fine gravel			10.0			X
35										

Completion Depth:	55.9 ft.	Water Depth:	3.4	ft After	2.0	hrs
Project No.:	2004G625		4.8	ft After	19	hrs
Project Name:	Amtrak MW Building		3.2	ft After	91	hrs
Drilling Method:	Mud rotary with automatic hammer			ft After		hrs

GeoSystems Consultants

LOG of BORING NO. B-1

DATE: Jan. 4, 2005 SURFACE ELEVATION: 7.8 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
35		15	SS	Medium dense gray silty coarse to fine sand and coarse to fine gravel	-28.2					
				Micaceous silty medium to fine sand, trace fine gravel						
40		12	SS							
45		16	SS	- little fine gravel						
					-41.2					
50		31	SS	Grayish green silty fine sand (decomposed rock)		2.5-4.5		NP		X
55		100/4"	SS		-48.1					
60										
65										
70										

Completion Depth:	55.9 ft.	Water Depth:	3.4	ft After	2.0	hrs
Project No.:	2004G625		4.8	ft After	19	hrs
Project Name:			3.2	ft After	91	hrs
Drilling Method:	Mud rotary with automatic hammer			ft After		hrs

GeoSystems Consultants

LOG of BORING NO. B-2

DATE: Jan. 3, 2005 SURFACE ELEVATION: 9.2 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		12	SS	Dense black silty coarse to fine sand, some fine gravel (cinders)						
		4	SS	- becoming medium dense, grayish brown clayey/silty sand						
5		1	SS	- becoming very loose						
		1	SS	- contaminated						
		woh	SS	- saturated						
10		woh	SS	- becoming brown						
					-5.8					
15		2	SS	Very soft dark brown clayey peat						
20		woh	SS	- with gray silty clay						
				[Peat]	-14.3					
25		10	SS	Medium dense gray micaceous silty medium to fine sand, trace fine gravel, saturated						
30		28	SS	- becoming gray silty coarse to fine sand and coarse to fine gravel						
35										

Completion Depth: 55.1 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-2

DATE: Jan. 3, 2005 SURFACE ELEVATION: 9.2 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
35		14	SS	- becoming grayish brown, trace fine gravel						
40		10	SS	- becoming gray silty medium to fine sand, trace coarse gravel						X
45		24	SS		-36.7		9.3			X
				Dense grayish green, silty sand and gravel						
50		23	SS	- becoming greenish gray silty coarse to fine sand						
55		100/1"	SS	- becoming very dense	-45.9					
60										
65										
70										

Completion Depth: 55.1 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-3

DATE: Jan. 3, 2005 SURFACE ELEVATION: 8.7 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		16	SS	Dense black silty coarse to fine sand, trace fine gravel						
		11	SS	- becoming medium dense, brown silty medium to fine sand, trace fine gravel, wet						
5		5	SS	- becoming grayish brown						
		4	SS	- contaminated						
		10	SS	- trace coarse to fine gravel						
10		9	SS	- becoming silty coarse to fine sand, trace fine gravel, contaminated, saturated						
					-6.3					
15		woh	SS	- very soft grayish brown silty clay and peat						
20		woh	SS	- with trace peat		0.5				
					-14.8					
25		7	SS	Medium dense brown fine micaceous silty fine sand						X
30		39	SS	- becoming bery dense grayish brown to dark brown coarse to fine sand and gravel						
35										

Completion Depth: 55.7 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-3

DATE: Jan. 3, 2005 SURFACE ELEVATION: 8.7 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
35		18	SS	- becoming dense micaceous silty medium to fine sand, trace coarse sand						
40		5	SS	- becoming loose						
45		10	SS	- becoming medium dense						
					-40.3					
50		12	SS	Medium dense grayish green silty fine sand, decomposed rock		0.75-1.5				
55		100/1"	SS	- becoming very dense	-47.0					
60										
65										
70										

Completion Depth: 55.7 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-4

DATE: Jan. 4, 2005 SURFACE ELEVATION: 7.9 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		11	SS	Dense brown to black, then green, silty coarse to fine sand, trace fine gravel						
		5	SS	-brown, becoming medium dense and black						
5		woh	SS	-contaminated with coal, wet						
		1	SS	-saturated black, becoming brown						
		3	SS							
10		2	SS	-trace coarse to fine gravel						
					-8.0					
15		woh	SS	Very soft brown silty clay with peat, becoming gray silty clay		0.5				
20		woh	SS	- becoming fine sandy silt				89	46	X
					-18.0					
25		11	SS	Dense brownish gray fine micaceous silty fine sand, trace fine gravel						
30		15	SS	- same for 8", then gray fine micaceous silty fine sand						
35										

Completion Depth: 50.0 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-4

DATE: Jan. 4, 2005 SURFACE ELEVATION: 7.9 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
35		31	SS	Very dense gray silty coarse to fine sand and gravel						
40		5	SS	Soft gray micaceous trace fine sandy clayey silt		0.4-1.5	36.1	43	27	X
45		13	SS		-38.9					
				Medium dense to dense grayish green silty coarse to fine sand (decomposed rock), trace fine gravel	-43.0					
50		50/0"	SS							
55										
60										
65										
70										

Completion Depth: 50.0 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-5

DATE: Jan. 7, 2005 SURFACE ELEVATION: 8.5 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		6	SS	Medium dense black silty coarse to fine sand, trace coarse to fine gravel						
		8	SS	- becoming brownish gray, contaminated						
5		13	SS							
		7	SS	- saturated						
		14	SS							
10		8	SS							
15					-7.2					
		5	SS	- with trace peat		0.5				
20		woh	SS	Very soft black to dark brown clayey peat, becoming gray silty clay with little peat		0.5				
25					-16.5					
		8	SS	Medium dense gray micaceous silty fine sand, trace coarse sand			27.1			X
30		25	SS							
35										

Completion Depth: 55.8 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-5

DATE: Jan. 7, 2005 SURFACE ELEVATION: 8.5 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
35		11	SS							
40		10	SS	Dense browish gray micaceous fine sandy clayey silt, 4" gray silty coarse to fine sand with trace fine gravel, then micaceous fine sandy clayey silt with trace peat						
45		34	SS	- with trace silt and mica						
					-41.5					
50		47	SS	Dense to very dense grayish green silty fine sand, decomposed rock						
55		100/3"	SS		-47.3					
60										
65										
70										

Completion Depth: 55.8 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-6

DATE: Jan. 7, 2005 SURFACE ELEVATION: 8.4 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
0		5	SS	Medium dense dark brown to black silty coarse to fine sandy and gravel (cinders)						
		15	SS	- becoming brown silty coarse to fine sand, trace fine gravel						
5		19	SS	- contaminated						
		9	SS	- wet						
		7	SS	- trace coarse to fine gravel, saturated						
10		7	SS							
					-6.6					
15		woh	SS	Very soft dark brown to black clayey peat						
		woh	SS							
20		woh	SS							
					-16.6					
25		5	SS	Loose gray micaceous silty fine sand, trace fine gravel						
30		21	SS	Gray to brown micaceous silty medium to fine sand, little fine gravel						
35										

Completion Depth: 55.9 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

LOG of BORING NO. B-6

DATE: Jan. 7, 2005 SURFACE ELEVATION: 8.4 LOCATION: See Figure 1

DEPTH, ft.	SAMPLES	N VALUE OR CORE RECOVERY	SAMPLE TYPE	DESCRIPTION	STRATUM ELEVATION	POCKET PENETROMETER	WATER CONTENT, %	LIQUID LIMIT, %	PLASTIC LIMIT, %	OTHER TESTS
35		15	SS	- with two 1/2" layers of gray clayey silt						
40		7	SS							
45		21	SS	Dense to very dense grayish green silty fine sand, decomposed rock	-37.4					
50		21	SS							
55		112/5"	SS		-47.5					
60										
65										
70										

Completion Depth: 55.9 ft. Water Depth: ____ ft After ____ hrs

Project No.: 2004G625 ____ ft After ____ hrs

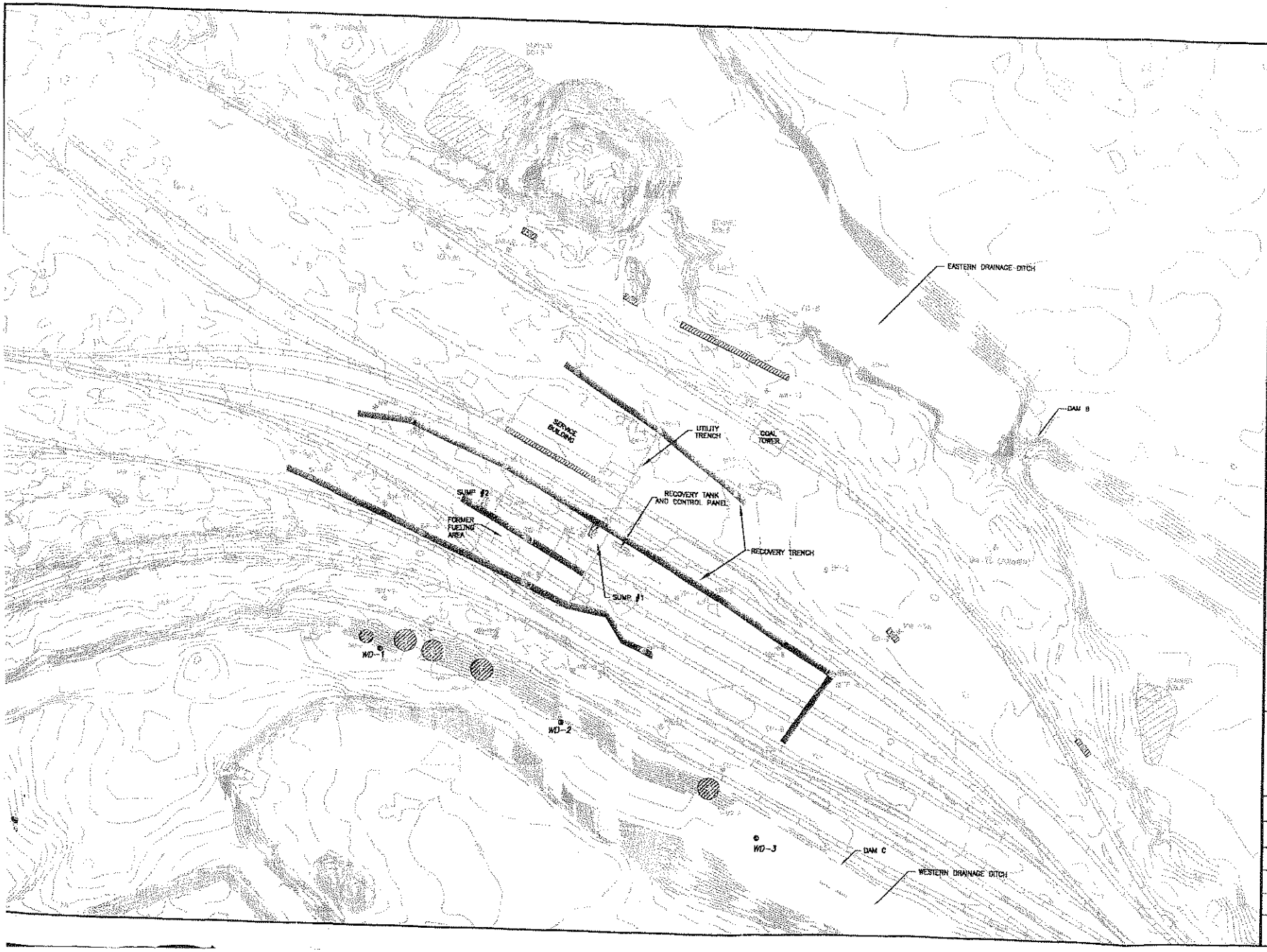
Project Name: Amtrak MW Building ____ ft After ____ hrs

Drilling Method: Mud rotary with automatic hammer ____ ft After ____ hrs

GeoSystems Consultants

APPENDIX C

Western Drainage Ditch Sampling Results
IT Corporation, May 2001



	8/27/00	SL	ISSUED FOR CONSTRUCTION BASIS

WESTERN DRAINAGE DITCH SAMPLING LOCATION

40 0 80
SCALE FEET

IT CORPORATION
1220 WARD AVENUE
WEST CHESTER, PA 19380
(610) 241-5000

WESTERN DRAINAGE DITCH SAMPLING LOCATIONS

AMTRAK FORMER FUELING FACILITY

VANDEVER AVE.
WILMINGTON, DELAWARE

SB	BRD	
07/24/01	0177-004A	
01303-0177		

FIGURE – 9

TABLE 4
Western Drainage Ditch Samples
Analytical Results
April 4, 2001

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Sample Identification	Collection Date	Collection Depth (Feet BGS)	Percent Moisture	Analytical Results (dry weight basis)									
				PCBs							TPH		
				PCB-1016 (mg/kg)	PCB-1221 (mg/kg)	PCB-1232 (mg/kg)	PCB-1242 (mg/kg)	PCB-1248 (mg/kg)	PCB-1254 (mg/kg)	PCB-1260 (mg/kg)	Total TPH (mg/kg)	C10-C28 (mg/kg)	>C28-C40 (mg/kg)
WD-1(0-.5)	4/4/2001	0.0-0.5	74.2%	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	45.0	81,000	81,000	<5,400
WD-1 (1.5-2)	4/4/2001	1.5-2.0	75.2%	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	32.0	13,000	13,000	<1,400
WD-1 (3.5-4)	4/4/2001	3.5-4.0	40.6%	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	2.1	3,000	2,800	190
WD-2 (0-.5)	4/4/2001	0.0-0.5	78.8%	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	21.0	76,000	73,000	3,300
WD-2 (1.5-2)	4/4/2001	1.5-2.0	70.4%	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	5.7	47,000	47,000	<2,400
WD-2 (3.5-4)	4/4/2001	3.5-4.0	47.5%	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	2.5	8,800	8,800	<670
WD-3 (0-.5)	4/4/2001	0.0-0.5	83.4%	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	43.0	150,000	150,000	<8,400
WD-3 (1.5-2)	4/4/2001	1.5-2.0	66.5%	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	17.0	91,000	91,000	<4,200
WD-3 (3.5-4)	4/4/2001	3.5-4.0	39.0%	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	0.1	850	770	76

NOTES:
PCBs = Polychlorinated Biphenyls
TPH = Total Petroleum Hydrocarbons
mg/kg = Milligrams per kilogram
BGS = Below Ground Surface

P:\Clients\Amtrak-APU\IT Files\[westditchsamples.xls]Sheet2

APPENDIX D

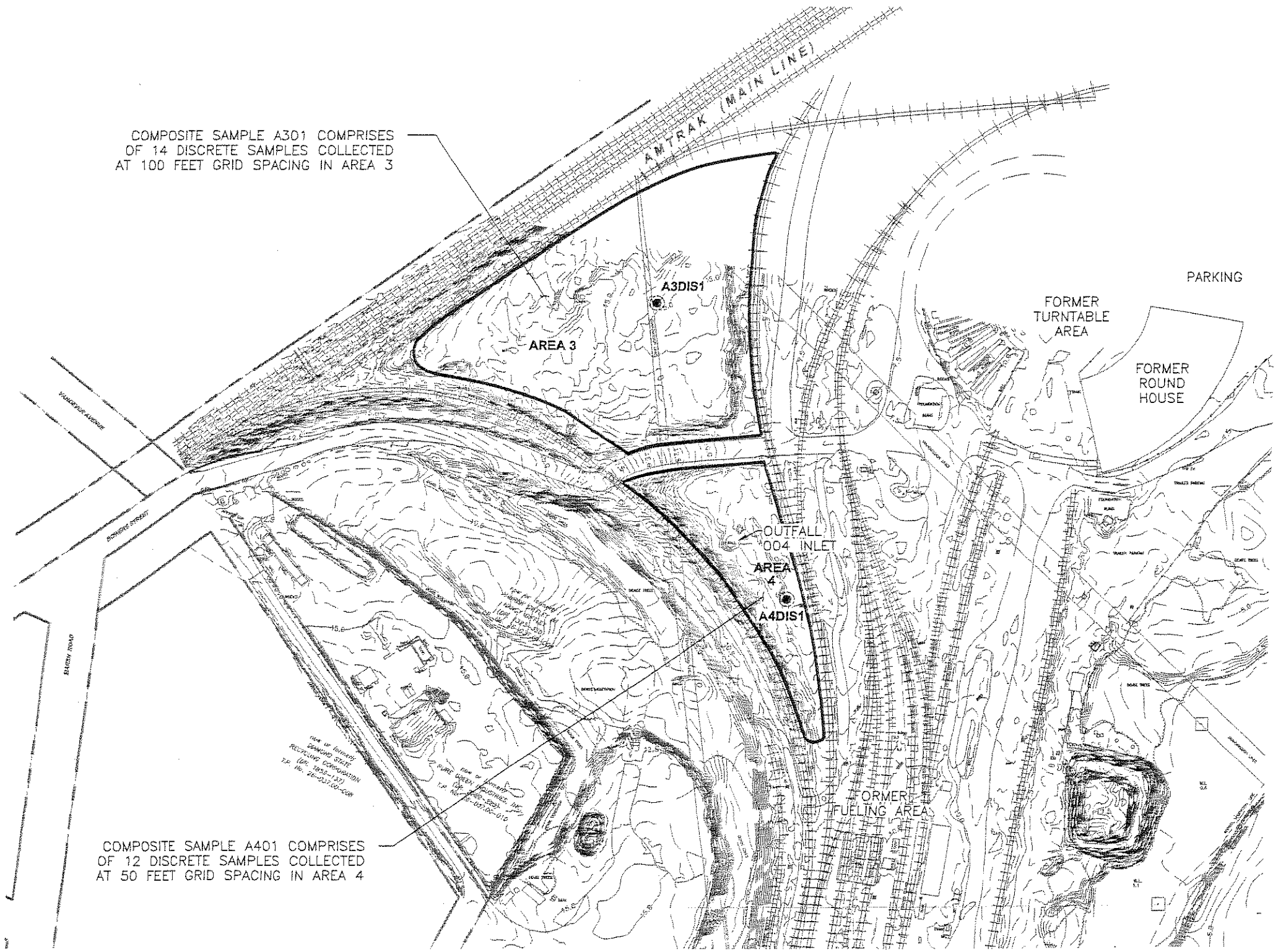
Outfall 004 Drainage Area Surface Soil Sampling Results

TABLE 4

Surface Soil Sampling Results
Area 3 and Area 4
June 23, 2003

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

		AREA 3				AREA 4					
	Sample ID	A301		A3DIS1		A401		A4DIS1		A4DIS2	
	Sample Description	Area 3 Composite Sample		Area 3 Discrete Sample		Area 4 Composite Sample		Area 4 Discrete Sample		Duplicate of A4DIS2	
Analysis Name	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Moisture	%	5.5	0.50	4.9	0.50	13.3	0.50	20.2	0.50	20.1	0.50
Petroleum Hydrocarbons (EPH/VPH Methodology)											
C9 to C18 Aliphatics	MG/KG	6.6	6.3	15.	6.3	18.	6.9	36.	7.5	27.	7.5
C19 to C36 Aliphatics	MG/KG	69.	13.	57.	13.	94.	14.	130.	15.	87.	15.
C11 to C22 Aromatics	MG/KG	60.	13.	66.	13.	120.	14.	150.	15.	100.	15.
C5-C8 Aliphatic Hydrocarbons	MG/KG	3.24 J	2.65	5.31	2.61	2.94 J	2.88	6.04 J	3.06	6.21	3.08
C9-C12 Aliphatic Hydrocarbons	MG/KG	N.D.	2.65	4.73 J	2.61	N.D.	2.88	6.05 J	3.06	6.34	3.08
C9-C10 Aromatic Hydrocarbons	MG/KG	N.D.	2.65	2.98 J	2.61	N.D.	2.88	8.02	3.06	8.23	3.08
Unadjusted C11 - C22 Aromatics	MG/KG	74.	13.	79.	13.	150.	14.	180.	15.	130.	15.
Unadjusted C5-C8 Aliphatics	MG/KG	3.43 J	2.65	5.75	2.61	3.13 J	2.88	6.75	3.06	6.87	3.08
Unadjusted C9-C12 Aliphatics	MG/KG	5.18 J	2.65	8.74	2.61	4.81 J	2.88	16.5	3.06	16.9	3.08
PCB Analyses (EPA Method 8082)											
PCB-1016	MG/KG	N.D.	1.8	N.D.	0.72	N.D.	2.0	N.D.	0.21	N.D.	0.21
PCB-1221	MG/KG	N.D.	3.1	N.D.	1.2	N.D.	3.4	N.D.	0.37	N.D.	0.37
PCB-1232	MG/KG	N.D.	3.6	N.D.	1.5	N.D.	4.2	N.D.	0.45	N.D.	0.45
PCB-1242	MG/KG	N.D.	1.7	N.D.	0.69	N.D.	1.9	N.D.	0.21	N.D.	0.21
PCB-1248	MG/KG	N.D.	2.1	N.D.	0.82	N.D.	2.2	N.D.	0.24	N.D.	0.24
PCB-1254	MG/KG	N.D.	3.1	N.D.	1.20	N.D.	3.4	N.D.	0.37	N.D.	0.37
PCB-1260	MG/KG	31	2.9	15	1.10	17	3.1	5.1	0.34	6.2	0.34
Grain-Size Analyses											
75 mm	% PASSING	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50
37.5 mm	% PASSING	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50
19 mm	% PASSING	96.5	0.50	100.	0.50	98.1	0.50	88.7	0.50	93.2	0.50
4.75 mm	% PASSING	78.6	0.50	77.3	0.50	78.9	0.50	65.2	0.50	78.6	0.50
3.35 mm	% PASSING	73.6	0.50	73.0	0.50	70.8	0.50	60.0	0.50	73.3	0.50
2.36 mm	% PASSING	68.6	0.50	68.4	0.50	63.2	0.50	54.3	0.50	67.4	0.50
1.18 mm	% PASSING	63.8	0.50	60.4	0.50	57.5	0.50	48.0	0.50	60.4	0.50
0.6 mm	% PASSING	54.1	0.50	47.8	0.50	47.0	0.50	37.0	0.50	47.4	0.50
0.3 mm	% PASSING	39.3	0.50	30.4	0.50	32.8	0.50	24.9	0.50	31.8	0.50
0.15 mm	% PASSING	28.5	0.50	21.2	0.50	24.9	0.50	18.7	0.50	23.8	0.50
0.075 mm	% PASSING	22.7	0.50	16.2	0.50	20.3	0.50	15.0	0.50	19.1	0.50
0.064 mm	% PASSING	22.0	0.50	15.0	0.50	19.0	0.50	15.0	0.50	18.0	0.50
0.05 mm	% PASSING	19.0	0.50	13.5	0.50	17.0	0.50	16.0	0.50	17.0	0.50
0.02 mm	% PASSING	11.5	0.50	8.0	0.50	10.0	0.50	9.5	0.50	9.0	0.50
0.005 mm	% PASSING	5.5	0.50	3.0	0.50	5.0	0.50	3.0	0.50	2.0	0.50
0.002 mm	% PASSING	3.0	0.50	N.D.	0.50	2.0	0.50	N.D.	0.50	N.D.	0.50
0.001 mm	% PASSING	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50



LEGEND

DISCRETE SURFACE SOIL SAMPLING LOCATION

N

0 150 300

APPROXIMATE SCALE (FEET)

SOURCE:

MAPPING BASE DERIVED FROM AERIAL PHOTOGRAPHY (OCTOBER 24, 1998) AND FIELD SURVEY 11/18–11/24 & 2/12/99 BY VANDEMARK & LYNCH, INC.

BENCHMARK (BM) – TOP OF EXISTING NATIONAL GEODETIC SURVEY DISK STAMPED R–21, 1929 LOCATED IN THE TOP EAST CORNER OF THE CONCRETE BASE OF THE EAST LEG OF THE HIGH TENSION LINE TOWER NO. 9 (R6822) ELEVATION – 11.99 FEET

REFERENCE: IT CORPORATION; PROJECT 819977; DRAWING NAME ATWIINV4.DWG; TITLE: NPDES OUTFALL LOCATIONS; FIGURE 1; DATE 11/17/00

SECOR
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 875–3075/875–9266 (FAX)

SURFACE SOIL SAMPLING LOCATIONS
(JUNE 2003)
AMTRAK FORMER FUELING FACILITY
4001 VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE: 9

JOB#: 62OT.01013.02.0003 APPR: DWN: KPM DATE: 09/30/03

N:/OFFICE–062

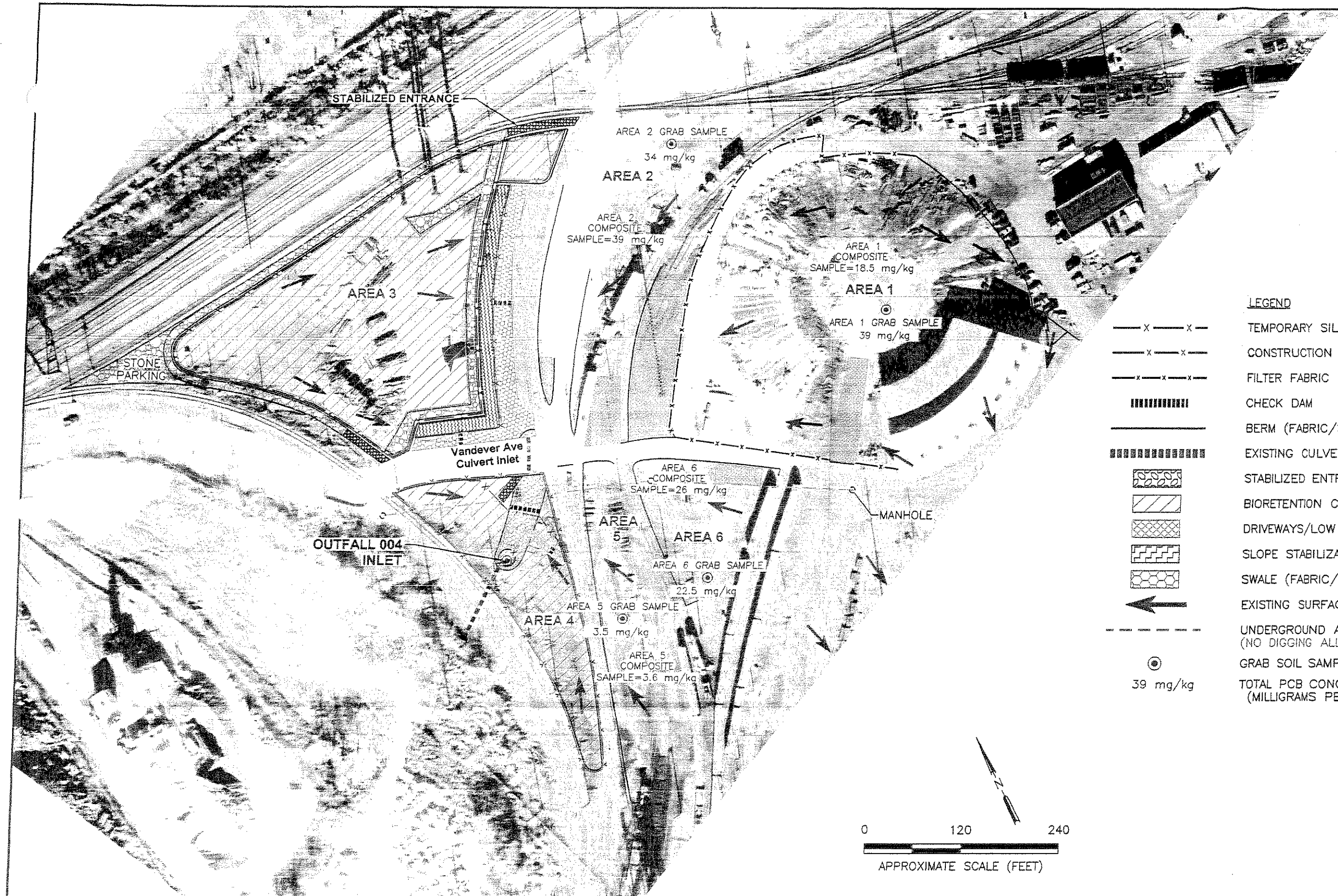
DWG: 62OT–1013–2–39(SB)

TAB 7

Outfall 004 Drainage Area Surface Soil Sampling Results
March 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

		Area 1 Composite		Area 1 Discrete (Sample 1-6)		Area 2 Composite		Area 2 Discrete (Sample 2-7)		Area 5 Composite		Area 5 Discrete (Sample 5-4)		Area 6 Composite		Area 6 Discrete (Sample 6-6)		Area 5 Discrete (Dup.) (Sample 6-6)	
		Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Moisture	%	8.3	0.50	7.6	0.50	9.3	0.50	10.8	0.50	8.5	0.50	11.1	0.50	8.7	0.50	8.6	0.50	9.0	0.50
C9 to C18 Aliphatics	mg/kg	16	6.5	N.D.	65.	N.D.	13.	N.D.	340.	210	33.	N.D.	170.	570	160.	N.D.	160.	N.D.	160.
C19 to C36 Aliphatics	mg/kg	160	13.	750	130.	75	26.	N.D.	670.	510	66.	470	340.	2,200.00	330.	1,200.00	330.	1,400.00	330.
C11 to C22 Aromatics	mg/kg	53	13.	230	130.	35	26.	N.D.	670.	290	66.	N.D.	340.	760	330.	480	330.	950	330.
C5-C8 Aliphatic Hydrocarbons	mg/kg	5.27 J	2.73	3.21 J	2.74	N.D.	2.76	N.D.	2.39	N.D.	2.73	2.86 J	2.58	N.D.	11.0	N.D.	10.0	N.D.	9.01
C9-C12 Aliphatic Hydrocarbons	mg/kg	3.64 J	2.73	2.79 J	2.74	N.D.	2.76	N.D.	2.39	4.88 J	2.73	3.47 J	2.58	N.D.	11.0	N.D.	10.0	N.D.	9.01
C9-C10 Aromatic Hydrocarbons	mg/kg	N.D.	2.73	N.D.	2.74	N.D.	2.76	N.D.	2.39	3.51 J	2.73	N.D.	2.58	N.D.	11.0	N.D.	10.0	N.D.	9.01
Unadjusted C11 - C22 Aromatics	mg/kg	56	13.	260	130.	38	26.	N.D.	670.	300	66.	N.D.	340.	760	330.	490	330.	1,200.00	330.
Unadjusted C5-C8 Aliphatics	mg/kg	5.58	2.73	3.39 J	2.74	N.D.	2.76	N.D.	2.39	N.D.	2.73	3.04 J	2.58	N.D.	11.0	N.D.	10.0	N.D.	9.01
Unadjusted C9-C12 Aliphatics	mg/kg	6.57	2.73	4.55 J	2.74	N.D.	2.76	N.D.	2.39	9.12	2.73	5.9	2.58	N.D.	11.0	N.D.	10.0	N.D.	9.01
PCB-1016	ug/kg	N.D.	260.	N.D.	920.	N.D.	1,100.	N.D.	950.	N.D.	100.	N.D.	76.	N.D.	530.	N.D.	190.	N.D.	370
PCB-1221	ug/kg	N.D.	230.	N.D.	1,600.	N.D.	950.	N.D.	1,700.	N.D.	94.	N.D.	130.	N.D.	470.	N.D.	320.	N.D.	650
PCB-1232	ug/kg	N.D.	180.	N.D.	1,900.	N.D.	730.	N.D.	2,000.	N.D.	72.	N.D.	160.	N.D.	360.	N.D.	390.	N.D.	790
PCB-1242	ug/kg	N.D.	180.	N.D.	890.	N.D.	730.	N.D.	920.	N.D.	72.	N.D.	74.	N.D.	360.	N.D.	180.	N.D.	360
PCB-1248	ug/kg	N.D.	180.	N.D.	1,100.	N.D.	730.	N.D.	1,100.	N.D.	72.	N.D.	88.	7,100.00	360.	4,000.00	210.	5,200.00	430
PCB-1254	ug/kg	4,500.00	200.	N.D.	1,600.	N.D.	820.	N.D.	1,700.	N.D.	81.	N.D.	130.	8,900.00	410.	9,300.00	320.	12,000.00	650
PCB-1260	ug/kg	14,000.00	180.	39,000.00	1,500.	39,000.00	730.	34,000.00	1,500.	3,600.00	72.	3,500.00	120.	10,000.00	360.	9,200.00	300.	9,900.00	590.
75 mm	% Passing	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50
37.5 mm	% Passing	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50	100.	0.50
19 mm	% Passing	100.	0.50	97.3	0.50	100.	0.50	94.0	0.50	100.	0.50	96.2	0.50	100.	0.50	84.8	0.50	86.5	0.50
4.75 mm	% Passing	86.4	0.50	71.8	0.50	82.2	0.50	78.5	0.50	78.0	0.50	71.4	0.50	83.6	0.50	56.9	0.50	61.7	0.50
3.35 mm	% Passing	81.3	0.50	61.9	0.50	75.2	0.50	72.3	0.50	72.2	0.50	68.4	0.50	75.9	0.50	50.7	0.50	55.5	0.50
2.36 mm	% Passing	75.2	0.50	52.6	0.50	69.7	0.50	64.6	0.50	65.5	0.50	64.4	0.50	68.7	0.50	44.8	0.50	48.9	0.50
1.18 mm	% Passing	64.4	0.50	47.2	0.50	63.9	0.50	60.5	0.50	62.7	0.50	61.5	0.50	64.3	0.50	40.7	0.50	43.4	0.50
0.6 mm	% Passing	50.4	0.50	39.6	0.50	52.0	0.50	53.9	0.50	55.3	0.50	54.6	0.50	52.8	0.50	34.2	0.50	36.0	0.50
0.3 mm	% Passing	31.3	0.50	29.7	0.50	30.4	0.50	42.2	0.50	34.9	0.50	33.6	0.50	33.0	0.50	24.0	0.50	25.3	0.50
0.15 mm	% Passing	24.3	0.50	21.1	0.50	19.9	0.50	34.0	0.50	19.2	0.50	15.0	0.50	21.2	0.50	17.5	0.50	18.5	0.50
0.075 mm	% Passing	18.9	0.50	16.9	0.50	15.3	0.50	29.0	0.50	14.4	0.50	9.6	0.50	16.0	0.50	13.2	0.50	13.9	0.50
0.064 mm	% Passing	18.0	0.50	16.5	0.50	15.0	0.50	26.0	0.50	13.0	0.50	9.0	0.50	14.5	0.50	12.5	0.50	13.5	0.50
0.05 mm	% Passing	15.0	0.50	14.5	0.50	12.0	0.50	19.0	0.50	9.0	0.50	8.0	0.50	11.5	0.50	9.0	0.50	11.0	0.50
0.02 mm	% Passing	10.0	0.50	10.0	0.50	6.0	0.50	11.0	0.50	5.0	0.50	4.5	0.50	5.5	0.50	5.5	0.50	7.0	0.50
0.005 mm	% Passing	2.0	0.50	4.0	0.50	2.0	0.50	3.0	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	1.0	0.50	2.5	0.50
0.002 mm	% Passing	N.D.	0.50	3.0	0.50	1.0	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50
0.001 mm	% Passing	N.D.	0.50	2.0	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50	N.D.	0.50



LEGEND

- TEMPORARY SILT FENCE
- CONSTRUCTION FENCELINE (8 FEET OFF RAIL)
- FILTER FABRIC ON EXISTING CHAIN LINK FENCE
- CHECK DAM
- BERM (FABRIC/STONE)
- EXISTING CULVERT
- STABILIZED ENTRANCE
- BIORETENTION CAP
- DRIVEWAYS/LOW AREAS (FABRIC/STONE)
- SLOPE STABILIZATION
- SWALE (FABRIC/STONE)
- EXISTING SURFACE WATER FLOW DIRECTION
- UNDERGROUND AMTRAK FIBER OPTIC LINE (NO DIGGING ALLOWED WITHOUT AMTRAK SUPERVISION)
- GRAB SOIL SAMPLE LOCATION
- 39 mg/kg — TOTAL PCB CONCENTRATION (MILLIGRAMS PER KILOGRAMS)

DECOR
102 PICKERING WAY, STE 200
EXTON, PENNSYLVANIA 19341
PHONE (484) 875-3075/875-9286 (FAX)

PREPARED FOR:
AMTRAK WILMINGTON
MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

TOTAL PCB CONCENTRATIONS IN SOIL SAMPLES SUB-AREAS 1, 2, 5 AND 6 MARCH 2004

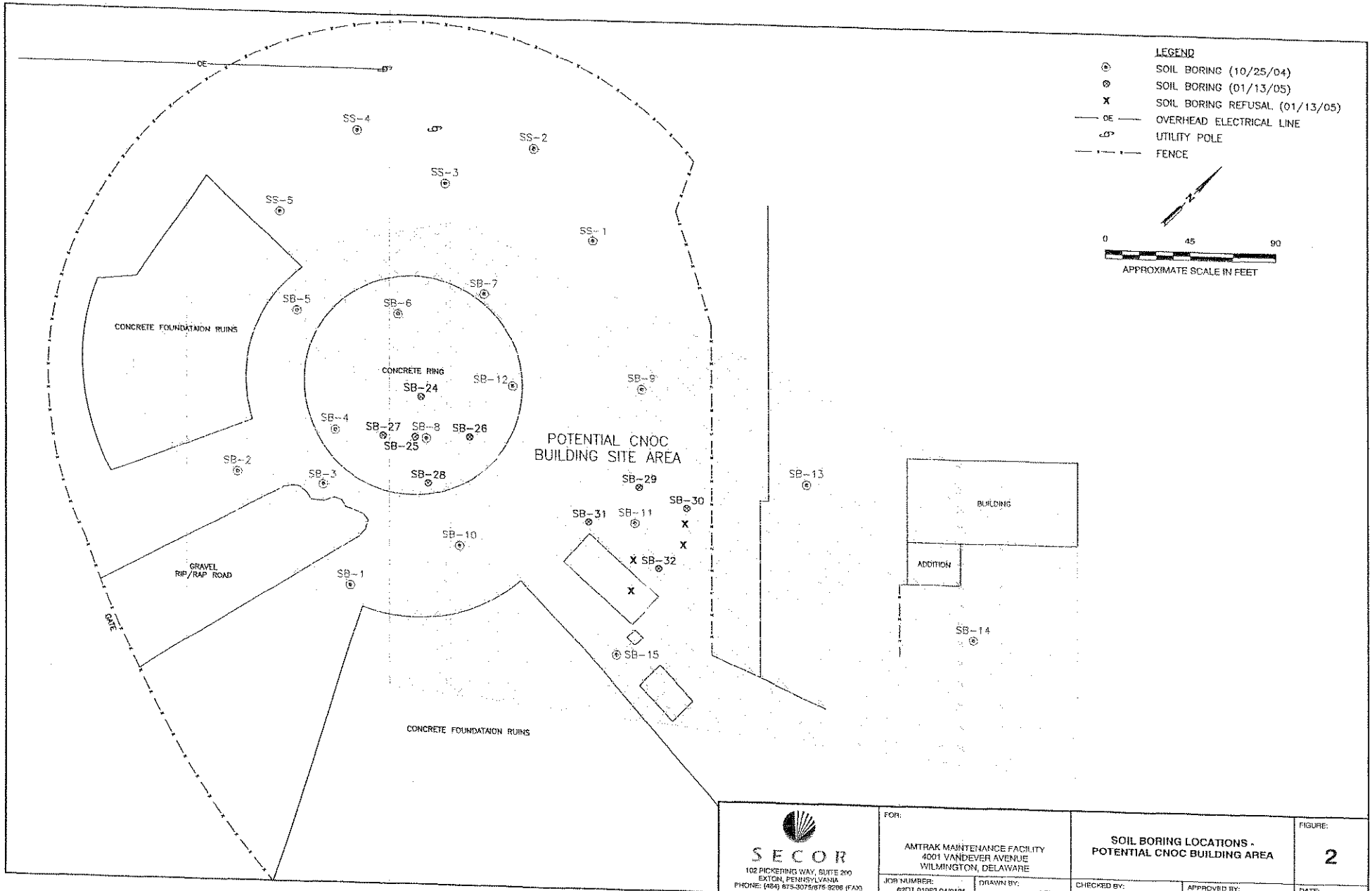
FIGURE: **14**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
62OT.01013.02.0003	KEF			08/05/2004

62OT-1013-2-32-PCBA.DWG

Appendix E

Proposed CNOC Building/Former Roundhouse Area Soil Investigation Results



SECOR
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA
PHONE: (484) 875-3075/875-9208 (FAX)

FOR: AMTRAK MAINTENANCE FACILITY 4001 VANDEVER AVENUE WILMINGTON, DELAWARE	SOIL BORING LOCATIONS - POTENTIAL CNOC BUILDING AREA		FIGURE: 2
JOB NUMBER: 62D1.01063.04/0101	DRAWN BY: KEF	CHECKED BY:	APPROVED BY:	DATE: 02/08/2005

62DT-1063-CNOC-SB.DWG

TAL 1

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-1
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-1												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	82000	82000
PCB-1221	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	3000	3000
PCB-1232	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	3000	3000
PCB-1242	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	3000	3000
PCB-1248	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	3000	3000
PCB-1254	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	3000	3000
PCB-1260	UG/MG	**32,000**	1600	**29,000**	1500	830	75	ND	83	ND	79	ND	73	3000	3000
PCB-1262	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	3000	3000
PCB-1268	UG/MG	ND	1600	ND	1500	ND	75	ND	83	ND	79	ND	73	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	39	1.2	NA	NA	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	110	1.2	NA	NA	5000	5000
C11 to C22 Aromatics (adjusted	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	25	1.2	NA	NA	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	27	0.17	NA	NA	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	17	0.17	NA	NA	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	17	0.17	NA	NA	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.17	NA	NA	200	200
Toluene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.17	NA	NA	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.17	NA	NA	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.33	NA	NA	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	0.33	0.17	NA	NA	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	0.43	0.17	NA	NA	4100	4100
Methyl Tertiary Butyl Ethe	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.17	NA	NA	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	6.7	1.2	NA	NA	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	5.7	1.2	NA	NA	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	4.7	1.2	NA	NA	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	2.4	1.2	NA	NA	8	8
Chrysene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	2.5	1.2	NA	NA	780	780
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	2.0	1.2	NA	NA	8	8
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	1.6	1.2	NA	NA	78	78
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	**1.6**	1.2	NA	NA	0.8	0.8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	1.4	1.2	NA	NA	8	8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	0.8	0.8
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NA	NA	NS	NS

Notes: ug/kg - micrograms per kilograr
mg/kg-milligrams per kilograr
ND: not detectec
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted U
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 19
NS- No Standarc
NA- Not Analyzec

TABLE

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Locations SB-2 & SB-4
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-2						SB-4						DNREC URS Standards	
	Sample Depth	0-0.25		1-2		3-4		0-0.25		1-2		2-3		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	82000	82000
PCB-1221	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	3000	3000
PCB-1232	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	3000	3000
PCB-1242	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	3000	3000
PCB-1248	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	3000	3000
PCB-1254	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	3000	3000
PCB-1260	UG/MG	**9,400**	770	**4,000**	370	ND	73	**30,000**	1500	**22,000**	1500	**51,000**	3700	3000	3000
PCB-1262	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	3000	3000
PCB-1268	UG/MG	ND	770	ND	370	ND	73	ND	1500	ND	1500	ND	3700	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	54	1.2	NA	NA	NA	NA	NA	NA	260	1.1	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	260	1.2	NA	NA	NA	NA	NA	NA	300	1.1	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	99	1.2	NA	NA	NA	NA	NA	NA	58	1.1	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	35	14	NA	NA	NA	NA	NA	NA	30	13	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	30	14	NA	NA	NA	NA	NA	NA	21	13	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	ND	14	NA	NA	NA	NA	NA	NA	ND	13	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	ND	0.14	NA	NA	NA	NA	NA	NA	ND	0.13	200	200
Toluene	MG/KG	NA	NA	0.5	0.14	NA	NA	NA	NA	NA	NA	0.5	0.13	5000	5000
Ethylbenzene	MG/KG	NA	NA	0.27	0.14	NA	NA	NA	NA	NA	NA	0.3	0.13	5000	5000
m/p xylenes	MG/KG	NA	NA	0.8	0.14	NA	NA	NA	NA	NA	NA	1.1	0.13	5000	5000
o xylenes	MG/KG	NA	NA	0.68	0.14	NA	NA	NA	NA	NA	NA	0.97	0.13	5000	5000
Naphthalene	MG/KG	NA	NA	1.7	0.14	NA	NA	NA	NA	NA	NA	1.6	0.13	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	ND	0.14	NA	NA	NA	NA	NA	NA	ND	0.13	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	2.0	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	4100	4100
Acenaphthylene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	NS	NS
Acenaphthene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Flourene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Phenanthrene	MG/KG	NA	NA	2.1	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Anthracene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Flouranthene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Pyrene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	8	8
Chrysene	MG/KG	NA	NA	1.4	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	780	780
Benzo(b) fluoranthene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	8	8
Benzo(k) fluorathene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	78	78
Benzo(a) pyrene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	0.8	0.8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	8	8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	0.8	0.8
Benzo(ghi) perylene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	ND	1.1	NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

