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Draft

RCRA Facility Investigation Report for Phase I Investigations at Operable Units 1, 6, and 7 Naval Station Roosevelt Roads Ceiba, Puerto Rico

Appendices - Volume II of II

Prepared For:

Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia

Under the

LANTDIV CLEAN Program

Comprehensive Long-Term Environmental Action Navy

APPENDICES

A	Chain-of-Custody Forms
B	Boring Logs
C	Summary of Analytical Results
D	Slug Test Data Results
E	Toxicological Profiles
F	Human Health Risk Calculations

APPENDIX A
CHAIN-OF-CUSTODY FORMS

WESTON Analytics Use Only

2770

Custody Transfer Record/Lab Work Request

WESTON MANAGERS' DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/1/95
Work Order #: 62470-277
Project Contact/Phone #: C. BOES 412-269-6020
AD Project Manager: CHRIS BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC							INORG	
VOA	BNA	Pest/PCB	Herb	ASBS TCB			Metal	CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													
	3SD01			S	10/29	0820					X									
	3SD05				10/27	1455					X									
	3SD02				10/29	1110					X									
	3SD03				10/29	1120					X									
	3SD07				10/27	1715					X									
	7SD01				10/27	1030					X									
	3SD08				10/28	1325					X									
	3SD04				10/27						X									
	3SD01D				10/29	820					X									
	~~7SD01~~ 7SD04				10/27	1140					X									

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX AIR BILL # 400-8234-9816

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Chris Boes		11/1/95	1140				

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

277Ø16

Custody Transfer Record/Lab Work Request

WESTON

Client: BEI
Est. Final Proj. Sampling Date: 11/1/95
Work Order #: 62470-277
Project Contact/Phone #:
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb, Asbestos; INORG: Metal, CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Asbestos	WESTON Analytics Use Only
	1SDØ2			S	10/30	1650	X	
	3SDØ9				10/28	1240	X	
	1SDØ1				10/30	1580	X	
	3SDØ1				10/27	1710	X	
	1SDØ3				10/30	1630	X	
	3SD11				10/28	1415	X	
	2SDØ3				10/30	1230	X	
	2SDØ3D				10/30	1230	X	
	3SDØ6				10/27	1705	X	
	7SDØ3				10/27	1115	X	

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FEDEX AIRBILL #400-8234-9816

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Chris Bosco		11/1/95	1140

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BEI
Est. Final Proj. Sampling Date:
Work Order #: 62470-277
Project Contact/Phone #: C. Boes 412-269-6020
AD Project Manager: CHRIS BOES
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb, ASBESTOS; INORG: Metal, CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	ASBESTOS			Metal	CN
	3SD13			S	10/28	1510					X				
	2SDØ2				10/30	1225					X				
	7SDØ2				10/27	1050					X				
	2SDØ1				10/31	1220					X				
	3SD15				10/28	1545					X				
	3SD14				10/28	1530					X				
	3SD12			S	10/28	1445					X				
											X				
											X				
											X				

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FEDEX AIRBILL #4008234 9816

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Chris Boes		11/1/95	1140

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS CONSULTANTS

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 10/2/95
Work Order #: 62470-777
Project Contact/Phone #:
AD Project Manager:
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #																	
#/Type Container	Liquid																
	Solid																
Volume	Liquid																
	Solid																
Preservatives																	
ANALYSES REQUESTED →		ORGANIC				OPPEST			INORG		SULFIDE						
		VOA	BNA	Pest/PCB	Herb				Metal	CN							
		WESTON Analytics Use Only															

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	OPPEST			Metal	CN	SULFIDE				
✓	13SD01			S	10/24/95	1600	X	X	X	X				X	X	X				
✓	13SD02			S	10/24	1615	X	X	X	X				X	X	X				
✓	13SD03			S		1730	X	X	X	X				X	X	X				
✓	13SD04			S		1700	X	X	X	X				X	X	X				
✓	13SD05			S		1740	X	X	X	X				X	X	X				
✓	~~13SS04~~ 13SS05			S		1742	X	X	X	X				X	X	X				
✓	13SS06			S		1745	X	X	X	X				X	X	X				
✓	13SS07			S		1744	X	X	X	X				X	X	X				
✓	13SS08			S		1740	X	X	X	X				X	X	X				
✓	13SS09			S	10/24/95	1746	X	X	X	X				X	X	X				

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
SAMPLES TO BE ANALYZED FOR APPENDIX IX COMPOUND LIST

FED EX AIR BILL # 400-8234-9971

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
Chris Boro		10/25/95	1340

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client BEI
Est. Final Proj. Sampling Date 10/2/95
Work Order # 62470-277
Project Contact/Phone # 412-269-6044
AD Project Manager C.D. Boes
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	OP Pest			INORG Metal	CN	Sulfide					
							WESTON Analytics Use Only														
✓	1355Ø7D			S	10/2/95	1440	X	X	X	X	X			X	X	X					
✓	2555Ø1				10/2/95	0900	X	X	X	X	X			X	X	X					
✓	2555Ø2				10/2/95	0955	X	X	X	X	X			X	X	X					
✓	2555Ø3				10/2/95	1010	X	X	X	X	X			X	X	X					
✓	2555Ø4					1030	X	X	X	X	X			X	X	X					
✓	2555Ø4D	X	X			1030	X	X	X	X	X			X	X	X					
✓	2555Ø5					1038	X	X	X	X	X			X	X	X					
✓	2555Ø6					1035	X	X	X	X	X			X	X	X					
✓	2555Ø7					1040	X	X	X	X	X			X	X	X					
✓	2555Ø8					1050	X	X	X	X	X			X	X	X					

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
SAMPLES TO BE ANALYZED FOR APPENDIX IX COMPOUNDS

FEDEX AIR BILL # 400-8234-9971

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
Chris Boes		10/25/95	1340

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

COOLER 1 OF 1

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS CONSULTANTS

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 10CB 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: 412-269-6044
AD Project Manager: C. BOSS
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	DIOXIN	TPH GAS	TPH DIESEL	INORG Metal	CN	ARSENIC
	13SS01			S	10/24/95	1630										X
	13SS02					1625										X
	13SS03					1635										X
	13SS04					1640										X
	23SS01					1410	X	X				X	X			
	23SS02					1405	X	X				X	X			
	24SS01					1430	X	X				X	X			
	13SD01					1600					X					
	13SD02					1615					X					
	13SD03					1630					X					

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX AIR BILL # 400-8234-9901

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
Chris Boss		10/25/95	1437

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

Cooler 2 1 of 1

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: JOHN ANDY 412/269-6044
AD Project Manager: C BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC							INORG	
VOA	BNA	Pest/PCB	Herb	DIOXIN			Metal	CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	DIOXIN
	13SD04			S	10/24/95	1700	X
	13SD05					1746	X
	13SS05					1742	X
	13SS06					1745	X
	13SS08					1740	X
	13SS07					1744	X
	13SS07D					1744	X
	13SS09					1746	X
	25SS01				10/25	0950	X
	25SD01				10/25	1000	X

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX
AIR BILL # 400-8234-9901

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
Chris Boes		10/25/95	1437

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

277Ø[redacted]2 COOLER 1 OF 1

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: JOHN ANDY (412) 269-6044
AD Project Manager: C. BOES
QC: [redacted] TAT: [redacted]
Date Rec'd: [redacted] Date Due: [redacted]
Account #: [redacted]

Refrigerator #																	
#/Type Container	Liquid																
	Solid																
Volume	Liquid																
	Solid																
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	DIOX 2			Metal	CN							

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													
S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids L - EP/TCLP Leachate WI - Wipe X - Other F - Fish		2555Ø2				10/29/95	1055					X									
		2555Ø3					1010					X									
		2555Ø4	X	X			1030					X									
		~~2555Ø4~~ 2555Ø4D					1030					X									
		2555Ø5					1038					X									
		2555Ø6					1035					X									
		2555Ø7					1040					X									
		2555Ø9					1055					X									
		2555Ø8					1050					X									
		~~2455Ø1~~				~~10/24~~	~~1430~~	~~X~~		CDB 10/25											

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX AIRBILL # 400-8234-9901

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Chris Boes		10/25/95	1437				

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

2779[redacted]3 COOLER 1 OF 1

Custody Transfer Record/Lab Work Request

WESTON MANAGERS/DESIGNERS/CONSULTANTS

Page 1 of 1

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: JOHN ANDY 412-269-6044
AD Project Manager: CBOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC: VOA	BNA	Pest/PCB	Herb	OP PEST			INORG: Metal	CN	SULFIDE					
							WESTON Analytics Use Only														
✓	ACSSØ1			S	10/25/95	1720	X	X	X	X				X	X	X					
✓	ACSSØ2					1730	X	X	X	X				X	X	X					
✓	ACSSØ3					1745	X	X	X	X				X	X	X					
✓	C9 ~~ACSSØ4~~ 30SSØ3					1325	X	X	X	X				X	X	X					
✓	30SSØ4					1305	X	X	X	X				X	X	X					
✓	25SSØ9				10/25/95	1055	X	X	X	X				X	X	X					
✓	25SDØ1			S	10/25/95	1000	X	X	X	X				X	X	X					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

SAMPLES ANALYZED FOR APPENDIX IX LIST

DIOXIN SAMPLES SHIPPED TO LYONVILLE PA

FEDEX AIR BILL 400-8234-9956

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
		10/26 ?	

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

COOLER 2

WESTON

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: C. BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC: VOA	BNA	Pest/PCB	Herb	DIOXIN	TPH GAS	TPH DIESEL	INORG: Metal	CN
	2655Ø5			S	10/28	1542					X				
	2655Ø4D	X	X		10/29	1544					X				
	2655Ø4				10/29	1544					X				
	2655Ø3				10/29	1540					X				
	2655Ø2				10/29	1550					X				
	2655Ø1				10/29	1548					X				
	315BØ1-02				10/29	1030	~~X~~ CDB ~~X~~				X	X	X		
	315BØ1-00					0930					X	X	X		
	315BØ2-03					1330					X	X	X		
	315BØ2-00			S		1155					X	X	X		

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

FED EX AIR BILL # 400-8234-9923

Relinquished by	Received by	Date	Time
Chris Boes		10/30/95	1033

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

WESTON Analytics Use Only

LIONVILLE, PA 277010 COOLER 2

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client BEI
Est. Final Proj. Sampling Date 11/2/95
Work Order # 62470-277
Project Contact/Phone # J. ANDY 412-269-6044
AD Project Manager C. BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	~~Pest~~ PCB	Herb	DIOXIN	TPH GAS	TPH DIESEL	Metal	CN	TOC	8330
	315B03-04			S	10/29	1550					X	X	X				
	315B03-00					1500					X	X	X				
	315B04-02					1700					X	X	X				
	315B04-00				10/29	1615					X	X	X				
	46SB01-06				10/27	1530					X						
	46SB02-03				10/27	1600					X						
	7SD01			S	10/29	1656										X	X
	ACWS01			WIPE	10/28	1530			X								
	ACWS02			WIPE	10/28	1535			X								
	ACWS03			WIPE	10/28	1540			X								

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FEDEX AIRBILL# 400-8234-9923

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
Chris Boes		10/30/95	1033

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

WESTON Analytics Use Only

LIONVILLE, PA. 277[redacted] COOLER 2

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS CONSULTANTS

Client BEI
Est. Final Proj. Sampling Date 11/2/95
Work Order # 62470-277
Project Contact/Phone # J. ANDY 412-269-6044
AD Project Manager C. BOSS
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
Wi - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	~~Pest~~/PCB	Herb	INORG Metal	CN
	ACWS04			WIPE	10/28	1545						
	ACWS05			WIPE	10/28	1547						
	RB01			WI	10/29	1710	X	X			X	X
	ACWS06			WIPE	10/28	1549			X			
	ACWS07					1544			X			
	ACWS08					1600			X			
	ACWS09					1605			X			
	ACWI0			WIPE	10/28	1608			X			

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AIR BILL No. 400-8234-9923

DATE/REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Relinquished by	Received by	Date	Time
Chris Boss		10/30/95	1033

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY / 412-269-6044
AD Project Manager: C. BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	OP PEST			INORG Metal	CN	SULFIDE					
							WESTON Analytics Use Only														
✓	3SD01	✓	✓	SE	10/29	0820	X	X	X	X	X			X	X	X					
✓	3SD02			SE	10/29	1110	X	X	X	X	X			X	X	X					
✓	3SD01D			SE	10/29	0820	X	X	X	X	X			X	X	X					
✓	3SD03				↓	1120	X	X	X	X	X			X	X	X					
✓	3SD04				10/27	1645	X	X	X	X	X			X	X	X					
✓	3SD05					1655	X	X	X	X	X			X	X	X					
✓	3SD06					1705	X	X	X	X	X			X	X	X					
✓	3SD07				↓	1715	X	X	X	X	X			X	X	X					
✓	3SD08				10/28	1325	X	X	X	X	X			X	X	X					
✓	3SD09			↓	↓	1340	X	X	X	X	X			X	X	X					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DIOXIN, TOC & EXPLOSIVES SENT TO LIONVILLE LAB

AIRBILL # 400-9234-9934

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
K. Thomas		10/30/95	1130

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY / 412-269-6044
AD Project Manager: C. BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb	PPEST			Metal	CN	SULFIDE					
		WESTON Analytics Use Only														

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	PPEST			Metal	CN	SULFIDE					
/	35D10			SE	10/26	1310	X	X	X	X	X			X	X	X					
/	35D11					1415	X	X	X	X	X			X	X	X					
	35D12					1445	X	X	X	X	X			X	X	X					
	35D13					1510	X	X	X	X	X			X	X	X					
	35D14					1530	X	X	X	X	X			X	X	X					
	35D15					1545	X	X	X	X	X			X	X	X					
	2655Ø1			S	10/29	1548	X	X	X	X	X			X	X	X					
	2655Ø2			S		1550	X	X	X	X	X			X	X	X					
	2655Ø3			S		1540	X	X	X	X	X			X	X	X					
	2655Ø4	✓	✓	S		1544	X	X	X	X	X			X	X	X					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DIOXIN, TOC & EXPLOSIVES SENT TO LIONVILLE LAB

AIRBILL # 400-8234-9934

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
R. Thomas		10/30/95	1130				

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY / 412-269-6044
AD Project Manager: C. BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC: VOA	BNA	Pest/PCB	Herb	OP PEST			INORG: Metal	CN	SULFIDE					
							WESTON Analytics Use Only														
✓	26SS04D			S	10/29	1544	X	X	X	X	X			X	X	X					
✓	26SS05			↓	10/28	1542	X	X	X	X	X			X	X	X					
✓	31SB01-02			S	10/29	1030	X	X	X	X	X			X	X	X					
✓	31SB01-00					0930	X	X	X	X	X			X	X	X					
	31SB02-03					1330	X	X	X	X	X			X	X	X					
✓	31SB02-00					1155	X	X	X	X	X			X	X	X					
✓	31SB03-04					1550	X	X	X	X	X			X	X	X					
✓	31SB03-00					1500	X	X	X	X	X			X	X	X					
✓	31SB04-02					1700	X	X	X	X	X			X	X	X					
✓	31SB04-00			↓	↓	1615	X	X	X	X	X			X	X	X					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
DIOXIN, TOC, & EXPLOSIVES SENT TO LIONVILLE LAB

AIRBILL # 400-8234-9934

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
R. Thomas		10/30/95	1130

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

2TTW11

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-777
Project Contact/Phone #: J. ANDY / 412-269-6044
AD Project Manager: C. BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC							INORG		
VOA	BNA	Pest/PCB	Herb	OP PEST			Metal	CN	SULF DES

WESTON Analytics Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	OP PEST			Metal	CN	SULF DES					
	46-SB01-06			S	10/27	1530	X	X	X	X	X			X	X	X					
	46-SB02-03			S	10/26	1600	X	X	X	X	X			X	X	X					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DIOXIN, TOC & EXPLOSIVES SENT TO LIONVILLE LAB

AIRBILL # 400-8234-9934

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
K. Thomas		10/30/95	1130

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

Cooler 1 of 2

WESTON MANAGERS/DESIGNERS/CONSULTANTS

Page 1 of 34

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: JOHN ANDY 412-269-6044
AD Project Manager: C BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb, PCB; INORG: Metal, CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	PCB			Metal	CN						
	5155Ø1			S	10/26/95	0950	X	X													
	5155Ø2					0945	X	X													
	5155Ø3					0955	X	X													
	5155Ø4					1000	X	X													
	~~56~~ 5155Ø5					0942	X	X													
	3755Ø1					1105	X	X			X										
	~~35~~ 3755Ø2					1107	X	X			X										
	3755Ø3					1109	X	X			X										
	3755Ø4				10/26	1120	X	X			X										
	3055Ø1			S	10/25	1340	X	X						X							

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX AIR BILL #400-8235-0015

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
Chris Boes		10/26/95	1414

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

277ØØ4

COOLER 1 of 2

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BEI
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: C. BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	PCB			INORG Metal	CN						
	30SSØ2			S	10/25	1385	X	X						X							
	30SSØ5					1315	X	X						X							
	30SSØ6					1330	X	X						X							
	39SSØ1					1505	X	X						X							
	~~35~~ 39SSØ2					1510								X							
	ACSSØ5					1740	X	X			X			X							
	ACSSØ6					1747	X	X			X			X							
	ACSSØ7					1750	X	X			X			X							
	ACSSØ9					1755	X	X			X			X							
	ACSSØSD					1740															

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX AIR BILL #400-8235-0015

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
Chris Boes		10/26/95	1414

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

COOLER 1 of 2

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: C BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC: VOA	BNA	Pest/PCB	Herb	DIOXIN	PCB	INORG: Metal	CN
	ACSSØ1			S	10/25	1720					X			
	ACSSØ2					1730					X			
	ACSSØ3					1745					X			
	30SSØ4					1305					X			
	30SSØ3			S		1325					X			
	1ØHPØ1			W	10/25	1045	X							
	1ØHPØ2			W	10/25	1030	X							
	1ØHPØ3	✓	✓	W	10/26	0945	X	X				X		
	1ØHPØ3D			W	10/26	0945	X	X				X		

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AIR BILL BILL #400-8235-0015

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
Chris Boes		10/26/95	1507

Relinquished by	Received by	Date	Time

WESTON Analytics Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

2 +ØØ4

COOLER 2 OF 2

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS' DESIGNERS/CONSULTANTS

Client BAKER
Est. Final Proj. Sampling Date 11/2/95
Work Order # 62470-277
Project Contact/Phone # J. ANDY 412-269-6044
AD Project Manager C BOES
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	~~Pest~~/PCB	Herb				Metal	CN						

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													
	AC SSØ4			S	11/2/95	1735	X	X	X					X						
	ACSSØ9					1750	X	X	X					X						
	ACSS11					1805	X	X	X					X						
	AGSS10					1800	X	X	X					X						

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FEDEX AIR BILL #400-8235-0015

DATE/REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Chris Boes			1530				

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: C. BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	DIOX N			INORG Metal	CN						
	465501			S	9/26/95	1415					X										
	465502					1430					X										
	465503					1440	X	X	X					X							
	465504					1445	X	X	X					X							
	465505					1450	X	X	X					X							
	465506					1505	X	X	X					X							
	465507					1508	X	X	X					X							
	465507D					1508	X	X	X					X							
	465508	X	X			1525	X	X	X					X							
	465509					1530	X	X	X					X							

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX AIR BILL # 400-8235-0026

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
CHRIS T.		10/26	1610

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

2-7-95

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client BEI
Est. Final Proj. Sampling Date 11/2/95
Work Order # 62470-277
Project Contact/Phone # J ANDY 412 269 6044
AD Project Manager C ROES
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	~~Pest~~/PCB	Herb				Metal	CN						

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only												
S - Soil		ACSS12.			S	9/26/95	1405	X	X	X					X					
SE - Sediment																				
SO - Solid																				
SL - Sludge																				
W - Water																				
O - Oil																				
A - Air																				
DS - Drum Solids																				
DL - Drum Liquids																				
L - EP/TCLP Leachate																				
WI - Wipe																				
X - Other																				
F - Fish																				

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AIR BILL # 400-8235-0026

DATE/REVISIONS:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
C Roes		10/26	1610				

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

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Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: JANDY 412-269-6044
AD Project Manager: C BOES
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #																	
#/Type Container	Liquid																
	Solid																
Volume	Liquid																
	Solid																
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	OP Pest			Metal	CN	SULFIDE						

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	OP Pest			Metal	CN	SULFIDE					
							WESTON Analytics Use Only														
✓	46550Ø1			S	10/26	1415	X	X	X	X	X			X	X	X					
✓	46550Ø2					1430	X	X	X	X	X			X	X	X					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

SAMPLES APPENDIX IX LIST

DIOXINS SENT TO LYONVILLE LAB

AIR BILL #400-8234 9956

DATE/REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Chris Boes		10/26	1620				

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY/412-269-6044
AD Project Manager: C. BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

	ORGANIC							INORG	
	VOA	BNA	Pest/PCB	Herb	PCB	DIOXIN		Metal	CN

WESTON Analytics Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	PCB	DIOXIN		Metal	CN
	32SBØ1			S	10/26/95	1500	X	X			X			X	
	32SBØ2			↓	↓	1530	X	X			X			X	
	32SBØ3				10/27/95	1140	X	X			X			X	
	32SBØ4			↓	↓	1010	X	X			X			X	
	32SSØ1			S	10/26/95	1635	X	X			X			X	
	32SSØ2			↓	↓	1637	X	X			X			X	
	32SSØ3					1645	X	X			X			X	
	32SSØ4			↓	↓	1650	X	X			X			X	
	7SDØ1			SE	10/27/95	1030						X			
	7SDØ2			↓	10/27/95	1050						X			

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AIR BILL # 400-8234-9912

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
C. Boes		10/27/95	1518

Relinquished by	Received by	Date	Time

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY / 412-269-6044
AD Project Manager: C BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC							INORG	
VOA	BNA	Pest/PCB	Herb	Dioxin			Metal	CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Dioxin	CN
	7SD03			SE	10/27	1115	X	
	7SD04			SE	10/27	1140	X	

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

AIRBILL # 400-8234-9912

Relinquished by	Received by	Date	Time
Chris Boes		10/27/95	1518

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

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Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: JANDI 412 269 6044
AD Project Manager: CBOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	EXPLOS	TOC	OP PEST	INORG Metal	CN	SULFIDE
								WESTON Analytics Use Only									
S - Soil		75D01			S	10/27/95	1030	X	X	X	X	X	X	X	X	X	X
SE - Sediment		75D02					1050	X	X	X	X	X	X	X	X	X	X
SO - Solid		75D03					1115	X	X	X	X	X	X	X	X	X	X
SL - Sludge		75D04			S		1140	X	X	X	X	X	X	X	X	X	X
W - Water																	
O - Oil																	
A - Air																	
DS - Drum Solids																	
DL - Drum Liquids																	
L - EP/TCLP Leachate																	
Wi - Wipe																	
X - Other																	
F - Fish																	

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
ALL SAMPLES APPENDIX IX
DIOXINS SENT TO LIONIVILLE LAB

FED EX AIR BILL #

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
Chris Boes		10/27/95	1539

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

LIONVILLE, PA.

COOLER 1 OF

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY / 412-269-6044
AD Project Manager: C. BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC: VOA	BNA	Pest/PCB	Herb	PCB	8330	TOC	INORG: Metal	CN	DIOXIN
	11SD01			S	10/28	1130	X	X			X			X	X	
	11SD02					1140	X	X			X			X	X	
	11SD03					1150	X	X			X			X	X	
	3SD01				10/29	0820						X	X			X
	3SD01D	X	X			0820						X	X			X
	3SD02					1110						X	X			X
	3SD03				10/29	1120						X	X			X
	3SD04				10/27	1645						X	X			X
	3SD05					1655						X	X			X
	3SD06			S		1705						X	X			X

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX AIR BILL # 400-8234-9923

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
Chris Boes		10/30/95	0900

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

LIONVILLE, PA. L1 1994T

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

COOLER 1

WESTON MANAGERS DESIGNERS CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date: 11/2/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: C. BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC							INORG		
VOA	BNA	Pest/PCB	Herb		8330	TOC	Metal	CN	DIOXIN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	8330	TOC	DIOXIN
	3SD07			S	6/28	1715	X	X	X
	3SD08				6/28	1325	X	X	X
	3SD09				6/28	1340	X	X	X
	3SD10				6/28	1710	X	X	X
	3SD11				6/28	1415	X	X	X
	3SD12					1445	X	X	X
	3SD13					1510	X	X	X
	3SD14					1538	X	X	X
	3SD15					1545	X	X	X

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

FED EX. AIR BILL # 400-8234-9923

Relinquished by	Received by	Date	Time
Chris Boes		10/30/95	0913

Relinquished by	Received by	Date	Time

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

277 [redacted] 12

Custody Transfer Record/Lab Work Request

COOLER 1/1

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENV.
Est. Final Proj. Sampling Date 11/1/95
Work Order # 62470-277
Project Contact/Phone # J. ANDY 412-269-6044
AD Project Manager C. BOES
QC _____ Del _____ TAT _____
Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	8P PEST			INORG Metal	CN	SULFIDE					
							WESTON Analytics Use Only														
✓	FB01			W	10/31	0945	X	X	X	X	X			X	X	X					
✓	1SD01			S	10/30	1530	X	X	X	X	X			X	X	X					
✓	1SD02			S	10/30	1650	X	X	X	X	X			X	X	X					
✓	1SD03			S	10/30	1630	X	X	X	X	X			X	X	X					
✓	31SS01			S	10/31	0900	X	X	X	X	X			X	X	X					
✓	31SS02			S	10/31	0915	X	X	X	X	X			X	X	X					
✓	31SS03			S	10/31	1010	X	X	X	X	X			X	X	X					
✓	31SS04			S	10/31	0940	X	X	X	X	X			X	X	X					
✓	TB05			W			X														

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

ALL SAMPLES APPENDIX IX
DIOXIN, EXPLOSIVES & TOC SENT TO LIONVILLE LAB

FEDEX AIR BILL # 400-8234-9831

DATE/REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Relinquished by	Received by	Date	Time
Chris Boes		10/31/95	1259

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

211912

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

Cooler 1/1

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BEI
Est. Final Proj. Sampling Date: 11/1/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: C. BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #																	
#/Type Container	Liquid																
	Solid																
Volume	Liquid																
	Solid																
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	OP PEST			Metal	CN							

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	OP PEST			Metal	CN						
							WESTON Analytics Use Only														
	ZSDØ1			S	10/31		X	X	X	X	X			X	X						
	ZSDØ2			↓	↓		X	X	X	X	X			X	X						
	ZSDØ3						X	X	X	X	X			X	X						
	ZSDØ3D	X	X	S	10/31		X	X	X	X	X			X	X						

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
ALL SAMPLES APPENDIX IX
DIOXIN, TOC & EXPLOSIVES SENT TO LIONVILLE LAB

FED EX AIR BILL # 400-8234-9831

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
Chris Bobo		10/31/95	1259

Relinquished by	Received by	Date	Time

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

LIONVILLE, PA 277Ø13

Custody Transfer Record/Lab Work Request

COOLER 1/1

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/1/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6020
AD Project Manager: C BOES
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	~~Pest~~ PCB	Herb	DIOXIN	EXPLOSIVES	TOC	INORG Metal	CN	TPH GAS	TPH DIESEL
	RBØ2			W	10/31	0915	X	X	X		X			X	X		
	FBØ1			WI	10/31	0945					X						
	1SDØ3			S	10/30	1630					X	X	X				
	1SDØ2			S	10/30	1650					X	X	X				
	1SDØ1			S	10/30	1530					X	X	X				
	31SSØ1			S	10/31	0900					X					X	X
	31SSØ2			S	10/31	0915					X					X	X
	31SSØ3			S	10/31	1010					X					X	X
	31SSØ4			S	10/31	0940					X					X	X
	46SBØ1-Ø3			S	10/31	1300	X	X	X					X	X		

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

FEDEX AIR BILL # 400-8234-9761

Relinquished by	Received by	Date	Time
Chris Boes		10/31/95	1350

Relinquished by	Received by	Date	Time

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

277013

Custody Transfer Record/Lab Work Request

COOLER 1/1

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client: BEI
Est. Final Proj. Sampling Date: 11/1/95
Work Order #: 62470-277
Project Contact/Phone #: JANDY 412-269-6020
AD Project Manager: C. BOSS
QC: ____ Del: ____ TAT: ____
Date Rec'd: ____ Date Due: ____
Account #: ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	~~Pest~~/PCB	Herb	Dioxin	8330	TOC	INORG Metal	CN
	46SBØ1-Ø3D	X	X	S	10/31	1300	X	X	X					X	X
	46SBØ2-ØS				10/31	1330	X	X	X					X	X
	2SDØ3				10/31	1230					X	X	X		
	2SDØ3D	X	X		10/31	1230					X	X	X		
	2SDØ2				10/31	1225					X	X	X		
	2SDØ1				10/31	1220					X	X	X		
	46WSØ1			WIPE	10/31	1516			X						
	46WSØ2			WIPE	10/31	1521			X						

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FEDEX AIR BILL # 400-8234-9761

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
Chris Boss		10/31/95	1451

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Z[redacted]014

Custody Transfer Record/Lab Work Request

COOLER 1

WESTON MANAGERS/DESIGNERS/CONSULTANTS

Page 1 of 1

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/1/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: CHRIS BOES
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

	ORGANIC							INORG		
	VOA	BNA	Pest/PCB	Herb	OP PEST			Metal	CN	SULFIDE

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	OP PEST			Metal	CN	SULFIDE
							WESTON Analytics Use Only									
✓	1983MW3			W	10/31	1800	X	X	X	X	X			X	X	X
✓	1983DW1			W	10/31	1740	X	X	X	X	X			X	X	X
✓	FB02			W	11/1	1000	X	X	X	X	X			X	X	X
✓	TB07			W			X									
✓	TB08			W			X									

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
ALL SAMPLES APPENDIX IX LIST

DIOXIN SAMPLES SENT TO LIONVILLE LAB

FED EX AIR BILL # 400-8234-9945

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Chris Boes		10/1/95	1016				

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Page ____ of ____

Client: BAKER ENVIRONMENTAL
Est. Final Proj. Sampling Date: 11/1/95
Work Order #: 62470-277
Project Contact/Phone #: J. ANDY 412-269-6044
AD Project Manager: C. BOED
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #																	
#/Type Container	Liquid																
	Solid																
Volume	Liquid																
	Solid																
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	DIOXIN			Metal	CN							
		WESTON Analytics Use Only															

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected														
	FB02			W	11/1/95	1000					X									
	1983DW1				10/31	1740					X									
	1983MW3			W	10/31	1800					X									

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

FED EX. AIR BILL #400-8234-9820

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Chris Boed		11/1/95	1113				

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

277001

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Client: [illegible]
Est. Final Proj. Sampling Date: [illegible]
Work Order: [illegible]
Project Contact/Phone: [illegible]
AD Project Manager: [illegible]
QC: Del: TAT:

Date Rec'd: Date Due:
Account #:

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN						

MATRIX CODES: SO Soil; SE Sediment; SG Solid; SL Sludge; W Water; O Oil; A Air; DS Drum Solid; DL Drum Liquid; T Tedlar; WI Wipe; X Other; Text

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
SAMPLES 9SS01 → 9SS06 & 9MW01-00 THRU 9MW04-00 RCRA METALS
ALL OTHER SAMPLES APP. IX METALS

FEDEX AIR BILL # 400-6250-2226

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Chris Bono		3/21/96	1233				

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

277002 COOLER 2

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of ____

Client: [illegible]
Est. Final Prel. Sampling Date: [illegible]
Work Order: [illegible]
Project Contact/Phone: [illegible]
AD Project Manager: [illegible]
QC: [illegible] Del: [illegible] TAT: [illegible]

Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #															
#/Type Container	Liquid														
	Solid														
Volume	Liquid														
	Solid														
Preservatives															
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb				Metal	CN					

MATRIX CODES: S Soil; SE Sediment; SO Solid; SL Sludge; W Water; O Oil; A Air; DS Drum Solids; DL Drum Liquids; L Leachate/Leachate; WI Wipe; DC Other; C Filter

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only											

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
ALL SAMPLES APP. IX METALS

FEDEX AIR BILL # 400-6250-2226

DATE/REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Relinquished by	Received by	Date	Time
Chris Boes		3/21/96	1404

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

277003 Cooler 3

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page ____ of ____

Client
EPA Employee/ Sampling Date
Work Order
Project Contact/Phone
AD/Project Manager
QC Date PM

Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #	
#/Type Container	Liquid / Solid
Volume	Liquid / Solid
Preservatives	

ANALYSES REQUESTED →

ORGANIC				INORG	
VOA	BNA	Pest/ PCB	Herb	Metal	CN

MATRIX CODES:
SO Soil
SE Sediment
SG Sludge
SL Slurry
W Water
O Oil
A Air
DS Drum Solids
DL Drum Liquids
IL Industrial Liquids
WI Wipes
X Other
Y Acid

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only												

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
COMMENT THE 8oz CONTAINER IS PROVIDED IN EITHER COOLER 1 OR 2 IT SHOULD BE ANALYZED FOR THE SAME PARAMETES AS INDICATED FOR ACB MW01-04.

DATE/REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
[illegible]							

RFW 21-21-001 7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 2

Client
Est. Final Proj. Sampling Date
Work Order #
Project Contact/Phone #
AD Project Manager
QC Del TAT

Date Rec'd Date Due
Account #

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC								INORG						
		VOA	BNA	Pest/PCB	Herb					Metal	CN					
		WESTON Analytics Use Only														
		Dioxin														

MATRIX CODES:
G - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
Wi - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected
	[illegible]					
	[illegible]					
	[illegible]					
	[illegible]					
	[illegible]					
	[illegible]					
	[illegible]					
	[illegible]					
	[illegible]					
	[illegible]					

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AIRBILL # 400-6250-2182.

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # _____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
[illegible]			

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

27 + 29 + cooler 4

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client
Est. Final Prot. Sampling Dat
Work Order #
Project Contact/Phone #
AD Project Manager
QC Del TAT
Date Rec'd Date Due
Account #

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN						
		WESTON Analytics Use Only														
		Dioxin														

MATRIX CODES
SL Soil
SE Sediment
SO Solid
SU Sludge
W Water
O Oil
A Air
DS Drum Solids
DL Drum Liquids
T TER/TCLP Leachate
WI Wipe
OT Other
FI Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected

red labels

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AirBill # 400-6250-2182.

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # _____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 2

Client
Est. Final Proj. Sampling Date
Work Order #
Project Contact/Phone #
AD Project Manager
QC Del

Date Rec'd Date Due
Account #

Refrigerator #																
#/Type Container	liquid															
	solid															
Volume	liquid															
	solid															
Preservatives																
ANALYSES REQUESTED		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN						
		WESTON Analytics Use Only														

MATRIX CODES:
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
FI - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AIR BILL # 400-4072-0971

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Peter A Mondey		3/22	1444

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

277005

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON MANAGERS DESIGNERS/CONSULTANTS

Client
Est. Final Prot. Sampling Date
Work Order #
Project Contact/Phone
AD Project Manager
QC Del TAT

Date Rec'd Date Due
Account #

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC								INORG						
		VOA	BNA	~~Pest/~~ PCB	Herb					Metal	CN					

MATRIX CODES:
S - Soil
SP - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
T - TEP/TCLP Leachate
Wi - Wipe
X - Other
Fi - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

AIR BILL # 400-4072-0971

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Chris Boro		3/22/96	1450

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 596a

WESTON Analytics Use Only

277013 COOLER 7 OF 7

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of

Client: BAT[illegible]
Est. Final Proj. Sampling Date:
Work Order #:
Project Contact/Phone #: D. [illegible]
AD Project Manager: DENISE [illegible]
QC: Del: TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED: ORGANIC: VOA, BNA, Pest/PCB, Herb; SAFE; OP; INORG: Metal, CN; BOD; COD; TOC

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; W - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected 1996	Time Collected	VOA	BNA	Pest/PCB	Herb	SAFE	OP		Metal	CN	BOD	COD	TOC			
	[illegible]													X	X						
	[illegible]													X	X						
	TB [illegible]																				
	[illegible]															X	X	X			

WESTON Analytics Use Only

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # _____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	3/25/96	1600

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

FED-EX AIRBILL # 400-4072-0982

277014

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page ____ of ____

Client: [illegible]
Est. Final Rpt. Sampling Date: [illegible]
Work Order #: [illegible]
Project Contact/Phone #: [illegible]
AD Project Manager: [illegible]
QC ____ Del ____ TAT ____

Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	~~Herb~~				Metal	CN						
		WESTON Analytics Use Only														
					TPH GAS	TPH Diesel	HERB	OP Pest								

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; TL - TCLP Leachate; Wi - Wipe; X - Other; B - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	TPH GAS	TPH Diesel	HERB	OP Pest						
	[illegible]				[illegible]	[illegible]										
	ACBSB01-00				[illegible]	[illegible]										
	ACBSB01-00D				[illegible]	[illegible]										
	FB01				[illegible]	[illegible]										
	FB02				[illegible]	[illegible]										
	FB03				[illegible]	[illegible]										
	ACB SB01-01				[illegible]	[illegible]	X	X	X	X	X	X	X	X	X	
	ACBSB01-02				[illegible]	[illegible]	X	X	X	X	X	X	X	X	X	
	ACBSB02-00				[illegible]	[illegible]	X	X	X	X	X	X	X	X	X	
	ACBSB02-01				[illegible]	[illegible]	X	X	X	X	X	X	X	X	X	

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions: ACB SB02-02

DATE/REVISIONS: 1 | 1/26/96 | 1037 | X | X | X | X | X | X | X | X | X

2. ____
3. ____
4. ____
5. ____
6. ____

NOTE ACBSB02-02 SAME PARAMETERS AS IN ACBSB02-01.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Relinquished by	Received by	Date	Time
Peter [illegible]	[illegible]	1/26/96	

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/ ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 96a

A.R.B. II

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client:
Est. Final Proj. Sampling Date:
Work Order #:
Project Contact/Phone:
Alt. Project Manager:
QC: Del: Ver:

Date Rec'd: Date Due:
Account #:

Refrigerator #																	
#/Type Container	Liquid																
	Solid																
Volume	Liquid																
	Solid																
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb				TCN Metal	CN							
		WESTON Analytics Use Only															
						9/8 Pest	TPH Diesel										

MATRIX CODES: SE Sediment, SO Soil, SL Sludge, W Water, O Oil, A Air, DS Drum Solids, DL Drum Liquids, L Leachate, WI Wipe, X Other, F Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

A.R.O. # 400-4072-1015.

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Debra Mondaiy		3/8/92	1100

Relinquished by	Received by	Date	Time

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page ____ of ____

Client: [illegible]
Est. Final Proj. Sampling Date: [illegible]
Work Order #: [illegible]
Project Contact/Phone #: [illegible]
AD Project Manager: [illegible]
QC ____ Del ____ TAT ____

Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #																		
#/Type Container	Liquid																	
	Solid																	
Volume	Liquid																	
	Solid																	
Preservatives																		
ANALYSES REQUESTED →		ORGANIC								INORG								
		VOA	BNA	Pest/ PCB	Herb					Total Metal	CN							
		WESTON Analytics Use Only																
						Oil Test TPH Diesel												

MATRIX CODES:
SL Soil
SE Sediment
SO Solid
SL Sludge
W Water
O Oil
A Air
DS Drum Solids
DL Drum Liquids
L EPA/CLP Leachate
WI Wipe
X Other
F Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected												

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

A.R.Bill #
400-4072-1015

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

Relinquished by	Received by	Date	Time
[illegible]		3/8/92	1600

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

REV 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# ____ Cooler# ____ 381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of ____

Client: BAKER
Est. Final Proj. Sampling Date: 4/1/96
Work Order #: 62410
Project Contact/Phone #: D. Alex (412) 28[illegible]
AD Project Manager: TOM FURLONG
QC: Del: TAT:

Date Rec'd: _____ Date Due: _____
Account #: _____

Refrigerator #															
#/Type Container	Liquid														
	Solid														
Volume	Liquid														
	Solid														
Preservatives															
ANALYSES REQUESTED →	ORGANIC							INORG							
	VOA	BNA	Pest/PCB	Herb	VOA			Metal	CN						

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EPA/CLP Leachate
Wi - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													
	ACBS[illegible]																			
	ACBS[illegible]																			
	ACBS[illegible]																			
	ACBS[illegible]																			
	ACBS[illegible]				3/26	[illegible]														
	ACBMW[illegible]				3/26	[illegible]														
	ACBMW[illegible]				3/26	[illegible]														
	FB01			W	3/26	0740														
	ACBS[illegible]				3/26	1037														
	ACBS[illegible]				3/26	1025														

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions: FB02

DATE REVISIONS: 0830 X

1. 3/26
2.
3.
4.
5.
6.

FED EX AIR BILL # 400 6250 2171

Relinquished by	Received by	Date	Time
Chris Bogo		3/26/96	1130

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

WESTON Analytics Use Only

277019

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: [redacted]
Est. Final Prod. Sampling Date: [redacted]
Work Order #: [redacted]
Project Contact/Phone: [redacted]
AD Project Manager: [redacted]
QC: [redacted] Del: [redacted]

Date Rec'd _____ Date Due _____
Account # _____

Refrigerator #																
#/Type Container	Liquid															
	Solid															
Volume	Liquid															
	Solid															
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb	[illegible]	[illegible]	[illegible]	Metal	CN	[illegible]	[illegible]				
		WESTON Analytics Use Only														

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquid; TL - TEP/QUP Leachate; Wi - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected 1996	Time Collected														
	[illegible]						X	X	X	X	X	X	X	X	X	X	X			
	[illegible]						X	X	X	X	X	X	X	X	X	X	X			
	[illegible]						X	X	X	X	X	X	X	X	X	X	X			
	[illegible]						X	X	X	X	X	X	X	X	X	X	X			
	[illegible]						X	X	X	X	X	X	X	X	X	X	X			
	[illegible]				3/29	1400	X	X	X	X		X	X	X	X	X	X			
	TB 02			W	3/29	1400	X													

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
DIOXIN SAMPLES IN THIS SHIPMENT, PLEASE SEND TO LIONVILLE, PA. LAB

DATE/REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # _____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
[illegible]	FED-EX	4/1/96	1300

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

FED-EX AIRBI[illegible] # 400-4072 0993

APPENDIX B
BORING LOGS

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN NSRR Puerto Rico
S.O. NO.: 62470.277-0000-09100 BORING NO.: 10-HP-01
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: Geoprobe Roto hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	1 in				10/24/95	14	cloudy 85°	12	1320
LENGTH	2 feet								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DRILL RECORD / VISUAL DESCRIPTION

DEPTH	SOIL / ROCK	Sample ID (Type-No. (N = No Samp.))	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	HNu Bkg / ppm	HNu P.S / Time	Gradation / Classification	Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-01	1.7 85%	–	0.4	0.4	SAND, fine trace medium to fine Gravels	black	– –	dry (weathered bedrock)		
2	2.0						CLAY and SILT, trace trace fine sand. (weathered bedrock)	light brown to Gray		Petroleum odor		
3		S-02	2.0 10%	–	0.4	1.1						
4	4.0											
5		S-03	1.7 85%	–	0.4	2.0						
6	6.0											
7		S-04	N/A*	–	0.4	1.1				* Sample Stuck inside sample sleeve.		
8	8.0											
9		S-05	2.0	–	0.4	0.5						
10	10.0											

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 10-HP-01 Sheet 1 of 2

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN NSRR Puerto Rico
S.O. NO.: 62470-0000-09100 BORING NO.: 10-HP-02
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: Geoprobe Roto hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	1"				10/24/95	8	cloudy 85°	5.5	1225
LENGTH	2 feet								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ------ Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	HNu / ppm	Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		NA					SILT and SAND, fine to very fine	brown		dry		
2												
3												
4												
5										wet at 5.5 ft		
6												
7												
8							END OF BORING 8 ft.					
9												
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 10-HP-02 Sheet 1 of 2

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN [redacted] Puerto Rico
S.O. NO.: 62470-[redacted]-0000-09100 BORING NO.: 10-HP-03
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: [redacted] Roto hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	[redacted]				10/25/95	14 ft	Rain Humid 90°	11 ft	1400
LENGTH	[redacted]								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ------ Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	[redacted] / ppm	[redacted] / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-01	1.0 50%	-	0.2	0.2	2 inches of Roadgravel SAND, fine and SILT trace medium Gravels	brown		dry, few, Rock fragments		
2	2.0											
3		S-02	1.0 50%	-	0.2	0.3						
4	4.0											
5		S-03	2.0 100%	-	0.2	0.2	SAND, fine and SILT trace CLAY	Light brown		damp		
6	6.0											
7	7.0	NA										
8		S-04	2.0 100%		0.2	0.2				trace Rock fragments		
9	9.0											
10	11.0	S-05	2.0 100%		0.2	0.2						

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 10-HP-03 Sheet 1 of 2

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN [redacted] Puerto Rico
S.O. NO.: 624[redacted]0000-09100 BORING NO.: 32-SB-01
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: [redacted] Roto hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	[redacted]				10/27/95	2.3	Hot Humid 85°	N/A	910
LENGTH	[redacted]								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID — Type-No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	[redacted] / ppm	[redacted] / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-01	2.0		0.5	0.5	SAND, fine and SILT, and medium Gravel (Fill material)	brown		dry to damp		
2	20		100%				(* Sample collected 32-SB-01)					
3							END OF Boring 2.3 ft			Refusal at 2.3 ft		
4												
5												
6												
7												
8												
9												
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 32-SB-01 Sheet 1 of 1

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN NSRR Puerto Rico
S.O. NO.: 6247[redacted]0000-09100 BORING NO.: 32-SB-02
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: Geoprobe Roto hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	Tip				10/27/95	2.0	Humid 85°	N/A	9:30
LENGTH	[redacted]								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ------ Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	HNu [redacted] / ppm	HNu [redacted] / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-01	1.5	–	0.5	2.3	SAND, fine and SILT, and medium Gravel (fill material) (*Sample collected S32-SB-02)	brown		dry		
2	2.0		75%							Refusal at 2 feet.		
3							END OF BORING 2.0 ft					
4												
5												
6												
7												
8												
9												
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 32-SB-02 Sheet 1 of 1

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN [redacted] Puerto Rico
S.O. NO.: 6247[redacted]0000-09100 BORING NO.: 32-SB-03
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: [redacted] Roto Hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	[redacted]					10-27-95	Humid 85°	N/A	1115
LENGTH	[redacted]								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ------ Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blow[redacted] Per 0.5' / RQD (Ft. & %)	[redacted] / ppm	[redacted] / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-D1	1.5 75%		0.2	0.2	SAND, fine and SILT, and medium Gravels (fill material) (*Sample collected 32-SB-03)	brown		dry		
2	2.0									*Refusal at 2.0 ft.		
3							END OF Boring 2 ft.					
4												
5												
6												
7												
8												
9												
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 32-SB-03 Sheet 1 of 1

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN [redacted] Puerto Rico
S.O. NO.: 62470[redacted]0000-09100 BORING NO.: 32-SB-04
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: [redacted]	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	[redacted]				10/27/95	4	Humid 85°	N/A	1015
LENGTH	[redacted]								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DEPTH	SOIL / ROCK	Sample ID ----- Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows [redacted] Per 0.5' / RQD (Ft. & %)	[redacted] / ppm	[redacted] / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-01	1.2 60%	–	0.5	2.0	SAND, fine and SILT and medium GRAVEL (fill material)	Brown		dry		
2	2.0											
3		S-02	1.0 50%	–	0.4	0.6						
4	4.0						(*Sample collected 32-SB-04)			*Refusal at 4ft		
5							END OF BORING at 4ft.					
6												
7												
8												
9												
10												

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DRILLER Kevin Shelburne BORING NO. 32-SB-04 Sheet 1 of 1

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN ~~NSRR Puerto Rico~~
S.O. NO.: 6247[redacted]0000-09100 BORING NO.: 46-SB-01
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: ~~Geoprobe Roto hammer~~									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	~~[illegible]~~				10/27/95	11	Humid 85°	N/A	1400
LENGTH	~~2 feet~~								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ----- Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	HNu ~~[illegible]~~ / ppm	HNu ~~P.S.~~ / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1	2	S-01	2.0 100%	–	0.1	0.1	6" fill material (road base) SILT trace CLAY	Lt. brown		dry		
2										Some black staining.		
3	4	S-02	2.0 100%	–	0.2	0.2						
4												
5	6	S-03	2.0 100%	–	0.2	0.2	(* sample collected 46-SB01-03)					
6												
7	8	S-04	2.0 100%	–	0.2	0.2	SILT and CLAY, trace fine SAND, (weathered bedrock)	brown		shell fragments		
8												
9	10	S-05	2.0 100%	–	0.2	0.2						
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 46-SB-01 Sheet 1 of 2

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN NSRR Puerto Rico
S.O. NO.: 62470-0000-09100 BORING NO.: 46-SB-02
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: Geoprobe Roto hammer

	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	1 in				10/27/95	12	Humid 85	N/A	1540
LENGTH	2 feet								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS:

DEPTH	SOIL / ROCK	Sample ID (Type-No. (N = No Samp.))	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	HNu BKG / ppm	HNu PS. / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-01	2.0 100%	-	0.2	0.1	CLAY trace SILT	gray to Red		damp		
2	2											
3		S-02	2.0 100%	-	0.2	0.2						
4	4											
5		S-03	2.0 100%	-	0.2	0.2	(*Sample collected 46-SB02-03)					
6	6											
7		S-04	2.0 100%	-	0.2	0.2						
8	8						SILT and CLAY trace fine SAND	Tan		black staining dry		
9		S-05	2.0 100%	-	0.2	0.2						
10	10											

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 46-SB-02 Sheet 2 of 2

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN NSRR Puerto Rico
S.O. NO.: 62470 0000-09100 BORING NO.: 31-SB-01
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: Geoprobe Roto hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	1 in				10-29-95	6	Clear 85°	N/A	9:25
LENGTH	2 feet								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS: 4 inches of Asphalt at surface

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ------ Type-No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	ppm	Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1	2	S-00	2.0 100%	—	0.2	0.2	(* Sample collected 31-SB01-00) SAND, fine and SILT, trace CLAY, few rock fragments. (fill material)	Tan to Light brown		dry		
3	4	S-01	2.0 100%	✓	0.2	0.2						
5	6	S-02	2.0 100%	✓	0.2	0.1	(* Sample collected 31-SB01-02)					
6										Refusal at 6.5 ft		
7							END OF BORING at 6.5 ft.					
8												
9												
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 31-SB-01 Sheet 1 of 1

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN NSRR Puerto Rico
S.O. NO.: 62470[redacted]0000-09100 BORING NO.: 31-SB-02
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: Geoprobe Roto hammer

	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	1 in				10-28-95	8.3	Clear 85	N/A	1155
LENGTH	2 feet								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS: 4 inches of asphalt

DRILL RECORD / VISUAL DESCRIPTION

DEPTH	SOIL / ROCK	Sample ID ------ Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	[redacted] / ppm	[redacted] / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-00	2.0 100%	–	0.2	0.3	(* Sample collected 31-SB04-00) SAND, fine and SILT trace CLAY, rock fragments (fill material)	brown to Gray		dry		
2	2											
3		S-01	2.0 100%	–	0.1	0.2						
4	4											
5		S-02	2.0 100%	–	0.1	0.1						
6	6											
7		S-03	2.0 100%	–	0.1	0.1	SILT, trace fine SAND, trace (fill material) * (Sample collected 31-SB04-03)	Lt brown		dry		
8	8									Refusal at 8.3 Ft.		
9							END OF BORING 8.3 ft					
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 31-SB-02 Sheet 1 of 1

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN ~~NSRR Puerto Rico~~
S.O. NO.: 624[redacted]0000-09100 BORING NO.: 31-SB-03
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

RIG: ~~Geoprobe Roto hammer~~									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	~~[illegible]~~ Tin				10-29-95	10	Clear 85	N/A	1500
LENGTH	~~2 feet~~								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

REMARKS: 4 to 6 inches of Asphalt.

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ------ Type-No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows Per 0.5' / RQD (Ft. & %)	~~HNu~~ / ppm	~~LIN~~ / Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1	2	S-00	2.0 100%	—	0.1	0.1	(*Sample collected 31-SB03-00) SILT and fine SAND, (fill material)	brown		dry		
3	4	S-01	2.0 100%	-	0.1	0.1		black				
5	6	S-02	2.0 100%	-	0.1	0.1	CLAY trace SILT	Light brown		damp		
7	8	S-03	2.0 100%	-	0.4	0.5	SILT and fine SAND, trace CLAY	brown to DK Brown		damp		
9	10	S-04	1.0 50%	-	0.4	0.4	(*Sample collected 31-SB03-04)			*Refusal at 10 ft		
							END OF BORING AT 10 FT.					

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 31-SB-03 Sheet 1 of 1

FIELD TEST BORING RECORD

Baker
Baker Environmental, Inc

PROJECT: NAVY CLEAN [redacted] Puerto Rico
S.O. NO.: 62470[redacted]-0000-09100 BORING NO.: 31-SB-04
COORDINATES: EAST NORTH:
ELEVATION: SURFACE TOP OF STEEL CASING:

[redacted]: Geoprobe Roto hammer									
	SPLIT SPOON	CASING	AUGERS	CORE BARREL	DATE	PROGRESS (FT)	WEATHER	WATER DEPTH (FT)	TIME
SIZE (DIAM.)	[redacted]								
LENGTH	[redacted]								
TYPE									
HAMMER WT.									
FALL									
STICK UP									

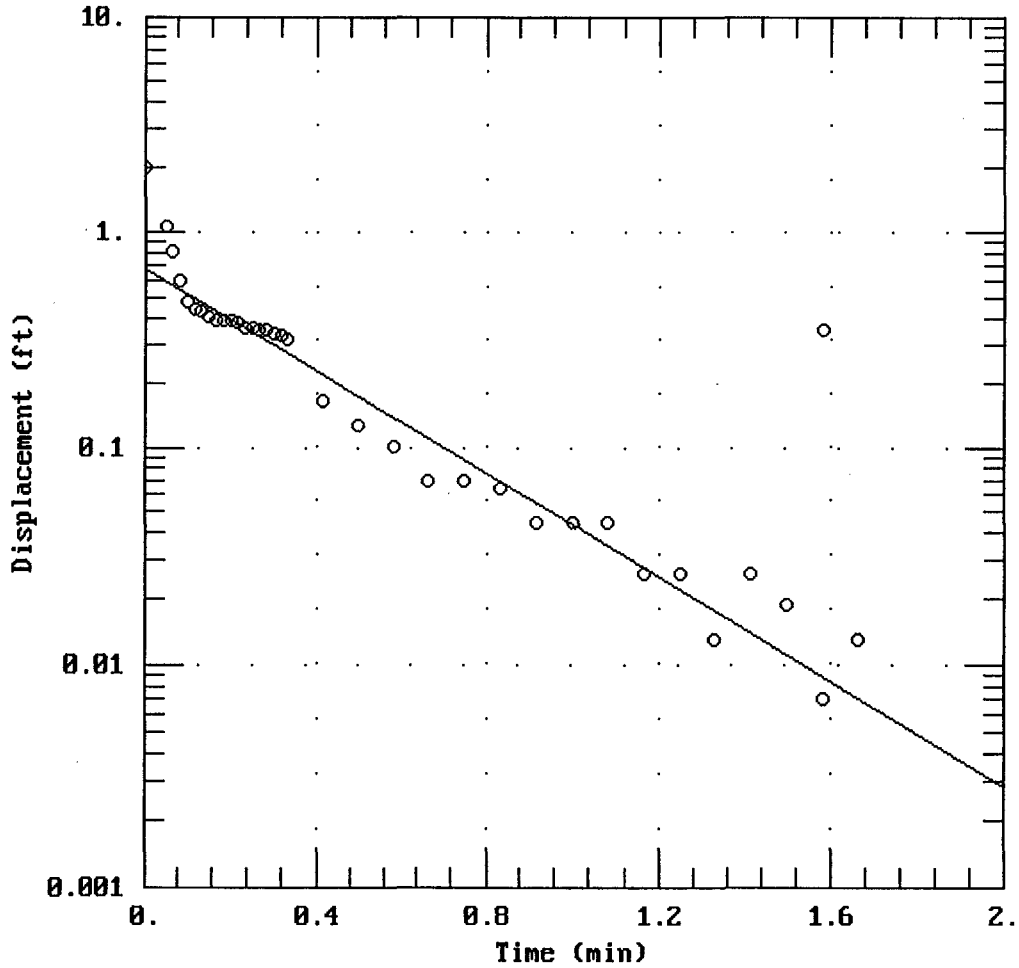
REMARKS: 4 to 6 inches of Asphalt

DRILL RECORD							VISUAL DESCRIPTION					
DEPTH	SOIL / ROCK	Sample ID ------ Type - No. (N = No Samp.)	Samp. Rec. (Ft. and %)	SPT Blows [redacted] Per 0.5' / RQD (Ft. & %)	[redacted] FIN, P.S. / ppm	Time	Gradation / Classification	Color / Color	Consist. or Density / Hardness	Moisture Content, Organic Content, Plasticity, and Other Observations / Weathering, Bedding Fracturing, and Other Observations	SOIL / ROCK	ELEVATION
1		S-00	2.0 100%	-	0.3	0.3	(*Sample collected 31-SB04-00) SILT and fine SAND, trace CLAY, trace medium Gravels	brown to Dark Brown		dry		
2	2											
3		S-01	2.0 100%	-	0.3	0.3						
4	4											
5		S-02	2.0 100%	-	0.3	0.3						
6	6						(*Sample collected 31-SB04-02)			Refusal at 6.0 ft.		
7							END OF BORING at 6 feet					
8												
9												
10												

DRILLING CO. TEG BAKER REP. R.M. Lewis
DRILLER Kevin Shelburne BORING NO. 31-SB-04 Sheet 1 of 1

APPENDIX C
SUMMARY OF ANALYTICAL RESULTS

ACBMW01 RISING HEAD TEST



DATA SET:
ACMW01RA.NUM
06/24/96

AQUIFER MODEL:
Unconfined

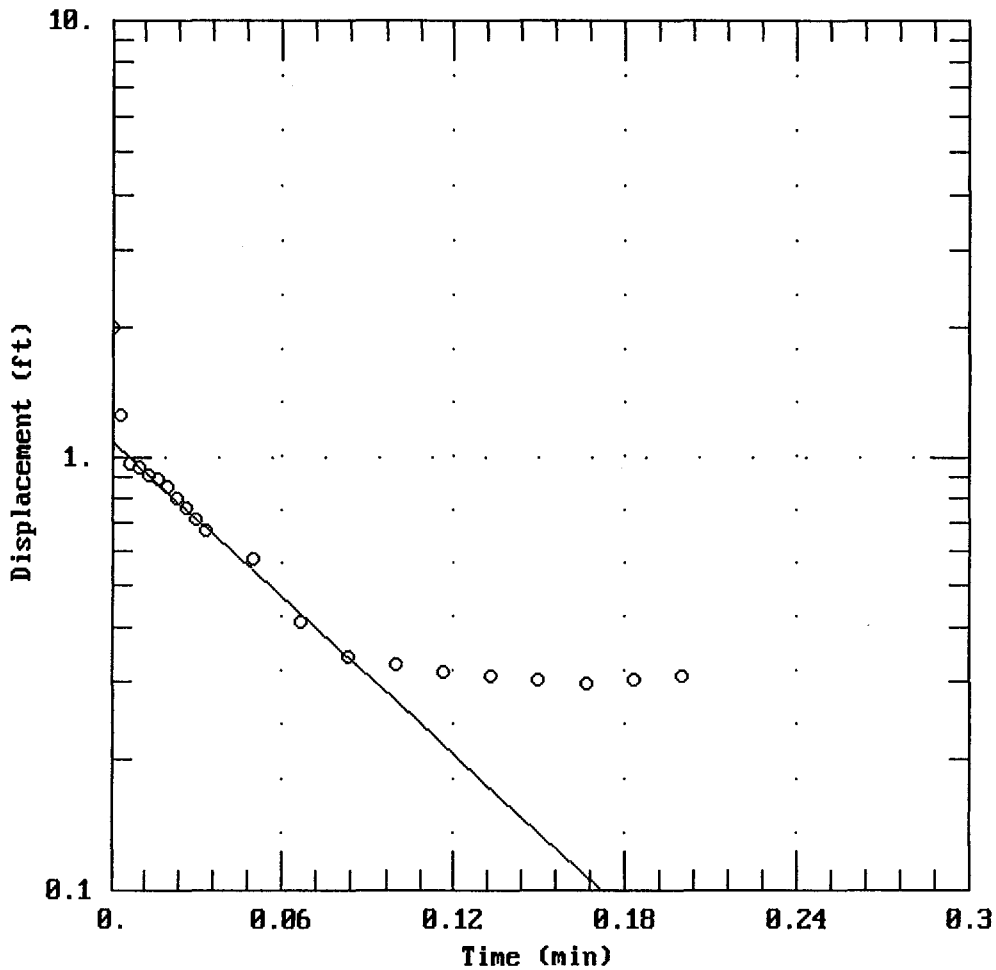
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0= 2. ft
r_c= 0.083 ft
r_w= 0.5 ft
L = 25. ft
b = 30. ft
H = 11.78 ft

PARAMETER ESTIMATES:
K = 18.53 ft/day
y0 = 0.6845 ft

AQTESOLV

ACBMW03 RISING HEAD TEST



DATA SET:
ACMW03RA.NUM
06/24/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0= 2. ft
r_c= 0.083 ft
r_w= 0.5 ft
L = 10. ft
b = 30. ft
H = 1. ft

PARAMETER ESTIMATES:
K = 58.93 ft/day
y0 = 1.08 ft

AQTESOLV

APPENDIX D
SLUG TEST DATA RESULTS

DATA QUALIFIER DEFINITIONS AND NOTES
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

QUALIFIER DEFINITIONS

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected lower.

L = Analyte present. Reported value may be biased low. Actual value is expected higher.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

U = Not detected. The associated number indicates approximate sample concentration needed to be considered detected.

UJ = Not detected. Quantitation limit may be inaccurate or imprecise.

UL = Not detected. Quantitation limit is probably higher.

NOTES

mg/kg = milligrams per kilogram.

mg/l = milligrams per liter.

ug/kg = micrograms per kilograms.

ug/l = micrograms per liter.

NA = Not analyzed.

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
VOLATILES (ug/L)			
Chloromethane	10 U	10 U	10 UJ
Bromomethane	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U
Methylene Chloride	5 U	5 U	5 U
Acetone	10 U	10 U	10 UJ
Carbon Disulfide	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U
1,2-Dichloroethene (total)	5 U	5 U	5 U
Chloroform	4 J	150	94
1,2-Dichloroethane	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U
1,1,1-Trichloroethane	5 U	5 U	5 U
Carbon Tetrachloride	5 U	5 R	5 U
Vinyl acetate	10 U	10 U	10 U
Bromodichloromethane	5 U	14	14
1,2-Dichloropropane	5 U	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U
Dibromochloromethane	5 U	3 J	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U
Benzene	5 U	5 U	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U
4-Methyl-2-pentanone	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U
Tetrachloroethene	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U
Toluene	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U
Styrene	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U
Acrolein	500 R	500 U	500 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01		FB02		FB01	
SAMPL E DATE	10/31/95		11/1/95		03/26/96	
VOLATILES cont. (ug/L)						
Acrylonitrile	100	U	100	U	100	U
Trichlorofluoromethane	10	U	10	U	10	U
Dichlorodifluoromethane	20	U	20	U	20	UJ
Acetonitrile	100	U	100	U	100	U
Iodomethane	10	U	10	U	10	U
Propionitrile (Ethyl Cyanide)	50	R	50	R	50	U
3-Chloropropene	20	U	20	U	20	U
Methacrylonitrile	20	U	20	U	20	U
Dibromomethane	10	U	10	U	10	U
Isobutyl alcohol	2000	R	2000	U	2000	U
1,2-Dibromoethane	20	U	20	U	20	U
1,1,1,2-Tetrachloroethane	10	U	10	U	10	U
1,2,3-Trichloropropane	10	U	10	U	10	U
trans-1,4-Dichloro-2-butene	20	U	20	U	20	U
1,2-Dibromo-3-chloropropane	20	U	20	U	20	U
2-Chloro-1,3-Butadiene	100	U	100	U	100	U
Methylmethacrylate	20	U	20	U	20	U
Ethylmethacrylate	20	U	20	U	20	U
Pentachloroethane	20	U	20	U	20	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
SEMIVOLATILES (ug/L)			
Phenol	10 U	10 U	10 R
bis(2-Chloroethyl)ether	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 R
1,3-Dichlorobenzene	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U
Benzyl alcohol	10 U	10 U	10 R
1,2-Dichlorobenzene	10 U	10 U	10 U
o-Cresol	10 U	10 U	10 R
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U
meta & para-Cresol	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 R
2,4-Dimethylphenol	10 U	10 U	10 R
Benzoic acid	50 U	50 U	50 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 R
1,2,4-Trichlorobenzene	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	20 U
Hexachlorobutadiene	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	20 R
2-Methylnaphthalene	10 U	10 U	10 UJ
Hexachlorocyclopentadiene	10 U	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U	10 R
2,4,5-Trichlorophenol	50 U	50 U	50 R
2-Chloronaphthalene	10 U	10 U	10 U
2-Nitroaniline	50 U	50 U	50 U
Dimethylphthalate	10 U	10 U	1 J
Acenaphthylene	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U
3-Nitroaniline	50 U	50 U	50 U
Acenaphthene	10 U	10 U	10 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
SEMIVOLATILES cont. (ug/L)			
2,4-Dinitrophenol	50 U	50 U	50 R
4-Nitrophenol	50 U	50 U	50 R
Dibenzofuran	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	7 J
4-Chlorophenyl-phenylether	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U
4-Nitroaniline	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U	50 R
N-Nitrosodiphenylamine (1)	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U
Pentachlorophenol	50 U	50 U	50 U
Phenanthrene	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U
3,3'-Dichlorobenzidine	20 U	20 R	20 U
Benzo(a)anthracene	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U
1,4-Dioxane	20 U	20 U	20 UJ
Pyridine	20 U	20 U	20 U
N-Nitrosodimethylamine	10 U	10 U	10 UJ
2-Picoline	10 U	10 U	10 UJ
N-Nitrosomethylethylamine	10 U	10 U	10 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
SEMIVOLATILES cont. (ug/L)			
Methyl methanesulfonate	10 U	10 U	10 U
N-Nitrosodiethylamine	10 U	10 U	10 U
Ethyl methanesulfonate	10 U	10 U	10 U
Aniline	50 U	50 U	50 UJ
N-Nitrosopyrrolidine	50 U	50 U	50 U
Acetophenone	10 U	10 U	10 U
N-Nitrosomorpholine	20 U	20 U	20 U
o-Toluidine	10 U	10 U	10 R
N-Nitrosopiperidine	10 U	10 U	10 U
a,a-Dimethylphenethylamine	50 U	50 U	50 UJ
2,6-Dichlorophenol	10 U	10 U	10 U
Hexachloropropene	20 R	20 U	50 UJ
p-Phenylenediamine	20 U	20 U	20 UJ
N-Nitroso-di-n-butylamine	10 U	10 U	10 U
Safrole	10 U	10 U	10 U
1,2,4,5-Tetrachlorobenzene	10 U	10 U	10 U
Isosafrole	10 U	10 U	10 U
1,4-Naphthoquinone	50 U	50 U	50 UJ
1,3-Dinitrobenzene	20 U	20 U	20 U
Pentachlorobenzene	10 U	10 U	10 U
1-Naphthylamine	10 U	10 U	20 U
2-Naphthylamine	10 U	10 U	25 UJ
2,3,4,6-Tetrachlorophenol	10 U	10 U	10 R
1,3,5-Trinitrobenzene	100 U	100 U	100 U
Diallate	10 U	10 U	10 U
Phenacetin	10 U	10 U	10 U
Diphenylamine	10 U	10 U	10 U
5-Nitro-o-toluidine	20 U	20 U	20 U
4-Aminobiphenyl	10 U	10 U	20 U
Pronamide	10 U	10 U	10 U
2-sec-Butyl-4,6-dinitrophenol	20 U	20 U	20 R
Pentachloronitrobenzene	10 U	10 U	10 U
4-Nitroquinoline-1-oxide	50 U	50 U	50 U
Methapyrilene	25 U	25 U	25 UJ
Aramite	20 U	20 U	20 R

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
SEMIVOLATILES cont. (ug/L)			
Chlorobenzilate	10 U	10 U	10 UJ
p-Dimethylaminoazobenzene	20 U	20 U	20 U
3,3'-Dimethylbenzidine	20 R	20 U	50 U
2-Acetylaminofluorene	20 U	20 U	20 U
7,12-Dimethylbenz(a)anthracene	20 U	20 U	20 U
Hexachlorophene	100 U	100 R	100 R
3-Methylcholanthrene	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
PESTICIDE/PCB (ug/L)			
alpha-BHC	0.05 U	0.05 U	0.05 U
beta-BHC	0.05 U	0.05 U	0.05 U
delta-BHC	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U
Aldrin	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.05 U	0.05 U	0.05 U
Endosulfan I	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.099 U
4,4'-DDE	0.1 U	0.1 U	0.099 U
Endrin	0.1 U	0.1 U	0.099 U
Endosulfan II	0.1 U	0.1 U	0.099 U
4,4'-DDD	0.1 U	0.1 U	0.099 U
Endosulfan sulfate	0.1 U	0.1 U	0.099 U
4,4'-DDT	0.1 U	0.1 U	0.099 U
Methoxychlor	0.5 U	0.5 U	0.5 U
Endrin aldehyde	0.1 U	0.1 U	0.099 U
Isodrin	0.05 UJ	0.05 UJ	0.05 U
Kepone	0.1 UJ	0.1 UJ	0.099 UJ
alpha-Chlordane	0.5 U	0.5 U	0.5 U
gamma-Chlordane	0.5 U	0.5 U	0.5 U
Toxaphene	1 U	1 U	0.99 U
Aroclor-1016	0.5 U	0.5 U	0.5 U
Aroclor-1221	0.5 U	0.5 U	0.5 U
Aroclor-1232	0.5 U	0.5 U	0.5 U
Aroclor-1242	0.5 U	0.5 U	0.5 U
Aroclor-1248	0.5 U	0.5 U	0.5 U
Aroclor-1254	1 U	1 U	0.99 U
Aroclor-1260	1 UJ	1 U	0.99 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
ORTHO PESTICIDES (ug/L)			
Dimethoate	2 U	2 U	2.2 UJ
Disulfoton	2 U	2 U	2.2 UJ
Famphur	2 U	2 U	2.2 UJ
Methyl parathion	2 U	2 U	2.2 UJ
o,o,o-Triethyl phosphorothioat	2 U	2 U	2.2 UJ
Parathion	2 U	2 U	2.2 UJ
Phorate	2 U	2 U	2.2 UJ
Sulfotep	2 U	2 U	2.2 UJ
Thionazin	2 U	2 U	2.2 UJ
HERBICIDES (ug/L)			
2,4-D	1.1 U	NA	0.11 U
2,4,5-T	0.22 U	NA	0.11 U
2,4,5-TP (Silvex)	0.22 U	NA	1.1 U
DIOXIN (ug/L)			
TCDD-2378	0.0014 U	NA	0.0015 U
TOTAL TCDD	0.0014 U	NA	0.0015 U
TOTAL PECDD	0.0016 U	NA	0.002 U
TOTAL HXCDD	0.0019 U	NA	0.0039 U
TOTAL TCDF	0.0011 U	NA	0.0015 U
TOTAL PECDF	0.0014 U	NA	0.0029 U
TOTAL HXCDF	0.0012 U	NA	0.0036 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/L)								
Chloromethane	10 U	10 U	ND	ND		0/3	NA	NA
Bromomethane	10 U	10 U	ND	ND		0/3	NA	NA
Vinyl chloride	10 U	10 U	ND	ND		0/3	NA	NA
Chloroethane	10 U	10 U	ND	ND		0/3	NA	NA
Methylene Chloride	5 U	5 U	ND	ND		0/3	NA	NA
Acetone	10 U	10 U	ND	ND		0/3	NA	NA
Carbon Disulfide	5 U	5 U	ND	ND		0/3	NA	NA
1,1-Dichloroethene	5 U	5 U	ND	ND		0/3	NA	NA
1,1-Dichloroethane	5 U	5 U	ND	ND		0/3	NA	NA
1,2-Dichloroethene (total)	5 U	5 U	ND	ND		0/3	NA	NA
Chloroform	NA	NA	4 J	150	FB02	3/3	82.67	94.00
1,2-Dichloroethane	5 U	5 U	ND	ND		0/3	NA	NA
2-Butanone	10 U	10 U	ND	ND		0/3	NA	NA
1,1,1-Trichloroethane	5 U	5 U	ND	ND		0/3	NA	NA
Carbon Tetrachloride	5 U	5 U	ND	ND		0/2	NA	NA
Vinyl acetate	10 U	10 U	ND	ND		0/3	NA	NA
Bromodichloromethane	5 U	5 U	14	14	FB01	2/3	14.00	14.00
1,2-Dichloropropane	5 U	5 U	ND	ND		0/3	NA	NA
cis-1,3-Dichloropropene	5 U	5 U	ND	ND		0/3	NA	NA
Trichloroethene	5 U	5 U	ND	ND		0/3	NA	NA
Dibromochloromethane	5 U	5 U	3 J	3 J	FB02	1/3	3.00	3.00
1,1,2-Trichloroethane	5 U	5 U	ND	ND		0/3	NA	NA
Benzene	5 U	5 U	ND	ND		0/3	NA	NA
trans-1,3-Dichloropropene	5 U	5 U	ND	ND		0/3	NA	NA
Bromoform	5 U	5 U	ND	ND		0/3	NA	NA
4-Methyl-2-pentanone	10 U	10 U	ND	ND		0/3	NA	NA
2-Hexanone	10 U	10 U	ND	ND		0/3	NA	NA
Tetrachloroethene	5 U	5 U	ND	ND		0/3	NA	NA
1,1,2,2-Tetrachloroethane	5 U	5 U	ND	ND		0/3	NA	NA
Toluene	5 U	5 U	ND	ND		0/3	NA	NA
Chlorobenzene	5 U	5 U	ND	ND		0/3	NA	NA
Ethylbenzene	5 U	5 U	ND	ND		0/3	NA	NA
Styrene	5 U	5 U	ND	ND		0/3	NA	NA
Xylene (total)	5 U	5 U	ND	ND		0/3	NA	NA
Acrolein	500 U	500 U	ND	ND		0/2	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/L)								
Acrylonitrile	100 U	100 U	ND	ND		0/3	NA	NA
Trichlorofluoromethane	10 U	10 U	ND	ND		0/3	NA	NA
Dichlorodifluoromethane	20 U	20 U	ND	ND		0/3	NA	NA
Acetonitrile	100 U	100 U	ND	ND		0/3	NA	NA
Iodomethane	10 U	10 U	ND	ND		0/3	NA	NA
Propionitrile (Ethyl Cyanide)	50 U	50 U	ND	ND		0/1	NA	NA
3-Chloropropene	20 U	20 U	ND	ND		0/3	NA	NA
Methacrylonitrile	20 U	20 U	ND	ND		0/3	NA	NA
Dibromomethane	10 U	10 U	ND	ND		0/3	NA	NA
Isobutyl alcohol	2000 U	2000 U	ND	ND		0/2	NA	NA
1,2-Dibromoethane	20 U	20 U	ND	ND		0/3	NA	NA
1,1,1,2-Tetrachloroethane	10 U	10 U	ND	ND		0/3	NA	NA
1,2,3-Trichloropropane	10 U	10 U	ND	ND		0/3	NA	NA
trans-1,4-Dichloro-2-butene	20 U	20 U	ND	ND		0/3	NA	NA
1,2-Dibromo-3-chloropropane	20 U	20 U	ND	ND		0/3	NA	NA
2-Chloro-1,3-Butadiene	100 U	100 U	ND	ND		0/3	NA	NA
Methylmethacrylate	20 U	20 U	ND	ND		0/3	NA	NA
Ethylmethacrylate	20 U	20 U	ND	ND		0/3	NA	NA
Pentachloroethane	20 U	20 U	ND	ND		0/3	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/L)								
Phenol	10 U	10 U	ND	ND		0/2	NA	NA
bis(2-Chloroethyl)ether	10 U	10 U	ND	ND		0/3	NA	NA
2-Chlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
1,3-Dichlorobenzene	10 U	10 U	ND	ND		0/3	NA	NA
1,4-Dichlorobenzene	10 U	10 U	ND	ND		0/3	NA	NA
Benzyl alcohol	10 U	10 U	ND	ND		0/2	NA	NA
1,2-Dichlorobenzene	10 U	10 U	ND	ND		0/3	NA	NA
o-Cresol	10 U	10 U	ND	ND		0/2	NA	NA
2,2'-oxybis(1-Chloropropane)	10 U	10 U	ND	ND		0/3	NA	NA
meta & para-Cresol	10 U	10 U	ND	ND		0/3	NA	NA
N-Nitroso-di-n-propylamine	10 U	10 U	ND	ND		0/3	NA	NA
Hexachloroethane	10 U	10 U	ND	ND		0/3	NA	NA
Nitrobenzene	10 U	10 U	ND	ND		0/3	NA	NA
Isophorone	10 U	10 U	ND	ND		0/3	NA	NA
2-Nitrophenol	10 U	10 U	ND	ND		0/2	NA	NA
2,4-Dimethylphenol	10 U	10 U	ND	ND		0/2	NA	NA
Benzoic acid	50 U	50 U	ND	ND		0/3	NA	NA
bis(2-Chloroethoxy)methane	10 U	10 U	ND	ND		0/3	NA	NA
2,4-Dichlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
1,2,4-Trichlorobenzene	10 U	10 U	ND	ND		0/3	NA	NA
Naphthalene	10 U	10 U	ND	ND		0/3	NA	NA
4-Chloroaniline	10 U	20 U	ND	ND		0/3	NA	NA
Hexachlorobutadiene	10 U	10 U	ND	ND		0/3	NA	NA
4-Chloro-3-methylphenol	10 U	10 U	ND	ND		0/2	NA	NA
2-Methylnaphthalene	10 U	10 U	ND	ND		0/3	NA	NA
Hexachlorocyclopentadiene	10 U	10 U	ND	ND		0/3	NA	NA
2,4,6-Trichlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
2,4,5-Trichlorophenol	50 U	50 U	ND	ND		0/2	NA	NA
2-Chloronaphthalene	10 U	10 U	ND	ND		0/3	NA	NA
2-Nitroaniline	50 U	50 U	ND	ND		0/3	NA	NA
Dimethylphthalate	10 U	10 U	1 J	1 J	FB01	1/3	1.00	1.00
Acenaphthylene	10 U	10 U	ND	ND		0/3	NA	NA
2,6-Dinitrotoluene	10 U	10 U	ND	ND		0/3	NA	NA
3-Nitroaniline	50 U	50 U	ND	ND		0/3	NA	NA
Acenaphthene	10 U	10 U	ND	ND		0/3	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
2,4-Dinitrophenol	50 U	50 U	ND	ND		0/2	NA	NA
4-Nitrophenol	50 U	50 U	ND	ND		0/2	NA	NA
Dibenzofuran	10 U	10 U	ND	ND		0/3	NA	NA
2,4-Dinitrotoluene	10 U	10 U	ND	ND		0/3	NA	NA
Diethylphthalate	10 U	10 U	7 J	7 J	FB01	1/3	7.00	7.00
4-Chlorophenyl-phenylether	10 U	10 U	ND	ND		0/3	NA	NA
Fluorene	10 U	10 U	ND	ND		0/3	NA	NA
4-Nitroaniline	50 U	50 U	ND	ND		0/3	NA	NA
4,6-Dinitro-2-methylphenol	50 U	50 U	ND	ND		0/2	NA	NA
N-Nitrosodiphenylamine (1)	10 U	10 U	ND	ND		0/3	NA	NA
4-Bromophenyl-phenylether	10 U	10 U	ND	ND		0/3	NA	NA
Hexachlorobenzene	10 U	10 U	ND	ND		0/3	NA	NA
Pentachlorophenol	50 U	50 U	ND	ND		0/3	NA	NA
Phenanthrene	10 U	10 U	ND	ND		0/3	NA	NA
Anthracene	10 U	10 U	ND	ND		0/3	NA	NA
Di-n-butylphthalate	10 U	10 U	ND	ND		0/3	NA	NA
Fluoranthene	10 U	10 U	ND	ND		0/3	NA	NA
Pyrene	10 U	10 U	ND	ND		0/3	NA	NA
Butylbenzylphthalate	10 U	10 U	ND	ND		0/3	NA	NA
3,3'-Dichlorobenzidine	20 U	20 U	ND	ND		0/2	NA	NA
Benzo(a)anthracene	10 U	10 U	ND	ND		0/3	NA	NA
Chrysene	10 U	10 U	ND	ND		0/3	NA	NA
bis(2-Ethylhexyl)phthalate	10 U	10 U	ND	ND		0/3	NA	NA
Di-n-octyl phthalate	10 U	10 U	ND	ND		0/3	NA	NA
Benzo(b)fluoranthene	10 U	10 U	ND	ND		0/3	NA	NA
Benzo(k)fluoranthene	10 U	10 U	ND	ND		0/3	NA	NA
Benzo(a)pyrene	10 U	10 U	ND	ND		0/3	NA	NA
Indeno(1,2,3-cd)pyrene	10 U	10 U	ND	ND		0/3	NA	NA
Dibenzo(a,h)anthracene	10 U	10 U	ND	ND		0/3	NA	NA
Benzo(g,h,i)perylene	10 U	10 U	ND	ND		0/3	NA	NA
1,4-Dioxane	20 U	20 U	ND	ND		0/3	NA	NA
Pyridine	20 U	20 U	ND	ND		0/3	NA	NA
N-Nitrosodimethylamine	10 U	10 U	ND	ND		0/3	NA	NA
2-Picoline	10 U	10 U	ND	ND		0/3	NA	NA
N-Nitrosomethylethylamine	10 U	10 U	ND	ND		0/3	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
Methyl methanesulfonate	10 U	10 U	ND	ND		0/3	NA	NA
N-Nitrosodiethylamine	10 U	10 U	ND	ND		0/3	NA	NA
Ethyl methanesulfonate	10 U	10 U	ND	ND		0/3	NA	NA
Aniline	50 U	50 U	ND	ND		0/3	NA	NA
N-Nitrosopyrrolidine	50 U	50 U	ND	ND		0/3	NA	NA
Acetophenone	10 U	10 U	ND	ND		0/3	NA	NA
N-Nitrosomorpholine	20 U	20 U	ND	ND		0/3	NA	NA
o-Toluidine	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitrosopiperidine	10 U	10 U	ND	ND		0/3	NA	NA
a,a-Dimethylphenethylamine	50 U	50 U	ND	ND		0/3	NA	NA
2,6-Dichlorophenol	10 U	10 U	ND	ND		0/3	NA	NA
Hexachloropropene	20 U	50 UJ	ND	ND		0/2	NA	NA
p-Phenylenediamine	20 U	20 U	ND	ND		0/3	NA	NA
N-Nitroso-di-n-butylamine	10 U	10 U	ND	ND		0/3	NA	NA
Safrole	10 U	10 U	ND	ND		0/3	NA	NA
1,2,4,5-Tetrachlorobenzene	10 U	10 U	ND	ND		0/3	NA	NA
Isosafrole	10 U	10 U	ND	ND		0/3	NA	NA
1,4-Naphthoquinone	50 U	50 U	ND	ND		0/3	NA	NA
1,3-Dinitrobenzene	20 U	20 U	ND	ND		0/3	NA	NA
Pentachlorobenzene	10 U	10 U	ND	ND		0/3	NA	NA
1-Naphthylamine	10 U	20 U	ND	ND		0/3	NA	NA
2-Naphthylamine	10 U	25 UJ	ND	ND		0/3	NA	NA
2,3,4,6-Tetrachlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
1,3,5-Trinitrobenzene	100 U	100 U	ND	ND		0/3	NA	NA
Diallate	10 U	10 U	ND	ND		0/3	NA	NA
Phenacetin	10 U	10 U	ND	ND		0/3	NA	NA
Diphenylamine	10 U	10 U	ND	ND		0/3	NA	NA
5-Nitro-o-toluidine	20 U	20 U	ND	ND		0/3	NA	NA
4-Aminobiphenyl	10 U	20 U	ND	ND		0/3	NA	NA
Pronamide	10 U	10 U	ND	ND		0/3	NA	NA
2-sec-Butyl-4,6-dinitrophenol	20 U	20 U	ND	ND		0/2	NA	NA
Pentachloronitrobenzene	10 U	10 U	ND	ND		0/3	NA	NA
4-Nitroquinoline-1-oxide	50 U	50 U	ND	ND		0/3	NA	NA
Methapyrilene	25 U	25 U	ND	ND		0/3	NA	NA
Aramite	20 U	20 U	ND	ND		0/2	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
Chlorobenzilate	10 U	10 U	ND	ND		0/3	NA	NA
p-Dimethylaminoazobenzene	20 U	20 U	ND	ND		0/3	NA	NA
3,3'-Dimethylbenzidine	20 U	50 U	ND	ND		0/2	NA	NA
2-Acetylaminofluorene	20 U	20 U	ND	ND		0/3	NA	NA
7,12-Dimethylbenz(a)anthracene	20 U	20 U	ND	ND		0/3	NA	NA
Hexachlorophene	100 U	100 U	ND	ND		0/1	NA	NA
3-Methylcholanthrene	10 U	10 U	ND	ND		0/3	NA	NA
Carbazole	10 U	10 U	ND	ND		0/3	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PESTICIDE/PCB (ug/L)								
alpha-BHC	0.05 U	0.05 U	ND	ND		0/3	NA	NA
beta-BHC	0.05 U	0.05 U	ND	ND		0/3	NA	NA
delta-BHC	0.05 U	0.05 U	ND	ND		0/3	NA	NA
gamma-BHC (Lindane)	0.05 U	0.05 U	ND	ND		0/3	NA	NA
Heptachlor	0.05 U	0.05 U	ND	ND		0/3	NA	NA
Aldrin	0.05 U	0.05 U	ND	ND		0/3	NA	NA
Heptachlor epoxide	0.05 U	0.05 U	ND	ND		0/3	NA	NA
Endosulfan I	0.05 U	0.05 U	ND	ND		0/3	NA	NA
Dieldrin	0.099 U	0.1 U	ND	ND		0/3	NA	NA
4,4'-DDE	0.099 U	0.1 U	ND	ND		0/3	NA	NA
Endrin	0.099 U	0.1 U	ND	ND		0/3	NA	NA
Endosulfan II	0.099 U	0.1 U	ND	ND		0/3	NA	NA
4,4'-DDD	0.099 U	0.1 U	ND	ND		0/3	NA	NA
Endosulfan sulfate	0.099 U	0.1 U	ND	ND		0/3	NA	NA
4,4'-DDT	0.099 U	0.1 U	ND	ND		0/3	NA	NA
Methoxychlor	0.5 U	0.5 U	ND	ND		0/3	NA	NA
Endrin aldehyde	0.099 U	0.1 U	ND	ND		0/3	NA	NA
Isodrin	0.05 UJ	0.05 UJ	ND	ND		0/3	NA	NA
Kepone	0.099 UJ	0.1 UJ	ND	ND		0/3	NA	NA
alpha-Chlordane	0.5 U	0.5 U	ND	ND		0/3	NA	NA
gamma-Chlordane	0.5 U	0.5 U	ND	ND		0/3	NA	NA
Toxaphene	0.99 U	1 U	ND	ND		0/3	NA	NA
Aroclor-1016	0.5 U	0.5 U	ND	ND		0/3	NA	NA
Aroclor-1221	0.5 U	0.5 U	ND	ND		0/3	NA	NA
Aroclor-1232	0.5 U	0.5 U	ND	ND		0/3	NA	NA
Aroclor-1242	0.5 U	0.5 U	ND	ND		0/3	NA	NA
Aroclor-1248	0.5 U	0.5 U	ND	ND		0/3	NA	NA
Aroclor-1254	0.99 U	1 U	ND	ND		0/3	NA	NA
Aroclor-1260	0.99 U	1 UJ	ND	ND		0/3	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES (ug/L)								
Dimethoate	2 U	2.2 UJ	ND	ND		0/3	NA	NA
Disulfoton	2 U	2.2 UJ	ND	ND		0/3	NA	NA
Famphur	2 U	2.2 UJ	ND	ND		0/3	NA	NA
Methyl parathion	2 U	2.2 UJ	ND	ND		0/3	NA	NA
o,o,o-Triethyl phosphorothioat	2 U	2.2 UJ	ND	ND		0/3	NA	NA
Parathion	2 U	2.2 UJ	ND	ND		0/3	NA	NA
Phorate	2 U	2.2 UJ	ND	ND		0/3	NA	NA
Sulfotep	2 U	2.2 UJ	ND	ND		0/3	NA	NA
Thionazin	2 U	2.2 UJ	ND	ND		0/3	NA	NA
HERBICIDES (ug/L)								
2,4-D	0.11 U	1.1 U	ND	ND		0/2	NA	NA
2,4,5-T	0.11 U	0.22 U	ND	ND		0/2	NA	NA
2,4,5-TP (Silvex)	0.22 U	1.1 U	ND	ND		0/2	NA	NA
DIOXIN (ug/L)								
TCDD-2378	0.0014 U	0.0015 U	ND	ND		0/2	NA	NA
TOTAL TCDD	0.0014 U	0.0015 U	ND	ND		0/2	NA	NA
TOTAL PECDD	0.0016 U	0.002 U	ND	ND		0/2	NA	NA
TOTAL HXCDD	0.0019 U	0.0039 U	ND	ND		0/2	NA	NA
TOTAL TCDF	0.0011 U	0.0015 U	ND	ND		0/2	NA	NA
TOTAL PECDF	0.0014 U	0.0029 U	ND	ND		0/2	NA	NA
TOTAL HXCDF	0.0012 U	0.0036 U	ND	ND		0/2	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	FB01	FB02	FB01
SAMPL E DATE	10/31/95	11/1/95	03/26/96
METALS (ug/L)			
Antimony, Total	23.5 U	13	19.8 U
Arsenic, Total	1.6 U	1.6 U	0.9 U
Barium, Total	1.4 U	5	6.7
Beryllium, Total	1 U	0.3 U	1.4
Cadmium, Total	4.4	4.2 U	2.2 U
Chromium, Total	4.6 U	4.6 U	3.2
Cobalt, Total	3.4 U	2.2 U	3 U
Copper, Total	5.6	3.1	2
Lead, Total	0.8 U	1 J	1.2 J
Mercury, Total	0.1 U	0.14 J	0.1 U
Nickel, Total	11.1 U	3.7 U	11.3 U
Selenium, Total	1.5 U	1.5 UJ	1.3 U
Silver, Total	3.2 U	3.2 U	3.1 U
Thallium, Total	1.3 U	1.3 U	0.9 U
Tin, Total	18.2 U	11.3 U	10.6 U
Vanadium, Total	3.2 U	1.7 U	2.4 U
Zinc, Total	5.1	7.3	8.1

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN FIELD BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
METALS (ug/L)								
Antimony, Total	19.8 U	23.5 U	13	13	FB02	1/3	13.00	13.00
Arsenic, Total	0.9 U	1.6 U	ND	ND		0/3	NA	NA
Barium, Total	1.4 U	1.4 U	5	6.7	FB01	2/3	5.85	5.85
Beryllium, Total	0.3 U	1 U	1.4	1.4	FB01	1/3	1.40	1.40
Cadmium, Total	2.2 U	4.2 U	4.4	4.4	FB01	1/3	4.40	4.40
Chromium, Total	4.6 U	4.6 U	3.2	3.2	FB01	1/3	3.20	3.20
Cobalt, Total	2.2 U	3.4 U	ND	ND		0/3	NA	NA
Copper, Total	NA	NA	2	5.6	FB01	3/3	3.57	3.10
Lead, Total	0.8 U	0.8 U	1 J	1.2 J	FB01	2/3	1.10	1.10
Mercury, Total	0.1 U	0.1 U	0.14 J	0.14 J	FB02	1/3	0.14	0.14
Nickel, Total	3.7 U	11.3 U	ND	ND		0/3	NA	NA
Selenium, Total	1.3 U	1.5 U	ND	ND		0/3	NA	NA
Silver, Total	3.1 U	3.2 U	ND	ND		0/3	NA	NA
Thallium, Total	0.9 U	1.3 U	ND	ND		0/3	NA	NA
Tin, Total	10.6 U	18.2 U	ND	ND		0/3	NA	NA
Vanadium, Total	1.7 U	3.2 U	ND	ND		0/3	NA	NA
Zinc, Total	NA	NA	5.1	8.1	FB01	3/3	6.83	7.30

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF TPH AND ENGINEERING PARAMETERS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01
SAMPL E DATE	03/20/96
WET CHEMISTRY	
SULFIDE (mg/L)	1 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF TPH AND ENGINEERING PARAMETERS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY								
SULFIDE (mg/L)	1 U	1 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPLE DATE	03/20/96	
TOTAL METALS (ug/L)		
ANTIMONY, TOTAL	19.8	U
ARSENIC, TOTAL	1.3	U
BARIUM, TOTAL	1.9	
BERYLLIUM, TOTAL	0.8	U
CADMIUM, TOTAL	2.2	U
CHROMIUM, TOTAL	2.4	U
COBALT, TOTAL	3	U
COPPER, TOTAL	2	U
LEAD, TOTAL	0.9	U
MERCURY, TOTAL	0.1	U
NICKEL, TOTAL	11.3	U
SELENIUM, TOTAL	1.8	U
SILVER, TOTAL	3.1	U
THALLIUM, TOTAL	1.7	U
TIN, TOTAL	10.6	U
VANADIUM, TOTAL	2.4	U
ZINC, TOTAL	4.5	
CYANIDE, TOTAL	109	J

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (ug/L)								
ANTIMONY, TOTAL	19.8 U	19.8 U	ND	ND		0/1	NA	NA
ARSENIC, TOTAL	1.3 U	1.3 U	ND	ND		0/1	NA	NA
BARIUM, TOTAL	NA	NA	1.9	1.9	ACB-RB01	1/1	1.90	1.90
BERYLLIUM, TOTAL	0.8 U	0.8 U	ND	ND		0/1	NA	NA
CADMIUM, TOTAL	2.2 U	2.2 U	ND	ND		0/1	NA	NA
CHROMIUM, TOTAL	2.4 U	2.4 U	ND	ND		0/1	NA	NA
COBALT, TOTAL	3 U	3 U	ND	ND		0/1	NA	NA
COPPER, TOTAL	2 U	2 U	ND	ND		0/1	NA	NA
LEAD, TOTAL	0.9 U	0.9 U	ND	ND		0/1	NA	NA
MERCURY, TOTAL	0.1 U	0.1 U	ND	ND		0/1	NA	NA
NICKEL, TOTAL	11.3 U	11.3 U	ND	ND		0/1	NA	NA
SELENIUM, TOTAL	1.8 U	1.8 U	ND	ND		0/1	NA	NA
SILVER, TOTAL	3.1 U	3.1 U	ND	ND		0/1	NA	NA
THALLIUM, TOTAL	1.7 U	1.7 U	ND	ND		0/1	NA	NA
TIN, TOTAL	10.6 U	10.6 U	ND	ND		0/1	NA	NA
VANADIUM, TOTAL	2.4 U	2.4 U	ND	ND		0/1	NA	NA
ZINC, TOTAL	NA	NA	4.5	4.5	ACB-RB01	1/1	4.50	4.50
CYANIDE, TOTAL	NA	NA	109 J	109 J	ACB-RB01	1/1	109.00	109.00

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
VOLATILES (ug/L)		
DICHLORODIFLUOROMETHANE	20	U
CHLOROMETHANE	10	UJ
VINYL CHLORIDE	10	U
BROMOMETHANE	10	U
CHLOROETHANE	10	U
TRICHLOROFLUOROMETHANE	10	U
ACROLEIN	500	U
1,1-DICHLOROETHENE	5	U
ACETONE	10	U
CARBON DISULFIDE	5	UJ
METHYLENE CHLORIDE	5	U
ACRYLONITRILE	100	UJ
1,2-DICHLOROETHENE (TOTAL)	5	U
1,1-DICHLOROETHANE	5	U
VINYL ACETATE	10	U
2-BUTANONE	10	U
CHLOROFORM	5	U
1,1,1-TRICHLOROETHANE	5	U
CARBON TETRACHLORIDE	5	U
BENZENE	5	U
1,2-DICHLOROETHANE	5	U
TRICHLOROETHENE	5	U
1,2-DICHLOROPROPANE	5	U
BROMODICHLOROMETHANE	5	U
CIS-1,3-DICHLOROPROPENE	5	U
4-METHYL-2-PENTANONE	10	U
TOLUENE	6	
TRANS-1,3-DICHLOROPROPENE	5	U
1,1,2-TRICHLOROETHANE	5	U
TETRACHLOROETHENE	5	U
2-HEXANONE	10	U
DIBROMOCHLOROMETHANE	5	U
CHLOROBENZENE	5	U
ETHYLBENZENE	5	U
STYRENE	5	U
BROMOFORM	5	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
VOLATILES cont. (ug/L)		
1,1,2,2-TETRACHLOROETHANE	5	U
XYLENE (TOTAL)	5	U
ACETONITRILE	100	U
PROPIONITRILE (ETHYL CYANIDE)	50	R
3-CHLOROPROPENE	20	U
IODOMETHANE	10	U
METHACRYLONITRILE	20	UJ
ISOBUTYL ALCOHOL	2000	R
METHYLMETHACRYLATE	20	UJ
DIBROMOMETHANE	10	U
1,2-DIBROMOETHANE	20	U
1,1,1,2-TETRACHLOROETHANE	10	U
1,2,3-TRICHLOROPROPANE	10	U
TRANS-1,4-DICHLORO-2-BUTENE	20	U
1,2-DIBROMO-3-CHLOROPROPANE	20	U
ETHYLMETHACRYLATE	20	U
PENTACHLOROETHANE	20	U
2-CHLORO-1,3-BUTADIENE	100	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
SEMIVOLATILES (ug/L)		
PHENOL	10	U
BIS(2-CHLOROETHYL)ETHER	10	U
2-CHLOROPHENOL	10	U
1,3-DICHLOROBENZENE	10	U
1,4-DICHLOROBENZENE	10	U
1,2-DICHLOROBENZENE	10	U
O-CRESOL	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U
META & PARA-CRESOL	10	U
HEXACHLOROETHANE	10	U
NITROBENZENE	10	U
ISOPHORONE	10	U
2-NITROPHENOL	10	U
2,4-DIMETHYLPHENOL	10	U
BIS(2-CHLOROETHOXY)METHANE	10	U
2,4-DICHLOROPHENOL	10	U
1,2,4-TRICHLOROBENZENE	10	U
NAPHTHALENE	10	U
4-CHLOROANILINE	20	U
HEXACHLOROBUTADIENE	10	U
4-CHLORO-3-METHYLPHENOL	20	U
2-METHYLNAPHTHALENE	10	U
HEXACHLOROCYCLOPENTADIENE	10	U
2,4,6-TRICHLOROPHENOL	10	U
2,4,5-TRICHLOROPHENOL	49	U
2-CHLORONAPHTHALENE	10	U
2-NITROANILINE	49	U
ACENAPHTHYLENE	10	U
2,6-DINITROTOLUENE	10	U
3-NITROANILINE	49	U
ACENAPHTHENE	10	U
2,4-DINITROPHENOL	49	U
DIBENZOFURAN	10	U
4-NITROPHENOL	49	U
2,4-DINITROTOLUENE	10	U
FLUORENE	10	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
SEMIVOLATILES cont. (ug/L)		
DIMETHYLPHTHALATE	10	U
DIETHYLPHTHALATE	10	U
4-CHLOROPHENYL-PHENYLETHER	10	U
4-NITROANILINE	49	U
4,6-DINITRO-2-METHYLPHENOL	49	U
4-BROMOPHENYL-PHENYLETHER	10	U
HEXACHLOROBENZENE	10	U
PENTACHLOROPHENOL	49	U
PHENANTHRENE	10	U
ANTHRACENE	10	U
DI-N-BUTYLPHTHALATE	10	U
FLUORANTHENE	10	U
PYRENE	10	U
BUTYLBENZYLPHTHALATE	10	U
BENZO(A)ANTHRACENE	10	U
3,3'-DICHLOROBENZIDINE	20	U
CHRYSENE	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	1	J
DI-N-OCTYL PHTHALATE	10	U
BENZO(B)FLUORANTHENE	10	U
BENZO(K)FLUORANTHENE	10	U
BENZO(A)PYRENE	10	U
INDENO(1,2,3-CD)PYRENE	10	U
DIBENZO(A,H)ANTHRACENE	10	U
BENZO(G,H,I)PERYLENE	10	U
CARBAZOLE	10	U
N-NITROSODIPHENYLAMINE (1)	10	U
BENZYL ALCOHOL	10	U
BENZOIC ACID	49	U
BENZIDINE	98	UJ
N-NITROSODIMETHYLAMINE	10	UJ
PYRIDINE	20	U
1,2-DIPHENYLHYDRAZINE	10	U
ANILINE	49	U
1,4-DIOXANE	20	R
2-PICOLINE	10	UJ

