APPENDICES

A Chain-of-Custody Records

B Field Notes from the Additional Data Collection Investigation
- B.1 Field Notes from Jon Edel – Site Manager
- B.2 Field Notes from Pete Monday – Environmental Scientist

C Analytical Laboratory Results
- C.1 SWMU 45, Open Water Marine Surface Water - Organics
- C.2 SWMU 45, Open Water Marine Surface Water – Inorganics (Total)
- C.3 SWMU 45, Open Water Marine Surface Water – Inorganics (Dissolved)
- C.4 SWMU 45, Open Water Marine Sediment – Organics
- C.5 SWMU 45, Open Water Marine Sediment – Inorganics
- C.6 SWMU 45, Grain Size Reports
- C.7 Quality Assurance/Quality Control Results – Organics
- C.8 Quality Assurance/Quality Control Results – Inorganics (Total)

D Data Validation Report Narratives

E Habitat Characterization Report

F Analytical Data Used in the Ecological Risk Assessment
- F.1 SWMU 45, Open Water Marine Sediment – Organics
- F.2 SWMU 45, Open Water Marine Sediment – Inorganics
- F.3 SWMU 45, Surface Soil – Organics
- F.4 SWMU 45, Surface Soil – Inorganics
- F.5 SWMU 45, Open Water Marine Surface Water – Organics
- F.6 SWMU 45, Open Water Marine Surface Water – Inorganics (Total)
- F.7 SWMU 45, Open Water Marine Surface Water – Inorganics (Dissolved)

G. Equilibrium Partitioning Approach

H. Identification of Bioaccumulative Chemicals

APPENDIX A
CHAIN OF CUSTODY RECORDS

Serial Number 07209

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

FedEx: 8348 2976 7158

SEVERN TRENT **STL**

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-1

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: SMU 45	PROJECT NO.: CTO-271	PROJECT LOCATION (STATE): PR
STL (LAB) PROJECT MANAGER: Angie Weimerskirch	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-3995
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Drive, Moon Twp, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ○
DATE DUE: 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE:
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: -APPENDIX IX-

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260 VOCs (HCl)	8270 SVOCs, Low Level PAHs	8082 PCBs			6020 A TOT Metals (HNO3)	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide (NaOH)	Grain Size ASTM D422	9060 TOC		REMARKS
								-	- PRESERVATIVE -											
								NUMBER OF CONTAINERS SUBMITTED												
8/5/03	1235	110WSD10	G		X			1	1				(1)		(1)	1	1			(1) 1-250 mL w/m poly
	1235	110WSW10	G	X				3	2/3				1/*	2	1					*Take sample from 1-L Amber and 1ab filter
	1100	110WSD15	G		X			1												
	1100	110WSW15	G	X				3												
	1145	110WSD16	G		X			1												
	1145	110WSW16	G	X				3												
	0957	110WSD17	G		X			1												
	0957	110WSW17	G	X				3												
	1020	110WSD18	G		X			1												
	1020	110WSW18	G	X				3												
	1640	45ER01	G	X				3												
	1655	45ER02	G	X				3												

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/6/03	1530			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
Margaret Dannel	8/7/03	905	YES ○ NO ○		S3B015	Cooler temps 4.3°, 4.0°, 4.3°, 3.7°, 3.5°

STL8240-680 (12/02)

Serial Number 07210

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

IMPS# 8404 5622 9160

SEVERN TRENT **STL**

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-2

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
SWMU 45	CTO-271	PR	1	1
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II		
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-3995		
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com			
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108				
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill				

STANDARD REPORT DELIVERY ○
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE — REQUIRED ANALYSIS: -APPENDIX IX-

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260 VOCs	8270 semi-vol, low level, PAHs	8081/8082 PCBs	8151	8280	6020 A Formetric	6020 A Formetric	8270 low level	9012 cyanide	Grain size ASTM D422	9060 TOC	REMARKS
8/5/03	1640	45ER01	G	X				2					2						[redacted] JC
↓	0857	110W SD17	G		X			1					(1)		(1)	1	1		(1) 1-oz mL w/m poly from
↓	0857	110W SW17	G	X				2/2					1/*	2	1				*Take sample in 1-L Amber and log

PRESERVATIVE — NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/6/03	1530			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Jon C. Edel Jr. EMPTY CONTAINERS	8/6/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES ○ NO ○	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[illegible]	8/7/03	9:35			538625	

Serial Number 07211

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL** IMPs # 8404 5677 9171

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-3

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
SWMU 45	CTO-271	PR	1	1
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II		
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-3995		
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com			
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108				
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill				

STANDARD REPORT DELIVERY ( )
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ( )
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

-APPENDIX IX-

REQUIRED ANALYSIS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260	8270 SVOCs, Low Level PAHs	8082 PCBs	6020 A Tot Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC	REMARKS
									PRESERVATIVE		HNO3			NaOH			
									1								
8/5/03	1640	45ER01	G	X					2/		1/*			1			* Take sample from 1-L Amber and lab filter.
	1100	110WSD15	G		X				1		(1)/			(1)	1	1	(1) 1-250 mL w/m poly
↓	1100	110WSW15	G	X					2/2		1/*		2	1			* Take sample from 1-L Amber and lab filter.

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/6/03	1530			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Jon C. Edel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[illegible]	8/7/03	9:05	YES ( ) NO ( )		S386125	

STL8240-680 (12/02)

Serial Number 10468

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS# 8404 SBJ 9182

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-4

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 45	CTO-271	PR
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-3995
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ◯
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS — APPENDIX IX

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260	8270 Svocs, Low Level PAHs	8082 PCBs	8080	6020 A TCL Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
8/5/03	1655	45ER02	G	X										2				
↓	1020	110WSD18	G		X				1			(1)/			(1)	1	1	(1) 1-250 mL w/m poly
↓	1020	110WSW18	G	X					2/2			1/*		2	1			* Take sample from 1-L amber and lab filter

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/6/03	1530			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	8/7/03	9:50	YES ◯ NO ◯		5386125	

STL8240-680 (12/02)

Serial Number 07102

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL** IMPS# 8404 5677 9208

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-5

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 45	CTO-271	PR
STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Angie Weimerskirk	70001	CLEAN II
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	(787) 485-1097	(412) 375-3995
CLIENT NAME	CLIENT E-MAIL	
Baker	mkimes@mbakercorp.com	
CLIENT ADDRESS		
100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable)		
CH2M Hill		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ◯
DATE DUE ~~28 Day TAT~~
EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS -APPENDIX IX-

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260	8270 SVOCs, Low Level PAHs	8082 PCBs	JLE	JLE	6020 A Tot Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC	REMARKS
								PRESERVATIVE	—				HNO3		—	Neat	—	—	
								NUMBER OF CONTAINERS SUBMITTED											
8/5/03	1655	45ER02	G	X					2/2				1/*			1			* Take sample from 1-L Amber and lab filter
↓	1145	110WSD16	G		X				1				(1)			(1)	1	1	(1) 1-250 mL w/m poly
↓	1145	110WSW16	G	X					2/2				1/*		2	1			* Take sample from 1-L Amber and lab filter

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/6/03	1530			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
	8/7/03	9:05	YES ◯ NO ◯		5346125	

STL8240-680 (12/02)

Serial Number 10466

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

FedEx # 8348 2976 7099

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-6

Alternate Laboratory Name/Location
Phone:
Fax:

3

PROJECT REFERENCE: SWMU 45	PROJECT NO.: CTO-271	PROJECT LOCATION (STATE): PR
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-39
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill		

PAGE 1 OF 2

STANDARD REPORT DELIVERY ○
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

-APPENDIX IX- REQUIRED ANALYSIS

PRESERVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260 VOCs	8270 SVOCs, Low Level PAHs	8082 PCBs	8151	8270 JCE	8280 JCE	6020 A Tot Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC		REMARKS
								HCl						HNO3			HNO3				
								1	-					1			1		1		
8/6/03	0730	110WSD11	G		X			1													
		110WSW11	G	X				3													
		110WSD11D	G		X			1													
		110WSW11D JCE	G	X				3													
		110WSD11 MS/MSD	G		X			1													
		110WSW11 MS	G	X				3	2/2					1/*	2	1					* Take sample from 1 L Amber and lab filter.
		110WSW11 MSD	G	X				3													
	0932	110WSD12	G		X			1													
	0932	110WSW12	G	X				3													
	0950	110WSD13	G		X			1													
	0950	110WSW13	G	X				3													
	1023	110WSD14	G		X			1													

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edell Jr.	8/7/03	1430			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edell Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	8/8/03	9:05	YES ○ NO ○		S386179	Cooler Temps 2.6, 3.0, 2.0, 2.2, 3.9, 3.7, 2.6

STL8240-680 (12/02)

Serial Number 10470

45-6

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

FedEx # 8348 2976 7099

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

3

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU	CTO-271	PR

STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Angie Weimerskirk	70001	CLEAN II

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	(787) 485-1097	(412) 375-39[illegible]

CLIENT NAME	CLIENT E-MAIL
Baker	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill

PAGE 2 OF 2

STANDARD REPORT DELIVERY ○

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

-APPENDIX IX- REQUIRED ANALYSIS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260 VOCs	8270 SVOCs, Low Level PAHs	~~8080~~ PCBs	~~8151~~	~~8270~~ > JCE	~~8200~~ - JCE	6020 A Tot Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	JCE 9060 TOC		REMARKS
								HCl						HNO3			NaOH			JCE	
8/6/03	1023	HAWSW14	G	X				3													
8/7/03		45TB02		X				3													

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/7/03	1430			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS Jon C. Edel Jr.	8/8/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	8/8/03	9:05	YES ○ NO ○		3386179	

STL8240-680 (12/02)

Serial Number 10472

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS# 8404 5677 9116

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

457

Alternate Laboratory Name/Location
Phone:
Fax:

5

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 45	CTO-271	PR
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-39[illegible]
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ○
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

-APPENDIX IX-

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	~~8260 JLE~~	8270 SVOCs, Low Level	~~8081~~ 8082 PCBs	~~8151~~ ~~8270~~ > JLE	~~8280 JLE~~	6020 A Tot Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC	
									1	PRESERVATIVE			~~1 HNO3~~			~~1 HNO3~~		1	
8/6/03	0730	110WSD11	G		X				1				(1)			(1)	1	1	
↓	0730	110WSW11	G	X					2/2				1/*		2	1			
↓	0730	110WSD11MS/MSD	G		X				1				(1)			(1)			

NUMBER OF CONTAINERS SUBMITTED

REMARKS
(1) 1-250 mL w/m Poly
* Take sample from 1L Amber and lab filter.
(1) 1-250 mL w/m Poly

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/7/03	1430			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	8/6/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[illegible]	8/8/03	9:05	YES ○ NO ○		33879	

STL8240-680 (12/02)

Serial Number 10474

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS # 8404 5677 9127

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-8

Alternate Laboratory Name/Location
Phone:
Fax:

6

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
SWMU 48	CTO-271	PR	1	1
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II		
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-3905		
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com			
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108				
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill				

STANDARD REPORT DELIVERY ○
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE — APPENDIX IX REQUIRED ANALYSIS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	~~8260~~ JLE	8270 SVOCs, Low Level PAHs	~~8080~~/8082 PCBs	~~8151~~ 8270 > JLE	~~8260~~ JLE	6020 A Tot Metals / 6020 A DIS Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC	
8/6/03	0730	110WSW11D	G	X					2/2				1/*	2	1			
	0730	110WSD11D	G		X				1				(1)		(1)		1	
	1116	110WSD20							(+)									
	1056	110WSD21							(+)									

NUMBER OF CONTAINERS SUBMITTED

REMARKS

* Take sample from LL Amber and lab fiber
(1) 1-250 mL w/m poly
(+) Please extract and hold for analysis at PCB only
(+) Please extract and hold for analysis at PCB only

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Eckel Jr.	8/7/03	1430			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Jon C. Eckel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	8/8/03	9:05	YES ○ NO ○		S386179	

STL8240-680 (12/02)

Serial Number 10476

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS# 8404 5677 9138

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-9

Alternate Laboratory Name/Location
Phone:
Fax:

4

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE
SWMU 45	CTO-271	PR	1 OF 1
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II	
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-39[illegible]	
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com		
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108			
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill			

STANDARD REPORT DELIVERY ◯
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: -APPENDIX IX

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	~~8260~~ JLE	8270 SVOCs, Low Level PAHs	~~8080~~/8082 PCBs	~~8151~~ JLE	~~8270~~	~~8280~~ JLE	6020 ATOB Metals	6020 A D's Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC		REMARKS
									-PRESERVATIVE-												
8/6/03	0730	110WSW11MSD	G	X					2/2					1/*		2	1				* Take sample from 1-L Amber and lab filter.
↓	1132	110WSD22	G		X				(+)												(+) Please extract and
	1122	110WSD23	G		X				(+)												↓
↓	1103	110WSD24	G		X				(+)												

NUMBER OF CONTAINERS SUBMITTED

bid for analysis of PCB only

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/2/03	1430			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[illegible]	8/6/03	9:05	YES ◯ NO ◯		S37617	

STL8240-680 (12/02)

Serial Number 10478

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS # 8404 5632 9149

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-10

Alternate Laboratory Name/Location
Phone:
Fax:

2

PROJECT REFERENCE: SWMU 45	PROJECT NO.: CTO-271	PROJECT LOCATION (STATE): PR
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-39
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ○
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: -APPENDIX IX-

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	8260 JLE	8270 SVOCs, Low Level PAHs	8082 PCBs	8151	8270 > JLE	8280 JLE	6020 A Tot Metals	6020 A Diss Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC	
									1	PRESERVATIVE				NA		Not			1	
								NUMBER OF CONTAINERS SUBMITTED												
8/6/03	0932	110WSD12	G		X				1					(1)			(1)	1	1	
↓	0932	110WSW12	G	X					2/2					1/*		2	1			

REMARKS:
(1) 1-250 mL w/m poly
* Take sample & hold lab Amber and lab

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/7/03	1430			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	8/8/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	8/8/03	9:05	YES ○ NO ○		S38679	

Serial Number 10480

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL** SMPS # 8404 5622 9150

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-11

Alternate Laboratory Name/Location
Phone:
Fax:

/

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
SWMU 45	CTO-271	PR	1	1
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER 70001	CONTRACT NO. CLEAN II		
CLIENT (SITE) PM Mark Kimes	CLIENT PHONE (787) 485-1097	CLIENT FAX (412) 375-39		
CLIENT NAME Baker	CLIENT E-MAIL mkimes@mbakercorp.com			
CLIENT ADDRESS 100 Airside Drive, Moon Twp., PA 15108				
COMPANY CONTRACTING THIS WORK (if applicable) CH2M Hill				

STANDARD REPORT DELIVERY ○
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

-APPENDIX IX- REQUIRED ANALYSIS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	~~8260~~ JLE	8270 SVOCs, Low Level	~~8080~~ 8082 PCBs	~~8151~~ 8270 2 JLE	~~8200~~ JLE	6020 A Tot Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC	REMARKS
								PRESERVATIVE											
8/6/03	0950	110WSD13	G		X				1				(1)			(1)	1	1	(1) 1-250 mL w/m poly
↓	0950	110WSW13	G	X					2/2				1/4		2	1			* Take sample from 2 ~~1-L amber and~~ ab

NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/7/03	1430			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
EMPTY CONTAINERS Jon C. Edel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	8/7/03	9:05	YES ○ NO ○		S38679	

Serial Number 10482

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

IMPS # 8404 5677 9068

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

45-12

Alternate Laboratory Name/Location
Phone:
Fax:

7

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
SWMU 45	CTO-271	PR
STL (LAB) PROJECT MANAGER: Angie Weimerskirk	P.O. NUMBER: 70001	CONTRACT NO.: CLEAN II
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: (787) 485-1097	CLIENT FAX: (412) 375-3905
CLIENT NAME: Baker	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Drive, Moon Twp., PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): CH2M Hill		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ○
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

-APPENDIX IX- REQUIRED ANALYSIS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	~~8260~~ JCE	8270 SVOCs, Cl Lead PAHs	~~8080~~ 8082 PCBs	~~8151~~ 8270 JCE	~~8200~~ JCE	6020 A Tot Metals	6020 A Dis Metals	8270 Low Level PAHs	9012 Cyanide	Grain Size ASTM D422	9060 TOC		REMARKS
									1	PRESERVATIVE										
8/6/03	1023	110WSD14	G		X				1				(1)			(1)	1	1		(1) 1-250 ml w/m poly
↓	1023	110WSW14	G	X					2/2				1/*		2	1				* Take sample from 1-L amber and lab filtrate

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS			Jon C. Edel Jr.	8/7/03	1430			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS Jon C. Edel Jr.	8/5/03	0900						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	8/7/03	9:05	YES ○ NO ○		538679	

STL8240-680 (12/02)

APPENDIX B
FIELD NOTES FROM THE ADDITIONAL DATA COLLECTION INVESTIGATION

APPENDIX B.1
FIELD NOTES FROM JON EDEL – SITE MANAGER

Projects (continued)

Monday August 4, 2003

0646 Arrive at Pittsburgh Intl. Airport to fly to Philadelphia then to San Juan.

0730 Leaving Pittsburgh to go to Philly.

1015 Departing Philly for San Juan.

1530 Arrive in San Juan. Going to pick-up ~~[illegible]~~ (WCB) luggage then the rental car.

Jan C. Cobb Jr.

Tuesday August 5, 2003

0700 Arrive at GATE 1 to get pass. Got temporary pass, will go back for annual later.

0740 Arrive at Public Works at truck to get bobbles, etc. ready.

0750 Met with Jose at PWD environm. about taking out on boat to sample.

0830 Jose and I went to stake out where to launch boat.

0900 Arrive back at PWD to get ready to go out on boat with Pete and Jose.

0920 Pete and I arrive at place where we will meet Jose with boat.

0945 Met Jose and we are going out on boat to sample.

0952 Arrive at 11SD/SW12 to collect surface water/sediment.

1020 Arrive at 11SD/SW18 to collect surface water/sed. samples. SW. sample collected at 2' off of bottom or 5' below surface.

Tuesday August 5, 2003

1055 We are moving to 11SD/SW15 to collect surface water and sediment samples.

1100 Arrive at 11SD/SW15 to collect samples. Surface water sample was collected at 2' off the bottom or 3' down from water surface.

1145 Arrive at 11SD/SW16 to collect SW/SD samples. Surface water sample collected 2' off bottom and 8' below water surface.

1235 Arrive at 11SD/SW10 to collect surface water and sediment samples. Surface water sample collected 2' off bottom and 12' down from water surface.

1310 Heading back to dock.

1320 Arrive back at dock.

1340 Arrive at Marina to help Jose put the boat back on the trailer.

1345 Mark Kimes called and spoke with him.

1400 Pete and I arrive back at Public Works at our truck to get more coolers, etc. getting equipment ready for tomorrow.

Tuesday August 5, 2003

1640 Collected 45ER01 using lab grade DI and a clean stainless steel spoon.

1665 Collected 45ER03 using lab grade DI and the petite ponar dredge.

1715 Pete and I are leaving site after preparing equipment for tomorrow's activities.

Weather today was hot, humid, and sunny all day. See Pete's logbook for field parameter readings for surface water locations.

Jon C. Cuff

Wednesday August 6, 2003

0610 Pete and I arrived on base through Gate 3.

0618 We arrived at Public Works to get equipment and meet Jose with boat.

0635 Jose arrived and we got the boat ready to go.

0641 Pete and I will meet Jose over at the docks and load boat at the Seals training facility.

0645 Arrived at Seal docks to load boat.

0720 Going out on boat

0730 Arrive at 11SD/SW11 to collect samples. We will collect one duplicate and Matrix Spike/Matrix spike duplicate.

0850 Finished sampling and heading back to dock to exchange sample containers and to get more.

0900 Arrive back at dock.

0910 Leaving dock to go back to sampling area. The depth for the surface water collected at 11SD/SW11 was 2' off the bottom and 16' down from water surface.

0932 Arrive at 11SW/SD12 to collect samples. Surface water collected at 2' up from bottom and 16'

down from water surface.

0950 Arrive at 11SW/SD13 to collect samples. The surface water was collected 2' up from bottom and 18' down from water surface.

1023 Arrive at 11SW/SD14 to collect samples. The surface water was collected 2' up from bottom and 17' down from water surface.

1066 Arrive at 11~~SW~~ JER/SD21 to collect samples. This sample was only collected to delineate PCBs if necessary. ~~[illegible]~~ JER Sediment only at this location.

1103 Arrive at 11SD24 to collect sample. This sample was only collected to delineate PCBs if necessary. Sediment only at location.

1116 Arrive at 11SD20 to collect sample. This sample was only ~~[illegible]~~ JER collected to delineate PCBs if necessary. Sediment only at location.

1122 Arrive at 11SD23 to collect sample. Sample collected

to delineate PCBs if necessary. Sediment only at location.

1132 Arrive at 11SD22 to collect sample. Sample collected to delineate PCBs if necessary. Sediment only at location.

1145 Arrive back at dock. Finished sampling 11SD19 was not collected due to its location.

1200 Leaving dock to go to Marina to help tow bare boat out of water.

1434 Called FedEx to schedule pick up of samples collected yesterday. Pick up # NRR225.

1630 FedEx came to pick up.

1645 Pete and I are leaving site. Weather today was warm and humid with several rain showers and windy. See Pete's logbook for field parameter details of surface water locations.

1130 Pete and I started running the EnSys Kits on samples 11SD11, 11SD12, and 11SD14. All of which were less than 1 ppm.

Wednesday August 6, 2003

2130 Called MBK to inform him on the results. He said not to run the additional five sediment samples collected further east of samples US011, US013, and US014. The Lot # for the PCB RISC Test is 3D1062 (Expires 10/03).

Jon C. Cole Jr

Thursday August 7, 2003

0615 Pete and I are running the PCB OnSys Kits on the remaining originally proposed samples.

0730 MBK called us to say that we need to send the five additional samples (US020 - US024) to the lab. He wants the lab to extract and hold for analysis of PCBs.

1010 Pete and I are heading to base.

1050 Arrived at Gate 3.

1100 Arrived at Public Works to pack samples.

1430 Called Fedex. Scheduled a pickup for samples (WBR199).

1427 Met FedEx at PWD. Seven coolers were sent.

1600 Broke for dinner after packing up equipment in box truck.

1700 Arrived back at box truck to finish packing equipment for the day. All samples that were run through the OnSys kits this morning came back <1 ppm. Weather today was hot, humid, and partly sunny.

1830 Leaving the site for the day.

Friday August 8, 2003

0820 Arrived at Gate 1 to try to get my annual contractor ID. Their camera is down.

0835 Arrived at PWD to talk with Madeline Rivera to debrief her.

0950 Arrive back at truck to finish packing up equipments.

1105 Pete and I are leaving Public work to go drop truck off. offsite

1130 Arrived at Leaseway to drop truck off.

1320 Arrive at Avis to drop rental car off.

1340 Arrive at San Juan Intl. Airport. Pete and I stopped at FedEx at airport to drop off our equipments to be sent back to Baker. A total of 6 packages using two airbills (8392 8423 1982, 8392 8423 1976).

1530 Left San Juan heading to Charlotte.

1620 Leaving Charlotte to go to Pittsburgh.

2200 Arrive in Pittsburgh.

APPENDIX B.2
FIELD NOTES FROM PETE MONDAY – ENVIRONMENTAL SCIENTIST

Montevideo

José Montalvo -
EXT 469
Natl Resource Land use
Management Branch
Fish & Wildlife Conservation

Boat - Bar Sum 45
Sampling -

SWMO-45 8/5/03

SW 17

Temp = 30.15 °C
Sp cond = 44.22 mS/cm
cond = 45.18 mS/cm
SAL = 26.36
DO = 7.10
pH = 7.92
ORP = -30.7

SW 18

Temp → 29.39
Sp Cond - 42.23
Cond - 45.82
SAL - 27.04
DO - 5.25
pH - 7.84
ORP - 27.6

SW 15

Temp - 29.84
Sp Cond 42.33
Cond 46.24
SAL 27.06
DO 6.45
pH 8.05
ORP -20.

SW 6
Temp - 29.89
Sp cond - 42.35
cond - 46.31
SAL - 27.07
DO - 6.42
pH 8.09
ORP -18.9

SW 10
Temp 28.94
Sp cond -42.40
cond 46.37
SAL 27.12
DO 6.97
pH - 8.13
ORP - 241

798814.242
943126.675

798833.742
943126.675 - PT 19

798595
943161.242

N 798883.418
E 943203.129 - PT 19

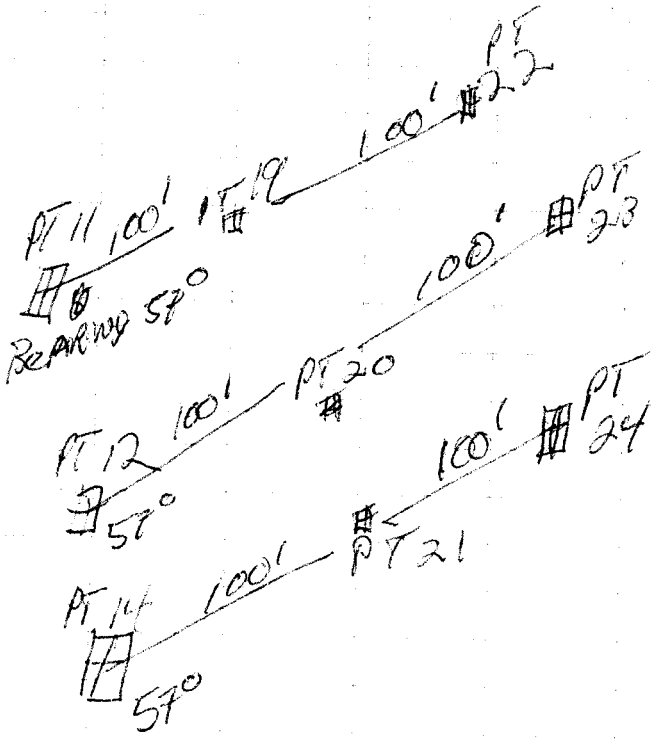
798776.400 - PT 20
943247.412

798703.707 - PT 21
943372.083

798932.148 - PT 22
943293.906

798829.463 - PT 23
943336.748

798760.100
943455.753 - PT 24



8/6/03

Things we need.

1. another blue bin
2. 1-more 500 ml - glass for extra seds.
3. More spoons -
4. 3-4 - garbage bags
5. load GPS — waypoint file

SW 11
Temp - 29.12
Sp cond - 42.40
cond - 45.75
SAL - 27.13
DO - 6.02
pH - 8.07
ORP - +10.0

SW 12
T 29.12
Sp cond - 42.36
cond 45.96
SAL 27.09
DO 6.38
pH 8.05
ORP -3.8

SW 13
T 29.2
Sp cond 42.30
cond 45.76
SAL 27.00
DO 6.24
pH 8.00
ORP -6.6

SW 14
Temp = 28.18
Sp cond = 42.30
cond = 45.67
SAL = 27.05
DO = 6.53
pH = 8.06
ORP -5.4

APPENDIX C
ANALYTICAL LABORATORY RESULTS

Data Qualifiers:

U – Not Detected.
J – Estimated value.
UJ – Report quantitation limit is qualified as estimated.
R – Result is rejected and unusable.
NA – Not Analyzed.

Notes:

mg/kg – milligrams per kilogram.
µg/kg – micrograms per kilogram.
µg/L – micrograms per liter.
mg/L – milligrams per liter.

APPENDIX C.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Volatiles (ug/L)					
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U
Chloromethane (Methyl Chloride)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Vinyl chloride	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl Bromide)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Chloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Trichlorofluoromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Acrolein (Propenal)	20 R	20 R	20 R	20 R	20 R
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Acetone	25 R	25 U	25 U	25 U	25 U
Iodomethane (Methyl iodide)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon disulfide	1 U	1 U	1 U	1 U	1 U
Acetonitrile	40 U	40 UJ	40 UJ	40 UJ	40 UJ
3-Chloropropene (Allylchloride)	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Methylene chloride (Dichloromethane)	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U
Vinyl acetate	2 U	2 U	2 UJ	2 U	2 U
Chloroprene	1 U	1 UJ	1 U	1 UJ	1 UJ
2-Butanone (Methyl ethyl ketone)	10 U	10 U	10 U	10 U	0.79 J
Propionitrile	20 U	20 UJ	20 UJ	20 UJ	20 UJ
Methacrylonitrile	20 U	20 UJ	20 UJ	20 UJ	20 UJ
Chloroform	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon tetrachloride	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Isobutanol (Isobutyl alcohol)	40 R	40 R	40 R	40 R	40 R
Benzene	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Trichloroethene	1 U	1 U	1 U	1 U	1 U

APPENDIX C.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Volatiles (ug/L) (Cont.)					
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U
Methyl methacrylate	1 U	1 U	1 U	1 U	1 U
Dibromomethane (Methylene bromide)	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (MIBK)	10 U	10 U	10 U	10 U	10 U
Toluene	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Ethyl methacrylate	1 U	1 UJ	1 UJ	1 UJ	1 UJ
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	0.13 J	1 U
Styrene	1 U	1 U	1 U	0.57 J	0.45 J
Bromoform	1 UJ	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U
trans-1,4-Dichloro-2-butene	2 U	2 UJ	2 UJ	2 UJ	2 UJ
Pentachloroethane	5 R	5 UJ	5 UJ	5 UJ	5 UJ
1,2-Dibromo-3-chloropropane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Xylenes, Total	2 U	2 U	2 U	0.44 J	2 U

APPENDIX C.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L)					
1,4-Dioxane	10 R	10 U	10 U	10 U	10 U
Pyridine	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
N-Nitrosodimethylamine	10 U	10 UJ	10 UJ	10 UJ	10 U
Aniline	20 UJ	20 U	20 U	20 U	20 U
Phenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 UJ	10 UJ	10 UJ	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
Benzyl alcohol	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
Cresol (ortho)	10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1-chloropropane)[bis(2-Chloroisopropyl)ether]	10 U	10 UJ	10 UJ	10 UJ	10 U
n-Nitrosodi-n-propylamine	10 U	10 U	10 U	10 U	10 U
Cresol, m & p	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol (o-Nitrophenol)	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline (p-Chloroaniline)	20 U	20 U	20 U	20 U	20 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol (p-Chloro-m-cresol)	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L) (Cont.)					
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline (o-Nitroaniline)	50 U	50 UJ	50 UJ	50 UJ	50 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline (m-Nitroaniline)	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U
4-Nitrophenol (p-Nitrophenol)	50 U	50 UJ	50 UJ	50 UJ	50 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2,3,4,6-Tetrachlorophenol	10 UJ	10 U	10 U	10 U	10 UJ
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
4-Chlorophenylphenyl ether	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline (p-Nitroaniline)	50 U	50 UJ	50 UJ	50 UJ	50 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	50 U	50 U	50 U	50 U	50 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-Bromophenylphenyl ether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	20 U	20 U	20 U	20 U	20 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Dinoseb (2-sec-Butyl-4,6-dinitrophenol)	10 U	10 U	10 U	10 U	10 UJ
2-Picoline	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosomethylethylamine	10 UJ	10 U	10 U	10 U	10 U
Methyl methanesulfonate	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosodiethylamine	10 UJ	10 U	10 U	10 U	10 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L) (Cont.)					
Ethyl methanesulfonate	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosopyrrolidine	10 U	10 U	10 U	10 U	10 U
Acetophenone	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosomorpholine	10 U	10 U	10 U	10 U	10 UJ
o-Toluidine	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosopiperidine	10 U	10 U	10 U	10 U	10 UJ
2,6-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
Hexachloropropene	10 U	10 U	10 U	10 U	10 UJ
1,2,4,5-Tetrachlorobenzene	10 U	10 U	10 U	10 U	10 U
alpha,alpha-Dimethylphenethylamine	2,000 UJ	2,000 U	2,000 U	2,000 U	2,000 UJ
N-Nitrosodi-n-butylamine	10 UJ	10 U	10 U	10 U	10 U
1,4-Phenylenediamine (p-Phenylenediamine)	2,000 R	2,000 R	2,000 R	2,000 R	2,000 R
Safrole	10 U	10 U	10 U	10 U	10 U
Isosafrole	10 U	10 U	10 U	10 U	10 R
1,4-Naphthoquinone	10 U	10 U	10 U	10 U	10 U
m-Dinitrobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorobenzene	10 U	10 U	10 U	10 U	10 UJ
1-Naphthylamine	10 U	10 U	10 U	10 U	10 U
2-Naphthylamine	10 UJ	10 U	10 U	10 U	10 U
5-Nitro-o-toluidine	10 U	10 U	10 U	10 U	10 U
1,3,5-Trinitrobenzene	10 R	10 U	10 U	10 U	10 R
Phenacetin	10 UJ	10 U	10 U	10 U	10 U
4-Aminobiphenyl	10 U	10 U	10 U	10 U	10 U
Pronamide	10 U	10 U	10 U	10 U	10 U
Pentachloronitrobenzene	10 R	10 R	10 R	10 R	10 R
4-Nitroquinoline-1-oxide	20 R	20 R	20 R	20 R	20 R
Methapyrilene	2,000 R	2,000 R	2,000 R	2,000 R	2,000 R
p-(Dimethylamino)azobenzene	10 UJ	10 U	10 U	10 U	10 UJ
3,3'-Dimethylbenzidine	20 UJ	20 U	20 U	20 U	20 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L) (Cont.)					
2-Acetylaminofluorene	10 U	10 U	10 U	10 U	10 U
7,12-Dimethylbenz(a)anthracene	10 U	10 U	10 U	10 U	10 U
Hexachlorophene	5,000 R	5,000 R	5,000 R	5,000 R	5,000 R
3-Methylcholanthrene	10 U	10 U	10 U	10 U	10 U
Aramite, Total	10 R	10 U	10 U	10 U	10 R
Diallate, Total	10 R	10 UJ	10 UJ	10 UJ	10 UJ
Low Level PAHs (ug/L)					
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluorene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Phenanthrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(b)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(k)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibenzo(a,h)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(g,h,i)perylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
PCBs (ug/L)					
Aroclor-1016	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U	1 U	1 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Volatiles (ug/L)					
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U
Chloromethane (Methyl Chloride)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Vinyl chloride	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl Bromide)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Chloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Trichlorofluoromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Acrolein (Propenal)	20 R	20 R	20 R	20 R	20 R
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Acetone	25 U	25 R	25 R	25 R	25 R
Iodomethane (Methyl iodide)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon disulfide	1 U	1 U	1 U	1 U	1 U
Acetonitrile	40 UJ	40 U	40 U	40 U	40 U
3-Chloropropene (Allylchloride)	1 UJ	1 U	1 U	1 U	1 U
Methylene chloride (Dichloromethane)	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U
Vinyl acetate	2 U	2 U	2 U	2 U	2 U
Chloroprene	1 UJ	1 U	1 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	0.75 J	10 U	10 U	10 U	10 U
Propionitrile	20 UJ	20 U	20 U	20 U	20 U
Methacrylonitrile	20 UJ	20 U	20 U	20 U	20 U
Chloroform	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon tetrachloride	1 UJ	1 U	1 U	1 U	1 U
Isobutanol (Isobutyl alcohol)	40 R	40 R	40 R	40 R	40 R
Benzene	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Trichloroethene	1 U	1 U	1 U	1 U	1 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Volatiles (ug/L) (Cont.)					
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U
Methyl methacrylate	1 U	1 U	1 U	1 U	1 U
Dibromomethane (Methylene bromide)	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (MIBK)	10 U	10 U	10 U	10 U	10 U
Toluene	1 U	1 U	1 U	0.17 J	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Ethyl methacrylate	1 UJ	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 UJ	1 U	1.2 U	1 U
Bromoform	1 U	1 U	1 UJ	1 UJ	1 UJ
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U
trans-1,4-Dichloro-2-butene	2 UJ	2 U	2 U	2 U	2 U
Pentachloroethane	5 UJ	5 R	5 R	5 R	5 R
1,2-Dibromo-3-chloropropane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Xylenes, Total	2 U	2 U	2 U	2 U	2 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L)					
1,4-Dioxane	10 U	10 R	10 UJ	10 UJ	10 R
Pyridine	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
N-Nitrosodimethylamine	10 U	10 U	10 U	10 U	10 U
Aniline	20 U	20 UJ	20 U	20 U	20 UJ
Phenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
Benzyl alcohol	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
Cresol (ortho)	10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1-chloropropane)[bis(2-Chloroisopropyl)ether]	10 U	10 U	10 UJ	10 UJ	10 U
n-Nitrosodi-n-propylamine	10 U	10 U	10 U	10 U	10 U
Cresol, m & p	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol (o-Nitrophenol)	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline (p-Chloroaniline)	20 U	20 U	20 U	20 U	20 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol (p-Chloro-m-cresol)	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U

APPENDIX C.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L) (Cont.)					
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline (o-Nitroaniline)	50 U	50 U	50 U	50 U	50 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline (m-Nitroaniline)	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U
4-Nitrophenol (p-Nitrophenol)	50 U	50 U	50 U	50 U	50 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2,3,4,6-Tetrachlorophenol	10 UJ	10 UJ	10 U	10 U	10 UJ
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
4-Chlorophenylphenyl ether	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline (p-Nitroaniline)	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	50 U	50 U	50 U	50 U	50 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
4-Bromophenylphenyl ether	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	20 U	20 U	20 U	20 U	20 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Dinoseb (2-sec-Butyl-4,6-dinitrophenol)	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
2-Picoline	10 U	10 UJ	10 UJ	10 UJ	10 UJ
N-Nitrosomethylethylamine	10 U	10 UJ	10 UJ	10 UJ	10 UJ
Methyl methanesulfonate	10 U	10 UJ	10 UJ	10 UJ	10 UJ
N-Nitrosodiethylamine	10 U	10 UJ	10 UJ	10 UJ	10 UJ

APPENDIX C.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L) (Cont.)					
Ethyl methanesulfonate	10 U	10 UJ	10 UJ	10 UJ	10 UJ
N-Nitrosopyrrolidine	10 U	10 U	10 U	10 U	10 U
Acetophenone	10 U	10 UJ	10 UJ	10 UJ	10 UJ
N-Nitrosomorpholine	10 UJ	10 U	10 U	10 U	10 U
o-Toluidine	10 U	10 UJ	10 UJ	10 UJ	10 UJ
N-Nitrosopiperidine	10 UJ	10 U	10 U	10 U	10 U
2,6-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
Hexachloropropene	10 UJ	10 U	10 U	10 U	10 U
1,2,4,5-Tetrachlorobenzene	10 U	10 U	10 U	10 U	10 U
alpha,alpha-Dimethylphenethylamine	2,000 UJ	2,000 UJ	2,000 U	2,000 U	2,000 UJ
N-Nitrosodi-n-butylamine	10 U	10 UJ	10 UJ	10 UJ	10 UJ
1,4-Phenylenediamine (p-Phenylenediamine)	2,000 R	2,000 R	2,000 R	2,000 R	2,000 R
Safrole	10 U	10 U	10 U	10 U	10 U
Isosafrole	10 R	10 U	10 U	10 U	10 U
1,4-Naphthoquinone	10 U	10 U	10 U	10 U	10 U
m-Dinitrobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorobenzene	10 UJ	10 U	10 U	10 U	10 U
1-Naphthylamine	10 U	10 U	10 U	10 U	10 U
2-Naphthylamine	10 U	10 UJ	10 U	10 U	10 UJ
5-Nitro-o-toluidine	10 U	10 U	10 U	10 U	10 U
1,3,5-Trinitrobenzene	10 R	10 R	10 R	10 R	10 R
Phenacetin	10 U	10 UJ	10 U	10 U	10 UJ
4-Aminobiphenyl	10 U	10 U	10 U	10 U	10 U
Pronamide	10 U	10 U	10 U	10 U	10 U
Pentachloronitrobenzene	10 R	10 R	10 R	10 R	10 R
4-Nitroquinoline-1-oxide	20 R	20 R	20 R	20 R	20 R
Methapyrilene	2,000 R	2,000 R	2,000 R	2,000 R	2,000 R
p-(Dimethylamino)azobenzene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
3,3'-Dimethylbenzidine	20 U	20 UJ	20 UJ	20 UJ	20 UJ

APPENDIX C.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L) (Cont.)					
2-Acetylaminofluorene	10 U	10 U	10 U	10 U	10 U
7,12-Dimethylbenz(a)anthracene	10 U	10 U	10 U	10 U	10 U
Hexachlorophene	5,000 R	5,000 R	5,000 R	5,000 R	5,000 R
3-Methylcholanthrene	10 U	10 U	10 U	10 U	10 U
Aramite, Total	10 R	10 R	10 R	10 R	10 R
Diallate, Total	10 UJ	10 R	10 UJ	10 UJ	10 R
Low Level PAHs (ug/L)					
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluorene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Phenanthrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(b)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(k)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibenzo(a,h)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(g,h,i)perylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

APPENDIX C.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
PCBs (ug/L)					
Aroclor-1016	1 U	1 U	1 U	1 UJ	1 U
Aroclor-1221	2 U	2 U	2 U	2 UJ	2 U
Aroclor-1232	1 U	1 U	1 U	1 UJ	1 U
Aroclor-1242	1 U	1 U	1 U	1 UJ	1 U
Aroclor-1248	1 U	1 U	1 U	1 UJ	1 U
Aroclor-1254	1 U	1 U	1 U	1 UJ	1 U
Aroclor-1260	1 U	1 U	1 U	1 UJ	1 U

APPENDIX C.2

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - INORGANICS (TOTAL)
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Inorganics (Total) mg/L										
Antimony	0.0018 J	0.0005 J	0.00048 J	0.00049 J	0.00044 J	0.00041 J	0.0013 J	0.0012 J	0.0011 J	0.0011 J
Arsenic	0.002 J	0.0017 J	0.0018 J	0.0016 J	0.0022 J	0.0018 J	0.0017 J	0.0019 J	0.0018 J	0.0018 J
Barium	0.0086	0.0084	0.0076	0.0078	0.0093	0.0084	0.0082	0.0083	0.0087	0.0086
Beryllium	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U
Chromium	0.0009 J	0.00077 J	0.00094 J	0.00081 J	0.0024 J	0.00085 J	0.001 J	0.005 U	0.005 U	0.0009 J
Cobalt	0.00072 J	0.0009 J	0.00085 J	0.00087 J	0.0012 J	0.0009 J	0.0008 J	0.00075 J	0.0008 J	0.0008 J
Copper	0.0039 J	0.0008 J	0.00076 J	0.00098 J	0.005 J	0.0007 J	0.0013 J	0.0022 J	0.0028 J	0.0024 J
Cyanide	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	0.00038 J	0.0003 J	0.00015 J	0.00009 J	0.0012 J	0.000097 J	0.0001 J	0.00024 J	0.0004 J	0.0005 J
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.00036 J	0.0002 J	0.00027 J	0.00015 J	0.00083 J	0.00036 J	0.0003 J	0.00034 J	0.0002 J	0.0005 J
Selenium	0.00019 J	0.0003 J	0.00029 J	0.00019 J	0.0003 J	0.00024 J	0.0002 J	0.00023 J	0.00026 J	0.0002 J
Silver	0.000076 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Thallium	0.00032 J	0.00028 J	0.0004 J	0.001 U	0.001 U	0.001 U	0.00045 J	0.001 U	0.001 U	0.001 U
Tin	0.00024 J	0.0002 J	0.00062 J	0.00047 J	0.00056 J	0.00026 J	0.0007 J	0.00043 J	0.0004 J	0.00037 J
Vanadium	0.0031 J	0.0028 J	0.0034 J	0.0027 J	0.0069	0.0029 J	0.0027 J	0.0026 J	0.0028 J	0.003 J
Zinc	0.0091 J	0.0096 J	0.01	0.01	0.014	0.011	0.008 J	0.0092 J	0.0093 J	0.013

APPENDIX C.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - INORGANICS (DISSOLVED)
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVLET ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW10	11OWSW11	11OWSW11D	11OWSW12	11OWSW13	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Inorganics (Dissolved) mg/L										
Antimony	0.00081 J	0.00044 J	0.00039 J	0.00042 J	0.00041 J	0.0004 J	0.00094 J	0.00087 J	0.00085 J	0.00067 J
Arsenic	0.0015 J	0.0016 J	0.0018 J	0.0018 J	0.0019 J	0.0016 J	0.0016 J	0.0017 J	0.0018 J	0.0018 J
Barium	0.0075	0.0081	0.0081	0.0081	0.0085	0.0082	0.0079	0.0076	0.0083	0.0079
Beryllium	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U
Chromium	0.005 U	0.00073 J	0.00082 J	0.00079 J	0.00072 J	0.00077 J	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt	0.00069 J	0.00083 J	0.00087 J	0.00085 J	0.00084 J	0.00085 J	0.00071 J	0.00068 J	0.00075 J	0.00072 J
Copper	0.00052 J	0.0005 J	0.00045 J	0.0004 J	0.00041 J	0.00061 J	0.0004 J	0.00088 J	0.00081 J	0.00071 J
Lead	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.00023 J	0.00016 J	0.00019 J	0.00014 J	0.00018 J	0.00016 J	0.00021 J	0.00017 J	0.00021 J	0.00024 J
Selenium	0.00018 J	0.0002 J	0.00021 J	0.00021 J	0.00014 J	0.0025 U	0.00023 J	0.00018 J	0.00028 J	0.00022 J
Silver	0.005 U	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 UJ	0.005 U	0.005 U	0.005 U	0.005 U
Thallium	0.001 U	0.001 U	0.00046 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Tin	0.00027 J	0.00019 J	0.00078 J	0.00046 J	0.0004 J	0.00028 J	0.00038 J	0.00023 J	0.00026 J	0.005 U
Vanadium	0.0021 J	0.0025 J	0.0024 J	0.0025 J	0.0026 J	0.0023 J	0.0022 J	0.0022 J	0.0024 J	0.0023 J
Zinc	0.0081 J	0.01	0.01	0.011	0.011	0.011	0.0083 J	0.0091 J	0.0099 J	0.0091 J

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)					
Dichlorodifluoromethane	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Chloromethane (Methyl Chloride)	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Vinyl chloride	10 U	12 U	12 U	11 U	11 U
Bromomethane (Methyl Bromide)	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Chloroethane	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Trichlorofluoromethane	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Acrolein (Propenal)	200 R	250 R	240 R	220 R	210 R
1,1-Dichloroethene	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Acetone	30 J	40 J	80 J	40 J	57 J
Iodomethane (Methyl iodide)	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Carbon disulfide	10 U	12 U	12 U	11 U	11 U
Acetonitrile	400 R	500 R	480 R	440 R	430 R
3-Chloropropene (Allylchloride)	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
Methylene chloride (Dichloromethane)	10 U	12 U	12 U	11 U	11 U
Acrylonitrile	200 U	250 U	240 U	220 U	210 U
trans-1,2-Dichloroethene	10 U	12 U	12 U	11 U	11 U
1,1-Dichloroethane	10 U	12 U	12 U	11 U	11 U
Vinyl acetate	20 UJ	25 UJ	24 UJ	22 UJ	21 UJ
Chloroprene	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ
2-Butanone (Methyl ethyl ketone)	14 J	18 J	19 J	19 J	19 J
Propionitrile	200 UJ	250 UJ	240 UJ	220 UJ	210 UJ
Methacrylonitrile	200 UJ	250 UJ	240 UJ	220 UJ	210 UJ
Chloroform	10 U	12 U	12 U	11 U	11 U
1,1,1-Trichloroethane	10 U	12 U	12 U	11 U	11 U
Carbon tetrachloride	10 U	12 U	12 U	11 U	11 U
Isobutanol (Isobutyl alcohol)	400 R	500 R	480 R	440 R	430 R
Benzene	10 U	12 U	12 U	11 U	11 U
1,2-Dichloroethane	10 U	12 U	12 U	11 U	11 U

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)					
Trichloroethene	10 U	12 U	12 U	11 U	11 U
1,2-Dichloropropane	10 U	12 U	12 U	11 U	11 U
Methyl methacrylate	10 U	12 U	12 U	11 U	11 U
Dibromomethane (Methylene bromide)	10 U	12 U	12 U	11 U	11 U
Bromodichloromethane	10 U	12 U	12 U	11 U	11 U
cis-1,3-Dichloropropene	10 U	12 U	12 U	11 U	11 U
4-Methyl-2-pentanone (MIBK)	50 UJ	62 UJ	60 UJ	56 UJ	54 UJ
Toluene	10 U	12 U	12 U	11 U	11 U
trans-1,3-Dichloropropene	10 U	12 U	12 U	11 U	11 U
Ethyl methacrylate	10 U	12 U	12 U	11 U	11 U
1,1,2-Trichloroethane	10 U	12 U	12 U	11 U	11 U
Tetrachloroethene	10 U	12 U	12 U	11 U	11 U
2-Hexanone	50 UJ	62 UJ	60 UJ	56 UJ	54 UJ
Dibromochloromethane	10 U	12 U	12 U	11 U	11 U
1,2-Dibromoethane (EDB)	10 U	12 U	12 U	11 U	11 U
Chlorobenzene	10 U	12 U	12 U	11 U	11 U
1,1,1,2-Tetrachloroethane	10 U	12 U	12 U	11 U	11 U
Ethylbenzene	10 U	12 U	12 U	11 U	11 U
Styrene	10 U	12 U	12 U	11 U	11 U
Bromoform	10 U	12 U	12 U	11 U	11 U
1,1,2,2-Tetrachloroethane	10 U	12 U	12 U	11 U	11 U
1,2,3-Trichloropropane	10 U	12 U	12 U	11 U	11 U
trans-1,4-Dichloro-2-butene	20 UJ	25 UJ	24 UJ	22 UJ	21 UJ
Pentachloroethane	50 U	62 U	60 U	56 U	54 U
1,2-Dibromo-3-chloropropane	20 U	25 U	24 U	22 U	21 U
Xylenes, Total	20 U	25 U	24 U	22 U	21 U