TA

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-3
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location / Sample Depth / Units	SB-3 0-0.25 Result	SB-3 0-0.25 MDL	SB-3 0.25-1 Result	SB-3 0.25-1 MDL	SB-3 1-2 Result	SB-3 1-2 MDL	SB-3 2-3 Result	SB-3 2-3 MDL	SB-3 3-4 Result	SB-3 3-4 MDL	SB-3 4-5 Result	SB-3 4-5 MDL	DNREC URS Standards Surface Soils	DNREC URS Standards Subsurface Soils
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	82000	82000
PCB-1221	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	3000	3000
PCB-1232	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	3000	3000
PCB-1242	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	3000	3000
PCB-1248	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	3000	3000
PCB-1254	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	3000	3000
PCB-1260	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	3000	3000
PCB-1262	UG/MG	8,800	750	24,000	1800	410	73	ND	74	810	74	ND	73	3000	3000
PCB-1268	UG/MG	ND	750	ND	1800	ND	73	ND	74	ND	74	ND	73	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	16	1.1	NA	NA	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	83	1.1	NA	NA	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	27	1.1	NA	NA	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	24	13	NA	NA	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	16	13	NA	NA	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	13	NA	NA	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.13	NA	NA	200	200
Toluene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	0.18	0.13	NA	NA	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	0.14	0.13	NA	NA	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	0.53	0.13	NA	NA	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	0.41	0.13	NA	NA	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	0.71	0.13	NA	NA	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.13	NA	NA	1000	1000
MA EPH Target Analyte List															
Nephathalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	5000	5000
Chrysene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	8	8
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	780	780
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	1.2	1.1	NA	NA	8	8
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	78	78
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	0.8	0.8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	8	8
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NA	NA	0.8	0.8
														NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

TA

Soil Sampling Results
Potential CNOC Building Site Are
Soil Sample Locations SB-5 & SB-
October 25, 200

Amtrak Former Fueling Facilit
4001 Vandever Avenu
Wilmington, Delawar

Analysis Name	Sample Location	SB-5						SB-7						DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		2-3		0-0.25		1-2		2-3			
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Surface Soils	Subsurface Soils
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	82000	82000
PCB-1221	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	3000	3000
PCB-1232	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	3000	3000
PCB-1242	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	3000	3000
PCB-1248	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	3000	3000
PCB-1254	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	3000	3000
PCB-1260	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	3000	3000
PCB-1262	UG/MG	**47,000**	3800	180	71	ND	72	**56,000**	3900	**4,000**	360	ND	71	3000	3000
PCB-1268	UG/MG	ND	3800	ND	71	ND	72	ND	3900	ND	360	ND	71	3000	3000
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	28	1.2	NA	NA	NA	NA	49	1.2	NA	NA	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	380	1.2	NA	NA	NA	NA	350	1.2	NA	NA	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	140	1.2	NA	NA	NA	NA	220	1.2			2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	30	0.15	NA	NA	NA	NA	32	16	NA	NA	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	17	0.15	NA	NA	NA	NA	39	16	NA	NA	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	ND	16	NA	NA	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	ND	0.16	NA	NA	200	200
Toluene	MG/KG	NA	NA	0.25	0.15	NA	NA	NA	NA	ND	0.16	NA	NA	5000	5000
Ethylbenzene	MG/KG	NA	NA	0.2	0.15	NA	NA	NA	NA	ND	0.16	NA	NA	5000	5000
m/p xylenes	MG/KG	NA	NA	0.45	0.15	NA	NA	NA	NA	0.34	0.16	NA	NA	5000	5000
o xylenes	MG/KG	NA	NA	0.5	0.15	NA	NA	NA	NA	0.31	0.16	NA	NA	5000	5000
Naphthalene	MG/KG	NA	NA	1.1	0.15	NA	NA	NA	NA	0.89	0.16	NA	NA	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	ND	0.16	NA	NA	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	ND	1.2	NA	NA	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	ND	1.2	NA	NA	4100	4100
Acenaphthylene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	ND	1.2	NA	NA	NS	NS
Acenaphthene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	ND	1.2	NA	NA	5000	5000
Flourene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	7.0	1.2	NA	NA	5000	5000
Phenanthrene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	ND	1.2	NA	NA	5000	5000
Anthracene	MG/KG	NA	NA	2.3	1.2	NA	NA	NA	NA	7.3	1.2	NA	NA	5000	5000
Flouranthene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA	6.6	1.2	NA	NA	5000	5000
Pyrene	MG/KG	NA	NA	6.0	1.2	NA	NA	NA	NA	5.2	1.2	NA	NA	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	7.0	1.2	NA	NA	NA	NA	5.4	1.2	NA	NA	8	8
Chrysene	MG/KG	NA	NA	6.2	1.2	NA	NA	NA	NA	8.1	1.2	NA	NA	780	780
Benzo(b) fluoranthene	MG/KG	NA	NA	7.1	1.2	NA	NA	NA	NA	5.5	1.2	NA	NA	8	8
Benzo(k) fluorathene	MG/KG	NA	NA	**13**	1.2	NA	NA	NA	NA	**4.0**	1.2	NA	NA	78	78
Benzo(a) pyrene	MG/KG	NA	NA	7.8	1.2	NA	NA	NA	NA	3.4	1.2	NA	NA	0.8	0.8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	**5.5**	1.2	NA	NA	NA	NA	ND	1.2	NA	NA	8	8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	4.9	1.2	NA	NA	NA	NA	2.3	1.2	NA	NA	0.8	0.8
Benzo(ghi) perylene	MG/KG	NA	NA	ND	1.2	NA	NA	NA	NA					NS	NS
		NA	NA	3.7	1.2	NA	NA	NA	NA						

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

TAE

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-6
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location / Sample Depth / Units	SB-6 0-0.25 Result	SB-6 0-0.25 MDL	SB-6 0.25-1 Result	SB-6 0.25-1 MDL	SB-6 1-2 Result	SB-6 1-2 MDL	SB-6 2-3 Result	SB-6 2-3 MDL	SB-6 3-4 Result	SB-6 3-4 MDL	SB-6 4-5 Result	SB-6 4-5 MDL	DNREC URS Standards Surface Soils	DNREC URS Standards Subsurface Soils
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	82000	82000
PCB-1221	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	3000	3000
PCB-1232	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	3000	3000
PCB-1242	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	3000	3000
PCB-1248	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	3000	3000
PCB-1254	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	3000	3000
PCB-1260	UG/MG	**52,000**	3800	**27,000**	1500	**100,000**	7200	**81,000**	7200	**28,000**	1400	**81,000**	3700	3000	3000
PCB-1262	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	NS	NS
PCB-1268	UG/MG	ND	3800	ND	1500	ND	7200	ND	7200	ND	1400	ND	3700	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	38	1.2	NA	NA	NA	NA	NA	NA	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	380	1.2	NA	NA	NA	NA	NA	NA	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	NA	NA	150	1.2	NA	NA	NA	NA	NA	NA	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	50	0.16	NA	NA	NA	NA	NA	NA	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	580	0.16	NA	NA	NA	NA	NA	NA	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA	230	0.16	NA	NA	NA	NA	NA	NA	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	NA	NA	0.36	0.16	NA	NA	NA	NA	NA	NA	200	200
Toluene	MG/KG	NA	NA	NA	NA	1.8	0.16	NA	NA	NA	NA	NA	NA	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	1.2	0.16	NA	NA	NA	NA	NA	NA	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	2.4	0.16	NA	NA	NA	NA	NA	NA	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	1.3	0.16	NA	NA	NA	NA	NA	NA	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	19	0.16	NA	NA	NA	NA	NA	NA	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	NA	NA	ND	0.16	NA	NA	NA	NA	NA	NA	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NA	NA	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	3.4	1.2	NA	NA	NA	NA	NA	NA	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	11	1.2	NA	NA	NA	NA	NA	NA	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	9.6	1.2	NA	NA	NA	NA	NA	NA	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	**8.1**	1.2	NA	NA	NA	NA	NA	NA	8	8
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	7.9	1.2	NA	NA	NA	NA	NA	NA	780	780
Chrysene	MG/KG	NA	NA	NA	NA	**12**	1.2	NA	NA	NA	NA	NA	NA	8	8
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	7.8	1.2	NA	NA	NA	NA	NA	NA	78	78
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	**5.2**	1.2	NA	NA	NA	NA	NA	NA	0.8	0.8
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	5.6	1.2	NA	NA	NA	NA	NA	NA	8	8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	ND	1.2	NA	NA	NA	NA	NA	NA	0.8	0.8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	4.3	1.2	NA	NA	NA	NA	NA	NA	NS	NS
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA										

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

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Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-8
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-8												DNREC URS Standards	
	Sample Depth	0-0.25		0-1 feet bgs		1-2 feet bgs		2-3 feet bgs		3-4 feet bgs		4-5 feet bgs		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	82000	82000
PCB-1221	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	3000	3000
PCB-1232	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	3000	3000
PCB-1242	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	3000	3000
PCB-1248	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	3000	3000
PCB-1254	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	3000	3000
PCB-1260	UG/MG	**31,000**	3700	**49,000**	3800	**79,000**	7300	**44,000**	3700	**50,000**	3600	**460,000**	37000	3000	3000
PCB-1262	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	NS	NS
PCB-1268	UG/MG	ND	3700	ND	3800	ND	7300	ND	3700	ND	3600	ND	37000	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39	1.1	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	300	1.1	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70	1.1	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35	15	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	15	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	15	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.15	200	200
Toluene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53	0.15	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.18	0.15	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.84	0.15	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.64	0.15	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.8	0.15	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.15	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Chrysene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	5000	5000
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	8	8
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	780	780
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	8	8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	78	78
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	0.8	0.8
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.1	8	8
												ND	1.1	0.8	0.8
												ND	1.1	NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

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Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Locations SB-9 & SB-12
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-9						SB-12						DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		3-4		0-0.25		1-2		3-4		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	82000	82000
PCB-1221	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	3000	3000
PCB-1232	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	3000	3000
PCB-1242	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	3000	3000
PCB-1248	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	3000	3000
PCB-1254	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	3000	3000
PBC-1260	UG/MG	150,000	7500	940	73	230	74	78,000	3800	17,000	1900	15,000	740	3000	3000
PCB-1262	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	3000	3000
PCB-1268	UG/MG	ND	7500	ND	73	ND	74	ND	3800	ND	1900	ND	740	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	1900	1.1	NA	NA	NA	NA	38	1.1	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	1300	1.1	NA	NA	NA	NA	410	1.1	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	NA	NA	130	1.1	NA	NA	NA	NA	62	1.1	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	ND	40	NA	NA	NA	NA	14	13	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	450	40	NA	NA	NA	NA	ND	13	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA	180	40	NA	NA	NA	NA	ND	13	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	NA	NA	ND	0.4	NA	NA	NA	NA	ND	0.13	200	200
Toluene	MG/KG	NA	NA	NA	NA	ND	0.4	NA	NA	NA	NA	ND	0.13	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	ND	0.4	NA	NA	NA	NA	ND	0.13	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	ND	0.8	NA	NA	NA	NA	ND	0.13	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	ND	0.4	NA	NA	NA	NA	ND	0.13	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	30	0.4	NA	NA	NA	NA	0.29	0.13	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	NA	NA	ND	0.4	NA	NA	NA	NA	ND	0.13	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	1.1	1.1	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	5000	5000
Chrysene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	8	8
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	780	780
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	8	8
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	78	78
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	0.8	0.8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	8	8
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.1	0.8	0.8
														NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

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Soil Sampling Results
Potential CNOC Building Site Are
Soil Sample Location SB-1
October 25, 200

Amtrak Former Fueling Facilit
4001 Vandever Avenu
Wilmington, Delawar

Analysis Name	Sample Location	SB-10												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	3800	ND	140	ND	80	ND	70	ND	72	ND	72	82000	82000
PCB-1221	UG/MG	ND	3800	ND	140	ND	80	ND	70	ND	72	ND	72	3000	3000
PCB-1232	UG/MG	ND	3800	ND	140	ND	80	ND	70	ND	72	ND	72	3000	3000
PCB-1242	UG/MG	ND	3800	ND	140	ND	80	ND	70	ND	72	ND	72	3000	3000
PCB-1248	UG/MG	ND	3800	ND	140	ND	80	ND	70	ND	72	ND	72	3000	3000
PCB-1254	UG/MG	ND	3800	ND	140	ND	80	ND	70	ND	72	ND	72	3000	3000
PCB-1260	UG/MG	53,000	3800	1800	140	ND	80	120	70	ND	72	480	72	3000	3000
PCB-1262	UG/MG	ND	3800	ND	140	ND	80	ND	70	ND	72	ND	72	3000	3000
PCB-1268	UG/MG	ND	380	ND	140	ND	80	ND	70	ND	72	ND	72	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	150	1.2	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	710	1.2	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	160	1.2	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39	17	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69	17	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	17	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.17	200	200
Toluene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.46	0.17	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.43	0.17	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3	0.17	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.73	0.17	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.98	0.17	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.17	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	1.2	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Chrysene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	5000	5000
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	8	8
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	780	780
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3	1.2	8	8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	78	78
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	0.8	0.8
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	8	8
												ND	1.2	0.8	0.8
												ND	1.2	NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

TA. 3

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-11
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-11												DNREC URS Standards	
	Sample Depth	0-0.25		0.25 -1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	82000	82000
PCB-1221	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	3000	3000
PCB-1232	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	3000	3000
PCB-1242	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	3000	3000
PCB-1248	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	3000	3000
PCB-1254	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	3000	3000
PCB-1260	UG/MG	370,000	37000	1,400,000	76000	130,000	7300	1,100,000	76000	750	78	360	72	3000	3000
PCB-1262	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	3000	3000
PCB-1268	UG/MG	ND	37000	ND	76000	ND	7300	ND	76000	ND	78	ND	72	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1900	1.2	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3300	1.2	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	350	1.2	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	41	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	580	41	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200	41	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.41	200	200
Toluene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.41	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.7	0.41	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.81	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.52	0.41	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	0.41	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.41	1000	1000
MA EPH Target Analyte List															
Nephathalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4	1.2	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.0	1.2	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.9	1.2	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.4	1.2	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.7	1.2	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.9	1.2	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	1.2	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	1.2	8	8
Chrysene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4	1.2	780	780
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	8	8
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	78	78
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	0.8	0.8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	8	8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	0.8	0.8
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.2	NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg- milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

TAL .0

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Locations SB-13 & SB-15
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-13				SB-15						DNREC URS Standards	
	Sample Depth	1-2		3-4		0-0.25		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)													
PCB-1016	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	82000	82000
PCB-1221	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	3000	3000
PCB-1232	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	3000	3000
PCB-1242	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	3000	3000
PCB-1248	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	3000	3000
PCB-1254	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	3000	3000
PCB-1260	UG/MG	ND	77	ND	73	1200	73	ND	73	ND	78	3000	3000
PCB-1262	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	3000	3000
PCB-1268	UG/MG	ND	77	ND	73	ND	73	ND	73	ND	78	NS	NS
MA EPH Method													
C9 to C18 Aliphatics	MG/KG	NA	NA	19	19	NA	NA	NA	NA	39	1.2	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	110	19	NA	NA	NA	NA	180	1.2	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	ND	19	NA	NA	NA	NA	41	1.2	2000	2000
MA VPH Method													
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	15	15	NA	NA	NA	NA	29	0.17	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	ND	15	NA	NA	NA	NA	20	0.17	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	ND	15	NA	NA	NA	NA	17	0.17	500	500
MA VPH Target Analyte List													
Benzene	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	ND	0.17	200	200
Toluene	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	0.29	0.17	5000	5000
Ethylbenzene	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	0.21	0.17	5000	5000
m/p xylenes	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	0.8	0.17	5000	5000
o xylenes	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	0.6	0.17	5000	5000
Naphthalene	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	1.0	0.17	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	ND	0.15	NA	NA	NA	NA	ND	0.17	1000	1000
MA EPH Target Analyte List													
Naphthalene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	4100	4100
Acenaphthylene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	NS	NS
Acenaphthene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	5000	5000
Flourene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	5000	5000
Phenanthrene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	5000	5000
Anthracene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	5000	5000
Flouranthene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	5000	5000
Pyrene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	5000	5000
Chrysene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	8	8
Benzo(b) fluoranthene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	780	780
Benzo(k) fluorathene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	8	8
Benzo(a) pyrene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	78	78
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	0.8	0.8
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	8	8
Benzo(ghi) perylene	MG/KG	NA	NA	ND	1.1	NA	NA	NA	NA	ND	1.2	0.8	0.8
												NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard

TAB_ _ 11

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-14
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-14										DNREC URS Standards	
	Sample Depth	0-0.25		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)													
PCB-1016	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	82000	82000
PCB-1221	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	3000	3000
PCB-1232	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	3000	3000
PCB-1242	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	3000	3000
PCB-1248	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	3000	3000
PCB-1254	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	3000	3000
PCB-1260	UG/MG	1900	140	2500	150	700	89	ND	72	ND	76	3000	3000
PCB-1262	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	3000	3000
PCB-1268	UG/MG	ND	140	ND	150	ND	89	ND	72	ND	76	NS	NS
MA EPH Method													
C9 to C18 Aliphatics	MG/KG	NA	NA	NA	NA	17	1.1	NA	NA	NA	NA	2500	2500
C19 to C36 Aliphatics	MG/KG	NA	NA	NA	NA	94	1.1	NA	NA	NA	NA	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NA	NA	NA	NA	27	1.1	NA	NA	NA	NA	2000	2000
MA VPH Method													
C5-C8 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	19	13	NA	NA	NA	NA	500	500
C9-C12 Aliphatic Hydrocarbons (unadjusted)	MG/KG	NA	NA	NA	NA	ND	13	NA	NA	NA	NA	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NA	NA	NA	NA		13	NA	NA	NA	NA	500	500
MA VPH Target Analyte List													
Benzene	MG/KG	NA	NA	NA	NA	ND	0.13	NA	NA	NA	NA	200	200
Toluene	MG/KG	NA	NA	NA	NA	ND	0.13	NA	NA	NA	NA	5000	5000
Ethylbenzene	MG/KG	NA	NA	NA	NA	ND	0.13	NA	NA	NA	NA	5000	5000
m/p xylenes	MG/KG	NA	NA	NA	NA	0.27	0.13	NA	NA	NA	NA	5000	5000
o xylenes	MG/KG	NA	NA	NA	NA	0.25	0.13	NA	NA	NA	NA	5000	5000
Naphthalene	MG/KG	NA	NA	NA	NA	0.4	0.13	NA	NA	NA	NA	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NA	NA	NA	NA	ND	0.13	NA	NA	NA	NA	1000	1000
MA EPH Target Analyte List													
Naphthalene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	4100	4100
2-Methylnaphthalene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	4100	4100
Acenaphthylene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	NS	NS
Acenaphthene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Flourene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Phenanthrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Anthracene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Flouranthene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Pyrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Benzo(a) anthracene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Chrysene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	5000	5000
Benzo(b) fluoranthene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	8	8
Benzo(k) fluorathene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	780	780
Benzo(a) pyrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	8	8
Indeno (1,2,3-cd) Pyrene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	78	78
Dibenzo(a,h) Anthracene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	0.8	0.8
Benzo(ghi) perylene	MG/KG	NA	NA	NA	NA	ND	1.1	NA	NA	NA	NA	8	8
												0.8	0.8
												NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- No Standard
NA- Not Analyzed

TABLE 12

Soil Sampling Results
Potential CNOC Building Site
Soil Sample Locations SS-1 through SS-5
October 25, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location Depth Units	SS-1 0-0.25		SS-2 0-0.25		SS-3 0-0.25		SS-4 0-0.25		SS-5 0-0.25		DNREC URS Standards	
		Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Surface Soils	Subsurface Soils
PCB Analyses (EPA Method 8082)													
PCB-1016	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	82000	82000
PCB-1221	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	3000	3000
PCB-1232	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	3000	3000
PCB-1242	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	3000	3000
PCB-1248	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	3000	3000
PCB-1254	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	3000	3000
PCB-1260	UG/MG	**21,000**	1600	1500	90	**7,200**	360	**3,400**	400	**4,400**	390	3000	3000
PCB-1262	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	3000	3000
PCB-1268	UG/MG	ND	1600	ND	90	ND	360	ND	400	ND	390	NS	NS

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND = Not Detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 13

Metal Analytical Results
Potential CNOC Building Site Area
Soil Sample Locations Composite 1, Composite 2, Composite 3
October 26, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Description / Sample Locations / Units	Composite 1-5 SB-1 through SB-5 Result	Composite 1-5 MDL	Composite 6-12 SB-6, SB-7, SB-8,SB-10, SB-12 Result	Composite 6-12 MDL	Composite 9-15 SB-9, SB-11, SB-13, SB-14, SB-15 Result	Composite 9-15 MDL	DNREC URS Standards Surface Soils	DNREC URS Standards Subsurface Soils
Metals 6010B/7471A									
Silver	MG/KG	ND	0.18	ND	0.18	0.29	0.17	2	1
Arsenic	MG/KG	**16.2**	0.79	**19.7**	0.81	**20.5**	0.73	10	8
Beryllium	MG/KG	0.72	0.022	0.60	0.23	0.88	0.021	410	410
Cadmium	MG/KG	0.13	0.090 B	0.21	0.092 B	0.37	0.083 B	100	100
Chromium	MG/KG	25.8	0.63	21.1	0.65	24.7	0.58	610*	610*
Copper	MG/KG	202	0.70	170	0.72	443	0.65	8200	8200
Nickel	MG/KG	22.7	0.88	16.9	0.90	14.4	0.81	4100	4100
Lead	MG/KG	377	0.49	339	0.51	**1,010**	0.46	1000	1000
Antimony	MG/KG	15	0.88	11.2	0.90	56.9	0.81	82	82
Selenium	MG/KG	2.1	1.1	2.3	1.1	1.9	0.98	1000	1000
Thallium	MG/KG	ND	0.99	ND	1.0	ND	0.92	220	220
Zinc	MG/KG	231	1.3	160	1.3	191	1.2	61000	61000
Mercury	MG/KG	0.11	0.019	0.16	0.019	0.42	0.016	610	610

Notes: mg/kg- milligram per kilogram
ND- Not Detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 14

TCLP Results
Potential CNOC Building Site Area
Composite Soil Sample: Locations SB-1 through SB-15
October 26, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location / Units	SB-1_SB-15 Comp Result	SB-1_SB-15 Comp MDL	USEPA TCLP LIMITS (mg/L)
Volatiles				
2- Butanone (MEK)	MG/L	ND	0.005	200
1,1-Dichloroethene	MG/L	ND	0.002	0.7
1,2-Dichloroethane	MG/L	ND	0.002	0.5
Benzene	MG/L	ND	0.001	0.5
Carbon tetrachloride	MG/L	ND	0.002	0.5
Chlorobenzene	MG/L	ND	0.005	100
Chloroform	MG/L	ND	0.005	6
Tetrachloroethene	MG/L	ND	0.001	0.7
Trichloroethene	MG/L	ND	0.001	0.5
Vinyl chloride	MG/L	ND	0.005	0.2
Semi-Volatiles				
1,4-Dichlorobenzene	MG/L	ND	0.04	7.5
2,4,5-Trichlorophenol	MG/L	ND	0.04	400
2,4,6-Trichlorophenol	MG/L	ND	0.04	2
2,4-Dinitrotoluene	MG/L	ND	0.008	0.13
Hexachlorobenzene	MG/L	ND	0.004	0.13
Hexachloroethane	MG/L	ND	0.004	3
Nitrobenzene	MG/L	ND	0.004	2
Pentachlorophenol	MG/L	ND	0.16	100
Pyridine	MG/L	ND	0.04	5
o-Cresol	MG/L	ND	0.04	200
m&p cresol	MG/L	ND	0.04	200
Hexachlorobutadiene	MG/L	ND	0.008	0.5
Pesticides/Herbicides				
Chlordane	MG/L	ND	0.005	0.03
Endrin	MG/L	ND	0.0005	0.02
Heptachlor	MG/L	ND	0.0005	0.008
Heptachlor epoxide	MG/L	ND	0.0005	0.008
gamma-BHC (Lindane)	MG/L	ND	0.0005	0.4
Methoxychlor	MG/L	ND	0.0005	10
Toxaphene	MG/L	ND	0.005	0.5
2,4-D	MG/L	ND	0.08	10
2,4,5-TP (Silvex)	MG/L	ND	0.08	1
Metals 6010B/7471A				
Silver	MG/L	ND	0.013	5
Arsenic	MG/L	ND	0.024	5
Cadmium	MG/L	0.005	0.0030 B	1
Chromium	MG/L	ND	0.0095	5
Lead	MG/L	**5.6**	0.013	5
Selenium	MG/L	ND	0.025	1
Barium	MG/L	0.79	0.0075 B	100
Mercury	MG/L	ND	0.00010	0.2

Notes: MG/L- Milligrams per Liter
ND- Not Detected

TABLE 15

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-24
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-24																						DNREC URS Standards	
	Sample Depth	0-0.25		0-1		1-2		2-3		3-4		4-5		5-6		8-9		9-10		10-11		11-12		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)																									
PCB-1016	UG/MG	ND	1700	ND	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	ND	2000	ND	470	ND	84	82000	82000
PCB-1221	UG/MG	ND	1700	ND	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	ND	2000	ND	470	ND	84	3000	3000
PCB-1232	UG/MG	ND	1700	ND	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	ND	2000	ND	470	ND	84	3000	3000
PCB-1242	UG/MG	ND	1700	ND	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	ND	2000	ND	470	ND	84	3000	3000
PCB-1248	UG/MG	ND	1700	ND	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	ND	2000	ND	470	ND	84	3000	3000
PCB-1254	UG/MG	ND	1700	ND	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	ND	2000	ND	470	ND	84	3000	3000
PCB-1260	UG/MG	ND	1700	**11,000**	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	ND	2000	**5,200**	470	ND	84	3000	3000
PCB-1262	UG/MG	**16,000**	1700	**26,000**	2000	**8,800**	740	**11,000**	740	**28,000**	1900	**50,000**	4200	**49,000**	4000	**36,000**	4100	**37,000**	2000	**7,400**	470	210	84	3000	3000
PCB-1268	UG/MG	ND	1700	ND	2000	ND	740	ND	740	ND	1900	ND	4200	ND	4000	ND	4100	**29,000**	2000	ND	470	ND	84	3000	3000
																		ND	2000	ND	470	ND	84	NS	NS
																		ND	2000	ND	470	ND	84	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 16

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-25
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-25						DNREC URS Standards	
	Sample Depth	6-7		7-8		8-9		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)									
PCB-1016	UG/MG	ND	4100	ND	910	ND	1600	82000	82000
PCB-1221	UG/MG	ND	4100	ND	910	ND	1600	3000	3000
PCB-1232	UG/MG	ND	4100	ND	910	ND	1600	3000	3000
PCB-1242	UG/MG	ND	4100	ND	910	ND	1600	3000	3000
PCB-1248	UG/MG	ND	4100	ND	910	ND	1600	3000	3000
PCB-1254	UG/MG	**24,000**	4100	**7,000**	910	ND	1600	3000	3000
PCB-1260	UG/MG	**38,000**	4100	**12,000**	910	**16,000**	1600	3000	3000
PCB-1262	UG/MG	ND	4100	ND	910	ND	1600	NS	NS
PCB-1268	UG/MG	ND	4100	ND	910	ND	1600	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 17

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-26
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location / Sample Depth / Units	SB-26 0-0.25 Result	SB-26 0-0.25 MDL	SB-26 1-2 Result	SB-26 1-2 MDL	SB-26 2-3 Result	SB-26 2-3 MDL	SB-26 3-4 Result	SB-26 3-4 MDL	SB-26 5-6 Result	SB-26 5-6 MDL	SB-26 6-7 Result	SB-26 6-7 MDL	SB-26 7-8 Result	SB-26 7-8 MDL	DNREC URS Standards Surface Soils	DNREC URS Standards Subsurface Soils
PCB Analyses (EPA Method 8082)																	
PCB-1016	UG/MG	ND	1500	ND	740	ND	1500	ND	750	ND	380	ND	400	ND	1600	82000	82000
PCB-1221	UG/MG	ND	1500	ND	740	ND	1500	ND	750	ND	380	ND	400	ND	1600	3000	3000
PCB-1232	UG/MG	ND	1500	ND	740	ND	1500	ND	750	ND	380	ND	400	ND	1600	3000	3000
PCB-1242	UG/MG	ND	1500	ND	740	ND	1500	ND	750	ND	380	ND	400	ND	1600	3000	3000
PCB-1248	UG/MG	ND	1500	ND	740	ND	1500	ND	750	ND	380	ND	400	ND	1600	3000	3000
PCB-1254	UG/MG	ND	1500	**5,400**	740	ND	1500	**3,800**	750	1,700	380	**3,400**	400	**12,000**	1600	3000	3000
PCB-1260	UG/MG	**18,000**	1500	**9,300**	740	**22,000**	1500	**9,000**	750	**3,300**	380	**6,100**	400	**18,000**	1600	3000	3000
PCB-1262	UG/MG	ND	1500	ND	740	ND	1500	ND	750	ND	380	ND	400	ND	1600	NS	NS
PCB-1268	UG/MG	ND	1500	ND	740	ND	1500	ND	750	ND	380	ND	400	ND	1600	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 18

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-27
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location / Sample Depth / Units	SB-27 0-0.25 Result	SB-27 0-0.25 MDL	SB-27 1-2 Result	SB-27 1-2 MDL	SB-27 2-3 Result	SB-27 2-3 MDL	SB-27 3-4 Result	SB-27 3-4 MDL	SB-27 4-5 Result	SB-27 4-5 MDL	SB-27 5-6 Result	SB-27 5-6 MDL	SB-27 6-7 Result	SB-27 6-7 MDL	DNREC URS Standards Surface Soils	DNREC URS Standards Subsurface Soils
PCB Analyses (EPA Method 8082)																	
PCB-1016	UG/MG	ND	1600	ND	1500	ND	3600	ND	3900	ND	1600	ND	1600	ND	820	82000	82000
PCB-1221	UG/MG	ND	1600	ND	1500	ND	3600	ND	3900	ND	1600	ND	1600	ND	820	3000	3000
PCB-1232	UG/MG	ND	1600	ND	1500	ND	3600	ND	3900	ND	1600	ND	1600	ND	820	3000	3000
PCB-1242	UG/MG	ND	1600	ND	1500	ND	3600	ND	3900	ND	1600	ND	1600	ND	820	3000	3000
PCB-1248	UG/MG	ND	1600	ND	1500	ND	3600	ND	3900	ND	1600	ND	1600	ND	820	3000	3000
PCB-1254	UG/MG	**12,000**	1600	ND	1500	**33,000**	3600	**25,000**	3900	**14,000**	1600	**9,400**	1600	**4,700**	820	3000	3000
PCB-1260	UG/MG	**18,000**	1600	**18,000**	1500	**36,000**	3600	**39,000**	3900	**14,000**	1600	**14,000**	1600	**9,700**	820	3000	3000
PCB-1262	UG/MG	ND	1600	ND	1500	ND	3600	ND	3900	ND	1600	ND	1600	ND	820	NS	NS
PCB-1268	UG/MG	ND	1600	ND	1500	ND	3600	ND	3900	ND	1600	ND	1600	ND	820	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 19

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-28
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-28														DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		5-6		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)																	
PCB-1016	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	82000	82000
PCB-1221	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	3000	3000
PCB-1232	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	3000	3000
PCB-1242	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	3000	3000
PCB-1248	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	3000	3000
PCB-1254	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	3000	3000
PCB-1260	UG/MG	**37,000**	3700	**81,000**	7300	**15,000**	1500	**39,000**	3700	**39,000**	3800	**21,000**	1600	**23,000**	2100	3000	3000
PCB-1262	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	NS	NS
PCB-1268	UG/MG	ND	3700	ND	7300	ND	1500	ND	3700	ND	3800	ND	1600	ND	2100	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 20

TCLP Results : Lead Analysis
Potential CNOC Building Site Area
Composite Samples : SB-24 through SB-32
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location / Units	SB-24 through SB-28		SB-29 through SB-32		USEPA TCLP Limits (mg/L)
		Result	MDL	Result	MDL	
Metals 6010B/7471A						
Lead	MG/L	0.20	0.013	0.08	0.013	5

Notes: mg/L- milligram per liter
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- no standard

TABLE 21

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-29
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-29										DNREC URS Standards	
	Sample Depth	0-0.25		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)													
PCB-1016	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	82000	82000
PCB-1221	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	3000	3000
PCB-1232	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	3000	3000
PCB-1242	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	3000	3000
PCB-1248	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	3000	3000
PCB-1254	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	3000	3000
PCB-1260	UG/MG	**170,000**	7700	**7,000**	410	ND	75	150	75	ND	77	3000	3000
PCB-1262	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	NS	NS
PCB-1268	UG/MG	ND	7700	ND	410	ND	75	ND	75	ND	77	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 22

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-30
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-30												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79	82000	82000
PCB-1221	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79	3000	3000
PCB-1232	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79	3000	3000
PCB-1242	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79	3000	3000
PCB-1248	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79	3000	3000
PCB-1254	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79	3000	3000
PCB-1260	UG/MG	**780,000**	78000	**45,000**	2000	**710,000**	40000	2,800	150	2,000	150	ND	79	NS	NS
PCB-1262	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79	NS	NS
PCB-1268	UG/MG	ND	78000	ND	2000	ND	40000	ND	150	ND	150	ND	79		

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 23

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-31
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-31												DNREC URS Standards	
	Sample Depth	0-0.25		0.25 -1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	82000	82000
PCB-1221	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	3000	3000
PCB-1232	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	3000	3000
PCB-1242	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	3000	3000
PCB-1248	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	3000	3000
PCB-1254	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	3000	3000
PCB-1260	UG/MG	**120,000**	7900	**43,000**	4400	1,400	110	1,200	90	730	84	590	79	3000	3000
PCB-1262	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	NS	NS
PCB-1268	UG/MG	ND	7900	ND	4400	ND	110	ND	90	ND	84	ND	79	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 24

Soil Sampling Results
Potential CNOC Building Site Area
Soil Sample Location SB-32
January 13, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-32										DNREC URS Standards	
	Sample Depth	0-0.25		0-1		1-2		2-3		3-3.5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)													
PCB-1016	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	82000	82000
PCB-1221	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	3000	3000
PCB-1232	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	3000	3000
PCB-1242	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	3000	3000
PCB-1248	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	3000	3000
PCB-1254	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	3000	3000
PCB-1260	UG/MG	**200,000**	20000	**110,000**	8000	**71,000**	4000	1,800	160	2,100	170	3000	3000
PCB-1262	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	NS	NS
PCB-1268	UG/MG	ND	20000	ND	8000	ND	4000	ND	160	ND	170	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

Appendix F

Proposed MOW Building Soil Investigation Results

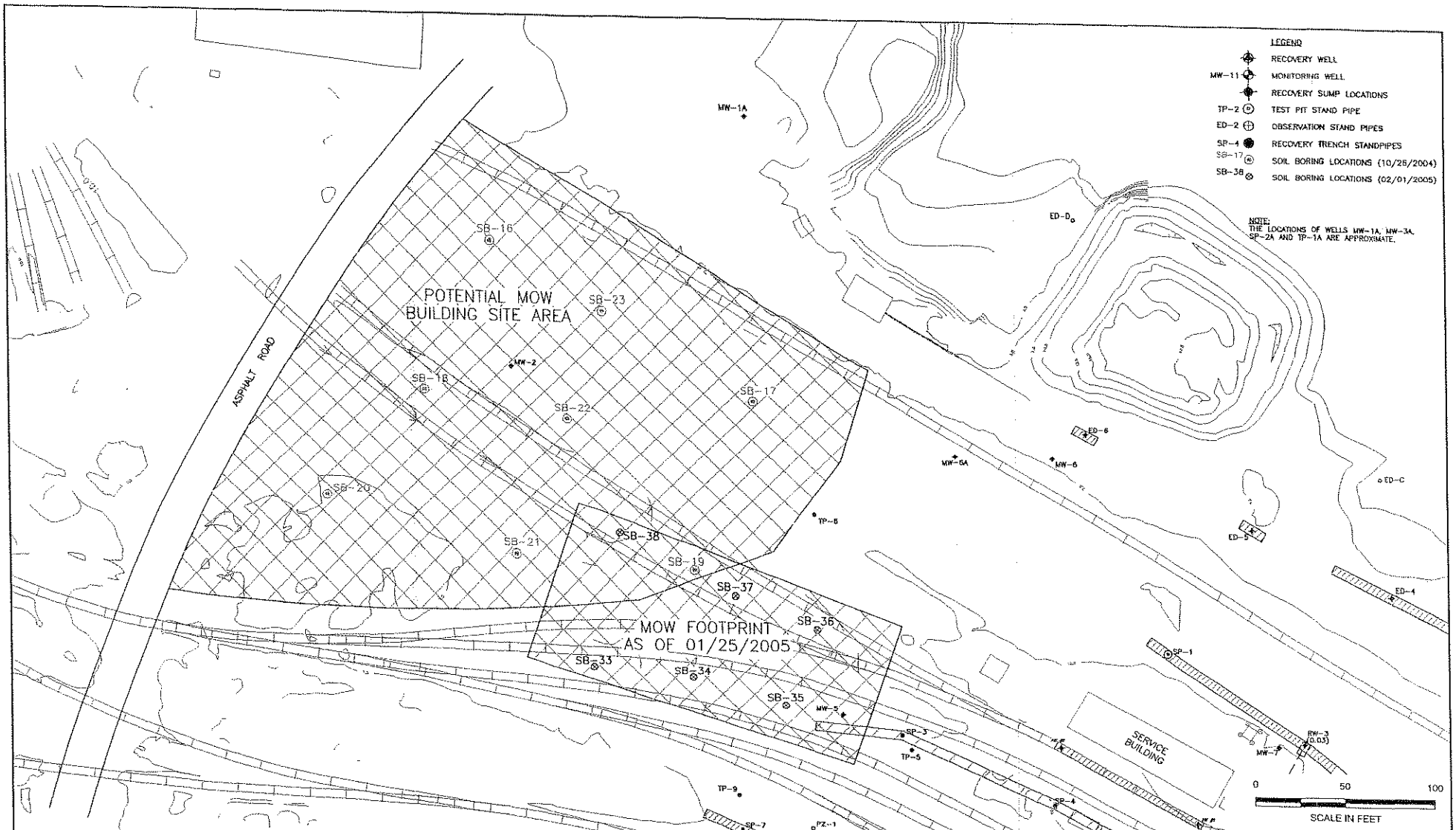

LEGEND
RECOVERY WELL
MW-11 MONITORING WELL
RECOVERY SUMP LOCATIONS
TP-2 TEST PIT STAND PIPE
ED-2 OBSERVATION STAND PIPES
SP-4 RECOVERY TRENCH STANDPIPES
SB-17 SOIL BORING LOCATIONS (10/28/2004)
SB-38 SOIL BORING LOCATIONS (02/01/2005)
NOTE:
THE LOCATIONS OF WELLS MW-1A, MW-3A, SP-2A AND TP-1A ARE APPROXIMATE.
POTENTIAL MOW BUILDING SITE AREA
MOW FOOTPRINT AS OF 01/25/2005
ASPHALT ROAD
SERVICE BUILDING
SB-16
SB-23
SB-18
SB-17
SB-22
SB-20
SB-21
SB-38
SB-19
SB-37
SB-36
SB-33
SB-34
SB-35
MW-1A
MW-2
MW-6A
MW-6
MW-5
MW-7
MW-13
TP-6
TP-5
TP-9
SP-1
SP-3
SP-4
SP-7
PZ-1
ED-D
ED-C
ED-6
ED-5
ED-4
FW-3 (0.03)
0 50 100
SCALE IN FEET
SECOR
102 FICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA
PHONE: (484) 875-3075/875-9286 (FAX)
FOR:
AMTRAK FORMER FUELING FACILITY
4001 VANDEVER AVENUE
WILMINGTON, DELAWARE
SOIL BORING LOCATIONS - POTENTIAL MOW BUILDING SITE AREA
FIGURE:
2
JOB NUMBER: 62OT.01063.04.0203
DRAWN BY: KEF
CHECKED BY:
APPROVED BY:
DATE: 02/08/2005
FILEPATH:
62OT-1063 MOW SB.DWG

TABLE 1

Soil Sampling Results
Potential MOW Building Site Area
Soil Sample Location SB-16
October 26 and 29 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-16												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	82000	82000
PCB-1221	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	3000	3000
PCB-1232	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	3000	3000
PCB-1242	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	3000	3000
PCB-1248	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	3000	3000
PCB-1254	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	3000	3000
PCB-1260	UG/KG	1600	71	10,000	730	320	73	ND	76	ND	76	ND	79	3000	3000
PCB-1262	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	NS	NS
PCB-1268	UG/KG	ND	71	ND	730	ND	73	ND	76	ND	76	ND	79	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16	1.1	2500	2500
C19 to C36 Aliphatics	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	21	0.15	500	500
C9-C12 Alphatic Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	23	0.15	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	15	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	0.15	200	200
Toluene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.18	0.15	5000	5000
Ethylbenzene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.16	0.15	5000	5000
m/p xylenes	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.42	0.15	5000	5000
o xylene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.37	0.15	5000	5000
Naphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	56	0.15	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	0.15	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	4100	4100
2 Methylnaphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	4100	4100
Acenaphthylene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	NS	NS
Acenaphthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Flourene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Phenanthrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Flouranthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Pyrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Benzo(a)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Chrysene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	780	780
Benzo(b)flouranthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Benzo(k)flouranthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	78	78
Benzo(a)pyrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	0.8	0.8
Indeno(1,2,3-cd)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Dibenzo(a,h)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	0.8	0.8

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source. Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999)
NS- Not Sampled
NR- Not Reported