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
SEMIVOLATILES cont. (ug/L)		
N-NITROSOMETHYLETHYLAMINE	10	U
METHYL METHANESULFONATE	10	UJ
N-NITROSODIETHYLAMINE	10	U
ETHYL METHANESULFONATE	10	U
O-TOLUIDINE	10	R
N-NITROSOPYRROLIDINE	49	UJ
ACETOPHENONE	10	U
N-NITROSOMORPHOLINE	20	UJ
N-NITROSOPIPERIDINE	10	U
A,A-DIMETHYLPHENETHYLAMINE	49	U
2,6-DICHLOROPHENOL	10	U
HEXACHLOROPROPENE	49	U
P-PHENYLENEDIAMINE	20	UJ
N-NITROSO-DI-N-BUTYLAMINE	10	U
SAFROLE	10	U
1,2,4,5-TETRACHLOROBENZENE	10	U
ISOSAFROLE	10	U
1,4-NAPHTHOQUINONE	49	UJ
1,3-DINITROBENZENE	20	U
PENTACHLOROBENZENE	10	U
1-NAPHTHYLAMINE	20	U
2-NAPHTHYLAMINE	24	U
2,3,4,6-TETRACHLOROPHENOL	10	UJ
1,3,5-TRINITROBENZENE	98	UJ
DIALLATE	10	U
PHENACETIN	10	UJ
DIPHENYLAMINE	10	U
5-NITRO-O-TOLUIDINE	20	U
4-AMINOBIPHENYL	20	U
PRONAMIDE	10	U
2-SEC-BUTYL-4,6-DINITROPHENOL	20	UJ
PENTACHLORONITROBENZENE	10	U
4-NITROQUINOLINE-1-OXIDE	49	R
METHAPYRILENE	24	U
ARAMITE	20	UJ
CHLOROBENZILATE	10	UJ

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
SEMIVOLATILES cont. (ug/L)		
P-DIMETHYLAMINOAZOBENZENE	20	U
3,3'-DIMETHYLBENZIDINE	49	UJ
2-ACETYLAMINOFLUORENE	20	UJ
7,12-DIMETHYLBENZ(A)ANTHRACENE	20	U
HEXACHLOROPHENE	98	R
3-METHYLCHOLANTHRENE	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U
PEST/PCB's (ug/L)		
ALPHA-BHC	0.046	U
BETA-BHC	0.046	U
DELTA-BHC	0.046	U
GAMMA-BHC (LINDANE)	0.046	U
HEPTACHLOR	0.046	U
ALDRIN	0.046	U
HEPTACHLOR EPOXIDE	0.046	U
ENDOSULFAN I	0.046	U
DIELDRIN	0.092	U
4,4'-DDE	0.092	U
ENDRIN	0.092	U
ENDOSULFAN II	0.092	U
4,4'-DDD	0.092	U
ENDOSULFAN SULFATE	0.092	U
4,4'-DDT	0.092	U
METHOXYCHLOR	0.46	U
ENDRIN ALDEHYDE	0.092	U
ISODRIN	0.046	U
KEPONE	0.092	UJ
ALPHA-CHLORDANE	0.46	U
GAMMA-CHLORDANE	0.46	U
TOXAPHENE	0.92	U
AROCLOR-1016	0.46	U
AROCLOR-1221	0.46	U
AROCLOR-1232	0.46	U
AROCLOR-1242	0.46	U
AROCLOR-1248	0.46	U
AROCLOR-1254	0.92	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
PEST/PCB's cont. (ug/L)		
AROCLOR-1260	0.92	U
2378-TCDD	0.001	U
TOTAL TCDD	0.001	U
TOTAL PECDD	0.0019	U
TOTAL HXCDD	0.0011	U
TOTAL TCDF	0.001	U
TOTAL PECDF	0.0015	U
TOTAL HXCDF	0.00071	U
ORTHO PESTICIDES (ug/L)		
O,O,O-TRIETHYL PHOSPHOROTHIOA	1.8	U
PHORATE	1.8	U
THIONAZIN	1.8	U
DISULFOTON	1.8	U
SULFOTEP	1.8	U
DIMETHOATE	1.8	U
METHYL PARATHION	1.8	U
PARATHION	1.8	U
FAMPHUR	1.8	U
HERBICIDES (ug/L)		
2,4-D	1.1	U
2,4,5-TP (SILVEX)	0.11	U
2,4,5-T	0.11	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
TICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/L)								
DICHLORODIFLUOROMETHANE	20 U	20 U	ND	ND		0/1	NA	NA
CHLOROMETHANE	10 UJ	10 UJ	ND	ND		0/1	NA	NA
VINYL CHLORIDE	10 U	10 U	ND	ND		0/1	NA	NA
BROMOMETHANE	10 U	10 U	ND	ND		0/1	NA	NA
CHLOROETHANE	10 U	10 U	ND	ND		0/1	NA	NA
TRICHLOROFLUOROMETHANE	10 U	10 U	ND	ND		0/1	NA	NA
ACROLEIN	500 U	500 U	ND	ND		0/1	NA	NA
1,1-DICHLOROETHENE	5 U	5 U	ND	ND		0/1	NA	NA
ACETONE	10 U	10 U	ND	ND		0/1	NA	NA
CARBON DISULFIDE	5 UJ	5 UJ	ND	ND		0/1	NA	NA
METHYLENE CHLORIDE	5 U	5 U	ND	ND		0/1	NA	NA
ACRYLONITRILE	100 UJ	100 UJ	ND	ND		0/1	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	ND	ND		0/1	NA	NA
1,1-DICHLOROETHANE	5 U	5 U	ND	ND		0/1	NA	NA
VINYL ACETATE	10 U	10 U	ND	ND		0/1	NA	NA
2-BUTANONE	10 U	10 U	ND	ND		0/1	NA	NA
CHLOROFORM	5 U	5 U	ND	ND		0/1	NA	NA
1,1,1-TRICHLOROETHANE	5 U	5 U	ND	ND		0/1	NA	NA
CARBON TETRACHLORIDE	5 U	5 U	ND	ND		0/1	NA	NA
BENZENE	5 U	5 U	ND	ND		0/1	NA	NA
1,2-DICHLOROETHANE	5 U	5 U	ND	ND		0/1	NA	NA
TRICHLOROETHENE	5 U	5 U	ND	ND		0/1	NA	NA
1,2-DICHLOROPROPANE	5 U	5 U	ND	ND		0/1	NA	NA
BROMODICHLOROMETHANE	5 U	5 U	ND	ND		0/1	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/1	NA	NA
4-METHYL-2-PENTANONE	10 U	10 U	ND	ND		0/1	NA	NA
TOLUENE	NA	NA	6	6	ACB-RB01	1/1	6.00	6.00
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/1	NA	NA
1,1,2-TRICHLOROETHANE	5 U	5 U	ND	ND		0/1	NA	NA
TETRACHLOROETHENE	5 U	5 U	ND	ND		0/1	NA	NA
2-HEXANONE	10 U	10 U	ND	ND		0/1	NA	NA
DIBROMOCHLOROMETHANE	5 U	5 U	ND	ND		0/1	NA	NA
CHLOROBENZENE	5 U	5 U	ND	ND		0/1	NA	NA
ETHYLBENZENE	5 U	5 U	ND	ND		0/1	NA	NA
STYRENE	5 U	5 U	ND	ND		0/1	NA	NA
BROMOFORM	5 U	5 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
TICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/L)								
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	ND	ND		0/1	NA	NA
XYLENE (TOTAL)	5 U	5 U	ND	ND		0/1	NA	NA
ACETONITRILE	100 U	100 U	ND	ND		0/1	NA	NA
PROPIONITRILE (ETHYL CYANIDE)								
3-CHLOROPROPENE	20 U	20 U	ND	ND		0/1	NA	NA
IODOMETHANE	10 U	10 U	ND	ND		0/1	NA	NA
METHACRYLONITRILE	20 UJ	20 UJ	ND	ND		0/1	NA	NA
ISOBUTYL ALCOHOL	NA	NA	ND	ND		0/0	NA	NA
METHYLMETHACRYLATE	20 UJ	20 UJ	ND	ND		0/1	NA	NA
DIBROMOMETHANE	10 U	10 U	ND	ND		0/1	NA	NA
1,2-DIBROMOETHANE	20 U	20 U	ND	ND		0/1	NA	NA
1,1,1,2-TETRACHLOROETHANE	10 U	10 U	ND	ND		0/1	NA	NA
1,2,3-TRICHLOROPROPANE	10 U	10 U	ND	ND		0/1	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	20 U	20 U	ND	ND		0/1	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	20 U	20 U	ND	ND		0/1	NA	NA
ETHYLMETHACRYLATE	20 U	20 U	ND	ND		0/1	NA	NA
PENTACHLOROETHANE	20 U	20 U	ND	ND		0/1	NA	NA
2-CHLORO-1,3-BUTADIENE	100 U	100 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
TICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/L)								
PHENOL	10 U	10 U	ND	ND		0/1	NA	NA
BIS(2-CHLOROETHYL)ETHER	10 U	10 U	ND	ND		0/1	NA	NA
2-CHLOROPHENOL	10 U	10 U	ND	ND		0/1	NA	NA
1,3-DICHLOROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
1,4-DICHLOROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
1,2-DICHLOROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
O-CRESOL	10 U	10 U	ND	ND		0/1	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U	ND	ND		0/1	NA	NA
META & PARA-CRESOL	10 U	10 U	ND	ND		0/1	NA	NA
HEXACHLOROETHANE	10 U	10 U	ND	ND		0/1	NA	NA
NITROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
ISOPHORONE	10 U	10 U	ND	ND		0/1	NA	NA
2-NITROPHENOL	10 U	10 U	ND	ND		0/1	NA	NA
2,4-DIMETHYLPHENOL	10 U	10 U	ND	ND		0/1	NA	NA
BIS(2-CHLOROETHOXY)METHANE	10 U	10 U	ND	ND		0/1	NA	NA
2,4-DICHLOROPHENOL	10 U	10 U	ND	ND		0/1	NA	NA
1,2,4-TRICHLOROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
NAPHTHALENE	10 U	10 U	ND	ND		0/1	NA	NA
4-CHLOROANILINE	20 U	20 U	ND	ND		0/1	NA	NA
HEXACHLOROBUTADIENE	10 U	10 U	ND	ND		0/1	NA	NA
4-CHLORO-3-METHYLPHENOL	20 U	20 U	ND	ND		0/1	NA	NA
2-METHYLNAPHTHALENE	10 U	10 U	ND	ND		0/1	NA	NA
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	ND	ND		0/1	NA	NA
2,4,6-TRICHLOROPHENOL	10 U	10 U	ND	ND		0/1	NA	NA
2,4,5-TRICHLOROPHENOL	49 U	49 U	ND	ND		0/1	NA	NA
2-CHLORONAPHTHALENE	10 U	10 U	ND	ND		0/1	NA	NA
2-NITROANILINE	49 U	49 U	ND	ND		0/1	NA	NA
ACENAPHTHYLENE	10 U	10 U	ND	ND		0/1	NA	NA
2,6-DINITROTOLUENE	10 U	10 U	ND	ND		0/1	NA	NA
3-NITROANILINE	49 U	49 U	ND	ND		0/1	NA	NA
ACENAPHTHENE	10 U	10 U	ND	ND		0/1	NA	NA
2,4-DINITROPHENOL	49 U	49 U	ND	ND		0/1	NA	NA
DIBENZOFURAN	10 U	10 U	ND	ND		0/1	NA	NA
4-NITROPHENOL	49 U	49 U	ND	ND		0/1	NA	NA
2,4-DINITROTOLUENE	10 U	10 U	ND	ND		0/1	NA	NA
FLUORENE	10 U	10 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
TICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
DIMETHYLPHTHALATE	10 U	10 U	ND	ND		0/1	NA	NA
DIETHYLPHTHALATE	10 U	10 U	ND	ND		0/1	NA	NA
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/1	NA	NA
4-NITROANILINE	49 U	49 U	ND	ND		0/1	NA	NA
4,6-DINITRO-2-METHYLPHENOL	49 U	49 U	ND	ND		0/1	NA	NA
4-BROMOPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/1	NA	NA
HEXACHLOROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
PENTACHLOROPHENOL	49 U	49 U	ND	ND		0/1	NA	NA
PHENANTHRENE	10 U	10 U	ND	ND		0/1	NA	NA
ANTHRACENE	10 U	10 U	ND	ND		0/1	NA	NA
DI-N-BUTYLPHTHALATE	10 U	10 U	ND	ND		0/1	NA	NA
FLUORANTHENE	10 U	10 U	ND	ND		0/1	NA	NA
PYRENE	10 U	10 U	ND	ND		0/1	NA	NA
BUTYLBENZYLPHTHALATE	10 U	10 U	ND	ND		0/1	NA	NA
BENZO(A)ANTHRACENE	10 U	10 U	ND	ND		0/1	NA	NA
3,3'-DICHLOROBENZIDINE	20 U	20 U	ND	ND		0/1	NA	NA
CHRYSENE	10 U	10 U	ND	ND		0/1	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NA	1 J	1 J	ACB-RB01	1/1	1.00	1.00
DI-N-OCTYL PHTHALATE	10 U	10 U	ND	ND		0/1	NA	NA
BENZO(B)FLUORANTHENE	10 U	10 U	ND	ND		0/1	NA	NA
BENZO(K)FLUORANTHENE	10 U	10 U	ND	ND		0/1	NA	NA
BENZO(A)PYRENE	10 U	10 U	ND	ND		0/1	NA	NA
INDENO(1,2,3-CD)PYRENE	10 U	10 U	ND	ND		0/1	NA	NA
DIBENZO(A,H)ANTHRACENE	10 U	10 U	ND	ND		0/1	NA	NA
BENZO(G,H,I)PERYLENE	10 U	10 U	ND	ND		0/1	NA	NA
CARBAZOLE	10 U	10 U	ND	ND		0/1	NA	NA
N-NITROSODIPHENYLAMINE (1)	10 U	10 U	ND	ND		0/1	NA	NA
BENZYL ALCOHOL	10 U	10 U	ND	ND		0/1	NA	NA
BENZOIC ACID	49 U	49 U	ND	ND		0/1	NA	NA
BENZIDINE	98 UJ	98 UJ	ND	ND		0/1	NA	NA
N-NITROSODIMETHYLAMINE	10 UJ	10 UJ	ND	ND		0/1	NA	NA
PYRIDINE	20 U	20 U	ND	ND		0/1	NA	NA
1,2-DIPHENYLHYDRAZINE	10 U	10 U	ND	ND		0/1	NA	NA
ANILINE	49 U	49 U	ND	ND		0/1	NA	NA
1,4-DIOXANE	NA	NA	ND	ND		0/0	NA	NA
2-PICOLINE	10 UJ	10 UJ	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
TICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
N-NITROSOMETHYLETHYLAMINE	10 U	10 U	ND	ND		0/1	NA	NA
METHYL METHANESULFONATE	10 UJ	10 UJ	ND	ND		0/1	NA	NA
N-NITROSODIETHYLAMINE	10 U	10 U	ND	ND		0/1	NA	NA
ETHYL METHANESULFONATE	10 U	10 U	ND	ND		0/1	NA	NA
O-TOLUIDINE	NA	NA	ND	ND		0/0	NA	NA
N-NITROSOPYRROLIDINE	49 UJ	49 UJ	ND	ND		0/1	NA	NA
ACETOPHENONE	10 U	10 U	ND	ND		0/1	NA	NA
N-NITROSOMORPHOLINE	20 UJ	20 UJ	ND	ND		0/1	NA	NA
N-NITROSOPIPERIDINE	10 U	10 U	ND	ND		0/1	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	49 U	49 U	ND	ND		0/1	NA	NA
2,6-DICHLOROPHENOL	10 U	10 U	ND	ND		0/1	NA	NA
HEXACHLOROPROPENE	49 U	49 U	ND	ND		0/1	NA	NA
P-PHENYLENEDIAMINE	20 UJ	20 UJ	ND	ND		0/1	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	10 U	10 U	ND	ND		0/1	NA	NA
SAFROLE	10 U	10 U	ND	ND		0/1	NA	NA
1,2,4,5-TETRACHLOROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
ISOSAFROLE	10 U	10 U	ND	ND		0/1	NA	NA
1,4-NAPHTHOQUINONE	49 UJ	49 UJ	ND	ND		0/1	NA	NA
1,3-DINITROBENZENE	20 U	20 U	ND	ND		0/1	NA	NA
PENTACHLOROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
1-NAPHTHYLAMINE	20 U	20 U	ND	ND		0/1	NA	NA
2-NAPHTHYLAMINE	24 U	24 U	ND	ND		0/1	NA	NA
2,3,4,6-TETRACHLOROPHENOL	10 UJ	10 UJ	ND	ND		0/1	NA	NA
1,3,5-TRINITROBENZENE	98 UJ	98 UJ	ND	ND		0/1	NA	NA
DIALLATE	10 U	10 U	ND	ND		0/1	NA	NA
PHENACETIN	10 UJ	10 UJ	ND	ND		0/1	NA	NA
DIPHENYLAMINE	10 U	10 U	ND	ND		0/1	NA	NA
5-NITRO-O-TOLUIDINE	20 U	20 U	ND	ND		0/1	NA	NA
4-AMINOBIPHENYL	20 U	20 U	ND	ND		0/1	NA	NA
PRONAMIDE	10 U	10 U	ND	ND		0/1	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	20 UJ	20 UJ	ND	ND		0/1	NA	NA
PENTACHLORONITROBENZENE	10 U	10 U	ND	ND		0/1	NA	NA
4-NITROQUINOLINE-1-OXIDE	NA	NA	ND	ND		0/0	NA	NA
METHAPYRILENE	24 U	24 U	ND	ND		0/1	NA	NA
ARAMITE	20 UJ	20 UJ	ND	ND		0/1	NA	NA
CHLOROBENZILATE	10 UJ	10 UJ	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
TICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
P-DIMETHYLAMINOAZOBENZENE	20 U	20 U	ND	ND		0/1	NA	NA
3,3'-DIMETHYLBENZIDINE	49 UJ	49 UJ	ND	ND		0/1	NA	NA
2-ACETYLAMINOFLUORENE	20 UJ	20 UJ	ND	ND		0/1	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	20 U	20 U	ND	ND		0/1	NA	NA
HEXACHLOROPHENE	NA	NA	ND	ND		0/0	NA	NA
3-METHYLCHOLANTHRENE	10 U	10 U	ND	ND		0/1	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	10 U	10 U	ND	ND		0/1	NA	NA
PEST/PCB's (ug/L)								
ALPHA-BHC	0.046 U	0.046 U	ND	ND		0/1	NA	NA
BETA-BHC	0.046 U	0.046 U	ND	ND		0/1	NA	NA
DELTA-BHC	0.046 U	0.046 U	ND	ND		0/1	NA	NA
GAMMA-BHC (LINDANE)	0.046 U	0.046 U	ND	ND		0/1	NA	NA
HEPTACHLOR	0.046 U	0.046 U	ND	ND		0/1	NA	NA
ALDRIN	0.046 U	0.046 U	ND	ND		0/1	NA	NA
HEPTACHLOR EPOXIDE	0.046 U	0.046 U	ND	ND		0/1	NA	NA
ENDOSULFAN I	0.046 U	0.046 U	ND	ND		0/1	NA	NA
DIELDRIN	0.092 U	0.092 U	ND	ND		0/1	NA	NA
4,4'-DDE	0.092 U	0.092 U	ND	ND		0/1	NA	NA
ENDRIN	0.092 U	0.092 U	ND	ND		0/1	NA	NA
ENDOSULFAN II	0.092 U	0.092 U	ND	ND		0/1	NA	NA
4,4'-DDD	0.092 U	0.092 U	ND	ND		0/1	NA	NA
ENDOSULFAN SULFATE	0.092 U	0.092 U	ND	ND		0/1	NA	NA
4,4'-DDT	0.092 U	0.092 U	ND	ND		0/1	NA	NA
METHOXYCHLOR	0.46 U	0.46 U	ND	ND		0/1	NA	NA
ENDRIN ALDEHYDE	0.092 U	0.092 U	ND	ND		0/1	NA	NA
ISODRIN	0.046 U	0.046 U	ND	ND		0/1	NA	NA
KEPONE	0.092 UJ	0.092 UJ	ND	ND		0/1	NA	NA
ALPHA-CHLORDANE	0.46 U	0.46 U	ND	ND		0/1	NA	NA
GAMMA-CHLORDANE	0.46 U	0.46 U	ND	ND		0/1	NA	NA
TOXAPHENE	0.92 U	0.92 U	ND	ND		0/1	NA	NA
AROCLOR-1016	0.46 U	0.46 U	ND	ND		0/1	NA	NA
AROCLOR-1221	0.46 U	0.46 U	ND	ND		0/1	NA	NA
AROCLOR-1232	0.46 U	0.46 U	ND	ND		0/1	NA	NA
AROCLOR-1242	0.46 U	0.46 U	ND	ND		0/1	NA	NA
AROCLOR-1248	0.46 U	0.46 U	ND	ND		0/1	NA	NA
AROCLOR-1254	0.92 U	0.92 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
TICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PEST/PCB's cont. (ug/L)								
AROCLOR-1260	0.92 U	0.92 U	ND	ND		0/1	NA	NA
2378-TCDD	0.001 U	0.001 U	ND	ND		0/1	NA	NA
TOTAL TCDD	0.001 U	0.001 U	ND	ND		0/1	NA	NA
TOTAL PECDD	0.0019 U	0.0019 U	ND	ND		0/1	NA	NA
TOTAL HXCDD	0.0011 U	0.0011 U	ND	ND		0/1	NA	NA
TOTAL TCDF	0.001 U	0.001 U	ND	ND		0/1	NA	NA
TOTAL PECDF	0.0015 U	0.0015 U	ND	ND		0/1	NA	NA
TOTAL HXCDF	0.00071 U	0.00071 U	ND	ND		0/1	NA	NA
ORTHO PESTICIDES (ug/L)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	1.8 U	1.8 U	ND	ND		0/1	NA	NA
PHORATE	1.8 U	1.8 U	ND	ND		0/1	NA	NA
THIONAZIN	1.8 U	1.8 U	ND	ND		0/1	NA	NA
DISULFOTON	1.8 U	1.8 U	ND	ND		0/1	NA	NA
SULFOTEP	1.8 U	1.8 U	ND	ND		0/1	NA	NA
DIMETHOATE	1.8 U	1.8 U	ND	ND		0/1	NA	NA
METHYL PARATHION	1.8 U	1.8 U	ND	ND		0/1	NA	NA
PARATHION	1.8 U	1.8 U	ND	ND		0/1	NA	NA
FAMPHUR	1.8 U	1.8 U	ND	ND		0/1	NA	NA
HERBICIDES (ug/L)								
2,4-D	1.1 U	1.1 U	ND	ND		0/1	NA	NA
2,4,5-TP (SILVEX)	0.11 U	0.11 U	ND	ND		0/1	NA	NA
2,4,5-T	0.11 U	0.11 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF TPH AND ENGINEERING PARAMETERS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACB-RB01	
SAMPL E DATE	03/20/96	
TPH		
GASOLINE (ug/L)	30	U
DIESEL FUEL mg/L)	0.12	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF TPH AND ENGINEERING PARAMETERS IN AOC B RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPL E DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TPH								
GASOLINE (ug/L)	30 U	30 U	ND	ND		0/1	NA	NA
DIESEL FUEL mg/L)	0.12 U	0.12 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	RB01	RB02
SAMPLE DATE	10/30/95	10/31/95
VOLATILES (ug/L)		
Chloromethane	10 U	10 U
Bromomethane	10 U	10 U
Vinyl Chloride	10 U	10 U
Chloroethane	10 U	10 U
Methylene Chloride	6 U	5 U
Acetone	10 U	10 U
Carbon Disulfide	5 U	5 U
1,1-Dichloroethene	5 U	5 U
1,1-Dichloroethane	5 U	5 U
1,2-Dichloroethene (total)	5 U	5 U
Chloroform	5 U	5 U
1,2-Dichloroethane	5 U	5 U
2-Butanone	10 U	10 U
1,1,1-Trichloroethane	5 U	5 U
Carbon Tetrachloride	5 U	5 U
Vinyl Acetate	10 U	10 U
Bromodichloromethane	5 U	5 U
1,2-Dichloropropane	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U
Trichloroethene	5 U	5 U
Dibromochloromethane	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U
Benzene	5 U	5 U
Trans-1,3-Dichloropropene	5 U	5 U
Bromoform	5 U	5 U
4-Methyl-2-pentanone	10 U	10 U
2-Hexanone	10 U	10 U
Tetrachloroethene	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U
Toluene	5 U	5 U
Chlorobenzene	5 U	5 U
Ethylbenzene	5 U	5 U
Styrene	5 U	5 U
Xylene (total)	5 U	5 U
Acrolein	10 R	10 R

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	RB01	RB02
SAMPLE DATE	10/30/95	10/31/95
VOLATILES cont. (ug/L)		
Acrylonitrile	10 U	10 U
Trichlorofluoromethane	5 U	5 U
Dichlorodifluoromethane	10 U	10 U
Acetonitrile	20 U	20 U
Iodomethane	10 U	10 U
Propionitrile (Ethyl Cyanide)	50 U	50 U
3-Chloropropene	20 U	20 U
Methacrylonitrile	20 U	20 U
Dibromomethane	10 U	10 U
Isobutyl alcohol	100 U	100 U
1,2-Dibromoethane	20 U	20 U
1,1,1,2-Tetrachloroethane	10 U	10 U
1,2,3-Trichloropropane	10 U	10 U
trans-1,4-Dichloro-2-butene	100 U	100 U
1,2-Dibromo-3-chloropropane	20 U	20 U
2-Chloro-1,3-Butadiene	100 U	100 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	RB01	RB02
SAMPLE DATE	10/30/95	10/31/95
SEMIVOLATILES (ug/L)		
Phenol	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U
2-Chlorophenol	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U
Benzyl alcohol	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U
2-Methylphenol	10 U	10 U
bis(2-Chloroisopropyl)ether	10 U	10 U
3- and/or 4-Methylphenol	10 U	10 U
N-Nitroso-Di-n-propylamine	10 U	10 U
Hexachloroethane	10 U	10 U
Nitrobenzene	10 U	10 U
Isophorone	10 U	10 U
2-Nitrophenol	10 U	10 U
2,4-Dimethylphenol	10 U	10 U
Benzoic acid	50 U	50 U
bis(2-Chloroethoxy)methane	10 U	10 U
2,4-Dichlorophenol	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U
Naphthalene	10 U	10 U
4-Chloroaniline	10 U	10 U
Hexachlorobutadiene	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U
2-Methylnaphthalene	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U
2,4,6-Trichlorophenol	10 U	10 U
2,4,5-Trichlorophenol	50 U	50 U
2-Chloronaphthalene	10 U	10 U
2-Nitroaniline	50 U	50 U
Dimethylphthalate	10 U	10 U
Acenaphthylene	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U
3-Nitroaniline	50 U	50 U
Acenaphthene	10 U	10 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	RB01	RB02
SAMPLE DATE	10/30/95	10/31/95
SEMIVOLATILES cont. (ug/L)		
2,4-Dinitrophenol	50 U	50 U
4-Nitrophenol	50 U	50 U
Dibenzofuran	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U
Diethylphthalate	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U
Fluorene	10 U	10 U
4-Nitroaniline	50 U	50 U
4,6-Dinitro-2-methylphenol	50 U	50 U
N-Nitrosodiphenylamine (1)	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U
Hexachlorobenzene	10 U	10 U
Pentachlorophenol	50 U	50 U
Phenanthrene	10 U	10 U
Anthracene	10 U	10 U
Di-n-Butylphthalate	10 U	10 U
Fluoranthene	10 U	10 U
Pyrene	10 U	10 U
Butylbenzylphthalate	10 U	10 U
3,3'-Dichlorobenzidine	20 U	20 U
Benzo(a)anthracene	10 U	10 U
Chrysene	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U
Di-n-Octyl phthalate	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U
Benzo(a)pyrene	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U
1,4-Dioxane	10 U	10 U
Methyl methacrylate	10 U	10 U
Pyridine	10 U	10 U
N-Nitrosodimethylamine	10 U	10 U
Ethyl methacrylate	10 U	10 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	RB01	RB02
SAMPLE DATE	10/30/95	10/31/95
SEMIVOLATILES cont. (ug/L)		
2-Picoline	10 U	10 U
N-Nitrosomethylethylamine	10 U	10 U
Methyl methanesulfonate	10 U	10 U
N-Nitrosodiethylamine	10 U	10 U
Ethyl methanesulfonate	10 U	10 U
Aniline	10 U	10 U
Pentachloroethane	10 U	10 U
N-Nitrosopyrrolidine	10 U	10 U
Acetophenone	10 U	10 U
N-Nitrosomorpholine	10 U	10 U
o-Toluidine	10 U	10 U
N-Nitrosopiperidine	50 U	50 U
a,a-Dimethylphenethylamine	10 U	10 U
2,6-Dichlorophenol	10 U	10 U
Hexachloropropene	10 U	10 U
p-Phenylenediamine	10 U	10 U
N-Nitroso-di-n-butylamine	10 U	10 U
Safrole	10 U	10 U
1,2,4,5-Tetrachlorobenzene	10 U	10 U
Isosafrole	10 U	10 U
1,4-Naphthoquinone	10 U	10 U
1,3-Dinitrobenzene	10 U	10 U
Pentachlorobenzene	10 U	10 U
1-Naphthylamine	10 U	10 U
2-Naphthylamine	10 U	10 U
2,3,4,6-Tetrachlorophenol	10 U	10 U
1,3,5-Trinitrobenzene	10 U	10 U
Diallate	10 U	10 U
Phenacetin	10 U	10 U
Diphenylamine	10 U	10 U
5-Nitro-o-toluidine	10 U	10 U
4-Aminobiphenyl	10 U	10 U
Pronamide	10 U	10 U
2-sec-Butyl-4,6-dinitrophenol	50 U	50 U
Pentachloronitrobenzene	50 R	50 R

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	RB01	RB02
SAMPLE DATE	10/30/95	10/31/95
SEMIVOLATILES cont. (ug/L)		
4-Nitroquinoline-1-oxide	20 U	20 U
Methapyrilene	10 U	10 U
Aramite	20 U	20 U
Chlorobenzilate	10 U	10 U
p-Dimethylaminoazobenzene	10 U	10 U
3-3'-Dimethylbenzidine	10 U	10 U
2-Acetylaminofluorene	10 U	10 U
7,12-Dimethylbenz(a)anthracene	10 U	10 U
Hexachlorophene	90 U	90 U
3-Methylcholanthrene	10 U	10 U
PCB (ug/L)		
Aroclor-1016	NA	1 U
Aroclor-1221	NA	2 U
Aroclor-1232	NA	1 U
Aroclor-1242	NA	1 U
Aroclor-1248	NA	1 U
Aroclor-1254	NA	1 U
Aroclor-1260	NA	1 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/L)								
Chloromethane	10 U	10 U	ND	ND		0/2	NA	NA
Bromomethane	10 U	10 U	ND	ND		0/2	NA	NA
Vinyl Chloride	10 U	10 U	ND	ND		0/2	NA	NA
Chloroethane	10 U	10 U	ND	ND		0/2	NA	NA
Methylene Chloride	5 U	6 U	ND	ND		0/2	NA	NA
Acetone	10 U	10 U	ND	ND		0/2	NA	NA
Carbon Disulfide	5 U	5 U	ND	ND		0/2	NA	NA
1,1-Dichloroethene	5 U	5 U	ND	ND		0/2	NA	NA
1,1-Dichloroethane	5 U	5 U	ND	ND		0/2	NA	NA
1,2-Dichloroethene (total)	5 U	5 U	ND	ND		0/2	NA	NA
Chloroform	5 U	5 U	ND	ND		0/2	NA	NA
1,2-Dichloroethane	5 U	5 U	ND	ND		0/2	NA	NA
2-Butanone	10 U	10 U	ND	ND		0/2	NA	NA
1,1,1-Trichloroethane	5 U	5 U	ND	ND		0/2	NA	NA
Carbon Tetrachloride	5 U	5 U	ND	ND		0/2	NA	NA
Vinyl Acetate	10 U	10 U	ND	ND		0/2	NA	NA
Bromodichloromethane	5 U	5 U	ND	ND		0/2	NA	NA
1,2-Dichloropropane	5 U	5 U	ND	ND		0/2	NA	NA
cis-1,3-Dichloropropene	5 U	5 U	ND	ND		0/2	NA	NA
Trichloroethene	5 U	5 U	ND	ND		0/2	NA	NA
Dibromochloromethane	5 U	5 U	ND	ND		0/2	NA	NA
1,1,2-Trichloroethane	5 U	5 U	ND	ND		0/2	NA	NA
Benzene	5 U	5 U	ND	ND		0/2	NA	NA
Trans-1,3-Dichloropropene	5 U	5 U	ND	ND		0/2	NA	NA
Bromoform	5 U	5 U	ND	ND		0/2	NA	NA
4-Methyl-2-pentanone	10 U	10 U	ND	ND		0/2	NA	NA
2-Hexanone	10 U	10 U	ND	ND		0/2	NA	NA
Tetrachloroethene	5 U	5 U	ND	ND		0/2	NA	NA
1,1,2,2-Tetrachloroethane	5 U	5 U	ND	ND		0/2	NA	NA
Toluene	5 U	5 U	ND	ND		0/2	NA	NA
Chlorobenzene	5 U	5 U	ND	ND		0/2	NA	NA
Ethylbenzene	5 U	5 U	ND	ND		0/2	NA	NA
Styrene	5 U	5 U	ND	ND		0/2	NA	NA
Xylene (total)	5 U	5 U	ND	ND		0/2	NA	NA
Acrolein	NA	NA	ND	ND		0/0	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/L)								
Acrylonitrile	10 U	10 U	ND	ND		0/2	NA	NA
Trichlorofluoromethane	5 U	5 U	ND	ND		0/2	NA	NA
Dichlorodifluoromethane	10 U	10 U	ND	ND		0/2	NA	NA
Acetonitrile	20 U	20 U	ND	ND		0/2	NA	NA
Iodomethane	10 U	10 U	ND	ND		0/2	NA	NA
Propionitrile (Ethyl Cyanide)	50 U	50 U	ND	ND		0/2	NA	NA
3-Chloropropene	20 U	20 U	ND	ND		0/2	NA	NA
Methacrylonitrile	20 U	20 U	ND	ND		0/2	NA	NA
Dibromomethane	10 U	10 U	ND	ND		0/2	NA	NA
Isobutyl alcohol	100 U	100 U	ND	ND		0/2	NA	NA
1,2-Dibromoethane	20 U	20 U	ND	ND		0/2	NA	NA
1,1,1,2-Tetrachloroethane	10 U	10 U	ND	ND		0/2	NA	NA
1,2,3-Trichloropropane	10 U	10 U	ND	ND		0/2	NA	NA
trans-1,4-Dichloro-2-butene	100 U	100 U	ND	ND		0/2	NA	NA
1,2-Dibromo-3-chloropropane	20 U	20 U	ND	ND		0/2	NA	NA
2-Chloro-1,3-Butadiene	100 U	100 U	ND	ND		0/2	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/L)								
Phenol	10 U	10 U	ND	ND		0/2	NA	NA
bis(2-Chloroethyl)ether	10 U	10 U	ND	ND		0/2	NA	NA
2-Chlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
1,3-Dichlorobenzene	10 U	10 U	ND	ND		0/2	NA	NA
1,4-Dichlorobenzene	10 U	10 U	ND	ND		0/2	NA	NA
Benzyl alcohol	10 U	10 U	ND	ND		0/2	NA	NA
1,2-Dichlorobenzene	10 U	10 U	ND	ND		0/2	NA	NA
2-Methylphenol	10 U	10 U	ND	ND		0/2	NA	NA
bis(2-Chloroisopropyl)ether	10 U	10 U	ND	ND		0/2	NA	NA
3- and/or 4-Methylphenol	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitroso-Di-n-propylamine	10 U	10 U	ND	ND		0/2	NA	NA
Hexachloroethane	10 U	10 U	ND	ND		0/2	NA	NA
Nitrobenzene	10 U	10 U	ND	ND		0/2	NA	NA
Isophorone	10 U	10 U	ND	ND		0/2	NA	NA
2-Nitrophenol	10 U	10 U	ND	ND		0/2	NA	NA
2,4-Dimethylphenol	10 U	10 U	ND	ND		0/2	NA	NA
Benzoic acid	50 U	50 U	ND	ND		0/2	NA	NA
bis(2-Chloroethoxy)methane	10 U	10 U	ND	ND		0/2	NA	NA
2,4-Dichlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
1,2,4-Trichlorobenzene	10 U	10 U	ND	ND		0/2	NA	NA
Naphthalene	10 U	10 U	ND	ND		0/2	NA	NA
4-Chloroaniline	10 U	10 U	ND	ND		0/2	NA	NA
Hexachlorobutadiene	10 U	10 U	ND	ND		0/2	NA	NA
4-Chloro-3-methylphenol	10 U	10 U	ND	ND		0/2	NA	NA
2-Methylnaphthalene	10 U	10 U	ND	ND		0/2	NA	NA
Hexachlorocyclopentadiene	10 U	10 U	ND	ND		0/2	NA	NA
2,4,6-Trichlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
2,4,5-Trichlorophenol	50 U	50 U	ND	ND		0/2	NA	NA
2-Chloronaphthalene	10 U	10 U	ND	ND		0/2	NA	NA
2-Nitroaniline	50 U	50 U	ND	ND		0/2	NA	NA
Dimethylphthalate	10 U	10 U	ND	ND		0/2	NA	NA
Acenaphthylene	10 U	10 U	ND	ND		0/2	NA	NA
2,6-Dinitrotoluene	10 U	10 U	ND	ND		0/2	NA	NA
3-Nitroaniline	50 U	50 U	ND	ND		0/2	NA	NA
Acenaphthene	10 U	10 U	ND	ND		0/2	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
2,4-Dinitrophenol	50 U	50 U	ND	ND		0/2	NA	NA
4-Nitrophenol	50 U	50 U	ND	ND		0/2	NA	NA
Dibenzofuran	10 U	10 U	ND	ND		0/2	NA	NA
2,4-Dinitrotoluene	10 U	10 U	ND	ND		0/2	NA	NA
Diethylphthalate	10 U	10 U	ND	ND		0/2	NA	NA
4-Chlorophenyl-phenylether	10 U	10 U	ND	ND		0/2	NA	NA
Fluorene	10 U	10 U	ND	ND		0/2	NA	NA
4-Nitroaniline	50 U	50 U	ND	ND		0/2	NA	NA
4,6-Dinitro-2-methylphenol	50 U	50 U	ND	ND		0/2	NA	NA
N-Nitrosodiphenylamine (1)	10 U	10 U	ND	ND		0/2	NA	NA
4-Bromophenyl-phenylether	10 U	10 U	ND	ND		0/2	NA	NA
Hexachlorobenzene	10 U	10 U	ND	ND		0/2	NA	NA
Pentachlorophenol	50 U	50 U	ND	ND		0/2	NA	NA
Phenanthrene	10 U	10 U	ND	ND		0/2	NA	NA
Anthracene	10 U	10 U	ND	ND		0/2	NA	NA
Di-n-Butylphthalate	10 U	10 U	ND	ND		0/2	NA	NA
Fluoranthene	10 U	10 U	ND	ND		0/2	NA	NA
Pyrene	10 U	10 U	ND	ND		0/2	NA	NA
Butylbenzylphthalate	10 U	10 U	ND	ND		0/2	NA	NA
3,3'-Dichlorobenzidine	20 U	20 U	ND	ND		0/2	NA	NA
Benzo(a)anthracene	10 U	10 U	ND	ND		0/2	NA	NA
Chrysene	10 U	10 U	ND	ND		0/2	NA	NA
bis(2-Ethylhexyl)phthalate	10 U	10 U	ND	ND		0/2	NA	NA
Di-n-Octyl phthalate	10 U	10 U	ND	ND		0/2	NA	NA
Benzo(b)fluoranthene	10 U	10 U	ND	ND		0/2	NA	NA
Benzo(k)fluoranthene	10 U	10 U	ND	ND		0/2	NA	NA
Benzo(a)pyrene	10 U	10 U	ND	ND		0/2	NA	NA
Indeno(1,2,3-cd)pyrene	10 U	10 U	ND	ND		0/2	NA	NA
Dibenzo(a,h)anthracene	10 U	10 U	ND	ND		0/2	NA	NA
Benzo(g,h,i)perylene	10 U	10 U	ND	ND		0/2	NA	NA
1,4-Dioxane	10 U	10 U	ND	ND		0/2	NA	NA
Methyl methacrylate	10 U	10 U	ND	ND		0/2	NA	NA
Pyridine	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitrosodimethylamine	10 U	10 U	ND	ND		0/2	NA	NA
Ethyl methacrylate	10 U	10 U	ND	ND		0/2	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
2-Picoline	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitrosomethylethylamine	10 U	10 U	ND	ND		0/2	NA	NA
Methyl methanesulfonate	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitrosodiethylamine	10 U	10 U	ND	ND		0/2	NA	NA
Ethyl methanesulfonate	10 U	10 U	ND	ND		0/2	NA	NA
Aniline	10 U	10 U	ND	ND		0/2	NA	NA
Pentachloroethane	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitrosopyrrolidine	10 U	10 U	ND	ND		0/2	NA	NA
Acetophenone	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitrosomorpholine	10 U	10 U	ND	ND		0/2	NA	NA
o-Toluidine	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitrosopiperidine	50 U	50 U	ND	ND		0/2	NA	NA
a,a-Dimethylphenethylamine	10 U	10 U	ND	ND		0/2	NA	NA
2,6-Dichlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
Hexachloropropene	10 U	10 U	ND	ND		0/2	NA	NA
p-Phenylenediamine	10 U	10 U	ND	ND		0/2	NA	NA
N-Nitroso-di-n-butylamine	10 U	10 U	ND	ND		0/2	NA	NA
Safrole	10 U	10 U	ND	ND		0/2	NA	NA
1,2,4,5-Tetrachlorobenzene	10 U	10 U	ND	ND		0/2	NA	NA
Isosafrole	10 U	10 U	ND	ND		0/2	NA	NA
1,4-Naphthoquinone	10 U	10 U	ND	ND		0/2	NA	NA
1,3-Dinitrobenzene	10 U	10 U	ND	ND		0/2	NA	NA
Pentachlorobenzene	10 U	10 U	ND	ND		0/2	NA	NA
1-Naphthylamine	10 U	10 U	ND	ND		0/2	NA	NA
2-Naphthylamine	10 U	10 U	ND	ND		0/2	NA	NA
2,3,4,6-Tetrachlorophenol	10 U	10 U	ND	ND		0/2	NA	NA
1,3,5-Trinitrobenzene	10 U	10 U	ND	ND		0/2	NA	NA
Diallate	10 U	10 U	ND	ND		0/2	NA	NA
Phenacetin	10 U	10 U	ND	ND		0/2	NA	NA
Diphenylamine	10 U	10 U	ND	ND		0/2	NA	NA
5-Nitro-o-toluidine	10 U	10 U	ND	ND		0/2	NA	NA
4-Aminobiphenyl	10 U	10 U	ND	ND		0/2	NA	NA
Pronamide	10 U	10 U	ND	ND		0/2	NA	NA
2-sec-Butyl-4,6-dinitrophenol	50 U	50 U	ND	ND		0/2	NA	NA
Pentachloronitrobenzene	NA	NA	ND	ND		0/0	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
4-Nitroquinoline-1-oxide	20 U	20 U	ND	ND		0/2	NA	NA
Methapyrilene	10 U	10 U	ND	ND		0/2	NA	NA
Aramite	20 U	20 U	ND	ND		0/2	NA	NA
Chlorobenzilate	10 U	10 U	ND	ND		0/2	NA	NA
p-Dimethylaminoazobenzene	10 U	10 U	ND	ND		0/2	NA	NA
3-3'-Dimethylbenzidine	10 U	10 U	ND	ND		0/2	NA	NA
2-Acetylaminofluorene	10 U	10 U	ND	ND		0/2	NA	NA
7,12-Dimethylbenz(a)anthracene	10 U	10 U	ND	ND		0/2	NA	NA
Hexachlorophene	90 U	90 U	ND	ND		0/2	NA	NA
3-Methylcholanthrene	10 U	10 U	ND	ND		0/2	NA	NA
PCB (ug/L)								
Aroclor-1016	1 U	1 U	ND	ND		0/1	NA	NA
Aroclor-1221	2 U	2 U	ND	ND		0/1	NA	NA
Aroclor-1232	1 U	1 U	ND	ND		0/1	NA	NA
Aroclor-1242	1 U	1 U	ND	ND		0/1	NA	NA
Aroclor-1248	1 U	1 U	ND	ND		0/1	NA	NA
Aroclor-1254	1 U	1 U	ND	ND		0/1	NA	NA
Aroclor-1260	1 U	1 U	ND	ND		0/1	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	RB01		RB02	
SAMPLE DATE	10/30/95		10/31/95	
METALS (ug/L)				
Arsenic, Total	1.8	U	1.8	U
Barium, Total	7.1	U	7.1	U
Cadmium, Total	3.4	U	3.4	U
Chromium, Total	9.6	U	9.6	U
Lead, Total	0.8	U	0.8	U
Mercury, Total	0.1	U	0.1	U
Selenium, Total	2.8	R	1.6	U
Silver, Total	4.4	U	6.1	
Cyanide, Total	10	U	10	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN RINSATE BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
METALS (ug/L)								
Arsenic, Total	1.8 U	1.8 U	ND	ND		0/2	NA	NA
Barium, Total	7.1 U	7.1 U	ND	ND		0/2	NA	NA
Cadmium, Total	3.4 U	3.4 U	ND	ND		0/2	NA	NA
Chromium, Total	9.6 U	9.6 U	ND	ND		0/2	NA	NA
Lead, Total	0.8 U	0.8 U	ND	ND		0/2	NA	NA
Mercury, Total	0.1 U	0.1 U	ND	ND		0/2	NA	NA
Selenium, Total	1.6 U	1.6 U	ND	ND		0/1	NA	NA
Silver, Total	4.4 U	4.4 U	6.1	6.1	RB02	1/2	6.10	6.10
Cyanide, Total	10 U	10 U	ND	ND		0/2	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND #7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN TRIP BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	TB05	TB07	TB08	TRIP BLANK	TB02	TB03
SAMPLE DATE	10/31/95	11/1/95	11/1/95	03/19/96	03/19/96	03/19/96
VOLATILES (ug/L)						
CHLOROMETHANE	10 U	10 U	10 U	10 U	10 UJ	10 UJ
BROMOMETHANE	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
CHLOROETHANE	10 U	10 U	10 U	10 U	10 U	10 U
METHYLENE CHLORIDE	5 U	5 U	5 U	5 U	5 U	5 U
ACETONE	10 U	10 U	10 U	14 U	10 U	10 U
CARBON DISULFIDE	5 U	5 U	5 U	5 U	5 UJ	5 UJ
1,1-DICHLOROETHENE	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
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROFORM	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
2-BUTANONE	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U
CARBON TETRACHLORIDE	5 U	5 R	5 R	5 U	5 U	5 U
VINYL ACETATE	10 U	10 U	10 U	10 U	10 U	10 U
BROMODICHLOROMETHANE	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROPROPANE	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
TRICHLOROETHENE	5 U	5 U	5 U	5 U	5 U	5 U
DIBROMOCHLOROMETHANE	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-TRICHLOROETHANE	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
TRANS-1,3-DICHLOROPROPENE	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
4-METHYL-2-PENTANONE	10 U	10 U	10 U	10 U	10	10 U
2-HEXANONE	10 U	10 U	10 U	10 U	10 U	10 U
TETRACHLOROETHENE	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
TOLUENE	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
ETHYLBENZENE	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
XYLENE (TOTAL)	5 U	5 U	5 U	5 U	5 U	5 U
ACROLEIN	500 R	500 U	500 U	10 R	500 U	500 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND #7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN TRIP BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	TB05	TB07	TB08	TRIP BLANK	TB02	TB03
SAMPLE DATE	10/31/95	11/1/95	11/1/95	03/19/96	03/19/96	03/19/96
ACRYLONITRILE	100 U	100 U	100 U	10 U	100 UJ	100 UJ
VOLATILES cont. (ug/L)						
TRICHLOROFLUOROMETHANE	10 U	10 U	10 U	5 U	10 U	10 U
DICHLORODIFLUOROMETHANE	20 U	20 U	20 U	10 U	20 U	20 U
ACETONITRILE	100 U	100 U	100 U	20 U	100 U	100 U
IODOMETHANE	10 U	10 U	10 U	10 U	10 U	10 U
PROPIONITRILE (ETHYL CYANIDE)	50 R	50 R	50 R	50 U	50 R	50 R
3-CHLOROPROPENE	20 U	20 U	20 U	20 U	20 U	20 U
METHACRYLONITRILE	20 U	20 U	20 U	20 U	20 UJ	20 UJ
DIBROMOMETHANE	10 U	10 U	10 U	10 U	10 U	10 U
ISOBUTYL ALCOHOL	2000 R	2000 U	2000 U	100 U	2000 R	2000 R
1,2-DIBROMOETHANE	20 U	20 U	20 U	20 U	20 U	20 U
1,1,1,2-TETRACHLOROETHANE	10 U	10 U	10 U	10 U	10 U	10 U
1,2,3-TRICHLOROPROPANE	10 U	10 U	10 U	10 U	10 U	10 U
TRANS-1,4-DICHLORO-2-BUTENE	20 U	20 U	20 U	100 U	20 U	20 U
1,2-DIBROMO-3-CHLOROPROPANE	20 U	20 U	20 U	20 U	20 U	20 U
2-CHLORO-1,3-BUTADIENE	100 U	100 U	100 U	100 U	100 U	100 U
METHYLMETHACRYLATE	20 U	20 U	20 U	NA	20 UJ	20 UJ
ETHYLMETHACRYLATE	20 U	20 U	20 U	NA	20 U	20 U
PENTACHLOROETHANE	20 U	20 U	20 U	NA	20 U	20 U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND #7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN TRIP BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	TB04	TB06	TB09	TB19
SAMPLE DATE	03/21/96	03/25/96	03/26/96	04/22/96
VOLATILES (ug/L)				
CHLOROMETHANE	10 UJ	10 U	10 U	10 U
BROMOMETHANE	10 U	10 U	10 UJ	10 U
VINYL CHLORIDE	10 U	10 U	10 U	10 U
CHLOROETHANE	10 U	10 U	10 U	10 U
METHYLENE CHLORIDE	5 U	5 U	5 U	5 U
ACETONE	10 U	10 R	10 U	10 UJ
CARBON DISULFIDE	5 UJ	5 U	5 U	5 U
1,1-DICHLOROETHENE	5 U	5 U	5 U	5 U
1,1-DICHLOROETHANE	5 U	5 U	5 U	5 U
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	5 U	5 U
CHLOROFORM	5 U	5 U	5 U	5 U
1,2-DICHLOROETHANE	5 U	5 U	5 UJ	5 U
2-BUTANONE	10 U	10 U	10 U	10 UJ
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U	5 U
CARBON TETRACHLORIDE	5 U	5 U	5 UJ	5 U
VINYL ACETATE	10 U	10 U	10 U	10 UJ
BROMODICHLOROMETHANE	5 U	5 U	5 U	5 U
1,2-DICHLOROPROPANE	5 U	5 U	5 U	5 U
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	5 U
TRICHLOROETHENE	5 U	5 U	5 U	5 U
DIBROMOCHLOROMETHANE	5 U	5 U	5 U	5 U
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U	5 UJ
BENZENE	5 U	5 U	5 U	5 U
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	5 U
BROMOFORM	5 U	5 U	5 U	5 UJ
4-METHYL-2-PENTANONE	10 U	10 U	10 U	10 UJ
2-HEXANONE	10 U	10 UJ	10 U	10 UJ
TETRACHLOROETHENE	5 U	5 U	5 U	5 U
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U	5 UJ
TOLUENE	5 U	5 U	5 U	5 U
CHLOROBENZENE	5 U	5 U	5 U	5 U
ETHYLBENZENE	5 U	5 U	5 U	5 U
STYRENE	5 U	5 U	5 U	5 U
XYLENE (TOTAL)	5 U	5 U	5 U	5 U
ACROLEIN	500 U	500 U	500 UJ	500 UJ

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND #7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN TRIP BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	TB04		TB06		TB09		TB19	
SAMPLE DATE	03/21/96		03/25/96		03/26/96		04/22/96	
ACRYLONITRILE	100	UJ	100	UJ	100	UJ	100	UJ
VOLATILES cont. (ug/L)								
TRICHLOROFLUOROMETHANE	10	U	10	U	10	UJ	10	U
DICHLORODIFLUOROMETHANE	20	U	20	uj	20	UJ	20	U
ACETONITRILE	100	U	100	UJ	100	UJ	100	UJ
IODOMETHANE	10	U	10	U	10	U	10	U
PROPIONITRILE (ETHYL CYANIDE)	50	R	50	R	50	R	50	R
3-CHLOROPROPENE	20	U	20	U	20	U	20	UJ
METHACRYLONITRILE	20	UJ	20	UJ	20	UJ	20	UJ
DIBROMOMETHANE	10	U	10	U	10	U	10	U
ISOBUTYL ALCOHOL	2000	R	2000	R	2000	R	2000	R
1,2-DIBROMOETHANE	20	U	20	U	20	U	20	UJ
1,1,1,2-TETRACHLOROETHANE	10	U	10	U	10	U	10	U
1,2,3-TRICHLOROPROPANE	10	U	10	U	10	U	10	UJ
TRANS-1,4-DICHLORO-2-BUTENE	20	U	20	U	20	U	20	UJ
1,2-DIBROMO-3-CHLOROPROPANE	20	U	20	U	20	U	20	UJ
2-CHLORO-1,3-BUTADIENE	100	U	100	U	100	U	100	U
METHYLMETHACRYLATE	20	UJ	20	U	20	U	20	UJ
ETHYLMETHACRYLATE	20	U	20	U	20	UJ	20	UJ
PENTACHLOROETHANE	20	U	20	U	20	UJ	20	U

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND #7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN TRIP BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/L)								
CHLOROMETHANE	10 U	10 U	ND	ND		0/10	NA	NA
BROMOMETHANE	10 U	10 U	ND	ND		0/10	NA	NA
VINYL CHLORIDE	10 U	10 U	ND	ND		0/10	NA	NA
CHLOROETHANE	10 U	10 U	ND	ND		0/10	NA	NA
METHYLENE CHLORIDE	5 U	5 U	ND	ND		0/10	NA	NA
ACETONE	10 U	14 U	ND	ND		0/9	NA	NA
CARBON DISULFIDE	5 U	5 U	ND	ND		0/10	NA	NA
1,1-DICHLOROETHENE	5 U	5 U	ND	ND		0/10	NA	NA
1,1-DICHLOROETHANE	5 U	5 U	ND	ND		0/10	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	ND	ND		0/10	NA	NA
CHLOROFORM	5 U	5 U	ND	ND		0/10	NA	NA
1,2-DICHLOROETHANE	5 U	5 U	ND	ND		0/10	NA	NA
2-BUTANONE	10 U	10 U	ND	ND		0/10	NA	NA
1,1,1-TRICHLOROETHANE	5 U	5 U	ND	ND		0/10	NA	NA
CARBON TETRACHLORIDE	5 U	5 U	ND	ND		0/8	NA	NA
VINYL ACETATE	10 U	10 U	ND	ND		0/10	NA	NA
BROMODICHLOROMETHANE	5 U	5 U	ND	ND		0/10	NA	NA
1,2-DICHLOROPROPANE	5 U	5 U	ND	ND		0/10	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/10	NA	NA
TRICHLOROETHENE	5 U	5 U	ND	ND		0/10	NA	NA
DIBROMOCHLOROMETHANE	5 U	5 U	ND	ND		0/10	NA	NA
1,1,2-TRICHLOROETHANE	5 U	5 U	ND	ND		0/10	NA	NA
BENZENE	5 U	5 U	ND	ND		0/10	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/10	NA	NA
BROMOFORM	5 U	5 U	ND	ND		0/10	NA	NA
4-METHYL-2-PENTANONE	10 U	10 U	10	10	TB02	1/10	10.00	10.00
2-HEXANONE	10 U	10 U	ND	ND		0/10	NA	NA
TETRACHLOROETHENE	5 U	5 U	ND	ND		0/10	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	ND	ND		0/10	NA	NA
TOLUENE	5 U	5 U	ND	ND		0/10	NA	NA
CHLOROBENZENE	5 U	5 U	ND	ND		0/10	NA	NA
ETHYLBENZENE	5 U	5 U	ND	ND		0/10	NA	NA
STYRENE	5 U	5 U	ND	ND		0/10	NA	NA
XYLENE (TOTAL)	5 U	5 U	ND	ND		0/10	NA	NA
ACROLEIN	500 U	500 U	ND	ND		0/8	NA	NA

QA/QC SUMMARY
CTO-0277RFI REPORT OU#1 AND #7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN TRIP BLANKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ACRYLONITRILE	10 U	100 U	ND	ND		0/10	NA	NA
VOLATILES cont. (ug/L)								
TRICHLOROFLUOROMETHANE	5 U	10 U	ND	ND		0/10	NA	NA
DICHLORODIFLUOROMETHANE	10 U	20 U	ND	ND		0/10	NA	NA
ACETONITRILE	20 U	100 U	ND	ND		0/10	NA	NA
IODOMETHANE	10 U	10 U	ND	ND		0/10	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	50 U	50 U	ND	ND		0/1	NA	NA
3-CHLOROPROPENE	20 U	20 U	ND	ND		0/10	NA	NA
METHACRYLONITRILE	20 U	20 U	ND	ND		0/10	NA	NA
DIBROMOMETHANE	10 U	10 U	ND	ND		0/10	NA	NA
ISOBUTYL ALCOHOL	100 U	2000 U	ND	ND		0/3	NA	NA
1,2-DIBROMOETHANE	20 U	20 U	ND	ND		0/10	NA	NA
1,1,1,2-TETRACHLOROETHANE	10 U	10 U	ND	ND		0/10	NA	NA
1,2,3-TRICHLOROPROPANE	10 U	10 U	ND	ND		0/10	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	20 U	100 U	ND	ND		0/10	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	20 U	20 U	ND	ND		0/10	NA	NA
2-CHLORO-1,3-BUTADIENE	100 U	100 U	ND	ND		0/10	NA	NA
METHYLMETHACRYLATE	20 U	20 U	ND	ND		0/9	NA	NA
ETHYLMETHACRYLATE	20 U	20 U	ND	ND		0/9	NA	NA
PENTACHLOROETHANE	20 U	20 U	ND	ND		0/9	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	10HP01	10HP02	10HP03	10HP03D
SAMPLE DATE	10/25/95	10/25/95	10/26/95	10/26/95
VOLATILES (ug/L)				
CHLOROMETHANE	10 U	36 U	10 U	10 U
BROMOMETHANE	10 U	36 U	10 U	10 U
VINYL CHLORIDE	10 U	36 U	10 U	10 U
CHLOROETHANE	10 U	36 U	10 U	10 U
METHYLENE CHLORIDE	5 U	62	5 U	5 U
ACETONE	98	32 U	5 U	10 U
CARBON DISULFIDE	5 U	18 U	5 U	5 U
1,1-DICHLOROETHENE	5 U	18 U	5 U	5 U
1,1-DICHLOROETHANE	5 U	18 U	5 U	5 U
1,2-DICHLOROETHENE (TOTAL)	5 U	18 U	5 U	5 U
CHLOROFORM	5 U	18 U	14	13
1,2-DICHLOROETHANE	5 U	18 U	5 U	5 U
2-BUTANONE	4 J	36 U	10 U	10 U
1,1,1-TRICHLOROETHANE	5 U	18 U	5 U	5 U
CARBON TETRACHLORIDE	5 U	18 U	5 U	5 U
VINYL ACETATE	10 U	36 U	10 U	10 U
BROMODICHLOROMETHANE	5 U	18 U	5 U	5 U
1,2-DICHLOROPROPANE	5 U	18 U	5 U	5 U
CIS-1,3-DICHLOROPROPENE	5 U	18 U	5 U	5 U
TRICHLOROETHENE	5 U	18 U	5 U	5 U
DIBROMOCHLOROMETHANE	5 U	18 U	5 U	5 U
1,1,2-TRICHLOROETHANE	5 U	18 U	5 U	5 U
BENZENE	5 U	18 U	5 U	5 U
TRANS-1,3-DICHLOROPROPENE	5 U	18 U	5 U	5 U
BROMOFORM	5 U	18 U	5 U	5 U
4-METHYL-2-PENTANONE	10 U	36 U	10 U	10 U
2-HEXANONE	10 U	36 U	10 U	10 U
TETRACHLOROETHENE	5 U	18 U	5 U	5 U
1,1,2,2-TETRACHLOROETHANE	5 U	18 U	5 U	5 U
TOLUENE	5 U	18 U	5 U	5 U
CHLOROBENZENE	5 U	18 U	5 U	5 U
ETHYLBENZENE	5 U	18 U	5 U	5 U
STYRENE	5 U	18 U	5 U	5 U
XYLENE (TOTAL)	5 U	18 U	5 U	5 U
ACROLEIN	10 U	36 U	10 U	10 U
ACRYLONITRILE	10 U	36 U	10 U	10 U
TRICHLOROFLUOROMETHANE	5 U	18 U	5 U	5 U
DICHLORODIFLUOROMETHANE	10 U	36 U	10 U	10 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	10HP01	10HP02	10HP03	10HP03D
SAMPLE DATE	10/25/95	10/25/95	10/26/95	10/26/95
VOLATILES cont. (ug/L)				
ACETONITRILE	20 U	72 U	20 U	20 U
IODOMETHANE	10 U	36 U	10 U	10 U
PROPIONITRILE (ETHYL CYANIDE)	50 U	180 U	50 U	50 U
3-CHLOROPROPENE	20 U	72 U	20 U	20 U
METHACRYLONITRILE	20 U	72 U	20 U	20 U
DIBROMOMETHANE	10 U	36 U	10 U	10 U
ISOBUTYL ALCOHOL	100 R	360 U	100 R	100 U
1,2-DIBROMOETHANE	20 U	72 U	20 U	20 U
1,1,1,2-TETRACHLOROETHANE	10 U	36 U	10 U	10 U
1,2,3-TRICHLOROPROPANE	10 U	36 U	10 U	10 U
TRANS-1,4-DICHLORO-2-BUTENE	100 U	360 U	100 U	100 U
1,2-DIBROMO-3-CHLOROPROPANE	20 U	72 U	20 U	20 U
2-CHLORO-1,3-BUTADIENE	100 U	360 U	100 U	100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	10HP01	10HP02	10HP03	10HP03D
SAMPLE DATE	10/25/95	10/25/95	10/26/95	10/26/95
SEMIVOLATILES (ug/L)				
PHENOL	NA	NA	10 U	65
BIS(2-CHLOROETHYL)ETHER	NA	NA	10 U	10 U
2-CHLOROPHENOL	NA	NA	10 U	10 U
1,3-DICHLOROBENZENE	NA	NA	10 U	10 U
1,4-DICHLOROBENZENE	NA	NA	10 U	10 U
BENZYL ALCOHOL	NA	NA	10 U	10 U
1,2-DICHLOROBENZENE	NA	NA	10 U	10 U
2-METHYLPHENOL	NA	NA	10 U	10 U
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	10 U	10 U
3- AND/OR 4-METHYLPHENOL	NA	NA	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	NA	NA	10 U	10 U
HEXACHLOROETHANE	NA	NA	10 U	10 U
NITROBENZENE	NA	NA	10 U	10 U
ISOPHORONE	NA	NA	10 U	10 U
2-NITROPHENOL	NA	NA	10 U	10 U
2,4-DIMETHYLPHENOL	NA	NA	10 U	10 U
BENZOIC ACID	NA	NA	50 U	50 U
BIS(2-CHLOROETHOXY)METHANE	NA	NA	10 U	10 U
2,4-DICHLOROPHENOL	NA	NA	10 U	10 U
1,2,4-TRICHLOROBENZENE	NA	NA	10 U	10 U
NAPHTHALENE	NA	NA	10 U	10 U
4-CHLOROANILINE	NA	NA	10 U	10 U
HEXACHLOROBUTADIENE	NA	NA	10 U	10 U
4-CHLORO-3-METHYLPHENOL	NA	NA	10 U	10 U
2-METHYLNAPHTHALENE	NA	NA	10 U	10 U
HEXACHLOROCYCLOPENTADIENE	NA	NA	10 U	10 U
2,4,6-TRICHLOROPHENOL	NA	NA	10 U	10 U
2,4,5-TRICHLOROPHENOL	NA	NA	50 U	50 U
2-CHLORONAPHTHALENE	NA	NA	10 U	10 U
2-NITROANILINE	NA	NA	50 U	50 U
DIMETHYLPHTHALATE	NA	NA	10 U	10 U
ACENAPHTHYLENE	NA	NA	10 U	10 U
2,6-DINITROTOLUENE	NA	NA	10 U	10 U
3-NITROANILINE	NA	NA	50 U	50 U
ACENAPHTHENE	NA	NA	10 U	10 U
2,4-DINITROPHENOL	NA	NA	50 U	50 U
4-NITROPHENOL	NA	NA	50 U	50 U
DIBENZOFURAN	NA	NA	10 U	10 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	10HP01	10HP02	10HP03	10HP03D
SAMPLE DATE	10/25/95	10/25/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/L)				
2,4-DINITROTOLUENE	NA	NA	10 U	10 U
DIETHYLPHTHALATE	NA	NA	10 U	10 U
4-CHLOROPHENYL-PHENYLETHER	NA	NA	10 U	10 U
FLUORENE	NA	NA	10 U	10 U
4-NITROANILINE	NA	NA	50 U	50 U
4,6-DINITRO-2-METHYLPHENOL	NA	NA	50 U	50 U
N-NITROSODIPHENYLAMINE (1)	NA	NA	10 U	10 U
4-BROMOPHENYL-PHENYLETHER	NA	NA	10 U	10 U
HEXACHLOROBENZENE	NA	NA	10 U	10 U
PENTACHLOROPHENOL	NA	NA	50 U	50 U
PHENANTHRENE	NA	NA	10 U	10 U
ANTHRACENE	NA	NA	10 U	10 U
DI-N-BUTYLPHTHALATE	NA	NA	1 J	3 J
FLUORANTHENE	NA	NA	10 U	10 U
PYRENE	NA	NA	10 U	10 U
BUTYLBENZYLPHTHALATE	NA	NA	10 U	10 U
3,3'-DICHLOROBENZIDINE	NA	NA	20 U	20 U
BENZO(A)ANTHRACENE	NA	NA	10 U	10 U
CHRYSENE	NA	NA	10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NA	10 U	10 U
DI-N-OCTYL PHTHALATE	NA	NA	10 U	10 U
BENZO(B)FLUORANTHENE	NA	NA	10 U	10 U
BENZO(K)FLUORANTHENE	NA	NA	10 U	10 U
BENZO(A)PYRENE	NA	NA	10 U	10 U
INDENO(1,2,3-CD)PYRENE	NA	NA	10 U	10 U
DIBENZO(A,H)ANTHRACENE	NA	NA	10 U	10 U
BENZO(G,H,I)PERYLENE	NA	NA	10 U	10 U
1,4-DIOXANE	NA	NA	10 U	10 U
METHYL METHACRYLATE	NA	NA	10 U	10 U
PYRIDINE	NA	NA	10 U	10 U
N-NITROSODIMETHYLAMINE	NA	NA	10 U	10 U
ETHYL METHACRYLATE	NA	NA	10 U	10 U
2-PICOLINE	NA	NA	10 U	10 U
N-NITROSOMETHYLETHYLAMINE	NA	NA	10 U	10 U
METHYL METHANESULFONATE	NA	NA	10 U	10 U
N-NITROSODIETHYLAMINE	NA	NA	10 U	10 U
ETHYL METHANESULFONATE	NA	NA	10 U	10 U
ANILINE	NA	NA	10 U	10 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	10HP01	10HP02	10HP03	10HP03D
SAMPLE DATE	10/25/95	10/25/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/L)				
PENTACHLOROETHANE	NA	NA	10 U	10 U
N-NITROSOPYRROLIDINE	NA	NA	10 U	10 U
ACETOPHENONE	NA	NA	10 U	4 J
N-NITROSOMORPHOLINE	NA	NA	10 U	10 U
O-TOLUIDINE	NA	NA	10 U	10 U
N-NITROSOPIPERIDINE	NA	NA	50 U	50 U
A,A-DIMETHYLPHENETHYLAMINE	NA	NA	10 U	10 U
2,6-DICHLOROPHENOL	NA	NA	10 U	10 U
HEXACHLOROPROPENE	NA	NA	10 U	10 U
P-PHENYLENEDIAMINE	NA	NA	10 U	10 U
N-NITROSO-DI-N-BUTYLAMINE	NA	NA	10 U	10 U
SAFROLE	NA	NA	10 U	10 U
1,2,4,5-TETRACHLOROBENZENE	NA	NA	10 U	10 U
ISOSAFROLE	NA	NA	10 U	10 U
1,4-NAPHTHOQUINONE	NA	NA	10 U	10 U
1,3-DINITROBENZENE	NA	NA	10 U	10 U
PENTACHLOROBENZENE	NA	NA	10 U	10 U
1-NAPHTHYLAMINE	NA	NA	10 U	10 U
2-NAPHTHYLAMINE	NA	NA	10 U	10 U
2,3,4,6-TETRACHLOROPHENOL	NA	NA	10 U	10 U
1,3,5-TRINITROBENZENE	NA	NA	10 U	10 U
DIALLATE	NA	NA	10 U	10 U
PHENACETIN	NA	NA	10 U	10 U
DIPHENYLAMINE	NA	NA	10 U	10 U
5-NITRO-O-TOLUIDINE	NA	NA	10 U	10 U
4-AMINOBIPHENYL	NA	NA	10 U	10 U
PRONAMIDE	NA	NA	10 U	10 U
2-SEC-BUTYL-4,6-DINITROPHENOL	NA	NA	50 U	50 U
PENTACHLORONITROBENZENE	NA	NA	50 R	50 R
4-NITROQUINOLINE-1-OXIDE	NA	NA	20 U	20 U
METHAPYRILENE	NA	NA	10 U	10 U
ARAMITE	NA	NA	20 U	20 U
CHLOROBENZILATE	NA	NA	10 U	10 U
P-DIMETHYLAMINOAZOBENZENE	NA	NA	10 U	10 U
3,3'-DIMETHYLBENZIDINE	NA	NA	10 U	10 U
2-ACETYLAMINOFLUORENE	NA	NA	10 U	10 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	NA	NA	10 U	10 U
HEXACHLOROPHENE	NA	NA	90 U	90 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	10HP01	10HP02	10HP03	10HP03D
SAMPLE DATE	10/25/95	10/25/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/L)				
3-METHYLCHOLANTHRENE	NA	NA	10 U	10 U
PCB (ug/L)				
AROCLOR-1016	NA	NA	1 U	1 U
AROCLOR-1221	NA	NA	2 U	2 U
AROCLOR-1232	NA	NA	1 U	1 U
AROCLOR-1242	NA	NA	1 U	1 U
AROCLOR-1248	NA	NA	1 U	1 U
AROCLOR-1254	NA	NA	1 U	1 U
AROCLOR-1260	NA	NA	1 U	1 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/L)								
CHLOROMETHANE	10 U	36 U	ND	ND		0/4	NA	NA
BROMOMETHANE	10 U	36 U	ND	ND		0/4	NA	NA
VINYL CHLORIDE	10 U	36 U	ND	ND		0/4	NA	NA
CHLOROETHANE	10 U	36 U	ND	ND		0/4	NA	NA
METHYLENE CHLORIDE	5 U	5 U	62	62	10HP02	1/4	62.00	62.00
ACETONE	5 U	32 U	98	98	10HP01	1/4	98.00	98.00
CARBON DISULFIDE	5 U	18 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHENE	5 U	18 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHANE	5 U	18 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	18 U	ND	ND		0/4	NA	NA
CHLOROFORM	5 U	18 U	13	14	10HP03	2/4	13.50	13.50
1,2-DICHLOROETHANE	5 U	18 U	ND	ND		0/4	NA	NA
2-BUTANONE	10 U	36 U	4 J	4 J	10HP01	1/4	4.00	4.00
1,1,1-TRICHLOROETHANE	5 U	18 U	ND	ND		0/4	NA	NA
CARBON TETRACHLORIDE	5 U	18 U	ND	ND		0/4	NA	NA
VINYL ACETATE	10 U	36 U	ND	ND		0/4	NA	NA
BROMODICHLOROMETHANE	5 U	18 U	ND	ND		0/4	NA	NA
1,2-DICHLOROPROPANE	5 U	18 U	ND	ND		0/4	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	18 U	ND	ND		0/4	NA	NA
TRICHLOROETHENE	5 U	18 U	ND	ND		0/4	NA	NA
DIBROMOCHLOROMETHANE	5 U	18 U	ND	ND		0/4	NA	NA
1,1,2-TRICHLOROETHANE	5 U	18 U	ND	ND		0/4	NA	NA
BENZENE	5 U	18 U	ND	ND		0/4	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	18 U	ND	ND		0/4	NA	NA
BROMOFORM	5 U	18 U	ND	ND		0/4	NA	NA
4-METHYL-2-PENTANONE	10 U	36 U	ND	ND		0/4	NA	NA
2-HEXANONE	10 U	36 U	ND	ND		0/4	NA	NA
TETRACHLOROETHENE	5 U	18 U	ND	ND		0/4	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	18 U	ND	ND		0/4	NA	NA
TOLUENE	5 U	18 U	ND	ND		0/4	NA	NA
CHLOROBENZENE	5 U	18 U	ND	ND		0/4	NA	NA
ETHYLBENZENE	5 U	18 U	ND	ND		0/4	NA	NA
STYRENE	5 U	18 U	ND	ND		0/4	NA	NA
XYLENE (TOTAL)	5 U	18 U	ND	ND		0/4	NA	NA
ACROLEIN	10 U	36 U	ND	ND		0/4	NA	NA
ACRYLONITRILE	10 U	36 U	ND	ND		0/4	NA	NA
TRICHLOROFLUOROMETHANE	5 U	18 U	ND	ND		0/4	NA	NA
DICHLORODIFLUOROMETHANE	10 U	36 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/L)								
ACETONITRILE	20 U	72 U	ND	ND		0/4	NA	NA
IODOMETHANE	10 U	36 U	ND	ND		0/4	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	50 U	180 U	ND	ND		0/4	NA	NA
3-CHLOROPROPENE	20 U	72 U	ND	ND		0/4	NA	NA
METHACRYLONITRILE	20 U	72 U	ND	ND		0/4	NA	NA
DIBROMOMETHANE	10 U	36 U	ND	ND		0/4	NA	NA
ISOBUTYL ALCOHOL	100 U	360 U	ND	ND		0/2	NA	NA
1,2-DIBROMOETHANE	20 U	72 U	ND	ND		0/4	NA	NA
1,1,1,2-TETRACHLOROETHANE	10 U	36 U	ND	ND		0/4	NA	NA
1,2,3-TRICHLOROPROPANE	10 U	36 U	ND	ND		0/4	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	100 U	360 U	ND	ND		0/4	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	20 U	72 U	ND	ND		0/4	NA	NA
2-CHLORO-1,3-BUTADIENE	100 U	360 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/L)								
PHENOL	10 U	10 U	65	65	10HP03D	1/2	65.00	65.00
BIS(2-CHLOROETHYL)ETHER	10 U	10 U	ND	ND		0/2	NA	NA
2-CHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
1,3-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
1,4-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
BENZYL ALCOHOL	10 U	10 U	ND	ND		0/2	NA	NA
1,2-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
2-METHYLPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	10 U	10 U	ND	ND		0/2	NA	NA
3- AND/OR 4-METHYLPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROETHANE	10 U	10 U	ND	ND		0/2	NA	NA
NITROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
ISOPHORONE	10 U	10 U	ND	ND		0/2	NA	NA
2-NITROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
2,4-DIMETHYLPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
BENZOIC ACID	50 U	50 U	ND	ND		0/2	NA	NA
BIS(2-CHLOROETHOXY)METHANE	10 U	10 U	ND	ND		0/2	NA	NA
2,4-DICHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
1,2,4-TRICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
NAPHTHALENE	10 U	10 U	ND	ND		0/2	NA	NA
4-CHLOROANILINE	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROBUTADIENE	10 U	10 U	ND	ND		0/2	NA	NA
4-CHLORO-3-METHYLPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
2-METHYLNAPHTHALENE	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	ND	ND		0/2	NA	NA
2,4,6-TRICHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
2,4,5-TRICHLOROPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
2-CHLORONAPHTHALENE	10 U	10 U	ND	ND		0/2	NA	NA
2-NITROANILINE	50 U	50 U	ND	ND		0/2	NA	NA
DIMETHYLPHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
ACENAPHTHYLENE	10 U	10 U	ND	ND		0/2	NA	NA
2,6-DINITROTOLUENE	10 U	10 U	ND	ND		0/2	NA	NA
3-NITROANILINE	50 U	50 U	ND	ND		0/2	NA	NA
ACENAPHTHENE	10 U	10 U	ND	ND		0/2	NA	NA
2,4-DINITROPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
4-NITROPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
DIBENZOFURAN	10 U	10 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
2,4-DINITROTOLUENE	10 U	10 U	ND	ND		0/2	NA	NA
DIETHYLPHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/2	NA	NA
FLUORENE	10 U	10 U	ND	ND		0/2	NA	NA
4-NITROANILINE	50 U	50 U	ND	ND		0/2	NA	NA
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
N-NITROSODIPHENYLAMINE (1)	10 U	10 U	ND	ND		0/2	NA	NA
4-BROMOPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
PENTACHLOROPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
PHENANTHRENE	10 U	10 U	ND	ND		0/2	NA	NA
ANTHRACENE	10 U	10 U	ND	ND		0/2	NA	NA
DI-N-BUTYLPHTHALATE	NA	NA	1 J	3 J	10HP03D	2/2	2.00	2.00
FLUORANTHENE	10 U	10 U	ND	ND		0/2	NA	NA
PYRENE	10 U	10 U	ND	ND		0/2	NA	NA
BUTYLBENZYLPHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
3,3'-DICHLOROBENZIDINE	20 U	20 U	ND	ND		0/2	NA	NA
BENZO(A)ANTHRACENE	10 U	10 U	ND	ND		0/2	NA	NA
CHRYSENE	10 U	10 U	ND	ND		0/2	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
DI-N-OCTYL PHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(B)FLUORANTHENE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(K)FLUORANTHENE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(A)PYRENE	10 U	10 U	ND	ND		0/2	NA	NA
INDENO(1,2,3-CD)PYRENE	10 U	10 U	ND	ND		0/2	NA	NA
DIBENZO(A,H)ANTHRACENE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(G,H,I)PERYLENE	10 U	10 U	ND	ND		0/2	NA	NA
1,4-DIOXANE	10 U	10 U	ND	ND		0/2	NA	NA
METHYL METHACRYLATE	10 U	10 U	ND	ND		0/2	NA	NA
PYRIDINE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSODIMETHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
ETHYL METHACRYLATE	10 U	10 U	ND	ND		0/2	NA	NA
2-PICOLINE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSOMETHYLETHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
METHYL METHANESULFONATE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSODIETHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
ETHYL METHANESULFONATE	10 U	10 U	ND	ND		0/2	NA	NA
ANILINE	10 U	10 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
PENTACHLOROETHANE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSOPYRROLIDINE	10 U	10 U	ND	ND		0/2	NA	NA
ACETOPHENONE	10 U	10 U	4 J	4 J	10HP03D	1/2	4.00	4.00
N-NITROSOMORPHOLINE	10 U	10 U	ND	ND		0/2	NA	NA
O-TOLUIDINE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSOPIPERIDINE	50 U	50 U	ND	ND		0/2	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
2,6-DICHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROPROPENE	10 U	10 U	ND	ND		0/2	NA	NA
P-PHENYLENEDIAMINE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
SAFROLE	10 U	10 U	ND	ND		0/2	NA	NA
1,2,4,5-TETRACHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
ISOSAFROLE	10 U	10 U	ND	ND		0/2	NA	NA
1,4-NAPHTHOQUINONE	10 U	10 U	ND	ND		0/2	NA	NA
1,3-DINITROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
PENTACHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
1-NAPHTHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
2-NAPHTHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
2,3,4,6-TETRACHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
1,3,5-TRINITROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
DIALLATE	10 U	10 U	ND	ND		0/2	NA	NA
PHENACETIN	10 U	10 U	ND	ND		0/2	NA	NA
DIPHENYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
5-NITRO-O-TOLUIDINE	10 U	10 U	ND	ND		0/2	NA	NA
4-AMINOBIPHENYL	10 U	10 U	ND	ND		0/2	NA	NA
PRONAMIDE	10 U	10 U	ND	ND		0/2	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
PENTACHLORONITROBENZENE	NA	NA	ND	ND		0/0	NA	NA
4-NITROQUINOLINE-1-OXIDE	20 U	20 U	ND	ND		0/2	NA	NA
METHAPYRILENE	10 U	10 U	ND	ND		0/2	NA	NA
ARAMITE	20 U	20 U	ND	ND		0/2	NA	NA
CHLOROBENZILATE	10 U	10 U	ND	ND		0/2	NA	NA
P-DIMETHYLAMINOAZOBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
3,3'-DIMETHYLBENZIDINE	10 U	10 U	ND	ND		0/2	NA	NA
2-ACETYLAMINOFLUORENE	10 U	10 U	ND	ND		0/2	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROPHENE	90 U	90 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 10 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/L)								
3-METHYLCHOLANTHRENE	10 U	10 U	ND	ND		0/2	NA	NA
PCB (ug/L)								
AROCLOR-1016	1 U	1 U	ND	ND		0/2	NA	NA
AROCLOR-1221	2 U	2 U	ND	ND		0/2	NA	NA
AROCLOR-1232	1 U	1 U	ND	ND		0/2	NA	NA
AROCLOR-1242	1 U	1 U	ND	ND		0/2	NA	NA
AROCLOR-1248	1 U	1 U	ND	ND		0/2	NA	NA
AROCLOR-1254	1 U	1 U	ND	ND		0/2	NA	NA
AROCLOR-1260	1 U	1 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	12SS01	12SS02	12SS03	12SS04
SAMPLE DATE	09/25/95	09/25/95	03/22/96	03/22/96
VOLATILES (ug/kg)				
CARBON TETRACHLORIDE	6 U	6 U	5 U	5 UJ
ACETONE	12 U	11 U	11 UJ	11 UJ
CHLOROFORM	6 U	6 U	5 U	5 UJ
BENZENE	6 U	6 U	5 U	5 UJ
1,1,1-TRICHLOROETHANE	6 U	6 U	5 U	5 UJ
BROMOMETHANE	12 U	11 U	11 U	11 UJ
CHLOROMETHANE	12 U	11 U	11 U	11 UJ
IODOMETHANE	12 U	11 U	11 U	11 UJ
DIBROMOMETHANE	12 U	11 U	11 U	11 UJ
CHLOROETHANE	12 U	11 U	11 U	11 UJ
VINYL CHLORIDE	12 U	11 U	11 U	11 UJ
ACETONITRILE	120 U	110 U	110 U	110 UJ
METHYLENE CHLORIDE	6 U	6 U	5 UJ	5 UJ
CARBON DISULFIDE	6 U	6 U	5 U	5 UJ
BROMOFORM	6 U	6 U	5 U	5 UJ
BROMODICHLOROMETHANE	6 U	6 U	5 U	5 UJ
1,1-DICHLOROETHANE	6 U	6 U	5 U	5 UJ
1,1-DICHLOROETHENE	6 U	6 U	5 U	5 UJ
TRICHLOROFLUOROMETHANE	12 U	11 U	11 UJ	11 UJ
DICHLORODIFLUOROMETHANE	23 U	23 U	22 U	22 UJ
PENTACHLOROETHANE	23 U	23 U	22 U	22 UJ
ISOBUTYL ALCOHOL	2300 U	2300 U	2200 R	2200 UJ
1,2-DICHLOROPROPANE	6 U	6 U	5 U	5 UJ
2-BUTANONE	12 U	11 U	11 U	11 UJ
1,1,2-TRICHLOROETHANE	6 U	6 U	5 U	5 UJ
TRICHLOROETHENE	6 U	6 U	5 U	5 UJ
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	5 U	5 UJ
METHYLMETHACRYLATE	23 U	23 U	22 U	22 UJ
1,2-DIBROMO-3-CHLOROPROPANE	23 U	23 U	22 UJ	22 UJ
1,2,3-TRICHLOROPROPANE	12 U	11 U	11 U	11 UJ
ETHYLMETHACRYLATE	23 U	23 U	22 U	22 UJ
ETHYLBENZENE	6 U	6 U	5 U	5 UJ
STYRENE	6 U	6 U	5 U	5 UJ
1,2-DIBROMOETHANE	23 U	23 U	22 U	22 UJ
ACROLEIN	580 U	570 U	540 U	540 UJ
3-CHLOROPROPENE	23 U	23 U	22 U	22 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	12SS01	12SS02	12SS03	12SS04
SAMPLE DATE	09/25/95	09/25/95	03/22/96	03/22/96
VOLATILES cont. (ug/kg)				
1,2-DICHLOROETHANE	6 U	6 U	5 UJ	5 UJ
PROPIONITRILE (ETHYL CYANIDE)	58 U	57 U	54 R	54 UJ
ACRYLONITRILE	120 U	110 U	110 U	110 UJ
VINYL ACETATE	12 U	11 U	11 U	11 UJ
4-METHYL-2-PENTANONE	12 U	11 U	11 U	11 UJ
TOLUENE	6 U	6 U	5 U	5 UJ
CHLOROBENZENE	6 U	6 U	5 U	5 UJ
TRANS-1,4-DICHLORO-2-BUTENE	23 U	23 U	22 U	22 UJ
DIBROMOCHLOROMETHANE	6 U	6 U	5 U	5 UJ
METHACRYLONITRILE	23 U	23 U	22 U	22 UJ
2-CHLORO-1,3-BUTADIENE	120 U	110 U	110 U	110 UJ
TETRACHLOROETHENE	6 U	6 U	5 U	5 UJ
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	5 U	5 UJ
2-HEXANONE	12 U	11 U	11 UJ	11 UJ
1,1,1,2-TETRACHLOROETHANE	12 U	11 U	11 U	11 UJ
XYLENE (TOTAL)	6 U	6 U	5 U	5 UJ
CIS-1,3-DICHLOROPROPENE	6 U	6 U	5 U	5 UJ
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	5 U	5 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	12SS01	12SS02	12SS03	12SS04
SAMPLE DATE	09/25/95	09/25/95	03/22/96	03/22/96
SEMIVOLATILES (ug/kg)				
BENZO(A)PYRENE	380 U	370 U	360 U	360 U
2,4-DINITROPHENOL	1900 U	1800 U	1800 UJ	1800 UJ
DIBENZO(A,H)ANTHRACENE	380 U	370 U	360 U	360 U
2-ACETYLAMINOFLUORENE	750 U	740 U	710 U	710 U
N-NITROSODIETHYLAMINE	380 U	370 U	360 U	360 UJ
3-METHYLCHOLANTHRENE	380 U	370 U	360 U	360 U
BENZO(A)ANTHRACENE	380 U	370 U	360 U	360 U
4-NITROQUINOLINE-1-OXIDE	1900 U	1800 U	1800 UJ	1800 UJ
7,12-DIMETHYLBENZ(A)ANTHRACENE	750 U	740 U	710 U	710 U
2,3,4,6-TETRACHLOROPHENOL	380 U	370 U	360 UJ	360 UJ
4-CHLORO-3-METHYLPHENOL	380 U	370 U	710 U	710 U
N-NITROSOMORPHOLINE	750 U	740 U	710 UJ	710 UJ
P-DIMETHYLAMINOAZOBENZENE	750 U	740 U	710 U	710 U
PHENACETIN	380 U	370 U	360 U	360 U
ETHYL METHANESULFONATE	380 U	370 U	360 U	360 U
ANILINE	1900 U	1800 U	1800 UJ	1800 UJ
N-NITROSODIMETHYLAMINE	380 U	370 U	360 U	360 U
BENZOIC ACID	1900 U	1800 U	1800 U	1800 U
METHYL METHANESULFONATE	380 U	370 U	360 U	360 U
HEXACHLOROETHANE	380 U	370 U	360 U	360 U
HEXACHLOROPHENE	3800 U	3700 U	3600 R	3600 R
HEXACHLOROCYCLOPENTADIENE	380 U	370 U	360 U	360 U
ISOPHORONE	380 U	370 U	360 U	360 U
PENTACHLORONITROBENZENE	380 U	370 U	360 U	360 U
ACENAPHTHENE	380 U	370 U	360 U	360 U
DIETHYLPHTHALATE	380 U	370 U	360 U	360 U
DI-N-BUTYLPHTHALATE	250 JB	300 JB	360 U	360 U
PHENANTHRENE	380 U	370 U	360 U	360 U
BUTYLBENZYLPHTHALATE	380 U	370 U	360 U	360 U
N-NITROSODIPHENYLAMINE (1)	380 U	370 U	360 U	360 U
FLUORENE	380 U	370 U	360 U	360 U
CARBAZOLE	NA	NA	360 U	360 U
2,6-DICHLOROPHENOL	380 U	370 U	360 U	360 U
HEXACHLOROBUTADIENE	380 U	370 U	360 U	360 U
PENTACHLOROPHENOL	1900 U	1800 U	1800 U	1800 U
2,4,6-TRICHLOROPHENOL	380 U	370 U	360 U	360 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	12SS01	12SS02	12SS03	12SS04
SAMPLE DATE	09/25/95	09/25/95	03/22/96	03/22/96
SEMIVOLATILES cont. (ug/kg)				
2-NITROANILINE	1900 U	1800 U	1800 U	1800 U
2-NITROPHENOL	380 U	370 U	360 U	360 U
2-SEC-BUTYL-4,6-DINITROPHENOL	750 U	740 U	710 UJ	710 UJ
NAPHTHALENE	380 U	370 U	360 U	360 U
2-METHYLNAPHTHALENE	380 U	370 U	360 UJ	360 UJ
2-CHLORONAPHTHALENE	380 U	370 U	360 U	360 U
2-NAPHTHYLAMINE	380 U	370 U	890 U	890 U
METHAPYRILENE	940 U	920 U	890 UJ	890 UJ
3,3'-DICHLOROBENZIDINE	750 U	740 U	710 U	710 U
4-AMINOBIPHENYL	380 U	370 U	710 U	710 U
BENZIDINE	NA	NA	3600 UJ	3600 UJ
SAFROLE	380 U	370 U	360 U	360 U
O-CRESOL	380 U	370 U	360 U	360 U
1,2-DICHLOROBENZENE	380 U	370 U	360 U	360 U
O-TOLUIDINE	380 U	370 U	360 R	360 R
2-CHLOROPHENOL	380 U	370 U	360 U	360 U
1,2,4,5-TETRACHLOROBENZENE	380 U	370 U	360 U	360 U
2,4,5-TRICHLOROPHENOL	1900 U	1800 U	1800 U	1800 U
ACETOPHENONE	380 U	370 U	360 U	360 U
NITROBENZENE	380 U	370 U	360 U	360 U
3-NITROANILINE	1900 U	1800 U	1800 U	1800 U
1,3,5-TRINITROBENZENE	3800 U	3700 U	3600 U	3600 U
5-NITRO-O-TOLUIDINE	750 U	740 U	710 U	710 U
1,3-DINITROBENZENE	750 U	740 U	710 U	710 U
4-NITROANILINE	1900 U	1800 U	1800 U	1800 U
4-NITROPHENOL	1900 U	1800 U	1800 U	1800 U
BENZYL ALCOHOL	380 U	370 U	360 UJ	360 U
N-NITROSOPIPERIDINE	380 U	370 U	360 U	360 U
4-BROMOPHENYL-PHENYLETHER	380 U	370 U	360 U	360 U
2,4-DIMETHYLPHENOL	380 U	370 U	360 U	360 U
1,4-DICHLOROBENZENE	380 U	370 U	360 U	360 U
4-CHLOROANILINE	380 U	370 U	710 U	710 U
P-PHENYLENEDIAMINE	750 U	740 U	710 UJ	710 UJ
2,2'-OXYBIS(1-CHLOROPROPANE)	380 U	370 U	360 U	360 U
PHENOL	380 U	370 U	360 U	360 U
2-PICOLINE	380 U	370 U	360 R	360 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	12SS01	12SS02	12SS03	12SS04
SAMPLE DATE	09/25/95	09/25/95	03/22/96	03/22/96
SEMIVOLATILES cont. (ug/kg)				
PYRIDINE	750 U	740 U	710 U	710 U
BIS(2-CHLOROETHYL)ETHER	380 U	370 U	360 U	360 U
BIS(2-CHLOROETHOXY)METHANE	380 U	370 U	360 U	360 U
BIS(2-ETHYLHEXYL)PHTHALATE	39 J	370 U	360 U	360 U
DI-N-OCTYL PHTHALATE	380 U	370 U	360 U	360 U
HEXACHLOROBENZENE	380 U	370 U	360 U	360 U
3,3'-DIMETHYLBENZIDINE	750 U	740 U	1800 U	1800 U
ANTHRACENE	380 U	370 U	360 U	360 U
ISOSAFROLE	380 U	370 U	360 UJ	360 UJ
1,2,4-TRICHLOROBENZENE	380 U	370 U	360 U	360 U
2,4-DICHLOROPHENOL	380 U	370 U	360 U	360 U
2,4-DINITROTOLUENE	380 U	370 U	360 U	360 U
A,A-DIMETHYLPHENETHYLAMINE	1900 U	1800 U	1800 U	1800 U
DIPHENYLAMINE	380 U	370 U	360 U	360 U
1,2-DIPHENYLHYDRAZINE	NA	NA	360 U	360 U
1,4-DIOXANE	1500 U	1500 U	710 R	710 R
PYRENE	380 U	370 U	360 U	360 U
1,4-NAPHTHOQUINONE	1900 U	1800 U	1800 UJ	1800 UJ
DIMETHYLPHTHALATE	380 U	370 U	360 U	360 U
DIBENZOFURAN	380 U	370 U	360 U	360 U
1-NAPHTHYLAMINE	380 U	370 U	710 U	710 U
ARAMITE	750 U	740 U	710 UJ	710 UJ
BENZO(G,H,I)PERYLENE	380 U	370 U	360 U	360 U
INDENO(1,2,3-CD)PYRENE	380 U	370 U	360 U	360 U
BENZO(B)FLUORANTHENE	380 U	370 U	360 U	360 U
FLUORANTHENE	380 U	370 U	360 U	360 U
BENZO(K)FLUORANTHENE	380 U	370 U	360 U	360 U
ACENAPHTHYLENE	380 U	370 U	360 U	360 U
CHRYSENE	380 U	370 U	360 U	360 U
CHLOROBENZILATE	380 U	370 U	360 UJ	360 UJ
4,6-DINITRO-2-METHYLPHENOL	1900 U	1800 U	1800 UJ	1800 UJ
1,3-DICHLOROBENZENE	380 U	370 U	360 U	360 U
2,6-DINITROTOLUENE	380 U	370 U	360 U	360 U
PENTACHLOROBENZENE	380 U	370 U	360 U	360 U
N-NITROSO-DI-N-PROPYLAMINE	380 U	370 U	360 U	360 U
N-NITROSO-DI-N-BUTYLAMINE	380 U	370 U	360 UJ	360 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	12SS01	12SS02	12SS03	12SS04
SAMPLE DATE	09/25/95	09/25/95	03/22/96	03/22/96
SEMIVOLATILES cont. (ug/kg)				
N-NITROSOPYRROLIDINE	1900 U	1800 U	1800 UJ	1800 UJ
HEXACHLOROPROPENE	750 U	740 U	1800 U	1800 U
DIALLATE	380 U	370 U	360 U	360 U
4-CHLOROPHENYL-PHENYLETHER	380 U	370 U	360 U	360 U
N-NITROSOMETHYLETHYLAMINE	380 U	370 U	360 UJ	360 U
PRONAMIDE	380 U	370 U	360 U	360 U
META & PARA-CRESOL	380 U	370 U	360 U	360 U
PCBS (ug/kg)				
AROCLOR-1260	91 U	91 U	86 U	85 U
AROCLOR-1254	91 U	91 U	86 U	85 U
AROCLOR-1221	45 U	45 U	43 U	42 U
AROCLOR-1232	45 U	45 U	43 U	42 U
AROCLOR-1248	45 U	45 U	43 U	42 U
AROCLOR-1016	45 U	45 U	43 U	42 U
AROCLOR-1242	45 U	45 U	43 U	42 U
TPH (mg/kg)				
DIESEL FUEL	0.047 U	0.047 U	4.5 U	4.5 U
GASOLINE	0.033 U	0.033 U	0.032	0.033