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg)					
1,4-Dioxane	3,200 UJ	780 U	720 UJ	7,500 UJ	7,500 UJ
Pyridine	3,200 UJ	780 U	720 UJ	7,500 UJ	7,500 UJ
N-Nitrosodimethylamine	3,200 UJ	780 U	720 UJ	7,500 U	7,500 U
Aniline	3,200 U	780 U	720 U	7,500 UJ	7,500 UJ
Phenol	3,200 U	780 U	720 U	7,500 U	7,500 U
bis(2-Chloroethyl)ether	3,200 UJ	780 U	720 U	7,500 U	7,500 U
2-Chlorophenol	3,200 U	780 U	720 U	7,500 U	7,500 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	3,200 U	780 U	720 U	7,500 U	7,500 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	3,200 U	780 U	720 U	7,500 U	7,500 U
Benzyl alcohol	3,200 U	780 U	720 U	7,500 U	7,500 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	3,200 U	780 U	720 U	7,500 U	7,500 U
Cresol (ortho)	3,200 U	780 U	720 U	7,500 U	7,500 U
2,2'-Oxybis(1-chloropropane)[bis(2-Chloroisopropyl)ether]	3,200 U	780 U	720 UJ	7,500 U	7,500 U
n-Nitrosodi-n-propylamine	3,200 U	780 U	720 U	7,500 U	7,500 U
Cresol, m & p	3,200 U	780 U	720 U	7,500 U	7,500 U
Hexachloroethane	3,200 U	780 U	720 U	7,500 U	7,500 U
Nitrobenzene	3,200 U	780 U	720 U	7,500 U	7,500 U
Isophorone	3,200 U	780 U	720 U	7,500 U	7,500 U
2-Nitrophenol (o-Nitrophenol)	3,200 U	780 U	720 U	7,500 U	7,500 U
2,4-Dimethylphenol	3,200 U	780 U	720 U	7,500 U	7,500 U
bis(2-Chloroethoxy)methane	3,200 U	780 U	720 U	7,500 U	7,500 U
2,4-Dichlorophenol	3,200 U	780 U	720 U	7,500 U	7,500 U
1,2,4-Trichlorobenzene	3,200 U	780 U	720 U	7,500 U	7,500 U
4-Chloroaniline (p-Chloroaniline)	6,300 U	1,600 U	1,400 U	15,000 U	15,000 U
Hexachlorobutadiene	3,200 U	780 U	720 U	7,500 U	7,500 U
4-Chloro-3-methylphenol (p-Chloro-m-cresol)	3,200 U	780 U	720 U	7,500 U	7,500 U
Hexachlorocyclopentadiene	3,200 U	780 U	720 U	7,500 UJ	7,500 UJ
2,4,6-Trichlorophenol	3,200 U	780 U	720 U	7,500 U	7,500 U

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
2,4,5-Trichlorophenol	3,200 U	780 U	720 U	7,500 U	7,500 U
2-Chloronaphthalene	3,200 U	780 U	720 U	7,500 U	7,500 U
2-Nitroaniline (o-Nitroaniline)	16,000 U	4,000 U	3,700 U	39,000 U	39,000 U
Dimethylphthalate	3,200 U	780 U	720 U	7,500 U	7,500 U
2,6-Dinitrotoluene	3,200 U	780 U	720 U	7,500 U	7,500 U
3-Nitroaniline (m-Nitroaniline)	16,000 U	4,000 U	3,700 U	39,000 U	39,000 U
2,4-Dinitrophenol	16,000 U	4,000 U	3,700 U	39,000 U	39,000 U
4-Nitrophenol (p-Nitrophenol)	16,000 UJ	4,000 U	3,700 U	39,000 U	39,000 U
Dibenzofuran	3,200 U	780 U	720 U	7,500 U	7,500 U
2,4-Dinitrotoluene	3,200 U	780 U	720 U	7,500 U	7,500 U
2,3,4,6-Tetrachlorophenol	3,200 U	780 U	720 U	7,500 U	7,500 U
Diethylphthalate	3,200 U	780 U	720 U	7,500 U	7,500 U
4-Chlorophenylphenyl ether	3,200 U	780 U	720 U	7,500 U	7,500 U
4-Nitroaniline (p-Nitroaniline)	16,000 U	4,000 UJ	3,700 U	39,000 U	39,000 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	16,000 U	4,000 U	3,700 U	39,000 U	39,000 U
N-Nitrosodiphenylamine	3,200 U	780 U	720 U	7,500 U	7,500 U
4-Bromophenylphenyl ether	3,200 U	780 U	720 U	7,500 U	7,500 U
Hexachlorobenzene	3,200 U	780 U	720 U	7,500 U	7,500 U
Pentachlorophenol	16,000 U	4,000 U	3,700 U	39,000 U	39,000 U
Di-n-butylphthalate	3,200 U	170 J	110 J	7,500 U	7,500 U
Butylbenzylphthalate	3,200 U	780 U	720 U	7,500 U	7,500 U
3,3'-Dichlorobenzidine	6,300 U	1,600 U	1,400 U	15,000 UJ	15,000 UJ
bis(2-Ethylhexyl)phthalate	3,200 U	300 J	120 J	7,500 U	7,500 U
Di-n-octylphthalate	3,200 U	780 U	720 U	7,500 U	7,500 U
Dinoseb (2-sec-Butyl-4,6-dinitrophenol)	3,200 R	780 U	720 UJ	7,500 UJ	7,500 UJ
2-Picoline	3,200 UJ	780 U	720 UJ	7,500 UJ	7,500 UJ
N-Nitrosomethylethylamine	3,200 UJ	780 U	720 U	7,500 UJ	7,500 UJ

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
Methyl methanesulfonate	3,200 UJ	780 U	720 UJ	7,500 UJ	7,500 UJ
N-Nitrosodiethylamine	3,200 U	780 U	720 UJ	7,500 UJ	7,500 UJ
Ethyl methanesulfonate	3,200 UJ	780 U	720 UJ	7,500 UJ	7,500 UJ
N-Nitrosopyrrolidine	3,200 U	780 U	720 U	7,500 UJ	7,500 UJ
Acetophenone	3,200 U	780 U	720 UJ	7,500 UJ	7,500 UJ
N-Nitrosomorpholine	3,200 UJ	780 UJ	720 U	7,500 UJ	7,500 UJ
o-Toluidine	3,200 R	780 U	720 UJ	7,500 UJ	7,500 UJ
N-Nitrosopiperidine	3,200 U	780 UJ	720 UJ	7,500 U	7,500 UJ
2,6-Dichlorophenol	3,200 U	780 U	720 U	7,500 U	7,500 U
Hexachloropropene	3,200 U	780 U	720 U	7,500 UJ	7,500 UJ
1,2,4,5-Tetrachlorobenzene	3,200 U	780 U	720 U	7,500 U	7,500 U
alpha,alpha-Dimethylphenethylamine	640,000 U	160,000 R	140,000 U	1,500,000 UJ	1,500,000 UJ
N-Nitrosodi-n-butylamine	3,200 U	780 U	720 UJ	7,500 UJ	7,500 UJ
1,4-Phenylenediamine (p-Phenylenediamine)	16,000 R	4,000 R	3,700 R	39,000 R	39,000 R
Safrole	3,200 U	780 U	720 U	7,500 U	7,500 U
Isosafrole	3,200 U	780 U	720 U	7,500 U	7,500 U
1,4-Naphthoquinone	3,200 U	780 U	720 U	7,500 U	7,500 U
m-Dinitrobenzene	3,200 U	780 U	720 U	7,500 U	7,500 U
Pentachlorobenzene	3,200 U	780 U	720 U	7,500 U	7,500 U
1-Naphthylamine	3,200 U	780 U	720 U	7,500 UJ	7,500 UJ
2-Naphthylamine	3,200 U	780 U	720 U	7,500 UJ	7,500 UJ
5-Nitro-o-toluidine	3,200 U	780 U	720 U	7,500 U	7,500 U
1,3,5-Trinitrobenzene	3,200 R	780 R	720 R	7,500 R	7,500 R
Phenacetin	3,200 U	780 U	720 U	7,500 U	7,500 U
4-Aminobiphenyl	3,200 U	780 U	720 U	7,500 U	7,500 U
Pronamide	3,200 U	780 U	720 U	7,500 U	7,500 U
Pentachloronitrobenzene	3,200 R	780 R	720 R	7,500 R	7,500 R
4-Nitroquinoline-1-oxide	32,000 R	7,800 R	7,200 R	75,000 R	75,000 R

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
Methapyrilene	640,000 R	160,000 R	140,000 R	1,500,000 R	1,500,000 R
p-(Dimethylamino)azobenzene	3,200 U	780 UJ	720 UJ	7,500 UJ	7,500 UJ
3,3'-Dimethylbenzidine	16,000 U	4,000 UJ	3,700 UJ	39,000 UJ	39,000 UJ
2-Acetylaminofluorene	3,200 U	780 U	720 U	7,500 U	7,500 U
7,12-Dimethylbenz(a)anthracene	3,200 U	780 U	720 U	7,500 U	7,500 U
Hexachlorophene	1,600,000 R	400,000 R	370,000 R	3,900,000 R	3,900,000 R
3-Methylcholanthrene	3,200 U	780 U	720 U	7,500 U	7,500 U
Aramite, Total	3,200 R	780 R	720 R	7,500 R	7,500 R
Diallate, Total	3,200 UJ	780 UJ	720 UJ	7,500 UJ	7,500 UJ
Low Level PAHs (ug/kg)					
Naphthalene	13 U	64 UJ	16 J	15 U	15 U
2-Methylnaphthalene	13 U	32 J	10 J	15 U	15 U
1-Methylnaphthalene	13 U	24 J	8.2 J	15 U	15 U
Acenaphthylene	13 U	64 U	3.5 J	15 U	15 U
Acenaphthene	4.1 J	220 J	70 J	15 U	15 U
Fluorene	2.8 J	220 J	62 J	15 U	15 U
Phenanthrene	46	2,400 J	720 J	25	23
Anthracene	9.6 J	540 J	140 J	6.3 J	5.3 J
Fluoranthene	87	2,600 J	920 J	56	51
Pyrene	76	2,100 J	760 J	50	46
Benzo(a)anthracene	50	1,200 J	480 J	32	30
Chrysene	52	1,000 J	430 J	35	32
Benzo(b)fluoranthene	120	1,200 J	720 J	65	62
Benzo(k)fluoranthene	13 U	64 U	14 U	15 U	15 U

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)					
Benzo(a)pyrene	60	790 J	420 J	39	35
Indeno(1,2,3-cd)pyrene	17	370 J	73 J	16	14 J
Dibenzo(a,h)anthracene	13 U	64 U	14 U	15 U	15 U
Benzo(g,h,i)perylene	23	340 J	100 J	22	17
PCBs (ug/kg)					
Aroclor-1016	63 U	78 U	72 U	75 U	75 U
Aroclor-1221	130 U	160 U	140 U	150 U	150 U
Aroclor-1232	63 U	78 U	72 U	75 U	75 U
Aroclor-1242	63 U	78 U	72 U	75 U	75 U
Aroclor-1248	63 U	78 U	72 U	75 U	75 U
Aroclor-1254	63 U	78 U	72 U	75 U	75 U
Aroclor-1260	18 J	150	48 J	35 J	22 J
Miscellaneous Parameters (mg/kg)					
Total Organic Carbon	22,000	17,000	27,000	29,000	24,000

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)					
Dichlorodifluoromethane	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Chloromethane (Methyl Chloride)	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Vinyl chloride	12 U	19 U	11 U	12 U	13 U
Bromomethane (Methyl Bromide)	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Chloroethane	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Trichlorofluoromethane	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Acrolein (Propenal)	240 R	380 R	220 R	240 R	260 R
1,1-Dichloroethene	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Acetone	67 J	320 J	68 J	42 J	93 J
Iodomethane (Methyl iodide)	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Carbon disulfide	12 U	19 U	11 U	12 U	13 U
Acetonitrile	470 R	760 R	440 R	480 R	530 R
3-Chloropropene (Allylchloride)	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
Methylene chloride (Dichloromethane)	12 U	19 U	55 U	12 U	13 U
Acrylonitrile	240 U	380 U	220 U	240 U	260 U
trans-1,2-Dichloroethene	12 U	19 U	11 U	12 U	13 U
1,1-Dichloroethane	12 U	19 U	11 U	12 UJ	13 U
Vinyl acetate	24 UJ	38 UJ	22 UJ	24 UJ	26 UJ
Chloroprene	12 UJ	19 UJ	11 UJ	12 UJ	13 UJ
2-Butanone (Methyl ethyl ketone)	22 J	85 J	22 J	19 J	27 J
Propionitrile	240 UJ	380 UJ	220 UJ	240 UJ	260 UJ
Methacrylonitrile	240 UJ	380 UJ	220 UJ	240 UJ	260 UJ
Chloroform	12 U	19 U	11 U	12 U	13 U
1,1,1-Trichloroethane	12 U	19 U	11 U	12 U	13 U
Carbon tetrachloride	12 U	19 U	11 U	12 U	13 U
Isobutanol (Isobutyl alcohol)	470 R	760 R	440 R	480 R	530 R
Benzene	12 U	19 U	11 U	12 U	13 U
1,2-Dichloroethane	12 U	19 U	11 U	12 U	13 U

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)					
Trichloroethene	12 U	19 U	11 U	12 U	13 U
1,2-Dichloropropane	12 U	19 U	11 U	12 U	13 U
Methyl methacrylate	12 U	19 U	11 U	12 U	13 U
Dibromomethane (Methylene bromide)	12 U	19 U	11 U	12 U	13 U
Bromodichloromethane	12 U	19 U	11 U	12 U	13 U
cis-1,3-Dichloropropene	12 U	19 U	11 U	12 U	13 U
4-Methyl-2-pentanone (MIBK)	59 UJ	95 UJ	55 UJ	60 UJ	66 UJ
Toluene	12 U	19 U	11 U	2.1 J	2.5 J
trans-1,3-Dichloropropene	12 U	19 U	11 U	12 U	13 U
Ethyl methacrylate	12 U	19 U	11 U	12 U	13 U
1,1,2-Trichloroethane	12 U	19 U	11 U	12 U	13 U
Tetrachloroethene	12 U	19 U	11 U	12 U	13 U
2-Hexanone	59 UJ	230 J	55 UJ	60 UJ	66 UJ
Dibromochloromethane	12 U	19 U	11 U	12 U	13 U
1,2-Dibromoethane (EDB)	12 U	19 U	11 U	12 U	13 U
Chlorobenzene	12 U	19 U	11 U	12 U	13 U
1,1,1,2-Tetrachloroethane	12 U	19 U	11 U	12 U	13 U
Ethylbenzene	0.78 J	19 U	11 U	12 U	13 U
Styrene	12 U	19 U	11 U	12 U	13 U
Bromoform	12 U	19 U	11 U	12 U	13 U
1,1,2,2-Tetrachloroethane	12 U	19 U	11 U	12 U	13 U
1,2,3-Trichloropropane	12 U	19 U	11 U	12 U	13 U
trans-1,4-Dichloro-2-butene	24 UJ	38 UJ	22 UJ	24 UJ	26 UJ
Pentachloroethane	59 U	95 U	55 U	60 U	66 U
1,2-Dibromo-3-chloropropane	24 U	38 U	22 U	24 U	26 U
Xylenes, Total	24 U	38 U	22 U	24 U	26 U

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg)					
1,4-Dioxane	770 UJ	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ
Pyridine	770 UJ	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ
N-Nitrosodimethylamine	770 U	5,900 UJ	8,200 U	7,500 U	8,700 U
Aniline	770 U	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
Phenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
bis(2-Chloroethyl)ether	770 U	5,900 UJ	8,200 U	7,500 U	8,700 U
2-Chlorophenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	770 U	5,900 U	8,200 U	7,500 U	8,700 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Benzyl alcohol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Cresol (ortho)	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2,2'-Oxybis(1-chloropropane)[bis(2-Chloroisopropyl)ether]	770 UJ	5,900 U	8,200 U	7,500 U	8,700 U
n-Nitrosodi-n-propylamine	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Cresol, m & p	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Hexachloroethane	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Nitrobenzene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Isophorone	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2-Nitrophenol (o-Nitrophenol)	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2,4-Dimethylphenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
bis(2-Chloroethoxy)methane	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2,4-Dichlorophenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
1,2,4-Trichlorobenzene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
4-Chloroaniline (p-Chloroaniline)	1,500 U	12,000 U	16,000 U	15,000 U	17,000 U
Hexachlorobutadiene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
4-Chloro-3-methylphenol (p-Chloro-m-cresol)	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Hexachlorocyclopentadiene	770 U	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
2,4,6-Trichlorophenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
2,4,5-Trichlorophenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2-Chloronaphthalene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2-Nitroaniline (o-Nitroaniline)	4,000 U	30,000 U	42,000 U	39,000 U	45,000 U
Dimethylphthalate	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2,6-Dinitrotoluene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
3-Nitroaniline (m-Nitroaniline)	4,000 U	30,000 U	42,000 U	39,000 U	45,000 U
2,4-Dinitrophenol	4,000 U	30,000 U	42,000 U	39,000 U	45,000 U
4-Nitrophenol (p-Nitrophenol)	4,000 U	30,000 UJ	42,000 U	39,000 U	45,000 U
Dibenzofuran	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2,4-Dinitrotoluene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2,3,4,6-Tetrachlorophenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Diethylphthalate	770 U	5,900 U	8,200 U	7,500 U	8,700 U
4-Chlorophenylphenyl ether	770 U	5,900 U	8,200 U	7,500 U	8,700 U
4-Nitroaniline (p-Nitroaniline)	4,000 U	30,000 U	42,000 U	39,000 U	45,000 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	4,000 U	30,000 U	42,000 U	39,000 U	45,000 U
N-Nitrosodiphenylamine	770 U	5,900 U	8,200 U	7,500 U	8,700 U
4-Bromophenylphenyl ether	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Hexachlorobenzene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Pentachlorophenol	4,000 U	30,000 U	42,000 U	39,000 U	45,000 U
Di-n-butylphthalate	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Butylbenzylphthalate	770 U	5,900 U	8,200 U	7,500 U	8,700 U
3,3'-Dichlorobenzidine	1,500 U	12,000 U	16,000 UJ	15,000 UJ	17,000 UJ
bis(2-Ethylhexyl)phthalate	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Di-n-octylphthalate	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Dinoseb (2-sec-Butyl-4,6-dinitrophenol)	770 UJ	5,900 R	8,200 UJ	7,500 UJ	8,700 UJ
2-Picoline	770 UJ	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ
N-Nitrosomethylethylamine	770 UJ	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ

APPENDIX C.4

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
Methyl methanesulfonate	770 UJ	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ
N-Nitrosodiethylamine	770 UJ	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
Ethyl methanesulfonate	770 UJ	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ
N-Nitrosopyrrolidine	770 UJ	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
Acetophenone	770 U	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
N-Nitrosomorpholine	770 U	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ
o-Toluidine	770 UJ	5,900 R	8,200 UJ	7,500 UJ	8,700 UJ
N-Nitrosopiperidine	770 U	5,900 U	8,200 U	7,500 U	8,700 U
2,6-Dichlorophenol	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Hexachloropropene	770 U	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
1,2,4,5-Tetrachlorobenzene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
alpha,alpha-Dimethylphenethylamine	160,000 U	1,200,000 U	1,700,000 UJ	1,500,000 UJ	1,800,000 UJ
N-Nitrosodi-n-butylamine	770 UJ	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
1,4-Phenylenediamine (p-Phenylenediamine)	4,000 R	30,000 R	42,000 R	39,000 R	45,000 R
Safrole	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Isosafrole	770 U	5,900 U	8,200 U	7,500 U	8,700 U
1,4-Naphthoquinone	770 U	5,900 U	8,200 U	7,500 U	8,700 U
m-Dinitrobenzene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Pentachlorobenzene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
1-Naphthylamine	770 U	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
2-Naphthylamine	770 U	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
5-Nitro-o-toluidine	770 U	5,900 U	8,200 U	7,500 U	8,700 U
1,3,5-Trinitrobenzene	770 R	5,900 R	8,200 R	7,500 R	8,700 R
Phenacetin	770 U	5,900 U	8,200 U	7,500 U	8,700 U
4-Aminobiphenyl	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Pronamide	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Pentachloronitrobenzene	770 R	5,900 R	8,200 R	7,500 R	8,700 R
4-Nitroquinoline-1-oxide	7,700 R	59,000 R	82,000 R	75,000 R	87,000 R

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SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
Methapyrilene	160,000 R	1,200,000 R	1,700,000 R	1,500,000 R	1,800,000 R
p-(Dimethylamino)azobenzene	770 UJ	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ
3,3'-Dimethylbenzidine	4,000 UJ	30,000 U	42,000 UJ	39,000 UJ	45,000 UJ
2-Acetylaminofluorene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
7,12-Dimethylbenz(a)anthracene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Hexachlorophene	400,000 R	3,000,000 R	4,200,000 R	3,900,000 R	4,500,000 R
3-Methylcholanthrene	770 U	5,900 U	8,200 U	7,500 U	8,700 U
Aramite, Total	770 R	5,900 R	8,200 R	7,500 R	8,700 R
Diallate, Total	770 UJ	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ
Low Level PAHs (ug/kg)					
Naphthalene	16 U	24 U	17 U	4.8 J	18 U
2-Methylnaphthalene	16 U	2.5 J	1.5 J	2.6 J	18 U
1-Methylnaphthalene	16 U	24 U	1.4 J	1.8 J	18 U
Acenaphthylene	16 U	24 U	17 U	15 U	18 U
Acenaphthene	16 U	13 J	11 J	11 J	18 U
Fluorene	16 U	14 J	11 J	9.1 J	18 U
Phenanthrene	16 U	190	150	140	20
Anthracene	16 U	41	33	33	8.2 J
Fluoranthene	6.5 J	230	210	190	150
Pyrene	6.1 J	200	190	180	180
Benzo(a)anthracene	4.7 J	120	110	110	52
Chrysene	5 J	110	100	99	71
Benzo(b)fluoranthene	13 J	160	160	180	18 U
Benzo(k)fluoranthene	16 U	24 U	17 U	15 U	110

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SWMU 45 - FORMER POWER PLANT
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NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)					
Benzo(a)pyrene	7.3 J	93	95	93	18 U
Indeno(1,2,3-cd)pyrene	3.2 J	19 J	14 J	9.2 J	7.5 J
Dibenzo(a,h)anthracene	16 U	24 U	17 U	15 U	18 U
Benzo(g,h,i)perylene	4.8 J	27	31	25	22
PCBs (ug/kg)					
Aroclor-1016	77 U	120 U	82 U	75 U	87 U
Aroclor-1221	160 U	240 U	170 U	150 U	180 U
Aroclor-1232	77 U	120 U	82 U	75 U	87 U
Aroclor-1242	77 U	120 U	82 U	75 U	87 U
Aroclor-1248	77 U	120 U	82 U	75 U	87 U
Aroclor-1254	77 U	120 U	82 U	75 U	87 U
Aroclor-1260	77 U	35 J	25 J	26 J	38 J
Miscellaneous Parameters (mg/kg)					
Total Organic Carbon	22,000	31,000	27,000	19,000	34,000

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SWMU 45 - FORMER POWER PLANT
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NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)					
Dichlorodifluoromethane	NA	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA	NA
Acrolein (Propenal)	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA
Iodomethane (Methyl iodide)	NA	NA	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	NA
Acetonitrile	NA	NA	NA	NA	NA
3-Chloropropene (Allylchloride)	NA	NA	NA	NA	NA
Methylene chloride (Dichloromethane)	NA	NA	NA	NA	NA
Acrylonitrile	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA
Vinyl acetate	NA	NA	NA	NA	NA
Chloroprene	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone)	NA	NA	NA	NA	NA
Propionitrile	NA	NA	NA	NA	NA
Methacrylonitrile	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA
Isobutanol (Isobutyl alcohol)	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA

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SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)					
Trichloroethene	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA
Methyl methacrylate	NA	NA	NA	NA	NA
Dibromomethane (Methylene bromide)	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA
Ethyl methacrylate	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	NA	NA	NA	NA	NA
trans-1,4-Dichloro-2-butene	NA	NA	NA	NA	NA
Pentachloroethane	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA
Xylenes, Total	NA	NA	NA	NA	NA

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SWMU 45 - FORMER POWER PLANT
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NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg)					
1,4-Dioxane	NA	NA	NA	NA	NA
Pyridine	NA	NA	NA	NA	NA
N-Nitrosodimethylamine	NA	NA	NA	NA	NA
Aniline	NA	NA	NA	NA	NA
Phenol	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA
1,3-Dichlorobenzene (m-Dichlorobenzene)	NA	NA	NA	NA	NA
1,4-Dichlorobenzene (p-Dichlorobenzene)	NA	NA	NA	NA	NA
Benzyl alcohol	NA	NA	NA	NA	NA
1,2-Dichlorobenzene (o-Dichlorobenzene)	NA	NA	NA	NA	NA
Cresol (ortho)	NA	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)[bis(2-Chloroisopropyl)ether]	NA	NA	NA	NA	NA
n-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA
Cresol, m & p	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA
2-Nitrophenol (o-Nitrophenol)	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA
4-Chloroaniline (p-Chloroaniline)	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol (p-Chloro-m-cresol)	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA

APPENDIX C.4

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SWMU 45 - FORMER POWER PLANT
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NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA
2-Nitroaniline (o-Nitroaniline)	NA	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA
3-Nitroaniline (m-Nitroaniline)	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA
4-Nitrophenol (p-Nitrophenol)	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	NA	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA	NA
4-Chlorophenylphenyl ether	NA	NA	NA	NA	NA
4-Nitroaniline (p-Nitroaniline)	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA
4-Bromophenylphenyl ether	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA
Di-n-octylphthalate	NA	NA	NA	NA	NA
Dinoseb (2-sec-Butyl-4,6-dinitrophenol)	NA	NA	NA	NA	NA
2-Picoline	NA	NA	NA	NA	NA
N-Nitrosomethylethylamine	NA	NA	NA	NA	NA

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SWMU 45 - FORMER POWER PLANT
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NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
Methyl methanesulfonate	NA	NA	NA	NA	NA
N-Nitrosodiethylamine	NA	NA	NA	NA	NA
Ethyl methanesulfonate	NA	NA	NA	NA	NA
N-Nitrosopyrrolidine	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA
N-Nitrosomorpholine	NA	NA	NA	NA	NA
o-Toluidine	NA	NA	NA	NA	NA
N-Nitrosopiperidine	NA	NA	NA	NA	NA
2,6-Dichlorophenol	NA	NA	NA	NA	NA
Hexachloropropene	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	NA	NA
alpha,alpha-Dimethylphenethylamine	NA	NA	NA	NA	NA
N-Nitrosodi-n-butylamine	NA	NA	NA	NA	NA
1,4-Phenylenediamine (p-Phenylenediamine)	NA	NA	NA	NA	NA
Safrole	NA	NA	NA	NA	NA
Isosafrole	NA	NA	NA	NA	NA
1,4-Naphthoquinone	NA	NA	NA	NA	NA
m-Dinitrobenzene	NA	NA	NA	NA	NA
Pentachlorobenzene	NA	NA	NA	NA	NA
1-Naphthylamine	NA	NA	NA	NA	NA
2-Naphthylamine	NA	NA	NA	NA	NA
5-Nitro-o-toluidine	NA	NA	NA	NA	NA
1,3,5-Trinitrobenzene	NA	NA	NA	NA	NA
Phenacetin	NA	NA	NA	NA	NA
4-Aminobiphenyl	NA	NA	NA	NA	NA
Pronamide	NA	NA	NA	NA	NA
Pentachloronitrobenzene	NA	NA	NA	NA	NA
4-Nitroquinoline-1-oxide	NA	NA	NA	NA	NA

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SWMU 45 - FORMER POWER PLANT
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NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
Methapyrilene	NA	NA	NA	NA	NA
p-(Dimethylamino)azobenzene	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	NA	NA	NA	NA	NA
2-Acetylaminofluorene	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	NA	NA	NA	NA	NA
Hexachlorophene	NA	NA	NA	NA	NA
3-Methylcholanthrene	NA	NA	NA	NA	NA
Aramite, Total	NA	NA	NA	NA	NA
Diallate, Total	NA	NA	NA	NA	NA
Low Level PAHs (ug/kg)					
Naphthalene	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA
1-Methylnaphthalene	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA

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SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)					
Benzo(a)pyrene	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA
PCBs (ug/kg)					
Aroclor-1016	62 U	75 U	63 U	60 U	58 U
Aroclor-1221	130 U	150 U	130 U	120 U	120 U
Aroclor-1232	62 U	75 U	63 U	60 U	58 U
Aroclor-1242	62 U	75 U	63 U	60 U	58 U
Aroclor-1248	62 U	75 U	63 U	60 U	58 U
Aroclor-1254	62 U	75 U	63 U	60 U	58 U
Aroclor-1260	24 J	12 J	63 U	60 U	58 U
Miscellaneous Parameters (mg/kg)					
Total Organic Carbon	NA	NA	NA	NA	NA

APPENDIX C.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - INORGANICS
SWMU 45 - FORMER POWER PLANT
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD11	11SD12	11SD13	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSD10	11OWSD11	11OWSD11D	11OWSD12	11OWSD13	11OWSD14	11OWSD15	11OWSD16	11OWSD17	11OWSD18
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Inorganics (mg/kg)										
Antimony	0.24 J	0.65 J	0.27 J	0.21 J	0.21 J	0.27 J	0.49 J	0.32 J	0.47 J	0.71 J
Arsenic	5.9	7.1	7.3	6.6	6.8	5.3	4.1	3.6	3.2	4.7
Barium	17	27	25	21	18	17	22	15	22	33
Beryllium	0.064 J	0.097 J	0.11 J	0.08 J	0.074 J	0.1 J	0.064 J	0.054 J	0.058 J	0.12 J
Cadmium	0.13 J	0.2 J	0.21 J	0.13 J	0.14 J	0.11 J	0.25 J	0.17 J	0.38 J	1.3
Chromium	10	16 J	19 J	13 J	14 J	11 J	9.5	6.8	11	17
Cobalt	3.5	5	4.8	3.8	3.7	2.9	3.6	3.7	3.6	6.1
Copper	27	59 J	50 J	35 J	35 J	24 J	31	25	25	48
Cyanide	0.94 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.8 U	1.2 U	1.1 U	1.3 U
Lead	10	25 J	19 J	12 J	10 J	6.4 J	13	7.2	13	18
Mercury	0.031 J	0.034 J	0.032 J	0.034 J	0.036 J	0.015 J	0.07 U	0.016 J	0.017 J	0.038 J
Nickel	3.6	5.6	6.6	4.8	4.7	3.9	4.2	3.8	4	7.1
Selenium	0.25 J	0.31 J	0.4 J	0.38 J	0.36 J	0.39 J	0.26 J	0.25 J	0.21 J	0.37 J
Silver	0.05 J	0.079 J	0.074 J	0.05 J	0.058 J	0.084 J	0.088 J	0.062 J	0.062 J	0.1 J
Thallium	0.14 J	0.094 J	0.07 J	0.14 J	0.083 J	0.046 J	0.23 J	0.14 J	0.11 J	0.2 J
TIN	3.4 J	4.3 J	4.8 J	4.2 J	4.4 J	4.1 J	6.4 J	4.1 J	3.8 J	5.1 J
Vanadium	24	40	42	30	30	27	27	21	25	43
Zinc	39	66 J	67 J	47 J	44 J	26 J	52	36	41	80

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Colchester, Vermont

Extended Data Package

SDG: 95345

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PARTICLE SIZE

Particle Size of Soils by ASTM D422

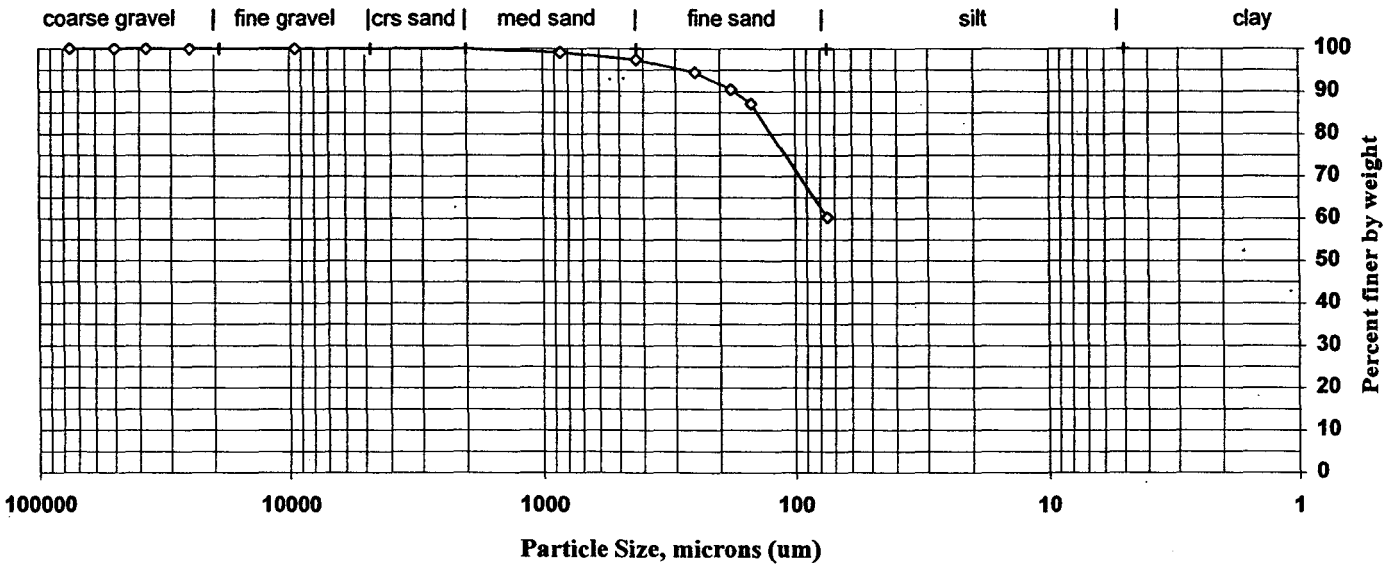
Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95345
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95345
Date Received:	12-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537905 **Sample ID:** 11OWSD10

Percent Solids: 54.9%
Specific Gravity: 2.65 (assumed)
Non-soil mass: 0.2%

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.1	0.9
#40	425	97.4	1.7
#60	250	94.5	3.0
#80	180	90.4	4.0
#100	150	87.1	3.3
#200	75	60.3	26.8
Hydrometer	0.0	0.0	60.3
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	39.7
Coarse Sand	0.0
Medium Sand	2.6
Fine Sand	37.1
Fines	60.3

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Particle Size of Soils by ASTM D422

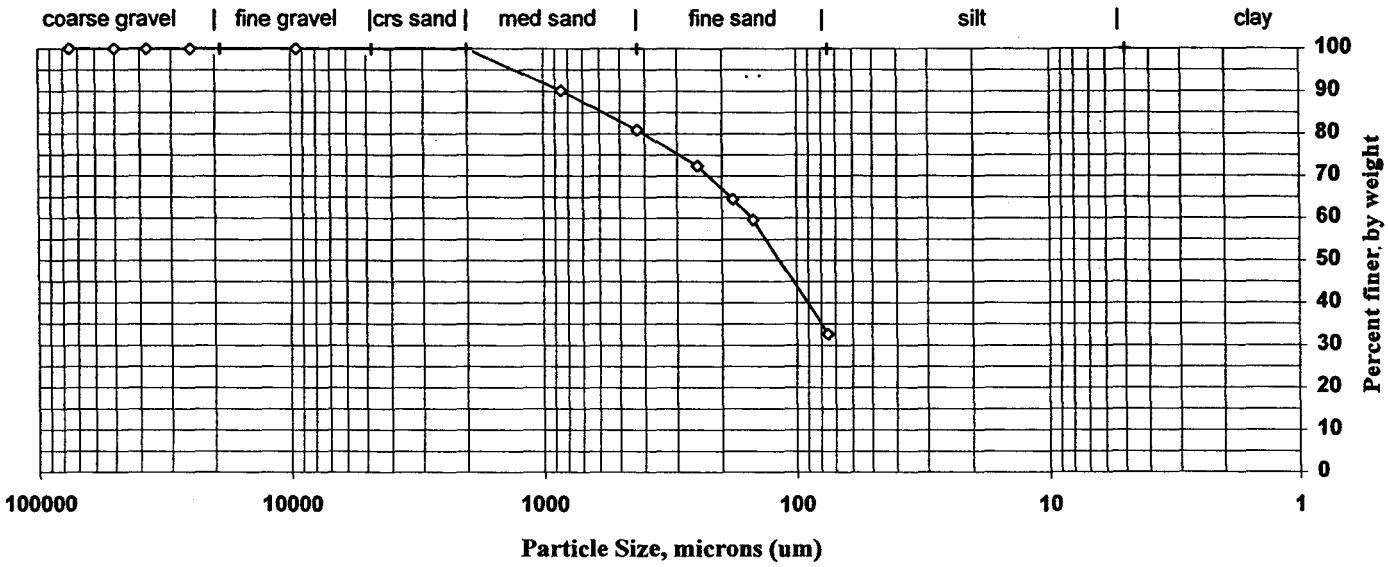
Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95345
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95345
Date Received:	12-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537906 **Sample ID:** 11OWSD15

Percent Solids: 39.7%
Specific Gravity: 2.65 (assumed)
Non-soil mass: 14.7%

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	90.1	9.9
#40	425	80.9	9.3
#60	250	72.3	8.5
#80	180	64.4	7.9
#100	150	59.6	4.9
#200	75	32.6	27.0
Hydrometer	0.0	0.0	32.6
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	67.4
Coarse Sand	0.0
Medium Sand	19.1
Fine Sand	48.3
Fines	32.6

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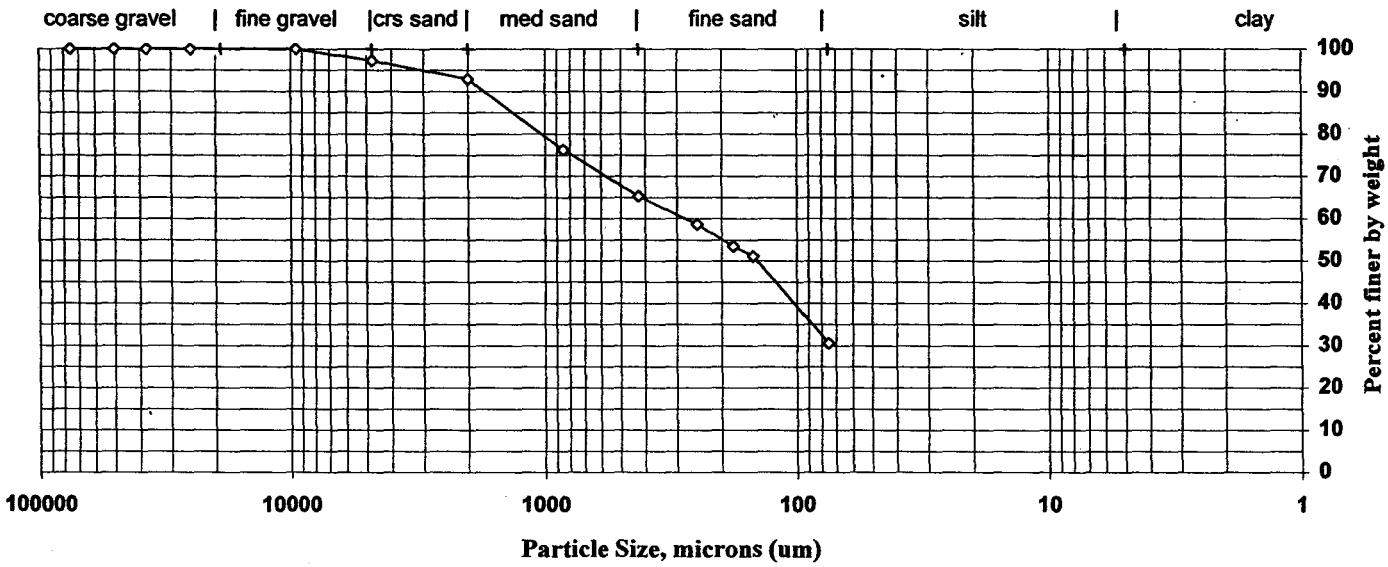
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95345
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95345
Date Received:	12-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537907 **Sample ID:** 11OWSD16

Percent Solids:	50.2%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	angular
Non-soil mass:	8.1%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	97.3	2.7
#10	2000	92.9	4.3
#20	850	76.3	16.6
#40	425	65.3	11.0
#60	250	58.7	6.6
#80	180	53.5	5.2
#100	150	51.1	2.4
#200	75	30.6	20.5
Hydrometer	0.0	0.0	30.6
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	2.7
Sand	66.7
Coarse Sand	4.3
Medium Sand	27.7
Fine Sand	34.7
Fines	30.6

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Particle Size of Soils by ASTM D422

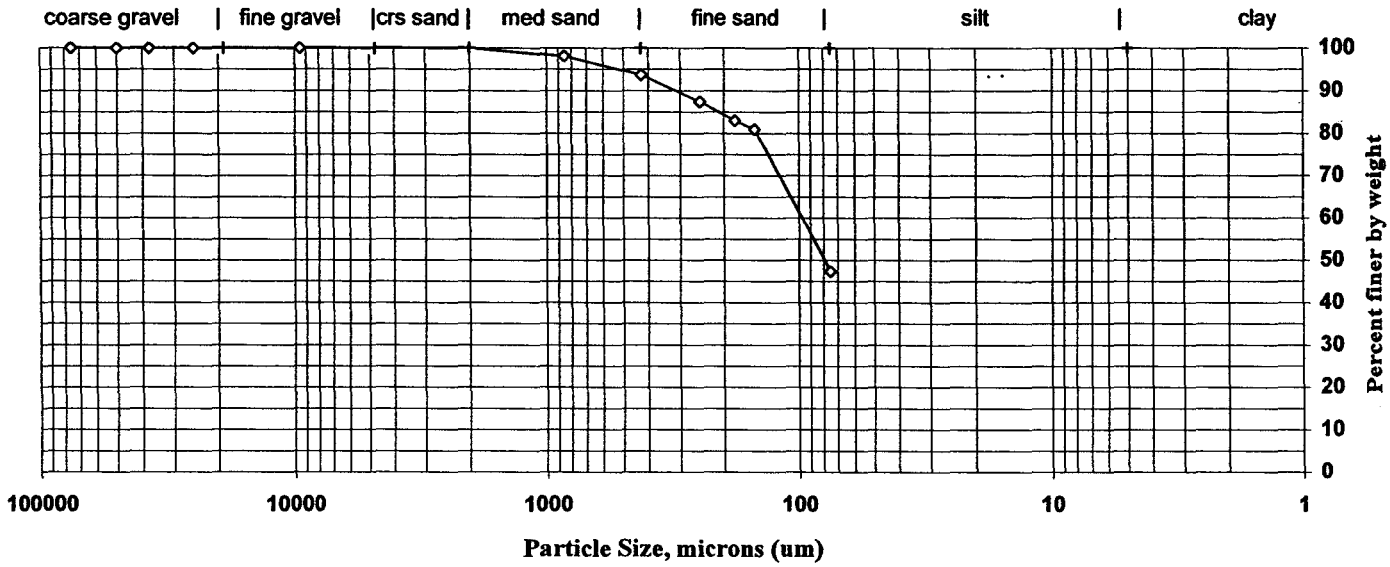
Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95345
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95345
Date Received:	12-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537908 **Sample ID:** 11OWSD17

Percent Solids: 48.4%
Specific Gravity: 2.65 (assumed)
Non-soil mass: 0.2%

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.1	1.9
#40	425	93.7	4.4
#60	250	87.4	6.3
#80	180	83.0	4.4
#100	150	81.0	2.0
#200	75	47.4	33.6
Hydrometer	0.0	0.0	47.4
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	52.6
Coarse Sand	0.0
Medium Sand	6.3
Fine Sand	46.3
Fines	47.4

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Particle Size of Soils by ASTM D422

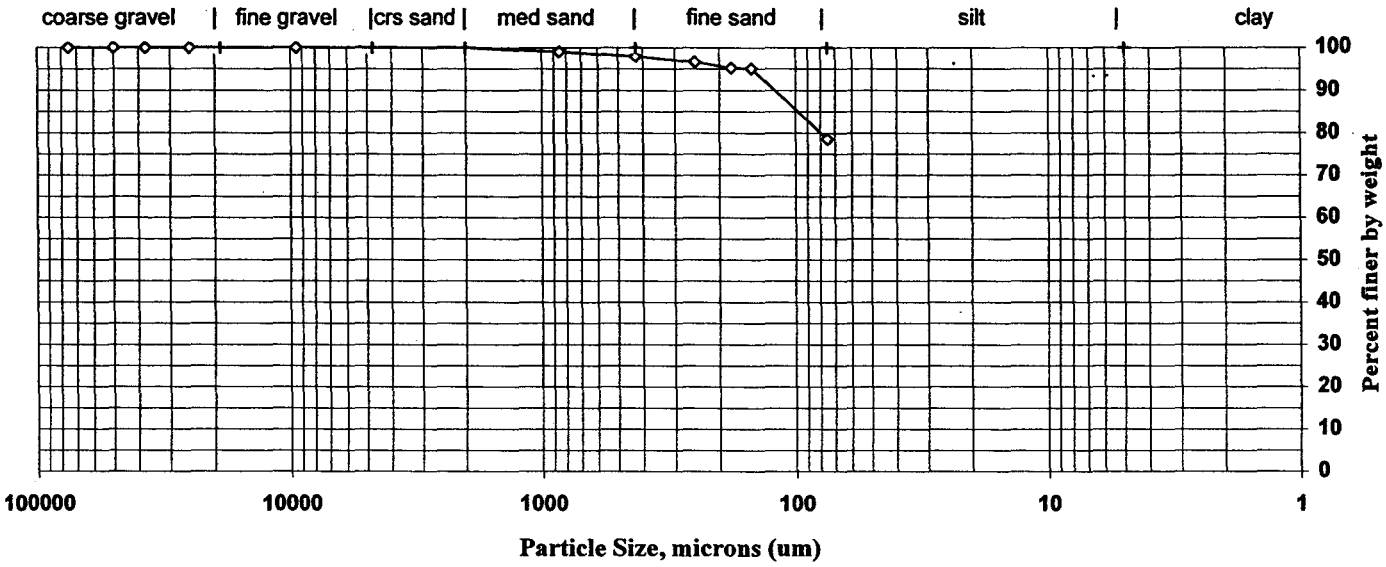
Sample preparation method: D2217

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95345
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95345
Date Received:	12-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537909 **Sample ID:** 11OWSD18

Percent Solids: 37.2%
Specific Gravity: 2.65 (assumed)
Non-soil mass: 6.7%

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.0	1.0
#40	425	97.9	1.1
#60	250	96.7	1.2
#80	180	95.3	1.4
#100	150	95.1	0.1
#200	75	78.5	16.6
Hydrometer	0.0	0.0	78.5
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	21.5
Coarse Sand	0.0
Medium Sand	2.1
Fine Sand	19.4
Fines	78.5

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Particle Size Analysis
Sieve Data

Client: [redacted] ETR(s): [redacted] Project: [redacted] Date Rec: [redacted] Start Date: [redacted]
Client Code: [redacted] SDG(s): [redacted] Case: [redacted] End Date: [redacted]

SET: [redacted]

Dry prep = D421
Wet prep = D2217

Test	1	2	3	4	5	6	7	8	9	10	11	12
Laboratory No	[redacted]											
Sample ID	[redacted]											
Sample Prep Method	D2217	D2217	D2217	D2217	D2217							
Pan, g												
Pan/sample, g	[redacted]											
Pan/dry sampl, g												
Non-soil material												
Description	[redacted]											
Pan, g	[redacted]											
Pan/dry sampl, g	[redacted]											
Non-soil, g	0.18	8.90	5.03	0.17	2.80							
Hydroscopic Moisture correction factor (HMCF) for dry prep / Percent Solids for dry and wet prep												
Pan, g	[redacted]											
Pan/sample, g	[redacted]											
Pan/dry sampl, g	[redacted]											
HMCF	100.0%	100.0%	100.0%	100.0%	100.0%							
Sample % Solids	54.9%	39.7%	50.2%	48.4%	37.2%							
Sample used, g	106.04	60.50	62.43	77.23	41.78							
Maximum Particle size	Med sand	Med sand	9.5 mm	Med sand	Med sand							
Description of >#10 particles												
Shape	[redacted]											
Hardness	[redacted]											
Sample Mass Parameters												
Pan/sample, g	193.42	174.63	134.32	159.87	119.69							
Mass removed, g	0.18	8.90	9.44	0.17	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample mass, g	106.04	60.50	58.02	77.23	41.78							

Standard Values

Sieve	Opening, um
3 inch	75000
2 inch	50000
1.5 inch	37500
1 inch	25000
3/4 inch	19000
3/8 inch	9500
#4	4750
#10	2000
#20	850
#40	425
#60	250
#80	180
#100	150
#200	75

Sieve (tares)

Size	Mass, g	
3 inch	[redacted]	
2 inch		
1.5 inch		
1 inch		
3/4 inch		
3/8 inch		
#4		
#10		
#20		c
#40		c
#60		c
#80		c
#100		c
#200		c

Sieve + Sample Weights

Size	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g
3 inch	[redacted]											
2 inch												
1.5 inch												
1 inch												
3/4 inch												
3/8 inch												
#4												
#10												
#20												
#40												
#60												
#80												
#100												
#200												