TABLE 2

Soil Sampling Results
Potential MOW Building Site Area
Soil Sample Locations SB-17 & SB-18
October 26 and 29 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Units	SB-17 0-0.25 Result	SB-17 0-0.25 MDL	SB-17 2-3 Result	SB-17 2-3 MDL	SB-17 4-5 Result	SB-17 4-5 MDL	SB-18 0-0.25 Result	SB-18 0-0.25 MDL	SB-18 1-2 Result	SB-18 1-2 MDL	SB-18 2-3 Result	SB-18 2-3 MDL	SB-18 3-4 Result	SB-18 3-4 MDL	SB-18 4-5 Result	SB-18 4-5 MDL	DNREC URS Standards Surface Soils	DNREC URS Standards Subsurface Soils
PCB Analyses (EPA Method 8082)																			
PCB-1016	UG/KG	ND	150	ND	74	ND	79	ND	1900	ND	150	ND	74	ND	79	ND	160	82000	82000
PCB-1221	UG/KG	ND	150	ND	74	ND	79	ND	1900	ND	150	ND	74	ND	79	ND	160	3000	3000
PCB-1232	UG/KG	ND	150	ND	74	ND	79	ND	1900	ND	150	ND	74	ND	79	ND	160	3000	3000
PCB-1242	UG/KG	ND	150	ND	74	ND	79	ND	1900	ND	150	ND	74	ND	79	310	160	3000	3000
PCB-1248	UG/KG	ND	150	ND	74	ND	79	**8,500**	1900	ND	150	ND	74	ND	79	ND	160	3000	3000
PCB-1254	UG/KG	ND	150	ND	74	ND	79	ND	1900	ND	150	ND	74	ND	79	ND	160	3000	3000
PCB-1260	UG/KG	2,800	150	ND	74	ND	79	**33,000**	1900	2,000	150	1,000	74	380	79	2,100	160	3000	3000
PCB-1262	UG/KG	ND	150	ND	74	ND	79	ND	1900	ND	150	ND	74	ND	79	ND	160	NS	NS
PCB-1268	UG/KG	ND	150	ND	74	ND	79	ND	1900	ND	150	ND	74	ND	79	ND	160	NS	NS
MA EPH Method																			
C9 to C18 Aliphatics	MG/KG	NS	NS	NS	NS	**14,000**	12	NS	NS	NS	NS	NS	NS	**7,200**	5.5	NS	NS	2500	2500
C19 to C36 Aliphatics	MG/KG	NS	NS	NS	NS	**5,800**	12	NS	NS	NS	NS	NS	NS	**6,500**	5.5	NS	NS	5000	5000
C11 to C22 Aromatics (Adjusted)	MG/KG	NS	NS	NS	NS	**3,800**	12	NS	NS	NS	NS	NS	NS	1000	5.5	NS	NS	2000	2000
MA VPH Method																			
C5-C8 Aliphatic Hydrocarbons	MG/KG	NS	NS	NS	NS	ND	0.75	NS	NS	NS	NS	NS	NS	ND	0.64	NS	NS	500	500
C9-C12 Alphatic Hydrocarbons	MG/KG	NS	NS	NS	NS	1400	0.75	NS	NS	NS	NS	NS	NS	680	0.64	NS	NS	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NS	NS	NS	NS	470	0.75	NS	NS	NS	NS	NS	NS	240	0.64	NS	NS	500	500
MA VPH Target Analyte List																			
Benzene	MG/KG	NS	NS	NS	NS	ND	0.75	NS	NS	NS	NS	NS	NS	ND	0.64	NS	NS	200	200
Toluene	MG/KG	NS	NS	NS	NS	ND	0.75	NS	NS	NS	NS	NS	NS	ND	0.64	NS	NS	5000	5000
Ethylbenzene	MG/KG	NS	NS	NS	NS	3.2	0.75	NS	NS	NS	NS	NS	NS	1.2	0.64	NS	NS	5000	5000
m/p xylenes	MG/KG	NS	NS	NS	NS	1.8	0.75	NS	NS	NS	NS	NS	NS	1.3	0.64	NS	NS	5000	5000
o xylene	MG/KG	NS	NS	NS	NS	1.4	0.75	NS	NS	NS	NS	NS	NS	0.64	0.64	NS	NS	5000	5000
Naphthalene	MG/KG	NS	NS	NS	NS	36	0.75	NS	NS	NS	NS	NS	NS	15	0.64	NS	NS	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NS	NS	NS	NS	ND	0.75	NS	NS	NS	NS	NS	NS	ND	0.64	NS	NS	1000	1000
MA EPH Target Analyte List																			
Naphthalene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	4100	4100
2-Methylnaphthalene	MG/KG	NS	NS	NS	NS	19	12	NS	NS	NS	NS	NS	NS	8.7	5.5	NS	NS	4100	4100
Acenaphthylene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	NS	NS
Acenaphthene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	5000	5000
Flourene	MG/KG	NS	NS	NS	NS	15	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	5000	5000
Phenanthrene	MG/KG	NS	NS	NS	NS	16	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	5000	5000
Anthracene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	5000	5000
Flouranthene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	5000	5000
Pyrene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	5000	5000
Benzo(a)anthracene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	5000	5000
Chrysene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	8	8
Benzo(b)flouranthene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	780	780
Benzo(k)flouranthene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	8	8
Benzo(a)pyrene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	78	78
Indeno(1,2,3-cd)anthracene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	0.8	0.8
Dibenzo(a,h)anthracene	MG/KG	NS	NS	NS	NS	ND	12	NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	8	8
								NS	NS	NS	NS	NS	NS	ND	5.5	NS	NS	0.8	0.8

Notes: ug/kg - micrograms per kilogram
mg/kg milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1996).
NS-Not Sampled
NR- Not Reported

TABLE 3

Soil Sampling Results
Potential MOW Building Site Area
Soil Sample Location SB-19
October 26 and 29 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-19												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Results	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	82000	82000
PCB-1221	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	3000	3000
PCB-1232	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	3000	3000
PCB-1242	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	3000	3000
PCB-1248	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	3000	3000
PCB-1254	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	3000	3000
PCB-1260	UG/KG	**3,700**	380	1,600	72	530	73	110	75	ND	72	94	73	3000	3000
PCB-1262	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	NS	NS
PCB-1268	UG/KG	ND	380	ND	72	ND	73	ND	75	ND	72	ND	73	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**6,100**	8.4	2500	2500
C19 to C36 Aliphatics	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1700	8.4	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1400	8.4	2000	2000
MA VPH Method															
C5-C18 Aliphatic Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	500	500
C9-C12 Alphatics Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1900	1.1	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**630**	1.1	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	200	200
Toluene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Ethylbenzene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6	1.1	5000	5000
m/p xylenes	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	2.2	5000	5000
o xylene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.6	1.1	5000	5000
Naphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	42	1.1	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	4100	4100
2-Methylnaphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26	8.4	4100	4100
Acenaphthylene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	8.4	NS	NS
Acenaphthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	5000	5000
Flourene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	5000	5000
Phenanthrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.5	5000	5000
Anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	5000	5000
Flourathene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	5000	5000
Pyrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	5000	5000
Benzo(a)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	8	8
Chrysene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	780	780
Benzo(b)flouranthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	8	8
Benzo(k)flouranthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	78	78
Benzo(a)pyrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	0.8	0.8
Indeno(1,2,3-cd)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	8	8
Dibenzo(a,h)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	8.4	0.8	0.8

Notes: mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled
NR- Not Reported

TABLE 4
Soil Sampling Results
Potential MOW Building Site Area
Soil Sample Location SB-20
October 26 and 29 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-20								DNREC URS Standards	
	Sample Depth	0-0.25		1-2		2-3		3-4		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)											
PCB-1016	UG/KG	ND	1900	ND	360	ND	71	ND	80	82000	82000
PCB-1221	UG/KG	ND	1900	ND	360	ND	71	ND	80	3000	3000
PCB-1232	UG/KG	ND	1900	ND	360	ND	71	ND	80	3000	3000
PCB-1242	UG/KG	ND	1900	**5,400**	360	ND	71	ND	80	3000	3000
PCB-1248	UG/KG	**14,000**	1900	ND	360	ND	71	ND	80	3000	3000
PCB-1254	UG/KG	ND	1900	ND	360	ND	71	ND	80	3000	3000
PCB-1260	UG/KG	**27,000**	1900	**3,100**	360	ND	71	ND	80	3000	3000
PCB-1262	UG/KG	ND	1900	ND	360	ND	71	ND	80	NS	NS
PCB-1268	UG/KG	ND	1900	ND	360	ND	71	ND	80	NS	NS
MA EPH Method											
C9 to C18 Aliphatics	MG/KG	NS	NS	18	1.1	NS	NS	NS	NS	2500	2500
C19 to C36 Aliphatics	MG/KG	NS	NS	200	1.1	NS	NS	NS	NS	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NS	NS	34	1.1	NS	NS	NS	NS	2000	2000
MA VPH Method											
C5-C8 Aliphatic Hydrocarbons	MG/KG	NS	NS	37	0.14	NS	NS	NS	NS	500	500
C9-C12 Alphatic Hydrocarbons	MG/KG	NS	NS	36	0.14	NS	NS	NS	NS	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NS	NS	ND	14	NS	NS	NS	NS	500	500
MA VPH Target Analyte List											
Benzene	MG/KG	NS	NS	ND	0.14	NS	NS	NS	NS	200	200
Toluene	MG/KG	NS	NS	ND	0.14	NS	NS	NS	NS	5000	5000
Ethylbenzene	MG/KG	NS	NS	0.43	0.14	NS	NS	NS	NS	5000	5000
m/p xylenes	MG/KG	NS	NS	1.3	0.14	NS	NS	NS	NS	5000	5000
o xylene	MG/KG	NS	NS	1.2	0.14	NS	NS	NS	NS	5000	5000
Naphthalene	MG/KG	NS	NS	1.4	0.14	NS	NS	NS	NS	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NS	NS	ND	0.14	NS	NS	NS	NS	1000	1000
MA EPH Target Analyte List											
Naphthalene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	4100	4100
2-Methylnaphthalene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	4100	4100
Acenaphthylene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	NS	NS
Acenaphthene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	5000	5000
Flourene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	5000	5000
Phenanthrene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	5000	5000
Anthracene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	5000	5000
Flourathene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	5000	5000
Pyrene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	5000	5000
Benzo(a)anthracene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	8	8
Chrysene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	780	780
Benzo(b)flouranthene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	8	8
Benzo(k)flouranthene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	78	78
Benzo(a)pyrene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	0.8	0.8
Indeno(1,2,3-cd)anthracene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	8	8
Dibenzo(a,h)anthracene	MG/KG	NS	NS	ND	1.1	NS	NS	NS	NS	0.8	0.8

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled
NR- Not Reported

Soil Sampling Results
Potential MOW Building Site Area
Soil Sample Locations SB-21 & SB-22
October 26 and 29 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location Sample Description/Depth	SB-21						SB-22						DNREC URS Standards	
		0-0.25		1-2		2-3		0-0.25		1-2		2-3		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	82000	82000
PCB-1221	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	3000	3000
PCB-1232	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	3000	3000
PCB-1242	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	3000	3000
PCB-1248	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	3000	3000
PCB-1254	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	3000	3000
PCB-1260	UG/KG	15,000	1500	500	73	ND	75	4,700	380	1,800	78	190	72	3000	3000
PCB-1262	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	NS	NS
PCB-1268	UG/KG	ND	1500	ND	73	ND	75	ND	380	ND	78	ND	72	NS	NS
MA EPH Method															
C9 to C18 Aliphatics	MG/KG	NS	NS	50	1.3	NS	NS	NS	NS	NS	NS	29	1.1	2500	2500
C19 to C36 Aliphatics	MG/KG	NS	NS	270	1.3	NS	NS	NS	NS	NS	NS	37	1.1	5000	5000
C11 to C22 Aromatics (adjusted)	MG/KG	NS	NS	22	1.3	NS	NS	NS	NS	NS	NS	24	1.1	2000	2000
MA VPH Method															
C5-C8 Aliphatic Hydrocarbons	MG/KG	NS	NS	50	0.18	NS	NS	NS	NS	NS	NS	41	0.15	500	500
C9-C12 Alphatic Hydrocarbons	MG/KG	NS	NS	66	0.18	NS	NS	NS	NS	NS	NS	60	0.15	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NS	NS	18	0.18	NS	NS	NS	NS	NS	NS	ND	15	500	500
MA VPH Target Analyte List															
Benzene	MG/KG	NS	NS	ND	0.18	NS	NS	NS	NS	NS	NS	ND	0.15	200	200
Toluene	MG/KG	NS	NS	0.5	0.18	NS	NS	NS	NS	NS	NS	0.21	0.15	5000	5000
Ethylbenzene	MG/KG	NS	NS	0.44	0.18	NS	NS	NS	NS	NS	NS	0.32	0.15	5000	5000
m/p xylenes	MG/KG	NS	NS	1.4	0.18	NS	NS	NS	NS	NS	NS	0.69	0.15	5000	5000
o xylene	MG/KG	NS	NS	1.2	0.18	NS	NS	NS	NS	NS	NS	0.78	0.15	5000	5000
Naphthalene	MG/KG	NS	NS	1.8	0.18	NS	NS	NS	NS	NS	NS	1.4	0.15	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NS	NS	ND	0.18	NS	NS	NS	NS	NS	NS	ND	0.15	1000	1000
MA EPH Target Analyte List															
Naphthalene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	4100	4100
2-Methylnaphthalene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	4100	4100
Acenaphthylene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	NS	NS
Acenaphthene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Flourene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Phenanthrene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Anthracene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Flourathene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Pyrene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Benzo(a)anthracene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Chrysene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Benzo(b)flouranthene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	780	780
Benzo(k)flouranthene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Benzo(a)pyrene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	78	78
Indeno(1,2,3-cd)anthracene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	0.8	0.8
Dibenzo(a,h)anthracene	MG/KG	NS	NS	ND	1.3	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
												ND	1.1	0.8	0.8

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled
NR- Not Reported

TABLE 6

Soil Sampling Results
Potential MOW Building Site Area
Soil Sample Location SB-23
October 26 and 29 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location Sample Description/Depth	SB-23										DNREC URS Standards	
		0-0.25		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Results	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)													
PCB-1016	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	82000	82000
PCB-1221	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	3000	3000
PCB-1232	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	3000	3000
PCB-1242	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	3000	3000
PCB-1248	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	3000	3000
PCB-1254	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	3000	3000
PCB-1260	UG/KG	530	71	**4,600**	370	ND	73	ND	79	ND	75	3000	3000
PCB-1262	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	NS	NS
PCB-1268	UG/KG	ND	71	ND	370	ND	73	ND	79	ND	75	NS	NS
MA EPH Method													
C9 to C18 Aliphatics	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	34	1.1	2500	2500
C19 to C36 Aliphatics	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	38	1.1	5000	5000
C11 to C22 Aromatics	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	30	1.1	2000	2000
MA VPH Method													
C5-C8 Aliphatic Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	26	0.15	500	500
C9-C12 Alphatics Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	30	0.15	2500	2500
C9-C10 Aromatic Hydrocarbons	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	30	0.15	500	500
MA VPH Target Analyte List													
Benzene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	0.15	200	200
Toluene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	0.17	0.15	5000	5000
Ethylbenzene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	0.16	0.15	5000	5000
m/p xylenes	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	0.6	0.15	5000	5000
o xylene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	0.57	0.15	5000	5000
Naphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	0.78	0.15	4100	4100
Methyl Tertiary Butyl Ether	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	0.15	1000	1000
MA EPH Target Analyte List													
Naphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	4100	4100
2-Methylnaphthalene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	4100	4100
Acenaphthylene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	NS	NS
Acenaphthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Flourene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Phenanthrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Flourathene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Pyrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	5000	5000
Benzo(a)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Chrysene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	780	780
Benzo(b)flouranthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Benzo(k)flouranthene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	78	78
Benzo(a)pyrene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	0.8	0.8
Indeno(1,2,3-cd)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	8	8
Dibenzo(a,h)anthracene	MG/KG	NS	NS	NS	NS	NS	NS	NS	NS	ND	1.1	0.8	0.8

Notes: ug/kg - micrograms per kilogram
mg/kg-milligrams per kilogram
ND: not detected
NA: not analyzed
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled
NR- Not Reported

TABLE 7

Metal Analytical Results
Potential MOW Building Site Area
Soil Sample Locations SB-Comp-1 and SB-Comp-2
29-Oct-04

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location Sample Description/Depth	SB-COMP-1		SB-COMP-2		DNREC URS Standards	
		SB-16, SB-17, SB-22, SB-23		SB-18, SB-19, SB-20, SB-21		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL		
Metals 6010B/7471A							
Silver	MG/KG	ND	0.19	ND	0.18	2	1
Arsenic	MG/KG	**27.5**	0.82	**17.3**	0.78	10	8
Beryllium	MG/KG	0.39	0.023 B	0.38	0.022 B	410	410
Cadmium	MG/KG	ND	0.093	0.57	0.089 B	100	100
Chromium	MG/KG	15.7	0.65	13.4	0.62	610*	610*
Copper	MG/KG	44.7	0.72	55.6	0.69	8200	8200
Nickel	MG/KG	9.1	0.91 B	7.3	0.87 B	4100	4100
Lead	MG/KG	91.4	0.51	**1,670**	0.49	1000	1000
Antimony	MG/KG	2.0	0.91 B	2.4	0.87	82	82
Selenium	MG/KG	2.9	1.1	2.1	1.0	1000	1000
Thallium	MG/KG	ND	1.0	ND	0.98	220	220
Zinc	MG/KG	16.8	1.4	31.8	1.3	61000	61000
Mercury	MG/KG	0.12	0.019	0.11	0.019	610	610

Notes: mg/kg- milligram per kilogram
ND- Not Detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

TABLE 8

TCLP Results
Potential MOW Building Site Area
Soil Sample Locations SB-16 through SB-23
October 29, 2004

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location / Units	SB-16 through SB-23 Result	SB-16 through SB-23 MDL	USEPA RCRA LIMITS
Volatiles				
2- Butanone (MEK)	MG/L	ND	0.005	200
1,1-Dichloroethylene	MG/L	ND	0.002	0.7
1,2-Dichloroethane	MG/L	ND	0.002	0.5
Benzene	MG/L	ND	0.001	0.5
Carbon tetrachloride	MG/L	ND	0.002	0.5
Chlorobenzene	MG/L	ND	0.005	100
Chloroform	MG/L	ND	0.005	6
Tetrachloroethylene	MG/L	ND	0.001	0.7
Trichloroethylene	MG/L	ND	0.001	0.5
Vinyl chloride	MG/L	ND	0.005	0.2
Semi-Volatiles				
1,4-Dichlorobenzene	MG/L	ND	0.04	7.5
2,4,5-Trichlorophenol	MG/L	ND	0.04	400
2,4,6-Trichlorophenol	MG/L	ND	0.04	2
2,4-Dinitrotoluene	MG/L	ND	0.008	0.13
Hexachlorobenzene	MG/L	ND	0.004	0.13
Hexachloroethane	MG/L	ND	0.004	3
Nitrobenzene	MG/L	ND	0.004	2
Pentachlorophenol	MG/L	ND	0.16	100
Pyridine	MG/L	ND	0.04	5
o-Cresol	MG/L	ND	0.04	200
m&p cresol	MG/L	ND	0.04	200
Hexachlorobutadiene	MG/L	ND	0.008	0.5
Pesticides/Herbicides				
Chlordane	MG/L	ND	0.005	0.03
Endrin	MG/L	ND	0.0005	0.02
Heptachlor	MG/L	ND	0.0005	0.008
Heptachlor epoxide	MG/L	ND	0.0005	0.008
gamma-BHC (Lindane)	MG/L	ND	0.0005	0.4
Methoxychlor	MG/L	ND	0.0005	10
Toxaphene	MG/L	ND	0.005	0.5
2,4-D	MG/L	ND	0.08	10
2,4,5-TP (Silvex)	MG/L	ND	0.08	1
Metals 6010B/7471A				
Silver	MG/L	ND	0.0070	5
Arsenic	MG/L	ND	0.016	5
Cadmium	MG/L	0.006	0.0020	1
Chromium	MG/L	ND	0.0080	5
Lead	MG/L	0.12	0.013	5
Selenium	MG/L	ND	0.021	1
Barium	MG/L	0.38	0.0085	100
Mercury	MG/L	ND	0.00010	0.2

Notes: MG/L- Milligrams per Liter
ND- Not Detected

TABLE 9

Soil Sampling Results
Potential MOW Building Footprint Area
Soil Sample Location SB-33
February 1. 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

	Sample Location	SB-33												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
Analysis Name	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	82000	82000
PCB-1221	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	3000	3000
PCB-1232	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	3000	3000
PCB-1242	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	3000	3000
PCB-1248	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	3000	3000
PCB-1254	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	3000	3000
PCB-1260	UG/KG	2000	170	220	83	250	74	150	82	ND	82	ND	83	3000	3000
PCB-1262	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	NS	NS
PCB-1268	UG/KG	ND	170	ND	83	ND	74	ND	82	ND	82	ND	83	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS- Not Sampled

TABLE 10

Soil Sampling Results
Potential MOW Building Footprint Area
Soil Sample Location SB-34
February, 1 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-34												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1.0		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	82000	82000
PCB-1221	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	3000	3000
PCB-1232	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	3000	3000
PCB-1242	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	3000	3000
PCB-1248	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	3000	3000
PCB-1254	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	3000	3000
PCB-1260	UG/KG	1800	100	630	75	1100	82	730	85	550	86	450	88	3000	3000
PCB-1262	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	NS	NS
PCB-1268	UG/KG	ND	100	ND	75	ND	82	ND	85	ND	86	ND	88	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled

TABLE 11

Soil Sampling Results
Potential MOW Building Footprint Area
Soil Sample Location SB-35
February 1, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-35												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Results	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	82000	82000
PCB-1221	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	3000	3000
PCB-1232	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	3000	3000
PCB-1242	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	3000	3000
PCB-1248	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	3000	3000
PCB-1254	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	3000	3000
PCB-1260	UG/KG	260	81	380	77	610	97	920	88	270	76	130	75	3000	3000
PCB-1262	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	NS	NS
PCB-1268	UG/KG	ND	81	ND	77	ND	97	ND	88	ND	76	ND	75	NS	NS

Notes: mg/kg-milligrams per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled

TABLE 12

Soil Sampling Results
Potential MOW Building Footprint Area
Soil Sample Location SB-36
February 1, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-36												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)		ND	160	ND	160					ND	78				
PCB-1016	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	82000	82000
PCB-1221	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	3000	3000
PCB-1232	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	3000	3000
PCB-1242	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	3000	3000
PCB-1248	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	3000	3000
PCB-1254	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	3000	3000
PCB-1260	UG/KG	**3200**	160	2900	160	ND	80	ND	81	170	78	ND	76	3000	3000
PCB-1262	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	NS	NS
PCB-1268	UG/KG	ND	160	ND	160	ND	80	ND	81	ND	78	ND	76	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled

TABLE 13

Soil Sampling Results
Potential MOW Building Footprint Area
Soil Sample Location SB-37
February 1, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

	Sample Location	SB-37												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1.0		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
Analysis Name	Units	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	82000	82000
PCB-1221	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	3000	3000
PCB-1232	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	3000	3000
PCB-1242	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	3000	3000
PCB-1248	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	3000	3000
PCB-1254	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	3000	3000
PCB-1260	UG/KG	2,100	170	1300	84	ND	83	ND	84	ND	76	ND	74	3000	3000
PCB-1262	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	NS	NS
PCB-1268	UG/KG	ND	170	ND	84	ND	83	ND	84	ND	76	ND	74	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled

TABLE 14

Soil Sampling Results
Potential MOW Building Footprint Area
Soil Sample Location SB-38
February 1, 2005

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Analysis Name	Sample Location	SB-38												DNREC URS Standards	
	Sample Depth	0-0.25		0.25-1.0		1-2		2-3		3-4		4-5		Surface Soils	Subsurface Soils
	Units	Result	MDL	Results	MDL	Result	MDL	Result	MDL	Result	MDL	Result	MDL		
PCB Analyses (EPA Method 8082)															
PCB-1016	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	82000	82000
PCB-1221	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	3000	3000
PCB-1232	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	3000	3000
PCB-1242	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	3000	3000
PCB-1248	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	3000	3000
PCB-1254	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	3000	3000
PCB-1260	UG/KG	460	75	560	79	260	76	180	76	110	83	180	76	3000	3000
PCB-1262	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	NS	NS
PCB-1268	UG/KG	ND	75	ND	79	ND	76	ND	76	ND	83	ND	76	NS	NS

Notes: ug/kg - micrograms per kilogram
ND: not detected
NA: not analyzed
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).
NS-Not Sampled

TABLE 15

TCLP Results
Potential MOW Building Site Area
Soil Sample Locations SB-33 through SB-38
13-Jan-05

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

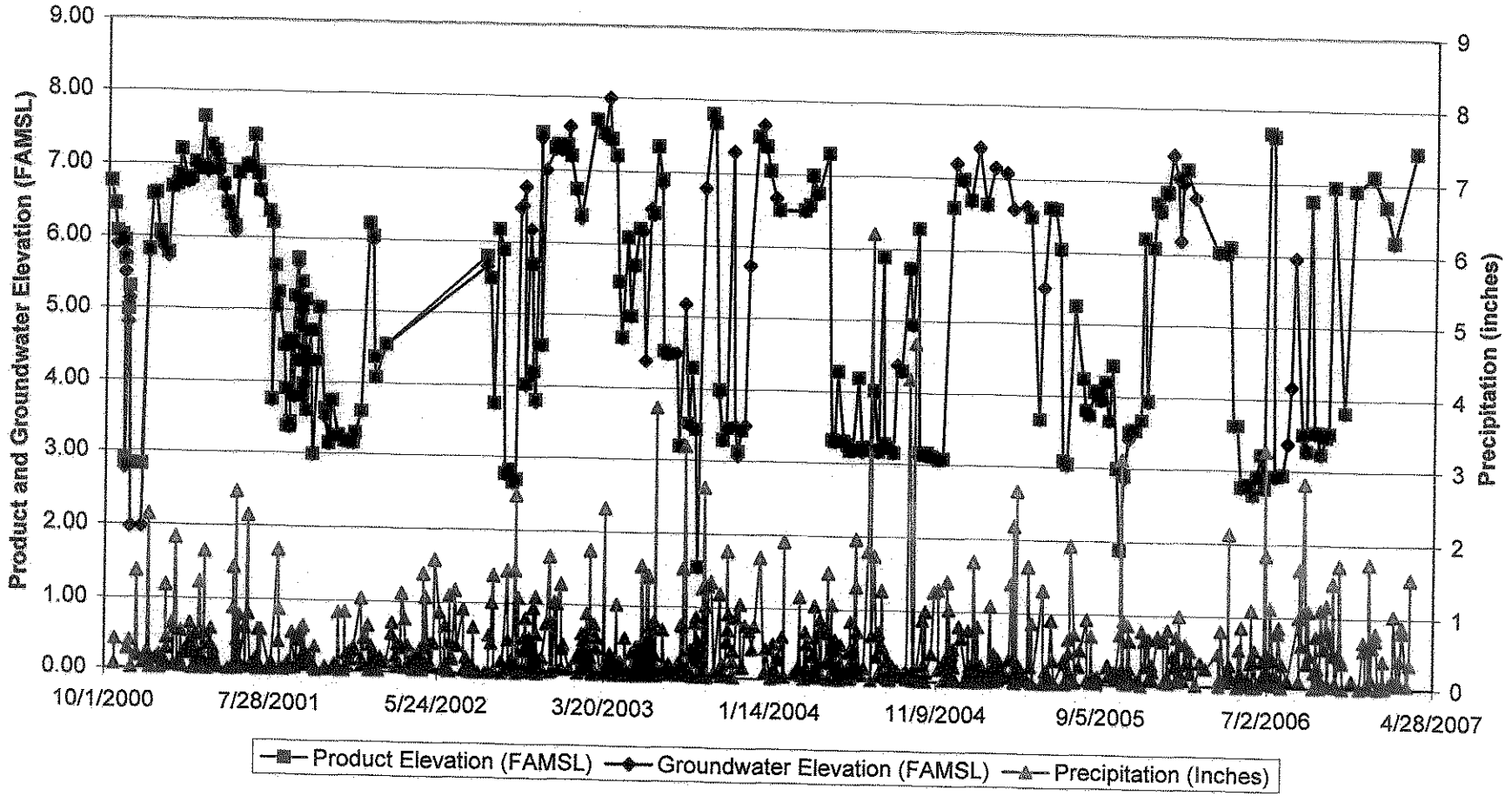
Analysis Name	Sample Location Sample Description/Depth	SB-33 through SB-38		USEPA TCLP LIMIT
	Units	Result	MDL	
Metals 6010B/7471A				
Lead	MG/L	0.63	0.013	5

Notes: mg/L- milligram per liter
ND- Not Detected
DNREC URS Surface and Subsurface Standards assume Non Critical Water Resource Area and Restricted Use
DNREC URS Source: Remediation Standards Guidance under the Delaware Hazardous Substance Cleanup Act (DNREC, 1999).

Appendix G

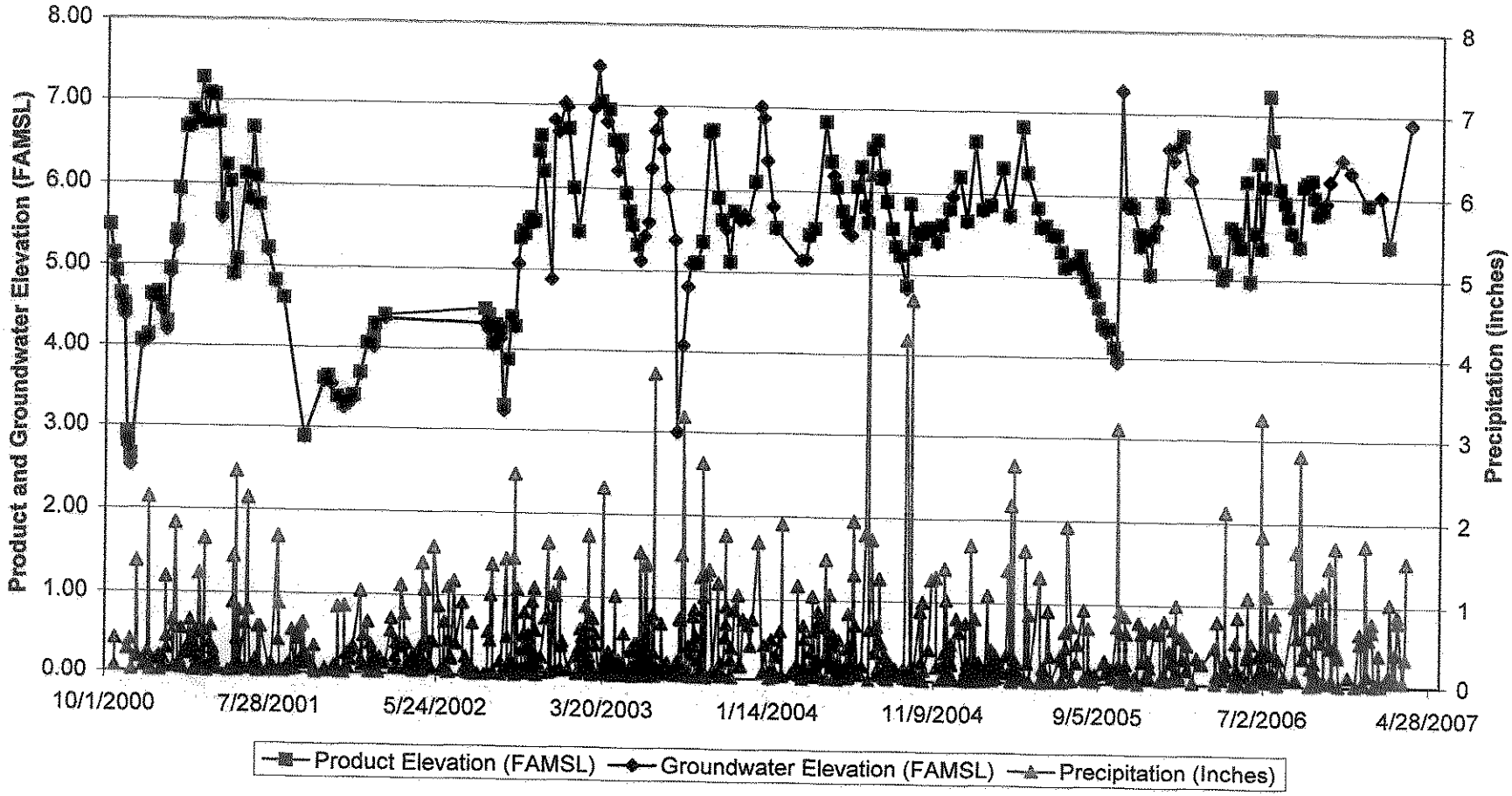
Liquid Level Data, Groundwater Monitoring Data and Hydrographs – Diesel Fuel Remedial Program

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware
RW-1
Through March 21, 2007 Hydrograph



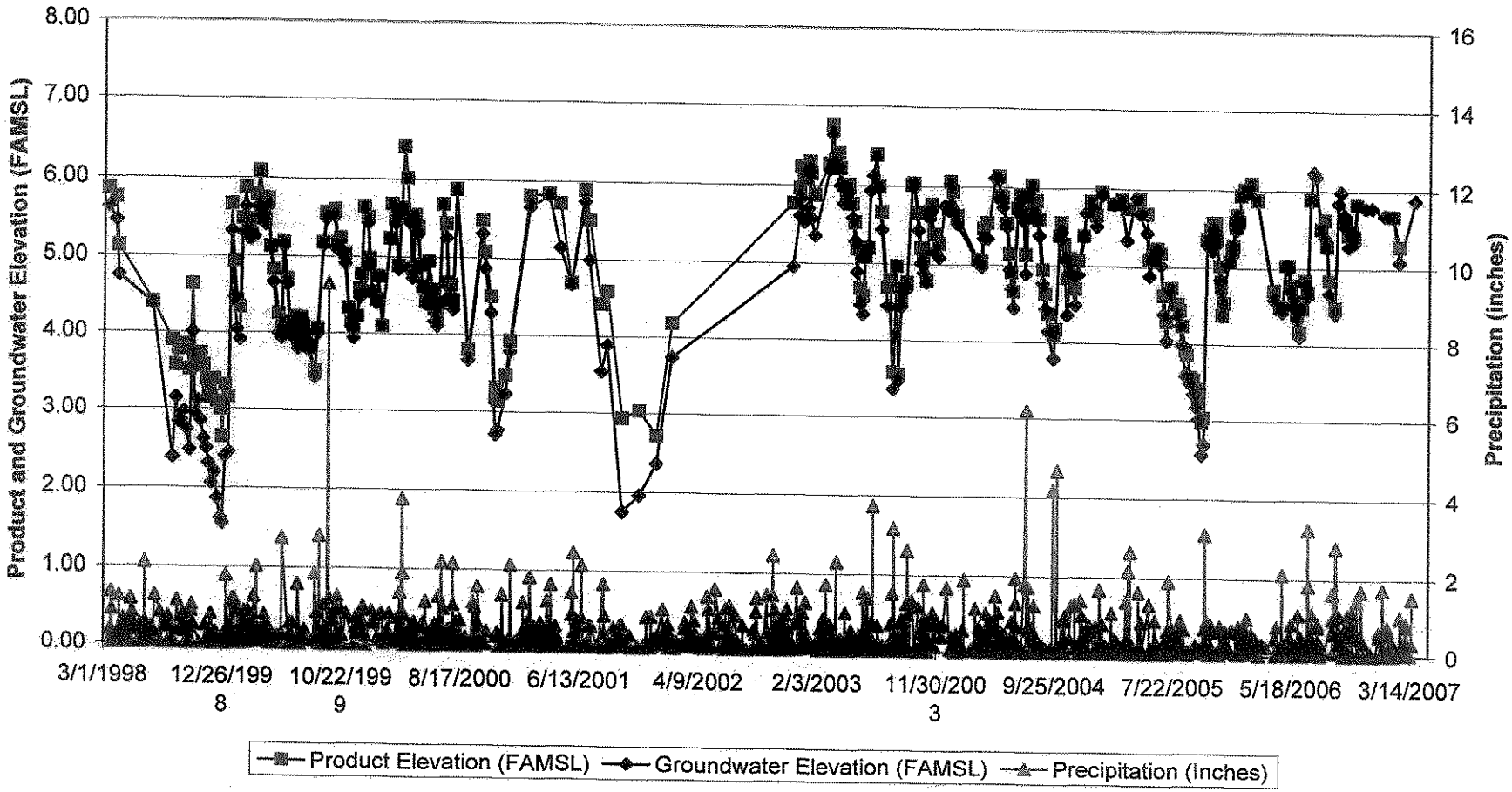
S:/Clients/Amtrak-APU/Hydrographs/2005 (through jan 07) Hydrographs (RW-1,-3, MW-7,16,14)/RW-1 chart

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware
RW-3
Through March 21, 2007 Hydrograph



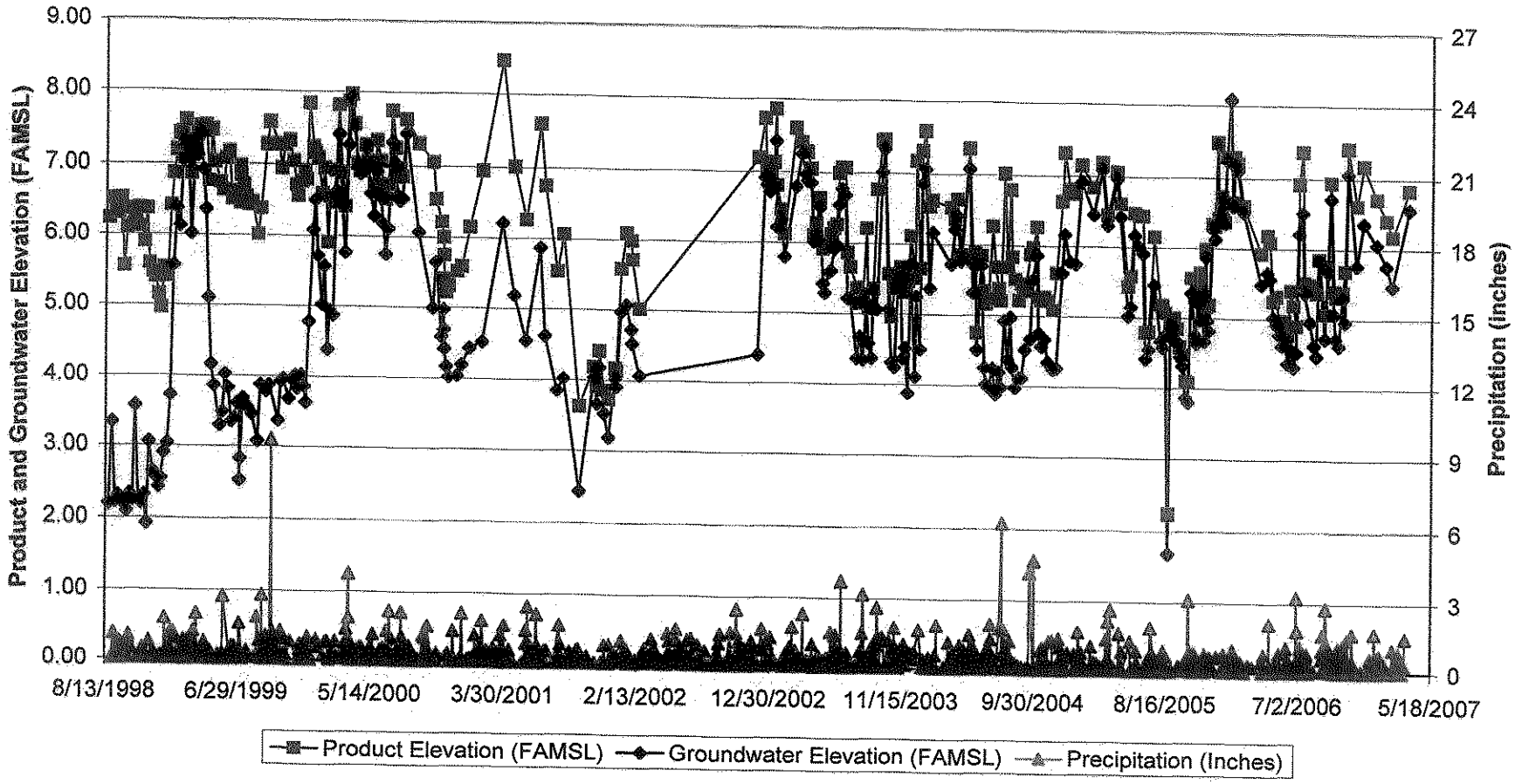
S:/Clients/Amtrak-APU/Hydrographs/2005 (through jan 07) Hydrographs (RW-1,-3, MW-7,16,14)/RW-3 chart

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware
MW-7
Through March 21, 2007 Hydrograph



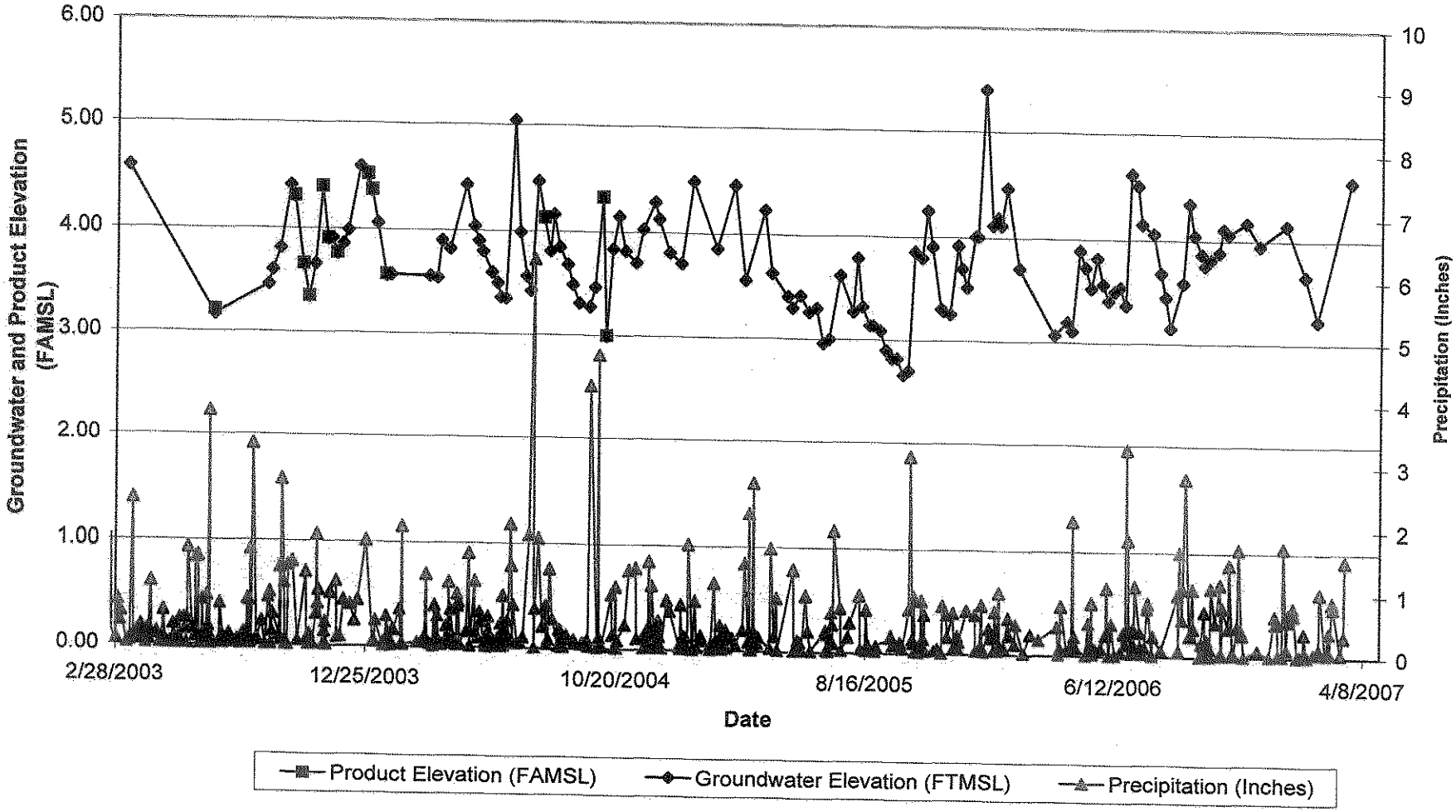
S:/Clients/Amtrak-APU/Hydrographs/2005 (through jan 07) Hydrographs (RW-1,-3, MW-7,16,14)/MW-7 chart

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware
MW-16
Through March 21, 2007 Hydrograph