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CARBON TETRACHLORIDE	5 U	6 U	ND	ND		0/4	NA	NA
ACETONE	11 U	12 U	ND	ND		0/4	NA	NA
CHLOROFORM	5 U	6 U	ND	ND		0/4	NA	NA
BENZENE	5 U	6 U	ND	ND		0/4	NA	NA
1,1,1-TRICHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
BROMOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
CHLOROMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
IODOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
DIBROMOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
CHLOROETHANE	11 U	12 U	ND	ND		0/4	NA	NA
VINYL CHLORIDE	11 U	12 U	ND	ND		0/4	NA	NA
ACETONITRILE	110 U	120 U	ND	ND		0/4	NA	NA
METHYLENE CHLORIDE	5 UJ	6 U	ND	ND		0/4	NA	NA
CARBON DISULFIDE	5 U	6 U	ND	ND		0/4	NA	NA
BROMOFORM	5 U	6 U	ND	ND		0/4	NA	NA
BROMODICHLOROMETHANE	5 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHENE	5 U	6 U	ND	ND		0/4	NA	NA
TRICHLOROFLUOROMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
DICHLORODIFLUOROMETHANE	22 U	23 U	ND	ND		0/4	NA	NA
PENTACHLOROETHANE	22 U	23 U	ND	ND		0/4	NA	NA
ISOBUTYL ALCOHOL	2200 UJ	2300 U	ND	ND		0/3	NA	NA
1,2-DICHLOROPROPANE	5 U	6 U	ND	ND		0/4	NA	NA
2-BUTANONE	11 U	12 U	ND	ND		0/4	NA	NA
1,1,2-TRICHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
TRICHLOROETHENE	5 U	6 U	ND	ND		0/4	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
METHYLMETHACRYLATE	22 U	23 U	ND	ND		0/4	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 UJ	23 U	ND	ND		0/4	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	12 U	ND	ND		0/4	NA	NA
ETHYLMETHACRYLATE	22 U	23 U	ND	ND		0/4	NA	NA
ETHYLBENZENE	5 U	6 U	ND	ND		0/4	NA	NA
STYRENE	5 U	6 U	ND	ND		0/4	NA	NA
1,2-DIBROMOETHANE	22 U	23 U	ND	ND		0/4	NA	NA
ACROLEIN	540 U	580 U	ND	ND		0/4	NA	NA
3-CHLOROPROPENE	22 U	23 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
1,2-DICHLOROETHANE	5 UJ	6 U	ND	ND		0/4	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	54 UJ	58 U	ND	ND		0/3	NA	NA
ACRYLONITRILE	110 U	120 U	ND	ND		0/4	NA	NA
VINYL ACETATE	11 U	12 U	ND	ND		0/4	NA	NA
4-METHYL-2-PENTANONE	11 U	12 U	ND	ND		0/4	NA	NA
TOLUENE	5 U	6 U	ND	ND		0/4	NA	NA
CHLOROBENZENE	5 U	6 U	ND	ND		0/4	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	22 U	23 U	ND	ND		0/4	NA	NA
DIBROMOCHLOROMETHANE	5 U	6 U	ND	ND		0/4	NA	NA
METHACRYLONITRILE	22 U	23 U	ND	ND		0/4	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	120 U	ND	ND		0/4	NA	NA
TETRACHLOROETHENE	5 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	6 U	ND	ND		0/4	NA	NA
2-HEXANONE	11 U	12 U	ND	ND		0/4	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	12 U	ND	ND		0/4	NA	NA
XYLENE (TOTAL)	5 U	6 U	ND	ND		0/4	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/4	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
BENZO(A)PYRENE	360 U	380 U	ND	ND		0/4	NA	NA
2,4-DINITROPHENOL	1800 U	1900 U	ND	ND		0/4	NA	NA
DIBENZO(A,H)ANTHRACENE	360 U	380 U	ND	ND		0/4	NA	NA
2-ACETYLAMINOFLUORENE	710 U	750 U	ND	ND		0/4	NA	NA
N-NITROSODIETHYLAMINE	360 U	380 U	ND	ND		0/4	NA	NA
3-METHYLCHOLANTHRENE	360 U	380 U	ND	ND		0/4	NA	NA
BENZO(A)ANTHRACENE	360 U	380 U	ND	ND		0/4	NA	NA
4-NITROQUINOLINE-1-OXIDE	1800 U	1900 U	ND	ND		0/4	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	710 U	750 U	ND	ND		0/4	NA	NA
2,3,4,6-TETRACHLOROPHENOL	360 UJ	380 U	ND	ND		0/4	NA	NA
4-CHLORO-3-METHYLPHENOL	370 U	710 U	ND	ND		0/4	NA	NA
N-NITROSOMORPHOLINE	710 UJ	750 U	ND	ND		0/4	NA	NA
P-DIMETHYLAMINOAZOBENZENE	710 U	750 U	ND	ND		0/4	NA	NA
PHENACETIN	360 U	380 U	ND	ND		0/4	NA	NA
ETHYL METHANESULFONATE	360 U	380 U	ND	ND		0/4	NA	NA
ANILINE	1800 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSODIMETHYLAMINE	360 U	380 U	ND	ND		0/4	NA	NA
BENZOIC ACID	1800 U	1900 U	ND	ND		0/4	NA	NA
METHYL METHANESULFONATE	360 U	380 U	ND	ND		0/4	NA	NA
HEXACHLOROETHANE	360 U	380 U	ND	ND		0/4	NA	NA
HEXACHLOROPHENE	3700 U	3800 U	ND	ND		0/2	NA	NA
HEXACHLOROCYCLOPENTADIENE	360 U	380 U	ND	ND		0/4	NA	NA
ISOPHORONE	360 U	380 U	ND	ND		0/4	NA	NA
PENTACHLORONITROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
ACENAPHTHENE	360 U	380 U	ND	ND		0/4	NA	NA
DIETHYLPHTHALATE	360 U	380 U	ND	ND		0/4	NA	NA
DI-N-BUTYLPHTHALATE	250 JB	360 U	ND	ND		0/4	NA	NA
PHENANTHRENE	360 U	380 U	ND	ND		0/4	NA	NA
BUTYLBENZYLPHTHALATE	360 U	380 U	ND	ND		0/4	NA	NA
N-NITROSODIPHENYLAMINE (1)	360 U	380 U	ND	ND		0/4	NA	NA
FLUORENE	360 U	380 U	ND	ND		0/4	NA	NA
CARBAZOLE	360 U	360 U	ND	ND		0/2	NA	NA
2,6-DICHLOROPHENOL	360 U	380 U	ND	ND		0/4	NA	NA
HEXACHLOROBUTADIENE	360 U	380 U	ND	ND		0/4	NA	NA
PENTACHLOROPHENOL	1800 U	1900 U	ND	ND		0/4	NA	NA
2,4,6-TRICHLOROPHENOL	360 U	380 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2-NITROANILINE	1800 U	1900 U	ND	ND		0/4	NA	NA
2-NITROPHENOL	360 U	380 U	ND	ND		0/4	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	710 UJ	750 U	ND	ND		0/4	NA	NA
NAPHTHALENE	360 U	380 U	ND	ND		0/4	NA	NA
2-METHYLNAPHTHALENE	360 UJ	380 U	ND	ND		0/4	NA	NA
2-CHLORONAPHTHALENE	360 U	380 U	ND	ND		0/4	NA	NA
2-NAPHTHYLAMINE	370 U	890 U	ND	ND		0/4	NA	NA
METHAPYRILENE	890 UJ	940 U	ND	ND		0/4	NA	NA
3,3'-DICHLOROBENZIDINE	710 U	750 U	ND	ND		0/4	NA	NA
4-AMINOBIPHENYL	370 U	710 U	ND	ND		0/4	NA	NA
BENZIDINE	3600 UJ	3600 UJ	ND	ND		0/2	NA	NA
SAFROLE	360 U	380 U	ND	ND		0/4	NA	NA
O-CRESOL	360 U	380 U	ND	ND		0/4	NA	NA
1,2-DICHLOROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
O-TOLUIDINE	370 U	380 U	ND	ND		0/2	NA	NA
2-CHLOROPHENOL	360 U	380 U	ND	ND		0/4	NA	NA
1,2,4,5-TETRACHLOROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	1900 U	ND	ND		0/4	NA	NA
ACETOPHENONE	360 U	380 U	ND	ND		0/4	NA	NA
NITROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
3-NITROANILINE	1800 U	1900 U	ND	ND		0/4	NA	NA
1,3,5-TRINITROBENZENE	3600 U	3800 U	ND	ND		0/4	NA	NA
5-NITRO-O-TOLUIDINE	710 U	750 U	ND	ND		0/4	NA	NA
1,3-DINITROBENZENE	710 U	750 U	ND	ND		0/4	NA	NA
4-NITROANILINE	1800 U	1900 U	ND	ND		0/4	NA	NA
4-NITROPHENOL	1800 U	1900 U	ND	ND		0/4	NA	NA
BENZYL ALCOHOL	360 UJ	380 U	ND	ND		0/4	NA	NA
N-NITROSOPIPERIDINE	360 U	380 U	ND	ND		0/4	NA	NA
4-BROMOPHENYL-PHENYLETHER	360 U	380 U	ND	ND		0/4	NA	NA
2,4-DIMETHYLPHENOL	360 U	380 U	ND	ND		0/4	NA	NA
1,4-DICHLOROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
4-CHLOROANILINE	370 U	710 U	ND	ND		0/4	NA	NA
P-PHENYLENEDIAMINE	710 UJ	750 U	ND	ND		0/4	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	360 U	380 U	ND	ND		0/4	NA	NA
PHENOL	360 U	380 U	ND	ND		0/4	NA	NA
2-PICOLINE	370 U	380 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
PYRIDINE	710 U	750 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROETHYL)ETHER	360 U	380 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROETHOXY)METHANE	360 U	380 U	ND	ND		0/4	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	360 U	370 U	39 J	39 J	12SS01	1/4	39.00	39.00
DI-N-OCTYL PHTHALATE	360 U	380 U	ND	ND		0/4	NA	NA
HEXACHLOROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
3,3'-DIMETHYLBENZIDINE	740 U	1800 U	ND	ND		0/4	NA	NA
ANTHRACENE	360 U	380 U	ND	ND		0/4	NA	NA
ISOSAFROLE	360 UJ	380 U	ND	ND		0/4	NA	NA
1,2,4-TRICHLOROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
2,4-DICHLOROPHENOL	360 U	380 U	ND	ND		0/4	NA	NA
2,4-DINITROTOLUENE	360 U	380 U	ND	ND		0/4	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	1800 U	1900 U	ND	ND		0/4	NA	NA
DIPHENYLAMINE	360 U	380 U	ND	ND		0/4	NA	NA
1,2-DIPHENYLHYDRAZINE	360 U	360 U	ND	ND		0/2	NA	NA
1,4-DIOXANE	1500 U	1500 U	ND	ND		0/2	NA	NA
PYRENE	360 U	380 U	ND	ND		0/4	NA	NA
1,4-NAPHTHOQUINONE	1800 U	1900 U	ND	ND		0/4	NA	NA
DIMETHYLPHTHALATE	360 U	380 U	ND	ND		0/4	NA	NA
DIBENZOFURAN	360 U	380 U	ND	ND		0/4	NA	NA
1-NAPHTHYLAMINE	370 U	710 U	ND	ND		0/4	NA	NA
ARAMITE	710 UJ	750 U	ND	ND		0/4	NA	NA
BENZO(G,H,I)PERYLENE	360 U	380 U	ND	ND		0/4	NA	NA
INDENO(1,2,3-CD)PYRENE	360 U	380 U	ND	ND		0/4	NA	NA
BENZO(B)FLUORANTHENE	360 U	380 U	ND	ND		0/4	NA	NA
FLUORANTHENE	360 U	380 U	ND	ND		0/4	NA	NA
BENZO(K)FLUORANTHENE	360 U	380 U	ND	ND		0/4	NA	NA
ACENAPHTHYLENE	360 U	380 U	ND	ND		0/4	NA	NA
CHRYSENE	360 U	380 U	ND	ND		0/4	NA	NA
CHLOROBENZILATE	360 UJ	380 U	ND	ND		0/4	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 U	1900 U	ND	ND		0/4	NA	NA
1,3-DICHLOROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
2,6-DINITROTOLUENE	360 U	380 U	ND	ND		0/4	NA	NA
PENTACHLOROBENZENE	360 U	380 U	ND	ND		0/4	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	360 U	380 U	ND	ND		0/4	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	360 UJ	380 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 12 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
N-NITROSOPYRROLIDINE	1800 U	1900 U	ND	ND		0/4	NA	NA
HEXACHLOROPROPENE	740 U	1800 U	ND	ND		0/4	NA	NA
DIALLATE	360 U	380 U	ND	ND		0/4	NA	NA
4-CHLOROPHENYL-PHENYLETHER	360 U	380 U	ND	ND		0/4	NA	NA
N-NITROSOMETHYLETHYLAMINE	360 UJ	380 U	ND	ND		0/4	NA	NA
PRONAMIDE	360 U	380 U	ND	ND		0/4	NA	NA
META & PARA-CRESOL	360 U	380 U	ND	ND		0/4	NA	NA
PCBS (ug/kg)								
AROCLOR-1260	85 U	91 U	ND	ND		0/4	NA	NA
AROCLOR-1254	85 U	91 U	ND	ND		0/4	NA	NA
AROCLOR-1221	42 U	45 U	ND	ND		0/4	NA	NA
AROCLOR-1232	42 U	45 U	ND	ND		0/4	NA	NA
AROCLOR-1248	42 U	45 U	ND	ND		0/4	NA	NA
AROCLOR-1016	42 U	45 U	ND	ND		0/4	NA	NA
AROCLOR-1242	42 U	45 U	ND	ND		0/4	NA	NA
TPH (mg/kg)								
DIESEL FUEL	0.047 U	4.5 U	ND	ND		0/4	NA	NA
GASOLINE	0.033 U	0.033 U	0.032	0.033	12SS04	2/4	0.03	0.03

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
WET CHEMISTRY (mg/kg)					
Cyanide, Total	0.78 UJ	0.73 UJ	0.69 UJ	1.1 UJ	1.2 UJ
Sulfide	36.7 UJ	42.3 J	70.8 J	103 J	59.5 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.69 UJ	1.2 UJ	ND	ND		0/5	NA	NA
Sulfide	36.7 UJ	59.5 UJ	42.3 J	103 J	13SD04	3/5	72.03	70.80

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01		13SD02		13SD03		13SD04		13SD05	
SAMPLE DATE	10/24/95		10/24/95		10/24/95		10/24/95		10/24/95	
TOTAL METALS (mg/kg)										
Antimony, Total	2.6	UJ	2.7	UJ	3.4	UJ	5.9	UJ	5.1	UJ
Arsenic, Total	2.1	J	1.1	J	1.3	J	1.4	J	0.84	J
Barium, Total	43		34.3		38.9		69.2	J	62.5	J
Beryllium, Total	0.11	U	0.12	U	0.15	U	0.25	UJ	0.22	UJ
Cadmium, Total	0.26	J	0.57	J	1.6		0.7	J	0.45	UJ
Chromium, Total	21.8		15.4		25.4		17.9	J	20.2	J
Cobalt, Total	21.3		11.5		9.9		14	J	26.3	J
Copper, Total	45.9		39.9		52.9		74.7	J	70	J
Lead, Total	25.8		38.4		121		63.5	J	50.5	J
Mercury, Total	0.08	U	0.06	U	0.42		0.1	UJ	0.13	UJ
Nickel, Total	9.1		8.8		12.9		10.2	J	12.9	J
Selenium, Total	0.87	J	0.21	U	0.31	U	0.87	J	1.4	J
Silver, Total	0.32	U	0.34	U	0.42	U	0.73	UJ	0.63	UJ
Thallium, Total	0.18	UJ	0.19	UJ	0.13	UJ	0.28	UJ	0.31	UJ
Tin, Total	2.9		3.6		6.9		7.9	J	3.9	UJ
Vanadium, Total	173	J	57.1	J	62.4	J	80.9	J	119	J
Zinc, Total	59.5	J	69	J	189	J	141	J	105	J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Antimony, Total	2.6 UJ	5.9 UJ	ND	ND		0/5	NA	NA
Arsenic, Total	NA	NA	0.84 J	2.1 J	13SD01	5/5	1.35	1.30
Barium, Total	NA	NA	34.3	69.2 J	13SD04	5/5	49.58	43.00
Beryllium, Total	0.11 U	0.25 UJ	ND	ND		0/5	NA	NA
Cadmium, Total	0.45 UJ	0.45 UJ	0.26 J	1.6	13SD03	4/5	0.78	0.64
Chromium, Total	NA	NA	15.4	25.4	13SD03	5/5	20.14	20.20
Cobalt, Total	NA	NA	9.9	26.3 J	13SD05	5/5	16.60	14.00
Copper, Total	NA	NA	39.9	74.7 J	13SD04	5/5	56.68	52.90
Lead, Total	NA	NA	25.8	121	13SD03	5/5	59.84	50.50
Mercury, Total	0.06 U	0.13 UJ	0.42	0.42	13SD03	1/5	0.42	0.42
Nickel, Total	NA	NA	8.8	12.9	13SD05	5/5	10.78	10.20
Selenium, Total	0.21 U	0.31 U	0.87 J	1.4 J	13SD05	3/5	1.05	0.87
Silver, Total	0.32 U	0.73 UJ	ND	ND		0/5	NA	NA
Thallium, Total	0.13 UJ	0.31 UJ	ND	ND		0/5	NA	NA
Tin, Total	3.9 UJ	3.9 UJ	2.9	7.9 J	13SD04	4/5	5.33	5.25
Vanadium, Total	NA	NA	57.1 J	173 J	13SD01	5/5	98.48	80.90
Zinc, Total	NA	NA	59.5 J	189 J	13SD03	5/5	112.70	105.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
VOLATILES (ug/kg)					
CHLOROMETHANE	16 U	15 U	17 U	26 U	25 U
BROMOMETHANE	16 U	15 U	17 U	26 U	25 U
VINYL CHLORIDE	16 U	15 U	17 U	26 U	25 U
CHLOROETHANE	16 U	15 U	17 U	26 U	25 U
METHYLENE CHLORIDE	8 U	8 U	9 U	13 U	13 U
ACETONE	36 U	29 U	94	100 J	37 U
CARBON DISULFIDE	8 U	8 U	9 U	13 U	13 U
1,1-DICHLOROETHENE	8 U	8 U	9 U	13 U	13 U
1,1-DICHLOROETHANE	8 U	8 U	9 U	13 U	13 U
1,2-DICHLOROETHENE (TOTAL)	8 U	8 U	9 U	13 U	13 U
CHLOROFORM	8 U	8 U	9 U	13 U	13 U
1,2-DICHLOROETHANE	8 U	8 U	9 U	13 U	13 U
2-BUTANONE	16 U	15 U	27	33 J	25 U
1,1,1-TRICHLOROETHANE	8 U	8 U	9 U	13 U	13 U
CARBON TETRACHLORIDE	8 U	8 U	9 U	13 U	13 U
VINYL ACETATE	16 U	15 U	17 U	26 U	25 U
BROMODICHLOROMETHANE	8 U	8 U	9 U	13 U	13 U
1,2-DICHLOROPROPANE	8 U	8 U	9 U	13 U	13 U
CIS-1,3-DICHLOROPROPENE	8 U	8 U	9 U	13 U	13 U
TRICHLOROETHENE	8 U	8 U	9 U	13 U	13 U
DIBROMOCHLOROMETHANE	8 U	8 U	9 U	13 U	13 U
1,1,2-TRICHLOROETHANE	8 U	8 U	9 U	13 U	13 U
BENZENE	8 U	8 U	9 U	13 U	13 U
TRANS-1,3-DICHLOROPROPENE	8 U	8 U	9 U	13 U	13 U
BROMOFORM	8 U	8 U	9 U	13 U	13 U
4-METHYL-2-PENTANONE	16 U	15 U	17 U	26 U	25 U
2-HEXANONE	16 U	15 U	17 U	26 U	25 U
TETRACHLOROETHENE	8 R	8 R	9 U	13 U	13 U
1,1,2,2-TETRACHLOROETHANE	8 U	8 U	9 U	13 U	13 U
TOLUENE	8 U	8 U	9 U	13 U	13 U
CHLOROBENZENE	8 U	8 U	9 U	13 U	13 U
ETHYLBENZENE	8 U	8 U	9 U	13 U	13 U
STYRENE	8 U	8 U	9 U	13 U	13 U
XYLENE (TOTAL)	8 U	8 U	9 U	13 U	13 U
ACROLEIN	800 U	750 U	860 U	1300 U	1300 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
VOLATILES (ug/kg)					
ACRYLONITRILE	160 U	150 U	170 U	260 U	250 U
TRICHLOROFLUOROMETHANE	16 U	15 U	17 U	26 U	25 U
DICHLORODIFLUOROMETHANE	32 U	30 U	34 U	52 U	51 U
ACETONITRILE	160 U	150 U	170 U	260 U	250 U
IODOMETHANE	16 U	15 U	17 U	26 U	25 U
PROPIONITRILE (ETHYL CYANIDE)	80 U	75 U	86 U	130 U	130 U
3-CHLOROPROPENE	32 U	30 U	34 U	52 U	51 U
METHACRYLONITRILE	32 U	30 U	34 U	52 U	51 U
DIBROMOMETHANE	16 U	15 U	17 U	26 U	25 U
ISOBUTYL ALCOHOL	3200 U	3000 U	3400 U	5200 U	5100 U
1,2-DIBROMOETHANE	32 U	30 U	34 U	52 U	51 U
1,1,1,2-TETRACHLOROETHANE	16 U	15 U	17 U	26 U	25 U
1,2,3-TRICHLOROPROPANE	16 U	15 U	17 U	26 U	25 U
TRANS-1,4-DICHLORO-2-BUTENE	32 U	30 U	34 U	52 U	51 U
1,2-DIBROMO-3-CHLOROPROPANE	32 U	30 U	34 U	52 U	51 U
2-CHLORO-1,3-BUTADIENE	160 U	150 U	170 U	260 U	250 U
METHYLMETHACRYLATE	32 U	30 U	34 U	52 U	51 U
ETHYLMETHACRYLATE	32 U	30 U	34 U	52 U	51 U
PENTACHLOROETHANE	32 U	30 U	34 U	52 U	51 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES (ug/kg)					
PHENOL	520 U	500 U	560 U	870 U	840 U
BIS(2-CHLOROETHYL)ETHER	520 U	500 U	560 U	870 U	840 U
2-CHLOROPHENOL	520 U	500 U	560 U	870 U	840 U
1,3-DICHLOROBENZENE	520 U	500 U	560 U	870 U	840 U
1,4-DICHLOROBENZENE	520 U	500 U	560 U	870 U	840 U
BENZYL ALCOHOL	520 U	500 U	560 U	870 U	840 U
1,2-DICHLOROBENZENE	520 U	500 U	560 U	870 U	840 U
O-CRESOL	520 U	500 U	560 U	870 U	840 U
2,2'-OXYBIS(1-CHLOROPROPANE)	520 U	500 U	560 U	870 U	840 U
META & PARA-CRESOL	520 U	500 U	560 U	870 U	840 U
N-NITROSO-DI-N-PROPYLAMINE	520 U	500 U	560 U	870 U	840 U
HEXACHLOROETHANE	520 U	500 U	560 U	870 U	840 U
NITROBENZENE	520 U	500 U	560 U	870 U	840 U
ISOPHORONE	520 U	500 U	560 U	870 U	840 U
2-NITROPHENOL	520 U	500 U	560 U	870 U	840 U
2,4-DIMETHYLPHENOL	520 U	500 U	560 U	870 U	840 U
BENZOIC ACID	2600 U	2500 U	2800 U	4300 U	4200 U
BIS(2-CHLOROETHOXY)METHANE	520 U	500 U	560 U	870 U	840 U
2,4-DICHLOROPHENOL	520 U	500 U	560 U	870 U	840 U
1,2,4-TRICHLOROBENZENE	520 U	500 U	560 U	870 U	840 U
NAPHTHALENE	520 U	500 U	560 U	870 U	840 U
4-CHLOROANILINE	520 U	500 U	560 U	870 U	840 U
HEXACHLOROBUTADIENE	520 U	500 U	560 U	870 U	840 U
4-CHLORO-3-METHYLPHENOL	520 U	500 U	560 U	870 U	840 U
2-METHYLNAPHTHALENE	520 U	500 U	560 U	870 U	840 U
HEXACHLOROCYCLOPENTADIENE	520 U	500 U	560 U	870 U	840 U
2,4,6-TRICHLOROPHENOL	520 U	500 U	560 U	870 U	840 U
2,4,5-TRICHLOROPHENOL	2600 U	2500 U	2800 U	4300 U	4200 U
2-CHLORONAPHTHALENE	520 U	500 U	560 U	870 U	840 U
2-NITROANILINE	2600 U	2500 U	2800 U	4300 U	4200 U
DIMETHYLPHTHALATE	520 U	500 U	560 U	870 U	840 U
ACENAPHTHYLENE	520 U	500 U	560 U	870 U	840 U
2,6-DINITROTOLUENE	520 U	500 U	560 U	870 U	840 U
3-NITROANILINE	2600 U	2500 U	2800 U	4300 U	4200 U
ACENAPHTHENE	520 U	500 U	560 U	870 U	840 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES cont. (ug/kg)					
2,4-DINITROPHENOL	2600 U	2500 U	2800 U	4300 U	4200 U
4-NITROPHENOL	2600 U	2500 U	2800 U	4300 U	4200 U
DIBENZOFURAN	520 U	500 U	560 U	870 U	840 U
2,4-DINITROTOLUENE	520 U	500 U	560 U	870 U	840 U
DIETHYLPHTHALATE	520 U	500 U	560 U	870 U	840 U
4-CHLOROPHENYL-PHENYLETHER	520 U	500 U	560 U	870 U	840 U
FLUORENE	520 U	500 U	560 U	870 U	840 U
4-NITROANILINE	2600 U	2500 U	2800 U	4300 U	4200 U
4,6-DINITRO-2-METHYLPHENOL	2600 U	2500 U	2800 U	4300 U	4200 U
N-NITROSODIPHENYLAMINE (1)	520 U	500 U	560 U	870 U	840 U
4-BROMOPHENYL-PHENYLETHER	520 U	500 U	560 U	870 U	840 U
HEXACHLOROBENZENE	520 U	500 U	560 U	870 U	840 U
PENTACHLOROPHENOL	2600 U	2500 U	2800 U	4300 U	4200 U
PHENANTHRENE	520 U	500 U	560 U	870 U	840 U
ANTHRACENE	520 U	500 U	560 U	870 U	840 U
DI-N-BUTYLPHTHALATE	520 U	500 U	560 U	870 U	840 U
FLUORANTHENE	520 U	120 J	560 U	870 U	190 J
PYRENE	520 U	140 J	58 J	870 U	220 J
BUTYLBENZYLPHTHALATE	520 U	500 U	560 U	870 U	840 U
3,3'-DICHLOROBENZIDINE	1000 U	990 U	1100 U	1700 U	1700 U
BENZO(A)ANTHRACENE	520 U	73 J	560 U	870 U	170 J
CHRYSENE	520 U	150 J	78 J	870 U	290 J
BIS(2-ETHYLHEXYL)PHTHALATE	520 U	100 J	73 J	870 U	840 U
DI-N-OCTYL PHTHALATE	520 U	500 U	560 U	870 U	840 U
BENZO(B)FLUORANTHENE	520 U	270 J	110 J	180 J	750 J
BENZO(K)FLUORANTHENE	520 U	110 J	560 U	870 U	390 J
BENZO(A)PYRENE	520 U	91 J	560 U	870 U	390 J
INDENO(1,2,3-CD)PYRENE	520 U	79 J	560 U	870 U	370 J
DIBENZO(A,H)ANTHRACENE	520 U	500 U	560 U	870 U	840 U
BENZO(G,H,I)PERYLENE	520 U	500 U	560 U	870 U	370 J
1,4-DIOXANE	2100 U	2000 U	2200 U	3500 U	3400 U
PYRIDINE	1000 U	990 U	1100 U	1700 U	1700 U
N-NITROSODIMETHYLAMINE	520 U	500 U	560 U	870 U	840 U
2-PICOLINE	520 U	500 U	560 U	870 U	840 U
N-NITROSOMETHYLETHYLAMINE	520 U	500 U	560 U	870 U	840 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES cont. (ug/kg)					
METHYL METHANESULFONATE	520 U	500 U	560 U	870 U	840 U
N-NITROSODIETHYLAMINE	520 U	500 U	560 U	870 U	840 U
ETHYL METHANESULFONATE	520 U	500 U	560 U	870 U	840 U
ANILINE	2600 U	2500 U	2800 U	4300 U	4200 U
N-NITROSOPYRROLIDINE	2600 U	2500 U	2800 U	4300 U	4200 U
ACETOPHENONE	520 U	500 U	560 U	870 U	840 U
N-NITROSOMORPHOLINE	1000 U	990 U	1100 U	1700 U	1700 U
O-TOLUIDINE	520 U	500 U	560 U	870 U	840 U
N-NITROSOPIPERIDINE	520 U	500 U	560 U	870 U	840 U
A,A-DIMETHYLPHENETHYLAMINE	2600 U	2500 U	2800 U	4300 U	4200 U
2,6-DICHLOROPHENOL	520 U	500 U	560 U	870 U	840 U
HEXACHLOROPROPENE	1000 U	990 U	1100 U	1700 U	1700 U
P-PHENYLENEDIAMINE	1000 U	990 U	1100 U	1700 U	1700 U
N-NITROSO-DI-N-BUTYLAMINE	520 U	500 U	560 U	870 U	840 U
SAFROLE	520 U	500 U	560 U	870 U	840 U
1,2,4,5-TETRACHLOROBENZENE	520 U	500 U	560 U	870 U	840 U
ISOSAFROLE	520 U	500 U	560 U	870 U	840 U
1,4-NAPHTHOQUINONE	2600 U	2500 U	2800 U	4300 U	4200 U
1,3-DINITROBENZENE	1000 U	990 U	1100 U	1700 U	1700 U
PENTACHLOROBENZENE	520 U	500 U	560 U	870 U	840 U
1-NAPHTHYLAMINE	520 U	500 U	560 U	870 U	840 U
2-NAPHTHYLAMINE	520 U	500 U	560 U	870 U	840 U
2,3,4,6-TETRACHLOROPHENOL	520 U	500 U	560 U	870 U	840 U
1,3,5-TRINITROBENZENE	5200 U	5000 U	5600 U	8700 U	8400 U
DIALLATE	520 U	500 U	560 U	870 U	840 U
PHENACETIN	520 U	500 U	560 U	870 U	840 U
DIPHENYLAMINE	520 U	500 U	560 U	870 U	840 U
5-NITRO-O-TOLUIDINE	1000 U	990 U	1100 U	1700 U	1700 U
4-AMINOBIPHENYL	520 U	500 U	560 U	870 U	840 U
PRONAMIDE	520 U	500 U	560 U	870 U	840 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1000 U	990 U	1100 U	1700 U	1700 U
PENTACHLORONITROBENZENE	520 U	500 U	560 U	870 U	840 U
4-NITROQUINOLINE-1-OXIDE	2600 R	2500 U	2800 U	4300 U	4200 U
METHAPYRILENE	1300 U	1200 U	1400 U	2200 U	2100 U
ARAMITE	1000 U	990 U	1100 U	1700 U	1700 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES cont. (ug/kg)					
CHLOROBENZILATE	520 U	500 U	560 U	640 J	840 U
P-DIMETHYLAMINOAZOBENZENE	1000 U	990 U	1100 U	1700 U	1700 U
3,3'-DIMETHYLBENZIDINE	1000 R	990 U	1100 U	1700 U	1700 U
2-ACETYLAMINOFLUORENE	1000 U	990 U	1100 U	1700 U	1700 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	1000 U	990 U	1100 U	1700 U	1700 U
HEXACHLOROPHENE	5200 U	5000 U	5600 U	8700 U	8400 U
3-METHYLCHOLANTHRENE	520 U	500 U	560 U	870 U	840 U
CARBAZOLE	520 U	500 U	560 U	870 U	840 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
PESTICIDE/PCBS (ug/kg)					
ALPHA-BHC	64 U	3000 U	3400 U	1000 U	100 U
BETA-BHC	64 U	3000 U	3400 U	1000 U	100 U
DELTA-BHC	64 U	3000 U	3400 U	1000 U	100 U
GAMMA-BHC (LINDANE)	64 U	3000 U	3400 U	1000 U	100 U
HEPTACHLOR	64 UJ	3000 UJ	3400 U	1000 U	100 U
ALDRIN	64 U	3000 U	3400 U	1000 U	100 U
HEPTACHLOR EPOXIDE	64 U	3000 U	3400 U	1000 U	100 U
ENDOSULFAN I	64 U	3000 U	3400 U	1000 U	100 U
DIELDRIN	130 U	6000 U	6800 U	2100 U	200 U
4,4'-DDE	47	4100	6300	12000	93
ENDRIN	130 U	6000 U	6800 U	2100 U	200 U
ENDOSULFAN II	130 U	6000 U	6800 UJ	2100 UJ	200 UJ
4,4'-DDD	130 U	24000	4300	34000	200 U
ENDOSULFAN SULFATE	130 U	6000 U	6800 U	2100 U	200 U
4,4'-DDT	130 U	1700	52000	700	42
METHOXYCHLOR	640 U	30000 U	34000 U	10000 U	1000 U
ENDRIN ALDEHYDE	130 U	6000 U	6800 UJ	2100 UJ	200 UJ
ISODRIN	64 U	3000 U	3400 U	1000 U	100 U
KEPONE	130 U	6000 U	6800 U	2100 U	200 U
ALPHA-CHLORDANE	640 U	30000 U	34000 U	10000 U	1000 U
GAMMA-CHLORDANE	640 U	30000 U	34000 U	10000 U	1000 U
TOXAPHENE	1300 U	60000 U	68000 U	21000 U	2000 U
AROCLOR-1016	640 U	30000 U	34000 U	10000 U	1000 U
AROCLOR-1221	640 U	30000 U	34000 U	10000 U	1000 U
AROCLOR-1232	640 U	30000 U	34000 U	10000 U	1000 U
AROCLOR-1242	640 U	30000 U	34000 U	10000 U	1000 U
AROCLOR-1248	640 U	30000 U	34000 U	10000 U	1000 U
AROCLOR-1254	1300 U	60000 U	68000 U	21000 U	2000 U
AROCLOR-1260	1300 U	60000 U	68000 U	21000 U	2000 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SD01	13SD02	13SD03	13SD04	13SD05
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
ORTHO PESTICIDES (ug/kg)					
DIMETHOATE	110 U	98 U	110 U	170 U	160 U
DISULFOTON	110 U	98 U	110 U	170 U	160 U
FAMPHUR	110 U	98 U	110 U	170 U	160 U
METHYL PARATHION	110 U	98 U	110 U	170 U	160 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	110 U	98 U	110 U	170 U	160 U
PARATHION	110 U	98 U	110 U	170 U	160 U
PHORATE	110 U	98 U	110 U	170 U	160 U
SULFOTEP	110 U	98 U	110 U	170 U	160 U
THIONAZIN	110 U	98 U	110 U	170 U	160 U
HERBICIDE (ug/kg)					
2,4-D	540 U	500 U	560 U	830 U	830 U
2,4,5-T	110 U	99 U	110 U	170 U	170 U
2,4,5-TP (SILVEX)	110 U	99 U	110 U	170 U	170 U
DIOXIN (ug/kg)					
TCDD-2378	0.29 U	0.32 U	0.33 U	0.33 U	0.17 U
TOTAL TCDD	0.29 U	0.32 U	0.33 U	0.33 U	0.17 U
TOTAL PECDD	0.42 U	0.4 U	0.38 U	0.54 U	0.19 U
TOTAL HXCDD	0.47 U	0.47 U	0.46 U	0.59 U	0.21 U
TOTAL TCDF	0.24 U	0.2 U	0.16 U	0.28 U	0.1 U
TOTAL PECDF	0.29 U	0.37 U	0.26 U	0.39 U	0.18 U
TOTAL HXCDF	0.38 U	0.46 U	0.31 U	0.46 U	0.2 U

FREQUENCY OF DETECTION SUMMARY
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	15 U	26 U	ND	ND		0/5	NA	NA
BROMOMETHANE	15 U	26 U	ND	ND		0/5	NA	NA
VINYL CHLORIDE	15 U	26 U	ND	ND		0/5	NA	NA
CHLOROETHANE	15 U	26 U	ND	ND		0/5	NA	NA
METHYLENE CHLORIDE	8 U	13 U	ND	ND		0/5	NA	NA
ACETONE	29 U	37 U	94	100 J	13SD04	2/5	97.00	97.00
CARBON DISULFIDE	8 U	13 U	ND	ND		0/5	NA	NA
1,1-DICHLOROETHENE	8 U	13 U	ND	ND		0/5	NA	NA
1,1-DICHLOROETHANE	8 U	13 U	ND	ND		0/5	NA	NA
1,2-DICHLOROETHENE (TOTAL)	8 U	13 U	ND	ND		0/5	NA	NA
CHLOROFORM	8 U	13 U	ND	ND		0/5	NA	NA
1,2-DICHLOROETHANE	8 U	13 U	ND	ND		0/5	NA	NA
2-BUTANONE	15 U	25 U	27	33 J	13SD04	2/5	30.00	30.00
1,1,1-TRICHLOROETHANE	8 U	13 U	ND	ND		0/5	NA	NA
CARBON TETRACHLORIDE	8 U	13 U	ND	ND		0/5	NA	NA
VINYL ACETATE	15 U	26 U	ND	ND		0/5	NA	NA
BROMODICHLOROMETHANE	8 U	13 U	ND	ND		0/5	NA	NA
1,2-DICHLOROPROPANE	8 U	13 U	ND	ND		0/5	NA	NA
CIS-1,3-DICHLOROPROPENE	8 U	13 U	ND	ND		0/5	NA	NA
TRICHLOROETHENE	8 U	13 U	ND	ND		0/5	NA	NA
DIBROMOCHLOROMETHANE	8 U	13 U	ND	ND		0/5	NA	NA
1,1,2-TRICHLOROETHANE	8 U	13 U	ND	ND		0/5	NA	NA
BENZENE	8 U	13 U	ND	ND		0/5	NA	NA
TRANS-1,3-DICHLOROPROPENE	8 U	13 U	ND	ND		0/5	NA	NA
BROMOFORM	8 U	13 U	ND	ND		0/5	NA	NA
4-METHYL-2-PENTANONE	15 U	26 U	ND	ND		0/5	NA	NA
2-HEXANONE	15 U	26 U	ND	ND		0/5	NA	NA
TETRACHLOROETHENE	9 U	13 U	ND	ND		0/3	NA	NA
1,1,2,2-TETRACHLOROETHANE	8 U	13 U	ND	ND		0/5	NA	NA
TOLUENE	8 U	13 U	ND	ND		0/5	NA	NA
CHLOROBENZENE	8 U	13 U	ND	ND		0/5	NA	NA
ETHYLBENZENE	8 U	13 U	ND	ND		0/5	NA	NA
STYRENE	8 U	13 U	ND	ND		0/5	NA	NA
XYLENE (TOTAL)	8 U	13 U	ND	ND		0/5	NA	NA
ACROLEIN	750 U	1300 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
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SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
ACRYLONITRILE	150 U	260 U	ND	ND		0/5	NA	NA
TRICHLOROFLUOROMETHANE	15 U	26 U	ND	ND		0/5	NA	NA
DICHLORODIFLUOROMETHANE	30 U	52 U	ND	ND		0/5	NA	NA
ACETONITRILE	150 U	260 U	ND	ND		0/5	NA	NA
IODOMETHANE	15 U	26 U	ND	ND		0/5	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	75 U	130 U	ND	ND		0/5	NA	NA
3-CHLOROPROPENE	30 U	52 U	ND	ND		0/5	NA	NA
METHACRYLONITRILE	30 U	52 U	ND	ND		0/5	NA	NA
DIBROMOMETHANE	15 U	26 U	ND	ND		0/5	NA	NA
ISOBUTYL ALCOHOL	3000 U	5200 U	ND	ND		0/5	NA	NA
1,2-DIBROMOETHANE	30 U	52 U	ND	ND		0/5	NA	NA
1,1,1,2-TETRACHLOROETHANE	15 U	26 U	ND	ND		0/5	NA	NA
1,2,3-TRICHLOROPROPANE	15 U	26 U	ND	ND		0/5	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	30 U	52 U	ND	ND		0/5	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	30 U	52 U	ND	ND		0/5	NA	NA
2-CHLORO-1,3-BUTADIENE	150 U	260 U	ND	ND		0/5	NA	NA
METHYLMETHACRYLATE	30 U	52 U	ND	ND		0/5	NA	NA
ETHYLMETHACRYLATE	30 U	52 U	ND	ND		0/5	NA	NA
PENTACHLOROETHANE	30 U	52 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
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SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	500 U	870 U	ND	ND		0/5	NA	NA
BIS(2-CHLOROETHYL)ETHER	500 U	870 U	ND	ND		0/5	NA	NA
2-CHLOROPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
1,3-DICHLOROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
1,4-DICHLOROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
BENZYL ALCOHOL	500 U	870 U	ND	ND		0/5	NA	NA
1,2-DICHLOROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
O-CRESOL	500 U	870 U	ND	ND		0/5	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	500 U	870 U	ND	ND		0/5	NA	NA
META & PARA-CRESOL	500 U	870 U	ND	ND		0/5	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA
HEXACHLOROETHANE	500 U	870 U	ND	ND		0/5	NA	NA
NITROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
ISOPHORONE	500 U	870 U	ND	ND		0/5	NA	NA
2-NITROPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
2,4-DIMETHYLPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
BENZOIC ACID	2500 U	4300 U	ND	ND		0/5	NA	NA
BIS(2-CHLOROETHOXY)METHANE	500 U	870 U	ND	ND		0/5	NA	NA
2,4-DICHLOROPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
1,2,4-TRICHLOROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
NAPHTHALENE	500 U	870 U	ND	ND		0/5	NA	NA
4-CHLOROANILINE	500 U	870 U	ND	ND		0/5	NA	NA
HEXACHLOROBUTADIENE	500 U	870 U	ND	ND		0/5	NA	NA
4-CHLORO-3-METHYLPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
2-METHYLNAPHTHALENE	500 U	870 U	ND	ND		0/5	NA	NA
HEXACHLOROCYCLOPENTADIENE	500 U	870 U	ND	ND		0/5	NA	NA
2,4,6-TRICHLOROPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
2,4,5-TRICHLOROPHENOL	2500 U	4300 U	ND	ND		0/5	NA	NA
2-CHLORONAPHTHALENE	500 U	870 U	ND	ND		0/5	NA	NA
2-NITROANILINE	2500 U	4300 U	ND	ND		0/5	NA	NA
DIMETHYLPHTHALATE	500 U	870 U	ND	ND		0/5	NA	NA
ACENAPHTHYLENE	500 U	870 U	ND	ND		0/5	NA	NA
2,6-DINITROTOLUENE	500 U	870 U	ND	ND		0/5	NA	NA
3-NITROANILINE	2500 U	4300 U	ND	ND		0/5	NA	NA
ACENAPHTHENE	500 U	870 U	ND	ND		0/5	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	2500 U	4300 U	ND	ND		0/5	NA	NA
4-NITROPHENOL	2500 U	4300 U	ND	ND		0/5	NA	NA
DIBENZOFURAN	500 U	870 U	ND	ND		0/5	NA	NA
2,4-DINITROTOLUENE	500 U	870 U	ND	ND		0/5	NA	NA
DIETHYLPHTHALATE	500 U	870 U	ND	ND		0/5	NA	NA
4-CHLOROPHENYL-PHENYLETHER	500 U	870 U	ND	ND		0/5	NA	NA
FLUORENE	500 U	870 U	ND	ND		0/5	NA	NA
4-NITROANILINE	2500 U	4300 U	ND	ND		0/5	NA	NA
4,6-DINITRO-2-METHYLPHENOL	2500 U	4300 U	ND	ND		0/5	NA	NA
N-NITROSODIPHENYLAMINE (1)	500 U	870 U	ND	ND		0/5	NA	NA
4-BROMOPHENYL-PHENYLETHER	500 U	870 U	ND	ND		0/5	NA	NA
HEXACHLOROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
PENTACHLOROPHENOL	2500 U	4300 U	ND	ND		0/5	NA	NA
PHENANTHRENE	500 U	870 U	ND	ND		0/5	NA	NA
ANTHRACENE	500 U	870 U	ND	ND		0/5	NA	NA
DI-N-BUTYLPHTHALATE	500 U	870 U	ND	ND		0/5	NA	NA
FLUORANTHENE	520 U	870 U	120 J	190 J	13SD05	2/5	155.00	155.00
PYRENE	520 U	870 U	58 J	220 J	13SD05	3/5	139.33	140.00
BUTYLBENZYLPHTHALATE	500 U	870 U	ND	ND		0/5	NA	NA
3,3'-DICHLOROBENZIDINE	990 U	1700 U	ND	ND		0/5	NA	NA
BENZO(A)ANTHRACENE	520 U	870 U	73 J	170 J	13SD05	2/5	121.50	121.50
CHRYSENE	520 U	870 U	78 J	290 J	13SD05	3/5	172.67	150.00
BIS(2-ETHYLHEXYL)PHTHALATE	520 U	870 U	73 J	100 J	13SD02	2/5	86.50	86.50
DI-N-OCTYL PHTHALATE	500 U	870 U	ND	ND		0/5	NA	NA
BENZO(B)FLUORANTHENE	520 U	520 U	110 J	750 J	13SD05	4/5	327.50	225.00
BENZO(K)FLUORANTHENE	520 U	870 U	110 J	390 J	13SD05	2/5	250.00	250.00
BENZO(A)PYRENE	520 U	870 U	91 J	390 J	13SD05	2/5	240.50	240.50
INDENO(1,2,3-CD)PYRENE	520 U	870 U	79 J	370 J	13SD05	2/5	224.50	224.50
DIBENZO(A,H)ANTHRACENE	500 U	870 U	ND	ND		0/5	NA	NA
BENZO(G,H,I)PERYLENE	500 U	870 U	370 J	370 J	13SD05	1/5	370.00	370.00
1,4-DIOXANE	2000 U	3500 U	ND	ND		0/5	NA	NA
PYRIDINE	990 U	1700 U	ND	ND		0/5	NA	NA
N-NITROSODIMETHYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA
2-PICOLINE	500 U	870 U	ND	ND		0/5	NA	NA
N-NITROSOMETHYLETHYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	500 U	870 U	ND	ND		0/5	NA	NA
N-NITROSODIETHYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA
ETHYL METHANESULFONATE	500 U	870 U	ND	ND		0/5	NA	NA
ANILINE	2500 U	4300 U	ND	ND		0/5	NA	NA
N-NITROSOPYRROLIDINE	2500 U	4300 U	ND	ND		0/5	NA	NA
ACETOPHENONE	500 U	870 U	ND	ND		0/5	NA	NA
N-NITROSOMORPHOLINE	990 U	1700 U	ND	ND		0/5	NA	NA
O-TOLUIDINE	500 U	870 U	ND	ND		0/5	NA	NA
N-NITROSOPIPERIDINE	500 U	870 U	ND	ND		0/5	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	2500 U	4300 U	ND	ND		0/5	NA	NA
2,6-DICHLOROPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
HEXACHLOROPROPENE	990 U	1700 U	ND	ND		0/5	NA	NA
P-PHENYLENEDIAMINE	990 U	1700 U	ND	ND		0/5	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA
SAFROLE	500 U	870 U	ND	ND		0/5	NA	NA
1,2,4,5-TETRACHLOROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
ISOSAFROLE	500 U	870 U	ND	ND		0/5	NA	NA
1,4-NAPHTHOQUINONE	2500 U	4300 U	ND	ND		0/5	NA	NA
1,3-DINITROBENZENE	990 U	1700 U	ND	ND		0/5	NA	NA
PENTACHLOROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
1-NAPHTHYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA
2-NAPHTHYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA
2,3,4,6-TETRACHLOROPHENOL	500 U	870 U	ND	ND		0/5	NA	NA
1,3,5-TRINITROBENZENE	5000 U	8700 U	ND	ND		0/5	NA	NA
DIALLATE	500 U	870 U	ND	ND		0/5	NA	NA
PHENACETIN	500 U	870 U	ND	ND		0/5	NA	NA
DIPHENYLAMINE	500 U	870 U	ND	ND		0/5	NA	NA
5-NITRO-O-TOLUIDINE	990 U	1700 U	ND	ND		0/5	NA	NA
4-AMINOBIPHENYL	500 U	870 U	ND	ND		0/5	NA	NA
PRONAMIDE	500 U	870 U	ND	ND		0/5	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	990 U	1700 U	ND	ND		0/5	NA	NA
PENTACHLORONITROBENZENE	500 U	870 U	ND	ND		0/5	NA	NA
4-NITROQUINOLINE-1-OXIDE	2500 U	4300 U	ND	ND		0/4	NA	NA
METHAPYRILENE	1200 U	2200 U	ND	ND		0/5	NA	NA
ARAMITE	990 U	1700 U	ND	ND		0/5	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	500 U	840 U	640 J	640 J	13SD04	1/5	640.00	640.00
P-DIMETHYLAMINOAZOBENZENE	990 U	1700 U	ND	ND		0/5	NA	NA
3,3'-DIMETHYLBENZIDINE	990 U	1700 U	ND	ND		0/4	NA	NA
2-ACETYLAMINOFLUORENE	990 U	1700 U	ND	ND		0/5	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	990 U	1700 U	ND	ND		0/5	NA	NA
HEXACHLOROPHENE	5000 U	8700 U	ND	ND		0/5	NA	NA
3-METHYLCHOLANTHRENE	500 U	870 U	ND	ND		0/5	NA	NA
CARBAZOLE	500 U	870 U	ND	ND		0/5	NA	NA

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PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	64 U	3400 U	ND	ND		0/5	NA	NA
BETA-BHC	64 U	3400 U	ND	ND		0/5	NA	NA
DELTA-BHC	64 U	3400 U	ND	ND		0/5	NA	NA
GAMMA-BHC (LINDANE)	64 U	3400 U	ND	ND		0/5	NA	NA
HEPTACHLOR	64 UJ	3400 U	ND	ND		0/5	NA	NA
ALDRIN	64 U	3400 U	ND	ND		0/5	NA	NA
HEPTACHLOR EPOXIDE	64 U	3400 U	ND	ND		0/5	NA	NA
ENDOSULFAN I	64 U	3400 U	ND	ND		0/5	NA	NA
DIELDRIN	130 U	6800 U	ND	ND		0/5	NA	NA
4,4'-DDE	NA	NA	47	12000	13SD04	5/5	4508.00	4100.00
ENDRIN	130 U	6800 U	ND	ND		0/5	NA	NA
ENDOSULFAN II	130 U	6800 UJ	ND	ND		0/5	NA	NA
4,4'-DDD	130 U	200 U	4300	34000	13SD04	3/5	20766.67	24000.00
ENDOSULFAN SULFATE	130 U	6800 U	ND	ND		0/5	NA	NA
4,4'-DDT	130 U	130 U	42	52000	13SD03	4/5	13610.50	1200.00
METHOXYCHLOR	640 U	34000 U	ND	ND		0/5	NA	NA
ENDRIN ALDEHYDE	130 U	6800 UJ	ND	ND		0/5	NA	NA
ISODRIN	64 U	3400 U	ND	ND		0/5	NA	NA
KEPONE	130 U	6800 U	ND	ND		0/5	NA	NA
ALPHA-CHLORDANE	640 U	34000 U	ND	ND		0/5	NA	NA
GAMMA-CHLORDANE	640 U	34000 U	ND	ND		0/5	NA	NA
TOXAPHENE	1300 U	68000 U	ND	ND		0/5	NA	NA
AROCLOR-1016	640 U	34000 U	ND	ND		0/5	NA	NA
AROCLOR-1221	640 U	34000 U	ND	ND		0/5	NA	NA
AROCLOR-1232	640 U	34000 U	ND	ND		0/5	NA	NA
AROCLOR-1242	640 U	34000 U	ND	ND		0/5	NA	NA
AROCLOR-1248	640 U	34000 U	ND	ND		0/5	NA	NA
AROCLOR-1254	1300 U	68000 U	ND	ND		0/5	NA	NA
AROCLOR-1260	1300 U	68000 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES (ug/kg)								
DIMETHOATE	98 U	170 U	ND	ND		0/5	NA	NA
DISULFOTON	98 U	170 U	ND	ND		0/5	NA	NA
FAMPHUR	98 U	170 U	ND	ND		0/5	NA	NA
METHYL PARATHION	98 U	170 U	ND	ND		0/5	NA	NA
O,O,O-TRIETHYL PHOSPHOROTHIOA	98 U	170 U	ND	ND		0/5	NA	NA
PARATHION	98 U	170 U	ND	ND		0/5	NA	NA
PHORATE	98 U	170 U	ND	ND		0/5	NA	NA
SULFOTEP	98 U	170 U	ND	ND		0/5	NA	NA
THIONAZIN	98 U	170 U	ND	ND		0/5	NA	NA
HERBICIDE (ug/kg)								
2,4-D	500 U	830 U	ND	ND		0/5	NA	NA
2,4,5-T	99 U	170 U	ND	ND		0/5	NA	NA
2,4,5-TP (SILVEX)	99 U	170 U	ND	ND		0/5	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.17 U	0.33 U	ND	ND		0/5	NA	NA
TOTAL TCDD	0.17 U	0.33 U	ND	ND		0/5	NA	NA
TOTAL PECDD	0.19 U	0.54 U	ND	ND		0/5	NA	NA
TOTAL HXCDD	0.21 U	0.59 U	ND	ND		0/5	NA	NA
TOTAL TCDF	0.1 U	0.28 U	ND	ND		0/5	NA	NA
TOTAL PECDF	0.18 U	0.39 U	ND	ND		0/5	NA	NA
TOTAL HXCDF	0.2 U	0.46 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
WET CHEMISTRY (mg/kg)						
Cyanide, Total	0.48 UJ	0.55 UJ	0.5 UJ	0.49 UJ	0.59 UJ	0.42 UJ
Sulfide	27.4 UJ	28.4 UJ	26.6 UJ	27.3 UJ	29.9 UJ	27.7 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.42 UJ	0.59 UJ	ND	ND		0/6	NA	NA
Sulfide	26.6 UJ	29.9 UJ	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS01	13SS02	13SS03	13SS04	13SS05	13SS06
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
TOTAL METALS (mg/kg)						
Silver, Total	NA	NA	NA	NA	0.26 U	0.33 U
Arsenic, Total	12.4 J	0.66 J	3.4 J	1.6 J	3.1 J	4.5 J
Barium, Total	NA	NA	NA	NA	36.6	61.4
Beryllium, Total	NA	NA	NA	NA	0.09 U	0.11 U
Cadmium, Total	NA	NA	NA	NA	0.52 J	1
Cobalt, Total	NA	NA	NA	NA	4.9	9.5
Chromium, Total	NA	NA	NA	NA	9.9	20.4
Copper, Total	NA	NA	NA	NA	39.5	64.5
Mercury, Total	NA	NA	NA	NA	0.13	0.051 U
Nickel, Total	NA	NA	NA	NA	4.7	10.5
Lead, Total	NA	NA	NA	NA	413	77.8
Antimony, Total	NA	NA	NA	NA	2.1 UJ	2.7 UJ
Selenium, Total	NA	NA	NA	NA	0.27 U	0.29 U
Tin, Total	NA	NA	NA	NA	1.6 U	5
Thallium, Total	NA	NA	NA	NA	0.12 U	0.12 U
Vanadium, Total	NA	NA	NA	NA	32.2 J	64 J
Zinc, Total	NA	NA	NA	NA	340 J	144 J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
L SUMMARY OF INORGANIC ANALYTES IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95
TOTAL METALS (mg/kg)				
Silver, Total	0.21 U	0.21 U	0.22 U	0.26 U
Arsenic, Total	3.6 J	3.6 J	1.9 J	1.8 J
Barium, Total	46.9	52.5	57.1	37.6
Beryllium, Total	0.071 U	0.071 U	0.075 U	0.088 U
Cadmium, Total	0.66 J	0.5 J	0.44 J	0.61 J
Cobalt, Total	9.5	8.2	10.8	8.4
Chromium, Total	14.8	12.9	18.9	14.3
Copper, Total	61.1	61.3	59.2	46.5
Mercury, Total	0.043 U	0.054 U	0.05 U	0.048 U
Nickel, Total	9.3	8.2	10.3	8.9
Lead, Total	65.8	34.3	122	48.1
Antimony, Total	1.7 UJ	1.7 UJ	1.8 UJ	2.1 UJ
Selenium, Total	0.23 U	0.41 U	0.32 U	0.57 U
Tin, Total	1.7	2.6	56.8	2.8
Thallium, Total	0.1 U	0.089 UJ	0.14 UJ	0.12 UJ
Vanadium, Total	59.2 J	55.5 J	57.2 J	57.2 J
Zinc, Total	91.8 J	62 J	126 J	50.6 J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Silver, Total	0.21 U	0.33 U	ND	ND		0/6	NA	NA
Arsenic, Total	NA	NA	0.66 J	12.4 J	13SS01	10/10	3.66	3.25
Barium, Total	NA	NA	36.6	61.4	13SS06	6/6	48.68	49.70
Beryllium, Total	0.071 U	0.11 U	ND	ND		0/6	NA	NA
Cadmium, Total	NA	NA	0.44 J	1	13SS06	6/6	0.62	0.57
Cobalt, Total	NA	NA	4.9	10.8	13SS08	6/6	8.55	8.95
Chromium, Total	NA	NA	9.9	20.4	13SS06	6/6	15.20	14.55
Copper, Total	NA	NA	39.5	64.5	13SS06	6/6	55.35	60.15
Mercury, Total	0.043 U	0.054 U	0.13	0.13	13SS05	1/6	0.13	0.13
Nickel, Total	NA	NA	4.7	10.5	13SS06	6/6	8.65	9.10
Lead, Total	NA	NA	34.3	413	13SS05	6/6	126.83	71.80
Antimony, Total	1.7 UJ	2.7 UJ	ND	ND		0/6	NA	NA
Selenium, Total	0.23 U	0.57 U	ND	ND		0/6	NA	NA
Tin, Total	1.6 U	1.6 U	1.7	56.8	13SS08	5/6	13.78	2.80
Thallium, Total	0.089 UJ	0.14 UJ	ND	ND		0/6	NA	NA
Vanadium, Total	NA	NA	32.2 J	64 J	13SS06	6/6	54.22	57.20
Zinc, Total	NA	NA	50.6 J	340 J	13SS05	6/6	135.73	108.90

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
VOLATILES (ug/kg)						
CHLOROMETHANE	11 U	12 U	11 U	11 U	14 U	11 U
BROMOMETHANE	11 U	12 U	11 U	11 U	14 U	11 U
VINYL CHLORIDE	11 U	12 U	11 U	11 U	14 U	11 U
CHLOROETHANE	11 U	12 U	11 U	11 U	14 U	11 U
METHYLENE CHLORIDE	6 U	6 U	6 U	6 U	7 U	6 U
ACETONE	11 U	12 U	11 U	11 U	14 U	11 U
CARBON DISULFIDE	6 U	6 U	6 U	6 U	7 U	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 U	6 U	7 U	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 U	6 U	7 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 U	6 U	7 U	6 U
CHLOROFORM	6 U	6 U	6 U	6 U	7 U	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 U	6 U	7 U	6 U
2-BUTANONE	11 U	12 U	11 U	11 U	14 U	11 U
1,1,1-TRICHLOROETHANE	6 U	6 U	6 U	6 U	7 U	6 U
CARBON TETRACHLORIDE	6 U	6 U	6 U	6 U	7 U	6 U
VINYL ACETATE	11 U	12 U	11 U	11 U	14 U	11 U
BROMODICHLOROMETHANE	6 U	6 U	6 U	6 U	7 U	6 U
1,2-DICHLOROPROPANE	6 U	6 U	6 U	6 U	7 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U	7 U	6 U
TRICHLOROETHENE	6 U	6 U	6 U	6 U	7 U	6 U
DIBROMOCHLOROMETHANE	6 U	6 U	6 U	6 U	7 U	6 U
1,1,2-TRICHLOROETHANE	6 U	6 U	6 U	6 U	7 U	6 U
BENZENE	6 U	6 U	6 U	6 U	7 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U	7 U	6 U
BROMOFORM	6 U	6 U	6 U	6 U	7 U	6 U
4-METHYL-2-PENTANONE	11 U	12 U	11 U	11 U	14 U	11 U
2-HEXANONE	11 U	12 U	11 U	11 U	14 U	11 U
TETRACHLOROETHENE	6 U	6 U	6 R	6 U	7 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	6 U	6 U	7 U	6 U
TOLUENE	6 U	6 U	6 U	6 U	7 U	6 U
CHLOROBENZENE	6 U	6 U	6 U	6 U	7 U	6 U
ETHYLBENZENE	6 U	6 U	6 U	6 U	7 U	6 U
STYRENE	6 U	6 U	6 U	6 U	7 U	6 U
XYLENE (TOTAL)	6 U	6 U	6 U	6 U	7 U	6 U
ACROLEIN	560 U	580 U	560 U	560 U	680 U	560 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
VOLATILES cont. (ug/kg)						
ACRYLONITRILE	110 U	120 U	110 U	110 U	140 U	110 U
TRICHLOROFLUOROMETHANE	11 U	12 U	11 U	11 U	14 U	11 U
DICHLORODIFLUOROMETHANE	22 U	23 U	22 U	22 U	27 U	22 U
ACETONITRILE	110 U	120 U	110 U	110 U	140 U	110 U
IODOMETHANE	11 U	12 U	11 U	11 U	14 U	11 U
PROPIONITRILE (ETHYL CYANIDE)	56 U	58 U	56 U	56 U	68 U	56 U
3-CHLOROPROPENE	22 U	23 U	22 U	22 U	27 U	22 U
METHACRYLONITRILE	22 U	23 U	22 U	22 U	27 U	22 U
DIBROMOMETHANE	11 U	12 U	11 U	11 U	14 U	11 U
ISOBUTYL ALCOHOL	2200 U	2300 U	2200 U	2200 U	2700 U	2200 U
1,2-DIBROMOETHANE	22 U	23 U	22 U	22 U	27 U	22 U
1,1,1,2-TETRACHLOROETHANE	11 U	12 U	11 U	11 U	14 U	11 U
1,2,3-TRICHLOROPROPANE	11 U	12 U	11 U	11 U	14 U	11 U
TRANS-1,4-DICHLORO-2-BUTENE	22 U	23 U	22 U	22 U	27 U	22 U
1,2-DIBROMO-3-CHLOROPROPANE	22 U	23 U	22 U	22 U	27 U	22 U
2-CHLORO-1,3-BUTADIENE	110 U	120 U	110 U	110 U	140 U	110 U
METHYLMETHACRYLATE	22 U	23 U	22 U	22 U	27 U	22 U
ETHYLMETHACRYLATE	22 U	23 U	22 U	22 U	27 U	22 U
PENTACHLOROETHANE	22 U	23 U	22 U	22 U	27 U	22 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES (ug/kg)						
PHENOL	370 U	390 U	360 U	360 U	450 U	370 U
BIS(2-CHLOROETHYL)ETHER	370 U	390 U	360 U	360 U	450 U	370 U
2-CHLOROPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
1,3-DICHLOROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
1,4-DICHLOROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
BENZYL ALCOHOL	370 U	390 U	360 U	360 U	450 U	370 U
1,2-DICHLOROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
O-CRESOL	370 U	390 U	360 U	360 U	450 U	370 U
2,2'-OXYBIS(1-CHLOROPROPANE)	370 U	390 U	360 U	360 U	450 U	370 U
META & PARA-CRESOL	370 U	390 U	360 U	360 U	450 U	370 U
N-NITROSO-DI-N-PROPYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U
HEXACHLOROETHANE	370 U	390 U	360 U	360 U	450 U	370 U
NITROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
ISOPHORONE	370 U	390 U	360 U	360 U	450 U	370 U
2-NITROPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
2,4-DIMETHYLPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
BENZOIC ACID	650 J	2000 U	1800 U	1800 U	2200 U	1800 U
BIS(2-CHLOROETHOXY)METHANE	370 U	390 U	360 U	360 U	450 U	370 U
2,4-DICHLOROPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
1,2,4-TRICHLOROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
NAPHTHALENE	370 U	390 U	360 U	360 U	450 U	370 U
4-CHLOROANILINE	370 U	390 U	360 U	360 U	450 U	370 U
HEXACHLOROBUTADIENE	370 U	390 U	360 U	360 U	450 U	370 U
4-CHLORO-3-METHYLPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
2-METHYLNAPHTHALENE	370 U	390 U	360 U	360 U	450 U	370 U
HEXACHLOROCYCLOPENTADIENE	370 U	390 U	360 U	360 U	450 U	370 U
2,4,6-TRICHLOROPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
2,4,5-TRICHLOROPHENOL	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
2-CHLORONAPHTHALENE	370 U	390 U	360 U	360 U	450 U	370 U
2-NITROANILINE	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
DIMETHYLPHTHALATE	370 U	390 U	360 U	360 U	450 U	370 U
ACENAPHTHYLENE	370 U	390 U	360 U	360 U	450 U	370 U
2,6-DINITROTOLUENE	370 U	390 U	360 U	360 U	450 U	370 U
3-NITROANILINE	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
ACENAPHTHENE	370 U	390 U	360 U	360 U	450 U	370 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES cont. (ug/kg)						
2,4-DINITROPHENOL	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
4-NITROPHENOL	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
DIBENZOFURAN	370 U	390 U	360 U	360 U	450 U	370 U
2,4-DINITROTOLUENE	370 U	390 U	360 U	360 U	450 U	370 U
DIETHYLPHTHALATE	370 U	390 U	360 U	360 U	450 U	370 U
4-CHLOROPHENYL-PHENYLETHER	370 U	390 U	360 U	360 U	450 U	370 U
FLUORENE	370 U	390 U	360 U	360 U	450 U	370 U
4-NITROANILINE	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
4,6-DINITRO-2-METHYLPHENOL	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
N-NITROSODIPHENYLAMINE (1)	370 U	390 U	360 U	360 U	450 U	370 U
4-BROMOPHENYL-PHENYLETHER	370 U	390 U	360 U	360 U	450 U	370 U
HEXACHLOROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
PENTACHLOROPHENOL	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
PHENANTHRENE	370 U	390 U	360 U	360 U	270 J	370 U
ANTHRACENE	370 U	390 U	360 U	360 U	59 J	370 U
DI-N-BUTYLPHTHALATE	370 U	390 U	360 U	360 U	450 U	370 U
FLUORANTHENE	370 U	170 J	360 U	360 U	340 J	38 J
PYRENE	370 U	180 J	360 U	360 U	290 J	370 U
BUTYLBENZYLPHTHALATE	45 J	390 U	360 U	360 U	450 U	370 U
3,3'-DICHLOROBENZIDINE	740 U	780 U	720 U	730 U	890 U	730 U
BENZO(A)ANTHRACENE	370 U	270 J	360 U	360 U	160 J	370 U
CHRYSENE	370 U	370 J	360 U	360 U	150 J	370 U
BIS(2-ETHYLHEXYL)PHTHALATE	94 J	39 J	360 U	360 U	110 J	370 U
DI-N-OCTYL PHTHALATE	370 U	390 U	360 U	360 U	450 U	370 U
BENZO(B)FLUORANTHENE	370 U	620	360 U	360 U	210 J	47 J
BENZO(K)FLUORANTHENE	370 U	290 J	360 U	360 U	96 J	370 U
BENZO(A)PYRENE	370 U	440	360 U	360 U	140 J	370 U
INDENO(1,2,3-CD)PYRENE	370 U	260 J	360 U	360 U	82 J	370 U
DIBENZO(A,H)ANTHRACENE	370 U	57 J	360 U	360 U	450 U	370 U
BENZO(G,H,I)PERYLENE	370 U	220 J	360 U	360 U	83 J	370 U
1,4-DIOXANE	1500 U	1600 U	1400 U	1500 U	1800 U	1500 U
PYRIDINE	740 U	780 U	720 U	730 U	890 U	730 U
N-NITROSODIMETHYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U
2-PICOLINE	370 U	390 U	360 U	360 U	450 U	370 U
N-NITROSOMETHYLETHYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES cont. (ug/kg)						
METHYL METHANESULFONATE	370 U	390 U	360 U	360 U	450 U	370 U
N-NITROSODIETHYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U
ETHYL METHANESULFONATE	370 U	390 U	360 U	360 U	450 U	370 U
ANILINE	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
N-NITROSOPYRROLIDINE	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
ACETOPHENONE	370 U	390 U	360 U	360 U	450 U	370 U
N-NITROSOMORPHOLINE	740 U	780 U	720 U	730 U	890 U	730 U
O-TOLUIDINE	370 U	390 U	360 U	360 U	450 U	370 U
N-NITROSOPIPERIDINE	370 U	390 U	360 U	360 U	450 U	370 U
A,A-DIMETHYLPHENETHYLAMINE	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
2,6-DICHLOROPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
HEXACHLOROPROPENE	740 U	780 U	720 U	730 U	890 U	730 U
P-PHENYLENEDIAMINE	740 U	780 U	720 U	730 U	890 U	730 U
N-NITROSO-DI-N-BUTYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U
SAFROLE	370 U	390 U	360 U	360 U	450 U	370 U
1,2,4,5-TETRACHLOROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
ISOSAFROLE	370 U	390 U	360 U	360 U	450 U	370 U
1,4-NAPHTHOQUINONE	1800 U	2000 U	1800 U	1800 U	2200 U	1800 U
1,3-DINITROBENZENE	740 U	780 U	720 U	730 U	890 U	730 U
PENTACHLOROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
1-NAPHTHYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U
2-NAPHTHYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U
2,3,4,6-TETRACHLOROPHENOL	370 U	390 U	360 U	360 U	450 U	370 U
1,3,5-TRINITROBENZENE	3700 U	3900 U	3600 U	3600 U	4500 U	3700 U
DIALLATE	370 U	390 U	360 U	360 U	450 U	370 U
PHENACETIN	370 U	390 U	360 U	360 U	450 U	370 U
DIPHENYLAMINE	370 U	390 U	360 U	360 U	450 U	370 U
5-NITRO-O-TOLUIDINE	740 U	780 U	720 U	730 U	890 U	730 U
4-AMINOBIPHENYL	370 U	390 U	360 U	360 U	450 U	370 U
PRONAMIDE	370 U	390 U	360 U	360 U	450 U	370 U
2-SEC-BUTYL-4,6-DINITROPHENOL	740 U	780 U	720 U	730 U	890 U	730 U
PENTACHLORONITROBENZENE	370 U	390 U	360 U	360 U	450 U	370 U
4-NITROQUINOLINE-1-OXIDE	1800 R	2000 R	1800 R	1800 R	2200 U	1800 U
METHAPYRILENE	920 U	980 U	900 U	910 U	1100 U	920 U
ARAMITE	740 U	780 U	720 U	730 U	890 U	730 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
SEMIVOLATILES cont. (ug/kg)						
CHLOROBENZILATE	370 U	390 U	360 U	360 U	450 U	370 U
P-DIMETHYLAMINOAZOBENZENE	740 U	780 U	720 U	730 U	890 U	730 U
3,3'-DIMETHYLBENZIDINE	740 R	780 R	720 R	730 R	890 U	730 U
2-ACETYLAMINOFLUORENE	740 U	780 U	720 U	730 U	890 U	730 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	740 U	780 U	720 U	730 U	890 U	730 U
HEXACHLOROPHENE	3700 U	3900 U	3600 U	3600 U	4500 U	3700 U
3-METHYLCHOLANTHRENE	370 U	390 U	360 U	360 U	450 U	370 U
CARBAZOLE	370 U	390 U	360 U	360 U	450 U	370 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	2200 U	47 U	44 U	220 U	5300 U	440 U
BETA-BHC	2200 U	47 U	44 U	220 U	5300 U	440 U
DELTA-BHC	2200 U	47 U	44 U	220 U	5300 U	440 U
GAMMA-BHC (LINDANE)	2200 U	47 U	44 U	220 U	5300 U	440 U
HEPTACHLOR	2200 U	47 UJ	44 UJ	220 U	5300 UJ	440 U
ALDRIN	2200 U	47 U	44 U	220 U	5300 U	440 U
HEPTACHLOR EPOXIDE	2200 U	47 U	44 U	220 U	5300 U	440 U
ENDOSULFAN I	2200 U	47 U	44 U	220 U	5300 U	440 U
DIELDRIN	4500 U	93 U	88 U	440 U	11000 U	880 U
4,4'-DDE	2100	97	590	340	7600	3100
ENDRIN	4500 U	93 U	88 U	440 U	11000 U	880 U
ENDOSULFAN II	4500 UJ	93 U	88 U	440 UJ	11000 U	880 U
4,4'-DDD	4500 U	93 U	88 U	440 U	11000 U	710
ENDOSULFAN SULFATE	4500 U	93 U	88 U	440 U	11000 U	880 U
4,4'-DDT	2300	31	46	440 U	6000	2500
METHOXYCHLOR	22000 U	470 U	440 U	2200 U	53000 U	4400 U
ENDRIN ALDEHYDE	4500 UJ	93 U	88 U	440 UJ	11000 U	880 U
ISODRIN	2200 U	47 U	44 U	220 U	5300 U	440 U
KEPONE	4500 U	93 U	88 U	440 U	11000 U	880 U
ALPHA-CHLORDANE	22000 U	470 U	440 U	2200 U	53000 U	4400 U
GAMMA-CHLORDANE	22000 U	470 U	440 U	2200 U	53000 U	4400 U
TOXAPHENE	45000 U	930 U	880 U	4400 U	110000 U	8800 U
AROCLOR-1016	22000 U	470 U	440 U	2200 U	53000 U	4400 U
AROCLOR-1221	22000 U	470 U	440 U	2200 U	53000 U	4400 U
AROCLOR-1232	22000 U	470 U	440 U	2200 U	53000 U	4400 U
AROCLOR-1242	22000 U	470 U	440 U	2200 U	53000 U	4400 U
AROCLOR-1248	22000 U	470 U	440 U	2200 U	53000 U	4400 U
AROCLOR-1254	45000 U	930 U	880 U	4400 U	110000 U	8800 U
AROCLOR-1260	45000 U	930 U	880 U	4400 U	110000 U	8800 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	13SS05	13SS06	13SS07	13SS07D	13SS08	13SS09
SAMPLE DATE	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95	10/24/95
ORTHO PESTICIDES (ug/kg)						
DIMETHOATE	73 U	77 U	72 U	74 U	88 U	73 U
DISULFOTON	73 U	77 U	72 U	74 U	88 U	73 U
FAMPHUR	73 U	77 U	72 U	74 U	88 U	73 U
METHYL PARATHION	73 U	77 U	72 U	74 U	88 U	73 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	73 U	77 U	72 U	74 U	88 U	73 U
PARATHION	73 U	77 U	72 U	74 U	88 U	73 U
PHORATE	73 U	77 U	72 U	74 U	88 U	73 U
SULFOTEP	73 U	77 U	72 U	74 U	88 U	73 U
THIONAZIN	73 U	77 U	72 U	74 U	88 U	73 U
HERBICIDE (ug/kg)						
2,4-D	370 U	370 U	340 U	330 U	440 U	360 U
2,4,5-T	74 U	75 U	69 U	67 U	88 U	72 U
2,4,5-TP (SILVEX)	74 U	75 U	69 U	67 U	88 U	72 U
DIOXIN (ug/kg)						
TCDD-2378	0.08 U	0.11 U	0.08 U	0.1 U	0.11 U	0.06 U
TOTAL TCDD	0.08 U	0.11 U	0.08 U	0.1 U	0.11 U	0.06 U
TOTAL PECDD	0.11 U	0.12 U	0.09 U	0.11 U	0.14 U	0.08 U
TOTAL HXCDD	0.18 J	0.15 U	0.13 U	0.16 U	0.17 J	0.12 U
TOTAL TCDF	0.07 U	0.05 U	0.09 U	0.06 U	0.06 U	0.04 U
TOTAL PECDF	0.16 U	0.22 J	0.1 U	0.09 U	0.13 U	11 J
TOTAL HXCDF	0.8 J	0.15 J	0.11 U	0.13 U	0.41 J	0.09 J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	14 U	ND	ND		0/6	NA	NA
BROMOMETHANE	11 U	14 U	ND	ND		0/6	NA	NA
VINYL CHLORIDE	11 U	14 U	ND	ND		0/6	NA	NA
CHLOROETHANE	11 U	14 U	ND	ND		0/6	NA	NA
METHYLENE CHLORIDE	6 U	7 U	ND	ND		0/6	NA	NA
ACETONE	11 U	14 U	ND	ND		0/6	NA	NA
CARBON DISULFIDE	6 U	7 U	ND	ND		0/6	NA	NA
1,1-DICHLOROETHENE	6 U	7 U	ND	ND		0/6	NA	NA
1,1-DICHLOROETHANE	6 U	7 U	ND	ND		0/6	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	7 U	ND	ND		0/6	NA	NA
CHLOROFORM	6 U	7 U	ND	ND		0/6	NA	NA
1,2-DICHLOROETHANE	6 U	7 U	ND	ND		0/6	NA	NA
2-BUTANONE	11 U	14 U	ND	ND		0/6	NA	NA
1,1,1-TRICHLOROETHANE	6 U	7 U	ND	ND		0/6	NA	NA
CARBON TETRACHLORIDE	6 U	7 U	ND	ND		0/6	NA	NA
VINYL ACETATE	11 U	14 U	ND	ND		0/6	NA	NA
BROMODICHLOROMETHANE	6 U	7 U	ND	ND		0/6	NA	NA
1,2-DICHLOROPROPANE	6 U	7 U	ND	ND		0/6	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	7 U	ND	ND		0/6	NA	NA
TRICHLOROETHENE	6 U	7 U	ND	ND		0/6	NA	NA
DIBROMOCHLOROMETHANE	6 U	7 U	ND	ND		0/6	NA	NA
1,1,2-TRICHLOROETHANE	6 U	7 U	ND	ND		0/6	NA	NA
BENZENE	6 U	7 U	ND	ND		0/6	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	7 U	ND	ND		0/6	NA	NA
BROMOFORM	6 U	7 U	ND	ND		0/6	NA	NA
4-METHYL-2-PENTANONE	11 U	14 U	ND	ND		0/6	NA	NA
2-HEXANONE	11 U	14 U	ND	ND		0/6	NA	NA
TETRACHLOROETHENE	6 U	7 U	ND	ND		0/5	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 U	7 U	ND	ND		0/6	NA	NA
TOLUENE	6 U	7 U	ND	ND		0/6	NA	NA
CHLOROBENZENE	6 U	7 U	ND	ND		0/6	NA	NA
ETHYLBENZENE	6 U	7 U	ND	ND		0/6	NA	NA
STYRENE	6 U	7 U	ND	ND		0/6	NA	NA
XYLENE (TOTAL)	6 U	7 U	ND	ND		0/6	NA	NA
ACROLEIN	560 U	680 U	ND	ND		0/6	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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VOLATILES cont. (ug/kg)								
ACRYLONITRILE	110 U	140 U	ND	ND		0/6	NA	NA
TRICHLOROFLUOROMETHANE	11 U	14 U	ND	ND		0/6	NA	NA
DICHLORODIFLUOROMETHANE	22 U	27 U	ND	ND		0/6	NA	NA
ACETONITRILE	110 U	140 U	ND	ND		0/6	NA	NA
IODOMETHANE	11 U	14 U	ND	ND		0/6	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	56 U	68 U	ND	ND		0/6	NA	NA
3-CHLOROPROPENE	22 U	27 U	ND	ND		0/6	NA	NA
METHACRYLONITRILE	22 U	27 U	ND	ND		0/6	NA	NA
DIBROMOMETHANE	11 U	14 U	ND	ND		0/6	NA	NA
ISOBUTYL ALCOHOL	2200 U	2700 U	ND	ND		0/6	NA	NA
1,2-DIBROMOETHANE	22 U	27 U	ND	ND		0/6	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	14 U	ND	ND		0/6	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	14 U	ND	ND		0/6	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	22 U	27 U	ND	ND		0/6	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 U	27 U	ND	ND		0/6	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	140 U	ND	ND		0/6	NA	NA
METHYLMETHACRYLATE	22 U	27 U	ND	ND		0/6	NA	NA
ETHYLMETHACRYLATE	22 U	27 U	ND	ND		0/6	NA	NA
PENTACHLOROETHANE	22 U	27 U	ND	ND		0/6	NA	NA

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CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	360 U	450 U	ND	ND		0/6	NA	NA
BIS(2-CHLOROETHYL)ETHER	360 U	450 U	ND	ND		0/6	NA	NA
2-CHLOROPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
1,3-DICHLOROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
1,4-DICHLOROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
BENZYL ALCOHOL	360 U	450 U	ND	ND		0/6	NA	NA
1,2-DICHLOROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
O-CRESOL	360 U	450 U	ND	ND		0/6	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	360 U	450 U	ND	ND		0/6	NA	NA
META & PARA-CRESOL	360 U	450 U	ND	ND		0/6	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA
HEXACHLOROETHANE	360 U	450 U	ND	ND		0/6	NA	NA
NITROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
ISOPHORONE	360 U	450 U	ND	ND		0/6	NA	NA
2-NITROPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
2,4-DIMETHYLPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
BENZOIC ACID	1800 U	2200 U	650 J	650 J	13SS05	1/6	650.00	650.00
BIS(2-CHLOROETHOXY)METHANE	360 U	450 U	ND	ND		0/6	NA	NA
2,4-DICHLOROPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
1,2,4-TRICHLOROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
NAPHTHALENE	360 U	450 U	ND	ND		0/6	NA	NA
4-CHLOROANILINE	360 U	450 U	ND	ND		0/6	NA	NA
HEXACHLOROBUTADIENE	360 U	450 U	ND	ND		0/6	NA	NA
4-CHLORO-3-METHYLPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
2-METHYLNAPHTHALENE	360 U	450 U	ND	ND		0/6	NA	NA
HEXACHLOROCYCLOPENTADIENE	360 U	450 U	ND	ND		0/6	NA	NA
2,4,6-TRICHLOROPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	2200 U	ND	ND		0/6	NA	NA
2-CHLORONAPHTHALENE	360 U	450 U	ND	ND		0/6	NA	NA
2-NITROANILINE	1800 U	2200 U	ND	ND		0/6	NA	NA
DIMETHYLPHTHALATE	360 U	450 U	ND	ND		0/6	NA	NA
ACENAPHTHYLENE	360 U	450 U	ND	ND		0/6	NA	NA
2,6-DINITROTOLUENE	360 U	450 U	ND	ND		0/6	NA	NA
3-NITROANILINE	1800 U	2200 U	ND	ND		0/6	NA	NA
ACENAPHTHENE	360 U	450 U	ND	ND		0/6	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1800 U	2200 U	ND	ND		0/6	NA	NA
4-NITROPHENOL	1800 U	2200 U	ND	ND		0/6	NA	NA
DIBENZOFURAN	360 U	450 U	ND	ND		0/6	NA	NA
2,4-DINITROTOLUENE	360 U	450 U	ND	ND		0/6	NA	NA
DIETHYLPHTHALATE	360 U	450 U	ND	ND		0/6	NA	NA
4-CHLOROPHENYL-PHENYLETHER	360 U	450 U	ND	ND		0/6	NA	NA
FLUORENE	360 U	450 U	ND	ND		0/6	NA	NA
4-NITROANILINE	1800 U	2200 U	ND	ND		0/6	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 U	2200 U	ND	ND		0/6	NA	NA
N-NITROSODIPHENYLAMINE (1)	360 U	450 U	ND	ND		0/6	NA	NA
4-BROMOPHENYL-PHENYLETHER	360 U	450 U	ND	ND		0/6	NA	NA
HEXACHLOROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
PENTACHLOROPHENOL	1800 U	2200 U	ND	ND		0/6	NA	NA
PHENANTHRENE	360 U	390 U	270 J	270 J	13SS08	1/6	270.00	270.00
ANTHRACENE	360 U	390 U	59 J	59 J	13SS08	1/6	59.00	59.00
DI-N-BUTYLPHTHALATE	360 U	450 U	ND	ND		0/6	NA	NA
FLUORANTHENE	360 U	370 U	38 J	340 J	13SS08	3/6	182.67	170.00
PYRENE	360 U	370 U	180 J	290 J	13SS08	2/6	235.00	235.00
BUTYLBENZYLPHTHALATE	360 U	450 U	45 J	45 J	13SS05	1/6	45.00	45.00
3,3'-DICHLOROBENZIDINE	720 U	890 U	ND	ND		0/6	NA	NA
BENZO(A)ANTHRACENE	360 U	370 U	160 J	270 J	13SS06	2/6	215.00	215.00
CHRYSENE	360 U	370 U	150 J	370 J	13SS06	2/6	260.00	260.00
BIS(2-ETHYLHEXYL)PHTHALATE	360 U	370 U	39 J	110 J	13SS08	3/6	81.00	94.00
DI-N-OCTYL PHTHALATE	360 U	450 U	ND	ND		0/6	NA	NA
BENZO(B)FLUORANTHENE	360 U	370 U	47 J	620	13SS06	3/6	292.33	210.00
BENZO(K)FLUORANTHENE	360 U	370 U	96 J	290 J	13SS06	2/6	193.00	193.00
BENZO(A)PYRENE	360 U	370 U	140 J	440	13SS06	2/6	290.00	290.00
INDENO(1,2,3-CD)PYRENE	360 U	370 U	82 J	260 J	13SS06	2/6	171.00	171.00
DIBENZO(A,H)ANTHRACENE	360 U	450 U	57 J	57 J	13SS06	1/6	57.00	57.00
BENZO(G,H,I)PERYLENE	360 U	370 U	83 J	220 J	13SS06	2/6	151.50	151.50
1,4-DIOXANE	1400 U	1800 U	ND	ND		0/6	NA	NA
PYRIDINE	720 U	890 U	ND	ND		0/6	NA	NA
N-NITROSODIMETHYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA
2-PICOLINE	360 U	450 U	ND	ND		0/6	NA	NA
N-NITROSOMETHYLETHYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	360 U	450 U	ND	ND		0/6	NA	NA
N-NITROSODIETHYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA
ETHYL METHANESULFONATE	360 U	450 U	ND	ND		0/6	NA	NA
ANILINE	1800 U	2200 U	ND	ND		0/6	NA	NA
N-NITROSOPYRROLIDINE	1800 U	2200 U	ND	ND		0/6	NA	NA
ACETOPHENONE	360 U	450 U	ND	ND		0/6	NA	NA
N-NITROSOMORPHOLINE	720 U	890 U	ND	ND		0/6	NA	NA
O-TOLUIDINE	360 U	450 U	ND	ND		0/6	NA	NA
N-NITROSOPIPERIDINE	360 U	450 U	ND	ND		0/6	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	1800 U	2200 U	ND	ND		0/6	NA	NA
2,6-DICHLOROPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
HEXACHLOROPROPENE	720 U	890 U	ND	ND		0/6	NA	NA
P-PHENYLENEDIAMINE	720 U	890 U	ND	ND		0/6	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA
SAFROLE	360 U	450 U	ND	ND		0/6	NA	NA
1,2,4,5-TETRACHLOROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
ISOSAFROLE	360 U	450 U	ND	ND		0/6	NA	NA
1,4-NAPHTHOQUINONE	1800 U	2200 U	ND	ND		0/6	NA	NA
1,3-DINITROBENZENE	720 U	890 U	ND	ND		0/6	NA	NA
PENTACHLOROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
1-NAPHTHYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA
2-NAPHTHYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA
2,3,4,6-TETRACHLOROPHENOL	360 U	450 U	ND	ND		0/6	NA	NA
1,3,5-TRINITROBENZENE	3600 U	4500 U	ND	ND		0/6	NA	NA
DIALLATE	360 U	450 U	ND	ND		0/6	NA	NA
PHENACETIN	360 U	450 U	ND	ND		0/6	NA	NA
DIPHENYLAMINE	360 U	450 U	ND	ND		0/6	NA	NA
5-NITRO-O-TOLUIDINE	720 U	890 U	ND	ND		0/6	NA	NA
4-AMINOBIPHENYL	360 U	450 U	ND	ND		0/6	NA	NA
PRONAMIDE	360 U	450 U	ND	ND		0/6	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	720 U	890 U	ND	ND		0/6	NA	NA
PENTACHLORONITROBENZENE	360 U	450 U	ND	ND		0/6	NA	NA
4-NITROQUINOLINE-1-OXIDE	1800 U	2200 U	ND	ND		0/2	NA	NA
METHAPYRILENE	900 U	1100 U	ND	ND		0/6	NA	NA
ARAMITE	720 U	890 U	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 13 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	360 U	450 U	ND	ND		0/6	NA	NA
P-DIMETHYLAMINOAZOBENZENE	720 U	890 U	ND	ND		0/6	NA	NA
3,3'-DIMETHYLBENZIDINE	730 U	890 U	ND	ND		0/2	NA	NA
2-ACETYLAMINOFLUORENE	720 U	890 U	ND	ND		0/6	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	720 U	890 U	ND	ND		0/6	NA	NA
HEXACHLOROPHENE	3600 U	4500 U	ND	ND		0/6	NA	NA
3-METHYLCHOLANTHRENE	360 U	450 U	ND	ND		0/6	NA	NA
CARBAZOLE	360 U	450 U	ND	ND		0/6	NA	NA

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PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	44 U	5300 U	ND	ND		0/6	NA	NA
BETA-BHC	44 U	5300 U	ND	ND		0/6	NA	NA
DELTA-BHC	44 U	5300 U	ND	ND		0/6	NA	NA
GAMMA-BHC (LINDANE)	44 U	5300 U	ND	ND		0/6	NA	NA
HEPTACHLOR	44 UJ	5300 UJ	ND	ND		0/6	NA	NA
ALDRIN	44 U	5300 U	ND	ND		0/6	NA	NA
HEPTACHLOR EPOXIDE	44 U	5300 U	ND	ND		0/6	NA	NA
ENDOSULFAN I	44 U	5300 U	ND	ND		0/6	NA	NA
DIELDRIN	88 U	11000 U	ND	ND		0/6	NA	NA
4,4'-DDE	NA	NA	97	7600	13SS08	6/6	2304.50	1345.00
ENDRIN	88 U	11000 U	ND	ND		0/6	NA	NA
ENDOSULFAN II	88 U	11000 U	ND	ND		0/6	NA	NA
4,4'-DDD	88 U	11000 U	710	710	13SS09	1/6	710.00	710.00
ENDOSULFAN SULFATE	88 U	11000 U	ND	ND		0/6	NA	NA
4,4'-DDT	440 U	440 U	31	6000	13SS08	5/6	2175.40	2300.00
METHOXYCHLOR	440 U	53000 U	ND	ND		0/6	NA	NA
ENDRIN ALDEHYDE	88 U	11000 U	ND	ND		0/6	NA	NA
ISODRIN	44 U	5300 U	ND	ND		0/6	NA	NA
KEPONE	88 U	11000 U	ND	ND		0/6	NA	NA
ALPHA-CHLORDANE	440 U	53000 U	ND	ND		0/6	NA	NA
GAMMA-CHLORDANE	440 U	53000 U	ND	ND		0/6	NA	NA
TOXAPHENE	880 U	110000 U	ND	ND		0/6	NA	NA
AROCLOR-1016	440 U	53000 U	ND	ND		0/6	NA	NA
AROCLOR-1221	440 U	53000 U	ND	ND		0/6	NA	NA
AROCLOR-1232	440 U	53000 U	ND	ND		0/6	NA	NA
AROCLOR-1242	440 U	53000 U	ND	ND		0/6	NA	NA
AROCLOR-1248	440 U	53000 U	ND	ND		0/6	NA	NA
AROCLOR-1254	880 U	110000 U	ND	ND		0/6	NA	NA
AROCLOR-1260	880 U	110000 U	ND	ND		0/6	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES (ug/kg)								
DIMETHOATE	72 U	88 U	ND	ND		0/6	NA	NA
DISULFOTON	72 U	88 U	ND	ND		0/6	NA	NA
FAMPHUR	72 U	88 U	ND	ND		0/6	NA	NA
METHYL PARATHION	72 U	88 U	ND	ND		0/6	NA	NA
O,O,O-TRIETHYL PHOSPHOROTHIOA	72 U	88 U	ND	ND		0/6	NA	NA
PARATHION	72 U	88 U	ND	ND		0/6	NA	NA
PHORATE	72 U	88 U	ND	ND		0/6	NA	NA
SULFOTEP	72 U	88 U	ND	ND		0/6	NA	NA
THIONAZIN	72 U	88 U	ND	ND		0/6	NA	NA
HERBICIDE (ug/kg)								
2,4-D	330 U	440 U	ND	ND		0/6	NA	NA
2,4,5-T	67 U	88 U	ND	ND		0/6	NA	NA
2,4,5-TP (SILVEX)	67 U	88 U	ND	ND		0/6	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.06 U	0.11 U	ND	ND		0/6	NA	NA
TOTAL TCDD	0.06 U	0.11 U	ND	ND		0/6	NA	NA
TOTAL PECDD	0.08 U	0.14 U	ND	ND		0/6	NA	NA
TOTAL HXCDD	0.12 U	0.16 U	0.17 J	0.18 J	13SS05	2/6	0.18	0.18
TOTAL TCDF	0.04 U	0.09 U	ND	ND		0/6	NA	NA
TOTAL PECDF	0.09 U	0.16 U	0.22 J	11 J	13SS09	2/6	5.61	5.61
TOTAL HXCDF	0.11 U	0.13 U	0.09 J	0.8 J	13SS05	4/6	0.36	0.28

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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 14 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	14SS04	14SS05	14SS06	14SS07	14SS08
SAMPLE DATE	03/22/96	03/22/96	03/22/96	03/22/96	03/22/96
VOLATILES (ug/kg)					
CARBON TETRACHLORIDE	6 U	6 UJ	6 U	6 U	5 U
ACETONE	12 UJ	12 UJ	12 UJ	12 UJ	11 UJ
CHLOROFORM	6 U	6 UJ	6 U	6 U	5 U
BENZENE	6 U	6 UJ	6 U	6 U	5 U
1,1,1-TRICHLOROETHANE	6 U	6 UJ	6 U	6 U	5 U
BROMOMETHANE	12 U	12 UJ	12 U	12 U	11 U
CHLOROMETHANE	12 U	12 UJ	12 U	12 U	11 U
IODOMETHANE	12 U	12 UJ	12 U	12 U	11 U
DIBROMOMETHANE	12 U	12 UJ	12 U	12 UJ	11 UJ
CHLOROETHANE	12 U	12 UJ	12 U	12 U	11 U
VINYL CHLORIDE	12 U	12 UJ	12 U	12 U	11 U
ACETONITRILE	120 U	120 UJ	120 U	120 U	110 U
METHYLENE CHLORIDE	6 UJ	6 UJ	6 UJ	6 U	5 U
CARBON DISULFIDE	6 U	6 UJ	6 U	6 U	5 U
BROMOFORM	6 U	6 UJ	6 U	6 U	5 U
BROMODICHLOROMETHANE	6 U	6 UJ	6 U	6 U	5 U
1,1-DICHLOROETHANE	6 U	6 UJ	6 U	6 U	5 U
1,1-DICHLOROETHENE	6 U	6 UJ	6 U	6 U	5 U
TRICHLOROFLUOROMETHANE	12 UJ	12 UJ	12 UJ	12 UJ	11 UJ
DICHLORODIFLUOROMETHANE	25 U	25 UJ	23 U	24 UJ	22 UJ
PENTACHLOROETHANE	25 U	25 UJ	23 U	24 U	22 U
ISOBUTYL ALCOHOL	2500 R	2500 R	2300 R	2400 R	2200 R
1,2-DICHLOROPROPANE	6 U	6 UJ	6 U	6 U	5 U
2-BUTANONE	12 U	12 UJ	12 U	12 U	11 U
1,1,2-TRICHLOROETHANE	6 U	6 UJ	6 U	6 U	5 U
TRICHLOROETHENE	6 U	6 UJ	6 U	6 U	5 U
1,1,2,2-TETRACHLOROETHANE	6 U	6 UJ	6 U	6 U	5 U
METHYLMETHACRYLATE	25 U	25 UJ	23 U	24 U	22 U
1,2-DIBROMO-3-CHLOROPROPANE	25 UJ	25 UJ	23 UJ	24 U	22 U
1,2,3-TRICHLOROPROPANE	12 U	12 UJ	12 U	12 U	11 U
ETHYLMETHACRYLATE	25 U	25 UJ	23 U	24 U	22 U
ETHYLBENZENE	6 U	6 UJ	6 U	6 UJ	5 UJ
STYRENE	6 U	6 UJ	6 U	6 U	5 U
1,2-DIBROMOETHANE	25 U	25 UJ	23 U	24 U	22 U
ACROLEIN	620 U	630 UJ	590 U	590 U	540 U
3-CHLOROPROPENE	25 U	25 UJ	23 U	24 U	22 U
1,2-DICHLOROETHANE	6 UJ	6 UJ	6 UJ	6 U	5 U

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SAMPLE ID	14SS04	14SS05	14SS06	14SS07	14SS08
SAMPLE DATE	03/22/96	03/22/96	03/22/96	03/22/96	03/22/96
VOLATILES cont. (ug/kg)					
PROPIONITRILE (ETHYL CYANIDE)	62 R	63 R	59 R	59 R	54 R
ACRYLONITRILE	120 U	120 UJ	120 U	120 U	110 U
VINYL ACETATE	12 U	12 UJ	12 U	12 U	11 U
4-METHYL-2-PENTANONE	12 U	12 UJ	12 U	12 U	11 U
TOLUENE	6 U	6 UJ	6 U	6 U	5 U
CHLOROBENZENE	6 U	6 UJ	6 U	6 U	5 U
TRANS-1,4-DICHLORO-2-BUTENE	25 U	25 UJ	23 U	24 U	22 U
DIBROMOCHLOROMETHANE	6 U	6 UJ	6 U	6 U	5 U
METHACRYLONITRILE	25 U	25 UJ	23 U	24 U	22 U
2-CHLORO-1,3-BUTADIENE	120 U	120 UJ	120 U	120 U	110 U
TETRACHLOROETHENE	6 U	6 UJ	6 U	6 U	5 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 UJ	6 U	6 U	5 U
2-HEXANONE	12 UJ	12 UJ	12 UJ	12 U	11 U
1,1,1,2-TETRACHLOROETHANE	12 U	12 UJ	12 U	12 U	11 U
XYLENE (TOTAL)	6 U	6 UJ	6 U	6 U	5 U
CIS-1,3-DICHLOROPROPENE	6 U	6 UJ	6 U	6 U	5 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 UJ	6 U	6 U	5 U

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	14SS04	14SS05	14SS06	14SS07	14SS08
SAMPLE DATE	03/22/96	03/22/96	03/22/96	03/22/96	03/22/96
SEMIVOLATILES (ug/kg)					
BENZO(A)PYRENE	400 U	45 J	1800	5000	360 U
2,4-DINITROPHENOL	2000 UJ	2100 UJ	1900 UJ	1900 UJ	1800 UJ
DIBENZO(A,H)ANTHRACENE	400 U	410 U	210 J	920	360 U
2-ACETYLAMINOFLUORENE	800 U	820 U	770 U	770 U	710 U
N-NITROSODIETHYLAMINE	400 UJ	410 U	390 U	390 U	360 U
3-METHYLCHOLANTHRENE	400 U	410 U	390 U	390 U	360 U
BENZO(A)ANTHRACENE	400 U	45 J	300 J	3400	360 U
4-NITROQUINOLINE-1-OXIDE	2000 UJ	2100 UJ	1900 UJ	1900 UJ	1800 UJ
7,12-DIMETHYLBENZ(A)ANTHRACENE	800 U	820 U	770 U	770 U	710 U
2,3,4,6-TETRACHLOROPHENOL	400 UJ	410 UJ	390 UJ	390 UJ	360 UJ
4-CHLORO-3-METHYLPHENOL	800 U	820 U	770 U	770 U	710 U
N-NITROSOMORPHOLINE	800 UJ	820 UJ	770 UJ	770 UJ	710 UJ
P-DIMETHYLAMINOAZOBENZENE	800 U	820 U	770 U	770 U	710 U
PHENACETIN	400 U	410 U	390 U	390 U	360 U
ETHYL METHANESULFONATE	400 U	410 U	390 U	390 U	360 U
ANILINE	2000 UJ	2100 UJ	1900 UJ	1900 UJ	1800 UJ
N-NITROSODIMETHYLAMINE	400 U	410 UJ	390 U	390 U	360 U
BENZOIC ACID	2000 U	2100 U	1900 U	1900 U	1800 U
METHYL METHANESULFONATE	400 U	410 U	390 U	390 U	360 U
HEXACHLOROETHANE	400 U	410 U	390 U	390 U	360 U
HEXACHLOROPHENE	4000 R	4100 R	3900 R	3900 R	3600 R
HEXACHLOROCYCLOPENTADIENE	400 U	410 U	390 U	390 U	360 U
ISOPHORONE	400 U	410 U	390 U	390 U	360 U
PENTACHLORONITROBENZENE	400 U	410 U	390 U	390 U	360 U
ACENAPHTHENE	400 U	410 U	390 U	390 U	360 U
DIETHYLPHTHALATE	400 U	410 U	54 J	390 U	360 U
DI-N-BUTYLPHTHALATE	400 U	410 U	390 U	390 U	360 U
PHENANTHRENE	400 U	410 U	39 J	58 J	360 U
BUTYLBENZYLPHTHALATE	400 U	410 U	390 U	390 U	360 U
N-NITROSODIPHENYLAMINE (1)	400 U	410 U	390 U	390 U	360 U
FLUORENE	400 U	410 U	390 U	390 U	360 U
CARBAZOLE	400 U	410 U	390 U	390 U	360 U
2,6-DICHLOROPHENOL	400 U	410 U	390 U	390 U	360 U
HEXACHLOROBUTADIENE	400 U	410 U	390 U	390 U	360 U
PENTACHLOROPHENOL	2000 U	2100 U	1900 U	1900 U	1800 U
2,4,6-TRICHLOROPHENOL	400 U	410 U	390 U	390 U	360 U
2-NITROANILINE	2000 U	2100 U	1900 U	1900 U	1800 U

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SAMPLE ID	14SS04	14SS05	14SS06	14SS07	14SS08
SAMPLE DATE	03/22/96	03/22/96	03/22/96	03/22/96	03/22/96
SEMIVOLATILES cont. (ug/kg)					
2-NITROPHENOL	400 U	410 U	390 U	390 U	360 U
2-SEC-BUTYL-4,6-DINITROPHENOL	800 UJ	820 UJ	770 UJ	770 UJ	710 UJ
NAPHTHALENE	400 U	410 U	390 U	390 U	360 U
2-METHYLNAPHTHALENE	400 UJ	410 UJ	390 UJ	390 UJ	360 UJ
2-CHLORONAPHTHALENE	400 U	410 U	390 U	390 U	360 U
2-NAPHTHYLAMINE	1000 U	1000 U	970 U	970 U	890 U
METHAPYRILENE	1000 UJ	1000 UJ	970 UJ	970 UJ	890 UJ
3,3'-DICHLOROBENZIDINE	800 U	820 U	770 U	770 U	710 U
4-AMINOBIPHENYL	800 U	820 U	770 U	770 U	710 U
BENZIDINE	4000 UJ	4100 UJ	3900 UJ	3900 UJ	3600 UJ
SAFROLE	400 U	410 U	390 U	390 U	360 U
O-CRESOL	400 U	410 U	390 U	390 U	360 U
1,2-DICHLOROBENZENE	400 U	410 U	390 U	390 U	360 U
O-TOLUIDINE	400 R	410 R	390 R	390 R	360 R
2-CHLOROPHENOL	400 U	410 U	390 U	390 U	360 U
1,2,4,5-TETRACHLOROBENZENE	400 U	410 U	390 U	390 U	360 U
2,4,5-TRICHLOROPHENOL	2000 U	2100 U	1900 U	1900 U	1800 U
ACETOPHENONE	400 U	410 U	390 U	390 U	360 U
NITROBENZENE	400 U	410 U	390 U	390 U	360 U
3-NITROANILINE	2000 U	2100 U	1900 U	1900 U	1800 U
1,3,5-TRINITROBENZENE	4000 U	4100 U	3900 U	3900 U	3600 U
5-NITRO-O-TOLUIDINE	800 U	820 U	770 U	770 U	710 U
1,3-DINITROBENZENE	800 U	820 U	770 U	770 U	710 U
4-NITROANILINE	2000 U	2100 U	1900 U	1900 U	1800 U
4-NITROPHENOL	2000 U	2100 U	1900 U	1900 U	1800 U
BENZYL ALCOHOL	400 UJ	410 UJ	390 UJ	390 UJ	360 UJ
N-NITROSOPIPERIDINE	400 U	410 U	390 U	390 U	360 U
4-BROMOPHENYL-PHENYLETHER	400 U	410 U	390 U	390 U	360 U
2,4-DIMETHYLPHENOL	400 U	410 U	390 U	390 U	360 U
1,4-DICHLOROBENZENE	400 U	410 U	390 U	390 U	360 U
4-CHLOROANILINE	800 U	820 U	770 U	770 U	710 U
P-PHENYLENEDIAMINE	800 UJ	820 UJ	770 UJ	770 UJ	710 UJ
2,2'-OXYBIS(1-CHLOROPROPANE)	400 U	410 U	390 U	390 U	360 U
PHENOL	400 U	410 U	390 U	390 U	360 U
2-PICOLINE	400 R	410 R	390 R	390 R	360 R
PYRIDINE	800 U	820 U	770 U	770 U	710 U
BIS(2-CHLOROETHYL)ETHER	400 U	410 U	390 U	390 U	360 U