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Colchester, Vermont

Extended Data Package

SDG: 95343

SEVERN TRENT STL

PARTICLE SIZE

Particle Size of Soils by ASTM D422

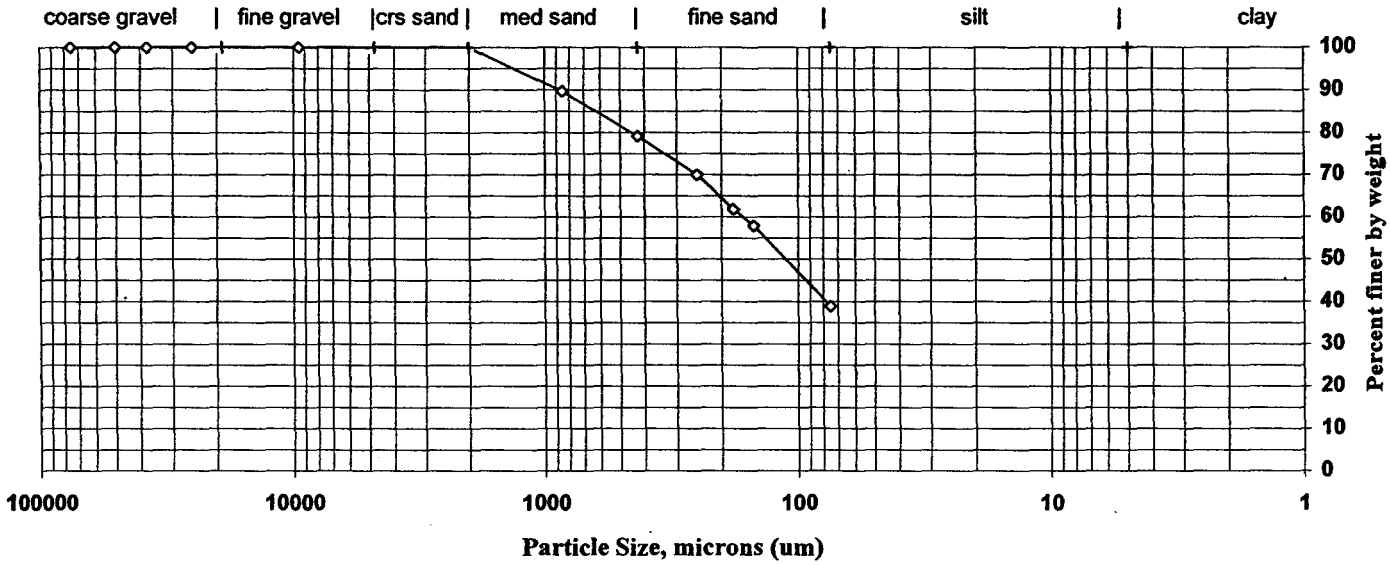
Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95343
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95343
Date Received:	13-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537901 **Sample ID:** 11OWSD11

Percent Solids: 50.8%
Specific Gravity: 2.65 (assumed)
Non-soil mass: 17.3%

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	89.7	10.3
#40	425	79.1	10.6
#60	250	70.0	9.1
#80	180	61.8	8.2
#100	150	57.9	3.9
#200	75	38.8	19.1
Hydrometer	0.0	0.0	38.8
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	61.2
Coarse Sand	0.0
Medium Sand	20.9
Fine Sand	40.3
Fines	38.8

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Particle Size of Soils by ASTM D422

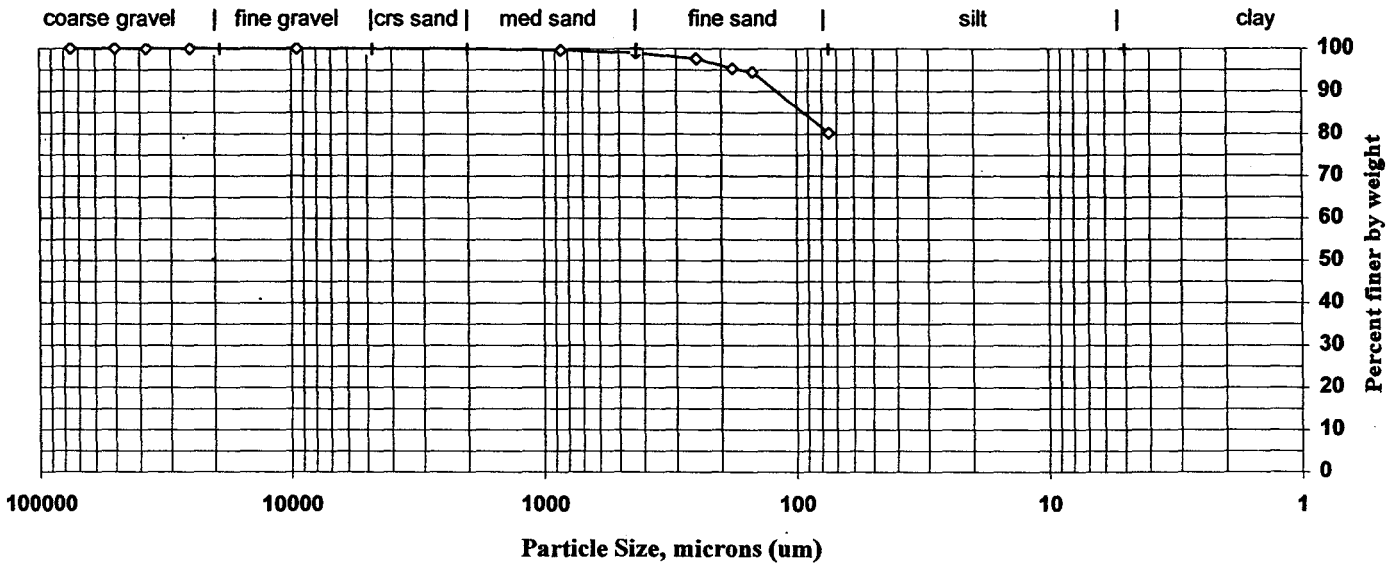
Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95343
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95343
Date Received:	13-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537902 **Sample ID:** 11OWSD12

Percent Solids: 47.6%
Specific Gravity: 2.65 (assumed)
Non-soil mass: 0.1%

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.6	0.4
#40	425	99.0	0.6
#60	250	97.6	1.4
#80	180	95.4	2.3
#100	150	94.6	0.8
#200	75	80.2	14.3
Hydrometer	0.0	0.0	80.2
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	19.8
Coarse Sand	0.0
Medium Sand	1.0
Fine Sand	18.8
Fines	80.2

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Particle Size of Soils by ASTM D422

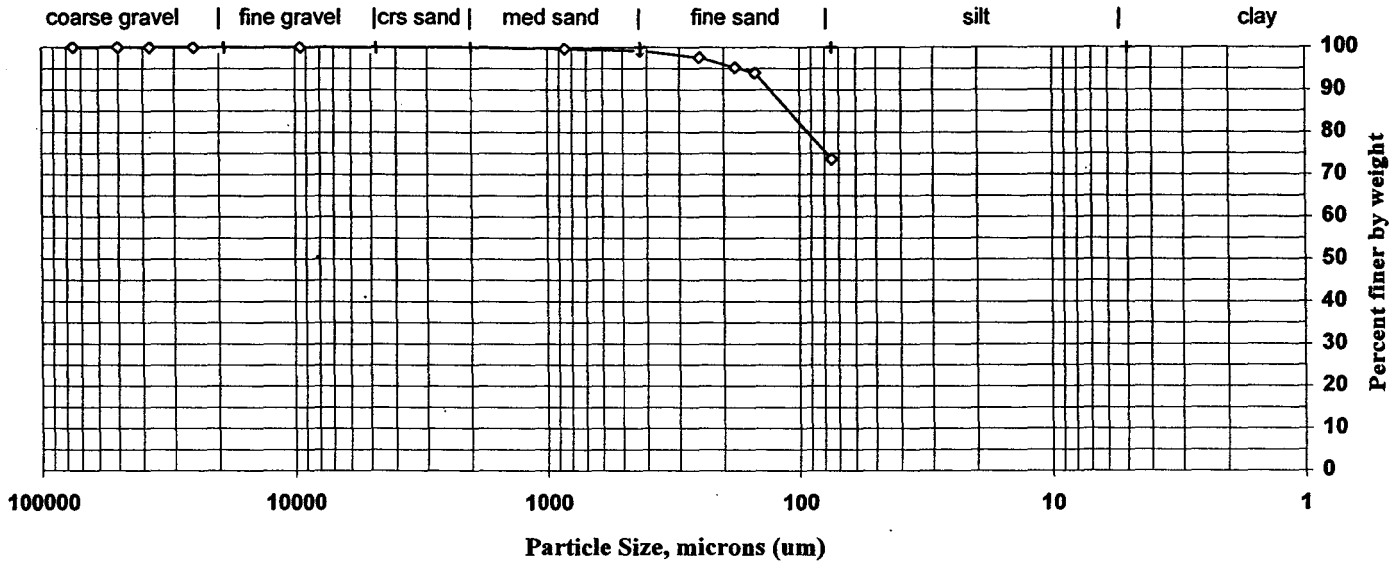
Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95343
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95343
Date Received:	13-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537903 **Sample ID:** 11OWSD13

Percent Solids: 51.3%
Specific Gravity: 2.65 (assumed)
Non-soil mass: 0.1%

Maximum Particle Size: Med sand
Shape (> #10): N/A
Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.7	0.3
#40	425	99.2	0.5
#60	250	97.6	1.6
#80	180	95.2	2.4
#100	150	94.0	1.3
#200	75	73.7	20.3
Hydrometer	0.0	0.0	73.7
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	26.3
Coarse Sand	0.0
Medium Sand	0.8
Fine Sand	25.5
Fines	73.7

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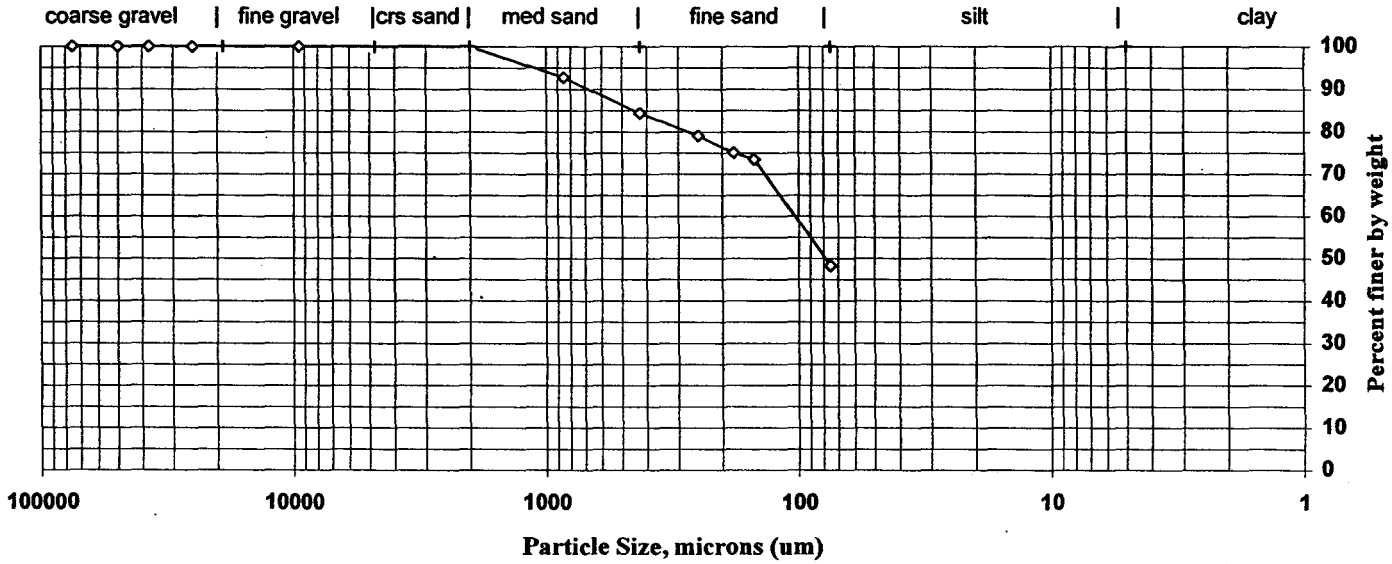
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLGAS	**Project No.:**	23005	**ETR(s) #:**	95343
Client Code:	STLGAS	**Job No.:**	CTO-271	**SDG(s):**	95343
Date Received:	13-Aug-03	**Start Date:**	30-Aug-03	**End Date:**	3-Sep-03

Lab ID: 537904 **Sample ID:** 11OWSD14

Percent Solids: 47.1% **Maximum Particle Size:** Med sand
Specific Gravity: 2.65 (assumed) **Shape (> #10):** N/A
Non-soil mass: 29.9% **Hardness (> #10):** N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	92.7	7.3
#40	425	84.4	8.3
#60	250	79.0	5.3
#80	180	75.1	3.9
#100	150	73.5	1.6
#200	75	48.2	25.3
Hydrometer	0.0	0.0	48.2
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
|	0.0	0.0	0.0
V	0.0	0.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	51.8
Coarse Sand	0.0
Medium Sand	15.6
Fine Sand	36.2
Fines	48.2

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0007

Particle Size Analysis
Sieve Data

Client: [redacted] ETR(s): [redacted] Project: [redacted] Date Rec: [redacted] Start Date: [redacted]
Client Code: [redacted] SDG(s): [redacted] Case: [redacted] End Date: [redacted]

SET: [redacted]

Dry prep = D421
Wet prep = D2217

Test	1	2	3	4	5	6	7	8	9	10	11	12
Laboratory No	[redacted]											
Sample ID	[redacted]											
Sample Prep Method	D2217	D2217	D2217	D2217								
Pan, g												
Pan/sample, g	[redacted]											
Pan/dry sampl, g												
Non-soil material												
Description	[redacted]											
Pan, g	[redacted]											
Pan/dry sampl, g	[redacted]											
Non-soil, g	7.09	0.07	0.08	12.36								
Hydroscopic Moisture correction factor (HMCF) for dry prep / Percent Solids for dry and wet prep												
Pan, g	[redacted]											
Pan/sample, g	[redacted]											
Pan/dry sampl, g	[redacted]											
HMCF	100.0%	100.0%	100.0%	100.0%								
Sample % Solids	50.8%	47.6%	51.3%	47.1%								
Sample used, g	41.03	56.64	58.17	41.32								

Standard Values

Sieve	Opening, um
3 inch	75000
2 inch	50000
1.5 inch	37500
1 inch	25000
3/4 inch	19000
3/8 inch	9500
#4	4750
#10	2000
#20	850
#40	425
#60	250
#80	180
#100	150
#200	75

Sieve (tares)

Size	Mass, g	
3 inch	[redacted]	
2 inch		
1.5 inch		
1 inch		
3/4 inch		
3/8 inch		
#4		
#10	437.42	
#20	377.99	c
#40	344.89	c
#60	327.96	c
#80	306.28	c
#100	305.84	c
#200	316.57	c

Sieve + Sample Weights

Size	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g	Mass, g
3 inch	[redacted]											
2 inch												
1.5 inch												
1 inch												
3/4 inch												
3/8 inch												
#4												
#10												
#20												
#40												
#60												
#80												
#100												
#200												

Maximum Particle size

	Med sand	Med sand	Med sand	Med sand								

Description of >#10 particles

Shape	[redacted]											
Hardness												

Sample Mass Parameters

Pan/sample, g	94.65	119.08	113.49	114.06								
Mass removed, g	7.09	0.07	0.08	12.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sample mass, g	41.03	56.64	58.17	41.32								

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APPENDIX C.7

SUMMARY OF ANALYTICAL RESULTS, QA/QC SAMPLES - ORGANICS
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	45TB01	45TB02	45ER01	45ER02	2003FB01
Sample Date	08/05/03	08/07/03	08/05/03	08/05/03	07/28/03
Volatiles (ug/L)					
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U
Chloromethane (Methyl Chloride)	1 UJ	1 UJ	1 UJ	1 UJ	1 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl Bromide)	1 UJ	1 UJ	1 UJ	1 UJ	1 U
Chloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U
Trichlorofluoromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Acrolein (Propenal)	20 R	20 R	20 R	20 R	20 R
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Acetone	25 R	25 U	25 R	25 R	25 U
Iodomethane (Methyl iodide)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon disulfide	1 U	1 U	1 U	1 U	1 U
Acetonitrile	40 U	40 UJ	40 U	40 U	40 U
3-Chloropropene (Allylchloride)	1 U	1 UJ	1 U	1 U	1 U
Methylene chloride (Dichloromethane)	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	20 UJ	20 UJ	20 UJ	20 UJ	20 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U
Vinyl acetate	2 U	2 U	2 U	2 U	2 U
Chloroprene	1 U	1 UJ	1 U	1 U	1 U
2-Butanone (Methyl ethyl ketone)	10 U	10 U	10 U	10 U	10 U
Propionitrile	20 U	20 UJ	20 U	20 U	20 U
Methacrylonitrile	20 U	20 UJ	20 U	20 U	20 U
Chloroform	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U
Carbon tetrachloride	1 U	1 UJ	1 U	1 U	1 U
Isobutanol (Isobutyl alcohol)	40 R	40 R	40 R	40 R	40 R
Benzene	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U
Methyl methacrylate	1 U	1 U	1 U	1 U	1 U
Dibromomethane (Methylene bromide)	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (MIBK)	10 U	10 U	10 U	10 U	10 U
Toluene	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Ethyl methacrylate	1 U	1 UJ	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U

APPENDIX C.7

SUMMARY OF ANALYTICAL RESULTS, QA/QC SAMPLES - ORGANICS
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	45TB01	45TB02	45ER01	45ER02	2003FB01
Sample Date	08/05/03	08/07/03	08/05/03	08/05/03	07/28/03
Volatiles (ug/L) (Cont.)					
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.11 J	1 U	1 U	1 U	1 U
Styrene	0.93 J	1 U	1 U	1 U	1 U
Bromoform	1 UJ	1 U	1 UJ	1 UJ	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U
trans-1,4-Dichloro-2-butene	2 U	2 UJ	2 U	2 U	2 U
Pentachloroethane	5 R	5 UJ	5 R	5 R	5 R
1,2-Dibromo-3-chloropropane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Xylenes, Total	2 U	2 U	2 U	2 U	2 U
Semivolatiles (ug/L)					
1,4-Dioxane	NA	NA	10 R	10 UJ	10 U
Pyridine	NA	NA	50 UJ	50 UJ	50 U
N-Nitrosodimethylamine	NA	NA	10 U	10 U	10 U
Aniline	NA	NA	20 UJ	20 U	20 U
Phenol	NA	NA	10 U	10 U	10 U
bis(2-Chloroethyl)ether	NA	NA	10 U	10 U	10 U
2-Chlorophenol	NA	NA	10 U	10 U	10 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	NA	NA	10 U	10 U	10 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	NA	NA	10 U	10 U	10 U
Benzyl alcohol	NA	NA	10 U	10 U	10 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	NA	NA	10 U	10 U	10 U
Cresol (ortho)	NA	NA	10 U	10 U	10 U
2,2'-Oxybis(1-chloropropane)[bis(2-Chloroisopropyl)ether]	NA	NA	10 U	10 UJ	10 U
n-Nitrosodi-n-propylamine	NA	NA	10 U	10 U	10 U
Cresol, m & p	NA	NA	10 U	10 U	10 U
Hexachloroethane	NA	NA	10 U	10 U	10 U
Nitrobenzene	NA	NA	10 U	10 U	10 U
Isophorone	NA	NA	10 U	10 U	10 U
2-Nitrophenol (o-Nitrophenol)	NA	NA	10 U	10 U	10 U
2,4-Dimethylphenol	NA	NA	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	NA	NA	10 U	10 U	10 U
2,4-Dichlorophenol	NA	NA	10 U	10 U	10 U
1,2,4-Trichlorobenzene	NA	NA	10 U	10 U	10 U
4-Chloroaniline (p-Chloroaniline)	NA	NA	20 U	20 U	20 U
Hexachlorobutadiene	NA	NA	10 U	10 U	10 U
4-Chloro-3-methylphenol (p-Chloro-m-cresol)	NA	NA	10 U	10 U	10 U
Hexachlorocyclopentadiene	NA	NA	10 U	10 U	10 UJ
2,4,6-Trichlorophenol	NA	NA	10 U	10 U	10 U
2,4,5-Trichlorophenol	NA	NA	10 U	10 U	10 U
2-Chloronaphthalene	NA	NA	10 U	10 U	10 U
2-Nitroaniline (o-Nitroaniline)	NA	NA	50 U	50 U	50 U
Dimethylphthalate	NA	NA	10 U	10 U	10 U

APPENDIX C.7

SUMMARY OF ANALYTICAL RESULTS, QA/QC SAMPLES - ORGANICS
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	45TB01	45TB02	45ER01	45ER02	2003FB01
Sample Date	08/05/03	08/07/03	08/05/03	08/05/03	07/28/03
Semivolatiles (ug/L) (Cont.)					
2,6-Dinitrotoluene	NA	NA	10 U	10 U	10 U
3-Nitroaniline (m-Nitroaniline)	NA	NA	50 U	50 U	50 U
2,4-Dinitrophenol	NA	NA	50 U	50 U	50 U
4-Nitrophenol (p-Nitrophenol)	NA	NA	50 U	50 U	50 U
Dibenzofuran	NA	NA	10 U	10 U	10 U
2,4-Dinitrotoluene	NA	NA	10 U	10 U	10 U
2,3,4,6-Tetrachlorophenol	NA	NA	10 UJ	10 U	10 U
Diethylphthalate	NA	NA	10 U	10 U	10 U
4-Chlorophenylphenyl ether	NA	NA	10 U	10 U	10 U
4-Nitroaniline (p-Nitroaniline)	NA	NA	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	NA	NA	50 U	50 U	50 U
N-Nitrosodiphenylamine	NA	NA	10 U	10 U	10 U
4-Bromophenylphenyl ether	NA	NA	10 U	10 U	10 U
Hexachlorobenzene	NA	NA	10 U	10 U	10 U
Pentachlorophenol	NA	NA	50 U	50 U	50 U
Di-n-butylphthalate	NA	NA	10 U	10 U	10 U
Butylbenzylphthalate	NA	NA	10 U	10 U	10 U
3,3'-Dichlorobenzidine	NA	NA	20 U	20 U	20 U
bis(2-Ethylhexyl)phthalate	NA	NA	10 U	10 U	10 U
Di-n-octylphthalate	NA	NA	10 U	10 U	10 U
Benzo(a)pyrene	NA	NA	10 U	10 U	10 U
Dinoseb (2-sec-Butyl-4,6-dinitrophenol)	NA	NA	10 UJ	10 UJ	10 U
2-Picoline	NA	NA	10 UJ	10 UJ	10 U
N-Nitrosomethylethylamine	NA	NA	10 UJ	10 UJ	10 U
Methyl methanesulfonate	NA	NA	10 UJ	10 UJ	10 U
N-Nitrosodiethylamine	NA	NA	10 UJ	10 UJ	10 U
Ethyl methanesulfonate	NA	NA	10 UJ	10 UJ	10 U
N-Nitrosopyrrolidine	NA	NA	10 U	10 U	10 U
Acetophenone	NA	NA	10 UJ	10 UJ	10 U
N-Nitrosomorpholine	NA	NA	10 U	10 U	10 U
o-Toluidine	NA	NA	10 UJ	10 UJ	10 U
N-Nitrosopiperidine	NA	NA	10 U	10 U	10 U
2,6-Dichlorophenol	NA	NA	10 U	10 U	10 U
Hexachloropropene	NA	NA	10 U	10 U	10 U
1,2,4,5-Tetrachlorobenzene	NA	NA	10 U	10 U	10 U
alpha,alpha-Dimethylphenethylamine	NA	NA	2,000 UJ	2,000 U	2,000 U
N-Nitrosodi-n-butylamine	NA	NA	10 UJ	10 UJ	10 U
1,4-Phenylenediamine (p-Phenylenediamine)	NA	NA	2,000 R	2,000 R	2,000 R
Safrole	NA	NA	10 U	10 U	10 U
Isosafrole	NA	NA	10 U	10 U	10 U
1,4-Naphthoquinone	NA	NA	10 U	10 U	10 U
m-Dinitrobenzene	NA	NA	10 U	10 U	10 U
Pentachlorobenzene	NA	NA	10 U	10 U	10 U
1-Naphthylamine	NA	NA	10 U	10 U	10 U

APPENDIX C.7

SUMMARY OF ANALYTICAL RESULTS, QA/QC SAMPLES - ORGANICS
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	45TB01	45TB02	45ER01	45ER02	2003FB01
Sample Date	08/05/03	08/07/03	08/05/03	08/05/03	07/28/03
Semivolatiles (ug/L) (Cont.)					
2-Naphthylamine	NA	NA	10 UJ	10 U	10 U
5-Nitro-o-toluidine	NA	NA	10 U	10 U	10 U
1,3,5-Trinitrobenzene	NA	NA	10 R	10 R	10 R
Phenacetin	NA	NA	10 UJ	10 U	10 U
4-Aminobiphenyl	NA	NA	10 U	10 U	10 U
Pronamide	NA	NA	10 U	10 U	10 U
Pentachloronitrobenzene	NA	NA	10 R	10 R	10 R
4-Nitroquinoline-1-oxide	NA	NA	20 R	20 R	20 R
Methapyrilene	NA	NA	2,000 R	2,000 R	2,000 R
p-(Dimethylamino)azobenzene	NA	NA	10 UJ	10 UJ	10 U
3,3'-Dimethylbenzidine	NA	NA	20 UJ	20 UJ	20 U
2-Acetylaminofluorene	NA	NA	10 U	10 U	10 U
7,12-Dimethylbenz(a)anthracene	NA	NA	10 U	10 U	10 U
Hexachlorophene	NA	NA	5,000 R	5,000 R	5,000 R
3-Methylcholanthrene	NA	NA	10 U	10 U	10 U
Aramite, Total	NA	NA	10 R	10 R	10 R
Diallate, Total	NA	NA	10 R	10 UJ	10 UJ
Low Level PAHs (ug/L)					
Naphthalene	NA	NA	0.2 U	0.2 U	0.2 U
2-Methylnaphthalene	NA	NA	0.2 U	0.2 U	0.2 U
1-Methylnaphthalene	NA	NA	0.2 U	0.2 U	0.2 U
Acenaphthylene	NA	NA	0.2 U	0.2 U	0.2 U
Acenaphthene	NA	NA	0.2 U	0.2 U	0.2 U
Fluorene	NA	NA	0.2 U	0.2 U	0.2 U
Phenanthrene	NA	NA	0.2 U	0.2 U	0.2 U
Anthracene	NA	NA	0.2 U	0.2 U	0.2 U
Fluoranthene	NA	NA	0.2 U	0.2 U	0.2 U
Pyrene	NA	NA	0.2 U	0.2 U	0.2 U
Benzo(a)anthracene	NA	NA	0.2 U	0.2 U	0.2 U
Chrysene	NA	NA	0.2 U	0.2 U	0.2 U
Benzo(b)fluoranthene	NA	NA	0.2 U	0.2 U	0.2 U
Benzo(k)fluoranthene	NA	NA	0.2 U	0.2 U	0.2 U
Benzo(a)pyrene	NA	NA	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)pyrene	NA	NA	0.2 U	0.2 U	0.2 U
Dibenzo(a,h)anthracene	NA	NA	0.2 U	0.2 U	0.2 U
Benzo(g,h,i)perylene	NA	NA	0.2 U	0.2 U	0.2 U

APPENDIX C.7

SUMMARY OF ANALYTICAL RESULTS, QA/QC SAMPLES - ORGANICS
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	45TB01	45TB02	45ER01	45ER02	2003FB01
Sample Date	08/05/03	08/07/03	08/05/03	08/05/03	07/28/03
PCBs (ug/L)					
Aroclor-1016	NA	NA	1 U	1 U	1 U
Aroclor-1221	NA	NA	2 U	2 U	2 U
Aroclor-1232	NA	NA	1 U	1 U	1 U
Aroclor-1242	NA	NA	1 U	1 U	1 U
Aroclor-1248	NA	NA	1 U	1 U	1 U
Aroclor-1254	NA	NA	1 U	1 U	1 U
Aroclor-1260	NA	NA	1 U	1 U	1 U

APPENDIX C.8

SUMMARY OF ANALYTICAL RESULTS, QA/QC SAMPLES - INORGANICS (TOTAL)
ADDITIONAL DATA COLLECTION INVESTIGATION
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Sample ID	45ER01	45ER02	2003FB01
Sample Date	08/05/03	08/05/03	07/28/03
Inorganics (Total) mg/L			
Antimony	0.00059 J	0.00055 J	0.0025 U
Arsenic	0.005 U	0.005 U	0.005 U
Barium	0.0011 J	0.001 J	0.0093
Beryllium	0.0005 U	0.0005 U	0.0005 U
Cadmium	0.0025 U	0.0025 U	0.0025 U
Chromium	0.005 U	0.005 U	0.005 U
Cobalt	0.005 U	0.005 U	0.005 U
Copper	0.00086 J	0.0018 J	0.0034 J
Cyanide	0.01 U	0.01 U	0.01 U
Lead	0.0015 U	0.00015 J	0.00016 J
Mercury	0.0002 U	0.0002 U	0.0002 U
Nickel	0.000069 J	0.005 U	0.00012 J
Selenium	0.0025 U	0.0025 U	0.0025 U
Silver	0.005 U	0.005 U	0.005 U
Thallium	0.001 U	0.001 U	0.001 U
Tin	0.00024 J	0.00032 J	0.00021 J
Vanadium	0.005 U	0.005 U	0.005 U
Zinc	0.01 U	0.01 U	0.0049 J

APPENDIX D
DATA VALIDATION REPORT NARRATIVES

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PRNS70
Date:	October 21, 2003
Client Name:	Michael Baker Jr., Inc..
Project/Site Name:	Puerto Rico CTO-271
Date Sampled:	August 5, 2003
Number of Samples:	6 Non- Aqueous Sample(s) with 0 MS(s)/MSD(s) 5 Aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	STL Savannah
Validation Guidance:	National Functional Guidelines for Inorganic Data Review, Region II
QA/QC Level:	DQO Level IV
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Semivolatiles, Volatiles, Aroclors, PAHs, Metals and Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Paul B. Humburg, President

Date 10/21/03

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SDG# PRNS70

Samples and Fractions Reviewed

Sample Identifications | Analytical Fractions

CH2M HILL ID	MATRIX	VOA	SVOA	P/P	HERB	PAH	D/F	MET-D	MET-T	CN
110WSW10	WATER	X	X	X		X		X	X	X
110WSW15	WATER	X	X	X		X		X	X	X
110WSW16	WATER	X	X	X		X		X	X	X
110WSW17	WATER	X	X	X		X		X	X	X
110WSW18	WATER	X	X	X		X		X	X	X
45ER01	WATER	X	X	X		X		X	X	X
45ER02	WATER	X	X	X		X		X	X	X
45TB01	WATER	X								
110WSD10	SOIL	X	X	X		X			X	X
110WSD15	SOIL	X	X	X		X			X	X
110WSD16	SOIL	X	X	X		X			X	X
110WSD17	SOIL	X	X	X		X			X	X
110WSD18	SOIL	X	X	X		X			X	X
Total Billable Samples (Water/Soil)		13	12	12	0	12	0	7	12	12

VOA= Appendix IX Volatiles
SVOA= Appendix IX Semivolatiles
P/P= PCBs
HERB= Appendix IX Herbicides
PAH= Appendix IX LOW LEVEL PAHs
MET-D= Appendix IX DISSOLVED METALS
D/F= Appendix IX Dioxins/Furans
MET-T= Appendix IX TOTAL Metals
CN= Appendix IX CYANIDE

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; Region II Standard Operating Procedure, June 1999. All comments made within this report should be considered when examining the analytical results.

SDG # PRNS70

A validation was performed on the Volatile Data from SDG #PRNS70. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

Calibrations

The initial calibration, analyzed on 08-12-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

All Samples	acetone

The initial calibration, analyzed on 08-12-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD10	acrolein
11OWSD15	acetonitrile
11OWSD16	isobutanol
11OWSD17	
11OWSD18	

The initial calibration, analyzed on 08-08-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW10	acrolein
11OWSW16	
11OWSW18	
11OWSW15	
11OWSW17	
45ER01	
45ER02	
45TB01	

The continuing calibrations, MQ139/140, contained compounds with RRFs less than 0.050 or %Ds greater than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD10	acetone
11OWSD15	isobutanol
11OWSD16	acrolein
11OWSD17	acetonitrile
11OWSD18	

Calibrations (cont.)

The continuing calibration, MQ139/140, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSD10	dichlorodifluoromethane
11OWSD15	chloromethane
11OWSD16	bromomethane
11OWSD17	chloroethane
11OWSD18	trichlorofluoromethane
	1,1-dichloroethene
	vinyl acetate
	2-butanone
	4-methyl-2-pentanone
	2-hexanone
	iodomethane
	3-chloro-1-propene
	chloroprene
	propionitrile
	methacrylonitrile
	trans-1,4-dichloro-2-butene

The continuing calibrations, BQ096/097, contained compounds with RRFs less than 0.050 or %Ds greater than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW10	acrolein
11OWSW16	isobutanol
11OWSW18	pentachloroethane
11OWSW15	
11OWSW17	
45ER01	
45ER02	
45TB01	

Calibrations (cont.)

The continuing calibration, BQ096/097, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSW10	iodomethane
11OWSW16	acrylonitrile
11OWSW18	chloromethane
11OWSW15	bromomethane
11OWSW17	chloroethane
45ER01	trichlorofluoromethane
45ER02	acetone
45TB01	1,1,1-trichloroethane
	1,2-dichloroethane
	bromoform
	1,2-dibromo-3-chloropropane

Blanks

Reject all laboratory "B" flagged TICs due to blank contamination.

The blank(s) associated with samples in this SDG exhibited contamination. Qualifications were required. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into considerations when applying the 5X and 10X criteria to field samples.

Associated blank	Compound	Concentration	Action Level
PRNS70-3	methylene chloride	0.90J ug/Kg	9 ug/Kg
45TB01	ethylbenzene	0.11 ug/L	0.55 ug/L
	styrene	0.93J	4.65

Blanks (cont.)

Samples	Compound	Qualification
11OWSD17	methylene chloride	CRQL
11OWSW17 11OWSD18	ethylbenzene	CRQL
11OWSW16 11OWSW18 45ER01 45ER02	styrene	CRQL
11OWSW17	styrene	U

Compound Identification/Quantitation

Qualify all positive results below the CRQL as estimated (J).

System Performance and Overall Assessment

The data as presented requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
All Samples	acetone	+/-	J/R
11OWSD10 11OWSD15 11OWSD16 11OWSD17 11OWSD18	acrolein acetonitrile isobutanol	+/-	J/R
11OWSW10 11OWSW16 11OWSW18 11OWSW15 11OWSW17 45ER01 45ER02 45TB01	acrolein	+/-	J/R
11OWSD10 11OWSD15 11OWSD16 11OWSD17 11OWSD18	acetone isobutanol acrolein acetonitrile	+/-	J/R
11OWSD10 11OWSD15 11OWSD16 11OWSD17 11OWSD18	dichlorodifluoromethane chloromethane bromomethane chloroethane trichlorofluoromethane 1,1-dichloroethene vinyl acetate 2-butanone 4-methyl-2-pentanone 2-hexanone iodomethane 3-chloro-1-propene chloroprene propionitrile methacrylonitrile trans-1,4-dichloro-2-butene	+/-	J/UJ

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSW10 11OWSW16 11OWSW18 11OWSW15 11OWSW17 45ER01 45ER02 45TB01	acrolein isobutanol pentachloroethane	+/-	J/R
11OWSW10 11OWSW16 11OWSW18 11OWSW15 11OWSW17 45ER01 45ER02 45TB01	iodomethane acrylonitrile chloromethane bromomethane chloroethane trichlorofluoromethane acetone 1,1,1-trichloroethane 1,2-dichloroethane bromoform 1,2-dibromo-3-chloropropane	+/-	J/UJ
11OWSD17	methylene chloride	+	CRQL
11OWSW17 11OWSD18	ethylbenzene	+	CRQL
11OWSW16 11OWSW18 45ER01 45ER02	styrene	+	CRQL
11OWSW17	styrene	+	U
All Samples	"B" flagged TICs	+	R
All Samples	all results below CRQL	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C Appendix IX; Region II Standard Operating Procedure for Validation, Rev.3, December 1996. All comments made within this report should be considered when examining the analytical results.

SDG # PRNS70

A validation was performed on the Semivolatile Data from SDG #PRNS70. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

Calibrations

The initial calibration, analyzed on 08-28-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD10	1,4-phenylenediamine
11OWSD15	aramite (total)
11OWSW10	hexachlorophene
11OWSW15	
11OWSW18	
45ER01	
11OWSD16	
11OWSD17	
11OWSD18	
11OWSW16	
11OWSW17	
45ER02	

The initial calibration, analyzed on 08-28-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). **See note under Overall Performance*

11OWSD10	2-diallate
11OWSD15	
11OWSW10	
11OWSW15	
11OWSW18	
45ER01	
11OWSD16	
11OWSD17	
11OWSD18	
11OWSW16	
11OWSW17	
45ER02	

Calibrations (continued)

The continuing calibration, GQ522, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD10	o-toluidine
11OWSD15	1,4-phenylenediamine
	1,3,5-trinitrobenzene
	pentachloronitrobenzene
	dinoseb
	4-nitroquinoline-1-oxide
	methapyrilene
	aramite (total)
	hexachlorophene

The continuing calibrations, GQ522 and GQ573, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). **See note under Overall Performance*

11OWSD10	2-diallate
11OWSD15	
11OWSD16	
11OWSD17	
11OWSD18	

The continuing calibration, GQ568, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW10	1,4-dioxane
11OWSW15	1,4-phenylenediamine
11OWSW18	1,3,5-trinitrobenzene
45ER01	diallate (total)
	pentachloronitrobenzene
	4-nitroquinoline-1-oxide
	methapyrilene
	aramite (total)

Calibrations (continued)

The continuing calibrations, GQ521 and GQ522, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSD10	n-nitrosodimethylamine
11OWSD15	bis(2-chloroethyl)ether
	4-nitrophenol
	1,4-dioxane
	pyridine
	2-picoline
	n-nitrosomethylethylamine
	methyl methanesulfonate
	ethyl methanesulfonate
	n-nitrosomorpholine
	sulfotepp
	1-diallate

The continuing calibration, GQ572, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD16	1,4-phenylenediamine
11OWSD17	1,3,5-trinitrobenzene
11OWSD18	pentachloronitrobenzene
	4-nitroquinoline-1-oxide
	methapyrilene
	aramite (total)

Calibrations (continued)

The continuing calibrations, GQ567 and GQ568, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSW10	aniline
11OWSW15	2,3,4,6-tetrachlorophenol
11OWSW18	pyridine
45ER01	2-picoline
	n-nitrosomethylethylamine
	methyl methanesulfonate
	n-nitrosodiethylamine
	ethyl methanesulfonate
	acetophenone
	o-toluidine
	phorate
	o,o,o-triethylphosphorothioate
	a,a-dimethylphenethylamine
	n-nitroso-di-n-butylamine
	2-naphthylamine
	thionazin
	sulfotepp
	phenacetin
	dimethoate
	disulfoton
	dinoseb
	methyl parathion
	parathion
	famphur
	p-dimethylaminoazobenzene
	3,3'-dimethylbenzidine
	hexachlorophene

Calibrations (continued)

The continuing calibrations, GQ572 and GQ573, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSD16	aniline
11OWSD17	hexachlorocyclopentadiene
11OWSD18	3,3'-dichlorobenzidine
	1,4-dioxane
	pyridine
	2-picoline
	n-nitrosomethylethylamine
	methyl methanesulfonate
	n-nitrosodiethylamine
	ethyl methanesulfonate
	n-nitrosopyrrolidine
	acetophenone
	n-nitrosomorpholine
	o-toluidine
	phorate
	o,o,o-triethylphosphorothioate
	hexachloropropene
	a,a-dimethylphenethylamine
	n-nitroso-di-n-butylamine
	1-naphthylamine
	2-naphthylamine
	thionazin
	sulfotepp
	1-diallate
	dimethoate
	disulfoton
	dinoseb
	methyl parathion
	famphur
	p-dimethylaminoazobenzene
	3,3'-dimethylbenzidine
	hexachlorophene

Calibrations (continued)

The continuing calibrations, GQ577 and GQ578, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSW16	bis(2-chloroisopropyl) ether
11OWSW17	1,4-dioxane
45ER02	pyridine
	2-picoline
	n-nitrosomethylethylamine
	methyl methanesulfonate
	n-nitrosodiethylamine
	ethyl methanesulfonate
	acetophenone
	o-toluidine
	phorate
	o,o,o-triethylphosphorothioate
	n-nitroso-di-n-butylamine
	thionazin
	sulfotepp
	1-diallate
	dimethoate
	disulfoton
	dinoseb
	methyl parathion
	famphur
	p-dimethylaminoazobenzene
	3,3'-dimethylbenzidine
	hexachlorophene

Calibrations (continued)

The continuing calibration, GQ578, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW16	1,4-phenylenediamine
11OWSW17	1,3,5-trinitrobenzene
45ER02	pentachloronitrobenzene
	4-nitroquinoline-1-oxide
	methapyrilene
	aramite (total)

Blank

Reject all "B" flagged TICs due to blank contamination.

Compound Identification/Quantitation

Qualify all positive results below the CRQL as estimated (J).

System Performance and Overall Assessment

The data as presented requires qualifications. * The laboratory calibration Form VIs and VIIs separated "1-diallate" and" 2-diallate" and also "aramite-1" and "aramite-2". However, on the submitted Form Is they were grouped together into "Diallate (total)" and "Aramite (total)". The Region II guidelines qualify compounds with less than 0.050 RRF values as estimate for positive results and rejected for non-detected results. In this report where calibration curves exhibited less than 0.050 RRF values for only one of the two compounds the professional judgement of this data validator was to use data qualifier code J/UJ, estimated for positive or negative results, for the totaled compound result. For example, if 2-diallate exhibited a less than 0.050 RRF value and 1-diallate exhibited higher than 0.050 then Diallate (total) would be qualified as estimated (J/UJ).

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD10 11OWSD15 11OWSW10 11OWSW15 11OWSW18 45ER01 11OWSD16 11OWSD17 11OWSD18 11OWSW16 11OWSW17 45ER02	1,4-phenylenediamine aramite (total) hexachlorophene	+/-	J/R
11OWSD10 11OWSD15 11OWSW10 11OWSW15 11OWSW18 45ER01 11OWSD16 11OWSD17 11OWSD18 11OWSW16 11OWSW17 45ER02	2-diallate	+/-	J/UJ
11OWSD10 11OWSD15	o-toluidine 1,4-phenylenediamine 1,3,5-trinitrobenzene pentachloronitrobenzene dinoseb 4-nitroquinoline-1-oxide methapyrilene aramite (total) hexachlorophene	+/-	J/R

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD10 11OWSD15 11OWSD16 11OWSD17 11OWSD18	2-diallate	+/-	J/UJ
11OWSW10 11OWSW15 11OWSW18 45ER01	1,4-dioxane 1,4-phenylenediamine 1,3,5-trinitrobenzene diallate (total) pentachloronitrobenzene 4-nitroquinoline-1-oxide methapyrilene aramite (total)	+/-	J/R
11OWSD10 11OWSD15	n-nitrosodimethylamine bis(2-chloroethyl)ether 4-nitrophenol 1,4-dioxane pyridine 2-picoline n-nitrosomethylethylamine methyl methanesulfonate ethyl methanesulfonate n-nitrosomorpholine sulfotepp 1-diallate	+/-	J/UJ
11OWSD16 11OWSD17 11OWSD18	1,4-phenylenediamine 1,3,5-trinitrobenzene pentachloronitrobenzene 4-nitroquinoline-1-oxide methapyrilene aramite (total)	+/-	J/R

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSW10	aniline	+/-	J/UJ
11OWSW15	2,3,4,6-tetrachlorophenol		
11OWSW18	pyridine		
45ER01	2-picoline		
	n-nitrosomethylethylamine		
	methyl methanesulfonate		
	n-nitrosodiethylamine		
	ethyl methanesulfonate		
	acetophenone		
	o-toluidine		
	phorate		
	o,o,o-triethylphosphorothioate		
	a,a-dimethylphenethylamine		
	n-nitroso-di-n-butylamine		
	2-naphthylamine		
	thionazin		
	sulfotepp		
	phenacetin		
	dimethoate		
	disulfoton		
	dinoseb		
	methyl parathion		
	parathion		
	famphur		
	p-dimethylaminoazobenzene		
	3,3'-dimethylbenzidine		
	hexachlorophene		

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD16	aniline	+/-	J/UJ
11OWSD17	hexachlorocyclopentadiene		
11OWSD18	3,3'-dichlorobenzidine		
	1,4-dioxane		
	pyridine		
	2-picoline		
	n-nitrosomethylethylamine		
	methyl methanesulfonate		
	n-nitrosodiethylamine		
	ethyl methanesulfonate		
	n-nitrosopyrrolidine		
	acetophenone		
	n-nitrosomorpholine		
	o-toluidine		
	phorate		
	o,o,o-triethylphosphorothioate		
	hexachloropropene		
	a,a-dimethylphenethylamine		
	n-nitroso-di-n-butylamine		
	1-naphthylamine		
	2-naphthylamine		
	thionazin		
	sulfotepp		
	1-diallate		
	dimethoate		
	disulfoton		
	dinoseb		
	methyl parathion		
	famphur		
	p-dimethylaminoazobenzene		
	3,3'-dimethylbenzidine		
	hexachlorophene		
11OWSW16	1,4-phenylenediamine	+/-	J/R
11OWSW17	1,3,5-trinitrobenzene		
45ER02	pentachloronitrobenzene		
	4-nitroquinoline-1-oxide		
	methapyrilene		
	aramite (total)		

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSW16	bis(2-chloroisopropyl) ether	+/-	J/UJ
11OWSW17	1,4-dioxane		
45ER02	pyridine		
	2-picoline		
	n-nitrosomethylethylamine		
	methyl methanesulfonate		
	n-nitrosodiethylamine		
	ethyl methanesulfonate		
	acetophenone		
	o-toluidine		
	phorate		
	o,o,o-triethylphosphorothioate		
	n-nitroso-di-n-butylamine		
	thionazin		
	sulfotepp		
	1-diallate		
	dimethoate		
	disulfoton		
	dinoseb		
	methyl parathion		
	famphur		
	p-dimethylaminoazobenzene		
	3,3'-dimethylbenzidine		
	hexachlorophene		
All Samples	"B" flagged TICs	+	R
All Samples	all results below CRQL	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE PAH ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C, PAH compounds; Region II Standard Operating Procedure for Validation, Rev. 3, December 1996. All comments made within this report should be considered when examining the analytical results.

SDG # PRNS70

A validation was performed on the Semivolatile PAH Data from SDG #PRNS70. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
* Calibrations
* Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

Blanks

Reject all laboratory "B" flagged TICs due to blank contamination.

Compound Identification/Quantitation

Qualify all positive results below the CRQL as estimated (J).

System Performance and Overall Assessment

The data as presented requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
All Samples	"B" flagged TICs	+	R
All Samples	all results below CRQL	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS70

A validation was performed on the aroclors Data from SDG PRNS70. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Standard
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Surrogate Recovery results

The surrogate recovery results for sample 110WSW17 were below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

Compound Quantitation results

The differences between columns was greater than 25%. All positive results qualified with a "P" will be qualified with a "J".

System Performance and Overall Assessment

The data, as reported, required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
110WSW17.	all compounds	+/U	J/UJ
110WSD10	aroclor 1260	P	J
110WSD16	aroclor 1260		

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the Region II Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDGs # PRNS70

A validation was performed on the metals Data from SDG PRNS70. The data was evaluated based on the following parameters.

*	●	Data Completeness
*	●	Holding Times
*	●	Calibrations
*	●	Blanks
*	●	Interferences
*	●	Matrix Spike Recovery
*	●	Matrix Duplicates
*	●	Field Duplicates
*	●	Laboratory Control Samples
*	●	Serial Dilutions

* - All criteria were met for this parameter.

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all "B" results	all analytes	B	J

DATA ASSESSMENT NARRATIVE
CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the Region II Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDGs # PRNS70

A validation was performed on the cyanide Data from SDG PRNS70. The data was evaluated based on the following parameters.

*	●	Data Completeness
*	●	Holding Times
*	●	Calibrations
*	●	Blanks
*	●	Interferences
*	●	Matrix Spike Recovery
*	●	Matrix Duplicates
*	●	Field Duplicates
*	●	Laboratory Control Samples
*	●	Serial Dilutions

* - All criteria were met for this parameter.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL

Data stands as reported without qualification.

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PRNS71
Date:	October 13, 2003
Client Name:	Michael Baker Jr. INC.
Project/Site Name:	PR CTO-271
Date Sampled:	Aug. 10, 2003
Number of Samples:	5 Aqueous Sample(s) with 1 MS/MSD(s) 5 Non-aqueous Sample(s) with (1) MS/MSD(s)
Laboratory:	Severn Trent Laboratories, Inc.
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data Review, Region II
QA/QC Level:	Level IV
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Appendix IX (Volatiles, Semivolatiles, PCBs, PAHs, Metals and Cyanide)

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Paul B. Humburg, President

10/13/03
Date

39 Windcastle Dr. • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# PRNS71

Samples and Fractions Reviewed

Sample Identifications | Analytical Fractions

CH2M HILL ID	MATRIX	VOA		SVOA		P/P		HERB		PAH		D/F		MET-D		MET-T		CN	
110WSW11	WATER		X		X		X				X				X		X		X
110WSW11MS	WATER		X		X		X				X				X		X		X
110WSW11MSD	WATER		X		X		X				X				X		X		X
110WSW11D	WATER		X		X		X				X				X		X		X
110WSW12	WATER		X		X		X				X				X		X		X
110WSW13	WATER		X		X		X				X				X		X		X
110WSW14	WATER		X		X		X				X				X		X		X
45TB02	WATER		X																
110WSD11	SOIL		X		X		X				X						X		X
110WSD11MS	SOIL		X		X		X				X						X		X
110WSD11MSD	SOIL		X		X		X				X						X		X
110WSD12	SOIL		X		X		X				X						X		X
110WSD13	SOIL		X		X		X				X						X		X
110WSD14	SOIL		X		X		X				X						X		X
110WSD11D	SOIL		X		X		X				X						X		X
Total Billable Samples (Water/Soil)		15	15	15	14	14	14	14	0	0	14	14	0	0	7	7	14	14	14

VOA= Appendix IX Volatiles
SVOA= Appendix IX Semivolatiles
P/P= PCBs
HERB= Appendix IX Herbicides
PAH= Appendix IX LOW LEVEL PAHs
MET-D= Appendix IX DISSOLVED METALS
D/F= Appendix IX Dioxins/Furans
MET-T= Appendix IX TOTAL Metals
CN= Appendix IX CYANIDE

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8260B; Region II Standard Operating Procedure, June 1999. All comments made within this report should be considered when examining the analytical results.

SDG # PRNS71

A validation was performed on the Volatile Data from SDG #PRNS71. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

Calibrations

The initial calibration, analyzed on 08-12-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD11	acetone
11OWSD12	acrolein
11OWSD13	acetonitrile
11OWSD14	isobutanol
11OWSD11D	

The initial calibration, analyzed on 08-08-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW11	acrolein
11OWSW11D	
11OWSW12	
11OWSW13	
11OWSW14	
45TB02	

The continuing calibrations, MQ139/140, contained compounds with RRFs less than 0.050 or %Ds greater than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD11	acetone
11OWSD12	isobutanol
11OWSD13	acrolein
11OWSD14	acetonitrile
11OWSD11D	

Calibrations (cont.)