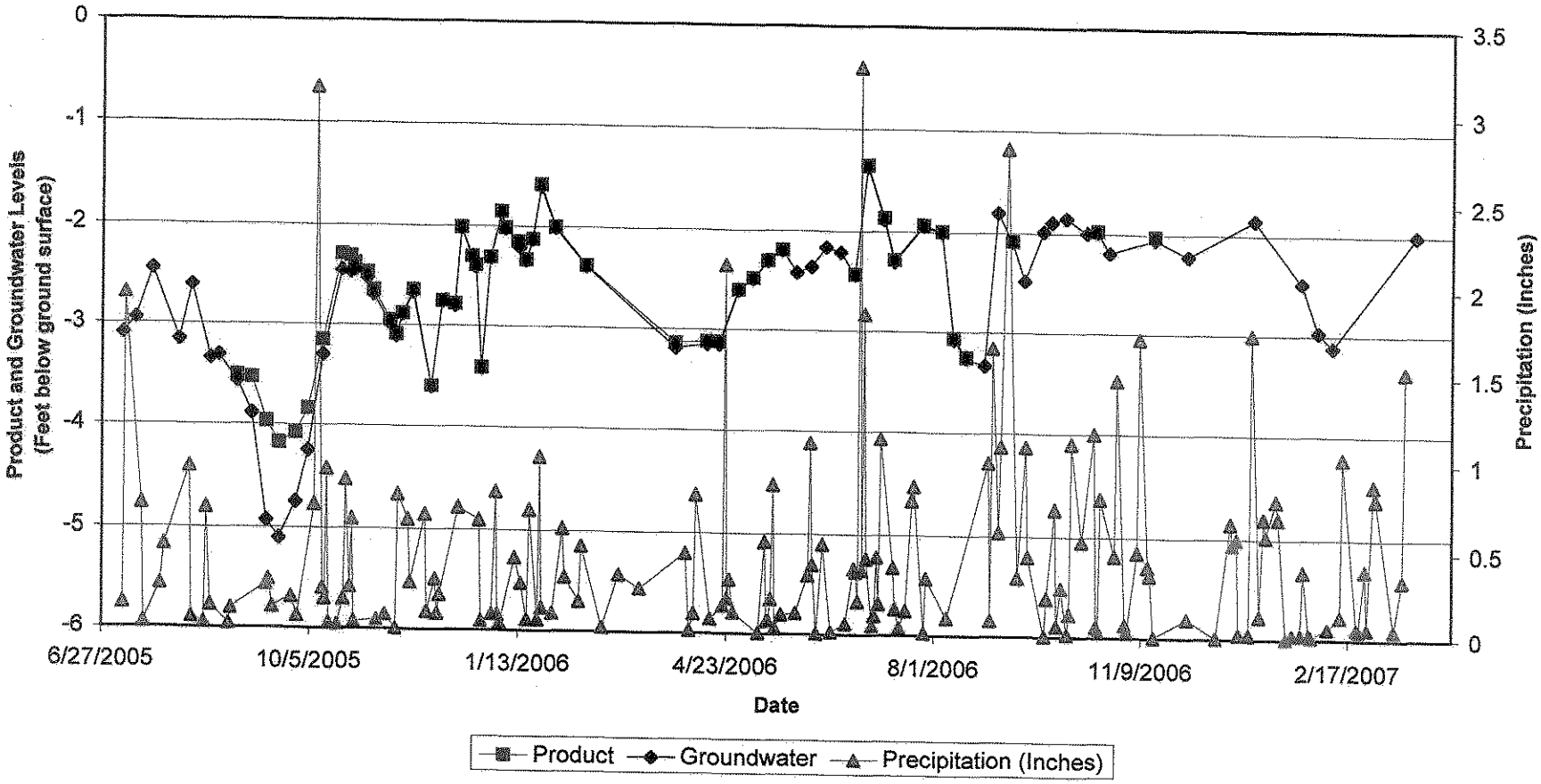
S:/Clients/Amtrak-APU/Hydrographs/2005 (through jan 07) Hydrographs (RW-1,-3, MW-7,16,14)/MW-16 chart

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware
MW-14
Through March 21, 2007 Hydrograph



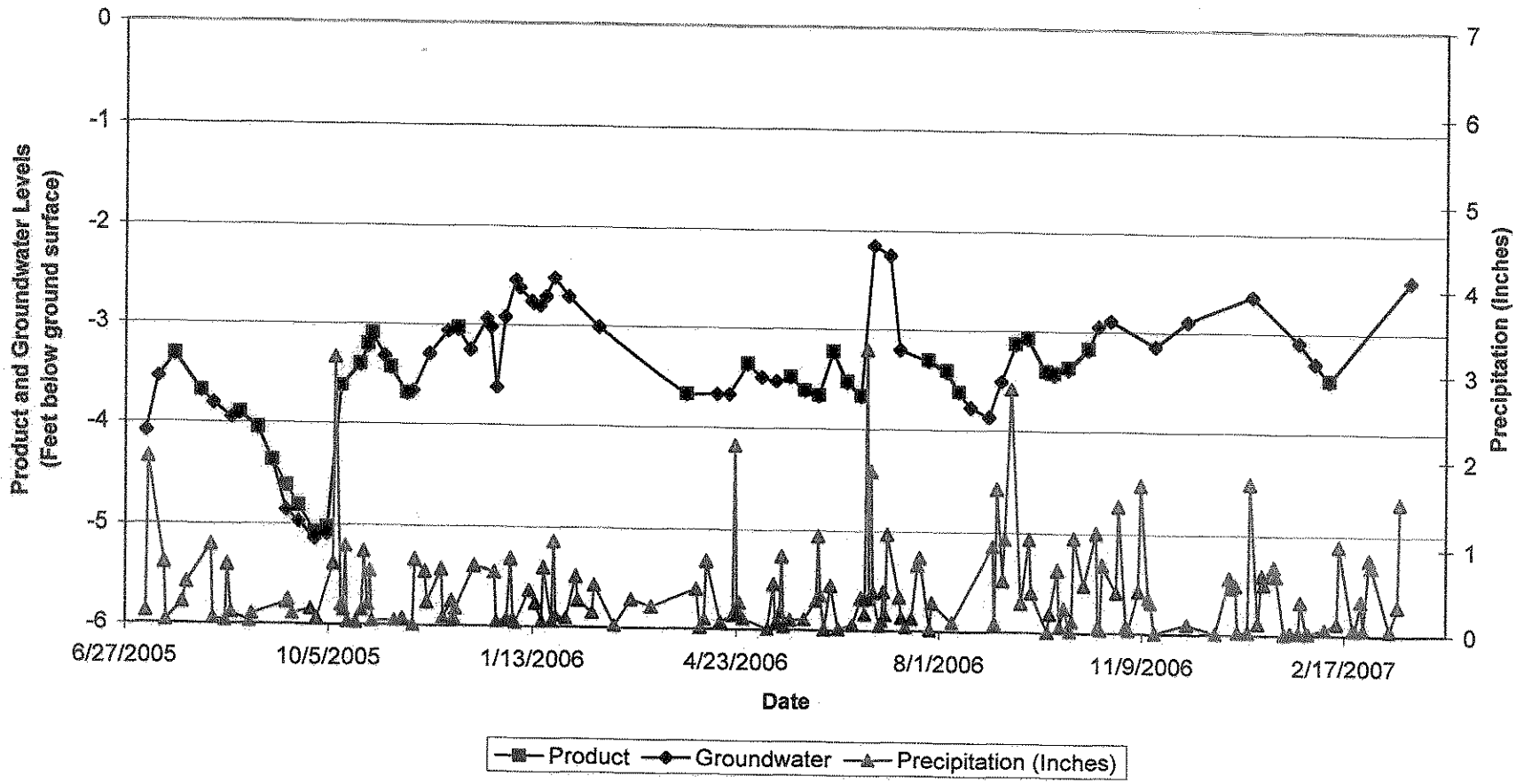
TP-105 Hydrograph
through March 21, 2007

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware



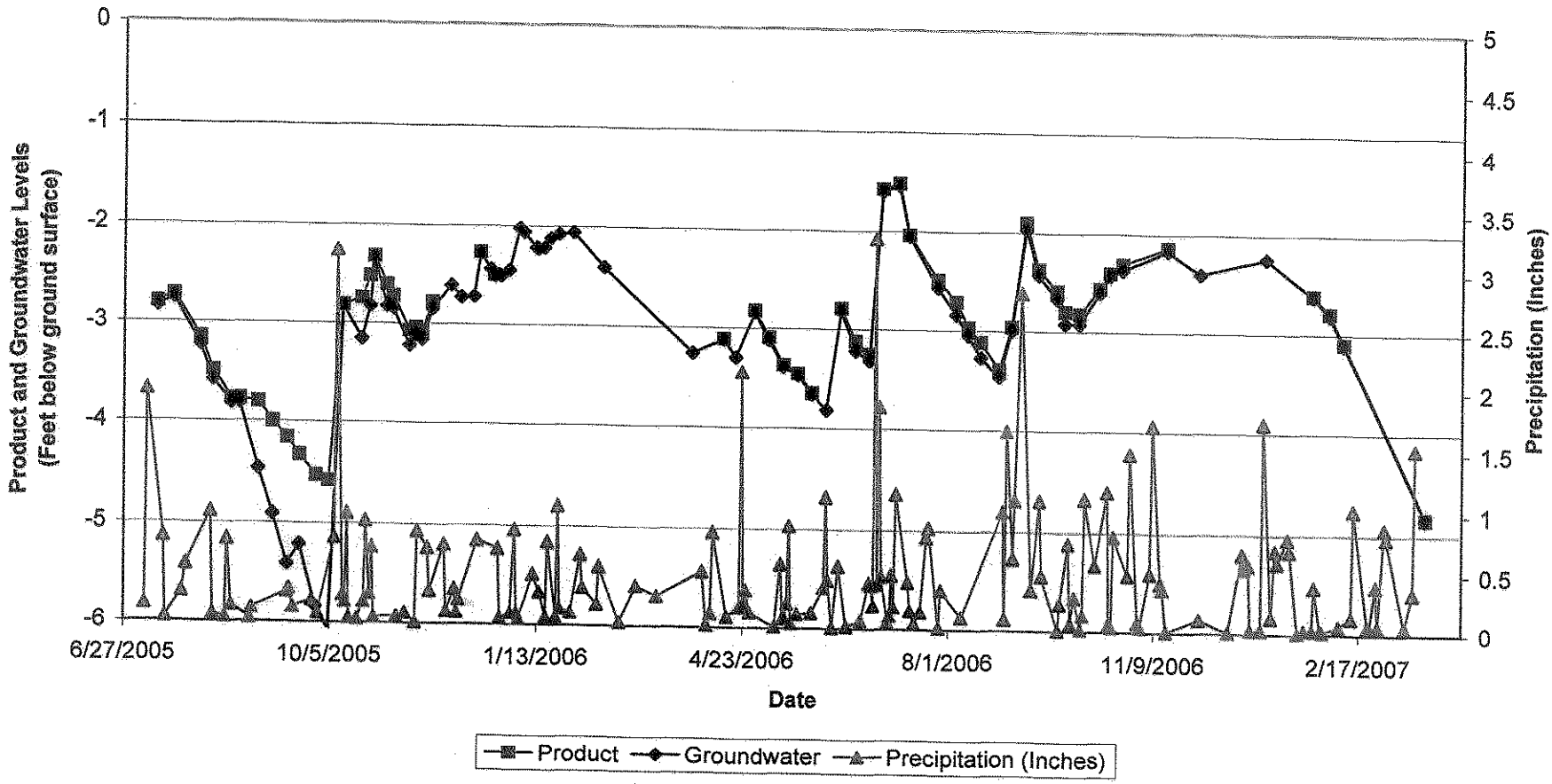
TP-106 Hydrograph
through March 21, 2007

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware



TP-114 Hydrograph
through March 21, 2007

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware



AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Liquid Level Data Sheet
September 13, 2006

Well ID	Measuring Point Elevation (ft rmsl)	Depth to Product (feet)	Depth to Water (feet)	Apparent Product Thickness (feet)	Estimated Product Specific Gravity [1]	Water Level Elevation (ft rmsl)	Product Level Elevation (ft rmsl)	Corrected Water Level Elevation (ft rmsl)
MW-1A	7.83	---	6.11	---	NA	1.72	---	---
MW-2	9.26	---	3.51	---	NA	5.75	---	---
MW-3A	16.55	---	12.68	---	NA	3.87	---	---
MW-4	8.98	---	3.96	---	NA	5.02	---	---
MW-5	9.48	---	2.61	---	NA	6.87	---	---
MW-6A	12.39	9.00	9.22	0.22	0.87	3.17	3.39	3.36
MW-7	8.99	---	3.00	---	NA	5.99	---	---
MW-8	7.92	---	4.25	---	NA	---	---	---
MW-8A	8.01	---	3.92	---	NA	4.09	---	---
MW-9	9.25	---	2.31	---	NA	6.94	---	---
MW-10A	7.27	2.56	2.57	0.01	0.87	4.70	4.71	4.71
MW-11	7.97	---	4.65	---	NA	3.32	---	---
MW-12	7.04	---	5.58	---	NA	NA	---	---
MW-13	6.66	---	2.27	---	NA	4.39	---	---
MW-14	8.41	---	4.36	---	NA	4.05	---	---
MW-15	8.54	1.70	1.71	0.01	0.87	6.83	6.84	6.84
MW-16	9.67	2.73	2.95	0.22	0.87	6.72	6.94	6.91
MW-17	4.88	---	1.64	---	NA	3.24	---	---
ED-A	6.26	---	4.50	---	NA	1.76	---	---
ED-B	5.31	---	4.49	---	NA	0.82	---	---
ED-C	5.14	---	3.07	---	NA	2.07	---	---
ED-D	5.86	---	2.92	---	NA	2.94	---	---
WD-A	8.01	7.23	7.24	0.01	0.87	0.77	0.78	0.78
WD-B	6.40	5.19	5.40	0.21	0.87	1.00	1.21	1.18
WD-C	6.43	---	2.65	---	NA	3.78	---	---
WD-D	NS	5.41	5.43	0.02	0.87	---	---	---
WD-E	NS	5.08	5.16	0.08	0.87	---	---	---
WD-F	NS	3.11	3.12	0.01	0.87	---	---	---
PZ-1	9.80	5.51	5.53	0.02	0.87	4.27	4.29	4.29
Sump #1	10.94	---	4.06	---	NA	6.88	---	---
Sump#2	10.37	3.00	3.01	0.01	0.87	7.36	7.37	7.37
SP#1	9.66	---	3.52	---	NA	6.14	---	---
SP#2A	NS	3.25	3.26	0.01	0.87	---	---	---
SP#3	9.85	---	2.98	---	NA	6.87	---	---
SP#4	10.72	---	3.85	---	NA	6.87	---	---
SP#5	9.67	---	2.80	---	NA	6.87	---	---
SP#6	9.74	2.80	2.81	0.01	0.87	6.93	6.94	6.94
SP#7	8.75	1.79	1.80	0.01	0.87	6.95	6.96	6.96
SP#8	9.51	---	2.53	---	NA	6.98	---	---
SP#9	9.82	---	2.89	---	NA	6.93	---	---

Well ID	Measuring Point Elevation (ft rmsl)	Depth to Product (feet)	Depth to Water (feet)	Apparent Product Thickness (feet)	Estimated Product Specific Gravity [1]	Water Level Elevation (ft rmsl)	Product Level Elevation (ft rmsl)	Corrected Water Level Elevation (ft rmsl)
RW#1	9.70	2.85	2.86	0.01	0.87	6.84	6.85	6.85
RW#2	8.37	2.64	2.65	0.01	0.87	5.72	5.73	5.73
RW#3	9.62	3.43	3.44	0.01	0.87	6.18	6.19	6.19
RW#4	8.45	1.40	1.41	0.01	0.87	7.04	7.05	7.05
RW#5	8.63	---	2.75	---	NA	5.88	---	---
Pit#1	10.05	---	2.79	---	NA	7.26	---	---
Pit#2	8.16	2.66	2.68	0.02	0.87	5.48	5.50	5.50
ED#1	10.28	6.06	6.07	0.01	0.87	4.21	4.22	4.22
ED#2	11.77	---	5.28	---	NA	6.49	---	---
ED#3	8.58	---	4.59	---	NA	3.99	---	---
ED#4	8.55	---	4.57	---	NA	3.98	---	---
ED#5	9.96	5.69	5.70	0.01	0.87	4.26	4.27	4.27
ED#6	10.73	6.45	6.46	0.01	0.87	4.27	4.28	4.28
TP-1A	NS	7.30	7.45	0.15	0.87	---	---	---
TP-6	13.21	---	6.90	---	NA	6.31	---	---
TP-7	14.48	NA	NA	---	NA	---	---	---
TP-8	13.58	---	6.86	---	NA	6.72	---	---
TP-9	11.88	---	5.16	---	NA	6.72	---	---
TP-101	NS	6.45	6.46	0.01	0.87	---	---	---
TP-102	NS	---	4.22	---	NA	---	---	---
TP-103	NS	---	6.27	---	NA	---	---	---
TP-104	NS	---	5.08	---	NA	---	---	---
TP-105	NS	---	5.48		NA	---	---	---
TP-106	NS	5.65	5.66	0.01	0.87	---	---	---
TP-107	NS	---	5.31	---	NA	---	---	---
TP-108	NS	---	6.41	---	NA	---	---	---
TP-109	NS	---	5.68	---	NA	---	---	---
TP-110	NS	---	6.35	---	NA	---	---	---
TP-111	NS	---	6.49	---	NA	---	---	---
TP-112	NS	---	5.80	---	NA	---	---	---
TP-113	NS	---	6.35	---	NA	---	---	---
TP-114	NS	5.25	5.31	0.06	0.87	---	---	---
TP-115	NS	6.22	6.23	0.01	0.87	---	---	---

NS = Not Surveyed

NA =Not Applicable

[1] = Specific gravity estimated on product type anaylsis

ft rmsl = feet relative to mean sea level

NM[1] = Not Measured, covered with dirt

P:\Clients\Amtrak-APU\Monthly Liquid Levels\[Quarterly Levels March 2007.xls]9-13-06

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Liquid Level Data Sheet
December 1, 2006

Well ID	Measuring Point Elevation (ft rmsl)	Depth to Product (feet)	Depth to Water (feet)	Apparent Product Thickness (feet)	Estimated Product Specific Gravity [1]	Water Level Elevation (ft rmsl)	Product Level Elevation (ft rmsl)	Corrected Water Level Elevation (ft rmsl)
MW-1A	7.83	---	6.17	---	NA	---	---	---
MW-2	9.26	---	NA	---	NA	---	---	---
MW-3A	16.55	---	12.57	---	NA	---	---	---
MW-4	8.98	---	4.60	---	NA	4.38	---	---
MW-5	9.48	---	2.50	---	NA	6.98	---	---
MW-6A	12.39	6.23	6.46	0.23	0.87	5.93	6.16	6.13
MW-7	8.99	---	3.20	---	NA	5.79	---	---
MW-8	7.92	---	4.27	---	NA	---	---	---
MW-8A	8.01	---	3.91	---	NA	4.10	---	---
MW-9	9.25	2.35	2.36	0.01	0.87	6.89	6.90	6.90
MW-10A	7.27	2.61	2.62	0.01	0.87	4.65	4.66	4.66
MW-11	7.97	---	5.02	---	NA	2.95	---	---
MW-12	7.04	---	5.91	---	NA	1.13	---	---
MW-13	6.66	---	2.31	---	NA	4.35	---	---
MW-14	8.41	---	4.46	---	NA	3.95	---	---
MW-15	8.54	---	1.26	---	NA	7.28	---	---
MW-16	9.67	2.49	3.30	0.81	0.87	6.37	7.18	7.07
MW-17	4.88	---	1.95	---	NA	2.93	---	---
ED-A	6.26	4.58	4.59	0.01	0.87	1.67	1.68	1.68
ED-B	5.31	---	4.49	---	NA	---	---	---
ED-C	5.14	---	NA	---	NA	---	---	---
ED-D	5.86	---	NA	---	NA	---	---	---
WD-A	8.01	7.48	7.49	0.01	0.87	0.52	0.53	0.53
WD-B	6.40	5.21	5.55	0.34	0.87	0.85	1.19	1.15
WD-C	6.43	---	2.43	---	NA	4.00	---	---
WD-D	NS	5.41	5.46	0.05	0.87	---	---	---
WD-E	NS	5.11	5.35	0.24	0.87	---	---	---
WD-F	NS	---	3.14	---	NA	---	---	---
PZ-1	9.80	5.50	5.52	0.02	0.87	4.28	4.30	4.30
Sump #1	10.94	---	3.95	---	NA	6.99	---	---
Sump#2	10.37	---	3.02	---	NA	7.35	---	---
SP#1	9.66	---	3.42	---	NA	6.24	---	---
SP#2A	NS	---	3.15	---	NA	---	---	---
SP#3	9.85	---	2.85	---	NA	7.00	---	---
SP#4	10.72	3.67	3.70	0.03	0.87	7.02	7.05	7.05
SP#5	9.67	---	2.62	---	NA	7.05	---	---
SP#6	9.74	---	2.68	---	NA	7.06	---	---
SP#7	8.75	---	1.61	---	NA	7.14	---	---
SP#8	9.51	---	2.55	---	NA	6.96	---	---
SP#9	9.82	---	2.88	---	NA	6.94	---	---

Well ID	Measuring Point Elevation (ft rmsl)	Depth to Product (feet)	Depth to Water (feet)	Apparent Product Thickness (feet)	Estimated Product Specific Gravity [1]	Water Level Elevation (ft rmsl)	Product Level Elevation (ft rmsl)	Corrected Water Level Elevation (ft rmsl)
RW#1	9.70	2.70	2.71	0.01	0.87	6.99	7.00	7.00
RW#2	8.37	2.63	2.64	0.01	0.87	5.73	5.74	5.74
RW#3	9.62	---	3.30	---	NA	6.32	---	---
RW#4	8.45	1.30	1.32	0.02	0.87	7.13	7.15	7.15
RW#5	8.63	---	2.78	---	NA	5.85	---	---
PW#1	10.05	---	2.75	---	NA	7.30	---	---
PW#2	8.16	---	2.64	---	NA	5.52	---	---
ED#1	10.28	6.25	6.26	0.01	0.87	4.02	4.03	4.03
ED#2	11.77	---	5.35	---	NA	6.42	---	---
ED#3	8.58	---	4.75	---	NA	3.83	---	---
ED#4	8.55	---	4.75	---	NA	3.80	---	---
ED#5	9.96	5.94	5.95	0.01	0.87	4.01	4.02	4.02
ED#6	10.73	6.70	6.71	0.01	0.87	4.02	4.03	4.03
TP-1A	NS	7.15	7.60	0.45	0.87	---	---	---
TP-6	13.21	---	6.98	---	NA	6.23	---	---
TP-7	14.48	---	5.13	---	NA	9.35	---	---
TP-8	13.58	---	6.98	---	NA	6.60	---	---
TP-9	11.88	---	5.59	---	NA	6.29	---	---
TP-101	NS	---	6.29	---	NA	---	---	---
TP-102	NS	---	4.17	---	NA	---	---	---
TP-103	NS	---	6.04	---	NA	---	---	---
TP-104	NS	---	5.08	---	NA	---	---	---
TP-105	NS	---	5.22	---	NA	---	---	---
TP-106	NS	---	5.47	---	NA	---	---	---
TP-107	NS	---	5.08	---	NA	---	---	---
TP-108	NS	---	6.32	---	NA	---	---	---
TP-109	NS	---	5.59	---	NA	---	---	---
TP-110	NS	---	6.62	---	NA	---	---	---
TP-111	NS	---	6.60	---	NA	---	---	---
TP-112	NS	---	5.88	---	NA	---	---	---
TP-113	NS	---	6.32	---	NA	---	---	---
TP-114	NS	---	5.28		NA	---	---	---
TP-115	NS	---	6.24	---	NA	---	---	---

NS = Not Surveyed

NA = Not Applicable

[1] = Specific gravity estimated on product type anaylsis

ft rmsl = feet relative to mean sea level

NM[1] = Not Measured, covered with dirt

AMTRAK Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Liquid Level Data Sheet
March 21, 2007

Well ID	Measuring Point Elevation (ft rmsl)	Depth to Product (feet)	Depth to Water (feet)	Apparent Product Thickness (feet)	Estimated Product Specific Gravity [1]	Water Level Elevation (ft rmsl)	Product Level Elevation (ft rmsl)	Corrected Water Level Elevation (ft rmsl)
MW-1A	7.83		5.63		NA	---	---	---
MW-2	9.26		NG		NA	---	---	---
MW-3A	16.55		12.58		NA	---	---	---
MW-4	8.98		3.66		NA	5.32	---	---
MW-5	9.48	2.10	2.90	0.80	0.87	6.58	7.38	7.28
MW-6A	12.39	8.87	9.20	0.33	0.87	---	---	---
MW-7	8.99		3.10		NA	5.89	---	---
MW-8	7.92		4.06		NA	---	---	---
MW-8A	8.01		3.69		NA	4.32	---	---
MW-9	9.25	2.20	2.21	0.01	0.87	7.04	7.05	7.05
MW-10A	7.27	2.58	2.59	0.01	0.87	4.68	4.69	4.69
MW-11	7.97		4.19		NA	3.78	---	---
MW-12	7.04		6.20		NA	0.84	---	---
MW-13	6.66		2.05		NA	4.61	---	---
MW-14	8.41		3.85		NA	4.56	---	---
MW-15	8.54	1.32	1.34	0.02	0.87	7.20	7.22	7.22
MW-16	9.67	2.83	3.10	0.27	0.87	6.57	6.84	6.80
MW-17	4.88	1.60	1.61	0.01	0.87	3.27	3.28	3.28
ED-A	6.26	4.38	4.39	0.01	0.87	1.87	1.88	1.88
ED-B	5.31		4.40		NA	0.91	---	---
ED-C	5.14		3.50		NA	1.64	---	---
ED-D	5.86		3.53		NA	2.33	---	---
WD-A	8.01	7.13	7.14	0.01	0.87	0.87	0.88	0.88
WD-B	6.40	5.16	5.50	0.34	0.87	0.90	1.24	1.20
WD-C	6.43		2.58		NA	3.85	---	---
WD-D	NS	5.40	5.43	0.03	0.87	---	---	---
WD-E	NS	5.11	5.40	0.29	0.87	---	---	---
WD-F	NS	3.11	3.12	0.01	0.87	---	---	---
PZ-1	9.80	5.10	5.12	0.02	0.87	4.68	4.70	4.70
Sump #1	10.94		4.44		NA	6.50	---	---
Sump#2	10.37		2.56		NA	7.81	---	---
SP#1	9.66		2.82		NA	6.84	---	---
SP#2A	NS		2.50		NA	---	---	---
SP#3	9.85	2.34	2.37	0.03	0.87	7.48	7.51	7.51
SP#4	10.72	3.18	3.19	0.01	0.87	7.53	7.54	7.54
SP#5	9.67		2.15		NA	7.52	---	---
SP#6	9.74		2.20		NA	7.54	---	---
SP#7	8.75		1.40		NA	7.35	---	---
SP#8	9.51		2.13		NA	7.38	---	---
SP#9	9.82		2.45		NA	7.37	---	---
RW#1	9.70		2.18		NA	7.52	---	---
RW#2	8.37		2.20		NA	6.17	---	---
RW#3	9.62		2.72		NA	6.90	---	---
RW#4	8.45	1.35	1.36	0.01	0.87	7.09	7.10	7.10
RW#5	8.63		2.34		NA	6.29	---	---
Pit#1	10.05		2.31		NA	7.74	---	---
Pit#2	8.16		2.24		NA	5.92	---	---
ED#1	10.28	5.84	5.85	0.01	0.87	4.43	4.44	4.44
ED#2	11.77		4.71		NA	7.06	---	---

Well ID	Measuring Point Elevation (ft rmsl)	Depth to Product (feet)	Depth to Water (feet)	Apparent Product Thickness (feet)	Estimated Product Specific Gravity [1]	Water Level Elevation (ft rmsl)	Product Level Elevation (ft rmsl)	Corrected Water Level Elevation (ft rmsl)
ED#3	8.58		4.51		NA	4.07	---	---
ED#4	8.55		4.40		NA	4.15	---	---
ED#5	9.96	5.55	5.56	0.01	0.87	4.40	4.41	4.41
ED#6	10.73		6.30		NA	4.43	---	---
TP-1A	NS	7.10	7.55	0.45	0.87	---	---	---
TP-6	13.21		5.52		NA	7.69	---	---
TP-7	14.48		6.86		NA	7.62	---	---
TP-8	13.58		6.48		NA	7.10	---	---
TP-9	11.88	4.68	4.69	0.01	0.87	7.19	7.20	7.20
TP-101	NS		6.32		NA	---	---	---
TP-102	NS		3.72		NA	---	---	---
TP-103	NS		5.61		NA	---	---	---
TP-104	NS		4.58		NA	---	---	---
TP-105	NS		5.00		NA	---	---	---
TP-106	NS		5.05		NA	---	---	---
TP-107	NS		4.62		NA	---	---	---
TP-108	NS		5.83		NA	---	---	---
TP-109	NS		5.20		NA	---	---	---
TP-110	NS		6.21		NA	---	---	---
TP-111	NS		6.11		NA	---	---	---
TP-112	NS		5.68		NA	---	---	---
TP-113	NS		6.12		NA	---	---	---
TP-114	NS	7.71	7.72	0.01	0.87	---	---	---
TP-115	NS		5.71		NA	---	---	---
TP-116			5.74			---	---	---
TP-117			5.20			---	---	---
TP-118			5.53			---	---	---
TP-119			7.88			---	---	---
TP-120			5.15			---	---	---
TP-121		6.07	6.09	0.02	0.87	---	---	---
TP-122		6.44	7.50	1.06	0.87	---	---	---
TP-123		5.72	6.38	0.66	0.87	---	---	---
TP-124		7.15	7.16	0.01	0.87	---	---	---
TP-125			8.00			---	---	---
TP-126			5.96			---	---	---
TP-127			6.83			---	---	---
TP-128			5.08			---	---	---
TP-129			6.32			---	---	---
TP-130			6.03			---	---	---
TP-131			8.00			---	---	---
TP-132			5.75			---	---	---
TP-133			7.58			---	---	---
TP-134			6.14			---	---	---
TP-135			9.00			---	---	---

NS = Not Surveyed

NA =Not Applicable

[1] = Specific gravity estimated on product type anaylsis

ft rmsl = feet relative to mean sea level

NM[1] = Not Measured, covered with dirt

MW-1A
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	3/22/2004	6/24/2004	9/16/2004	12/22/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses										
TPH-DRO	9	<1.0	6.3	8.4	9.9	5.9	3.6	3	3	3.1
Total Iron	66.4	77.8	63.7	68.2	63.9	67.8	64.2	61.4	56.9	54.8
Dissolved Iron	55.3	55.1	64.0	52.1	58.4	62.8	60.9	62.9	66.7	53.6
Total Manganese	0.905	0.99	0.976	1.01	0.888	1.03	0.913	0.874	0.813	0.693
Dissolved Manganese	0.997	1.04	1.17	0.841	0.896	0.968	0.981	0.901	0.943	0.684
Nitrite Nitrogen	<0.050	<0.050	<0.05*	0.067	0.063	0.069	0.075	0.11	0.086	0.1
Nitrate Nitrogen	<0.10	<0.50	<0.1	<0.5	<0.10	<0.10	<0.1	<0.10	< 0.10	<0.1
pH	6.3	6.4	6.5	6.4	6.4	6.2	6.4	6.5	6.5	6.4
Alkalinity to pH 8.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	165	176	205	166	187	175	180	221	181	179
Free Carbon Dioxide	165	140	130	132	149	221	143	140	114	143
Sulfate (turbidimetric)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	<5.0
Methane	6.3	4.5	7.6	5.7	4.8	3.2	5.5	5.3	5.3	4.9
Field Measurements										
pH (s.u.)	6.51	6.97	6.44	6.70	6.42	6.21	6.16	6.68	6.04	6.32
Temperature (°C)	10.03	18.36	21.6	16.9	9.97	17.20	22.64	15.45	11.70	18.23
Specific Conductance (S/cm)	1.26	0.491	0.621	0.484	0.595	0.94	0.632	0.900	0.567	0.550
Dissolved Oxygen (mg/l)	11.24	0.37	0.11	0.50	0.00	1.82	1.45	9.69	2.31	0.71
Redox (mv)	-88.00	-135	-117	-100	-101	-114.00	-125	-71	-95	-98

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

NA = Not analyzed due to equipment problems.

* = Analyzed past the 48 hour hold time for nitrite

MW-2
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	4/19/2001	8/2/2001	11/28/2001	3/13/2003	6/25/2003	9/28/2003	12/15/2003	3/22/2004	6/24/2004	6/23/2005	9/20/2005	12/13/2005	3/29/2006
Laboratory Analyses													
TPH-DRO	1.7	1.6	2.1	1.5	14	1.3	1.4	1.9	2.7	2	3.8	0.32	2.1
Total Iron	101	62.1	70.1	90.5	90.4	71.4	84.8	93.3	104	142	106	31.4	33.6
Dissolved Iron	0.471	18.2	6.82	17.7	67.2	56.4	57.8	77.1	69.3	84.6	55.9	0.846	29.5
Total Manganese	1.05	0.941	0.998	1.3	0.859	0.978	1.14	1.05	1.03	1.12	1.36	0.436	0.959
Dissolved Manganese	0.838	0.811	0.94	1.3	1.04	0.875	1.06	1.35	1.15	1.1	1.12	0.105	1.09
Nitrite Nitrogen	0.125	0.099	0.123	0.1	<0.05	0.12	0.063	<0.050	<0.050	0.068	<0.05	<0.05	< 0.050
Nitrate Nitrogen	<0.04	<0.04	<0.04	<0.10	1.5	0.48	0.6	<0.10	1.6	<0.10	<0.1	<0.1	< 0.10
pH	6.49	6.16	6.37	6.7	6.5	6.4	6.4	6.2	6.4	6.3	6.3	6.4	6.5
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0
Alkalinity to pH 4.5	114	79.5	79	77.4	87	103	73.3	76.4	93.6	110	106	42.7	117
Free Carbon Dioxide	73.8	110	67.4	30.9	55	82	58.4	96.4	74.5	110	106	340	74
Sulfate (turbidimetric)	24.1	2.5J	2.1J	7.4	16.9	15.2	18.1	7.5	18.5	13.7	10.5	20.5	15.9
Methane	6.4	5.4	7.7	8.5	0.73	6.5	1.9	6.6	0.54	1.5	5.0	4.2	4.8
Field Measurements													
pH (s.u.)	6.47	6.03	6.05	6.62	6.37	5.82	7.19	6.56	7.19	6.53	6.16	6.81	5.84
Temperature (°C)	11.47	18.3	17.71	11.7	12.84	18.21	16.38	11.17	15.55	14.75	19.69	14.59	12.40
Specific Conductance (S/cm)	0.244	NA	0.429	0.272	0.367	0.271	0.327	0.484	0.349	0.662	0.457	0.900	0.499
Dissolved Oxygen (mg/l)	10.04	0.57	0 (1)	3.86	1.23	19.99	3.98	0.36	0.42	1.18	0.93	10.32	3.45
Redox (mv)	-1.60	-61.8	-74	-49	-123	-18	-82	-123	-145	-187	-103	-82	-14

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-2 was resampled on April 10, 2003 for total and dissolved iron and managenese only. This data is reported under the March 13, 2003 sampling event.

NA = Not analyzed due to equipment problems.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

MW-2 was buried under a gravel pile and was not sampled after the 06/24/04 event until the 06/23/05 event

MW-3A (MW-3)
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

	MW-3			MW-3A									
Date	4/19/2001	8/2/2001	11/28/2001	3/22/2004	6/24/2004	9/16/2004	12/22/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses													
TPH-DRO	8.5	0.5	0.6	<1.0	<1.0	0.83	1.7	1.4	1.3	0.74	0.56	0.91	0.73
Total Iron	80.8	34.9	59	65	203	71.2	68.3	51	64.3	54.5	88.9	48.7	58.9
Dissolved Iron	0.753	0.051J	<0.05	38.7	42.9	47.3	38.7	43	47.9	49.8	45.9	45.9	43.3
Total Manganese	1.04	1.19	1.29	2.06	8.77	2.78	2.06	1.54	1.95	1.75	3.89	1.4	1.36
Dissolved Manganese	0.438	1.02	1.08	1.44	1.47	1.53	1.29	1.43	1.63	1.68	1.52	1.41	1.23
Nitrite Nitrogen	0.079	0.079	0.075	<0.050	<0.050	0.067	0.065	<0.050	0.076	<0.05	<0.05	< 0.050	<0.05
Nitrate Nitrogen	0.51	<0.04	<0.04	<0.10	<0.50	<0.5	<0.5	<0.10	<0.10	<0.1	<0.1	< 0.10	<0.1
pH	6.36	6.52	6.68	6.9	6.8	6.7	6.9	6.8	6.9	6.9	6.9	6.8	6.8
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	140	338	375	427	441	475	469	475	483	514	516	405	475
Free Carbon Dioxide	122	204	157	108	140	190	118	151	122	129	130	128	151
Sulfate (turbidimetric)	53.6	9.7	1.7J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	<5.0
Methane	7.8	8.6	10	10.0	11.0	15.0	13.0	10.0	5.6	11.0	12.0	7.5	9.4
Field Measurements													
pH (s.u.)	6.51	6.84	6.49	7.71	7.35	6.89	6.99	7.00	6.91	6.87	6.66	6.74	6.82
Temperature (^{o}C)	12.35	18.0	19.19	13.39	15.32	19.8	17.73	13.98	15.3	19.30	11.06	16.44	18.00
Specific Conductance (S/cm)	0.696	NA	1.38	1.08	0.904	1.33	0.898	1.35	1.39	1.48	0.703	0.875	0.926
Dissolved Oxygen (mg/l)	1.96	0.58	0 (1)	0	0.71	1.18	4.99	5.13	0.41	0.00	3.86	2.39	0.62
Redox (mv)	23.40	-101.0	-115	-146	-190	-162	-144	-160	-186	-417	-42	-139	-132.4

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

NA = Not analyzed due to equipment problems.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

MW-3 was destroyed by site activities and was replace in January 2004 by MW-3A.

MW-4
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	4/19/2001	8/2/2001	12/5/2001	3/13/2003	6/25/2003	9/28/2003	12/15/2003	3/22/2004	6/24/2004	9/16/2004	12/21/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses																	
TPH-DRO	15	18	15	11	0.99	12	18	20	19	17	18	20	14	17	13	17	15
Total Iron	100	70	76.9	97.6	97.4	115	103	118	120	79.4	78.3	87.8	111	64.9	79.3	94.7	95.9
Dissolved Iron	3.69	27.6	19.7	42.8	98.7	70.9	93.6	103	105	87.2	83.7	94.3	97.9	77.5	79.5	102	90.9
Total Manganese	0.507	0.263	0.289	0.33	0.354	0.415	0.335	0.401	0.589	0.288	0.28	0.329	0.386	0.234	0.274	0.282	0.25
Dissolved Manganese	0.375	0.281	0.24	0.3	0.316	0.261	0.286	0.33	0.328	0.265	0.252	0.306	0.293	0.241	0.251	0.301	0.253
Nitrite Nitrogen	0.147	0.043J	0.14	0.12	0.14	0.15	0.16	0.1	0.074	0.095	0.1*	0.09	0.094	0.067	0.12	0.13	0.16
Nitrate Nitrogen	0.13	<0.04	<0.04	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.1	<0.1	<0.10	<0.10	<0.1	<0.1	< 0.10	<0.1
pH	6.32	6.17	6.29	6.5	6.3	6.1	6.4	6.3	6.3	6.3	6.2	6.2	6.2	6.4	6.3	6.4	6.3
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	149	155	143	170	199	223	160	154	163	163	125	181	167	127	208	192	160
Free Carbon Dioxide	143	210	147	108	199	354	127	154	163	163	158	228	211	101	208	153	160
Sulfate (turbidimetric)	41.9	<1.5	4.2J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	<5.0
Methane	15	14	9.1	23	24	16	18	20.0	15.0	12.0	11.0	12.0	6.7	8.7	12.0	17	14
Field Measurements																	
pH (s.u.)	6.28	6.89	6.48	6.51	6.45	5.99	7.24	6.97	6.73	6.35	6.37	6.22	6.3	6.42	6.49	6.28	6.42
Temperature (°C)	11.48	19.9	18.02	10.9	14.27	20.75	17.41	11.03	16.28	20.9	16.72	11.27	16.2	20.90	15.09	13.93	16.88
Specific Conductance (S/cm)	0.580	56.7	0.516	0.413	0.517	0.45	0.428	0.524	0.445	0.457	0.347	0.508	0.543	0.634	0.449	0.382	0.371
Dissolved Oxygen (mg/l)	8.65	0.66	0 (1)	3.87	0.81	6.87	1.52	0	0.6	0.77	0.89	0.71	0.45	0.00	0.8	2.69	0.34
Redox (mv)	-31.70	-98.6	-76	-87	-119	-70	-98	-74	-110	-99	-73	-80	-114	-454	-101	-93	-89.6

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-4 was resampled on April 10, 2003 for total and dissolved iron and manganese only. This data is reported under the March 13, 2003 sampling event.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

* = Sample was submitted past the 48 hour hold time for nitrite nitrogen

P:\Clients\Amtrak-APU\GW Analytical Data\[GW data per well through june 2006 (complete).xls]MW-4

MW-5
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	9/16/2004	12/22/2004
Laboratory Analyses		
TPH-DRO	54	92
Total Iron	118	90.5
Dissolved Iron	117	75.8
Total Manganese	0.702	0.413
Dissolved Manganese	0.684	0.341
Nitrite Nitrogen	0.051*	0.062
Nitrate Nitrogen	<0.1	<0.1
pH	6.3	6.4
Alkalinity to pH 8.3	<2.0	<2.0
Alkalinity to pH 4.5	238	104
Free Carbon Dioxide	239	82.8
Sulfate (turbidimetric)	<5.0	<5.0
Methane	22.0	14.0
Field Measurements		
pH (s.u.)	6.35	6.48
Temperature (°C)	19.6	14.93
Specific Conductance (S/cm)	0.512	0.28
Dissolved Oxygen (mg/l)	0.25	0.58
Redox (mv)	-97	-86

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

NA = Not analyzed due to equipment problems.