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SAMPLE DATE	03/22/96	03/22/96	03/22/96	03/22/96	03/22/96
SEMIVOLATILES cont. (ug/kg)					
BIS(2-CHLOROETHOXY)METHANE	400 U	410 U	390 U	390 U	360 U
BIS(2-ETHYLHEXYL)PHTHALATE	400 U	410 U	97 J	390 U	360 U
DI-N-OCTYL PHTHALATE	400 U	410 U	390 U	390 U	360 U
HEXACHLOROBENZENE	400 U	410 U	390 U	390 U	360 U
3,3'-DIMETHYLBENZIDINE	2000 U	2100 U	1900 U	1900 U	1800 U
ANTHRACENE	400 U	410 U	390 U	110 J	360 U
ISOSAFROLE	400 UJ	410 UJ	390 UJ	390 UJ	360 UJ
1,2,4-TRICHLOROBENZENE	400 U	410 U	390 U	390 U	360 U
2,4-DICHLOROPHENOL	400 U	410 U	390 U	390 U	360 U
2,4-DINITROTOLUENE	400 U	410 U	390 U	390 U	360 U
A,A-DIMETHYLPHENETHYLAMINE	2000 U	2100 U	1900 U	1900 U	1800 U
DIPHENYLAMINE	400 U	410 U	390 U	390 U	360 U
1,2-DIPHENYLHYDRAZINE	400 U	410 U	390 U	390 U	360 U
1,4-DIOXANE	800 R	820 R	770 R	770 R	710 R
PYRENE	170 J	270 J	650	100 J	360 U
1,4-NAPHTHOQUINONE	2000 UJ	2100 UJ	1900 UJ	1900 UJ	1800 UJ
DIMETHYLPHTHALATE	400 U	410 U	390 U	390 U	360 U
DIBENZOFURAN	400 U	410 U	390 U	390 U	360 U
1-NAPHTHYLAMINE	800 U	820 U	770 U	770 U	710 U
ARAMITE	800 UJ	820 UJ	770 UJ	770 UJ	710 UJ
BENZO(G,H,I)PERYLENE	66 J	91 J	1200	3600	360 U
INDENO(1,2,3-CD)PYRENE	400 U	58 J	1300	3800	360 U
BENZO(B)FLUORANTHENE	400 U	410 U	2800	7600	360 U
FLUORANTHENE	88 J	110 J	230 J	67 J	360 U
BENZO(K)FLUORANTHENE	400 U	410 U	640	2400	360 U
ACENAPHTHYLENE	400 U	410 U	390 U	390 U	360 U
CHRYSENE	400 U	50 J	690	3800	360 U
CHLOROBENZILATE	400 UJ	410 UJ	390 UJ	390 UJ	360 UJ
4,6-DINITRO-2-METHYLPHENOL	2000 UJ	2100 UJ	1900 UJ	1900 UJ	1800 UJ
1,3-DICHLOROBENZENE	400 U	410 U	390 U	390 U	360 U
2,6-DINITROTOLUENE	400 U	410 U	390 U	390 U	360 U
PENTACHLOROBENZENE	400 U	410 U	390 U	390 U	360 U
N-NITROSO-DI-N-PROPYLAMINE	400 U	410 U	390 U	390 U	360 U
N-NITROSO-DI-N-BUTYLAMINE	400 UJ	410 UJ	390 UJ	390 UJ	360 UJ
N-NITROSOPYRROLIDINE	2000 UJ	2100 UJ	1900 UJ	1900 UJ	1800 UJ
HEXACHLOROPROPENE	2000 U	2100 U	1900 U	1900 U	1800 U
DIALLATE	400 U	410 U	390 U	390 U	360 U

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CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 14 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	14SS04	14SS05	14SS06	14SS07	14SS08
SAMPLE DATE	03/22/96	03/22/96	03/22/96	03/22/96	03/22/96
SEMIVOLATILES cont. (ug/kg)					
4-CHLOROPHENYL-PHENYLETHER	400 U	410 U	390 U	390 U	360 U
N-NITROSOMETHYLETHYLAMINE	400 U	410 U	390 UJ	390 UJ	360 UJ
PRONAMIDE	400 U	410 U	390 U	390 U	360 U
META & PARA-CRESOL	400 U	410 U	390 U	390 U	360 U
PCB (ug/kg)					
AROCLOR-1260	28	17	12	19	6 NJ
AROCLOR-1254	96 U	98 U	93 U	93 U	85 U
AROCLOR-1221	48 U	49 U	46 U	46 U	42 U
AROCLOR-1232	48 U	49 U	46 U	46 U	42 U
AROCLOR-1248	48 U	49 U	46 U	46 U	42 U
AROCLOR-1016	48 U	49 U	46 U	46 U	42 U
AROCLOR-1242	48 U	49 U	46 U	46 U	42 U
TPH (mg/kg)					
DIESEL FUEL	560	360	120	490	4.5 U
GASOLINE	3.7	3.8	1.8	1.8	0.032

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 14 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTED	AVERAGE OF POSITIVE DETECTED	MEDIAN OF POSITIVE DETECTED
VOLATILES (ug/kg)								
CARBON TETRACHLORIDE	5 U	6 U	ND	ND		0/5	NA	NA
ACETONE	11 UJ	12 UJ	ND	ND		0/5	NA	NA
CHLOROFORM	5 U	6 U	ND	ND		0/5	NA	NA
BENZENE	5 U	6 U	ND	ND		0/5	NA	NA
1,1,1-TRICHLOROETHANE	5 U	6 U	ND	ND		0/5	NA	NA
BROMOMETHANE	11 U	12 U	ND	ND		0/5	NA	NA
CHLOROMETHANE	11 U	12 U	ND	ND		0/5	NA	NA
IODOMETHANE	11 U	12 U	ND	ND		0/5	NA	NA
DIBROMOMETHANE	11 UJ	12 U	ND	ND		0/5	NA	NA
CHLOROETHANE	11 U	12 U	ND	ND		0/5	NA	NA
VINYL CHLORIDE	11 U	12 U	ND	ND		0/5	NA	NA
ACETONITRILE	110 U	120 U	ND	ND		0/5	NA	NA
METHYLENE CHLORIDE	5 U	6 UJ	ND	ND		0/5	NA	NA
CARBON DISULFIDE	5 U	6 U	ND	ND		0/5	NA	NA
BROMOFORM	5 U	6 U	ND	ND		0/5	NA	NA
BROMODICHLOROMETHANE	5 U	6 U	ND	ND		0/5	NA	NA
1,1-DICHLOROETHANE	5 U	6 U	ND	ND		0/5	NA	NA
1,1-DICHLOROETHENE	5 U	6 U	ND	ND		0/5	NA	NA
TRICHLOROFLUOROMETHANE	11 UJ	12 UJ	ND	ND		0/5	NA	NA
DICHLORODIFLUOROMETHANE	22 UJ	25 U	ND	ND		0/5	NA	NA
PENTACHLOROETHANE	22 U	25 U	ND	ND		0/5	NA	NA
ISOBUTYL ALCOHOL	NA	NA	ND	ND		0/0	NA	NA
1,2-DICHLOROPROPANE	5 U	6 U	ND	ND		0/5	NA	NA
2-BUTANONE	11 U	12 U	ND	ND		0/5	NA	NA
1,1,2-TRICHLOROETHANE	5 U	6 U	ND	ND		0/5	NA	NA
TRICHLOROETHENE	5 U	6 U	ND	ND		0/5	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	6 U	ND	ND		0/5	NA	NA
METHYLMETHACRYLATE	22 U	25 U	ND	ND		0/5	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 U	25 UJ	ND	ND		0/5	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	12 U	ND	ND		0/5	NA	NA
ETHYLMETHACRYLATE	22 U	25 U	ND	ND		0/5	NA	NA
ETHYLBENZENE	5 UJ	6 U	ND	ND		0/5	NA	NA
STYRENE	5 U	6 U	ND	ND		0/5	NA	NA
1,2-DIBROMOETHANE	22 U	25 U	ND	ND		0/5	NA	NA
ACROLEIN	540 U	630 UJ	ND	ND		0/5	NA	NA
3-CHLOROPROPENE	22 U	25 U	ND	ND		0/5	NA	NA
1,2-DICHLOROETHANE	5 U	6 UJ	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 14 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTED	AVERAGE OF POSITIVE DETECTED	MEDIAN OF POSITIVE DETECTED
VOLATILES cont. (ug/kg)								
PROPIONITRILE (ETHYL CYANIDE)	NA	NA	ND	ND		0/0	NA	NA
ACRYLONITRILE	110 U	120 U	ND	ND		0/5	NA	NA
VINYL ACETATE	11 U	12 U	ND	ND		0/5	NA	NA
4-METHYL-2-PENTANONE	11 U	12 U	ND	ND		0/5	NA	NA
TOLUENE	5 U	6 U	ND	ND		0/5	NA	NA
CHLOROBENZENE	5 U	6 U	ND	ND		0/5	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	22 U	25 U	ND	ND		0/5	NA	NA
DIBROMOCHLOROMETHANE	5 U	6 U	ND	ND		0/5	NA	NA
METHACRYLONITRILE	22 U	25 U	ND	ND		0/5	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	120 U	ND	ND		0/5	NA	NA
TETRACHLOROETHENE	5 U	6 U	ND	ND		0/5	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	6 U	ND	ND		0/5	NA	NA
2-HEXANONE	11 U	12 UJ	ND	ND		0/5	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	12 U	ND	ND		0/5	NA	NA
XYLENE (TOTAL)	5 U	6 U	ND	ND		0/5	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/5	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 14 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTED	AVERAGE OF POSITIVE DETECTED	MEDIAN OF POSITIVE DETECTED
SEMIVOLATILES (ug/kg)								
BENZO(A)PYRENE								
2,4-DINITROPHENOL								
DIBENZO(A,H)ANTHRACENE								
2-ACETYLAMINOFLUORENE								
N-NITROSODIETHYLAMINE								
3-METHYLCHOLANTHRENE								
BENZO(A)ANTHRACENE								
4-NITROQUINOLINE-1-OXIDE								
7,12-DIMETHYLBENZ(A)ANTHRACENE								
2,3,4,6-TETRACHLOROPHENOL								
4-CHLORO-3-METHYLPHENOL								
N-NITROSOMORPHOLINE								
P-DIMETHYLAMINOAZOBENZENE								
PHENACETIN								
ETHYL METHANESULFONATE								
ANILINE								
N-NITROSODIMETHYLAMINE								
BENZOIC ACID								
METHYL METHANESULFONATE								
HEXACHLOROETHANE								
HEXACHLOROPHENE								
HEXACHLOROCYCLOPENTADIENE								
ISOPHORONE								
PENTACHLORONITROBENZENE								
ACENAPHTHENE								
DIETHYLPHTHALATE								
DI-N-BUTYLPHTHALATE								
PHENANTHRENE								
BUTYLBENZYLPHTHALATE								
N-NITROSODIPHENYLAMINE (1)								
FLUORENE								
CARBAZOLE								
2,6-DICHLOROPHENOL								
HEXACHLOROBUTADIENE								
PENTACHLOROPHENOL								
2,4,6-TRICHLOROPHENOL								
2-NITROANILINE								

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 14 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTED	AVERAGE OF POSITIVE DETECTED	MEDIAN OF POSITIVE DETECTED
SEMIVOLATILES cont. (ug/kg)								
2-NITROPHENOL								
2-SEC-BUTYL-4,6-DINITROPHENOL								
NAPHTHALENE								
2-METHYLNAPHTHALENE								
2-CHLORONAPHTHALENE								
2-NAPHTHYLAMINE								
METHAPYRILENE								
3,3'-DICHLOROBENZIDINE								
4-AMINOBIPHENYL								
BENZIDINE								
SAFROLE								
O-CRESOL								
1,2-DICHLOROBENZENE								
O-TOLUIDINE								
2-CHLOROPHENOL								
1,2,4,5-TETRACHLOROBENZENE								
2,4,5-TRICHLOROPHENOL								
ACETOPHENONE								
NITROBENZENE								
3-NITROANILINE								
1,3,5-TRINITROBENZENE								
5-NITRO-O-TOLUIDINE								
1,3-DINITROBENZENE								
4-NITROANILINE								
4-NITROPHENOL								
BENZYL ALCOHOL								
N-NITROSOPIPERIDINE								
4-BROMOPHENYL-PHENYLETHER								
2,4-DIMETHYLPHENOL								
1,4-DICHLOROBENZENE								
4-CHLOROANILINE								
P-PHENYLENEDIAMINE								
2,2'-OXYBIS(1-CHLOROPROPANE)								
PHENOL								
2-PICOLINE								
PYRIDINE								
BIS(2-CHLOROETHYL)ETHER								

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 14 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTED	AVERAGE OF POSITIVE DETECTED	MEDIAN OF POSITIVE DETECTED
SEMIVOLATILES cont. (ug/kg)								
BIS(2-CHLOROETHOXY)METHANE								
BIS(2-ETHYLHEXYL)PHTHALATE								
DI-N-OCTYL PHTHALATE								
HEXACHLOROBENZENE								
3,3'-DIMETHYLBENZIDINE								
ANTHRACENE								
ISOSAFROLE								
1,2,4-TRICHLOROBENZENE								
2,4-DICHLOROPHENOL								
2,4-DINITROTOLUENE								
A,A-DIMETHYLPHENETHYLAMINE								
DIPHENYLAMINE								
1,2-DIPHENYLHYDRAZINE								
1,4-DIOXANE								
PYRENE								
1,4-NAPHTHOQUINONE								
DIMETHYLPHTHALATE								
DIBENZOFURAN								
1-NAPHTHYLAMINE								
ARAMITE								
BENZO(G,H,I)PERYLENE								
INDENO(1,2,3-CD)PYRENE								
BENZO(B)FLUORANTHENE								
FLUORANTHENE								
BENZO(K)FLUORANTHENE								
ACENAPHTHYLENE								
CHRYSENE								
CHLOROBENZILATE								
4,6-DINITRO-2-METHYLPHENOL								
1,3-DICHLOROBENZENE								
2,6-DINITROTOLUENE								
PENTACHLOROBENZENE								
N-NITROSO-DI-N-PROPYLAMINE								
N-NITROSO-DI-N-BUTYLAMINE								
N-NITROSOPYRROLIDINE								
HEXACHLOROPROPENE								
DIALLATE								

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTED	AVERAGE OF POSITIVE DETECTED	MEDIAN OF POSITIVE DETECTED
SEMIVOLATILES cont. (ug/kg)								
4-CHLOROPHENYL-PHENYLETHER								
N-NITROSOMETHYLETHYLAMINE								
PRONAMIDE								
META & PARA-CRESOL								
PCB (ug/kg)								
AROCLOR-1260								
AROCLOR-1254								
AROCLOR-1221								
AROCLOR-1232								
AROCLOR-1248								
AROCLOR-1016								
AROCLOR-1242								
TPH (mg/kg)								
DIESEL FUEL								
GASOLINE								

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	23SS01		23SS02	
SAMPLE DATE	10/24/95		10/24/95	
VOLATILES (ug/kg)				
CHLOROMETHANE	12	UJ	16	U
BROMOMETHANE	12	UJ	16	U
VINYL CHLORIDE	12	UJ	16	U
CHLOROETHANE	12	UJ	16	U
METHYLENE CHLORIDE	70	U	22	U
ACETONE	12	UJ	8	U
CARBON DISULFIDE	6	UJ	8	U
1,1-DICHLOROETHENE	6	UJ	8	U
1,1-DICHLOROETHANE	6	UJ	8	U
1,2-DICHLOROETHENE (TOTAL)	6	UJ	8	U
CHLOROFORM	1	J	2	J
1,2-DICHLOROETHANE	6	UJ	8	U
2-BUTANONE	12	UJ	16	U
1,1,1-TRICHLOROETHANE	6	UJ	8	U
CARBON TETRACHLORIDE	6	UJ	8	U
VINYL ACETATE	12	UJ	16	U
BROMODICHLOROMETHANE	6	UJ	8	U
1,2-DICHLOROPROPANE	6	UJ	8	U
CIS-1,3-DICHLOROPROPENE	6	UJ	8	U
TRICHLOROETHENE	3	J	8	U
DIBROMOCHLOROMETHANE	6	UJ	8	U
1,1,2-TRICHLOROETHANE	6	UJ	8	U
BENZENE	6	UJ	8	U
TRANS-1,3-DICHLOROPROPENE	6	UJ	8	U
BROMOFORM	6	UJ	8	U
4-METHYL-2-PENTANONE	12	UJ	16	U
2-HEXANONE	12	UJ	16	UJ
TETRACHLOROETHENE	6	UJ	8	UJ
1,1,2,2-TETRACHLOROETHANE	6	UJ	8	UJ
TOLUENE	2	J	8	UJ
CHLOROBENZENE	6	UJ	8	UJ
ETHYLBENZENE	6	UJ	8	UJ
STYRENE	6	UJ	8	UJ
XYLENE (TOTAL)	6	UJ	8	UJ
ACROLEIN	12	UJ	16	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	23SS01		23SS02	
SAMPLE DATE	10/24/95		10/24/95	
VOLATILES cont. (ug/kg)				
ACRYLONITRILE	12	UJ	16	U
TRICHLOROFLUOROMETHANE	6	UJ	8	U
DICHLORODIFLUOROMETHANE	12	UJ	16	U
ACETONITRILE	24	UJ	32	U
IODOMETHANE	12	UJ	16	U
PROPIONITRILE (ETHYL CYANIDE)	60	UJ	80	U
3-CHLOROPROPENE	24	UJ	32	U
METHACRYLONITRILE	24	UJ	32	U
DIBROMOMETHANE	12	UJ	16	U
ISOBUTYL ALCOHOL	120	UJ	160	U
1,2-DIBROMOETHANE	24	UJ	32	U
1,1,1,2-TETRACHLOROETHANE	12	UJ	16	UJ
1,2,3-TRICHLOROPROPANE	12	UJ	16	U
TRANS-1,4-DICHLORO-2-BUTENE	120	UJ	160	U
1,2-DIBROMO-3-CHLOROPROPANE	24	UJ	32	U
2-CHLORO-1,3-BUTADIENE	120	UJ	160	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	23SS01		23SS02	
SAMPLE DATE	10/24/95		10/24/95	
SEMIVOLATILES (ug/kg)				
PHENOL	380	U	2500	U
BIS(2-CHLOROETHYL)ETHER	380	U	2500	U
2-CHLOROPHENOL	380	U	2500	U
1,3-DICHLOROBENZENE	380	U	2500	U
1,4-DICHLOROBENZENE	380	U	2500	U
BENZYL ALCOHOL	380	U	2500	U
1,2-DICHLOROBENZENE	380	U	2500	U
2-METHYLPHENOL	380	U	2500	U
BIS(2-CHLOROISOPROPYL)ETHER	380	U	2500	U
3- AND/OR 4-METHYLPHENOL	380	U	2500	U
N-NITROSO-DI-N-PROPYLAMINE	380	U	2500	U
HEXACHLOROETHANE	380	U	2500	U
NITROBENZENE	380	U	2500	U
ISOPHORONE	380	U	2500	U
2-NITROPHENOL	380	U	2500	U
2,4-DIMETHYLPHENOL	380	U	2500	U
BENZOIC ACID	1900	U	13000	U
BIS(2-CHLOROETHOXY)METHANE	380	U	2500	U
2,4-DICHLOROPHENOL	380	U	2500	U
1,2,4-TRICHLOROBENZENE	380	U	2500	U
NAPHTHALENE	380	U	2500	U
4-CHLOROANILINE	380	U	2500	U
HEXACHLOROBUTADIENE	380	U	2500	U
4-CHLORO-3-METHYLPHENOL	380	U	2500	U
2-METHYLNAPHTHALENE	380	U	2500	U
HEXACHLOROCYCLOPENTADIENE	380	U	2500	U
2,4,6-TRICHLOROPHENOL	380	U	2500	U
2,4,5-TRICHLOROPHENOL	1900	U	13000	U
2-CHLORONAPHTHALENE	380	U	2500	U
2-NITROANILINE	1900	U	13000	U
DIMETHYLPHTHALATE	380	U	2500	U
ACENAPHTHYLENE	380	U	2500	U
2,6-DINITROTOLUENE	380	U	2500	U
3-NITROANILINE	1900	U	13000	U
ACENAPHTHENE	380	U	2500	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	23SS01		23SS02	
SAMPLE DATE	10/24/95		10/24/95	
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROPHENOL	1900	U	13000	U
4-NITROPHENOL	1900	U	13000	U
DIBENZOFURAN	380	U	2500	U
2,4-DINITROTOLUENE	380	U	2500	U
DIETHYLPHTHALATE	380	U	2500	U
4-CHLOROPHENYL-PHENYLETHER	380	U	2500	U
FLUORENE	380	U	2500	U
4-NITROANILINE	1900	U	13000	U
4,6-DINITRO-2-METHYLPHENOL	1900	U	13000	U
N-NITROSODIPHENYLAMINE (1)	380	U	2500	U
4-BROMOPHENYL-PHENYLETHER	380	U	2500	U
HEXACHLOROBENZENE	380	U	2500	U
PENTACHLOROPHENOL	1900	U	13000	U
PHENANTHRENE	380	U	410	J
ANTHRACENE	380	U	2500	U
DI-N-BUTYLPHTHALATE	380	U	2500	U
FLUORANTHENE	380	U	1000	J
PYRENE	380	U	700	J
BUTYLBENZYLPHTHALATE	380	U	2500	U
3,3'-DICHLOROBENZIDINE	770	U	5000	U
BENZO(A)ANTHRACENE	380	U	470	J
CHRYSENE	380	U	540	J
BIS(2-ETHYLHEXYL)PHTHALATE	69	J	490	J
DI-N-OCTYL PHTHALATE	380	U	2500	U
BENZO(B)FLUORANTHENE	380	U	430	J
BENZO(K)FLUORANTHENE	380	U	440	J
BENZO(A)PYRENE	380	U	360	J
INDENO(1,2,3-CD)PYRENE	380	U	2500	U
DIBENZO(A,H)ANTHRACENE	380	U	2500	U
BENZO(G,H,I)PERYLENE	70	J	2500	U
1,4-DIOXANE	380	U	2500	U
METHYL METHACRYLATE	380	U	2500	U
PYRIDINE	380	U	2500	U
N-NITROSODIMETHYLAMINE	380	U	2500	U
ETHYL METHACRYLATE	380	U	2500	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	23SS01		23SS02	
SAMPLE DATE	10/24/95		10/24/95	
SEMIVOLATILES cont. (ug/kg)				
2-PICOLINE	380	U	2500	U
N-NITROSOMETHYLETHYLAMINE	380	U	2500	U
METHYL METHANESULFONATE	380	U	2500	U
N-NITROSODIETHYLAMINE	380	U	2500	U
ETHYL METHANESULFONATE	380	U	2500	U
ANILINE	380	U	2500	U
PENTACHLOROETHANE	380	U	2500	U
N-NITROSOPYRROLIDINE	380	U	2500	U
ACETOPHENONE	380	U	2500	U
N-NITROSOMORPHOLINE	380	U	2500	U
O-TOLUIDINE	380	U	2500	U
N-NITROSOPIPERIDINE	1900	U	13000	U
A,A-DIMETHYLPHENETHYLAMINE	380	U	2500	U
2,6-DICHLOROPHENOL	380	U	2500	U
HEXACHLOROPROPENE	380	R	2500	R
P-PHENYLENEDIAMINE	380	U	2500	U
N-NITROSO-DI-N-BUTYLAMINE	380	U	2500	U
SAFROLE	380	U	2500	U
1,2,4,5-TETRACHLOROBENZENE	380	U	2500	U
ISOSAFROLE	380	U	2500	U
1,4-NAPHTHOQUINONE	380	U	2500	U
1,3-DINITROBENZENE	380	U	2500	U
PENTACHLOROBENZENE	380	U	2500	U
1-NAPHTHYLAMINE	380	U	2500	U
2-NAPHTHYLAMINE	380	U	2500	U
2,3,4,6-TETRACHLOROPHENOL	380	U	2500	U
1,3,5-TRINITROBENZENE	380	U	2500	U
DIALLATE	380	U	2500	U
PHENACETIN	380	U	2500	U
DIPHENYLAMINE	380	U	2500	U
5-NITRO-O-TOLUIDINE	380	U	2500	U
4-AMINOBIPHENYL	380	U	2500	U
PRONAMIDE	380	U	2500	U
2-SEC-BUTYL-4,6-DINITROPHENOL	1900	U	13000	U
PENTACHLORONITROBENZENE	1900	R	13000	R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	23SS01		23SS02	
SAMPLE DATE	10/24/95		10/24/95	
SEMIVOLATILES cont. (ug/kg)				
4-NITROQUINOLINE-1-OXIDE	770	R	5000	R
METHAPYRILENE	380	U	2500	U
ARAMITE	770	U	5000	U
CHLOROBENZILATE	380	U	2500	U
P-DIMETHYLAMINOAZOBENZENE	380	U	2500	U
3,3'-DIMETHYLBENZIDINE	380	U	2500	U
2-ACETYLAMINOFLUORENE	380	U	2500	U
7,12-DIMETHYLBENZ(A)ANTHRACENE	380	U	2500	U
HEXACHLOROPHENE	3500	U	23000	U
3-METHYLCHOLANTHRENE	380	U	2500	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	12 UJ	16 U	ND	ND		0/2	NA	NA
BROMOMETHANE	12 UJ	16 U	ND	ND		0/2	NA	NA
VINYL CHLORIDE	12 UJ	16 U	ND	ND		0/2	NA	NA
CHLOROETHANE	12 UJ	16 U	ND	ND		0/2	NA	NA
METHYLENE CHLORIDE	22 U	70 U	ND	ND		0/2	NA	NA
ACETONE	8 U	12 UJ	ND	ND		0/2	NA	NA
CARBON DISULFIDE	6 UJ	8 U	ND	ND		0/2	NA	NA
1,1-DICHLOROETHENE	6 UJ	8 U	ND	ND		0/2	NA	NA
1,1-DICHLOROETHANE	6 UJ	8 U	ND	ND		0/2	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 UJ	8 U	ND	ND		0/2	NA	NA
CHLOROFORM	NA	NA	1 J	2 J	23SS02	2/2	1.50	1.50
1,2-DICHLOROETHANE	6 UJ	8 U	ND	ND		0/2	NA	NA
2-BUTANONE	12 UJ	16 U	ND	ND		0/2	NA	NA
1,1,1-TRICHLOROETHANE	6 UJ	8 U	ND	ND		0/2	NA	NA
CARBON TETRACHLORIDE	6 UJ	8 U	ND	ND		0/2	NA	NA
VINYL ACETATE	12 UJ	16 U	ND	ND		0/2	NA	NA
BROMODICHLOROMETHANE	6 UJ	8 U	ND	ND		0/2	NA	NA
1,2-DICHLOROPROPANE	6 UJ	8 U	ND	ND		0/2	NA	NA
CIS-1,3-DICHLOROPROPENE	6 UJ	8 U	ND	ND		0/2	NA	NA
TRICHLOROETHENE	8 U	8 U	3 J	3 J	23SS01	1/2	3.00	3.00
DIBROMOCHLOROMETHANE	6 UJ	8 U	ND	ND		0/2	NA	NA
1,1,2-TRICHLOROETHANE	6 UJ	8 U	ND	ND		0/2	NA	NA
BENZENE	6 UJ	8 U	ND	ND		0/2	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 UJ	8 U	ND	ND		0/2	NA	NA
BROMOFORM	6 UJ	8 U	ND	ND		0/2	NA	NA
4-METHYL-2-PENTANONE	12 UJ	16 U	ND	ND		0/2	NA	NA
2-HEXANONE	12 UJ	16 UJ	ND	ND		0/2	NA	NA
TETRACHLOROETHENE	6 UJ	8 UJ	ND	ND		0/2	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 UJ	8 UJ	ND	ND		0/2	NA	NA
TOLUENE	8 UJ	8 UJ	2 J	2 J	23SS01	1/2	2.00	2.00
CHLOROBENZENE	6 UJ	8 UJ	ND	ND		0/2	NA	NA
ETHYLBENZENE	6 UJ	8 UJ	ND	ND		0/2	NA	NA
STYRENE	6 UJ	8 UJ	ND	ND		0/2	NA	NA
XYLENE (TOTAL)	6 UJ	8 UJ	ND	ND		0/2	NA	NA
ACROLEIN	12 UJ	16 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	12 UJ	16 U	ND	ND		0/2	NA	NA
TRICHLOROFLUOROMETHANE	6 UJ	8 U	ND	ND		0/2	NA	NA
DICHLORODIFLUOROMETHANE	12 UJ	16 U	ND	ND		0/2	NA	NA
ACETONITRILE	24 UJ	32 U	ND	ND		0/2	NA	NA
IODOMETHANE	12 UJ	16 U	ND	ND		0/2	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	60 UJ	80 U	ND	ND		0/2	NA	NA
3-CHLOROPROPENE	24 UJ	32 U	ND	ND		0/2	NA	NA
METHACRYLONITRILE	24 UJ	32 U	ND	ND		0/2	NA	NA
DIBROMOMETHANE	12 UJ	16 U	ND	ND		0/2	NA	NA
ISOBUTYL ALCOHOL	120 UJ	160 U	ND	ND		0/2	NA	NA
1,2-DIBROMOETHANE	24 UJ	32 U	ND	ND		0/2	NA	NA
1,1,1,2-TETRACHLOROETHANE	12 UJ	16 UJ	ND	ND		0/2	NA	NA
1,2,3-TRICHLOROPROPANE	12 UJ	16 U	ND	ND		0/2	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	120 UJ	160 U	ND	ND		0/2	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	24 UJ	32 U	ND	ND		0/2	NA	NA
2-CHLORO-1,3-BUTADIENE	120 UJ	160 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
BIS(2-CHLOROETHYL)ETHER	380 U	2500 U	ND	ND		0/2	NA	NA
2-CHLOROPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
1,3-DICHLOROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
1,4-DICHLOROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
BENZYL ALCOHOL	380 U	2500 U	ND	ND		0/2	NA	NA
1,2-DICHLOROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
2-METHYLPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	380 U	2500 U	ND	ND		0/2	NA	NA
3- AND/OR 4-METHYLPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
HEXACHLOROETHANE	380 U	2500 U	ND	ND		0/2	NA	NA
NITROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
ISOPHORONE	380 U	2500 U	ND	ND		0/2	NA	NA
2-NITROPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
2,4-DIMETHYLPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
BENZOIC ACID	1900 U	13000 U	ND	ND		0/2	NA	NA
BIS(2-CHLOROETHOXY)METHANE	380 U	2500 U	ND	ND		0/2	NA	NA
2,4-DICHLOROPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
1,2,4-TRICHLOROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
NAPHTHALENE	380 U	2500 U	ND	ND		0/2	NA	NA
4-CHLOROANILINE	380 U	2500 U	ND	ND		0/2	NA	NA
HEXACHLOROBUTADIENE	380 U	2500 U	ND	ND		0/2	NA	NA
4-CHLORO-3-METHYLPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
2-METHYLNAPHTHALENE	380 U	2500 U	ND	ND		0/2	NA	NA
HEXACHLOROCYCLOPENTADIENE	380 U	2500 U	ND	ND		0/2	NA	NA
2,4,6-TRICHLOROPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
2,4,5-TRICHLOROPHENOL	1900 U	13000 U	ND	ND		0/2	NA	NA
2-CHLORONAPHTHALENE	380 U	2500 U	ND	ND		0/2	NA	NA
2-NITROANILINE	1900 U	13000 U	ND	ND		0/2	NA	NA
DIMETHYLPHTHALATE	380 U	2500 U	ND	ND		0/2	NA	NA
ACENAPHTHYLENE	380 U	2500 U	ND	ND		0/2	NA	NA
2,6-DINITROTOLUENE	380 U	2500 U	ND	ND		0/2	NA	NA
3-NITROANILINE	1900 U	13000 U	ND	ND		0/2	NA	NA
ACENAPHTHENE	380 U	2500 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1900 U	13000 U	ND	ND		0/2	NA	NA
4-NITROPHENOL	1900 U	13000 U	ND	ND		0/2	NA	NA
DIBENZOFURAN	380 U	2500 U	ND	ND		0/2	NA	NA
2,4-DINITROTOLUENE	380 U	2500 U	ND	ND		0/2	NA	NA
DIETHYLPHTHALATE	380 U	2500 U	ND	ND		0/2	NA	NA
4-CHLOROPHENYL-PHENYLETHER	380 U	2500 U	ND	ND		0/2	NA	NA
FLUORENE	380 U	2500 U	ND	ND		0/2	NA	NA
4-NITROANILINE	1900 U	13000 U	ND	ND		0/2	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1900 U	13000 U	ND	ND		0/2	NA	NA
N-NITROSODIPHENYLAMINE (1)	380 U	2500 U	ND	ND		0/2	NA	NA
4-BROMOPHENYL-PHENYLETHER	380 U	2500 U	ND	ND		0/2	NA	NA
HEXACHLOROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
PENTACHLOROPHENOL	1900 U	13000 U	ND	ND		0/2	NA	NA
PHENANTHRENE	380 U	380 U	410 J	410 J	23SS02	1/2	410.00	410.00
ANTHRACENE	380 U	2500 U	ND	ND		0/2	NA	NA
DI-N-BUTYLPHTHALATE	380 U	2500 U	ND	ND		0/2	NA	NA
FLUORANTHENE	380 U	380 U	1000 J	1000 J	23SS02	1/2	1000.00	1000.00
PYRENE	380 U	380 U	700 J	700 J	23SS02	1/2	700.00	700.00
BUTYLBENZYLPHTHALATE	380 U	2500 U	ND	ND		0/2	NA	NA
3,3'-DICHLOROBENZIDINE	770 U	5000 U	ND	ND		0/2	NA	NA
BENZO(A)ANTHRACENE	380 U	380 U	470 J	470 J	23SS02	1/2	470.00	470.00
CHRYSENE	380 U	380 U	540 J	540 J	23SS02	1/2	540.00	540.00
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NA	69 J	490 J	23SS02	2/2	279.50	279.50
DI-N-OCTYL PHTHALATE	380 U	2500 U	ND	ND		0/2	NA	NA
BENZO(B)FLUORANTHENE	380 U	380 U	430 J	430 J	23SS02	1/2	430.00	430.00
BENZO(K)FLUORANTHENE	380 U	380 U	440 J	440 J	23SS02	1/2	440.00	440.00
BENZO(A)PYRENE	380 U	380 U	360 J	360 J	23SS02	1/2	360.00	360.00
INDENO(1,2,3-CD)PYRENE	380 U	2500 U	ND	ND		0/2	NA	NA
DIBENZO(A,H)ANTHRACENE	380 U	2500 U	ND	ND		0/2	NA	NA
BENZO(G,H,I)PERYLENE	2500 U	2500 U	70 J	70 J	23SS01	1/2	70.00	70.00
1,4-DIOXANE	380 U	2500 U	ND	ND		0/2	NA	NA
METHYL METHACRYLATE	380 U	2500 U	ND	ND		0/2	NA	NA
PYRIDINE	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSODIMETHYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
ETHYL METHACRYLATE	380 U	2500 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2-PICOLINE	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSOMETHYLETHYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
METHYL METHANESULFONATE	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSODIETHYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
ETHYL METHANESULFONATE	380 U	2500 U	ND	ND		0/2	NA	NA
ANILINE	380 U	2500 U	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSOPYRROLIDINE	380 U	2500 U	ND	ND		0/2	NA	NA
ACETOPHENONE	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSOMORPHOLINE	380 U	2500 U	ND	ND		0/2	NA	NA
O-TOLUIDINE	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSOPIPERIDINE	1900 U	13000 U	ND	ND		0/2	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
2,6-DICHLOROPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
HEXACHLOROPROPENE	NA	NA	ND	ND		0/0	NA	NA
P-PHENYLENEDIAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
SAFROLE	380 U	2500 U	ND	ND		0/2	NA	NA
1,2,4,5-TETRACHLOROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
ISOSAFROLE	380 U	2500 U	ND	ND		0/2	NA	NA
1,4-NAPHTHOQUINONE	380 U	2500 U	ND	ND		0/2	NA	NA
1,3-DINITROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
PENTACHLOROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
1-NAPHTHYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
2-NAPHTHYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
2,3,4,6-TETRACHLOROPHENOL	380 U	2500 U	ND	ND		0/2	NA	NA
1,3,5-TRINITROBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
DIALLATE	380 U	2500 U	ND	ND		0/2	NA	NA
PHENACETIN	380 U	2500 U	ND	ND		0/2	NA	NA
DIPHENYLAMINE	380 U	2500 U	ND	ND		0/2	NA	NA
5-NITRO-O-TOLUIDINE	380 U	2500 U	ND	ND		0/2	NA	NA
4-AMINOBIPHENYL	380 U	2500 U	ND	ND		0/2	NA	NA
PRONAMIDE	380 U	2500 U	ND	ND		0/2	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	13000 U	ND	ND		0/2	NA	NA
PENTACHLORONITROBENZENE	NA	NA	ND	ND		0/0	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
4-NITROQUINOLINE-1-OXIDE	NA	NA	ND	ND		0/0	NA	NA
METHAPYRILENE	380 U	2500 U	ND	ND		0/2	NA	NA
ARAMITE	770 U	5000 U	ND	ND		0/2	NA	NA
CHLOROBENZILATE	380 U	2500 U	ND	ND		0/2	NA	NA
P-DIMETHYLAMINOAZOBENZENE	380 U	2500 U	ND	ND		0/2	NA	NA
3,3'-DIMETHYLBENZIDINE	380 U	2500 U	ND	ND		0/2	NA	NA
2-ACETYLAMINOFLUORENE	380 U	2500 U	ND	ND		0/2	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	2500 U	ND	ND		0/2	NA	NA
HEXACHLOROPHENE	3500 U	23000 U	ND	ND		0/2	NA	NA
3-METHYLCHOLANTHRENE	380 U	2500 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	23SS01	23SS02
SAMPLE DATE	10/24/95	10/24/95
TPH (mg/kg)		
Diesel Range Organics	6.1	14
Gasoline	0.048 UJ	0.06 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 23 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TPH (mg/kg)								
Diesel Range Organics	NA	NA	6.1	14	23SS02	2/2	10.05	10.05
Gasoline	0.048 UJ	0.06 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	24SS01	
SAMPLE DATE	10/24/95	
VOLATILES (ug/kg)		
CHLOROMETHANE	14	U
BROMOMETHANE	14	U
VINYL CHLORIDE	14	U
CHLOROETHANE	14	U
METHYLENE CHLORIDE	69	U
ACETONE	7	U
CARBON DISULFIDE	7	U
1,1-DICHLOROETHENE	7	U
1,1-DICHLOROETHANE	7	U
1,2-DICHLOROETHENE (TOTAL)	7	U
CHLOROFORM	1	J
1,2-DICHLOROETHANE	7	U
2-BUTANONE	14	U
1,1,1-TRICHLOROETHANE	7	U
CARBON TETRACHLORIDE	7	U
VINYL ACETATE	14	U
BROMODICHLOROMETHANE	7	U
1,2-DICHLOROPROPANE	7	U
CIS-1,3-DICHLOROPROPENE	7	U
TRICHLOROETHENE	2	J
DIBROMOCHLOROMETHANE	7	U
1,1,2-TRICHLOROETHANE	7	U
BENZENE	7	U
TRANS-1,3-DICHLOROPROPENE	7	U
BROMOFORM	7	U
4-METHYL-2-PENTANONE	14	U
2-HEXANONE	14	UJ
TETRACHLOROETHENE	7	UJ
1,1,2,2-TETRACHLOROETHANE	7	UJ
TOLUENE	7	UJ
CHLOROBENZENE	7	UJ
ETHYLBENZENE	7	UJ
STYRENE	7	UJ
XYLENE (TOTAL)	7	UJ
ACROLEIN	14	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	24SS01	
SAMPLE DATE	10/24/95	
VOLATILES cont. (ug/kg)		
ACRYLONITRILE	14	U
TRICHLOROFLUOROMETHANE	7	U
DICHLORODIFLUOROMETHANE	14	U
ACETONITRILE	28	U
IODOMETHANE	14	U
PROPIONITRILE (ETHYL CYANIDE)	70	U
3-CHLOROPROPENE	28	U
METHACRYLONITRILE	28	U
DIBROMOMETHANE	14	U
ISOBUTYL ALCOHOL	140	U
1,2-DIBROMOETHANE	28	U
1,1,1,2-TETRACHLOROETHANE	14	UJ
1,2,3-TRICHLOROPROPANE	14	U
TRANS-1,4-DICHLORO-2-BUTENE	140	U
1,2-DIBROMO-3-CHLOROPROPANE	28	U
2-CHLORO-1,3-BUTADIENE	140	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	24SS01	
SAMPLE DATE	10/24/95	
SEMIVOLATILES (ug/kg)		
PHENOL	460	U
BIS(2-CHLOROETHYL)ETHER	460	U
2-CHLOROPHENOL	460	U
1,3-DICHLOROBENZENE	460	U
1,4-DICHLOROBENZENE	460	U
BENZYL ALCOHOL	460	U
1,2-DICHLOROBENZENE	460	U
2-METHYLPHENOL	460	U
BIS(2-CHLOROISOPROPYL)ETHER	460	U
3- AND/OR 4-METHYLPHENOL	460	U
N-NITROSO-DI-N-PROPYLAMINE	460	U
HEXACHLOROETHANE	460	U
NITROBENZENE	460	U
ISOPHORONE	460	U
2-NITROPHENOL	460	U
2,4-DIMETHYLPHENOL	460	U
BENZOIC ACID	2300	U
BIS(2-CHLOROETHOXY)METHANE	460	U
2,4-DICHLOROPHENOL	460	U
1,2,4-TRICHLOROBENZENE	460	U
NAPHTHALENE	460	U
4-CHLOROANILINE	460	U
HEXACHLOROBUTADIENE	460	U
4-CHLORO-3-METHYLPHENOL	460	U
2-METHYLNAPHTHALENE	460	U
HEXACHLOROCYCLOPENTADIENE	460	U
2,4,6-TRICHLOROPHENOL	460	U
2,4,5-TRICHLOROPHENOL	2300	U
2-CHLORONAPHTHALENE	460	U
2-NITROANILINE	2300	U
DIMETHYLPHTHALATE	55	J
ACENAPHTHYLENE	460	U
2,6-DINITROTOLUENE	460	U
3-NITROANILINE	2300	U
ACENAPHTHENE	460	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	24SS01	
SAMPLE DATE	10/24/95	
SEMIVOLATILES cont. (ug/kg)		
2,4-DINITROPHENOL	2300	U
4-NITROPHENOL	2300	U
DIBENZOFURAN	460	U
2,4-DINITROTOLUENE	460	U
DIETHYLPHTHALATE	460	U
4-CHLOROPHENYL-PHENYLETHER	460	U
FLUORENE	460	U
4-NITROANILINE	2300	U
4,6-DINITRO-2-METHYLPHENOL	2300	U
N-NITROSODIPHENYLAMINE (1)	460	U
4-BROMOPHENYL-PHENYLETHER	460	U
HEXACHLOROBENZENE	460	U
PENTACHLOROPHENOL	2300	U
PHENANTHRENE	460	U
ANTHRACENE	460	U
DI-N-BUTYLPHTHALATE	460	U
FLUORANTHENE	460	U
PYRENE	460	U
BUTYLBENZYLPHTHALATE	460	U
3,3'-DICHLOROBENZIDINE	920	U
BENZO(A)ANTHRACENE	460	U
CHRYSENE	460	U
BIS(2-ETHYLHEXYL)PHTHALATE	140	J
DI-N-OCTYL PHTHALATE	460	U
BENZO(B)FLUORANTHENE	460	U
BENZO(K)FLUORANTHENE	460	U
BENZO(A)PYRENE	460	U
INDENO(1,2,3-CD)PYRENE	460	U
DIBENZO(A,H)ANTHRACENE	460	U
BENZO(G,H,I)PERYLENE	460	U
1,4-DIOXANE	460	U
METHYL METHACRYLATE	460	U
PYRIDINE	460	U
N-NITROSODIMETHYLAMINE	460	U
ETHYL METHACRYLATE	460	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	24SS01	
SAMPLE DATE	10/24/95	
SEMIVOLATILES cont. (ug/kg)		
2-PICOLINE	460	U
N-NITROSOMETHYLETHYLAMINE	460	U
METHYL METHANESULFONATE	460	U
N-NITROSODIETHYLAMINE	460	U
ETHYL METHANESULFONATE	460	U
ANILINE	460	U
PENTACHLOROETHANE	460	U
N-NITROSOPYRROLIDINE	460	U
ACETOPHENONE	460	U
N-NITROSOMORPHOLINE	460	U
O-TOLUIDINE	460	U
N-NITROSOPIPERIDINE	2300	U
A,A-DIMETHYLPHENETHYLAMINE	460	U
2,6-DICHLOROPHENOL	460	U
HEXACHLOROPROPENE	460	R
P-PHENYLENEDIAMINE	460	U
N-NITROSO-DI-N-BUTYLAMINE	460	U
SAFROLE	460	U
1,2,4,5-TETRACHLOROBENZENE	460	U
ISOSAFROLE	460	U
1,4-NAPHTHOQUINONE	460	U
1,3-DINITROBENZENE	460	U
PENTACHLOROBENZENE	460	U
1-NAPHTHYLAMINE	460	U
2-NAPHTHYLAMINE	460	U
2,3,4,6-TETRACHLOROPHENOL	460	U
1,3,5-TRINITROBENZENE	460	U
DIALLATE	460	U
PHENACETIN	460	U
DIPHENYLAMINE	460	U
5-NITRO-O-TOLUIDINE	460	U
4-AMINOBIPHENYL	460	U
PRONAMIDE	460	U
2-SEC-BUTYL-4,6-DINITROPHENOL	2300	U
PENTACHLORONITROBENZENE	2300	R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	24SS01	
SAMPLE DATE	10/24/95	
SEMIVOLATILES cont. (ug/kg)		
4-NITROQUINOLINE-1-OXIDE	920	R
METHAPYRILENE	460	U
ARAMITE	920	U
CHLOROBENZILATE	460	U
P-DIMETHYLAMINOAZOBENZENE	460	U
3,3'-DIMETHYLBENZIDINE	460	U
2-ACETYLAMINOFLUORENE	460	U
7,12-DIMETHYLBENZ(A)ANTHRACENE	460	U
HEXACHLOROPHENE	4100	U
3-METHYLCHOLANTHRENE	460	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	14 U	14 U	ND	ND		0/1	NA	NA
BROMOMETHANE	14 U	14 U	ND	ND		0/1	NA	NA
VINYL CHLORIDE	14 U	14 U	ND	ND		0/1	NA	NA
CHLOROETHANE	14 U	14 U	ND	ND		0/1	NA	NA
METHYLENE CHLORIDE	69 U	69 U	ND	ND		0/1	NA	NA
ACETONE	7 U	7 U	ND	ND		0/1	NA	NA
CARBON DISULFIDE	7 U	7 U	ND	ND		0/1	NA	NA
1,1-DICHLOROETHENE	7 U	7 U	ND	ND		0/1	NA	NA
1,1-DICHLOROETHANE	7 U	7 U	ND	ND		0/1	NA	NA
1,2-DICHLOROETHENE (TOTAL)	7 U	7 U	ND	ND		0/1	NA	NA
CHLOROFORM	NA	NA	1 J	1 J	24SS01	1/1	1.00	1.00
1,2-DICHLOROETHANE	7 U	7 U	ND	ND		0/1	NA	NA
2-BUTANONE	14 U	14 U	ND	ND		0/1	NA	NA
1,1,1-TRICHLOROETHANE	7 U	7 U	ND	ND		0/1	NA	NA
CARBON TETRACHLORIDE	7 U	7 U	ND	ND		0/1	NA	NA
VINYL ACETATE	14 U	14 U	ND	ND		0/1	NA	NA
BROMODICHLOROMETHANE	7 U	7 U	ND	ND		0/1	NA	NA
1,2-DICHLOROPROPANE	7 U	7 U	ND	ND		0/1	NA	NA
CIS-1,3-DICHLOROPROPENE	7 U	7 U	ND	ND		0/1	NA	NA
TRICHLOROETHENE	NA	NA	2 J	2 J	24SS01	1/1	2.00	2.00
DIBROMOCHLOROMETHANE	7 U	7 U	ND	ND		0/1	NA	NA
1,1,2-TRICHLOROETHANE	7 U	7 U	ND	ND		0/1	NA	NA
BENZENE	7 U	7 U	ND	ND		0/1	NA	NA
TRANS-1,3-DICHLOROPROPENE	7 U	7 U	ND	ND		0/1	NA	NA
BROMOFORM	7 U	7 U	ND	ND		0/1	NA	NA
4-METHYL-2-PENTANONE	14 U	14 U	ND	ND		0/1	NA	NA
2-HEXANONE	14 UJ	14 UJ	ND	ND		0/1	NA	NA
TETRACHLOROETHENE	7 UJ	7 UJ	ND	ND		0/1	NA	NA
1,1,2,2-TETRACHLOROETHANE	7 UJ	7 UJ	ND	ND		0/1	NA	NA
TOLUENE	7 UJ	7 UJ	ND	ND		0/1	NA	NA
CHLOROBENZENE	7 UJ	7 UJ	ND	ND		0/1	NA	NA
ETHYLBENZENE	7 UJ	7 UJ	ND	ND		0/1	NA	NA
STYRENE	7 UJ	7 UJ	ND	ND		0/1	NA	NA
XYLENE (TOTAL)	7 UJ	7 UJ	ND	ND		0/1	NA	NA
ACROLEIN	14 U	14 U	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	14 U	14 U	ND	ND		0/1	NA	NA
TRICHLOROFLUOROMETHANE	7 U	7 U	ND	ND		0/1	NA	NA
DICHLORODIFLUOROMETHANE	14 U	14 U	ND	ND		0/1	NA	NA
ACETONITRILE	28 U	28 U	ND	ND		0/1	NA	NA
IODOMETHANE	14 U	14 U	ND	ND		0/1	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	70 U	70 U	ND	ND		0/1	NA	NA
3-CHLOROPROPENE	28 U	28 U	ND	ND		0/1	NA	NA
METHACRYLONITRILE	28 U	28 U	ND	ND		0/1	NA	NA
DIBROMOMETHANE	14 U	14 U	ND	ND		0/1	NA	NA
ISOBUTYL ALCOHOL	140 U	140 U	ND	ND		0/1	NA	NA
1,2-DIBROMOETHANE	28 U	28 U	ND	ND		0/1	NA	NA
1,1,1,2-TETRACHLOROETHANE	14 UJ	14 UJ	ND	ND		0/1	NA	NA
1,2,3-TRICHLOROPROPANE	14 U	14 U	ND	ND		0/1	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	140 U	140 U	ND	ND		0/1	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	28 U	28 U	ND	ND		0/1	NA	NA
2-CHLORO-1,3-BUTADIENE	140 U	140 U	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	460 U	460 U	ND	ND		0/1	NA	NA
BIS(2-CHLOROETHYL)ETHER	460 U	460 U	ND	ND		0/1	NA	NA
2-CHLOROPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
1,3-DICHLOROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
1,4-DICHLOROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
BENZYL ALCOHOL	460 U	460 U	ND	ND		0/1	NA	NA
1,2-DICHLOROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
2-METHYLPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	460 U	460 U	ND	ND		0/1	NA	NA
3- AND/OR 4-METHYLPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
HEXACHLOROETHANE	460 U	460 U	ND	ND		0/1	NA	NA
NITROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
ISOPHORONE	460 U	460 U	ND	ND		0/1	NA	NA
2-NITROPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
2,4-DIMETHYLPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
BENZOIC ACID	2300 U	2300 U	ND	ND		0/1	NA	NA
BIS(2-CHLOROETHOXY)METHANE	460 U	460 U	ND	ND		0/1	NA	NA
2,4-DICHLOROPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
1,2,4-TRICHLOROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
NAPHTHALENE	460 U	460 U	ND	ND		0/1	NA	NA
4-CHLOROANILINE	460 U	460 U	ND	ND		0/1	NA	NA
HEXACHLOROBUTADIENE	460 U	460 U	ND	ND		0/1	NA	NA
4-CHLORO-3-METHYLPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
2-METHYLNAPHTHALENE	460 U	460 U	ND	ND		0/1	NA	NA
HEXACHLOROCYCLOPENTADIENE	460 U	460 U	ND	ND		0/1	NA	NA
2,4,6-TRICHLOROPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
2,4,5-TRICHLOROPHENOL	2300 U	2300 U	ND	ND		0/1	NA	NA
2-CHLORONAPHTHALENE	460 U	460 U	ND	ND		0/1	NA	NA
2-NITROANILINE	2300 U	2300 U	ND	ND		0/1	NA	NA
DIMETHYLPHTHALATE	NA	NA	55 J	55 J	24SS01	1/1	55.00	55.00
ACENAPHTHYLENE	460 U	460 U	ND	ND		0/1	NA	NA
2,6-DINITROTOLUENE	460 U	460 U	ND	ND		0/1	NA	NA
3-NITROANILINE	2300 U	2300 U	ND	ND		0/1	NA	NA
ACENAPHTHENE	460 U	460 U	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	2300 U	2300 U	ND	ND		0/1	NA	NA
4-NITROPHENOL	2300 U	2300 U	ND	ND		0/1	NA	NA
DIBENZOFURAN	460 U	460 U	ND	ND		0/1	NA	NA
2,4-DINITROTOLUENE	460 U	460 U	ND	ND		0/1	NA	NA
DIETHYLPHTHALATE	460 U	460 U	ND	ND		0/1	NA	NA
4-CHLOROPHENYL-PHENYLETHER	460 U	460 U	ND	ND		0/1	NA	NA
FLUORENE	460 U	460 U	ND	ND		0/1	NA	NA
4-NITROANILINE	2300 U	2300 U	ND	ND		0/1	NA	NA
4,6-DINITRO-2-METHYLPHENOL	2300 U	2300 U	ND	ND		0/1	NA	NA
N-NITROSODIPHENYLAMINE (1)	460 U	460 U	ND	ND		0/1	NA	NA
4-BROMOPHENYL-PHENYLETHER	460 U	460 U	ND	ND		0/1	NA	NA
HEXACHLOROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
PENTACHLOROPHENOL	2300 U	2300 U	ND	ND		0/1	NA	NA
PHENANTHRENE	460 U	460 U	ND	ND		0/1	NA	NA
ANTHRACENE	460 U	460 U	ND	ND		0/1	NA	NA
DI-N-BUTYLPHTHALATE	460 U	460 U	ND	ND		0/1	NA	NA
FLUORANTHENE	460 U	460 U	ND	ND		0/1	NA	NA
PYRENE	460 U	460 U	ND	ND		0/1	NA	NA
BUTYLBENZYLPHTHALATE	460 U	460 U	ND	ND		0/1	NA	NA
3,3'-DICHLOROBENZIDINE	920 U	920 U	ND	ND		0/1	NA	NA
BENZO(A)ANTHRACENE	460 U	460 U	ND	ND		0/1	NA	NA
CHRYSENE	460 U	460 U	ND	ND		0/1	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NA	140 J	140 J	24SS01	1/1	140.00	140.00
DI-N-OCTYL PHTHALATE	460 U	460 U	ND	ND		0/1	NA	NA
BENZO(B)FLUORANTHENE	460 U	460 U	ND	ND		0/1	NA	NA
BENZO(K)FLUORANTHENE	460 U	460 U	ND	ND		0/1	NA	NA
BENZO(A)PYRENE	460 U	460 U	ND	ND		0/1	NA	NA
INDENO(1,2,3-CD)PYRENE	460 U	460 U	ND	ND		0/1	NA	NA
DIBENZO(A,H)ANTHRACENE	460 U	460 U	ND	ND		0/1	NA	NA
BENZO(G,H,I)PERYLENE	460 U	460 U	ND	ND		0/1	NA	NA
1,4-DIOXANE	460 U	460 U	ND	ND		0/1	NA	NA
METHYL METHACRYLATE	460 U	460 U	ND	ND		0/1	NA	NA
PYRIDINE	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSODIMETHYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
ETHYL METHACRYLATE	460 U	460 U	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2-PICOLINE	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSOMETHYLETHYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
METHYL METHANESULFONATE	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSODIETHYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
ETHYL METHANESULFONATE	460 U	460 U	ND	ND		0/1	NA	NA
ANILINE	460 U	460 U	ND	ND		0/1	NA	NA
PENTACHLOROETHANE	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSOPYRROLIDINE	460 U	460 U	ND	ND		0/1	NA	NA
ACETOPHENONE	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSOMORPHOLINE	460 U	460 U	ND	ND		0/1	NA	NA
O-TOLUIDINE	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSOPIPERIDINE	2300 U	2300 U	ND	ND		0/1	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
2,6-DICHLOROPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
HEXACHLOROPROPENE	NA	NA	ND	ND		0/0	NA	NA
P-PHENYLENEDIAMINE	460 U	460 U	ND	ND		0/1	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
SAFROLE	460 U	460 U	ND	ND		0/1	NA	NA
1,2,4,5-TETRACHLOROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
ISOSAFROLE	460 U	460 U	ND	ND		0/1	NA	NA
1,4-NAPHTHOQUINONE	460 U	460 U	ND	ND		0/1	NA	NA
1,3-DINITROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
PENTACHLOROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
1-NAPHTHYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
2-NAPHTHYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
2,3,4,6-TETRACHLOROPHENOL	460 U	460 U	ND	ND		0/1	NA	NA
1,3,5-TRINITROBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
DIALLATE	460 U	460 U	ND	ND		0/1	NA	NA
PHENACETIN	460 U	460 U	ND	ND		0/1	NA	NA
DIPHENYLAMINE	460 U	460 U	ND	ND		0/1	NA	NA
5-NITRO-O-TOLUIDINE	460 U	460 U	ND	ND		0/1	NA	NA
4-AMINOBIPHENYL	460 U	460 U	ND	ND		0/1	NA	NA
PRONAMIDE	460 U	460 U	ND	ND		0/1	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	2300 U	2300 U	ND	ND		0/1	NA	NA
PENTACHLORONITROBENZENE	NA	NA	ND	ND		0/0	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
4-NITROQUINOLINE-1-OXIDE	NA	NA	ND	ND		0/0	NA	NA
METHAPYRILENE	460 U	460 U	ND	ND		0/1	NA	NA
ARAMITE	920 U	920 U	ND	ND		0/1	NA	NA
CHLOROBENZILATE	460 U	460 U	ND	ND		0/1	NA	NA
P-DIMETHYLAMINOAZOBENZENE	460 U	460 U	ND	ND		0/1	NA	NA
3,3'-DIMETHYLBENZIDINE	460 U	460 U	ND	ND		0/1	NA	NA
2-ACETYLAMINOFLUORENE	460 U	460 U	ND	ND		0/1	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	460 U	460 U	ND	ND		0/1	NA	NA
HEXACHLOROPHENE	4100 U	4100 U	ND	ND		0/1	NA	NA
3-METHYLCHOLANTHRENE	460 U	460 U	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	24SS01	
SAMPLE DATE	10/24/95	
TPH (mg/kg)		
DIESEL RANGE ORGANICS	5.5	U
GASOLINE RANGE ORGANICS	0.056	UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 24 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TPH (mg/kg)								
DIESEL RANGE ORGANICS	5.5 U	5.5 U	ND	ND		0/1	NA	NA
GASOLINE RANGE ORGANICS	0.056 UJ	0.056 UJ	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
WET CHEMISTRY (mg/kg)		
Cyanide, Total	0.63	U
Sulfide	31.4	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.63 U	0.63 U	ND	ND		0/1	NA	NA
Sulfide	31.4 U	31.4 U	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
TOTAL METALS (mg/kg)		
Silver, Total	0.3	
Arsenic, Total	0.91	J
Barium, Total	95.1	
Beryllium, Total	0.19	
Cadmium, Total	0.19	U
Cobalt, Total	29.2	
Chromium, Total	42.7	J
Copper, Total	66.6	
Mercury, Total	0.06	U
Nickel, Total	35.2	
Lead, Total	2.4	
Antimony, Total	2.2	UJ
Selenium, Total	1.3	U
Tin, Total	1.7	UJ
Thallium, Total	0.14	U
Vanadium, Total	137	J
Zinc, Total	95.5	J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Silver, Total	NA	NA	0.3	0.3	25SD01	1/1	0.30	0.30
Arsenic, Total	NA	NA	0.91 J	0.91 J	25SD01	1/1	0.91	0.91
Barium, Total	NA	NA	95.1	95.1	25SD01	1/1	95.10	95.10
Beryllium, Total	NA	NA	0.19	0.19	25SD01	1/1	0.19	0.19
Cadmium, Total	0.19 U	0.19 U	ND	ND		0/1	NA	NA
Cobalt, Total	NA	NA	29.2	29.2	25SD01	1/1	29.20	29.20
Chromium, Total	NA	NA	42.7 J	42.7 J	25SD01	1/1	42.70	42.70
Copper, Total	NA	NA	66.6	66.6	25SD01	1/1	66.60	66.60
Mercury, Total	0.06 U	0.06 U	ND	ND		0/1	NA	NA
Nickel, Total	NA	NA	35.2	35.2	25SD01	1/1	35.20	35.20
Lead, Total	NA	NA	2.4	2.4	25SD01	1/1	2.40	2.40
Antimony, Total	2.2 UJ	2.2 UJ	ND	ND		0/1	NA	NA
Selenium, Total	1.3 U	1.3 U	ND	ND		0/1	NA	NA
Tin, Total	1.7 UJ	1.7 UJ	ND	ND		0/1	NA	NA
Thallium, Total	0.14 U	0.14 U	ND	ND		0/1	NA	NA
Vanadium, Total	NA	NA	137 J	137 J	25SD01	1/1	137.00	137.00
Zinc, Total	NA	NA	95.5 J	95.5 J	25SD01	1/1	95.50	95.50

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
VOLATILES (ug/kg)		
CHLOROMETHANE	14	U
BROMOMETHANE	14	U
VINYL CHLORIDE	14	U
CHLOROETHANE	14	U
METHYLENE CHLORIDE	7	U
ACETONE	9	J
CARBON DISULFIDE	7	U
1,1-DICHLOROETHENE	7	U
1,1-DICHLOROETHANE	7	U
1,2-DICHLOROETHENE (TOTAL)	7	U
CHLOROFORM	7	U
1,2-DICHLOROETHANE	7	U
2-BUTANONE	14	U
1,1,1-TRICHLOROETHANE	7	U
CARBON TETRACHLORIDE	7	U
VINYL ACETATE	14	U
BROMODICHLOROMETHANE	7	U
1,2-DICHLOROPROPANE	7	U
CIS-1,3-DICHLOROPROPENE	7	U
TRICHLOROETHENE	7	U
DIBROMOCHLOROMETHANE	7	U
1,1,2-TRICHLOROETHANE	7	U
BENZENE	7	U
TRANS-1,3-DICHLOROPROPENE	7	U
BROMOFORM	7	U
4-METHYL-2-PENTANONE	14	U
2-HEXANONE	14	U
TETRACHLOROETHENE	7	U
1,1,2,2-TETRACHLOROETHANE	7	U
TOLUENE	7	U
CHLOROBENZENE	7	U
ETHYLBENZENE	7	U
STYRENE	7	U
XYLENE (TOTAL)	7	U
ACROLEIN	690	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
VOLATILES cont. (ug/kg)		
ACRYLONITRILE	140	U
TRICHLOROFLUOROMETHANE	14	U
DICHLORODIFLUOROMETHANE	28	U
ACETONITRILE	140	U
IODOMETHANE	14	U
PROPIONITRILE (ETHYL CYANIDE)	69	R
3-CHLOROPROPENE	28	U
METHACRYLONITRILE	28	U
DIBROMOMETHANE	14	U
ISOBUTYL ALCOHOL	2800	R
1,2-DIBROMOETHANE	28	U
1,1,1,2-TETRACHLOROETHANE	14	U
1,2,3-TRICHLOROPROPANE	14	U
TRANS-1,4-DICHLORO-2-BUTENE	28	U
1,2-DIBROMO-3-CHLOROPROPANE	28	U
2-CHLORO-1,3-BUTADIENE	140	U
METHYLMETHACRYLATE	28	U
ETHYLMETHACRYLATE	28	U
PENTACHLOROETHANE	28	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
SEMIVOLATILES (ug/kg)		
PHENOL	450	U
BIS(2-CHLOROETHYL)ETHER	450	U
2-CHLOROPHENOL	450	U
1,3-DICHLOROBENZENE	450	U
1,4-DICHLOROBENZENE	450	U
BENZYL ALCOHOL	450	U
1,2-DICHLOROBENZENE	450	U
O-CRESOL	450	U
2,2'-OXYBIS(1-CHLOROPROPANE)	450	U
META & PARA-CRESOL	450	U
N-NITROSO-DI-N-PROPYLAMINE	450	U
HEXACHLOROETHANE	450	U
NITROBENZENE	450	U
ISOPHORONE	450	U
2-NITROPHENOL	450	U
2,4-DIMETHYLPHENOL	450	U
BENZOIC ACID	72	J
BIS(2-CHLOROETHOXY)METHANE	450	U
2,4-DICHLOROPHENOL	450	U
1,2,4-TRICHLOROBENZENE	450	U
NAPHTHALENE	450	U
4-CHLOROANILINE	450	U
HEXACHLOROBUTADIENE	450	U
4-CHLORO-3-METHYLPHENOL	450	U
2-METHYLNAPHTHALENE	450	U
HEXACHLOROCYCLOPENTADIENE	450	U
2,4,6-TRICHLOROPHENOL	450	U
2,4,5-TRICHLOROPHENOL	2200	U
2-CHLORONAPHTHALENE	450	U
2-NITROANILINE	2200	U
DIMETHYLPHTHALATE	450	U
ACENAPHTHYLENE	450	U
2,6-DINITROTOLUENE	450	U
3-NITROANILINE	2200	U
ACENAPHTHENE	450	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
SEMIVOLATILES cont. (ug/kg)		
2,4-DINITROPHENOL	2200	U
4-NITROPHENOL	2200	U
DIBENZOFURAN	450	U
2,4-DINITROTOLUENE	450	U
DIETHYLPHTHALATE	450	U
4-CHLOROPHENYL-PHENYLETHER	450	U
FLUORENE	450	U
4-NITROANILINE	2200	U
4,6-DINITRO-2-METHYLPHENOL	2200	U
N-NITROSODIPHENYLAMINE (1)	450	U
4-BROMOPHENYL-PHENYLETHER	450	U
HEXACHLOROBENZENE	450	U
PENTACHLOROPHENOL	2200	U
PHENANTHRENE	450	U
ANTHRACENE	450	U
DI-N-BUTYLPHTHALATE	450	U
FLUORANTHENE	450	U
PYRENE	450	U
BUTYLBENZYLPHTHALATE	450	U
3,3'-DICHLOROBENZIDINE	890	U
BENZO(A)ANTHRACENE	450	U
CHRYSENE	450	U
BIS(2-ETHYLHEXYL)PHTHALATE	450	U
DI-N-OCTYL PHTHALATE	450	U
BENZO(B)FLUORANTHENE	450	U
BENZO(K)FLUORANTHENE	450	U
BENZO(A)PYRENE	450	U
INDENO(1,2,3-CD)PYRENE	450	U
DIBENZO(A,H)ANTHRACENE	450	U
BENZO(G,H,I)PERYLENE	450	U
1,4-DIOXANE	1800	U
PYRIDINE	890	U
N-NITROSODIMETHYLAMINE	450	U
2-PICOLINE	450	U
N-NITROSOMETHYLETHYLAMINE	450	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
SEMIVOLATILES cont. (ug/kg)		
METHYL METHANESULFONATE	450	U
N-NITROSODIETHYLAMINE	450	U
ETHYL METHANESULFONATE	450	U
ANILINE	2200	U
N-NITROSOPYRROLIDINE	2200	U
ACETOPHENONE	450	U
N-NITROSOMORPHOLINE	890	U
O-TOLUIDINE	450	U
N-NITROSOPIPERIDINE	450	U
A,A-DIMETHYLPHENETHYLAMINE	2200	U
2,6-DICHLOROPHENOL	450	U
HEXACHLOROPROPENE	890	U
P-PHENYLENEDIAMINE	890	U
N-NITROSO-DI-N-BUTYLAMINE	450	U
SAFROLE	450	U
1,2,4,5-TETRACHLOROBENZENE	450	U
ISOSAFROLE	450	U
1,4-NAPHTHOQUINONE	2200	U
1,3-DINITROBENZENE	890	U
PENTACHLOROBENZENE	450	U
1-NAPHTHYLAMINE	450	U
2-NAPHTHYLAMINE	450	U
2,3,4,6-TETRACHLOROPHENOL	450	U
1,3,5-TRINITROBENZENE	4500	U
DIALLATE	450	U
PHENACETIN	450	U
DIPHENYLAMINE	450	U
5-NITRO-O-TOLUIDINE	890	U
4-AMINOBIPHENYL	450	U
PRONAMIDE	450	U
2-SEC-BUTYL-4,6-DINITROPHENOL	890	U
PENTACHLORONITROBENZENE	450	U
4-NITROQUINOLINE-1-OXIDE	2200	U
METHAPYRILENE	1100	U
ARAMITE	890	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
SEMIVOLATILES cont. (ug/kg)		
CHLOROBENZILATE	450	U
P-DIMETHYLAMINOAZOBENZENE	890	U
3,3'-DIMETHYLBENZIDINE	890	R
2-ACETYLAMINOFLUORENE	890	U
7,12-DIMETHYLBENZ(A)ANTHRACENE	890	U
HEXACHLOROPHENE	4500	U
3-METHYLCHOLANTHRENE	450	U
CARBAZOLE	450	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
PESTICIDE/PCBS (ug/kg)		
ALPHA-BHC	5.5	U
BETA-BHC	5.5	U
DELTA-BHC	5.5	U
GAMMA-BHC (LINDANE)	5.5	U
HEPTACHLOR	5.5	U
ALDRIN	5.5	U
HEPTACHLOR EPOXIDE	5.5	U
ENDOSULFAN I	5.5	U
DIELDRIN	11	U
4,4'-DDE	11	U
ENDRIN	11	U
ENDOSULFAN II	11	U
4,4'-DDD	11	U
ENDOSULFAN SULFATE	11	U
4,4'-DDT	11	U
METHOXYCHLOR	55	U
ENDRIN ALDEHYDE	11	UJ
ISODRIN	5.5	U
KEPONE	11	U
ALPHA-CHLORDANE	55	U
GAMMA-CHLORDANE	55	U
TOXAPHENE	110	U
AROCLOR-1016	55	U
AROCLOR-1221	55	U
AROCLOR-1232	55	U
AROCLOR-1242	55	U
AROCLOR-1248	55	U
AROCLOR-1254	110	U
AROCLOR-1260	110	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SEDIMENT
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SD01	
SAMPLE DATE	10/25/95	
ORTHO PESTICIDES (ug/kg)		
O,O,O-TRIETHYL PHOSPHOROTHIOA	92	U
PHORATE	92	U
THIONAZIN	92	U
DISULFOTON	92	U
SULFOTEP	92	U
DIMETHOATE	92	U
METHYL PARATHION	92	U
PARATHION	92	U
FAMPHUR	92	U
HERBICIDE (ug/kg)		
2,4-D	450	U
2,4,5-TP (SILVEX)	91	U
2,4,5-T	91	U
DIOXIN (ug/kg)		
TCDD-2378	0.13	U
TOTAL TCDD	0.13	U
TOTAL PECDD	0.17	U
TOTAL HXCDD	0.16	U
TOTAL TCDF	0.06	U
TOTAL PECDF	0.11	U
TOTAL HXCDF	0.11	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
WET CHEMISTRY (mg/kg)						
Cyanide, Total	0.46 UJ	0.38 UJ	0.4 UJ	0.5 UJ	0.41 UJ	0.39 UJ
Sulfide	24.9 UJ	26.9 UJ	25.9 UJ	26.3 UJ	25.2 UJ	21.7 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
IALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
WET CHEMISTRY (mg/kg)				
Cyanide, Total	0.48 UJ	0.38 UJ	1.7 J	0.47 U
Sulfide	25.3 UJ	27.4 UJ	27 UJ	27.3 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.38 UJ	0.5 UJ	1.7 J	1.7 J	25SS08	1/10	1.70	1.70
Sulfide	21.7 UJ	27.4 UJ	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
TOTAL METALS (mg/kg)						
Antimony, Total	2.4 UJ	1.5 UJ	2.2 UJ	1.4 UJ	1.8 UJ	1.9 UJ
Arsenic, Total	0.57 UJ	0.75 J	0.25 UJ	1.9 J	1.2 J	0.4 J
Barium, Total	27.8	9.4	11.7	32.1	20.5	11.6
Beryllium, Total	0.1 U	0.062 U	0.092 U	0.061 U	0.077 U	0.082 U
Cadmium, Total	1.3	0.37 J	2.7	0.38 J	0.43 J	1
Chromium, Total	14.7	14	18.9	7.2	6.9	16.9
Cobalt, Total	18.9	17.9	21.2	7.6	7.1	20.6
Copper, Total	69	63.4	89.5	21.4	22.2	77.7
Lead, Total	8.6	2.8	10.5	10.7	26.7	6
Mercury, Total	0.047 U	0.12	0.039 U	0.042 U	0.046 U	0.045 U
Nickel, Total	41.3	37.9	44	11.2	11.1	44.2
Selenium, Total	0.43 U	0.43 U	0.46 U	0.6 U	0.49 U	0.56 U
Silver, Total	0.29 U	0.18 U	0.38	0.18 U	0.22 U	0.24 U
Thallium, Total	0.093 U	0.094 U	0.1 U	0.13 U	0.11 U	0.12 U
Tin, Total	3	1.5	2.7	1.7	1.4 U	2.2
Vanadium, Total	108 J	108 J	134 J	47.7 J	35.6 J	119 J
Zinc, Total	54 J	40.2 J	73.5 J	68.7 J	122 J	78.3 J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06		25SS07		25SS08		25SS09	
SAMPLE DATE	10/25/95		10/25/95		10/25/95		10/25/95	
TOTAL METALS (mg/kg)								
Antimony, Total	2.5	UJ	2.4	UJ	1.9	UJ	1.9	UJ
Arsenic, Total	0.22	UJ	0.19	UJ	0.31	UJ	2.1	J
Barium, Total	17.9		24.6		15.3		26.3	
Beryllium, Total	0.11	U	0.1	U	0.08	U	0.082	U
Cadmium, Total	0.61	J	1.4		2		1.3	
Chromium, Total	19.8		45.7		95.5		28.1	J
Cobalt, Total	19.8		21		19.3		18.5	
Copper, Total	61.1		70.4		62.4		60	
Lead, Total	13		14.6		10.3		47.4	
Mercury, Total	0.041	U	0.043	U	0.041	U	0.05	U
Nickel, Total	38.2		50.8		43.9		36.3	
Selenium, Total	0.41	U	0.36	U	0.58	U	1.1	U
Silver, Total	0.3	U	0.3	U	0.23	U	0.24	U
Thallium, Total	0.089	U	0.078	U	0.13	U	0.12	UJ
Tin, Total	2.5		5		1.4	U	1.8	J
Vanadium, Total	127	J	127	J	97.8	J	95.2	J
Zinc, Total	68.4	J	124	J	68.7	J	79.7	J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Antimony, Total	1.4 UJ	2.5 UJ	ND	ND		0/10	NA	NA
Arsenic, Total	0.19 UJ	0.57 UJ	0.4 J	2.1 J	25SS09	5/10	1.27	1.20
Barium, Total	NA	NA	9.4	32.1	25SS04	10/10	19.72	19.20
Beryllium, Total	0.061 U	0.11 U	ND	ND		0/10	NA	NA
Cadmium, Total	NA	NA	0.37 J	2.7	25SS03	10/10	1.15	1.15
Chromium, Total	NA	NA	6.9	95.5	25SS08	10/10	26.77	17.90
Cobalt, Total	NA	NA	7.1	21.2	25SS03	10/10	17.19	19.10
Copper, Total	NA	NA	21.4	89.5	25SS03	10/10	59.71	62.90
Lead, Total	NA	NA	2.8	47.4	25SS09	10/10	15.06	10.60
Mercury, Total	0.039 U	0.05 U	0.12	0.12	25SS02	1/10	0.12	0.12
Nickel, Total	NA	NA	11.1	50.8	25SS07	10/10	35.89	39.75
Selenium, Total	0.36 U	1.1 U	ND	ND		0/10	NA	NA
Silver, Total	0.18 U	0.3 U	0.38	0.38	25SS03	1/10	0.38	0.38
Thallium, Total	0.078 U	0.13 U	ND	ND		0/10	NA	NA
Tin, Total	1.4 U	1.4 U	1.5	5	25SS07	8/10	2.55	2.35
Vanadium, Total	NA	NA	35.6 J	134 J	25SS03	10/10	99.93	108.00
Zinc, Total	NA	NA	40.2 J	124 J	25SS07	10/10	77.75	71.10