The continuing calibration, MQ139/140, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSD11	dichlorodifluoromethane
11OWSD12	chloromethane
11OWSD13	bromomethane
11OWSD14	chloroethane
11OWSD11D	trichlorofluoromethane
	1,1-dichloroethene
	vinyl acetate
	2-butanone
	4-methyl-2-pentanone
	2-hexanone
	iodomethane
	3-chloro-1-propene
	chloroprene
	propionitrile
	methacrylonitrile
	trans-1,4-dichloro-2-butene

The continuing calibrations, BQ104/101, contained compounds with RRFs less than 0.050 or %Ds greater than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW11	acrolein
11OWSW11D	isobutanol
11OWSW12	
11OWSW13	
11OWSW14	
45TB02	

Calibrations (cont.)

The continuing calibration, BQ104/101, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSW11	chloromethane
11OWSW11D	bromomethane
11OWSW12	chloroethane
11OWSW13	trichlorofluoromethane
11OWSW14	1,1,1-trichloroethane
45TB02	carbon tetrachloride
	1,2-dichloroethane
	1,2-dibromo-3-chloropropane
	iodomethane
	acetonitrile
	3-chloro-1-propene
	acrylonitrile
	chloroprene
	propionitrile
	methacrylonitrile
	ethyl methacrylate
	trans-1,4-dichloro-2-butene
	pentachloroethane

Blanks

Reject all laboratory "B" flagged TICs due to blank contamination.

Compound Identification/Quantitation

Qualify all positive results below the CRQL as estimated (J).

System Performance and Overall Assessment

The data as presented requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD11 11OWSD12 11OWSD13 11OWSD14 11OWSD11D	acetone acrolein acetonitrile isobutanol	+/-	J/R
11OWSW11 11OWSW11D 11OWSW12 11OWSW13 11OWSW14 45TB02	acrolein	+/-	J/R
11OWSD11 11OWSD12 11OWSD13 11OWSD14 11OWSD11D	acetone isobutanol acrolein acetonitrile	+/-	J/R
11OWSD11 11OWSD12 11OWSD13 11OWSD14 11OWSD11D	dichlorodifluoromethane chloromethane bromomethane chloroethane trichlorofluoromethane 1,1-dichloroethene vinyl acetate 2-butanone 4-methyl-2-pentanone 2-hexanone iodomethane 3-chloro-1-propene chloroprene propionitrile methacrylonitrile trans-1,4-dichloro-2-butene	+/-	J/UJ

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSW11 11OWSW11D 11OWSW12 11OWSW13 11OWSW14 45TB02	acrolein isobutanol	+/-	J/R
11OWSW11 11OWSW11D 11OWSW12 11OWSW13 11OWSW14 45TB02	chloromethane bromomethane chloroethane trichlorofluoromethane 1,1,1-trichloroethane carbon tetrachloride 1,2-dichloroethane 1,2-dibromo-3-chloropropane iodomethane acetonitrile 3-chloro-1-propene acrylonitrile chloroprene propionitrile methacrylonitrile ethyl methacrylate trans-1,4-dichloro-2-butene pentachloroethane	+/-	J/UJ
All Samples	"B" flagged TICs	+	R
All Samples	all results below CRQL	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C Appendix IX; Region II Standard Operating Procedure for Validation, Rev.3, December 1996. All comments made within this report should be considered when examining the analytical results.

SDG # PRNS71

A validation was performed on the Semivolatile Data from SDG #PRNS71. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
* Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

Calibrations

The initial calibration, analyzed on 08-28-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD12	1,4-phenylenediamine
11OWSD13	aramite (total)
11OWSD14	hexachlorophene
11OWSD11D	

The initial calibration, analyzed on 08-28-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW13	1,4-phenylenediamine
11OWSW14	pentachloronitrobenzene
11OWSW11	4-nitroquinoline-1-oxide
11OWSW11D	methapyrilene
11OWSW12	hexachlorophene

The initial calibrations, analyzed on 08-28-03 and 09-07-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). **See note under Overall Performance*

11OWSD12	2-diallate
11OWSD13	
11OWSD14	
11OWSD11D	
11OWSW13	
11OWSW14	
11OWSW11	
11OWSW11D	
11OWSW12	

11OWSD11	diallate (total)
	aramite (total)

Calibrations (continued)

The initial calibration, analyzed on 09-07-03, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD11	pentachloronitrobenzene
	hexachlorophene

The continuing calibrations, GQ572 and GQ578, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD12	1,4-phenylenediamine
11OWSD13	1,3,5-trinitrobenzene
11OWSD14	pentachloronitrobenzene
11OWSD11D	4-nitroquinoline-1-oxide
	methapyrilene
	aramite (total)

The continuing calibrations, GQ572, GQ609, EQ444 and GQ578, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ). **See note under Overall Performance*

11OWSD12	2-diallate
11OWSD13	
11OWSD14	
11OWSD11D	
11OWSW13	
11OWSW14	
11OWSD11	

Calibrations (continued)

The continuing calibrations, GQ572 and GQ573, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSD12	1,4-dioxane
11OWSD13	pyridine
	2-picoline
	n-nitrosomethylethylamine
	methyl methanesulfonate
	n-nitrosodiethylamine
	ethyl methanesulfonate
	n-nitrosopyrrolidine
	acetophenone
	n-nitrosomorpholine
	o-toluidine
	phorate
	o,o,o-triethylphosphorothioate
	hexachloropropene
	a,a-dimethylphenethylamine
	n-nitroso-di-n-butylamine
	1-naphthylamine
	2-naphthylamine
	thionazin
	sulfotepp
	1-diallate
	dimethoate
	disulfoton
	dinoseb
	methyl parathion
	famphur
	p-dimethylaminoazobenzene
	3,3'-dimethylbenzidine
	hexachlorophene
	aniline
	hexachlorocyclopentadiene
	3,3-dichlorobenzidine

Calibrations (continued)

The continuing calibrations, GQ577 and GQ578, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSD14	bis(2-chloroisopropyl) ether
11OWSD11D	1,4-dioxane
	pyridine
	2-picoline
	n-nitrosomethylethylamine
	methyl methanesulfonate
	n-nitrosodiethylamine
	ethyl methanesulfonate
	acetophenone
	o-toluidine
	phorate
	o,o,o-triethylphosphorothioate
	n-nitroso-di-n-butylamine
	thionazin
	sulfotepp
	1-diallate
	dimethoate
	disulfoton
	dinoseb
	methyl parathion
	famphur
	p-dimethylaminoazobenzene
	3,3'-dimethylbenzidine
	hexachlorophene

Calibrations (continued)

The continuing calibration, GQ583, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSW11	pyridine
11OWSW11D	n-nitrosodimethylamine
11OWSW12	bis(2-chloroethyl) ether
	bis (2-chloroisopropyl) ether
	2-nitroaniline
	4-nitrophenol
	4-nitroaniline

The continuing calibration, GQ609, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSW13	pyridine
11OWSW14	n-nitrosomorpholine
	n-nitrosopiperidine
	hexachloropropene
	a,a-dimethylphenethylamine
	pentachlorobenzene
	2,3,4,6-tetrachlorophenol
	1-diallate
	dinoseb
	famphur
	p-dimethylaminoazobenzene

The continuing calibration, GQ609, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSW13	1,4-phenylenediamine
11OWSW14	isosafrole
	1,3,5-trinitrobenzene
	pentachloronitrobenzene
	4-nitroquinoline-1-oxide
	methapyrilene
	aramite (total)
	hexachlorophene

Calibrations (continued)

The continuing calibrations, EQ443 and EQ444, contained compounds with %Ds greater than 20% and less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as estimated (UJ).

11OWSD11	4-nitroaniline
	n-nitrosomorpholine
	n-nitrosopiperidine
	o,o,o-triethyphosphorothioate
	thionazin
	sulfotepp
	1-diallate
	disulfoton
	parathion
	famphur
	p-dimethylaminoazobenzene
	3,3'-dimethylbenzidine

The continuing calibration, EQ444, contained compounds with RRFs less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detected results as rejected (R).

11OWSD11	a,a-dimethylphenethylamine
	1,4-phenylenediamine
	1,3,5-trinitrobenzene
	pentachloronitrobenzene
	4-nitroquinoline-1-oxide
	methapyrilene
	aramite (total)
	hexachlorophene

Blank

Reject all "B" flagged TICs due to blank contamination.

Compound Identification/Quantitation

Qualify all positive results below the CRQL as estimated (J).

System Performance and Overall Assessment

The data as presented requires qualifications. * The laboratory calibration Form VIs and VIIs separated "1-diallate" and" 2-diallate" and also "aramite-1" and "aramite-2". However, on the submitted Form Is they were grouped together into "Diallate (total)" and "Aramite (total)". The Region II guidelines qualify compounds with less than 0.050 RRF values as estimate for positive results and rejected for non-detected results. In this report where calibration curves exhibited less than 0.050 RRF values for only one of the two compounds the professional judgement of this data validator was to use data qualifier code J/UJ, estimated for positive or negative results, for the totaled compound result. For example, if 2-diallate exhibited a less than 0.050 RRF value and 1-diallate exhibited higher than 0.050 then Diallate (total) would be qualified as estimated (J/UJ).

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD12 11OWSD13 11OWSD14 11OWSD11D	1,4-phenylenediamine aramite (total) hexachlorophene	+/-	J/R
11OWSW13 11OWSW14 11OWSW11 11OWSW11D 11OWSW12	1,4-phenylenediamine pentachloronitrobenzene 4-nitroquinoline-1-oxide methapyrilene hexachlorophene	+/-	J/R
11OWSD12 11OWSD13 11OWSD14 11OWSD11D 11OWSW13 11OWSW14 11OWSW11 11OWSW11D 11OWSW12	diallate (total)	+/-	J/UJ
11OWSD11	diallate (total) aramite (total)	+/-	J/UJ
11OWSD11	pentachloronitrobenzene hexachlorophene	+/-	J/R
11OWSD12 11OWSD13 11OWSD14 11OWSD11D	1,4-phenylenediamine 1,3,5-trinitrobenzene pentachloronitrobenzene 4-nitroquinoline-1-oxide methapyrilene aramite (total)	+/-	J/R
11OWSD12 11OWSD13 11OWSD14 11OWSD11D 11OWSW13 11OWSW14 11OWSD11	diallate (total)	+/-	J/UJ

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD12	1,4-dioxane	+/-	J/UJ
11OWSD13	pyridine		
	2-picoline		
	n-nitrosomethylethylamine		
	methyl methanesulfonate		
	n-nitrosodiethylamine		
	ethyl methanesulfonate		
	n-nitrosopyrrolidine		
	acetophenone		
	n-nitrosomorpholine		
	o-toluidine		
	phorate		
	o,o,o-triethylphosphorothioate		
	hexachloropropene		
	a,a-dimethylphenethylamine		
	n-nitroso-di-n-butylamine		
	1-naphthylamine		
	2-naphthylamine		
	thionazin		
	sulfotepp		
	1-diallate		
	dimethoate		
	disulfoton		
	dinoseb		
	methyl parathion		
	famphur		
	p-dimethylaminoazobenzene		
	3,3'-dimethylbenzidine		
	hexachlorophene		
	aniline		
	hexachlorocyclopentadiene		
	3,3-dichlorobenzidine		

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD14	bis(2-chloroisopropyl) ether	+/-	J/UJ
11OWSD11D	1,4-dioxane		
	pyridine		
	2-picoline		
	n-nitrosomethylethylamine		
	methyl methanesulfonate		
	n-nitrosodiethylamine		
	ethyl methanesulfonate		
	acetophenone		
	o-toluidine		
	phorate		
	o,o,o-triethylphosphorothioate		
	n-nitroso-di-n-butylamine		
	thionazin		
	sulfotepp		
	1-diallate		
	dimethoate		
	disulfoton		
	dinoseb		
	methyl parathion		
	famphur		
	p-dimethylaminoazobenzene		
	3,3'-dimethylbenzidine		
	hexachlorophene		
11OWSW11	pyridine	+/-	J/UJ
11OWSW11D	n-nitrosodimethylamine		
11OWSW12	bis(2-chloroethyl) ether		
	bis (2-chloroisopropyl) ether		
	2-nitroaniline		
	4-nitrophenol		
	4-nitroaniline		

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
11OWSW13 11OWSW14	pyridine n-nitrosomorpholine n-nitrosopiperidine hexachloropropene a,a-dimethylphenethylamine pentachlorobenzene 2,3,4,6-tetrachlorophenol 1-diallate dinoseb famphur p-dimethylaminoazobenzene	+/-	J/UJ
11OWSW13 11OWSW14	1,4-phenylenediamine isosafrole 1,3,5-trinitrobenzene pentachloronitrobenzene 4-nitroquinoline-1-oxide methapyrilene aramite (total) hexachlorophene	+/-	J/R
11OWSD11	4-nitroaniline n-nitrosomorpholine n-nitrosopiperidine o,o,o-triethyphosphorothioate thionazin sulfotepp 1-diallate disulfoton parathion famphur p-dimethylaminoazobenzene 3,3'-dimethylbenzidine	+/-	J/UJ

SUMMARY OF DATA QUALIFICATIONS

Page 5

SAMPLE ID	COMPOUND ID	DL	QL
11OWSD11	a,a-dimethylphenethylamine 1,4-phenylenediamine 1,3,5-trinitrobenzene pentachloronitrobenzene 4-nitroquinoline-1-oxide methapyrilene aramite (total) hexachlorophene	+/-	J/R
All Samples	"B" flagged TICs	+	R
All Samples	all results below CRQL	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE PAH ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C, PAH compounds; Region II Standard Operating Procedure for Validation, Rev. 3, December 1996. All comments made within this report should be considered when examining the analytical results.

SDG # PRNS71

A validation was performed on the Semivolatile PAH Data from SDG #PRNS71. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
* Calibrations
* Internal Standard Performance
  Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Matrix Spike/Matrix Spike duplicate
  Field Duplicates
  Compound Identification/Quantitation

* - All criteria were met for this parameter

Blanks

Reject all laboratory "B" flagged TICs due to blank contamination.

Field Duplicates

Sample 11OWSD11 and duplicate sample 11OWSD11D did not exhibit comparable results for the compounds listed below. Qualify the results for these compounds as estimated (J).

acenaphthene
fluorene
phenanthrene
anthracene
fluoranthene
pyrene
benzo(a)anthracene
chrysene
benzo(b)fluoranthene
benzo(a)pyrene
indeno(1,2,3-cd)pyrene
benzo(g,h,i)perylene
naphthalene

Compound Identification/Quantitation

Qualify all positive results below the CRQL as estimated (J).

System Performance and Overall Assessment

The data as presented requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
All Samples	"B" flagged TICs	+	R
11OWSD11 11OWSD11D	acenaphthene fluorene phenanthrene anthracene fluoranthene pyrene benzo(a)anthracene chrysene benzo(b)fluoranthene benzo(a)pyrene indeno(1,2,3-cd)pyrene benzo(g,h,i)perylene naphthalene	+	J
All Samples	all results below CRQL	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS71

A validation was performed on the aroclors Data from SDG PRNS71. The data was evaluated based on the following parameters:

- * Data Completeness
- * Holding Times
- * Calibration
- * Blanks
- * Surrogate Recoveries
- * Matrix Spike/Matrix Spike Duplicates
- * Field Duplicates
- * Laboratory Control Standard
- * Compound Identification
- Compound Quantitation

* - All criteria were met for this parameter.

Compound Quantitation results

The differences between columns was greater than 25%. All positive results qualified with a "P" will be qualified with a "J".

System Performance and Overall Assessment

The data, as reported, required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
110WSD13	AROCLOR 1260	P	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the Region II Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDGs # PRNS71

A validation was performed on the metals Data from SDG PRNS71. The data was evaluated based on the following parameters.

*	●	Data Completeness
*	●	Holding Times
*	●	Calibrations
*	●	Blanks
*	●	Interferences
	●	Matrix Spike Recovery
	●	Matrix Duplicates
*	●	Field Duplicates
*	●	Laboratory Control Samples
*	●	Serial Dilutions

* - All criteria were met for this parameter.

Matrix Spike Recovery results

The matrix spike recovery results for dissolved metals for Silver (65%) and for soils for Copper (49%) and Lead (67%) were below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

Matrix Duplicate RPD results

The matrix Duplicate RPD results for dissolved metals for Silver (55%) was greater than 20%. All positive results are qualified as estimated, "J".

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all dissolved water samples	Ag.	+/U	J/UJ
all soil samples	Cu and Pb.		
all dissolved water samples	Ag.	+	J
all "B" results	all analytes	B	J

DATA ASSESSMENT NARRATIVE
CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the Region II Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDGs # PRNS71

A validation was performed on the cyanide Data from SDG PRNS71. The data was evaluated based on the following parameters.

*	●	Data Completeness
*	●	Holding Times
*	●	Calibrations
*	●	Blanks
*	●	Interferences
*	●	Matrix Spike Recovery
*	●	Matrix Duplicates
*	●	Field Duplicates
*	●	Laboratory Control Samples
*	●	Serial Dilutions

* - All criteria were met for this parameter.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL

Data stands as reported without qualification.

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PRNS72
Date:	October 13, 2003
Client Name:	Michael Baker Jr. INC.
Project/Site Name:	PR CTO-271
Date Sampled:	Aug. 6, 2003
Number of Samples:	5 Non-aqueous Sample(s) with (1) MS/MSD(s)
Laboratory:	Severn Trent Laboratories, Inc.
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data Review, Region II
QA/QC Level:	Level IV
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	PCBs

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Paul B. Humburg, President

10/13/03
Date

39 Windcastle Dr. • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# PRNS72

Samples and Fractions Reviewed

Sample Identifications | Analytical Fractions

CH2M HILL ID	MATRIX	PCB	
110WSD20	SOIL	X	
110WSD20MS	SOIL	X	
110WSD20MSD	SOIL	X	
110WSD21	SOIL	X	
110WSD22	SOIL	X	
110WSD23	SOIL	X	
110WSD24	SOIL	X	
Total Billable Samples (Water/Soil)		7	0

PCB= AROCLORS

DATA ASSESSMENT NARRATIVE
AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods; the Region II Functional Guidelines for Organic Data Review, 9/94, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PRNS72

A validation was performed on the aroclors Data from SDG PRNS72. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Standard
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Compound Quantitation results

The differences between columns was greater than 25%. All positive results qualified with a "P" will be qualified with a "J".

System Performance and Overall Assessment

The data, as reported, required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
110WSD20	AROCLOR 1260	P	J
110WSD21	AROCLOR 1260		

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

APPENDIX E
HABITAT CHARACTERIZATION REPORT
(This report can be found within the Draft Screening-Level Ecological Risk Assessment Problem Formulation (Step 1) and Exposure Estimate SWMU 45 dated August 10, 2001)

APPENDIX F
ANALYTICAL DATA USED IN THE ECOLOGICAL RISK ASSESSMENT

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Volatiles (ug/kg)							
1,1,1,2-Tetrachloroethane	17 U	19 U	24 U	20 U	22 U	26 U	22 U
1,1,1-Trichloroethane	8 U	10 U	12 UJ	10 U	11 U	13 U	11 UJ
1,1,2,2-Tetrachloroethane	8 U	10 U	12 U	10 U	11 U	13 U	11 U
1,1,2-Trichloroethane	8 U	10 UJ	12 U	10 UJ	11 UJ	13 UJ	11 U
1,1-Dichloroethane	8 U	10 UJ	12 UJ	10 UJ	11 UJ	13 UJ	11 UJ
1,1-Dichloroethene	8 U	10 UJ	12 U	10 UJ	11 UJ	13 UJ	11 U
1,2,3-Trichloropropane	17 U	19 U	24 U	20 U	22 U	26 U	22 U
1,2-Dibromo-3-Chloropropane	33 U	38 UJ	47 UJ	40 UJ	45 UJ	51 UJ	43 UJ
1,2-Dibromoethane (EDB)	33 U	38 U	47 U	40 U	45 U	51 U	43 U
1,2-Dichloroethane	8 U	10 UJ	12 UJ	10 UJ	11 UJ	13 UJ	11 UJ
1,2-Dichloroethene (Total)	8 U	10 UJ	12 UJ	10 UJ	11 UJ	13 UJ	11 UJ
1,2-Dichloropropane	8 U	10 U	12 U	10 U	11 U	13 U	11 U
2-Butanone (Methyl Ethyl Ketone)	17 UJ	19 UJ	24 UJ	20 UJ	22 UJ	26 UJ	22 UJ
2-Hexanone	17 UJ	19 U	24 UJ	20 U	22 U	26 U	22 UJ
3-Chloropropene (Allylchloride)	33 U	38 U	47 U	40 U	45 U	51 U	43 U
4-Methyl-2-Pentanone (MIBK)	17 U	19 U	24 U	20 U	22 U	26 U	22 U
Acetone	97 J	28 J	140 J	43 J	63 J	55 J	30 J
Acetonitrile	170 UJ	190 UJ	240 UJ	200 UJ	220 UJ	260 UJ	220 UJ
Acrolein (Propenal)	830 U	950 UJ	1,200 UJ	990 UJ	1,100 UJ	1,300 UJ	1,100 UJ
Acrylonitrile	170 U	190 UJ	240 UJ	200 UJ	220 UJ	260 UJ	220 UJ
Benzene	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Bromodichloromethane	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Bromoform	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Bromomethane (Methyl Bromide)	17 U	19 UJ	24 U	20 UJ	22 UJ	26 UJ	22 U
Carbon Disulfide	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Carbon Tetrachloride	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Chlorobenzene	8 U	10 U	12 U	10 U	11 U	13 U	11 U

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Volatiles (ug/kg) (Cont.)							
Chloroethane	17 UJ	19 UJ	24 UJ	20 UJ	22 UJ	26 UJ	22 UJ
Chloroform	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Chloromethane (Methyl Chloride)	17 U	19 U	24 U	20 U	22 U	26 U	22 U
Chloroprene	170 U	190 U	240 U	200 U	220 U	260 U	220 U
Cis-1,3-Dichloropropene	8 U	10 U	12 UJ	10 U	11 U	13 U	11 UJ
Dibromochloromethane	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Dibromomethane (Methylene Bromide)	17 U	19 U	24 U	20 U	22 U	26 U	22 U
Dichlorodifluoromethane	33 U	38 U	47 U	40 U	45 U	51 U	43 U
Ethyl Methacrylate	33 UJ	38 U	47 U	40 U	45 U	51 U	43 U
Ethylbenzene	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Iodomethane (Methyl Iodide)	17 U	19 UJ	24 UJ	20 UJ	22 UJ	26 UJ	22 UJ
Isobutanol (Isobutyl Alcohol)	3,300 R	3,800 R	4,700 R	4,000 R	4,500 R	5,100 R	4,300 R
Methacrylonitrile	33 U	38 U	47 U	40 U	45 U	51 U	43 U
Methyl Methacrylate	33 U	38 U	47 U	40 U	45 U	51 U	43 U
Methylene Chloride (Dichloromethane)	8 U	10 UJ	12 UJ	10 UJ	11 UJ	13 UJ	11 UJ
Pentachloroethane	33 U	38 U	47 U	40 U	45 U	51 U	43 U
Propionitrile	83 U	95 U	120 U	99 U	110 U	130 U	110 U
Styrene	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Tetrachloroethene	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Toluene	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
Trans-1,3-Dichloropropene	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Trans-1,4-Dichloro-2-Butene	33 U	38 U	47 U	40 U	45 U	51 U	43 U
Trichloroethene	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Trichlorofluoromethane	17 U	19 UJ	24 U	20 UJ	22 UJ	26 UJ	22 U

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Volatiles (ug/kg) (Cont.)							
Vinyl Acetate	17 U	19 U	24 U	20 U	22 U	26 U	22 U
Vinyl Chloride	17 U	19 UJ	24 U	20 UJ	22 UJ	26 UJ	22 U
Xylenes, Total	8 U	10 U	12 U	10 U	11 U	13 U	11 U
Semivolatiles (ug/kg)							
1,2,4,5-Tetrachlorobenzene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
1,2,4-Trichlorobenzene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
1,2-Dichlorobenzene (O-Dichlorobenzene)	550 U	630 U	780 U	660 U	730 U	830 U	720 U
1,3,5-Trinitrobenzene	5,500 U	6,300 U	7,800 U	6,600 U	7,300 U	8,300 U	7,200 U
1,3-Dichlorobenzene (M-Dichlorobenzene)	550 U	630 U	780 U	660 U	730 U	830 U	720 U
1,4-Dichlorobenzene (P-Dichlorobenzene)	550 U	630 U	780 U	660 U	730 U	830 U	720 U
1,4-Dioxane	1,100 UJ	1,200 U	1,600 U	1,300 U	1,400 UJ	1,700 U	1,400 U
1,4-Naphthoquinone	2,800 UJ	3,100 U	3,900 U	3,300 U	3,600 U	4,200 U	3,600 U
1,4-Phenylenediamine (P-Phenylenediamine)	1,100 R	1,200 R	1,600 R	1,300 R	1,400 R	1,700 R	1,400 R
1-Naphthylamine	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
2,2'-Oxybis(1-Chloropropane)[Bis(2-Chloroisopropyl)Ether]	550 U	630 UJ	780 UJ	660 UJ	730 UJ	830 UJ	720 UJ
2,3,4,6-Tetrachlorophenol	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2,4,5-Trichlorophenol	2,800 U	3,100 U	3,900 U	3,300 U	3,600 U	4,200 U	3,600 U
2,4,6-Trichlorophenol	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2,4-Dichlorophenol	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2,4-Dimethylphenol	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2,4-Dinitrophenol	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
2,4-Dinitrotoluene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2,6-Dichlorophenol	550 UJ	630 UJ	780 UJ	660 UJ	730 UJ	830 UJ	720 UJ
2,6-Dinitrotoluene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2-Acetylaminofluorene	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
2-Chloronaphthalene	550 U	630 U	780 U	660 U	730 U	830 U	720 U

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Semivolatiles (ug/kg) (Cont.)							
2-Chlorophenol	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2-Naphthylamine	1,400 U	1,600 UJ	2,000 UJ	1,600 UJ	1,800 UJ	2,100 UJ	1,800 UJ
2-Nitroaniline (O-Nitroaniline)	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
2-Nitrophenol (O-Nitrophenol)	550 U	630 U	780 U	660 U	730 U	830 U	720 U
2-Picoline	550 U	630 U	780 U	660 U	730 U	830 U	720 U
3,3'-Dichlorobenzidine	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
3,3'-Dimethylbenzidine	2,800 UJ	3,100 R	3,900 R	3,300 R	3,600 R	4,200 R	3,600 R
3-Methylcholanthrene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
3-Nitroaniline (M-Nitroaniline)	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
4,6-Dinitro-2-Methylphenol (4,6-Dinitro-O-Cresol)	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
4-Aminobiphenyl	1,100 UJ	1,200 UJ	1,600 UJ	1,300 UJ	1,400 UJ	1,700 UJ	1,400 UJ
4-Bromophenylphenyl Ether	550 U	630 U	780 U	660 U	730 U	830 U	720 U
4-Chloro-3-Methylphenol (P-Chloro-M-Cresol)	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
4-Chloroaniline (P-Chloroaniline)	1,100 U	1,200 UJ	1,600 UJ	1,300 UJ	1,400 UJ	1,700 UJ	1,400 UJ
4-Chlorophenylphenyl Ether	550 U	630 U	780 U	660 U	730 U	830 U	720 U
4-Nitroaniline (P-Nitroaniline)	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
4-Nitrophenol (P-Nitrophenol)	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
4-Nitroquinoline-1-Oxide	2,800 UJ	3,100 R	3,900 R	3,300 R	3,600 R	4,200 R	3,600 R
5-Nitro-O-Toluidine	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
7,12-Dimethylbenz(a)Anthracene	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
Acetophenone	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Alpha,Alpha-Dimethylphenethylamine	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
Aniline	2,800 U	3,100 UJ	3,900 UJ	3,300 UJ	3,600 UJ	4,200 UJ	3,600 UJ
Aramite, Total	1,100 UJ	1,200 UJ	1,600 UJ	1,300 UJ	1,400 UJ	1,700 UJ	1,400 UJ
Benzyl Alcohol	550 U	630 UJ	780 UJ	660 UJ	730 UJ	830 UJ	720 UJ
Bis(2-Chloroethoxy)Methane	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Bis(2-Chloroethyl)Ether	550 U	630 U	780 U	660 U	730 U	830 U	720 U

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Semivolatiles (ug/kg) (Cont.)							
Bis(2-Ethylhexyl)Phthalate	550 UJ	260 J	480 J	280 J	240 J	370 J	700 J
Butylbenzylphthalate	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Cresol (Ortho)	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Cresol, M & P	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Diallate, Total	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Dibenzofuran	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Diethylphthalate	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Dimethylphthalate	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Di-n-Butylphthalate	550 U	89 J	190 J	99 J	110 J	170 J	460 J
Di-n-Octylphthalate	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Dinoseb (2-Sec-Butyl-4,6-Dinitrophenol)	1,100 U	1,200 UJ	1,600 UJ	1,300 UJ	1,400 UJ	1,700 UJ	1,400 UJ
Ethyl Methanesulfonate	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Hexachlorobenzene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Hexachlorobutadiene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Hexachlorocyclopentadiene	550 U	630 UJ	780 UJ	660 UJ	730 UJ	830 UJ	720 UJ
Hexachloroethane	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Hexachlorophene	5,300 UJ	6,300 R	7,800 R	6,600 R	7,300 R	8,300 R	7,200 R
Hexachloropropene	2,800 U	3,100 U	3,900 U	3,300 U	3,600 U	4,200 U	3,600 U
Isophorone	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Isosafrole	550 U	630 U	780 U	660 U	730 U	830 U	720 U
M-Dinitrobenzene	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
Methapyrilene	1,400 U	1,600 U	2,000 U	1,600 U	1,800 U	2,100 U	1,800 U
Methyl Methanesulfonate	550 UJ	630 UJ	780 UJ	660 UJ	730 UJ	830 UJ	720 UJ
Nitrobenzene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
N-Nitrosodiethylamine	550 UJ	630 U	780 U	660 U	730 U	830 U	720 U
N-Nitrosodimethylamine	550 U	630 UJ	780 UJ	660 UJ	730 UJ	830 UJ	720 UJ
N-NitrosoDi-n-Butylamine	550 U	630 U	780 U	660 U	730 U	830 U	720 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Semivolatiles (ug/kg) (Cont.)							
N-NitrosoDi-n-Propylamine	550 UJ	630 U	780 U	660 U	730 U	830 U	720 U
N-Nitrosodiphenylamine	550 U	630 U	780 U	660 U	730 U	830 U	720 U
N-Nitrosomethylethylamine	550 U	630 U	780 U	660 U	730 U	830 U	720 U
N-Nitrosomorpholine	1,100 UJ	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
N-Nitrosopiperidine	550 U	630 U	780 U	660 U	730 U	830 U	720 U
N-Nitrosopyrrolidine	2,800 U	3,100 U	3,900 U	3,300 U	3,600 U	4,200 U	3,600 U
O-Toluidine	550 U	630 U	780 U	660 U	730 U	830 U	720 U
P-(Dimethylamino)Azobenzene	1,100 U	1,200 U	1,600 U	1,300 U	1,400 U	1,700 U	1,400 U
Pentachlorobenzene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Pentachloronitrobenzene	550 R	630 R	780 R	660 R	730 R	830 R	720 R
Pentachlorophenol	2,800 U	3,100 U	3,900 U	3,300 U	3,600 U	4,200 U	3,600 U
Phenacetin	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Phenol	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Pronamide	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Pyridine	1,100 U	1,200 UJ	1,600 UJ	1,300 UJ	1,400 UJ	1,700 UJ	1,400 UJ
Safrole	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Low Level PAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Acenaphthene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Acenaphthylene	81 J	630 U	180 J	660 U	730 U	830 U	720 U
Anthracene	98 J	630 U	320 J	660 U	730 U	830 U	720 U
Benzo(a)Anthracene	190 J	630 U	640 J	180 J	730 U	85 J	93 J
Benzo(a)Pyrene	1,300	96 J	3,200	220 J	730 U	160 J	120 J
Benzo(b)Fluoranthene	2,000	140 J	5,000	330 J	730 U	250 J	160 J
Benzo(g,h,i)Perylene	690	630 U	1,800	160 J	730 U	120 J	720 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Low Level PAHs (ug/kg) (Cont.)							
Benzo(k)Fluoranthene	720	630 U	2,000	160 J	730 U	830 U	720 U
Chrysene	610	76 J	1,900	210 J	730 U	130 J	100 J
Dibenzo(a,h)Anthracene	200 J	630 U	580 J	660 U	730 U	830 U	720 U
Fluoranthene	93 J	83 J	230 J	330 J	730 U	110 J	180 J
Fluorene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Indeno(1,2,3-cd)Pyrene	740	75 J	2100	170 J	730 U	150 J	94 J
Naphthalene	550 U	630 U	780 U	660 U	730 U	830 U	720 U
Phenanthrene	550 U	630 U	160 J	200 J	730 U	830 U	140 J
Pyrene	140 J	79 J	370 J	320 J	730 U	110 J	180 J
PCBs (ug/kg)							
Aroclor-1016	66 U	74 U	94 U	78 U	90 U	100 U	84 U
Aroclor-1221	66 U	74 U	94 U	78 U	90 U	100 U	84 U
Aroclor-1232	66 U	74 U	94 U	78 U	90 U	100 U	84 U
Aroclor-1242	66 U	74 U	94 U	78 U	90 U	100 U	84 U
Aroclor-1248	66 U	74 U	94 U	78 U	90 U	100 U	84 U
Aroclor-1254	130 UJ	150 U	190 U	160 U	180 U	200 U	170 U
Aroclor-1260	34 J	42	46	53	42	62	51
Miscellaneous Parameters							
Total Organic Carbon (mg/kg)	NA	NA	NA	NA	NA	NA	NA

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD08	11SD09	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11SD08	11SD09	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14
Sample Date	10/02/97	10/02/97	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)							
1,1,1,2-Tetrachloroethane	20 U	21 U	10 U	12 U	11 U	11 U	12 U
1,1,1-Trichloroethane	10 UJ	11 UJ	10 U	12 U	11 U	11 U	12 U
1,1,2,2-Tetrachloroethane	10 U	11 U	10 U	12 U	11 U	11 U	12 U
1,1,2-Trichloroethane	10 U	11 U	10 U	12 U	11 U	11 U	12 U
1,1-Dichloroethane	10 UJ	11 UJ	10 U	12 U	11 U	11 U	12 U
1,1-Dichloroethene	10 U	11 U	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
1,2,3-Trichloropropane	20 U	21 U	10 U	12 U	11 U	11 U	12 U
1,2-Dibromo-3-Chloropropane	39 UJ	42 UJ	20 U	25 U	22 U	21 U	24 U
1,2-Dibromoethane (EDB)	39 U	42 U	10 U	12 U	11 U	11 U	12 U
1,2-Dichloroethane	10 UJ	11 UJ	10 U	12 U	11 U	11 U	12 U
1,2-Dichloroethene (Total)	10 UJ	11 UJ	NA	NA	NA	NA	NA
1,2-Dichloropropane	10 U	11 U	10 U	12 U	11 U	11 U	12 U
2-Butanone (Methyl Ethyl Ketone)	20 UJ	21 UJ	14 J	19 J	19 J	19 J	22 J
2-Hexanone	20 UJ	21 UJ	50 UJ	62 UJ	56 UJ	54 UJ	59 UJ
3-Chloropropene (Allylchloride)	39 U	42 U	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
4-Methyl-2-Pentanone (MIBK)	20 U	21 U	50 UJ	62 UJ	56 UJ	54 UJ	59 UJ
Acetone	38 J	41 J	30 J	80 J	40 J	57 J	67 J
Acetonitrile	200 UJ	210 UJ	400 R	500 R	440 R	430 R	470 R
Acrolein (Propenal)	980 UJ	1,100 UJ	200 R	250 R	220 R	210 R	240 R
Acrylonitrile	200 UJ	210 UJ	200 U	250 U	220 U	210 U	240 U
Benzene	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Bromodichloromethane	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Bromoform	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Bromomethane (Methyl Bromide)	20 U	21 U	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
Carbon Disulfide	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Carbon Tetrachloride	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Chlorobenzene	10 U	11 U	10 U	12 U	11 U	11 U	12 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD08	11SD09	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11SD08	11SD09	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14
Sample Date	10/02/97	10/02/97	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)							
Chloroethane	20 UJ	21 UJ	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
Chloroform	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Chloromethane (Methyl Chloride)	20 U	21 U	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
Chloroprene	200 U	210 U	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
Cis-1,3-Dichloropropene	10 UJ	11 UJ	10 U	12 U	11 U	11 U	12 U
Dibromochloromethane	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Dibromomethane (Methylene Bromide)	20 U	21 U	10 U	12 U	11 U	11 U	12 U
Dichlorodifluoromethane	39 U	42 U	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
Ethyl Methacrylate	39 U	42 U	10 U	12 U	11 U	11 U	12 U
Ethylbenzene	10 U	11 U	10 U	12 U	11 U	11 U	0.78 J
Iodomethane (Methyl Iodide)	20 UJ	21 UJ	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ
Isobutanol (Isobutyl Alcohol)	3,900 R	4,200 R	400 R	500 R	440 R	430 R	470 R
Methacrylonitrile	39 U	42 U	200 UJ	250 UJ	220 UJ	210 UJ	240 UJ
Methyl Methacrylate	39 U	42 U	10 U	12 U	11 U	11 U	12 U
Methylene Chloride (Dichloromethane)	10 UJ	11 UJ	10 U	12 U	11 U	11 U	12 U
Pentachloroethane	39 U	42 U	50 U	62 U	56 U	54 U	59 U
Propionitrile	98 U	110 U	200 UJ	250 UJ	220 UJ	210 UJ	240 UJ
Styrene	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Tetrachloroethene	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Toluene	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Trans-1,2-Dichloroethene	NA	NA	10 U	12 U	11 U	11 U	12 U
Trans-1,3-Dichloropropene	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Trans-1,4-Dichloro-2-Butene	39 U	42 U	20 UJ	25 UJ	22 UJ	21 UJ	24 UJ
Trichloroethene	10 U	11 U	10 U	12 U	11 U	11 U	12 U
Trichlorofluoromethane	20 U	21 U	10 UJ	12 UJ	11 UJ	11 UJ	12 UJ

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD08	11SD09	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11SD08	11SD09	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14
Sample Date	10/02/97	10/02/97	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)							
Vinyl Acetate	20 U	21 U	20 UJ	25 UJ	22 UJ	21 UJ	24 UJ
Vinyl Chloride	20 U	21 U	10 U	12 U	11 U	11 U	12 U
Xylenes, Total	10 U	11 U	20 U	25 U	22 U	21 U	24 U
Semivolatiles (ug/kg)							
1,2,4,5-Tetrachlorobenzene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
1,2,4-Trichlorobenzene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
1,2-Dichlorobenzene (O-Dichlorobenzene)	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
1,3,5-Trinitrobenzene	6,400 U	7,000 U	3,200 R	780 R	7,500 R	7,500 R	770 R
1,3-Dichlorobenzene (M-Dichlorobenzene)	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
1,4-Dichlorobenzene (P-Dichlorobenzene)	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
1,4-Dioxane	1,300 U	1,400 U	3,200 UJ	780 U	7,500 UJ	7,500 UJ	770 UJ
1,4-Naphthoquinone	3,200 U	3,500 U	3,200 U	780 U	7,500 U	7,500 U	770 U
1,4-Phenylenediamine (P-Phenylenediamine)	1,300 R	1,400 R	16,000 R	4,000 R	39,000 R	39,000 R	4,000 R
1-Naphthylamine	1,300 U	1,400 U	3,200 U	780 U	7,500 UJ	7,500 UJ	770 U
2,2'-Oxybis(1-Chloropropane)[Bis(2-Chloroisopropyl)Ether]	640 UJ	700 UJ	3,200 U	780 U	7,500 U	7,500 U	770 UJ
2,3,4,6-Tetrachlorophenol	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2,4,5-Trichlorophenol	3,200 U	3,500 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2,4,6-Trichlorophenol	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2,4-Dichlorophenol	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2,4-Dimethylphenol	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2,4-Dinitrophenol	3,200 UJ	3,500 UJ	16,000 U	4,000 U	39,000 U	39,000 U	4,000 U
2,4-Dinitrotoluene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2,6-Dichlorophenol	640 UJ	700 UJ	3,200 U	780 U	7,500 U	7,500 U	770 U
2,6-Dinitrotoluene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2-Acetylaminofluorene	1,300 U	1,400 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2-Chloronaphthalene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD08	11SD09	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11SD08	11SD09	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14
Sample Date	10/02/97	10/02/97	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)							
2-Chlorophenol	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2-Naphthylamine	1,600 UJ	1,800 UJ	3,200 U	780 U	7,500 UJ	7,500 UJ	770 U
2-Nitroaniline (O-Nitroaniline)	3,200 UJ	3,500 UJ	16,000 U	4,000 U	39,000 U	39,000 U	4,000 U
2-Nitrophenol (O-Nitrophenol)	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
2-Picoline	640 U	700 U	3,200 UJ	780 U	7,500 UJ	7,500 UJ	770 UJ
3,3'-Dichlorobenzidine	1,300 U	1,400 U	6,300 U	1,600 U	15,000 UJ	15,000 UJ	1,500 U
3,3'-Dimethylbenzidine	3,200 R	3,500 R	16,000 U	4,000 UJ	39,000 UJ	39,000 UJ	4,000 UJ
3-Methylcholanthrene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
3-Nitroaniline (M-Nitroaniline)	3,200 UJ	3,500 UJ	16,000 U	4,000 U	39,000 U	39,000 U	4,000 U
4,6-Dinitro-2-Methylphenol (4,6-Dinitro-O-Cresol)	3,200 UJ	3,500 UJ	16,000 U	4,000 U	39,000 U	39,000 U	4,000 U
4-Aminobiphenyl	1,300 UJ	1,400 UJ	3,200 U	780 U	7,500 U	7,500 U	770 U
4-Bromophenylphenyl Ether	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
4-Chloro-3-Methylphenol (P-Chloro-M-Cresol)	1,300 U	1,400 U	3,200 U	780 U	7,500 U	7,500 U	770 U
4-Chloroaniline (P-Chloroaniline)	1,300 UJ	1,400 UJ	6,300 U	1,600 U	15,000 U	15,000 U	1,500 U
4-Chlorophenylphenyl Ether	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
4-Nitroaniline (P-Nitroaniline)	3,200 UJ	3,500 UJ	16,000 U	4,000 UJ	39,000 U	39,000 U	4,000 U
4-Nitrophenol (P-Nitrophenol)	3,200 UJ	3,500 UJ	16,000 UJ	4,000 U	39,000 U	39,000 U	4,000 U
4-Nitroquinoline-1-Oxide	3,200 R	3,500 R	32,000 R	7,800 R	75,000 R	75,000 R	7,700 R
5-Nitro-O-Toluidine	1,300 U	1,400 U	3,200 U	780 U	7,500 U	7,500 U	770 U
7,12-Dimethylbenz(a)Anthracene	1,300 U	1,400 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Acetophenone	640 U	700 U	3,200 U	780 U	7,500 UJ	7,500 UJ	770 U
Alpha,Alpha-Dimethylphenethylamine	3,200 UJ	3,500 UJ	640,000 U	160,000 R	1,500,000 UJ	1,500,000 UJ	160,000 U
Aniline	3,200 UJ	3,500 UJ	3,200 U	780 U	7,500 UJ	7,500 UJ	770 U
Aramite, Total	1,300 UJ	1,400 UJ	3,200 R	780 R	7,500 R	7,500 R	770 R
Benzyl Alcohol	640 UJ	700 UJ	3,200 U	780 U	7,500 U	7,500 U	770 U
Bis(2-Chloroethoxy)Methane	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Bis(2-Chloroethyl)Ether	640 U	700 U	3,200 UJ	780 U	7,500 U	7,500 U	770 U

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD08	11SD09	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11SD08	11SD09	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14
Sample Date	10/02/97	10/02/97	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)							
Bis(2-Ethylhexyl)Phthalate	200 J	590 J	3,200 U	300 J	7,500 U	7,500 U	770 U
Butylbenzylphthalate	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Cresol (Ortho)	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Cresol, M & P	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Diallate, Total	640 U	700 U	3,200 UJ	780 UJ	7,500 UJ	7,500 UJ	770 UJ
Dibenzofuran	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Diethylphthalate	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Dimethylphthalate	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Di-n-Butylphthalate	88 J	120 J	3,200 U	170 J	7,500 U	7,500 U	770 U
Di-n-Octylphthalate	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Dinoseb (2-Sec-Butyl-4,6-Dinitrophenol)	1,300 UJ	1,400 UJ	3,200 R	780 U	7,500 UJ	7,500 UJ	770 UJ
Ethyl Methanesulfonate	640 U	700 U	3,200 UJ	780 U	7,500 UJ	7,500 UJ	770 UJ
Hexachlorobenzene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Hexachlorobutadiene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Hexachlorocyclopentadiene	640 UJ	700 UJ	3,200 U	780 U	7,500 UJ	7,500 UJ	770 U
Hexachloroethane	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Hexachlorophene	6,400 R	7,000 R	1,600,000 R	400,000 R	3,900,000 R	3,900,000 R	400,000 R
Hexachloropropene	3,200 U	3,500 U	3,200 U	780 U	7,500 UJ	7,500 UJ	770 U
Isophorone	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Isosafrole	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
M-Dinitrobenzene	1,300 U	1,400 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Methapyrilene	1,600 U	1,800 U	640,000 R	160,000 R	1,500,000 R	1,500,000 R	160,000 R
Methyl Methanesulfonate	640 UJ	700 UJ	3,200 UJ	780 U	7,500 UJ	7,500 UJ	770 UJ
Nitrobenzene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
N-Nitrosodiethylamine	640 U	700 U	3,200 U	780 U	7,500 UJ	7,500 UJ	770 UJ
N-Nitrosodimethylamine	640 UJ	700 UJ	3,200 UJ	780 U	7,500 U	7,500 U	770 U
N-NitrosoDi-n-Butylamine	640 U	700 U	3,200 U	780 U	7,500 UJ	7,500 UJ	770 UJ

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD08	11SD09	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11SD08	11SD09	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14
Sample Date	10/02/97	10/02/97	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)							
N-NitrosoDi-n-Propylamine	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
N-Nitrosodiphenylamine	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
N-Nitrosomethylethylamine	640 U	700 U	3,200 UJ	780 U	7,500 UJ	7,500 UJ	770 UJ
N-Nitrosomorpholine	1,300 U	1,400 U	3,200 UJ	780 UJ	7,500 UJ	7,500 UJ	770 U
N-Nitrosopiperidine	640 U	700 U	3,200 U	780 UJ	7,500 U	7,500 UJ	770 U
N-Nitrosopyrrolidine	3,200 U	3,500 U	3,200 U	780 U	7,500 UJ	7,500 UJ	770 UJ
O-Toluidine	640 U	700 U	3,200 R	780 U	7,500 UJ	7,500 UJ	770 UJ
P-(Dimethylamino)Azobenzene	1,300 U	1,400 U	3,200 U	780 UJ	7,500 UJ	7,500 UJ	770 UJ
Pentachlorobenzene	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Pentachloronitrobenzene	640 R	700 R	3,200 R	780 R	7,500 R	7,500 R	770 R
Pentachlorophenol	3,200 U	3,500 U	16,000 U	4,000 U	39,000 U	39,000 U	4,000 U
Phenacetin	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Phenol	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Pronamide	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Pyridine	1,300 UJ	1,400 UJ	3,200 UJ	780 U	7,500 UJ	7,500 UJ	770 UJ
Safrole	640 U	700 U	3,200 U	780 U	7,500 U	7,500 U	770 U
Low Level PAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	13 U	24 J	15 U	15 U	16 U
2-Methylnaphthalene	640 U	700 U	13 U	32 J	15 U	15 U	16 U
Acenaphthene	640 U	700 U	4.1 J	220 J	15 U	15 U	16 U
Acenaphthylene	640 U	700 U	13 U	3.5 J	15 U	15 U	16 U
Anthracene	640 U	96 J	9.6 J	540 J	6.3 J	5.3 J	16 U
Benzo(a)Anthracene	640 U	310 J	50	1,200 J	32	30	4.7 J
Benzo(a)Pyrene	640 U	360 J	3,200 U	320 J	7,500 U	7,500 U	770 U
Benzo(b)Fluoranthene	640 U	520 J	120	1,200 J	65	62	13 J
Benzo(g,h,i)Perylene	640 U	230 J	23	340 J	22	17	4.8 J

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD08	11SD09	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11SD08	11SD09	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14
Sample Date	10/02/97	10/02/97	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)							
Benzo(k)Fluoranthene	640 U	540 J	13 U	64 U	15 U	15 U	16 U
Chrysene	640 U	390 J	52	1,000 J	35	32	5 J
Dibenzo(a,h)Anthracene	640 U	75 J	13 U	64 U	15 U	15 U	16 U
Fluoranthene	640 U	680 J	87	2,600 J	56	51	6.5 J
Fluorene	640 U	700 U	2.8 J	220 J	15 U	15 U	16 U
Indeno(1,2,3-cd)Pyrene	640 U	260 J	17	370 J	16	14 J	3.2 J
Naphthalene	640 U	700 U	13 U	16 J	15 U	15 U	16 U
Phenanthrene	640 U	470 J	46	2,400 J	25	23	16 U
Pyrene	640 U	680 J	76	2,100 J	50	46	6.1 J
PCBs (ug/kg)							
Aroclor-1016	77 U	85 U	63 U	78 U	75 U	75 U	77 U
Aroclor-1221	77 U	85 U	130 U	160 U	150 U	150 U	160 U
Aroclor-1232	77 U	85 U	63 U	78 U	75 U	75 U	77 U
Aroclor-1242	77 U	85 U	63 U	78 U	75 U	75 U	77 U
Aroclor-1248	77 U	85 U	63 U	78 U	75 U	75 U	77 U
Aroclor-1254	150 U	170 U	63 U	78 U	75 U	75 U	77 U
Aroclor-1260	33	130	18 J	150	35 J	22 J	77 U
Miscellaneous Parameters							
Total Organic Carbon (mg/kg)	NA	NA	22,000	27,000	29,000	24,000	22,000