* = Analyzed past the 48 hour hold time for nitrite

Date	4/19/2001	8/2/2001	12/6/2001	3/13/2002	8/25/2002	9/28/2003	12/15/2003	3/22/2004	6/24/2004	9/16/2004	12/21/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/28/2006	6/29/2006
Laboratory Analyses																	
TPH-DRO	39	40	25	20	45	17	82	55	120	40	42	39	18	64	18	46	21
Total Iron	101	95.3	88.7	102	102	100	94.3	109	113	97.1	91.1	99.7	87.6	102	100	86.2	84.2
Dissolved Iron	2.72	45.1	36.6	54.4	96.9	86.8	84.2	98.8	97.2	87.5	90.5	94.6	92.9	96.5	83.2	90.9	84.9
Total Manganese	0.387	0.362	0.33	0.38	0.427	0.422	0.374	0.406	0.476	0.436	0.346	0.38	0.342	0.411	0.359	0.315	0.314
Dissolved Manganese	0.253	0.348	0.318	0.38	0.386	0.359	0.333	0.379	0.387	0.345	0.401	0.354	0.379	0.374	0.351	0.332	0.313
Nitrite Nitrogen	0.047J*	0.064	0.172	0.13	0.12	0.16	0.14	0.073	0.11	0.11	0.11**	0.096	0.1	0.094	0.14	0.098	0.17
Nitrate Nitrogen	0.095J	<0.04	<0.04	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.1	<0.1	<0.10	<0.10	<0.1	<0.1	< 0.10	<0.1
pH	6.33	6.18	6.29	6.5	6.5	6.3	6.4	6.4	6.2	6.3	6.2	6.3	6.3	6.2	6.4	6.2	6.3
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	149	171	171	178	212	214	163	152	195	197	179	235	195	161	255	205	178
Free Carbon Dioxide	139	226	175	113	134	215	130	121	195	197	226	236	246	203	203	259	178
Sulfate (turbidimetric)	46.6	22.8	2.4J	11.5	6.2	<5.0	6.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	<5.0
Methane	21	21	14	24	21	19	15	20.0	22.0	21.0	20.0	17.0	8.5	11.0	16.0	17	14
Field Measurements																	
pH (s.u.)	6.43	6.42	6.46	6.53	6.46	6.11	7.43	7.14	6.73	6.38	6.38	6.45	6.37	6.52	6.45	6.49	6.38
Temperature (°C)	16.97	18.7	17.96	12.2	13.7	19.93	17.33	12.45	16.25	20.0	17.0	12.31	16.4	20.30	9.64	14.84	15.88
Specific Conductance (S/cm)	0.582	92.0	0.528	0.415	0.501	0.436	0.402	0.474	0.397	0.448	0.348	0.488	0.516	0.608	0.536	0.361	0.365
Dissolved Oxygen (mg/l)	7.82	0.77	0 (1)	5.59	0.73	11.56	1.33	0	0.35	0.38	0.51	0.00	0.27	0.00	2.65	2.02	0.27
Redox (mv)	-22.70	-71.1	-121	-67	-116	-78	-107	-88	-109	-92	-73	-115	-110	-473	-59	-118	-80.6

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-8 was resampled on April 10, 2003 for total and dissolved iron and manganese only. This data is reported under the March 13, 2003 sampling event.

MW-8 was analyzed past the 48 hour hold time for nitrite nitrogen for the September 28, 2003 sampling event.

* = The nitrite nitrogen analysis was originally performed within the 48 hour holding time, however the result obtained was greater than the subsequent result obtained for nitrate. The nitrite analysis was repeated past the holding time to yield the reported result.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

** = Sample was submitted past the 48 hour hold time for nitrite nitrogen

P:\Clients\Amtrak-APU\GW Analytical Data\[GW data per well through june 2006 (complete).xls]MW-8

MW-8A
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	4/19/2001	8/2/2001	12/5/2001	3/13/2003	6/25/2003	9/28/2003	12/15/2003	3/22/2004	6/24/2004	9/16/2004	12/21/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses																	
TPH-DRO	40	19	24	15	19	12	77	28	82	20	32	51	19	28	23	21	22
Total Iron	148	60.7	71.3	104	83.5	83.2	202	96.6	92.1	65.2	68.4	68.3	79.3	86.1	72.7	79.5	77.3
Dissolved Iron	17	25.7	25.7	24.7	83.2	80.3	92.4	79.5	112	104	80.8	82.8	76	116	75.8	89	131
Total Manganese	0.789	0.358	0.357	0.58	0.444	0.429	1.03	0.527	0.595	0.392	0.404	0.428	0.367	0.452	0.321	0.417	0.3
Dissolved Manganese	0.481	0.367	0.336	0.43	0.398	0.389	0.705	0.373	0.813	0.812	0.499	0.583	0.395	0.618	0.304	0.456	0.648
Nitrite Nitrogen	0.051*	0.042J	0.123	0.1	0.12	0.12	0.14	<0.050	0.067	0.086	0.087**	0.061	0.085	0.082	0.13	0.11	<0.05
Nitrate Nitrogen	<0.04	<0.04	<0.04	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.1	<0.1	<0.10	<0.10	<0.1	<0.1	< 0.10	<0.1
pH	6.34	6.12	6.25	6.5	6.4	6.2	6.3	6.3	6.3	6.2	6.3	6.3	6.3	6.3	6.4	6.4	6.3
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	137	127	124	160	185	205	128	129	163	135	125	170	163	143	232	191	144
Free Carbon Dioxide	125	193	139	101	147	259	128	129	163	170	125	170	163	143	185	152	144
Sulfate (turbidimetric)	53.3	6.9	5.7	15.1	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	<5.0
Methane	22	11	6.5	20	21	15	9.2	18.0	12.0	8.2	9.4	4.7	8.3	7.6	14.0	14	14
Field Measurements																	
pH (s.u.)	6.14	6.37	6.47	6.54	6.51	6.02	7.36	7.10	6.83	6.44	6.43	6.22	6.25	6.39	6.44	6.31	6.35
Temperature (°C)	11.63	18.4	18.07	11.2	14.1	20.68	18.07	11.78	15.78	19.8	16.6	12.17	16.7	19.80	11.35	14.30	16.05
Specific Conductance (S/cm)	0.622	89.0	0.461	0.372	0.441	0.399	0.491	0.415	0.48	0.405	0.331	0.508	0.473	0.660	0.421	0.37	0.306
Dissolved Oxygen (mg/l)	1.84	0.38	0 (1)	7.6	0.78	14.43	0	0	0.44	0.18	0	0.00	0.79	0.00	2.83	0	2.74
Redox (mv)	-25.60	-74.4	-92	-16	-118	-84	-120	-94	-130	-106	-77	-84	-111	-473	-64	-89	-41.1

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-8A was resampled on April 10, 2003 for total and dissolved iron and managenese only. This data is reported under the March 13, 2003 sampling event.

* = The nitrite nitrogen analysis was originally performed within the 48 hour holding time, however the result obtained was greater than the subsequent result obtained for nitrate. The nitrite analysis was repeated past the holding time to yield the reported result.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

** = Sample was submitted past the 48 hour hold time for nitrite nitrogen

P:\Clients\Amtrak\APA\GW Analytical Data\[GW data per well through june 2006 (complete).xls]MW-8A

MW-11
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	4/19/2001	8/2/2001	11/28/2001	3/13/2003	6/25/2003	9/28/2003	12/15/2003	3/22/2004	6/24/2004	9/16/2004	12/22/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses																	
TPH-DRO	7.6	2.0	2.0	6.9	13.0	8.2	5.9	24.0	13.0	2.1	4.5	3.3	4	3.0	2.7	2.7	5.9
Total Iron	122	63.2	92.5	54.1	48.6	31.3	11.9	61.2	39.9	73.8	60.3	58.2	72.7	71.5	59.5	61.5	12.4
Dissolved Iron	17.1	24.4	23	29.9	38.8	26.4	12.5	57.4	17.2	58.8	9.14	53.6	67.6	60.4	57.7	68.8	10.1
Total Manganese	2.03	2.26	2.14	1.8	1.65	1.52	1.17	1.86	0.928	1.56	1.31	1.86	1.48	1.55	1.91	1.62	0.826
Dissolved Manganese	1.86	2.24	2.07	2.0	1.6	1.19	1.16	1.56	0.706	1.27	0.610	1.48	1.35	1.42	1.400	1.76	0.823
Nitrite Nitrogen	0.152	0.042J	0.135	0.085	0.073	0.076	0.063	<0.050	<0.050	0.096	<0.05	0.055	0.067	0.08	0.091	0.07	<0.05
Nitrate Nitrogen	0.095J	<0.04	<0.04	0.42	<0.1	0.33	3.6	<0.10	0.94	<0.1	<0.5	<0.10	<0.10	<0.1	<0.1	< 0.10	1.6
pH	6.31	6.19	6.44	6.2	5.8	5.9	5.6	6.2	5.9	6.4	6.3	6.4	6.3	6.1	6.5	6.3	5.2
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	119	115	139	52.8	41.7	66.7	8.3	55.5	21.5	116	62.5	84.7	107	113	141	135	7.4
Free Carbon Dioxide	117	149	101	66.6	132	168	41.7	70	54.1	92.4	62.6	67.4	107	180	89.2	135	93.4
Sulfate (turbidimetric)	19.3	2.6J	<1.5	32.9	40.4	33.2	23.9	19.9	29	<5.0	8.6	6.0	<5.0	<5.0	<5	5.2	37.5
Methane	6.7	6.1	12	2.1	0.1	0.44	0.23	4.4	0.24	11.0	6.9	5.0	3.2	2.4	4.9	3.6	0.32
Field Measurements																	
pH (s.u.)	6.32	6.58	6.27	6.05	5.21	5.94	6.16	6.11	5.25	6.2	5.75	6.30	6.22	6.08	6.72	6.2	4.7
Temperature (°C)	12.11	19.1	18.73	9.8	17.7	20.32	15.42	11.31	20.73	22.5	15.32	11.86	21.6	23.44	13.98	13.30	20.61
Specific Conductance (S/cm)	0.375	NA	0.505	0.177	0.205	0.317	0.109	0.304	0.098	0.331	0.124	0.283	0.406	0.305	0.9	61.5	0.122
Dissolved Oxygen (mg/l)	3.64	1.77	0 (1)	8.43	1.05	5.91	4.85	1.28	0.44	0.98	6.39	4.23	1.32	1.83	10.37	2.73	0.32
Redox (mv)	-23.50	-65.7	-62	-4	25	-33	-14	-42	70	-68	77	-44	-90	-96	-85	-35	233

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-11 was resampled on April 10, 2003 for total and dissolved iron and managenese only. This data is reported under the March 13, 2003 sampling event.

Nitrite nitrogen was analyzed past the 48 hour hold time for the June 25, 2003 sampling event.

NA = Not analyzed due to equipment problems.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

P:\Clients\Amtrak-APL\GW Analytical Data\[GW data per well through June 2006 (complete).xls]MW-11

MW-12
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	4/19/2001	8/2/2001	11/28/2001	3/13/2003	6/25/2003	9/28/2003	12/15/2003	3/22/2004	6/24/2004	9/16/2004	12/22/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses																	
TPH-DRO	0.37	0.20	0.18	0.41	0.18	0.33	0.33	0.25	15	0.25	0.42	0.14	<0.099	0.31	0.13	0.21	0.38
Total Iron	83.9	57.7	77.8	24.3	45.7	35.9	22.9	64.5	57.3	46.4	39.7	51.2	78.6	55.8	91.2	64.9	9.43
Dissolved Iron	0.174	8.44	9.57	3.3	23	26.4	20.5	59.2	39.8	41.3	46.1	48.5	48.1	86.2	45.5	70.2	11.5
Total Manganese	3.62	4.94	4.88	2.1	2.21	2.02	1.91	3.06	2.81	2.82	2.48	3.55	3.43	3.22	4.11	4.5	0.867
Dissolved Manganese	3.19	4.44	4.65	2.1	1.8	1.79	1.49	2.95	2.61	2.88	2.62	3.51	3.17	3.49	4.04	4.99	1.18
Nitrite Nitrogen	<0.015*	0.054	0.098	0.06	0.1	0.13	<0.050	<0.050	<0.050	0.07	0.052	<0.050	0.074	<0.05	0.091	0.075	<0.05
Nitrate Nitrogen	0.087J	0.04	<0.04	<0.10	<0.10	<1.0	<0.10	<0.10	<0.10	<0.1	<0.5	<0.10	<0.10	<0.1	<0.1	< 0.10	0.5
pH	6.43	6.28	6.47	6.4	6.7	6.3	6.4	6.4	6.4	6.4	6.4	6.5	6.2	6.4	6.5	6.5	6.2
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	272	250	293	143	116	427	102	231	167	200	183	248	255	301	337	313	78
Free Carbon Dioxide	202	262	199	114	46.3	428	81.2	184	133	159	146	157	322	240	213	198	98.4
Sulfate (turbidimetric)	5.5	1.5	1.8J	56.4	48.5	15	49.5	<5.0	44.2	<5.0	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	63.6
Methane	7.7	7.3	11	19	8.1	12	4.3	9.3	6.8	12.0	7.6	7.1	6.1	7.8	7.1	8.6	0.92
Field Measurements																	
pH (s.u.)	6.16	6.82	6.3	6.39	6.06	5.91	6.63	6.45	6.55	6.45	6.45	6.32	6.27	6.2	6.39		6.18
Temperature (°C)	10.41	17.8	16.45	9.6	13.27	18.1	15.28	10.08	15.71	19.2	14.52	10.63	15.3	17.98	14.59		15.08
Specific Conductance (S/cm)	0.548	NA	0.843	0.36	0.344	0.381	0.285	0.552	0.348	0.433	0.327	0.495	0.567	0.821	0.001		0.238
Dissolved Oxygen (mg/l)	3.08	1.09	0 (1)	6.57	1.73	2.51	5.32	17.14	0.59	0.64	2.14	0.00	0.36	1.84	10.58		0.34
Redox (mv)	-40.70	-60.4	-103	3	-42	-63	-53	-102	-95	-103	-59	-113	-126	-123	-85		25.7

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-12 was resampled on April 10, 2003 for total and dissolved iron and managenese only. This data is reported under the March 13, 2003 sampling event.

* = The nitrite nitrogen analysis was originally performed within the 48 hour holding time, however the result obtained was greater than the subsequent result obtained for nitrate. The nitrite analysis was repeated past the holding time to yield the reported result.

NA = Not analyzed due to equipment problems.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

P:\Clients\Amtrak-APU\GW Analytical Data\[GW data per well through June 2006 (complete).xls]MW-12

MW-13
Groundwater Analytical Results

Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

Date	4/19/2001	8/2/2001	12/5/2001	9/16/2004	12/21/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses											
TPH-DRO	6.6	3.8	0.9	2.0	7.4	6.0	5.6	1.9	3.0	3.4	0.99
Total Iron	99.8	54.9	63.5	47.8	69.7	86.7	61.7	45	46.7	58.2	47.2
Dissolved Iron	6.15	7.61	17.8	41.0	59.6	66.2	68.8	53.6	47.0	69.9	44.5
Total Manganese	0.639	0.48	0.432	0.301	0.407	0.398	0.282	0.289	0.279	0.305	0.237
Dissolved Manganese	0.606	0.49	0.412	0.226	0.34	0.328	0.323	0.319	0.305	0.381	0.227
Nitrite Nitrogen	<0.015*	0.35J	0.114	0.062	0.079**	0.065	0.055	<0.05	0.059	0.079	<0.05
Nitrate Nitrogen	0.089J	<0.04	<0.04	<0.5	<0.5	<0.10	<0.10	<0.1	<0.1	< 0.10	<0.1
pH	6.5	6.15	6.44	6.9	6.7	6.4	6.4	6.4	6.6	6.5	6.4
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	169	123	107	176	141	172	113	97.2	143	113	110
Free Carbon Dioxide	107	174	77.7	44.3	56.3	137	90	77.4	71.8	71.5	87.6
Sulfate (turbidimetric)	84	<1.5	<1.5	5.2	<5.0	<5.0	<5.0	<5.0	<5	< 5.0	<5.0
Methane	11	11	4.5	11.0	12.0	10.0	4.7	5.4	7.4	8.9	3.9
Field Measurements											
pH (s.u.)	6.31	7.19	6.73	6.77	6.66	6.58	6.68	6.48	6.64	6.45	6.83
Temperature (°C)	10.64	18.1	15.55	19	13.73	9.57	15.32	19.80	13.92	11.10	16.81
Specific Conductance (S/cm)	0.732	NA	0.878	0.447	0.324	0.445	0.582	0.986	0.9	0.94	0.439
Dissolved Oxygen (mg/l)	3.63	1.50	0 (1)	0.12	0	0.00	0.00	0.00	16.11	1.81	0.42
Redox (mv)	-82.30	-75.2	-158	-143	-117	-122	-199	-481	-62	-12.5	-143.9

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-13 was resampled on April 10, 2003 for total and dissolved iron and manganese only. This data is reported under the March 13, 2003 sampling event.

* = The nitrite nitrogen analysis was originally performed within the 48 hour holding time, however the result obtained was greater than the subsequent result obtained for nitrate. The nitrite analysis was repeated past the holding time to yield the reported result.

NA = Not analyzed due to equipment problems.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

** = Sample was submitted past the 48 hour hold time for nitrite nitrogen

P:\Clients\Amtrak-APU\GW Analytical Data\[GW data per well through june 2006 (complete).xls]MW-13

MW-14

[illegible]

[illegible]
4001 [illegible]
[illegible], Delaware

Date	4/19/2001	8/2/2001	12/5/2001	3/13/2003	12/16/2003	3/22/2004	6/24/2004	9/16/2004	12/21/2004	3/21/2005	6/23/2005	9/20/2005	12/13/2005	3/29/2006	6/29/2006
Laboratory Analyses															
TPH-DRO	7.7	8.1	10	2.8	84	12	2.1	11	35	17	23	21	90	8.9	7
Total Iron	344	27.1	59.7	28.1	173	71.1	28.5	62.9	69.8	39.4	36	51.7	97.1	13.4	124
Dissolved Iron	7.62	13.7	17.5	3.3	118	65.6	13.8	151	144	70.4	65.1	170	149	19.4	33.5
Total Manganese	2.12	0.448	0.812	0.53	1.13	0.677	0.269	0.856	0.694	0.433	0.459	0.691	1.04	0.416	1.41
Dissolved Manganese	0.946	0.464	0.83	0.45	1.7	0.679	0.186	1.89	1.71	0.491	1.09	1.91	1.7	0.452	0.505
Nitrite Nitrogen	0.078	0.063	0.106	<0.050	0.088	0.059	<0.25	0.06	0.11**	<0.050	<0.25	<0.05	<0.25	< 0.050	0.15
Nitrate Nitrogen	0.86	<0.04	<0.04	0.22	<0.10	<0.10	<0.50	<0.2	<0.1	0.21	<0.50	<0.1	<0.1	< 0.10	<0.1
pH	6.25	6.25	6.26	6.4	6.3	6.3	6.4	6.2	6.3	6.2	5.1	6.2	6.3	6.2	6.3
Alkalinity to pH 8.3	<0.41	<0.41	<0.41	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 2.0	<2.0
Alkalinity to pH 4.5	135	154	166	106	133	163	95.8	140	112	108	129	143	148	98.5	298
Free Carbon Dioxide	152	173	182	84.4	133	163	76.3	177	112	136	2050	180	148	124	299
Sulfate (turbidimetric)	95	5.7	7.6	39.7	9.9	14.3	31	<5.0	10.9	36	<5.0	<5.0	6.8	63.2	7.6
Methane	2.7	6.5	5.7	3.4	6.4	11.0	6.7	12.0	6.1	1.9	2.8	3.6	4.8	0.89	6.6
Field Measurements															
pH (s.u.)	6.05	6.41	6.57	6.23	7.89	7.08	6.33	6.25	6.11	5.58	6.2	6.37	6.46	6.02	6.32
Temperature (°C)	12.14	18.2	17.85	12.2	16.89	11.36	16.91	20.5	17.03	12.51	17.1	20.80	13.16	14.81	16.15
Specific Conductance (S/cm)	0.379	91.0	0.795	0.223	0.801	0.505	0.214	0.327	0.351	0.339	0.394	0.689	0.554	0.294	0.279
Dissolved Oxygen (mg/l)	6.70	0.90	0 (1)	5.84	0	0	1.51	3.53	0	0.00	0.88	0.00	3.44	0	4.04
Redox (mv)	87.30	-62.7	-132	28	-151	-104	-39	-133	-82	64	-87	-488	-60	-26	-3.5

Notes:

All results are reported in milligrams per liter (mg/L) unless otherwise noted

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

J = estimated value

<2.0 = result not detected above quantitation limit

TPH-DRO analyzed by US EPA Method 8015B, iron analyzed by US EPA Method 7380, manganese analyzed by US EPA Method 7640, nitrite nitrogen and nitrate nitrogen analyzed by US EPA Method 353.2, alkalinity to pH 8.3 and 4.5 analyzed by US EPA Method 310.1, pH analyzed by US EPA Method 150.1, sulfate analyzed by US EPA Method 300.0, free carbon dioxide analyzed by Method SM-18 4500CO2

MW-14 was resampled on April 10, 2003 for total and dissolved iron and managenese only. This data is reported under the March 13, 2003 sampling event.

* = The nitrite nitrogen analysis was originally performed within the 48 hour holding time, however the result obtained was greater than the subsequent result obtained for nitrate. The nitrite analysis was repeated past the holding time to yield the reported result.

(1) = All dissolved oxygen results were reported as 0 mg/l - field meter may not have been functioning properly.

** = Sample was submitted past the 48 hour hold time for nitrite nitrogen

P:\Clients\Amtrak-ARL\GW Analytical Data\[GW data per well through june 2006 (complete).xls]MW-14

Appendix H

Outfall 004 Erosion Control and Sediment Reduction Measures Documentation

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF SOIL AND WATER CONSERVATION
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

OFFICE OF THE DIRECTOR

TELEPHONE: (302) 739 - 4411
FAX: (302) 739 - 6724

SEDIMENT AND STORMWATER PLAN APPROVAL

Permit No.: 2003-017

Issued To: Mr. John D. Grey
Amtrak
4001 Vandever Ave.
Wilmington, DE 19802

July 16, 2003

Dear Mr. Grey,

Your plans for the Amtrak Wilmington Maintenance Facility, as submitted by your authorized agent, Mr. Steve Bagget of SECOR International, Inc., have been reviewed and evaluated regarding the Sediment and Stormwater Management requirements of this Division and are approved with conditions (see attached).

Approval of a Sediment and Stormwater Plan does not grant or imply a right to discharge stormwater runoff. The owner/developer is responsible for acquiring any and all agreements, easements, etc., necessary to comply with State drainage and other applicable laws.

This plan approval pertains only to compliance with the "Sediment and Stormwater Regulations", effective January 23, 1991, and the Erosion and Sediment Control Handbook, dated 1989. Please understand that the approval of this plan does not relieve you from complying with any and all federal, state, county, or municipal laws and regulations.

We provide technical assistance, environmental education, and training to those we regulate. If we may be of any assistance to you, regarding the sediment and stormwater aspects of this project, please contact us at the address and number listed above.

Very truly yours,

Randell K. Greer
Environmental Engineer

cc: Frank Piorko, Program Manager
Steve Bagget, SECOR
Steve Johnson, DNREC/SIRB

Delaware's good nature depends on you!

CONDITIONS OF APPROVAL

NOTIFICATION

1) Notify the DNREC Sediment and Stormwater Management Section of your intention to begin construction five (5) days prior to commencing. Failure to do so constitutes a violation of the approved plan.

INSPECTIONS

2) Regular on-site inspections of your project will be conducted by DNREC personnel to monitor the performance of the approved plan to determine if additional erosion and sediment controls are necessary.

3) Keep available on-site, during all phases of construction activity, a copy of the approved Sediment and Stormwater Management Plan.

GRADING

4) At any location where sediment laden runoff may exit the property, perimeter controls shall be installed to prevent sediment from being transported off-site.

5) Any sediment transported off-site to roads or road rights-of-way including ditches shall be removed. Any damage to ditches shall be repaired and stabilized to original condition.

6) Grading shall not impair surface drainage, create an erosion hazard, or create a source of sediment to any adjacent watercourse or property owner.

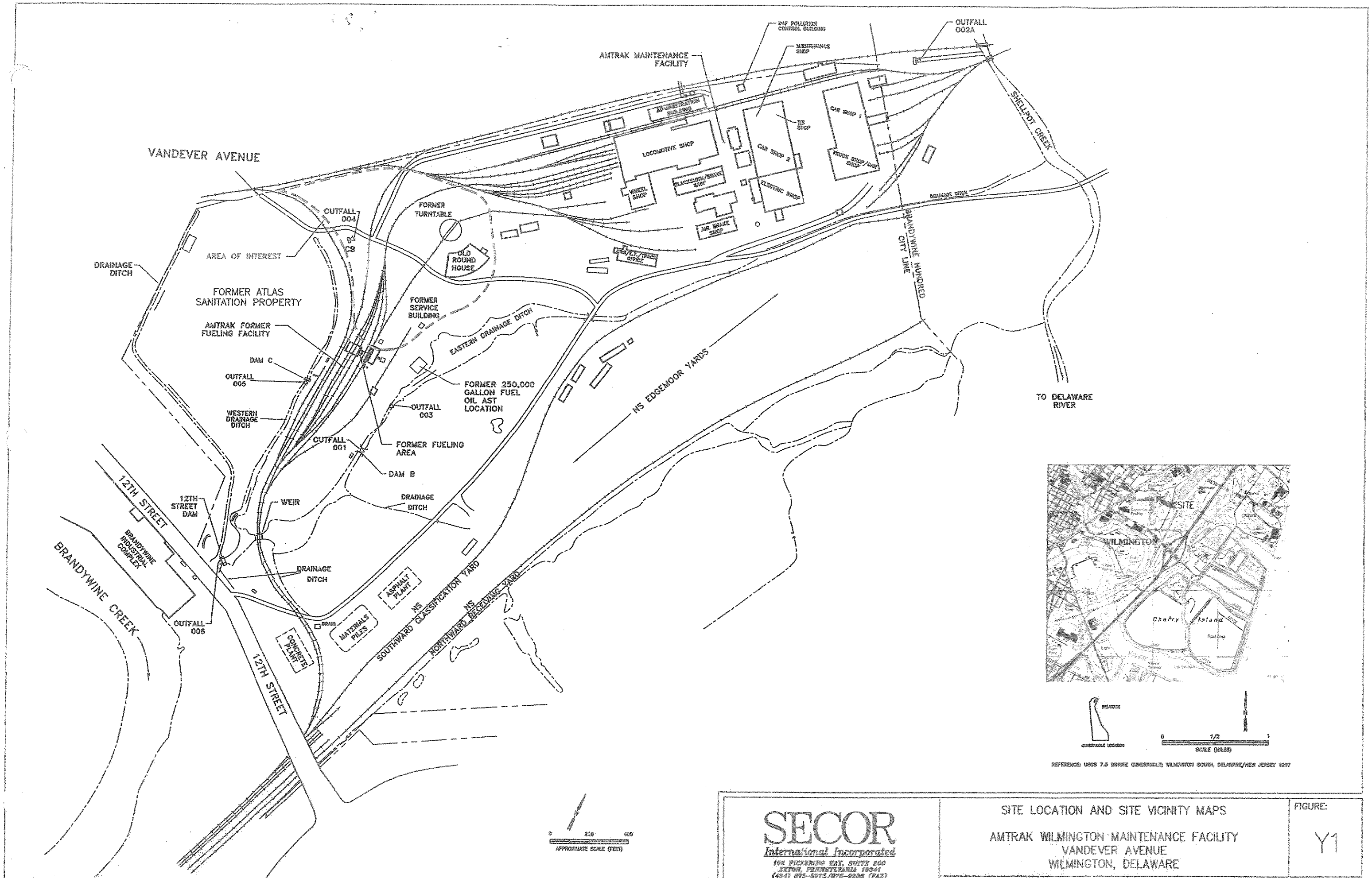
7) Local grading requirements may supplement these grading conditions.

CHANGES TO THE APPROVED PLAN

8) This project is to be undertaken in accordance with the plans submitted and as approved. If changes are necessary at any time during the completion of the project, submit revised plans, prior to further construction, to this office at the above address to receive a supplemental approval.

PERMANENT STORMWATER MANAGEMENT COMPONENT

9) Failure to implement the permanent stormwater management practices as mentioned herein constitutes a violation of the conditions of this plan approval; it may result in the suspension or revocation of building permits or grading permits issued by the local jurisdiction; and it may result in legal action by the DNREC to bring the site into compliance with the approved Sediment and Stormwater Management Plan and the Delaware Sediment and Stormwater Regulations.



SECOR
International Incorporated
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 876-5976/876-9288 (FAX)

SITE LOCATION AND SITE VICINITY MAPS

AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE: Y1

JOB#: 620T.01013.02.0003 APPR: DWN: KPM DATE: 05/15/03

LEGEND

FLOODPLAIN BOUNDARY LINE

PALUSTRINE AQUATIC BED (PAB)

PALUSTRINE EMERGENT (PEM)

APPROXIMATE LIMIT OF DISTURBANCE
(DOES NOT INCLUDE ALL PERMANENT SILT FENCE, DRIVEWAYS
AND BERMS – REFER TO DRAWING ES-1)

DRAINAGE DITCH

NOTES

1. THE AREA OF DISTURBANCE IS MAPPED AS OTHELLO-FALLSINGTON-URBAN LAND COMPLEX (Ou). HOWEVER, THE RAILYARD IS CONSTRUCTED LARGELY OF FILL MATERIAL. (SOIL SURVEY, NEW CASTLE COUNTY, DELAWARE, USDA SOIL CONSERVATION SERVICE IN COOPERATION WITH DELAWARE AGRICULTURAL EXPERIMENT STATION, OCTOBER 1970)

2. SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE AE: BASE FLOOD ELEVATIONS DETERMINED

ZONE X: AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD

OTHER
ZONE X: AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN

SOURCE:

MAPPING BASE DERIVED FROM AERIAL PHOTOGRAPHY (OCTOBER 24, 1998) AND FIELD SURVEY 11/18-11/24 & 2/12/99 BY VANDEMARK & LYNCH, INC.

BENCHMARK (BM) – TOP OF EXISTING NATIONAL GEODETIC SURVEY DISK STAMPED R-21, 1929 LOCATED IN THE TOP EAST CORNER OF THE CONCRETE BASE OF THE EAST LEG OF THE HIGH TENSION LINE TOWER NO. 9 (R6822) ELEVATION – 11.99 FEET

0 150 300
APPROXIMATE SCALE (FEET)

REFERENCE: IF CORPORATION; PROJECT 616972; DRAWING NAME ATWINVA.DWG; TITLE: NPDES OUTFALL LOCATIONS; FIGURE 1; DATE 11/17/00

SECOR
International Incorporated
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 875-3075/875-9286 (FAX)

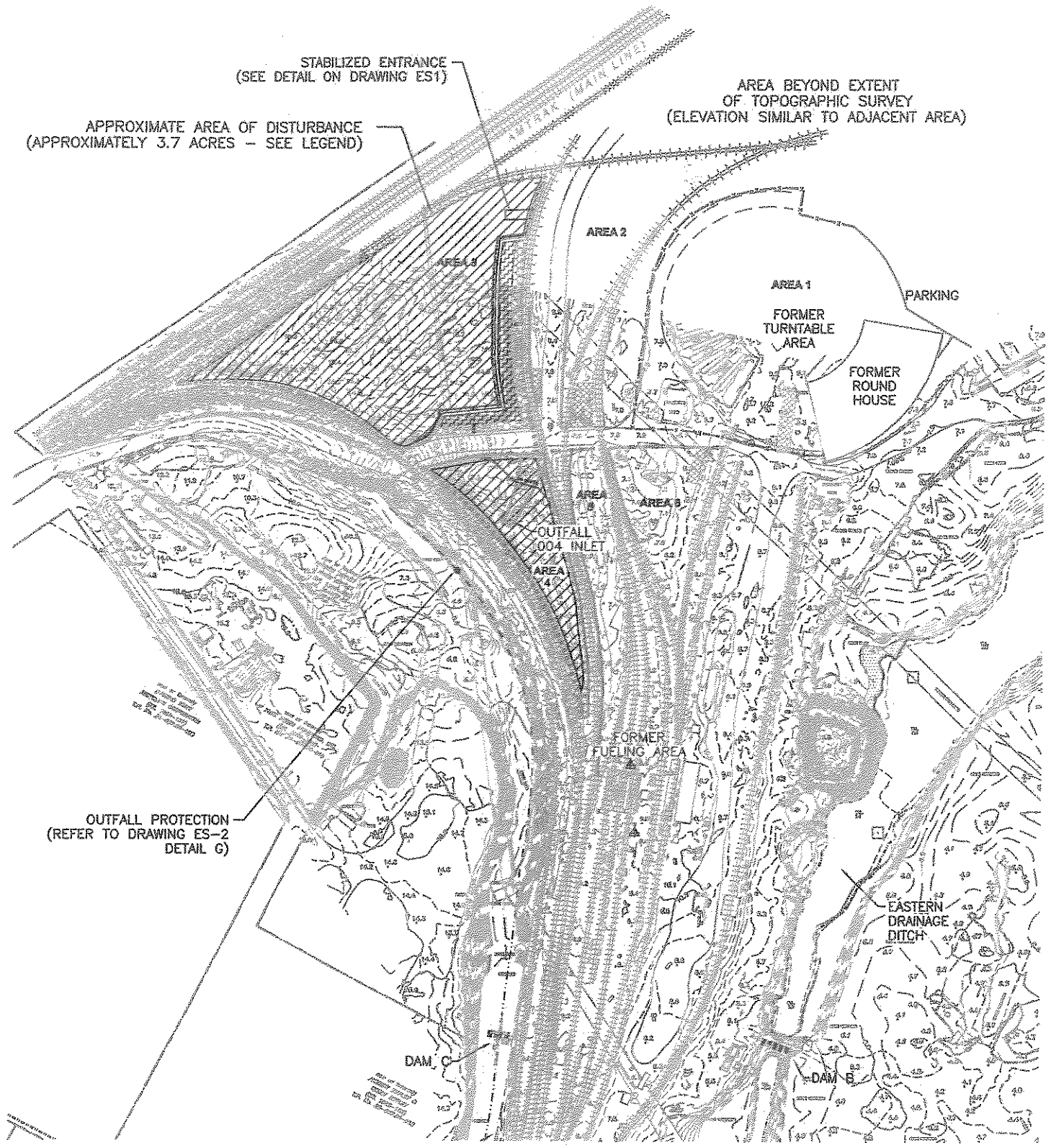
SITE PLAN FOR EROSION AND SEDIMENT CONTROL MEASURES

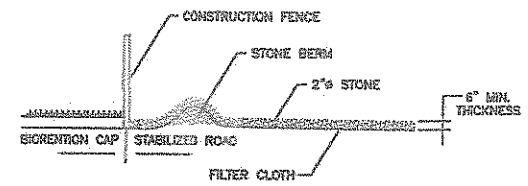
AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE: Y2

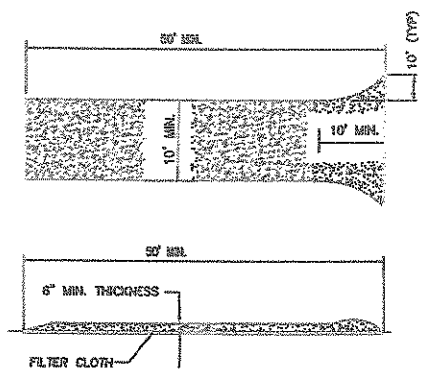
JOB#: 620T.01013.02.0803 APPR: DWN: KPM DATE: 05/19/03

N:/SECOR_DGN





CROSS-SECTION OF PERIMETER ROAD (AREA 3)
SCALE: NTS



STABILIZED ENTRANCE DETAIL
SCALE: NTS

CONSTRUCTION NOTES:

1. ENTRANCE BEDDING SHALL BE 2" DIAMETER STONE OR RECLAIMED/RECYCLED CONCRETE OR EQUIVALENT.

2. ENTRANCE PAD SHALL BE NOT LESS THAN 50' LONG AND 10' WIDE, BUT NOT LESS THAN THE FULL WIDTH OF INGRESS/EGRESS.

3. FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.

4. IF SURFACE WATER FLOWS TOWARDS THE CONSTRUCTION ENTRANCE, A MOUNTABLE BERM WITH 1:5 SLOPES SHALL BE INSTALLED.

5. CONTRACTOR SHALL PROVIDE PERIODIC INSPECTION AND NEEDED MAINTENANCE AFTER EACH RAIN EVENT.

5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE PERIODIC DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT–OF–WAY MUST BE REMOVED IMMEDIATELY.

6. VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

OWNER'S CERTIFICATION

I/WE THE UNDERSIGNED , CERTIFY THAT ALL LAND CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN.

OWNER'S SIGNATURE — DATE

OWNER'S NAME (PRINT) — TITLE

LEGEND

- TEMPORARY SILT FENCE
- FILTER FABRIC ON EXISTING CHAIN LINK FENCE
- BERM (FABRIC/STONE)
- CHECK DAM
- APPROXIMATE LIMIT OF DISTURBANCE (DOES NOT INCLUDE ALL PERMANENT SILT FENCE, DRIVEWAYS AND BERMS)
- DRAINAGE DITCH
- PALUSTRINE AQUATIC BED (PAB)
- PALUSTRINE EMERGENT (PEM)
- BIORETENTION CAP
- DRIVEWAYS/LOW AREAS (FABRIC/STONE)
- SLOPE STABILIZATION
- SWALE (FABRIC/STONE)

NOTES:

1) PROJECT IS TO BE PERFORMED REDUCE SEDIMENT TRANSPORT AND IMPROVE DRAINAGE IN VICINITY OF OUTFALL 004

2) CONSTRUCTION SEQUENCE:
   1. AREAS 3 AND 4 TEMPORARY SILT FENCE
   2. AREAS 3 AND 4 SLOPE STABILIZATION, SWALES AND CHECK DAMS
   3. AREAS 3 AND 4 BIORETENTION CAP
   4. AREAS 1,2,5 AND 6 CONTROLS
   5. OUTFALL PROTECTION STRUCTURE
   6. CLEAN EXISTING CULVERT PIPING (REFER TO DRAWING ES–3 FOR LOCATION)

3) WORK IN VICINITY OF TRACK MUST BE COORDINATED WITH AMTRAK

4) WORK IN VICINITY OF HIGH VOLTAGE CATENARY SYSTEM MUST BE COORDINATED WITH AMTRAK

GENERAL NOTES

1. CONTRACTOR SHALL INSTALL AND MAINTAIN SEDIMENT AND EROSION CONTROL MEASURES DURING CONSTRUCTION IN ACCORDANCE WITH "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK FOR DEVELOPMENT".

2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

3. CONTRACTOR SHALL NOTIFY DNREC, SEDIMENT AND STORMWATER MANAGEMENT PROGRAM IN WRITING, FIVE (5) DAYS PRIOR TO COMMENCING CONSTRUCTION. FAILURE TO DO SO CONSTITUTES VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.

4. REVIEW AND APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.

5. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY DNREC.

6. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR NUISANCE DUST CONTROL (WATER AVAILABLE ON–SITE)

SOURCE:

MAPPING BASE DERIVED FROM AERIAL PHOTOGRAPHY (OCTOBER 24, 1998) AND FIELD SURVEY 11/18–11/24 & 2/12/99 BY VANDEMARK & LYNCH, INC.

BENCHMARK (BM) – TOP OF EXISTING NATIONAL GEODETIC SURVEY DISK STAMPED R–21, 1929 LOCATED IN THE TOP EAST CORNER OF THE CONCRETE BASE OF THE EAST LEG OF THE HIGH TENSION LINE TOWER NO. 9 (R9822) ELEVATION – 11.99 FEET

0 100 200
APPROXIMATE SCALE (FEET)

SECOR
International Incorporated
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 876–8075/876–9286 (FAX)

EROSION AND SEDIMENT CONTROL MEASURES

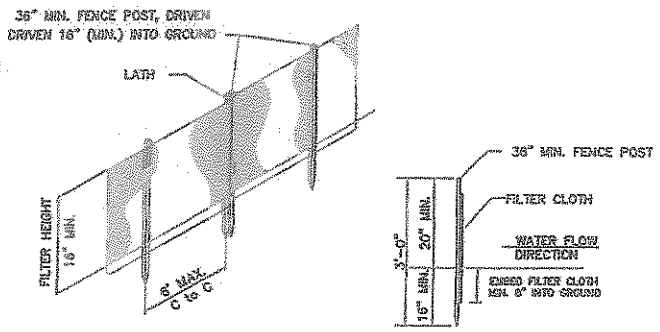
AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE: ES-1

JOB#: 62OT.01813.02.0003 APPR: DWN: KPM DATE: 06/23/03

REFERENCE: IT CONFIGURATION: PROJECT 01813; DESIGN NAME 4TRACK4.DWG; TIME: UPDATE OUTFALL LOCATIONS; FIGURE 1; DATE 11/12/03

N:/SECOR_062

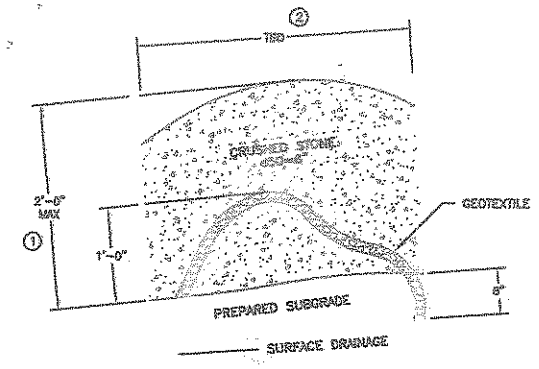


TEMPORARY SILT FENCE
SCALE: NTS

IMPROVED STANDARD SILT FENCE NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL OVERLAP BY 6" AND FOLDED.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AND REPLACED WHEN BULGES DEVELOP IN THE SILT FENCE.
4. POSTS: STEEL, EITHER T OR U, OR 2" HARDWOOD.
5. FILTER CLOTH: POLY FILTER X, MIRAFI 100X, STABLINKA T140N OR APPROVED EQUAL.
6. PREFABRICATED UNIT: GEOFAB, ENVIROFENCE OR APPROVED EQUAL.

DETAIL A
TEMPORARY SILT FENCE



STONE BERM DETAIL CROSS SECTION
SCALE: NTS

LEGEND

CRUSHED STONE TO BE 12 TO 14" PLACED ON TOP, d50 = 8"

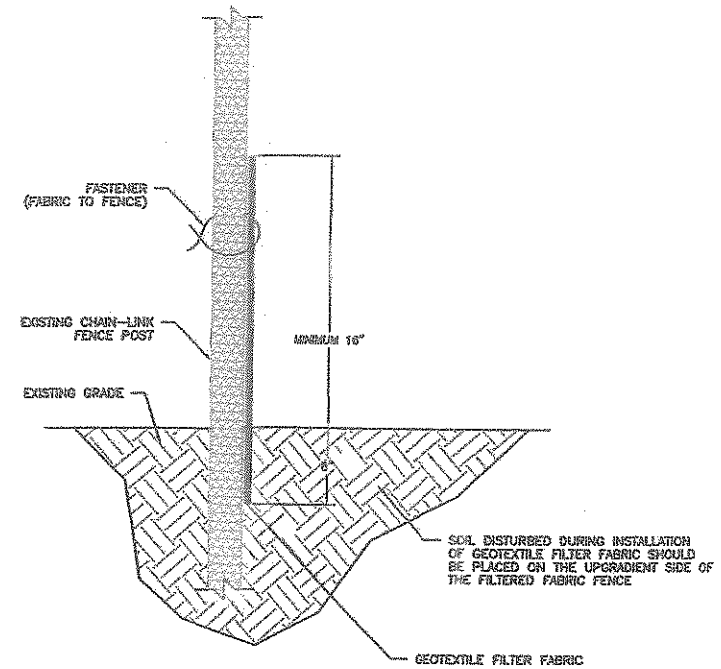
GEOTEXTILE SHALL BE COMPOSED OF STRONG, ROT-PROOF SYNTHETIC FABRIC OF NON-WOVEN TYPE (NON-WOVEN NEEDLE PUNCHED POLYESTER OR POLYPROPYLENE GEOTEXTILE MIN 6-OZ/SQUARE YARD WEIGHT). THE FABRIC SHALL CONTAIN STABILIZER AND/OR INHIBITORS TO MAKE THE FILAMENTS RESISTANT TO DETERIORATION RESULTING FROM EXPOSURE TO SUNLIGHT OR HEAT. THE MAXIMUM ELONGATION AT 45 LBS OF 50%. A PERMITTIVITY OF 1.4 SEC-1, A MAXIMUM APPARENT OPENING SIZE OF 0.212 MM (NO. 70 SIEVE). AND A MINIMUM 70% GRAB TENSILE STRENGTH RETENTION AFTER ULTRAVIOLET DEGRADATION (E.G. MIRAFI N-SERIES 160N OR EQUIVALENT).