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES (ug/kg)						
CHLOROMETHANE	11 U	11 U	11 U	11 U	11 U	11 U
BROMOMETHANE	11 U	11 U	11 U	11 U	11 U	11 U
VINYL CHLORIDE	11 U	11 U	11 U	11 U	11 U	11 U
CHLOROETHANE	11 U	11 U	11 U	11 U	11 U	11 U
METHYLENE CHLORIDE	5 U	5 U	5 U	5 U	5 U	5 U
ACETONE	11 U	11 U	11 U	11 U	11 U	11 U
CARBON DISULFIDE	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
1,1-DICHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROFORM	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
2-BUTANONE	11 U	11 U	11 U	11 U	11 U	11 U
1,1,1-TRICHLOROETHANE	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
VINYL ACETATE	11 U	11 U	11 U	11 U	11 U	11 U
BROMODICHLOROMETHANE	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROPROPANE	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
TRICHLOROETHENE	5 U	5 U	5 U	5 U	5 U	5 U
DIBROMOCHLOROMETHANE	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-TRICHLOROETHANE	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
TRANS-1,3-DICHLOROPROPENE	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
4-METHYL-2-PENTANONE	11 U	11 U	11 U	11 U	11 U	11 U
2-HEXANONE	11 U	11 U	11 U	11 U	11 U	11 U
TETRACHLOROETHENE	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
TOLUENE	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
ETHYLBENZENE	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
XYLENE (TOTAL)	5 U	5 U	5 U	5 U	5 U	5 U
ACROLEIN	540 U	540 U	540 U	530 U	540 U	540 U
ACRYLONITRILE	110 U	110 U	110 U	110 U	110 U	110 U
TRICHLOROFLUOROMETHANE	11 U	11 U	11 U	11 U	11 U	11 U
DICHLORODIFLUOROMETHANE	22 U	22 U	22 U	21 U	21 U	22 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES cont. (ug/kg)						
ACETONITRILE	110 U	110 U	110 U	110 U	110 U	110 U
IODOMETHANE	11 U	11 U	11 U	11 U	11 U	11 U
PROPIONITRILE (ETHYL CYANIDE)	54 U	54 U	54 U	53 U	54 U	54 U
3-CHLOROPROPENE	22 U	22 U	22 U	21 U	21 U	22 U
METHACRYLONITRILE	22 U	22 U	22 U	21 U	21 U	22 U
DIBROMOMETHANE	11 U	11 U	11 U	11 U	11 U	11 U
ISOBUTYL ALCOHOL	2200 U	2200 U	2200 U	2100 U	2100 U	2200 U
1,2-DIBROMOETHANE	22 U	22 U	22 U	21 U	21 U	22 U
1,1,1,2-TETRACHLOROETHANE	11 U	11 U	11 U	11 U	11 U	11 U
1,2,3-TRICHLOROPROPANE	11 U	11 U	11 U	11 U	11 U	11 U
TRANS-1,4-DICHLORO-2-BUTENE	22 U	22 U	22 U	21 U	21 U	22 U
1,2-DIBROMO-3-CHLOROPROPANE	22 U	22 U	22 U	21 U	21 U	22 U
2-CHLORO-1,3-BUTADIENE	110 U	110 U	110 U	110 U	110 U	110 U
METHYLMETHACRYLATE	22 U	22 U	22 U	21 U	21 U	22 U
ETHYLMETHACRYLATE	22 U	22 U	22 U	21 U	21 U	22 U
PENTACHLOROETHANE	22 U	22 U	22 U	21 U	21 U	22 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES (ug/kg)						
PHENOL	360 U	360 U	350 U	350 U	350 U	360 U
BIS(2-CHLOROETHYL)ETHER	360 U	360 U	350 U	350 U	350 U	360 U
2-CHLOROPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
1,3-DICHLOROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
1,4-DICHLOROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
BENZYL ALCOHOL	360 U	360 U	350 U	350 U	350 U	360 U
1,2-DICHLOROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
O-CRESOL	360 U	360 U	350 U	350 U	350 U	360 U
2,2'-OXYBIS(1-CHLOROPROPANE)	360 U	360 U	350 U	350 U	350 U	360 U
META & PARA-CRESOL	360 U	360 U	350 U	350 U	350 U	360 U
N-NITROSO-DI-N-PROPYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
HEXACHLOROETHANE	360 U	360 U	350 U	350 U	350 U	360 U
NITROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
ISOPHORONE	360 U	360 U	350 U	350 U	350 U	360 U
2-NITROPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
2,4-DIMETHYLPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
BENZOIC ACID	1800 U	1800 U	1800 U	1800 U	82 J	1800 U
BIS(2-CHLOROETHOXY)METHANE	360 U	360 U	350 U	350 U	350 U	360 U
2,4-DICHLOROPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
1,2,4-TRICHLOROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
NAPHTHALENE	360 U	360 U	350 U	350 U	350 U	360 U
4-CHLOROANILINE	360 U	360 U	350 U	350 U	350 U	360 U
HEXACHLOROBUTADIENE	360 U	360 U	350 U	350 U	350 U	360 U
4-CHLORO-3-METHYLPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
2-METHYLNAPHTHALENE	360 U	360 U	350 U	350 U	350 U	360 U
HEXACHLOROCYCLOPENTADIENE	360 U	360 U	350 U	350 U	350 U	360 U
2,4,6-TRICHLOROPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
2,4,5-TRICHLOROPHENOL	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
2-CHLORONAPHTHALENE	360 U	360 U	350 U	350 U	350 U	360 U
2-NITROANILINE	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
DIMETHYLPHTHALATE	360 U	360 U	350 U	350 U	350 U	360 U
ACENAPHTHYLENE	360 U	360 U	350 U	350 U	350 U	360 U
2,6-DINITROTOLUENE	360 U	360 U	350 U	350 U	350 U	360 U
3-NITROANILINE	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
ACENAPHTHENE	360 U	360 U	350 U	350 U	350 U	360 U
2,4-DINITROPHENOL	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
4-NITROPHENOL	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
DIBENZOFURAN	360 U	360 U	350 U	350 U	350 U	360 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
2,4-DINITROTOLUENE	360 U	360 U	350 U	350 U	350 U	360 U
DIETHYLPHTHALATE	360 U	360 U	350 U	350 U	350 U	360 U
4-CHLOROPHENYL-PHENYLETHER	360 U	360 U	350 U	350 U	350 U	360 U
FLUORENE	360 U	360 U	350 U	350 U	350 U	360 U
4-NITROANILINE	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
4,6-DINITRO-2-METHYLPHENOL	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
N-NITROSODIPHENYLAMINE (1)	360 U	360 U	350 U	350 U	350 U	360 U
4-BROMOPHENYL-PHENYLETHER	360 U	360 U	350 U	350 U	350 U	360 U
HEXACHLOROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
PENTACHLOROPHENOL	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
PHENANTHRENE	360 U	360 U	350 U	170 J	130 J	360 U
ANTHRACENE	360 U	360 U	350 U	350 U	350 U	360 U
DI-N-BUTYLPHTHALATE	360 U	360 U	350 U	350 U	350 U	360 U
FLUORANTHENE	360 U	360 U	350 U	320 J	200 J	360 U
PYRENE	360 U	360 U	350 U	240 J	200 J	360 U
BUTYLBENZYLPHTHALATE	360 U	360 U	350 U	350 U	350 U	360 U
3,3'-DICHLOROBENZIDINE	710 U	710 U	710 U	700 U	690 U	710 U
BENZO(A)ANTHRACENE	360 U	360 U	350 U	130 J	81 J	360 U
CHRYSENE	360 U	360 U	350 U	140 J	100 J	360 U
BIS(2-ETHYLHEXYL)PHTHALATE	110 J	360 U	140 J	20000	11000	77000
DI-N-OCTYL PHTHALATE	360 U	360 U	350 U	350 U	75 J	460 J
BENZO(B)FLUORANTHENE	360 U	360 U	350 U	230 J	130 J	360 UJ
BENZO(K)FLUORANTHENE	360 U	360 U	350 U	66 J	74 J	360 UJ
BENZO(A)PYRENE	360 U	360 U	350 U	120 J	93 J	360 UJ
INDENO(1,2,3-CD)PYRENE	360 U	360 U	350 U	99 J	60 J	360 UJ
DIBENZO(A,H)ANTHRACENE	360 U	360 U	350 U	350 U	350 U	360 UJ
BENZO(G,H,I)PERYLENE	360 U	360 U	350 U	94 J	350 U	360 UJ
1,4-DIOXANE	1400 U	1400 U	1400 U	1400 U	1400 U	1400 U
PYRIDINE	710 U	710 U	710 U	700 U	690 U	710 U
N-NITROSODIMETHYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
2-PICOLINE	360 U	360 U	350 U	350 U	350 U	360 U
N-NITROSOMETHYLETHYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
METHYL METHANESULFONATE	360 U	360 U	350 U	350 U	350 U	360 U
N-NITROSODIETHYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
ETHYL METHANESULFONATE	360 U	360 U	350 U	350 U	350 U	360 U
ANILINE	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
N-NITROSOPYRROLIDINE	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
ACETOPHENONE	360 U	360 U	350 U	350 U	350 U	360 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
N-NITROSOMORPHOLINE	710 U	710 U	710 U	700 U	690 U	710 U
O-TOLUIDINE	360 U	360 U	350 U	350 U	350 U	360 U
N-NITROSOPIPERIDINE	360 U	360 U	350 U	350 U	350 U	360 U
A,A-DIMETHYLPHENETHYLAMINE	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
2,6-DICHLOROPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
HEXACHLOROPROPENE	710 U	710 U	710 U	700 U	690 U	710 U
P-PHENYLENEDIAMINE	710 U	710 U	710 U	700 U	690 U	710 U
N-NITROSO-DI-N-BUTYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
SAFROLE	360 U	360 U	350 U	350 U	350 U	360 U
1,2,4,5-TETRACHLOROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
ISOSAFROLE	360 U	360 U	350 U	350 U	350 U	360 U
1,4-NAPHTHOQUINONE	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U
1,3-DINITROBENZENE	710 U	710 U	710 U	700 U	690 U	710 U
PENTACHLOROBENZENE	360 U	360 U	350 U	350 U	350 U	360 U
1-NAPHTHYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
2-NAPHTHYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
2,3,4,6-TETRACHLOROPHENOL	360 U	360 U	350 U	350 U	350 U	360 U
1,3,5-TRINITROBENZENE	3600 U	3600 U	3500 U	3500 U	3500 U	3600 U
DIALLATE	360 U	360 U	350 U	350 U	350 U	360 U
PHENACETIN	360 U	360 U	350 U	350 U	350 U	360 U
DIPHENYLAMINE	360 U	360 U	350 U	350 U	350 U	360 U
5-NITRO-O-TOLUIDINE	710 U	710 U	710 U	700 U	690 U	710 U
4-AMINOBIPHENYL	360 U	360 U	350 U	350 U	350 U	360 U
PRONAMIDE	360 U	360 U	350 U	350 U	350 U	360 U
2-SEC-BUTYL-4,6-DINITROPHENOL	710 U	710 U	710 U	700 U	690 U	710 U
PENTACHLORONITROBENZENE	360 U	360 U	350 U	350 U	350 R	360 U
4-NITROQUINOLINE-1-OXIDE	1800 R	1800 R	1800 U	1800 U	1700 U	1800 R
METHAPYRILENE	890 U	890 U	880 U	880 U	870 U	890 U
ARAMITE	710 U	710 U	710 U	700 U	690 U	710 U
CHLOROBENZILATE	360 U	360 U	350 U	350 U	350 U	360 U
P-DIMETHYLAMINOAZOBENZENE	710 U	710 U	710 U	700 U	690 U	710 U
3,3'-DIMETHYLBENZIDINE	710 R	710 R	710 U	700 U	690 U	710 R
2-ACETYLAMINOFLUORENE	710 U	710 U	710 U	700 U	690 U	710 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	710 U	710 U	710 U	700 U	690 U	710 U
HEXACHLOROPHENE	3600 U	3600 U	3500 U	3500 U	3500 R	3600 U
3-METHYLCHOLANTHRENE	360 U	360 U	350 U	350 U	350 U	360 U
CARBAZOLE	360 U	360 U	350 U	350 U	350 U	360 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	4.3 U	4.3 U	21 U	42 U	21 U	21 U
BETA-BHC	4.3 U	4.3 U	21 U	42 U	21 U	21 U
DELTA-BHC	4.3 U	4.3 U	21 U	42 U	21 U	21 U
GAMMA-BHC (LINDANE)	4.3 U	4.3 U	21 U	42 U	21 U	21 U
HEPTACHLOR	4.3 U	4.3 U	21 U	42 U	21 U	21 U
ALDRIN	4.3 U	4.3 U	21 U	42 U	21 U	21 U
HEPTACHLOR EPOXIDE	4.3 U	4.3 U	21 U	42 U	21 U	21 U
ENDOSULFAN I	4.3 U	4.3 U	21 U	42 U	21 U	21 U
DIELDRIN	8.7 U	8.5 U	42 U	83 U	43 U	42 U
4,4'-DDE	8.7 U	8.5 U	42 U	83 U	43 U	42 U
ENDRIN	8.7 U	8.5 U	42 U	83 U	43 U	42 U
ENDOSULFAN II	8.7 UJ	8.5 UJ	42 U	83 U	43 U	42 UJ
4,4'-DDD	8.7 U	8.5 U	42 U	83 U	43 U	42 U
ENDOSULFAN SULFATE	8.7 U	8.5 U	42 U	83 U	43 U	42 U
4,4'-DDT	8.7 U	8.5 U	42 U	83 U	43 U	42 U
METHOXYCHLOR	43 U	43 U	210 U	420 U	210 U	210 U
ENDRIN ALDEHYDE	8.7 UJ	8.5 UJ	42 U	83 U	43 U	42 UJ
ISODRIN	4.3 U	4.3 U	21 U	42 U	21 U	21 U
KEPONE	8.7 U	8.5 U	42 U	83 U	43 U	42 U
ALPHA-CHLORDANE	43 U	43 U	210 U	420 U	210 U	210 U
GAMMA-CHLORDANE	43 U	43 U	210 U	420 U	210 U	210 U
TOXAPHENE	87 U	85 U	420 U	830 U	430 U	420 U
AROCLOR-1016	43 U	43 U	210 U	420 U	210 U	210 U
AROCLOR-1221	43 U	43 U	210 U	420 U	210 U	210 U
AROCLOR-1232	43 U	43 U	210 U	420 U	210 U	210 U
AROCLOR-1242	43 U	43 U	210 U	420 U	210 U	210 U
AROCLOR-1248	43 U	43 U	210 U	420 U	210 U	210 U
AROCLOR-1254	87 U	85 U	420 U	830 U	430 U	420 U
AROCLOR-1260	87 U	85 U	420 U	830 U	430 U	420 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS01	25SS02	25SS03	25SS04	25SS04D	25SS05
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
ORTHO PESTICIDES (ug/kg)						
DIMETHOATE	71 U	72 U	71 U	70 U	69 U	71 U
DISULFOTON	71 U	72 U	71 U	70 U	69 U	71 U
FAMPHUR	71 U	72 U	71 U	70 U	69 U	71 U
METHYL PARATHION	71 U	72 U	71 U	70 U	69 U	71 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	71 U	72 U	71 U	70 U	69 U	71 U
PARATHION	71 U	72 U	71 U	70 U	69 U	71 U
PHORATE	71 U	72 U	71 U	70 U	69 U	71 U
SULFOTEP	71 U	72 U	71 U	70 U	69 U	71 U
THIONAZIN	71 U	72 U	71 U	70 U	69 U	71 U
HERBICIDES (ug/kg)						
2,4-D	330 U	350 U	350 U	350 U	340 U	340 U
2,4,5-T	65 U	70 U	71 U	70 U	68 U	67 U
2,4,5-TP (SILVEX)	65 U	70 U	71 U	70 U	68 U	67 U
DIOXIN (ug/kg)						
TCDD-2378	0.09 U	0.09 U	0.09 U	0.1 U	0.07 U	0.11 U
TOTAL TCDD	0.09 U	0.09 U	0.09 U	0.1 U	0.07 U	0.11 U
TOTAL PECDD	0.1 U	0.11 U	0.13 U	0.08 U	0.08 U	0.13 U
TOTAL HXCDD	0.13 U	0.13 U	0.12 U	0.11 U	0.1 U	0.13 U
TOTAL TCDF	0.04 U	0.06 U	0.06 U	0.05 U	0.04 U	0.06 U
TOTAL PECDF	0.11 U	0.1 U	0.09 U	0.08 U	0.07 U	0.12 U
TOTAL HXCDF	0.1 U	0.08 U	0.08 U	0.1 U	0.07 U	0.09 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES (ug/kg)				
CHLOROMETHANE	11 U	11 U	11 U	12 U
BROMOMETHANE	11 U	11 U	11 U	12 U
VINYL CHLORIDE	11 U	11 U	11 U	12 U
CHLOROETHANE	11 U	11 U	11 U	12 U
METHYLENE CHLORIDE	6 U	6 U	6 U	6 U
ACETONE	11 U	11 U	11 U	12 U
CARBON DISULFIDE	6 U	6 U	6 U	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 U	6 U
CHLOROFORM	6 U	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 U	6 U
2-BUTANONE	11 U	11 U	11 U	12 U
1,1,1-TRICHLOROETHANE	6 U	6 U	6 U	6 U
CARBON TETRACHLORIDE	6 U	6 U	6 U	6 U
VINYL ACETATE	11 U	11 U	11 U	12 U
BROMODICHLOROMETHANE	6 U	6 U	6 U	6 U
1,2-DICHLOROPROPANE	6 U	6 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U
TRICHLOROETHENE	6 U	6 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 U	6 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 U	6 U	6 U	6 U
BENZENE	6 U	6 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U
BROMOFORM	6 U	6 U	6 U	6 U
4-METHYL-2-PENTANONE	11 U	11 U	11 U	12 U
2-HEXANONE	11 U	11 U	11 U	12 U
TETRACHLOROETHENE	6 U	6 U	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	6 U	6 U
TOLUENE	6 U	6 U	6 U	6 U
CHLOROBENZENE	6 U	6 U	6 U	6 U
ETHYLBENZENE	6 U	6 U	6 U	6 U
STYRENE	6 U	6 U	6 U	6 U
XYLENE (TOTAL)	6 U	6 U	6 U	6 U
ACROLEIN	550 U	560 U	560 U	580 U
ACRYLONITRILE	110 U	110 U	110 U	120 U
TRICHLOROFLUOROMETHANE	11 U	11 U	11 U	12 U
DICHLORODIFLUOROMETHANE	22 U	22 U	22 U	23 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES cont. (ug/kg)				
ACETONITRILE	110 U	110 U	110 U	120 U
IODOMETHANE	11 U	11 U	11 U	12 U
PROPIONITRILE (ETHYL CYANIDE)	55 U	56 R	56 U	58 R
3-CHLOROPROPENE	22 U	22 U	22 U	23 U
METHACRYLONITRILE	22 U	22 U	22 U	23 U
DIBROMOMETHANE	11 U	11 U	11 U	12 U
ISOBUTYL ALCOHOL	2200 U	2200 R	2200 R	2300 R
1,2-DIBROMOETHANE	22 U	22 U	22 U	23 U
1,1,1,2-TETRACHLOROETHANE	11 U	11 U	11 U	12 U
1,2,3-TRICHLOROPROPANE	11 U	11 U	11 U	12 U
TRANS-1,4-DICHLORO-2-BUTENE	22 U	22 U	22 U	23 U
1,2-DIBROMO-3-CHLOROPROPANE	22 U	22 U	22 U	23 U
2-CHLORO-1,3-BUTADIENE	110 U	110 U	110 U	120 U
METHYLMETHACRYLATE	22 U	22 U	22 U	23 U
ETHYLMETHACRYLATE	22 U	22 U	22 U	23 U
PENTACHLOROETHANE	22 U	22 U	22 U	23 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES (ug/kg)				
PHENOL	360 U	370 U	360 U	370 U
BIS(2-CHLOROETHYL)ETHER	360 U	370 U	360 U	370 U
2-CHLOROPHENOL	360 U	370 U	360 U	370 U
1,3-DICHLOROBENZENE	360 U	370 U	360 U	370 U
1,4-DICHLOROBENZENE	360 U	370 U	360 U	370 U
BENZYL ALCOHOL	360 U	370 U	360 U	370 U
1,2-DICHLOROBENZENE	360 U	370 U	360 U	370 U
O-CRESOL	360 U	370 U	360 U	370 U
2,2'-OXYBIS(1-CHLOROPROPANE)	360 U	370 U	360 U	370 U
META & PARA-CRESOL	360 U	370 U	360 U	370 U
N-NITROSO-DI-N-PROPYLAMINE	360 U	370 U	360 U	370 U
HEXACHLOROETHANE	360 U	370 U	360 U	370 U
NITROBENZENE	360 U	370 U	360 U	370 U
ISOPHORONE	360 U	370 U	360 U	370 U
2-NITROPHENOL	360 U	370 U	360 U	370 U
2,4-DIMETHYLPHENOL	360 U	370 U	360 U	370 U
BENZOIC ACID	1800 U	1800 U	1800 U	74 J
BIS(2-CHLOROETHOXY)METHANE	360 U	370 U	360 U	370 U
2,4-DICHLOROPHENOL	360 U	370 U	360 U	370 U
1,2,4-TRICHLOROBENZENE	360 U	370 U	360 U	370 U
NAPHTHALENE	360 U	370 U	360 U	370 U
4-CHLOROANILINE	360 U	370 U	360 U	370 U
HEXACHLOROBUTADIENE	360 U	370 U	360 U	370 U
4-CHLORO-3-METHYLPHENOL	360 U	370 U	360 U	370 U
2-METHYLNAPHTHALENE	360 U	370 U	360 U	370 U
HEXACHLOROCYCLOPENTADIENE	360 U	370 U	360 U	370 U
2,4,6-TRICHLOROPHENOL	360 U	370 U	360 U	370 U
2,4,5-TRICHLOROPHENOL	1800 U	1800 U	1800 U	1800 U
2-CHLORONAPHTHALENE	360 U	370 U	360 U	370 U
2-NITROANILINE	1800 U	1800 U	1800 U	1800 U
DIMETHYLPHTHALATE	360 U	370 U	360 U	370 U
ACENAPHTHYLENE	360 U	370 U	360 U	370 U
2,6-DINITROTOLUENE	360 U	370 U	360 U	370 U
3-NITROANILINE	1800 U	1800 U	1800 U	1800 U
ACENAPHTHENE	360 U	370 U	360 U	370 U
2,4-DINITROPHENOL	1800 U	1800 U	1800 U	1800 U
4-NITROPHENOL	1800 U	1800 U	1800 U	1800 U
DIBENZOFURAN	360 U	370 U	360 U	370 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROTOLUENE	360 U	370 U	360 U	370 U
DIETHYLPHTHALATE	360 U	370 U	360 U	370 U
4-CHLOROPHENYL-PHENYLETHER	360 U	370 U	360 U	370 U
FLUORENE	360 U	370 U	360 U	370 U
4-NITROANILINE	1800 U	1800 U	1800 U	1800 U
4,6-DINITRO-2-METHYLPHENOL	1800 U	1800 U	1800 U	1800 U
N-NITROSODIPHENYLAMINE (1)	360 U	370 U	360 U	370 U
4-BROMOPHENYL-PHENYLETHER	360 U	370 U	360 U	370 U
HEXACHLOROBENZENE	360 U	370 U	360 U	370 U
PENTACHLOROPHENOL	1800 U	1800 U	1800 U	1800 U
PHENANTHRENE	360 U	370 U	360 U	370 U
ANTHRACENE	360 U	370 U	360 U	370 U
DI-N-BUTYLPHTHALATE	430 U	370 U	360 U	370 U
FLUORANTHENE	360 U	370 U	360 U	370 U
PYRENE	360 U	370 U	360 U	370 U
BUTYLBENZYLPHTHALATE	360 U	370 U	100 J	370 U
3,3'-DICHLOROBENZIDINE	720 U	730 U	730 U	740 U
BENZO(A)ANTHRACENE	360 U	370 U	360 U	370 U
CHRYSENE	360 U	370 U	360 U	370 U
BIS(2-ETHYLHEXYL)PHTHALATE	700	170 J	350 J	24000
DI-N-OCTYL PHTHALATE	360 U	370 U	360 U	370 UJ
BENZO(B)FLUORANTHENE	360 U	370 U	360 U	370 UJ
BENZO(K)FLUORANTHENE	360 U	370 U	360 U	370 UJ
BENZO(A)PYRENE	360 U	370 U	360 U	370 UJ
INDENO(1,2,3-CD)PYRENE	360 U	370 U	360 U	370 UJ
DIBENZO(A,H)ANTHRACENE	360 U	370 U	360 U	370 UJ
BENZO(G,H,I)PERYLENE	360 U	370 U	360 U	370 UJ
1,4-DIOXANE	1400 U	1500 U	1500 U	1500 U
PYRIDINE	720 U	730 U	730 U	740 U
N-NITROSODIMETHYLAMINE	360 U	370 U	360 U	370 U
2-PICOLINE	360 U	370 U	360 U	370 U
N-NITROSOMETHYLETHYLAMINE	360 U	370 U	360 U	370 U
METHYL METHANESULFONATE	360 U	370 U	360 U	370 U
N-NITROSODIETHYLAMINE	360 U	370 U	360 U	370 U
ETHYL METHANESULFONATE	360 U	370 U	360 U	370 U
ANILINE	1800 U	1800 U	1800 U	1800 U
N-NITROSOPYRROLIDINE	1800 U	1800 U	1800 U	1800 U
ACETOPHENONE	360 U	370 U	360 U	370 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)				
N-NITROSOMORPHOLINE	720 U	730 U	730 U	740 U
O-TOLUIDINE	360 U	370 U	360 U	370 U
N-NITROSOPIPERIDINE	360 U	370 U	360 U	370 U
A,A-DIMETHYLPHENETHYLAMINE	1800 U	1800 U	1800 U	1800 U
2,6-DICHLOROPHENOL	360 U	370 U	360 U	370 U
HEXACHLOROPROPENE	720 U	730 U	730 U	740 U
P-PHENYLENEDIAMINE	720 U	730 U	730 U	740 U
N-NITROSO-DI-N-BUTYLAMINE	360 U	370 U	360 U	370 U
SAFROLE	360 U	370 U	360 U	370 U
1,2,4,5-TETRACHLOROBENZENE	360 U	370 U	360 U	370 U
ISOSAFROLE	360 U	370 U	360 U	370 U
1,4-NAPHTHOQUINONE	1800 U	1800 U	1800 U	1800 U
1,3-DINITROBENZENE	720 U	730 U	730 U	740 U
PENTACHLOROBENZENE	360 U	370 U	360 U	370 U
1-NAPHTHYLAMINE	360 U	370 U	360 U	370 U
2-NAPHTHYLAMINE	360 U	370 U	360 U	370 U
2,3,4,6-TETRACHLOROPHENOL	360 U	370 U	360 U	370 U
1,3,5-TRINITROBENZENE	3600 U	3700 U	3600 U	3700 U
DIALLATE	360 U	370 U	360 U	370 U
PHENACETIN	360 U	370 U	360 U	370 U
DIPHENYLAMINE	360 U	370 U	360 U	370 U
5-NITRO-O-TOLUIDINE	720 U	730 U	730 U	740 U
4-AMINOBIPHENYL	360 U	370 U	360 U	370 U
PRONAMIDE	360 U	370 U	360 U	370 U
2-SEC-BUTYL-4,6-DINITROPHENOL	720 U	730 U	730 U	740 U
PENTACHLORONITROBENZENE	360 U	370 U	360 U	370 U
4-NITROQUINOLINE-1-OXIDE	1800 R	1800 U	1800 R	1800 U
METHAPYRILENE	900 U	920 U	910 U	920 U
ARAMITE	720 U	730 U	730 U	740 U
CHLOROBENZILATE	360 U	370 U	360 U	370 U
P-DIMETHYLAMINOAZOBENZENE	720 U	730 U	730 U	740 U
3,3'-DIMETHYLBENZIDINE	720 R	730 U	730 R	740 R
2-ACETYLAMINOFLUORENE	720 U	730 U	730 U	740 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	720 U	730 U	730 U	740 UJ
HEXACHLOROPHENE	3600 U	3700 U	3600 U	3700 U
3-METHYLCHOLANTHRENE	360 U	370 U	360 U	370 UJ
CARBAZOLE	360 U	370 U	360 U	370 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
PESTICIDE/PCBS (ug/kg)				
ALPHA-BHC	21 U	4.4 U	22 U	22 U
BETA-BHC	21 U	4.4 U	22 U	22 U
DELTA-BHC	21 U	4.4 U	22 U	22 U
GAMMA-BHC (LINDANE)	21 U	4.4 U	22 U	22 U
HEPTACHLOR	21 U	4.4 U	22 U	22 U
ALDRIN	21 U	4.4 U	22 U	22 U
HEPTACHLOR EPOXIDE	21 U	4.4 U	22 U	22 U
ENDOSULFAN I	21 U	4.4 U	22 U	22 U
DIELDRIN	43 U	8.7 U	44 U	44 U
4,4'-DDE	43 U	8.7 U	5.1 J	44 U
ENDRIN	43 U	8.7 U	44 U	44 U
ENDOSULFAN II	43 UJ	8.7 UJ	44 UJ	44 U
4,4'-DDD	43 U	8.7 U	44 U	44 U
ENDOSULFAN SULFATE	43 U	8.7 U	44 U	44 U
4,4'-DDT	9.3	6.2	4.7 J	44 U
METHOXYCHLOR	210 U	44 U	220 U	220 U
ENDRIN ALDEHYDE	43 UJ	8.7 UJ	44 UJ	44 U
ISODRIN	21 U	4.4 U	22 U	22 U
KEPONE	43 U	8.7 U	44 U	44 U
ALPHA-CHLORDANE	210 U	44 U	220 U	220 U
GAMMA-CHLORDANE	210 U	44 U	220 U	220 U
TOXAPHENE	430 U	87 U	440 U	440 U
AROCLOR-1016	210 U	44 U	220 U	220 U
AROCLOR-1221	210 U	44 U	220 U	220 U
AROCLOR-1232	210 U	44 U	220 U	220 U
AROCLOR-1242	210 U	44 U	220 U	220 U
AROCLOR-1248	210 U	44 U	220 U	220 U
AROCLOR-1254	430 U	87 U	440 U	440 U
AROCLOR-1260	430 U	87 U	440 U	440 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	25SS06	25SS07	25SS08	25SS09
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95
ORTHO PESTICIDES (ug/kg)				
DIMETHOATE	73 U	72 U	73 U	73 U
DISULFOTON	73 U	72 U	73 U	73 U
FAMPHUR	73 U	72 U	73 U	73 U
METHYL PARATHION	73 U	72 U	73 U	73 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	73 U	72 U	73 U	73 U
PARATHION	73 U	72 U	73 U	73 U
PHORATE	73 U	72 U	73 U	73 U
SULFOTEP	73 U	72 U	73 U	73 U
THIONAZIN	73 U	72 U	73 U	73 U
HERBICIDES (ug/kg)				
2,4-D	360 U	340 U	360 U	370 U
2,4,5-T	72 U	67 U	73 U	74 U
2,4,5-TP (SILVEX)	72 U	67 U	73 U	74 U
DIOXIN (ug/kg)				
TCDD-2378	0.09 U	0.08 U	0.08 U	0.1 U
TOTAL TCDD	0.09 U	0.08 U	0.08 U	0.1 U
TOTAL PECDD	0.12 U	0.07 U	0.09 U	0.09 U
TOTAL HXCDD	0.13 U	0.1 U	0.12 U	0.12 U
TOTAL TCDF	0.05 U	0.04 U	0.04 U	0.06 U
TOTAL PECDF	0.1 U	0.07 U	0.07 U	0.1 U
TOTAL HXCDF	0.09 U	0.08 U	0.1 U	0.09 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	12 U	ND	ND		0/10	NA	NA
BROMOMETHANE	11 U	12 U	ND	ND		0/10	NA	NA
VINYL CHLORIDE	11 U	12 U	ND	ND		0/10	NA	NA
CHLOROETHANE	11 U	12 U	ND	ND		0/10	NA	NA
METHYLENE CHLORIDE	5 U	6 U	ND	ND		0/10	NA	NA
ACETONE	11 U	12 U	ND	ND		0/10	NA	NA
CARBON DISULFIDE	5 U	6 U	ND	ND		0/10	NA	NA
1,1-DICHLOROETHENE	5 U	6 U	ND	ND		0/10	NA	NA
1,1-DICHLOROETHANE	5 U	6 U	ND	ND		0/10	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	6 U	ND	ND		0/10	NA	NA
CHLOROFORM	5 U	6 U	ND	ND		0/10	NA	NA
1,2-DICHLOROETHANE	5 U	6 U	ND	ND		0/10	NA	NA
2-BUTANONE	11 U	12 U	ND	ND		0/10	NA	NA
1,1,1-TRICHLOROETHANE	5 U	6 U	ND	ND		0/10	NA	NA
CARBON TETRACHLORIDE	5 U	6 U	ND	ND		0/10	NA	NA
VINYL ACETATE	11 U	12 U	ND	ND		0/10	NA	NA
BROMODICHLOROMETHANE	5 U	6 U	ND	ND		0/10	NA	NA
1,2-DICHLOROPROPANE	5 U	6 U	ND	ND		0/10	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/10	NA	NA
TRICHLOROETHENE	5 U	6 U	ND	ND		0/10	NA	NA
DIBROMOCHLOROMETHANE	5 U	6 U	ND	ND		0/10	NA	NA
1,1,2-TRICHLOROETHANE	5 U	6 U	ND	ND		0/10	NA	NA
BENZENE	5 U	6 U	ND	ND		0/10	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/10	NA	NA
BROMOFORM	5 U	6 U	ND	ND		0/10	NA	NA
4-METHYL-2-PENTANONE	11 U	12 U	ND	ND		0/10	NA	NA
2-HEXANONE	11 U	12 U	ND	ND		0/10	NA	NA
TETRACHLOROETHENE	5 U	6 U	ND	ND		0/10	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	6 U	ND	ND		0/10	NA	NA
TOLUENE	5 U	6 U	ND	ND		0/10	NA	NA
CHLOROBENZENE	5 U	6 U	ND	ND		0/10	NA	NA
ETHYLBENZENE	5 U	6 U	ND	ND		0/10	NA	NA
STYRENE	5 U	6 U	ND	ND		0/10	NA	NA
XYLENE (TOTAL)	5 U	6 U	ND	ND		0/10	NA	NA
ACROLEIN	530 U	580 U	ND	ND		0/10	NA	NA
ACRYLONITRILE	110 U	120 U	ND	ND		0/10	NA	NA
TRICHLOROFLUOROMETHANE	11 U	12 U	ND	ND		0/10	NA	NA
DICHLORODIFLUOROMETHANE	21 U	23 U	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACETONITRILE	110 U	120 U	ND	ND		0/10	NA	NA
IODOMETHANE	11 U	12 U	ND	ND		0/10	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	53 U	56 U	ND	ND		0/8	NA	NA
3-CHLOROPROPENE	21 U	23 U	ND	ND		0/10	NA	NA
METHACRYLONITRILE	21 U	23 U	ND	ND		0/10	NA	NA
DIBROMOMETHANE	11 U	12 U	ND	ND		0/10	NA	NA
ISOBUTYL ALCOHOL	2100 U	2200 U	ND	ND		0/7	NA	NA
1,2-DIBROMOETHANE	21 U	23 U	ND	ND		0/10	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	12 U	ND	ND		0/10	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	12 U	ND	ND		0/10	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	21 U	23 U	ND	ND		0/10	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	21 U	23 U	ND	ND		0/10	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	120 U	ND	ND		0/10	NA	NA
METHYLMETHACRYLATE	21 U	23 U	ND	ND		0/10	NA	NA
ETHYLMETHACRYLATE	21 U	23 U	ND	ND		0/10	NA	NA
PENTACHLOROETHANE	21 U	23 U	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 25 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	350 U	370 U	ND	ND		0/10	NA	NA
BIS(2-CHLOROETHYL)ETHER	350 U	370 U	ND	ND		0/10	NA	NA
2-CHLOROPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
1,3-DICHLOROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
1,4-DICHLOROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
BENZYL ALCOHOL	350 U	370 U	ND	ND		0/10	NA	NA
1,2-DICHLOROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
O-CRESOL	350 U	370 U	ND	ND		0/10	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	350 U	370 U	ND	ND		0/10	NA	NA
META & PARA-CRESOL	350 U	370 U	ND	ND		0/10	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
HEXACHLOROETHANE	350 U	370 U	ND	ND		0/10	NA	NA
NITROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
ISOPHORONE	350 U	370 U	ND	ND		0/10	NA	NA
2-NITROPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
2,4-DIMETHYLPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
BENZOIC ACID	1800 U	1800 U	74 J	82 J	25SS04D	2/10	78.00	78.00
BIS(2-CHLOROETHOXY)METHANE	350 U	370 U	ND	ND		0/10	NA	NA
2,4-DICHLOROPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
1,2,4-TRICHLOROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
NAPHTHALENE	350 U	370 U	ND	ND		0/10	NA	NA
4-CHLOROANILINE	350 U	370 U	ND	ND		0/10	NA	NA
HEXACHLOROBUTADIENE	350 U	370 U	ND	ND		0/10	NA	NA
4-CHLORO-3-METHYLPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
2-METHYLNAPHTHALENE	350 U	370 U	ND	ND		0/10	NA	NA
HEXACHLOROCYCLOPENTADIENE	350 U	370 U	ND	ND		0/10	NA	NA
2,4,6-TRICHLOROPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
2,4,5-TRICHLOROPHENOL	1700 U	1800 U	ND	ND		0/10	NA	NA
2-CHLORONAPHTHALENE	350 U	370 U	ND	ND		0/10	NA	NA
2-NITROANILINE	1700 U	1800 U	ND	ND		0/10	NA	NA
DIMETHYLPHTHALATE	350 U	370 U	ND	ND		0/10	NA	NA
ACENAPHTHYLENE	350 U	370 U	ND	ND		0/10	NA	NA
2,6-DINITROTOLUENE	350 U	370 U	ND	ND		0/10	NA	NA
3-NITROANILINE	1700 U	1800 U	ND	ND		0/10	NA	NA
ACENAPHTHENE	350 U	370 U	ND	ND		0/10	NA	NA
2,4-DINITROPHENOL	1700 U	1800 U	ND	ND		0/10	NA	NA
4-NITROPHENOL	1700 U	1800 U	ND	ND		0/10	NA	NA
DIBENZOFURAN	350 U	370 U	ND	ND		0/10	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROTOLUENE	350 U	370 U	ND	ND		0/10	NA	NA
DIETHYLPHTHALATE	350 U	370 U	ND	ND		0/10	NA	NA
4-CHLOROPHENYL-PHENYLETHER	350 U	370 U	ND	ND		0/10	NA	NA
FLUORENE	350 U	370 U	ND	ND		0/10	NA	NA
4-NITROANILINE	1700 U	1800 U	ND	ND		0/10	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1700 U	1800 U	ND	ND		0/10	NA	NA
N-NITROSODIPHENYLAMINE (1)	350 U	370 U	ND	ND		0/10	NA	NA
4-BROMOPHENYL-PHENYLETHER	350 U	370 U	ND	ND		0/10	NA	NA
HEXACHLOROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
PENTACHLOROPHENOL	1700 U	1800 U	ND	ND		0/10	NA	NA
PHENANTHRENE	350 U	370 U	130 J	170 J	25SS04	2/10	150.00	150.00
ANTHRACENE	350 U	370 U	ND	ND		0/10	NA	NA
DI-N-BUTYLPHTHALATE	350 U	430 U	ND	ND		0/10	NA	NA
FLUORANTHENE	350 U	370 U	200 J	320 J	25SS04	2/10	260.00	260.00
PYRENE	350 U	370 U	200 J	240 J	25SS04	2/10	220.00	220.00
BUTYLBENZYLPHTHALATE	350 U	370 U	100 J	100 J	25SS08	1/10	100.00	100.00
3,3'-DICHLOROBENZIDINE	690 U	740 U	ND	ND		0/10	NA	NA
BENZO(A)ANTHRACENE	350 U	370 U	81 J	130 J	25SS04	2/10	105.50	105.50
CHRYSENE	350 U	370 U	100 J	140 J	25SS04	2/10	120.00	120.00
BIS(2-ETHYLHEXYL)PHTHALATE	360 U	360 U	110 J	77000	25SS05	9/10	14830.00	700.00
DI-N-OCTYL PHTHALATE	350 U	370 U	75 J	460 J	25SS05	2/10	267.50	267.50
BENZO(B)FLUORANTHENE	350 U	370 U	130 J	230 J	25SS04	2/10	180.00	180.00
BENZO(K)FLUORANTHENE	350 U	370 U	66 J	74 J	25SS04D	2/10	70.00	70.00
BENZO(A)PYRENE	350 U	370 U	93 J	120 J	25SS04	2/10	106.50	106.50
INDENO(1,2,3-CD)PYRENE	350 U	370 U	60 J	99 J	25SS04	2/10	79.50	79.50
DIBENZO(A,H)ANTHRACENE	350 U	370 U	ND	ND		0/10	NA	NA
BENZO(G,H,I)PERYLENE	350 U	370 U	94 J	94 J	25SS04	1/10	94.00	94.00
1,4-DIOXANE	1400 U	1500 U	ND	ND		0/10	NA	NA
PYRIDINE	690 U	740 U	ND	ND		0/10	NA	NA
N-NITROSODIMETHYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
2-PICOLINE	350 U	370 U	ND	ND		0/10	NA	NA
N-NITROSOMETHYLETHYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
METHYL METHANESULFONATE	350 U	370 U	ND	ND		0/10	NA	NA
N-NITROSODIETHYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
ETHYL METHANESULFONATE	350 U	370 U	ND	ND		0/10	NA	NA
ANILINE	1700 U	1800 U	ND	ND		0/10	NA	NA
N-NITROSOPYRROLIDINE	1700 U	1800 U	ND	ND		0/10	NA	NA
ACETOPHENONE	350 U	370 U	ND	ND		0/10	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
N-NITROSOMORPHOLINE	690 U	740 U	ND	ND		0/10	NA	NA
O-TOLUIDINE	350 U	370 U	ND	ND		0/10	NA	NA
N-NITROSOPIPERIDINE	350 U	370 U	ND	ND		0/10	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	1700 U	1800 U	ND	ND		0/10	NA	NA
2,6-DICHLOROPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
HEXACHLOROPROPENE	690 U	740 U	ND	ND		0/10	NA	NA
P-PHENYLENEDIAMINE	690 U	740 U	ND	ND		0/10	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
SAFROLE	350 U	370 U	ND	ND		0/10	NA	NA
1,2,4,5-TETRACHLOROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
ISOSAFROLE	350 U	370 U	ND	ND		0/10	NA	NA
1,4-NAPHTHOQUINONE	1700 U	1800 U	ND	ND		0/10	NA	NA
1,3-DINITROBENZENE	690 U	740 U	ND	ND		0/10	NA	NA
PENTACHLOROBENZENE	350 U	370 U	ND	ND		0/10	NA	NA
1-NAPHTHYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
2-NAPHTHYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
2,3,4,6-TETRACHLOROPHENOL	350 U	370 U	ND	ND		0/10	NA	NA
1,3,5-TRINITROBENZENE	3500 U	3700 U	ND	ND		0/10	NA	NA
DIALLATE	350 U	370 U	ND	ND		0/10	NA	NA
PHENACETIN	350 U	370 U	ND	ND		0/10	NA	NA
DIPHENYLAMINE	350 U	370 U	ND	ND		0/10	NA	NA
5-NITRO-O-TOLUIDINE	690 U	740 U	ND	ND		0/10	NA	NA
4-AMINOBIPHENYL	350 U	370 U	ND	ND		0/10	NA	NA
PRONAMIDE	350 U	370 U	ND	ND		0/10	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	690 U	740 U	ND	ND		0/10	NA	NA
PENTACHLORONITROBENZENE	350 U	370 U	ND	ND		0/9	NA	NA
4-NITROQUINOLINE-1-OXIDE	1700 U	1800 U	ND	ND		0/5	NA	NA
METHAPYRILENE	870 U	920 U	ND	ND		0/10	NA	NA
ARAMITE	690 U	740 U	ND	ND		0/10	NA	NA
CHLOROBENZILATE	350 U	370 U	ND	ND		0/10	NA	NA
P-DIMETHYLAMINOAZOBENZENE	690 U	740 U	ND	ND		0/10	NA	NA
3,3'-DIMETHYLBENZIDINE	690 U	730 U	ND	ND		0/4	NA	NA
2-ACETYLAMINOFLUORENE	690 U	740 U	ND	ND		0/10	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	690 U	740 UJ	ND	ND		0/10	NA	NA
HEXACHLOROPHENE	3500 U	3700 U	ND	ND		0/9	NA	NA
3-METHYLCHOLANTHRENE	350 U	370 U	ND	ND		0/10	NA	NA
CARBAZOLE	350 U	370 U	ND	ND		0/10	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	4.3 U	42 U	ND	ND		0/10	NA	NA
BETA-BHC	4.3 U	42 U	ND	ND		0/10	NA	NA
DELTA-BHC	4.3 U	42 U	ND	ND		0/10	NA	NA
GAMMA-BHC (LINDANE)	4.3 U	42 U	ND	ND		0/10	NA	NA
HEPTACHLOR	4.3 U	42 U	ND	ND		0/10	NA	NA
ALDRIN	4.3 U	42 U	ND	ND		0/10	NA	NA
HEPTACHLOR EPOXIDE	4.3 U	42 U	ND	ND		0/10	NA	NA
ENDOSULFAN I	4.3 U	42 U	ND	ND		0/10	NA	NA
DIELDRIN	8.5 U	83 U	ND	ND		0/10	NA	NA
4,4'-DDE	8.5 U	83 U	5.1 J	5.1 J	25SS08	1/10	5.10	5.10
ENDRIN	8.5 U	83 U	ND	ND		0/10	NA	NA
ENDOSULFAN II	8.5 UJ	83 U	ND	ND		0/10	NA	NA
4,4'-DDD	8.5 U	83 U	ND	ND		0/10	NA	NA
ENDOSULFAN SULFATE	8.5 U	83 U	ND	ND		0/10	NA	NA
4,4'-DDT	8.5 U	83 U	4.7 J	9.3	25SS06	3/10	6.73	6.20
METHOXYCHLOR	43 U	420 U	ND	ND		0/10	NA	NA
ENDRIN ALDEHYDE	8.5 UJ	83 U	ND	ND		0/10	NA	NA
ISODRIN	4.3 U	42 U	ND	ND		0/10	NA	NA
KEPONE	8.5 U	83 U	ND	ND		0/10	NA	NA
ALPHA-CHLORDANE	43 U	420 U	ND	ND		0/10	NA	NA
GAMMA-CHLORDANE	43 U	420 U	ND	ND		0/10	NA	NA
TOXAPHENE	85 U	830 U	ND	ND		0/10	NA	NA
AROCLOR-1016	43 U	420 U	ND	ND		0/10	NA	NA
AROCLOR-1221	43 U	420 U	ND	ND		0/10	NA	NA
AROCLOR-1232	43 U	420 U	ND	ND		0/10	NA	NA
AROCLOR-1242	43 U	420 U	ND	ND		0/10	NA	NA
AROCLOR-1248	43 U	420 U	ND	ND		0/10	NA	NA
AROCLOR-1254	85 U	830 U	ND	ND		0/10	NA	NA
AROCLOR-1260	85 U	830 U	ND	ND		0/10	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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ORTHO PESTICIDES (ug/kg)								
DIMETHOATE	69 U	73 U	ND	ND		0/10	NA	NA
DISULFOTON	69 U	73 U	ND	ND		0/10	NA	NA
FAMPHUR	69 U	73 U	ND	ND		0/10	NA	NA
METHYL PARATHION	69 U	73 U	ND	ND		0/10	NA	NA
O,O,O-TRIETHYL PHOSPHOROTHIOA	69 U	73 U	ND	ND		0/10	NA	NA
PARATHION	69 U	73 U	ND	ND		0/10	NA	NA
PHORATE	69 U	73 U	ND	ND		0/10	NA	NA
SULFOTEP	69 U	73 U	ND	ND		0/10	NA	NA
THIONAZIN	69 U	73 U	ND	ND		0/10	NA	NA
HERBICIDES (ug/kg)								
2,4-D	330 U	370 U	ND	ND		0/10	NA	NA
2,4,5-T	65 U	74 U	ND	ND		0/10	NA	NA
2,4,5-TP (SILVEX)	65 U	74 U	ND	ND		0/10	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.07 U	0.11 U	ND	ND		0/10	NA	NA
TOTAL TCDD	0.07 U	0.11 U	ND	ND		0/10	NA	NA
TOTAL PECDD	0.07 U	0.13 U	ND	ND		0/10	NA	NA
TOTAL HXCDD	0.1 U	0.13 U	ND	ND		0/10	NA	NA
TOTAL TCDF	0.04 U	0.06 U	ND	ND		0/10	NA	NA
TOTAL PECDF	0.07 U	0.12 U	ND	ND		0/10	NA	NA
TOTAL HXCDF	0.07 U	0.1 U	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS04D	26SS05	26SS01	26SS02	26SS03	26SS04
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
WET CHEMISTRY (mg/kg)						
Cyanide, Total	0.52 U	0.51 U	0.47 U	0.57 U	0.55 U	0.51 U
Sulfide	30.3 U	28.3 U	29.8 UJ	29.9 UJ	26.8 UJ	29 UJ

FREQUENCY OF DETECTION SUMMARY
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WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.47 U	0.57 U	ND	ND		0/6	NA	NA
Sulfide	26.8 UJ	30.3 U	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
TOTAL METALS (mg/kg)						
Antimony, Total	2.3 UJ	2.4 UJ	2 UJ	2.5 UJ	1.4	1.9
Arsenic, Total	0.83 J	1.2 J	0.84 J	0.29 J	0.75 UJ	0.94 J
Barium, Total	181	179	186	178	258	233
Beryllium, Total	0.17	0.11	0.09 U	0.12	0.4	0.35
Cadmium, Total	0.35	0.21 U	0.18 U	0.23 U	0.48 U	0.4 U
Chromium, Total	23.1	24.8	17.2	9.2	14.6	13.3
Cobalt, Total	21.7	18.9	14.5	13	22.9	17.6
Copper, Total	113	112	86	81.1	132	104
Lead, Total	21.4	28.5	15.7	8.4	11	22.5
Mercury, Total	0.04 U	0.05 U	0.05 U	0.06 U	0.061 U	0.042 U
Nickel, Total	10	11.6	11	5.3	7.1	7.3
Selenium, Total	0.61	0.86	0.56 U	0.44 J	1.8 J	1.3 UJ
Silver, Total	0.28 U	0.29 U	0.25 U	0.31 U	0.37 UJ	0.31 UJ
Thallium, Total	0.1 UJ	0.14 UJ	0.12 U	0.091 UJ	0.12 UJ	0.14 UJ
Tin, Total	2.9	1.8 U	3.1	2.5	3.8	1.1 U
Vanadium, Total	120	129	103	79.6	139	107
Zinc, Total	67.4	80.6	53.2	34.9	47	69.5

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TOTAL METALS (mg/kg)								
Antimony, Total	2 UJ	2.5 UJ	1.4	1.9	26SS05	2/6	1.65	1.65
Arsenic, Total	0.75 UJ	0.75 UJ	0.29 J	1.2 J	26SS02	5/6	0.82	0.84
Barium, Total	NA	NA	178	258	26SS04D	6/6	202.50	183.50
Beryllium, Total	0.09 U	0.09 U	0.11	0.4	26SS04D	5/6	0.23	0.17
Cadmium, Total	0.18 U	0.48 U	0.35	0.35	26SS01	1/6	0.35	0.35
Chromium, Total	NA	NA	9.2	24.8	26SS02	6/6	17.03	15.90
Cobalt, Total	NA	NA	13	22.9	26SS04D	6/6	18.10	18.25
Copper, Total	NA	NA	81.1	132	26SS04D	6/6	104.68	108.00
Lead, Total	NA	NA	8.4	28.5	26SS02	6/6	17.92	18.55
Mercury, Total	0.04 U	0.061 U	ND	ND		0/6	NA	NA
Nickel, Total	NA	NA	5.3	11.6	26SS02	6/6	8.72	8.65
Selenium, Total	0.56 U	1.3 UJ	0.44 J	1.8 J	26SS04D	4/6	0.93	0.74
Silver, Total	0.25 U	0.37 UJ	ND	ND		0/6	NA	NA
Thallium, Total	0.091 UJ	0.14 UJ	ND	ND		0/6	NA	NA
Tin, Total	1.1 U	1.8 U	2.5	3.8	26SS04D	4/6	3.08	3.00
Vanadium, Total	NA	NA	79.6	139	26SS04D	6/6	112.93	113.50
Zinc, Total	NA	NA	34.9	80.6	26SS02	6/6	58.77	60.30

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
VOLATILES (ug/kg)						
CHLOROMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
BROMOMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
VINYL CHLORIDE	12 U	12 U	12 U	12 U	12 U	12 U
CHLOROETHANE	12 U	12 U	12 U	12 U	12 U	12 U
METHYLENE CHLORIDE	6 U	6 U	6 U	6 U	6 U	6 U
ACETONE	12 U	12 U	12 U	12 U	12 U	12 U
CARBON DISULFIDE	6 U	6 U	6 U	6 U	6 U	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 U	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 U	6 U	6 U	6 U
CHLOROFORM	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
2-BUTANONE	12 U	12 U	12 U	12 U	12 U	12 U
1,1,1-TRICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
CARBON TETRACHLORIDE	6 U	6 U	6 U	6 U	6 U	6 U
VINYL ACETATE	12 U	12 U	12 U	12 U	12 U	12 U
BROMODICHLOROMETHANE	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROPROPANE	6 U	6 U	6 U	6 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U	6 U	6 U
TRICHLOROETHENE	6 U	6 U	6 U	6 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 U	6 U	6 U	6 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
BENZENE	6 U	6 U	6 U	6 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U	6 U	6 U
BROMOFORM	6 U	6 U	6 U	6 U	6 U	6 U
4-METHYL-2-PENTANONE	12 U	12 U	12 U	12 U	12 U	12 U
2-HEXANONE	12 U	12 U	12 U	12 U	12 U	12 U
TETRACHLOROETHENE	6 U	6 U	6 U	6 U	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
TOLUENE	6 U	6 U	6 U	6 U	6 U	6 U
CHLOROBENZENE	6 U	6 U	6 U	6 U	6 U	6 U
ETHYLBENZENE	6 U	6 U	6 U	6 U	6 U	6 U
STYRENE	6 U	6 U	6 U	6 U	6 U	6 U
XYLENE (TOTAL)	6 U	6 U	6 U	6 U	6 U	6 U
ACROLEIN	620 R	620 R	580 R	600 R	610 U	580 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
VOLATILES cont. (ug/kg)						
ACRYLONITRILE	120 U	120 U	120 U	120 U	120 U	120 U
TRICHLOROFLUOROMETHANE	12 R	12 U	12 U	12 R	12 U	12 U
DICHLORODIFLUOROMETHANE	25 U	25 U	23 U	24 U	24 U	23 U
ACETONITRILE	120 U	120 U	120 U	120 U	120 U	120 U
IODOMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
PROPIONITRILE (ETHYL CYANIDE)	62 R	62 U	58 U	60 R	61 U	58 U
3-CHLOROPROPENE	25 U	25 U	23 U	24 U	24 U	23 U
METHACRYLONITRILE	25 U	25 U	23 U	24 U	24 U	23 U
DIBROMOMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
ISOBUTYL ALCOHOL	2500 R	2500 R	2300 R	2400 R	2400 R	2300 R
1,2-DIBROMOETHANE	25 U	25 U	23 U	24 U	24 U	23 U
1,1,1,2-TETRACHLOROETHANE	12 U	12 U	12 U	12 U	12 U	12 U
1,2,3-TRICHLOROPROPANE	12 U	12 U	12 U	12 U	12 U	12 U
TRANS-1,4-DICHLORO-2-BUTENE	25 U	25 U	23 U	24 U	24 U	23 U
1,2-DIBROMO-3-CHLOROPROPANE	25 U	25 U	23 U	24 U	24 U	23 U
2-CHLORO-1,3-BUTADIENE	120 U	120 U	120 U	120 U	120 U	120 U
METHYLMETHACRYLATE	25 U	25 U	23 U	24 U	24 U	23 U
ETHYLMETHACRYLATE	25 U	25 U	23 U	24 U	24 U	23 U
PENTACHLOROETHANE	25 U	25 U	23 U	24 U	24 U	23 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
SEMIVOLATILES (ug/kg)						
PHENOL	410 U	400 U	380 U	400 U	400 U	390 U
BIS(2-CHLOROETHYL)ETHER	410 U	400 U	380 U	400 U	400 U	390 U
2-CHLOROPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
1,3-DICHLOROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
1,4-DICHLOROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
BENZYL ALCOHOL	410 U	400 U	380 U	400 U	400 U	390 U
1,2-DICHLOROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
O-CRESOL	410 U	400 U	380 U	400 U	400 U	390 U
2,2'-OXYBIS(1-CHLOROPROPANE)	410 U	400 U	380 U	400 U	400 U	390 U
META & PARA-CRESOL	410 U	400 U	380 U	400 U	400 U	390 U
N-NITROSO-DI-N-PROPYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U
HEXACHLOROETHANE	410 U	400 U	380 U	400 U	400 U	390 U
NITROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
ISOPHORONE	410 U	400 U	380 U	400 U	400 U	390 U
2-NITROPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
2,4-DIMETHYLPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
BENZOIC ACID	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
BIS(2-CHLOROETHOXY)METHANE	410 U	400 U	380 U	400 U	400 U	390 U
2,4-DICHLOROPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
1,2,4-TRICHLOROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
NAPHTHALENE	410 U	400 U	380 U	400 U	400 U	390 U
4-CHLOROANILINE	410 U	400 U	380 U	400 U	400 U	390 U
HEXACHLOROBUTADIENE	410 U	400 U	380 U	400 U	400 U	390 U
4-CHLORO-3-METHYLPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
2-METHYLNAPHTHALENE	410 U	400 U	380 U	400 U	400 U	390 U
HEXACHLOROCYCLOPENTADIENE	410 U	400 U	380 U	400 U	400 U	390 U
2,4,6-TRICHLOROPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
2,4,5-TRICHLOROPHENOL	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
2-CHLORONAPHTHALENE	410 U	400 U	380 U	400 U	400 U	390 U
2-NITROANILINE	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
DIMETHYLPHTHALATE	410 U	400 U	380 U	400 U	400 U	390 U
ACENAPHTHYLENE	410 U	400 U	380 U	400 U	400 U	390 U
2,6-DINITROTOLUENE	410 U	400 U	380 U	400 U	400 U	390 U
3-NITROANILINE	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
ACENAPHTHENE	410 U	400 U	380 U	400 U	400 U	390 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
SEMIVOLATILES cont. (ug/kg)						
2,4-DINITROPHENOL	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
4-NITROPHENOL	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
DIBENZOFURAN	410 U	400 U	380 U	400 U	400 U	390 U
2,4-DINITROTOLUENE	410 U	400 U	380 U	400 U	400 U	390 U
DIETHYLPHTHALATE	410 U	400 U	380 U	400 U	400 U	390 U
4-CHLOROPHENYL-PHENYLETHER	410 U	400 U	380 U	400 U	400 U	390 U
FLUORENE	410 U	400 U	380 U	400 U	400 U	390 U
4-NITROANILINE	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
4,6-DINITRO-2-METHYLPHENOL	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
N-NITROSODIPHENYLAMINE (1)	410 U	400 U	380 U	400 U	400 U	390 U
4-BROMOPHENYL-PHENYLETHER	410 U	400 U	380 U	400 U	400 U	390 U
HEXACHLOROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
PENTACHLOROPHENOL	2000 U	2000 U	1900 U	2000 U	2000 U	170 J
PHENANTHRENE	410 U	400 U	380 U	400 U	40 J	290 J
ANTHRACENE	410 U	400 U	380 U	400 U	400 U	390 U
DI-N-BUTYLPHTHALATE	410 U	400 U	380 U	400 U	400 U	390 U
FLUORANTHENE	410 U	400 U	380 U	400 U	67 J	460
PYRENE	410 U	400 U	380 U	400 U	58 J	330 J
BUTYLBENZYLPHTHALATE	410 U	400 U	380 U	400 U	400 U	390 U
3,3'-DICHLOROBENZIDINE	820 U	800 U	760 U	790 U	800 U	780 U
BENZO(A)ANTHRACENE	410 U	400 U	380 U	400 U	41 J	390 U
CHRYSENE	410 U	400 U	51 J	400 U	45 J	150 J
BIS(2-ETHYLHEXYL)PHTHALATE	150 J	47 J	48 J	72 J	400 U	390 U
DI-N-OCTYL PHTHALATE	410 U	400 U	380 U	400 U	400 U	390 U
BENZO(B)FLUORANTHENE	410 U	400 U	380 U	400 U	54 J	100 J
BENZO(K)FLUORANTHENE	410 U	400 U	380 U	400 U	400 U	390 U
BENZO(A)PYRENE	410 U	400 U	380 U	400 U	41 J	60 J
INDENO(1,2,3-CD)PYRENE	410 U	400 U	380 U	400 U	400 U	390 U
DIBENZO(A,H)ANTHRACENE	410 U	400 U	380 U	400 U	400 U	390 U
BENZO(G,H,I)PERYLENE	410 U	400 U	380 U	400 U	400 U	390 U
1,4-DIOXANE	1600 U	1600 U	1500 U	1600 U	1600 U	1600 U
PYRIDINE	820 U	800 U	760 U	790 U	800 U	780 U
N-NITROSODIMETHYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U
2-PICOLINE	410 U	400 U	380 U	400 U	400 U	390 U
N-NITROSOMETHYLETHYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
SEMIVOLATILES cont. (ug/kg)						
METHYL METHANESULFONATE	410 U	400 U	380 U	400 U	400 U	390 U
N-NITROSODIETHYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U
ETHYL METHANESULFONATE	410 U	400 U	380 U	400 U	400 U	390 U
ANILINE	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
N-NITROSOPYRROLIDINE	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
ACETOPHENONE	410 U	400 U	380 U	400 U	400 U	390 U
N-NITROSOMORPHOLINE	820 U	800 U	760 U	790 U	800 U	780 U
O-TOLUIDINE	410 U	400 U	380 U	400 U	400 U	390 U
N-NITROSOPIPERIDINE	410 U	400 U	380 U	400 U	400 U	390 U
A,A-DIMETHYLPHENETHYLAMINE	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
2,6-DICHLOROPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
HEXACHLOROPROPENE	820 U	800 U	760 U	790 U	800 U	780 U
P-PHENYLENEDIAMINE	820 U	800 U	760 U	790 U	800 U	780 U
N-NITROSO-DI-N-BUTYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U
SAFROLE	410 U	400 U	380 U	400 U	400 U	390 U
1,2,4,5-TETRACHLOROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
ISOSAFROLE	410 U	400 U	380 U	400 U	400 U	390 U
1,4-NAPHTHOQUINONE	2000 U	2000 U	1900 U	2000 U	2000 U	1900 U
1,3-DINITROBENZENE	820 U	800 U	760 U	790 U	800 U	780 U
PENTACHLOROBENZENE	410 U	400 U	380 U	400 U	400 U	390 U
1-NAPHTHYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U
2-NAPHTHYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U
2,3,4,6-TETRACHLOROPHENOL	410 U	400 U	380 U	400 U	400 U	390 U
1,3,5-TRINITROBENZENE	4100 U	4000 U	3800 U	4000 U	4000 U	3900 U
DIALLATE	410 U	400 U	380 U	400 U	400 U	390 U
PHENACETIN	410 U	400 U	380 U	400 U	400 U	390 U
DIPHENYLAMINE	410 U	400 U	380 U	400 U	400 U	390 U
5-NITRO-O-TOLUIDINE	820 U	800 U	760 U	790 U	800 U	780 U
4-AMINOBIPHENYL	410 U	400 U	380 U	400 U	400 U	390 U
PRONAMIDE	410 U	400 U	380 U	400 U	400 U	390 U
2-SEC-BUTYL-4,6-DINITROPHENOL	820 U	800 U	760 U	790 U	800 U	780 U
PENTACHLORONITROBENZENE	410 U	400 U	380 U	400 U	400 R	390 R
4-NITROQUINOLINE-1-OXIDE	2000 R	2000 R	1900 R	2000 U	2000 U	1900 U
METHAPYRILENE	1000 U	1000 U	950 U	990 U	1000 U	970 U
ARAMITE	820 U	800 U	760 U	790 U	800 U	780 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
SEMIVOLATILES cont. (ug/kg)						
CHLOROBENZILATE	410 U	400 U	380 U	400 U	400 U	390 U
P-DIMETHYLAMINOAZOBENZENE	820 U	800 U	760 U	790 U	800 U	780 U
3,3'-DIMETHYLBENZIDINE	820 R	800 R	760 R	790 R	800 R	780 R
2-ACETYLAMINOFLUORENE	820 U	800 U	760 U	790 U	800 U	780 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	820 U	800 U	760 U	790 U	800 U	780 U
HEXACHLOROPHENE	4100 U	4000 U	3800 U	4000 U	4000 U	3900 U
3-METHYLCHOLANTHRENE	410 U	400 U	380 U	400 U	400 U	390 U
CARBAZOLE	410 U	400 U	380 U	400 U	400 U	390 U

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	25 U	24 U	45 U	47 U	24 U	47 U
BETA-BHC	25 U	24 U	45 U	47 U	24 U	47 U
DELTA-BHC	25 U	24 U	45 U	47 U	24 U	47 U
GAMMA-BHC (LINDANE)	25 U	24 U	45 U	47 U	24 U	47 UJ
HEPTACHLOR	25 U	24 U	45 U	47 U	24 U	47 U
ALDRIN	25 U	24 U	45 U	47 U	24 U	47 U
HEPTACHLOR EPOXIDE	25 U	24 U	45 U	47 U	24 U	47 U
ENDOSULFAN I	25 U	24 U	45 U	47 U	24 U	47 UJ
DIELDRIN	49 U	48 U	91 U	93 U	49 U	93 U
4,4'-DDE	49 U	48 U	91 U	93 U	49 U	93 U
ENDRIN	49 U	48 U	91 U	93 U	49 U	93 U
ENDOSULFAN II	49 U	48 U	91 U	93 U	49 U	93 U
4,4'-DDD	49 U	48 U	91 U	93 U	49 U	93 U
ENDOSULFAN SULFATE	49 U	48 U	91 U	93 U	49 U	93 U
4,4'-DDT	21	48 U	91 U	93 U	49 U	93 U
METHOXYCHLOR	250 UJ	240 UJ	450 UJ	470 UJ	240 UJ	470 U
ENDRIN ALDEHYDE	49 U	48 U	91 U	93 U	49 U	93 U
ISODRIN	25 U	24 U	45 U	47 U	24 UJ	47 UJ
KEPONE	49 U	48 U	91 U	93 U	49 U	93 U
ALPHA-CHLORDANE	250 U	240 U	450 U	470 U	240 U	470 U
GAMMA-CHLORDANE	250 U	240 U	450 U	470 U	240 U	470 U
TOXAPHENE	490 U	480 U	910 U	930 U	490 U	930 U
AROCLOR-1016	250 U	240 U	450 U	470 U	240 U	470 U
AROCLOR-1221	250 U	240 U	450 U	470 U	240 U	470 U
AROCLOR-1232	250 U	240 U	450 U	470 U	240 U	470 U
AROCLOR-1242	250 U	240 U	450 U	470 U	240 U	470 U
AROCLOR-1248	250 U	240 U	450 U	470 U	240 U	470 U
AROCLOR-1254	490 U	480 U	910 U	930 U	490 U	930 U
AROCLOR-1260	490 U	480 U	910 U	930 U	490 U	930 U

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	26SS01	26SS02	26SS03	26SS04	26SS04D	26SS05
SAMPLE DATE	10/29/95	10/28/95	10/29/95	10/29/95	10/29/95	10/29/95
ORTHO PESTICIDES (ug/kg)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	82 U	81 U	78 U	78 U	79 U	76 U
PHORATE	82 U	81 U	78 U	78 U	79 U	76 U
THIONAZIN	82 U	81 U	78 U	78 U	79 U	76 U
DISULFOTON	82 U	81 U	78 U	78 U	79 U	76 U
SULFOTEP	82 U	81 U	78 U	78 U	79 U	76 U
DIMETHOATE	82 U	81 U	78 U	78 U	79 U	76 U
METHYL PARATHION	82 U	81 U	78 U	78 U	79 U	76 U
PARATHION	82 U	81 U	78 U	78 U	79 U	76 U
FAMPHUR	82 U	81 U	78 U	78 U	79 U	76 U
HERBICIDES (ug/kg)						
2,4-D	410 U	400 U	380 U	400 U	400 U	380 U
2,4,5-TP (SILVEX)	81 U	81 U	77 U	79 U	80 U	76 U
2,4,5-T	81 U	81 U	77 U	79 U	80 U	76 U
DIOXIN (ug/kg)						
TCDD-2378	0.41 U	0.25 U	0.16 U	0.14 U	0.17 U	0.12 U
TOTAL TCDD	0.41 U	0.25 U	0.16 U	0.14 U	0.17 U	0.12 U
TOTAL PECDD	0.43 U	0.33 U	0.24 U	0.16 U	0.23 U	0.15 U
TOTAL HXCDD	0.28 U	0.27 U	0.16 U	0.14 U	0.25 U	0.17 U
TOTAL TCDF	0.16 U	0.15 U	0.11 U	0.09 U	0.1 U	0.08 U
TOTAL PECDF	0.22 U	0.14 U	0.16 U	0.12 U	0.16 U	0.11 U
TOTAL HXCDF	0.35 U	0.4 U	0.17 U	0.2 U	0.22 U	0.16 U

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 26 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	12 U	12 U	ND	ND		0/6	NA	NA
BROMOMETHANE	12 U	12 U	ND	ND		0/6	NA	NA
VINYL CHLORIDE	12 U	12 U	ND	ND		0/6	NA	NA
CHLOROETHANE	12 U	12 U	ND	ND		0/6	NA	NA
METHYLENE CHLORIDE	6 U	6 U	ND	ND		0/6	NA	NA
ACETONE	12 U	12 U	ND	ND		0/6	NA	NA
CARBON DISULFIDE	6 U	6 U	ND	ND		0/6	NA	NA
1,1-DICHLOROETHENE	6 U	6 U	ND	ND		0/6	NA	NA
1,1-DICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	ND	ND		0/6	NA	NA
CHLOROFORM	6 U	6 U	ND	ND		0/6	NA	NA
1,2-DICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
2-BUTANONE	12 U	12 U	ND	ND		0/6	NA	NA
1,1,1-TRICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
CARBON TETRACHLORIDE	6 U	6 U	ND	ND		0/6	NA	NA
VINYL ACETATE	12 U	12 U	ND	ND		0/6	NA	NA
BROMODICHLOROMETHANE	6 U	6 U	ND	ND		0/6	NA	NA
1,2-DICHLOROPROPANE	6 U	6 U	ND	ND		0/6	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/6	NA	NA
TRICHLOROETHENE	6 U	6 U	ND	ND		0/6	NA	NA
DIBROMOCHLOROMETHANE	6 U	6 U	ND	ND		0/6	NA	NA
1,1,2-TRICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
BENZENE	6 U	6 U	ND	ND		0/6	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/6	NA	NA
BROMOFORM	6 U	6 U	ND	ND		0/6	NA	NA
4-METHYL-2-PENTANONE	12 U	12 U	ND	ND		0/6	NA	NA
2-HEXANONE	12 U	12 U	ND	ND		0/6	NA	NA
TETRACHLOROETHENE	6 U	6 U	ND	ND		0/6	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
TOLUENE	6 U	6 U	ND	ND		0/6	NA	NA
CHLOROBENZENE	6 U	6 U	ND	ND		0/6	NA	NA
ETHYLBENZENE	6 U	6 U	ND	ND		0/6	NA	NA
STYRENE	6 U	6 U	ND	ND		0/6	NA	NA
XYLENE (TOTAL)	6 U	6 U	ND	ND		0/6	NA	NA
ACROLEIN	610 U	610 U	ND	ND		0/1	NA	NA

FREQUENCY OF DETECTION SUMMARY
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	120 U	120 U	ND	ND		0/6	NA	NA
TRICHLOROFLUOROMETHANE	12 U	12 U	ND	ND		0/4	NA	NA
DICHLORODIFLUOROMETHANE	23 U	25 U	ND	ND		0/6	NA	NA
ACETONITRILE	120 U	120 U	ND	ND		0/6	NA	NA
IODOMETHANE	12 U	12 U	ND	ND		0/6	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	58 U	62 U	ND	ND		0/4	NA	NA
3-CHLOROPROPENE	23 U	25 U	ND	ND		0/6	NA	NA
METHACRYLONITRILE	23 U	25 U	ND	ND		0/6	NA	NA
DIBROMOMETHANE	12 U	12 U	ND	ND		0/6	NA	NA
ISOBUTYL ALCOHOL	NA	NA	ND	ND		0/0	NA	NA
1,2-DIBROMOETHANE	23 U	25 U	ND	ND		0/6	NA	NA
1,1,1,2-TETRACHLOROETHANE	12 U	12 U	ND	ND		0/6	NA	NA
1,2,3-TRICHLOROPROPANE	12 U	12 U	ND	ND		0/6	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	23 U	25 U	ND	ND		0/6	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	23 U	25 U	ND	ND		0/6	NA	NA
2-CHLORO-1,3-BUTADIENE	120 U	120 U	ND	ND		0/6	NA	NA
METHYLMETHACRYLATE	23 U	25 U	ND	ND		0/6	NA	NA
ETHYLMETHACRYLATE	23 U	25 U	ND	ND		0/6	NA	NA
PENTACHLOROETHANE	23 U	25 U	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	380 U	410 U	ND	ND		0/6	NA	NA
BIS(2-CHLOROETHYL)ETHER	380 U	410 U	ND	ND		0/6	NA	NA
2-CHLOROPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
1,3-DICHLOROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
1,4-DICHLOROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
BENZYL ALCOHOL	380 U	410 U	ND	ND		0/6	NA	NA
1,2-DICHLOROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
O-CRESOL	380 U	410 U	ND	ND		0/6	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	380 U	410 U	ND	ND		0/6	NA	NA
META & PARA-CRESOL	380 U	410 U	ND	ND		0/6	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA
HEXACHLOROETHANE	380 U	410 U	ND	ND		0/6	NA	NA
NITROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
ISOPHORONE	380 U	410 U	ND	ND		0/6	NA	NA
2-NITROPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
2,4-DIMETHYLPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
BENZOIC ACID	1900 U	2000 U	ND	ND		0/6	NA	NA
BIS(2-CHLOROETHOXY)METHANE	380 U	410 U	ND	ND		0/6	NA	NA
2,4-DICHLOROPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
1,2,4-TRICHLOROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
NAPHTHALENE	380 U	410 U	ND	ND		0/6	NA	NA
4-CHLOROANILINE	380 U	410 U	ND	ND		0/6	NA	NA
HEXACHLOROBUTADIENE	380 U	410 U	ND	ND		0/6	NA	NA
4-CHLORO-3-METHYLPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
2-METHYLNAPHTHALENE	380 U	410 U	ND	ND		0/6	NA	NA
HEXACHLOROCYCLOPENTADIENE	380 U	410 U	ND	ND		0/6	NA	NA
2,4,6-TRICHLOROPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
2,4,5-TRICHLOROPHENOL	1900 U	2000 U	ND	ND		0/6	NA	NA
2-CHLORONAPHTHALENE	380 U	410 U	ND	ND		0/6	NA	NA
2-NITROANILINE	1900 U	2000 U	ND	ND		0/6	NA	NA
DIMETHYLPHTHALATE	380 U	410 U	ND	ND		0/6	NA	NA
ACENAPHTHYLENE	380 U	410 U	ND	ND		0/6	NA	NA
2,6-DINITROTOLUENE	380 U	410 U	ND	ND		0/6	NA	NA
3-NITROANILINE	1900 U	2000 U	ND	ND		0/6	NA	NA
ACENAPHTHENE	380 U	410 U	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1900 U	2000 U	ND	ND		0/6	NA	NA
4-NITROPHENOL	1900 U	2000 U	ND	ND		0/6	NA	NA
DIBENZOFURAN	380 U	410 U	ND	ND		0/6	NA	NA
2,4-DINITROTOLUENE	380 U	410 U	ND	ND		0/6	NA	NA
DIETHYLPHTHALATE	380 U	410 U	ND	ND		0/6	NA	NA
4-CHLOROPHENYL-PHENYLETHER	380 U	410 U	ND	ND		0/6	NA	NA
FLUORENE	380 U	410 U	ND	ND		0/6	NA	NA
4-NITROANILINE	1900 U	2000 U	ND	ND		0/6	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1900 U	2000 U	ND	ND		0/6	NA	NA
N-NITROSODIPHENYLAMINE (1)	380 U	410 U	ND	ND		0/6	NA	NA
4-BROMOPHENYL-PHENYLETHER	380 U	410 U	ND	ND		0/6	NA	NA
HEXACHLOROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
PENTACHLOROPHENOL	1900 U	2000 U	170 J	170 J	26SS05	1/6	170.00	170.00
PHENANTHRENE	380 U	410 U	40 J	290 J	26SS05	2/6	165.00	165.00
ANTHRACENE	380 U	410 U	ND	ND		0/6	NA	NA
DI-N-BUTYLPHTHALATE	380 U	410 U	ND	ND		0/6	NA	NA
FLUORANTHENE	380 U	410 U	67 J	460	26SS05	2/6	263.50	263.50
PYRENE	380 U	410 U	58 J	330 J	26SS05	2/6	194.00	194.00
BUTYLBENZYLPHTHALATE	380 U	410 U	ND	ND		0/6	NA	NA
3,3'-DICHLOROBENZIDINE	760 U	820 U	ND	ND		0/6	NA	NA
BENZO(A)ANTHRACENE	380 U	410 U	41 J	41 J	26SS04D	1/6	41.00	41.00
CHRYSENE	400 U	410 U	45 J	150 J	26SS05	3/6	82.00	51.00
BIS(2-ETHYLHEXYL)PHTHALATE	390 U	400 U	47 J	150 J	26SS01	4/6	79.25	60.00
DI-N-OCTYL PHTHALATE	380 U	410 U	ND	ND		0/6	NA	NA
BENZO(B)FLUORANTHENE	380 U	410 U	54 J	100 J	26SS05	2/6	77.00	77.00
BENZO(K)FLUORANTHENE	380 U	410 U	ND	ND		0/6	NA	NA
BENZO(A)PYRENE	380 U	410 U	41 J	60 J	26SS05	2/6	50.50	50.50
INDENO(1,2,3-CD)PYRENE	380 U	410 U	ND	ND		0/6	NA	NA
DIBENZO(A,H)ANTHRACENE	380 U	410 U	ND	ND		0/6	NA	NA
BENZO(G,H,I)PERYLENE	380 U	410 U	ND	ND		0/6	NA	NA
1,4-DIOXANE	1500 U	1600 U	ND	ND		0/6	NA	NA
PYRIDINE	760 U	820 U	ND	ND		0/6	NA	NA
N-NITROSODIMETHYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA
2-PICOLINE	380 U	410 U	ND	ND		0/6	NA	NA
N-NITROSOMETHYLETHYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	380 U	410 U	ND	ND		0/6	NA	NA
N-NITROSODIETHYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA
ETHYL METHANESULFONATE	380 U	410 U	ND	ND		0/6	NA	NA
ANILINE	1900 U	2000 U	ND	ND		0/6	NA	NA
N-NITROSOPYRROLIDINE	1900 U	2000 U	ND	ND		0/6	NA	NA
ACETOPHENONE	380 U	410 U	ND	ND		0/6	NA	NA
N-NITROSOMORPHOLINE	760 U	820 U	ND	ND		0/6	NA	NA
O-TOLUIDINE	380 U	410 U	ND	ND		0/6	NA	NA
N-NITROSOPIPERIDINE	380 U	410 U	ND	ND		0/6	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	1900 U	2000 U	ND	ND		0/6	NA	NA
2,6-DICHLOROPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
HEXACHLOROPROPENE	760 U	820 U	ND	ND		0/6	NA	NA
P-PHENYLENEDIAMINE	760 U	820 U	ND	ND		0/6	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA
SAFROLE	380 U	410 U	ND	ND		0/6	NA	NA
1,2,4,5-TETRACHLOROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
ISOSAFROLE	380 U	410 U	ND	ND		0/6	NA	NA
1,4-NAPHTHOQUINONE	1900 U	2000 U	ND	ND		0/6	NA	NA
1,3-DINITROBENZENE	760 U	820 U	ND	ND		0/6	NA	NA
PENTACHLOROBENZENE	380 U	410 U	ND	ND		0/6	NA	NA
1-NAPHTHYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA
2-NAPHTHYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA
2,3,4,6-TETRACHLOROPHENOL	380 U	410 U	ND	ND		0/6	NA	NA
1,3,5-TRINITROBENZENE	3800 U	4100 U	ND	ND		0/6	NA	NA
DIALLATE	380 U	410 U	ND	ND		0/6	NA	NA
PHENACETIN	380 U	410 U	ND	ND		0/6	NA	NA
DIPHENYLAMINE	380 U	410 U	ND	ND		0/6	NA	NA
5-NITRO-O-TOLUIDINE	760 U	820 U	ND	ND		0/6	NA	NA
4-AMINOBIPHENYL	380 U	410 U	ND	ND		0/6	NA	NA
PRONAMIDE	380 U	410 U	ND	ND		0/6	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	760 U	820 U	ND	ND		0/6	NA	NA
PENTACHLORONITROBENZENE	380 U	410 U	ND	ND		0/4	NA	NA
4-NITROQUINOLINE-1-OXIDE	1900 U	2000 U	ND	ND		0/3	NA	NA
METHAPYRILENE	950 U	1000 U	ND	ND		0/6	NA	NA
ARAMITE	760 U	820 U	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	380 U	410 U	ND	ND		0/6	NA	NA
P-DIMETHYLAMINOAZOBENZENE	760 U	820 U	ND	ND		0/6	NA	NA
3,3'-DIMETHYLBENZIDINE	NA	NA	ND	ND		0/0	NA	NA
2-ACETYLAMINOFLUORENE	760 U	820 U	ND	ND		0/6	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	760 U	820 U	ND	ND		0/6	NA	NA
HEXACHLOROPHENE	3800 U	4100 U	ND	ND		0/6	NA	NA
3-METHYLCHOLANTHRENE	380 U	410 U	ND	ND		0/6	NA	NA
CARBAZOLE	380 U	410 U	ND	ND		0/6	NA	NA

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PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	24 U	47 U	ND	ND		0/6	NA	NA
BETA-BHC	24 U	47 U	ND	ND		0/6	NA	NA
DELTA-BHC	24 U	47 U	ND	ND		0/6	NA	NA
GAMMA-BHC (LINDANE)	24 U	47 U	ND	ND		0/6	NA	NA
HEPTACHLOR	24 U	47 U	ND	ND		0/6	NA	NA
ALDRIN	24 U	47 U	ND	ND		0/6	NA	NA
HEPTACHLOR EPOXIDE	24 U	47 U	ND	ND		0/6	NA	NA
ENDOSULFAN I	24 U	47 U	ND	ND		0/6	NA	NA
DIELDRIN	48 U	93 U	ND	ND		0/6	NA	NA
4,4'-DDE	48 U	93 U	ND	ND		0/6	NA	NA
ENDRIN	48 U	93 U	ND	ND		0/6	NA	NA
ENDOSULFAN II	48 U	93 U	ND	ND		0/6	NA	NA
4,4'-DDD	48 U	93 U	ND	ND		0/6	NA	NA
ENDOSULFAN SULFATE	48 U	93 U	ND	ND		0/6	NA	NA
4,4'-DDT	48 U	93 U	21	21	26SS01	1/6	21.00	21.00
METHOXYCHLOR	240 UJ	470 UJ	ND	ND		0/6	NA	NA
ENDRIN ALDEHYDE	48 U	93 U	ND	ND		0/6	NA	NA
ISODRIN	24 U	47 U	ND	ND		0/6	NA	NA
KEPONE	48 U	93 U	ND	ND		0/6	NA	NA
ALPHA-CHLORDANE	240 U	470 U	ND	ND		0/6	NA	NA
GAMMA-CHLORDANE	240 U	470 U	ND	ND		0/6	NA	NA
TOXAPHENE	480 U	930 U	ND	ND		0/6	NA	NA
AROCLOR-1016	240 U	470 U	ND	ND		0/6	NA	NA
AROCLOR-1221	240 U	470 U	ND	ND		0/6	NA	NA
AROCLOR-1232	240 U	470 U	ND	ND		0/6	NA	NA
AROCLOR-1242	240 U	470 U	ND	ND		0/6	NA	NA
AROCLOR-1248	240 U	470 U	ND	ND		0/6	NA	NA
AROCLOR-1254	480 U	930 U	ND	ND		0/6	NA	NA
AROCLOR-1260	480 U	930 U	ND	ND		0/6	NA	NA

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ORTHO PESTICIDES (ug/kg)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	76 U	82 U	ND	ND		0/6	NA	NA
PHORATE	76 U	82 U	ND	ND		0/6	NA	NA
THIONAZIN	76 U	82 U	ND	ND		0/6	NA	NA
DISULFOTON	76 U	82 U	ND	ND		0/6	NA	NA
SULFOTEP	76 U	82 U	ND	ND		0/6	NA	NA
DIMETHOATE	76 U	82 U	ND	ND		0/6	NA	NA
METHYL PARATHION	76 U	82 U	ND	ND		0/6	NA	NA
PARATHION	76 U	82 U	ND	ND		0/6	NA	NA
FAMPHUR	76 U	82 U	ND	ND		0/6	NA	NA
HERBICIDES (ug/kg)								
2,4-D	380 U	410 U	ND	ND		0/6	NA	NA
2,4,5-TP (SILVEX)	76 U	81 U	ND	ND		0/6	NA	NA
2,4,5-T	76 U	81 U	ND	ND		0/6	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.12 U	0.41 U	ND	ND		0/6	NA	NA
TOTAL TCDD	0.12 U	0.41 U	ND	ND		0/6	NA	NA
TOTAL PECDD	0.15 U	0.43 U	ND	ND		0/6	NA	NA
TOTAL HXCDD	0.14 U	0.28 U	ND	ND		0/6	NA	NA
TOTAL TCDF	0.08 U	0.16 U	ND	ND		0/6	NA	NA
TOTAL PECDF	0.11 U	0.22 U	ND	ND		0/6	NA	NA
TOTAL HXCDF	0.16 U	0.4 U	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS03	30SS04
SAMPLE DATE	10/25/95	10/25/95
WET CHEMISTRY (mg/kg)		
Cyanide, Total	0.61 U	0.55 U
Sulfide	27.1 U	27 U

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.55 U	0.61 U	ND	ND		0/2	NA	NA
Sulfide	27 U	27.1 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
TOTAL METALS (mg/kg)						
Antimony, Total	NA	NA	1.9 UJ	2.4 UJ	NA	NA
Arsenic, Total	0.58 J	1.5 J	1.5	0.79 J	0.45 J	1.6 J
Barium, Total	103	36.5	34.2	59.7	93.7	24.3
Beryllium, Total	NA	NA	0.14	0.15	NA	NA
Cadmium, Total	0.42 UJ	0.38 UJ	1 J	0.24 J	0.38 UJ	0.4 UJ
Chromium, Total	11.2 J	6.8 J	9.3 J	16.6 J	6.9 J	4.7 J
Cobalt, Total	NA	NA	6.2	9	NA	NA
Copper, Total	NA	NA	53	68.3	NA	NA
Lead, Total	55.6 J	53.5	101	20.9	6.9 J	19.4
Mercury, Total	0.06 R	0.06 R	0.06 U	0.46	0.14 R	0.06 R
Nickel, Total	NA	NA	6.1	7.5	NA	NA
Selenium, Total	0.33 J	0.2 J	1.1 U	0.89 U	0.15 UJ	0.95 J
Silver, Total	1	0.49 U	0.23 U	0.3 U	0.49 U	0.52 U
Thallium, Total	NA	NA	0.12 UJ	0.1 UJ	NA	NA
Tin, Total	NA	NA	1.5 UJ	1.9 UJ	NA	NA
Vanadium, Total	NA	NA	43.1 J	65.8 J	NA	NA
Zinc, Total	NA	NA	79.6 J	46.5 J	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Antimony, Total	1.9 UJ	2.4 UJ	ND	ND		0/2	NA	NA
Arsenic, Total	NA	NA	0.45 J	1.6 J	30SS06	6/6	1.07	1.15
Barium, Total	NA	NA	24.3	103	30SS01	6/6	58.57	48.10
Beryllium, Total	NA	NA	0.14	0.15	30SS04	2/2	0.15	0.15
Cadmium, Total	0.38 UJ	0.42 UJ	0.24 J	1 J	30SS03	2/6	0.62	0.62
Chromium, Total	NA	NA	4.7 J	16.6 J	30SS04	6/6	9.25	8.10
Cobalt, Total	NA	NA	6.2	9	30SS04	2/2	7.60	7.60
Copper, Total	NA	NA	53	68.3	30SS04	2/2	60.65	60.65
Lead, Total	NA	NA	6.9 J	101	30SS03	6/6	42.88	37.20
Mercury, Total	0.06 U	0.06 U	0.46	0.46	30SS04	1/2	0.46	0.46
Nickel, Total	NA	NA	6.1	7.5	30SS04	2/2	6.80	6.80
Selenium, Total	0.15 UJ	1.1 U	0.2 J	0.95 J	30SS06	3/6	0.49	0.33
Silver, Total	0.23 U	0.52 U	1	1	30SS01	1/6	1.00	1.00
Thallium, Total	0.1 UJ	0.12 UJ	ND	ND		0/2	NA	NA
Tin, Total	1.5 UJ	1.9 UJ	ND	ND		0/2	NA	NA
Vanadium, Total	NA	NA	43.1 J	65.8 J	30SS04	2/2	54.45	54.45
Zinc, Total	NA	NA	46.5 J	79.6 J	30SS03	2/2	63.05	63.05

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES (ug/kg)						
CHLOROMETHANE	12 U	11 U	12 U	11 U	11 U	12 U
BROMOMETHANE	12 U	11 U	12 U	11 U	11 U	12 U
VINYL CHLORIDE	12 U	11 U	12 U	11 U	11 U	12 U
CHLOROETHANE	12 U	11 U	12 U	11 U	11 U	12 U
METHYLENE CHLORIDE	16 U	15 U	6 U	6 U	14 U	11 U
ACETONE	12 U	11 U	12 U	10 J	11 U	16 U
CARBON DISULFIDE	6 U	6 U	6 U	6 U	6 U	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 U	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 U	6 U	6 U	6 U
CHLOROFORM	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
2-BUTANONE	12 U	11 U	12 U	11 U	11 U	12 U
1,1,1-TRICHLOROETHANE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
CARBON TETRACHLORIDE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
VINYL ACETATE	12 U	11 UJ	12 U	11 U	11 U	12 UJ
BROMODICHLOROMETHANE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
1,2-DICHLOROPROPANE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
CIS-1,3-DICHLOROPROPENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
TRICHLOROETHENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
DIBROMOCHLOROMETHANE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
1,1,2-TRICHLOROETHANE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
BENZENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
TRANS-1,3-DICHLOROPROPENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
BROMOFORM	6 U	6 UJ	6 U	6 U	6 U	6 UJ
4-METHYL-2-PENTANONE	12 U	11 UJ	12 U	11 U	11 U	12 UJ
2-HEXANONE	12 U	11 UJ	12 U	11 U	11 U	12 UJ
TETRACHLOROETHENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
1,1,2,2-TETRACHLOROETHANE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
TOLUENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
CHLOROBENZENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
ETHYLBENZENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
STYRENE	6 U	6 UJ	6 U	6 U	6 U	6 UJ
XYLENE (TOTAL)	3 J	3 J	6 U	6 U	1 J	6 UJ
ACROLEIN	12 U	11 U	600 U	560 U	11 U	12 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES cont. (ug/kg)						
ACRYLONITRILE	12 U	11 U	120 U	110 U	11 U	12 U
TRICHLOROFLUOROMETHANE	6 U	6 U	12 U	11 U	6 U	6 U
DICHLORODIFLUOROMETHANE	12 U	11 U	24 U	22 U	11 U	12 U
ACETONITRILE	24 U	22 U	120 U	110 U	22 U	24 U
IODOMETHANE	12 U	11 U	12 U	11 U	11 U	12 U
PROPIONITRILE (ETHYL CYANIDE)	60 U	55 U	60 R	56 R	55 U	60 U
3-CHLOROPROPENE	24 U	22 U	24 U	22 U	22 U	24 U
METHACRYLONITRILE	24 U	22 U	24 U	22 U	22 U	24 U
DIBROMOMETHANE	12 U	11 U	12 U	11 U	11 U	12 U
ISOBUTYL ALCOHOL	120 U	110 U	2400 R	2200 R	110 U	120 R
1,2-DIBROMOETHANE	24 U	22 U	24 U	22 U	22 U	24 U
1,1,1,2-TETRACHLOROETHANE	12 U	11 UJ	12 U	11 U	11 U	12 UJ
1,2,3-TRICHLOROPROPANE	12 U	11 U	12 U	11 U	11 U	12 U
TRANS-1,4-DICHLORO-2-BUTENE	120 U	110 U	24 U	22 U	110 U	120 U
1,2-DIBROMO-3-CHLOROPROPANE	24 U	22 U	24 U	22 U	22 U	24 U
2-CHLORO-1,3-BUTADIENE	120 U	110 U	120 U	110 U	110 U	120 U
METHYLMETHACRYLATE	NA	NA	24 U	22 U	NA	NA
ETHYLMETHACRYLATE	NA	NA	24 U	22 U	NA	NA
PENTACHLOROETHANE	NA	NA	24 U	22 U	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES (ug/kg)						
PHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
BIS(2-CHLOROETHYL)ETHER	400 U	370 U	400 U	360 U	1800 U	390 U
2-CHLOROPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
1,3-DICHLOROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
1,4-DICHLOROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
BENZYL ALCOHOL	400 U	370 U	400 U	360 U	1800 U	390 U
1,2-DICHLOROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
O-CRESOL	NA	NA	400 U	360 U	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	NA	NA	400 U	360 U	NA	NA
META & PARA-CRESOL	NA	NA	400 U	360 U	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U
HEXACHLOROETHANE	400 U	370 U	400 U	360 U	1800 U	390 U
NITROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
ISOPHORONE	400 U	370 U	400 U	360 U	1800 U	390 U
2-NITROPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
2,4-DIMETHYLPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
BENZOIC ACID	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
BIS(2-CHLOROETHOXY)METHANE	400 U	370 U	400 U	360 U	1800 U	390 U
2,4-DICHLOROPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
1,2,4-TRICHLOROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
NAPHTHALENE	400 U	370 U	400 U	360 U	1800 U	390 U
4-CHLOROANILINE	400 U	370 U	400 U	360 U	1800 U	390 U
HEXACHLOROBUTADIENE	400 U	370 U	400 U	360 U	1800 U	390 U
4-CHLORO-3-METHYLPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
2-METHYLNAPHTHALENE	400 U	370 U	400 U	360 U	1800 U	390 U
HEXACHLOROCYCLOPENTADIENE	400 U	370 U	400 U	360 U	1800 U	390 U
2,4,6-TRICHLOROPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
2,4,5-TRICHLOROPHENOL	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
2-CHLORONAPHTHALENE	400 U	370 U	400 U	360 U	1800 U	390 U
2-NITROANILINE	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
DIMETHYLPHTHALATE	400 U	370 U	400 U	360 U	1800 U	390 U
ACENAPHTHYLENE	400 U	370 U	400 U	360 U	1800 U	390 U
2,6-DINITROTOLUENE	400 U	370 U	400 U	360 U	1800 U	390 U
3-NITROANILINE	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
ACENAPHTHENE	400 U	370 U	400 U	360 U	1800 U	390 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
2,4-DINITROPHENOL	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
4-NITROPHENOL	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
DIBENZOFURAN	400 U	370 U	400 U	360 U	1800 U	390 U
2,4-DINITROTOLUENE	400 U	370 U	400 U	360 U	1800 U	390 U
DIETHYLPHTHALATE	400 U	370 U	400 U	360 U	1800 U	390 U
4-CHLOROPHENYL-PHENYLETHER	400 U	370 U	400 U	360 U	1800 U	390 U
FLUORENE	400 U	370 U	400 U	360 U	1800 U	390 U
4-NITROANILINE	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
4,6-DINITRO-2-METHYLPHENOL	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
N-NITROSODIPHENYLAMINE (1)	400 U	370 U	400 U	360 U	1800 U	390 U
4-BROMOPHENYL-PHENYLETHER	400 U	370 U	400 U	360 U	1800 U	390 U
HEXACHLOROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
PENTACHLOROPHENOL	2000 U	1900 U	2000 U	1800 U	9100 U	2000 U
PHENANTHRENE	400 U	370 U	400 U	360 U	1800 U	390 U
ANTHRACENE	400 U	370 U	400 U	360 U	1800 U	390 U
DI-N-BUTYLPHTHALATE	400 U	370 U	400 U	360 U	1800 U	390 U
FLUORANTHENE	400 U	370 U	400 U	360 U	1800 U	390 U
PYRENE	400 U	370 U	400 U	360 U	1800 U	390 U
BUTYLBENZYLPHTHALATE	400 U	370 U	400 U	360 U	1800 U	390 U
3,3'-DICHLOROBENZIDINE	810 U	750 U	790 U	730 U	3600 U	790 U
BENZO(A)ANTHRACENE	400 U	370 U	400 U	360 U	1800 U	390 U
CHRYSENE	400 U	370 U	400 U	360 U	1800 U	390 U
BIS(2-ETHYLHEXYL)PHTHALATE	400 U	370 U	400 U	360 U	1800 U	390 U
DI-N-OCTYL PHTHALATE	400 U	370 U	400 U	360 UJ	1800 U	390 U
BENZO(B)FLUORANTHENE	400 U	370 U	400 U	360 UJ	1800 U	390 U
BENZO(K)FLUORANTHENE	400 U	370 U	400 U	360 UJ	1800 U	390 U
BENZO(A)PYRENE	400 U	370 U	400 U	360 UJ	1800 U	390 U
INDENO(1,2,3-CD)PYRENE	400 U	370 U	400 U	360 UJ	1800 U	390 U
DIBENZO(A,H)ANTHRACENE	400 U	370 U	400 U	360 UJ	1800 U	390 U
BENZO(G,H,I)PERYLENE	400 U	370 U	400 U	360 UJ	1800 U	390 U
1,4-DIOXANE	400 U	370 U	1600 U	1500 U	1800 U	390 U
PYRIDINE	400 U	370 U	790 U	730 U	1800 U	390 U
N-NITROSODIMETHYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U
2-PICOLINE	400 U	370 U	400 U	360 U	1800 U	390 U
N-NITROSOMETHYLETHYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
METHYL METHANESULFONATE	400 U	370 U	400 U	360 U	1800 U	390 U
N-NITROSODIETHYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U
ETHYL METHANESULFONATE	400 U	370 U	400 U	360 U	1800 U	390 U
ANILINE	400 U	370 U	2000 U	1800 U	1800 U	390 U
N-NITROSOPYRROLIDINE	400 U	370 U	2000 U	1800 U	1800 U	390 U
ACETOPHENONE	400 U	370 U	400 U	360 U	1800 U	390 U
N-NITROSOMORPHOLINE	400 U	370 U	790 U	730 U	1800 U	390 U
O-TOLUIDINE	400 U	370 U	400 U	360 U	1800 U	390 U
N-NITROSOPIPERIDINE	2000 U	1900 U	400 U	360 U	9100 U	2000 U
A,A-DIMETHYLPHENETHYLAMINE	400 U	370 U	2000 U	1800 U	1800 U	390 U
2,6-DICHLOROPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
HEXACHLOROPROPENE	400 U	370 U	790 U	730 U	1800 U	390 U
P-PHENYLENEDIAMINE	400 U	370 U	790 U	730 U	1800 U	390 U
N-NITROSO-DI-N-BUTYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U
SAFROLE	400 U	370 U	400 U	360 U	1800 U	390 U
1,2,4,5-TETRACHLOROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
ISOSAFROLE	400 U	370 U	400 U	360 U	1800 U	390 U
1,4-NAPHTHOQUINONE	400 U	370 U	2000 U	1800 U	1800 U	390 U
1,3-DINITROBENZENE	400 U	370 U	790 U	730 U	1800 U	390 U
PENTACHLOROBENZENE	400 U	370 U	400 U	360 U	1800 U	390 U
1-NAPHTHYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U
2-NAPHTHYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U
2,3,4,6-TETRACHLOROPHENOL	400 U	370 U	400 U	360 U	1800 U	390 U
1,3,5-TRINITROBENZENE	400 U	370 U	4000 U	3600 U	1800 U	390 U
DIALLATE	400 U	370 U	400 U	360 U	1800 U	390 U
PHENACETIN	400 U	370 U	400 U	360 U	1800 U	390 U
DIPHENYLAMINE	400 U	370 U	400 U	360 U	1800 U	390 U
5-NITRO-O-TOLUIDINE	400 U	370 U	790 U	730 U	1800 U	390 U
4-AMINOBIPHENYL	400 U	370 U	400 U	360 U	1800 U	390 U
PRONAMIDE	400 U	370 U	400 U	360 U	1800 U	390 U
2-SEC-BUTYL-4,6-DINITROPHENOL	2000 U	1900 U	790 U	730 U	9100 U	2000 U
PENTACHLORONITROBENZENE	2000 U	1900 U	400 U	360 U	9100 r	2000 U
4-NITROQUINOLINE-1-OXIDE	810 U	750 U	2000 R	1800 U	3600 U	790 U
METHAPYRILENE	400 U	370 U	990 U	910 U	1800 U	390 U
ARAMITE	810 U	750 U	790 U	730 U	3600 U	790 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
CHLOROBENZILATE	400 U	370 U	400 U	360 U	1800 U	390 U
P-DIMETHYLAMINOAZOBENZENE	400 U	370 U	790 U	730 U	1800 U	390 U
3,3'-DIMETHYLBENZIDINE	400 U	370 U	790 R	730 R	1800 U	390 U
2-ACETYLAMINOFLUORENE	400 U	370 U	790 U	730 U	1800 U	390 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	400 U	370 U	790 U	730 UJ	1800 U	390 U
HEXACHLOROPHENE	3600 R	3400 R	4000 U	3600 U	16000 U	3500 r
3-METHYLCHOLANTHRENE	400 U	370 U	400 U	360 UJ	1800 U	390 U
CARBAZOLE	NA	NA	400 U	360 U	NA	NA
PENTACHLOROETHANE	400 U	370 U	NA	NA	1800 U	390 U
2-METHYLPHENOL	400 U	370 U	NA	NA	1800 U	390 U
BIS(2-CHLOROISOPROPYL)ETHER	400 U	370 U	NA	NA	1800 U	390 U
3- AND/OR 4-METHYLPHENOL	400 U	370 U	NA	NA	1800 U	390 U
METHYL METHACRYLATE	400 U	370 U	NA	NA	1800 U	390 U
ETHYL METHACRYLATE	400 U	370 U	NA	NA	1800 U	390 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	NA	NA	24 U	22 U	NA	NA
BETA-BHC	NA	NA	24 U	22 U	NA	NA
DELTA-BHC	NA	NA	24 U	22 U	NA	NA
GAMMA-BHC (LINDANE)	NA	NA	24 U	22 U	NA	NA
HEPTACHLOR	NA	NA	24 U	22 U	NA	NA
ALDRIN	NA	NA	24 U	22 U	NA	NA
HEPTACHLOR EPOXIDE	NA	NA	24 U	22 U	NA	NA
ENDOSULFAN I	NA	NA	24 U	22 U	NA	NA
DIELDRIN	NA	NA	48 U	44 U	NA	NA
4,4'-DDE	NA	NA	48 U	44 U	NA	NA
ENDRIN	NA	NA	48 U	44 U	NA	NA
ENDOSULFAN II	NA	NA	48 U	44 U	NA	NA
4,4'-DDD	NA	NA	48 U	44 U	NA	NA
ENDOSULFAN SULFATE	NA	NA	48 U	44 U	NA	NA
4,4'-DDT	NA	NA	48 U	44 U	NA	NA
METHOXYCHLOR	NA	NA	240 U	220 U	NA	NA
ENDRIN ALDEHYDE	NA	NA	48 U	44 U	NA	NA
ISODRIN	NA	NA	24 U	22 U	NA	NA
KEPONE	NA	NA	48 UJ	44 UJ	NA	NA
ALPHA-CHLORDANE	NA	NA	240 U	220 U	NA	NA
GAMMA-CHLORDANE	NA	NA	240 U	220 U	NA	NA
TOXAPHENE	NA	NA	480 U	440 U	NA	NA
AROCLOR-1016	NA	NA	240 U	220 U	NA	NA
AROCLOR-1221	NA	NA	240 U	220 U	NA	NA
AROCLOR-1232	NA	NA	240 U	220 U	NA	NA
AROCLOR-1242	NA	NA	240 U	220 U	NA	NA
AROCLOR-1248	NA	NA	240 U	220 U	NA	NA
AROCLOR-1254	NA	NA	480 U	440 U	NA	NA
AROCLOR-1260	NA	NA	200	250	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	30SS01	30SS02	30SS03	30SS04	30SS05	30SS06
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
ORTHO PESTICIDES (ug/kg)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	NA	NA	80 U	73 U	NA	NA
PHORATE	NA	NA	80 U	73 U	NA	NA
THIONAZIN	NA	NA	80 U	73 U	NA	NA
DISULFOTON	NA	NA	80 U	73 U	NA	NA
SULFOTEP	NA	NA	80 U	73 U	NA	NA
DIMETHOATE	NA	NA	80 U	73 U	NA	NA
METHYL PARATHION	NA	NA	80 U	73 U	NA	NA
PARATHION	NA	NA	80 U	73 U	NA	NA
FAMPHUR	NA	NA	80 U	73 U	NA	NA
HERBICIDES (ug/kg)						
2,4-D	NA	NA	400 U	360 U	NA	NA
2,4,5-TP (SILVEX)	NA	NA	80 U	72 U	NA	NA
2,4,5-T	NA	NA	80 U	72 U	NA	NA
DIOXIN (ug/kg)						
TCDD-2378	NA	NA	0.1 U	0.07 U	NA	NA
TOTAL TCDD	NA	NA	0.1 U	0.07 U	NA	NA
TOTAL PECDD	NA	NA	0.12 U	0.1 U	NA	NA
TOTAL HXCDD	NA	NA	0.17 U	0.11 U	NA	NA
TOTAL TCDF	NA	NA	0.05 U	0.05 U	NA	NA
TOTAL PECDF	NA	NA	0.08 U	0.07 U	NA	NA
TOTAL HXCDF	NA	NA	0.09 U	0.09 U	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	12 U	ND	ND		0/6	NA	NA
BROMOMETHANE	11 U	12 U	ND	ND		0/6	NA	NA
VINYL CHLORIDE	11 U	12 U	ND	ND		0/6	NA	NA
CHLOROETHANE	11 U	12 U	ND	ND		0/6	NA	NA
METHYLENE CHLORIDE	6 U	16 U	ND	ND		0/6	NA	NA
ACETONE	11 U	16 U	10 J	10 J	30SS04	1/6	10.00	10.00
CARBON DISULFIDE	6 U	6 U	ND	ND		0/6	NA	NA
1,1-DICHLOROETHENE	6 U	6 U	ND	ND		0/6	NA	NA
1,1-DICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	ND	ND		0/6	NA	NA
CHLOROFORM	6 U	6 U	ND	ND		0/6	NA	NA
1,2-DICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
2-BUTANONE	11 U	12 U	ND	ND		0/6	NA	NA
1,1,1-TRICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
CARBON TETRACHLORIDE	6 U	6 U	ND	ND		0/6	NA	NA
VINYL ACETATE	11 U	12 U	ND	ND		0/6	NA	NA
BROMODICHLOROMETHANE	6 U	6 U	ND	ND		0/6	NA	NA
1,2-DICHLOROPROPANE	6 U	6 U	ND	ND		0/6	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/6	NA	NA
TRICHLOROETHENE	6 U	6 U	ND	ND		0/6	NA	NA
DIBROMOCHLOROMETHANE	6 U	6 U	ND	ND		0/6	NA	NA
1,1,2-TRICHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
BENZENE	6 U	6 U	ND	ND		0/6	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/6	NA	NA
BROMOFORM	6 U	6 U	ND	ND		0/6	NA	NA
4-METHYL-2-PENTANONE	11 U	12 U	ND	ND		0/6	NA	NA
2-HEXANONE	11 U	12 U	ND	ND		0/6	NA	NA
TETRACHLOROETHENE	6 U	6 U	ND	ND		0/6	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	ND	ND		0/6	NA	NA
TOLUENE	6 U	6 U	ND	ND		0/6	NA	NA
CHLOROBENZENE	6 U	6 U	ND	ND		0/6	NA	NA
ETHYLBENZENE	6 U	6 U	ND	ND		0/6	NA	NA
STYRENE	6 U	6 U	ND	ND		0/6	NA	NA
XYLENE (TOTAL)	6 U	6 U	1 J	3 J	30SS02	3/6	2.33	3.00
ACROLEIN	11 U	600 U	ND	ND		0/6	NA	NA

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VOLATILES cont. (ug/kg)								
ACRYLONITRILE	11 U	120 U	ND	ND		0/6	NA	NA
TRICHLOROFLUOROMETHANE	6 U	12 U	ND	ND		0/6	NA	NA
DICHLORODIFLUOROMETHANE	11 U	24 U	ND	ND		0/6	NA	NA
ACETONITRILE	22 U	120 U	ND	ND		0/6	NA	NA
IODOMETHANE	11 U	12 U	ND	ND		0/6	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	55 U	60 U	ND	ND		0/4	NA	NA
3-CHLOROPROPENE	22 U	24 U	ND	ND		0/6	NA	NA
METHACRYLONITRILE	22 U	24 U	ND	ND		0/6	NA	NA
DIBROMOMETHANE	11 U	12 U	ND	ND		0/6	NA	NA
ISOBUTYL ALCOHOL	110 U	120 U	ND	ND		0/3	NA	NA
1,2-DIBROMOETHANE	22 U	24 U	ND	ND		0/6	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	12 U	ND	ND		0/6	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	12 U	ND	ND		0/6	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	22 U	120 U	ND	ND		0/6	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 U	24 U	ND	ND		0/6	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	120 U	ND	ND		0/6	NA	NA
METHYLMETHACRYLATE	22 U	24 U	ND	ND		0/2	NA	NA
ETHYLMETHACRYLATE	22 U	24 U	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	22 U	24 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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SEMIVOLATILES (ug/kg)								
PHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
BIS(2-CHLOROETHYL)ETHER	360 U	1800 U	ND	ND		0/6	NA	NA
2-CHLOROPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
1,3-DICHLOROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
1,4-DICHLOROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
BENZYL ALCOHOL	360 U	1800 U	ND	ND		0/6	NA	NA
1,2-DICHLOROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
O-CRESOL	360 U	400 U	ND	ND		0/2	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	360 U	400 U	ND	ND		0/2	NA	NA
META & PARA-CRESOL	360 U	400 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA
HEXACHLOROETHANE	360 U	1800 U	ND	ND		0/6	NA	NA
NITROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
ISOPHORONE	360 U	1800 U	ND	ND		0/6	NA	NA
2-NITROPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
2,4-DIMETHYLPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
BENZOIC ACID	1800 U	9100 U	ND	ND		0/6	NA	NA
BIS(2-CHLOROETHOXY)METHANE	360 U	1800 U	ND	ND		0/6	NA	NA
2,4-DICHLOROPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
1,2,4-TRICHLOROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
NAPHTHALENE	360 U	1800 U	ND	ND		0/6	NA	NA
4-CHLOROANILINE	360 U	1800 U	ND	ND		0/6	NA	NA
HEXACHLOROBUTADIENE	360 U	1800 U	ND	ND		0/6	NA	NA
4-CHLORO-3-METHYLPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
2-METHYLNAPHTHALENE	360 U	1800 U	ND	ND		0/6	NA	NA
HEXACHLOROCYCLOPENTADIENE	360 U	1800 U	ND	ND		0/6	NA	NA
2,4,6-TRICHLOROPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	9100 U	ND	ND		0/6	NA	NA
2-CHLORONAPHTHALENE	360 U	1800 U	ND	ND		0/6	NA	NA
2-NITROANILINE	1800 U	9100 U	ND	ND		0/6	NA	NA
DIMETHYLPHTHALATE	360 U	1800 U	ND	ND		0/6	NA	NA
ACENAPHTHYLENE	360 U	1800 U	ND	ND		0/6	NA	NA
2,6-DINITROTOLUENE	360 U	1800 U	ND	ND		0/6	NA	NA
3-NITROANILINE	1800 U	9100 U	ND	ND		0/6	NA	NA
ACENAPHTHENE	360 U	1800 U	ND	ND		0/6	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1800 U	9100 U	ND	ND		0/6	NA	NA
4-NITROPHENOL	1800 U	9100 U	ND	ND		0/6	NA	NA
DIBENZOFURAN	360 U	1800 U	ND	ND		0/6	NA	NA
2,4-DINITROTOLUENE	360 U	1800 U	ND	ND		0/6	NA	NA
DIETHYLPHTHALATE	360 U	1800 U	ND	ND		0/6	NA	NA
4-CHLOROPHENYL-PHENYLETHER	360 U	1800 U	ND	ND		0/6	NA	NA
FLUORENE	360 U	1800 U	ND	ND		0/6	NA	NA
4-NITROANILINE	1800 U	9100 U	ND	ND		0/6	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 U	9100 U	ND	ND		0/6	NA	NA
N-NITROSODIPHENYLAMINE (1)	360 U	1800 U	ND	ND		0/6	NA	NA
4-BROMOPHENYL-PHENYLETHER	360 U	1800 U	ND	ND		0/6	NA	NA
HEXACHLOROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
PENTACHLOROPHENOL	1800 U	9100 U	ND	ND		0/6	NA	NA
PHENANTHRENE	360 U	1800 U	ND	ND		0/6	NA	NA
ANTHRACENE	360 U	1800 U	ND	ND		0/6	NA	NA
DI-N-BUTYLPHTHALATE	360 U	1800 U	ND	ND		0/6	NA	NA
FLUORANTHENE	360 U	1800 U	ND	ND		0/6	NA	NA
PYRENE	360 U	1800 U	ND	ND		0/6	NA	NA
BUTYLBENZYLPHTHALATE	360 U	1800 U	ND	ND		0/6	NA	NA
3,3'-DICHLOROBENZIDINE	730 U	3600 U	ND	ND		0/6	NA	NA
BENZO(A)ANTHRACENE	360 U	1800 U	ND	ND		0/6	NA	NA
CHRYSENE	360 U	1800 U	ND	ND		0/6	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	360 U	1800 U	ND	ND		0/6	NA	NA
DI-N-OCTYL PHTHALATE	360 UJ	1800 U	ND	ND		0/6	NA	NA
BENZO(B)FLUORANTHENE	360 UJ	1800 U	ND	ND		0/6	NA	NA
BENZO(K)FLUORANTHENE	360 UJ	1800 U	ND	ND		0/6	NA	NA
BENZO(A)PYRENE	360 UJ	1800 U	ND	ND		0/6	NA	NA
INDENO(1,2,3-CD)PYRENE	360 UJ	1800 U	ND	ND		0/6	NA	NA
DIBENZO(A,H)ANTHRACENE	360 UJ	1800 U	ND	ND		0/6	NA	NA
BENZO(G,H,I)PERYLENE	360 UJ	1800 U	ND	ND		0/6	NA	NA
1,4-DIOXANE	370 U	1800 U	ND	ND		0/6	NA	NA
PYRIDINE	370 U	1800 U	ND	ND		0/6	NA	NA
N-NITROSODIMETHYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA
2-PICOLINE	360 U	1800 U	ND	ND		0/6	NA	NA
N-NITROSOMETHYLETHYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	360 U	1800 U	ND	ND		0/6	NA	NA
N-NITROSODIETHYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA
ETHYL METHANESULFONATE	360 U	1800 U	ND	ND		0/6	NA	NA
ANILINE	370 U	2000 U	ND	ND		0/6	NA	NA
N-NITROSOPYRROLIDINE	370 U	2000 U	ND	ND		0/6	NA	NA
ACETOPHENONE	360 U	1800 U	ND	ND		0/6	NA	NA
N-NITROSOMORPHOLINE	370 U	1800 U	ND	ND		0/6	NA	NA
O-TOLUIDINE	360 U	1800 U	ND	ND		0/6	NA	NA
N-NITROSOPIPERIDINE	360 U	9100 U	ND	ND		0/6	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	370 U	2000 U	ND	ND		0/6	NA	NA
2,6-DICHLOROPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
HEXACHLOROPROPENE	370 U	1800 U	ND	ND		0/6	NA	NA
P-PHENYLENEDIAMINE	370 U	1800 U	ND	ND		0/6	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA
SAFROLE	360 U	1800 U	ND	ND		0/6	NA	NA
1,2,4,5-TETRACHLOROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
ISOSAFROLE	360 U	1800 U	ND	ND		0/6	NA	NA
1,4-NAPHTHOQUINONE	370 U	2000 U	ND	ND		0/6	NA	NA
1,3-DINITROBENZENE	370 U	1800 U	ND	ND		0/6	NA	NA
PENTACHLOROBENZENE	360 U	1800 U	ND	ND		0/6	NA	NA
1-NAPHTHYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA
2-NAPHTHYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA
2,3,4,6-TETRACHLOROPHENOL	360 U	1800 U	ND	ND		0/6	NA	NA
1,3,5-TRINITROBENZENE	370 U	4000 U	ND	ND		0/6	NA	NA
DIALLATE	360 U	1800 U	ND	ND		0/6	NA	NA
PHENACETIN	360 U	1800 U	ND	ND		0/6	NA	NA
DIPHENYLAMINE	360 U	1800 U	ND	ND		0/6	NA	NA
5-NITRO-O-TOLUIDINE	370 U	1800 U	ND	ND		0/6	NA	NA
4-AMINOBIPHENYL	360 U	1800 U	ND	ND		0/6	NA	NA
PRONAMIDE	360 U	1800 U	ND	ND		0/6	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	730 U	9100 U	ND	ND		0/6	NA	NA
PENTACHLORONITROBENZENE	360 U	2000 U	ND	ND		0/5	NA	NA
4-NITROQUINOLINE-1-OXIDE	750 U	3600 U	ND	ND		0/5	NA	NA
METHAPYRILENE	370 U	1800 U	ND	ND		0/6	NA	NA
ARAMITE	730 U	3600 U	ND	ND		0/6	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	360 U	1800 U	ND	ND		0/6	NA	NA
P-DIMETHYLAMINOAZOBENZENE	370 U	1800 U	ND	ND		0/6	NA	NA
3,3'-DIMETHYLBENZIDINE	370 U	1800 U	ND	ND		0/4	NA	NA
2-ACETYLAMINOFLUORENE	370 U	1800 U	ND	ND		0/6	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	370 U	1800 U	ND	ND		0/6	NA	NA
HEXACHLOROPHENE	3600 U	16000 U	ND	ND		0/3	NA	NA
3-METHYLCHOLANTHRENE	360 UJ	1800 U	ND	ND		0/6	NA	NA
CARBAZOLE	360 U	400 U	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	370 U	1800 U	ND	ND		0/4	NA	NA
2-METHYLPHENOL	370 U	1800 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	370 U	1800 U	ND	ND		0/4	NA	NA
3- AND/OR 4-METHYLPHENOL	370 U	1800 U	ND	ND		0/4	NA	NA
METHYL METHACRYLATE	370 U	1800 U	ND	ND		0/4	NA	NA
ETHYL METHACRYLATE	370 U	1800 U	ND	ND		0/4	NA	NA

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PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	22 U	24 U	ND	ND		0/2	NA	NA
BETA-BHC	22 U	24 U	ND	ND		0/2	NA	NA
DELTA-BHC	22 U	24 U	ND	ND		0/2	NA	NA
GAMMA-BHC (LINDANE)	22 U	24 U	ND	ND		0/2	NA	NA
HEPTACHLOR	22 U	24 U	ND	ND		0/2	NA	NA
ALDRIN	22 U	24 U	ND	ND		0/2	NA	NA
HEPTACHLOR EPOXIDE	22 U	24 U	ND	ND		0/2	NA	NA
ENDOSULFAN I	22 U	24 U	ND	ND		0/2	NA	NA
DIELDRIN	44 U	48 U	ND	ND		0/2	NA	NA
4,4'-DDE	44 U	48 U	ND	ND		0/2	NA	NA
ENDRIN	44 U	48 U	ND	ND		0/2	NA	NA
ENDOSULFAN II	44 U	48 U	ND	ND		0/2	NA	NA
4,4'-DDD	44 U	48 U	ND	ND		0/2	NA	NA
ENDOSULFAN SULFATE	44 U	48 U	ND	ND		0/2	NA	NA
4,4'-DDT	44 U	48 U	ND	ND		0/2	NA	NA
METHOXYCHLOR	220 U	240 U	ND	ND		0/2	NA	NA
ENDRIN ALDEHYDE	44 U	48 U	ND	ND		0/2	NA	NA
ISODRIN	22 U	24 U	ND	ND		0/2	NA	NA
KEPONE	44 UJ	48 UJ	ND	ND		0/2	NA	NA
ALPHA-CHLORDANE	220 U	240 U	ND	ND		0/2	NA	NA
GAMMA-CHLORDANE	220 U	240 U	ND	ND		0/2	NA	NA
TOXAPHENE	440 U	480 U	ND	ND		0/2	NA	NA
AROCLOR-1016	220 U	240 U	ND	ND		0/2	NA	NA
AROCLOR-1221	220 U	240 U	ND	ND		0/2	NA	NA
AROCLOR-1232	220 U	240 U	ND	ND		0/2	NA	NA
AROCLOR-1242	220 U	240 U	ND	ND		0/2	NA	NA
AROCLOR-1248	220 U	240 U	ND	ND		0/2	NA	NA
AROCLOR-1254	440 U	480 U	ND	ND		0/2	NA	NA
AROCLOR-1260	NA	NA	200	250	30SS04	2/2	225.00	225.00

FREQUENCY OF DETECTION SUMMARY
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES (ug/kg)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	73 U	80 U	ND	ND		0/2	NA	NA
PHORATE	73 U	80 U	ND	ND		0/2	NA	NA
THIONAZIN	73 U	80 U	ND	ND		0/2	NA	NA
DISULFOTON	73 U	80 U	ND	ND		0/2	NA	NA
SULFOTEP	73 U	80 U	ND	ND		0/2	NA	NA
DIMETHOATE	73 U	80 U	ND	ND		0/2	NA	NA
METHYL PARATHION	73 U	80 U	ND	ND		0/2	NA	NA
PARATHION	73 U	80 U	ND	ND		0/2	NA	NA
FAMPHUR	73 U	80 U	ND	ND		0/2	NA	NA
HERBICIDES (ug/kg)								
2,4-D	360 U	400 U	ND	ND		0/2	NA	NA
2,4,5-TP (SILVEX)	72 U	80 U	ND	ND		0/2	NA	NA
2,4,5-T	72 U	80 U	ND	ND		0/2	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.07 U	0.1 U	ND	ND		0/2	NA	NA
TOTAL TCDD	0.07 U	0.1 U	ND	ND		0/2	NA	NA
TOTAL PECDD	0.1 U	0.12 U	ND	ND		0/2	NA	NA
TOTAL HXCDD	0.11 U	0.17 U	ND	ND		0/2	NA	NA
TOTAL TCDF	0.05 U	0.05 U	ND	ND		0/2	NA	NA
TOTAL PECDF	0.07 U	0.08 U	ND	ND		0/2	NA	NA
TOTAL HXCDF	0.09 U	0.09 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1		1983MW3	
SAMPLE DATE	10/31/95		10/31/95	
TOTAL METALS (UG/L)				
SILVER, TOTAL	3.2	U	3.2	U
ARSENIC, TOTAL	1.6	U	4.4	
BARIUM, TOTAL	51.2		173	
BERYLLIUM, TOTAL	0.3	U	0.3	U
CADMIUM, TOTAL	4.2	U	4.2	U
COBALT, TOTAL	2.5		5.9	
CHROMIUM, TOTAL	4.6	U	6.6	
COPPER, TOTAL	10		28.2	
MERCURY, TOTAL	0.23	J	0.1	U
NICKEL, TOTAL	3.7	U	4.2	
LEAD, TOTAL	0.8	UJ	1.5	J
ANTIMONY, TOTAL	16.2		31.5	
SELENIUM, TOTAL	1.5	UJ	1.5	UJ
TIN, TOTAL	11.3	U	11.3	U
THALLIUM, TOTAL	1.3	U	1.3	U
VANADIUM, TOTAL	17.8		208	
ZINC, TOTAL	72000		20.4	
SILVER, SOLUBLE	3.2	U	3.2	U
ARSENIC, SOLUBLE	1.6	U	3	
BARIUM, SOLUBLE	47.3		108	
BERYLLIUM, SOLUBLE	0.3	U	0.3	U
CADMIUM, SOLUBLE	4.2	U	4.2	U
COBALT, SOLUBLE	3.4		4.2	
CHROMIUM, SOLUBLE	4.6	U	4.6	U
COPPER, SOLUBLE	3.1		2.1	
MERCURY, SOLUBLE	0.18	J	0.1	U
NICKEL, SOLUBLE	3.7	U	3.7	U
LEAD, SOLUBLE	0.8	UJ	0.8	UJ
ANTIMONY, SOLUBLE	23.3		12.3	U
SELENIUM, SOLUBLE	1.5	UJ	1.5	UJ
TIN, SOLUBLE	11.3	U	11.3	U
THALLIUM, SOLUBLE	1.3	U	1.3	U
VANADIUM, SOLUBLE	16.9		177	
ZINC, SOLUBLE	27.6		4.4	