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18	11SD20
Sample ID	11OWSD15	11OWSD16	11OWSD17	11OWSD18	11OWSD20
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)					
1,1,1,2-Tetrachloroethane	19 U	11 U	12 U	13 U	NA
1,1,1-Trichloroethane	19 U	11 U	12 U	13 U	NA
1,1,2,2-Tetrachloroethane	19 U	11 U	12 U	13 U	NA
1,1,2-Trichloroethane	19 U	11 U	12 U	13 U	NA
1,1-Dichloroethane	19 U	11 U	12 UJ	13 U	NA
1,1-Dichloroethene	19 UJ	11 UJ	12 UJ	13 UJ	NA
1,2,3-Trichloropropane	19 U	11 U	12 U	13 U	NA
1,2-Dibromo-3-Chloropropane	38 U	22 U	24 U	26 U	NA
1,2-Dibromoethane (EDB)	19 U	11 U	12 U	13 U	NA
1,2-Dichloroethane	19 U	11 U	12 U	13 U	NA
1,2-Dichloroethene (Total)	NA	NA	NA	NA	NA
1,2-Dichloropropane	19 U	11 U	12 U	13 U	NA
2-Butanone (Methyl Ethyl Ketone)	85 J	22 J	19 J	27 J	NA
2-Hexanone	230 J	55 UJ	60 UJ	66 UJ	NA
3-Chloropropene (Allylchloride)	19 UJ	11 UJ	12 UJ	13 UJ	NA
4-Methyl-2-Pentanone (MIBK)	95 UJ	55 UJ	60 UJ	66 UJ	NA
Acetone	320 J	68 J	42 J	93 J	NA
Acetonitrile	760 R	440 R	480 R	530 R	NA
Acrolein (Propenal)	380 R	220 R	240 R	260 R	NA
Acrylonitrile	380 U	220 U	240 U	260 U	NA
Benzene	19 U	11 U	12 U	13 U	NA
Bromodichloromethane	19 U	11 U	12 U	13 U	NA
Bromoform	19 U	11 U	12 U	13 U	NA
Bromomethane (Methyl Bromide)	19 UJ	11 UJ	12 UJ	13 UJ	NA
Carbon Disulfide	19 U	11 U	12 U	13 U	NA
Carbon Tetrachloride	19 U	11 U	12 U	13 U	NA
Chlorobenzene	19 U	11 U	12 U	13 U	NA

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18	11SD20
Sample ID	11OWSD15	11OWSD16	11OWSD17	11OWSD18	11OWSD20
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)					
Chloroethane	19 UJ	11 UJ	12 UJ	13 UJ	NA
Chloroform	19 U	11 U	12 U	13 U	NA
Chloromethane (Methyl Chloride)	19 UJ	11 UJ	12 UJ	13 UJ	NA
Chloroprene	19 UJ	11 UJ	12 UJ	13 UJ	NA
Cis-1,3-Dichloropropene	19 U	11 U	12 U	13 U	NA
Dibromochloromethane	19 U	11 U	12 U	13 U	NA
Dibromomethane (Methylene Bromide)	19 U	11 U	12 U	13 U	NA
Dichlorodifluoromethane	19 UJ	11 UJ	12 UJ	13 UJ	NA
Ethyl Methacrylate	19 U	11 U	12 U	13 U	NA
Ethylbenzene	19 U	11 U	12 U	13 U	NA
Iodomethane (Methyl Iodide)	19 UJ	11 UJ	12 UJ	13 UJ	NA
Isobutanol (Isobutyl Alcohol)	760 R	440 R	480 R	530 R	NA
Methacrylonitrile	380 UJ	220 UJ	240 UJ	260 UJ	NA
Methyl Methacrylate	19 U	11 U	12 U	13 U	NA
Methylene Chloride (Dichloromethane)	19 U	55 U	12 U	13 U	NA
Pentachloroethane	95 U	55 U	60 U	66 U	NA
Propionitrile	380 UJ	220 UJ	240 UJ	260 UJ	NA
Styrene	19 U	11 U	12 U	13 U	NA
Tetrachloroethene	19 U	11 U	12 U	13 U	NA
Toluene	19 U	11 U	2.1 J	2.5 J	NA
Trans-1,2-Dichloroethene	19 U	11 U	12 U	13 U	NA
Trans-1,3-Dichloropropene	19 U	11 U	12 U	13 U	NA
Trans-1,4-Dichloro-2-Butene	38 UJ	22 UJ	24 UJ	26 UJ	NA
Trichloroethene	19 U	11 U	12 U	13 U	NA
Trichlorofluoromethane	19 UJ	11 UJ	12 UJ	13 UJ	NA

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18	11SD20
Sample ID	11OWSD15	11OWSD16	11OWSD17	11OWSD18	11OWSD20
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)					
Vinyl Acetate	38 UJ	22 UJ	24 UJ	26 UJ	NA
Vinyl Chloride	19 U	11 U	12 U	13 U	NA
Xylenes, Total	38 U	22 U	24 U	26 U	NA
Semivolatiles (ug/kg)					
1,2,4,5-Tetrachlorobenzene	5,900 U	8,200 U	7,500 U	8,700 U	NA
1,2,4-Trichlorobenzene	5,900 U	8,200 U	7,500 U	8,700 U	NA
1,2-Dichlorobenzene (O-Dichlorobenzene)	5,900 U	8,200 U	7,500 U	8,700 U	NA
1,3,5-Trinitrobenzene	5,900 R	8,200 R	7,500 R	8,700 R	NA
1,3-Dichlorobenzene (M-Dichlorobenzene)	5,900 U	8,200 U	7,500 U	8,700 U	NA
1,4-Dichlorobenzene (P-Dichlorobenzene)	5,900 U	8,200 U	7,500 U	8,700 U	NA
1,4-Dioxane	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
1,4-Naphthoquinone	5,900 U	8,200 U	7,500 U	8,700 U	NA
1,4-Phenylenediamine (P-Phenylenediamine)	30,000 R	42,000 R	39,000 R	45,000 R	NA
1-Naphthylamine	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
2,2'-Oxybis(1-Chloropropane)[Bis(2-Chloroisopropyl)Ether]	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,3,4,6-Tetrachlorophenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,4,5-Trichlorophenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,4,6-Trichlorophenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,4-Dichlorophenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,4-Dimethylphenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,4-Dinitrophenol	30,000 U	42,000 U	39,000 U	45,000 U	NA
2,4-Dinitrotoluene	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,6-Dichlorophenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
2,6-Dinitrotoluene	5,900 U	8,200 U	7,500 U	8,700 U	NA
2-Acetylaminofluorene	5,900 U	8,200 U	7,500 U	8,700 U	NA
2-Chloronaphthalene	5,900 U	8,200 U	7,500 U	8,700 U	NA

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18	11SD20
Sample ID	11OWSD15	11OWSD16	11OWSD17	11OWSD18	11OWSD20
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
2-Chlorophenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
2-Naphthylamine	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
2-Nitroaniline (O-Nitroaniline)	30,000 U	42,000 U	39,000 U	45,000 U	NA
2-Nitrophenol (O-Nitrophenol)	5,900 U	8,200 U	7,500 U	8,700 U	NA
2-Picoline	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
3,3'-Dichlorobenzidine	12,000 U	16,000 UJ	15,000 UJ	17,000 UJ	NA
3,3'-Dimethylbenzidine	30,000 U	42,000 UJ	39,000 UJ	45,000 UJ	NA
3-Methylcholanthrene	5,900 U	8,200 U	7,500 U	8,700 U	NA
3-Nitroaniline (M-Nitroaniline)	30,000 U	42,000 U	39,000 U	45,000 U	NA
4,6-Dinitro-2-Methylphenol (4,6-Dinitro-O-Cresol)	30,000 U	42,000 U	39,000 U	45,000 U	NA
4-Aminobiphenyl	5,900 U	8,200 U	7,500 U	8,700 U	NA
4-Bromophenylphenyl Ether	5,900 U	8,200 U	7,500 U	8,700 U	NA
4-Chloro-3-Methylphenol (P-Chloro-M-Cresol)	5,900 U	8,200 U	7,500 U	8,700 U	NA
4-Chloroaniline (P-Chloroaniline)	12,000 U	16,000 U	15,000 U	17,000 U	NA
4-Chlorophenylphenyl Ether	5,900 U	8,200 U	7,500 U	8,700 U	NA
4-Nitroaniline (P-Nitroaniline)	30,000 U	42,000 U	39,000 U	45,000 U	NA
4-Nitrophenol (P-Nitrophenol)	30,000 UJ	42,000 U	39,000 U	45,000 U	NA
4-Nitroquinoline-1-Oxide	59,000 R	82,000 R	75,000 R	87,000 R	NA
5-Nitro-O-Toluidine	5,900 U	8,200 U	7,500 U	8,700 U	NA
7,12-Dimethylbenz(a)Anthracene	5,900 U	8,200 U	7,500 U	8,700 U	NA
Acetophenone	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
Alpha,Alpha-Dimethylphenethylamine	1,200,000 U	1,700,000 UJ	1,500,000 UJ	1,800,000 UJ	NA
Aniline	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
Aramite, Total	5,900 R	8,200 R	7,500 R	8,700 R	NA
Benzyl Alcohol	5,900 U	8,200 U	7,500 U	8,700 U	NA
Bis(2-Chloroethoxy)Methane	5,900 U	8,200 U	7,500 U	8,700 U	NA
Bis(2-Chloroethyl)Ether	5,900 UJ	8,200 U	7,500 U	8,700 U	NA

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18	11SD20
Sample ID	11OWSD15	11OWSD16	11OWSD17	11OWSD18	11OWSD20
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
Bis(2-Ethylhexyl)Phthalate	5,900 U	8,200 U	7,500 U	8,700 U	NA
Butylbenzylphthalate	5,900 U	8,200 U	7,500 U	8,700 U	NA
Cresol (Ortho)	5,900 U	8,200 U	7,500 U	8700 U	NA
Cresol, M & P	5,900 U	8,200 U	7,500 U	8700 U	NA
Diallate, Total	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
Dibenzofuran	5,900 U	8,200 U	7,500 U	8,700 U	NA
Diethylphthalate	5,900 U	8,200 U	7,500 U	8,700 U	NA
Dimethylphthalate	5,900 U	8,200 U	7,500 U	8,700 U	NA
Di-n-Butylphthalate	5,900 U	8,200 U	7,500 U	8,700 U	NA
Di-n-Octylphthalate	5,900 U	8,200 U	7,500 U	8,700 U	NA
Dinoseb (2-Sec-Butyl-4,6-Dinitrophenol)	5,900 R	8,200 UJ	7,500 UJ	8,700 UJ	NA
Ethyl Methanesulfonate	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
Hexachlorobenzene	5,900 U	8,200 U	7,500 U	8,700 U	NA
Hexachlorobutadiene	5,900 U	8,200 U	7,500 U	8,700 U	NA
Hexachlorocyclopentadiene	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
Hexachloroethane	5,900 U	8,200 U	7,500 U	8,700 U	NA
Hexachlorophene	3,000,000 R	4,200,000 R	3,900,000 R	4,500,000 R	NA
Hexachloropropene	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
Isophorone	5,900 U	8,200 U	7,500 U	8,700 U	NA
Isosafrole	5,900 U	8,200 U	7,500 U	8,700 U	NA
M-Dinitrobenzene	5,900 U	8,200 U	7,500 U	8,700 U	NA
Methapyrilene	1,200,000 R	1,700,000 R	1,500,000 R	1,800,000 R	NA
Methyl Methanesulfonate	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
Nitrobenzene	5,900 U	8,200 U	7,500 U	8,700 U	NA
N-Nitrosodiethylamine	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
N-Nitrosodimethylamine	5,900 UJ	8,200 U	7,500 U	8,700 U	NA
N-NitrosoDi-n-Butylamine	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18	11SD20
Sample ID	11OWSD15	11OWSD16	11OWSD17	11OWSD18	11OWSD20
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)					
N-NitrosoDi-n-Propylamine	5,900 U	8,200 U	7,500 U	8,700 U	NA
N-Nitrosodiphenylamine	5,900 U	8,200 U	7,500 U	8,700 U	NA
N-Nitrosomethylethylamine	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
N-Nitrosomorpholine	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
N-Nitrosopiperidine	5,900 U	8,200 U	7,500 U	8,700 U	NA
N-Nitrosopyrrolidine	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
O-Toluidine	5,900 R	8,200 UJ	7,500 UJ	8,700 UJ	NA
P-(Dimethylamino)Azobenzene	5,900 U	8,200 UJ	7,500 UJ	8,700 UJ	NA
Pentachlorobenzene	5,900 U	8,200 U	7,500 U	8,700 U	NA
Pentachloronitrobenzene	5,900 R	8,200 R	7,500 R	8,700 R	NA
Pentachlorophenol	30,000 U	42,000 U	39,000 U	45,000 U	NA
Phenacetin	5,900 U	8,200 U	7,500 U	8,700 U	NA
Phenol	5,900 U	8,200 U	7,500 U	8,700 U	NA
Pronamide	5,900 U	8,200 U	7,500 U	8,700 U	NA
Pyridine	5,900 UJ	8,200 UJ	7,500 UJ	8,700 UJ	NA
Safrole	5,900 U	8,200 U	7,500 U	8,700 U	NA
Low Level PAHs (ug/kg)					
1-Methylnaphthalene	24 U	1 J	2 J	18 U	NA
2-Methylnaphthalene	2.5 J	1.5 J	2.6 J	18 U	NA
Acenaphthene	13 J	11 J	11 J	18 U	NA
Acenaphthylene	24 U	17 U	15 U	18 U	NA
Anthracene	41	33	33	8.2 J	NA
Benzo(a)Anthracene	120	110	110	52	NA
Benzo(a)Pyrene	5,900 U	8,200 U	7,500 U	8,700 U	NA
Benzo(b)Fluoranthene	160	160	180	18 U	NA
Benzo(g,h,i)Perylene	27	31	25	22	NA

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18	11SD20
Sample ID	11OWSD15	11OWSD16	11OWSD17	11OWSD18	11OWSD20
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)					
Benzo(k)Fluoranthene	24 U	17 U	15 U	110	NA
Chrysene	110	100	99	71	NA
Dibenzo(a,h)Anthracene	24 U	17 U	15 U	18 U	NA
Fluoranthene	230	210	190	150	NA
Fluorene	14 J	11 J	9.1 J	18 U	NA
Indeno(1,2,3-cd)Pyrene	19 J	14 J	9.2 J	7.5 J	NA
Naphthalene	24 U	17 U	4.8 J	18 U	NA
Phenanthrene	190	150	140	20	NA
Pyrene	200	190	180	180	NA
PCBs (ug/kg)					
Aroclor-1016	120 U	82 U	75 U	87 U	62 U
Aroclor-1221	240 U	170 U	150 U	180 U	130 U
Aroclor-1232	120 U	82 U	75 U	87 U	62 U
Aroclor-1242	120 U	82 U	75 U	87 U	62 U
Aroclor-1248	120 U	82 U	75 U	87 U	62 U
Aroclor-1254	120 U	82 U	75 U	87 U	62 U
Aroclor-1260	35 J	25 J	26 J	38 J	24 J
Miscellaneous Parameters					
Total Organic Carbon (mg/kg)	31,000	27,000	19,000	34,000	NA

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)				
1,1,1,2-Tetrachloroethane	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA
1,2,3-Trichloropropane	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA
1,2-Dichloroethene (Total)	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA
2-Butanone (Methyl Ethyl Ketone)	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA
3-Chloropropene (Allylchloride)	NA	NA	NA	NA
4-Methyl-2-Pentanone (MIBK)	NA	NA	NA	NA
Acetone	NA	NA	NA	NA
Acetonitrile	NA	NA	NA	NA
Acrolein (Propenal)	NA	NA	NA	NA
Acrylonitrile	NA	NA	NA	NA
Benzene	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA
Bromomethane (Methyl Bromide)	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA
Carbon Tetrachloride	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)				
Chloroethane	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA
Chloromethane (Methyl Chloride)	NA	NA	NA	NA
Chloroprene	NA	NA	NA	NA
Cis-1,3-Dichloropropene	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA
Dibromomethane (Methylene Bromide)	NA	NA	NA	NA
Dichlorodifluoromethane	NA	NA	NA	NA
Ethyl Methacrylate	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA
Iodomethane (Methyl Iodide)	NA	NA	NA	NA
Isobutanol (Isobutyl Alcohol)	NA	NA	NA	NA
Methacrylonitrile	NA	NA	NA	NA
Methyl Methacrylate	NA	NA	NA	NA
Methylene Chloride (Dichloromethane)	NA	NA	NA	NA
Pentachloroethane	NA	NA	NA	NA
Propionitrile	NA	NA	NA	NA
Styrene	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA
Toluene	NA	NA	NA	NA
Trans-1,2-Dichloroethene	NA	NA	NA	NA
Trans-1,3-Dichloropropene	NA	NA	NA	NA
Trans-1,4-Dichloro-2-Butene	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA
Trichlorofluoromethane	NA	NA	NA	NA

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)				
Vinyl Acetate	NA	NA	NA	NA
Vinyl Chloride	NA	NA	NA	NA
Xylenes, Total	NA	NA	NA	NA
Semivolatiles (ug/kg)				
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA
1,2-Dichlorobenzene (O-Dichlorobenzene)	NA	NA	NA	NA
1,3,5-Trinitrobenzene	NA	NA	NA	NA
1,3-Dichlorobenzene (M-Dichlorobenzene)	NA	NA	NA	NA
1,4-Dichlorobenzene (P-Dichlorobenzene)	NA	NA	NA	NA
1,4-Dioxane	NA	NA	NA	NA
1,4-Naphthoquinone	NA	NA	NA	NA
1,4-Phenylenediamine (P-Phenylenediamine)	NA	NA	NA	NA
1-Naphthylamine	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)[Bis(2-Chloroisopropyl)Ether]	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA
2,6-Dichlorophenol	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA
2-Acetylaminofluorene	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)				
2-Chlorophenol	NA	NA	NA	NA
2-Naphthylamine	NA	NA	NA	NA
2-Nitroaniline (O-Nitroaniline)	NA	NA	NA	NA
2-Nitrophenol (O-Nitrophenol)	NA	NA	NA	NA
2-Picoline	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA
3,3'-Dimethylbenzidine	NA	NA	NA	NA
3-Methylcholanthrene	NA	NA	NA	NA
3-Nitroaniline (M-Nitroaniline)	NA	NA	NA	NA
4,6-Dinitro-2-Methylphenol (4,6-Dinitro-O-Cresol)	NA	NA	NA	NA
4-Aminobiphenyl	NA	NA	NA	NA
4-Bromophenylphenyl Ether	NA	NA	NA	NA
4-Chloro-3-Methylphenol (P-Chloro-M-Cresol)	NA	NA	NA	NA
4-Chloroaniline (P-Chloroaniline)	NA	NA	NA	NA
4-Chlorophenylphenyl Ether	NA	NA	NA	NA
4-Nitroaniline (P-Nitroaniline)	NA	NA	NA	NA
4-Nitrophenol (P-Nitrophenol)	NA	NA	NA	NA
4-Nitroquinoline-1-Oxide	NA	NA	NA	NA
5-Nitro-O-Toluidine	NA	NA	NA	NA
7,12-Dimethylbenz(a)Anthracene	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA
Alpha,Alpha-Dimethylphenethylamine	NA	NA	NA	NA
Aniline	NA	NA	NA	NA
Aramite, Total	NA	NA	NA	NA
Benzyl Alcohol	NA	NA	NA	NA
Bis(2-Chloroethoxy)Methane	NA	NA	NA	NA
Bis(2-Chloroethyl)Ether	NA	NA	NA	NA

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)				
Bis(2-Ethylhexyl)Phthalate	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA
Cresol (Ortho)	NA	NA	NA	NA
Cresol, M & P	NA	NA	NA	NA
Diallate, Total	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA
Di-n-Butylphthalate	NA	NA	NA	NA
Di-n-Octylphthalate	NA	NA	NA	NA
Dinoseb (2-Sec-Butyl-4,6-Dinitrophenol)	NA	NA	NA	NA
Ethyl Methanesulfonate	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA
Hexachlorophene	NA	NA	NA	NA
Hexachloropropene	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA
Isosafrole	NA	NA	NA	NA
M-Dinitrobenzene	NA	NA	NA	NA
Methapyrilene	NA	NA	NA	NA
Methyl Methanesulfonate	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA
N-Nitrosodiethylamine	NA	NA	NA	NA
N-Nitrosodimethylamine	NA	NA	NA	NA
N-NitrosoDi-n-Butylamine	NA	NA	NA	NA

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)				
N-NitrosoDi-n-Propylamine	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA
N-Nitrosomethylethylamine	NA	NA	NA	NA
N-Nitrosomorpholine	NA	NA	NA	NA
N-Nitrosopiperidine	NA	NA	NA	NA
N-Nitrosopyrrolidine	NA	NA	NA	NA
O-Toluidine	NA	NA	NA	NA
P-(Dimethylamino)Azobenzene	NA	NA	NA	NA
Pentachlorobenzene	NA	NA	NA	NA
Pentachloronitrobenzene	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA
Phenacetin	NA	NA	NA	NA
Phenol	NA	NA	NA	NA
Pronamide	NA	NA	NA	NA
Pyridine	NA	NA	NA	NA
Safrole	NA	NA	NA	NA
Low Level PAHs (ug/kg)	NA	NA	NA	NA
1-Methylnaphthalene	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA
Benzo(a)Anthracene	NA	NA	NA	NA
Benzo(a)Pyrene	NA	NA	NA	NA
Benzo(b)Fluoranthene	NA	NA	NA	NA
Benzo(g,h,i)Perylene	NA	NA	NA	NA

APPENDIX F.1

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)				
Benzo(k)Fluoranthene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenzo(a,h)Anthracene	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA
Indeno(1,2,3-cd)Pyrene	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA
PCBs (ug/kg)				
Aroclor-1016	75 U	63 U	60 U	58 U
Aroclor-1221	150 U	130 U	120 U	120 U
Aroclor-1232	75 U	63 U	60 U	58 U
Aroclor-1242	75 U	63 U	60 U	58 U
Aroclor-1248	75 U	63 U	60 U	58 U
Aroclor-1254	75 U	63 U	60 U	58 U
Aroclor-1260	12 J	63 U	60 U	58 U
Miscellaneous Parameters				
Total Organic Carbon (mg/kg)	NA	NA	NA	NA

APPENDIX F.2

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07	11SD08	11SD09
Sample ID	11SD01	11SD02	11SD03	11SD04	11SD05	11SD06	11SD07	11SD08	11SD09
Sample Date	09/19/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97	10/02/97
Sample Depth (ft bgs)	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0	0.0 - 3.0
Inorganics (mg/kg)									
Antimony	0.51 UJ	0.7 J	0.68 J	0.41 J	0.63 J	0.36 UJ	0.3 UJ	0.37 J	0.63 J
Arsenic	12	3.3 J	5.4 J	3.7 J	5.8 J	5.6 J	4.8 J	7.8 J	5.4 J
Barium	20.9 J	14.2 J	18.1 J	16.5 J	15.7 J	26.1 J	19.1 J	13 J	24.4 J
Beryllium	0.09 U	0.05 U	0.06 J	0.05 U	0.06 U	0.06 J	0.05 U	0.04 U	0.06 J
Cadmium	0.66 J	0.07 U	0.08 J	0.07 U	0.07 U	0.08 U	0.06 U	0.06 U	0.06 U
Chromium	12.7	9.6 0	12.7 J	9.4	9.1	14.4	8.6	8	13.8
Cobalt	7.3 J	2.3 J	3.1 J	2.4 J	2.6 J	4.1 J	2.8 J	1.8 J	4.1 J
Copper	84.1 R	21.8 J	31.3 J	25.6 J	25 J	40.1 J	27.1 J	18.1 J	44.6 J
Cyanide, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.42	0.04 U	0.06 U	0.04 U	0.05 U	0.04 U	0.04 U	0.03 U	0.04 U
Nickel	5 J	2.3 J	3.1 J	2.3 J	2.8 J	4.7 J	2.5 J	1.7 J	3.8 J
Selenium	0.78 J	0.37 U	0.44 U	0.36 U	0.41 U	0.42 U	0.35 U	0.32 U	0.35 U
Silver	0.36 J	0.1 U	0.12 U	0.1 U	0.11 U	0.13 J	0.1 U	0.09 U	0.13 J
Thallium	0.63 U	0.36 UJ	0.42 U	0.34 UJ	0.39 UJ	0.4 UJ	0.33 UJ	0.3 UJ	0.33 UJ
Tin	5.5 J	2.9 J	4	3.3 J	3.5 J	4.3 J	3.1 J	2.2 J	3.2 J
Vanadium	73.4 J	17.9	22.4	18.9	22.3	29.5	21.2	15.8	31.7
Zinc	130 R	33	62.7	48.9	37.3	68.8	44.8	26.1	83.9

APPENDIX F.2

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14	11SD15	11SD16	11SD17
Sample ID	11OWSD10	11OWSD11	11OWSD12	11OWSD13	11OWSD14	11OWSD15	11OWSD16	11OWSD17
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03	08/05/03	08/05/03	08/05/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Inorganics (mg/kg)								
Antimony	0.24 J	0.65 J	0.21 J	0.21 J	0.27 J	0.49 J	0.32 J	0.47 J
Arsenic	5.9	7.3	6.6	6.8	5.3	4.1	3.6	3.2
Barium	17	27	21	18	17	22	15	22
Beryllium	0.064 J	0.11 J	0.08 J	0.074 J	0.1 J	0.064 J	0.054 J	0.058 J
Cadmium	0.13 J	0.21 J	0.13 J	0.14 J	0.11 J	0.25 J	0.17 J	0.38 J
Chromium	10	19 J	13 J	14 J	11 J	9.5	6.8	11
Cobalt	3.5	5	3.8	3.7	2.9	3.6	3.7	3.6
Copper	27	59 J	35 J	35 J	24 J	31	25	25
Cyanide, Total	0.94 U	1.2 U	1.1 U	1.1 U	1.2 U	1.8 U	1.2 U	1.1 U
Lead	10	25 J	12 J	10 J	6.4 J	13	7.2	13
Mercury	0.031 J	0.034 J	0.034 J	0.036 J	0.015 J	0.07 U	0.016 J	0.017 J
Nickel	3.6	6.6	4.8	4.7	3.9	4.2	3.8	4
Selenium	0.25 J	0.4 J	0.38 J	0.36 J	0.39 J	0.26 J	0.25 J	0.21 J
Silver	0.05 J	0.079 J	0.05 J	0.058 J	0.084 J	0.088 J	0.062 J	0.062 J
Thallium	0.14 J	0.094 J	0.14 J	0.083 J	0.046 J	0.23 J	0.14 J	0.11 J
Tin	3.4 J	4.8 J	4.2 J	4.4 J	4.1 J	6.4 J	4.1 J	3.8 J
Vanadium	24	42	30	30	27	27	21	25
Zinc	39	67 J	47 J	44 J	26 J	52	36	41

APPENDIX F.2

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SEDIMENT - INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD18	11SD20	11SD21	11SD22	11SD23	11SD24
Sample ID	11OWSD18	11OWSD20	11OWSD21	11OWSD22	11OWSD23	11OWSD24
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03	08/06/03
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Inorganics (mg/kg)						
Antimony	0.71 J	NA	NA	NA	NA	NA
Arsenic	4.7	NA	NA	NA	NA	NA
Barium	33	NA	NA	NA	NA	NA
Beryllium	0.12 J	NA	NA	NA	NA	NA
Cadmium	1.3	NA	NA	NA	NA	NA
Chromium	17	NA	NA	NA	NA	NA
Cobalt	6.1	NA	NA	NA	NA	NA
Copper	48	NA	NA	NA	NA	NA
Cyanide, Total	1.3 U	NA	NA	NA	NA	NA
Lead	18	NA	NA	NA	NA	NA
Mercury	0.038 J	NA	NA	NA	NA	NA
Nickel	7.1	NA	NA	NA	NA	NA
Selenium	0.37 J	NA	NA	NA	NA	NA
Silver	0.1 J	NA	NA	NA	NA	NA
Thallium	0.2 J	NA	NA	NA	NA	NA
Tin	5.1 J	NA	NA	NA	NA	NA
Vanadium	43	NA	NA	NA	NA	NA
Zinc	80	NA	NA	NA	NA	NA

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	45MW01	45MW02	45MW03	45MW04
Sample ID	45MW01-00	45MW02-00	45MW03-00	45MW04-00
Sample Date	11/22/1996	11/21/1996	11/21/1996	11/22/1996
Sample Depth (ft bgs)	0.00-1.00	0.00-1.00	0.00-1.00	0.00-1.00
Volatiles (ug/kg)				
1,1,1,2-Tetrachloroethane	11 U	11 U	11 U	12 U
1,1,1-Trichloroethane	5 U	6 U	6 U	6 U
1,1,2,2-Tetrachloroethane	5 U	6 U	6 U	6 U
1,1,2-Trichloroethane	5 U	6 U	6 U	6 U
1,1-Dichloroethane	5 U	6 U	6 U	6 U
1,1-Dichloroethene	5 U	6 U	6 U	6 U
1,2,3-Trichloropropane	11 U	11 U	11 U	12 U
1,2-Dibromo-3-Chloropropane	22 U	22 U	23 U	23 U
1,2-Dibromoethane (EDB)	22 U	22 U	23 U	23 U
1,2-Dichloroethane	5 U	6 U	6 U	6 U
1,2-Dichloroethene (Total)	5 U	6 U	6 U	6 U
1,2-Dichloropropane	5 U	6 U	6 U	6 U
2-Butanone (Methyl Ethyl Ketone)	11 U	11 U	11 U	12 U
2-Hexanone	11 U	11 U	11 U	12 U
3-Chloropropene (Allylchloride)	22 UJ	22 UJ	23 UJ	23 UJ
4-Methyl-2-Pentanone (MIBK)	11 U	11 U	11 U	12 U
Acetone	11 UJ	11 UJ	11 UJ	12 UJ
Acetonitrile	110 UJ	110 UJ	110 UJ	120 UJ
Acrolein (Propenal)	550 UJ	560 UJ	570 U	580 U
Acrylonitrile	110 UJ	110 UJ	110 UJ	120 UJ
Benzene	5 U	6 U	6 U	6 U
Bromodichloromethane	5 U	6 U	6 U	6 U
Bromoform	5 UJ	6 UJ	6 UJ	6 UJ
Bromomethane (Methyl Bromide)	11 U	11 U	11 U	12 U
Carbon Disulfide	5 U	6 U	6 UJ	6 UJ
Carbon Tetrachloride	5 U	6 U	6 U	6 U
Chlorobenzene	5 U	6 U	6 U	6 U
Chloroethane	11 U	11 U	11 UJ	12 UJ
Chloroform	5 U	6 U	6 U	6 U
Chloromethane (Methyl Chloride)	11 U	11 U	11 U	12 U
Chloroprene	110 R	110 R	110 R	120 R
Cis-1,3-Dichloropropene	5 U	6 U	6 U	6 U
Dibromochloromethane	5 UJ	6 UJ	6 U	6 U
Dibromomethane (Methylene Bromide)	11 UJ	11 U	11 U	12 UJ
Dichlorodifluoromethane	22 U	22 U	23 U	23 U
Ethyl Methacrylate	22 UJ	22 UJ	23 UJ	23 UJ
Ethylbenzene	5 U	6 U	6 U	6 U
Iodomethane (Methyl Iodide)	11 U	11 U	11 U	12 U
Isobutanol (Isobutyl Alcohol)	2,200 R	2,200 R	2,300 R	2,300 R
Methacrylonitrile	22 UJ	22 UJ	23 UJ	23 UJ

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	45MW01	45MW02	45MW03	45MW04
Sample ID	45MW01-00	45MW02-00	45MW03-00	45MW04-00
Sample Date	11/22/1996	11/21/1996	11/21/1996	11/22/1996
Sample Depth (ft bgs)	0.00-1.00	0.00-1.00	0.00-1.00	0.00-1.00
Volatiles (ug/kg) (Cont.)				
Methyl Methacrylate	22 U	22 UJ	23 UJ	23 U
Methylene Chloride (Dichloromethane)	5 U	6 U	6 U	6 U
Pentachloroethane	22 UJ	22 UJ	23 UJ	23 UJ
Propionitrile	55 U	56 U	57 U	58 U
Styrene	5 U	6 U	6 U	6 U
Tetrachloroethene	5 UJ	6 UJ	6 UJ	6 UJ
Toluene	5 U	6 U	6 U	6 U
Trans-1,3-Dichloropropene	5 U	6 U	6 U	6 U
Trans-1,4-Dichloro-2-Butene	22 UJ	22 UJ	23 UJ	23 UJ
Trichloroethene	5 UJ	6 UJ	6 UJ	6 UJ
Trichlorofluoromethane	11 U	11 U	11 U	12 U
Vinyl Acetate	11 UJ	11 UJ	11 UJ	12 UJ
Vinyl Chloride	11 U	11 U	11 U	12 U
Xylenes, Total	5 U	6 U	6 U	6 U
Semivolatiles (ug/kg)				
1,2,4,5-Tetrachlorobenzene	360 U	370 U	380 U	380 U
1,2,4-Trichlorobenzene	360 U	370 U	380 U	380 U
1,2-Dichlorobenzene (O-Dichlorobenzene)	360 U	370 U	380 U	380 U
1,3,5-Trinitrobenzene	3,600 R	3,700 UJ	3,800 UJ	3,800 R
1,3-Dichlorobenzene (M-Dichlorobenzene)	360 U	370 U	380 U	380 U
1,4-Dichlorobenzene (P-Dichlorobenzene)	360 U	370 U	380 U	380 U
1,4-Dioxane	730 U	740 U	760 U	760 UJ
1,4-Naphthoquinone	1,800 U	1,800 U	1,900 U	1,900 U
1,4-Phenylenediamine (P-Phenylenediamine)	730 R	740 R	760 R	760 R
1-Naphthylamine	730 U	740 UJ	760 UJ	760 UJ
2,2'-Oxybis(1-Chloropropane)[Bis(2-Chloroisopropyl)Ether]	360 U	370 UJ	380 U	380 U
2,3,4,6-Tetrachlorophenol	360 U	370 U	380 U	380 U
2,4,5-Trichlorophenol	1,800 U	1,800 U	1,900 U	1,900 U
2,4,6-Trichlorophenol	360 U	370 U	380 U	380 U
2,4-Dichlorophenol	360 U	370 U	380 U	380 U
2,4-Dimethylphenol	360 U	370 U	380 U	380 U
2,4-Dinitrophenol	1,800 U	1,800 U	1,900 U	1,900 U
2,4-Dinitrotoluene	360 U	370 U	380 U	380 U
2,6-Dichlorophenol	360 U	370 U	380 U	380 U
2,6-Dinitrotoluene	360 U	370 U	380 U	380 U
2-Acetylaminofluorene	730 U	740 UJ	760 UJ	760 U
2-Chloronaphthalene	360 U	370 U	380 U	380 U
2-Chlorophenol	360 U	370 U	380 U	380 U
2-Naphthylamine	910 U	920 U	950 U	960 U

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	45MW01	45MW02	45MW03	45MW04
Sample ID	45MW01-00	45MW02-00	45MW03-00	45MW04-00
Sample Date	11/22/1996	11/21/1996	11/21/1996	11/22/1996
Sample Depth (ft bgs)	0.00-1.00	0.00-1.00	0.00-1.00	0.00-1.00
Semivolatiles (ug/kg) (Cont.)				
2-Nitroaniline (O-Nitroaniline)	1,800 U	1,800 U	1,900 U	1,900 U
2-Nitrophenol (O-Nitrophenol)	360 U	370 U	380 U	380 U
2-Picoline	360 U	370 U	380 U	380 UJ
3,3'-Dichlorobenzidine	730 U	740 UJ	760 UJ	760 U
3,3'-Dimethylbenzidine	1,800 UJ	1,800 UJ	1,900 UJ	1,900 UJ
3-Methylcholanthrene	360 U	370 UJ	380 UJ	380 U
3-Nitroaniline (M-Nitroaniline)	1,800 U	1,800 U	1,900 U	1,900 UJ
4,6-Dinitro-2-Methylphenol (4,6-Dinitro-O-Cresol)	1,800 U	1,800 U	1,900 U	1,900 U
4-Aminobiphenyl	730 U	740 UJ	760 UJ	760 U
4-Bromophenylphenyl Ether	360 U	370 U	380 U	380 U
4-Chloro-3-Methylphenol (P-Chloro-M-Cresol)	730 U	740 U	760 U	760 U
4-Chloroaniline (P-Chloroaniline)	730 U	740 U	760 U	760 U
4-Chlorophenylphenyl Ether	360 U	370 U	380 U	380 U
4-Nitroaniline (P-Nitroaniline)	1,800 U	1,800 UJ	1,900 UJ	1,900 U
4-Nitrophenol (P-Nitrophenol)	1,800 U	1,800 U	1,900 U	1,900 U
4-Nitroquinoline-1-Oxide	1,800 U	1,800 U	1,900 U	1,900 U
5-Nitro-O-Toluidine	730 UJ	740 UJ	760 UJ	760 UJ
7,12-Dimethylbenz(a)Anthracene	730 U	740 UJ	760 UJ	760 U
Acetophenone	360 U	370 U	380 U	380 U
Alpha,Alpha-Dimethylphenethylamine	1,800 UJ	1,800 UJ	1,900 UJ	1,900 UJ
Aniline	1,800 U	1,800 U	1,900 U	1,900 U
Aramite, Total	730 UJ	740 U	760 U	760 U
Benzo(a)Pyrene	360 U	370 UJ	380 UJ	380 U
Benzyl Alcohol	360 U	370 U	380 U	380 UJ
Bis(2-Chloroethoxy)Methane	360 U	370 U	380 U	380 U
Bis(2-Chloroethyl)Ether	360 U	370 U	380 U	380 U
Bis(2-Ethylhexyl)Phthalate	360 U	370 UJ	380 UJ	380 U
Butylbenzylphthalate	360 U	370 UJ	380 UJ	380 U
Cresol (Ortho)	360 U	370 U	380 U	380 U
Cresol, M & P	360 U	370 U	380 U	380 U
Diallate, Total	360 UJ	370 U	380 U	380 U
Dibenzofuran	360 U	370 U	380 U	380 U
Diethylphthalate	360 U	370 U	380 U	380 U
Dimethylphthalate	360 U	370 U	380 U	380 U
Di-n-Butylphthalate	360 U	370 U	380 U	380 U
Di-n-Octylphthalate	360 U	370 UJ	380 UJ	380 U
Dinoseb (2-Sec-Butyl-4,6-Dinitrophenol)	730 U	740 U	760 U	760 U
Ethyl Methanesulfonate	360 U	370 U	380 U	380 UJ
Hexachlorobenzene	360 U	370 U	380 U	380 U
Hexachlorobutadiene	360 U	370 U	380 U	380 U

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	45MW01	45MW02	45MW03	45MW04
Sample ID	45MW01-00	45MW02-00	45MW03-00	45MW04-00
Sample Date	11/22/1996	11/21/1996	11/21/1996	11/22/1996
Sample Depth (ft bgs)	0.00-1.00	0.00-1.00	0.00-1.00	0.00-1.00
Semivolatiles (ug/kg) (Cont.)				
Hexachlorocyclopentadiene	360 U	370 U	380 U	380 U
Hexachloroethane	360 U	370 U	380 U	380 U
Hexachlorophene	3,600 U	3,700 UJ	3,800 UJ	3,800 U
Hexachloropropene	1,800 U	1,800 U	1,900 U	1,900 U
Isophorone	360 U	370 U	380 U	380 U
Isosafrole	360 U	370 U	380 U	380 U
Meta-Dinitrobenzene	730 U	740 U	760 U	760 U
Methapyrilene	910 U	920 U	950 U	960 U
Methyl Methanesulfonate	360 U	370 U	380 U	380 U
Nitrobenzene	360 U	370 U	380 U	380 U
N-Nitrosodiethylamine	360 U	370 U	380 U	380 U
N-Nitrosodimethylamine	360 U	370 U	380 U	380 U
N-NitrosoDi-n-Butylamine	360 U	370 U	380 U	380 U
N-NitrosoDi-n-Propylamine	360 U	370 U	380 U	380 U
N-Nitrosodiphenylamine	360 U	370 U	380 U	380 U
N-Nitrosomethylethylamine	360 UJ	370 UJ	380 UJ	380 U
N-Nitrosomorpholine	730 U	740 U	760 U	760 U
N-Nitrosopiperidine	360 U	370 U	380 U	380 U
N-Nitrosopyrrolidine	1,800 U	1,800 UJ	1,900 UJ	1,900 UJ
O-Toluidine	360 UJ	370 UJ	380 UJ	380 UJ
P-(Dimethylamino)Azobenzene	730 U	740 U	760 U	760 U
Pentachlorobenzene	360 U	370 U	380 U	380 U
Pentachloronitrobenzene	360 U	370 U	380 U	380 U
Pentachlorophenol	1,800 U	1,800 U	1,900 U	1,900 U
Phenacetin	360 U	370 U	380 U	380 UJ
Phenol	360 U	370 U	380 U	380 U
Pronamide	360 U	370 U	380 U	380 U
Pyridine	730 U	740 UJ	760 UJ	760 U
Safrole	360 U	370 UJ	380 UJ	380 U
Low Level PAHs (ug/kg)				
2-Methylnaphthalene	360 U	370 U	380 U	380 U
Acenaphthene	360 U	370 U	380 U	380 U
Acenaphthylene	360 U	370 U	380 U	380 U
Anthracene	360 U	370 U	380 U	380 U
Benzo(a)Anthracene	360 U	370 UJ	380 UJ	380 U
Benzo(a)Pyrene	360 U	370 UJ	380 UJ	380 U
Benzo(b)Fluoranthene	360 U	370 UJ	380 UJ	380 U
Benzo(g,h,i)Perylene	360 U	370 UJ	380 UJ	380 U
Benzo(k)Fluoranthene	360 U	370 UJ	380 UJ	380 U

APPENDIX F.3

SUMMARY OF ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	45MW01	45MW02	45MW03	45MW04
Sample ID	45MW01-00	45MW02-00	45MW03-00	45MW04-00
Sample Date	11/22/1996	11/21/1996	11/21/1996	11/22/1996
Sample Depth (ft bgs)	0.00-1.00	0.00-1.00	0.00-1.00	0.00-1.00
Low Level PAHs (ug/kg) (Cont.)				
Chrysene	360 U	370 UJ	380 UJ	380 U
Dibenzo(a,h)Anthracene	360 U	370 UJ	380 UJ	380 U
Fluoranthene	360 U	370 U	380 U	380 U
Fluorene	360 U	370 U	380 U	380 U
Indeno(1,2,3-cd)Pyrene	360 U	370 UJ	380 UJ	380 U
Naphthalene	360 U	370 U	380 U	380 U
Phenanthrene	360 U	370 U	380 U	380 U
Pyrene	360 U	370 UJ	380 UJ	380 U
PCBs (ug/kg)				
Aroclor-1016	44 U	45 U	45 U	46 U
Aroclor-1221	44 U	45 U	45 U	46 U
Aroclor-1232	44 U	45 U	45 U	46 U
Aroclor-1242	44 U	45 U	45 U	46 U
Aroclor-1248	44 U	45 U	45 U	46 U
Aroclor-1254	87 U	90 U	90 U	91 U
Aroclor-1260	87 U	100	90 U	150

APPENDIX F.4

SUMMARY OF ANALYTICAL RESULTS, SURFACE SOIL - INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	45MW01	45MW02	45MW03	45MW04
Sample ID	45MW01-00	45MW02-00	45MW03-00	45MW04-00
Sample Date	11/22/1996	11/21/1996	11/21/1996	11/22/1996
Sample Depth (ft bgs)	0.00-1.00	0.00-1.00	0.00-1.00	0.00-1.00
Inorganics (mg/kg)				
Arsenic	0.7 UJ	3.3 J	2.6 J	2.3 J
Barium	284	277	233	218
Cadmium	0.25	0.25	0.42	0.41
Chromium	24.6	23.2	29.9	19.5
Lead	2.8 J	8.2	5.2 J	7.4 J
Mercury	0.03	0.03	0.03	0.04
Selenium	0.79 UJ	0.15 UJ	0.63 U	0.19 UJ
Silver	0.7 U	0.64 U	0.64 U	0.8 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Volatiles (ug/L)					
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U
2-Butanone (Methyl Ethyl Ketone)	10 U	10 U	10 U	0.79 J	0.75 J
2-Hexanone	10 U	10 U	10 U	10 U	10 U
3-Chloropropene (Allylchloride)	1 U	1 UJ	1 UJ	1 UJ	1 UJ
4-Methyl-2-Pentanone (MIBK)	10 U	10 U	10 U	10 U	10 U
Acetone	25 R	25 U	25 U	25 U	25 U
Acetonitrile	40 U	40 UJ	40 UJ	40 UJ	40 UJ
Acrolein (Propenal)	20 R	20 R	20 R	20 R	20 R
Acrylonitrile	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ
Benzene	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U
Bromoform	1 UJ	1 U	1 U	1 U	1 U
Bromomethane (Methyl Bromide)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Chlorobenzene	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Chloroform	1 U	1 U	1 U	1 U	1 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Volatiles (ug/L) (Cont.)					
Chloromethane (Methyl Chloride)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Chloroprene	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U
Dibromomethane (Methylene Bromide)	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U
Ethyl Methacrylate	1 U	1 UJ	1 UJ	1 UJ	1 UJ
Ethylbenzene	1 U	1 U	0.13 J	1 U	1 U
Iodomethane (Methyl Iodide)	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Isobutanol (Isobutyl Alcohol)	40 R	40 R	40 R	40 R	40 R
Methacrylonitrile	20 U	20 UJ	20 UJ	20 UJ	20 UJ
Methyl Methacrylate	1 U	1 U	1 U	1 U	1 U
Methylene Chloride (Dichloromethane)	5 U	5 U	5 U	5 U	5 U
Pentachloroethane	5 R	5 UJ	5 UJ	5 UJ	5 UJ
Propionitrile	20 U	20 UJ	20 UJ	20 UJ	20 UJ
Styrene	1 U	1 U	0.57 J	0.45 J	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U
Trans-1,4-Dichloro-2-Butene	2 U	2 UJ	2 UJ	2 UJ	2 UJ
Trichloroethene	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Vinyl Acetate	2 U	2 U	2 U	2 U	2 U
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U
Xylenes, Total	2 U	2 U	0.44 J	2 U	2 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L)					
1,2,4,5-Tetrachlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene (O-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
1,3,5-Trinitrobenzene	10 R	10 U	10 U	10 R	10 R
1,3-Dichlorobenzene (M-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene (P-Dichlorobenzene)	10 U	10 U	10 U	10 U	10 U
1,4-Dioxane	10 R	10 U	10 U	10 U	10 U
1,4-Naphthoquinone	10 U	10 U	10 U	10 U	10 U
1,4-Phenylenediamine (P-Phenylenediamine)	2,000 R	2,000 R	2,000 R	2,000 R	2,000 R
1-Naphthylamine	10 U	10 U	10 U	10 U	10 U
2,2'-Oxybis(1-Chloropropane)[Bis(2-Chloroisopropyl)Ether]	10 U	10 UJ	10 UJ	10 U	10 U
2,3,4,6-Tetrachlorophenol	10 UJ	10 U	10 U	10 UJ	10 UJ
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2,6-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2-Acetylaminofluorene	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
2-Naphthylamine	10 UJ	10 U	10 U	10 U	10 U
2-Nitroaniline (O-Nitroaniline)	50 U	50 UJ	50 UJ	50 U	50 U
2-Nitrophenol (O-Nitrophenol)	10 U	10 U	10 U	10 U	10 U
2-Picoline	10 UJ	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	20 U	20 U	20 U	20 U	20 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L) (Cont.)					
3,3'-Dimethylbenzidine	20 UJ	20 U	20 U	20 U	20 U
3-Methylcholanthrene	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline (M-Nitroaniline)	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-Methylphenol (4,6-Dinitro-O-Cresol)	50 U	50 U	50 U	50 U	50 U
4-Aminobiphenyl	10 U	10 U	10 U	10 U	10 U
4-Bromophenylphenyl Ether	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol (P-Chloro-M-Cresol)	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline (P-Chloroaniline)	20 U	20 U	20 U	20 U	20 U
4-Chlorophenylphenyl Ether	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline (P-Nitroaniline)	50 U	50 UJ	50 UJ	50 U	50 U
4-Nitrophenol (P-Nitrophenol)	50 U	50 UJ	50 UJ	50 U	50 U
4-Nitroquinoline-1-Oxide	20 R	20 R	20 R	20 R	20 R
5-Nitro-O-Toluidine	10 U	10 U	10 U	10 U	10 U
7,12-Dimethylbenz(a)Anthracene	10 U	10 U	10 U	10 U	10 U
Acetophenone	10 UJ	10 U	10 U	10 U	10 U
Alpha,Alpha-Dimethylphenethylamine	2,000 UJ	2,000 U	2,000 U	2,000 UJ	2,000 UJ
Aniline	20 UJ	20 U	20 U	20 U	20 U
Aramite, Total	10 R	10 U	10 U	10 R	10 R
Benzo(a)Pyrene	10 U	10 U	10 U	10 U	10 U
Benzyl Alcohol	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane	10 U	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl)Ether	10 U	10 UJ	10 UJ	10 U	10 U
Bis(2-Ethylhexyl)Phthalate	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
Cresol (Ortho)	10 U	10 U	10 U	10 U	10 U
Cresol, M & P	10 U	10 U	10 U	10 U	10 U
Diallate, Total	10 R	10 UJ	10 UJ	10 UJ	10 UJ
Dibenzofuran	10 U	10 U	10 U	10 U	10 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L) (Cont.)					
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	10 U	10 U	10 U
Di-n-Octylphthalate	10 U	10 U	10 U	10 U	10 U
Dinoseb (2-Sec-Butyl-4,6-Dinitrophenol)	10 U	10 U	10 U	10 UJ	10 UJ
Ethyl Methanesulfonate	10 UJ	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Hexachlorophene	5,000 R	5,000 R	5,000 R	5,000 R	5,000 R
Hexachloropropene	10 U	10 U	10 U	10 UJ	10 UJ
Isophorone	10 U	10 U	10 U	10 U	10 U
Isosafrole	10 U	10 U	10 U	10 R	10 R
M-Dinitrobenzene	10 U	10 U	10 U	10 U	10 U
Methapyrilene	2,000 R	2,000 R	2,000 R	2,000 R	2,000 R
Methyl Methanesulfonate	10 UJ	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiethylamine	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosodimethylamine	10 U	10 UJ	10 UJ	10 U	10 U
N-NitrosoDi-n-Butylamine	10 UJ	10 U	10 U	10 U	10 U
N-NitrosoDi-n-Propylamine	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U
N-Nitrosomethylethylamine	10 UJ	10 U	10 U	10 U	10 U
N-Nitrosomorpholine	10 U	10 U	10 U	10 UJ	10 UJ
N-Nitrosopiperidine	10 U	10 U	10 U	10 UJ	10 UJ
N-Nitrosopyrrolidine	10 U	10 U	10 U	10 U	10 U
O-Toluidine	10 UJ	10 U	10 U	10 U	10 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Semivolatiles (ug/L) (Cont.)					
P-(Dimethylamino)Azobenzene	10 UJ	10 U	10 U	10 UJ	10 UJ
Pentachlorobenzene	10 U	10 U	10 U	10 UJ	10 UJ
Pentachloronitrobenzene	10 R	10 R	10 R	10 R	10 R
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U
Phenacetin	10 UJ	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U
Pronamide	10 U	10 U	10 U	10 U	10 U
Pyridine	50 UJ	50 UJ	50 UJ	50 UJ	50 UJ
Safrole	10 U	10 U	10 U	10 U	10 U
Low Level PAHs (ug/L)					
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)Anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)Pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(b)Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(g,h,i)Perylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(k)Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibenzo(a,h)Anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03
Low Level PAHs (ug/L) (Cont.)					
Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluorene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)Pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Phenanthrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
PCBs (ug/L)					
Aroclor-1016	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U	1 U	1 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03
Volatiles (ug/L)				
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 UJ	1 UJ	1 UJ	1 UJ
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U
1,2-Dibromo-3-Chloropropane	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dibromoethane (EDB)	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 UJ	1 UJ	1 UJ	1 UJ
1,2-Dichloropropane	1 U	1 U	1 U	1 U
2-Butanone (Methyl Ethyl Ketone)	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U
3-Chloropropene (Allylchloride)	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone (MIBK)	10 U	10 U	10 U	10 U
Acetone	25 R	25 R	25 R	25 R
Acetonitrile	40 U	40 U	40 U	40 U
Acrolein (Propenal)	20 R	20 R	20 R	20 R
Acrylonitrile	20 UJ	20 UJ	20 UJ	20 UJ
Benzene	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U
Bromoform	1 U	1 UJ	1 UJ	1 UJ
Bromomethane (Methyl Bromide)	1 UJ	1 UJ	1 UJ	1 UJ
Carbon Disulfide	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U
Chloroethane	1 UJ	1 UJ	1 UJ	1 UJ
Chloroform	1 U	1 U	1 U	1 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03
Volatiles (ug/L) (Cont.)				
Chloromethane (Methyl Chloride)	1 UJ	1 UJ	1 UJ	1 UJ
Chloroprene	1 U	1 U	1 U	1 U
Cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U
Dibromomethane (Methylene Bromide)	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U
Ethyl Methacrylate	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U
Iodomethane (Methyl Iodide)	1 UJ	1 UJ	1 UJ	1 UJ
Isobutanol (Isobutyl Alcohol)	40 R	40 R	40 R	40 R
Methacrylonitrile	20 U	20 U	20 U	20 U
Methyl Methacrylate	1 U	1 U	1 U	1 U
Methylene Chloride (Dichloromethane)	5 U	5 U	5 U	5 U
Pentachloroethane	5 R	5 R	5 R	5 R
Propionitrile	20 U	20 U	20 U	20 U
Styrene	1 UJ	1 U	1.2 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	0.17 J	1 U
Trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U
Trans-1,4-Dichloro-2-Butene	2 U	2 U	2 U	2 U
Trichloroethene	1 U	1 U	1 U	1 U
Trichlorofluoromethane	1 UJ	1 UJ	1 UJ	1 UJ
Vinyl Acetate	2 U	2 U	2 U	2 U
Vinyl Chloride	1 U	1 U	1 U	1 U
Xylenes, Total	2 U	2 U	2 U	2 U