PREPARED SUBGRADE

NOTES

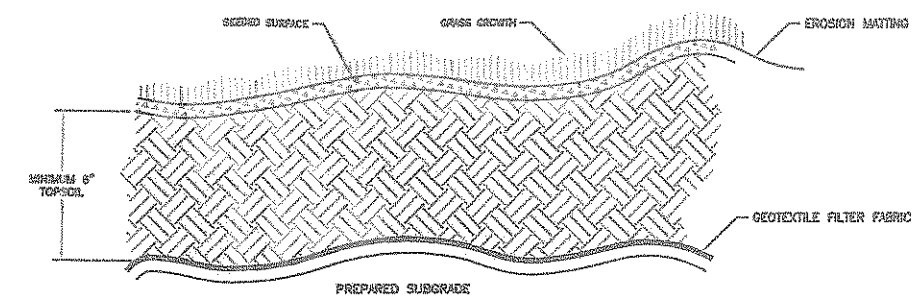
1) BERM HEIGHT NOT TO EXCEED TOP ELEVATION OF RAIL FOR AREAS CONTIGUOUS TO TRACK STRUCTURES
2) BERM WIDTH TO ALLOW VEHICULAR TRAFFIC CROSSING

ALL DISTURBED AREAS ARE TO BE COVERED WITH FILTER FABRIC



GEOTEXTILE FILTER FABRIC CROSS SECTION
SCALE: NTS

DETAIL B
BERM AND FILTER FABRIC ON EXISTING FENCE



BIO RETENTION CAP DETAIL
SCALE: NTS

NOTES

REFER TO DETAIL B FOR MATERIALS

CONTRACTOR TO SUPPLY EROSION CONTROL FOR DISTURBED AREAS AND TO MAINTAIN TOP SOIL/SEED

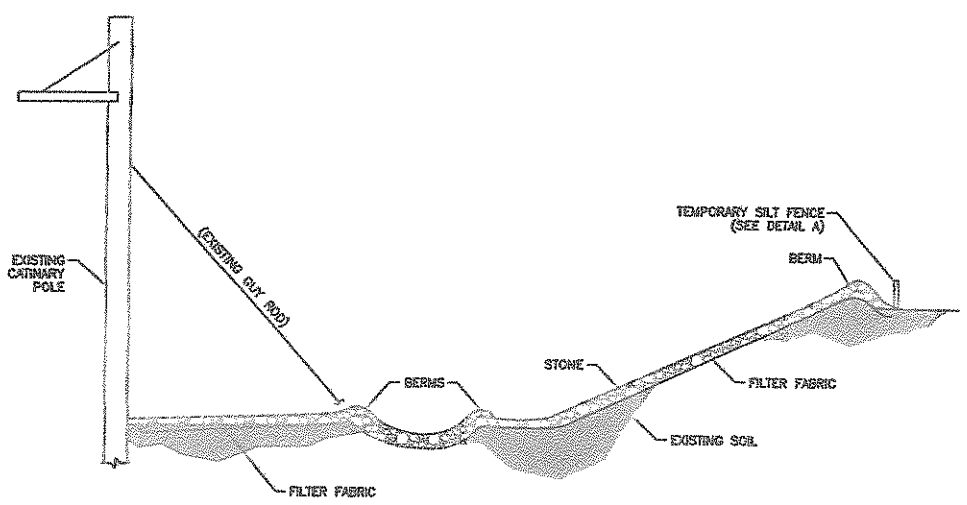
ALL AREAS TO BE COVERED WITH GEOTEXTILE FILTER FABRIC PRIOR TO TOPSOIL PLACEMENT

TOPSOIL TO BE OF HIGH QUALITY, PRE-APPROVED BY SECOR (APPROXIMATELY 2,930 CUBIC YARDS)

SEED MIX PENNDOT FORMULA L COVER MIX – LOW/NO MOW FORMULATION – DROUGHT RESISTANT; APPLIED MINIMUM 200 lb/ACRE; PLUS STRAW, REGULAR DUTY MATTING AND STAPLES

CONTRACTOR TO SUPPLY WATERING TO GRASS GROWTH OF 8" HEIGHT

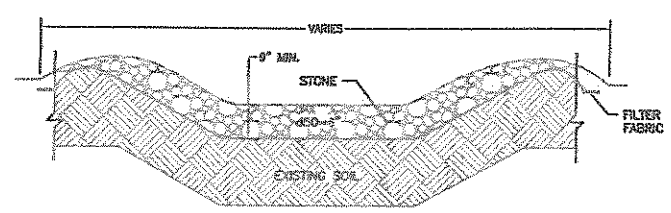
DETAIL C
BIO RETENTION CAP



NOTES:
REFER TO DETAIL B FOR MATERIALS
ALL DISTURBED AREAS ARE TO BE COVERED WITH FILTER FABRIC

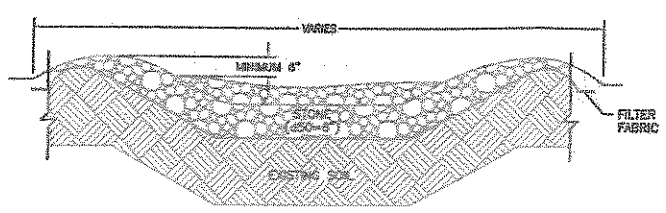
SLOPE STABILIZATION DETAIL
SCALE: NTS

DETAIL D
SLOPE STABILIZATION



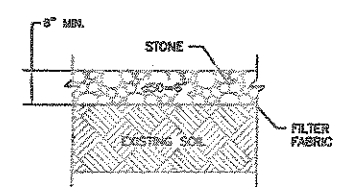
DRAINAGE SWALE
SCALE: NTS

NOTES:
REFER TO DETAIL B FOR MATERIALS
CONTRACTOR SHALL SUPPLY EROSION CONTROL FOR DISTURBED AREAS
ALL DISTURBED AREAS ARE TO BE COVERED WITH FILTER FABRIC



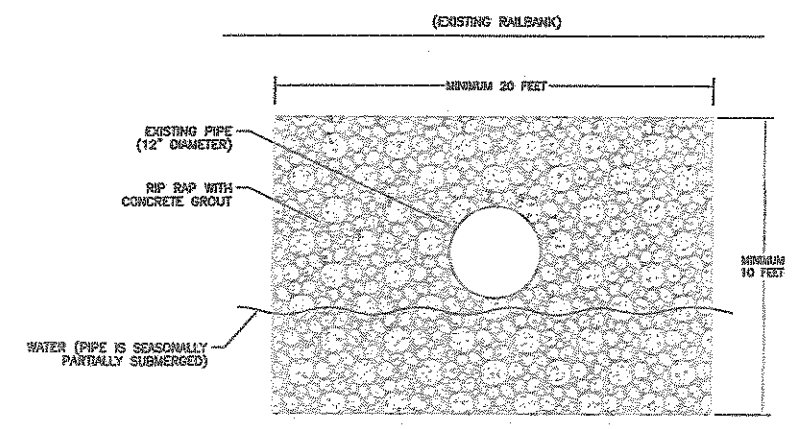
CHECK DAM
SCALE: NTS

DETAIL E
SWALE AND CHECK DAM



DRIVEWAY/LOW AREAS
SCALE: NTS

DETAIL F
DRIVEWAY/LOW AREAS



OUTFALL PROTECTION
SCALE: NTS

DETAIL G
OUTFALL PROTECTION

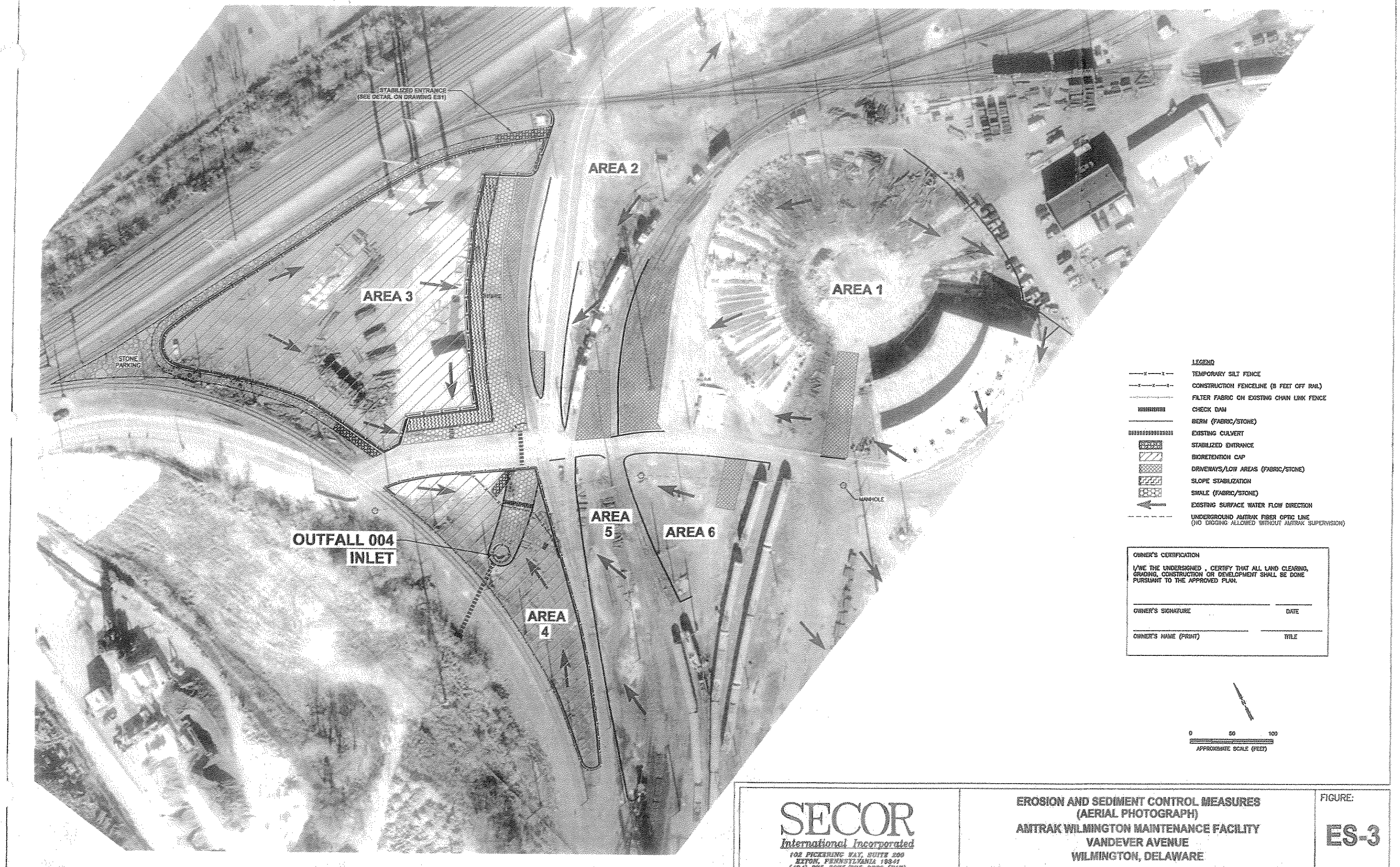
SECOR
International Incorporated
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 876-3075/876-9286 (FAX)

EROSION AND SEDIMENT CONTROL MEASURES DETAILS

AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE: ES-2

JOB#: 62OT.01013.02.0003 APPR: DWN: KPM DATE: 06/05/03



SECOR
International Incorporated
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 876-3075/876-9286 (FAX)

EROSION AND SEDIMENT CONTROL MEASURES
(AERIAL PHOTOGRAPH)
AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE:
ES-3

JOB#: 62OT.01613.02.0003 APPR: DWN: KPM DATE: 06/05/03

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
DIVISION OF AIR AND WASTE MANAGEMENT
391 LUKENS DRIVE
NEW CASTLE, DELAWARE 19720-2774

WASTE MANAGEMENT SECTION
SITE INVESTIGATION &
RESTORATION BRANCH

TELEPHONE: (302) 395-2600
FAX: (302) 395-2601

RECEIVED
DEC 20 2004
By

December 16, 2004

Mr. Frank Aceto
SECOR International Incorporated
102 Pickering Way, Suite 200
Exton, Pennsylvania 19341

Re: Sediment and Storm Water Permit - Outfall 004 Area
Amtrak Former Fueling Facility (DE-0266)

Dear Mr. Aceto:

The Department of Natural Resources and Environmental Control, Site Investigation and Restoration Branch (DNREC-SIRB) hereby approves your proposal for Sediment and Storm Water Control for the Outfall 004 area. This approval has been done with coordination with the DNREC Sediment and Stormwater Program. As part of the approval, you are required to perform these activities in accordance with the Health and Safety plan for the site as well as to submit to DNREC-SIRB a summary report within fifteen (15) days after the activities have been completed.

DNREC asks that you please let our office know the dates of anticipated implementation of this project. If you have any questions regarding this letter, please call me at 302-395-2630.

Sincerely,

Wilmer Reyes
Project Manager

WMR:wwt
WMR04104.doc
DE 0266 II

Pc: Kathy Stiller, Program Manager
Alex Rittberg, Program Manager
Steve Bagget, SECOR

Delaware DNREC
Div. of Soil & Water Conservation
89 Kings Hwy.
Dover, DE 19901
Phone: (302) 739-4411
FAX: (302) 739-6724

SEDIMENT & STORMWATER PROGRAM

GENERAL PERMIT
COMMERCIAL AND INDUSTRIAL PROJECTS
LESS THAN 1/2 ACRE

FOR EROSION AND SEDIMENTATION CONTROL ONLY

REQUIRED FOR CONSTRUCTION DISTURBING OVER 5000 SQUARE FEET
NOT VALID UNTIL APPROVED BY DNREC
DIVISION OF SOIL AND WATER CONSERVATION

APPLICATION

Name of Project Outfall 004 Modifications

Total Disturbed Area (sq. ft. or acres) 16,000 Sq. Feet

Facility Name Amtrak Maintenance Facility

Address 4001 Vandever Avenue Wilmington, DE 19802
(number) (street) (city) (state) (zip)

Property Owner Amtrak Phone 302-429-6397

Address 4001 Vandever Avenue, Wilmington, DE 19802

Contractor SECOR International Inc. Phone 484-875-3075

Address 102 Pickering Way, Suite 200, Exton, PA 19341

Project Description Minor excavations relative to placement of erosion control materials (filter fabric overlain with stone)

FEES

- The permit review and inspection fee is $40.00. Submit payment at time of application. Make checks payable to: Delaware Division of Soil & Water Conservation.

CONDITIONS OF APPROVAL

- This General Permit Application may be submitted instead of a designed plan provided the applicant can demonstrate that, 1) permanent stormwater management requirements can be waived in accordance with the requirements of Section 3 of the Delaware Sediment and Stormwater Regulations, and 2) The General Permit Criteria of Section 11 are met.
- Separate approval may be required from the DNREC relating to work in wetlands or subaqueous lands.
- The approval of this permit does not relieve the applicant from complying with any and all Federal, State, County or Municipal laws and regulations.

- In the event the applicant fails to provide adequate sediment control under the provisions of this permit, the DNREC, Division of Soil & Water Conservation reserves the right to require additional control measures as necessary **OR require the preparation and implementation of a site specific plan.**

- The DNREC, Division of Soil & Water Conservation shall approve general permit requests within 5 calendar days of receipt.

- **The applicant shall notify the DNREC, Division of Soil & Water Conservation at least five days prior to beginning construction. Phone (302) 739-4411**

- "I/We hereby certify that I/We have the authority to make this application; that I/We have read and understand the above conditions; that I/We shall cause all land clearing, grading, and or development to be done pursuant to all limitations and conditions set forth by this agreement; that I/We authorize the right of entry for periodic on-site inspections by the State of Delaware, Department of Natural Resources and Environmental Control compliance personnel and/or their authorized agents."

GRADING

- At any location where sediment laden run-off may exit the property, perimeter controls will be installed to prevent sediment from being transported off-site.

- Any sediment transported off-site to roads or road rights-of-way including ditches shall be removed. Any damage to ditches shall be repaired and stabilized to original condition.

- Grading shall not impair surface drainage, create an erosion hazard or create a source of sediment to any adjacent watercourse or property owner.

- Local grading requirements may supplement these grading conditions.

STABILIZATION

- **Following initial soil disturbance or redisturbance, temporary or permanent stabilization with seed and mulch shall be completed within 14 calendar days to the surface of all disturbed areas not actively under construction.**

- Specific stabilization recommendations may be found in the Delaware Erosion and Sediment Control Handbook.

- Swales or other areas that transport concentrated flow will be stabilized with erosion control matting or sod.

SPECIFICATIONS

- For specifications regarding all sediment control practices, reference the Delaware Erosion and Sediment Control Handbook.

APPLICANTS SIGNATURE John Good

APPLICANTS TITLE Superintendent DATE 11/12/04

Permit Fee Paid $ 40.00

Permit No. 2004-061

Approved By: Randell K. Lee

Date: 12/8/04

Title: E6

State of Delaware
DNREC
Sediment and Stormwater
Management
General Permit
Commercial and Industrial Projects
Less than 1/2 Acre

(For Official Use Only)

SECOR

SECOR
INTERNATIONAL
INCORPORATED

www.secor.com

November 12, 2004

Wilmer Reyes
DNREC
391 Lukens Drive
New Castle, DE 19720

Re: Former Fueling Facility, AMTRAK Maintenance Facility Wilmington Delaware; Plan for additional BMP's at Outfall 004

Dear Wilmer:

Please find attached a description of work to install additional improvements to certain areas which drain to Outfall 004 at the AMTRAK Maintenance Facility, Wilmington Delaware. The improvements or Best Management Practices (BMP's) include the installation of additional stone/filter berms, stone/fabric drainage swales stone/fabric coverings, and road side coverings (asphalt, stone/fabric). The BMP's function to minimize sediment transport to Outfall 004. The construction of the BMP's are similar in nature to those installed in July 2003.

The areas of improvements were selected after reviewing rain events, surface drainage patterns, and maintenance to existing filter berms and drainage swales.

We plan to continue to sample Outfall 004 to monitor performance of the BMP's. Reporting of the installation and monitoring will continue to be included in the semi-annual status reports we send to DNREC for operation of the Diesel Fuel Recovery Program and Outfall 004.

We are requesting your approval of the attached plan. We anticipate completing the project by mid December 2004 (prior to asphalt plant closing in this region).

Please call with any questions.

Sincerely,
SECOR International Inc.

Steve Baggett for

Frank Aceto, PG
Principal Hydrogeologist

Cc: B. Stonelake, Esq., P. Yaniga, K. Hanlon, C. Lin, C. Caldwell, M. Stern, Esq., S. Baggett, L. Boone, Project File

Approved by:

Name:_____

Date:_____

STATEMENT OF WORK
(Prepared for communication to CONTRACTOR)

Outfall 004 BMP's for Drainage Improvement and Sediment Reduction
Amtrak Maintenance Facility
4001 Vandever Avenue
Newcastle County
Wilmington, DE 19802

A. Introduction

The following discussion provides a description of the additions to the Drainage Improvement and Sediment Reduction Plan for areas that drain to Outfall 004. Attached are construction drawings (Drawings **ES-1**, **ES-2**, **ES-3** and **ES-4**).

Drainage improvements and surface controls have been implemented in these areas in the past (CY 2003). The overall drainage area of Outfall 004 was divided into six-sub-areas (see **Drawing ES-1**). These improvements are shown on drawings **ES-1** and **ES-3**. Certain additional improvements are planned and shown on drawings **ES-4**. The controls are described as a combination of stone and filter berms, stone gravel/fabric drainage swales, and stone gravel surfaces for vehicle traffic areas (see details on **Drawing ES-2**)

The implementation of these improvements will follow the E&S control measures that were previously specified in the E&S Plan that was submitted to and approved by DNREC (2003). The schedule is planned to complete all the work, at latest by the end of December 2004.

B. Work Description

Item 1. Surface Controls for Area 1

Area 1 is described as a chain-link fenced area roughly near the former "Roundhouse" and utilized for miscellaneous materials storage. Silt fencing and fabric/stone berms were previously installed along the periphery of much of this

area. There is a narrow strip of soil between the chain-link fence and the road on the edge of this area. Surface improvements to drainage will consist of placing an additional stone filter berm along this strip, as described below:

1. Place a fabric/stone berm along the access road southwest of Area 1. The contractor will first remove approximately 6 inches of surface soil, which will be placed in Area 2 before that area is covered as described in this plan. A berm will be constructed adjacent to the existing chain-link fence. The contractor will take care not to disturb the filter fabric that was previously placed on the chain-link fence.

Item 2. Surface Controls for Area 2

Area 2 is described as the area located west of the fenced area west of the Roundhouse and east of the paved road leading to the maintenance shop. Two tracks run through a relatively low area that currently ponds water. The eastern part (between the fence on the east and the tracks to the west) is used for miscellaneous materials storage. Two portions of Area 2 have previously been covered with filter fabric and stone, and a fabric/stone berm was installed along a portion of the service road. Surface improvements to drainage will consist of constructing additional fabric/stone covered areas throughout Area 2. Also, additional stone/filter berms will be installed. Asphalt paving will be installed adjacent to the service road to increase the effective width of the road where trucks turn onto it from the main entrance. (There is also an option to repair the main road in this area, which is in poor condition.) This work is further described below:

1. Place filter fabric on ground surface and cover with 6" of stone in triangular area between service road and tracks on the north and east sides of Area 2 (approximately 29,000 sq. ft.). The cover will abut the existing concrete foundations in the area (i.e., the concrete will neither be removed nor covered).

2. Fabric/stone berms will be placed along the rail tracks on the north and east sides of the site. A fabric/stone berm at the southern tip of the Area 2 triangle will be extended 70 linear feet.
3. A fabric/stone berm will also be placed on the southern border of the previously covered area.
4. A fabric/stone berm was previously installed along the road that runs adjacent to this area. There is a small strip of exposed soil between the road and this berm. This strip of soil will be excavated to a depth of 6 inches, and then covered with filter fabric and stone. The excavated soil will be placed in Area 2 before the cover material is placed.
5. The existing asphalt patch adjacent to the road will be removed and replaced. In addition, the road north of the turn-in from the main gate is in poor condition. The damaged portion of this road will be removed and replaced as determined in field.

Item 3. Surface Controls for Area 6 and East

Area 6 is located east of Area 5 and south of Area 1 (the fenced Roundhouse area) and is bounded between two sets of railroad tracks on the east, south, and west sides, and by the main entrance road to the north. Previous work consisted of placing fabric/stone berms around the north and west sides of the area. The current scope will begin in the area directly east of Area 6. A fabric/stone berm will be placed along the service road, a portion of which will be graded to allow vehicle access. A fabric\stone covering will be placed on the ground from the access way, extending south into the area. Directly north of Area 6, a narrow strip of exposed soil lies between the previously-installed fabric/stone berm and the access road. This strip will be covered with filter fabric and stone. These improvements are described below:

1. Place a stone/filter berm on each side of the stabilized vehicular access way. Each berm will extend along the main entrance road, and turn in at the access way. The berms will terminate at the high point of the access

way, approximately 10 feet south of the road. The berms in this area total approximately 200 linear feet. Prior to placing this berm, the surface soil will be excavated to a depth of 6 inches (including along the road adjacent to where the vehicle access way will be placed). The excavated soil will be placed in Area 2 prior to placement of the cover material.

2. Construct a stabilized vehicle access way from the service road into the area, extending 125 feet south of the road. The access way will be graded to form a continuation of the two adjacent berms near the road (i.e., it will be a drive-over berm). It will be 65 feet wide at the road, and taper to a width of 25 feet at a distance of 50 feet from the road. The stabilized access way will consist of filter fabric on ground surface (approximately 1500 sq. ft.) and stone cover (6" minimum depth, except it will be higher to match the berm elevations near the road). *The access way will be constructed using stone size d_{50} = 4 inches.*
3. A fabric/stone berm was previously installed along the auxiliary service road that runs north of Area 6. There is a small strip of exposed soil between the road and this berm. This strip of soil will first be excavated to a depth of 6 inches, then covered with filter fabric and 6 inches of stone. The total area is approximately 620 ft^2. The excavated soil will be placed in Area 2 before the cover material is placed.
4. The contractor will remove the plastic safety fence in order to accomplish this task, and then replace it. The fence posts can remain in place or be removed and replaced, at the discretion of the contractor. The contractor shall work around the concrete post/steel cable fence that runs along the service road. The contractor shall not damage this fence.

Item 4. Surface Controls for Area 4

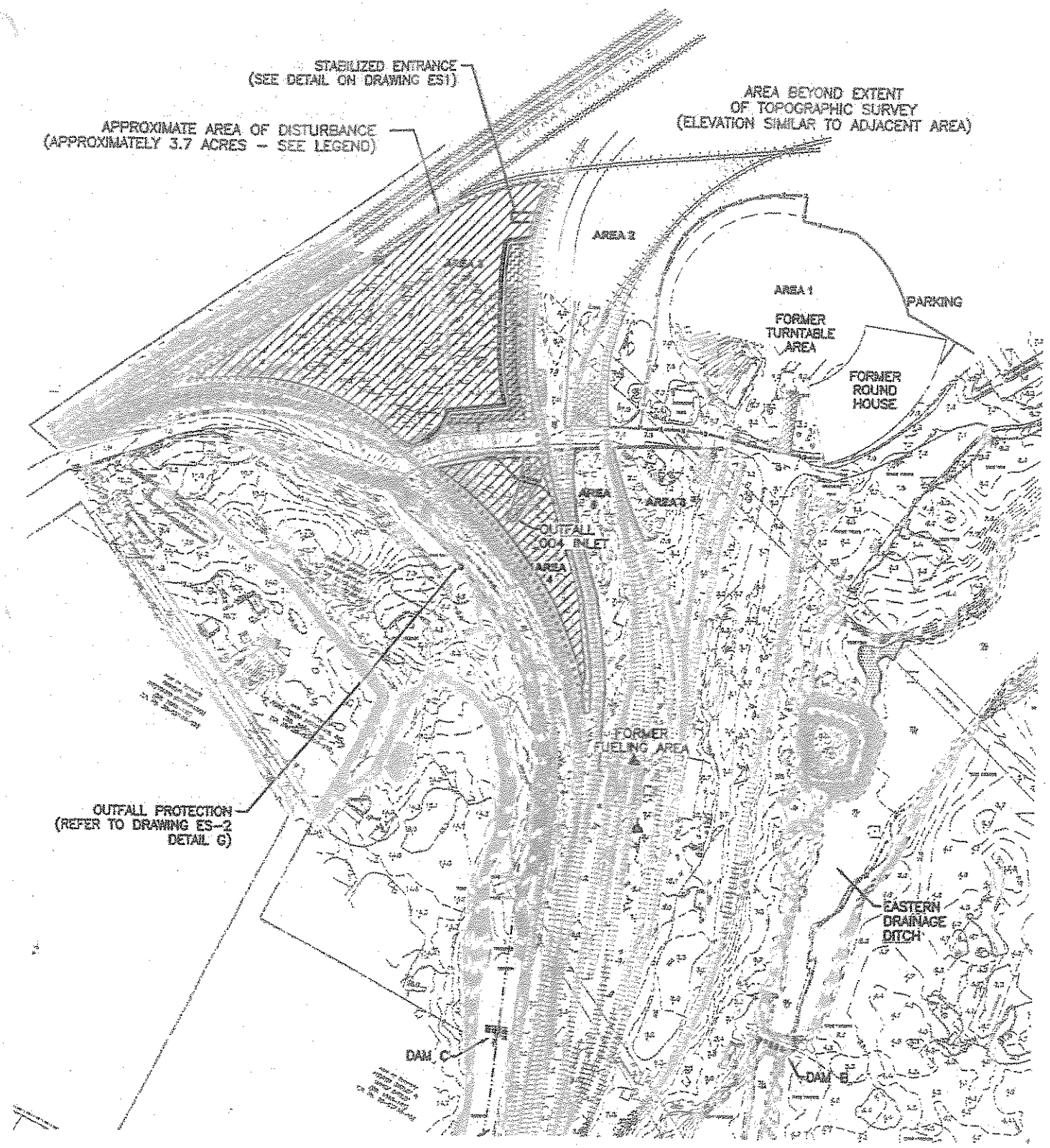
Area 4 contains an outfall structure. Previous improvements included the installation of fabric/stone berms, covering the area with filter fabric and stone, and restricting the outflow with a v-notch weir. The current scope is to remove straw bales that were temporarily placed to control erosion (no longer needed

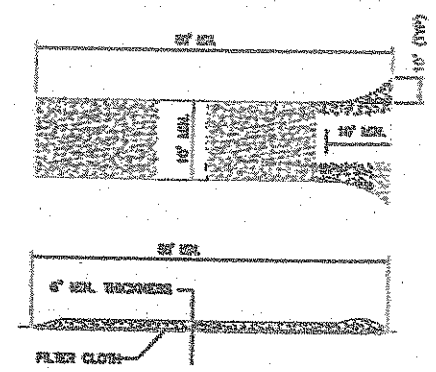
because of the installation of the permanent berms). Collect approximately 50 straw bales along the rail tracks and spread in Area 2 before placing filter fabric. In addition, paving along the roadside and addition of stone on the south side of the road is needed.

Item 5. Surface Controls for Area 5

Area 5 is located due west of Area 6. Previous improvements included the placement of fabric/stone berms. Directly north of Area 5, a narrow strip of exposed soil lies between the previously-installed fabric/stone berm and the access road. This strip will be covered with filter fabric and stone. These improvements are described below:

1. A fabric/stone berm was previously installed along the auxiliary service road that runs north of Area 5. There is a small strip of exposed soil between the road and this berm. This strip of soil will be excavated to a depth of 6 inches, and then covered with filter fabric and stone. The excavated soil will be placed in Area 2 before the cover material is placed. The total area is approximately 125 ft^2. The contractor shall work around the concrete post/steel cable fence that runs along the service road. The contractor shall not damage this fence.





STABILIZED ENTRANCE DETAIL
SCALE: NTS

CONSTRUCTION NOTES:

1. ENTRANCE BEDDING SHALL BE 2" DIAMETER STONE OR RECLAIMED/RECYCLED CONCRETE OR EQUIVALENT.

2. ENTRANCE PAD SHALL BE NOT LESS THAN 50' LONG AND 10' WIDE, BUT NOT LESS THAN THE FULL WIDTH OF INGRESS/EGRESS.

3. FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.

4. IF SURFACE WATER FLOWS TOWARDS THE CONSTRUCTION ENTRANCE, A MOUNTABLE BERM WITH 1:5 SLOPES SHALL BE INSTALLED.

5. CONTRACTOR SHALL PROVIDE PERIODIC INSPECTION AND NEEDED MAINTENANCE AFTER EACH RAIN EVENT.

6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT INTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

8. VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

OWNER'S CERTIFICATION

I/WE THE UNDERSIGNED , CERTIFY THAT ALL LAND CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN.

OWNER'S SIGNATURE _____ DATE _____

OWNER'S NAME (PRINT) _____ TITLE _____

LEGEND

- TEMPORARY SILT FENCE
- FILTER FABRIC ON EXISTING CHAIN LINK FENCE
- BERM (FABRIC/STONE)
- CHECK DAM
- APPROXIMATE LIMIT OF DISTURBANCE (DOES NOT INCLUDE ALL PERMANENT SILT FENCE, DRIVEWAYS AND BERMS)
- DRAINAGE DITCH
- PALUSTRINE AQUATIC BED (PAB)
- PALUSTRINE EMERGENT (PEM)
- BIORETENTION CAP
- DRIVEWAYS/LOW AREAS (FABRIC/STONE)
- SLOPE STABILIZATION
- SWALE (FABRIC/STONE)

NOTES:

1) PROJECT IS TO BE PERFORMED REDUCE SEDIMENT TRANSPORT AND IMPROVE DRAINAGE IN VICINITY OF OUTFALL 004

2) CONSTRUCTION SEQUENCE:
   1. AREAS 3 AND 4 TEMPORARY SILT FENCE
   2. AREAS 3 AND 4 SLOPE STABILIZATION, SWALES AND CHECK DAMS
   3. AREAS 3 AND 4 BIORETENTION CAP
   4. AREAS 1,2,5 AND 6 CONTROLS
   5. OUTFALL PROTECTION STRUCTURE
   6. CLEAN EXISTING CULVERT PIPING (REFER TO DRAWING ES-3 FOR LOCATION)

3) WORK IN VICINITY OF TRACK MUST BE COORDINATED WITH AMTRAK

4) WORK IN VICINITY OF HIGH VOLTAGE CATENARY SYSTEM MUST BE COORDINATED WITH AMTRAK

GENERAL NOTES

1. CONTRACTOR SHALL INSTALL AND MAINTAIN SEDIMENT AND EROSION CONTROL MEASURES DURING CONSTRUCTION IN ACCORDANCE WITH "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK FOR DEVELOPMENT".

2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

3. CONTRACTOR SHALL NOTIFY DNREC, SEDIMENT AND STORMWATER MANAGEMENT PROGRAM IN WRITING, FIVE (5) DAYS PRIOR TO COMMENCING CONSTRUCTION. FAILURE TO DO SO CONSTITUTES VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.

4. REVIEW AND APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.

5. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY DNREC.

6. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR NUISANCE DUST CONTROL (WATER AVAILABLE ON-SITE)

SOURCE:

MAPPING BASE DERIVED FROM AERIAL PHOTOGRAPHY (OCTOBER 24, 1998) AND FIELD SURVEY 11/18-11/24 & 2/12/99 BY VANDEMARK & LYNCH, INC.

BENCHMARK (BM) – TOP OF EXISTING NATIONAL GEODETIC SURVEY DISK STAMPED R-21, 1929 LOCATED IN THE TOP EAST CORNER OF THE CONCRETE BASE OF THE EAST LEG OF THE 100H TENSION LINE TOWER NO. 6 (BASED) ELEVATION – 11.99 FEET

0 100 200
APPROXIMATE SCALE (FEET)

SECOR
International Incorporated
100 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 876-8010/876-8006 (FAX)

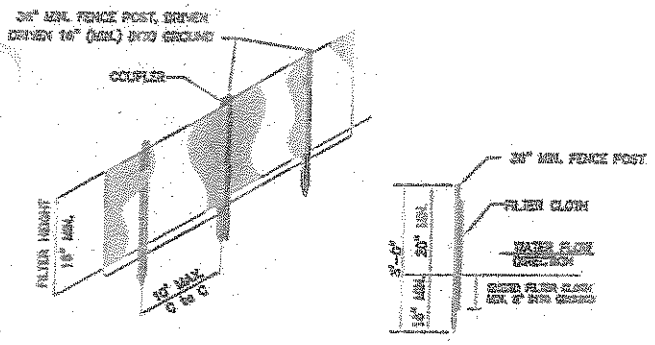
EROSION AND SEDIMENT CONTROL MEASURES

AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE: ES-1

JOB #: 62OT.01013.02.0003 APPR: DWN: KPM DATE: 05/22/03

N:/62T000.DWG



TEMPORARY SILT FENCE
SCALE: NTS

SILT FENCE NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.

2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL OVERLAP BY 6" AND FOLDED.

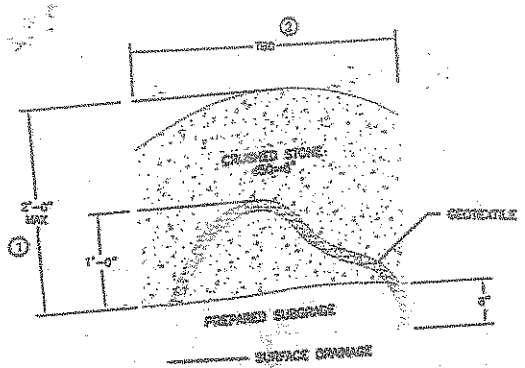
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AND REPLACED WHEN BULGES DEVELOP IN THE SILT FENCE.

4. POSTS: STEEL, EITHER T OR U, OR 2" HARDWOOD.

5. FILTER CLOTH: POLY FILTER X, MIRAFI 140N, STABLINKA T14GN OR APPROVED EQUAL.

6. PREFABRICATED UNIT: GEOFAB, ENVIROFENCE OR APPROVED EQUAL.

DETAIL A
TEMPORARY SILT FENCE



STONE BERM DETAIL CROSS SECTION
SCALE: NTS

LEGEND:

CRUSHED STONE TO BE 12 TO 14" PLACED ON TOP, d50 = 6"

GEOTEXTILE SHALL BE COMPOSED OF STRONG, ROT-PROOF SYNTHETIC FABRIC OF NON-WOVEN TYPE (NON-WOVEN NEEDLE PUNCHED POLYESTER OR POLYPROPYLENE GEOTEXTILE MIN 6-OZ/SQUARE YARD WEIGHT). THE FABRIC SHALL CONTAIN STABILIZER AND/OR INHIBITORS TO MAKE THE FILAMENTS RESISTANT TO DETERIORATION RESULTING FROM EXPOSURE TO SUNLIGHT OR HEAT. THE MINIMUM ELONGATION AT 45 LBS OF MSC. A PERMITTIVITY OF 1.4 SEC-1, A MAXIMUM APPARENT OPENING SIZE OF 0.212 MM (NO. 70 SIEVE). AND A MINIMUM 70% GRAB TENSILE STRENGTH RETENTION AFTER ULTRAVIOLET DEGRADATION.

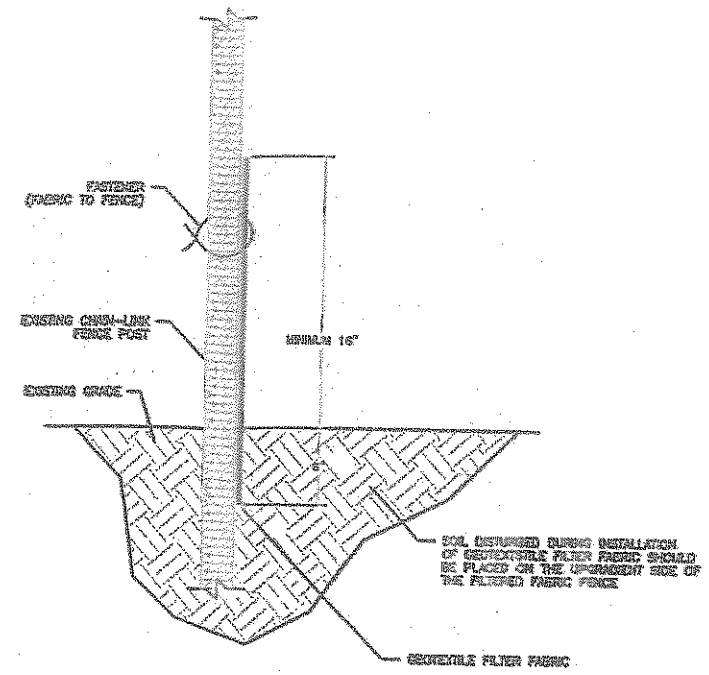
PREPARED SUBGRADE

NOTES:

1) BERM HEIGHT NOT TO EXCEED TOP ELEVATION OF RAIL FOR AREAS CONTIGUOUS TO TRACK STRUCTURES

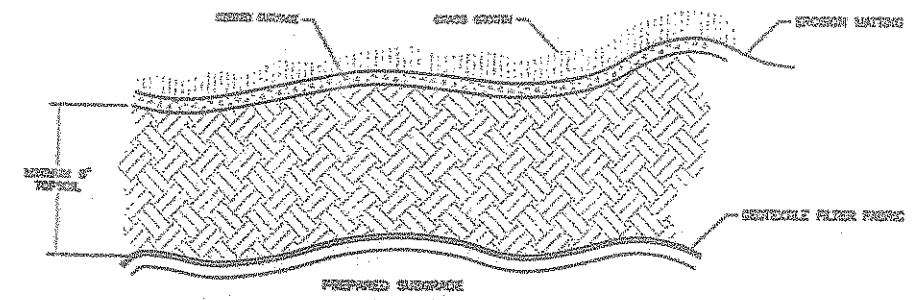
2) BERM WIDTH TO ALLOW VEHICULAR TRAFFIC CROSSING

ALL DISTURBED AREAS ARE TO BE COVERED WITH FILTER FABRIC



GEOTEXTILE FILTER FABRIC CROSS SECTION
SCALE: NTS

DETAIL B
BERM AND FILTER FABRIC ON EXISTING FENCE



BIO RETENTION CAP DETAIL
SCALE: NTS

NOTES

REFER TO DETAIL 8 FOR MATERIALS

CONTRACTOR TO SUPPLY EROSION CONTROL FOR DISTURBED AREAS AND TO MAINTAIN TOP SOIL/SEED

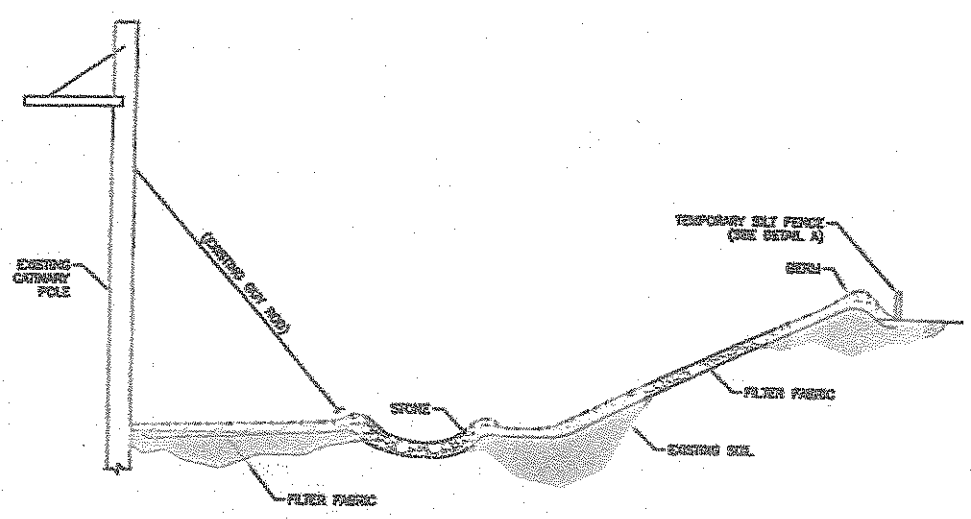
ALL AREAS TO BE COVERED WITH GEOTEXTILE FILTER FABRIC PRIOR TO TOPSOIL PLACEMENT

TOPSOIL TO BE OF HIGH QUALITY, PA CERTIFIED OR EQUIVALENT

SEED MIX PENNDOT FORMULA L COVER MIX – LOW/NO MOW FORMULATION – DROUGHT RESISTANT: APPLIED MINIMUM 100 lb/ACRE PLUS STRAW, REGULAR DUTY MATTING AND STAPLES

CONTRACTOR TO SUPPLY WATERING TO GRASS GROWTH OF 6" HEIGHT

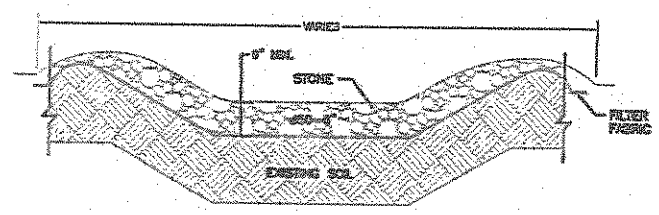
DETAIL C
BIO RETENTION CAP



NOTES:
REFER TO DETAIL 8 FOR MATERIALS
ALL DISTURBED AREAS ARE TO BE COVERED WITH FILTER FABRIC

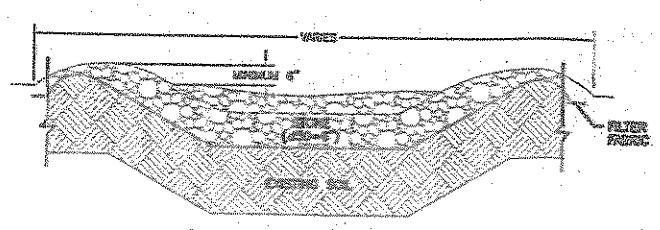
SLOPE STABILIZATION DETAIL
SCALE: NTS

DETAIL D
SLOPE STABILIZATION



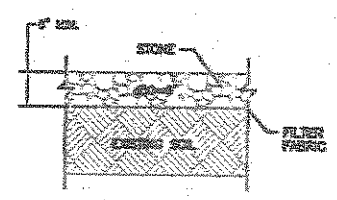
DRAINAGE SWALE
SCALE: NTS

NOTES:
REFER TO DETAIL 8 FOR MATERIALS
CONTRACTOR SHALL SUPPLY EROSION CONTROL FOR DISTURBED AREAS
ALL DISTURBED AREAS ARE TO BE COVERED WITH FILTER FABRIC