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTED
TOTAL METALS (UG/L)						
SILVER, TOTAL	3.2 U	3.2 U	ND	ND		0/2
ARSENIC, TOTAL	1.6 U	1.6 U	4.4	4.4	1983MW3	1/2
BARIUM, TOTAL	NA	NA	51.2	173	1983MW3	2/2
BERYLLIUM, TOTAL	0.3 U	0.3 U	ND	ND		0/2
CADMIUM, TOTAL	4.2 U	4.2 U	ND	ND		0/2
COBALT, TOTAL	NA	NA	2.5	5.9	1983MW3	2/2
CHROMIUM, TOTAL	4.6 U	4.6 U	6.6	6.6	1983MW3	1/2
COPPER, TOTAL	NA	NA	10	28.2	1983MW3	2/2
MERCURY, TOTAL	0.1 U	0.1 U	0.23 J	0.23 J	1983DW1	1/2
NICKEL, TOTAL	3.7 U	3.7 U	4.2	4.2	1983MW3	1/2
LEAD, TOTAL	0.8 UJ	0.8 UJ	1.5 J	1.5 J	1983MW3	1/2
ANTIMONY, TOTAL	NA	NA	16.2	31.5	1983MW3	2/2
SELENIUM, TOTAL	1.5 UJ	1.5 UJ	ND	ND		0/2
TIN, TOTAL	11.3 U	11.3 U	ND	ND		0/2
THALLIUM, TOTAL	1.3 U	1.3 U	ND	ND		0/2
VANADIUM, TOTAL	NA	NA	17.8	208	1983MW3	2/2
ZINC, TOTAL	NA	NA	20.4	72000	1983DW1	2/2
SILVER, SOLUBLE	3.2 U	3.2 U	ND	ND		0/2
ARSENIC, SOLUBLE	1.6 U	1.6 U	3	3	1983MW3	1/2
BARIUM, SOLUBLE	NA	NA	47.3	108	1983MW3	2/2
BERYLLIUM, SOLUBLE	0.3 U	0.3 U	ND	ND		0/2
CADMIUM, SOLUBLE	4.2 U	4.2 U	ND	ND		0/2
COBALT, SOLUBLE	NA	NA	3.4	4.2	1983MW3	2/2
CHROMIUM, SOLUBLE	4.6 U	4.6 U	ND	ND		0/2
COPPER, SOLUBLE	NA	NA	2.1	3.1	1983DW1	2/2
MERCURY, SOLUBLE	0.1 U	0.1 U	0.18 J	0.18 J	1983DW1	1/2
NICKEL, SOLUBLE	3.7 U	3.7 U	ND	ND		0/2
LEAD, SOLUBLE	0.8 UJ	0.8 UJ	ND	ND		0/2
ANTIMONY, SOLUBLE	12.3 U	12.3 U	23.3	23.3	1983DW1	1/2
SELENIUM, SOLUBLE	1.5 UJ	1.5 UJ	ND	ND		0/2
TIN, SOLUBLE	11.3 U	11.3 U	ND	ND		0/2
THALLIUM, SOLUBLE	1.3 U	1.3 U	ND	ND		0/2
VANADIUM, SOLUBLE	NA	NA	16.9	177	1983MW3	2/2
ZINC, SOLUBLE	NA	NA	4.4	27.6	1983DW1	2/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1		1983MW3	
SAMPLE DATE	10/31/95		10/31/95	
VOLATILES (ug/L)				
CHLOROMETHANE	10	U	10	U
BROMOMETHANE	10	U	10	U
VINYL CHLORIDE	10	U	10	U
CHLOROETHANE	10	U	10	U
METHYLENE CHLORIDE	5	U	5	U
ACETONE	10	U	10	U
CARBON DISULFIDE	5	U	5	U
1,1-DICHLOROETHENE	5	U	5	U
1,1-DICHLOROETHANE	5	U	5	U
1,2-DICHLOROETHENE (TOTAL)	5	U	5	U
CHLOROFORM	5	U	5	U
1,2-DICHLOROETHANE	5	U	5	U
2-BUTANONE	10	U	10	U
1,1,1-TRICHLOROETHANE	5	U	5	U
CARBON TETRACHLORIDE	5	R	5	R
VINYL ACETATE	10	U	10	U
BROMODICHLOROMETHANE	5	U	5	U
1,2-DICHLOROPROPANE	5	U	5	U
CIS-1,3-DICHLOROPROPENE	5	U	5	U
TRICHLOROETHENE	5	U	5	U
DIBROMOCHLOROMETHANE	5	U	5	U
1,1,2-TRICHLOROETHANE	5	U	5	U
BENZENE	5	U	5	U
TRANS-1,3-DICHLOROPROPENE	5	U	5	U
BROMOFORM	5	U	5	U
4-METHYL-2-PENTANONE	10	U	10	U
2-HEXANONE	10	U	10	U
TETRACHLOROETHENE	5	U	5	U
1,1,2,2-TETRACHLOROETHANE	5	U	5	U
TOLUENE	5	U	5	U
CHLOROBENZENE	5	U	5	U
ETHYLBENZENE	5	U	5	U
STYRENE	5	U	5	U
XYLENE (TOTAL)	5	U	5	U
ACROLEIN	500	U	500	U
ACRYLONITRILE	100	U	100	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1		1983MW3	
SAMPLE DATE	10/31/95		10/31/95	
VOLATILES cont. (ug/L)				
TRICHLOROFLUOROMETHANE	10	U	10	U
DICHLORODIFLUOROMETHANE	20	U	20	U
ACETONITRILE	100	U	100	U
IODOMETHANE	10	U	10	U
PROPIONITRILE (ETHYL CYANIDE)	50	R	50	R
3-CHLOROPROPENE	20	U	20	U
METHACRYLONITRILE	20	U	20	U
DIBROMOMETHANE	10	U	10	U
ISOBUTYL ALCOHOL	2000	U	2000	U
1,2-DIBROMOETHANE	20	U	20	U
1,1,1,2-TETRACHLOROETHANE	10	U	10	U
1,2,3-TRICHLOROPROPANE	10	U	10	U
TRANS-1,4-DICHLORO-2-BUTENE	20	U	20	U
1,2-DIBROMO-3-CHLOROPROPANE	20	U	20	U
2-CHLORO-1,3-BUTADIENE	100	U	100	U
METHYLMETHACRYLATE	20	U	20	U
ETHYLMETHACRYLATE	20	U	20	U
PENTACHLOROETHANE	20	U	20	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1	1983MW3
SAMPLE DATE	10/31/95	10/31/95
SEMIVOLATILES (ug/L)		
PHENOL	10 U	10 U
BIS(2-CHLOROETHYL)ETHER	10 U	10 U
2-CHLOROPHENOL	10 U	10 U
1,3-DICHLOROBENZENE	10 U	10 U
1,4-DICHLOROBENZENE	10 U	10 U
BENZYL ALCOHOL	10 U	10 U
1,2-DICHLOROBENZENE	10 U	10 U
O-CRESOL	10 U	10 U
2,2'-OXYBIS(1-CHLOROPROPANE)	10 U	10 U
META & PARA-CRESOL	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U
HEXACHLOROETHANE	10 U	10 U
NITROBENZENE	10 U	10 U
ISOPHORONE	10 U	10 U
2-NITROPHENOL	10 U	10 U
2,4-DIMETHYLPHENOL	10 U	10 U
BENZOIC ACID	50 U	50 U
BIS(2-CHLOROETHOXY)METHANE	10 U	10 U
2,4-DICHLOROPHENOL	10 U	10 U
1,2,4-TRICHLOROBENZENE	10 U	10 U
NAPHTHALENE	10 U	10 U
4-CHLOROANILINE	10 U	10 U
HEXACHLOROBUTADIENE	10 U	10 U
4-CHLORO-3-METHYLPHENOL	10 U	10 U
2-METHYLNAPHTHALENE	10 U	10 U
HEXACHLOROCYCLOPENTADIENE	10 U	10 U
2,4,6-TRICHLOROPHENOL	10 U	10 U
2,4,5-TRICHLOROPHENOL	50 U	50 U
2-CHLORONAPHTHALENE	10 U	10 U
2-NITROANILINE	50 U	50 U
DIMETHYLPHTHALATE	10 U	10 U
ACENAPHTHYLENE	10 U	10 U
2,6-DINITROTOLUENE	10 U	10 U
3-NITROANILINE	50 U	50 U
ACENAPHTHENE	10 U	10 U
2,4-DINITROPHENOL	50 U	50 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1	1983MW3
SAMPLE DATE	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/L)		
4-NITROPHENOL	50 U	50 U
DIBENZOFURAN	10 U	10 U
2,4-DINITROTOLUENE	10 U	10 U
DIETHYLPHTHALATE	10 U	10 U
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U
FLUORENE	10 U	10 U
4-NITROANILINE	50 U	50 U
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U
N-NITROSODIPHENYLAMINE (1)	10 U	10 U
4-BROMOPHENYL-PHENYLETHER	10 U	10 U
HEXACHLOROBENZENE	10 U	10 U
PENTACHLOROPHENOL	50 U	50 U
PHENANTHRENE	10 U	10 U
ANTHRACENE	10 U	10 U
DI-N-BUTYLPHTHALATE	10 U	10 U
FLUORANTHENE	10 U	10 U
PYRENE	10 U	10 U
BUTYLBENZYLPHTHALATE	10 U	10 U
3,3'-DICHLOROBENZIDINE	20 R	20 R
BENZO(A)ANTHRACENE	10 U	10 U
CHRYSENE	10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	10 U	2 U
DI-N-OCTYL PHTHALATE	10 U	10 U
BENZO(B)FLUORANTHENE	10 U	10 U
BENZO(K)FLUORANTHENE	10 U	10 U
BENZO(A)PYRENE	10 U	10 U
INDENO(1,2,3-CD)PYRENE	10 U	10 U
DIBENZO(A,H)ANTHRACENE	10 U	10 U
BENZO(G,H,I)PERYLENE	10 U	10 U
1,4-DIOXANE	20 U	20 U
PYRIDINE	20 U	20 U
N-NITROSODIMETHYLAMINE	10 U	10 U
2-PICOLINE	10 U	10 U
N-NITROSOMETHYLETHYLAMINE	10 U	10 U
METHYL METHANESULFONATE	10 U	10 U
N-NITROSODIETHYLAMINE	10 U	10 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1	1983MW3
SAMPLE DATE	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/L)		
ETHYL METHANESULFONATE	10 U	10 U
ANILINE	50 U	50 U
N-NITROSOPYRROLIDINE	50 U	50 U
ACETOPHENONE	10 U	10 U
N-NITROSOMORPHOLINE	20 U	20 U
O-TOLUIDINE	10 U	10 U
N-NITROSOPIPERIDINE	10 U	10 U
A,A-DIMETHYLPHENETHYLAMINE	50 U	50 U
2,6-DICHLOROPHENOL	10 U	10 U
HEXACHLOROPROPENE	20 U	20 U
P-PHENYLENEDIAMINE	20 U	20 U
N-NITROSO-DI-N-BUTYLAMINE	10 U	10 U
SAFROLE	10 U	10 U
1,2,4,5-TETRACHLOROBENZENE	10 U	10 U
ISOSAFROLE	10 U	10 U
1,4-NAPHTHOQUINONE	50 U	50 U
1,3-DINITROBENZENE	20 U	20 U
PENTACHLOROBENZENE	10 U	10 U
1-NAPHTHYLAMINE	10 U	10 U
2-NAPHTHYLAMINE	10 U	10 U
2,3,4,6-TETRACHLOROPHENOL	10 U	10 U
1,3,5-TRINITROBENZENE	100 U	100 U
DIALLATE	10 U	10 U
PHENACETIN	10 U	10 U
DIPHENYLAMINE	10 U	10 U
5-NITRO-O-TOLUIDINE	20 U	20 U
4-AMINOBIPHENYL	10 U	10 U
PRONAMIDE	10 U	10 U
2-SEC-BUTYL-4,6-DINITROPHENOL	20 U	20 U
PENTACHLORONITROBENZENE	10 U	10 U
4-NITROQUINOLINE-1-OXIDE	50 U	50 U
METHAPYRILENE	25 U	25 U
ARAMITE	20 U	20 U
CHLOROBENZILATE	10 U	10 U
P-DIMETHYLAMINOAZOBENZENE	20 U	20 U
3,3'-DIMETHYLBENZIDINE	20 U	20 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1		1983MW3	
SAMPLE DATE	10/31/95		10/31/95	
SEMIVOLATILES cont. (ug/L)				
2-ACETYLAMINOFLUORENE	20	U	20	U
7,12-DIMETHYLBENZ(A)ANTHRACENE	20	U	20	U
HEXACHLOROPHENE	100	R	100	R
3-METHYLCHOLANTHRENE	10	U	10	U
CARBAZOLE	10	U	10	U
HERBICIDES (ug/L)				
2,4-D	1.1	U	NA	
2,4,5-TP (SILVEX)	0.22	U	NA	
2,4,5-T	0.22	U	NA	
PESTICIDE/PCBS (ug/L)				
ALPHA-BHC	0.05	U	0.05	U
BETA-BHC	0.05	U	0.05	U
DELTA-BHC	0.05	U	0.05	U
GAMMA-BHC (LINDANE)	0.05	U	0.05	U
HEPTACHLOR	0.05	U	0.05	U
ALDRIN	0.05	U	0.05	U
HEPTACHLOR EPOXIDE	0.05	U	0.05	U
ENDOSULFAN I	0.05	U	0.05	U
DIELDRIN	0.1	U	0.1	U
4,4'-DDE	0.1	U	0.1	U
ENDRIN	0.1	U	0.1	U
ENDOSULFAN II	0.1	U	0.1	U
4,4'-DDD	0.1	U	0.1	U
ENDOSULFAN SULFATE	0.1	U	0.1	U
4,4'-DDT	0.1	U	0.1	U
METHOXYCHLOR	0.5	U	0.5	U
ENDRIN ALDEHYDE	0.1	U	0.1	U
ISODRIN	0.05	UJ	0.05	UJ
KEPONE	0.1	UJ	0.1	UJ
ALPHA-CHLORDANE	0.5	U	0.5	U
GAMMA-CHLORDANE	0.5	U	0.5	U
TOXAPHENE	1	U	1	U
AROCLOR-1016	0.5	U	0.5	U
AROCLOR-1221	0.5	U	0.5	U
AROCLOR-1232	0.5	U	0.5	U
AROCLOR-1242	0.5	U	0.5	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1983DW1	1983MW3
SAMPLE DATE	10/31/95	10/31/95
PESTICIDE cont. (ug/L)		
AROCLOR-1248	0.5 U	0.5 U
AROCLOR-1254	1 U	1 U
AROCLOR-1260	1 U	1 U
ORTHO PESTICIDES (ug/L)		
O,O,O-TRIETHYL PHOSPHOROTHIOA	2 U	1.8 U
PHORATE	2 U	1.8 U
THIONAZIN	2 U	1.8 U
DISULFOTON	2 U	1.8 U
SULFOTEP	2 U	1.8 U
DIMETHOATE	2 U	1.8 U
METHYL PARATHION	2 U	1.8 U
PARATHION	2 U	1.8 U
FAMPHUR	2 U	1.8 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION
VOLATILES (ug/L)						
CHLOROMETHANE	10 U	10 U	ND	ND		0/2
BROMOMETHANE	10 U	10 U	ND	ND		0/2
VINYL CHLORIDE	10 U	10 U	ND	ND		0/2
CHLOROETHANE	10 U	10 U	ND	ND		0/2
METHYLENE CHLORIDE	5 U	5 U	ND	ND		0/2
ACETONE	10 U	10 U	ND	ND		0/2
CARBON DISULFIDE	5 U	5 U	ND	ND		0/2
1,1-DICHLOROETHENE	5 U	5 U	ND	ND		0/2
1,1-DICHLOROETHANE	5 U	5 U	ND	ND		0/2
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	ND	ND		0/2
CHLOROFORM	5 U	5 U	ND	ND		0/2
1,2-DICHLOROETHANE	5 U	5 U	ND	ND		0/2
2-BUTANONE	10 U	10 U	ND	ND		0/2
1,1,1-TRICHLOROETHANE	5 U	5 U	ND	ND		0/2
CARBON TETRACHLORIDE	NA	NA	ND	ND		0/0
VINYL ACETATE	10 U	10 U	ND	ND		0/2
BROMODICHLOROMETHANE	5 U	5 U	ND	ND		0/2
1,2-DICHLOROPROPANE	5 U	5 U	ND	ND		0/2
CIS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/2
TRICHLOROETHENE	5 U	5 U	ND	ND		0/2
DIBROMOCHLOROMETHANE	5 U	5 U	ND	ND		0/2
1,1,2-TRICHLOROETHANE	5 U	5 U	ND	ND		0/2
BENZENE	5 U	5 U	ND	ND		0/2
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/2
BROMOFORM	5 U	5 U	ND	ND		0/2
4-METHYL-2-PENTANONE	10 U	10 U	ND	ND		0/2
2-HEXANONE	10 U	10 U	ND	ND		0/2
TETRACHLOROETHENE	5 U	5 U	ND	ND		0/2
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	ND	ND		0/2
TOLUENE	5 U	5 U	ND	ND		0/2
CHLOROBENZENE	5 U	5 U	ND	ND		0/2
ETHYLBENZENE	5 U	5 U	ND	ND		0/2
STYRENE	5 U	5 U	ND	ND		0/2
XYLENE (TOTAL)	5 U	5 U	ND	ND		0/2
ACROLEIN	500 U	500 U	ND	ND		0/2
ACRYLONITRILE	100 U	100 U	ND	ND		0/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION
VOLATILES cont. (ug/L)						
TRICHLOROFLUOROMETHANE	10 U	10 U	ND	ND		0/2
DICHLORODIFLUOROMETHANE	20 U	20 U	ND	ND		0/2
ACETONITRILE	100 U	100 U	ND	ND		0/2
IODOMETHANE	10 U	10 U	ND	ND		0/2
PROPIONITRILE (ETHYL CYANIDE)	NA	NA	ND	ND		0/0
3-CHLOROPROPENE	20 U	20 U	ND	ND		0/2
METHACRYLONITRILE	20 U	20 U	ND	ND		0/2
DIBROMOMETHANE	10 U	10 U	ND	ND		0/2
ISOBUTYL ALCOHOL	2000 U	2000 U	ND	ND		0/2
1,2-DIBROMOETHANE	20 U	20 U	ND	ND		0/2
1,1,1,2-TETRACHLOROETHANE	10 U	10 U	ND	ND		0/2
1,2,3-TRICHLOROPROPANE	10 U	10 U	ND	ND		0/2
TRANS-1,4-DICHLORO-2-BUTENE	20 U	20 U	ND	ND		0/2
1,2-DIBROMO-3-CHLOROPROPANE	20 U	20 U	ND	ND		0/2
2-CHLORO-1,3-BUTADIENE	100 U	100 U	ND	ND		0/2
METHYLMETHACRYLATE	20 U	20 U	ND	ND		0/2
ETHYLMETHACRYLATE	20 U	20 U	ND	ND		0/2
PENTACHLOROETHANE	20 U	20 U	ND	ND		0/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION
SEMIVOLATILES (ug/L)						
PHENOL	10 U	10 U	ND	ND		0/2
BIS(2-CHLOROETHYL)ETHER	10 U	10 U	ND	ND		0/2
2-CHLOROPHENOL	10 U	10 U	ND	ND		0/2
1,3-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2
1,4-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2
BENZYL ALCOHOL	10 U	10 U	ND	ND		0/2
1,2-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2
O-CRESOL	10 U	10 U	ND	ND		0/2
2,2'-OXYBIS(1-CHLOROPROPANE)	10 U	10 U	ND	ND		0/2
META & PARA-CRESOL	10 U	10 U	ND	ND		0/2
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U	ND	ND		0/2
HEXACHLOROETHANE	10 U	10 U	ND	ND		0/2
NITROBENZENE	10 U	10 U	ND	ND		0/2
ISOPHORONE	10 U	10 U	ND	ND		0/2
2-NITROPHENOL	10 U	10 U	ND	ND		0/2
2,4-DIMETHYLPHENOL	10 U	10 U	ND	ND		0/2
BENZOIC ACID	50 U	50 U	ND	ND		0/2
BIS(2-CHLOROETHOXY)METHANE	10 U	10 U	ND	ND		0/2
2,4-DICHLOROPHENOL	10 U	10 U	ND	ND		0/2
1,2,4-TRICHLOROBENZENE	10 U	10 U	ND	ND		0/2
NAPHTHALENE	10 U	10 U	ND	ND		0/2
4-CHLOROANILINE	10 U	10 U	ND	ND		0/2
HEXACHLOROBUTADIENE	10 U	10 U	ND	ND		0/2
4-CHLORO-3-METHYLPHENOL	10 U	10 U	ND	ND		0/2
2-METHYLNAPHTHALENE	10 U	10 U	ND	ND		0/2
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	ND	ND		0/2
2,4,6-TRICHLOROPHENOL	10 U	10 U	ND	ND		0/2
2,4,5-TRICHLOROPHENOL	50 U	50 U	ND	ND		0/2
2-CHLORONAPHTHALENE	10 U	10 U	ND	ND		0/2
2-NITROANILINE	50 U	50 U	ND	ND		0/2
DIMETHYLPHTHALATE	10 U	10 U	ND	ND		0/2
ACENAPHTHYLENE	10 U	10 U	ND	ND		0/2
2,6-DINITROTOLUENE	10 U	10 U	ND	ND		0/2
3-NITROANILINE	50 U	50 U	ND	ND		0/2
ACENAPHTHENE	10 U	10 U	ND	ND		0/2
2,4-DINITROPHENOL	50 U	50 U	ND	ND		0/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION
SEMIVOLATILES cont. (ug/L)						
4-NITROPHENOL	50 U	50 U	ND	ND		0/2
DIBENZOFURAN	10 U	10 U	ND	ND		0/2
2,4-DINITROTOLUENE	10 U	10 U	ND	ND		0/2
DIETHYLPHTHALATE	10 U	10 U	ND	ND		0/2
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/2
FLUORENE	10 U	10 U	ND	ND		0/2
4-NITROANILINE	50 U	50 U	ND	ND		0/2
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U	ND	ND		0/2
N-NITROSODIPHENYLAMINE (1)	10 U	10 U	ND	ND		0/2
4-BROMOPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/2
HEXACHLOROBENZENE	10 U	10 U	ND	ND		0/2
PENTACHLOROPHENOL	50 U	50 U	ND	ND		0/2
PHENANTHRENE	10 U	10 U	ND	ND		0/2
ANTHRACENE	10 U	10 U	ND	ND		0/2
DI-N-BUTYLPHTHALATE	10 U	10 U	ND	ND		0/2
FLUORANTHENE	10 U	10 U	ND	ND		0/2
PYRENE	10 U	10 U	ND	ND		0/2
BUTYLBENZYLPHTHALATE	10 U	10 U	ND	ND		0/2
3,3'-DICHLOROBENZIDINE	NA	NA	ND	ND		0/0
BENZO(A)ANTHRACENE	10 U	10 U	ND	ND		0/2
CHRYSENE	10 U	10 U	ND	ND		0/2
BIS(2-ETHYLHEXYL)PHTHALATE	2 U	10 U	ND	ND		0/2
DI-N-OCTYL PHTHALATE	10 U	10 U	ND	ND		0/2
BENZO(B)FLUORANTHENE	10 U	10 U	ND	ND		0/2
BENZO(K)FLUORANTHENE	10 U	10 U	ND	ND		0/2
BENZO(A)PYRENE	10 U	10 U	ND	ND		0/2
INDENO(1,2,3-CD)PYRENE	10 U	10 U	ND	ND		0/2
DIBENZO(A,H)ANTHRACENE	10 U	10 U	ND	ND		0/2
BENZO(G,H,I)PERYLENE	10 U	10 U	ND	ND		0/2
1,4-DIOXANE	20 U	20 U	ND	ND		0/2
PYRIDINE	20 U	20 U	ND	ND		0/2
N-NITROSODIMETHYLAMINE	10 U	10 U	ND	ND		0/2
2-PICOLINE	10 U	10 U	ND	ND		0/2
N-NITROSOMETHYLETHYLAMINE	10 U	10 U	ND	ND		0/2
METHYL METHANESULFONATE	10 U	10 U	ND	ND		0/2
N-NITROSODIETHYLAMINE	10 U	10 U	ND	ND		0/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION
SEMIVOLATILES cont. (ug/L)						
ETHYL METHANESULFONATE	10 U	10 U	ND	ND		0/2
ANILINE	50 U	50 U	ND	ND		0/2
N-NITROSOPYRROLIDINE	50 U	50 U	ND	ND		0/2
ACETOPHENONE	10 U	10 U	ND	ND		0/2
N-NITROSOMORPHOLINE	20 U	20 U	ND	ND		0/2
O-TOLUIDINE	10 U	10 U	ND	ND		0/2
N-NITROSOPIPERIDINE	10 U	10 U	ND	ND		0/2
A,A-DIMETHYLPHENETHYLAMINE	50 U	50 U	ND	ND		0/2
2,6-DICHLOROPHENOL	10 U	10 U	ND	ND		0/2
HEXACHLOROPROPENE	20 U	20 U	ND	ND		0/2
P-PHENYLENEDIAMINE	20 U	20 U	ND	ND		0/2
N-NITROSO-DI-N-BUTYLAMINE	10 U	10 U	ND	ND		0/2
SAFROLE	10 U	10 U	ND	ND		0/2
1,2,4,5-TETRACHLOROBENZENE	10 U	10 U	ND	ND		0/2
ISOSAFROLE	10 U	10 U	ND	ND		0/2
1,4-NAPHTHOQUINONE	50 U	50 U	ND	ND		0/2
1,3-DINITROBENZENE	20 U	20 U	ND	ND		0/2
PENTACHLOROBENZENE	10 U	10 U	ND	ND		0/2
1-NAPHTHYLAMINE	10 U	10 U	ND	ND		0/2
2-NAPHTHYLAMINE	10 U	10 U	ND	ND		0/2
2,3,4,6-TETRACHLOROPHENOL	10 U	10 U	ND	ND		0/2
1,3,5-TRINITROBENZENE	100 U	100 U	ND	ND		0/2
DIALLATE	10 U	10 U	ND	ND		0/2
PHENACETIN	10 U	10 U	ND	ND		0/2
DIPHENYLAMINE	10 U	10 U	ND	ND		0/2
5-NITRO-O-TOLUIDINE	20 U	20 U	ND	ND		0/2
4-AMINOBIPHENYL	10 U	10 U	ND	ND		0/2
PRONAMIDE	10 U	10 U	ND	ND		0/2
2-SEC-BUTYL-4,6-DINITROPHENOL	20 U	20 U	ND	ND		0/2
PENTACHLORONITROBENZENE	10 U	10 U	ND	ND		0/2
4-NITROQUINOLINE-1-OXIDE	50 U	50 U	ND	ND		0/2
METHAPYRILENE	25 U	25 U	ND	ND		0/2
ARAMITE	20 U	20 U	ND	ND		0/2
CHLOROBENZILATE	10 U	10 U	ND	ND		0/2
P-DIMETHYLAMINOAZOBENZENE	20 U	20 U	ND	ND		0/2
3,3'-DIMETHYLBENZIDINE	20 U	20 U	ND	ND		0/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION
SEMIVOLATILES cont. (ug/L)						
2-ACETYLAMINOFLUORENE	20 U	20 U	ND	ND		0/2
7,12-DIMETHYLBENZ(A)ANTHRACENE	20 U	20 U	ND	ND		0/2
HEXACHLOROPHENE	NA	NA	ND	ND		0/0
3-METHYLCHOLANTHRENE	10 U	10 U	ND	ND		0/2
CARBAZOLE	10 U	10 U	ND	ND		0/2
HERBICIDES (ug/L)						
2,4-D	1.1 U	1.1 U	ND	ND		0/1
2,4,5-TP (SILVEX)	0.22 U	0.22 U	ND	ND		0/1
2,4,5-T	0.22 U	0.22 U	ND	ND		0/1
PESTICIDE/PCBS (ug/L)						
ALPHA-BHC	0.05 U	0.05 U	ND	ND		0/2
BETA-BHC	0.05 U	0.05 U	ND	ND		0/2
DELTA-BHC	0.05 U	0.05 U	ND	ND		0/2
GAMMA-BHC (LINDANE)	0.05 U	0.05 U	ND	ND		0/2
HEPTACHLOR	0.05 U	0.05 U	ND	ND		0/2
ALDRIN	0.05 U	0.05 U	ND	ND		0/2
HEPTACHLOR EPOXIDE	0.05 U	0.05 U	ND	ND		0/2
ENDOSULFAN I	0.05 U	0.05 U	ND	ND		0/2
DIELDRIN	0.1 U	0.1 U	ND	ND		0/2
4,4'-DDE	0.1 U	0.1 U	ND	ND		0/2
ENDRIN	0.1 U	0.1 U	ND	ND		0/2
ENDOSULFAN II	0.1 U	0.1 U	ND	ND		0/2
4,4'-DDD	0.1 U	0.1 U	ND	ND		0/2
ENDOSULFAN SULFATE	0.1 U	0.1 U	ND	ND		0/2
4,4'-DDT	0.1 U	0.1 U	ND	ND		0/2
METHOXYCHLOR	0.5 U	0.5 U	ND	ND		0/2
ENDRIN ALDEHYDE	0.1 U	0.1 U	ND	ND		0/2
ISODRIN	0.05 UJ	0.05 UJ	ND	ND		0/2
KEPONE	0.1 UJ	0.1 UJ	ND	ND		0/2
ALPHA-CHLORDANE	0.5 U	0.5 U	ND	ND		0/2
GAMMA-CHLORDANE	0.5 U	0.5 U	ND	ND		0/2
TOXAPHENE	1 U	1 U	ND	ND		0/2
AROCLOR-1016	0.5 U	0.5 U	ND	ND		0/2
AROCLOR-1221	0.5 U	0.5 U	ND	ND		0/2
AROCLOR-1232	0.5 U	0.5 U	ND	ND		0/2
AROCLOR-1242	0.5 U	0.5 U	ND	ND		0/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 30 GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION
PESTICIDE cont. (ug/L)						
AROCLOR-1248	0.5 U	0.5 U	ND	ND		0/2
AROCLOR-1254	1 U	1 U	ND	ND		0/2
AROCLOR-1260	1 U	1 U	ND	ND		0/2
ORTHO PESTICIDES (ug/L)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	1.8 U	2 U	ND	ND		0/2
PHORATE	1.8 U	2 U	ND	ND		0/2
THIONAZIN	1.8 U	2 U	ND	ND		0/2
DISULFOTON	1.8 U	2 U	ND	ND		0/2
SULFOTEP	1.8 U	2 U	ND	ND		0/2
DIMETHOATE	1.8 U	2 U	ND	ND		0/2
METHYL PARATHION	1.8 U	2 U	ND	ND		0/2
PARATHION	1.8 U	2 U	ND	ND		0/2
FAMPHUR	1.8 U	2 U	ND	ND		0/2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
TOC (mg/kg)				
Diesel Range Organics	4.6 U	140	230 J	8.6 U
TPH (mg/kg)				
Gasoline	0.048 U	1.5 J	0.04 U	0.12 J
WET CHEMISTRY (mg/kg)				
Cyanide, Total	0.55 U	0.43 U	NA	0.47 U
Sulfide	26.7 UJ	40.8 J	NA	26.8 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
NALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOC (mg/kg)								
Diesel Range Organics	4.6 U	8.6 U	140	230 J	31SS03	2/4	185.00	185.00
TPH (mg/kg)								
Gasoline	0.04 U	0.048 U	0.12 J	1.5 J	31SS02	2/4	0.81	0.81
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.43 U	0.55 U	ND	ND		0/3	NA	NA
Sulfide	26.7 UJ	26.8 UJ	40.8 J	40.8 J	31SS02	1/3	40.80	40.80

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01		31SS02		31SS04	
SAMPLE DATE	10/31/95		10/31/95		10/31/95	
TOTAL METALS (mg/kg)						
Antimony, Total	2.6	UJ	2.5	UJ	1.7	UJ
Arsenic, Total	0.16	UJ	0.52	J	1.3	J
Barium, Total	63.3		46.6		110	
Beryllium, Total	0.11	U	0.1	U	0.073	U
Cadmium, Total	0.47	U	0.44	U	0.42	J
Chromium, Total	25.8		15.8		13.6	
Cobalt, Total	27.6		10		14.5	
Copper, Total	101		76.8		162	
Lead, Total	2.2		31.4	J	55.4	J
Mercury, Total	0.053	U	0.053	U	0.06	U
Nickel, Total	20.4		26		7.9	
Selenium, Total	0.21	J	0.14	UJ	0.12	UJ
Silver, Total	0.54		0.33	U	0.23	U
Thallium, Total	0.13	UJ	0.12	UJ	0.11	UJ
Tin, Total	2	U	1.9	U	1.3	U
Vanadium, Total	206		68.6		81.8	
Zinc, Total	78		56.7		50	

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Antimony, Total	1.7 UJ	2.6 UJ	ND	ND		0/3	NA	NA
Arsenic, Total	0.16 UJ	0.16 UJ	0.52 J	1.3 J	31SS04	2/3	0.91	0.91
Barium, Total	NA	NA	46.6	110	31SS04	3/3	73.30	63.30
Beryllium, Total	0.073 U	0.11 U	ND	ND		0/3	NA	NA
Cadmium, Total	0.44 U	0.47 U	0.42 J	0.42 J	31SS04	1/3	0.42	0.42
Chromium, Total	NA	NA	13.6	25.8	31SS01	3/3	18.40	15.80
Cobalt, Total	NA	NA	10	27.6	31SS01	3/3	17.37	14.50
Copper, Total	NA	NA	76.8	162	31SS04	3/3	113.27	101.00
Lead, Total	NA	NA	2.2	55.4 J	31SS04	3/3	29.67	31.40
Mercury, Total	0.053 U	0.06 U	ND	ND		0/3	NA	NA
Nickel, Total	NA	NA	7.9	26	31SS02	3/3	18.10	20.40
Selenium, Total	0.12 UJ	0.14 UJ	0.21 J	0.21 J	31SS01	1/3	0.21	0.21
Silver, Total	0.23 U	0.33 U	0.54	0.54	31SS01	1/3	0.54	0.54
Thallium, Total	0.11 UJ	0.13 UJ	ND	ND		0/3	NA	NA
Tin, Total	1.3 U	2 U	ND	ND		0/3	NA	NA
Vanadium, Total	NA	NA	68.6	206	31SS01	3/3	118.80	81.80
Zinc, Total	NA	NA	50	78	31SS01	3/3	61.57	56.70

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
VOLATILES (ug/kg)				
CHLOROMETHANE	12 U	11 U	11 U	11 U
BROMOMETHANE	12 U	11 U	11 U	11 U
VINYL CHLORIDE	12 U	11 U	11 U	11 U
CHLOROETHANE	12 U	11 U	11 U	11 U
METHYLENE CHLORIDE	6 U	5 U	42	6 U
ACETONE	12 U	13 U	200 U	11 U
CARBON DISULFIDE	6 U	5 U	5 U	6 U
1,1-DICHLOROETHENE	6 U	5 U	5 U	6 U
1,1-DICHLOROETHANE	6 U	5 U	5 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	5 U	5 U	6 U
CHLOROFORM	6 U	5 U	5 U	6 U
1,2-DICHLOROETHANE	6 U	5 U	5 U	6 U
2-BUTANONE	12 U	11 U	11 U	11 U
1,1,1-TRICHLOROETHANE	6 U	5 U	5 U	6 U
CARBON TETRACHLORIDE	6 U	5 U	5 U	6 U
VINYL ACETATE	12 U	11 U	11 U	11 U
BROMODICHLOROMETHANE	6 U	5 U	5 U	6 U
1,2-DICHLOROPROPANE	6 U	5 U	5 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	5 U	5 U	6 U
TRICHLOROETHENE	6 U	5 U	5 U	6 U
DIBROMOCHLOROMETHANE	6 U	5 U	5 U	6 U
1,1,2-TRICHLOROETHANE	6 U	5 U	5 U	6 U
BENZENE	6 U	5 U	5 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	5 U	5 U	6 U
BROMOFORM	6 U	5 U	5 U	6 U
4-METHYL-2-PENTANONE	12 U	11 U	11 U	11 U
2-HEXANONE	12 U	11 U	11 U	11 U
TETRACHLOROETHENE	6 U	5 U	5 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	5 U	5 U	6 U
TOLUENE	6 U	5 U	5 U	6 U
CHLOROBENZENE	6 U	5 U	5 U	6 U
ETHYLBENZENE	6 U	5 U	5 U	6 U
STYRENE	6 U	5 U	5 U	6 U
XYLENE (TOTAL)	6 U	5 U	5 U	6 U
ACROLEIN	580 R	540 R	530 R	550 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
VOLATILES cont. (ug/kg)				
ACRYLONITRILE	120 U	110 U	110 U	110 U
TRICHLOROFLUOROMETHANE	12 U	11 U	11 U	11 U
DICHLORODIFLUOROMETHANE	23 U	21 U	21 U	22 U
ACETONITRILE	120 U	110 U	110 U	110 U
IODOMETHANE	12 U	11 U	11 U	11 U
PROPIONITRILE (ETHYL CYANIDE)	58 U	54 U	53 U	55 U
3-CHLOROPROPENE	23 U	21 U	21 U	22 U
METHACRYLONITRILE	23 U	21 U	21 U	22 U
DIBROMOMETHANE	12 U	11 U	11 U	11 U
ISOBUTYL ALCOHOL	2300 U	2100 U	2100 R	2200 U
1,2-DIBROMOETHANE	23 U	21 U	21 U	22 U
1,1,1,2-TETRACHLOROETHANE	12 U	11 U	11 U	11 U
1,2,3-TRICHLOROPROPANE	12 U	11 U	11 U	11 U
TRANS-1,4-DICHLORO-2-BUTENE	23 U	21 U	21 U	22 U
1,2-DIBROMO-3-CHLOROPROPANE	23 U	21 U	21 U	22 U
2-CHLORO-1,3-BUTADIENE	120 U	110 U	110 U	110 U
METHYLMETHACRYLATE	23 U	21 U	21 U	22 U
ETHYLMETHACRYLATE	23 U	21 U	21 U	22 U
PENTACHLOROETHANE	23 U	21 U	21 U	22 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES (ug/kg)				
PHENOL	380 U	350 U	350 U	3600 U
BIS(2-CHLOROETHYL)ETHER	380 U	350 U	350 U	3600 U
2-CHLOROPHENOL	380 U	350 U	350 U	3600 U
1,3-DICHLOROBENZENE	380 U	350 U	350 U	3600 U
1,4-DICHLOROBENZENE	380 U	350 U	350 U	3600 U
BENZYL ALCOHOL	380 U	350 U	350 U	3600 U
1,2-DICHLOROBENZENE	380 U	350 U	350 U	3600 U
O-CRESOL	380 U	350 U	350 U	3600 U
2,2'-OXYBIS(1-CHLOROPROPANE)	380 U	350 U	350 U	3600 U
META & PARA-CRESOL	380 U	350 U	350 U	3600 U
N-NITROSO-DI-N-PROPYLAMINE	380 U	350 U	350 U	3600 U
HEXACHLOROETHANE	380 U	350 U	350 U	3600 U
NITROBENZENE	380 U	350 U	350 U	3600 U
ISOPHORONE	380 U	350 U	350 U	3600 U
2-NITROPHENOL	380 U	350 U	350 U	3600 U
2,4-DIMETHYLPHENOL	380 U	350 U	350 U	3600 U
BENZOIC ACID	1900 U	1800 U	1800 U	18000 U
BIS(2-CHLOROETHOXY)METHANE	380 U	350 U	350 U	3600 U
2,4-DICHLOROPHENOL	380 U	350 U	350 U	3600 U
1,2,4-TRICHLOROBENZENE	380 U	350 U	350 U	3600 U
NAPHTHALENE	380 U	350 U	350 U	3600 U
4-CHLOROANILINE	380 U	350 U	350 U	3600 U
HEXACHLOROBUTADIENE	380 U	350 U	350 U	3600 U
4-CHLORO-3-METHYLPHENOL	380 U	350 U	350 U	3600 U
2-METHYLNAPHTHALENE	380 U	120 J	350 U	3600 U
HEXACHLOROCYCLOPENTADIENE	380 U	350 U	350 U	3600 U
2,4,6-TRICHLOROPHENOL	380 U	350 U	350 U	3600 U
2,4,5-TRICHLOROPHENOL	1900 U	1800 U	1800 U	18000 U
2-CHLORONAPHTHALENE	380 U	350 U	350 U	3600 U
2-NITROANILINE	1900 U	1800 U	1800 U	18000 U
DIMETHYLPHTHALATE	380 U	350 U	350 U	3600 U
ACENAPHTHYLENE	380 U	350 U	350 U	3600 U
2,6-DINITROTOLUENE	380 U	350 U	350 U	3600 U
3-NITROANILINE	1900 U	1800 U	1800 U	18000 U
ACENAPHTHENE	380 U	350 U	350 U	3600 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROPHENOL	1900 U	1800 U	1800 U	18000 U
4-NITROPHENOL	1900 U	1800 U	1800 U	18000 U
DIBENZOFURAN	380 U	350 U	350 U	3600 U
2,4-DINITROTOLUENE	380 U	350 U	350 U	3600 U
DIETHYLPHTHALATE	380 U	350 U	350 U	3600 U
4-CHLOROPHENYL-PHENYLETHER	380 U	350 U	350 U	3600 U
FLUORENE	380 U	350 U	350 U	3600 U
4-NITROANILINE	1900 U	1800 U	1800 U	18000 U
4,6-DINITRO-2-METHYLPHENOL	1900 U	1800 U	1800 U	18000 U
N-NITROSODIPHENYLAMINE (1)	380 U	350 U	350 U	3600 U
4-BROMOPHENYL-PHENYLETHER	380 U	350 U	350 U	3600 U
HEXACHLOROBENZENE	380 U	350 U	350 U	3600 U
PENTACHLOROPHENOL	1900 U	1800 U	1800 U	18000 U
PHENANTHRENE	380 U	52 J	350 U	3600 U
ANTHRACENE	380 U	350 U	350 U	3600 U
DI-N-BUTYLPHTHALATE	380 U	350 U	350 U	3600 U
FLUORANTHENE	380 U	46 J	350 U	3600 U
PYRENE	380 U	96 J	350 UJ	3600 U
BUTYLBENZYLPHTHALATE	380 U	190 J	350 UJ	3600 U
3,3'-DICHLOROBENZIDINE	770 U	700 U	700 UJ	7200 U
BENZO(A)ANTHRACENE	380 U	350 U	350 UJ	3600 U
CHRYSENE	380 U	350 U	350 UJ	3600 U
BIS(2-ETHYLHEXYL)PHTHALATE	200 J	700	100 J	610 J
DI-N-OCTYL PHTHALATE	380 U	350 UJ	350 UJ	3600 UJ
BENZO(B)FLUORANTHENE	380 U	350 UJ	350 UJ	3600 UJ
BENZO(K)FLUORANTHENE	380 U	350 UJ	350 UJ	3600 UJ
BENZO(A)PYRENE	380 U	350 UJ	350 UJ	3600 UJ
INDENO(1,2,3-CD)PYRENE	380 U	350 UJ	350 UJ	3600 UJ
DIBENZO(A,H)ANTHRACENE	380 U	350 UJ	350 UJ	3600 UJ
BENZO(G,H,I)PERYLENE	380 U	350 UJ	350 UJ	3600 UJ
1,4-DIOXANE	1500 U	1400 U	1400 U	14000 U
PYRIDINE	770 U	700 U	700 U	7200 U
N-NITROSODIMETHYLAMINE	380 U	350 U	350 U	3600 U
2-PICOLINE	380 U	350 U	350 U	3600 U
N-NITROSOMETHYLETHYLAMINE	380 U	350 U	350 U	3600 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/kg)				
METHYL METHANESULFONATE	380 U	350 U	350 U	3600 U
N-NITROSODIETHYLAMINE	380 U	350 U	350 U	3600 U
ETHYL METHANESULFONATE	380 U	350 U	350 U	3600 U
ANILINE	1900 U	1800 U	1800 U	18000 U
N-NITROSOPYRROLIDINE	1900 U	1800 U	1800 U	18000 U
ACETOPHENONE	380 U	350 U	350 U	3600 U
N-NITROSOMORPHOLINE	770 U	700 U	700 U	7200 U
O-TOLUIDINE	380 U	350 U	350 U	3600 U
N-NITROSOPIPERIDINE	380 U	350 U	350 U	3600 U
A,A-DIMETHYLPHENETHYLAMINE	1900 U	1800 U	1800 U	18000 U
2,6-DICHLOROPHENOL	380 U	350 U	350 U	3600 U
HEXACHLOROPROPENE	770 R	700 U	700 R	7200 U
P-PHENYLENEDIAMINE	770 U	700 U	700 U	7200 U
N-NITROSO-DI-N-BUTYLAMINE	380 U	350 U	350 U	3600 U
SAFROLE	380 U	350 U	350 U	3600 U
1,2,4,5-TETRACHLOROBENZENE	380 U	350 U	350 U	3600 U
ISOSAFROLE	380 U	350 U	350 U	3600 U
1,4-NAPHTHOQUINONE	1900 U	1800 U	1800 U	18000 U
1,3-DINITROBENZENE	770 U	700 U	700 U	7200 U
PENTACHLOROBENZENE	380 U	350 U	350 U	3600 U
1-NAPHTHYLAMINE	380 U	350 U	350 U	3600 U
2-NAPHTHYLAMINE	380 U	350 U	350 U	3600 U
2,3,4,6-TETRACHLOROPHENOL	380 U	350 U	350 U	3600 U
1,3,5-TRINITROBENZENE	3800 U	3500 U	3500 U	36000 U
DIALLATE	380 U	350 U	350 U	3600 U
PHENACETIN	380 U	350 U	350 U	3600 U
DIPHENYLAMINE	380 U	350 U	350 U	3600 U
5-NITRO-O-TOLUIDINE	770 U	700 U	700 U	7200 U
4-AMINOBIPHENYL	380 U	350 U	350 U	3600 U
PRONAMIDE	380 U	350 U	350 U	3600 U
2-SEC-BUTYL-4,6-DINITROPHENOL	770 U	700 U	700 U	7200 U
PENTACHLORONITROBENZENE	380 U	350 U	350 U	3600 U
4-NITROQUINOLINE-1-OXIDE	1900 U	1800 R	1800 U	18000 U
METHAPYRILENE	960 U	880 U	880 U	9000 U
ARAMITE	770 U	700 U	700 U	7200 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/kg)				
CHLOROBENZILATE	380 U	350 U	350 U	3600 U
P-DIMETHYLAMINOAZOBENZENE	770 U	700 U	700 UJ	7200 U
3,3'-DIMETHYLBENZIDINE	770 R	700 R	700 R	7200 U
2-ACETYLAMINOFLUORENE	770 U	700 U	700 U	7200 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	770 U	700 UJ	700 UJ	7200 UJ
HEXACHLOROPHENE	3800 U	3500 U	3500 U	36000 U
3-METHYLCHOLANTHRENE	380 U	350 UJ	350 UJ	3600 UJ
CARBAZOLE	380 U	350 U	350 U	3600 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
PESTICIDE/PCBS (ug/kg)				
ALPHA-BHC	4.6 U	42 U	NA	44 U
BETA-BHC	4.6 U	42 U	NA	44 U
DELTA-BHC	4.6 U	42 U	NA	44 U
GAMMA-BHC (LINDANE)	4.6 U	42 U	NA	44 U
HEPTACHLOR	4.6 U	42 U	NA	44 U
ALDRIN	4.6 U	42 U	NA	44 U
HEPTACHLOR EPOXIDE	4.6 U	42 U	NA	44 U
ENDOSULFAN I	4.6 U	42 U	NA	44 U
DIELDRIN	9.2 U	84 U	NA	88 U
4,4'-DDE	9.2 U	46	NA	11 J
ENDRIN	9.2 U	84 U	NA	88 U
ENDOSULFAN II	9.2 U	84 U	NA	88 U
4,4'-DDD	9.2 U	58	NA	30
ENDOSULFAN SULFATE	9.2 U	84 U	NA	88 U
4,4'-DDT	9.2 U	84 U	NA	88 U
METHOXYCHLOR	46 U	420 U	NA	440 U
ENDRIN ALDEHYDE	9.2 U	84 U	NA	88 U
ISODRIN	4.6 UJ	42 UJ	NA	44 UJ
KEPONE	9.2 UJ	84 UJ	NA	88 UJ
ALPHA-CHLORDANE	46 U	420 U	NA	440 U
GAMMA-CHLORDANE	46 U	420 U	NA	440 U
TOXAPHENE	92 U	840 U	NA	880 U
AROCLOR-1016	46 U	420 U	NA	440 U
AROCLOR-1221	46 U	420 U	NA	440 U
AROCLOR-1232	46 U	420 U	NA	440 U
AROCLOR-1242	46 U	420 U	NA	440 U
AROCLOR-1248	46 U	420 U	NA	440 U
AROCLOR-1254	92 U	840 U	NA	880 U
AROCLOR-1260	23	230	NA	880 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SS01	31SS02	31SS03	31SS04
SAMPLE DATE	10/31/95	10/31/95	10/31/95	10/31/95
ORTHO PESTICIDES (ug/kg)				
DIMETHOATE	76 U	69 U	NA	72 U
DISULFOTON	76 U	69 U	NA	72 U
FAMPHUR	76 U	69 U	NA	72 U
METHYL PARATHION	76 U	69 U	NA	72 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	76 U	69 U	NA	72 U
PARATHION	76 U	69 U	NA	72 U
PHORATE	76 U	69 U	NA	72 U
SULFOTEP	76 U	69 U	NA	72 U
THIONAZIN	76 U	69 U	NA	72 U
HERBICIDES (ug/kg)				
2,4-D	390 U	350 U	NA	370 U
2,4,5-T	77 U	70 U	NA	73 U
2,4,5-TP (SILVEX)	77 U	70 U	NA	73 U
DIOXIN (ug/kg)				
TCDD-2378	0.06 U	0.06 U	0.06 U	0.06 U
TOTAL TCDD	0.08 U	0.06 U	0.06 U	0.06 U
TOTAL PECDD	0.13 U	0.09 U	0.07 U	0.74 J
TOTAL HXCDD	0.1 U	0.06 U	0.06 U	12
TOTAL TCDF	0.06 U	0.05 U	0.04 U	0.17 J
TOTAL PECDF	0.07 U	0.06 U	0.06 U	3.1
TOTAL HXCDF	0.1 U	0.06 J	0.06 U	43

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
BROMOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
VINYL CHLORIDE	11 U	12 U	ND	ND		0/4	NA	NA
CHLOROETHANE	11 U	12 U	ND	ND		0/4	NA	NA
METHYLENE CHLORIDE	5 U	6 U	42	42	31SS03	1/4	42.00	42.00
ACETONE	11 U	200 U	ND	ND		0/4	NA	NA
CARBON DISULFIDE	5 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHENE	5 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	6 U	ND	ND		0/4	NA	NA
CHLOROFORM	5 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
2-BUTANONE	11 U	12 U	ND	ND		0/4	NA	NA
1,1,1-TRICHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
CARBON TETRACHLORIDE	5 U	6 U	ND	ND		0/4	NA	NA
VINYL ACETATE	11 U	12 U	ND	ND		0/4	NA	NA
BROMODICHLOROMETHANE	5 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROPROPANE	5 U	6 U	ND	ND		0/4	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/4	NA	NA
TRICHLOROETHENE	5 U	6 U	ND	ND		0/4	NA	NA
DIBROMOCHLOROMETHANE	5 U	6 U	ND	ND		0/4	NA	NA
1,1,2-TRICHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
BENZENE	5 U	6 U	ND	ND		0/4	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	6 U	ND	ND		0/4	NA	NA
BROMOFORM	5 U	6 U	ND	ND		0/4	NA	NA
4-METHYL-2-PENTANONE	11 U	12 U	ND	ND		0/4	NA	NA
2-HEXANONE	11 U	12 U	ND	ND		0/4	NA	NA
TETRACHLOROETHENE	5 U	6 U	ND	ND		0/4	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	6 U	ND	ND		0/4	NA	NA
TOLUENE	5 U	6 U	ND	ND		0/4	NA	NA
CHLOROBENZENE	5 U	6 U	ND	ND		0/4	NA	NA
ETHYLBENZENE	5 U	6 U	ND	ND		0/4	NA	NA
STYRENE	5 U	6 U	ND	ND		0/4	NA	NA
XYLENE (TOTAL)	5 U	6 U	ND	ND		0/4	NA	NA
ACROLEIN	NA	NA	ND	ND		0/0	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	110 U	120 U	ND	ND		0/4	NA	NA
TRICHLOROFLUOROMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
DICHLORODIFLUOROMETHANE	21 U	23 U	ND	ND		0/4	NA	NA
ACETONITRILE	110 U	120 U	ND	ND		0/4	NA	NA
IODOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	53 U	58 U	ND	ND		0/4	NA	NA
3-CHLOROPROPENE	21 U	23 U	ND	ND		0/4	NA	NA
METHACRYLONITRILE	21 U	23 U	ND	ND		0/4	NA	NA
DIBROMOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
ISOBUTYL ALCOHOL	2100 U	2300 U	ND	ND		0/3	NA	NA
1,2-DIBROMOETHANE	21 U	23 U	ND	ND		0/4	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	12 U	ND	ND		0/4	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	12 U	ND	ND		0/4	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	21 U	23 U	ND	ND		0/4	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	21 U	23 U	ND	ND		0/4	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	120 U	ND	ND		0/4	NA	NA
METHYLMETHACRYLATE	21 U	23 U	ND	ND		0/4	NA	NA
ETHYLMETHACRYLATE	21 U	23 U	ND	ND		0/4	NA	NA
PENTACHLOROETHANE	21 U	23 U	ND	ND		0/4	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROETHYL)ETHER	350 U	3600 U	ND	ND		0/4	NA	NA
2-CHLOROPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
1,3-DICHLOROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
1,4-DICHLOROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
BENZYL ALCOHOL	350 U	3600 U	ND	ND		0/4	NA	NA
1,2-DICHLOROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
O-CRESOL	350 U	3600 U	ND	ND		0/4	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	350 U	3600 U	ND	ND		0/4	NA	NA
META & PARA-CRESOL	350 U	3600 U	ND	ND		0/4	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA
HEXACHLOROETHANE	350 U	3600 U	ND	ND		0/4	NA	NA
NITROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
ISOPHORONE	350 U	3600 U	ND	ND		0/4	NA	NA
2-NITROPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
2,4-DIMETHYLPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
BENZOIC ACID	1800 U	18000 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROETHOXY)METHANE	350 U	3600 U	ND	ND		0/4	NA	NA
2,4-DICHLOROPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
1,2,4-TRICHLOROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
NAPHTHALENE	350 U	3600 U	ND	ND		0/4	NA	NA
4-CHLOROANILINE	350 U	3600 U	ND	ND		0/4	NA	NA
HEXACHLOROBUTADIENE	350 U	3600 U	ND	ND		0/4	NA	NA
4-CHLORO-3-METHYLPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
2-METHYLNAPHTHALENE	350 U	3600 U	120 J	120 J	31SS02	1/4	120.00	120.00
HEXACHLOROCYCLOPENTADIENE	350 U	3600 U	ND	ND		0/4	NA	NA
2,4,6-TRICHLOROPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	18000 U	ND	ND		0/4	NA	NA
2-CHLORONAPHTHALENE	350 U	3600 U	ND	ND		0/4	NA	NA
2-NITROANILINE	1800 U	18000 U	ND	ND		0/4	NA	NA
DIMETHYLPHTHALATE	350 U	3600 U	ND	ND		0/4	NA	NA
ACENAPHTHYLENE	350 U	3600 U	ND	ND		0/4	NA	NA
2,6-DINITROTOLUENE	350 U	3600 U	ND	ND		0/4	NA	NA
3-NITROANILINE	1800 U	18000 U	ND	ND		0/4	NA	NA
ACENAPHTHENE	350 U	3600 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1800 U	18000 U	ND	ND		0/4	NA	NA
4-NITROPHENOL	1800 U	18000 U	ND	ND		0/4	NA	NA
DIBENZOFURAN	350 U	3600 U	ND	ND		0/4	NA	NA
2,4-DINITROTOLUENE	350 U	3600 U	ND	ND		0/4	NA	NA
DIETHYLPHTHALATE	350 U	3600 U	ND	ND		0/4	NA	NA
4-CHLOROPHENYL-PHENYLETHER	350 U	3600 U	ND	ND		0/4	NA	NA
FLUORENE	350 U	3600 U	ND	ND		0/4	NA	NA
4-NITROANILINE	1800 U	18000 U	ND	ND		0/4	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 U	18000 U	ND	ND		0/4	NA	NA
N-NITROSODIPHENYLAMINE (1)	350 U	3600 U	ND	ND		0/4	NA	NA
4-BROMOPHENYL-PHENYLETHER	350 U	3600 U	ND	ND		0/4	NA	NA
HEXACHLOROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
PENTACHLOROPHENOL	1800 U	18000 U	ND	ND		0/4	NA	NA
PHENANTHRENE	350 U	3600 U	52 J	52 J	31SS02	1/4	52.00	52.00
ANTHRACENE	350 U	3600 U	ND	ND		0/4	NA	NA
DI-N-BUTYLPHTHALATE	350 U	3600 U	ND	ND		0/4	NA	NA
FLUORANTHENE	350 U	3600 U	46 J	46 J	31SS02	1/4	46.00	46.00
PYRENE	350 UJ	3600 U	96 J	96 J	31SS02	1/4	96.00	96.00
BUTYLBENZYLPHTHALATE	350 UJ	3600 U	190 J	190 J	31SS02	1/4	190.00	190.00
3,3'-DICHLOROBENZIDINE	700 U	7200 U	ND	ND		0/4	NA	NA
BENZO(A)ANTHRACENE	350 U	3600 U	ND	ND		0/4	NA	NA
CHRYSENE	350 U	3600 U	ND	ND		0/4	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NA	100 J	700	31SS02	4/4	402.50	405.00
DI-N-OCTYL PHTHALATE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
BENZO(B)FLUORANTHENE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
BENZO(K)FLUORANTHENE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
BENZO(A)PYRENE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
INDENO(1,2,3-CD)PYRENE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
DIBENZO(A,H)ANTHRACENE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
BENZO(G,H,I)PERYLENE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
1,4-DIOXANE	1400 U	14000 U	ND	ND		0/4	NA	NA
PYRIDINE	700 U	7200 U	ND	ND		0/4	NA	NA
N-NITROSODIMETHYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA
2-PICOLINE	350 U	3600 U	ND	ND		0/4	NA	NA
N-NITROSOMETHYLETHYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	350 U	3600 U	ND	ND		0/4	NA	NA
N-NITROSODIETHYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA
ETHYL METHANESULFONATE	350 U	3600 U	ND	ND		0/4	NA	NA
ANILINE	1800 U	18000 U	ND	ND		0/4	NA	NA
N-NITROSOPYRROLIDINE	1800 U	18000 U	ND	ND		0/4	NA	NA
ACETOPHENONE	350 U	3600 U	ND	ND		0/4	NA	NA
N-NITROSOMORPHOLINE	700 U	7200 U	ND	ND		0/4	NA	NA
O-TOLUIDINE	350 U	3600 U	ND	ND		0/4	NA	NA
N-NITROSOPIPERIDINE	350 U	3600 U	ND	ND		0/4	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	1800 U	18000 U	ND	ND		0/4	NA	NA
2,6-DICHLOROPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
HEXACHLOROPROPENE	700 U	7200 U	ND	ND		0/2	NA	NA
P-PHENYLENEDIAMINE	700 U	7200 U	ND	ND		0/4	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA
SAFROLE	350 U	3600 U	ND	ND		0/4	NA	NA
1,2,4,5-TETRACHLOROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
ISOSAFROLE	350 U	3600 U	ND	ND		0/4	NA	NA
1,4-NAPHTHOQUINONE	1800 U	18000 U	ND	ND		0/4	NA	NA
1,3-DINITROBENZENE	700 U	7200 U	ND	ND		0/4	NA	NA
PENTACHLOROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
1-NAPHTHYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA
2-NAPHTHYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA
2,3,4,6-TETRACHLOROPHENOL	350 U	3600 U	ND	ND		0/4	NA	NA
1,3,5-TRINITROBENZENE	3500 U	36000 U	ND	ND		0/4	NA	NA
DIALLATE	350 U	3600 U	ND	ND		0/4	NA	NA
PHENACETIN	350 U	3600 U	ND	ND		0/4	NA	NA
DIPHENYLAMINE	350 U	3600 U	ND	ND		0/4	NA	NA
5-NITRO-O-TOLUIDINE	700 U	7200 U	ND	ND		0/4	NA	NA
4-AMINOBIPHENYL	350 U	3600 U	ND	ND		0/4	NA	NA
PRONAMIDE	350 U	3600 U	ND	ND		0/4	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	700 U	7200 U	ND	ND		0/4	NA	NA
PENTACHLORONITROBENZENE	350 U	3600 U	ND	ND		0/4	NA	NA
4-NITROQUINOLINE-1-OXIDE	1800 U	18000 U	ND	ND		0/3	NA	NA
METHAPYRILENE	880 U	9000 U	ND	ND		0/4	NA	NA
ARAMITE	700 U	7200 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	350 U	3600 U	ND	ND		0/4	NA	NA
P-DIMETHYLAMINOAZOBENZENE	700 U	7200 U	ND	ND		0/4	NA	NA
3,3'-DIMETHYLBENZIDINE	7200 U	7200 U	ND	ND		0/1	NA	NA
2-ACETYLAMINOFLUORENE	700 U	7200 U	ND	ND		0/4	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	700 UJ	7200 UJ	ND	ND		0/4	NA	NA
HEXACHLOROPHENE	3500 U	36000 U	ND	ND		0/4	NA	NA
3-METHYLCHOLANTHRENE	350 UJ	3600 UJ	ND	ND		0/4	NA	NA
CARBAZOLE	350 U	3600 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	4.6 U	44 U	ND	ND		0/3	NA	NA
BETA-BHC	4.6 U	44 U	ND	ND		0/3	NA	NA
DELTA-BHC	4.6 U	44 U	ND	ND		0/3	NA	NA
GAMMA-BHC (LINDANE)	4.6 U	44 U	ND	ND		0/3	NA	NA
HEPTACHLOR	4.6 U	44 U	ND	ND		0/3	NA	NA
ALDRIN	4.6 U	44 U	ND	ND		0/3	NA	NA
HEPTACHLOR EPOXIDE	4.6 U	44 U	ND	ND		0/3	NA	NA
ENDOSULFAN I	4.6 U	44 U	ND	ND		0/3	NA	NA
DIELDRIN	9.2 U	88 U	ND	ND		0/3	NA	NA
4,4'-DDE	9.2 U	9.2 U	11 J	46	31SS02	2/3	28.50	28.50
ENDRIN	9.2 U	88 U	ND	ND		0/3	NA	NA
ENDOSULFAN II	9.2 U	88 U	ND	ND		0/3	NA	NA
4,4'-DDD	9.2 U	9.2 U	30	58	31SS02	2/3	44.00	44.00
ENDOSULFAN SULFATE	9.2 U	88 U	ND	ND		0/3	NA	NA
4,4'-DDT	9.2 U	88 U	ND	ND		0/3	NA	NA
METHOXYCHLOR	46 U	440 U	ND	ND		0/3	NA	NA
ENDRIN ALDEHYDE	9.2 U	88 U	ND	ND		0/3	NA	NA
ISODRIN	4.6 UJ	44 UJ	ND	ND		0/3	NA	NA
KEPONE	9.2 UJ	88 UJ	ND	ND		0/3	NA	NA
ALPHA-CHLORDANE	46 U	440 U	ND	ND		0/3	NA	NA
GAMMA-CHLORDANE	46 U	440 U	ND	ND		0/3	NA	NA
TOXAPHENE	92 U	880 U	ND	ND		0/3	NA	NA
AROCLOR-1016	46 U	440 U	ND	ND		0/3	NA	NA
AROCLOR-1221	46 U	440 U	ND	ND		0/3	NA	NA
AROCLOR-1232	46 U	440 U	ND	ND		0/3	NA	NA
AROCLOR-1242	46 U	440 U	ND	ND		0/3	NA	NA
AROCLOR-1248	46 U	440 U	ND	ND		0/3	NA	NA
AROCLOR-1254	92 U	880 U	ND	ND		0/3	NA	NA
AROCLOR-1260	880 U	880 U	23	230	31SS02	2/3	126.50	126.50

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES (ug/kg)								
DIMETHOATE	69 U	76 U	ND	ND		0/3	NA	NA
DISULFOTON	69 U	76 U	ND	ND		0/3	NA	NA
FAMPHUR	69 U	76 U	ND	ND		0/3	NA	NA
METHYL PARATHION	69 U	76 U	ND	ND		0/3	NA	NA
O,O,O-TRIETHYL PHOSPHOROTHIOA	69 U	76 U	ND	ND		0/3	NA	NA
PARATHION	69 U	76 U	ND	ND		0/3	NA	NA
PHORATE	69 U	76 U	ND	ND		0/3	NA	NA
SULFOTEP	69 U	76 U	ND	ND		0/3	NA	NA
THIONAZIN	69 U	76 U	ND	ND		0/3	NA	NA
HERBICIDES (ug/kg)								
2,4-D	350 U	390 U	ND	ND		0/3	NA	NA
2,4,5-T	70 U	77 U	ND	ND		0/3	NA	NA
2,4,5-TP (SILVEX)	70 U	77 U	ND	ND		0/3	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.06 U	0.06 U	ND	ND		0/4	NA	NA
TOTAL TCDD	0.06 U	0.08 U	ND	ND		0/4	NA	NA
TOTAL PECDD	0.07 U	0.13 U	0.74 J	0.74 J	31SS04	1/4	0.74	0.74
TOTAL HXCDD	0.06 U	0.1 U	12	12	31SS04	1/4	12.00	12.00
TOTAL TCDF	0.04 U	0.06 U	0.17 J	0.17 J	31SS04	1/4	0.17	0.17
TOTAL PECDF	0.06 U	0.07 U	3.1	3.1	31SS04	1/4	3.10	3.10
TOTAL HXCDF	0.06 U	0.1 U	0.06 J	43	31SS04	2/4	21.53	21.53

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
VOLATILES (ug/kg)						
CHLOROMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
BROMOMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
VINYL CHLORIDE	12 U	12 U	12 U	12 U	12 U	12 U
CHLOROETHANE	12 U	12 U	12 U	12 U	12 U	12 U
METHYLENE CHLORIDE	6 U	6 U	6 U	6 U	6 U	6 U
ACETONE	12 U	19 U	12 U	12 U	12 U	12 U
CARBON DISULFIDE	6 U	6 U	6 U	6 U	6 U	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 U	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 U	6 U	6 U	6 U
CHLOROFORM	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
2-BUTANONE	12 U	12 U	12 U	12 U	12 U	12 U
1,1,1-TRICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
CARBON TETRACHLORIDE	6 U	6 U	6 U	6 U	6 U	6 U
VINYL ACETATE	12 U	12 U	12 U	12 U	12 U	12 U
BROMODICHLOROMETHANE	6 U	6 U	6 U	6 U	6 U	6 U
1,2-DICHLOROPROPANE	6 U	6 U	6 U	6 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U	6 U	6 U
TRICHLOROETHENE	6 U	6 U	6 U	6 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 U	6 U	6 U	6 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
BENZENE	6 U	6 U	6 U	6 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U	6 U	6 U
BROMOFORM	6 U	6 U	6 U	6 U	6 U	6 U
4-METHYL-2-PENTANONE	12 U	12 U	12 U	12 U	12 U	12 U
2-HEXANONE	12 U	12 U	12 U	12 U	12 U	12 U
TETRACHLOROETHENE	6 U	6 U	6 U	6 U	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	6 U	6 U	6 U	6 U
TOLUENE	6 U	6 U	6 U	6 U	6 U	6 U
CHLOROBENZENE	6 U	6 U	6 U	6 U	6 U	6 U
ETHYLBENZENE	6 U	6 U	6 U	6 U	6 U	6 U
STYRENE	6 U	6 U	6 U	6 U	6 U	6 U
XYLENE (TOTAL)	6 U	6 U	6 U	6 U	6 U	6 U
ACROLEIN	580 R	580 U	620 U	580 U	600 U	600 U

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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
VOLATILES cont. (ug/kg)						
ACRYLONITRILE	120 U	120 U	120 U	120 U	120 U	120 U
TRICHLOROFLUOROMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
DICHLORODIFLUOROMETHANE	23 U	23 U	25 U	23 U	24 U	24 U
ACETONITRILE	120 U	120 U	120 U	120 U	120 U	120 U
IODOMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
PROPIONITRILE (ETHYL CYANIDE)	58 U	58 U	62 U	58 U	60 U	60 U
3-CHLOROPROPENE	23 U	23 U	25 U	23 U	24 U	24 U
METHACRYLONITRILE	23 U	23 U	25 U	23 U	24 U	24 U
DIBROMOMETHANE	12 U	12 U	12 U	12 U	12 U	12 U
ISOBUTYL ALCOHOL	2300 R	2300 R	2500 R	2300 R	2400 R	2400 R
1,2-DIBROMOETHANE	23 U	23 U	25 U	23 U	24 U	24 U
1,1,1,2-TETRACHLOROETHANE	12 U	12 U	12 U	12 U	12 U	12 U
1,2,3-TRICHLOROPROPANE	12 U	12 U	12 U	12 U	12 U	12 U
TRANS-1,4-DICHLORO-2-BUTENE	23 U	23 U	25 U	23 U	24 U	24 U
1,2-DIBROMO-3-CHLOROPROPANE	23 U	23 U	25 U	23 U	24 U	24 U
2-CHLORO-1,3-BUTADIENE	120 U	120 U	120 U	120 U	120 U	120 U
METHYLMETHACRYLATE	23 U	23 U	25 U	23 U	24 U	24 U
ETHYLMETHACRYLATE	23 U	23 U	25 U	23 U	24 U	24 U
PENTACHLOROETHANE	23 U	23 U	25 U	23 U	24 U	24 U

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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
SEMIVOLATILES (ug/kg)						
PHENOL	380 U	380 U	400 U	390 U	400 U	400 U
BIS(2-CHLOROETHYL)ETHER	380 U	380 U	400 U	390 U	400 U	400 U
2-CHLOROPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
1,3-DICHLOROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
1,4-DICHLOROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
BENZYL ALCOHOL	380 U	380 U	400 U	390 U	400 U	400 U
1,2-DICHLOROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
O-CRESOL	380 U	380 U	400 U	390 U	400 U	400 U
2,2'-OXYBIS(1-CHLOROPROPANE)	380 U	380 U	400 U	390 U	400 U	400 U
META & PARA-CRESOL	380 U	380 U	400 U	390 U	400 U	400 U
N-NITROSO-DI-N-PROPYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U
HEXACHLOROETHANE	380 U	380 U	400 U	390 U	400 U	400 U
NITROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
ISOPHORONE	380 U	380 U	400 U	390 U	400 U	400 U
2-NITROPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
2,4-DIMETHYLPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
BENZOIC ACID	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
BIS(2-CHLOROETHOXY)METHANE	380 U	380 U	400 U	390 U	400 U	400 U
2,4-DICHLOROPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
1,2,4-TRICHLOROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
NAPHTHALENE	380 U	380 U	400 U	390 U	400 U	400 U
4-CHLOROANILINE	380 U	380 U	400 U	390 U	400 U	400 U
HEXACHLOROBUTADIENE	380 U	380 U	400 U	390 U	400 U	400 U
4-CHLORO-3-METHYLPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
2-METHYLNAPHTHALENE	380 U	380 U	400 U	390 U	400 U	400 U
HEXACHLOROCYCLOPENTADIENE	380 U	380 U	400 U	390 U	400 U	400 U
2,4,6-TRICHLOROPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
2,4,5-TRICHLOROPHENOL	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
2-CHLORONAPHTHALENE	380 U	380 U	400 U	390 U	400 U	400 U
2-NITROANILINE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
DIMETHYLPHTHALATE	380 U	380 U	400 U	390 U	400 U	400 U
ACENAPHTHYLENE	380 U	380 U	400 U	390 U	400 U	400 U
2,6-DINITROTOLUENE	380 U	380 U	400 U	390 U	400 U	400 U
3-NITROANILINE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
ACENAPHTHENE	380 U	380 U	400 U	390 U	400 U	400 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
SEMIVOLATILES cont. (ug/kg)						
2,4-DINITROPHENOL	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
4-NITROPHENOL	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
DIBENZOFURAN	380 U	380 U	400 U	390 U	400 U	400 U
2,4-DINITROTOLUENE	380 U	380 U	400 U	390 U	400 U	400 U
DIETHYLPHTHALATE	380 U	380 U	400 U	390 U	400 U	400 U
4-CHLOROPHENYL-PHENYLETHER	380 U	380 U	400 U	390 U	400 U	400 U
FLUORENE	380 U	380 U	400 U	390 U	400 U	400 U
4-NITROANILINE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
4,6-DINITRO-2-METHYLPHENOL	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
N-NITROSODIPHENYLAMINE (1)	380 U	380 U	400 U	390 U	400 U	400 U
4-BROMOPHENYL-PHENYLETHER	380 U	380 U	400 U	390 U	400 U	400 U
HEXACHLOROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
PENTACHLOROPHENOL	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
PHENANTHRENE	380 U	380 U	400 U	390 U	400 U	400 U
ANTHRACENE	380 U	380 U	400 U	390 U	400 U	400 U
DI-N-BUTYLPHTHALATE	380 U	380 U	400 U	390 U	400 U	400 U
FLUORANTHENE	380 U	380 U	400 U	390 U	400 U	400 U
PYRENE	380 U	380 U	400 U	390 U	400 U	400 U
BUTYLBENZYLPHTHALATE	380 U	380 U	84 J	390 U	400 U	400 U
3,3'-DICHLOROBENZIDINE	750 U	760 U	800 U	770 U	800 U	790 U
BENZO(A)ANTHRACENE	380 U	380 U	400 U	390 U	400 U	400 U
CHRYSENE	380 U	380 U	400 U	390 U	400 U	400 U
BIS(2-ETHYLHEXYL)PHTHALATE	380 U	380 U	79 J	390 U	400 U	400 U
DI-N-OCTYL PHTHALATE	380 U	380 U	400 U	390 U	400 U	400 U
BENZO(B)FLUORANTHENE	380 U	380 U	400 U	390 U	400 U	400 U
BENZO(K)FLUORANTHENE	380 U	380 U	400 U	390 U	400 U	400 U
BENZO(A)PYRENE	380 U	380 U	400 U	390 U	400 U	400 U
INDENO(1,2,3-CD)PYRENE	380 U	380 U	400 U	390 U	400 U	400 U
DIBENZO(A,H)ANTHRACENE	380 U	380 U	400 U	390 U	400 U	400 U
BENZO(G,H,I)PERYLENE	380 U	380 U	400 U	390 U	400 U	400 U
1,4-DIOXANE	1500 U	1500 U	1600 U	1500 U	1600 U	1600 U
PYRIDINE	750 U	760 U	800 U	770 U	800 U	790 U
N-NITROSODIMETHYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U
2-PICOLINE	380 U	380 U	400 U	390 U	400 U	400 U
N-NITROSOMETHYLETHYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
SEMIVOLATILES cont. (ug/kg)						
METHYL METHANESULFONATE	380 U	380 U	400 U	390 U	400 U	400 U
N-NITROSODIETHYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U
ETHYL METHANESULFONATE	380 U	380 U	400 U	390 U	400 U	400 U
ANILINE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
N-NITROSOPYRROLIDINE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
ACETOPHENONE	380 U	380 U	400 U	390 U	400 U	400 U
N-NITROSOMORPHOLINE	750 U	760 U	800 U	770 U	800 U	790 U
O-TOLUIDINE	380 U	380 U	400 U	390 U	400 U	400 U
N-NITROSOPIPERIDINE	380 U	380 U	400 U	390 U	400 U	400 U
A,A-DIMETHYLPHENETHYLAMINE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
2,6-DICHLOROPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
HEXACHLOROPROPENE	750 U	760 U	800 U	770 U	800 U	790 U
P-PHENYLENEDIAMINE	750 U	760 U	800 U	770 U	800 U	790 U
N-NITROSO-DI-N-BUTYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U
SAFROLE	380 U	380 U	400 U	390 U	400 U	400 U
1,2,4,5-TETRACHLOROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
ISOSAFROLE	380 U	380 U	400 U	390 U	400 U	400 U
1,4-NAPHTHOQUINONE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
1,3-DINITROBENZENE	750 U	760 U	800 U	770 U	800 U	790 U
PENTACHLOROBENZENE	380 U	380 U	400 U	390 U	400 U	400 U
1-NAPHTHYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U
2-NAPHTHYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U
2,3,4,6-TETRACHLOROPHENOL	380 U	380 U	400 U	390 U	400 U	400 U
1,3,5-TRINITROBENZENE	3800 U	3800 U	4000 U	3900 U	4000 U	4000 U
DIALLATE	380 U	380 U	400 U	390 U	400 U	400 U
PHENACETIN	380 U	380 U	400 U	390 U	400 U	400 U
DIPHENYLAMINE	380 U	380 U	400 U	390 U	400 U	400 U
5-NITRO-O-TOLUIDINE	750 U	760 U	800 U	770 U	800 U	790 U
4-AMINOBIPHENYL	380 U	380 U	400 U	390 U	400 U	400 U
PRONAMIDE	380 U	380 U	400 U	390 U	400 U	400 U
2-SEC-BUTYL-4,6-DINITROPHENOL	750 U	760 U	800 U	770 U	800 U	790 U
PENTACHLORONITROBENZENE	380 R	380 R	400 R	390 R	400 R	400 R
4-NITROQUINOLINE-1-OXIDE	1900 U	1900 U	2000 U	1900 U	2000 U	2000 U
METHAPYRILENE	940 U	940 U	1000 U	960 U	1000 U	990 U
ARAMITE	750 U	760 U	800 U	770 U	800 U	790 U

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CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
SEMIVOLATILES cont. (ug/kg)						
CHLOROBENZILATE	380 U	380 U	400 U	390 U	400 U	400 U
P-DIMETHYLAMINOAZOBENZENE	750 U	760 U	800 U	770 U	800 U	790 U
3,3'-DIMETHYLBENZIDINE	750 R	760 R	800 R	770 R	800 R	790 R
2-ACETYLAMINOFLUORENE	750 U	760 U	800 U	770 U	800 U	790 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	750 U	760 U	800 U	770 U	800 U	790 U
HEXACHLOROPHENE	3800 U	3800 U	4000 U	3900 U	4000 U	4000 U
3-METHYLCHOLANTHRENE	380 U	380 U	400 U	390 U	400 U	400 U
CARBAZOLE	380 U	380 U	400 U	390 U	400 U	400 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	9.2 U	9.3 U	24 U	4.6 U	4.7 U	4.7 U
BETA-BHC	9.2 U	9.3 U	24 U	4.6 U	4.7 U	4.7 U
DELTA-BHC	9.2 U	9.3 U	24 U	4.6 U	4.7 U	4.7 U
GAMMA-BHC (LINDANE)	9.2 UJ	9.3 UJ	24 U	4.6 UJ	4.7 UJ	4.7 UJ
HEPTACHLOR	9.2 U	9.3 U	24 U	4.6 U	4.7 U	4.7 U
ALDRIN	9.2 U	9.3 UJ	24 U	4.6 UJ	4.7 UJ	4.7 UJ
HEPTACHLOR EPOXIDE	9.2 U	9.3 U	24 U	4.6 U	4.7 U	4.7 U
ENDOSULFAN I	9.2 UJ	9.3 UJ	24 U	4.6 UJ	4.7 UJ	4.7 UJ
DIELDRIN	18 U	19 U	49 U	9.3 U	9.4 U	9.4 U
4,4'-DDE	18 U	2.7	49 U	9.3 U	9.4 U	9.4 U
ENDRIN	18 U	19 U	49 U	9.3 U	9.4 U	9.4 U
ENDOSULFAN II	18 U	19 U	49 U	9.3 U	9.4 U	9.4 U
4,4'-DDD	18 U	3.5	49 U	9.3 U	9.4 U	9.4 U
ENDOSULFAN SULFATE	18 U	19 U	49 U	9.3 U	9.4 U	9.4 U
4,4'-DDT	18 U	19 U	49 U	9.3 U	9.4 U	9.4 U
METHOXYCHLOR	92 U	93 U	240 UJ	46 U	47 U	47 U
ENDRIN ALDEHYDE	18 U	19 U	49 U	9.3 U	9.4 U	9.4 U
ISODRIN	9.2 UJ	9.3 UJ	24 UJ	4.6 UJ	4.7 UJ	4.7 UJ
KEPONE	18 U	19 U	49 U	9.3 U	9.4 U	9.4 U
ALPHA-CHLORDANE	92 U	93 U	240 U	46 U	47 U	47 U
GAMMA-CHLORDANE	92 U	93 U	240 U	46 U	47 U	47 U
TOXAPHENE	180 U	190 U	490 U	93 U	94 U	94 U
AROCLOR-1016	92 U	93 U	240 U	46 U	47 U	47 U
AROCLOR-1221	92 U	93 U	240 U	46 U	47 U	47 U
AROCLOR-1232	92 U	93 U	240 U	46 U	47 U	47 U
AROCLOR-1242	92 U	93 U	240 U	46 U	47 U	47 U
AROCLOR-1248	92 U	93 U	240 U	46 U	47 U	47 U
AROCLOR-1254	180 U	190 U	490 U	93 U	94 U	94 U
AROCLOR-1260	180 U	190 U	490 U	93 U	94 U	94 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
ORTHO PESTICIDES (ug/kg)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	77 U	78 U	82 U	77 U	78 U	79 U
PHORATE	77 U	78 U	82 U	77 U	78 U	79 U
THIONAZIN	77 U	78 U	82 U	77 U	78 U	79 U
DISULFOTON	77 U	78 U	82 U	77 U	78 U	79 U
SULFOTEP	77 U	78 U	82 U	77 U	78 U	79 U
DIMETHOATE	77 U	78 U	82 U	77 U	78 U	79 U
METHYL PARATHION	77 U	78 U	82 U	77 U	78 U	79 U
PARATHION	77 U	78 U	82 U	77 U	78 U	79 U
FAMPHUR	77 U	78 U	82 U	77 U	78 U	79 U
HERBICIDES (ug/kg)						
2,4-D	390 U	370 U	410 U	390 U	400 U	390 U
2,4,5-TP (SILVEX)	78 U	75 U	81 U	78 U	79 U	79 U
2,4,5-T	78 U	75 U	81 U	78 U	79 U	79 U
DIOXIN (ug/kg)						
TCDD-2378	0.21 U	0.2 U	0.14 U	0.18 U	0.27 U	0.19 U
TOTAL TCDD	0.21 U	0.2 U	0.14 U	0.18 U	0.27 U	0.19 U
TOTAL PECDD	0.24 U	0.23 U	0.16 U	0.29 U	0.27 U	0.15 U
TOTAL HXCDD	0.21 U	0.27 U	0.15 U	0.22 U	0.38 U	0.16 U
TOTAL TCDF	0.11 U	0.08 U	0.08 U	0.12 U	0.14 U	0.08 U
TOTAL PECDF	0.15 U	0.13 U	0.1 U	0.13 U	0.16 U	0.12 U
TOTAL HXCDF	0.23 U	0.27 U	0.14 U	0.17 U	0.27 U	0.16 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02		31SB04-00	
SAMPLE DATE	10/29/95		10/29/95	
SAMPLE DEPTH (feet)	4-6		0-2	
VOLATILES (ug/kg)				
CHLOROMETHANE	11	U	12	U
BROMOMETHANE	11	U	12	U
VINYL CHLORIDE	11	U	12	U
CHLOROETHANE	11	U	12	U
METHYLENE CHLORIDE	6	U	6	U
ACETONE	11	U	12	U
CARBON DISULFIDE	6	U	6	U
1,1-DICHLOROETHENE	6	U	6	U
1,1-DICHLOROETHANE	6	U	6	U
1,2-DICHLOROETHENE (TOTAL)	6	U	6	U
CHLOROFORM	6	U	6	U
1,2-DICHLOROETHANE	6	U	6	U
2-BUTANONE	11	U	12	U
1,1,1-TRICHLOROETHANE	6	U	6	U
CARBON TETRACHLORIDE	6	U	6	U
VINYL ACETATE	11	U	12	U
BROMODICHLOROMETHANE	6	U	6	U
1,2-DICHLOROPROPANE	6	U	6	U
CIS-1,3-DICHLOROPROPENE	6	U	6	U
TRICHLOROETHENE	6	U	6	U
DIBROMOCHLOROMETHANE	6	U	6	U
1,1,2-TRICHLOROETHANE	6	U	6	U
BENZENE	6	U	6	U
TRANS-1,3-DICHLOROPROPENE	6	U	6	U
BROMOFORM	6	U	6	U
4-METHYL-2-PENTANONE	11	U	12	U
2-HEXANONE	11	U	12	U
TETRACHLOROETHENE	6	U	6	U
1,1,2,2-TETRACHLOROETHANE	6	U	6	U
TOLUENE	6	U	6	U
CHLOROBENZENE	6	U	6	U
ETHYLBENZENE	6	U	6	U
STYRENE	6	U	6	U
XYLENE (TOTAL)	6	U	6	U
ACROLEIN	560	U	580	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02		31SB04-00	
SAMPLE DATE	10/29/95		10/29/95	
SAMPLE DEPTH (feet)	4-6		0-2	
VOLATILES cont. (ug/kg)				
ACRYLONITRILE	110	U	120	U
TRICHLOROFLUOROMETHANE	11	U	12	U
DICHLORODIFLUOROMETHANE	23	U	23	U
ACETONITRILE	110	U	120	U
IODOMETHANE	11	U	12	U
PROPIONITRILE (ETHYL CYANIDE)	56	U	58	U
3-CHLOROPROPENE	23	U	23	U
METHACRYLONITRILE	23	U	23	U
DIBROMOMETHANE	11	U	12	U
ISOBUTYL ALCOHOL	2300	R	2300	R
1,2-DIBROMOETHANE	23	U	23	U
1,1,1,2-TETRACHLOROETHANE	11	U	12	U
1,2,3-TRICHLOROPROPANE	11	U	12	U
TRANS-1,4-DICHLORO-2-BUTENE	23	U	23	U
1,2-DIBROMO-3-CHLOROPROPANE	23	U	23	U
2-CHLORO-1,3-BUTADIENE	110	U	120	U
METHYLMETHACRYLATE	23	U	23	U
ETHYLMETHACRYLATE	23	U	23	U
PENTACHLOROETHANE	23	U	23	U

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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02		31SB04-00	
SAMPLE DATE	10/29/95		10/29/95	
SAMPLE DEPTH (feet)	4-6		0-2	
SEMIVOLATILES (ug/kg)				
PHENOL	370	U	380	U
BIS(2-CHLOROETHYL)ETHER	370	U	380	U
2-CHLOROPHENOL	370	U	380	U
1,3-DICHLOROBENZENE	370	U	380	U
1,4-DICHLOROBENZENE	370	U	380	U
BENZYL ALCOHOL	370	U	380	U
1,2-DICHLOROBENZENE	370	U	380	U
O-CRESOL	370	U	380	U
2,2'-OXYBIS(1-CHLOROPROPANE)	370	U	380	U
META & PARA-CRESOL	370	U	380	U
N-NITROSO-DI-N-PROPYLAMINE	370	U	380	U
HEXACHLOROETHANE	370	U	380	U
NITROBENZENE	370	U	380	U
ISOPHORONE	370	U	380	U
2-NITROPHENOL	370	U	380	U
2,4-DIMETHYLPHENOL	370	U	380	U
BENZOIC ACID	1800	U	1900	U
BIS(2-CHLOROETHOXY)METHANE	370	U	380	U
2,4-DICHLOROPHENOL	370	U	380	U
1,2,4-TRICHLOROBENZENE	370	U	380	U
NAPHTHALENE	370	U	380	U
4-CHLOROANILINE	370	U	380	U
HEXACHLOROBUTADIENE	370	U	380	U
4-CHLORO-3-METHYLPHENOL	370	U	380	U
2-METHYLNAPHTHALENE	370	U	380	U
HEXACHLOROCYCLOPENTADIENE	370	U	380	U
2,4,6-TRICHLOROPHENOL	370	U	380	U
2,4,5-TRICHLOROPHENOL	1800	U	1900	U
2-CHLORONAPHTHALENE	370	U	380	U
2-NITROANILINE	1800	U	1900	U
DIMETHYLPHTHALATE	370	U	380	U
ACENAPHTHYLENE	370	U	380	U
2,6-DINITROTOLUENE	370	U	380	U
3-NITROANILINE	1800	U	1900	U
ACENAPHTHENE	370	U	380	U