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SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L)				
1,2,4,5-Tetrachlorobenzene	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene (O-Dichlorobenzene)	10 U	10 U	10 U	10 U
1,3,5-Trinitrobenzene	10 R	10 R	10 R	10 R
1,3-Dichlorobenzene (M-Dichlorobenzene)	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene (P-Dichlorobenzene)	10 U	10 U	10 U	10 U
1,4-Dioxane	10 R	10 UJ	10 UJ	10 R
1,4-Naphthoquinone	10 U	10 U	10 U	10 U
1,4-Phenylenediamine (P-Phenylenediamine)	2,000 R	2,000 R	2,000 R	2,000 R
1-Naphthylamine	10 U	10 U	10 U	10 U
2,2'-Oxybis(1-Chloropropane)[Bis(2-Chloroisopropyl)Ether]	10 U	10 UJ	10 UJ	10 U
2,3,4,6-Tetrachlorophenol	10 UJ	10 U	10 U	10 UJ
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U
2,6-Dichlorophenol	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U
2-Acetylaminofluorene	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U
2-Naphthylamine	10 UJ	10 U	10 U	10 UJ
2-Nitroaniline (O-Nitroaniline)	50 U	50 U	50 U	50 U
2-Nitrophenol (O-Nitrophenol)	10 U	10 U	10 U	10 U
2-Picoline	10 UJ	10 UJ	10 UJ	10 UJ
3,3'-Dichlorobenzidine	20 U	20 U	20 U	20 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L) (Cont.)				
3,3'-Dimethylbenzidine	20 UJ	20 UJ	20 UJ	20 UJ
3-Methylcholanthrene	10 U	10 U	10 U	10 U
3-Nitroaniline (M-Nitroaniline)	50 U	50 U	50 U	50 U
4,6-Dinitro-2-Methylphenol (4,6-Dinitro-O-Cresol)	50 U	50 U	50 U	50 U
4-Aminobiphenyl	10 U	10 U	10 U	10 U
4-Bromophenylphenyl Ether	10 U	10 U	10 U	10 U
4-Chloro-3-Methylphenol (P-Chloro-M-Cresol)	10 U	10 U	10 U	10 U
4-Chloroaniline (P-Chloroaniline)	20 U	20 U	20 U	20 U
4-Chlorophenylphenyl Ether	10 U	10 U	10 U	10 U
4-Nitroaniline (P-Nitroaniline)	50 U	50 U	50 U	50 U
4-Nitrophenol (P-Nitrophenol)	50 U	50 U	50 U	50 U
4-Nitroquinoline-1-Oxide	20 R	20 R	20 R	20 R
5-Nitro-O-Toluidine	10 U	10 U	10 U	10 U
7,12-Dimethylbenz(a)Anthracene	10 U	10 U	10 U	10 U
Acetophenone	10 UJ	10 UJ	10 UJ	10 UJ
Alpha,Alpha-Dimethylphenethylamine	2,000 UJ	2,000 U	2,000 U	2,000 UJ
Aniline	20 UJ	20 U	20 U	20 UJ
Aramite, Total	10 R	10 R	10 R	10 R
Benzo(a)Pyrene	10 U	10 U	10 U	10 U
Benzyl Alcohol	10 U	10 U	10 U	10 U
Bis(2-Chloroethoxy)Methane	10 U	10 U	10 U	10 U
Bis(2-Chloroethyl)Ether	10 U	10 U	10 U	10 U
Bis(2-Ethylhexyl)Phthalate	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U
Cresol (Ortho)	10 U	10 U	10 U	10 U
Cresol, M & P	10 U	10 U	10 U	10 U
Diallate, Total	10 R	10 UJ	10 UJ	10 R
Dibenzofuran	10 U	10 U	10 U	10 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L) (Cont.)				
Diethylphthalate	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U
Di-n-Butylphthalate	10 U	10 U	10 U	10 U
Di-n-Octylphthalate	10 U	10 U	10 U	10 U
Dinoseb (2-Sec-Butyl-4,6-Dinitrophenol)	10 UJ	10 UJ	10 UJ	10 UJ
Ethyl Methanesulfonate	10 UJ	10 UJ	10 UJ	10 UJ
Hexachlorobenzene	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U
Hexachlorophene	5,000 R	5,000 R	5,000 R	5,000 R
Hexachloropropene	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U
Isosafrole	10 U	10 U	10 U	10 U
M-Dinitrobenzene	10 U	10 U	10 U	10 U
Methapyrilene	2,000 R	2,000 R	2,000 R	2,000 R
Methyl Methanesulfonate	10 UJ	10 UJ	10 UJ	10 UJ
Nitrobenzene	10 U	10 U	10 U	10 U
N-Nitrosodiethylamine	10 UJ	10 UJ	10 UJ	10 UJ
N-Nitrosodimethylamine	10 U	10 U	10 U	10 U
N-NitrosoDi-n-Butylamine	10 UJ	10 UJ	10 UJ	10 UJ
N-NitrosoDi-n-Propylamine	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U
N-Nitrosomethylethylamine	10 UJ	10 UJ	10 UJ	10 UJ
N-Nitrosomorpholine	10 U	10 U	10 U	10 U
N-Nitrosopiperidine	10 U	10 U	10 U	10 U
N-Nitrosopyrrolidine	10 U	10 U	10 U	10 U
O-Toluidine	10 UJ	10 UJ	10 UJ	10 UJ

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03
Semivolatiles (ug/L) (Cont.)				
P-(Dimethylamino)Azobenzene	10 UJ	10 UJ	10 UJ	10 UJ
Pentachlorobenzene	10 U	10 U	10 U	10 U
Pentachloronitrobenzene	10 R	10 R	10 R	10 R
Pentachlorophenol	50 U	50 U	50 U	50 U
Phenacetin	10 UJ	10 U	10 U	10 UJ
Phenol	10 U	10 U	10 U	10 U
Pronamide	10 U	10 U	10 U	10 U
Pyridine	50 UJ	50 UJ	50 UJ	50 UJ
Safrole	10 U	10 U	10 U	10 U
Low Level PAHs (ug/L)				
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthene	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthylene	0.2 U	0.2 U	0.2 U	0.2 U
Anthracene	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)Anthracene	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)Pyrene	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(b)Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(g,h,i)Perylene	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(k)Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U	0.2 U	0.2 U
Dibenzo(a,h)Anthracene	0.2 U	0.2 U	0.2 U	0.2 U

APPENDIX F.5

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/05/03	08/05/03	08/05/03
Low Level PAHs (ug/L) (Cont.)				
Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U
Fluorene	0.2 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)Pyrene	0.2 U	0.2 U	0.2 U	0.2 U
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U
Phenanthrene	0.2 U	0.2 U	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U	0.2 U	0.2 U
PCBs (ug/L)				
Aroclor-1016	1 U	1 U	1 UJ	1 U
Aroclor-1221	2 U	2 U	2 UJ	2 U
Aroclor-1232	1 U	1 U	1 UJ	1 U
Aroclor-1242	1 U	1 U	1 UJ	1 U
Aroclor-1248	1 U	1 U	1 UJ	1 U
Aroclor-1254	1 U	1 U	1 UJ	1 U
Aroclor-1260	1 U	1 U	1 UJ	1 U

APPENDIX F.6

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - INORGANICS (TOTAL)
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Total Inorganics (ug/L)									
Antimony	1.8 J	0.49 J	0.49 J	0.44 J	0.41 J	1.3 J	1.2 J	1.1 J	1.1 J
Arsenic	2 J	1.8 J	1.6 J	2.2 J	1.8 J	1.7 J	1.9 J	1.8 J	1.8 J
Barium	8.6	8.4	7.8	9.3	8.4	8.2	8.3	8.7	8.6
Beryllium	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chromium	0.9 J	0.94 J	0.81 J	2.4 J	0.85 J	0.98 J	5 U	5 U	0.89 J
Cobalt	0.72 J	0.89 J	0.87 J	1.2 J	0.9 J	0.75 J	0.75 J	0.75 J	0.82 J
Copper	3.9 J	0.77 J	0.98 J	5 J	0.7 J	1.3 J	2.2 J	2.8 J	2.4 J
Cyanide, Total	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Lead	0.38 J	0.27 J	0.09 J	1.2 J	0.097 J	0.14 J	0.24 J	0.37 J	0.51 J
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	0.36 J	0.27 J	0.15 J	0.83 J	0.36 J	0.29 J	0.34 J	0.21 J	0.53 J
Selenium	0.19 J	0.3 J	0.19 J	0.3 J	0.24 J	0.19 J	0.23 J	0.26 J	0.2 J
Silver	0.076 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Thallium	0.32 J	0.4 J	1 U	1 U	1 U	0.45 J	1 U	1 U	1 U
Tin	0.24 J	0.62 J	0.47 J	0.56 J	0.26 J	0.72 J	0.43 J	0.38 J	0.37 J
Vanadium	3.1 J	3.4 J	2.7 J	6.9	2.9 J	2.7 J	2.6 J	2.8 J	3 J
Zinc	9.1 J	10 J	10	14	11	8 J	9.2 J	9.3 J	13

APPENDIX F.7

SUMMARY OF ANALYTICAL RESULTS, OPEN WATER MARINE SURFACE WATER - INORGANICS (DISSOLVED)
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	11SD10	11SD11	11SD12	11SD13	11SD14	11SD15	11SD16	11SD17	11SD18
Sample ID	11OWSW10	11OWSW11	11OWSW12	11OWSW13	11OWSW14	11OWSW15	11OWSW16	11OWSW17	11OWSW18
Sample Date	08/05/03	08/06/03	08/06/03	08/06/03	08/06/03	08/05/03	08/05/03	08/05/03	08/05/03
Dissolved Inorganics (ug/L)									
Antimony	0.81 J	0.44 J	0.42 J	0.41 J	0.4 J	0.94 J	0.87 J	0.85 J	0.67 J
Arsenic	1.5 J	1.8 J	1.8 J	1.9 J	1.6 J	1.6 J	1.7 J	1.8 J	1.8 J
Barium	7.5	8.1	8.1	8.5	8.2	7.9	7.6	8.3	7.9
Beryllium	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Chromium	5 U	0.82 J	0.79 J	0.72 J	0.77 J	5 U	5 U	5 U	5 U
Cobalt	0.69 J	0.87 J	0.85 J	0.84 J	0.85 J	0.71 J	0.68 J	0.75 J	0.72 J
Copper	0.52 J	0.5 J	0.4 J	0.41 J	0.61 J	0.4 J	0.88 J	0.81 J	0.71 J
Lead	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	0.23 J	0.19 J	0.14 J	0.18 J	0.16 J	0.21 J	0.17 J	0.21 J	0.24 J
Selenium	0.18 J	0.21 J	0.21 J	0.14 J	2.5 U	0.23 J	0.18 J	0.28 J	0.22 J
Silver	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U	5 U	5 U
Thallium	1 U	0.46 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tin	0.27 J	0.78 J	0.46 J	0.4 J	0.28 J	0.38 J	0.23 J	0.26 J	5 U
Vanadium	2.1 J	2.5 J	2.5 J	2.6 J	2.3 J	2.2 J	2.2 J	2.4 J	2.3 J
Zinc	8.1 J	10	11	11	11	8.3 J	9.1 J	9.9 J	9.1 J

APPENDIX G
EQUILIBRIUM PARTITIONING APPROACH

APPENDIX G

EQUILIBRIUM PARTITIONING APPROACH

The U. S. Environmental Protection Agency (USEPA) has chosen the EqP approach for developing sediment quality criteria (or sediment screening values in the case of this ERA) for nonionic organic chemical constituents (USEPA 1993). This approach was used to derive sediment screening values for nonionic organic chemicals lacking literature-based, bulk sediment screening values.

There are three underlying assumptions to the derivation of sediment quality criteria. First, it is assumed that sediment toxicity correlates with the concentration of the chemical in the sediment pore water and not the bulk sediment concentration (i.e., the pore water concentration represents the bioavailable fraction). Second, partitioning between sediment pore water and bulk sediment is assumed to be dependent on the organic content of the sediment with little dependence upon other chemical or physical properties. Third, the EqP approach assumes that equilibrium has been attained between the sediment pore water concentration and the bulk sediment concentration.

The relationship between the concentration of a nonionic organic chemical in sediment pore water and bulk sediment is described by the partitioning coefficient, K_p (USEPA 1993):

$$K_p = (C_s)/(C_{pw}) \quad \text{(Equation G-1)}$$

Where C_s is the concentration in bulk sediment and C_{pw} is the concentration in sediment pore water. For a given organic chemical, the partition coefficient can be derived by multiplying the fraction of organic carbon (f_{oc}) present in the sediment by the chemical's organic carbon partition coefficient (K_{oc}) (USEPA 1993):

$$K_p = (f_{oc})(K_{oc}) \quad \text{(Equation G-2)}$$

Combining Equations G-1 and G-2 yields the following:

$$C_s = (K_{oc})(f_{oc})(C_{PW}) \quad \text{(Equation G-3)}$$

If the organic carbon content of the sediment is known, a site-specific sediment screening value (SSV) can be calculated for a given non-polar organic chemical by setting C_{pw} equivalent to a conservative surface water screening value for that chemical (SWSV):

$$SSV = (K_{oc})(f_{oc})(SWSV) \quad \text{(Equation G-4)}$$

In this equation, SSV represents the concentration of the chemical in bulk sediment that, at equilibrium, will result in a sediment pore water concentration equal to the surface water screening value. Sediment concentrations less than SSV would be protective of sediment-associated biota. The use of surface water threshold screening values (i.e., criteria and toxicological benchmarks) in Equation G-4 assumes that the sensitivities of sediment-associated biota and the species typically tested to derive surface water screening values such as USEPA NAWQC (predominantly water column species) are similar. Furthermore, it assumes that levels of protection afforded by the surface water screening values are appropriate for sediment-associated biota. It is noted that the EqP approach can only be used if the f_{oc} in sediment is

greater than 0.02 (i.e., 2.0 percent. At f_{oc} values less than 0.02, other factors (e.g., particle size, sorption to nonorganic mineral fractions) become relatively more important (USEPA 1993).

Although the EqP approach was developed by the EPA for nonionic organic chemicals, this method was also used to derive sediment screening values for ionic organic chemicals lacking literature-based bulk sediment toxicological benchmarks. Application of the EqP approach to ionic organic chemicals likely overestimates their pore water concentrations since adsorption mechanisms other than hydrophobicity may significantly increase the fraction of the chemical sorbed to sediment particles (Jones et al. 1997). Therefore, the EqP-based threshold screening values developed for ionic chemicals may be overly conservative. Regardless, application of the EqP approach to the development of sediment screening values for ionic chemicals is documented in the literature (USEPA 1996 and Jones et al. 1997).

The EqP-based sediment screening values summarized in Section 4.0, Table 4-7 are conservatively based on a default f_{oc} of 0.01 (one percent) (USEPA 1996). The K_{oc} values applied to Equation G-4 were estimated from the following equation (USEPA 1993 and 1996):

$$Log\ K_{oc} = 0.00028 + (0.983)(Log\ K_{ow}) \quad \text{(Equation G-5)}$$

Where log K_{ow} is the log octanol-water partition coefficient. Log K_{ow} and estimated K_{oc} values for organic chemicals evaluated by the Tier I screening-level ERA are listed in Section 4.0, Table 4-4. Surface water screening values used in the derivation of EqP-based sediment screening values were taken from Section 4.0, Table 4-6. EqP-based sediment screening values could not be calculated for those organic chemicals lacking a surface water screening value.

References

U.S. Environmental Protection Agency (USEPA). 1993. Technical Basis for Deriving Sediment Quality Criteria for Nonionic Organic Contaminants for the Protection of Benthic Organisms by Using Equilibrium Partitioning. Office of Water, Washington, D.C. EPA-822-R-93-011.

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APPENDIX H
IDENTIFICATION OF BIOACCUMULATIVE CHEMICALS

APPENDIX H

IDENTIFICATION OF BIOACCUMULATIVE CHEMICALS

Only those organic chemicals with a log octanol-water partition coefficient (K_{ow}) value greater than or equal to 3.0 will be considered a bioaccumulative chemical. Justification for defining bioaccumulative organic chemicals as those with log K_{ow} values greater than or equal to 3.0 is provided below.

- The potential for organic chemicals to accumulate in organisms has been shown to correlate well with the K_{ow}. USEPA (1985), as sited in USEPA/ACOE (1998), recommends that only chemicals for which the log K_{ow} is greater than 3.5 be considered for evaluation of bioaccumulation potential since chemicals with log K_{ow} values less than 3.5 are not likely to bioaccumulate to a significant degree.

- Although organic chemicals with log K_{ow} values in the 2 to 7 range have at least some potential to bioconcentrate (Connell 1990), significant bioconcentration does not generally occur for chemicals with log K_{ow} values less than 3.0 (Maki and Duthie 1978) to 5.0 (Gobas and Mackay 1990). Most work with bioconcentration (uptake from the surrounding medium, such as water) and bioaccumulation (uptake from all exposure routes, including via food) of organic chemicals has concerned chemicals with log K_{ow} values of 3.0 or more (USEPA 1995a), since organic chemicals with lower log K_{ow} values generally have little potential for significant bioaccumulation.

- The USEPA has developed a number of scoring algorithms to evaluate the relative hazard of chemicals to human or ecological receptors. All of these algorithms have a component that addresses bioaccumulation potential. The evaluation of bioaccumulation potential is generally based on measured or estimated (using log K_{ow} values) BCFs or BAFs, or less commonly using log K_{ow} itself. For example, USEPA (1980) developed a bioaccumulation potential scoring system that considered organics with BCF values of less than 100 (equivalent to a log K_{ow} of approximately 3.0) to have negligible potential to bioaccumulate in aquatic food webs, while organic chemicals with BCFs in the 100 to 1,000 range (equivalent to log K_{ow} values of about 3.0 to 4.3) are considered to have low bioaccumulation potential. The more recent Scoring and Ranking Assessment Model (SCRAM), developed by EPA Region 5 for the Great Lakes, has similar bioaccumulation scoring cut-offs (USEPA 2000).

- The proposed categorization of persistent, bioaccumulative, and toxic (PBT) chemicals under the Toxic Substances Control Act (TSCA) defines chemicals with a tendency to accumulate in organisms as those with a BCF or BAF of greater than 1,000 (Federal Register 63(192):53417; 10/5/98). Using the equation listed below (USEPA 1995b), a BCF/BAF of 1,000 equates to a log K_{ow} value of approximately 4.3.

$$Log\ BCF = [(0.79)(log\ K_{ow}) - 0.40] \qquad \text{(Equation H-1)}$$

- The Beta Test Version 1.0 of the EPA Waste Minimization Prioritization Tool (WMPT), used to develop a list of PBTs for the Resource Conservation and Recovery Act (RCRA) program, defined organic chemicals with a low potential to bioaccumulate as those with log K_{ow} values of less than 3.5 and those with a high potential to bioaccumulate as those with log K_{ow} values greater than 5.0 (USEPA 1998). The 1998 version of the EPA WMPT defines bioaccumulation potential based on BCF or BAF values (rather than on log K_{ow} values directly), with a scoring "fenceline" for organic chemicals with a low

bioaccumulation potential defined as a BCF or BAF of less than 250. Although the tool no longer uses log K_{ow} directly, log K_{ow} values can be used to estimate a BCF or BAF value. Using Equation H-1, a BCF/BAF of 250 equates to a log K_{ow} value of approximately 3.5.

- Garten and Trabalka (1983) have reviewed terrestrial food web data and concluded that only organic chemicals with log K_{ow} values greater than 3.5 have the potential to significantly bioaccumulate from food to birds to mammals.

The information listed above indicates that a log K_{ow} of 3.0 to 3.5 is a reasonable, non-arbitrary parameter value to use in defining an organic chemical with the potential to bioaccumulate. For conservatism, the low end (3.0) of this log K_{ow} range will be used to define a bioaccumulative organic chemical. Section 4.0, Table 4-4 lists log K_{ow} values (range and recommended value) for volatile and semi-volatile organic chemicals that have been or will be analyzed surface water, sediment, and surface soil collected from SWMU 45. Log K_{ow} values were primarily obtained from the USEPA (1995c and 1996). The recommended value from these sources generally represents a "high-end" or best estimate from empirical data. The organic chemicals that will be evaluated in the dietary intake models are those with a log K_{ow} value of greater than or equal to 3.0. For conservatism, the maximum value in the log K_{ow} range is used for this determination not the recommended value.

Inorganic chemicals were not quantitatively screened for bioaccumulation potential since log K_{ow} values are not available for these chemicals. However, cyanide was eliminated from the list since it is readily metabolized and is not known to bioaccumulate (Eisler 1991). Although all Appendix IX metals are retained for evaluation in the upper trophic level food chain models, only mercury and selenium are known to biomagnify in food chains (in organic forms; Suter 1993) and only cadmium, copper, and zinc generally have the potential to bioaccumulate significantly. The other metals are retained by default.

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APPENDIX I
BACKGROUND SURFACE SOIL, SURFACE WATER, AND SEDIMENT ANALYTICAL DATA

Data Qualifiers:

U – Not detected.
J – Estimated value.
UJ – Not detected, quantitation limit may be inaccurate or imprecise.
R – Result is rejected and unusable.
NA – Not Analyzed.
NJ – Presumptive evidence for the presence of parameter at an estimated value.

Notes:

mg/kg – milligrams per kilogram.
µg/kg – micrograms per kilogram.
µg/L – micrograms per liter.
mg/L – milligrams per liter.
ft/bgs – feet below ground surface.
ft bss – feet below sediment surface.

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatiles (ug/kg)				
1,1,1,2-Tetrachloroethane	12 UJ	12 U	12 U	12 U
1,1,1-Trichloroethane	6 U	6 U	6 U	6 U
1,1,2,2-Tetrachloroethane	6 UJ	6 U	6 U	6 U
1,1,2-Trichloroethane	6 U	6 U	6 U	6 U
1,1-Dichloroethane	6 U	6 U	6 U	6 U
1,1-Dichloroethene	6 U	6 U	6 U	6 U
1,2,3-Trichloropropane	12 UJ	12 U	12 U	12 U
1,2-Dibromo-3-chloropropane	24 UJ	23 UJ	24 U	24 U
1,2-Dibromoethane	24 UJ	23 U	24 U	24 U
1,2-Dichloroethane	6 U	6 U	6 U	6 U
1,2-Dichloroethene (Total)	6 U	6 U	6 U	6 U
1,2-Dichloropropane	6 U	6 U	6 U	6 U
2-Butanone	12 U	12 UJ	12 U	12 U
2-Chloro-1,3-butadiene	120 UJ	120 U	120 U	120 U
2-Hexanone	12 UJ	12 U	12 U	12 U
3-Chloropropene	24 UJ	23 U	24 U	24 U
4-Methyl-2-pentanone	12 U	12 U	12 U	12 U
Acetone	12 UJ	12 UJ	12 UJ	12 U
Acetonitrile	120 UJ	120 U	120 U	120 U
Acrolein	600 UJ	580 UJ	610 U	590 U
Acrylonitrile	120 UJ	120 U	120 U	120 U
Benzene	6 U	6 U	6 U	6 U
Bromodichloromethane	6 U	6 U	6 U	6 U
Bromoform	6 UJ	6 U	6 U	6 U
Bromomethane	12 U	12 U	12 U	12 U
Carbon disulfide	6 UJ	6 UJ	6 UJ	6 U
Carbon tetrachloride	6 U	6 U	6 U	6 U
Chlorobenzene	6 UJ	6 U	6 U	6 U
Chloroethane	12 U	12 U	12 U	12 U

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatiles (ug/kg) (cont.)				
Chloroform	6 U	6 U	6 U	6 U
Chloromethane	12 U	12 U	12 UJ	12 U
cis-1,3-Dichloropropene	6 U	6 UJ	6 U	6 U
Dibromochloromethane	6 UJ	6 U	6 U	6 U
Dibromomethane	12 UJ	12 U	12 U	12 U
Dichlorodifluoromethane	24 U	23 UJ	24 UJ	24 U
Ethyl methacrylate	24 UJ	23 U	24 U	24 U
Ethylbenzene	6 UJ	6 U	6 U	6 U
Iodomethane	12 UJ	12 UJ	12 U	12 U
Isobutanol	2,400 R	2,300 R	2,400 R	2,400 U
Methacrylonitrile	24 UJ	23 U	24 U	24 U
Methyl methacrylate	24 UJ	23 U	24 U	24 U
Methylene chloride	6 U	6 UJ	6 U	6 U
Pentachloroethane	24 UJ	23 U	24 U	24 U
Propionitrile	60 UJ	58 R	61 U	59 U
Styrene	6 UJ	6 U	6 U	6 U
Tetrachloroethene	6 U	6 U	6 UJ	6 U
Toluene	6 U	6 U	6 U	6 U
trans-1,3-Dichloropropene	6 U	6 UJ	6 U	6 U
trans-1,4-Dichloro-2-butene	24 UJ	23 U	24 U	24 U
Trichloroethene	6 U	6 U	6 U	6 U
Trichlorofluoromethane	12 UJ	12 U	12 UJ	12 U
Vinyl Acetate	12 UJ	12 UJ	12 UJ	12 U
Vinyl chloride	12 U	12 U	12 UJ	12 U
Xylene (total)	6 UJ	6 U	6 U	6 U
1,2,4,5-Tetrachlorobenzene	390 U	380 U	400 U	380 U
1,2,4-Trichlorobenzene	390 U	380 U	400 U	380 U
1,2-Dichlorobenzene	390 U	380 U	400 U	380 U
1,2-Diphenylhydrazine	390 U	380 U	400 U	380 U

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Semivolatiles (ug/kg)				
1,3-Dichlorobenzene	390 U	380 U	400 U	380 U
1,4-Dichlorobenzene	390 U	380 U	400 U	380 U
1,4-Dioxane	780 UJ	760 UJ	810 UJ	770 UJ
1,4-Naphthoquinone	2,000 UJ	1,900 UJ	2,000 UJ	1,900 UJ
1-Naphthylamine	390 U	380 U	810 U	380 U
2,2'-Oxybis(1-Chloropropane)	390 UJ	380 UJ	400 UJ	380 UJ
2,3,4,6-Tetrachlorophenol	390 UJ	380 UJ	400 UJ	380 UJ
2,4,5-Trichlorophenol	2,000 U	1,900 U	2,000 U	1,900 U
2,4,6-Trichlorophenol	390 U	380 U	400 U	380 U
2,4-Dichlorophenol	390 U	380 U	400 U	380 U
2,4-Dimethylphenol	390 U	380 U	400 U	380 U
2,4-Dinitrophenol	2,000 UJ	1,900 U	2,000 U	1,900 UJ
2,4-Dinitrotoluene	390 U	380 U	400 U	380 U
2,6-Dichlorophenol	390 UJ	380 UJ	400 UJ	380 UJ
2,6-Dinitrotoluene	390 U	380 U	400 U	380 U
2-Acetylaminofluorene	780 U	760 U	810 U	770 U
2-Chloronaphthalene	390 U	380 U	400 U	380 U
2-Chlorophenol	390 U	380 U	400 U	380 U
2-Methylnaphthalene	390 UJ	380 UJ	400 UJ	380 UJ
2-Naphthylamine	390 UJ	380 UJ	1,000 UJ	380 UJ
2-Nitroaniline	2,000 U	1,900 UJ	2,000 UJ	1,900 U
2-Nitrophenol	390 U	380 U	400 U	380 U
2-Picoline	390 UJ	380 U	400 UJ	380 UJ
2-sec-butyl-4,6-dinitrophenol	780 UJ	760 UJ	810 UJ	770 UJ
3,3'-Dichlorobenzidine	780 U	760 U	810 U	770 U
3,3'-Dimethylbenzidine	780 U	760 UJ	2,000 U	770 U
3-Methylcholanthrene	390 U	380 U	400 U	380 U
3-Nitroaniline	2,000 U	1,900 U	2,000 U	1,900 U
4,6-Dinitro-2-methylphenol	2,000 U	1,900 U	2,000 U	1,900 U

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Semivolatiles (ug/kg) (cont.)				
4-Aminobiphenyl	390 U	760 U	810 U	770 U
4-Bromophenyl phenyl ether	390 U	380 U	400 U	380 U
4-Chloro-3-methylphenol	780 U	760 U	810 U	770 U
4-Chloroaniline	780 U	760 U	810 U	770 U
4-Chlorophenyl phenyl ether	390 U	380 U	400 U	380 U
4-Nitroaniline	2,000 U	1,900 U	2,000 U	1,900 U
4-Nitrophenol	2,000 U	1,900 UJ	2,000 UJ	1,900 U
4-Nitroquinoline-1-oxide	2,000 R	1,900 R	2,000 R	1,900 R
5-Nitro-o-toluidine	780 U	760 U	810 U	770 U
7,12-Dimethylbenz(a)anthracene	780 U	760 U	810 U	770 U
Acenaphthene	390 U	380 U	400 U	380 U
Acenaphthylene	390 U	380 U	400 U	380 U
Acetophenone	390 UJ	380 U	400 UJ	380 UJ
alpha, alpha-Dimethylphenethylamine	2,000 UJ	1,900 UJ	2,000 UJ	1,900 UJ
Aniline	2,000 UJ	1,900 UJ	2,000 UJ	1,900 UJ
Anthracene	390 U	380 U	400 U	380 U
Aramite	780 UJ	760 UJ	810 UJ	770 UJ
Benzidine	3,900 U	3,800 UJ	4,000 U	3,800 U
Benzo(a)anthracene	390 U	380 U	400 U	380 U
Benzo(a)pyrene	390 U	380 U	400 U	380 U
Benzo(b)fluoranthene	390 U	380 U	400 U	380 U
Benzo(g,h,i)perylene	390 U	380 U	400 U	380 U
Benzo(k)fluoranthene	390 U	380 U	400 U	380 U
Benzoic acid	2,000 U	1,900 U	2,000 U	1,900 U
Benzyl alcohol	390 U	380 UJ	400 UJ	380 U
Bis(2-chloroethoxy)methane	390 U	380 U	400 U	380 U
Bis(2-chloroethyl)ether	390 U	380 U	400 U	380 U
Bis(2-ethylhexyl)phthalate	92 J	380 U	400 U	380 U
Butylbenzylphthalate	62 J	380 U	400 U	380 U

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Semivolatiles (ug/kg) (cont.)				
Carbazole	390 U	380 U	400 U	380 U
Chlorobenzilate	390 UJ	380 UJ	400 UJ	380 UJ
Chrysene	390 U	380 U	400 U	380 U
Diallate	390 U	380 UJ	400 U	380 U
Dibenzo(a,h)anthracene	390 U	380 U	400 U	380 U
Dibenzofuran	390 U	380 U	400 U	380 U
Diethylphthalate	390 U	380 U	400 U	380 U
Dimethylphthalate	390 U	380 U	400 U	380 U
Di-n-butylphthalate	390 U	380 U	400 U	380 U
Di-n-octylphthalate	390 U	380 U	400 U	380 U
Diphenylamine	390 U	380 U	400 U	380 U
Ethyl methanesulfonate	390 U	380 U	400 U	380 U
Fluoranthene	46 J	380 U	400 U	380 U
Fluorene	390 U	380 U	400 U	380 U
Hexachlorobenzene	390 U	380 U	400 U	380 U
Hexachlorobutadiene	390 U	380 U	400 U	380 U
Hexachlorocyclopentadiene	390 U	380 U	400 U	380 U
Hexachloroethane	390 U	380 U	400 U	380 U
Hexachlorophene	3,900 UJ	3,800 UJ	4,000 R	3,800 UJ
Hexachloropropene	780 R	760 R	2,000 U	770 R
Indeno(1,2,3-cd)pyrene	390 U	380 U	400 U	380 U
Isophorone	390 U	380 U	400 U	380 U
Isosafrole	390 U	380 U	400 U	380 U
m&p Cresol	390 U	380 U	400 U	380 U
Meta-Dinitrobenzene	780 U	760 U	810 U	770 U
Methapyrilene	980 U	950 U	1,000 UJ	960 U
Methyl methanesulfonate	390 U	380 U	400 U	380 U
Naphthalene	390 U	380 U	400 U	380 U
Nitrobenzene	390 U	380 UJ	400 U	380 U

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Semivolatiles (ug/kg) (cont.)				
N-Nitrosodiethylamine	390 U	380 UJ	400 U	380 U
N-Nitrosodimethylamine	390 UJ	380 UJ	400 U	380 UJ
N-Nitroso-di-n-butylamine	390 UJ	380 U	400 U	380 UJ
N-Nitroso-di-n-propylamine	390 U	380 UJ	400 U	380 U
N-Nitrosodiphenylamine (1)	390 U	380 U	400 U	380 U
N-Nitrosomethylethylamine	390 UJ	380 UJ	400 U	380 UJ
N-Nitrosomorpholine	780 UJ	760 U	810 UJ	770 UJ
N-Nitrosopiperidine	390 U	380 UJ	400 U	380 U
N-Nitrosopyrrolidine	2,000 UJ	1,900 U	2,000 UJ	1,900 UJ
o-Cresol	390 U	380 U	400 U	380 U
o-Toluidine	390 R	380 R	400 R	380 R
p-Dimethylaminoazobenzene	780 U	760 U	810 UJ	770 U
Pentachlorobenzene	390 U	380 U	400 U	380 U
Pentachloronitrobenzene	390 U	380 U	400 U	380 U
Pentachlorophenol	2,000 U	1,900 U	2,000 U	1,900 U
Phenacetin	390 UJ	380 U	400 U	380 UJ
Phenanthrene	390 U	380 U	400 U	380 U
Phenol	390 U	380 U	400 U	380 U
p-Phenylenediamine	780 R	760 R	810 R	770 R
Pronamide	390 U	380 U	400 U	380 U
Pyrene	390 U	380 U	400 U	380 U
Pyridine	780 UJ	760 UJ	810 U	770 UJ
Safrole	390 U	380 UJ	400 U	380 U
sym-Trinitrobenzene	3,900 U	3,800 U	4,000 UJ	3,800 U
Pesticides/PCBS (ug/kg)				
4,4'-DDD	19 U	9.2 U	9.6 U	19 U
4,4'-DDE	19 U	9.2 U	9.6 U	19 U
4,4'-DDT	19 U	9.2 U	9.6 U	19 U

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Pesticides/PCBS (ug/kg) (Cont.)				
Aldrin	9.3 U	4.6 U	4.8 U	9.4 U
alpha-BHC	9.3 U	4.6 U	4.8 U	9.4 U
alpha-Chlordane	93 U	46 U	48 U	94 U
beta-BHC	9.3 U	4.6 U	4.8 U	9.4 U
delta-BHC	9.3 U	4.6 U	4.8 U	9.4 U
Dieldrin	19 U	9.2 U	9.6 U	19 U
Endosulfan I	9.3 U	4.6 U	4.8 U	9.4 U
Endosulfan II	19 U	9.2 U	9.6 U	19 U
Endosulfan sulfate	19 U	9.2 U	9.6 U	19 U
Endrin	19 U	9.2 U	9.6 U	19 U
Endrin aldehyde	19 U	9.2 U	9.6 U	19 U
gamma-BHC (Lindane)	9.3 U	4.6 U	4.8 U	9.4 U
gamma-Chlordane	93 U	46 U	48 U	94 U
Heptachlor	9.3 U	4.6 U	4.8 U	9.4 U
Heptachlor epoxide	9.3 U	4.6 U	4.8 U	9.4 U
Isodrin	9.3 U	4.6 U	4.8 U	9.4 U
Kepone	19 U	9.2 U	9.6 U	19 U
Methoxychlor	93 U	46 U	48 U	94 U
Toxaphene	190 U	92 U	96 U	190 U
Aroclor-1016	93 U	46 U	48 U	94 U
Aroclor-1221	93 U	46 U	48 U	94 U
Aroclor-1232	93 U	46 U	48 U	94 U
Aroclor-1242	93 U	46 U	48 U	94 U
Aroclor-1248	93 U	46 U	48 U	94 U
Aroclor-1254	190 U	92 U	96 U	190 U
Aroclor-1260	190 U	92 U	96 U	190 U

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Chlorinated Herbicides (ug/kg)				
2,4,5-T	39 U	39 U	40 U	39 U
2,4,5-TP (Silvex)	39 U	39 U	40 U	39 U
2,4-D	390 U	390 U	400 U	390 U
OP-Pesticides (ug/kg)				
Dimethoate	79 U	77 U	80 U	78 U
Disulfoton	79 U	77 U	80 U	78 U
Famphur	79 U	77 U	80 U	78 U
Methyl parathion	79 U	77 U	80 U	78 U
O,O,O-Triethylphosphorothioate	79 U	77 U	80 U	78 U
Parathion	79 U	77 U	80 U	78 U
Phorate	79 U	77 U	80 U	78 U
Sulfotepp	79 U	77 U	80 U	78 U
Thionazin	79 U	77 U	80 U	78 U
Dioxins/Furans (ug/kg)				
2,3,7,8-TCDD	0.06 U	0.13 U	0.07 U	0.09 U
Total HxCDD	0.16 U	0.26 U	0.21 U	0.18 U
Total HxCDF	0.09 U	0.14 U	0.13 U	0.14 U
Total PeCDD	0.17 U	0.3 U	0.19 U	0.17 U
Total PeCDF	0.15 U	0.21 U	0.17 U	0.22 U
Total TCDD	0.08 U	0.13 U	0.1 U	0.11 U
Total TCDF	0.09 U	0.1 U	0.11 U	0.09 U

APPENDIX I.2

Revised: September 22, 2004

SUMMARY OF BACKGROUND ANALYTICAL RESULTS, SURFACE SOIL - INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGMW01	BGMW02	BGMW03	BGMW04	9BGSB01	9BGSB02	9BGSB03	9BGSB04	9BGSB05
Sample ID	BGMW01-00	BGMW02-00	BGMW03-00	BGMW04-00	9BGSS01	9BGSS02	9BGSS03	9BGSS04	9BGSS05
Sample Date	04/04/96	04/04/96	04/04/96	04/04/96	06/26/99	06/26/99	06/26/99	06/26/99	06/27/99
Sample Depth (ft bgs)	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Inorganics (mg/kg)									
Antimony	2.4 UJ	2.2 UJ	2.3 UJ	2.3 UJ	0.33 R	0.66 R	0.32 R	0.3 R	0.33 R
Arsenic	1.2	0.35 J	1.5	1.8	2.2 J	2.5 J	2.3 J	2.1 J	0.21 J
Barium	169	94.1	35.6	63.7	91	53	110	62	66
Beryllium	0.36	0.1 U	0.28	0.21	0.36 J	0.17 J	0.18 J	0.15 J	0.32 J
Cadmium	0.28 U	0.26 U	0.27 U	0.27 U	0.062 U	0.92 J	0.059 U	0.18 J	0.061 U
Chromium	44.1 J	11 J	33.6 J	29.9 J	9.6	17	10	27	34
Cobalt	30.2	27	9.5	21.2	64	29	25	16	33
Copper	98.5	250	57	62.9	78 J	67 J	100 J	67 J	66 J
Cyanide, total	0.47 U	0.57 U	0.46 U	0.56 U	1.2 U	1.2 U	1.2 U	1.1 U	1.2 U
Lead	9.6	2.4	6.6	11.9	3.9 J	8.3 J	3.5 J	16 J	21 J
Mercury	0.06	0.04 U	0.07	0.07	0.058 J	0.12 J	0.032 J	0.03 J	0.071 J
Nickel	10.9	7.8	5.8	8.6	5.5	4.6 J	6.6	15	17
Selenium	0.56 J	0.13 UJ	1.2 J	1.1 J	2.1 UJ	0.41 UJ	1 UJ	0.86 UJ	1 UJ
Silver	0.39 U	0.35 U	0.37 U	0.37 U	0.074 U	0.15 U	0.071 U	0.067 U	0.073 U
Sulfide	29.2 U	28.8 U	29.2 U	26.7 U	31 U	30 U	29 U	39	44
Thallium	0.1 J	0.08 U	0.09 UJ	0.09 UJ	0.22 UJ	0.22 UJ	0.21 UJ	0.36 UJ	0.22 UJ
Tin	1.3 U	1.2 U	1.4	2.2	2.3 J	1.4 J	2.1 J	2 J	2.3 J
Vanadium	227	123	189	170	270	230	180	120	180
Zinc	106 J	66.2 J	34.2 J	43.9 J	36 J	49 J	67 J	50 J	61 J

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	7/16/03 (1)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)
Volatiles (ug/L)						
1,1,1-Trichloroethane	5 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	5 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	5 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	5 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	5 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	5 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	5 U	NA	NA	NA	NA	NA
2-Butanone	25 U	NA	NA	NA	NA	NA
2-Hexanone	25 U	NA	NA	NA	NA	NA
Acetone	50 U	NA	NA	NA	NA	NA
Benzene	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	5 U	NA	NA	NA	NA	NA
Bromoform	5 U	NA	NA	NA	NA	NA
Carbon disulfide	5 U	NA	NA	NA	NA	NA
Carbon tetrachloride	5 U	NA	NA	NA	NA	NA
Chlorobenzene	5 U	NA	NA	NA	NA	NA
Chloroethane	10 U	NA	NA	NA	NA	NA
Chloroform	5 U	NA	NA	NA	NA	NA
Chloromethane	10 U	NA	NA	NA	NA	NA
Dibromochloromethane	5 U	NA	NA	NA	NA	NA
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Methyl bromide	10 U	NA	NA	NA	NA	NA
Methyl isobutyl ketone	25 U	NA	NA	NA	NA	NA
Methylene chloride	5 U	NA	NA	NA	NA	NA
Styrene	5 U	NA	NA	NA	NA	NA
Tetrachloroethene	5 U	NA	NA	NA	NA	NA
Toluene	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	NA	NA	NA	NA	NA
Vinyl chloride	10 U	NA	NA	NA	NA	NA

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	7/16/03 (1)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)
Volatiles (ug/L) (Cont.)						
Xylene, Total	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	5 U	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	5 U	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	5 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	5 U	NA	NA	NA	NA	NA
Semivolatiles (ug/L)						
1,2,4-Trichlorobenzene	10 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	10 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	10 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	10 U	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	10 U	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	10 U	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	10 U	NA	NA	NA	NA	NA
2,4-Dichlorophenol	10 U	NA	NA	NA	NA	NA
2,4-Dimethylphenol	10 U	NA	NA	NA	NA	NA
2,4-Dinitrophenol	50 U	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	10 U	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	10 U	NA	NA	NA	NA	NA
2-Chloronaphthalene	10 U	NA	NA	NA	NA	NA
2-Chlorophenol	10 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	10 U	NA	NA	NA	NA	NA
2-Nitroaniline	50 U	NA	NA	NA	NA	NA
2-Nitrophenol	10 U	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	20 U	NA	NA	NA	NA	NA
3-Nitroaniline	50 U	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	50 U	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	10 U	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	10 U	NA	NA	NA	NA	NA

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	7/16/03 (1)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)
Semivolatiles (ug/L) (Cont.)						
4-Chloroaniline	20 U	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	10 U	NA	NA	NA	NA	NA
4-Nitroaniline	50 U	NA	NA	NA	NA	NA
4-Nitrophenol	50 U	NA	NA	NA	NA	NA
Acenaphthene	10 U	NA	NA	NA	NA	NA
Acenaphthylene	10 U	NA	NA	NA	NA	NA
Anthracene	10 U	NA	NA	NA	NA	NA
Benzidine	80 U	NA	NA	NA	NA	NA
Benzo(a)anthracene	10 U	NA	NA	NA	NA	NA
Benzo(a)pyrene	10 U	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	10 U	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	10 U	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	10 U	NA	NA	NA	NA	NA
Benzoic acid	50 U	NA	NA	NA	NA	NA
Benzyl alcohol	10 U	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	10 U	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	10 U	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	10 U	NA	NA	NA	NA	NA
Butylbenzylphthalate	10 U	NA	NA	NA	NA	NA
Chrysene	10 U	NA	NA	NA	NA	NA
Di-n-butyl phthalate	10 U	NA	NA	NA	NA	NA
Di-n-octyl phthalate	10 U	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	10 U	NA	NA	NA	NA	NA
Dibenzofuran	10 U	NA	NA	NA	NA	NA
Diethylphthalate	10 U	NA	NA	NA	NA	NA
Dimethylphthalate	10 U	NA	NA	NA	NA	NA
Diphenylamine	10 U	NA	NA	NA	NA	NA
Fluoranthene	10 U	NA	NA	NA	NA	NA
Fluorene	10 U	NA	NA	NA	NA	NA

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	7/16/03 (1)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)
Semivolatiles (ug/L) (Cont.)						
Hexachlorobenzene	10 U	NA	NA	NA	NA	NA
Hexachlorobutadiene	10 U	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	10 U	NA	NA	NA	NA	NA
Hexachloroethane	10 U	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	10 U	NA	NA	NA	NA	NA
Isophorone	10 U	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	10 U	NA	NA	NA	NA	NA
N-Nitrosodimethylamine	10 U	NA	NA	NA	NA	NA
Naphthalene	10 U	NA	NA	NA	NA	NA
Nitrobenzene	10 U	NA	NA	NA	NA	NA
Pentachlorophenol	50 U	NA	NA	NA	NA	NA
Phenanthrene	10 U	NA	NA	NA	NA	NA
Phenol	10 U	NA	NA	NA	NA	NA
Pyrene	10 U	NA	NA	NA	NA	NA
m,p-Cresol	10 U	NA	NA	NA	NA	NA
o-Cresol	10 U	NA	NA	NA	NA	NA
Low Level PAHs (ug/L)						
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(b)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(g,h,i)perylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(k)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	7/16/03 (1)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)
Low Level PAHs (ug/L) (Cont.)						
Dibenzo(a,h)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluorene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Phenanthrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Organochlorine Pesticides (ug/L)						
4,4'-DDD	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
4,4'-DDE	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
4,4'-DDT	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Aldrin	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
alpha-BHC	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
beta-BHC	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Chlordane (technical)	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Chlorobenzilate	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
delta-BHC	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Dieldrin	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Endosulfan I	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Endosulfan II	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Endosulfan sulfate	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Endrin	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Endrin aldehyde	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
gamma-BHC (Lindane)	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Heptachlor	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Heptachlor epoxide	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	7/16/03 (1)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)
Organochlorine Pesticides (ug/L) (Cont.)						
Isodrin	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Kepone	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Methoxychlor	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Toxaphene	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
PCBs (ug/L)						
Aroclor-1016	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1221	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Aroclor-1232	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1242	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1248	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1254	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Aroclor-1260	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Organophosphorus Pesticides (ug/L)						
Dimethoate	10 U	10 U	10 U	10 U	10 U	10 U
Disulfoton	10 U	10 U	10 U	10 U	10 U	10 U
Ethyl parathion (Parathion)	10 U	10 U	10 U	10 U	10 U	10 U
Famphur	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methyl parathion	10 U	10 U	10 U	10 U	10 U	10 U
O,O,O-Triethyl phosphorothioate	10 UJ	10 UJ	10 U	10 U	10 UJ	10 UJ
Phorate	10 U	10 U	10 U	10 U	10 U	10 U
Sulfotepp (Tetraethyl dithiopyrophosphate)	10 U	10 U	10 U	10 U	10 UJ	10 UJ
Thionazin (o,o-Diethyl-O-pyrazinyl phosphorothioate	10 U	10 U	10 U	10 U	10 UJ	10 UJ
Chlorinated Herbicides (ug/L)						
2,4-D	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4,5-TP (Silvex)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4,5-T	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	7/16/03 (1)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)	7/16/03 (2)
Dioxins/Furans (ug/L)						
Tetra CDD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Tetra CDF	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Penta CDD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Penta CDF	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Hexa CDD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Hexa CDF	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (Tetra-CDD)	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Cyanides (mg/L)						
Cyanide, Total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

Notes:

(1) - The volatile and and semivolatile results were collected on June 29, 1999.