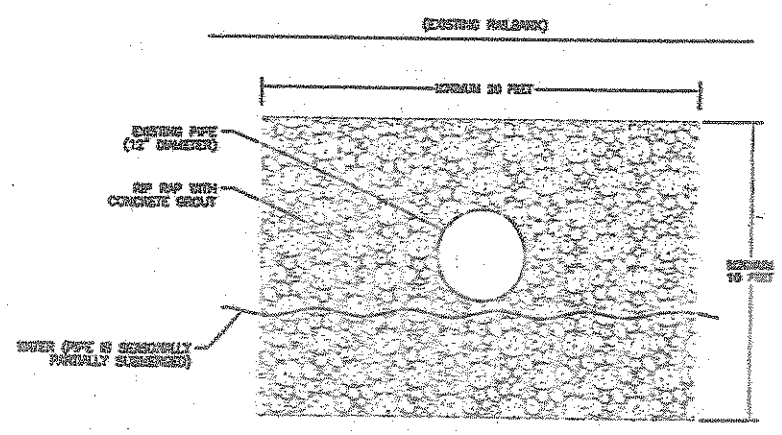
CHECK DAM
SCALE: NTS

DETAIL E
SWALE AND CHECK DAM



DRIVEWAY/LOW AREAS
SCALE: NTS

DETAIL F
DRIVEWAY/LOW AREAS



OUTFALL PROTECTION
SCALE: NTS

DETAIL G
OUTFALL PROTECTION

SECOR
International Incorporated
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA 19341
(484) 876-3010/876-0806 (FAX)

EROSION AND SEDIMENT CONTROL MEASURES DETAILS

AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE: ES-2

JOB #: 62OT.01013.02.0003 APPR: DWN: KPM DATE: 08/08/2012

SECOR
International Incorporated
106 PENNSYLVANIA WAY, SUITE 205
ELTON, PENNSYLVANIA 19341
(484) 876-3076/876-3608 (FAX)

EROSION AND SEDIMENT CONTROL MEASURES
(AERIAL PHOTOGRAPH)
AMTRAK WILMINGTON MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

FIGURE:
ES-3

JOB #: 62GT.01013.02.0003 APPR: DWN: KPM DATE: 06/06/03

SECOR
102 PICKERING WAY, SUITE 200
EXTON, PENNSYLVANIA
PHONE: (484) 875-3075/875-9288 (FAX)

FOR:
AMTRAK WILMINGTON
MAINTENANCE FACILITY
VANDEVER AVENUE
WILMINGTON, DELAWARE

SUPPLEMENTAL
EROSION AND SEDIMENT
CONTROL MEASURES
(ARIAL PHOTOGRAPH)

FIGURE:
ES-4

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
62OT.01057.04/4100	KEF			10/18/2004

62OT-1057-SUPPLEMENTAL.DWG

TABLE H-1

Comparison of Outfall 004 Storm Water Sampling Results
Before and After Implementation of Drainage Improvement and Sediment Reduction Measures

Amtrak Maintenance Yard
4001 Vandever Avenue
Wilmington, Delaware

Sample Date:		*11/14/00*	*12/14/00*	*12/14/00*	*03/13/01*	*12/17/03*	*12/17/03*	*04/12/04*	*04/12/04*
Sample Location:	***Units***	*004*	*004*	*004* ***(Field Duplicate)***	*004*	*OF-4 (004)*	*OF4-1 (004)* ***(Field Duplicate)***	*OF-4 (004)*	*OF4-1 (004)* ***(Field Duplicate)***
Sum of all 81 Congeners	**pg/L**	29,838,380	9,381,690	10,066,310	26,538,290	1,370,967	994,579	1,285,549	1,246,547
			(ave. = 9,724,000)			(ave. = 1,182,773)		(ave. = 1,266,048)	
Total Suspended Solids (TSS)	**mg/L**	158	45	36	112	6	na	16	17

Notes:

Sampling events 11/14/00 through 3/13/01 are for 81 congeners

Sampling events 12/17/04 and 4/12/04 are for all 209 congeners

Average concentration for the three events from 11/14/00 through 3/13/01 (81 congeners) is 22,033,557 pg/L

Average concentrations for the 12/17/04 and 4/12/04 events (209 congeners) is 1,224,411 pg/L

TABLE H-2

Summary of Storm Water Sampling TSS Results
Outfall 004 Area

Amtrak Maintenance Yard
4001 Vandever Avenue
Wilmington, Delaware

Date	Analysis Name	Sample ID / Units	OF4 (Inlet to Outfall 004) Result	A301 (Area 3) Result	A302 (Area 3) Result	A401 (Area 4) Result	A402 (Area 4) Result	Number of Aliquots Collected (1)	Precipitation Amount: Site Gauge During Sampling Period (inches)	Precipitation Amount: Total for Event (2) (inches)
11/14/2000	Total Suspended Solids	MG/L	158	na	na	na	na	6	0.32	0.4
12/14/2000	Total Suspended Solids	MG/L	45	na	na	na	na	4	0.02	0.97
3/13/2001	Total Suspended Solids	MG/L	112	na	na	na	na	10	1.05	0.83
6/7/2003	Total Suspended Solids	MG/L	343	48.0	42.9	68.0	na	9	0.6	1.42
6/18/2003	Total Suspended Solids	MG/L	59.6	50.0	26.0	51.5	36.8	5	0.33	1.02
Average of All Samples Between 11/14/00 and 6/18/03	**Total Suspended Solids**	**MG/L**	**143.5**	**49.0**	**34.5**	**59.8**	**36.8**	--	--	--
11/19/2003	Total Suspended Solids	MG/L	42.7	56.4	43.6	30.8	13.2	3	0.2	1.13
12/17/2003	Total Suspended Solids	MG/L	6	na	na	na	na	9	0.25	0.65
4/12/2004	Total Suspended Solids	MG/L	16	na	na	na	na	11	0.3	0.86
Average of Samples 11/19/03 through 4/12/2004	**Total Suspended Solids**	**MG/L**	**21.5**	--	--	--	--	--	--	--

Notes:
- OF4 = Outfall 004
- Samples A301 and A302 collected in Area 3
- Samples A401 and A402 collected in Area 4
- Sample composites were prepared on a flow-weighted basis using flow data collected at the inlet to Outfall 004 "V" notch weir
- (1) = data collected from site rain gauge near Outfall 004
- (2) = data reported for Porter Reservoir located in Wilmington, DE

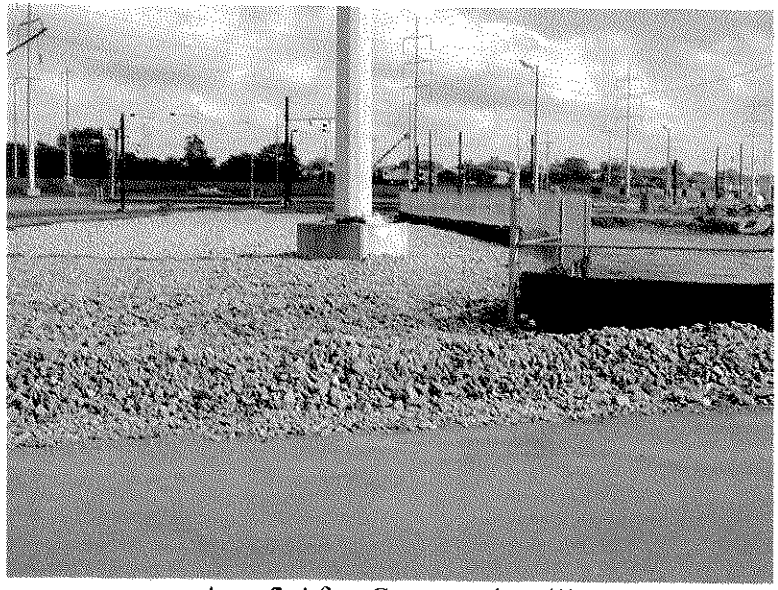
Site Photographs

Area 1 Before Construction

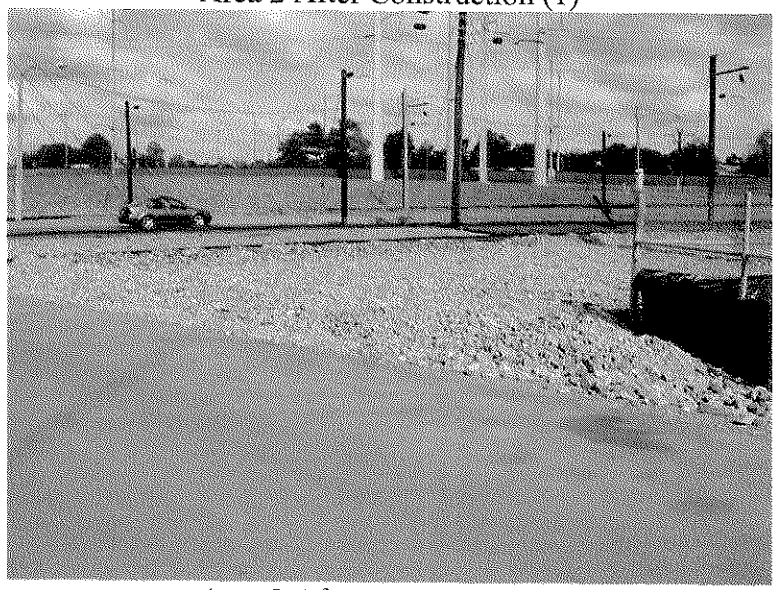
Area 1 After Construction

Site Photographs

Area 2 Before Construction

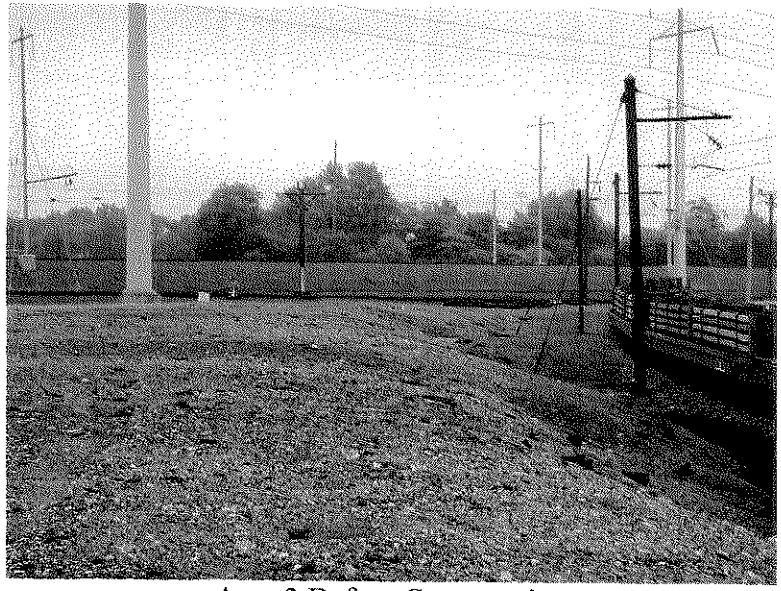


Area 2 After Construction (1)



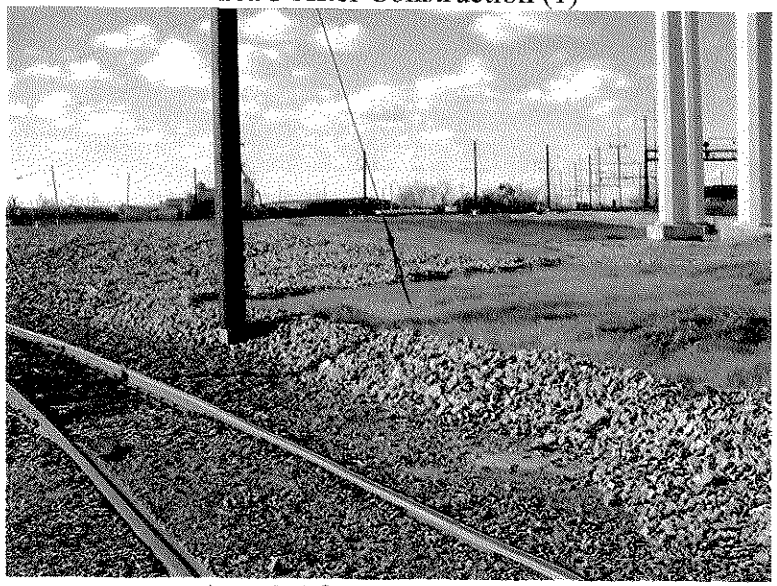
Area 2 After Construction (2)

Site Photographs



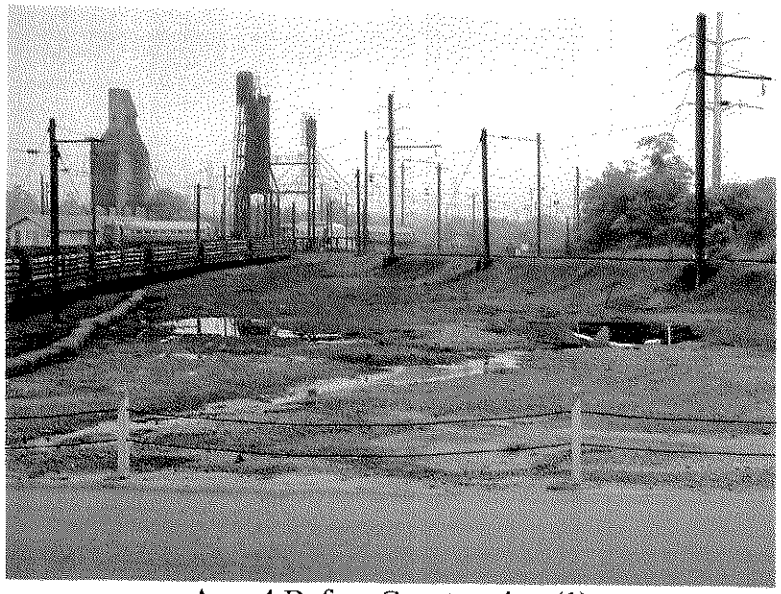
Area 3 Before Construction

Area 3 After Construction (1)

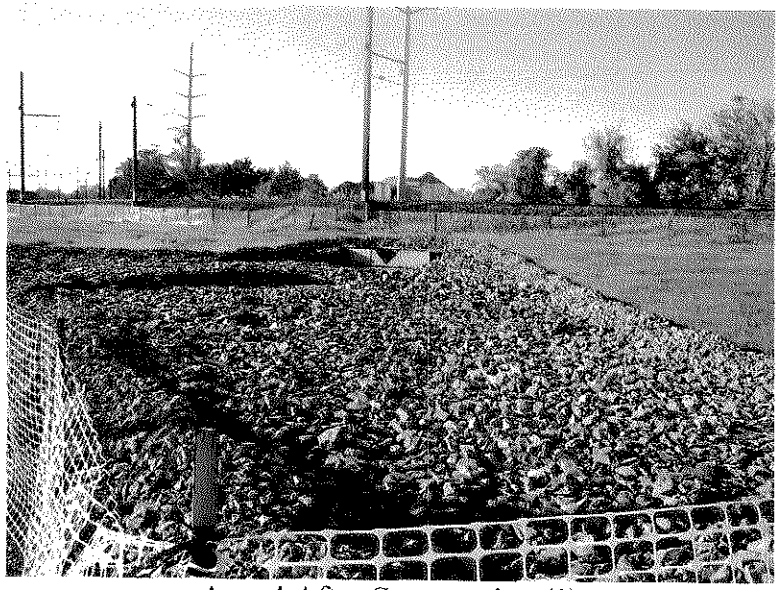


Area 3 After Construction (2)

Site Photographs

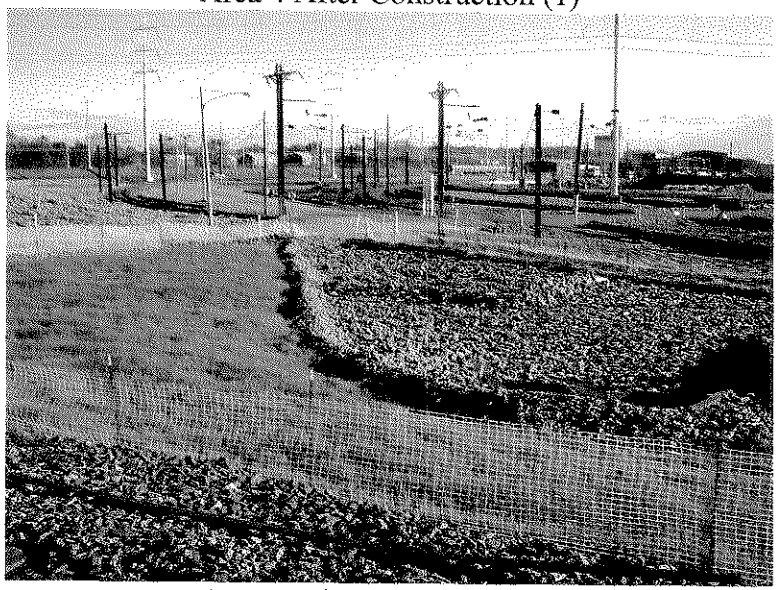


Area 4 Before Construction (1)



Area 4 After Construction (1)

Area 4 Before Construction (2)



Area 4 After Construction (2)

Site Photographs

Area 5 and 6 Before Construction

Area 5 After Construction

Area 5 and 6 After Construction

Appendix I

Data Validation Reports and Electronic Data Packages

Appendix J

PCB Congener and Grain Size Results – Site Sediments

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-C
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2-Chlorobiphenyl	1		1370	U
3-Chlorobiphenyl	2		1260	U
4-Chlorobiphenyl	3	5230	1090	J
2,2'-Dichlorobiphenyl	4		11600	U
2,3-Dichlorobiphenyl	5		7230	U
2,3'-Dichlorobiphenyl	6		6640	U
2,4-Dichlorobiphenyl	7		6930	U
2,4'-Dichlorobiphenyl	8		20000	UJB
2,5-Dichlorobiphenyl	9		6970	U
2,6-Dichlorobiphenyl	10		7200	U
3,3'-Dichlorobiphenyl	11		6950	U
3,4-Dichlorobiphenyl	12		40000	UJB
3,4'-Dichlorobiphenyl	13		40000	UJB
3,5-Dichlorobiphenyl	14		6640	U
4,4'-Dichlorobiphenyl	15		24000	JB
2,2',3-Trichlorobiphenyl	16		8200	U
2,2',4-Trichlorobiphenyl	17		6620	U
2,2',5-Trichlorobiphenyl	18		10000	QBCJ
2,2',6-Trichlorobiphenyl	19		7140	U
2,3,3'-Trichlorobiphenyl	20		30000	UJBC
2,3,4-Trichlorobiphenyl	21		189000	UJB
2,3,4'-Trichlorobiphenyl	22		10000	UJB
2,3,5-Trichlorobiphenyl	23		2690	U
2,3,6-Trichlorobiphenyl	24		4800	U
2,3',4-Trichlorobiphenyl	25		2280	U
2,3',5-Trichlorobiphenyl	26	3190	2510	QCJ
2,3',6-Trichlorobiphenyl	27		4670	U
2,4,4'-Trichlorobiphenyl	28		30000	C20UJBQ
2,4,5-Trichlorobiphenyl	29		2510	C26
2,4,6-Trichlorobiphenyl	30		10000	C18UJBQ
2,4',5-Trichlorobiphenyl	31		20000	QUJB
2,4',6-Trichlorobiphenyl	32		4290	U
2,3',4'-Trichlorobiphenyl	33		17000	C21UJBQ
2,3',5'-Trichlorobiphenyl	34		2610	U
3,3',4-Trichlorobiphenyl	35		2590	U
3,3',5-Trichlorobiphenyl	36		2420	U
3,4,4'-Trichlorobiphenyl	37	8610	2160	QJ
3,4,5-Trichlorobiphenyl	38		2480	U
3,4',5-Trichlorobiphenyl	39		2300	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-C
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3'-Tetrachlorobiphenyl	40	11400	3270	QCJ
2,2',3,4-Tetrachlorobiphenyl	41		3270	C40
2,2',3,4'-Tetrachlorobiphenyl	42		3620	U
2,2',3,5-Tetrachlorobiphenyl	43		2990	U
2,2',3,5'-Tetrachlorobiphenyl	44		10000	QBCJ
2,2',3,6-Tetrachlorobiphenyl	45		3410	U
2,2',3,6'-Tetrachlorobiphenyl	46		3980	U
2,2',4,4'-Tetrachlorobiphenyl	47		10000	C44
2,2',4,5-Tetrachlorobiphenyl	48		3270	U
2,2',4,5'-Tetrachlorobiphenyl	49		10000	BCJ
2,2',4,6-Tetrachlorobiphenyl	50		3290	U
2,2',4,6'-Tetrachlorobiphenyl	51		3410	U
2,2',5,5'-Tetrachlorobiphenyl	52		10000	JB
2,2',5,6'-Tetrachlorobiphenyl	53		3290	U
2,2',6,6'-Tetrachlorobiphenyl	54		4950	U
2,3,3',4-Tetrachlorobiphenyl	55		2460	U
2,3,3',4'-Tetrachlorobiphenyl	56		2430	U
2,3,3',5-Tetrachlorobiphenyl	57		2420	U
2,3,3',5'-Tetrachlorobiphenyl	58	8810	2360	J
2,3,3',6-Tetrachlorobiphenyl	59		2380	U
2,3,4,4'-Tetrachlorobiphenyl	60		2390	U
2,3,4,5-Tetrachlorobiphenyl	61		20000	JBC
2,3,4,6-Tetrachlorobiphenyl	62		2380	U
2,3,4',5-Tetrachlorobiphenyl	63		2260	U
2,3,4',6-Tetrachlorobiphenyl	64		13000	UJB
2,3,5,6-Tetrachlorobiphenyl	65		10000	C44
2,3',4,4'-Tetrachlorobiphenyl	66		10000	BJ
2,3',4,5-Tetrachlorobiphenyl	67		2110	U
2,3',4,5'-Tetrachlorobiphenyl	68		2190	U
2,3',4,6-Tetrachlorobiphenyl	69		10000	C49
2,3',4',5-Tetrachlorobiphenyl	70		20000	C61JB
2,3',4',6-Tetrachlorobiphenyl	71		3270	C40
2,3',5,5'-Tetrachlorobiphenyl	72		2330	U
2,3',5',6-Tetrachlorobiphenyl	73		2990	U
2,4,4',5-Tetrachlorobiphenyl	74		20000	C61JB
2,4,4',6-Tetrachlorobiphenyl	75		2380	U
2,3',4',5'-Tetrachlorobiphenyl	76		20000	C61JB
3,3',4,4'-Tetrachlorobiphenyl	77		2100	U
3,3',4,5-Tetrachlorobiphenyl	78		2330	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-C
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
3,3',4,5'-Tetrachlorobiphenyl	79		1970	U
3,3',5,5'-Tetrachlorobiphenyl	80		2090	U
3,4,4',5-Tetrachlorobiphenyl	81		2160	U
2,2',3,3',4-Pentachlorobiphenyl	82	16800	5490	QJ
2,2',3,3',5-Pentachlorobiphenyl	83		5690	U
2,2',3,3',6-Pentachlorobiphenyl	84	33600	5550	J
2,2',3,4,4'-Pentachlorobiphenyl	85	17100	3930	QCJ
2,2',3,4,5-Pentachlorobiphenyl	86	102000	3940	C
2,2',3,4,5'-Pentachlorobiphenyl	87		3940	C86
2,2',3,4,6-Pentachlorobiphenyl	88	15100	4890	CJ
2,2',3,4,6'-Pentachlorobiphenyl	89		5300	U
2,2',3,4',5-Pentachlorobiphenyl	90		10000	JBC
2,2',3,4',6-Pentachlorobiphenyl	91		4890	C88
2,2',3,5,5'-Pentachlorobiphenyl	92		4980	UJ
2,2',3,5,6-Pentachlorobiphenyl	93		4800	UJ
2,2',3,5,6'-Pentachlorobiphenyl	94		5240	UJ
2,2',3,5',6-Pentachlorobiphenyl	95	254000	4800	J
2,2',3,6,6'-Pentachlorobiphenyl	96		3650	UJ
2,2',3,4',5'-Pentachlorobiphenyl	97		3940	C86J
2,2',3,4',6'-Pentachlorobiphenyl	98		4890	UJ
2,2',4,4',5-Pentachlorobiphenyl	99	72000	3910	CJ
2,2',4,4',6-Pentachlorobiphenyl	100		4800	UJ
2,2',4,5,5'-Pentachlorobiphenyl	101		10000	C90JB
2,2',4,5,6'-Pentachlorobiphenyl	102		4890	UJ
2,2',4,5',6-Pentachlorobiphenyl	103		4500	UJ
2,2',4,6,6'-Pentachlorobiphenyl	104		3550	UJ
2,3,3',4,4'-Pentachlorobiphenyl	105	87700	2120	J
2,3,3',4,5-Pentachlorobiphenyl	106		2400	UJ
2,3,3',4',5-Pentachlorobiphenyl	107	7670	2360	CJ
2,3,3',4,5'-Pentachlorobiphenyl	108		3940	C86J
2,3,3',4,6-Pentachlorobiphenyl	109	16600	2120	J
2,3,3',4',6-Pentachlorobiphenyl	110	245000	3480	C
2,3,3',5,5'-Pentachlorobiphenyl	111		3350	U
2,3,3',5,6-Pentachlorobiphenyl	112		3910	C99
2,3,3',5',6-Pentachlorobiphenyl	113		10000	C90JB
2,3,4,4',5-Pentachlorobiphenyl	114		1900	U
2,3,4,4',6-Pentachlorobiphenyl	115		3480	C110
2,3,4,5,6-Pentachlorobiphenyl	116		3930	C85
2,3,4',5,6-Pentachlorobiphenyl	117		3930	C85

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-C
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3',4,4',5-Pentachlorobiphenyl	118	152000	2060	
2,3',4,4',6-Pentachlorobiphenyl	119		3940	C86
2,3',4,5,5'-Pentachlorobiphenyl	120		3220	U
2,3',4,5',6-Pentachlorobiphenyl	121		3510	U
2,3,3',4',5'-Pentachlorobiphenyl	122		2490	U
2,3',4,4',5'-Pentachlorobiphenyl	123		1950	U
2,3',4',5,5'-Pentachlorobiphenyl	124		2360	C108
2,3',4',5',6-Pentachlorobiphenyl	125		3940	C86J
3,3',4,4',5-Pentachlorobiphenyl	126	4230	2520	QJ
3,3',4,5,5'-Pentachlorobiphenyl	127		2200	UJ
2,2',3,3',4,4'-Hexachlorobiphenyl	128	92600	4330	CJ
2,2',3,3',4,5-Hexachlorobiphenyl	129	885000	4440	CJ
2,2',3,3',4,5'-Hexachlorobiphenyl	130	43200	5640	J
2,2',3,3',4,6-Hexachlorobiphenyl	131		5680	UJ
2,2',3,3',4,6'-Hexachlorobiphenyl	132	241000	5530	J
2,2',3,3',5,5'-Hexachlorobiphenyl	133	10400	5210	J
2,2',3,3',5,6-Hexachlorobiphenyl	134	25400	5680	QCJ
2,2',3,3',5,6'-Hexachlorobiphenyl	135	450000	7990	CJ
2,2',3,3',6,6'-Hexachlorobiphenyl	136	148000	5920	J
2,2',3,4,4',5-Hexachlorobiphenyl	137	76200	4240	QCJ
2,2',3,4,4',5'-Hexachlorobiphenyl	138		4440	C129J
2,2',3,4,4',6-Hexachlorobiphenyl	139	4990	4760	QCJ
2,2',3,4,4',6'-Hexachlorobiphenyl	140		4760	C139
2,2',3,4,5,5'-Hexachlorobiphenyl	141	217000	5050	
2,2',3,4,5,6-Hexachlorobiphenyl	142		5580	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		5680	C134
2,2',3,4,5',6-Hexachlorobiphenyl	144	68600	7810	
2,2',3,4,6,6'-Hexachlorobiphenyl	145		6050	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	135000	4570	
2,2',3,4',5,6-Hexachlorobiphenyl	147	735000	4590	C
2,2',3,4',5,6'-Hexachlorobiphenyl	148		7950	U
2,2',3,4',5',6-Hexachlorobiphenyl	149		4590	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150		5790	U
2,2',3,5,5',6-Hexachlorobiphenyl	151		7990	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152		5720	U
2,2',4,4',5,5'-Hexachlorobiphenyl	153	853000	3900	C
2,2',4,4',5,6'-Hexachlorobiphenyl	154		6840	U
2,2',4,4',6,6'-Hexachlorobiphenyl	155		5540	U
2,3,3',4,4',5-Hexachlorobiphenyl	156	88400	3470	C

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-C
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3,3',4,4',5'-Hexachlorobiphenyl	157		3470	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	73000	3400	
2,3,3',4,5,5'-Hexachlorobiphenyl	159	13300	3560	QJ
2,3,3',4,5,6-Hexachlorobiphenyl	160		3970	U
2,3,3',4,5',6-Hexachlorobiphenyl	161		3700	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162		3560	U
2,3,3',4',5,6-Hexachlorobiphenyl	163		4440	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164		4240	C137
2,3,3',5,5',6-Hexachlorobiphenyl	165		4050	U
2,3,4,4',5,6-Hexachlorobiphenyl	166		4330	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167	35500	2940	J
2,3',4,4',5',6-Hexachlorobiphenyl	168		3900	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169		3540	UJ
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	363000	4160	
2,2',3,3',4,4',6-Heptachlorobiphenyl	171	129000	5460	C
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	77200	5530	Q
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		5460	C171
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	435000	5130	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175	18600	4910	J
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	56700	3890	Q
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	253000	5480	
2,2',3,3',5,5',6-Heptachlorobiphenyl	178	77000	5270	
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	169000	3850	
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	801000	3410	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181		5120	U
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182		4970	U
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	284000	4910	C
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184		3620	U
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		4910	C183J
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		3840	UJ
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	483000	4640	J
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188		3760	UJ
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	17900	3600	QJ
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	95900	3950	J
2,3,3',4,4',5',6-Heptachlorobiphenyl	191	15800	3860	QJ
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		4170	UJ
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		4170	C180J
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	245000	4100	J
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	97100	4490	J

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-C
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	164000	6140	J
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197	45800	4400	CJ
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	291000	6100	CJ
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		6100	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200		4480	C197
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201	32600	4470	QJ
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202	38700	4730	QJ
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	184000	5620	
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		4610	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205	6550	2850	QJ
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206	30900	5340	QJ
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207		4820	U
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208	4700	4650	QJ
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209		3140	U
	TOTAL =	**9,673,080**		

Notes:

B = Analyte is present in the associated method blank at a reportable level.

C = Co-eluting congener. Reported value is the total sum of the co-eluting congener(s).

Cx = Corresponding number (x) represents the co-eluting congener. See (x) for the summed results.

J = Estimated value.

U = Not detected.

Q = Estimated maximum possible concentration.

pg/kg = Picograms per kilogram.

Analytical data validated by SECOR personnel

P:\Clients\Amtrak-APU\Phase 2 RI Laboratory Data\Attachments\Attachment K\[on-site ditch transects PCB cong results_validated.xls]7II-c wo B valid

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-D (Duplicate of 7II-C)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2-Chlorobiphenyl	1		1230	U
3-Chlorobiphenyl	2		1120	U
4-Chlorobiphenyl	3	3330	9770	J
2,2'-Dichlorobiphenyl	4		12700	U
2,3-Dichlorobiphenyl	5		7930	U
2,3'-Dichlorobiphenyl	6		7280	U
2,4-Dichlorobiphenyl	7		7600	U
2,4'-Dichlorobiphenyl	8		7290	U
2,5-Dichlorobiphenyl	9		7640	U
2,6-Dichlorobiphenyl	10		7900	U
3,3'-Dichlorobiphenyl	11		7620	U
3,4-Dichlorobiphenyl	12		24000	UJBC
3,4'-Dichlorobiphenyl	13		24000	C12UJB
3,5-Dichlorobiphenyl	14		7280	U
4,4'-Dichlorobiphenyl	15		20000	UJB
2,2',3-Trichlorobiphenyl	16	7020	7020	U
2,2',4-Trichlorobiphenyl	17	9200	5670	QJ
2,2',5-Trichlorobiphenyl	18		10000	QBCJ
2,2',6-Trichlorobiphenyl	19	6110	6110	U
2,3,3'-Trichlorobiphenyl	20		18000	UJBC
2,3,4-Trichlorobiphenyl	21		15000	UJBC
2,3,4'-Trichlorobiphenyl	22		10000	UJB
2,3,5-Trichlorobiphenyl	23		2300	U
2,3,6-Trichlorobiphenyl	24		4110	U
2,3',4-Trichlorobiphenyl	25		1950	JB
2,3',5-Trichlorobiphenyl	26		2150	U
2,3',6-Trichlorobiphenyl	27		4000	U
2,4,4'-Trichlorobiphenyl	28		18000	C20UJB
2,4,5-Trichlorobiphenyl	29		2150	U
2,4,6-Trichlorobiphenyl	30		10000	C18
2,4',5-Trichlorobiphenyl	31		15000	UJB
2,4',6-Trichlorobiphenyl	32		3670	U
2,3',4'-Trichlorobiphenyl	33		15000	C21UJB
2,3',5'-Trichlorobiphenyl	34		2240	U
3,3',4-Trichlorobiphenyl	35		2220	U
3,3',5-Trichlorobiphenyl	36		2070	U
3,4,4'-Trichlorobiphenyl	37	4630	1850	QJ
3,4,5-Trichlorobiphenyl	38		2130	U
3,4',5-Trichlorobiphenyl	39		1970	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-D (Duplicate of 7II-C)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3'-Tetrachlorobiphenyl	40		3270	U
2,2',3,4-Tetrachlorobiphenyl	41		3270	U
2,2',3,4'-Tetrachlorobiphenyl	42	4970	3630	QJ
2,2',3,5-Tetrachlorobiphenyl	43		3000	U
2,2',3,5'-Tetrachlorobiphenyl	44		10000	BCJ
2,2',3,6-Tetrachlorobiphenyl	45	7450	3420	QCJ
2,2',3,6'-Tetrachlorobiphenyl	46		3990	U
2,2',4,4'-Tetrachlorobiphenyl	47		10000	C44
2,2',4,5-Tetrachlorobiphenyl	48		2380	U
2,2',4,5'-Tetrachlorobiphenyl	49		10000	BCJ
2,2',4,6-Tetrachlorobiphenyl	50		3300	U
2,2',4,6'-Tetrachlorobiphenyl	51		3420	C45JB
2,2',5,5'-Tetrachlorobiphenyl	52		10000	BJ
2,2',5,6'-Tetrachlorobiphenyl	53		3300	U
2,2',6,6'-Tetrachlorobiphenyl	54		4960	U
2,3,3',4-Tetrachlorobiphenyl	55		2470	U
2,3,3',4'-Tetrachlorobiphenyl	56		2430	QJB
2,3,3',5-Tetrachlorobiphenyl	57		2430	U
2,3,3',5'-Tetrachlorobiphenyl	58		2370	U
2,3,3',6-Tetrachlorobiphenyl	59		2390	U
2,3,4,4'-Tetrachlorobiphenyl	60		2390	U
2,3,4,5-Tetrachlorobiphenyl	61		10000	BCJ
2,3,4,6-Tetrachlorobiphenyl	62		2390	U
2,3,4',5-Tetrachlorobiphenyl	63		2270	U
2,3,4',6-Tetrachlorobiphenyl	64		2380	U
2,3,5,6-Tetrachlorobiphenyl	65		10000	C44
2,3',4,4'-Tetrachlorobiphenyl	66		15000	QBJ
2,3',4,5-Tetrachlorobiphenyl	67		2110	U
2,3',4,5'-Tetrachlorobiphenyl	68		2200	U
2,3',4,6-Tetrachlorobiphenyl	69		10000	C49
2,3',4',5-Tetrachlorobiphenyl	70		10000	C61
2,3',4',6-Tetrachlorobiphenyl	71		3270	U
2,3',5,5'-Tetrachlorobiphenyl	72		2340	U
2,3',5',6-Tetrachlorobiphenyl	73		3000	U
2,4,4',5-Tetrachlorobiphenyl	74		10000	C61
2,4,4',6-Tetrachlorobiphenyl	75		2390	U
2,3',4',5'-Tetrachlorobiphenyl	76		10000	C61
3,3',4,4'-Tetrachlorobiphenyl	77		2110	U
3,3',4,5-Tetrachlorobiphenyl	78		2340	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-D (Duplicate of 7II-C)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
3,3',4,5'-Tetrachlorobiphenyl	79		1970	U
3,3',5,5'-Tetrachlorobiphenyl	80		2100	U
3,4,4',5-Tetrachlorobiphenyl	81		2170	U
2,2',3,3',4-Pentachlorobiphenyl	82		5170	U
2,2',3,3',5-Pentachlorobiphenyl	83		5360	U
2,2',3,3',6-Pentachlorobiphenyl	84		5230	JB
2,2',3,4,4'-Pentachlorobiphenyl	85		3710	U
2,2',3,4,5-Pentachlorobiphenyl	86		3710	CJB
2,2',3,4,5'-Pentachlorobiphenyl	87		3710	C86JB
2,2',3,4,6-Pentachlorobiphenyl	88		4610	U
2,2',3,4,6'-Pentachlorobiphenyl	89		4990	U
2,2',3,4',5-Pentachlorobiphenyl	90		10000	CJB
2,2',3,4',6-Pentachlorobiphenyl	91		4610	U
2,2',3,5,5'-Pentachlorobiphenyl	92		4960	QJB
2,2',3,5,6-Pentachlorobiphenyl	93		4520	UJ
2,2',3,5,6'-Pentachlorobiphenyl	94		4940	UJ
2,2',3,5',6-Pentachlorobiphenyl	95		4530	JB
2,2',3,6,6'-Pentachlorobiphenyl	96		3440	UJ
2,2',3,4',5'-Pentachlorobiphenyl	97		3710	C86JB
2,2',3,4',6'-Pentachlorobiphenyl	98		4600	UJ
2,2',4,4',5-Pentachlorobiphenyl	99		3680	CJB
2,2',4,4',6-Pentachlorobiphenyl	100		4520	UJ
2,2',4,5,5'-Pentachlorobiphenyl	101		10000	C90JB
2,2',4,5,6'-Pentachlorobiphenyl	102		4600	UJ
2,2',4,5',6-Pentachlorobiphenyl	103		4240	UJ
2,2',4,6,6'-Pentachlorobiphenyl	104		3340	UJ
2,3,3',4,4'-Pentachlorobiphenyl	105		2090	JB
2,3,3',4,5-Pentachlorobiphenyl	106		2260	UJ
2,3,3',4',5-Pentachlorobiphenyl	107		2230	U
2,3,3',4,5'-Pentachlorobiphenyl	108		3710	C86JB
2,3,3',4,6-Pentachlorobiphenyl	109		2000	U
2,3,3',4',6-Pentachlorobiphenyl	110		3280	CJB
2,3,3',5,5'-Pentachlorobiphenyl	111		3150	U
2,3,3',5,6-Pentachlorobiphenyl	112		3680	C99JB
2,3,3',5',6-Pentachlorobiphenyl	113		10000	C90JB
2,3,4,4',5-Pentachlorobiphenyl	114		1780	U
2,3,4,4',6-Pentachlorobiphenyl	115		3280	C110JB
2,3,4,5,6-Pentachlorobiphenyl	116		3710	U
2,3,4',5,6-Pentachlorobiphenyl	117		3710	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-D (Duplicate of 7II-C)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3',4,4',5-Pentachlorobiphenyl	118		1920	JB
2,3',4,4',6-Pentachlorobiphenyl	119		3710	C86JB
2,3',4,5,5'-Pentachlorobiphenyl	120		3030	U
2,3',4,5',6-Pentachlorobiphenyl	121		3300	U
2,3,3',4',5'-Pentachlorobiphenyl	122		2340	U
2,3',4,4',5'-Pentachlorobiphenyl	123		1830	U
2,3',4',5,5'-Pentachlorobiphenyl	124		2230	U
2,3',4',5',6-Pentachlorobiphenyl	125		3710	C86JB
3,3',4,4',5-Pentachlorobiphenyl	126		2300	UJ
3,3',4,5,5'-Pentachlorobiphenyl	127		2070	UJ
2,2',3,3',4,4'-Hexachlorobiphenyl	128		3820	QCJB
2,2',3,3',4,5-Hexachlorobiphenyl	129		3920	CJB
2,2',3,3',4,5'-Hexachlorobiphenyl	130		4980	QJB
2,2',3,3',4,6-Hexachlorobiphenyl	131		5010	UJ
2,2',3,3',4,6'-Hexachlorobiphenyl	132		4880	JB
2,2',3,3',5,5'-Hexachlorobiphenyl	133		4600	UJ
2,2',3,3',5,6-Hexachlorobiphenyl	134		5010	CJB
2,2',3,3',5,6'-Hexachlorobiphenyl	135		7050	CJB
2,2',3,3',6,6'-Hexachlorobiphenyl	136		5230	JB
2,2',3,4,4',5-Hexachlorobiphenyl	137		3740	CJB
2,2',3,4,4',5'-Hexachlorobiphenyl	138		3920	C129JB
2,2',3,4,4',6-Hexachlorobiphenyl	139		4200	UJ
2,2',3,4,4',6'-Hexachlorobiphenyl	140		4200	UJ
2,2',3,4,5,5'-Hexachlorobiphenyl	141		4450	QJB
2,2',3,4,5,6-Hexachlorobiphenyl	142		4930	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		5010	C134JB
2,2',3,4,5',6-Hexachlorobiphenyl	144		6890	QJB
2,2',3,4,6,6'-Hexachlorobiphenyl	145		5340	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146		4030	JB
2,2',3,4',5,6-Hexachlorobiphenyl	147	234000	4050	C
2,2',3,4',5,6'-Hexachlorobiphenyl	148		7020	U
2,2',3,4',5',6-Hexachlorobiphenyl	149		4050	C147JB
2,2',3,4',6,6'-Hexachlorobiphenyl	150		5110	U
2,2',3,5,5',6-Hexachlorobiphenyl	151		7050	C135JB
2,2',3,5,6,6'-Hexachlorobiphenyl	152		5050	U
2,2',4,4',5,5'-Hexachlorobiphenyl	153		3440	CJB
2,2',4,4',5,6'-Hexachlorobiphenyl	154		6030	U
2,2',4,4',6,6'-Hexachlorobiphenyl	155		4890	U
2,3,3',4,4',5-Hexachlorobiphenyl	156		3150	QCJB

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-D (Duplicate of 7II-C)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3,3',4,4',5'-Hexachlorobiphenyl	157		3150	C156JB
2,3,3',4,4',6-Hexachlorobiphenyl	158		3000	JB
2,3,3',4,5,5'-Hexachlorobiphenyl	159		3140	U
2,3,3',4,5,6-Hexachlorobiphenyl	160		3500	U
2,3,3',4,5',6-Hexachlorobiphenyl	161		3260	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162		3140	U
2,3,3',4',5,6-Hexachlorobiphenyl	163		3920	C129JB
2,3,3',4',5',6-Hexachlorobiphenyl	164		3470	C137JB
2,3,3',5,5',6-Hexachlorobiphenyl	165		3570	U
2,3,4,4',5,6-Hexachlorobiphenyl	166		3820	C128JB
2,3',4,4',5,5'-Hexachlorobiphenyl	167		2520	QJB
2,3',4,4',5',6-Hexachlorobiphenyl	168		3440	C153JB
3,3',4,4',5,5'-Hexachlorobiphenyl	169		3060	UJ
2,2',3,3',4,4',5-Heptachlorobiphenyl	170		4210	JB
2,2',3,3',4,4',6-Heptachlorobiphenyl	171		5220	CJB
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172		5280	JB
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		5220	C171JB
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174		4900	JB
2,2',3,3',4,5',6-Heptachlorobiphenyl	175		4690	U
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176		3720	JB
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177		5230	JB
2,2',3,3',5,5',6-Heptachlorobiphenyl	178		5040	QJB
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179		3670	JB
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180		3290	CJB
2,2',3,4,4',5,6-Heptachlorobiphenyl	181		4890	U
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182		4740	U
2,2',3,4,4',5',6-Heptachlorobiphenyl	183		4690	CJB
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184		3450	U
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		4690	C183JB
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		3760	UJ
2,2',3,4',5,5',6-Heptachlorobiphenyl	187		4430	JB
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188		3590	UJ
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189		3280	UJ
2,3,3',4,4',5,6-Heptachlorobiphenyl	190		3770	QJB
2,3,3',4,4',5',6-Heptachlorobiphenyl	191		3690	UJ
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		3980	UJ
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		3990	C180JB
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194		4080	QJB
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195		4470	QJB

Eastern Drainage Ditch Sediment Sample PCB Congener Results
7II-D (Duplicate of 7II-C)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196		6120	QJB
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197		4470	CJB
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198		6080	CJB
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		6080	C198JB
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200		4470	C197JB
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201		4460	JB
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202		4710	U
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203		5600	JB
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		4590	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205		2840	U
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206		5500	U
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207		4970	U
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208		4790	U
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209		1870	U
		TOTAL =	**276,710**	

Notes:

B = Analyte is present in the associated method blank at a reportable level.