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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02		31SB04-00	
SAMPLE DATE	10/29/95		10/29/95	
SAMPLE DEPTH (feet)	4-6		0-2	
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROPHENOL	1800	U	1900	U
4-NITROPHENOL	1800	U	1900	U
DIBENZOFURAN	370	U	380	U
2,4-DINITROTOLUENE	370	U	380	U
DIETHYLPHTHALATE	370	U	380	U
4-CHLOROPHENYL-PHENYLETHER	370	U	380	U
FLUORENE	370	U	380	U
4-NITROANILINE	1800	U	1900	U
4,6-DINITRO-2-METHYLPHENOL	1800	U	1900	U
N-NITROSODIPHENYLAMINE (1)	370	U	380	U
4-BROMOPHENYL-PHENYLETHER	370	U	380	U
HEXACHLOROBENZENE	370	U	380	U
PENTACHLOROPHENOL	1800	U	1900	U
PHENANTHRENE	370	U	380	U
ANTHRACENE	370	U	380	U
DI-N-BUTYLPHTHALATE	370	U	380	U
FLUORANTHENE	370	U	380	U
PYRENE	370	U	380	U
BUTYLBENZYLPHTHALATE	370	U	380	U
3,3'-DICHLOROBENZIDINE	740	U	750	U
BENZO(A)ANTHRACENE	370	U	380	U
CHRYSENE	370	U	380	U
BIS(2-ETHYLHEXYL)PHTHALATE	370	U	41	J
DI-N-OCTYL PHTHALATE	370	U	380	U
BENZO(B)FLUORANTHENE	370	U	380	U
BENZO(K)FLUORANTHENE	370	U	380	U
BENZO(A)PYRENE	370	U	380	U
INDENO(1,2,3-CD)PYRENE	370	U	380	U
DIBENZO(A,H)ANTHRACENE	370	U	380	U
BENZO(G,H,I)PERYLENE	370	U	380	U
1,4-DIOXANE	1500	U	1500	U
PYRIDINE	740	U	750	U
N-NITROSODIMETHYLAMINE	370	U	380	U
2-PICOLINE	370	U	380	U
N-NITROSOMETHYLETHYLAMINE	370	U	380	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02		31SB04-00	
SAMPLE DATE	10/29/95		10/29/95	
SAMPLE DEPTH (feet)	4-6		0-2	
SEMIVOLATILES cont. (ug/kg)				
METHYL METHANESULFONATE	370	U	380	U
N-NITROSODIETHYLAMINE	370	U	380	U
ETHYL METHANESULFONATE	370	U	380	U
ANILINE	1800	U	1900	U
N-NITROSOPYRROLIDINE	1800	U	1900	U
ACETOPHENONE	370	U	380	U
N-NITROSOMORPHOLINE	740	U	750	U
O-TOLUIDINE	370	U	380	U
N-NITROSOPIPERIDINE	370	U	380	U
A,A-DIMETHYLPHENETHYLAMINE	1800	U	1900	U
2,6-DICHLOROPHENOL	370	U	380	U
HEXACHLOROPROPENE	740	U	750	U
P-PHENYLENEDIAMINE	740	U	750	U
N-NITROSO-DI-N-BUTYLAMINE	370	U	380	U
SAFROLE	370	U	380	U
1,2,4,5-TETRACHLOROBENZENE	370	U	380	U
ISOSAFROLE	370	U	380	U
1,4-NAPHTHOQUINONE	1800	U	1900	U
1,3-DINITROBENZENE	740	U	750	U
PENTACHLOROBENZENE	370	U	380	U
1-NAPHTHYLAMINE	370	U	380	U
2-NAPHTHYLAMINE	370	U	380	U
2,3,4,6-TETRACHLOROPHENOL	370	U	380	U
1,3,5-TRINITROBENZENE	3700	U	3800	U
DIALLATE	370	U	380	U
PHENACETIN	370	U	380	U
DIPHENYLAMINE	370	U	380	U
5-NITRO-O-TOLUIDINE	740	U	750	U
4-AMINOBIPHENYL	370	U	380	U
PRONAMIDE	370	U	380	U
2-SEC-BUTYL-4,6-DINITROPHENOL	740	U	750	U
PENTACHLORONITROBENZENE	370	R	380	R
4-NITROQUINOLINE-1-OXIDE	1800	U	1900	U
METHAPYRILENE	920	U	940	U
ARAMITE	740	U	750	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02		31SB04-00	
SAMPLE DATE	10/29/95		10/29/95	
SAMPLE DEPTH (feet)	4-6		0-2	
SEMIVOLATILES cont. (ug/kg)				
CHLOROBENZILATE	370	U	380	U
P-DIMETHYLAMINOAZOBENZENE	740	U	750	U
3,3'-DIMETHYLBENZIDINE	740	R	750	R
2-ACETYLAMINOFLUORENE	740	U	750	U
7,12-DIMETHYLBENZ(A)ANTHRACENE	740	U	750	U
HEXACHLOROPHENE	3700	U	3800	U
3-METHYLCHOLANTHRENE	370	U	380	U
CARBAZOLE	370	U	380	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02	31SB04-00
SAMPLE DATE	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2
PESTICIDE/PCBS (ug/kg)		
ALPHA-BHC	4.4 U	22 U
BETA-BHC	4.4 U	22 U
DELTA-BHC	4.4 U	22 U
GAMMA-BHC (LINDANE)	4.4 UJ	22 U
HEPTACHLOR	4.4 U	22 U
ALDRIN	4.4 UJ	22 U
HEPTACHLOR EPOXIDE	4.4 U	22 U
ENDOSULFAN I	4.4 UJ	22 U
DIELDRIN	8.8 U	44 U
4,4'-DDE	8.8 U	44 U
ENDRIN	8.8 U	44 U
ENDOSULFAN II	8.8 U	44 U
4,4'-DDD	8.8 U	44 U
ENDOSULFAN SULFATE	8.8 U	44 U
4,4'-DDT	8.8 U	44 U
METHOXYCHLOR	44 U	220 U
ENDRIN ALDEHYDE	8.8 U	44 U
ISODRIN	4.4 UJ	22 UJ
KEPONE	8.8 U	44 UJ
ALPHA-CHLORDANE	44 U	220 U
GAMMA-CHLORDANE	44 U	220 U
TOXAPHENE	88 U	440 U
AROCLOR-1016	44 U	220 U
AROCLOR-1221	44 U	220 U
AROCLOR-1232	44 U	220 U
AROCLOR-1242	44 U	220 U
AROCLOR-1248	44 U	220 U
AROCLOR-1254	88 U	440 U
AROCLOR-1260	88 U	440 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02		31SB04-00	
SAMPLE DATE	10/29/95		10/29/95	
SAMPLE DEPTH (feet)	4-6		0-2	
ORTHO PESTICIDES (ug/kg)				
O,O,O-TRIETHYL PHOSPHOROTHIOA	74	U	75	U
PHORATE	74	U	75	U
THIONAZIN	74	U	75	U
DISULFOTON	74	U	75	U
SULFOTEP	74	U	75	U
DIMETHOATE	74	U	75	U
METHYL PARATHION	74	U	75	U
PARATHION	74	U	75	U
FAMPHUR	74	U	75	U
HERBICIDES (ug/kg)				
2,4-D	350	U	370	U
2,4,5-TP (SILVEX)	70	U	74	U
2,4,5-T	70	U	74	U
DIOXIN (ug/kg)				
TCDD-2378	0.18	U	0.23	U
TOTAL TCDD	0.18	U	0.23	U
TOTAL PECDD	0.22	U	0.23	U
TOTAL HXCDD	0.18	U	0.21	U
TOTAL TCDF	0.08	U	0.11	U
TOTAL PECDF	0.11	U	0.18	U
TOTAL HXCDF	0.16	U	0.2	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	12 U	ND	ND		0/8	NA	NA
BROMOMETHANE	11 U	12 U	ND	ND		0/8	NA	NA
VINYL CHLORIDE	11 U	12 U	ND	ND		0/8	NA	NA
CHLOROETHANE	11 U	12 U	ND	ND		0/8	NA	NA
METHYLENE CHLORIDE	6 U	6 U	ND	ND		0/8	NA	NA
ACETONE	11 U	19 U	ND	ND		0/8	NA	NA
CARBON DISULFIDE	6 U	6 U	ND	ND		0/8	NA	NA
1,1-DICHLOROETHENE	6 U	6 U	ND	ND		0/8	NA	NA
1,1-DICHLOROETHANE	6 U	6 U	ND	ND		0/8	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	ND	ND		0/8	NA	NA
CHLOROFORM	6 U	6 U	ND	ND		0/8	NA	NA
1,2-DICHLOROETHANE	6 U	6 U	ND	ND		0/8	NA	NA
2-BUTANONE	11 U	12 U	ND	ND		0/8	NA	NA
1,1,1-TRICHLOROETHANE	6 U	6 U	ND	ND		0/8	NA	NA
CARBON TETRACHLORIDE	6 U	6 U	ND	ND		0/8	NA	NA
VINYL ACETATE	11 U	12 U	ND	ND		0/8	NA	NA
BROMODICHLOROMETHANE	6 U	6 U	ND	ND		0/8	NA	NA
1,2-DICHLOROPROPANE	6 U	6 U	ND	ND		0/8	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/8	NA	NA
TRICHLOROETHENE	6 U	6 U	ND	ND		0/8	NA	NA
DIBROMOCHLOROMETHANE	6 U	6 U	ND	ND		0/8	NA	NA
1,1,2-TRICHLOROETHANE	6 U	6 U	ND	ND		0/8	NA	NA
BENZENE	6 U	6 U	ND	ND		0/8	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/8	NA	NA
BROMOFORM	6 U	6 U	ND	ND		0/8	NA	NA
4-METHYL-2-PENTANONE	11 U	12 U	ND	ND		0/8	NA	NA
2-HEXANONE	11 U	12 U	ND	ND		0/8	NA	NA
TETRACHLOROETHENE	6 U	6 U	ND	ND		0/8	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 U	6 U	ND	ND		0/8	NA	NA
TOLUENE	6 U	6 U	ND	ND		0/8	NA	NA
CHLOROBENZENE	6 U	6 U	ND	ND		0/8	NA	NA
ETHYLBENZENE	6 U	6 U	ND	ND		0/8	NA	NA
STYRENE	6 U	6 U	ND	ND		0/8	NA	NA
XYLENE (TOTAL)	6 U	6 U	ND	ND		0/8	NA	NA
ACROLEIN	560 U	620 U	ND	ND		0/7	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	110 U	120 U	ND	ND		0/8	NA	NA
TRICHLOROFLUOROMETHANE	11 U	12 U	ND	ND		0/8	NA	NA
DICHLORODIFLUOROMETHANE	23 U	25 U	ND	ND		0/8	NA	NA
ACETONITRILE	110 U	120 U	ND	ND		0/8	NA	NA
IODOMETHANE	11 U	12 U	ND	ND		0/8	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	56 U	62 U	ND	ND		0/8	NA	NA
3-CHLOROPROPENE	23 U	25 U	ND	ND		0/8	NA	NA
METHACRYLONITRILE	23 U	25 U	ND	ND		0/8	NA	NA
DIBROMOMETHANE	11 U	12 U	ND	ND		0/8	NA	NA
ISOBUTYL ALCOHOL	NA	NA	ND	ND		0/0	NA	NA
1,2-DIBROMOETHANE	23 U	25 U	ND	ND		0/8	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	12 U	ND	ND		0/8	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	12 U	ND	ND		0/8	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	23 U	25 U	ND	ND		0/8	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	23 U	25 U	ND	ND		0/8	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	120 U	ND	ND		0/8	NA	NA
METHYLMETHACRYLATE	23 U	25 U	ND	ND		0/8	NA	NA
ETHYLMETHACRYLATE	23 U	25 U	ND	ND		0/8	NA	NA
PENTACHLOROETHANE	23 U	25 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	370 U	400 U	ND	ND		0/8	NA	NA
BIS(2-CHLOROETHYL)ETHER	370 U	400 U	ND	ND		0/8	NA	NA
2-CHLOROPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
1,3-DICHLOROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
1,4-DICHLOROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
BENZYL ALCOHOL	370 U	400 U	ND	ND		0/8	NA	NA
1,2-DICHLOROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
O-CRESOL	370 U	400 U	ND	ND		0/8	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	370 U	400 U	ND	ND		0/8	NA	NA
META & PARA-CRESOL	370 U	400 U	ND	ND		0/8	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA
HEXACHLOROETHANE	370 U	400 U	ND	ND		0/8	NA	NA
NITROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
ISOPHORONE	370 U	400 U	ND	ND		0/8	NA	NA
2-NITROPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
2,4-DIMETHYLPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
BENZOIC ACID	1800 U	2000 U	ND	ND		0/8	NA	NA
BIS(2-CHLOROETHOXY)METHANE	370 U	400 U	ND	ND		0/8	NA	NA
2,4-DICHLOROPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
1,2,4-TRICHLOROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
NAPHTHALENE	370 U	400 U	ND	ND		0/8	NA	NA
4-CHLOROANILINE	370 U	400 U	ND	ND		0/8	NA	NA
HEXACHLOROBUTADIENE	370 U	400 U	ND	ND		0/8	NA	NA
4-CHLORO-3-METHYLPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
2-METHYLNAPHTHALENE	370 U	400 U	ND	ND		0/8	NA	NA
HEXACHLOROCYCLOPENTADIENE	370 U	400 U	ND	ND		0/8	NA	NA
2,4,6-TRICHLOROPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	2000 U	ND	ND		0/8	NA	NA
2-CHLORONAPHTHALENE	370 U	400 U	ND	ND		0/8	NA	NA
2-NITROANILINE	1800 U	2000 U	ND	ND		0/8	NA	NA
DIMETHYLPHTHALATE	370 U	400 U	ND	ND		0/8	NA	NA
ACENAPHTHYLENE	370 U	400 U	ND	ND		0/8	NA	NA
2,6-DINITROTOLUENE	370 U	400 U	ND	ND		0/8	NA	NA
3-NITROANILINE	1800 U	2000 U	ND	ND		0/8	NA	NA
ACENAPHTHENE	370 U	400 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1800 U	2000 U	ND	ND		0/8	NA	NA
4-NITROPHENOL	1800 U	2000 U	ND	ND		0/8	NA	NA
DIBENZOFURAN	370 U	400 U	ND	ND		0/8	NA	NA
2,4-DINITROTOLUENE	370 U	400 U	ND	ND		0/8	NA	NA
DIETHYLPHTHALATE	370 U	400 U	ND	ND		0/8	NA	NA
4-CHLOROPHENYL-PHENYLETHER	370 U	400 U	ND	ND		0/8	NA	NA
FLUORENE	370 U	400 U	ND	ND		0/8	NA	NA
4-NITROANILINE	1800 U	2000 U	ND	ND		0/8	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 U	2000 U	ND	ND		0/8	NA	NA
N-NITROSODIPHENYLAMINE (1)	370 U	400 U	ND	ND		0/8	NA	NA
4-BROMOPHENYL-PHENYLETHER	370 U	400 U	ND	ND		0/8	NA	NA
HEXACHLOROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
PENTACHLOROPHENOL	1800 U	2000 U	ND	ND		0/8	NA	NA
PHENANTHRENE	370 U	400 U	ND	ND		0/8	NA	NA
ANTHRACENE	370 U	400 U	ND	ND		0/8	NA	NA
DI-N-BUTYLPHTHALATE	370 U	400 U	ND	ND		0/8	NA	NA
FLUORANTHENE	370 U	400 U	ND	ND		0/8	NA	NA
PYRENE	370 U	400 U	ND	ND		0/8	NA	NA
BUTYLBENZYLPHTHALATE	370 U	400 U	84 J	84 J	31SB02-03	1/8	84.00	84.00
3,3'-DICHLOROBENZIDINE	740 U	800 U	ND	ND		0/8	NA	NA
BENZO(A)ANTHRACENE	370 U	400 U	ND	ND		0/8	NA	NA
CHRYSENE	370 U	400 U	ND	ND		0/8	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	370 U	400 U	41 J	79 J	31SB02-03	2/8	60.00	60.00
DI-N-OCTYL PHTHALATE	370 U	400 U	ND	ND		0/8	NA	NA
BENZO(B)FLUORANTHENE	370 U	400 U	ND	ND		0/8	NA	NA
BENZO(K)FLUORANTHENE	370 U	400 U	ND	ND		0/8	NA	NA
BENZO(A)PYRENE	370 U	400 U	ND	ND		0/8	NA	NA
INDENO(1,2,3-CD)PYRENE	370 U	400 U	ND	ND		0/8	NA	NA
DIBENZO(A,H)ANTHRACENE	370 U	400 U	ND	ND		0/8	NA	NA
BENZO(G,H,I)PERYLENE	370 U	400 U	ND	ND		0/8	NA	NA
1,4-DIOXANE	1500 U	1600 U	ND	ND		0/8	NA	NA
PYRIDINE	740 U	800 U	ND	ND		0/8	NA	NA
N-NITROSODIMETHYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA
2-PICOLINE	370 U	400 U	ND	ND		0/8	NA	NA
N-NITROSOMETHYLETHYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	370 U	400 U	ND	ND		0/8	NA	NA
N-NITROSODIETHYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA
ETHYL METHANESULFONATE	370 U	400 U	ND	ND		0/8	NA	NA
ANILINE	1800 U	2000 U	ND	ND		0/8	NA	NA
N-NITROSOPYRROLIDINE	1800 U	2000 U	ND	ND		0/8	NA	NA
ACETOPHENONE	370 U	400 U	ND	ND		0/8	NA	NA
N-NITROSOMORPHOLINE	740 U	800 U	ND	ND		0/8	NA	NA
O-TOLUIDINE	370 U	400 U	ND	ND		0/8	NA	NA
N-NITROSOPIPERIDINE	370 U	400 U	ND	ND		0/8	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	1800 U	2000 U	ND	ND		0/8	NA	NA
2,6-DICHLOROPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
HEXACHLOROPROPENE	740 U	800 U	ND	ND		0/8	NA	NA
P-PHENYLENEDIAMINE	740 U	800 U	ND	ND		0/8	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA
SAFROLE	370 U	400 U	ND	ND		0/8	NA	NA
1,2,4,5-TETRACHLOROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
ISOSAFROLE	370 U	400 U	ND	ND		0/8	NA	NA
1,4-NAPHTHOQUINONE	1800 U	2000 U	ND	ND		0/8	NA	NA
1,3-DINITROBENZENE	740 U	800 U	ND	ND		0/8	NA	NA
PENTACHLOROBENZENE	370 U	400 U	ND	ND		0/8	NA	NA
1-NAPHTHYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA
2-NAPHTHYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA
2,3,4,6-TETRACHLOROPHENOL	370 U	400 U	ND	ND		0/8	NA	NA
1,3,5-TRINITROBENZENE	3700 U	4000 U	ND	ND		0/8	NA	NA
DIALLATE	370 U	400 U	ND	ND		0/8	NA	NA
PHENACETIN	370 U	400 U	ND	ND		0/8	NA	NA
DIPHENYLAMINE	370 U	400 U	ND	ND		0/8	NA	NA
5-NITRO-O-TOLUIDINE	740 U	800 U	ND	ND		0/8	NA	NA
4-AMINOBIPHENYL	370 U	400 U	ND	ND		0/8	NA	NA
PRONAMIDE	370 U	400 U	ND	ND		0/8	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	740 U	800 U	ND	ND		0/8	NA	NA
PENTACHLORONITROBENZENE	NA	NA	ND	ND		0/0	NA	NA
4-NITROQUINOLINE-1-OXIDE	1800 U	2000 U	ND	ND		0/8	NA	NA
METHAPYRILENE	920 U	1000 U	ND	ND		0/8	NA	NA
ARAMITE	740 U	800 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	370 U	400 U	ND	ND		0/8	NA	NA
P-DIMETHYLAMINOAZOBENZENE	740 U	800 U	ND	ND		0/8	NA	NA
3,3'-DIMETHYLBENZIDINE	NA	NA	ND	ND		0/0	NA	NA
2-ACETYLAMINOFLUORENE	740 U	800 U	ND	ND		0/8	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	740 U	800 U	ND	ND		0/8	NA	NA
HEXACHLOROPHENE	3700 U	4000 U	ND	ND		0/8	NA	NA
3-METHYLCHOLANTHRENE	370 U	400 U	ND	ND		0/8	NA	NA
CARBAZOLE	370 U	400 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	4.4 U	24 U	ND	ND		0/8	NA	NA
BETA-BHC	4.4 U	24 U	ND	ND		0/8	NA	NA
DELTA-BHC	4.4 U	24 U	ND	ND		0/8	NA	NA
GAMMA-BHC (LINDANE)	4.4 UJ	24 U	ND	ND		0/8	NA	NA
HEPTACHLOR	4.4 U	24 U	ND	ND		0/8	NA	NA
ALDRIN	4.4 UJ	24 U	ND	ND		0/8	NA	NA
HEPTACHLOR EPOXIDE	4.4 U	24 U	ND	ND		0/8	NA	NA
ENDOSULFAN I	4.4 UJ	24 U	ND	ND		0/8	NA	NA
DIELDRIN	8.8 U	49 U	ND	ND		0/8	NA	NA
4,4'-DDE	8.8 U	49 U	2.7	2.7	31SB01-00	1/8	2.70	2.70
ENDRIN	8.8 U	49 U	ND	ND		0/8	NA	NA
ENDOSULFAN II	8.8 U	49 U	ND	ND		0/8	NA	NA
4,4'-DDD	8.8 U	49 U	3.5	3.5	31SB01-00	1/8	3.50	3.50
ENDOSULFAN SULFATE	8.8 U	49 U	ND	ND		0/8	NA	NA
4,4'-DDT	8.8 U	49 U	ND	ND		0/8	NA	NA
METHOXYCHLOR	44 U	240 UJ	ND	ND		0/8	NA	NA
ENDRIN ALDEHYDE	8.8 U	49 U	ND	ND		0/8	NA	NA
ISODRIN	4.4 UJ	24 UJ	ND	ND		0/8	NA	NA
KEPONE	8.8 U	49 U	ND	ND		0/8	NA	NA
ALPHA-CHLORDANE	44 U	240 U	ND	ND		0/8	NA	NA
GAMMA-CHLORDANE	44 U	240 U	ND	ND		0/8	NA	NA
TOXAPHENE	88 U	490 U	ND	ND		0/8	NA	NA
AROCLOR-1016	44 U	240 U	ND	ND		0/8	NA	NA
AROCLOR-1221	44 U	240 U	ND	ND		0/8	NA	NA
AROCLOR-1232	44 U	240 U	ND	ND		0/8	NA	NA
AROCLOR-1242	44 U	240 U	ND	ND		0/8	NA	NA
AROCLOR-1248	44 U	240 U	ND	ND		0/8	NA	NA
AROCLOR-1254	88 U	490 U	ND	ND		0/8	NA	NA
AROCLOR-1260	88 U	490 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES (ug/kg)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	74 U	82 U	ND	ND		0/8	NA	NA
PHORATE	74 U	82 U	ND	ND		0/8	NA	NA
THIONAZIN	74 U	82 U	ND	ND		0/8	NA	NA
DISULFOTON	74 U	82 U	ND	ND		0/8	NA	NA
SULFOTEP	74 U	82 U	ND	ND		0/8	NA	NA
DIMETHOATE	74 U	82 U	ND	ND		0/8	NA	NA
METHYL PARATHION	74 U	82 U	ND	ND		0/8	NA	NA
PARATHION	74 U	82 U	ND	ND		0/8	NA	NA
FAMPHUR	74 U	82 U	ND	ND		0/8	NA	NA
HERBICIDES (ug/kg)								
2,4-D	350 U	410 U	ND	ND		0/8	NA	NA
2,4,5-TP (SILVEX)	70 U	81 U	ND	ND		0/8	NA	NA
2,4,5-T	70 U	81 U	ND	ND		0/8	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.14 U	0.27 U	ND	ND		0/8	NA	NA
TOTAL TCDD	0.14 U	0.27 U	ND	ND		0/8	NA	NA
TOTAL PECDD	0.15 U	0.29 U	ND	ND		0/8	NA	NA
TOTAL HXCDD	0.15 U	0.38 U	ND	ND		0/8	NA	NA
TOTAL TCDF	0.08 U	0.14 U	ND	ND		0/8	NA	NA
TOTAL PECDF	0.1 U	0.18 U	ND	ND		0/8	NA	NA
TOTAL HXCDF	0.14 U	0.27 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00	31SB04-02	31SB04-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2	4-6	0-2
TPH (mg/kg)								
Gasoline	0.048 U	0.048 U	0.048 U	0.048 U	0.06 U	0.048 U	0.064 U	0.048 U
Diesel Range Organics	4.8 U	4.9 U	4.9 U	4.7 U	37	10	6.6 U	4.9 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TPH (mg/kg)								
Gasoline	0.048 U	0.064 U	ND	ND		0/8	NA	NA
Diesel Range Organics	4.7 U	6.6 U	10	37	31SB03-04	2/8	23.50	23.50

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2
TOTAL METALS (mg/kg)						
Silver, Total	0.31 UJ	0.32 UJ	0.35 UJ	0.39 J	0.33 UJ	0.35 UJ
Arsenic, Total	0.82 UJ	0.63 UJ	0.79 UJ	0.9 UJ	0.77 UJ	0.81 UJ
Barium, Total	85.3	40.4	27.5	111	102	95.7
Beryllium, Total	0.27	0.22	0.34	0.25	0.21	0.24
Cadmium, Total	0.4 U	0.43 U	0.45 U	0.41 U	0.44 U	0.46 U
Cobalt, Total	18.3	12.7	11.4	11.7	14.5	20.6
Chromium, Total	50.7	19.8	29.6	10.9	20	47.9
Copper, Total	101	146	134	89.7	181	202
Mercury, Total	0.049 U	0.058 U	0.051 U	0.058 U	0.057 U	0.057 U
Nickel, Total	22.1	9	196	10	22.5	22.3
Lead, Total	1.1 J	14.1	1.1 J	1.2 J	3.2	1.1 J
Antimony, Total	1.4	1.3	2.8	2.7	2.2	1.4 U
Selenium, Total	1.2 UJ	1.2 J	1.2 J	1.3 UJ	1.3 J	1.2 UJ
Tin, Total	1.1 U	1.1 U	1.2 U	3	2	2.3
Thallium, Total	0.13 UJ	0.1 UJ	0.13 UJ	0.15 UJ	0.13 UJ	0.2 J
Vanadium, Total	141	91.7	135	116	115	181
Zinc, Total	46.1	53.8	58.9	46.9	69.1	182

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
NALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB04-02	31SB04-00					
SAMPLE DATE	10/29/95	10/29/95					LOCATION OF
SAMPLE DEPTH (feet)	4-6	0-2	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	MAXIMUM DETECTED
TOTAL METALS (mg/kg)							
Silver, Total	0.31 UJ	0.31 UJ	0.31 UJ	0.35 UJ	0.39 J	0.39 J	31SB02-00
Arsenic, Total	0.84 UJ	0.9 UJ	0.63 UJ	0.9 UJ	ND	ND	
Barium, Total	117	95.2	NA	NA	27.5	117	31SB04-02
Beryllium, Total	0.16	0.17	NA	NA	0.16	0.34	31SB02-03
Cadmium, Total	0.4 U	0.4 U	0.4 U	0.46 U	ND	ND	
Cobalt, Total	20.7	21.3	NA	NA	11.4	21.3	31SB04-00
Chromium, Total	38	30.8	NA	NA	10.9	50.7	31SB01-02
Copper, Total	82.4	70.6	NA	NA	70.6	202	31SB03-00
Mercury, Total	0.054 U	0.046 U	0.046 U	0.058 U	ND	ND	
Nickel, Total	12.6	10.7	NA	NA	9	196	31SB02-03
Lead, Total	0.6 J	1.2 J	NA	NA	0.6 J	14.1	31SB01-00
Antimony, Total	1.2 U	2.2	1.2 U	1.4 U	1.3	2.8	31SB02-03
Selenium, Total	1.3 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 J	1.3 J	31SB03-04
Tin, Total	2	2.1	1.1 U	1.2 U	2	3	31SB02-00
Thallium, Total	0.14 UJ	0.15 UJ	0.1 UJ	0.15 UJ	0.2 J	0.2 J	31SB03-00
Vanadium, Total	123	121	NA	NA	91.7	181	31SB03-00
Zinc, Total	59.8	46.2	NA	NA	46.1	182	31SB03-00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
NALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)			
Silver, Total	1/8	0.39	0.39
Arsenic, Total	0/8	NA	NA
Barium, Total	8/8	84.26	95.45
Beryllium, Total	8/8	0.23	0.23
Cadmium, Total	0/8	NA	NA
Cobalt, Total	8/8	16.40	16.40
Chromium, Total	8/8	30.96	30.20
Copper, Total	8/8	125.84	117.50
Mercury, Total	0/8	NA	NA
Nickel, Total	8/8	38.15	17.35
Lead, Total	8/8	2.95	1.15
Antimony, Total	6/8	2.10	2.20
Selenium, Total	3/8	1.23	1.20
Tin, Total	5/8	2.28	2.10
Thallium, Total	1/8	0.20	0.20
Vanadium, Total	8/8	127.96	122.00
Zinc, Total	8/8	70.35	56.35

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	31SB01-02	31SB01-00	31SB02-03	31SB02-00	31SB03-04	31SB03-00	31SB04-02	31SB04-00
SAMPLE DATE	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95	10/29/95
SAMPLE DEPTH (feet)	4-6	0-2	6-8	0-2	8-10	0-2	4-6	0-2
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.48 U	0.55 U	0.57 U	0.52 U	0.52 U	0.45 U	0.45 U	0.44 U
Sulfide	29.1 U	28 U	29.6 U	27.8 U	29.3 U	29.4 U	27.6 U	28.1 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
LYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 31 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.44 U	0.57 U	ND	ND		0/8	NA	NA
Sulfide	27.6 U	29.6 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SB01	32SB02	32SB03	32SB04
SAMPLE DATE	10/26/95	10/26/95	10/27/95	10/27/95
SAMPLE DEPTH (feet)	0-2	0-2	0-2	2-4
VOLATILES (ug/kg)				
CHLOROMETHANE	11 U	55 U	12 U	12 U
BROMOMETHANE	11 U	55 U	12 U	12 U
VINYL CHLORIDE	11 U	55 U	12 U	12 U
CHLOROETHANE	11 U	55 U	12 U	12 U
METHYLENE CHLORIDE	14 U	60 U	16 U	9 U
ACETONE	24 U	72 U	12 U	12 U
CARBON DISULFIDE	6 U	28 U	6 U	6 U
1,1-DICHLOROETHENE	6 U	28 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	28 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	28 U	6 U	6 U
CHLOROFORM	6 U	28 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	28 U	6 U	6 U
2-BUTANONE	11 U	55 U	12 U	12 U
1,1,1-TRICHLOROETHANE	6 U	28 U	6 U	6 U
CARBON TETRACHLORIDE	6 U	28 U	6 U	6 U
VINYL ACETATE	11 U	55 U	12 U	12 U
BROMODICHLOROMETHANE	6 U	28 U	6 U	6 U
1,2-DICHLOROPROPANE	6 U	28 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	28 U	6 U	6 U
TRICHLOROETHENE	6 U	28 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 U	28 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 U	28 U	6 U	6 U
BENZENE	6 U	28 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	28 U	6 U	6 U
BROMOFORM	6 U	28 U	6 U	6 U
4-METHYL-2-PENTANONE	11 U	55 U	12 U	12 U
2-HEXANONE	11 U	55 U	12 U	12 U
TETRACHLOROETHENE	6 U	28 U	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	28 U	6 U	6 U
TOLUENE	6 U	28 U	6 U	6 U
CHLOROBENZENE	6 U	28 U	6 U	6 U
ETHYLBENZENE	6 U	28 U	6 U	6 U
STYRENE	6 U	28 U	6 U	6 U
XYLENE (TOTAL)	6 U	28 U	6 U	6 U
ACROLEIN	11 U	55 U	12 U	12 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SB01	32SB02	32SB03	32SB04
SAMPLE DATE	10/26/95	10/26/95	10/27/95	10/27/95
SAMPLE DEPTH (feet)	0-2	0-2	0-2	2-4
VOLATILES cont. (ug/kg)				
ACRYLONITRILE	11 U	55 U	12 U	12 U
TRICHLOROFLUOROMETHANE	6 U	28 U	6 U	6 U
DICHLORODIFLUOROMETHANE	11 U	55 U	12 U	12 U
ACETONITRILE	22 U	110 U	24 U	24 U
IODOMETHANE	11 U	55 U	12 U	12 U
PROPIONITRILE (ETHYL CYANIDE)	55 R	280 R	60 R	60 R
3-CHLOROPROPENE	22 U	110 U	24 U	24 U
METHACRYLONITRILE	22 U	110 U	24 U	24 U
DIBROMOMETHANE	11 U	55 U	12 U	12 U
ISOBUTYL ALCOHOL	110 U	550 U	120 U	120 U
1,2-DIBROMOETHANE	22 U	110 U	24 U	24 U
1,1,1,2-TETRACHLOROETHANE	11 U	55 U	12 U	12 U
1,2,3-TRICHLOROPROPANE	11 U	55 U	12 U	12 U
TRANS-1,4-DICHLORO-2-BUTENE	110 U	550 U	120 U	120 R
1,2-DIBROMO-3-CHLOROPROPANE	22 U	110 U	24 U	24 U
2-CHLORO-1,3-BUTADIENE	110 U	550 U	120 U	120 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SB01	32SB02	32SB03	32SB04
SAMPLE DATE	10/26/95	10/26/95	10/27/95	10/27/95
SAMPLE DEPTH (feet)	0-2	0-2	0-2	2-4
SEMIVOLATILES (ug/kg)				
PHENOL	380 U	NA	380 U	390 U
BIS(2-CHLOROETHYL)ETHER	380 U	NA	380 U	390 U
2-CHLOROPHENOL	380 U	NA	380 U	390 U
1,3-DICHLOROBENZENE	380 U	NA	380 U	390 U
1,4-DICHLOROBENZENE	380 U	NA	380 U	390 U
BENZYL ALCOHOL	380 U	NA	380 U	390 U
1,2-DICHLOROBENZENE	380 U	NA	380 U	390 U
2-METHYLPHENOL	380 U	NA	380 U	390 U
BIS(2-CHLOROISOPROPYL)ETHER	380 U	NA	380 U	390 U
3- AND/OR 4-METHYLPHENOL	380 U	NA	380 U	390 U
N-NITROSO-DI-N-PROPYLAMINE	380 U	NA	380 U	390 U
HEXACHLOROETHANE	380 U	NA	380 U	390 U
NITROBENZENE	380 U	NA	380 U	390 U
ISOPHORONE	380 U	NA	380 U	390 U
2-NITROPHENOL	380 U	NA	380 U	390 U
2,4-DIMETHYLPHENOL	380 U	NA	380 U	390 U
BENZOIC ACID	1900 U	NA	1900 U	2000 U
BIS(2-CHLOROETHOXY)METHANE	380 U	NA	380 U	390 U
2,4-DICHLOROPHENOL	380 U	NA	380 U	390 U
1,2,4-TRICHLOROBENZENE	380 U	NA	380 U	390 U
NAPHTHALENE	380 U	NA	380 U	390 U
4-CHLOROANILINE	380 U	NA	380 U	390 U
HEXACHLOROBUTADIENE	380 U	NA	380 U	390 U
4-CHLORO-3-METHYLPHENOL	380 U	NA	380 U	390 U
2-METHYLNAPHTHALENE	380 U	NA	380 U	390 U
HEXACHLOROCYCLOPENTADIENE	380 U	NA	380 U	390 U
2,4,6-TRICHLOROPHENOL	380 U	NA	380 U	390 U
2,4,5-TRICHLOROPHENOL	1900 U	NA	1900 U	2000 U
2-CHLORONAPHTHALENE	380 U	NA	380 U	390 U
2-NITROANILINE	1900 U	NA	1900 U	2000 U
DIMETHYLPHTHALATE	380 U	NA	380 U	390 U
ACENAPHTHYLENE	380 U	NA	380 U	390 U
2,6-DINITROTOLUENE	380 U	NA	380 U	390 U
3-NITROANILINE	1900 U	NA	1900 U	2000 U
ACENAPHTHENE	380 U	NA	380 U	390 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SB01	32SB02	32SB03	32SB04
SAMPLE DATE	10/26/95	10/26/95	10/27/95	10/27/95
SAMPLE DEPTH (feet)	0-2	0-2	0-2	2-4
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROPHENOL	1900 U	NA	1900 U	2000 U
4-NITROPHENOL	1900 U	NA	1900 U	2000 U
DIBENZOFURAN	380 U	NA	380 U	390 U
2,4-DINITROTOLUENE	380 U	NA	380 U	390 U
DIETHYLPHTHALATE	380 U	NA	380 U	390 U
4-CHLOROPHENYL-PHENYLETHER	380 U	NA	380 U	390 U
FLUORENE	380 U	NA	380 U	390 U
4-NITROANILINE	1900 U	NA	1900 U	2000 U
4,6-DINITRO-2-METHYLPHENOL	1900 U	NA	1900 U	2000 U
N-NITROSODIPHENYLAMINE (1)	380 U	NA	380 U	390 U
4-BROMOPHENYL-PHENYLETHER	380 U	NA	380 U	390 U
HEXACHLOROBENZENE	380 U	NA	380 U	390 U
PENTACHLOROPHENOL	1900 U	NA	1900 U	2000 U
PHENANTHRENE	380 U	NA	380 U	390 U
ANTHRACENE	380 U	NA	380 U	390 U
DI-N-BUTYLPHTHALATE	380 U	NA	380 U	390 U
FLUORANTHENE	380 U	NA	380 U	390 U
PYRENE	380 U	NA	380 U	390 U
BUTYLBENZYLPHTHALATE	380 U	NA	380 U	390 U
3,3'-DICHLOROBENZIDINE	750 U	NA	770 U	780 U
BENZO(A)ANTHRACENE	380 U	NA	380 U	390 U
CHRYSENE	380 U	NA	380 U	390 U
BIS(2-ETHYLHEXYL)PHTHALATE	380 U	NA	380 U	290 J
DI-N-OCTYL PHTHALATE	380 U	NA	380 U	390 U
BENZO(B)FLUORANTHENE	380 U	NA	380 U	390 U
BENZO(K)FLUORANTHENE	380 U	NA	380 U	390 U
BENZO(A)PYRENE	380 U	NA	380 U	390 U
INDENO(1,2,3-CD)PYRENE	380 U	NA	380 U	390 U
DIBENZO(A,H)ANTHRACENE	380 U	NA	380 U	390 U
BENZO(G,H,I)PERYLENE	380 U	NA	380 U	390 U
1,4-DIOXANE	380 U	NA	380 U	390 U
METHYL METHACRYLATE	380 U	NA	380 U	390 U
PYRIDINE	380 U	NA	380 U	390 U
N-NITROSODIMETHYLAMINE	380 U	NA	380 U	390 U
ETHYL METHACRYLATE	380 U	NA	380 U	390 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SB01	32SB02	32SB03	32SB04
SAMPLE DATE	10/26/95	10/26/95	10/27/95	10/27/95
SAMPLE DEPTH (feet)	0-2	0-2	0-2	2-4
SEMIVOLATILES cont. (ug/kg)				
2-PICOLINE	380 U	NA	380 U	390 U
N-NITROSOMETHYLETHYLAMINE	380 U	NA	380 U	390 U
METHYL METHANESULFONATE	380 U	NA	380 U	390 U
N-NITROSODIETHYLAMINE	380 U	NA	380 U	390 U
ETHYL METHANESULFONATE	380 U	NA	380 U	390 U
ANILINE	380 U	NA	380 U	390 U
PENTACHLOROETHANE	380 U	NA	380 U	390 U
N-NITROSOPYRROLIDINE	380 U	NA	380 U	390 U
ACETOPHENONE	380 U	NA	380 U	390 U
N-NITROSOMORPHOLINE	380 U	NA	380 U	390 U
O-TOLUIDINE	380 U	NA	380 U	390 U
N-NITROSOPIPERIDINE	1900 U	NA	1900 U	2000 U
A,A-DIMETHYLPHENETHYLAMINE	380 U	NA	380 U	390 U
2,6-DICHLOROPHENOL	380 U	NA	380 U	390 U
HEXACHLOROPROPENE	380 U	NA	380 U	390 U
P-PHENYLENEDIAMINE	380 U	NA	380 U	390 U
N-NITROSO-DI-N-BUTYLAMINE	380 U	NA	380 U	390 U
SAFROLE	380 U	NA	380 U	390 U
1,2,4,5-TETRACHLOROBENZENE	380 U	NA	380 U	390 U
ISOSAFROLE	380 U	NA	380 U	390 U
1,4-NAPHTHOQUINONE	380 U	NA	380 U	390 U
1,3-DINITROBENZENE	380 U	NA	380 U	390 U
PENTACHLOROBENZENE	380 U	NA	380 U	390 U
1-NAPHTHYLAMINE	380 U	NA	380 U	390 U
2-NAPHTHYLAMINE	380 U	NA	380 U	390 U
2,3,4,6-TETRACHLOROPHENOL	380 U	NA	380 U	390 U
1,3,5-TRINITROBENZENE	380 U	NA	380 U	390 U
DIALLATE	380 U	NA	380 U	390 U
PHENACETIN	380 U	NA	380 U	390 U
DIPHENYLAMINE	380 U	NA	380 U	390 U
5-NITRO-O-TOLUIDINE	380 U	NA	380 U	390 U
4-AMINOBIPHENYL	380 U	NA	380 U	390 U
PRONAMIDE	380 U	NA	380 U	390 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	NA	1900 U	2000 U
PENTACHLORONITROBENZENE	1900 R	NA	1900 R	2000 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SB01	32SB02	32SB03	32SB04
SAMPLE DATE	10/26/95	10/26/95	10/27/95	10/27/95
SAMPLE DEPTH (feet)	0-2	0-2	0-2	2-4
SEMIVOLATILES cont. (ug/kg)				
4-NITROQUINOLINE-1-OXIDE	750 U	NA	770 R	780 R
METHAPYRILENE	380 U	NA	380 U	390 U
ARAMITE	750 U	NA	770 U	780 U
CHLOROBENZILATE	380 U	NA	380 U	390 U
P-DIMETHYLAMINOAZOBENZENE	380 U	NA	380 U	390 U
3,3'-DIMETHYLBENZIDINE	380 U	NA	380 U	390 U
2-ACETYLAMINOFLUORENE	380 U	NA	380 U	390 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	NA	380 U	390 U
HEXACHLOROPHENE	3400 R	NA	3400 R	3500 R
3-METHYLCHOLANTHRENE	380 U	NA	380 U	390 U
PCB (ug/kg)				
AROCLOR-1016	37 UJ	35 UJ	38 UJ	39 UJ
AROCLOR-1221	73 U	70 U	75 U	78 U
AROCLOR-1232	37 U	35 U	38 U	39 U
AROCLOR-1242	37 U	35 U	38 U	39 U
AROCLOR-1248	37 U	35 U	38 U	39 U
AROCLOR-1254	37 U	35 U	38 U	39 U
AROCLOR-1260	37 U	35 U	38 U	39 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	55 U	ND	ND		0/4	NA	NA
BROMOMETHANE	11 U	55 U	ND	ND		0/4	NA	NA
VINYL CHLORIDE	11 U	55 U	ND	ND		0/4	NA	NA
CHLOROETHANE	11 U	55 U	ND	ND		0/4	NA	NA
METHYLENE CHLORIDE	9 U	60 U	ND	ND		0/4	NA	NA
ACETONE	12 U	72 U	ND	ND		0/4	NA	NA
CARBON DISULFIDE	6 U	28 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHENE	6 U	28 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHANE	6 U	28 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	28 U	ND	ND		0/4	NA	NA
CHLOROFORM	6 U	28 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHANE	6 U	28 U	ND	ND		0/4	NA	NA
2-BUTANONE	11 U	55 U	ND	ND		0/4	NA	NA
1,1,1-TRICHLOROETHANE	6 U	28 U	ND	ND		0/4	NA	NA
CARBON TETRACHLORIDE	6 U	28 U	ND	ND		0/4	NA	NA
VINYL ACETATE	11 U	55 U	ND	ND		0/4	NA	NA
BROMODICHLOROMETHANE	6 U	28 U	ND	ND		0/4	NA	NA
1,2-DICHLOROPROPANE	6 U	28 U	ND	ND		0/4	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	28 U	ND	ND		0/4	NA	NA
TRICHLOROETHENE	6 U	28 U	ND	ND		0/4	NA	NA
DIBROMOCHLOROMETHANE	6 U	28 U	ND	ND		0/4	NA	NA
1,1,2-TRICHLOROETHANE	6 U	28 U	ND	ND		0/4	NA	NA
BENZENE	6 U	28 U	ND	ND		0/4	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	28 U	ND	ND		0/4	NA	NA
BROMOFORM	6 U	28 U	ND	ND		0/4	NA	NA
4-METHYL-2-PENTANONE	11 U	55 U	ND	ND		0/4	NA	NA
2-HEXANONE	11 U	55 U	ND	ND		0/4	NA	NA
TETRACHLOROETHENE	6 U	28 U	ND	ND		0/4	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 U	28 U	ND	ND		0/4	NA	NA
TOLUENE	6 U	28 U	ND	ND		0/4	NA	NA
CHLOROBENZENE	6 U	28 U	ND	ND		0/4	NA	NA
ETHYLBENZENE	6 U	28 U	ND	ND		0/4	NA	NA
STYRENE	6 U	28 U	ND	ND		0/4	NA	NA
XYLENE (TOTAL)	6 U	28 U	ND	ND		0/4	NA	NA
ACROLEIN	11 U	55 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	11 U	55 U	ND	ND		0/4	NA	NA
TRICHLOROFLUOROMETHANE	6 U	28 U	ND	ND		0/4	NA	NA
DICHLORODIFLUOROMETHANE	11 U	55 U	ND	ND		0/4	NA	NA
ACETONITRILE	22 U	110 U	ND	ND		0/4	NA	NA
IODOMETHANE	11 U	55 U	ND	ND		0/4	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	NA	NA	ND	ND		0/0	NA	NA
3-CHLOROPROPENE	22 U	110 U	ND	ND		0/4	NA	NA
METHACRYLONITRILE	22 U	110 U	ND	ND		0/4	NA	NA
DIBROMOMETHANE	11 U	55 U	ND	ND		0/4	NA	NA
ISOBUTYL ALCOHOL	110 U	550 U	ND	ND		0/4	NA	NA
1,2-DIBROMOETHANE	22 U	110 U	ND	ND		0/4	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	55 U	ND	ND		0/4	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	55 U	ND	ND		0/4	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	110 U	550 U	ND	ND		0/3	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 U	110 U	ND	ND		0/4	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	550 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	380 U	390 U	ND	ND		0/3	NA	NA
BIS(2-CHLOROETHYL)ETHER	380 U	390 U	ND	ND		0/3	NA	NA
2-CHLOROPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
1,3-DICHLOROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
1,4-DICHLOROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
BENZYL ALCOHOL	380 U	390 U	ND	ND		0/3	NA	NA
1,2-DICHLOROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
2-METHYLPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	380 U	390 U	ND	ND		0/3	NA	NA
3- AND/OR 4-METHYLPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
HEXACHLOROETHANE	380 U	390 U	ND	ND		0/3	NA	NA
NITROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
ISOPHORONE	380 U	390 U	ND	ND		0/3	NA	NA
2-NITROPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
2,4-DIMETHYLPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
BENZOIC ACID	1900 U	2000 U	ND	ND		0/3	NA	NA
BIS(2-CHLOROETHOXY)METHANE	380 U	390 U	ND	ND		0/3	NA	NA
2,4-DICHLOROPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
1,2,4-TRICHLOROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
NAPHTHALENE	380 U	390 U	ND	ND		0/3	NA	NA
4-CHLOROANILINE	380 U	390 U	ND	ND		0/3	NA	NA
HEXACHLOROBUTADIENE	380 U	390 U	ND	ND		0/3	NA	NA
4-CHLORO-3-METHYLPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
2-METHYLNAPHTHALENE	380 U	390 U	ND	ND		0/3	NA	NA
HEXACHLOROCYCLOPENTADIENE	380 U	390 U	ND	ND		0/3	NA	NA
2,4,6-TRICHLOROPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
2,4,5-TRICHLOROPHENOL	1900 U	2000 U	ND	ND		0/3	NA	NA
2-CHLORONAPHTHALENE	380 U	390 U	ND	ND		0/3	NA	NA
2-NITROANILINE	1900 U	2000 U	ND	ND		0/3	NA	NA
DIMETHYLPHTHALATE	380 U	390 U	ND	ND		0/3	NA	NA
ACENAPHTHYLENE	380 U	390 U	ND	ND		0/3	NA	NA
2,6-DINITROTOLUENE	380 U	390 U	ND	ND		0/3	NA	NA
3-NITROANILINE	1900 U	2000 U	ND	ND		0/3	NA	NA
ACENAPHTHENE	380 U	390 U	ND	ND		0/3	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1900 U	2000 U	ND	ND		0/3	NA	NA
4-NITROPHENOL	1900 U	2000 U	ND	ND		0/3	NA	NA
DIBENZOFURAN	380 U	390 U	ND	ND		0/3	NA	NA
2,4-DINITROTOLUENE	380 U	390 U	ND	ND		0/3	NA	NA
DIETHYLPHTHALATE	380 U	390 U	ND	ND		0/3	NA	NA
4-CHLOROPHENYL-PHENYLETHER	380 U	390 U	ND	ND		0/3	NA	NA
FLUORENE	380 U	390 U	ND	ND		0/3	NA	NA
4-NITROANILINE	1900 U	2000 U	ND	ND		0/3	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1900 U	2000 U	ND	ND		0/3	NA	NA
N-NITROSODIPHENYLAMINE (1)	380 U	390 U	ND	ND		0/3	NA	NA
4-BROMOPHENYL-PHENYLETHER	380 U	390 U	ND	ND		0/3	NA	NA
HEXACHLOROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
PENTACHLOROPHENOL	1900 U	2000 U	ND	ND		0/3	NA	NA
PHENANTHRENE	380 U	390 U	ND	ND		0/3	NA	NA
ANTHRACENE	380 U	390 U	ND	ND		0/3	NA	NA
DI-N-BUTYLPHTHALATE	380 U	390 U	ND	ND		0/3	NA	NA
FLUORANTHENE	380 U	390 U	ND	ND		0/3	NA	NA
PYRENE	380 U	390 U	ND	ND		0/3	NA	NA
BUTYLBENZYLPHTHALATE	380 U	390 U	ND	ND		0/3	NA	NA
3,3'-DICHLOROBENZIDINE	750 U	780 U	ND	ND		0/3	NA	NA
BENZO(A)ANTHRACENE	380 U	390 U	ND	ND		0/3	NA	NA
CHRYSENE	380 U	390 U	ND	ND		0/3	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	380 U	380 U	290 J	290 J	32SB04	1/3	290.00	290.00
DI-N-OCTYL PHTHALATE	380 U	390 U	ND	ND		0/3	NA	NA
BENZO(B)FLUORANTHENE	380 U	390 U	ND	ND		0/3	NA	NA
BENZO(K)FLUORANTHENE	380 U	390 U	ND	ND		0/3	NA	NA
BENZO(A)PYRENE	380 U	390 U	ND	ND		0/3	NA	NA
INDENO(1,2,3-CD)PYRENE	380 U	390 U	ND	ND		0/3	NA	NA
DIBENZO(A,H)ANTHRACENE	380 U	390 U	ND	ND		0/3	NA	NA
BENZO(G,H,I)PERYLENE	380 U	390 U	ND	ND		0/3	NA	NA
1,4-DIOXANE	380 U	390 U	ND	ND		0/3	NA	NA
METHYL METHACRYLATE	380 U	390 U	ND	ND		0/3	NA	NA
PYRIDINE	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSODIMETHYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
ETHYL METHACRYLATE	380 U	390 U	ND	ND		0/3	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2-PICOLINE	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSOMETHYLETHYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
METHYL METHANESULFONATE	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSODIETHYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
ETHYL METHANESULFONATE	380 U	390 U	ND	ND		0/3	NA	NA
ANILINE	380 U	390 U	ND	ND		0/3	NA	NA
PENTACHLOROETHANE	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSOPYRROLIDINE	380 U	390 U	ND	ND		0/3	NA	NA
ACETOPHENONE	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSOMORPHOLINE	380 U	390 U	ND	ND		0/3	NA	NA
O-TOLUIDINE	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSOPIPERIDINE	1900 U	2000 U	ND	ND		0/3	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
2,6-DICHLOROPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
HEXACHLOROPROPENE	380 U	390 U	ND	ND		0/3	NA	NA
P-PHENYLENEDIAMINE	380 U	390 U	ND	ND		0/3	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
SAFROLE	380 U	390 U	ND	ND		0/3	NA	NA
1,2,4,5-TETRACHLOROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
ISOSAFROLE	380 U	390 U	ND	ND		0/3	NA	NA
1,4-NAPHTHOQUINONE	380 U	390 U	ND	ND		0/3	NA	NA
1,3-DINITROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
PENTACHLOROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
1-NAPHTHYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
2-NAPHTHYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
2,3,4,6-TETRACHLOROPHENOL	380 U	390 U	ND	ND		0/3	NA	NA
1,3,5-TRINITROBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
DIALLATE	380 U	390 U	ND	ND		0/3	NA	NA
PHENACETIN	380 U	390 U	ND	ND		0/3	NA	NA
DIPHENYLAMINE	380 U	390 U	ND	ND		0/3	NA	NA
5-NITRO-O-TOLUIDINE	380 U	390 U	ND	ND		0/3	NA	NA
4-AMINOBIPHENYL	380 U	390 U	ND	ND		0/3	NA	NA
PRONAMIDE	380 U	390 U	ND	ND		0/3	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	2000 U	ND	ND		0/3	NA	NA
PENTACHLORONITROBENZENE	NA	NA	ND	ND		0/0	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
4-NITROQUINOLINE-1-OXIDE	750 U	750 U	ND	ND		0/1	NA	NA
METHAPYRILENE	380 U	390 U	ND	ND		0/3	NA	NA
ARAMITE	750 U	780 U	ND	ND		0/3	NA	NA
CHLOROBENZILATE	380 U	390 U	ND	ND		0/3	NA	NA
P-DIMETHYLAMINOAZOBENZENE	380 U	390 U	ND	ND		0/3	NA	NA
3,3'-DIMETHYLBENZIDINE	380 U	390 U	ND	ND		0/3	NA	NA
2-ACETYLAMINOFLUORENE	380 U	390 U	ND	ND		0/3	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	390 U	ND	ND		0/3	NA	NA
HEXACHLOROPHENE	NA	NA	ND	ND		0/0	NA	NA
3-METHYLCHOLANTHRENE	380 U	390 U	ND	ND		0/3	NA	NA
PCB (ug/kg)								
AROCLOR-1016	35 UJ	39 UJ	ND	ND		0/4	NA	NA
AROCLOR-1221	70 U	78 U	ND	ND		0/4	NA	NA
AROCLOR-1232	35 U	39 U	ND	ND		0/4	NA	NA
AROCLOR-1242	35 U	39 U	ND	ND		0/4	NA	NA
AROCLOR-1248	35 U	39 U	ND	ND		0/4	NA	NA
AROCLOR-1254	35 U	39 U	ND	ND		0/4	NA	NA
AROCLOR-1260	35 U	39 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SB01		32SB02		32SB03		32SB04	
SAMPLE DATE	10/26/95		10/26/95		10/27/95		10/27/95	
SAMPLE DEPTH (feet)	0-2		0-2		0-2		2-4	
TOTAL METALS (mg/kg)								
Arsenic, Total	0.2	UJ	0.45	J	0.21	UJ	0.21	UJ
Barium, Total	81.7		69.8		91.6		53.9	
Cadmium, Total	0.38	UJ	0.37	UJ	0.39	UJ	0.4	UJ
Chromium, Total	14.8		15		25		19.3	
Lead, Total	0.92		42.8		1.4		19.3	
Mercury, Total	0.06	R	0.05	R	0.06	R	0.06	R
Selenium, Total	0.18	R	0.18	R	0.18	R	0.19	R
Silver, Total	0.63	J	0.48	UJ	0.51	UJ	0.52	UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 32 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Arsenic, Total	0.2 UJ	0.21 UJ	0.45 J	0.45 J	32SB02	1/4	0.45	0.45
Barium, Total	NA	NA	53.9	91.6	32SB03	4/4	74.25	75.75
Cadmium, Total	0.37 UJ	0.4 UJ	ND	ND		0/4	NA	NA
Chromium, Total	NA	NA	14.8	25	32SB03	4/4	18.53	17.15
Lead, Total	NA	NA	0.92	42.8	32SB02	4/4	16.11	10.35
Mercury, Total	NA	NA	ND	ND		0/0	NA	NA
Selenium, Total	NA	NA	ND	ND		0/0	NA	NA
Silver, Total	0.48 UJ	0.52 UJ	0.63 J	0.63 J	32SB01	1/4	0.63	0.63

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SS01	32SS02	32SS03	32SS04
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
VOLATILES (ug/kg)				
CHLOROMETHANE	12 U	11 U	11 U	11 U
BROMOMETHANE	12 U	11 U	11 U	11 U
VINYL CHLORIDE	12 U	11 U	11 U	11 U
CHLOROETHANE	12 U	11 U	11 U	11 U
METHYLENE CHLORIDE	12 U	15 U	17 U	17 U
ACETONE	12 U	11 U	11 U	11 U
CARBON DISULFIDE	6 U	6 U	6 U	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 U	6 U
CHLOROFORM	6 U	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 U	6 U
2-BUTANONE	12 U	11 U	11 U	11 U
1,1,1-TRICHLOROETHANE	6 U	6 U	6 U	6 U
CARBON TETRACHLORIDE	6 U	6 U	6 U	6 U
VINYL ACETATE	12 U	11 U	11 U	11 U
BROMODICHLOROMETHANE	6 U	6 U	6 U	6 U
1,2-DICHLOROPROPANE	6 U	6 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U
TRICHLOROETHENE	6 U	6 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 U	6 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 U	6 U	6 U	6 U
BENZENE	6 U	6 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 U
BROMOFORM	6 U	6 U	6 U	6 U
4-METHYL-2-PENTANONE	12 U	11 U	11 U	11 U
2-HEXANONE	12 UJ	11 U	11 U	11 U
TETRACHLOROETHENE	6 UJ	6 U	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 UJ	6 U	6 U	6 U
TOLUENE	6 UJ	6 U	6 U	6 U
CHLOROBENZENE	6 UJ	6 U	6 U	6 U
ETHYLBENZENE	6 UJ	6 U	6 U	6 U
STYRENE	6 UJ	6 U	6 U	6 U
XYLENE (TOTAL)	6 UJ	6 U	6 U	6 U
ACROLEIN	12 U	11 U	11 U	11 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SS01	32SS02	32SS03	32SS04
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
VOLATILES cont. (ug/kg)				
ACRYLONITRILE	12 U	11 U	11 U	11 U
TRICHLOROFLUOROMETHANE	6 U	6 U	6 U	6 U
DICHLORODIFLUOROMETHANE	12 U	11 U	11 U	11 U
ACETONITRILE	24 U	22 U	22 U	22 U
IODOMETHANE	12 U	11 U	11 U	11 U
PROPIONITRILE (ETHYL CYANIDE)	60 R	55 U	55 R	55 U
3-CHLOROPROPENE	24 U	22 U	22 U	22 U
METHACRYLONITRILE	24 U	22 U	22 U	22 U
DIBROMOMETHANE	12 U	11 U	11 U	11 U
ISOBUTYL ALCOHOL	120 U	110 U	110 U	110 U
1,2-DIBROMOETHANE	24 U	22 U	22 U	22 U
1,1,1,2-TETRACHLOROETHANE	12 UJ	11 U	11 U	11 U
1,2,3-TRICHLOROPROPANE	12 U	11 U	11 U	11 U
TRANS-1,4-DICHLORO-2-BUTENE	120 U	110 R	110 U	110 R
1,2-DIBROMO-3-CHLOROPROPANE	24 U	22 U	22 U	22 U
2-CHLORO-1,3-BUTADIENE	120 U	110 U	110 U	110 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SS01	32SS02	32SS03	32SS04
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES (ug/kg)				
PHENOL	1800 U	370 U	370 U	1900 U
BIS(2-CHLOROETHYL)ETHER	1800 U	370 U	370 U	1900 U
2-CHLOROPHENOL	1800 U	370 U	370 U	1900 U
1,3-DICHLOROBENZENE	1800 U	370 U	370 U	1900 U
1,4-DICHLOROBENZENE	1800 U	370 U	370 U	1900 U
BENZYL ALCOHOL	1800 U	370 U	370 U	1900 U
1,2-DICHLOROBENZENE	1800 U	370 U	370 U	1900 U
2-METHYLPHENOL	1800 U	370 U	370 U	1900 U
BIS(2-CHLOROISOPROPYL)ETHER	1800 U	370 U	370 U	1900 U
3- AND/OR 4-METHYLPHENOL	1800 U	370 U	370 U	1900 U
N-NITROSO-DI-N-PROPYLAMINE	1800 U	370 U	370 U	1900 U
HEXACHLOROETHANE	1800 U	370 U	370 U	1900 U
NITROBENZENE	1800 U	370 U	370 U	1900 U
ISOPHORONE	1800 U	370 U	370 U	1900 U
2-NITROPHENOL	1800 U	370 U	370 U	1900 U
2,4-DIMETHYLPHENOL	1800 U	370 U	370 U	1900 U
BENZOIC ACID	9200 U	1900 U	1800 U	9600 U
BIS(2-CHLOROETHOXY)METHANE	1800 U	370 U	370 U	1900 U
2,4-DICHLOROPHENOL	1800 U	370 U	370 U	1900 U
1,2,4-TRICHLOROBENZENE	1800 U	370 U	370 U	1900 U
NAPHTHALENE	1800 U	370 U	370 U	1900 U
4-CHLOROANILINE	1800 U	370 U	370 U	1900 U
HEXACHLOROBUTADIENE	1800 U	370 U	370 U	1900 U
4-CHLORO-3-METHYLPHENOL	1800 U	370 U	370 U	1900 U
2-METHYLNAPHTHALENE	1800 U	370 U	370 U	1900 U
HEXACHLOROCYCLOPENTADIENE	1800 U	370 U	370 U	1900 U
2,4,6-TRICHLOROPHENOL	1800 U	370 U	370 U	1900 U
2,4,5-TRICHLOROPHENOL	9200 U	1900 U	1800 U	9600 U
2-CHLORONAPHTHALENE	1800 U	370 U	370 U	1900 U
2-NITROANILINE	9200 U	1900 U	1800 U	9600 U
DIMETHYLPHTHALATE	1800 U	370 U	370 U	1900 U
ACENAPHTHYLENE	1800 U	370 U	370 U	1900 U
2,6-DINITROTOLUENE	1800 U	370 U	370 U	1900 U
3-NITROANILINE	9200 U	1900 U	1800 U	9600 U
ACENAPHTHENE	1800 U	370 U	370 U	1900 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SS01	32SS02	32SS03	32SS04
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROPHENOL	9200 U	1900 U	1800 U	9600 U
4-NITROPHENOL	9200 U	1900 U	1800 U	9600 U
DIBENZOFURAN	1800 U	370 U	370 U	1900 U
2,4-DINITROTOLUENE	1800 U	370 U	370 U	1900 U
DIETHYLPHTHALATE	1800 U	370 U	370 U	1900 U
4-CHLOROPHENYL-PHENYLETHER	1800 U	370 U	370 U	1900 U
FLUORENE	1800 U	370 U	370 U	1900 U
4-NITROANILINE	9200 U	1900 U	1800 U	9600 U
4,6-DINITRO-2-METHYLPHENOL	9200 U	1900 U	1800 U	9600 U
N-NITROSODIPHENYLAMINE (1)	1800 U	370 U	370 U	1900 U
4-BROMOPHENYL-PHENYLETHER	1800 U	370 U	370 U	1900 U
HEXACHLOROBENZENE	1800 U	370 U	370 U	1900 U
PENTACHLOROPHENOL	9200 U	1900 U	1800 U	9600 U
PHENANTHRENE	1800 U	370 U	370 U	1900 U
ANTHRACENE	1800 U	370 U	370 U	1900 U
DI-N-BUTYLPHTHALATE	1800 U	370 U	370 U	1900 U
FLUORANTHENE	1800 U	65 J	370 U	1900 U
PYRENE	1800 U	75 J	370 U	1900 U
BUTYLBENZYLPHTHALATE	1800 U	61 J	370 U	1900 U
3,3'-DICHLOROBENZIDINE	3700 U	750 U	740 U	3900 U
BENZO(A)ANTHRACENE	1800 U	370 U	370 U	1900 U
CHRYSENE	1800 U	41 J	370 U	1900 U
BIS(2-ETHYLHEXYL)PHTHALATE	1800 U	370 U	370 U	1900 U
DI-N-OCTYL PHTHALATE	1800 U	370 U	370 U	1900 U
BENZO(B)FLUORANTHENE	1800 U	49 J	370 U	1900 U
BENZO(K)FLUORANTHENE	1800 U	43 J	370 U	1900 U
BENZO(A)PYRENE	1800 U	46 J	370 U	1900 U
INDENO(1,2,3-CD)PYRENE	1800 U	43 J	370 U	1900 U
DIBENZO(A,H)ANTHRACENE	1800 U	370 U	370 U	1900 U
BENZO(G,H,I)PERYLENE	1800 U	51 J	370 U	1900 U
1,4-DIOXANE	1800 U	370 U	370 U	1900 U
METHYL METHACRYLATE	1800 U	370 U	370 U	1900 U
PYRIDINE	1800 U	370 U	370 U	1900 U
N-NITROSODIMETHYLAMINE	1800 U	370 U	370 U	1900 U
ETHYL METHACRYLATE	1800 U	370 U	370 U	1900 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SS01	32SS02	32SS03	32SS04
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/kg)				
2-PICOLINE	1800 U	370 U	370 U	1900 U
N-NITROSOMETHYLETHYLAMINE	1800 U	370 U	370 U	1900 U
METHYL METHANESULFONATE	1800 U	370 U	370 U	1900 U
N-NITROSODIETHYLAMINE	1800 U	370 U	370 U	1900 U
ETHYL METHANESULFONATE	1800 U	370 U	370 U	1900 U
ANILINE	1800 U	370 U	370 U	1900 U
PENTACHLOROETHANE	1800 U	370 U	370 U	1900 U
N-NITROSOPYRROLIDINE	1800 U	370 U	370 U	1900 U
ACETOPHENONE	1800 U	370 U	370 U	1900 U
N-NITROSOMORPHOLINE	1800 U	370 U	370 U	1900 U
O-TOLUIDINE	1800 U	370 U	370 U	1900 U
N-NITROSOPIPERIDINE	9200 U	1900 U	1800 U	9600 U
A,A-DIMETHYLPHENETHYLAMINE	1800 U	370 U	370 U	1900 U
2,6-DICHLOROPHENOL	1800 U	370 U	370 U	1900 U
HEXACHLOROPROPENE	1800 U	370 U	370 U	1900 U
P-PHENYLENEDIAMINE	1800 U	370 U	370 U	1900 U
N-NITROSO-DI-N-BUTYLAMINE	1800 U	370 U	370 U	1900 U
SAFROLE	1800 U	370 U	370 U	1900 U
1,2,4,5-TETRACHLOROBENZENE	1800 U	370 U	370 U	1900 U
ISOSAFROLE	1800 U	370 U	370 U	1900 U
1,4-NAPHTHOQUINONE	1800 U	370 U	370 U	1900 U
1,3-DINITROBENZENE	1800 U	370 U	370 U	1900 U
PENTACHLOROBENZENE	1800 U	370 U	370 U	1900 U
1-NAPHTHYLAMINE	1800 U	370 U	370 U	1900 U
2-NAPHTHYLAMINE	1800 U	370 U	370 U	1900 U
2,3,4,6-TETRACHLOROPHENOL	1800 U	370 U	370 U	1900 U
1,3,5-TRINITROBENZENE	1800 U	370 U	370 U	1900 U
DIALLATE	1800 U	370 U	370 U	1900 U
PHENACETIN	1800 U	370 U	370 U	1900 U
DIPHENYLAMINE	1800 U	370 U	370 U	1900 U
5-NITRO-O-TOLUIDINE	1800 U	370 U	370 U	1900 U
4-AMINOBIPHENYL	1800 U	370 U	370 U	1900 U
PRONAMIDE	1800 U	370 U	370 U	1900 U
2-SEC-BUTYL-4,6-DINITROPHENOL	9200 U	1900 U	1800 U	9600 U
PENTACHLORONITROBENZENE	9200 R	9300 R	1800 R	9600 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SS01	32SS02	32SS03	32SS04
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/kg)				
4-NITROQUINOLINE-1-OXIDE	3700 U	750 U	740 U	3900 U
METHAPYRILENE	1800 U	370 U	370 U	1900 U
ARAMITE	3700 U	750 U	740 U	3900 U
CHLOROBENZILATE	1800 U	370 U	370 U	1900 U
P-DIMETHYLAMINOAZOBENZENE	1800 U	370 U	370 U	1900 U
3,3'-DIMETHYLBENZIDINE	1800 U	370 U	370 U	1900 U
2-ACETYLAMINOFLUORENE	1800 U	370 U	370 U	1900 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	1800 U	370 U	370 U	1900 U
HEXACHLOROPHENE	17000 U	3400 R	3300 R	17000 R
3-METHYLCHOLANTHRENE	1800 U	370 U	370 U	1900 U
PCB (ug/kg)				
AROCLOR-1016	37 UJ	37 UJ	360 UJ	38 UJ
AROCLOR-1221	74 U	74 U	730 U	75 U
AROCLOR-1232	37 U	37 U	360 U	38 U
AROCLOR-1242	37 U	37 U	360 U	38 U
AROCLOR-1248	37 U	37 U	360 U	38 U
AROCLOR-1254	37 U	37 U	2600	38 U
AROCLOR-1260	37 U	37 U	360 U	38 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
BROMOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
VINYL CHLORIDE	11 U	12 U	ND	ND		0/4	NA	NA
CHLOROETHANE	11 U	12 U	ND	ND		0/4	NA	NA
METHYLENE CHLORIDE	12 U	17 U	ND	ND		0/4	NA	NA
ACETONE	11 U	12 U	ND	ND		0/4	NA	NA
CARBON DISULFIDE	6 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHENE	6 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	ND	ND		0/4	NA	NA
CHLOROFORM	6 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
2-BUTANONE	11 U	12 U	ND	ND		0/4	NA	NA
1,1,1-TRICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
CARBON TETRACHLORIDE	6 U	6 U	ND	ND		0/4	NA	NA
VINYL ACETATE	11 U	12 U	ND	ND		0/4	NA	NA
BROMODICHLOROMETHANE	6 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROPROPANE	6 U	6 U	ND	ND		0/4	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/4	NA	NA
TRICHLOROETHENE	6 U	6 U	ND	ND		0/4	NA	NA
DIBROMOCHLOROMETHANE	6 U	6 U	ND	ND		0/4	NA	NA
1,1,2-TRICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
BENZENE	6 U	6 U	ND	ND		0/4	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/4	NA	NA
BROMOFORM	6 U	6 U	ND	ND		0/4	NA	NA
4-METHYL-2-PENTANONE	11 U	12 U	ND	ND		0/4	NA	NA
2-HEXANONE	11 U	12 UJ	ND	ND		0/4	NA	NA
TETRACHLOROETHENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
TOLUENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
CHLOROBENZENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
ETHYLBENZENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
STYRENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
XYLENE (TOTAL)	6 UJ	6 UJ	ND	ND		0/4	NA	NA
ACROLEIN	11 U	12 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	11 U	12 U	ND	ND		0/4	NA	NA
TRICHLOROFLUOROMETHANE	6 U	6 U	ND	ND		0/4	NA	NA
DICHLORODIFLUOROMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
ACETONITRILE	22 U	24 U	ND	ND		0/4	NA	NA
IODOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	55 U	55 U	ND	ND		0/2	NA	NA
3-CHLOROPROPENE	22 U	24 U	ND	ND		0/4	NA	NA
METHACRYLONITRILE	22 U	24 U	ND	ND		0/4	NA	NA
DIBROMOMETHANE	11 U	12 U	ND	ND		0/4	NA	NA
ISOBUTYL ALCOHOL	110 U	120 U	ND	ND		0/4	NA	NA
1,2-DIBROMOETHANE	22 U	24 U	ND	ND		0/4	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	12 UJ	ND	ND		0/4	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	12 U	ND	ND		0/4	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	110 U	120 U	ND	ND		0/2	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 U	24 U	ND	ND		0/4	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	120 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROETHYL)ETHER	370 U	1900 U	ND	ND		0/4	NA	NA
2-CHLOROPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
1,3-DICHLOROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
1,4-DICHLOROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
BENZYL ALCOHOL	370 U	1900 U	ND	ND		0/4	NA	NA
1,2-DICHLOROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
2-METHYLPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	370 U	1900 U	ND	ND		0/4	NA	NA
3- AND/OR 4-METHYLPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
HEXACHLOROETHANE	370 U	1900 U	ND	ND		0/4	NA	NA
NITROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
ISOPHORONE	370 U	1900 U	ND	ND		0/4	NA	NA
2-NITROPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
2,4-DIMETHYLPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
BENZOIC ACID	1800 U	9600 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROETHOXY)METHANE	370 U	1900 U	ND	ND		0/4	NA	NA
2,4-DICHLOROPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
1,2,4-TRICHLOROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
NAPHTHALENE	370 U	1900 U	ND	ND		0/4	NA	NA
4-CHLOROANILINE	370 U	1900 U	ND	ND		0/4	NA	NA
HEXACHLOROBUTADIENE	370 U	1900 U	ND	ND		0/4	NA	NA
4-CHLORO-3-METHYLPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
2-METHYLNAPHTHALENE	370 U	1900 U	ND	ND		0/4	NA	NA
HEXACHLOROCYCLOPENTADIENE	370 U	1900 U	ND	ND		0/4	NA	NA
2,4,6-TRICHLOROPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	9600 U	ND	ND		0/4	NA	NA
2-CHLORONAPHTHALENE	370 U	1900 U	ND	ND		0/4	NA	NA
2-NITROANILINE	1800 U	9600 U	ND	ND		0/4	NA	NA
DIMETHYLPHTHALATE	370 U	1900 U	ND	ND		0/4	NA	NA
ACENAPHTHYLENE	370 U	1900 U	ND	ND		0/4	NA	NA
2,6-DINITROTOLUENE	370 U	1900 U	ND	ND		0/4	NA	NA
3-NITROANILINE	1800 U	9600 U	ND	ND		0/4	NA	NA
ACENAPHTHENE	370 U	1900 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1800 U	9600 U	ND	ND		0/4	NA	NA
4-NITROPHENOL	1800 U	9600 U	ND	ND		0/4	NA	NA
DIBENZOFURAN	370 U	1900 U	ND	ND		0/4	NA	NA
2,4-DINITROTOLUENE	370 U	1900 U	ND	ND		0/4	NA	NA
DIETHYLPHTHALATE	370 U	1900 U	ND	ND		0/4	NA	NA
4-CHLOROPHENYL-PHENYLETHER	370 U	1900 U	ND	ND		0/4	NA	NA
FLUORENE	370 U	1900 U	ND	ND		0/4	NA	NA
4-NITROANILINE	1800 U	9600 U	ND	ND		0/4	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 U	9600 U	ND	ND		0/4	NA	NA
N-NITROSODIPHENYLAMINE (1)	370 U	1900 U	ND	ND		0/4	NA	NA
4-BROMOPHENYL-PHENYLETHER	370 U	1900 U	ND	ND		0/4	NA	NA
HEXACHLOROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
PENTACHLOROPHENOL	1800 U	9600 U	ND	ND		0/4	NA	NA
PHENANTHRENE	370 U	1900 U	ND	ND		0/4	NA	NA
ANTHRACENE	370 U	1900 U	ND	ND		0/4	NA	NA
DI-N-BUTYLPHTHALATE	370 U	1900 U	ND	ND		0/4	NA	NA
FLUORANTHENE	370 U	1900 U	65 J	65 J	32SS02	1/4	65.00	65.00
PYRENE	370 U	1900 U	75 J	75 J	32SS02	1/4	75.00	75.00
BUTYLBENZYLPHTHALATE	370 U	1900 U	61 J	61 J	32SS02	1/4	61.00	61.00
3,3'-DICHLOROBENZIDINE	740 U	3900 U	ND	ND		0/4	NA	NA
BENZO(A)ANTHRACENE	370 U	1900 U	ND	ND		0/4	NA	NA
CHRYSENE	370 U	1900 U	41 J	41 J	32SS02	1/4	41.00	41.00
BIS(2-ETHYLHEXYL)PHTHALATE	370 U	1900 U	ND	ND		0/4	NA	NA
DI-N-OCTYL PHTHALATE	370 U	1900 U	ND	ND		0/4	NA	NA
BENZO(B)FLUORANTHENE	370 U	1900 U	49 J	49 J	32SS02	1/4	49.00	49.00
BENZO(K)FLUORANTHENE	370 U	1900 U	43 J	43 J	32SS02	1/4	43.00	43.00
BENZO(A)PYRENE	370 U	1900 U	46 J	46 J	32SS02	1/4	46.00	46.00
INDENO(1,2,3-CD)PYRENE	370 U	1900 U	43 J	43 J	32SS02	1/4	43.00	43.00
DIBENZO(A,H)ANTHRACENE	370 U	1900 U	ND	ND		0/4	NA	NA
BENZO(G,H,I)PERYLENE	370 U	1900 U	51 J	51 J	32SS02	1/4	51.00	51.00
1,4-DIOXANE	370 U	1900 U	ND	ND		0/4	NA	NA
METHYL METHACRYLATE	370 U	1900 U	ND	ND		0/4	NA	NA
PYRIDINE	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSODIMETHYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
ETHYL METHACRYLATE	370 U	1900 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2-PICOLINE	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSOMETHYLETHYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
METHYL METHANESULFONATE	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSODIETHYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
ETHYL METHANESULFONATE	370 U	1900 U	ND	ND		0/4	NA	NA
ANILINE	370 U	1900 U	ND	ND		0/4	NA	NA
PENTACHLOROETHANE	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSOPYRROLIDINE	370 U	1900 U	ND	ND		0/4	NA	NA
ACETOPHENONE	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSOMORPHOLINE	370 U	1900 U	ND	ND		0/4	NA	NA
O-TOLUIDINE	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSOPIPERIDINE	1800 U	9600 U	ND	ND		0/4	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
2,6-DICHLOROPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
HEXACHLOROPROPENE	370 U	1900 U	ND	ND		0/4	NA	NA
P-PHENYLENEDIAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
SAFROLE	370 U	1900 U	ND	ND		0/4	NA	NA
1,2,4,5-TETRACHLOROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
ISOSAFROLE	370 U	1900 U	ND	ND		0/4	NA	NA
1,4-NAPHTHOQUINONE	370 U	1900 U	ND	ND		0/4	NA	NA
1,3-DINITROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
PENTACHLOROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
1-NAPHTHYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
2-NAPHTHYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
2,3,4,6-TETRACHLOROPHENOL	370 U	1900 U	ND	ND		0/4	NA	NA
1,3,5-TRINITROBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
DIALLATE	370 U	1900 U	ND	ND		0/4	NA	NA
PHENACETIN	370 U	1900 U	ND	ND		0/4	NA	NA
DIPHENYLAMINE	370 U	1900 U	ND	ND		0/4	NA	NA
5-NITRO-O-TOLUIDINE	370 U	1900 U	ND	ND		0/4	NA	NA
4-AMINOBIPHENYL	370 U	1900 U	ND	ND		0/4	NA	NA
PRONAMIDE	370 U	1900 U	ND	ND		0/4	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	1800 U	9600 U	ND	ND		0/4	NA	NA
PENTACHLORONITROBENZENE	NA	NA	ND	ND		0/0	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
4-NITROQUINOLINE-1-OXIDE	740 U	3900 U	ND	ND		0/4	NA	NA
METHAPYRILENE	370 U	1900 U	ND	ND		0/4	NA	NA
ARAMITE	740 U	3900 U	ND	ND		0/4	NA	NA
CHLOROBENZILATE	370 U	1900 U	ND	ND		0/4	NA	NA
P-DIMETHYLAMINOAZOBENZENE	370 U	1900 U	ND	ND		0/4	NA	NA
3,3'-DIMETHYLBENZIDINE	370 U	1900 U	ND	ND		0/4	NA	NA
2-ACETYLAMINOFLUORENE	370 U	1900 U	ND	ND		0/4	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	370 U	1900 U	ND	ND		0/4	NA	NA
HEXACHLOROPHENE	17000 U	17000 U	ND	ND		0/1	NA	NA
3-METHYLCHOLANTHRENE	370 U	1900 U	ND	ND		0/4	NA	NA
PCB (ug/kg)								
AROCLOR-1016	37 UJ	360 UJ	ND	ND		0/4	NA	NA
AROCLOR-1221	74 U	730 U	ND	ND		0/4	NA	NA
AROCLOR-1232	37 U	360 U	ND	ND		0/4	NA	NA
AROCLOR-1242	37 U	360 U	ND	ND		0/4	NA	NA
AROCLOR-1248	37 U	360 U	ND	ND		0/4	NA	NA
AROCLOR-1254	37 U	38 U	2600	2600	32SS03	1/4	2600.00	2600.00
AROCLOR-1260	37 U	360 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	32SS01	32SS02	32SS03	32SS04
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
TOTAL METALS (mg/kg)				
Arsenic, Total	0.52 J	0.62 J	0.23 J	2 J
Barium, Total	127	70	88.1	40.8
Cadmium, Total	0.53 J	0.38 UJ	0.38 UJ	1.2 J
Chromium, Total	18.5	13.1	10	13
Lead, Total	85.7	59.4	17.4	141
Mercury, Total	0.06 R	0.06 R	0.06 R	0.06 R
Selenium, Total	0.18 R	0.18 R	0.18 R	0.19 R
Silver, Total	0.49 UJ	0.49 UJ	0.49 UJ	0.51 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 32 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Arsenic, Total	NA	NA	0.23 J	2 J	32SS04	4/4	0.84	0.57
Barium, Total	NA	NA	40.8	127	32SS01	4/4	81.48	79.05
Cadmium, Total	0.38 UJ	0.38 UJ	0.53 J	1.2 J	32SS04	2/4	0.87	0.87
Chromium, Total	NA	NA	10	18.5	32SS01	4/4	13.65	13.05
Lead, Total	NA	NA	17.4	141	32SS04	4/4	75.88	72.55
Mercury, Total	NA	NA	ND	ND		0/0	NA	NA
Selenium, Total	NA	NA	ND	ND		0/0	NA	NA
Silver, Total	0.49 UJ	0.51 UJ	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	37SS01	37SS02	37SS03	37SS04
SAMPLE DATE	10/26/95	10/25/95	10/25/95	10/26/95
VOLATILES (ug/kg)				
CHLOROMETHANE	11 U	13 U	13 UJ	13 U
BROMOMETHANE	11 U	13 U	13 UJ	13 U
VINYL CHLORIDE	11 U	13 U	13 UJ	13 U
CHLOROETHANE	11 U	13 U	13 UJ	13 U
METHYLENE CHLORIDE	24 U	17 U	19 U	12 U
ACETONE	11 U	13 U	13 UJ	13 U
CARBON DISULFIDE	6 U	6 U	6 UJ	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 UJ	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 UJ	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 UJ	6 U
CHLOROFORM	6 U	6 U	6 UJ	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 UJ	6 U
2-BUTANONE	11 U	13 U	13 UJ	13 U
1,1,1-TRICHLOROETHANE	6 U	6 U	6 UJ	6 UJ
CARBON TETRACHLORIDE	6 U	6 U	6 UJ	6 UJ
VINYL ACETATE	11 U	13 U	13 UJ	13 UJ
BROMODICHLOROMETHANE	6 U	6 U	6 UJ	6 UJ
1,2-DICHLOROPROPANE	6 U	6 U	6 UJ	6 UJ
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 UJ	6 UJ
TRICHLOROETHENE	6 U	6 U	6 UJ	6 UJ
DIBROMOCHLOROMETHANE	6 U	6 U	6 UJ	6 UJ
1,1,2-TRICHLOROETHANE	6 U	6 U	6 UJ	6 UJ
BENZENE	6 U	6 U	6 UJ	6 UJ
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 UJ	6 UJ
BROMOFORM	6 U	6 U	6 UJ	6 UJ
4-METHYL-2-PENTANONE	11 U	13 U	13 UJ	13 UJ
2-HEXANONE	11 UJ	13 U	13 UJ	13 UJ
TETRACHLOROETHENE	6 UJ	6 U	6 UJ	6 UJ
1,1,2,2-TETRACHLOROETHANE	6 UJ	6 U	6 UJ	6 UJ
TOLUENE	6 UJ	6 U	6 UJ	6 UJ
CHLOROBENZENE	6 UJ	6 U	6 UJ	6 UJ
ETHYLBENZENE	6 UJ	6 U	6 UJ	6 UJ
STYRENE	6 UJ	6 U	6 UJ	6 UJ
XYLENE (TOTAL)	6 UJ	6 U	6 UJ	6 UJ
ACROLEIN	11 U	13 U	13 UJ	13 U
ACRYLONITRILE	11 U	13 U	13 UJ	13 U
TRICHLOROFLUOROMETHANE	6 U	6 U	6 UJ	6 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	37SS01	37SS02	37SS03	37SS04
SAMPLE DATE	10/26/95	10/25/95	10/25/95	10/26/95
VOLATILES cont. (ug/kg)				
DICHLORODIFLUOROMETHANE	11 U	13 U	13 UJ	13 U
ACETONITRILE	22 U	26 U	26 UJ	26 U
IODOMETHANE	11 U	13 U	13 UJ	13 U
PROPIONITRILE (ETHYL CYANIDE)	55 U	65 U	65 UJ	65 U
3-CHLOROPROPENE	22 U	26 U	26 UJ	26 U
METHACRYLONITRILE	22 U	26 U	26 UJ	26 U
DIBROMOMETHANE	11 U	13 U	13 UJ	13 U
ISOBUTYL ALCOHOL	110 U	130 U	130 UJ	130 U
1,2-DIBROMOETHANE	22 U	26 U	26 UJ	26 U
1,1,1,2-TETRACHLOROETHANE	11 UJ	13 U	13 UJ	13 UJ
1,2,3-TRICHLOROPROPANE	11 U	13 U	13 UJ	13 U
TRANS-1,4-DICHLORO-2-BUTENE	110 U	130 U	130 UJ	130 U
1,2-DIBROMO-3-CHLOROPROPANE	22 U	26 U	26 UJ	26 U
2-CHLORO-1,3-BUTADIENE	110 U	130 U	130 UJ	130 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	37SS01	37SS02	37SS03	37SS04
SAMPLE DATE	10/26/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES (ug/kg)				
PHENOL	380 U	420 U	650 U	2100 U
BIS(2-CHLOROETHYL)ETHER	380 U	420 U	650 U	2100 U
2-CHLOROPHENOL	380 U	420 U	650 U	2100 U
1,3-DICHLOROBENZENE	380 U	420 U	650 U	2100 U
1,4-DICHLOROBENZENE	380 U	420 U	650 U	2100 U
BENZYL ALCOHOL	380 U	420 U	650 U	2100 U
1,2-DICHLOROBENZENE	380 U	420 U	650 U	2100 U
2-METHYLPHENOL	380 U	420 U	650 U	2100 U
BIS(2-CHLOROISOPROPYL)ETHER	380 U	420 U	650 U	2100 U
3- AND/OR 4-METHYLPHENOL	380 U	420 U	130 J	2100 U
N-NITROSO-DI-N-PROPYLAMINE	380 U	420 U	650 U	2100 U
HEXACHLOROETHANE	380 U	420 U	650 U	2100 U
NITROBENZENE	380 U	420 U	650 U	2100 U
ISOPHORONE	380 U	420 U	650 U	2100 U
2-NITROPHENOL	380 U	420 U	650 U	2100 U
2,4-DIMETHYLPHENOL	380 U	420 U	650 U	2100 U
BENZOIC ACID	47 J	110 J	150 J	11000 U
BIS(2-CHLOROETHOXY)METHANE	380 U	420 U	650 U	2100 U
2,4-DICHLOROPHENOL	380 U	420 U	650 U	2100 U
1,2,4-TRICHLOROBENZENE	380 U	420 U	650 U	2100 U
NAPHTHALENE	380 U	420 U	650 U	2100 U
4-CHLOROANILINE	380 U	420 U	650 U	2100 U
HEXACHLOROBUTADIENE	380 U	420 U	650 U	2100 U
4-CHLORO-3-METHYLPHENOL	380 U	420 U	650 U	2100 U
2-METHYLNAPHTHALENE	380 U	420 U	650 U	2100 U
HEXACHLOROCYCLOPENTADIENE	380 U	420 U	650 U	2100 U
2,4,6-TRICHLOROPHENOL	380 U	420 U	650 U	2100 U
2,4,5-TRICHLOROPHENOL	1900 U	2100 U	3300 U	11000 U
2-CHLORONAPHTHALENE	380 U	420 U	650 U	2100 U
2-NITROANILINE	1900 U	2100 U	3300 U	11000 U
DIMETHYLPHTHALATE	380 U	420 U	650 U	2100 U
ACENAPHTHYLENE	380 U	420 U	650 U	2100 U
2,6-DINITROTOLUENE	380 U	420 U	650 U	2100 U
3-NITROANILINE	1900 U	2100 U	3300 U	11000 U
ACENAPHTHENE	380 U	420 U	650 U	2100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	37SS01	37SS02	37SS03	37SS04
SAMPLE DATE	10/26/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROPHENOL	1900 U	2100 U	3300 U	11000 U
4-NITROPHENOL	1900 U	2100 U	3300 U	11000 U
DIBENZOFURAN	380 U	420 U	650 U	2100 U
2,4-DINITROTOLUENE	380 U	420 U	650 U	2100 U
DIETHYLPHTHALATE	380 U	420 U	650 U	2100 U
4-CHLOROPHENYL-PHENYLETHER	380 U	420 U	650 U	2100 U
FLUORENE	380 U	420 U	650 U	2100 U
4-NITROANILINE	1900 U	2100 U	3300 U	11000 U
4,6-DINITRO-2-METHYLPHENOL	1900 U	2100 U	3300 U	11000 U
N-NITROSODIPHENYLAMINE (1)	380 U	420 U	650 U	2100 U
4-BROMOPHENYL-PHENYLETHER	380 U	420 U	650 U	2100 U
HEXACHLOROBENZENE	380 U	420 U	650 U	2100 U
PENTACHLOROPHENOL	1900 U	2100 U	3300 U	11000 U
PHENANTHRENE	380 U	420 U	270 J	2100 U
ANTHRACENE	380 U	420 U	72 J	2100 U
DI-N-BUTYLPHTHALATE	380 U	420 U	650 U	2100 U
FLUORANTHENE	380 U	420 U	1500	2100 U
PYRENE	380 U	420 U	2100	2100 U
BUTYLBENZYLPHTHALATE	190 J	420 U	1200	2100 U
3,3'-DICHLOROBENZIDINE	760 U	830 U	1300 U	4200 U
BENZO(A)ANTHRACENE	380 U	420 U	660	2100 U
CHRYSENE	380 U	420 U	1300	2100 U
BIS(2-ETHYLHEXYL)PHTHALATE	330 J	87 J	1400	2100 U
DI-N-OCTYL PHTHALATE	380 U	420 U	650 U	2100 U
BENZO(B)FLUORANTHENE	380 U	49 J	1300	250 J
BENZO(K)FLUORANTHENE	380 U	420 U	1100	2100 U
BENZO(A)PYRENE	380 U	420 U	730	2100 U
INDENO(1,2,3-CD)PYRENE	380 U	420 U	530 J	270 J
DIBENZO(A,H)ANTHRACENE	380 U	420 U	120 J	2100 U
BENZO(G,H,I)PERYLENE	380 U	420 U	600 J	380 J
1,4-DIOXANE	380 U	420 U	650 U	2100 U
METHYL METHACRYLATE	67 J	420 U	650 U	2100 U
PYRIDINE	380 U	420 U	650 U	2100 U
N-NITROSODIMETHYLAMINE	380 U	420 U	650 U	2100 U
ETHYL METHACRYLATE	380 U	420 U	650 U	2100 U
2-PICOLINE	380 U	420 U	650 U	2100 U
N-NITROSOMETHYLETHYLAMINE	380 U	420 U	650 U	2100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	37SS01	37SS02	37SS03	37SS04
SAMPLE DATE	10/26/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES cont. (ug/kg)				
METHYL METHANESULFONATE	380 U	420 U	650 U	2100 U
N-NITROSODIETHYLAMINE	380 U	420 U	650 U	2100 U
ETHYL METHANESULFONATE	380 U	420 U	650 U	2100 U
ANILINE	380 U	420 U	650 U	2100 U
PENTACHLOROETHANE	380 U	420 U	650 U	2100 U
N-NITROSOPYRROLIDINE	380 U	420 U	650 U	2100 U
ACETOPHENONE	380 U	420 U	650 U	2100 U
N-NITROSOMORPHOLINE	380 U	420 U	650 U	2100 U
O-TOLUIDINE	380 U	420 U	650 U	2100 U
N-NITROSOPIPERIDINE	1900 U	2100 U	3300 U	11000 U
A,A-DIMETHYLPHENETHYLAMINE	380 U	420 U	650 U	2100 U
2,6-DICHLOROPHENOL	380 U	420 U	650 U	2100 U
HEXACHLOROPROPENE	380 U	420 U	650 U	2100 U
P-PHENYLENEDIAMINE	380 U	420 U	650 U	2100 U
N-NITROSO-DI-N-BUTYLAMINE	380 U	420 U	650 U	2100 U
SAFROLE	380 U	420 U	650 U	2100 U
1,2,4,5-TETRACHLOROBENZENE	380 U	420 U	650 U	2100 U
ISOSAFROLE	380 U	420 U	650 U	2100 U
1,4-NAPHTHOQUINONE	380 U	420 U	650 U	2100 U
1,3-DINITROBENZENE	380 U	420 U	650 U	2100 U
PENTACHLOROBENZENE	380 U	420 U	650 U	2100 U
1-NAPHTHYLAMINE	380 U	420 U	650 U	2100 U
2-NAPHTHYLAMINE	380 U	420 U	650 U	2100 U
2,3,4,6-TETRACHLOROPHENOL	380 U	420 U	650 U	2100 U
1,3,5-TRINITROBENZENE	380 U	420 U	650 U	2100 U
DIALLATE	380 U	420 U	650 U	2100 U
PHENACETIN	380 U	420 U	650 U	2100 U
DIPHENYLAMINE	380 U	420 U	650 U	2100 U
5-NITRO-O-TOLUIDINE	380 U	420 U	650 U	2100 U
4-AMINOBIPHENYL	380 U	420 U	650 U	2100 U
PRONAMIDE	380 U	420 U	650 U	2100 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	2100 U	3300 U	11000 U
PENTACHLORONITROBENZENE	1900 R	2100 R	3300 R	11000 U
4-NITROQUINOLINE-1-OXIDE	760 U	830 U	1300 U	4200 U
METHAPYRILENE	380 U	420 U	650 U	2100 U
ARAMITE	760 U	830 U	240 J	4200 U
CHLOROBENZILATE	380 U	420 U	650 U	2100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	37SS01	37SS02	37SS03	37SS04
SAMPLE DATE	10/26/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES cont. (ug/kg)				
P-DIMETHYLAMINOAZOBENZENE	380 U	420 U	650 U	2100 U
3,3'-DIMETHYLBENZIDINE	380 U	420 U	650 U	2100 U
2-ACETYLAMINOFLUORENE	380 U	420 U	650 U	2100 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	420 U	650 U	2100 U
HEXACHLOROPHENE	3400 U	3700 U	5900 U	19000 R
3-METHYLCHOLANTHRENE	380 U	420 U	650 U	2100 U
PCB (ug/kg)				
AROCLOR-1016	38 UJ	42 UJ	43 UJ	43 UJ
AROCLOR-1221	76 U	83 U	87 U	87 U
AROCLOR-1232	38 U	42 U	43 U	43 U
AROCLOR-1242	38 U	42 U	43 U	43 U
AROCLOR-1248	38 U	42 U	43 U	43 U
AROCLOR-1254	38 U	42 U	43 U	43 U
AROCLOR-1260	38 U	91	55	43 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	13 U	ND	ND		0/4	NA	NA
BROMOMETHANE	11 U	13 U	ND	ND		0/4	NA	NA
VINYL CHLORIDE	11 U	13 U	ND	ND		0/4	NA	NA
CHLOROETHANE	11 U	13 U	ND	ND		0/4	NA	NA
METHYLENE CHLORIDE	12 U	24 U	ND	ND		0/4	NA	NA
ACETONE	11 U	13 U	ND	ND		0/4	NA	NA
CARBON DISULFIDE	6 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHENE	6 U	6 U	ND	ND		0/4	NA	NA
1,1-DICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	ND	ND		0/4	NA	NA
CHLOROFORM	6 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
2-BUTANONE	11 U	13 U	ND	ND		0/4	NA	NA
1,1,1-TRICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
CARBON TETRACHLORIDE	6 U	6 U	ND	ND		0/4	NA	NA
VINYL ACETATE	11 U	13 U	ND	ND		0/4	NA	NA
BROMODICHLOROMETHANE	6 U	6 U	ND	ND		0/4	NA	NA
1,2-DICHLOROPROPANE	6 U	6 U	ND	ND		0/4	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/4	NA	NA
TRICHLOROETHENE	6 U	6 U	ND	ND		0/4	NA	NA
DIBROMOCHLOROMETHANE	6 U	6 U	ND	ND		0/4	NA	NA
1,1,2-TRICHLOROETHANE	6 U	6 U	ND	ND		0/4	NA	NA
BENZENE	6 U	6 U	ND	ND		0/4	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	ND	ND		0/4	NA	NA
BROMOFORM	6 U	6 U	ND	ND		0/4	NA	NA
4-METHYL-2-PENTANONE	11 U	13 U	ND	ND		0/4	NA	NA
2-HEXANONE	11 UJ	13 U	ND	ND		0/4	NA	NA
TETRACHLOROETHENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
TOLUENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
CHLOROBENZENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
ETHYLBENZENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
STYRENE	6 UJ	6 UJ	ND	ND		0/4	NA	NA
XYLENE (TOTAL)	6 UJ	6 UJ	ND	ND		0/4	NA	NA
ACROLEIN	11 U	13 U	ND	ND		0/4	NA	NA
ACRYLONITRILE	11 U	13 U	ND	ND		0/4	NA	NA
TRICHLOROFLUOROMETHANE	6 U	6 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
DICHLORODIFLUOROMETHANE	11 U	13 U	ND	ND		0/4	NA	NA
ACETONITRILE	22 U	26 U	ND	ND		0/4	NA	NA
IODOMETHANE	11 U	13 U	ND	ND		0/4	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	55 U	65 U	ND	ND		0/4	NA	NA
3-CHLOROPROPENE	22 U	26 U	ND	ND		0/4	NA	NA
METHACRYLONITRILE	22 U	26 U	ND	ND		0/4	NA	NA
DIBROMOMETHANE	11 U	13 U	ND	ND		0/4	NA	NA
ISOBUTYL ALCOHOL	110 U	130 U	ND	ND		0/4	NA	NA
1,2-DIBROMOETHANE	22 U	26 U	ND	ND		0/4	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 UJ	13 U	ND	ND		0/4	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	13 U	ND	ND		0/4	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	110 U	130 U	ND	ND		0/4	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 U	26 U	ND	ND		0/4	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	130 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROETHYL)ETHER	380 U	2100 U	ND	ND		0/4	NA	NA
2-CHLOROPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
1,3-DICHLOROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
1,4-DICHLOROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
BENZYL ALCOHOL	380 U	2100 U	ND	ND		0/4	NA	NA
1,2-DICHLOROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
2-METHYLPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	380 U	2100 U	ND	ND		0/4	NA	NA
3- AND/OR 4-METHYLPHENOL	380 U	2100 U	130 J	130 J	37SS03	1/4	130.00	130.00
N-NITROSO-DI-N-PROPYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
HEXACHLOROETHANE	380 U	2100 U	ND	ND		0/4	NA	NA
NITROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
ISOPHORONE	380 U	2100 U	ND	ND		0/4	NA	NA
2-NITROPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
2,4-DIMETHYLPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
BENZOIC ACID	11000 U	11000 U	47 J	150 J	37SS03	3/4	102.33	110.00
BIS(2-CHLOROETHOXY)METHANE	380 U	2100 U	ND	ND		0/4	NA	NA
2,4-DICHLOROPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
1,2,4-TRICHLOROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
NAPHTHALENE	380 U	2100 U	ND	ND		0/4	NA	NA
4-CHLOROANILINE	380 U	2100 U	ND	ND		0/4	NA	NA
HEXACHLOROBUTADIENE	380 U	2100 U	ND	ND		0/4	NA	NA
4-CHLORO-3-METHYLPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
2-METHYLNAPHTHALENE	380 U	2100 U	ND	ND		0/4	NA	NA
HEXACHLOROCYCLOPENTADIENE	380 U	2100 U	ND	ND		0/4	NA	NA
2,4,6-TRICHLOROPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
2,4,5-TRICHLOROPHENOL	1900 U	11000 U	ND	ND		0/4	NA	NA
2-CHLORONAPHTHALENE	380 U	2100 U	ND	ND		0/4	NA	NA
2-NITROANILINE	1900 U	11000 U	ND	ND		0/4	NA	NA
DIMETHYLPHTHALATE	380 U	2100 U	ND	ND		0/4	NA	NA
ACENAPHTHYLENE	380 U	2100 U	ND	ND		0/4	NA	NA
2,6-DINITROTOLUENE	380 U	2100 U	ND	ND		0/4	NA	NA
3-NITROANILINE	1900 U	11000 U	ND	ND		0/4	NA	NA
ACENAPHTHENE	380 U	2100 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1900 U	11000 U	ND	ND		0/4	NA	NA
4-NITROPHENOL	1900 U	11000 U	ND	ND		0/4	NA	NA
DIBENZOFURAN	380 U	2100 U	ND	ND		0/4	NA	NA
2,4-DINITROTOLUENE	380 U	2100 U	ND	ND		0/4	NA	NA
DIETHYLPHTHALATE	380 U	2100 U	ND	ND		0/4	NA	NA
4-CHLOROPHENYL-PHENYLETHER	380 U	2100 U	ND	ND		0/4	NA	NA
FLUORENE	380 U	2100 U	ND	ND		0/4	NA	NA
4-NITROANILINE	1900 U	11000 U	ND	ND		0/4	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1900 U	11000 U	ND	ND		0/4	NA	NA
N-NITROSODIPHENYLAMINE (1)	380 U	2100 U	ND	ND		0/4	NA	NA
4-BROMOPHENYL-PHENYLETHER	380 U	2100 U	ND	ND		0/4	NA	NA
HEXACHLOROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
PENTACHLOROPHENOL	1900 U	11000 U	ND	ND		0/4	NA	NA
PHENANTHRENE	380 U	2100 U	270 J	270 J	37SS03	1/4	270.00	270.00
ANTHRACENE	380 U	2100 U	72 J	72 J	37SS03	1/4	72.00	72.00
DI-N-BUTYLPHTHALATE	380 U	2100 U	ND	ND		0/4	NA	NA
FLUORANTHENE	380 U	2100 U	1500	1500	37SS03	1/4	1500.00	1500.00
PYRENE	380 U	2100 U	2100	2100	37SS03	1/4	2100.00	2100.00
BUTYLBENZYLPHTHALATE	420 U	2100 U	190 J	1200	37SS03	2/4	695.00	695.00
3,3'-DICHLOROBENZIDINE	760 U	4200 U	ND	ND		0/4	NA	NA
BENZO(A)ANTHRACENE	380 U	2100 U	660	660	37SS03	1/4	660.00	660.00
CHRYSENE	380 U	2100 U	1300	1300	37SS03	1/4	1300.00	1300.00
BIS(2-ETHYLHEXYL)PHTHALATE	2100 U	2100 U	87 J	1400	37SS03	3/4	605.67	330.00
DI-N-OCTYL PHTHALATE	380 U	2100 U	ND	ND		0/4	NA	NA
BENZO(B)FLUORANTHENE	380 U	380 U	49 J	1300	37SS03	3/4	533.00	250.00
BENZO(K)FLUORANTHENE	380 U	2100 U	1100	1100	37SS03	1/4	1100.00	1100.00
BENZO(A)PYRENE	380 U	2100 U	730	730	37SS03	1/4	730.00	730.00
INDENO(1,2,3-CD)PYRENE	380 U	420 U	270 J	530 J	37SS03	2/4	400.00	400.00
DIBENZO(A,H)ANTHRACENE	380 U	2100 U	120 J	120 J	37SS03	1/4	120.00	120.00
BENZO(G,H,I)PERYLENE	380 U	420 U	380 J	600 J	37SS03	2/4	490.00	490.00
1,4-DIOXANE	380 U	2100 U	ND	ND		0/4	NA	NA
METHYL METHACRYLATE	420 U	2100 U	67 J	67 J	37SS01	1/4	67.00	67.00
PYRIDINE	380 U	2100 U	ND	ND		0/4	NA	NA
N-NITROSODIMETHYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
ETHYL METHACRYLATE	380 U	2100 U	ND	ND		0/4	NA	NA
2-PICOLINE	380 U	2100 U	ND	ND		0/4	NA	NA
N-NITROSOMETHYLETHYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	380 U	2100 U	ND	ND		0/4	NA	NA
N-NITROSODIETHYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
ETHYL METHANESULFONATE	380 U	2100 U	ND	ND		0/4	NA	NA
ANILINE	380 U	2100 U	ND	ND		0/4	NA	NA
PENTACHLOROETHANE	380 U	2100 U	ND	ND		0/4	NA	NA
N-NITROSOPYRROLIDINE	380 U	2100 U	ND	ND		0/4	NA	NA
ACETOPHENONE	380 U	2100 U	ND	ND		0/4	NA	NA
N-NITROSOMORPHOLINE	380 U	2100 U	ND	ND		0/4	NA	NA
O-TOLUIDINE	380 U	2100 U	ND	ND		0/4	NA	NA
N-NITROSOPIPERIDINE	1900 U	11000 U	ND	ND		0/4	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
2,6-DICHLOROPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
HEXACHLOROPROPENE	380 U	2100 U	ND	ND		0/4	NA	NA
P-PHENYLENEDIAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
SAFROLE	380 U	2100 U	ND	ND		0/4	NA	NA
1,2,4,5-TETRACHLOROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
ISOSAFROLE	380 U	2100 U	ND	ND		0/4	NA	NA
1,4-NAPHTHOQUINONE	380 U	2100 U	ND	ND		0/4	NA	NA
1,3-DINITROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
PENTACHLOROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
1-NAPHTHYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
2-NAPHTHYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
2,3,4,6-TETRACHLOROPHENOL	380 U	2100 U	ND	ND		0/4	NA	NA
1,3,5-TRINITROBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
DIALLATE	380 U	2100 U	ND	ND		0/4	NA	NA
PHENACETIN	380 U	2100 U	ND	ND		0/4	NA	NA
DIPHENYLAMINE	380 U	2100 U	ND	ND		0/4	NA	NA
5-NITRO-O-TOLUIDINE	380 U	2100 U	ND	ND		0/4	NA	NA
4-AMINOBIPHENYL	380 U	2100 U	ND	ND		0/4	NA	NA
PRONAMIDE	380 U	2100 U	ND	ND		0/4	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	11000 U	ND	ND		0/4	NA	NA
PENTACHLORONITROBENZENE	11000 U	11000 U	ND	ND		0/1	NA	NA
4-NITROQUINOLINE-1-OXIDE	760 U	4200 U	ND	ND		0/4	NA	NA
METHAPYRILENE	380 U	2100 U	ND	ND		0/4	NA	NA
ARAMITE	760 U	4200 U	240 J	240 J	37SS03	1/4	240.00	240.00
CHLOROBENZILATE	380 U	2100 U	ND	ND		0/4	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 37 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
P-DIMETHYLAMINOAZOBENZENE	380 U	2100 U	ND	ND		0/4	NA	NA
3,3'-DIMETHYLBENZIDINE	380 U	2100 U	ND	ND		0/4	NA	NA
2-ACETYLAMINOFLUORENE	380 U	2100 U	ND	ND		0/4	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	2100 U	ND	ND		0/4	NA	NA
HEXACHLOROPHENE	3400 U	5900 U	ND	ND		0/3	NA	NA
3-METHYLCHOLANTHRENE	380 U	2100 U	ND	ND		0/4	NA	NA
PCB (ug/kg)								
AROCLOR-1016	38 UJ	43 UJ	ND	ND		0/4	NA	NA
AROCLOR-1221	76 U	87 U	ND	ND		0/4	NA	NA
AROCLOR-1232	38 U	43 U	ND	ND		0/4	NA	NA
AROCLOR-1242	38 U	43 U	ND	ND		0/4	NA	NA
AROCLOR-1248	38 U	43 U	ND	ND		0/4	NA	NA
AROCLOR-1254	38 U	43 U	ND	ND		0/4	NA	NA
AROCLOR-1260	38 U	43 U	55	91	37SS02	2/4	73.00	73.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 39 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	39SS01		39SS02	
SAMPLE DATE	10/25/95		10/25/95	
TOTAL METALS (mg/kg)				
Arsenic, Total	3.5	J	3.2	J
Barium, Total	21.2		26.7	
Cadmium, Total	1.3	J	2.8	J
Chromium, Total	10.6	J	15.8	J
Lead, Total	46.3		76.3	
Mercury, Total	0.15	R	0.06	R
Selenium, Total	0.25	J	0.24	J
Silver, Total	0.48	U	0.49	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 39 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Arsenic, Total	NA	NA	3.2 J	3.5 J	39SS01	2/2	3.35	3.35
Barium, Total	NA	NA	21.2	26.7	39SS02	2/2	23.95	23.95
Cadmium, Total	NA	NA	1.3 J	2.8 J	39SS02	2/2	2.05	2.05
Chromium, Total	NA	NA	10.6 J	15.8 J	39SS02	2/2	13.20	13.20
Lead, Total	NA	NA	46.3	76.3	39SS02	2/2	61.30	61.30
Mercury, Total	NA	NA	ND	ND		0/0	NA	NA
Selenium, Total	NA	NA	0.24 J	0.25 J	39SS01	2/2	0.25	0.25
Silver, Total	0.48 U	0.49 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03
SAMPLE DATE	10/27/95	10/27/95
SAMPLE DEPTH (feet)	8-10	4-6
WET CHEMISTRY (mg/kg)		
Cyanide, Total	0.58 U	0.67 U
Sulfide	30.6 UJ	32.7 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.58 U	0.67 U	ND	ND		0/2	NA	NA
Sulfide	30.6 UJ	32.7 UJ	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-03	46SB01-03D	46SB01-06	46SB02-03	46SB02-05
SAMPLE DATE	10/31/95	10/31/95	10/27/95	10/27/95	10/31/95
SAMPLE DEPTH (feet)	4-6	4-6	10-11	4-6	8-10
TOTAL METALS (mg/kg)					
Antimony, Total	NA	NA	2.8 UJ	2.4 UJ	NA
Arsenic, Total	0.23 UJ	0.23 UJ	0.17 UJ	0.68 J	0.23 UJ
Barium, Total	220 J	214 J	114	49.8	113 J
Beryllium, Total	NA	NA	0.12 U	0.1 U	NA
Cadmium, Total	0.43 UJ	0.44 UJ	0.25 U	0.22 U	0.44 UJ
Chromium, Total	10.6	11.8	11.1	30.7	9.2
Cobalt, Total	NA	NA	34	7.4	NA
Copper, Total	NA	NA	69	66.8	NA
Lead, Total	1.8 J	0.85 J	0.86	3.3	1.8 J
Mercury, Total	0.06 R	0.06 R	0.05 U	0.06 U	0.06 R
Nickel, Total	NA	NA	23.4	9.8	NA
Selenium, Total	0.2 UJ	0.21 UJ	0.63 U	0.88	0.21 UJ
Silver, Total	0.56 U	2.8 J	0.35 U	0.3 U	2 J
Thallium, Total	NA	NA	0.14 UJ	0.12 UJ	NA
Tin, Total	NA	NA	2.2 U	1.9 U	NA
Vanadium, Total	NA	NA	118	243	NA
Zinc, Total	NA	NA	86.8	57.4	NA
Cyanide	0.64 UJ	0.64 UJ	NA	NA	0.65 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Antimony, Total	2.4 UJ	2.8 UJ	ND	ND		0/2	NA	NA
Arsenic, Total	0.17 UJ	0.23 UJ	0.68 J	0.68 J	46SB02-03	1/5	0.68	0.68
Barium, Total	NA	NA	49.8	220 J	46SB01-03	5/5	142.16	114.00
Beryllium, Total	0.1 U	0.12 U	ND	ND		0/2	NA	NA
Cadmium, Total	0.22 U	0.44 UJ	ND	ND		0/5	NA	NA
Chromium, Total	NA	NA	9.2	30.7	46SB02-03	5/5	14.68	11.10
Cobalt, Total	NA	NA	7.4	34	46SB01-06	2/2	20.70	20.70
Copper, Total	NA	NA	66.8	69	46SB01-06	2/2	67.90	67.90
Lead, Total	NA	NA	0.85 J	3.3	46SB02-03	5/5	1.72	1.80
Mercury, Total	0.05 U	0.06 U	ND	ND		0/2	NA	NA
Nickel, Total	NA	NA	9.8	23.4	46SB01-06	2/2	16.60	16.60
Selenium, Total	0.2 UJ	0.63 U	0.88	0.88	46SB02-03	1/5	0.88	0.88
Silver, Total	0.3 U	0.56 U	2 J	2.8 J	46B01-03D	2/5	2.40	2.40
Thallium, Total	0.12 UJ	0.14 UJ	ND	ND		0/2	NA	NA
Tin, Total	1.9 U	2.2 U	ND	ND		0/2	NA	NA
Vanadium, Total	NA	NA	118	243	46SB02-03	2/2	180.50	180.50
Zinc, Total	NA	NA	57.4	86.8	46SB01-06	2/2	72.10	72.10
Cyanide	0.64 UJ	0.65 UJ	ND	ND		0/3	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
VOLATILES (ug/kg)					
CHLOROMETHANE	12 U	14 U	13 U	13 U	13 U
BROMOMETHANE	12 U	14 U	13 U	13 U	13 U
VINYL CHLORIDE	12 U	14 U	13 U	13 U	13 U
CHLOROETHANE	12 U	14 U	13 U	13 U	13 U
METHYLENE CHLORIDE	6 U	7 U	41 U	35 U	32 U
ACETONE	15 U	14 U	18 U	16 U	36 U
CARBON DISULFIDE	6 U	7 U	6 U	2 J	6 U
1,1-DICHLOROETHENE	6 U	7 U	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	7 U	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	7 U	6 U	6 U	6 U
CHLOROFORM	6 U	7 U	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	7 U	6 U	6 U	6 U
2-BUTANONE	12 U	14 U	13 U	13 U	13 U
1,1,1-TRICHLOROETHANE	6 U	7 U	6 U	6 U	6 U
CARBON TETRACHLORIDE	6 U	7 U	6 U	6 U	6 U
VINYL ACETATE	12 U	14 U	13 U	13 U	13 U
BROMODICHLOROMETHANE	6 U	7 U	6 U	6 U	6 U
1,2-DICHLOROPROPANE	6 U	7 U	6 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	7 U	6 U	6 U	6 U
TRICHLOROETHENE	6 U	7 U	6 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 U	7 U	6 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 U	7 U	6 U	6 U	6 U
BENZENE	6 U	7 U	6 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	7 U	6 U	6 U	6 U
BROMOFORM	6 U	7 U	6 U	6 U	6 U
4-METHYL-2-PENTANONE	12 U	14 U	13 U	13 U	13 U
2-HEXANONE	12 U	14 U	13 U	13 U	13 U
TETRACHLOROETHENE	6 U	7 U	6 U	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	7 U	6 U	6 U	6 U
TOLUENE	6 U	7 U	6 U	6 U	6 U
CHLOROBENZENE	6 U	7 U	6 U	6 U	6 U
ETHYLBENZENE	6 U	7 U	6 U	6 U	6 U
STYRENE	6 U	7 U	6 U	6 U	6 U
XYLENE (TOTAL)	6 U	7 U	6 U	6 U	6 U
ACROLEIN	620 R	700 R	13 U	13 U	13 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
VOLATILES cont. (ug/kg)					
ACRYLONITRILE	120 U	140 U	13 U	13 U	13 U
TRICHLOROFLUOROMETHANE	12 R	14 R	6 U	6 U	6 U
DICHLORODIFLUOROMETHANE	25 U	28 U	13 U	13 U	13 U
ACETONITRILE	120 U	140 U	26 U	26 U	26 U
IODOMETHANE	12 U	14 U	13 U	13 U	13 U
PROPIONITRILE (ETHYL CYANIDE)	62 R	70 R	65 U	65 U	65 U
3-CHLOROPROPENE	25 U	28 U	26 U	26 U	26 U
METHACRYLONITRILE	25 U	28 U	26 U	26 U	26 U
DIBROMOMETHANE	12 U	14 U	13 U	13 U	13 U
ISOBUTYL ALCOHOL	2500 R	2800 R	130 U	130 U	130 U
1,2-DIBROMOETHANE	25 U	28 U	26 U	26 U	26 U
1,1,1,2-TETRACHLOROETHANE	12 U	14 U	13 U	13 U	13 U
1,2,3-TRICHLOROPROPANE	12 U	14 U	13 U	13 U	13 U
TRANS-1,4-DICHLORO-2-BUTENE	25 U	28 U	130 U	130 U	130 U
1,2-DIBROMO-3-CHLOROPROPANE	25 U	28 U	26 U	26 U	26 U
2-CHLORO-1,3-BUTADIENE	120 U	140 U	130 U	130 U	130 U
METHYLMETHACRYLATE	25 U	28 U	NA	NA	NA
ETHYLMETHACRYLATE	25 U	28 U	NA	NA	NA
PENTACHLOROETHANE	25 U	28 U	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
SEMIVOLATILES (ug/kg)					
PHENOL	400 U	470 U	430 U	430 U	280 J
BIS(2-CHLOROETHYL)ETHER	400 U	470 U	430 U	430 U	430 U
2-CHLOROPHENOL	400 U	470 U	430 U	430 U	430 U
1,3-DICHLOROBENZENE	400 U	470 U	430 U	430 U	430 U
1,4-DICHLOROBENZENE	400 U	470 U	430 U	430 U	430 U
BENZYL ALCOHOL	400 U	470 U	430 U	430 U	430 U
1,2-DICHLOROBENZENE	400 U	470 U	430 U	430 U	430 U
O-CRESOL	400 U	470 U	NA	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	400 U	470 U	NA	NA	NA
META & PARA-CRESOL	400 U	470 U	NA	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	400 U	470 U	430 U	430 U	430 U
HEXACHLOROETHANE	400 U	470 U	430 U	430 U	430 U
NITROBENZENE	400 U	470 U	430 U	430 U	430 U
ISOPHORONE	400 U	470 U	430 U	430 U	430 U
2-NITROPHENOL	400 U	470 U	430 U	430 U	430 U
2,4-DIMETHYLPHENOL	400 U	470 U	430 U	430 U	430 U
BENZOIC ACID	2000 U	2300 U	2100 U	2100 U	2200 U
BIS(2-CHLOROETHOXY)METHANE	400 U	470 U	430 U	430 U	430 U
2,4-DICHLOROPHENOL	400 U	470 U	430 U	430 U	430 U
1,2,4-TRICHLOROBENZENE	400 U	470 U	430 U	430 U	430 U
NAPHTHALENE	400 U	470 U	430 U	430 U	430 U
4-CHLOROANILINE	400 U	470 U	430 U	430 U	430 U
HEXACHLOROBUTADIENE	400 U	470 U	430 U	430 U	430 U
4-CHLORO-3-METHYLPHENOL	400 U	470 U	430 U	430 U	430 U
2-METHYLNAPHTHALENE	400 U	470 U	430 U	430 U	430 U
HEXACHLOROCYCLOPENTADIENE	400 U	470 U	430 U	430 U	430 U
2,4,6-TRICHLOROPHENOL	400 U	470 U	430 U	430 U	430 U
2,4,5-TRICHLOROPHENOL	2000 U	2300 U	2100 U	2100 U	2200 U
2-CHLORONAPHTHALENE	400 U	470 U	430 U	430 U	430 U
2-NITROANILINE	2000 U	2300 U	2100 U	2100 U	2200 U
DIMETHYLPHTHALATE	400 U	470 U	430 U	430 U	430 U
ACENAPHTHYLENE	400 U	470 U	430 U	430 U	430 U
2,6-DINITROTOLUENE	400 U	470 U	430 U	430 U	430 U
3-NITROANILINE	2000 U	2300 U	2100 U	2100 U	2200 U
ACENAPHTHENE	400 U	470 U	430 U	430 U	430 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
SEMIVOLATILES cont. (ug/kg)					
2,4-DINITROPHENOL	2000 U	2300 U	2100 U	2100 U	2200 U
4-NITROPHENOL	2000 U	2300 U	2100 U	2100 U	2200 U
DIBENZOFURAN	400 U	470 U	430 U	430 U	430 U
2,4-DINITROTOLUENE	400 U	470 U	430 U	430 U	430 U
DIETHYLPHTHALATE	400 U	470 U	430 U	430 U	430 U
4-CHLOROPHENYL-PHENYLETHER	400 U	470 U	430 U	430 U	430 U
FLUORENE	400 U	470 U	430 U	430 U	430 U
4-NITROANILINE	2000 U	2300 U	2100 U	2100 U	2200 U
4,6-DINITRO-2-METHYLPHENOL	2000 U	2300 U	2100 U	2100 U	2200 U
N-NITROSODIPHENYLAMINE (1)	400 U	470 U	430 U	430 U	430 U
4-BROMOPHENYL-PHENYLETHER	400 U	470 U	430 U	430 U	430 U
HEXACHLOROBENZENE	400 U	470 U	430 U	430 U	430 U
PENTACHLOROPHENOL	2000 U	2300 U	2100 U	2100 U	2200 U
PHENANTHRENE	400 U	470 U	430 U	430 U	430 U
ANTHRACENE	400 U	470 U	430 U	430 U	430 U
DI-N-BUTYLPHTHALATE	400 U	470 U	430 U	430 U	430 U
FLUORANTHENE	400 U	470 U	430 U	430 U	430 U
PYRENE	400 U	470 U	430 U	430 U	430 U
BUTYLBENZYLPHTHALATE	400 U	470 U	430 U	430 U	430 U
3,3'-DICHLOROBENZIDINE	810 U	930 U	850 U	860 U	870 U
BENZO(A)ANTHRACENE	400 U	470 U	430 U	430 U	430 U
CHRYSENE	400 U	470 U	430 U	430 U	430 U
BIS(2-ETHYLHEXYL)PHTHALATE	150 J	3600	430 U	430 U	430 U
DI-N-OCTYL PHTHALATE	400 U	470 U	430 U	430 U	430 U
BENZO(B)FLUORANTHENE	400 U	470 U	430 U	430 U	430 U
BENZO(K)FLUORANTHENE	400 U	470 U	430 U	430 U	430 U
BENZO(A)PYRENE	400 U	470 U	430 U	430 U	430 U
INDENO(1,2,3-CD)PYRENE	400 U	470 U	430 U	430 U	430 U
DIBENZO(A,H)ANTHRACENE	400 U	470 U	430 U	430 U	430 U
BENZO(G,H,I)PERYLENE	400 U	470 U	430 U	430 U	430 U
1,4-DIOXANE	1600 U	1900 U	430 U	430 U	430 U
PYRIDINE	810 U	930 U	430 U	430 U	430 U
N-NITROSODIMETHYLAMINE	400 U	470 U	430 U	430 U	430 U
2-PICOLINE	400 U	470 U	430 U	430 U	430 U
N-NITROSOMETHYLETHYLAMINE	400 U	470 U	430 U	430 U	430 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
SEMIVOLATILES cont. (ug/kg)					
METHYL METHANESULFONATE	400 U	470 U	430 U	430 U	430 U
N-NITROSODIETHYLAMINE	400 U	470 U	430 U	430 U	430 U
ETHYL METHANESULFONATE	400 U	470 U	430 U	430 U	430 U
ANILINE	2000 U	2300 U	430 U	430 U	430 U
N-NITROSOPYRROLIDINE	2000 U	2300 U	430 U	430 U	430 U
ACETOPHENONE	400 U	470 U	430 U	430 U	430 U
N-NITROSOMORPHOLINE	810 U	930 U	430 U	430 U	430 U
O-TOLUIDINE	400 U	470 U	430 U	430 U	430 U
N-NITROSOPIPERIDINE	400 U	470 U	2100 U	2100 U	2200 U
A,A-DIMETHYLPHENETHYLAMINE	2000 U	2300 U	430 U	430 U	430 U
2,6-DICHLOROPHENOL	400 U	470 U	430 U	430 U	430 U
HEXACHLOROPROPENE	810 U	930 U	430 U	430 U	430 U
P-PHENYLENEDIAMINE	810 U	930 U	430 U	430 U	430 U
N-NITROSO-DI-N-BUTYLAMINE	400 U	470 U	430 U	430 U	430 U
SAFROLE	400 U	470 U	430 U	430 U	430 U
1,2,4,5-TETRACHLOROBENZENE	400 U	470 U	430 U	430 U	430 U
ISOSAFROLE	400 U	470 U	430 U	430 U	430 U
1,4-NAPHTHOQUINONE	2000 U	2300 U	430 U	430 U	430 U
1,3-DINITROBENZENE	810 U	930 U	430 U	430 U	430 U
PENTACHLOROBENZENE	400 U	470 U	430 U	430 U	430 U
1-NAPHTHYLAMINE	400 U	470 U	430 U	430 U	430 U
2-NAPHTHYLAMINE	400 U	470 U	430 U	430 U	430 U
2,3,4,6-TETRACHLOROPHENOL	400 U	470 U	430 U	430 U	430 U
1,3,5-TRINITROBENZENE	4000 U	4700 U	430 U	430 U	430 U
DIALLATE	400 U	470 U	430 U	430 U	430 U
PHENACETIN	400 U	470 U	430 U	430 U	430 U
DIPHENYLAMINE	400 U	470 U	430 U	430 U	430 U
5-NITRO-O-TOLUIDINE	810 U	930 U	430 U	430 U	430 U
4-AMINOBIPHENYL	400 U	470 U	430 U	430 U	430 U
PRONAMIDE	400 U	470 U	430 U	430 U	430 U
2-SEC-BUTYL-4,6-DINITROPHENOL	810 U	930 U	2100 U	2100 U	2200 U
PENTACHLORONITROBENZENE	400 U	470 U	2100 R	2100 R	2200 R
4-NITROQUINOLINE-1-OXIDE	2000 U	2300 U	850 R	860 R	870 R
METHAPYRILENE	1000 U	1200 U	430 U	430 U	430 U
ARAMITE	810 U	930 U	850 U	860 U	870 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
SEMIVOLATILES cont. (ug/kg)					
CHLOROBENZILATE	400 U	470 U	430 U	430 U	430 U
P-DIMETHYLAMINOAZOBENZENE	810 U	930 U	430 U	430 U	430 U
3,3'-DIMETHYLBENZIDINE	810 U	930 R	430 U	430 U	430 U
2-ACETYLAMINOFLUORENE	810 U	930 U	430 U	430 U	430 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	810 U	930 U	430 U	430 U	430 U
HEXACHLOROPHENE	4000 U	4700 U	3800 U	3900 U	3900 U
3-METHYLCHOLANTHRENE	400 U	470 U	430 U	430 U	430 U
CARBAZOLE	400 U	470 U	NA	NA	NA
PENTACHLOROETHANE	NA	NA	430 U	430 U	430 U
2-METHYLPHENOL	NA	NA	430 U	430 U	430 U
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	430 U	430 U	430 U
3- AND/OR 4-METHYLPHENOL	NA	NA	430 U	430 U	430 U
METHYL METHACRYLATE	NA	NA	430 U	430 U	430 U
ETHYL METHACRYLATE	NA	NA	430 U	430 U	430 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
PESTICIDE/PCBS (ug/kg)					
ALPHA-BHC	4.9 U	5.6 U	NA	NA	NA
BETA-BHC	4.9 U	5.6 U	NA	NA	NA
DELTA-BHC	4.9 U	5.6 U	NA	NA	NA
GAMMA-BHC (LINDANE)	4.9 U	5.6 U	NA	NA	NA
HEPTACHLOR	4.9 U	5.6 U	NA	NA	NA
ALDRIN	4.9 U	5.6 U	NA	NA	NA
HEPTACHLOR EPOXIDE	4.9 U	5.6 U	NA	NA	NA
ENDOSULFAN I	4.9 U	5.6 U	NA	NA	NA
DIELDRIN	9.7 U	11 U	NA	NA	NA
4,4'-DDE	9.7 U	11 U	NA	NA	NA
ENDRIN	9.7 U	11 U	NA	NA	NA
ENDOSULFAN II	9.7 U	11 U	NA	NA	NA
4,4'-DDD	9.7 U	11 U	NA	NA	NA
ENDOSULFAN SULFATE	9.7 U	11 U	NA	NA	NA
4,4'-DDT	9.7 U	11 U	NA	NA	NA
METHOXYCHLOR	49 U	56 U	NA	NA	NA
ENDRIN ALDEHYDE	9.7 U	11 U	NA	NA	NA
ISODRIN	4.9 UJ	5.6 UJ	NA	NA	NA
KEPONE	9.7 UJ	11 UJ	NA	NA	NA
ALPHA-CHLORDANE	49 U	56 U	NA	NA	NA
GAMMA-CHLORDANE	49 U	56 U	NA	NA	NA
TOXAPHENE	97 U	110 U	NA	NA	NA
AROCLOR-1016	49 U	56 U	43 U	43 U	43 U
AROCLOR-1221	49 U	56 U	85 U	86 U	87 U
AROCLOR-1232	49 U	56 U	43 U	43 U	43 U
AROCLOR-1242	49 U	56 U	43 U	43 U	43 U
AROCLOR-1248	49 U	56 U	43 U	43 U	43 U
AROCLOR-1254	97 U	110 U	43 U	43 U	43 U
AROCLOR-1260	97 U	110 U	43 U	43 U	43 U
ORTHO PESTICIDES (ug/kg)					
O,O,O-TRIETHYL PHOSPHOROTHIOAT	82 U	94 U	NA	NA	NA
PHORATE	82 U	94 U	NA	NA	NA
THIONAZIN	82 U	94 U	NA	NA	NA
DISULFOTON	82 U	94 U	NA	NA	NA
SULFOTEP	82 U	94 U	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SB01-06	46SB02-03	46SB01-03	46SB01-03D	46SB02-05
SAMPLE DATE	10/27/95	10/27/95	10/31/95	10/31/95	10/31/95
SAMPLE DEPTH (feet)	10-11	4-6	4-6	4-6	8-10
ORTHO PESTICIDES cont. (ug/kg)					
DIMETHOATE	82 U	94 U	NA	NA	NA
METHYL PARATHION	82 U	94 U	NA	NA	NA
PARATHION	82 U	94 U	NA	NA	NA
FAMPHUR	82 U	94 U	NA	NA	NA
HERBICIDES (ug/kg)					
2,4-D	410 U	460 U	NA	NA	NA
2,4,5-TP (SILVEX)	81 U	92 U	NA	NA	NA
2,4,5-T	81 U	92 U	NA	NA	NA
DIOXIN (ug/kg)					
TCDD-2378	0.17 U	0.17 U	NA	NA	NA
TOTAL TCDD	0.17 U	0.17 U	NA	NA	NA
TOTAL PECDD	0.18 U	0.24 U	NA	NA	NA
TOTAL HXCDD	0.17 U	0.16 U	NA	NA	NA
TOTAL TCDF	0.09 U	0.1 U	NA	NA	NA
TOTAL PECDF	0.13 U	0.11 U	NA	NA	NA
TOTAL HXCDF	0.18 U	0.14 U	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	12 U	14 U	ND	ND		0/5	NA	NA
BROMOMETHANE	12 U	14 U	ND	ND		0/5	NA	NA
VINYL CHLORIDE	12 U	14 U	ND	ND		0/5	NA	NA
CHLOROETHANE	12 U	14 U	ND	ND		0/5	NA	NA
METHYLENE CHLORIDE	6 U	41 U	ND	ND		0/5	NA	NA
ACETONE	14 U	36 U	ND	ND		0/5	NA	NA
CARBON DISULFIDE	6 U	7 U	2 J	2 J	46SB01-03D	1/5	2.00	2.00
1,1-DICHLOROETHENE	6 U	7 U	ND	ND		0/5	NA	NA
1,1-DICHLOROETHANE	6 U	7 U	ND	ND		0/5	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	7 U	ND	ND		0/5	NA	NA
CHLOROFORM	6 U	7 U	ND	ND		0/5	NA	NA
1,2-DICHLOROETHANE	6 U	7 U	ND	ND		0/5	NA	NA
2-BUTANONE	12 U	14 U	ND	ND		0/5	NA	NA
1,1,1-TRICHLOROETHANE	6 U	7 U	ND	ND		0/5	NA	NA
CARBON TETRACHLORIDE	6 U	7 U	ND	ND		0/5	NA	NA
VINYL ACETATE	12 U	14 U	ND	ND		0/5	NA	NA
BROMODICHLOROMETHANE	6 U	7 U	ND	ND		0/5	NA	NA
1,2-DICHLOROPROPANE	6 U	7 U	ND	ND		0/5	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	7 U	ND	ND		0/5	NA	NA
TRICHLOROETHENE	6 U	7 U	ND	ND		0/5	NA	NA
DIBROMOCHLOROMETHANE	6 U	7 U	ND	ND		0/5	NA	NA
1,1,2-TRICHLOROETHANE	6 U	7 U	ND	ND		0/5	NA	NA
BENZENE	6 U	7 U	ND	ND		0/5	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	7 U	ND	ND		0/5	NA	NA
BROMOFORM	6 U	7 U	ND	ND		0/5	NA	NA
4-METHYL-2-PENTANONE	12 U	14 U	ND	ND		0/5	NA	NA
2-HEXANONE	12 U	14 U	ND	ND		0/5	NA	NA
TETRACHLOROETHENE	6 U	7 U	ND	ND		0/5	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 U	7 U	ND	ND		0/5	NA	NA
TOLUENE	6 U	7 U	ND	ND		0/5	NA	NA
CHLOROBENZENE	6 U	7 U	ND	ND		0/5	NA	NA
ETHYLBENZENE	6 U	7 U	ND	ND		0/5	NA	NA
STYRENE	6 U	7 U	ND	ND		0/5	NA	NA
XYLENE (TOTAL)	6 U	7 U	ND	ND		0/5	NA	NA
ACROLEIN	13 U	13 U	ND	ND		0/3	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	13 U	140 U	ND	ND		0/5	NA	NA
TRICHLOROFLUOROMETHANE	6 U	6 U	ND	ND		0/3	NA	NA
DICHLORODIFLUOROMETHANE	13 U	28 U	ND	ND		0/5	NA	NA
ACETONITRILE	26 U	140 U	ND	ND		0/5	NA	NA
IODOMETHANE	12 U	14 U	ND	ND		0/5	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	65 U	65 U	ND	ND		0/3	NA	NA
3-CHLOROPROPENE	25 U	28 U	ND	ND		0/5	NA	NA
METHACRYLONITRILE	25 U	28 U	ND	ND		0/5	NA	NA
DIBROMOMETHANE	12 U	14 U	ND	ND		0/5	NA	NA
ISOBUTYL ALCOHOL	130 U	130 U	ND	ND		0/3	NA	NA
1,2-DIBROMOETHANE	25 U	28 U	ND	ND		0/5	NA	NA
1,1,1,2-TETRACHLOROETHANE	12 U	14 U	ND	ND		0/5	NA	NA
1,2,3-TRICHLOROPROPANE	12 U	14 U	ND	ND		0/5	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	25 U	130 U	ND	ND		0/5	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	25 U	28 U	ND	ND		0/5	NA	NA
2-CHLORO-1,3-BUTADIENE	120 U	140 U	ND	ND		0/5	NA	NA
METHYLMETHACRYLATE	25 U	28 U	ND	ND		0/2	NA	NA
ETHYLMETHACRYLATE	25 U	28 U	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	25 U	28 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	400 U	470 U	280 J	280 J	46SB02-05	1/5	280.00	280.00
BIS(2-CHLOROETHYL)ETHER	400 U	470 U	ND	ND		0/5	NA	NA
2-CHLOROPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
1,3-DICHLOROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
1,4-DICHLOROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
BENZYL ALCOHOL	400 U	470 U	ND	ND		0/5	NA	NA
1,2-DICHLOROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
O-CRESOL	400 U	470 U	ND	ND		0/2	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	400 U	470 U	ND	ND		0/2	NA	NA
META & PARA-CRESOL	400 U	470 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA
HEXACHLOROETHANE	400 U	470 U	ND	ND		0/5	NA	NA
NITROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
ISOPHORONE	400 U	470 U	ND	ND		0/5	NA	NA
2-NITROPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
2,4-DIMETHYLPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
BENZOIC ACID	2000 U	2300 U	ND	ND		0/5	NA	NA
BIS(2-CHLOROETHOXY)METHANE	400 U	470 U	ND	ND		0/5	NA	NA
2,4-DICHLOROPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
1,2,4-TRICHLOROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
NAPHTHALENE	400 U	470 U	ND	ND		0/5	NA	NA
4-CHLOROANILINE	400 U	470 U	ND	ND		0/5	NA	NA
HEXACHLOROBUTADIENE	400 U	470 U	ND	ND		0/5	NA	NA
4-CHLORO-3-METHYLPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
2-METHYLNAPHTHALENE	400 U	470 U	ND	ND		0/5	NA	NA
HEXACHLOROCYCLOPENTADIENE	400 U	470 U	ND	ND		0/5	NA	NA
2,4,6-TRICHLOROPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
2,4,5-TRICHLOROPHENOL	2000 U	2300 U	ND	ND		0/5	NA	NA
2-CHLORONAPHTHALENE	400 U	470 U	ND	ND		0/5	NA	NA
2-NITROANILINE	2000 U	2300 U	ND	ND		0/5	NA	NA
DIMETHYLPHTHALATE	400 U	470 U	ND	ND		0/5	NA	NA
ACENAPHTHYLENE	400 U	470 U	ND	ND		0/5	NA	NA
2,6-DINITROTOLUENE	400 U	470 U	ND	ND		0/5	NA	NA
3-NITROANILINE	2000 U	2300 U	ND	ND		0/5	NA	NA
ACENAPHTHENE	400 U	470 U	ND	ND		0/5	NA	NA