(2) - The BTEX reults were collected on December 20, 2000.

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - TOTAL INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW05	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	06/29/99	12/20/00	12/20/00	12/20/00	12/20/00	12/20/00
Total Inorganics (ug/L)						
Antimony	2.7 U	20 U	20 U	20 U	20 U	6 J
Arsenic	35.1 J	10 U	3.3 J	4.2 J	4.5 J	10 U
Barium	55.9	27	32	22	23	24
Beryllium	0.1 U	4 U	4 U	4 U	4 U	4 U
Cadmium	0.5 U	5 U	5 U	5 U	5 U	5 U
Chromium	9.1 J	3.8 J	4.4 J	2.6 J	5 J	3.2 J
Cobalt	3.2 J	6.3 J	4.9 J	10 U	2.8 J	7.1 J
Copper	42.3 U	17 J	7.9 J	7.1 J	12 J	6.4 J
Lead	4.5 UJ	5 U	5 U	2 J	5 U	5 U
Mercury	0.1 U	0.2 U	0.09 J	0.2 U	0.2 U	0.09 J
Nickel	1.4 U	40 U	40 U	40 U	40 U	40 U
Selenium	17 UJ	5.7 J	10 U	7.5 J	5.5 J	10 U
Silver	0.6 U	10 U	10 U	10 U	10 U	10 U
Sulfide	100 U	NA	NA	NA	NA	NA
Thallium	180 R	10 U	10 U	10 U	10 U	10 U
Tin	2.7 J	50 U	50 U	50 U	50 U	50 U
Vanadium	48.4 J	21 J	14 J	24 J	23 J	50 U
Zinc	11.9 J	8.6 J	6 J	20 U	7.3 J	6.2 J

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SURFACE WATER - DISSOLVED INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSW08	BGEWSSW09	BGEWSSW10	BGEWSSW11	BGEWSSW12
Sample Date	12/20/00	12/20/00	12/20/00	12/20/00	12/20/00
Dissolved Inorganics (ug/L)					
Antimony	7.4 J	20 U	20 U	5.5 J	10 J
Arsenic	10 U	10 U	10 U	10 U	3.8 J
Barium	25	27	21	22	24
Beryllium	4 U	4 U	4 U	4 U	4 U
Cadmium	5 U	5 U	5 U	5 U	5 U
Chromium	2.2 J	10 U	10 U	2.2 J	10 U
Cobalt	3 J	2.2 J	10 U	1.9 J	4.6 J
Copper	2 J	20 U	2.9 J	2.9 J	2.4 J
Lead	5 U	5 U	5 U	5 U	5 U
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40 U	40 U	40 U	40 U	40 U
Selenium	7.7 J	10 U	10 U	4.3 J	5.2 J
Silver	10 U	10 U	10 U	10 U	10 U
Thallium	10 U	10 U	10 U	10 U	10 U
Tin	50 U	50 U	50 U	50 U	50 U
Vanadium	50 U	50 U	50 U	50 U	50 U
Zinc	8.6 J	20 U	14 J	20 U	21

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	7/16/03[(1)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)						
1,1,1-Trichloroethane	12 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	12 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	12 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	12 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	12 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	12 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	12 U	NA	NA	NA	NA	NA
2-Butanone	61 U	NA	NA	NA	NA	NA
2-Hexanone	61 U	NA	NA	NA	NA	NA
Acetone	140	NA	NA	NA	NA	NA
Benzene	12 U	NA	NA	NA	NA	NA
Bromodichloromethane	12 U	NA	NA	NA	NA	NA
Bromoform	12 U	NA	NA	NA	NA	NA
Carbon disulfide	12 U	NA	NA	NA	NA	NA
Carbon tetrachloride	12 U	NA	NA	NA	NA	NA
Chlorobenzene	12 U	NA	NA	NA	NA	NA
Chloroethane	24 U	NA	NA	NA	NA	NA
Chloroform	12 U	NA	NA	NA	NA	NA
Chloromethane	24 U	NA	NA	NA	NA	NA
Dibromochloromethane	12 U	NA	NA	NA	NA	NA
Ethylbenzene	12 U	NA	NA	NA	NA	NA
Methyl bromide	24 U	NA	NA	NA	NA	NA
Methyl isobutyl ketone	61 U	NA	NA	NA	NA	NA
Methylene chloride	12 U	NA	NA	NA	NA	NA
Styrene	12 U	NA	NA	NA	NA	NA
Tetrachloroethene	12 U	NA	NA	NA	NA	NA
Toluene	12 U	NA	NA	NA	NA	NA
Trichloroethene	12 U	NA	NA	NA	NA	NA

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	7/16/03[(1)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)						
Vinyl chloride	24 U	NA	NA	NA	NA	NA
Xylene, Total	24 U	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	12 U	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	12 U	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	12 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	12 U	NA	NA	NA	NA	NA
Semivolatiles (ug/kg)						
1,2,4-Trichlorobenzene	800 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	800 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	800 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	800 U	NA	NA	NA	NA	NA
2,2'-Oxybis(1-Chloropropane)	800 U	NA	NA	NA	NA	NA
1-Methylnaphthalene	NA	93 U	130 U	180 U	91 U	72 U
2,4,5-Trichlorophenol	800 U	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	800 U	NA	NA	NA	NA	NA
2,4-Dichlorophenol	800 U	NA	NA	NA	NA	NA
2,4-Dimethylphenol	800 U	NA	NA	NA	NA	NA
2,4-Dinitrophenol	4,100 U	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	800 U	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	800 U	NA	NA	NA	NA	NA
2-Chloronaphthalene	800 U	NA	NA	NA	NA	NA
2-Chlorophenol	800 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	800 U	93 U	130 U	180 U	91 U	72 U
2-Nitroaniline	4,100 U	NA	NA	NA	NA	NA
2-Nitrophenol	800 U	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1,600 U	NA	NA	NA	NA	NA
3-Nitroaniline	4,100 U	NA	NA	NA	NA	NA

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	7/16/03[(1)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)						
4,6-Dinitro-2-methylphenol	4,100 U	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	800 U	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	800 U	NA	NA	NA	NA	NA
4-Chloroaniline	1,600 U	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	800 U	NA	NA	NA	NA	NA
4-Nitroaniline	4,100 U	NA	NA	NA	NA	NA
4-Nitrophenol	4,100 U	NA	NA	NA	NA	NA
Acenaphthene	800 U	93 U	130 U	180 U	91 U	72 U
Acenaphthylene	800 U	93 U	130 U	180 U	91 U	72 U
Anthracene	800 U	93 U	130 U	180 U	91 U	72 U
Benzidine	6,600 U	NA	NA	NA	NA	NA
Benzo(a)anthracene	800 U	93 U	130 U	180 U	91 U	72 U
Benzo(a)pyrene	800 U	93 U	130 U	180 U	91 U	72 U
Benzo(b)fluoranthene	800 U	93 U	130 U	180 U	91 U	72 U
Benzo(g,h,i)perylene	800 U	93 U	130 U	180 U	91 U	72 U
Benzo(k)fluoranthene	800 U	93 U	130 U	180 U	91 U	72 U
Benzoic acid	4,100 U	NA	NA	NA	NA	NA
Benzyl alcohol	800 U	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	800 U	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	800 U	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	800 U	NA	NA	NA	NA	NA
Butylbenzylphthalate	800 U	NA	NA	NA	NA	NA
Chrysene	800 U	93 U	130 U	180 U	91 U	72 U
Di-n-butyl phthalate	800 U	NA	NA	NA	NA	NA
Di-n-octyl phthalate	800 U	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	800 U	93 U	130 U	180 U	91 U	72 U
Dibenzofuran	800 U	NA	NA	NA	NA	NA
Diethylphthalate	800 U	NA	NA	NA	NA	NA

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	7/16/03[(1)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)						
Dimethylphthalate	800 U	NA	NA	NA	NA	NA
Diphenylamine	800 U	NA	NA	NA	NA	NA
Fluoranthene	800 U	93 U	130 U	180 U	91 U	72 U
Fluorene	800 U	93 U	130 U	180 U	91 U	72 U
Hexachlorobenzene	800 U	NA	NA	NA	NA	NA
Hexachlorobutadiene	800 U	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	800 U	NA	NA	NA	NA	NA
Hexachloroethane	800 U	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	800 U	93 U	130 U	180 U	91 U	72 U
Isophorone	800 U	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	800 U	NA	NA	NA	NA	NA
N-Nitrosodimethylamine	800 U	NA	NA	NA	NA	NA
Naphthalene	800 U	93 U	130 U	180 U	91 U	72 U
Nitrobenzene	800 U	NA	NA	NA	NA	NA
Pentachlorophenol	4,100 U	NA	NA	NA	NA	NA
Phenanthrene	800 U	93 U	130 U	180 U	91 U	72 U
Phenol	800 U	NA	NA	NA	NA	NA
Pyrene	800 U	93 U	130 U	180 U	91 U	72 U
m,p-Cresol	800 U	NA	NA	NA	NA	NA
o-Cresol	800 U	NA	NA	NA	NA	NA
Low Level PAHs (ug/kg)						
1-Methylnaphthalene	25 U	19 U	16 U	23 U	13 U	14 U
2-Methylnaphthalene	25 U	19 U	16 U	23 U	13 U	14 U
Acenaphthene	25 U	19 U	16 U	23 U	13 U	14 U
Acenaphthylene	25 U	19 U	16 U	23 U	13 U	14 U
Anthracene	25 U	19 U	16 U	23 U	13 U	14 U
Benzo(a)anthracene	25 U	19 U	16 U	23 U	13 U	14 U

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	7/16/03[(1)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)						
Benzo(a)pyrene	25 U	19 U	16 U	23 U	13 U	14 U
Benzo(b)fluoranthene	25 U	19 U	16 U	23 U	13 U	14 U
Benzo(g,h,i)perylene	25 U	19 U	16 U	23 U	13 U	14 U
Benzo(k)fluoranthene	25 U	19 U	16 U	23 U	13 U	14 U
Chrysene	25 U	19 U	16 U	23 U	13 U	14 U
Dibenzo(a,h)anthracene	25 U	19 U	16 U	23 U	13 U	14 U
Fluoranthene	25 U	19 U	16 U	23 U	13 U	14 U
Fluorene	25 U	19 U	16 U	23 U	13 U	14 U
Indeno(1,2,3-cd)pyrene	25 U	19 U	16 U	23 U	13 U	14 U
Naphthalene	25 U	19 U	16 U	23 U	13 U	14 U
Phenanthrene	25 U	19 U	16 U	23 U	13 U	14 U
Pyrene	25 U	19 U	16 U	23 U	13 U	14 U
Organochlorine Pesticides (ug/kg)						
4,4'-DDD	500	4.2 J	6.2 J	10 J	6.5 U	6.7 U
4,4'-DDE	460	29	27	33	3.8 J	5 J
4,4'-DDT	24 U	9.4 U	7.8 U	11 U	6.5 U	6.7 U
Aldrin	12 U	4.8 U	4 U	5.9 U	3.3 U	3.5 U
alpha-BHC	12 U	4.8 U	4 U	5.9 U	3.3 U	3.5 U
beta-BHC	12 U	4.8 U	4 U	5.9 U	3.3 U	3.5 U
Chlordane (technical)	120 U	48 U	40 U	59 U	33 U	35 U
Chlorobenzilate	120 U	48 U	40 U	43 J	33 U	35 U
delta-BHC	12 U	4.8 U	4 U	5.9 U	3.3 U	3.5 U
Dieldrin	24 U	9.4 U	7.8 U	11 U	6.5 U	6.7 U
Endosulfan I	12 U	4.8 U	4 U	5.9 U	3.3 U	3.5 U
Endosulfan II	24 U	9.4 U	7.8 U	11 U	6.5 U	6.7 U
Endosulfan sulfate	24 U	9.4 U	7.8 U	11 U	6.5 U	6.7 U
Endrin	24 U	9.4 U	7.8 U	11 U	6.5 U	6.7 U

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	7/16/03[(1)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]	7/16/03[(2)]
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Organochlorine Pesticides (ug/kg) (Cont.)						
Endrin aldehyde	24 U	9.4 U	7.8 U	11 U	6.5 U	6.7 U
gamma-BHC (Lindane)	12 U	4.8 U	4 U	5.9 U	3.3 U	3.5 U
Heptachlor	12 U	4.8 U	4 U	5.9 U	3.3 U	3.5 U
Heptachlor epoxide	12 U	4.8 U	4 U	8.3 J	3.3 U	3.5 U
Isodrin	24 U	9.4 U	7.8 U	11 U	6.5 U	6.7 U
Kepone	1,200 U	480 U	400 U	590 U	330 U	350 U
Methoxychlor	120 U	48 U	40 U	59 U	33 U	35 U
Toxaphene	1,200 U	480 U	400 U	590 U	330 U	350 U
PCBs (ug/kg)						
Aroclor-1016	240 U	94 U	78 U	110 U	65 U	67 U
Aroclor-1221	500 U	190 U	160 U	230 U	130 U	140 U
Aroclor-1232	240 U	94 U	78 U	110 U	65 U	67 U
Aroclor-1242	240 U	94 U	78 U	110 U	65 U	67 U
Aroclor-1248	240 U	94 U	78 U	110 U	65 U	67 U
Aroclor-1254	240 U	94 U	78 U	110 U	65 U	67 U
Aroclor-1260	240 U	94 U	78 U	110 U	65 U	67 U
Organophosphorus Pesticides (ug/kg)						
Dimethoate	1,200 UJ	940 U	780 U	1,100 UJ	650 U	670 U
Disulfoton	1,200 UJ	940 U	780 U	1,100 UJ	650 U	670 U
Ethyl parathion (Parathion)	1,200 U	940 U	780 U	1,100 U	650 U	670 U
Famphur	1,200 UJ	940 UJ	780 UJ	1,100 UJ	650 UJ	670 UJ
Methyl parathion	1,200 U	940 U	780 U	1,100 U	650 U	670 U
O,O,O-Triethyl phosphorothioate	1,200 U	940 U	780 U	1,100 U	650 U	670 U
Phorate	1,200 U	940 U	780 U	1,100 U	650 U	670 U
Sulfotepp (Tetraethyl dithiopyrophosphate)	1,200 UJ	940 U	780 U	1,100 UJ	650 U	670 U
Thionazin (o,o-Diethyl-O-pyrazinyl phosphorothioate	1,200 UJ	940 U	780 U	1,100 UJ	650 U	670 U

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	7/16/03[1]	7/16/03[2]	7/16/03[2]	7/16/03[2]	7/16/03[2]	7/16/03[2]
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Chlorinated Herbicides (ug/kg)						
2,4-D	31 U	24 U	20 U	29 U	16 U	17 U
2,4,5-TP (Silvex)	31 U	24 U	20 U	29 U	16 U	17 U
2,4,5-T	31 U	24 U	20 U	29 U	16 U	17 U
Dioxins/Furans (ug/kg)						
Tetra CDD	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
Tetra CDF	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
Penta CDD	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
Penta CDF	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
Hexa CDD	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
Hexa CDF	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin (Tetra-CDD)	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
Cyanide (mg/kg)						
Cyanide, Total	1.8 U	1.4 U	1.2 U	1.7 U	0.98 U	1 U
Total Organic Carbon (mg/kg)						
Total Organic Carbon	160,000	57,000	120,000	120,000	28,000	42,000

Notes:

[1] - The volatile and semivolatile results were collected on June 29, 1999.

[2] - The semivolatile results were collected on December 20, 2000.

SUMMARY OF BACKGROUND ESTUARINE WETLAND HABITAT ANALYTICAL RESULTS, SEDIMENT - INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGEWS05	BGEWS08	BGEWS09	BGEWS10	BGEWS11	BGEWS12
Sample ID	BGEWSSD05	BGEWSSD08	BGEWSSD09	BGEWSSD10	BGEWSSD11	BGEWSSD12
Sample Date	06/29/99	12/20/00	12/20/00	12/20/00	12/20/00	12/20/00
Sample Depth (ft bgs)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Inorganics, Total (mg/kg)						
Antimony	0.66 UJ	4.2 UJ	6.7 UJ	7.6 UJ	4.1 UJ	3.2 UJ
Arsenic	1.3 J	4	4.8	3.8 J	4.8	5
Barium	8.1	6.9	4.6	5.7	11	15
Beryllium	0.047 J	0.18 J	1.3 U	1.5 U	0.16 J	0.25 J
Cadmium	0.12 U	0.32 J	1.7 U	1.9 U	0.55 J	0.69 J
Chromium	16	13 J	11 J	13 J	25 J	33 J
Cobalt	4.7	18	6.4	3.1 J	23	27
Copper	58 J	78	56	39	73	53
Lead	4.6 J	5.5	1.7	1.8 J	10	13
Mercury	0.041 J	0.08	0.12	0.14	0.066	0.057
Nickel	4.8 J	7.2 J	4 J	3.9 J	9.8	10
Selenium	0.75 UJ	0.93 J	2 J	2.1 J	1.4 J	1.6 U
Silver	0.15 U	2.1 U	3.3 U	3.8 U	2.1 U	1.6 U
Sulfide	61 U	NA	NA	NA	NA	NA
Thallium	0.4 UJ	2.1 UJ	3.3 UJ	3.8 UJ	2.1 UJ	1.6 UJ
Tin	4.2 J	11 U	17 U	19 U	10 U	8.1 U
Vanadium	110	140 J	150 J	120 J	200 J	220 J
Zinc	29 U	43	21	20	63	62

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Volatiles (ug/L)									
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromoethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acrolein	100 R	100 R	100 R	100 R	100 R	100 R	100 R	100 R	100 R
3-Chloro-1-propene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Propionitrile	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Acrylonitrile	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Vinyl acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,4-Dichloro-2-butene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methacrylonitrile	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Chloroprene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Iodomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Volatiles (ug/L) (Cont.)									
Dibromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetonitrile	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichlorofluoromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloroethane	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ
Isobutanol	200 R	200 R	200 R	200 R	200 R	200 R	200 R	200 R	200 R
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl methacrylate	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,3-Trichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethyl methacrylate	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Semivolatiles (ug/L)									
4-Nitroaniline	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzyl alcohol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitrosopiperidine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Semivolatiles (ug/L) (Cont.)									
n-Nitrosomethylethylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4,-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
1,4-Phenylenediamine	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U
Bis(2-chloroisopropyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Picoline	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pryridine	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dimethylbenzidine	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isosafrole	10 R	10 R	10 R	10 R	10 R	10 R	10 R	10 R	10 R
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
A, A-Dimethylphenethylamine	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U
1,4-Dioxane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
o,o,o-Triethylphosphorothioate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Naphthoquinone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3&4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1-Naphthylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Aramite	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Semivolatiles (ug/L) (Cont.)									
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diallate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pronamide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Acetylaminofluorene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitrosodiethylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3-Methylcholanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroquinoline-1-oxide	20 R	20 R	20 R	20 R	20 R	20 R	20 R	20 R	20 R
7,12-Dimethyl benz(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,3,4,6-Tetrachlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitrosomorpholine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
p-Dimethylaminoazobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenacetin	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethyl methanesulfonate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Aniline	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
n-Nitrosodimethylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl methanesulfonate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Semivolatiles (ug/L) (Cont.)									
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorophene	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U	5000 U	5000 U	5000 U
4-Chlorophenyl-Phenylether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachloronitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U	0.46 J	10 U	10 U	10 U
2,6-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinoseb	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Naphthalamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methapyrilene	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U
3,3'-Dichlorobenzidine	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
4-Aminobiphenyl	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitroso-di-n-butylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
n-Nitrosopyrrolidine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Safrole	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Semivolatiles (ug/L) (Cont.)									
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
o-Toluidine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4,5-Tetrachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetophenone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
1,3,5-Trinitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
5-Nitro-o-toluidine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
m-Dinitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Low Level PAHs (ug/L)									
1-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Methylnaphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Acenaphthylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(a)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(b)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(g,h,i)perylene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Benzo(k)fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibenzo(a,h)anthracene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Fluorene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Indeno(1,2,3-cd)pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Naphthalene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Phenanthrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Organochlorine Pesticides (ug/L)									
4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha-Chlordane	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chlordane (technical)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzilate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
delta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan sulfate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin aldehyde	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin ketone	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Isodrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Kepone	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methoxychlor	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Toxaphene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
PCBs (ug/L)									
Aroclor-1260	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1016	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorinated Herbicides (ug/L)									
2,4,5-TP (Silvex)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4,5-T	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4-D	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dioxins/Furans (ug/L)									
2,3,7,8-TCDD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total TCDF	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total PeCDF	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total HxCDD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total PeCDD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total TCDD	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Total HxCDF	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - TOTAL INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Total Inorganics (mg/L)									
Antimony	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Arsenic	0.01 U	0.0069 J	0.0094 J	0.0045 J	0.0074 J	0.01 U	0.01 U	0.0042 J	0.01 U
Barium	0.0087 J	0.0082 J	0.0095 J	0.0094 J	0.0098 J	0.0087 J	0.0085 J	0.009 J	0.0087 J
Beryllium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00094 J	0.005 U
Chromium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Copper	0.0025 J	0.0022 J	0.002 J	0.0019 J	0.002 J	0.0024 J	0.0018 J	0.0019 J	0.0018 J
Cyanide, total	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	0.005 U	0.005 U	0.005 U	0.0033 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Selenium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.006 J	0.01 U	0.01 U	0.01 U
Silver	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Thallium	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Tin	0.05 U	0.0065 J	0.05 U	0.05 U	0.05 U	0.0073 J	0.05 U	0.05 U	0.05 U
Vanadium	0.02 U	0.02 U	0.0047 J	0.0046 J	0.0082 J	0.0068 J	0.02 U	0.02 U	0.012 J
Zinc	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SURFACE WATER - DISSOLVED INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample ID	BGOWSW01	BGOWSW02	BGOWSW03	BGOWSW04	BGOWSW05	BGOWSW06	BGOWSW07	BGOWSW08	BGOWSW09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Dissolved Inorganics (mg/L)									
Antimony	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Arsenic	0.01 U	0.0067 J	0.0044 J	0.01 U	0.0055 J	0.01 U	0.0033 J	0.0071 J	0.0041 J
Barium	0.0086 J	0.0085 J	0.0086 J	0.0086 J	0.0089 J	0.008 J	0.008 J	0.0082 J	0.0078 J
Beryllium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Cadmium	0.005 U	0.00089 J	0.00083 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Chromium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Cobalt	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Copper	0.0099 J	0.0032 J	0.0029 J	0.0029 J	0.0033 J	0.0029 J	0.0034 J	0.003 J	0.0027 J
Lead	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Mercury	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Nickel	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Selenium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Silver	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Thallium	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ	0.01 UJ
Tin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Vanadium	0.02 U	0.0089 J	0.0065 J	0.007 J	0.006 J	0.005 J	0.007 J	0.0053 J	0.02 U
Zinc	0.0077 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg)									
Ethylbenzene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Styrene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
cis-1,3-Dichloropropene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
trans-1,3-Dichloropropene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
1,2-Dibromoethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Acrolein	150 R	140 R	140 R	140 R	130 R	110 R	100 R	150 R	110 R
3-Chloro-1-propene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
1,2-Dichloroethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Propionitrile	150 U	140 U	140 U	140 U	130 U	110 U	100 U	150 U	110 U
Acrylonitrile	150 U	140 U	140 U	140 U	130 U	110 U	100 U	150 U	110 U
Vinyl acetate	15 U	14 U	14 U	14 U	13 U	11 U	10 U	15 U	11 U
4-Methyl-2-pentanone	38 U	34 U	36 U	35 U	33 U	29 U	26 U	38 U	27 U
Toluene	8.7 U	7.4 U	7.2 U	8.1 U	7 U	5.7 U	5.2 U	7.6 U	6.3 U
Chlorobenzene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
trans-1,4-Dichloro-2-butene	15 U	14 U	14 U	14 U	13 U	11 U	10 U	15 U	11 U
Dibromochloromethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Methacrylonitrile	150 U	140 U	140 U	140 U	130 U	110 U	100 U	150 U	110 U
Chloroprene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Tetrachloroethene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Xylene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
trans-1,2-Dichloroethene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Carbon tetrachloride	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
2-Hexanone	38 U	34 U	36 U	35 U	33 U	29 U	26 U	38 U	27 U
1,1,1,2-Tetrachloroethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Acetone	77 UJ	68 UJ	72 UJ	70 UJ	66 UJ	57 UJ	52 UJ	76 UJ	55 UJ
Chloroform	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Benzene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
1,1,1-Trichloroethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Bromomethane	15 U	14 U	14 U	14 U	13 U	11 U	10 U	15 U	11 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Volatiles (ug/kg) (Cont.)									
Chloromethane	15 U	14 U	14 U	14 U	13 U	11 U	10 U	15 U	11 U
Iodomethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Dibromomethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Chloroethane	15 U	14 U	14 U	14 U	13 U	11 U	10 U	15 U	11 U
Vinyl chloride	15 U	14 U	14 U	14 U	13 U	11 U	10 U	15 U	11 U
Acetonitrile	310 U	270 U	290 U	280 U	260 U	230 U	210 U	300 U	220 U
Methylene chloride	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Carbon disulfide	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Bromoform	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Bromodichloromethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
1,1-Dichloroethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
1,1-Dichloroethene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Trichlorofluoromethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Dichlorodifluoromethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Pentachloroethane	38 U	34 U	36 U	35 U	33 U	29 U	26 U	38 U	27 U
Isobutanol	310 R	270 R	290 R	280 R	260 R	230 R	210 R	300 R	220 R
1,2-Dichloropropane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
2-Butanone	38 U	34 U	36 U	35 U	33 U	29 U	26 U	38 U	27 U
1,1,2-Trichloroethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Trichloroethene	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
1,1,2,2-Tetrachloroethane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Methyl methacrylate	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
1,2-Dibromo-3-chloropropane	15 U	14 U	14 U	14 U	13 U	11 U	10 U	15 U	11 U
1,2,3-Trichloropropane	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
Ethyl methacrylate	7.7 U	6.8 U	7.2 U	7 U	6.6 U	5.7 U	5.2 U	7.6 U	5.5 U
4-Nitroaniline	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
4-Nitrophenol	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
Benzyl alcohol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitrosopiperidine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg)									
4-Bromophenyl phenyl ether	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,4-Dimethylphenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitrosomethylethylamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
1,4,-Dichlorobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
4-Chloroaniline	1,000 U	960 U	1,000 U	1,000 U	960 U	1,000 U	940 U	1,100 U	940 U
1,4-Phenylenediamine	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
Bis(2-chloroisopropyl)ether	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Phenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2-Picoline	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Pryridine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Bis(2-chloroethyl)ether	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Bis(2-chloroethoxy)methane	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Bis(2-ethylhexyl)phthalate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Di-n-octylphthalate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Hexachlorobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
3,3'-Dimethylbenzidine	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
Anthracene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Isosafrole	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
1,2,4-Trichlorobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,4-Dichlorophenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,4-Dinitrotoluene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
A, A-Dimethylphenethylamine	100,000 U	97,000 U	100,000 U	100,000 U	97,000 U	100,000 U	96,000 U	110,000 U	96,000 U
1,4-Dioxane	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
o,o,o-Triethylphosphorothioate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Pyrene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
1,4-Naphthoquinone	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Dimethylphthalate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
3&4-Methylphenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Dibenzofuran	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)									
1-Naphthylamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Aramite	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Hexachloropropene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Benzo(g,h,i)perylene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Indeno(1,2,3-cd)pyrene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Benzo(b)fluoranthene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Fluoranthene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Benzo(k)fluoranthene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Acenaphthylene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Chrysene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Diallate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Pronamide	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Benzo(a)pyrene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,4-Dinitrophenol	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
Dibenzo(a,h)anthracene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2-Acetylaminofluorene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
4,6-Dinitro-2-methylphenol	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
1,3-Dichlorobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitrosodiethylamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
3-Methylcholanthrene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Benzo(a)anthracene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
4-Nitroquinoline-1-oxide	5,100 R	4,800 R	5,100 R	5,000 R	4,800 R	5,200 R	4,700 R	5,300 R	4,700 R
7,12-Dimethyl benz(a)anthracene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,3,4,6-Tetrachlorophenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
4-Chloro-3-methylphenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitrosomorpholine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
p-Dimethylaminoazobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,6-Dinitrotoluene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Pentachlorobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)									
Phenacetin	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Ethyl methanesulfonate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Aniline	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitrosodimethylamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitroso-di-n-propylamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Methyl methanesulfonate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Hexachloroethane	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Hexachlorophene	260,000 U	250,000 U	260,000 U	260,000 U	250,000 U	260,000 U	240,000 U	270,000 U	240,000 U
4-Chlorophenyl-Phenylether	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Hexachlorocyclopentadiene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Isophorone	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Pentachloronitrobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Acenaphthene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Diethylphthalate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Di-n-butylphthalate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Phenanthrene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Butylbenzylphthalate	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitrosodiphenylamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Fluorene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,6-Dichlorophenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Hexachlorobutadiene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Pentachlorophenol	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
2,4,6-Trichlorophenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2-Nitroaniline	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
2-Nitrophenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Dinoseb	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Naphthalene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2-Methylnaphthalene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2-Chloronaphthalene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Semivolatiles (ug/kg) (Cont.)									
2-Naphthalamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Methapyrilene	100,000 U	97,000 U	100,000 U	100,000 U	97,000 U	100,000 U	96,000 U	110,000 U	96,000 U
3,3'-Dichlorobenzidine	1,000 U	960 U	1,000 U	1,000 U	960 U	1,000 U	940 U	1,100 U	940 U
4-Aminobiphenyl	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitroso-di-n-butylamine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
n-Nitrosopyrrolidine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Safrole	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2-Methylphenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
1,2-Dichlorobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
o-Toluidine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2-Chlorophenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
1,2,4,5-Tetrachlorobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
2,4,5-Trichlorophenol	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Acetophenone	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Nitrobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
3-Nitroaniline	2,600 U	2,500 U	2,600 U	2,600 U	2,500 U	2,600 U	2,400 U	2,700 U	2,400 U
1,3,5-Trinitrobenzene	510 UJ	480 UJ	510 UJ	500 UJ	480 UJ	520 UJ	470 UJ	530 UJ	470 UJ
5-Nitro-o-toluidine	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
m-Dinitrobenzene	510 U	480 U	510 U	500 U	480 U	520 U	470 U	530 U	470 U
Low Level PAHs (ug/kg)									
1-Methylnaphthalene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
2-Methylnaphthalene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Acenaphthene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Acenaphthylene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Anthracene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Benzo(a)anthracene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Benzo(a)pyrene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	2.5 J	9.6 U
Benzo(b)fluoranthene	10 U	9.7 U	3.4 J	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Low Level PAHs (ug/kg) (Cont.)									
Benzo(g,h,i)perylene	10 U	9.7 U	2.4 J	2.8 J	2.3 J	10 U	9.6 U	16	9.6 U
Benzo(k)fluoranthene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Chrysene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Dibenzo(a,h)anthracene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Fluoranthene	10 U	9.7 U	3.7 J	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Fluorene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Indeno(1,2,3-cd)pyrene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	1.9 J	9.6 U
Naphthalene	10 U	9.7 U	2.6 J	10 U	9.7 U	2.4 J	2.6 J	11 U	9.6 U
Phenanthrene	10 U	9.7 U	10 U	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Pyrene	10 U	9.7 U	3.6 J	10 U	9.7 U	10 U	9.6 U	11 U	9.6 U
Organochlorine Pesticides (ug/kg)									
4,4'-DDD	5.1 U	4.8 U	5.1 U	5 U	4.8 U	1.3 J	4.7 U	5.3 U	4.7 U
4,4'-DDE	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
4,4'-DDT	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
Aldrin	2.6 U	2.5 U	2.6 U	2.6 U	2.5 U	2.6 U	2.4 U	2.7 U	2.4 U
alpha-BHC	2.6 U	2.5 U	2.6 U	2.6 U	2.5 U	2.6 U	2.4 U	2.7 U	2.4 U
alpha-Chlordane	2.6 UJ	2.5 UJ	2.6 UJ	2.6 UJ	2.5 UJ	2.6 UJ	2.4 UJ	2.7 UJ	2.4 UJ
beta-BHC	2.6 U	2.5 U	2.6 U	2.6 U	2.5 U	2.6 U	2.4 U	2.7 U	2.4 U
Chlordane (technical)	26 U	25 U	26 U	26 U	25 U	26 U	24 U	27 U	24 U
Chlorobenzilate	26 U	25 U	26 U	26 U	25 U	26 U	24 U	27 U	24 U
delta-BHC	2.6 UJ	2.5 UJ	2.6 UJ	2.6 UJ	2.5 UJ	2.6 UJ	2.4 UJ	2.7 UJ	2.4 UJ
Dieldrin	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
Endosulfan I	2.6 U	2.5 U	2.6 U	2.6 U	2.5 U	2.6 U	2.4 U	2.7 U	2.4 U
Endosulfan II	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
Endosulfan sulfate	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
Endrin	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
Endrin aldehyde	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
Endrin ketone	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Organochlorine Pesticides (ug/kg) (Cont.)									
gamma-BHC (Lindane)	2.6 U	2.5 U	2.6 U	2.6 U	2.5 U	2.6 U	2.4 U	2.7 U	2.4 U
gamma-Chlordane	2.6 U	2.5 U	2.6 U	2.6 U	2.5 U	2.6 U	2.4 U	2.7 U	2.4 U
Heptachlor	2.6 UJ	2.5 UJ	2.6 UJ	2.6 UJ	2.5 UJ	2.6 UJ	2.4 UJ	2.7 UJ	2.4 UJ
Heptachlor epoxide	2.6 U	2.5 U	2.6 U	2.6 U	2.5 U	2.6 U	2.4 U	2.7 U	2.4 U
Isodrin	5.1 U	4.8 U	5.1 U	5 U	4.8 U	5.2 U	4.7 U	5.3 U	4.7 U
Kepone	260 UJ	250 UJ	260 UJ	260 UJ	250 UJ	260 UJ	240 UJ	270 UJ	240 UJ
Methoxychlor	26 U	25 U	26 U	26 U	25 U	26 U	24 U	27 U	24 U
Toxaphene	260 U	250 U	260 U	260 U	250 U	260 U	240 U	270 U	240 U
PCBs (ug/kg)									
Aroclor-1260	51 U	48 U	51 U	50 U	48 U	52 U	47 U	53 U	47 U
Aroclor-1254	51 U	48 U	51 U	50 U	48 U	52 U	47 U	53 U	47 U
Aroclor-1221	100 U	97 U	100 U	100 U	97 U	100 U	96 U	110 U	96 U
Aroclor-1232	51 U	48 U	51 U	50 U	48 U	52 U	47 U	53 U	47 U
Aroclor-1248	51 U	48 U	51 U	50 U	48 U	52 U	47 U	53 U	47 U
Aroclor-1016	51 U	48 U	51 U	50 U	48 U	52 U	47 U	53 U	47 U
Aroclor-1242	51 U	48 U	51 U	50 U	48 U	52 U	47 U	53 U	47 U
Chlorinated Herbicides (ug/kg)									
2,4,5-TP (Silvex)	13 U	12 U	13 U	12 U	12 U	13 U	12 UJ	13 UJ	12 UJ
2,4,5-T	13 U	12 U	13 U	12 U	12 U	13 U	12 UJ	13 UJ	12 UJ
2,4-D	13 U	12 U	9 NJ	18 J	12 U	13 U	12 UJ	13 UJ	12 UJ

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - ORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Dioxins/Furans (ug/kg)									
2,3,7,8-TCDD	0.77 U	0.72 U	0.77 U	0.76 U	0.72 U	0.78 U	710 U	0.81 U	0.71 U
Total TCDF	0.77 U	0.72 U	0.77 U	0.76 U	0.72 U	0.78 U	710 U	0.81 U	0.71 U
Total PeCDF	0.77 U	0.72 U	0.77 U	0.76 U	0.72 U	0.78 U	710 U	0.81 U	0.71 U
Total HxCDD	0.77 U	0.72 U	0.77 U	0.76 U	0.72 U	0.78 U	710 U	0.81 U	0.71 U
Total PeCDD	0.77 U	0.72 U	0.77 U	0.76 U	0.72 U	0.78 U	710 U	0.81 U	0.71 U
Total TCDD	0.77 U	0.72 U	0.77 U	0.76 U	0.72 U	0.78 U	710 U	0.81 U	0.71 U
Total HxCDF	0.77 U	0.72 U	0.77 U	0.76 U	0.72 U	0.78 U	710 U	0.81 U	0.71 U
Total Organic Carbon (mg/kg)									
Total organic carbon	3,800	2,800	3,100	3,500	3,600	3,600	3,400	500	500

SUMMARY OF BACKGROUND OPEN WATER HABITAT ANALYTICAL RESULTS, SEDIMENT - INORGANICS
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Site ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample ID	BGOWSD01	BGOWSD02	BGOWSD03	BGOWSD04	BGOWSD05	BGOWSD06	BGOWSD07	BGOWSD08	BGOWSD09
Sample Date	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02	01/17/02
Sample Depth (ft bss)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5
Inorganics (mg/kg)									
Antimony	2.6 UJ	2.6 UJ	3.1 UJ	2.8 UJ	2.9 UJ	2.6 UJ	2.4 UJ	2.7 UJ	2.6 UJ
Arsenic	1.8	1.9	1.8	2.7	3	1.9	2.3	3	2.7
Barium	7.2	7.6	8.1	7.9	7.6	7.6	6.8	7.5	7.3
Beryllium	0.51 U	0.53 U	0.62 U	0.55 U	0.58 U	0.52 U	0.48 U	0.54 U	0.52 U
Cadmium	0.64 U	0.66 U	0.77 U	0.69 U	0.72 U	0.65 U	0.6 U	0.67 U	0.65 U
Chromium	2.6	3.3	3.1	3.1	3.5	2.5	3.5	3.5	3.1
Cobalt	0.35 J	0.93 J	0.77 J	0.66 J	0.8 J	0.54 J	0.93 J	0.7 J	0.91 J
Copper	2.2 J	3	2.7	2.7 J	3.1	2.4 J	3	3.2	3.1
Cyanide, total	1.5 U	1.4 U	1.5 U	1.5 U	1.4 U	1.5 U	NA	NA	NA
Lead	0.63 J	0.66 UJ	0.74 J	0.69 UJ	0.72 UJ	0.65 UJ	0.57 J	0.66 J	0.57 J
Mercury	0.031 U	0.0062 J	0.026 U	0.0043 J	0.029 U	0.028 U	0.0052 J	0.0042 J	0.0056 J
Nickel	5.1 U	5.3 U	6.2 U	5.5 U	5.8 U	5.2 U	0.58 J	5.4 U	5.2 U
Selenium	1.3 U	1.3 U	1.5 U	1.4 U	1.4 U	1.3 U	1.2 U	1.3 U	1.3 U
Silver	1.3 U	1.3 U	1.5 U	1.4 U	1.4 U	1.3 U	1.2 U	1.3 U	1.3 U
Thallium	1.3 U	1.3 U	0.91 J	1.4 U	1.4 U	1.3 U	1.2 U	1.3 U	1.3 U
Tin	6.4 U	6.6 U	7.7 U	6.9 U	7.2 U	6.5 U	6 U	6.7 U	6.5 U
Vanadium	3.6	8.3	7.2	5.7	9.1	4.1	9.6	8.1	9.1
Zinc	2.6	4.3	3.8	3.5	4.3	2.8	4.4	4.2	4.5

APPENDIX J
MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES

Revised: September 22, 2004

APPENDIX J.1

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - MORNING DOVE
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Mourning dove Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Plant Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Arsenic	0	3.3	3.63990	0.61649	2.46	7.38	4.261	0.25060	0.08353	0.14469
Barium	0	284	42.60000	9.30287	20.8	41.7	29.451	0.44725	0.22309	0.31588
Cadmium	0	0.42	1.36500	0.22423	1.45	20	5.385	0.15464	0.01121	0.04164
Chromium	0	29.9	0.22425	0.29065	1	5	2.236	0.29065	0.05813	0.12998
Lead	0	8.2	3.83760	0.69014	1.13	11.3	3.573	0.61074	0.06107	0.19313
Mercury	0	0.04	0.20000	0.03267	0.0064	0.064	0.020	5.10492	0.51049	1.61432
Selenium	0	0.79	2.37948	0.39138	0.4	0.8	0.566	0.97845	0.48922	0.69187
Silver	0	0.8	0.32000	0.05854	178	1780	562.885	0.00033	0.00003	0.00010
Aroclor-1016	0	0.046	0.00101	0.00055	0.41	4.1	1.297	0.00135	0.00014	0.00043
Aroclor-1221	0	0.046	0.00429	0.00109	0.41	4.1	1.297	0.00265	0.00026	0.00084
Aroclor-1232	0	0.046	0.00429	0.00109	0.41	4.1	1.297	0.00265	0.00026	0.00084
Aroclor-1242	0	0.046	0.00041	0.00046	0.41	4.1	1.297	0.00112	0.00011	0.00035
Aroclor-1248	0	0.046	0.00039	0.00045	0.18	1.8	0.569	0.00252	0.00025	0.00080
Aroclor-1254	0	0.091	0.00042	0.00084	0.18	1.8	0.569	0.00468	0.00047	0.00148
Aroclor-1260	0	0.15	0.00009	0.00129	0.18	1.8	0.569	0.00717	0.00072	0.00227
1,2,4-Trichlorobenzene	0	0.38	0.07079	0.01468	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	0	0.38	0.15318	0.02800	250	2500	790.569	0.00011	0.00001	0.00004
1,3-Dichlorobenzene	0	0.38	0.12217	0.02298	250	2500	790.569	0.00009	0.00001	0.00003
1,4-Dichlorobenzene	0	0.38	0.15523	0.02833	250	2500	790.569	0.00011	0.00001	0.00004
2,4,5-Trichlorophenol	0	1.9	0.40983	0.08242	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	0	0.38	0.10693	0.02052	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	0	0.38	0.24407	0.04269	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	0	0.38	0.05955	0.01286	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0	0.38	0.08197	0.01648	22.8	228	72.100	0.00072	0.00007	0.00023
3,3'-Dichlorobenzidine	0	0.76	0.27542	0.05099	NA	NA	NA	NA	NA	NA
4-Bromophenyphenyl ether	0	0.38	0.01896	0.00630	NA	NA	NA	NA	NA	NA
4-Chlorophenylphenyl ether	0	0.38	0.02025	0.00651	NA	NA	NA	NA	NA	NA
Acenaphthene	0	0.38	0.07980	0.01613	39.5	395	124.910	0.00041	0.00004	0.00013

APPENDIX J.1

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - MORNING DOVE
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Mourning dove Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Plant Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Acenaphthylene	0	0.38	0.06281	0.01339	39.5	395	124.910	0.00034	0.00003	0.00011
Anthracene	0	0.38	0.03450	0.00881	22.8	228	72.100	0.00039	0.00004	0.00012
Benzo(a)anthracene	0	0.38	0.00749	0.00444	39.5	395	124.910	0.00011	0.00001	0.00004
Benzo(a)pyrene	0	0.38	0.00433	0.00393	39.5	395	124.910	0.00010	0.00001	0.00003
Benzo(b)fluoranthene	0	0.38	0.00384	0.00385	39.5	395	124.910	0.00010	0.00001	0.00003
Benzo(g,h,i)perylene	0	0.38	0.00198	0.00355	39.5	395	124.910	0.00009	0.00001	0.00003
Benzo(k)fluoranthene	0	0.38	0.00384	0.00385	39.5	395	124.910	0.00010	0.00001	0.00003
bis(2-Ethylhexyl)phthalate	0	0.38	0.00087	0.00337	1.1	11	3.479	0.00307	0.00031	0.00097
Butylbenzylphthalate	0	0.38	0.02345	0.00702	NA	NA	NA	NA	NA	NA
Chrysene	0	0.38	0.00749	0.00444	39.5	395	124.910	0.00011	0.00001	0.00004
Dibenz(a,h)anthracene	0	0.38	0.00201	0.00356	39.5	395	124.910	0.00009	0.00001	0.00003
Dibenzofuran	0	0.38	0.05499	0.01212	NA	NA	NA	NA	NA	NA
Diethylphthalate	0	0.38	0.52820	0.08862	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	0	0.38	0.03184	0.00838	0.11	1.1	0.348	0.07619	0.00762	0.02409
Di-n-octylphthalate	0	0.38	0.00030	0.00328	50	500	158.114	0.00007	0.00001	0.00002
Fluoranthene	0	0.38	0.01615	0.00584	39.5	395	124.910	0.00015	0.00001	0.00005
Fluorene	0	0.38	0.05426	0.01201	39.5	395	124.910	0.00030	0.00003	0.00010
Hexachlorobutadiene	0	0.38	0.02440	0.00718	2.5	8	4.472	0.00287	0.00090	0.00160
Hexachlorobenzene	0	0.38	0.00581	0.00417	0.08	0.8	0.253	0.05216	0.00522	0.01650
Hexachlorocyclopentadiene	0	0.38	0.01129	0.00506	NA	NA	NA	NA	NA	NA
Hexachloroethane	0	0.38	0.07174	0.01483	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0	0.38	0.00213	0.00358	39.5	395	124.910	0.00009	0.00001	0.00003
Naphthalene	0	0.38	0.16815	0.03042	22.8	228	72.100	0.00133	0.00013	0.00042
N-Nitrosodiphenylamine	0	0.38	0.21945	0.03871	NA	NA	NA	NA	NA	NA
Pentachlorophenol	0	1.9	0.08417	0.02977	100	200	141.421	0.00030	0.00015	0.00021
Phenanthrene	0	0.38	0.03450	0.00881	39.5	395	124.910	0.00022	0.00002	0.00007
Pyrene	0	0.38	0.01638	0.00588	39.5	395	124.910	0.00015	0.00001	0.00005
1,1,2,2-Tetrachloroethane	0	0.006	0.00965	0.00161	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0	0.006	0.00614	0.00104	NA	NA	NA	NA	NA	NA
Chlorobenzene	0	0.006	0.00516	0.00089	NA	NA	NA	NA	NA	NA

Revised: September 22, 2004

APPENDIX J.1

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - MORNING DOVE
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Mourning dove Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Plant Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Chloroform	0	0.006	0.01805	0.00297	NA	NA	NA	NA	NA	NA
Ethylbenzene	0	0.006	0.00356	0.00063	NA	NA	NA	NA	NA	NA
Styrene	0	0.006	0.00464	0.00080	NA	NA	NA	NA	NA	NA
Toluene	0	0.006	0.00598	0.00102	NA	NA	NA	NA	NA	NA
Trichloroethene	0	0.006	0.00631	0.00107	NA	NA	NA	NA	NA	NA
Xylenes (total)	0	0.006	0.00361	0.00063	40.5	405	128.072	0.00002	0.00000	0.00000
1,1,1,2-Tetrachloroethane	0	0.012	0.01403	0.00237	NA	NA	NA	NA	NA	NA
Pentachloroethane	0	0.023	0.01517	0.00265	NA	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	0	0.38	0.03063	0.00818	NA	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	0	0.38	0.03994	0.00969	NA	NA	NA	NA	NA	NA
2-Acetylaminofluorene	0	0.76	0.46284	0.08129	NA	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	0	1.9	2.07841	0.35215	NA	NA	NA	NA	NA	NA
3-Methylcholanthrene	0	0.38	0.00285	0.00369	NA	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	0	0.76	0.00441	0.00718	NA	NA	NA	NA	NA	NA
Aramite	0	0.76	0.04818	0.01426	NA	NA	NA	NA	NA	NA
Diallate	0	0.38	0.03739	0.00928	NA	NA	NA	NA	NA	NA
Dinoseb (2-sec-butyl-4,6-Dinitrophe	0	0.76	0.21675	0.04151	NA	NA	NA	NA	NA	NA
Hexachlorophene	0	3.8	0.00646	0.03338	NA	NA	NA	NA	NA	NA
Hexachloropropene	0	1.9	0.21641	0.05115	NA	NA	NA	NA	NA	NA
Isosafrole	0	0.38	0.16595	0.03006	NA	NA	NA	NA	NA	NA
p-Dimethylaminoazobenzene	0	0.76	0.06627	0.01718	NA	NA	NA	NA	NA	NA
Pentachlorobenzene	0	0.38	0.01341	0.00540	NA	NA	NA	NA	NA	NA
Pentachloronitrobenzene	0	0.38	0.03063	0.00818	7.07	70.7	22.357	0.00116	0.00012	0.00037
Pronamide	0	0.38	0.13771	0.02550	NA	NA	NA	NA	NA	NA

Revised: September 22, 2004

APPENDIX J.2

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - AMERICAN ROBIN
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