C = Co-eluting congener. Reported value is the total sum of the co-eluting congener(s).

Cx = Corresponding number (x) represents the co-eluting congener. See (x) for the summed results.

J = Estimated value.

U = Not detected.

Q = Estimated maximum possible concentration.

pg/kg = Picograms per kilogram.

Analytical data validated by SECOR personnel

P:\Clients\Amtrak-APU\Phase 2 RI Laboratory Data\Attachments\Attachment K\[on-site ditch transects PCB cong results_validated.xls]7II-D wo B valid

Eastern Drainage Ditch Sediment Sample PCB Congener Results
6-B(0-3)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2-Chlorobiphenyl	1		340000	U
3-Chlorobiphenyl	2		311000	U
4-Chlorobiphenyl	3		270000	U
2,2'-Dichlorobiphenyl	4		2330000	U
2,3-Dichlorobiphenyl	5		1460000	U
2,3'-Dichlorobiphenyl	6		1340000	U
2,4-Dichlorobiphenyl	7		1400000	U
2,4'-Dichlorobiphenyl	8		1340000	U
2,5-Dichlorobiphenyl	9		1400000	U
2,6-Dichlorobiphenyl	10		1450000	U
3,3'-Dichlorobiphenyl	11		1400000	U
3,4-Dichlorobiphenyl	12		1350000	U
3,4'-Dichlorobiphenyl	13		1350000	U
3,5-Dichlorobiphenyl	14		1340000	U
4,4'-Dichlorobiphenyl	15		1080000	U
2,2',3-Trichlorobiphenyl	16		1250000	U
2,2',4-Trichlorobiphenyl	17		1010000	U
2,2',5-Trichlorobiphenyl	18		833000	U
2,2',6-Trichlorobiphenyl	19		1090000	U
2,3,3'-Trichlorobiphenyl	20		369000	QBCJ
2,3,4-Trichlorobiphenyl	21		382000	QBCJ
2,3,4'-Trichlorobiphenyl	22		400000	U
2,3,5-Trichlorobiphenyl	23		410000	U
2,3,6-Trichlorobiphenyl	24		731000	U
2,3',4-Trichlorobiphenyl	25		347000	U
2,3',5-Trichlorobiphenyl	26		383000	U
2,3',6-Trichlorobiphenyl	27		712000	U
2,4,4'-Trichlorobiphenyl	28		369000	C20
2,4,5-Trichlorobiphenyl	29		383000	U
2,4,6-Trichlorobiphenyl	30		833000	U
2,4',5-Trichlorobiphenyl	31		377000	BJ
2,4',6-Trichlorobiphenyl	32		653000	U
2,3',4'-Trichlorobiphenyl	33		382000	C21
2,3',5'-Trichlorobiphenyl	34		398000	U
3,3',4-Trichlorobiphenyl	35		395000	U
3,3',5-Trichlorobiphenyl	36		369000	U
3,4,4'-Trichlorobiphenyl	37		329000	U
3,4,5-Trichlorobiphenyl	38		378000	U
3,4',5-Trichlorobiphenyl	39		350000	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
6-B(0-3)
April 5, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3'-Tetrachlorobiphenyl	40	3360000	691000	QCJ
2,2',3,4-Tetrachlorobiphenyl	41		691000	C40
2,2',3,4'-Tetrachlorobiphenyl	42	1600000	766000	J
2,2',3,5-Tetrachlorobiphenyl	43		633000	U
2,2',3,5'-Tetrachlorobiphenyl	44		623000	BCJ
2,2',3,6-Tetrachlorobiphenyl	45	2580000	723000	QCJ
2,2',3,6'-Tetrachlorobiphenyl	46		843000	U
2,2',4,4'-Tetrachlorobiphenyl	47		623000	C44
2,2',4,5-Tetrachlorobiphenyl	48		692000	U
2,2',4,5'-Tetrachlorobiphenyl	49		591000	BC
2,2',4,6-Tetrachlorobiphenyl	50	4850000	696000	CJ
2,2',4,6'-Tetrachlorobiphenyl	51		723000	C45
2,2',5,5'-Tetrachlorobiphenyl	52		664000	B
2,2',5,6'-Tetrachlorobiphenyl	53		696000	C50
2,2',6,6'-Tetrachlorobiphenyl	54		1050000	U
2,3,3',4-Tetrachlorobiphenyl	55		521000	U
2,3,3',4'-Tetrachlorobiphenyl	56		514000	U
2,3,3',5-Tetrachlorobiphenyl	57		513000	U
2,3,3',5'-Tetrachlorobiphenyl	58		501000	U
2,3,3',6-Tetrachlorobiphenyl	59		504000	U
2,3,4,4'-Tetrachlorobiphenyl	60		505000	U
2,3,4,5-Tetrachlorobiphenyl	61		484000	BCJ
2,3,4,6-Tetrachlorobiphenyl	62		504000	U
2,3,4',5-Tetrachlorobiphenyl	63		479000	U
2,3,4',6-Tetrachlorobiphenyl	64		502000	BJ
2,3,5,6-Tetrachlorobiphenyl	65		623000	C44
2,3',4,4'-Tetrachlorobiphenyl	66		476000	QBJ
2,3',4,5-Tetrachlorobiphenyl	67		446000	U
2,3',4,5'-Tetrachlorobiphenyl	68		464000	U
2,3',4,6-Tetrachlorobiphenyl	69		591000	C49
2,3',4',5-Tetrachlorobiphenyl	70		484000	C61
2,3',4',6-Tetrachlorobiphenyl	71		691000	C40
2,3',5,5'-Tetrachlorobiphenyl	72		493000	U
2,3',5',6-Tetrachlorobiphenyl	73		633000	U
2,4,4',5-Tetrachlorobiphenyl	74		484000	C61
2,4,4',6-Tetrachlorobiphenyl	75		504000	U
2,3',4',5'-Tetrachlorobiphenyl	76		484000	C61
3,3',4,4'-Tetrachlorobiphenyl	77		445000	U
3,3',4,5-Tetrachlorobiphenyl	78		493000	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
6-B(0-3)
April 5, 2005
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4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
3,3',4,5'-Tetrachlorobiphenyl	79		417000	U
3,3',5,5'-Tetrachlorobiphenyl	80		443000	U
3,4,4',5-Tetrachlorobiphenyl	81		414000	U
2,2',3,3',4-Pentachlorobiphenyl	82		1240000	U
2,2',3,3',5-Pentachlorobiphenyl	83	7100000	1280000	QJ
2,2',3,3',6-Pentachlorobiphenyl	84	20800000	1250000	
2,2',3,4,4'-Pentachlorobiphenyl	85	2880000	887000	CJ
2,2',3,4,5-Pentachlorobiphenyl	86	60900000	889000	C
2,2',3,4,5'-Pentachlorobiphenyl	87		889000	C86
2,2',3,4,6-Pentachlorobiphenyl	88	14500000	1100000	QC
2,2',3,4,6'-Pentachlorobiphenyl	89		1200000	U
2,2',3,4',5-Pentachlorobiphenyl	90		926000	BC
2,2',3,4',6-Pentachlorobiphenyl	91		1100000	C88QJ
2,2',3,5,5'-Pentachlorobiphenyl	92	67700000	1120000	J
2,2',3,5,6-Pentachlorobiphenyl	93	2110000	1080000	QCJ
2,2',3,5,6'-Pentachlorobiphenyl	94		1180000	UJ
2,2',3,5',6-Pentachlorobiphenyl	95	380000000	1080000	J
2,2',3,6,6'-Pentachlorobiphenyl	96		823000	UJ
2,2',3,4',5'-Pentachlorobiphenyl	97		889000	C86J
2,2',3,4',6'-Pentachlorobiphenyl	98	5490000	1100000	CJ
2,2',4,4',5-Pentachlorobiphenyl	99	30000000	882000	CJ
2,2',4,4',6-Pentachlorobiphenyl	100		1080000	C93
2,2',4,5,5'-Pentachlorobiphenyl	101		926000	C90JQ
2,2',4,5,6'-Pentachlorobiphenyl	102		1100000	C98
2,2',4,5',6-Pentachlorobiphenyl	103	4670000	1010000	J
2,2',4,6,6'-Pentachlorobiphenyl	104		799000	UJ
2,3,3',4,4'-Pentachlorobiphenyl	105	10600000	531000	J
2,3,3',4,5-Pentachlorobiphenyl	106		541000	UJ
2,3,3',4',5-Pentachlorobiphenyl	107	2260000	533000	QCJ
2,3,3',4,5'-Pentachlorobiphenyl	108		889000	C86J
2,3,3',4,6-Pentachlorobiphenyl	109	5470000	479000	J
2,3,3',4',6-Pentachlorobiphenyl	110	226000000	785000	C
2,3,3',5,5'-Pentachlorobiphenyl	111		755000	U
2,3,3',5,6-Pentachlorobiphenyl	112		882000	C99
2,3,3',5',6-Pentachlorobiphenyl	113		926000	C90
2,3,4,4',5-Pentachlorobiphenyl	114		405000	U
2,3,4,4',6-Pentachlorobiphenyl	115		785000	C110
2,3,4,5,6-Pentachlorobiphenyl	116		887000	C85
2,3,4',5,6-Pentachlorobiphenyl	117		887000	C85

Eastern Drainage Ditch Sediment Sample PCB Congener Results
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April 5, 2005
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COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3',4,4',5-Pentachlorobiphenyl	118	62000000	460000	
2,3',4,4',6-Pentachlorobiphenyl	119		889000	C86
2,3',4,5,5'-Pentachlorobiphenyl	120		726000	U
2,3',4,5',6-Pentachlorobiphenyl	121		790000	U
2,3,3',4',5'-Pentachlorobiphenyl	122		561000	U
2,3',4,4',5'-Pentachlorobiphenyl	123		448000	U
2,3',4',5,5'-Pentachlorobiphenyl	124		533000	C108
2,3',4',5',6-Pentachlorobiphenyl	125		889000	C86J
3,3',4,4',5-Pentachlorobiphenyl	126		532000	UJ
3,3',4,5,5'-Pentachlorobiphenyl	127		496000	UJ
2,2',3,3',4,4'-Hexachlorobiphenyl	128	62000000	1070000	CJ
2,2',3,3',4,5-Hexachlorobiphenyl	129	1160000000	1100000	CJ
2,2',3,3',4,5'-Hexachlorobiphenyl	130	44000000	1390000	J
2,2',3,3',4,6-Hexachlorobiphenyl	131	8010000	1400000	J
2,2',3,3',4,6'-Hexachlorobiphenyl	132	359000000	1370000	J
2,2',3,3',5,5'-Hexachlorobiphenyl	133	16200000	1290000	J
2,2',3,3',5,6-Hexachlorobiphenyl	134	51200000	1400000	CJ
2,2',3,3',5,6'-Hexachlorobiphenyl	135	684000000	1980000	CJ
2,2',3,3',6,6'-Hexachlorobiphenyl	136	248000000	1460000	J
2,2',3,4,4',5-Hexachlorobiphenyl	137	100000000	1050000	CJ
2,2',3,4,4',5'-Hexachlorobiphenyl	138		1100000	C129J
2,2',3,4,4',6-Hexachlorobiphenyl	139	3860000	1180000	CJ
2,2',3,4,4',6'-Hexachlorobiphenyl	140		1180000	C139
2,2',3,4,5,5'-Hexachlorobiphenyl	141	325000000	1250000	
2,2',3,4,5,6-Hexachlorobiphenyl	142		1380000	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		1400000	C134
2,2',3,4,5',6-Hexachlorobiphenyl	144	102000000	1930000	
2,2',3,4,6,6'-Hexachlorobiphenyl	145		1500000	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	177000000	1130000	
2,2',3,4',5,6-Hexachlorobiphenyl	147	1120000000	1130000	C
2,2',3,4',5,6'-Hexachlorobiphenyl	148	1970000	1970000	U
2,2',3,4',5',6-Hexachlorobiphenyl	149		1130000	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150		1430000	U
2,2',3,5,5',6-Hexachlorobiphenyl	151		1980000	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152		1410000	U
2,2',4,4',5,5'-Hexachlorobiphenyl	153	1230000000	964000	C
2,2',4,4',5,6'-Hexachlorobiphenyl	154	7570000	1690000	J
2,2',4,4',6,6'-Hexachlorobiphenyl	155		1370000	U
2,3,3',4,4',5-Hexachlorobiphenyl	156	48200000	881000	C

Eastern Drainage Ditch Sediment Sample PCB Congener Results
6-B(0-3)
April 5, 2005
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4001 Vandever Avenue
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COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3,3',4,4',5'-Hexachlorobiphenyl	157		881000	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	98900000	840000	
2,3,3',4,5,5'-Hexachlorobiphenyl	159	21500000	881000	
2,3,3',4,5,6-Hexachlorobiphenyl	160		981000	U
2,3,3',4,5',6-Hexachlorobiphenyl	161		914000	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162	2480000	880000	J
2,3,3',4',5,6-Hexachlorobiphenyl	163		1100000	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164		1050000	C137
2,3,3',5,5',6-Hexachlorobiphenyl	165		1000000	U
2,3,4,4',5,6-Hexachlorobiphenyl	166		1070000	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167	26400000	703000	
2,3',4,4',5',6-Hexachlorobiphenyl	168		964000	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169		869000	UJ
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	361000000	1070000	
2,2',3,3',4,4',6-Heptachlorobiphenyl	171	178000000	1440000	C
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	91700000	1450000	
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		1440000	C171
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	574000000	1350000	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175	24500000	1290000	
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	89700000	1020000	
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	328000000	1440000	
2,2',3,3',5,5',6-Heptachlorobiphenyl	178	107000000	1390000	
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	260000000	1010000	
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	920000000	944000	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181		1350000	U
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182		1310000	U
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	433000000	1290000	C
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184		951000	U
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		1290000	C183J
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		1030000	UJ
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	638000000	1220000	J
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188		989000	UJ
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	16500000	918000	J
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	94000000	1040000	J
2,3,3',4,4',5',6-Heptachlorobiphenyl	191	20100000	1010000	J
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		1100000	UJ
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		1100000	C180J
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	216000000	1100000	J
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	118000000	1200000	J

Eastern Drainage Ditch Sediment Sample PCB Congener Results
6-B(0-3)
April 5, 2005
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4001 Vandever Avenue
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COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	192000000	1640000	J
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197	67300000	1200000	CJ
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	320000000	1630000	CJ
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		1630000	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200		1200000	C197J
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201	51800000	1200000	J
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202	58300000	1260000	
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	200000000	1500000	
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		1230000	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205	7520000	763000	QJ
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206	24100000	1850000	Q
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207	5560000	1670000	J
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208	5870000	1610000	QJ
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209	4490000	744000	J

TOTAL = 12,218,600,000

Notes:

B = Analyte is present in the associated method blank at a reportable level.

C = Co-eluting congener. Reported value is the total sum of the co-eluting congener(s).

Cx = Corresponding number (x) represents the co-eluting congener. See (x) for the summed results.

J = Estimated value.

U = Not detected.

Q = *Estimated maximum possible concentration.*

pg/kg = Picograms per kilogram.

Analytical data validated by SECOR personnel

P:\Clients\Amtrak-APU\Phase 2 RI Laboratory Data\Attachments\Attachment K\[on-site ditch transects PCB cong results_validated.xls]6-B(0-3) wo B valid

Eastern Drainage Ditch Sediment Sample PCB Congener Results
11-B(0-3)
April 12, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2-Chlorobiphenyl	1		1060000	U
3-Chlorobiphenyl	2	1060000	972000	QJ
4-Chlorobiphenyl	3		844000	U
2,2'-Dichlorobiphenyl	4	11600000	4560000	QJ
2,3-Dichlorobiphenyl	5		2850000	U
2,3'-Dichlorobiphenyl	6	3060000	2610000	QJ
2,4-Dichlorobiphenyl	7	2470000	2730000	QJ
2,4'-Dichlorobiphenyl	8	22300000	2620000	QJ
2,5-Dichlorobiphenyl	9	2430000	2740000	QJ
2,6-Dichlorobiphenyl	10	1330000	2840000	QJ
3,3'-Dichlorobiphenyl	11	4990000	2740000	QJ
3,4-Dichlorobiphenyl	12		2640000	QBCJ
3,4'-Dichlorobiphenyl	13		2640000	C12
3,5-Dichlorobiphenyl	14		2620000	U
4,4'-Dichlorobiphenyl	15		2110000	QBJ
2,2',3-Trichlorobiphenyl	16	17800000	2700000	QJ
2,2',4-Trichlorobiphenyl	17	18300000	2180000	J
2,2',5-Trichlorobiphenyl	18	36900000	1800000	C
2,2',6-Trichlorobiphenyl	19		2350000	U
2,3,3'-Trichlorobiphenyl	20	70100000	797000	C
2,3,4-Trichlorobiphenyl	21	33800000	825000	C
2,3,4'-Trichlorobiphenyl	22	20600000	864000	J
2,3,5-Trichlorobiphenyl	23		885000	U
2,3,6-Trichlorobiphenyl	24		1580000	U
2,3',4-Trichlorobiphenyl	25	4740000	750000	QJ
2,3',5-Trichlorobiphenyl	26	17800000	827000	CJ
2,3',6-Trichlorobiphenyl	27		1540000	U
2,4,4'-Trichlorobiphenyl	28		797000	C20
2,4,5-Trichlorobiphenyl	29		827000	C26
2,4,6-Trichlorobiphenyl	30		1800000	C18
2,4',5-Trichlorobiphenyl	31	67500000	813000	
2,4',6-Trichlorobiphenyl	32	14800000	1410000	J
2,3',4'-Trichlorobiphenyl	33		825000	C21
2,3',5'-Trichlorobiphenyl	34		860000	U
3,3',4-Trichlorobiphenyl	35	2430000	853000	QJ
3,3',5-Trichlorobiphenyl	36		796000	U
3,4,4'-Trichlorobiphenyl	37	24100000	711000	J
3,4,5-Trichlorobiphenyl	38		817000	U
3,4',5-Trichlorobiphenyl	39	1530000	756000	QJ

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COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3'-Tetrachlorobiphenyl	40	65800000	989000	C
2,2',3,4-Tetrachlorobiphenyl	41		989000	C40
2,2',3,4'-Tetrachlorobiphenyl	42	28500000	1100000	
2,2',3,5-Tetrachlorobiphenyl	43	2730000	905000	QCJ
2,2',3,5'-Tetrachlorobiphenyl	44	204000000	891000	C
2,2',3,6-Tetrachlorobiphenyl	45	26800000	1030000	C
2,2',3,6'-Tetrachlorobiphenyl	46	3910000	1210000	QJ
2,2',4,4'-Tetrachlorobiphenyl	47		891000	C44
2,2',4,5-Tetrachlorobiphenyl	48	15600000	989000	J
2,2',4,5'-Tetrachlorobiphenyl	49	145000000	845000	C
2,2',4,6-Tetrachlorobiphenyl	50	25900000	995000	C
2,2',4,6'-Tetrachlorobiphenyl	51		1030000	C45
2,2',5,5'-Tetrachlorobiphenyl	52	586000000	949000	
2,2',5,6'-Tetrachlorobiphenyl	53		995000	C50
2,2',6,6'-Tetrachlorobiphenyl	54		1500000	U
2,3,3',4-Tetrachlorobiphenyl	55		746000	U
2,3,3',4'-Tetrachlorobiphenyl	56	71300000	735000	
2,3,3',5-Tetrachlorobiphenyl	57		734000	U
2,3,3',5'-Tetrachlorobiphenyl	58		716000	U
2,3,3',6-Tetrachlorobiphenyl	59	7320000	721000	QCJ
2,3,4,4'-Tetrachlorobiphenyl	60	32200000	723000	
2,3,4,5-Tetrachlorobiphenyl	61	412000000	692000	C
2,3,4,6-Tetrachlorobiphenyl	62		721000	C59
2,3,4',5-Tetrachlorobiphenyl	63	6750000	686000	J
2,3,4',6-Tetrachlorobiphenyl	64	49200000	717000	
2,3,5,6-Tetrachlorobiphenyl	65		891000	C44
2,3',4,4'-Tetrachlorobiphenyl	66	154000000	681000	
2,3',4,5-Tetrachlorobiphenyl	67	5730000	638000	J
2,3',4,5'-Tetrachlorobiphenyl	68	2430000	663000	J
2,3',4,6-Tetrachlorobiphenyl	69		845000	C49
2,3',4',5-Tetrachlorobiphenyl	70		692000	C61
2,3',4',6-Tetrachlorobiphenyl	71		989000	C40
2,3',5,5'-Tetrachlorobiphenyl	72	8710000	706000	J
2,3',5',6-Tetrachlorobiphenyl	73		905000	C43
2,4,4',5-Tetrachlorobiphenyl	74		692000	C61
2,4,4',6-Tetrachlorobiphenyl	75		721000	C59
2,3',4',5'-Tetrachlorobiphenyl	76		692000	C61
3,3',4,4'-Tetrachlorobiphenyl	77	35800000	637000	
3,3',4,5-Tetrachlorobiphenyl	78		705000	U

Eastern Drainage Ditch Sediment Sample PCB Congener Results
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April 12, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
3,3',4,5'-Tetrachlorobiphenyl	79	16800000	596000	QJ
3,3',5,5'-Tetrachlorobiphenyl	80		634000	U
3,4,4',5-Tetrachlorobiphenyl	81		623000	U
2,2',3,3',4-Pentachlorobiphenyl	82	95800000	1890000	
2,2',3,3',5-Pentachlorobiphenyl	83	103000000	1960000	
2,2',3,3',6-Pentachlorobiphenyl	84	252000000	1910000	
2,2',3,4,4'-Pentachlorobiphenyl	85	127000000	1350000	C
2,2',3,4,5-Pentachlorobiphenyl	86	971000000	1360000	C
2,2',3,4,5'-Pentachlorobiphenyl	87		1360000	C86
2,2',3,4,6-Pentachlorobiphenyl	88	107000000	1680000	C
2,2',3,4,6'-Pentachlorobiphenyl	89	6370000	1820000	QJ
2,2',3,4',5-Pentachlorobiphenyl	90	4660000000	1410000	C
2,2',3,4',6-Pentachlorobiphenyl	91		1680000	C88
2,2',3,5,5'-Pentachlorobiphenyl	92	779000000	1710000	
2,2',3,5,6-Pentachlorobiphenyl	93	16500000	1650000	CJ
2,2',3,5,6'-Pentachlorobiphenyl	94	8080000	1800000	J
2,2',3,5',6-Pentachlorobiphenyl	95	3240000000	1650000	
2,2',3,6,6'-Pentachlorobiphenyl	96	5180000	1260000	QJ
2,2',3,4',5'-Pentachlorobiphenyl	97		1360000	C86
2,2',3,4',6'-Pentachlorobiphenyl	98	34800000	1680000	QC
2,2',4,4',5-Pentachlorobiphenyl	99	435000000	1340000	C
2,2',4,4',6-Pentachlorobiphenyl	100		1650000	C93
2,2',4,5,5'-Pentachlorobiphenyl	101		1410000	C90
2,2',4,5,6'-Pentachlorobiphenyl	102		1680000	C98
2,2',4,5',6-Pentachlorobiphenyl	103	35500000	1550000	
2,2',4,6,6'-Pentachlorobiphenyl	104		1220000	U
2,3,3',4,4'-Pentachlorobiphenyl	105	408000000	774000	
2,3,3',4,5-Pentachlorobiphenyl	106		825000	U
2,3,3',4',5-Pentachlorobiphenyl	107	211000000	730000	
2,3,3',4,5'-Pentachlorobiphenyl	108	86500000	813000	C
2,3,3',4,6-Pentachlorobiphenyl	109		1360000	C86
2,3,3',4',6-Pentachlorobiphenyl	110	2610000000	1200000	C
2,3,3',5,5'-Pentachlorobiphenyl	111	5840000	1150000	J
2,3,3',5,6-Pentachlorobiphenyl	112		1340000	C99
2,3,3',5',6-Pentachlorobiphenyl	113		1410000	C90
2,3,4,4',5-Pentachlorobiphenyl	114	22000000	637000	J
2,3,4,4',6-Pentachlorobiphenyl	115		1200000	C110
2,3,4,5,6-Pentachlorobiphenyl	116		1350000	C85
2,3,4',5,6-Pentachlorobiphenyl	117		1350000	C85

Eastern Drainage Ditch Sediment Sample PCB Congener Results
11-B(0-3)
April 12, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3',4,4',5-Pentachlorobiphenyl	118	1540000000	717000	
2,3',4,4',6-Pentachlorobiphenyl	119		1360000	C86
2,3',4,5,5'-Pentachlorobiphenyl	120	25800000	1110000	Q
2,3',4,5',6-Pentachlorobiphenyl	121		1210000	U
2,3,3',4',5'-Pentachlorobiphenyl	122	13000000	855000	J
2,3',4,4',5'-Pentachlorobiphenyl	123	12400000	703000	J
2,3',4',5,5'-Pentachlorobiphenyl	124		813000	C108
2,3',4',5',6-Pentachlorobiphenyl	125		1360000	C86
3,3',4,4',5-Pentachlorobiphenyl	126	42200000	783000	Q
3,3',4,5,5'-Pentachlorobiphenyl	127	2360000	756000	QJ
2,2',3,3',4,4'-Hexachlorobiphenyl	128	781000000	1600000	C
2,2',3,3',4,5-Hexachlorobiphenyl	129	13200000000	1640000	C
2,2',3,3',4,5'-Hexachlorobiphenyl	130	609000000	2090000	
2,2',3,3',4,6-Hexachlorobiphenyl	131	89600000	2100000	
2,2',3,3',4,6'-Hexachlorobiphenyl	132	3920000000	2050000	
2,2',3,3',5,5'-Hexachlorobiphenyl	133	188000000	1930000	
2,2',3,3',5,6-Hexachlorobiphenyl	134	519000000	2100000	C
2,2',3,3',5,6'-Hexachlorobiphenyl	135	5770000000	2960000	C
2,2',3,3',6,6'-Hexachlorobiphenyl	136	1920000000	2190000	
2,2',3,4,4',5-Hexachlorobiphenyl	137	1110000000	1570000	QC
2,2',3,4,4',5'-Hexachlorobiphenyl	138		1640000	C129
2,2',3,4,4',6-Hexachlorobiphenyl	139	59000000	1760000	C
2,2',3,4,4',6'-Hexachlorobiphenyl	140		1760000	C139
2,2',3,4,5,5'-Hexachlorobiphenyl	141	3500000000	1870000	
2,2',3,4,5,6-Hexachlorobiphenyl	142		2070000	U
2,2',3,4,5,6'-Hexachlorobiphenyl	143		2100000	C134
2,2',3,4,5',6-Hexachlorobiphenyl	144	910000000	2890000	
2,2',3,4,6,6'-Hexachlorobiphenyl	145		2240000	U
2,2',3,4',5,5'-Hexachlorobiphenyl	146	2260000000	1690000	
2,2',3,4',5,6-Hexachlorobiphenyl	147	11700000000	1700000	C
2,2',3,4',5,6'-Hexachlorobiphenyl	148	11800000	2940000	J
2,2',3,4',5',6-Hexachlorobiphenyl	149		1700000	C147
2,2',3,4',6,6'-Hexachlorobiphenyl	150	13600000	2140000	J
2,2',3,5,5',6-Hexachlorobiphenyl	151		2960000	C135
2,2',3,5,6,6'-Hexachlorobiphenyl	152		2120000	U
2,2',4,4',5,5'-Hexachlorobiphenyl	153	14100000000	1440000	C
2,2',4,4',5,6'-Hexachlorobiphenyl	154	86700000	2530000	
2,2',4,4',6,6'-Hexachlorobiphenyl	155		2050000	U
2,3,3',4,4',5-Hexachlorobiphenyl	156	779000000	1320000	C

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April 12, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
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COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,3,3',4,4',5'-Hexachlorobiphenyl	157		1320000	C156
2,3,3',4,4',6-Hexachlorobiphenyl	158	1120000000	1260000	
2,3,3',4,5,5'-Hexachlorobiphenyl	159	253000000	1320000	
2,3,3',4,5,6-Hexachlorobiphenyl	160		1470000	U
2,3,3',4,5',6-Hexachlorobiphenyl	161		1370000	U
2,3,3',4',5,5'-Hexachlorobiphenyl	162	51100000	1320000	
2,3,3',4',5,6-Hexachlorobiphenyl	163		1640000	C129
2,3,3',4',5',6-Hexachlorobiphenyl	164		1570000	C137
2,3,3',5,5',6-Hexachlorobiphenyl	165	8100000	1500000	J
2,3,4,4',5,6-Hexachlorobiphenyl	166		1600000	C128
2,3',4,4',5,5'-Hexachlorobiphenyl	167	475000000	1120000	
2,3',4,4',5',6-Hexachlorobiphenyl	168		1440000	C153
3,3',4,4',5,5'-Hexachlorobiphenyl	169	28400000	1190000	
2,2',3,3',4,4',5-Heptachlorobiphenyl	170	4800000000	1440000	
2,2',3,3',4,4',6-Heptachlorobiphenyl	171	1800000000	1730000	C
2,2',3,3',4,5,5'-Heptachlorobiphenyl	172	1040000000	1750000	
2,2',3,3',4,5,6-Heptachlorobiphenyl	173		1730000	C171
2,2',3,3',4,5,6'-Heptachlorobiphenyl	174	6000000000	1620000	
2,2',3,3',4,5',6-Heptachlorobiphenyl	175	250000000	1560000	
2,2',3,3',4,6,6'-Heptachlorobiphenyl	176	824000000	1230000	
2,2',3,3',4,5',6'-Heptachlorobiphenyl	177	3470000000	1740000	
2,2',3,3',5,5',6-Heptachlorobiphenyl	178	1120000000	1670000	
2,2',3,3',5,6,6'-Heptachlorobiphenyl	179	2520000000	1220000	
2,2',3,4,4',5,5'-Heptachlorobiphenyl	180	11700000000	1240000	C
2,2',3,4,4',5,6-Heptachlorobiphenyl	181	20300000	1620000	J
2,2',3,4,4',5,6'-Heptachlorobiphenyl	182	19500000	1570000	J
2,2',3,4,4',5',6-Heptachlorobiphenyl	183	4140000000	1560000	C
2,2',3,4,4',6,6'-Heptachlorobiphenyl	184	2520000	1150000	QJ
2,2',3,4,5,5',6-Heptachlorobiphenyl	185		1560000	C183
2,2',3,4,5,6,6'-Heptachlorobiphenyl	186		1250000	U
2,2',3,4',5,5',6-Heptachlorobiphenyl	187	6600000000	1470000	
2,2',3,4',5,6,6'-Heptachlorobiphenyl	188	3660000	1190000	QJ
2,3,3',4,4',5,5'-Heptachlorobiphenyl	189	240000000	974000	
2,3,3',4,4',5,6-Heptachlorobiphenyl	190	1110000000	1250000	
2,3,3',4,4',5',6-Heptachlorobiphenyl	191	233000000	1220000	
2,3,3',4,5,5',6-Heptachlorobiphenyl	192		1320000	U
2,3,3',4',5,5',6-Heptachlorobiphenyl	193		1320000	C180
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	194	2790000000	1400000	
2,2',3,3',4,4',5,6-Octachlorobiphenyl	195	1180000000	1530000	

Eastern Drainage Ditch Sediment Sample PCB Congener Results
11-B(0-3)
April 12, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	196	1670000000	2100000	
2,2',3,3',4,4',6,6'-Octachlorobiphenyl	197	494000000	1530000	C
2,2',3,3',4,5,5',6-Octachlorobiphenyl	198	2870000000	2080000	C
2,2',3,3',4,5,5',6'-Octachlorobiphenyl	199		2080000	C198
2,2',3,3',4,5,6,6'-Octachlorobiphenyl	200		1530000	C197
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	201	370000000	1530000	
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	202	458000000	1610000	
2,2',3,4,4',5,5',6-Octachlorobiphenyl	203	1760000000	1920000	
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	204		1570000	U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	205	121000000	973000	
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	206	298000000	1220000	
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	207	52600000	1100000	
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	208	63400000	1060000	
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	209		1240000	B

TOTAL = 139,623,730,000

Notes:

B = Analyte is present in the associated method blank at a reportable level.

C = Co-eluting congener. Reported value is the total sum of the co-eluting congener(s).

Cx = Corresponding number (x) represents the co-eluting congener. See (x) for the summed results.

J = Estimated value.

U = Not detected.

Q = Estimated maximum possible concentration.

pg/kg = Picograms per kilogram.

Analytical data validated by SECOR personnel

P:\Clients\Amtrak-APU\Phase 2 RI Laboratory Data\Attachments\Attachment K\[on-site ditch transects PCB cong results_validated.xls]11-B(0-3) wo B valid

Eastern Drainage Ditch Sediment Sample PCB Congener Results
11-D(0-3) (Duplicate of 11-B(0-3))
April 12, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2-Chlorobiphenyl	1	976000	937000	QJ
3-Chlorobiphenyl	2	1240000	857000	QJ
4-Chlorobiphenyl	3		744000	U
2,2'-Dichlorobiphenyl	4	11200000	4200000	QJ
2,3-Dichlorobiphenyl	5		2620000	U
2,3'-Dichlorobiphenyl	6	3950000	2410000	QJ
2,4-Dichlorobiphenyl	7	1480000	2510000	QJ
2,4'-Dichlorobiphenyl	8	20900000	2410000	QJ
2,5-Dichlorobiphenyl	9	1760000	2530000	QJ
2,6-Dichlorobiphenyl	10		2610000	U
3,3'-Dichlorobiphenyl	11	2560000	2520000	QJ
3,4-Dichlorobiphenyl	12		2440000	QBCJ
3,4'-Dichlorobiphenyl	13		2440000	C12
3,5-Dichlorobiphenyl	14		2410000	U
4,4'-Dichlorobiphenyl	15		1940000	QBJ
2,2',3-Trichlorobiphenyl	16	15200000	2540000	QJ
2,2',4-Trichlorobiphenyl	17	18500000	2050000	J
2,2',5-Trichlorobiphenyl	18	36700000	1700000	C
2,2',6-Trichlorobiphenyl	19		2220000	U
2,3,3'-Trichlorobiphenyl	20	67600000	752000	C
2,3,4-Trichlorobiphenyl	21	29800000	778000	C
2,3,4'-Trichlorobiphenyl	22	19400000	816000	J
2,3,5-Trichlorobiphenyl	23		835000	U
2,3,6-Trichlorobiphenyl	24		1490000	U
2,3',4-Trichlorobiphenyl	25	6120000	708000	J
2,3',5-Trichlorobiphenyl	26	16600000	780000	CJ
2,3',6-Trichlorobiphenyl	27		1450000	U
2,4,4'-Trichlorobiphenyl	28		752000	C20
2,4,5-Trichlorobiphenyl	29		780000	C26
2,4,6-Trichlorobiphenyl	30		1700000	C18
2,4',5-Trichlorobiphenyl	31	64500000	767000	
2,4',6-Trichlorobiphenyl	32	13300000	1330000	J
2,3',4'-Trichlorobiphenyl	33		778000	C21
2,3',5'-Trichlorobiphenyl	34		812000	U
3,3',4-Trichlorobiphenyl	35	1280000	805000	QJ
3,3',5-Trichlorobiphenyl	36		752000	U
3,4,4'-Trichlorobiphenyl	37	20200000	671000	J
3,4,5-Trichlorobiphenyl	38	755000	771000	QJ
3,4',5-Trichlorobiphenyl	39		713000	U
2,2',3,3'-Tetrachlorobiphenyl	40	64400000	1010000	C

Eastern Drainage Ditch Sediment Sample PCB Congener Results
11-D(0-3) (Duplicate of 11-B(0-3))
April 12, 2005
Amtrak Former Fueling Facility
4001 Vandever Avenue
Wilmington, Delaware

COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
2,2',3,4-Tetrachlorobiphenyl	41		1010000	C40
2,2',3,4'-Tetrachlorobiphenyl	42	26500000	1120000	
2,2',3,5-Tetrachlorobiphenyl	43	4230000	924000	CJ
2,2',3,5'-Tetrachlorobiphenyl	44	197000000	909000	C
2,2',3,6-Tetrachlorobiphenyl	45	29600000	1050000	C
2,2',3,6'-Tetrachlorobiphenyl	46	5450000	1230000	QJ
2,2',4,4'-Tetrachlorobiphenyl	47		909000	C44
2,2',4,5-Tetrachlorobiphenyl	48	13900000	1010000	J
2,2',4,5'-Tetrachlorobiphenyl	49	139000000	862000	C
2,2',4,6-Tetrachlorobiphenyl	50	27200000	1020000	C
2,2',4,6'-Tetrachlorobiphenyl	51		1050000	C45
2,2',5,5'-Tetrachlorobiphenyl	52	565000000	968000	
2,2',5,6'-Tetrachlorobiphenyl	53		1020000	C50
2,2',6,6'-Tetrachlorobiphenyl	54		1530000	U
2,3,3',4-Tetrachlorobiphenyl	55		761000	U
2,3,3',4'-Tetrachlorobiphenyl	56	72100000	750000	
2,3,3',5-Tetrachlorobiphenyl	57		748000	U
2,3,3',5'-Tetrachlorobiphenyl	58		730000	U
2,3,3',6-Tetrachlorobiphenyl	59	10600000	735000	CJ
2,3,4,4'-Tetrachlorobiphenyl	60	31700000	737000	
2,3,4,5-Tetrachlorobiphenyl	61	413000000	706000	C
2,3,4,6-Tetrachlorobiphenyl	62		735000	C59
2,3,4',5-Tetrachlorobiphenyl	63	5720000	700000	QJ
2,3,4',6-Tetrachlorobiphenyl	64	53000000	732000	
2,3,5,6-Tetrachlorobiphenyl	65		909000	C44
2,3',4,4'-Tetrachlorobiphenyl	66	162000000	695000	
2,3',4,5-Tetrachlorobiphenyl	67	5310000	651000	J
2,3',4,5'-Tetrachlorobiphenyl	68	2060000	677000	QJ
2,3',4,6-Tetrachlorobiphenyl	69		862000	C49
2,3',4',5-Tetrachlorobiphenyl	70		706000	C61
2,3',4',6-Tetrachlorobiphenyl	71		1010000	C40
2,3',5,5'-Tetrachlorobiphenyl	72	9820000	720000	J
2,3',5',6-Tetrachlorobiphenyl	73		924000	C43
2,4,4',5-Tetrachlorobiphenyl	74		706000	C61
2,4,4',6-Tetrachlorobiphenyl	75		735000	C59
2,3',4',5'-Tetrachlorobiphenyl	76		706000	C61
3,3',4,4'-Tetrachlorobiphenyl	77	33100000	650000	
3,3',4,5-Tetrachlorobiphenyl	78		720000	U
3,3',4,5'-Tetrachlorobiphenyl	79	13000000	608000	QJ
3,3',5,5'-Tetrachlorobiphenyl	80		647000	U

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COMPOUND	IUPAC	Result (pg/kg)	Detection Limit (pg/kg)	Data Qualifier
3,4,4',5-Tetrachlorobiphenyl	81	1830000	673000	QJ
2,2',3,3',4-Pentachlorobiphenyl	82	95900000	1890000	
2,2',3,3',5-Pentachlorobiphenyl	83	96200000	1960000	
2,2',3,3',6-Pentachlorobiphenyl	84	247000000	1910000	
2,2',3,4,4'-Pentachlorobiphenyl	85	129000000	1350000	C
2,2',3,4,5-Pentachlorobiphenyl	86	956000000	1360000	C
2,2',3,4,5'-Pentachlorobiphenyl	87		1360000	C86
2,2',3,4,6-Pentachlorobiphenyl	88	109000000	1680000	C
2,2',3,4,6'-Pentachlorobiphenyl	89	5840000	1820000	QJ
2,2',3,4',5-Pentachlorobiphenyl	90	4500000000	1410000	C
2,2',3,4',6-Pentachlorobiphenyl	91		1680000	C88
2,2',3,5,5'-Pentachlorobiphenyl	92	770000000	1710000	
2,2',3,5,6-Pentachlorobiphenyl	93	15400000	1650000	QCJ
2,2',3,5,6'-Pentachlorobiphenyl	94	7500000	1800000	QJ
2,2',3,5',6-Pentachlorobiphenyl	95	3130000000	1650000	
2,2',3,6,6'-Pentachlorobiphenyl	96	4560000	1260000	QJ
2,2',3,4',5'-Pentachlorobiphenyl	97		1360000	C86
2,2',3,4',6'-Pentachlorobiphenyl	98	36500000	1680000	C
2,2',4,4',5-Pentachlorobiphenyl	99	452000000	1350000	C
2,2',4,4',6-Pentachlorobiphenyl	100		1650000	C93
2,2',4,5,5'-Pentachlorobiphenyl	101		1410000	C90
2,2',4,5,6'-Pentachlorobiphenyl	102		1680000	C98
2,2',4,5',6-Pentachlorobiphenyl	103	36200000	1550000	
2,2',4,6,6'-Pentachlorobiphenyl	104		1220000	U
2,3,3',4,4'-Pentachlorobiphenyl	105	428000000	788000	
2,3,3',4,5-Pentachlorobiphenyl	106		826000	U
2,3,3',4',5-Pentachlorobiphenyl	107	204000000	731000	
2,3,3',4,5'-Pentachlorobiphenyl	108	83900000	814000	C
2,3,3',4,6-Pentachlorobiphenyl	109		1360000	C86
2,3,3',4',6-Pentachlorobiphenyl	110	2560000000	1200000	C
2,3,3',5,5'-Pentachlorobiphenyl	111	4670000	1150000	J
2,3,3',5,6-Pentachlorobiphenyl	112		1350000	C99
2,3,3',5',6-Pentachlorobiphenyl	113		1410000	C90
2,3,4,4',5-Pentachlorobiphenyl	114	23400000	667000	
2,3,4,4',6-Pentachlorobiphenyl	115		1200000	C110
2,3,4,5,6-Pentachlorobiphenyl	116		1350000	C85
2,3,4',5,6-Pentachlorobiphenyl	117		1350000	C85
2,3',4,4',5-Pentachlorobiphenyl	118	1530000000	700000	
2,3',4,4',6-Pentachlorobiphenyl	119		1360000	C86
2,3',4,5,5'-Pentachlorobiphenyl	120	26400000	1110000	