American robin Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Plant Concentration mg/kg dw	Maximum Terr Inv Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Arsenic	0	3.3	3.63990	1.72590	0.18743	2.46	7.38	4.261	0.07619	0.02540	0.04399
Barium	0	284	42.60000	102.24000	9.96838	20.8	41.7	29.451	0.47925	0.23905	0.33847
Cadmium	0	0.42	1.36500	17.08980	1.22220	1.45	20	5.385	0.84290	0.06111	0.22696
Chromium	0	29.9	0.22425	94.54380	6.90700	1	5	2.236	6.90700	1.38140	3.08891
Lead	0	8.2	3.83760	12.48040	0.98714	1.13	11.3	3.573	0.87358	0.08736	0.27625
Mercury	0	0.04	0.20000	0.82520	0.06061	0.0064	0.064	0.020	9.47069	0.94707	2.99490
Selenium	0	0.79	2.37948	1.05860	0.10651	0.4	0.8	0.566	0.26627	0.13314	0.18828
Silver	0	0.8	0.32000	0.80000	0.06630	178	1780	562.885	0.00037	0.00004	0.00012
Aroclor-1016	0	0.046	0.00101	0.73186	0.05195	0.41	4.1	1.297	0.12671	0.01267	0.04007
Aroclor-1221	0	0.046	0.00429	0.73186	0.05199	0.41	4.1	1.297	0.12680	0.01268	0.04010
Aroclor-1232	0	0.046	0.00429	0.73186	0.05199	0.41	4.1	1.297	0.12680	0.01268	0.04010
Aroclor-1242	0	0.046	0.00041	0.73186	0.05195	0.41	4.1	1.297	0.12670	0.01267	0.04006
Aroclor-1248	0	0.046	0.00039	0.73186	0.05195	0.18	1.8	0.569	0.28858	0.02886	0.09126
Aroclor-1254	0	0.091	0.00042	1.44781	0.10276	0.18	1.8	0.569	0.57088	0.05709	0.18053
Aroclor-1260	0	0.15	0.00009	2.38650	0.16937	0.18	1.8	0.569	0.94097	0.09410	0.29756
1,2,4-Trichlorobenzene	0	0.38	0.07079	0.21280	0.01884	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	0	0.38	0.15318	0.38000	0.03150	250	2500	790.569	0.00013	0.00001	0.00004
1,3-Dichlorobenzene	0	0.38	0.12217	0.38000	0.03117	250	2500	790.569	0.00012	0.00001	0.00004
1,4-Dichlorobenzene	0	0.38	0.15523	0.38000	0.03153	250	2500	790.569	0.00013	0.00001	0.00004
2,4,5-Trichlorophenol	0	1.9	0.40983	15.96000	1.14438	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	0	0.38	0.10693	0.38000	0.03101	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	0	0.38	0.24407	0.38000	0.03248	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	0	0.38	0.05955	0.38000	0.03050	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0	0.38	0.08197	0.07600	0.00932	22.8	228	72.100	0.00041	0.00004	0.00013
3,3'-Dichlorobenzidine	0	0.76	0.27542	0.76000	0.06268	NA	NA	NA	NA	NA	NA
4-Bromophenyphenyl ether	0	0.38	0.01896	0.38000	0.03007	NA	NA	NA	NA	NA	NA
4-Chlorophenylphenyl ether	0	0.38	0.02025	0.38000	0.03008	NA	NA	NA	NA	NA	NA
Acenaphthene	0	0.38	0.07980	0.11400	0.01198	39.5	395	124.910	0.00030	0.00003	0.00010
Acenaphthylene	0	0.38	0.06281	0.08360	0.00965	39.5	395	124.910	0.00024	0.00002	0.00008
Anthracene	0	0.38	0.03450	0.12160	0.01203	22.8	228	72.100	0.00053	0.00005	0.00017
Benzo(a)anthracene	0	0.38	0.00749	0.10260	0.01040	39.5	395	124.910	0.00026	0.00003	0.00008

Revised: September 22, 2004

APPENDIX J.2

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - AMERICAN ROBIN
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

American robin Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Plant Concentration mg/kg dw	Maximum Terr Inv Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Benzo(a)pyrene	0	0.38	0.00433	0.12920	0.01224	39.5	395	124.910	0.00031	0.00003	0.00010
Benzo(b)fluoranthene	0	0.38	0.00384	0.07980	0.00875	39.5	395	124.910	0.00022	0.00002	0.00007
Benzo(g,h,i)perylene	0	0.38	0.00198	0.05700	0.00713	39.5	395	124.910	0.00018	0.00002	0.00006
Benzo(k)fluoranthene	0	0.38	0.00384	0.07980	0.00875	39.5	395	124.910	0.00022	0.00002	0.00007
bis(2-Ethylhexyl)phthalate	0	0.38	0.00087	0.38000	0.02987	1.1	11	3.479	0.02716	0.00272	0.00859
Butylbenzylphthalate	0	0.38	0.02345	0.38000	0.03011	NA	NA	NA	NA	NA	NA
Chrysene	0	0.38	0.00749	0.16720	0.01495	39.5	395	124.910	0.00038	0.00004	0.00012
Dibenz(a,h)anthracene	0	0.38	0.00201	0.18620	0.01623	39.5	395	124.910	0.00041	0.00004	0.00013
Dibenzofuran	0	0.38	0.05499	0.38000	0.03045	NA	NA	NA	NA	NA	NA
Diethylphthalate	0	0.38	0.52820	0.38000	0.03552	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	0	0.38	0.03184	0.38000	0.03020	0.11	1.1	0.348	0.27459	0.02746	0.08683
Di-n-octylphthalate	0	0.38	0.00030	0.38000	0.02987	50	500	158.114	0.00060	0.00006	0.00019
Fluoranthene	0	0.38	0.01615	0.14060	0.01317	39.5	395	124.910	0.00033	0.00003	0.00011
Fluorene	0	0.38	0.05426	0.07600	0.00902	39.5	395	124.910	0.00023	0.00002	0.00007
Hexachlorobutadiene	0	0.38	0.02440	0.38000	0.03012	2.5	8	4.472	0.01205	0.00377	0.00674
Hexachlorobenzene	0	0.38	0.00581	0.64220	0.04840	0.08	0.8	0.253	0.60500	0.06050	0.19132
Hexachlorocyclopentadiene	0	0.38	0.01129	0.38000	0.02998	NA	NA	NA	NA	NA	NA
Hexachloroethane	0	0.38	0.07174	0.38000	0.03063	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0	0.38	0.00213	0.15580	0.01409	39.5	395	124.910	0.00036	0.00004	0.00011
Naphthalene	0	0.38	0.16815	0.07980	0.01051	22.8	228	72.100	0.00046	0.00005	0.00015
N-Nitrosodiphenylamine	0	0.38	0.21945	0.38000	0.03221	NA	NA	NA	NA	NA	NA
Pentachlorophenol	0	1.9	0.08417	15.20000	1.08734	100	200	141.421	0.01087	0.00544	0.00769
Phenanthrene	0	0.38	0.03450	0.10640	0.01095	39.5	395	124.910	0.00028	0.00003	0.00009
Pyrene	0	0.38	0.01638	0.14820	0.01371	39.5	395	124.910	0.00035	0.00003	0.00011
1,1,2,2-Tetrachloroethane	0	0.006	0.00965	0.00600	0.00057	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0	0.006	0.00614	0.00600	0.00054	NA	NA	NA	NA	NA	NA
Chlorobenzene	0	0.006	0.00516	0.00600	0.00053	NA	NA	NA	NA	NA	NA
Chloroform	0	0.006	0.01805	0.00600	0.00066	NA	NA	NA	NA	NA	NA
Ethylbenzene	0	0.006	0.00356	0.00600	0.00051	NA	NA	NA	NA	NA	NA
Styrene	0	0.006	0.00464	0.00600	0.00052	NA	NA	NA	NA	NA	NA
Toluene	0	0.006	0.00598	0.00600	0.00054	NA	NA	NA	NA	NA	NA
Trichloroethene	0	0.006	0.00631	0.00600	0.00054	NA	NA	NA	NA	NA	NA
Xylenes (total)	0	0.006	0.00361	0.00600	0.00051	40.5	405	128.072	0.00001	0.00000	0.00000

Revised: September 22, 2004

APPENDIX J.2

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - AMERICAN ROBIN
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

American robin Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Plant Concentration mg/kg dw	Maximum Terr Inv Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
1,1,1,2-Tetrachloroethane	0	0.012	0.01403	0.01200	0.00109	NA	NA	NA	NA	NA	NA
Pentachloroethane	0	0.023	0.01517	0.02300	0.00197	NA	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	0	0.38	0.03063	0.38000	0.03019	NA	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	0	0.38	0.03994	0.38000	0.03029	NA	NA	NA	NA	NA	NA
2-Acetylaminofluorene	0	0.76	0.46284	0.76000	0.06469	NA	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	0	1.9	2.07841	1.90000	0.17159	NA	NA	NA	NA	NA	NA
3-Methylcholanthrene	0	0.38	0.00285	0.38000	0.02989	NA	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	0	0.76	0.00441	0.76000	0.05977	NA	NA	NA	NA	NA	NA
Aramite	0	0.76	0.04818	0.76000	0.06024	NA	NA	NA	NA	NA	NA
Diallate	0	0.38	0.03739	0.38000	0.03026	NA	NA	NA	NA	NA	NA
Dinoseb (2-sec-butyl-4,6-Dinitrophe	0	0.76	0.21675	0.76000	0.06205	NA	NA	NA	NA	NA	NA
Hexachlorophene	0	3.8	0.00646	3.80000	0.29870	NA	NA	NA	NA	NA	NA
Hexachloropropene	0	1.9	0.21641	1.90000	0.15163	NA	NA	NA	NA	NA	NA
Isosafrole	0	0.38	0.16595	0.38000	0.03164	NA	NA	NA	NA	NA	NA
p-Dimethylaminoazobenzene	0	0.76	0.06627	0.76000	0.06044	NA	NA	NA	NA	NA	NA
Pentachlorobenzene	0	0.38	0.01341	0.38000	0.03001	NA	NA	NA	NA	NA	NA
Pentachloronitrobenzene	0	0.38	0.03063	0.38000	0.03019	7.07	70.7	22.357303	0.00427	0.00043	0.00135
Pronamide	0	0.38	0.13771	0.38000	0.03134	NA	NA	NA	NA	NA	NA

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APPENDIX J.3

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - RED-TAILED HAWK
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Red-tailed hawk Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Omnivore Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Arsenic	0	3.3	0.04620	0.00527	2.46	7.38	4.261	0.00214	0.00071	0.00124
Barium	0	284	19.59600	1.08220	20.8	41.7	29.451	0.05203	0.02595	0.03675
Cadmium	0	0.42	0.19404	0.00825	1.45	20	5.385	0.00569	0.00041	0.00153
Chromium	0	29.9	10.43510	0.45102	1	5	2.236	0.45102	0.09020	0.20170
Lead	0	8.2	2.34520	0.10289	3.85	38.5	12.175	0.02672	0.00267	0.00845
Mercury	0	0.04	0.00520	0.00025	0.0064	0.064	0.020	0.03917	0.00392	0.01239
Selenium	0	0.79	0.99777	0.04099	0.4	0.8	0.566	0.10247	0.05124	0.07246
Silver	0	0.8	0.17749	0.00797	178	1780	562.885	0.00004	0.00000	0.00001
Aroclor-1016	0	0.046	0.11314	0.00460	0.41	4.1	1.297	0.01123	0.00112	0.00355
Aroclor-1221	0	0.046	0.11365	0.00462	0.41	4.1	1.297	0.01128	0.00113	0.00357
Aroclor-1232	0	0.046	0.11365	0.00462	0.41	4.1	1.297	0.01128	0.00113	0.00357
Aroclor-1242	0	0.046	0.11305	0.00460	0.41	4.1	1.297	0.01122	0.00112	0.00355
Aroclor-1248	0	0.046	0.11305	0.00460	0.18	1.8	0.569	0.02555	0.00256	0.00808
Aroclor-1254	0	0.091	0.22358	0.00910	0.18	1.8	0.569	0.05053	0.00505	0.01598
Aroclor-1260	0	0.15	0.36845	0.01499	0.18	1.8	0.569	0.08328	0.00833	0.02633
1,2,4-Trichlorobenzene	0	0.38	0.04606	0.00225	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	0	0.38	0.08449	0.00379	250	2500	790.569	0.00002	0.00000	0.00000
1,3-Dichlorobenzene	0	0.38	0.07972	0.00360	250	2500	790.569	0.00001	0.00000	0.00000
1,4-Dichlorobenzene	0	0.38	0.08481	0.00381	250	2500	790.569	0.00002	0.00000	0.00000
2,4,5-Trichlorophenol	0	1.9	2.53268	0.10394	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	0	0.38	0.07737	0.00351	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	0	0.38	0.09849	0.00436	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	0	0.38	0.07007	0.00321	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0	0.38	0.02671	0.00147	22.8	228	72.100	0.00006	0.00001	0.00002
3,3'-Dichlorobenzidine	0	0.76	0.16422	0.00740	NA	NA	NA	NA	NA	NA
4-Bromophenyphenyl ether	0	0.38	0.06382	0.00296	NA	NA	NA	NA	NA	NA
4-Chlorophenylphenyl ether	0	0.38	0.06402	0.00297	NA	NA	NA	NA	NA	NA
Acenaphthene	0	0.38	0.03223	0.00169	39.5	395	124.910	0.00004	0.00000	0.00001

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APPENDIX J.3

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - RED-TAILED HAWK
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Red-tailed hawk Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Omnivore Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Acenaphthylene	0	0.38	0.02493	0.00140	39.5	395	124.910	0.00004	0.00000	0.00001
Anthracene	0	0.38	0.02643	0.00146	22.8	228	72.100	0.00006	0.00001	0.00002
Benzo(a)anthracene	0	0.38	0.01934	0.00117	39.5	395	124.910	0.00003	0.00000	0.00001
Benzo(a)pyrene	0	0.38	0.02295	0.00132	39.5	395	124.910	0.00003	0.00000	0.00001
Benzo(b)fluoranthene	0	0.38	0.01527	0.00101	39.5	395	124.910	0.00003	0.00000	0.00001
Benzo(g,h,i)perylene	0	0.38	0.01147	0.00085	39.5	395	124.910	0.00002	0.00000	0.00001
Benzo(k)fluoranthene	0	0.38	0.01527	0.00101	39.5	395	124.910	0.00003	0.00000	0.00001
bis(2-Ethylhexyl)phthalate	0	0.38	0.06104	0.00285	1.1	11	3.479	0.00259	0.00026	0.00082
Butylbenzylphthalate	0	0.38	0.06451	0.00299	NA	NA	NA	NA	NA	NA
Chrysene	0	0.38	0.02929	0.00157	39.5	395	124.910	0.00004	0.00000	0.00001
Dibenz(a,h)anthracene	0	0.38	0.03137	0.00166	39.5	395	124.910	0.00004	0.00000	0.00001
Dibenzofuran	0	0.38	0.06937	0.00319	NA	NA	NA	NA	NA	NA
Diethylphthalate	0	0.38	0.14224	0.00612	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	0	0.38	0.06581	0.00304	0.11	1.1	0.348	0.02765	0.00277	0.00874
Di-n-octylphthalate	0	0.38	0.06095	0.00285	50	500	158.114	0.00006	0.00001	0.00002
Fluoranthene	0	0.38	0.02653	0.00146	39.5	395	124.910	0.00004	0.00000	0.00001
Fluorene	0	0.38	0.02245	0.00130	39.5	395	124.910	0.00003	0.00000	0.00001
Hexachlorobutadiene	0	0.38	0.06466	0.00300	2.5	8	4.472	0.00120	0.00037	0.00067
Hexachlorobenzene	0	0.38	0.10217	0.00451	0.08	0.8	0.253	0.05633	0.00563	0.01781
Hexachlorocyclopentadiene	0	0.38	0.06264	0.00291	NA	NA	NA	NA	NA	NA
Hexachloroethane	0	0.38	0.07195	0.00329	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0	0.38	0.02671	0.00147	39.5	395	124.910	0.00004	0.00000	0.00001
Naphthalene	0	0.38	0.04057	0.00203	22.8	228	72.100	0.00009	0.00001	0.00003
N-Nitrosodiphenylamine	0	0.38	0.09470	0.00421	NA	NA	NA	NA	NA	NA
Pentachlorophenol	0	1.9	2.36550	0.09720	100	200	141.421	0.00097	0.00049	0.00069
Phenanthrene	0	0.38	0.02409	0.00136	39.5	395	124.910	0.00003	0.00000	0.00001
Pyrene	0	0.38	0.02773	0.00151	39.5	395	124.910	0.00004	0.00000	0.00001
1,1,2,2-Tetrachloroethane	0	0.006	0.00245	0.00010	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0	0.006	0.00191	0.00008	NA	NA	NA	NA	NA	NA
Chlorobenzene	0	0.006	0.00176	0.00008	NA	NA	NA	NA	NA	NA

APPENDIX J.3

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - RED-TAILED HAWK
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Red-tailed hawk Chemical	Maximum Drinking Water Concentration mg/L	Maximum Soil Concentration mg/kg dw	Maximum Omnivore Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Chloroform	0	0.006	0.00374	0.00016	NA	NA	NA	NA	NA	NA
Ethylbenzene	0	0.006	0.00151	0.00007	NA	NA	NA	NA	NA	NA
Styrene	0	0.006	0.00168	0.00007	NA	NA	NA	NA	NA	NA
Toluene	0	0.006	0.00188	0.00008	NA	NA	NA	NA	NA	NA
Trichloroethene	0	0.006	0.00193	0.00008	NA	NA	NA	NA	NA	NA
Xylenes (total)	0	0.006	0.00152	0.00007	40.5	405	128.072	0.00000	0.00000	0.00000
1,1,1,2-Tetrachloroethane	0	0.012	0.00408	0.00018	NA	NA	NA	NA	NA	NA
Pentachloroethane	0	0.023	0.00602	0.00027	NA	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	0	0.38	0.06562	0.00303	NA	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	0	0.38	0.06705	0.00309	NA	NA	NA	NA	NA	NA
2-Acetylaminofluorene	0	0.76	0.19308	0.00856	NA	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	0	1.9	0.62456	0.02711	NA	NA	NA	NA	NA	NA
3-Methylcholanthrene	0	0.38	0.06134	0.00286	NA	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	0	0.76	0.12249	0.00572	NA	NA	NA	NA	NA	NA
Aramite	0	0.76	0.12923	0.00599	NA	NA	NA	NA	NA	NA
Diallate	0	0.38	0.06666	0.00308	NA	NA	NA	NA	NA	NA
Dinoseb (2-sec-butyl-4,6-Dinitrophe	0	0.76	0.15518	0.00703	NA	NA	NA	NA	NA	NA
Hexachlorophene	0	3.8	0.61003	0.02848	NA	NA	NA	NA	NA	NA
Hexachloropropene	0	1.9	0.33784	0.01556	NA	NA	NA	NA	NA	NA
Isosafrole	0	0.38	0.08646	0.00387	NA	NA	NA	NA	NA	NA
p-Dimethylaminoazobenzene	0	0.76	0.13201	0.00610	NA	NA	NA	NA	NA	NA
Pentachlorobenzene	0	0.38	0.06297	0.00293	NA	NA	NA	NA	NA	NA
Pentachloronitrobenzene	0	0.38	0.06562	0.00303	7.07	70.7	22.357303	0.00043	0.00004	0.00014
Pronamide	0	0.38	0.08211	0.00370	NA	NA	NA	NA	NA	NA

Revised: September 22, 2004

APPENDIX J.4

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - BELTED KINGFISHER
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Belted Kingfisher Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Aq Invert Concentration mg/kg dw	Maximum Fish Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Antimony	0	0.71	0.71000	0.71180	0.15178	4740	47400	14989.196	0.00003	0.00000	0.00001
Arsenic	0	12	8.10000	1.52080	0.44897	2.46	7.38	4.261	0.18251	0.06084	0.10537
Barium	0	33	33.00000	33.88350	7.21243	20.8	41.7	29.451	0.34675	0.17296	0.24490
Beryllium	0	0.12	0.12000	0.12000	0.02559	NA	NA	NA	NA	NA	NA
Cadmium	0	1.3	3.99490	0.21320	0.09078	1.45	20	5.385	0.06261	0.00454	0.01686
Chromium	0	19	3.53400	0.72920	0.28224	1	5	2.236	0.28224	0.05645	0.12622
Cobalt	0	7.3	7.30000	7.52800	1.60191	1.47	14.7	4.649	1.08973	0.10897	0.34460
Copper	0	59	469.46300	7.35000	6.67214	47	61.7	53.851	0.14196	0.10814	0.12390
Lead	0	25	8.15000	1.80400	0.57473	1.13	11.3	3.573	0.50861	0.05086	0.16084
Mercury	0	0.42	0.72870	1.92360	0.38974	0.0064	0.064	0.020	60.89758	6.08976	19.25751
Nickel	0	7.1	1.51940	7.18798	1.47328	77.4	107	91.004	0.01903	0.01377	0.01619
Selenium	0	0.78	0.78000	1.56000	0.32039	0.4	0.8	0.566	0.80098	0.40049	0.56638
Silver	0	0.36	0.06480	0.37140	0.07594	178	1780	562.885	0.00043	0.00004	0.00013
Thallium	0	0.23	0.23000	0.24530	0.05207	0.35	3.5	1.107	0.14878	0.01488	0.04705
Vanadium	0	73.4	73.40000	74.45570	15.86259	11.4	114	36.050	1.39146	0.13915	0.44002
Zinc	0	83.9	399.28010	25.85730	9.72646	14.5	131	43.583	0.67079	0.07425	0.22317
				0.00000							
Aroclor-1016	0	0.12	2.62680	1.34880	0.29446	0.41	4.1	1.297	0.71820	0.07182	0.22712
Aroclor-1221	0	0.24	5.25360	2.69760	0.58893	0.41	4.1	1.297	1.43641	0.14364	0.45423
Aroclor-1232	0	0.12	2.62680	1.34880	0.29446	0.41	4.1	1.297	0.71820	0.07182	0.22712
Aroclor-1242	0	0.12	2.62680	1.34880	0.29446	0.41	4.1	1.297	0.71820	0.07182	0.22712
Aroclor-1248	0	0.12	2.62680	1.34880	0.29446	0.18	1.8	0.569	1.63591	0.16359	0.51732
Aroclor-1254	0	0.2	4.37800	2.24800	0.49077	0.18	1.8	0.569	2.72652	0.27265	0.86220
Aroclor-1260	0	0.15	3.28350	1.68600	0.36808	0.18	1.8	0.569	2.04489	0.20449	0.64665
				0.00000							
1,2,4-Trichlorobenzene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	0	8.7	8.70000	8.70000	1.85546	250	2500	790.569	0.00742	0.00074	0.00235
1,3-Dichlorobenzene	0	8.7	8.70000	8.70000	1.85546	250	2500	790.569	0.00742	0.00074	0.00235
1,4-Dichlorobenzene	0	8.7	8.70000	8.70000	1.85546	250	2500	790.569	0.00742	0.00074	0.00235
2,4,5-Trichlorophenol	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA

APPENDIX J.4

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - BELTED KINGFISHER
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Belted Kingfisher Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Aq Invert Concentration mg/kg dw	Maximum Fish Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
2,4,6-Trichlorophenol	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0	0.032	0.03200	0.03200	0.00682	22.8	228	72.100	0.00030	0.00003	0.00009
3,3'-Dichlorobenzidine	0	17	17.00000	17.00000	3.62561	NA	NA	NA	NA	NA	NA
4-Bromophenyphenyl ether	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
4-Chlorophenylphenyl ether	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Acenaphthene	0	0.22	0.44880	0.22000	0.04931	39.5	395	124.910	0.00125	0.00012	0.00039
Acenaphthylene	0	0.18	0.18000	0.18000	0.03839	39.5	395	124.910	0.00097	0.00010	0.00031
Anthracene	0	0.54	0.14634	0.54000	0.11105	22.8	228	72.100	0.00487	0.00049	0.00154
Benzo(a)anthracene	0	1.2	1.68000	1.20000	0.26094	39.5	395	124.910	0.00661	0.00066	0.00209
Benzo(a)pyrene	0	3.2	0.61120	3.20000	0.65541	39.5	395	124.910	0.01659	0.00166	0.00525
Benzo(b)fluoranthene	0	5	0.80000	5.00000	1.02246	39.5	395	124.910	0.02589	0.00259	0.00819
Benzo(g,h,i)perylene	0	1.8	0.53100	1.80000	0.37063	39.5	395	124.910	0.00938	0.00094	0.00297
Benzo(k)fluoranthene	0	2	0.84200	2.00000	0.41444	39.5	395	124.910	0.01049	0.00105	0.00332
bis(2-Ethylhexyl)phthalate	0	0.7	0.70000	0.70000	0.14929	1.1	11	3.479	0.13572	0.01357	0.04292
Butylbenzylphthalate	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Chrysene	0	1.9	0.63650	1.90000	0.39201	39.5	395	124.910	0.00992	0.00099	0.00314
Dibenz(a,h)anthracene	0	0.58	0.58000	0.58000	0.12370	39.5	395	124.910	0.00313	0.00031	0.00099
Dibenzofuran	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Diethylphthalate	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	0	0.46	0.46000	0.46000	0.09810	0.11	1.1	0.348	0.89186	0.08919	0.28203
Di-n-octylphthalate	0	8.7	8.70000	8.70000	1.85546	50	500	158.114	0.03711	0.00371	0.01173
Fluoranthene	0	2.6	0.81120	2.60000	0.53581	39.5	395	124.910	0.01356	0.00136	0.00429
Fluorene	0	0.22	0.24860	0.22000	0.04722	39.5	395	124.910	0.00120	0.00012	0.00038
Hexachlorobutadiene	0	8.7	8.70000	8.70000	1.85546	2.5	8	4.472	0.74218	0.23193	0.41489
Hexachlorobenzene	0	8.7	8.70000	8.70000	1.85546	0.08	0.8	0.253	23.19324	2.31932	7.33435
Hexachlorocyclopentadiene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Hexachloroethane	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0	2.1	0.74550	2.10000	0.43371	39.5	395	124.910	0.01098	0.00110	0.00347
Naphthalene	0	0.016	0.01600	0.01600	0.00341	22.8	228	72.100	0.00015	0.00001	0.00005
N-Nitrosodiphenylamine	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Pentachlorophenol	0	45	45.00000	45.00000	9.59720	100	200	141.421	0.09597	0.04799	0.06786
Phenanthrene	0	2.4	1.56480	2.40000	0.50312	39.5	395	124.910	0.01274	0.00127	0.00403
Pyrene	0	2.1	1.68630	2.10000	0.44355	39.5	395	124.910	0.01123	0.00112	0.00355

APPENDIX J.4

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - BELTED KINGFISHER
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Belted Kingfisher Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Aq Invert Concentration mg/kg dw	Maximum Fish Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
1,1,2,2-Tetrachloroethane	0	0.019	0.01900	0.01900	0.00405	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0	0.019	0.01900	0.01900	0.00405	NA	NA	NA	NA	NA	NA
Chlorobenzene	0	0.019	0.01900	0.01900	0.00405	NA	NA	NA	NA	NA	NA
Chloroform	0	0.019	0.01900	0.01900	0.00405	NA	NA	NA	NA	NA	NA
Ethylbenzene	0	0.00078	0.00078	0.00281	0.00057	NA	NA	NA	NA	NA	NA
Styrene	0	0.019	0.01900	0.02692	0.00562	NA	NA	NA	NA	NA	NA
Toluene	0	0.0025	0.00250	0.00899	0.00182	NA	NA	NA	NA	NA	NA
Trichloroethene	0	0.019	0.01900	0.01900	0.00405	NA	NA	NA	NA	NA	NA
Xylenes (total)	0	0.038	0.03800	0.10226	0.02080	40.5	405	128.072	0.00051	0.00005	0.00016
				0.00000							
Tin	0	6.4	6.40000	6.40000	1.36494	6.8	16.9	10.720075	0.20073	0.08077	0.12733
1,1,1,2-Tetrachloroethane	0	0.026	0.02600	0.02600	0.00555	NA	NA	NA	NA	NA	NA
Pentachloroethane	0	0.095	0.09500	0.09500	0.02026	NA	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	0	0.024	0.02400	0.02400	0.00512	22.8	228	72.099931	0.00022	0.00002	0.00007
2,3,4,6-Tetrachlorophenol	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
2-Acetylaminofluorene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	0	45	45.00000	45.00000	9.59720	NA	NA	NA	NA	NA	NA
3-Methylcholanthrene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Aramite	0	1.7	1.70000	1.70000	0.36256	NA	NA	NA	NA	NA	NA
Diallate	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Dinoseb (2-sec-butyl-4,6-Dinitroph	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Hexachlorophene	0	5.3	5.30000	5.30000	1.13034	NA	NA	NA	NA	NA	NA
Hexachloropropene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Isosafrole	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
p-Dimethylaminoazobenzene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Pentachlorobenzene	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA
Pronamide	0	8.7	8.70000	8.70000	1.85546	NA	NA	NA	NA	NA	NA

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APPENDIX J.5

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - DOUBLE-CRESTED CORMORANT
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Double-Crested Cormorant Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Fish Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Antimony	0	0.71	0.7118	0.03608	4740	47400	14989.196	0.00001	0.00000	0.00000
Arsenic	0	12	1.5208	0.07708	2.46	7.38	4.261	0.03133	0.01044	0.01809
Barium	0	33	33.8835	1.71738	20.8	41.7	29.451	0.08257	0.04118	0.05831
Beryllium	0	0.12	0.1200	0.00608	NA	NA	NA	NA	NA	NA
Cadmium	0	1.3	0.2132	0.01081	1.45	20	5.385	0.00745	0.00054	0.00201
Chromium	0	19	0.7292	0.03696	1	5	2.236	0.03696	0.00739	0.01653
Cobalt	0	7.3	7.5280	0.38156	1.47	14.7	4.649	0.25956	0.02596	0.08208
Copper	0	59	7.3500	0.37253	47	61.7	53.851	0.00793	0.00604	0.00692
Lead	0	25	1.8040	0.09144	1.13	11.3	3.573	0.08092	0.00809	0.02559
Mercury	0	0.42	1.9236	0.09750	0.0064	0.064	0.020	15.23399	1.52340	4.81741
Nickel	0	7.1	7.1880	0.36432	77.4	107	91.004	0.00471	0.00340	0.00400
Selenium	0	0.78	1.5600	0.07907	0.4	0.8	0.566	0.19767	0.09884	0.13977
Silver	0	0.36	0.3714	0.01882	178	1780	562.885	0.00011	0.00001	0.00003
Thallium	0	0.23	0.2453	0.01243	0.35	3.5	1.107	0.03552	0.00355	0.01123
Vanadium	0	73.4	74.4557	3.77378	11.4	114	36.050	0.33103	0.03310	0.10468
Zinc	0	83.9	25.8573	1.31058	14.5	131	43.583	0.09038	0.01000	0.03007
Aroclor-1016	0	0.12	1.3488	0.06836	0.41	4.1	1.297	0.16674	0.01667	0.05273
Aroclor-1221	0	0.24	2.6976	0.13673	0.41	4.1	1.297	0.33348	0.03335	0.10546
Aroclor-1232	0	0.12	1.3488	0.06836	0.41	4.1	1.297	0.16674	0.01667	0.05273
Aroclor-1242	0	0.12	1.3488	0.06836	0.41	4.1	1.297	0.16674	0.01667	0.05273
Aroclor-1248	0	0.12	1.3488	0.06836	0.18	1.8	0.569	0.37980	0.03798	0.12010
Aroclor-1254	0	0.2	2.2480	0.11394	0.18	1.8	0.569	0.63300	0.06330	0.20017
Aroclor-1260	0	0.15	1.6860	0.08545	0.18	1.8	0.569	0.47475	0.04747	0.15013

APPENDIX J.5

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - DOUBLE-CRESTED CORMORANT
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Double-Crested Cormorant Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Fish Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
1,2,4-Trichlorobenzene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	0	8.7	8.7000	0.44096	250	2500	790.569	0.00176	0.00018	0.00056
1,3-Dichlorobenzene	0	8.7	8.7000	0.44096	250	2500	790.569	0.00176	0.00018	0.00056
1,4-Dichlorobenzene	0	8.7	8.7000	0.44096	250	2500	790.569	0.00176	0.00018	0.00056
2,4,5-Trichlorophenol	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	0	0.032	0.0320	0.00162	22.8	228	72.100	0.00007	0.00001	0.00002
3,3'-Dichlorobenzidine	0	17	17.0000	0.86164	NA	NA	NA	NA	NA	NA
4-Bromophenyphenyl ether	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
4-Chlorophenylphenyl ether	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Acenaphthene	0	0.22	0.2200	0.01115	39.5	395	124.910	0.00028	0.00003	0.00009
Acenaphthylene	0	0.18	0.1800	0.00912	39.5	395	124.910	0.00023	0.00002	0.00007
Anthracene	0	0.54	0.5400	0.02737	22.8	228	72.100	0.00120	0.00012	0.00038
Benzo(a)anthracene	0	1.2	1.2000	0.06082	39.5	395	124.910	0.00154	0.00015	0.00049
Benzo(a)pyrene	0	3.2	3.2000	0.16219	39.5	395	124.910	0.00411	0.00041	0.00130
Benzo(b)fluoranthene	0	5	5.0000	0.25342	39.5	395	124.910	0.00642	0.00064	0.00203
Benzo(g,h,i)perylene	0	1.8	1.8000	0.09123	39.5	395	124.910	0.00231	0.00023	0.00073
Benzo(k)fluoranthene	0	2	2.0000	0.10137	39.5	395	124.910	0.00257	0.00026	0.00081
bis(2-Ethylhexyl)phthalate	0	0.7	0.7000	0.03548	1.1	11	3.479	0.03225	0.00323	0.01020
Butylbenzylphthalate	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Chrysene	0	1.9	1.9000	0.09630	39.5	395	124.910	0.00244	0.00024	0.00077
Dibenz(a,h)anthracene	0	0.58	0.5800	0.02940	39.5	395	124.910	0.00074	0.00007	0.00024
Dibenzofuran	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Diethylphthalate	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	0	0.46	0.4600	0.02332	0.11	1.1	0.348	0.21196	0.02120	0.06703
Di-n-octylphthalate	0	8.7	8.7000	0.44096	50	500	158.114	0.00882	0.00088	0.00279
Fluoranthene	0	2.6	2.6000	0.13178	39.5	395	124.910	0.00334	0.00033	0.00106
Fluorene	0	0.22	0.2200	0.01115	39.5	395	124.910	0.00028	0.00003	0.00009

APPENDIX J.5

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - DOUBLE-CRESTED CORMORANT
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Double-Crested Cormorant Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Fish Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Hexachlorobutadiene	0	8.7	8.7000	0.44096	2.5	8	4.472	0.17638	0.05512	0.09860
Hexachlorobenzene	0	8.7	8.7000	0.44096	0.08	0.8	0.253	5.51199	0.55120	1.74304
Hexachlorocyclopentadiene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Hexachloroethane	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0	2.1	2.1000	0.10644	39.5	395	124.910	0.00269	0.00027	0.00085
Naphthalene	0	0.016	0.0160	0.00081	22.8	228	72.100	0.00004	0.00000	0.00001
N-Nitrosodiphenylamine	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Pentachlorophenol	0	45	45.0000	2.28082	100	200	141.421	0.02281	0.01140	0.01613
Phenanthrene	0	2.4	2.4000	0.12164	39.5	395	124.910	0.00308	0.00031	0.00097
Pyrene	0	2.1	2.1000	0.10644	39.5	395	124.910	0.00269	0.00027	0.00085
1,1,2,2-Tetrachloroethane	0	0.019	0.0190	0.00096	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0	0.019	0.0190	0.00096	NA	NA	NA	NA	NA	NA
Chlorobenzene	0	0.019	0.0190	0.00096	NA	NA	NA	NA	NA	NA
Chloroform	0	0.019	0.0190	0.00096	NA	NA	NA	NA	NA	NA
Ethylbenzene	0	0.00078	0.0028	0.00014	NA	NA	NA	NA	NA	NA
Styrene	0	0.019	0.0269	0.00136	NA	NA	NA	NA	NA	NA
Toluene	0	0.0025	0.0090	0.00046	NA	NA	NA	NA	NA	NA
Trichloroethene	0	0.019	0.0190	0.00096	NA	NA	NA	NA	NA	NA
Xylenes (total)	0	0.038	0.1023	0.00518	40.5	405	128.072	0.00013	0.00001	0.00004
Tin	0	6.4	6.4000	0.32438	6.8	16.9	10.720075	0.04770	0.01919	0.03026
1,1,1,2-Tetrachloroethane	0	0.026	0.0260	0.00132	NA	NA	NA	NA	NA	NA
Pentachloroethane	0	0.095	0.0950	0.00482	NA	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	0	0.024	0.0240	0.00122	22.8	228	72.099931	0.00005	0.00001	0.00002
2,3,4,6-Tetrachlorophenol	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
2-Acetylaminofluorene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	0	45	45.0000	2.28082	NA	NA	NA	NA	NA	NA
3-Methylcholanthrene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA

APPENDIX J.5

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - DOUBLE-CRESTED CORMORANT
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Double-Crested Cormorant Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Fish Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum NOAEL mg/kg/d	Maximum LOAEL mg/kg/d	Maximum MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Aramite	0	1.7	1.7000	0.08616	NA	NA	NA	NA	NA	NA
Diallate	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Dinoseb (2-sec-butyl-4,6-Dinitrophe	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Hexachlorophene	0	5.3	5.3000	0.26863	NA	NA	NA	NA	NA	NA
Hexachloropropene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Isosafrole	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
p-Dimethylaminoazobenzene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Pentachlorobenzene	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA
Pronamide	0	8.7	8.7000	0.44096	NA	NA	NA	NA	NA	NA

Revised: September 22, 2004

APPENDIX J.6

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - WEST INDIAN MANATEE
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

West Indian Manatee Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Aq Plant Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum Adjusted NOAEL mg/kg/d	Maximum Adjusted LOAEL mg/kg/d	Maximum Adjusted MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Antimony	0	0.71	0.14200	0.00404	0.009	0.090	0.029	0.4472	0.0447	0.1414
Arsenic	0	12	13.23600	0.36150	0.009	0.093	0.029	38.7667	3.8767	12.2591
Barium	0	33	4.95000	0.14299	0.271	2.708	0.856	0.5280	0.0528	0.1670
Beryllium	0	0.12	0.00120	0.00007	0.090	0.903	0.285	0.0007	0.0001	0.0002
Cadmium	0	1.3	4.22500	0.11470	0.019	0.187	0.059	6.1502	0.6150	1.9449
Chromium	0	19	0.14250	0.00905	1.797	17.973	5.683	0.0050	0.0005	0.0016
Cobalt	0	7.3	0.14600	0.00595	0.684	6.839	2.163	0.0087	0.0009	0.0027
Copper	0	59	36.87500	1.01412	2.081	2.692	2.367	0.4874	0.3767	0.4285
Lead	0	25	11.70000	0.32348	1.094	10.942	3.460	0.2956	0.0296	0.0935
Mercury	0	0.42	2.10000	0.05695	0.003	0.004	0.003	21.3500	12.8100	16.5377
Nickel	0	7.1	10.01810	0.27307	5.471	10.942	7.737	0.0499	0.0250	0.0353
Selenium	0	0.78	2.34936	0.06380	0.027	0.045	0.035	2.3321	1.4134	1.8156
Silver	0	0.36	0.14400	0.00400	2.476	24.757	7.829	0.0016	0.0002	0.0005
Thallium	0	0.23	0.00092	0.00009	0.010	0.102	0.032	0.0086	0.0009	0.0027
Vanadium	0	73.4	0.40370	0.03099	0.027	0.267	0.084	1.1622	0.1162	0.3675
Zinc	0	83.9	152.69800	4.15557	3.699	36.988	11.697	1.1235	0.1123	0.3553
Aroclor-1016	0	0.12	0.00263	0.00010	0.244	0.610	0.385	0.0004	0.0002	0.0003
Aroclor-1221	0	0.24	0.02239	0.00067	0.012	0.123	0.039	0.0547	0.0055	0.0173
Aroclor-1232	0	0.12	0.01120	0.00034	0.012	0.123	0.039	0.0274	0.0027	0.0087
Aroclor-1242	0	0.12	0.00108	0.00006	0.012	0.123	0.039	0.0051	0.0005	0.0016
Aroclor-1248	0	0.12	0.00101	0.00006	0.003	0.027	0.008	0.0226	0.0023	0.0071
Aroclor-1254	0	0.2	0.00092	0.00008	0.004	0.042	0.013	0.0191	0.0019	0.0060
Aroclor-1260	0	0.15	0.00009	0.00004	0.004	0.042	0.013	0.0104	0.0010	0.0033

APPENDIX J.6

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - WEST INDIAN MANATEE
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

West Indian Manatee Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Aq Plant Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum Adjusted NOAEL mg/kg/d	Maximum Adjusted LOAEL mg/kg/d	Maximum Adjusted MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
1,2,4-Trichlorobenzene	0	8.7	1.62081	0.04624	7.249	14.498	10.252	0.0064	0.0032	0.0045
1,2-Dichlorobenzene	0	8.7	3.50697	0.09729	11.722	117.219	37.068	0.0083	0.0008	0.0026
1,3-Dichlorobenzene	0	8.7	2.79705	0.07808	11.722	117.219	37.068	0.0067	0.0007	0.0021
1,4-Dichlorobenzene	0	8.7	3.55395	0.09856	34.195	68.389	48.358	0.0029	0.0014	0.0020
2,4,5-Trichlorophenol	0	8.7	1.87659	0.05317	10.942	109.423	34.602	0.0049	0.0005	0.0015
2,4,6-Trichlorophenol	0	8.7	2.44818	0.06864	10.942	109.423	34.602	0.0063	0.0006	0.0020
2,4-Dichlorophenol	0	8.7	5.58801	0.15361	60.182	601.824	190.314	0.0026	0.0003	0.0008
2-Chloronaphthalene	0	8.7	1.36329	0.03927	1.850	4.440	2.866	0.0212	0.0088	0.0137
2-Methylnaphthalene	0	0.032	0.00690	0.00020	10.635	106.350	33.631	0.0000	0.0000	0.0000
3,3'-Dichlorobenzidine	0	17	6.16080	0.17138	NA	NA	NA	NA	NA	NA
4-Bromophenyphenyl ether	0	8.7	0.43413	0.01413	NA	NA	NA	NA	NA	NA
4-Chlorophenylphenyl ether	0	8.7	0.46371	0.01493	NA	NA	NA	NA	NA	NA
Acenaphthene	0	0.22	0.04620	0.00131	25.903	259.029	81.912	0.0001	0.0000	0.0000
Acenaphthylene	0	0.18	0.02975	0.00085	25.903	185.021	69.228	0.0000	0.0000	0.0000
Anthracene	0	0.54	0.04903	0.00147	74.008	740.083	234.035	0.0000	0.0000	0.0000
Benzo(a)anthracene	0	1.2	0.02364	0.00097	0.074	0.740	0.234	0.0131	0.0013	0.0041
Benzo(a)pyrene	0	3.2	0.03648	0.00186	0.074	0.740	0.234	0.0252	0.0025	0.0080
Benzo(b)fluoranthene	0	5	0.05050	0.00273	0.074	0.740	0.234	0.0369	0.0037	0.0117
Benzo(g,h,i)perylene	0	1.8	0.00936	0.00075	9.843	98.431	31.127	0.0001	0.0000	0.0000
Benzo(k)fluoranthene	0	2	0.02020	0.00109	0.074	0.740	0.234	0.0148	0.0015	0.0047
bis(2-Ethylhexyl)phthalate	0	0.7	0.00161	0.00023	1.354	13.566	4.286	0.0002	0.0000	0.0001
Butylbenzylphthalate	0	8.7	0.53679	0.01691	32.827	328.268	103.807	0.0005	0.0001	0.0002
Chrysene	0	1.9	0.03743	0.00153	0.074	0.740	0.234	0.0207	0.0021	0.0065
Dibenz(a,h)anthracene	0	0.58	0.00307	0.00024	0.074	0.740	0.234	0.0033	0.0003	0.0010
Dibenzofuran	0	8.7	1.25889	0.03645	9.843	98.431	31.127	0.0037	0.0004	0.0012
Diethylphthalate	0	8.7	12.09300	0.32966	339.180	3391.799	1072.581	0.0010	0.0001	0.0003
Di-n-butylphthalate	0	0.46	0.03855	0.00117	40.705	135.657	74.309	0.0000	0.0000	0.0000
Di-n-octylphthalate	0	8.7	0.00696	0.00257	4.070	40.705	12.872	0.0006	0.0001	0.0002
Fluoranthene	0	2.6	0.11050	0.00370	9.251	92.510	29.254	0.0004	0.0000	0.0001
Fluorene	0	0.22	0.03142	0.00091	9.251	92.510	29.254	0.0001	0.0000	0.0000

APPENDIX J.6

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - WEST INDIAN MANATEE
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

West Indian Manatee Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Aq Plant Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum Adjusted NOAEL mg/kg/d	Maximum Adjusted LOAEL mg/kg/d	Maximum Adjusted MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Hexachlorobutadiene	0	8.7	0.55854	0.01749	0.274	2.736	0.865	0.0640	0.0064	0.0202
Hexachlorobenzene	0	8.7	0.13311	0.00598	0.219	2.188	0.692	0.0273	0.0027	0.0086
Hexachlorocyclopentadiene	0	8.7	0.25839	0.00937	1.368	4.103	2.369	0.0069	0.0023	0.0040
Hexachloroethane	0	8.7	1.64256	0.04683	0.001	0.205	0.017	34.2400	0.2283	2.7957
Indeno(1,2,3-cd)pyrene	0	2.1	0.01176	0.00089	0.074	0.740	0.234	0.0121	0.0012	0.0038
Naphthalene	0	0.016	0.00708	0.00020	10.361	103.612	32.765	0.0000	0.0000	0.0000
N-Nitrosodiphenylamine	0	8.7	5.02425	0.13836	20.517	205.167	64.880	0.0067	0.0007	0.0021
Pentachlorophenol	0	45	1.99350	0.06625	0.410	4.103	1.298	0.1615	0.0161	0.0511
Phenanthrene	0	2.4	0.21792	0.00655	9.843	98.431	31.127	0.0007	0.0001	0.0002
Pyrene	0	2.1	0.09051	0.00302	9.843	98.431	31.127	0.0003	0.0000	0.0001
1,1,2,2-Tetrachloroethane	0	0.019	0.03057	0.00083	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0	0.019	0.01944	0.00053	2.188	21.885	6.920	0.0002	0.0000	0.0001
Chlorobenzene	0	0.019	0.01636	0.00045	0.915	1.830	1.294	0.0005	0.0002	0.0003
Chloroform	0	0.019	0.05715	0.00155	2.052	5.608	3.392	0.0008	0.0003	0.0005
Ethylbenzene	0	0.00078	0.00046	0.00001	13.281	132.812	41.999	0.0000	0.0000	0.0000
Styrene	0	0.019	0.01470	0.00040	4.787	47.872	15.139	0.0001	0.0000	0.0000
Toluene	0	0.0025	0.00249	0.00007	1.924	19.242	6.085	0.0000	0.0000	0.0000
Trichloroethene	0	0.019	0.01997	0.00055	0.052	0.518	0.164	0.0105	0.0011	0.0033
Xylenes (total)	0	0.038	0.02284	0.00063	0.155	0.192	0.173	0.0040	0.0033	0.0036
Tin	0	6.4	6.40000	0.17496	1.732	2.590	2.118	0.1010	0.0675	0.0826
1,1,1,2-Tetrachloroethane	0	0.026	0.03040	0.00083	1.710	17.097	5.407	0.0005	0.0000	0.0002
Pentachloroethane	0	0.095	0.06267	0.00172	NA	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	0	8.7	0.70122	0.02136	0.005	0.047	0.015	4.5923	0.4592	1.4522
1-Methylnaphthalene	0	0.024	0.00539	0.00015	10.635	106.350	33.631	0.0000	0.0000	0.0000
2,3,4,6-Tetrachlorophenol	0	8.7	0.91437	0.02712	27.356	273.556	86.506	0.0010	0.0001	0.0003
2-Acetylaminofluorene	0	8.7	5.29830	0.14577	NA	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	0	45	49.22550	1.34455	NA	NA	NA	NA	NA	NA
3-Methylcholanthrene	0	8.7	0.06525	0.00414	NA	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	0	8.7	0.05046	0.00374	NA	NA	NA	NA	NA	NA

APPENDIX J.6

MAXIMUM PREY ITEM CONCENTRATIONS AND MAXIMUM DOSE VALUES - WEST INDIAN MANATEE
SWMU 45 - AREA OUTSIDE BUILDING 38 (THE FORMER POWER PLANT)
SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT AND STEP 3A OF THE BASELINE ECOLOGICAL RISK ASSESSMENT
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

West Indian Manatee Chemical	Maximum Drinking Water Concentration mg/L	Maximum Sediment Concentration mg/kg dw	Maximum Aq Plant Concentration mg/kg dw	Maximum Dose mg/kg/d	Maximum Adjusted NOAEL mg/kg/d	Maximum Adjusted LOAEL mg/kg/d	Maximum Adjusted MATC mg/kg/d	Maximum HQ NOAEL	Maximum HQ LOAEL	Maximum HQ MATC
Aramite	0	1.7	0.10778	0.00338	NA	NA	NA	NA	NA	NA
Diallate	0	8.7	0.85608	0.02555	NA	NA	NA	NA	NA	NA
Dinoseb (2-sec-butyl-4,6-Dinitrophe	0	8.7	2.48124	0.06953	0.014	0.137	0.043	5.0835	0.5083	1.6075
Hexachlorophene	0	5.3	0.00901	0.00169	0.766	7.660	2.422	0.0022	0.0002	0.0007
Hexachloropropene	0	8.7	0.99093	0.02920	NA	NA	NA	NA	NA	NA
Isosafrole	0	8.7	3.79929	0.10520	NA	NA	NA	NA	NA	NA
p-Dimethylaminoazobenzene	0	8.7	0.75864	0.02291	NA	NA	NA	NA	NA	NA
Pentachlorobenzene	0	8.7	0.30711	0.01069	0.992	9.916	3.136	0.0108	0.0011	0.0034
Pronamide	0	8.7	3.15288	0.08771	2.052	20.517	6.488	0.0427	0.0043	0.0135