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SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	2000 U	2300 U	ND	ND		0/5	NA	NA
4-NITROPHENOL	2000 U	2300 U	ND	ND		0/5	NA	NA
DIBENZOFURAN	400 U	470 U	ND	ND		0/5	NA	NA
2,4-DINITROTOLUENE	400 U	470 U	ND	ND		0/5	NA	NA
DIETHYLPHTHALATE	400 U	470 U	ND	ND		0/5	NA	NA
4-CHLOROPHENYL-PHENYLETHER	400 U	470 U	ND	ND		0/5	NA	NA
FLUORENE	400 U	470 U	ND	ND		0/5	NA	NA
4-NITROANILINE	2000 U	2300 U	ND	ND		0/5	NA	NA
4,6-DINITRO-2-METHYLPHENOL	2000 U	2300 U	ND	ND		0/5	NA	NA
N-NITROSODIPHENYLAMINE (1)	400 U	470 U	ND	ND		0/5	NA	NA
4-BROMOPHENYL-PHENYLETHER	400 U	470 U	ND	ND		0/5	NA	NA
HEXACHLOROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
PENTACHLOROPHENOL	2000 U	2300 U	ND	ND		0/5	NA	NA
PHENANTHRENE	400 U	470 U	ND	ND		0/5	NA	NA
ANTHRACENE	400 U	470 U	ND	ND		0/5	NA	NA
DI-N-BUTYLPHTHALATE	400 U	470 U	ND	ND		0/5	NA	NA
FLUORANTHENE	400 U	470 U	ND	ND		0/5	NA	NA
PYRENE	400 U	470 U	ND	ND		0/5	NA	NA
BUTYLBENZYLPHTHALATE	400 U	470 U	ND	ND		0/5	NA	NA
3,3'-DICHLOROBENZIDINE	810 U	930 U	ND	ND		0/5	NA	NA
BENZO(A)ANTHRACENE	400 U	470 U	ND	ND		0/5	NA	NA
CHRYSENE	400 U	470 U	ND	ND		0/5	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	430 U	430 U	150 J	3600	46-SB02-03	2/5	1875.00	1875.00
DI-N-OCTYL PHTHALATE	400 U	470 U	ND	ND		0/5	NA	NA
BENZO(B)FLUORANTHENE	400 U	470 U	ND	ND		0/5	NA	NA
BENZO(K)FLUORANTHENE	400 U	470 U	ND	ND		0/5	NA	NA
BENZO(A)PYRENE	400 U	470 U	ND	ND		0/5	NA	NA
INDENO(1,2,3-CD)PYRENE	400 U	470 U	ND	ND		0/5	NA	NA
DIBENZO(A,H)ANTHRACENE	400 U	470 U	ND	ND		0/5	NA	NA
BENZO(G,H,I)PERYLENE	400 U	470 U	ND	ND		0/5	NA	NA
1,4-DIOXANE	430 U	1900 U	ND	ND		0/5	NA	NA
PYRIDINE	430 U	930 U	ND	ND		0/5	NA	NA
N-NITROSODIMETHYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA
2-PICOLINE	400 U	470 U	ND	ND		0/5	NA	NA
N-NITROSOMETHYLETHYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	400 U	470 U	ND	ND		0/5	NA	NA
N-NITROSODIETHYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA
ETHYL METHANESULFONATE	400 U	470 U	ND	ND		0/5	NA	NA
ANILINE	430 U	2300 U	ND	ND		0/5	NA	NA
N-NITROSOPYRROLIDINE	430 U	2300 U	ND	ND		0/5	NA	NA
ACETOPHENONE	400 U	470 U	ND	ND		0/5	NA	NA
N-NITROSOMORPHOLINE	430 U	930 U	ND	ND		0/5	NA	NA
O-TOLUIDINE	400 U	470 U	ND	ND		0/5	NA	NA
N-NITROSOPIPERIDINE	400 U	2200 U	ND	ND		0/5	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	430 U	2300 U	ND	ND		0/5	NA	NA
2,6-DICHLOROPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
HEXACHLOROPROPENE	430 U	930 U	ND	ND		0/5	NA	NA
P-PHENYLENEDIAMINE	430 U	930 U	ND	ND		0/5	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA
SAFROLE	400 U	470 U	ND	ND		0/5	NA	NA
1,2,4,5-TETRACHLOROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
ISOSAFROLE	400 U	470 U	ND	ND		0/5	NA	NA
1,4-NAPHTHOQUINONE	430 U	2300 U	ND	ND		0/5	NA	NA
1,3-DINITROBENZENE	430 U	930 U	ND	ND		0/5	NA	NA
PENTACHLOROBENZENE	400 U	470 U	ND	ND		0/5	NA	NA
1-NAPHTHYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA
2-NAPHTHYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA
2,3,4,6-TETRACHLOROPHENOL	400 U	470 U	ND	ND		0/5	NA	NA
1,3,5-TRINITROBENZENE	430 U	4700 U	ND	ND		0/5	NA	NA
DIALLATE	400 U	470 U	ND	ND		0/5	NA	NA
PHENACETIN	400 U	470 U	ND	ND		0/5	NA	NA
DIPHENYLAMINE	400 U	470 U	ND	ND		0/5	NA	NA
5-NITRO-O-TOLUIDINE	430 U	930 U	ND	ND		0/5	NA	NA
4-AMINOBIPHENYL	400 U	470 U	ND	ND		0/5	NA	NA
PRONAMIDE	400 U	470 U	ND	ND		0/5	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	810 U	2200 U	ND	ND		0/5	NA	NA
PENTACHLORONITROBENZENE	400 U	470 U	ND	ND		0/2	NA	NA
4-NITROQUINOLINE-1-OXIDE	2000 U	2300 U	ND	ND		0/2	NA	NA
METHAPYRILENE	430 U	1200 U	ND	ND		0/5	NA	NA
ARAMITE	810 U	930 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	400 U	470 U	ND	ND		0/5	NA	NA
P-DIMETHYLAMINOAZOBENZENE	430 U	930 U	ND	ND		0/5	NA	NA
3,3'-DIMETHYLBENZIDINE	430 U	810 U	ND	ND		0/4	NA	NA
2-ACETYLAMINOFLUORENE	430 U	930 U	ND	ND		0/5	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	430 U	930 U	ND	ND		0/5	NA	NA
HEXACHLOROPHENE	3800 U	4700 U	ND	ND		0/5	NA	NA
3-METHYLCHOLANTHRENE	400 U	470 U	ND	ND		0/5	NA	NA
CARBAZOLE	400 U	470 U	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	430 U	430 U	ND	ND		0/3	NA	NA
2-METHYLPHENOL	430 U	430 U	ND	ND		0/3	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	430 U	430 U	ND	ND		0/3	NA	NA
3- AND/OR 4-METHYLPHENOL	430 U	430 U	ND	ND		0/3	NA	NA
METHYL METHACRYLATE	430 U	430 U	ND	ND		0/3	NA	NA
ETHYL METHACRYLATE	430 U	430 U	ND	ND		0/3	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	4.9 U	5.6 U	ND	ND		0/2	NA	NA
BETA-BHC	4.9 U	5.6 U	ND	ND		0/2	NA	NA
DELTA-BHC	4.9 U	5.6 U	ND	ND		0/2	NA	NA
GAMMA-BHC (LINDANE)	4.9 U	5.6 U	ND	ND		0/2	NA	NA
HEPTACHLOR	4.9 U	5.6 U	ND	ND		0/2	NA	NA
ALDRIN	4.9 U	5.6 U	ND	ND		0/2	NA	NA
HEPTACHLOR EPOXIDE	4.9 U	5.6 U	ND	ND		0/2	NA	NA
ENDOSULFAN I	4.9 U	5.6 U	ND	ND		0/2	NA	NA
DIELDRIN	9.7 U	11 U	ND	ND		0/2	NA	NA
4,4'-DDE	9.7 U	11 U	ND	ND		0/2	NA	NA
ENDRIN	9.7 U	11 U	ND	ND		0/2	NA	NA
ENDOSULFAN II	9.7 U	11 U	ND	ND		0/2	NA	NA
4,4'-DDD	9.7 U	11 U	ND	ND		0/2	NA	NA
ENDOSULFAN SULFATE	9.7 U	11 U	ND	ND		0/2	NA	NA
4,4'-DDT	9.7 U	11 U	ND	ND		0/2	NA	NA
METHOXYCHLOR	49 U	56 U	ND	ND		0/2	NA	NA
ENDRIN ALDEHYDE	9.7 U	11 U	ND	ND		0/2	NA	NA
ISODRIN	4.9 UJ	5.6 UJ	ND	ND		0/2	NA	NA
KEPONE	9.7 UJ	11 UJ	ND	ND		0/2	NA	NA
ALPHA-CHLORDANE	49 U	56 U	ND	ND		0/2	NA	NA
GAMMA-CHLORDANE	49 U	56 U	ND	ND		0/2	NA	NA
TOXAPHENE	97 U	110 U	ND	ND		0/2	NA	NA
AROCLOR-1016	43 U	56 U	ND	ND		0/5	NA	NA
AROCLOR-1221	49 U	87 U	ND	ND		0/5	NA	NA
AROCLOR-1232	43 U	56 U	ND	ND		0/5	NA	NA
AROCLOR-1242	43 U	56 U	ND	ND		0/5	NA	NA
AROCLOR-1248	43 U	56 U	ND	ND		0/5	NA	NA
AROCLOR-1254	43 U	110 U	ND	ND		0/5	NA	NA
AROCLOR-1260	43 U	110 U	ND	ND		0/5	NA	NA
ORTHO PESTICIDES (ug/kg)								
O,O,O-TRIETHYL PHOSPHOROTHIOAT	82 U	94 U	ND	ND		0/2	NA	NA
PHORATE	82 U	94 U	ND	ND		0/2	NA	NA
THIONAZIN	82 U	94 U	ND	ND		0/2	NA	NA
DISULFOTON	82 U	94 U	ND	ND		0/2	NA	NA
SULFOTEP	82 U	94 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES cont. (ug/kg)								
DIMETHOATE	82 U	94 U	ND	ND		0/2	NA	NA
METHYL PARATHION	82 U	94 U	ND	ND		0/2	NA	NA
PARATHION	82 U	94 U	ND	ND		0/2	NA	NA
FAMPHUR	82 U	94 U	ND	ND		0/2	NA	NA
HERBICIDES (ug/kg)								
2,4-D	410 U	460 U	ND	ND		0/2	NA	NA
2,4,5-TP (SILVEX)	81 U	92 U	ND	ND		0/2	NA	NA
2,4,5-T	81 U	92 U	ND	ND		0/2	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.17 U	0.17 U	ND	ND		0/2	NA	NA
TOTAL TCDD	0.17 U	0.17 U	ND	ND		0/2	NA	NA
TOTAL PECDD	0.18 U	0.24 U	ND	ND		0/2	NA	NA
TOTAL HXCDD	0.16 U	0.17 U	ND	ND		0/2	NA	NA
TOTAL TCDF	0.09 U	0.1 U	ND	ND		0/2	NA	NA
TOTAL PECDF	0.11 U	0.13 U	ND	ND		0/2	NA	NA
TOTAL HXCDF	0.14 U	0.18 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02
SAMPLE DATE	10/26/95	10/26/95
WET CHEMISTRY		
Cyanide, Total	0.52 U	0.48 U
Sulfide	31.9 U	23.8 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY								
Cyanide, Total	0.48 U	0.52 U	ND	ND		0/2	NA	NA
Sulfide	23.8 U	31.9 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
TOTAL METALS (mg/kg)						
Silver, Total	0.34 U	0.28 U	0.56 U	0.66 U	0.54 U	0.61 U
Arsenic, Total	1.6 J	0.71	0.67 J	0.61 J	0.52 J	0.35 J
Barium, Total	110	41.6	83	108	56.7	120
Beryllium, Total	0.12 U	0.18	NA	NA	NA	NA
Cadmium, Total	0.45	0.36	0.43 UJ	0.51 UJ	0.42 UJ	0.47 UJ
Cobalt, Total	30	6.4	NA	NA	NA	NA
Chromium, Total	24.3 J	3.1 J	15.3	19.7	9.7	19.5
Copper, Total	106	20.2	NA	NA	NA	NA
Mercury, Total	0.06 U	0.05 U	0.06 R	0.07 R	0.06 R	0.07 R
Nickel, Total	14.8	2.4	NA	NA	NA	NA
Lead, Total	15.4 J	36.3	28.7 J	15.7 J	9.4 J	11.2 J
Antimony, Total	2.8 UJ	2.3 UJ	NA	NA	NA	NA
Selenium, Total	1.5 U	1.2 U	0.17 UJ	0.19 UJ	0.16 UJ	0.18 UJ
Tin, Total	2.2 UJ	1.9 J	NA	NA	NA	NA
Thallium, Total	0.17 U	0.12 UJ	NA	NA	NA	NA
Vanadium, Total	179 J	45.5 J	NA	NA	NA	NA
Zinc, Total	241 J	36.2 J	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMM
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
TOTAL METALS (mg/kg)				
Silver, Total	0.56 U	0.56 U	0.57 U	0.47 U
Arsenic, Total	0.19 UJ	0.19 UJ	0.2 UJ	0.23 J
Barium, Total	155	148	173	171
Beryllium, Total	NA	NA	NA	NA
Cadmium, Total	0.43 UJ	0.43 UJ	0.44 UJ	0.37 UJ
Cobalt, Total	NA	NA	NA	NA
Chromium, Total	11.3	18.1	14	2.4
Copper, Total	NA	NA	NA	NA
Mercury, Total	0.06 R	0.06 R	0.07 R	0.05 R
Nickel, Total	NA	NA	NA	NA
Lead, Total	5.1 J	4.4 J	7.6 J	3 J
Antimony, Total	NA	NA	NA	NA
Selenium, Total	0.16 UJ	0.17 UJ	0.17 UJ	0.14 UJ
Tin, Total	NA	NA	NA	NA
Thallium, Total	NA	NA	NA	NA
Vanadium, Total	NA	NA	NA	NA
Zinc, Total	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
Silver, Total	0.28 U	0.66 U	ND	ND		0/10	NA	NA
Arsenic, Total	0.19 UJ	0.2 UJ	0.23 J	1.6 J	46SS01	7/10	0.67	0.61
Barium, Total	NA	NA	41.6	173	46SS08	10/10	116.63	115.00
Beryllium, Total	0.12 U	0.12 U	0.18	0.18	46SS02	1/2	0.18	0.18
Cadmium, Total	0.37 UJ	0.51 UJ	0.36	0.45	46SS01	2/10	0.41	0.41
Cobalt, Total	NA	NA	6.4	30	46SS01	2/2	18.20	18.20
Chromium, Total	NA	NA	2.4	24.3 J	46SS01	10/10	13.74	14.65
Copper, Total	NA	NA	20.2	106	46SS01	2/2	63.10	63.10
Mercury, Total	0.05 U	0.06 U	ND	ND		0/2	NA	NA
Nickel, Total	NA	NA	2.4	14.8	46SS01	2/2	8.60	8.60
Lead, Total	NA	NA	3 J	36.3	46SS02	10/10	13.68	10.30
Antimony, Total	2.3 UJ	2.8 UJ	ND	ND		0/2	NA	NA
Selenium, Total	0.14 UJ	1.5 U	ND	ND		0/10	NA	NA
Tin, Total	2.2 UJ	2.2 UJ	1.9 J	1.9 J	46SS02	1/2	1.90	1.90
Thallium, Total	0.12 UJ	0.17 U	ND	ND		0/2	NA	NA
Vanadium, Total	NA	NA	45.5 J	179 J	46SS01	2/2	112.25	112.25
Zinc, Total	NA	NA	36.2 J	241 J	46SS01	2/2	138.60	138.60

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
VOLATILES (ug/kg)						
CHLOROMETHANE	13 UJ	11 U	13 U	15 U	12 U	14 U
BROMOMETHANE	13 UJ	11 U	13 U	15 U	12 U	14 U
VINYL CHLORIDE	13 UJ	11 U	13 U	15 U	12 U	14 U
CHLOROETHANE	13 UJ	11 U	13 U	15 U	12 U	14 U
METHYLENE CHLORIDE	6 UJ	5 U	14 U	8 U	22 U	9 B
ACETONE	13 UJ	11 U	13 U	15 U	12 U	14 U
CARBON DISULFIDE	6 UJ	5 U	2 J	8 U	6 U	7 U
1,1-DICHLOROETHENE	6 UJ	5 U	6 U	8 U	6 U	7 U
1,1-DICHLOROETHANE	6 UJ	5 U	6 U	8 U	6 U	7 U
1,2-DICHLOROETHENE (TOTAL)	6 UJ	5 U	6 U	8 U	6 U	7 U
CHLOROFORM	6 UJ	5 U	6 U	8 U	6 U	7 U
1,2-DICHLOROETHANE	6 UJ	5 U	6 U	8 U	6 U	7 U
2-BUTANONE	13 UJ	11 U	13 U	15 U	12 U	14 U
1,1,1-TRICHLOROETHANE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
CARBON TETRACHLORIDE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
VINYL ACETATE	13 UJ	11 U	13 U	15 UJ	12 U	14 U
BROMODICHLOROMETHANE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
1,2-DICHLOROPROPANE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
CIS-1,3-DICHLOROPROPENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
TRICHLOROETHENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
DIBROMOCHLOROMETHANE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
1,1,2-TRICHLOROETHANE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
BENZENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
TRANS-1,3-DICHLOROPROPENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
BROMOFORM	6 UJ	5 U	6 U	8 UJ	6 U	7 U
4-METHYL-2-PENTANONE	13 UJ	11 U	13 U	15 UJ	12 U	14 U
2-HEXANONE	13 UJ	11 U	13 U	15 UJ	12 U	14 U
TETRACHLOROETHENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
1,1,2,2-TETRACHLOROETHANE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
TOLUENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
CHLOROBENZENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
ETHYLBENZENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
STYRENE	6 UJ	5 U	6 U	8 UJ	6 U	7 U
XYLENE (TOTAL)	6 UJ	5 U	3 J	8 UJ	2 J	7 U
ACROLEIN	640 UJ	530 U	13 U	15 U	12 U	14 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
VOLATILES cont. (ug/kg)						
ACRYLONITRILE	130 UJ	110 U	13 U	15 U	12 U	14 U
TRICHLOROFLUOROMETHANE	13 UJ	11 U	6 U	8 U	6 U	7 U
DICHLORODIFLUOROMETHANE	26 UJ	21 U	13 U	15 U	12 U	14 U
ACETONITRILE	130 UJ	110 U	26 U	30 U	24 U	28 U
IODOMETHANE	13 R	11 U	13 U	15 U	12 U	14 U
PROPIONITRILE (ETHYL CYANIDE)	64 UJ	53 R	65 U	75 U	60 R	70 U
3-CHLOROPROPENE	26 UJ	21 U	26 U	30 U	24 U	28 U
METHACRYLONITRILE	26 UJ	21 U	26 U	30 U	24 U	28 U
DIBROMOMETHANE	13 UJ	11 U	13 U	15 U	12 U	14 U
ISOBUTYL ALCOHOL	2600 R	2100 R	130 R	150 R	120 U	140 R
1,2-DIBROMOETHANE	26 UJ	21 U	26 U	30 U	24 U	28 U
1,1,1,2-TETRACHLOROETHANE	13 UJ	11 U	13 U	15 UJ	12 U	14 U
1,2,3-TRICHLOROPROPANE	13 UJ	11 U	13 U	15 U	12 U	14 U
TRANS-1,4-DICHLORO-2-BUTENE	26 UJ	21 U	130 U	150 U	120 U	140 U
1,2-DIBROMO-3-CHLOROPROPANE	26 UJ	21 U	26 U	30 U	24 U	28 U
2-CHLORO-1,3-BUTADIENE	130 UJ	110 U	130 U	150 U	120 U	140 U
METHYLMETHACRYLATE	26 UJ	21 U	NA	NA	NA	NA
ETHYLMETHACRYLATE	26 UJ	21 U	NA	NA	NA	NA
PENTACHLOROETHANE	26 UJ	21 U	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES (ug/kg)						
PHENOL	420 U	350 U	420 U	500 U	410 U	460 U
BIS(2-CHLOROETHYL)ETHER	420 U	350 U	420 U	500 U	410 U	460 U
2-CHLOROPHENOL	420 U	350 U	420 U	500 U	410 U	460 U
1,3-DICHLOROBENZENE	420 U	350 U	420 U	500 U	410 U	460 U
1,4-DICHLOROBENZENE	420 U	350 U	420 U	500 U	410 U	460 U
BENZYL ALCOHOL	420 U	350 U	420 U	500 U	410 U	460 U
1,2-DICHLOROBENZENE	420 U	350 U	420 U	500 U	410 U	460 U
O-CRESOL	420 U	350 U	NA	NA	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	420 U	350 U	NA	NA	NA	NA
META & PARA-CRESOL	420 U	350 U	NA	NA	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	420 U	350 U	420 U	500 U	410 U	460 U
HEXACHLOROETHANE	420 U	350 U	420 U	500 U	410 U	460 U
NITROBENZENE	420 U	350 U	420 U	500 U	410 U	460 U
ISOPHORONE	420 U	350 U	420 U	500 U	410 U	460 U
2-NITROPHENOL	420 U	350 U	420 U	500 U	410 U	460 U
2,4-DIMETHYLPHENOL	420 U	93 J	420 U	500 U	410 U	460 U
BENZOIC ACID	2100 U	1800 U	2100 U	2500 U	2100 U	2300 U
BIS(2-CHLOROETHOXY)METHANE	420 U	350 U	420 U	500 U	410 U	460 U
2,4-DICHLOROPHENOL	420 U	350 U	420 U	500 U	410 U	460 U
1,2,4-TRICHLOROBENZENE	420 U	350 U	420 U	500 U	410 U	460 U
NAPHTHALENE	420 U	350 U	420 U	500 U	410 U	460 U
4-CHLOROANILINE	420 U	350 U	420 U	500 U	410 U	460 U
HEXACHLOROBUTADIENE	420 U	350 U	420 U	500 U	410 U	460 U
4-CHLORO-3-METHYLPHENOL	420 U	350 U	420 U	500 U	410 U	460 U
2-METHYLNAPHTHALENE	420 U	350 U	420 U	500 U	410 U	460 U
HEXACHLOROCYCLOPENTADIENE	420 U	350 U	420 U	500 U	410 U	460 U
2,4,6-TRICHLOROPHENOL	420 U	350 U	420 U	500 U	410 U	460 U
2,4,5-TRICHLOROPHENOL	2100 U	1800 U	2100 U	2500 U	2100 U	2300 U
2-CHLORONAPHTHALENE	420 U	350 U	420 U	500 U	410 U	460 U
2-NITROANILINE	2100 U	1800 U	2100 U	2500 U	2100 U	2300 U
DIMETHYLPHTHALATE	420 U	350 U	420 U	500 U	410 U	460 U
ACENAPHTHYLENE	420 U	350 U	420 U	500 U	410 U	460 U
2,6-DINITROTOLUENE	420 U	350 U	420 U	500 U	410 U	460 U
3-NITROANILINE	2100 U	1800 U	2100 U	2500 U	2100 U	2300 U
ACENAPHTHENE	420 U	350 U	420 U	500 U	410 U	460 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES cont. (ug/kg)						
2,4-DINITROPHENOL	2100 U	1800 U	2100 U	2500 U	2100 U	2300 U
4-NITROPHENOL	2100 U	1800 U	2100 U	2500 U	2100 U	2300 U
DIBENZOFURAN	420 U	350 U	420 U	500 U	410 U	460 U
2,4-DINITROTOLUENE	420 U	350 U	420 U	500 U	410 U	460 U
DIETHYLPHTHALATE	420 U	350 U	420 U	500 U	410 U	460 U
4-CHLOROPHENYL-PHENYLETHER	420 U	350 U	420 U	500 U	410 U	460 U
FLUORENE	420 U	350 U	420 U	500 U	410 U	460 U
4-NITROANILINE	2100 U	1800 U	2100 U	2500 U	2100 U	2300 U
4,6-DINITRO-2-METHYLPHENOL	2100 U	1800 UJ	2100 U	2500 U	2100 U	2300 U
N-NITROSODIPHENYLAMINE (1)	420 U	350 UJ	420 U	500 U	410 U	460 U
4-BROMOPHENYL-PHENYLETHER	420 U	350 UJ	420 U	500 U	410 U	460 U
HEXACHLOROBENZENE	420 U	350 UJ	420 U	500 U	410 U	460 U
PENTACHLOROPHENOL	2100 U	1800 UJ	2100 U	2500 U	2100 U	2300 U
PHENANTHRENE	49 J	98 J	420 U	500 U	410 U	460 U
ANTHRACENE	420 U	45 J	420 U	500 U	410 U	460 U
DI-N-BUTYLPHTHALATE	420 U	350 U	420 U	500 U	410 U	460 U
FLUORANTHENE	440	350 J	150 J	500 U	130 J	73 J
PYRENE	1100 J	880 J	130 J	500 U	120 J	75 J
BUTYLBENZYLPHTHALATE	150 J	350 UJ	420 U	500 U	410 U	460 U
3,3'-DICHLOROBENZIDINE	850 UJ	700 UJ	850 U	990 U	830 U	930 U
BENZO(A)ANTHRACENE	880 J	550 J	76 J	500 U	86 J	57 J
CHRYSENE	890 J	760 J	120 J	500 U	110 J	76 J
BIS(2-ETHYLHEXYL)PHTHALATE	1100 UJ	350 U	420 U	500 U	410 U	460 U
DI-N-OCTYL PHTHALATE	420 UJ	350 UJ	420 U	500 U	410 U	460 U
BENZO(B)FLUORANTHENE	1200 J	840 J	110 J	500 U	130 J	80 J
BENZO(K)FLUORANTHENE	790 J	410 J	140 J	500 U	120 J	460 U
BENZO(A)PYRENE	890 J	560 J	86 J	500 U	120 J	62 J
INDENO(1,2,3-CD)PYRENE	550 J	360 J	66 J	500 U	410 U	460 U
DIBENZO(A,H)ANTHRACENE	420 UJ	100 J	420 U	500 U	410 U	460 U
BENZO(G,H,I)PERYLENE	420 UJ	340 J	76 J	500 U	410 U	460 U
1,4-DIOXANE	1700 U	1400 U	420 U	500 U	410 U	460 U
PYRIDINE	850 U	700 U	420 U	500 U	410 U	460 U
N-NITROSODIMETHYLAMINE	420 U	350 U	420 U	500 U	410 U	460 U
2-PICOLINE	420 U	350 U	420 U	500 U	410 U	460 U
N-NITROSOMETHYLETHYLAMINE	420 U	350 U	420 U	500 U	410 U	460 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES cont. (ug/kg)						
METHYL METHANESULFONATE	420 U	350 U	420 U	500 U	410 U	460 U
N-NITROSODIETHYLAMINE	420 U	350 U	420 U	500 U	410 U	460 U
ETHYL METHANESULFONATE	420 U	350 U	420 U	500 U	410 U	460 U
ANILINE	2100 U	1800 U	420 U	500 U	410 U	460 U
N-NITROSOPYRROLIDINE	2100 U	1800 U	420 U	500 U	410 U	460 U
ACETOPHENONE	420 U	350 U	420 U	500 U	410 U	460 U
N-NITROSOMORPHOLINE	850 U	700 U	420 U	500 U	410 U	460 U
O-TOLUIDINE	420 U	350 U	420 U	500 U	410 U	460 U
N-NITROSOPIPERIDINE	420 U	350 U	2100 U	2500 U	2100 U	2300 U
A,A-DIMETHYLPHENETHYLAMINE	2100 U	1800 U	420 U	500 U	410 U	460 U
2,6-DICHLOROPHENOL	420 U	350 U	420 U	500 U	410 U	460 U
HEXACHLOROPROPENE	850 U	700 U	420 R	500 R	410 R	460 R
P-PHENYLENEDIAMINE	850 U	700 U	420 U	500 U	410 U	460 U
N-NITROSO-DI-N-BUTYLAMINE	420 U	350 U	420 U	500 U	410 U	460 U
SAFROLE	420 U	350 U	420 U	500 U	410 U	460 U
1,2,4,5-TETRACHLOROBENZENE	420 U	350 U	420 U	500 U	410 U	460 U
ISOSAFROLE	420 U	350 U	420 U	500 U	410 U	460 U
1,4-NAPHTHOQUINONE	2100 U	1800 U	420 U	500 U	410 U	460 U
1,3-DINITROBENZENE	850 U	700 U	420 U	500 U	410 U	460 U
PENTACHLOROBENZENE	420 U	350 U	420 U	500 U	410 U	460 U
1-NAPHTHYLAMINE	420 U	350 U	420 U	500 U	410 U	460 U
2-NAPHTHYLAMINE	420 U	350 U	420 U	500 U	410 U	460 U
2,3,4,6-TETRACHLOROPHENOL	420 U	350 U	420 U	500 U	410 U	460 U
1,3,5-TRINITROBENZENE	4200 U	3500 U	420 U	500 U	410 U	460 U
DIALLATE	420 U	350 U	420 U	500 U	410 U	460 U
PHENACETIN	420 U	350 UJ	420 U	500 U	410 U	460 U
DIPHENYLAMINE	420 U	350 UJ	420 U	500 U	410 U	460 U
5-NITRO-O-TOLUIDINE	850 U	700 U	420 U	500 U	410 U	460 U
4-AMINOBIPHENYL	420 U	350 UJ	420 U	500 U	410 U	460 U
PRONAMIDE	420 U	350 U	420 U	500 U	410 U	460 U
2-SEC-BUTYL-4,6-DINITROPHENOL	850 U	700 U	2100 U	2500 U	2100 U	2300 U
PENTACHLORONITROBENZENE	420 U	350 U	2100 R	2500 R	2100 R	2300 R
4-NITROQUINOLINE-1-OXIDE	2100 U	1800 U	850 R	990 R	830 R	930 R
METHAPYRILENE	1100 U	880 U	420 U	500 U	410 U	460 U
ARAMITE	850 U	700 U	850 U	990 U	830 U	930 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES cont. (ug/kg)						
CHLOROBENZILATE	420 U	350 U	420 U	500 U	410 U	460 U
P-DIMETHYLAMINOAZOBENZENE	850 U	700 U	420 U	500 U	410 U	460 U
3,3'-DIMETHYLBENZIDINE	850 R	700 U	420 U	500 U	410 U	460 U
2-ACETYLAMINOFLUORENE	850 U	700 U	420 U	500 U	410 U	460 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	850 UJ	700 UJ	420 U	500 U	410 U	460 U
HEXACHLOROPHENE	4200 U	3500 U	3800 U	4500 U	3700 U	4200 U
3-METHYLCHOLANTHRENE	420 UJ	350 UJ	420 U	500 U	410 U	460 U
CARBAZOLE	420 U	350 U	NA	NA	NA	NA
PENTACHLOROETHANE	NA	NA	420 U	500 U	410 U	460 U
2-METHYLPHENOL	NA	NA	420 U	500 U	410 U	460 U
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	420 U	500 U	410 U	460 U
3- AND/OR 4-METHYLPHENOL	NA	NA	420 U	500 U	410 U	460 U
METHYL METHACRYLATE	NA	NA	420 U	500 U	410 U	460 U
ETHYL METHACRYLATE	NA	NA	420 U	500 U	410 U	460 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	51 U	21 U	NA	NA	NA	NA
BETA-BHC	51 U	21 U	NA	NA	NA	NA
DELTA-BHC	51 U	21 U	NA	NA	NA	NA
GAMMA-BHC (LINDANE)	51 U	21 U	NA	NA	NA	NA
HEPTACHLOR	51 U	21 U	NA	NA	NA	NA
ALDRIN	51 U	21 U	NA	NA	NA	NA
HEPTACHLOR EPOXIDE	51 U	21 U	NA	NA	NA	NA
ENDOSULFAN I	51 U	21 U	NA	NA	NA	NA
DIELDRIN	100 U	42 U	NA	NA	NA	NA
4,4'-DDE	100 U	42 U	NA	NA	NA	NA
ENDRIN	100 U	42 U	NA	NA	NA	NA
ENDOSULFAN II	100 U	42 U	NA	NA	NA	NA
4,4'-DDD	100 U	42 U	NA	NA	NA	NA
ENDOSULFAN SULFATE	100 U	42 U	NA	NA	NA	NA
4,4'-DDT	100 U	42 U	NA	NA	NA	NA
METHOXYCHLOR	510 U	210 U	NA	NA	NA	NA
ENDRIN ALDEHYDE	100 U	42 U	NA	NA	NA	NA
ISODRIN	51 U	21 U	NA	NA	NA	NA
KEPONE	100 UJ	42 UJ	NA	NA	NA	NA
ALPHA-CHLORDANE	510 U	210 U	NA	NA	NA	NA
GAMMA-CHLORDANE	510 U	210 U	NA	NA	NA	NA
TOXAPHENE	1000 U	420 U	NA	NA	NA	NA
AROCLOR-1016	510 U	210 U	41 U	240 U	390 U	230 U
AROCLOR-1221	510 U	210 U	81 U	490 U	790 U	450 U
AROCLOR-1232	510 U	210 U	41 U	240 U	390 U	230 U
AROCLOR-1242	510 U	210 U	41 U	240 U	390 U	230 U
AROCLOR-1248	510 U	210 U	41 U	240 U	390 U	230 U
AROCLOR-1254	1000 U	420 U	41 U	240 U	390 U	230 U
AROCLOR-1260	3600	390	190	560	1200	1000

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS01	46SS02	46SS03	46SS04	46SS05	46SS06
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
ORTHO PESTICIDES (ug/kg)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	84 U	69 U	NA	NA	NA	NA
PHORATE	84 U	69 U	NA	NA	NA	NA
THIONAZIN	84 U	69 U	NA	NA	NA	NA
DISULFOTON	84 U	69 U	NA	NA	NA	NA
SULFOTEP	84 U	69 U	NA	NA	NA	NA
DIMETHOATE	84 U	69 U	NA	NA	NA	NA
METHYL PARATHION	84 U	69 U	NA	NA	NA	NA
PARATHION	84 U	69 U	NA	NA	NA	NA
FAMPHUR	84 U	69 U	NA	NA	NA	NA
HERBICIDES (ug/kg)						
2,4-D	430 U	350 U	NA	NA	NA	NA
2,4,5-TP (SILVEX)	85 U	69 U	NA	NA	NA	NA
2,4,5-T	85 U	69 U	NA	NA	NA	NA
DIOXIN (ug/kg)						
TCDD-2378	0.1 U	0.1 U	NA	NA	NA	NA
TOTAL TCDD	0.1 U	0.1 U	NA	NA	NA	NA
TOTAL PECDD	0.11 U	0.08 U	NA	NA	NA	NA
TOTAL HXCDD	0.24 U	0.13 U	NA	NA	NA	NA
TOTAL TCDF	0.06 U	0.06 U	NA	NA	NA	NA
TOTAL PECDF	0.13 U	0.07 U	NA	NA	NA	NA
TOTAL HXCDF	0.22 U	0.1 U	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
VOLATILES (ug/kg)				
CHLOROMETHANE	13 U	13 U	13 UJ	11 U
BROMOMETHANE	13 U	13 U	13 UJ	11 U
VINYL CHLORIDE	13 U	13 U	13 UJ	11 U
CHLOROETHANE	13 U	13 U	13 UJ	11 U
METHYLENE CHLORIDE	9 U	13 U	14 U	10 U
ACETONE	13 U	13 U	13 U	11 U
CARBON DISULFIDE	6 U	6 U	6 UJ	6 U
1,1-DICHLOROETHENE	6.5 U	6 U	6 UJ	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 UJ	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 UJ	6 U
CHLOROFORM	6 U	6 U	6 UJ	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 UJ	6 U
2-BUTANONE	13 U	13 U	13 UJ	11 U
1,1,1-TRICHLOROETHANE	6.5 U	6 U	6 UJ	6 U
CARBON TETRACHLORIDE	6 U	6 U	6 UJ	6 U
VINYL ACETATE	13 U	13 U	13 UJ	11 U
BROMODICHLOROMETHANE	6 U	6 U	6 UJ	6 U
1,2-DICHLOROPROPANE	6 U	6 U	6 UJ	6 U
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 UJ	6 U
TRICHLOROETHENE	6 U	6 U	6 UJ	6 U
DIBROMOCHLOROMETHANE	6 U	6 U	6 UJ	6 U
1,1,2-TRICHLOROETHANE	6 U	6 U	6 UJ	6 U
BENZENE	6 U	6 U	6 UJ	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 UJ	6 U
BROMOFORM	6 U	6 U	6 UJ	6 U
4-METHYL-2-PENTANONE	13 U	13 U	13 UJ	11 U
2-HEXANONE	13 U	13 UJ	13 UJ	11 U
TETRACHLOROETHENE	6 U	6 UJ	6 UJ	6 U
1,1,2,2-TETRACHLOROETHANE	6 U	6 UJ	6 UJ	6 U
TOLUENE	6 U	6 UJ	6 UJ	6 U
CHLOROBENZENE	6 U	6 UJ	6 UJ	6 U
ETHYLBENZENE	6 U	6 UJ	6 UJ	6 U
STYRENE	6 U	6 UJ	6 UJ	6 U
XYLENE (TOTAL)	6 U	6 UJ	6 UJ	6 U
ACROLEIN	13 U	13 U	13 UJ	11 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
VOLATILES cont. (ug/kg)				
ACRYLONITRILE	13 U	13 U	13 UJ	11 U
TRICHLOROFLUOROMETHANE	6 U	6 U	6 UJ	6 U
DICHLORODIFLUOROMETHANE	13 U	13 U	13 UJ	11 U
ACETONITRILE	26 U	26 U	26 UJ	22 U
IODOMETHANE	13 U	13 U	13 UJ	11 U
PROPIONITRILE (ETHYL CYANIDE)	65 U	65 U	65 UJ	55 U
3-CHLOROPROPENE	26 U	26 U	26 UJ	22 U
METHACRYLONITRILE	26 U	26 U	26 UJ	22 U
DIBROMOMETHANE	13 U	13 U	13 UJ	11 U
ISOBUTYL ALCOHOL	130 R	130 R	130 UJ	110 U
1,2-DIBROMOETHANE	26 U	26 U	26 UJ	22 U
1,1,1,2-TETRACHLOROETHANE	13 U	13 UJ	13 UJ	11 U
1,2,3-TRICHLOROPROPANE	13 U	13 U	13 UJ	11 U
TRANS-1,4-DICHLORO-2-BUTENE	130 U	130 U	130 UJ	110 U
1,2-DIBROMO-3-CHLOROPROPANE	26 U	26 U	26 UJ	22 U
2-CHLORO-1,3-BUTADIENE	130 U	130 U	130 UJ	110 U
METHYLMETHACRYLATE	NA	NA	NA	NA
ETHYLMETHACRYLATE	NA	NA	NA	NA
PENTACHLOROETHANE	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES (ug/kg)				
PHENOL	420 U	430 U	430 U	360 U
BIS(2-CHLOROETHYL)ETHER	420 U	430 U	430 U	360 U
2-CHLOROPHENOL	420 U	430 U	430 U	360 U
1,3-DICHLOROBENZENE	420 U	430 U	430 U	360 U
1,4-DICHLOROBENZENE	420 U	430 U	430 U	360 U
BENZYL ALCOHOL	420 U	430 U	430 U	360 U
1,2-DICHLOROBENZENE	420 U	430 U	430 U	360 U
O-CRESOL	NA	NA	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	NA	NA	NA	NA
META & PARA-CRESOL	NA	NA	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	420 U	430 U	430 U	360 U
HEXACHLOROETHANE	420 U	430 U	430 U	360 U
NITROBENZENE	420 U	430 U	430 U	360 U
ISOPHORONE	420 U	430 U	430 U	360 U
2-NITROPHENOL	420 U	430 U	430 U	360 U
2,4-DIMETHYLPHENOL	420 U	430 U	430 U	360 U
BENZOIC ACID	2100 U	2100 U	2200 U	1800 U
BIS(2-CHLOROETHOXY)METHANE	420 U	430 U	430 U	360 U
2,4-DICHLOROPHENOL	420 U	430 U	430 U	360 U
1,2,4-TRICHLOROBENZENE	420 U	430 U	430 U	360 U
NAPHTHALENE	420 U	430 U	430 U	360 U
4-CHLOROANILINE	420 U	430 U	430 U	360 U
HEXACHLOROBUTADIENE	420 U	430 U	430 U	360 U
4-CHLORO-3-METHYLPHENOL	420 U	430 U	430 U	360 U
2-METHYLNAPHTHALENE	420 U	430 U	430 U	360 U
HEXACHLOROCYCLOPENTADIENE	420 U	430 U	430 U	360 U
2,4,6-TRICHLOROPHENOL	420 U	430 U	430 U	360 U
2,4,5-TRICHLOROPHENOL	2100 U	2100 U	2200 U	1800 U
2-CHLORONAPHTHALENE	420 U	430 U	430 U	360 U
2-NITROANILINE	2100 U	2100 U	2200 U	1800 U
DIMETHYLPHTHALATE	420 U	430 U	430 U	360 U
ACENAPHTHYLENE	420 U	430 U	430 U	360 U
2,6-DINITROTOLUENE	420 U	430 U	430 U	360 U
3-NITROANILINE	2100 U	2100 U	2200 U	1800 U
ACENAPHTHENE	420 U	430 U	430 U	360 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES cont. (ug/kg)				
2,4-DINITROPHENOL	2100 U	2100 U	2200 U	1800 U
4-NITROPHENOL	2100 U	2100 U	2200 U	1800 U
DIBENZOFURAN	420 U	430 U	430 U	360 U
2,4-DINITROTOLUENE	420 U	430 U	430 U	360 U
DIETHYLPHTHALATE	420 U	430 U	430 U	360 U
4-CHLOROPHENYL-PHENYLETHER	420 U	430 U	430 U	360 U
FLUORENE	420 U	430 U	430 U	360 U
4-NITROANILINE	2100 U	2100 U	2200 U	1800 U
4,6-DINITRO-2-METHYLPHENOL	2100 U	2100 U	2200 U	1800 U
N-NITROSODIPHENYLAMINE (1)	420 U	430 U	430 U	360 U
4-BROMOPHENYL-PHENYLETHER	420 U	430 U	430 U	360 U
HEXACHLOROBENZENE	420 U	430 U	430 U	360 U
PENTACHLOROPHENOL	2100 U	2100 U	2200 U	1800 U
PHENANTHRENE	71 J	430 U	430 U	360 U
ANTHRACENE	420 U	430 U	430 U	360 U
DI-N-BUTYLPHTHALATE	420 U	430 U	430 U	360 U
FLUORANTHENE	410 J	69 J	430 U	360 U
PYRENE	390 J	67 J	430 U	360 U
BUTYLBENZYLPHTHALATE	420 U	430 U	430 U	360 U
3,3'-DICHLOROBENZIDINE	840 U	850 U	870 U	720 U
BENZO(A)ANTHRACENE	410 J	82 J	430 U	360 U
CHRYSENE	470	97 J	430 U	360 U
BIS(2-ETHYLHEXYL)PHTHALATE	420 U	430 U	430 U	360 U
DI-N-OCTYL PHTHALATE	420 U	430 U	430 U	360 U
BENZO(B)FLUORANTHENE	400 J	100 J	430 U	360 U
BENZO(K)FLUORANTHENE	460	110 J	430 U	360 U
BENZO(A)PYRENE	320 J	100 J	430 U	360 U
INDENO(1,2,3-CD)PYRENE	130 J	430 U	430 U	360 U
DIBENZO(A,H)ANTHRACENE	73 J	430 U	430 U	360 U
BENZO(G,H,I)PERYLENE	180 J	430 U	430 U	360 U
1,4-DIOXANE	420 U	430 U	430 U	360 U
PYRIDINE	420 U	430 U	430 U	360 U
N-NITROSODIMETHYLAMINE	420 U	430 U	430 U	360 U
2-PICOLINE	420 U	430 U	430 U	360 U
N-NITROSOMETHYLETHYLAMINE	420 U	430 U	430 U	360 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES cont. (ug/kg)				
METHYL METHANESULFONATE	420 U	430 U	430 U	360 U
N-NITROSODIETHYLAMINE	420 U	430 U	430 U	360 U
ETHYL METHANESULFONATE	420 U	430 U	430 U	360 U
ANILINE	420 U	430 U	430 U	360 U
N-NITROSOPYRROLIDINE	420 U	430 U	430 U	360 U
ACETOPHENONE	420 U	430 U	430 U	360 U
N-NITROSOMORPHOLINE	420 U	430 U	430 U	360 U
O-TOLUIDINE	420 U	430 U	430 U	360 U
N-NITROSOPIPERIDINE	2100 U	2100 U	2200 U	1800 U
A,A-DIMETHYLPHENETHYLAMINE	420 U	430 U	430 U	360 U
2,6-DICHLOROPHENOL	420 U	430 U	430 U	360 U
HEXACHLOROPROPENE	420 R	430 R	430 R	360 U
P-PHENYLENEDIAMINE	420 U	430 U	430 U	360 U
N-NITROSO-DI-N-BUTYLAMINE	420 U	430 U	430 U	360 U
SAFROLE	420 U	430 U	430 U	360 U
1,2,4,5-TETRACHLOROBENZENE	420 U	430 U	430 U	360 U
ISOSAFROLE	420 U	430 U	430 U	360 U
1,4-NAPHTHOQUINONE	420 U	430 U	430 U	360 U
1,3-DINITROBENZENE	420 U	430 U	430 U	360 U
PENTACHLOROBENZENE	420 U	430 U	430 U	360 U
1-NAPHTHYLAMINE	420 U	430 U	430 U	360 U
2-NAPHTHYLAMINE	420 U	430 U	430 U	360 U
2,3,4,6-TETRACHLOROPHENOL	420 U	430 U	430 U	360 U
1,3,5-TRINITROBENZENE	420 U	430 U	430 U	360 U
DIALLATE	420 U	430 U	430 U	360 U
PHENACETIN	420 U	430 U	430 U	360 U
DIPHENYLAMINE	420 U	430 U	430 U	360 U
5-NITRO-O-TOLUIDINE	420 U	430 U	430 U	360 U
4-AMINOBIPHENYL	420 U	430 U	430 U	360 U
PRONAMIDE	420 U	430 U	430 U	360 U
2-SEC-BUTYL-4,6-DINITROPHENOL	2100 U	2100 U	2200 U	1800 U
PENTACHLORONITROBENZENE	2100 R	2100 R	2200 R	1800 R
4-NITROQUINOLINE-1-OXIDE	840 R	850 R	870 R	720 R
METHAPYRILENE	420 U	430 U	430 U	360 U
ARAMITE	840 U	850 U	870 U	720 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
SEMIVOLATILES cont. (ug/kg)				
CHLOROBENZILATE	420 U	430 U	430 U	360 U
P-DIMETHYLAMINOAZOBENZENE	420 U	430 U	430 U	360 U
3,3'-DIMETHYLBENZIDINE	420 U	430 U	430 U	360 U
2-ACETYLAMINOFLUORENE	420 U	430 U	430 U	360 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	420 U	430 U	430 U	360 U
HEXACHLOROPHENE	3800 U	3800 U	3900 U	3200 U
3-METHYLCHOLANTHRENE	420 U	430 U	430 U	360 U
CARBAZOLE	NA	NA	NA	NA
PENTACHLOROETHANE	420 U	430 U	430 U	360 U
2-METHYLPHENOL	420 U	430 U	430 U	360 U
BIS(2-CHLOROISOPROPYL)ETHER	420 U	430 U	430 U	360 U
3- AND/OR 4-METHYLPHENOL	420 U	430 U	430 U	360 U
METHYL METHACRYLATE	420 U	430 U	430 U	360 U
ETHYL METHACRYLATE	420 U	430 U	430 U	360 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
PESTICIDE/PCBS (ug/kg)				
ALPHA-BHC	NA	NA	NA	NA
BETA-BHC	NA	NA	NA	NA
DELTA-BHC	NA	NA	NA	NA
GAMMA-BHC (LINDANE)	NA	NA	NA	NA
HEPTACHLOR	NA	NA	NA	NA
ALDRIN	NA	NA	NA	NA
HEPTACHLOR EPOXIDE	NA	NA	NA	NA
ENDOSULFAN I	NA	NA	NA	NA
DIELDRIN	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA
ENDRIN	NA	NA	NA	NA
ENDOSULFAN II	NA	NA	NA	NA
4,4'-DDD	NA	NA	NA	NA
ENDOSULFAN SULFATE	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA
METHOXYCHLOR	NA	NA	NA	NA
ENDRIN ALDEHYDE	NA	NA	NA	NA
ISODRIN	NA	NA	NA	NA
KEPONE	NA	NA	NA	NA
ALPHA-CHLORDANE	NA	NA	NA	NA
GAMMA-CHLORDANE	NA	NA	NA	NA
TOXAPHENE	NA	NA	NA	NA
AROCLOR-1016	84 U	42 U	42 U	36 U
AROCLOR-1221	170 U	83 U	83 U	71 U
AROCLOR-1232	84 U	42 U	42 U	36 U
AROCLOR-1242	84 U	42 U	42 U	36 U
AROCLOR-1248	84 U	42 U	42 U	36 U
AROCLOR-1254	84 U	42 U	42 U	36 U
AROCLOR-1260	240 J	110 J	160	59

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46SS07	46SS07D	46SS08	46SS09
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95
UNITS	UG/KG	UG/KG	UG/KG	UG/KG
ORTHO PESTICIDES (ug/kg)				
O,O,O-TRIETHYL PHOSPHOROTHIOA	NA	NA	NA	NA
PHORATE	NA	NA	NA	NA
THIONAZIN	NA	NA	NA	NA
DISULFOTON	NA	NA	NA	NA
SULFOTEP	NA	NA	NA	NA
DIMETHOATE	NA	NA	NA	NA
METHYL PARATHION	NA	NA	NA	NA
PARATHION	NA	NA	NA	NA
FAMPHUR	NA	NA	NA	NA
HERBICIDES (ug/kg)				
2,4-D	NA	NA	NA	NA
2,4,5-TP (SILVEX)	NA	NA	NA	NA
2,4,5-T	NA	NA	NA	NA
DIOXIN (ug/kg)				
TCDD-2378	NA	NA	NA	NA
TOTAL TCDD	NA	NA	NA	NA
TOTAL PECDD	NA	NA	NA	NA
TOTAL HXCDD	NA	NA	NA	NA
TOTAL TCDF	NA	NA	NA	NA
TOTAL PECDF	NA	NA	NA	NA
TOTAL HXCDF	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	15 U	ND	ND		0/10	NA	NA
BROMOMETHANE	11 U	15 U	ND	ND		0/10	NA	NA
VINYL CHLORIDE	11 U	15 U	ND	ND		0/10	NA	NA
CHLOROETHANE	11 U	15 U	ND	ND		0/10	NA	NA
METHYLENE CHLORIDE	5 U	22 U	ND	ND		0/10	NA	NA
ACETONE	11 U	15 U	ND	ND		0/10	NA	NA
CARBON DISULFIDE	5 U	8 U	2 J	2 J	46SS03	1/10	2.00	2.00
1,1-DICHLOROETHENE	5 U	8 U	ND	ND		0/10	NA	NA
1,1-DICHLOROETHANE	5 U	8 U	ND	ND		0/10	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	8 U	ND	ND		0/10	NA	NA
CHLOROFORM	5 U	8 U	ND	ND		0/10	NA	NA
1,2-DICHLOROETHANE	5 U	8 U	ND	ND		0/10	NA	NA
2-BUTANONE	11 U	15 U	ND	ND		0/10	NA	NA
1,1,1-TRICHLOROETHANE	5 U	8 UJ	ND	ND		0/10	NA	NA
CARBON TETRACHLORIDE	5 U	8 UJ	ND	ND		0/10	NA	NA
VINYL ACETATE	11 U	15 UJ	ND	ND		0/10	NA	NA
BROMODICHLOROMETHANE	5 U	8 UJ	ND	ND		0/10	NA	NA
1,2-DICHLOROPROPANE	5 U	8 UJ	ND	ND		0/10	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	8 UJ	ND	ND		0/10	NA	NA
TRICHLOROETHENE	5 U	8 UJ	ND	ND		0/10	NA	NA
DIBROMOCHLOROMETHANE	5 U	8 UJ	ND	ND		0/10	NA	NA
1,1,2-TRICHLOROETHANE	5 U	8 UJ	ND	ND		0/10	NA	NA
BENZENE	5 U	8 UJ	ND	ND		0/10	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	8 UJ	ND	ND		0/10	NA	NA
BROMOFORM	5 U	8 UJ	ND	ND		0/10	NA	NA
4-METHYL-2-PENTANONE	11 U	15 UJ	ND	ND		0/10	NA	NA
2-HEXANONE	11 U	15 UJ	ND	ND		0/10	NA	NA
TETRACHLOROETHENE	5 U	8 UJ	ND	ND		0/10	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	8 UJ	ND	ND		0/10	NA	NA
TOLUENE	5 U	8 UJ	ND	ND		0/10	NA	NA
CHLOROBENZENE	5 U	8 UJ	ND	ND		0/10	NA	NA
ETHYLBENZENE	5 U	8 UJ	ND	ND		0/10	NA	NA
STYRENE	5 U	8 UJ	ND	ND		0/10	NA	NA
XYLENE (TOTAL)	5 U	8 UJ	2 J	3 J	46SS03	2/10	2.50	2.50
ACROLEIN	11 U	640 UJ	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	11 U	130 UJ	ND	ND		0/10	NA	NA
TRICHLOROFLUOROMETHANE	6 U	13 UJ	ND	ND		0/10	NA	NA
DICHLORODIFLUOROMETHANE	11 U	26 UJ	ND	ND		0/10	NA	NA
ACETONITRILE	22 U	130 UJ	ND	ND		0/10	NA	NA
IODOMETHANE	11 U	15 U	ND	ND		0/9	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	55 U	75 U	ND	ND		0/8	NA	NA
3-CHLOROPROPENE	21 U	30 U	ND	ND		0/10	NA	NA
METHACRYLONITRILE	21 U	30 U	ND	ND		0/10	NA	NA
DIBROMOMETHANE	11 U	15 U	ND	ND		0/10	NA	NA
ISOBUTYL ALCOHOL	110 U	130 UJ	ND	ND		0/3	NA	NA
1,2-DIBROMOETHANE	21 U	30 U	ND	ND		0/10	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	15 UJ	ND	ND		0/10	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	15 U	ND	ND		0/10	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	21 U	150 U	ND	ND		0/10	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	21 U	30 U	ND	ND		0/10	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	150 U	ND	ND		0/10	NA	NA
METHYLMETHACRYLATE	21 U	26 UJ	ND	ND		0/2	NA	NA
ETHYLMETHACRYLATE	21 U	26 UJ	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	21 U	26 UJ	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	350 U	500 U	ND	ND		0/10	NA	NA
BIS(2-CHLOROETHYL)ETHER	350 U	500 U	ND	ND		0/10	NA	NA
2-CHLOROPHENOL	350 U	500 U	ND	ND		0/10	NA	NA
1,3-DICHLOROBENZENE	350 U	500 U	ND	ND		0/10	NA	NA
1,4-DICHLOROBENZENE	350 U	500 U	ND	ND		0/10	NA	NA
BENZYL ALCOHOL	350 U	500 U	ND	ND		0/10	NA	NA
1,2-DICHLOROBENZENE	350 U	500 U	ND	ND		0/10	NA	NA
O-CRESOL	350 U	420 U	ND	ND		0/2	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	350 U	420 U	ND	ND		0/2	NA	NA
META & PARA-CRESOL	350 U	420 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	350 U	500 U	ND	ND		0/10	NA	NA
HEXACHLOROETHANE	350 U	500 U	ND	ND		0/10	NA	NA
NITROBENZENE	350 U	500 U	ND	ND		0/10	NA	NA
ISOPHORONE	350 U	500 U	ND	ND		0/10	NA	NA
2-NITROPHENOL	350 U	500 U	ND	ND		0/10	NA	NA
2,4-DIMETHYLPHENOL	360 U	500 U	93 J	93 J	46SS02	1/10	93.00	93.00
BENZOIC ACID	1800 U	2500 U	ND	ND		0/10	NA	NA
BIS(2-CHLOROETHOXY)METHANE	350 U	500 U	ND	ND		0/10	NA	NA
2,4-DICHLOROPHENOL	350 U	500 U	ND	ND		0/10	NA	NA
1,2,4-TRICHLOROBENZENE	350 U	500 U	ND	ND		0/10	NA	NA
NAPHTHALENE	350 U	500 U	ND	ND		0/10	NA	NA
4-CHLOROANILINE	350 U	500 U	ND	ND		0/10	NA	NA
HEXACHLOROBUTADIENE	350 U	500 U	ND	ND		0/10	NA	NA
4-CHLORO-3-METHYLPHENOL	350 U	500 U	ND	ND		0/10	NA	NA
2-METHYLNAPHTHALENE	350 U	500 U	ND	ND		0/10	NA	NA
HEXACHLOROCYCLOPENTADIENE	350 U	500 U	ND	ND		0/10	NA	NA
2,4,6-TRICHLOROPHENOL	350 U	500 U	ND	ND		0/10	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	2500 U	ND	ND		0/10	NA	NA
2-CHLORONAPHTHALENE	350 U	500 U	ND	ND		0/10	NA	NA
2-NITROANILINE	1800 U	2500 U	ND	ND		0/10	NA	NA
DIMETHYLPHTHALATE	350 U	500 U	ND	ND		0/10	NA	NA
ACENAPHTHYLENE	350 U	500 U	ND	ND		0/10	NA	NA
2,6-DINITROTOLUENE	350 U	500 U	ND	ND		0/10	NA	NA
3-NITROANILINE	1800 U	2500 U	ND	ND		0/10	NA	NA
ACENAPHTHENE	350 U	500 U	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1800 U	2500 U	ND	ND		0/10	NA	NA
4-NITROPHENOL	1800 U	2500 U	ND	ND		0/10	NA	NA
DIBENZOFURAN	350 U	500 U	ND	ND		0/10	NA	NA
2,4-DINITROTOLUENE	350 U	500 U	ND	ND		0/10	NA	NA
DIETHYLPHTHALATE	350 U	500 U	ND	ND		0/10	NA	NA
4-CHLOROPHENYL-PHENYLETHER	350 U	500 U	ND	ND		0/10	NA	NA
FLUORENE	350 U	500 U	ND	ND		0/10	NA	NA
4-NITROANILINE	1800 U	2500 U	ND	ND		0/10	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 UJ	2500 U	ND	ND		0/10	NA	NA
N-NITROSODIPHENYLAMINE (1)	350 UJ	500 U	ND	ND		0/10	NA	NA
4-BROMOPHENYL-PHENYLETHER	350 UJ	500 U	ND	ND		0/10	NA	NA
HEXACHLOROBENZENE	350 UJ	500 U	ND	ND		0/10	NA	NA
PENTACHLOROPHENOL	1800 UJ	2500 U	ND	ND		0/10	NA	NA
PHENANTHRENE	360 U	500 U	49 J	98 J	46SS02	3/10	72.67	71.00
ANTHRACENE	360 U	500 U	45 J	45 J	46SS02	1/10	45.00	45.00
DI-N-BUTYLPHTHALATE	350 U	500 U	ND	ND		0/10	NA	NA
FLUORANTHENE	360 U	500 U	69 J	440	46SS01	7/10	231.71	150.00
PYRENE	360 U	500 U	67 J	1100 J	46SS01	7/10	394.57	130.00
BUTYLBENZYLPHTHALATE	350 UJ	500 U	150 J	150 J	46SS01	1/10	150.00	150.00
3,3'-DICHLOROBENZIDINE	700 UJ	990 U	ND	ND		0/10	NA	NA
BENZO(A)ANTHRACENE	360 U	500 U	57 J	880 J	46SS01	7/10	305.86	86.00
CHRYSENE	360 U	500 U	76 J	890 J	46SS01	7/10	360.43	120.00
BIS(2-ETHYLHEXYL)PHTHALATE	350 U	1100 UJ	ND	ND		0/10	NA	NA
DI-N-OCTYL PHTHALATE	350 UJ	500 U	ND	ND		0/10	NA	NA
BENZO(B)FLUORANTHENE	360 U	500 U	80 J	1200 J	46SS01	7/10	408.57	130.00
BENZO(K)FLUORANTHENE	360 U	500 U	110 J	790 J	46SS01	6/10	338.33	275.00
BENZO(A)PYRENE	360 U	500 U	62 J	890 J	46SS01	7/10	305.43	120.00
INDENO(1,2,3-CD)PYRENE	360 U	500 U	66 J	550 J	46SS01	4/10	276.50	245.00
DIBENZO(A,H)ANTHRACENE	360 U	500 U	73 J	100 J	46SS02	2/10	86.50	86.50
BENZO(G,H,I)PERYLENE	360 U	500 U	76 J	340 J	46SS02	3/10	198.67	180.00
1,4-DIOXANE	360 U	1700 U	ND	ND		0/10	NA	NA
PYRIDINE	360 U	850 U	ND	ND		0/10	NA	NA
N-NITROSODIMETHYLAMINE	350 U	500 U	ND	ND		0/10	NA	NA
2-PICOLINE	350 U	500 U	ND	ND		0/10	NA	NA
N-NITROSOMETHYLETHYLAMINE	350 U	500 U	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	350 U	500 U	ND	ND		0/10	NA	NA
N-NITROSODIETHYLAMINE	350 U	500 U	ND	ND		0/10	NA	NA
ETHYL METHANESULFONATE	350 U	500 U	ND	ND		0/10	NA	NA
ANILINE	360 U	2100 U	ND	ND		0/10	NA	NA
N-NITROSOPYRROLIDINE	360 U	2100 U	ND	ND		0/10	NA	NA
ACETOPHENONE	350 U	500 U	ND	ND		0/10	NA	NA
N-NITROSOMORPHOLINE	360 U	850 U	ND	ND		0/10	NA	NA
O-TOLUIDINE	350 U	500 U	ND	ND		0/10	NA	NA
N-NITROSOPIPERIDINE	350 U	2500 U	ND	ND		0/10	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	360 U	2100 U	ND	ND		0/10	NA	NA
2,6-DICHLOROPHENOL	350 U	500 U	ND	ND		0/10	NA	NA
HEXACHLOROPROPENE	360 U	850 U	ND	ND		0/3	NA	NA
P-PHENYLENEDIAMINE	360 U	850 U	ND	ND		0/10	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	350 U	500 U	ND	ND		0/10	NA	NA
SAFROLE	350 U	500 U	ND	ND		0/10	NA	NA
1,2,4,5-TETRACHLOROBENZENE	350 U	500 U	ND	ND		0/10	NA	NA
ISOSAFROLE	350 U	500 U	ND	ND		0/10	NA	NA
1,4-NAPHTHOQUINONE	360 U	2100 U	ND	ND		0/10	NA	NA
1,3-DINITROBENZENE	360 U	850 U	ND	ND		0/10	NA	NA
PENTACHLOROBENZENE	350 U	500 U	ND	ND		0/10	NA	NA
1-NAPHTHYLAMINE	350 U	500 U	ND	ND		0/10	NA	NA
2-NAPHTHYLAMINE	350 U	500 U	ND	ND		0/10	NA	NA
2,3,4,6-TETRACHLOROPHENOL	350 U	500 U	ND	ND		0/10	NA	NA
1,3,5-TRINITROBENZENE	360 U	4200 U	ND	ND		0/10	NA	NA
DIALLATE	350 U	500 U	ND	ND		0/10	NA	NA
PHENACETIN	350 UJ	500 U	ND	ND		0/10	NA	NA
DIPHENYLAMINE	350 UJ	500 U	ND	ND		0/10	NA	NA
5-NITRO-O-TOLUIDINE	360 U	850 U	ND	ND		0/10	NA	NA
4-AMINOBIPHENYL	350 UJ	500 U	ND	ND		0/10	NA	NA
PRONAMIDE	350 U	500 U	ND	ND		0/10	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	700 U	2500 U	ND	ND		0/10	NA	NA
PENTACHLORONITROBENZENE	350 U	420 U	ND	ND		0/2	NA	NA
4-NITROQUINOLINE-1-OXIDE	1800 U	2100 U	ND	ND		0/2	NA	NA
METHAPYRILENE	360 U	1100 U	ND	ND		0/10	NA	NA
ARAMITE	700 U	990 U	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	350 U	500 U	ND	ND		0/10	NA	NA
P-DIMETHYLAMINOAZOBENZENE	360 U	850 U	ND	ND		0/10	NA	NA
3,3'-DIMETHYLBENZIDINE	360 U	700 U	ND	ND		0/9	NA	NA
2-ACETYLAMINOFLUORENE	360 U	850 U	ND	ND		0/10	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	360 U	850 UJ	ND	ND		0/10	NA	NA
HEXACHLOROPHENE	3200 U	4500 U	ND	ND		0/10	NA	NA
3-METHYLCHOLANTHRENE	350 UJ	500 U	ND	ND		0/10	NA	NA
CARBAZOLE	350 U	420 U	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	360 U	500 U	ND	ND		0/8	NA	NA
2-METHYLPHENOL	360 U	500 U	ND	ND		0/8	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	360 U	500 U	ND	ND		0/8	NA	NA
3- AND/OR 4-METHYLPHENOL	360 U	500 U	ND	ND		0/8	NA	NA
METHYL METHACRYLATE	360 U	500 U	ND	ND		0/8	NA	NA
ETHYL METHACRYLATE	360 U	500 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	21 U	51 U	ND	ND		0/2	NA	NA
BETA-BHC	21 U	51 U	ND	ND		0/2	NA	NA
DELTA-BHC	21 U	51 U	ND	ND		0/2	NA	NA
GAMMA-BHC (LINDANE)	21 U	51 U	ND	ND		0/2	NA	NA
HEPTACHLOR	21 U	51 U	ND	ND		0/2	NA	NA
ALDRIN	21 U	51 U	ND	ND		0/2	NA	NA
HEPTACHLOR EPOXIDE	21 U	51 U	ND	ND		0/2	NA	NA
ENDOSULFAN I	21 U	51 U	ND	ND		0/2	NA	NA
DIELDRIN	42 U	100 U	ND	ND		0/2	NA	NA
4,4'-DDE	42 U	100 U	ND	ND		0/2	NA	NA
ENDRIN	42 U	100 U	ND	ND		0/2	NA	NA
ENDOSULFAN II	42 U	100 U	ND	ND		0/2	NA	NA
4,4'-DDD	42 U	100 U	ND	ND		0/2	NA	NA
ENDOSULFAN SULFATE	42 U	100 U	ND	ND		0/2	NA	NA
4,4'-DDT	42 U	100 U	ND	ND		0/2	NA	NA
METHOXYCHLOR	210 U	510 U	ND	ND		0/2	NA	NA
ENDRIN ALDEHYDE	42 U	100 U	ND	ND		0/2	NA	NA
ISODRIN	21 U	51 U	ND	ND		0/2	NA	NA
KEPONE	42 UJ	100 UJ	ND	ND		0/2	NA	NA
ALPHA-CHLORDANE	210 U	510 U	ND	ND		0/2	NA	NA
GAMMA-CHLORDANE	210 U	510 U	ND	ND		0/2	NA	NA
TOXAPHENE	420 U	1000 U	ND	ND		0/2	NA	NA
AROCLOR-1016	36 U	510 U	ND	ND		0/10	NA	NA
AROCLOR-1221	71 U	790 U	ND	ND		0/10	NA	NA
AROCLOR-1232	36 U	510 U	ND	ND		0/10	NA	NA
AROCLOR-1242	36 U	510 U	ND	ND		0/10	NA	NA
AROCLOR-1248	36 U	510 U	ND	ND		0/10	NA	NA
AROCLOR-1254	36 U	1000 U	ND	ND		0/10	NA	NA
AROCLOR-1260	NA	NA	59	3600	46SS01	10/10	750.90	315.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ΓICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE UNITS	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
ORTHO PESTICIDES (ug/kg)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	69 U	84 U	ND	ND		0/2	NA	NA
PHORATE	69 U	84 U	ND	ND		0/2	NA	NA
THIONAZIN	69 U	84 U	ND	ND		0/2	NA	NA
DISULFOTON	69 U	84 U	ND	ND		0/2	NA	NA
SULFOTEP	69 U	84 U	ND	ND		0/2	NA	NA
DIMETHOATE	69 U	84 U	ND	ND		0/2	NA	NA
METHYL PARATHION	69 U	84 U	ND	ND		0/2	NA	NA
PARATHION	69 U	84 U	ND	ND		0/2	NA	NA
FAMPHUR	69 U	84 U	ND	ND		0/2	NA	NA
HERBICIDES (ug/kg)								
2,4-D	350 U	430 U	ND	ND		0/2	NA	NA
2,4,5-TP (SILVEX)	69 U	85 U	ND	ND		0/2	NA	NA
2,4,5-T	69 U	85 U	ND	ND		0/2	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.1 U	0.1 U	ND	ND		0/2	NA	NA
TOTAL TCDD	0.1 U	0.1 U	ND	ND		0/2	NA	NA
TOTAL PECDD	0.08 U	0.11 U	ND	ND		0/2	NA	NA
TOTAL HXCDD	0.13 U	0.24 U	ND	ND		0/2	NA	NA
TOTAL TCDF	0.06 U	0.06 U	ND	ND		0/2	NA	NA
TOTAL PECDF	0.07 U	0.13 U	ND	ND		0/2	NA	NA
TOTAL HXCDF	0.1 U	0.22 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 CONCRETE
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	46WS01	46WS02
SAMPLE DATE	10/31/95	10/31/95
PCB (ug/wipe)		
Aroclor-1016	1 U	1 U
Aroclor-1221	2 U	2 U
Aroclor-1232	1 U	1 U
Aroclor-1242	1 U	1 U
Aroclor-1248	1 U	1 U
Aroclor-1254	1 U	1 U
Aroclor-1260	1 U	1 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 46 CONCRETE
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PCB (ug/wipe)								
Aroclor-1016	1 U	1 U	ND	ND		0/2	NA	NA
Aroclor-1221	2 U	2 U	ND	ND		0/2	NA	NA
Aroclor-1232	1 U	1 U	ND	ND		0/2	NA	NA
Aroclor-1242	1 U	1 U	ND	ND		0/2	NA	NA
Aroclor-1248	1 U	1 U	ND	ND		0/2	NA	NA
Aroclor-1254	1 U	1 U	ND	ND		0/2	NA	NA
Aroclor-1260	1 U	1 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	51SS01	51SS02	51SS03	51SS04	51SS05
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
VOLATILES (ug/kg)					
CHLOROMETHANE	12 R	12 R	13 U	12 U	13 U
BROMOMETHANE	12 UJ	12 UJ	13 U	12 U	13 U
VINYL CHLORIDE	12 UJ	12 UJ	13 U	12 U	13 U
CHLOROETHANE	12 UJ	12 UJ	13 U	12 U	13 U
METHYLENE CHLORIDE	11 U	11 U	49 U	33 U	30 U
ACETONE	12 R	12 R	13 U	12 U	13 U
CARBON DISULFIDE	6 UJ	6 UJ	6 U	6 U	6 U
1,1-DICHLOROETHENE	6 UJ	6 UJ	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 UJ	6 UJ	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 UJ	6 UJ	6 U	6 U	6 U
CHLOROFORM	6 UJ	6 UJ	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 UJ	6 UJ	6 U	6 U	6 U
2-BUTANONE	12 R	12 R	13 U	12 U	13 U
1,1,1-TRICHLOROETHANE	6 UJ	6 UJ	6 U	6 U	6 U
CARBON TETRACHLORIDE	6 UJ	6 UJ	6 U	6 U	6 U
VINYL ACETATE	12 UJ	12 UJ	13 U	12 U	13 U
BROMODICHLOROMETHANE	6 UJ	6 UJ	6 U	6 U	6 U
1,2-DICHLOROPROPANE	6 UJ	6 UJ	6 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 UJ	6 UJ	6 U	6 U	6 U
TRICHLOROETHENE	6 UJ	6 UJ	6 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 UJ	6 UJ	6 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 UJ	6 UJ	6 U	6 U	6 U
BENZENE	6 UJ	6 UJ	6 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 UJ	6 UJ	6 U	6 U	6 U
BROMOFORM	6 UJ	6 UJ	6 U	6 U	6 U
4-METHYL-2-PENTANONE	12 UJ	12 UJ	13 U	12 U	13 U
2-HEXANONE	12 UJ	12 UJ	13 UJ	12 U	13 U
TETRACHLOROETHENE	6 UJ	6 UJ	6 UJ	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 UJ	6 UJ	6 UJ	6 U	6 U
TOLUENE	6 UJ	6 UJ	6 UJ	6 U	6 U
CHLOROBENZENE	6 UJ	6 UJ	6 UJ	6 U	6 U
ETHYLBENZENE	6 UJ	6 UJ	6 UJ	6 U	6 U
STYRENE	6 UJ	6 UJ	6 UJ	6 U	6 U
XYLENE (TOTAL)	6 UJ	6 UJ	2 J	2 J	6 U
ACROLEIN	12 R	12 R	13 U	12 U	13 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	51SS01	51SS02	51SS03	51SS04	51SS05
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
VOLATILES cont. (ug/kg)					
ACRYLONITRILE	12 R	12 R	13 U	12 U	13 U
TRICHLOROFLUOROMETHANE	6 UJ	6 UJ	6 U	6 U	6 U
DICHLORODIFLUOROMETHANE	12 UJ	12 UJ	13 U	12 U	13 U
ACETONITRILE	24 UJ	24 UJ	26 U	24 U	26 U
IODOMETHANE	12 UJ	12 UJ	13 U	12 U	13 U
PROPIONITRILE (ETHYL CYANIDE)	60 UJ	60 UJ	65 U	60 U	65 U
3-CHLOROPROPENE	24 UJ	24 UJ	26 U	24 U	26 U
METHACRYLONITRILE	24 UJ	24 UJ	26 U	24 U	26 U
DIBROMOMETHANE	12 UJ	12 UJ	13 U	12 U	13 U
ISOBUTYL ALCOHOL	120 UJ	120 UJ	130 U	120 U	130 U
1,2-DIBROMOETHANE	24 UJ	24 UJ	26 U	24 U	26 U
1,1,1,2-TETRACHLOROETHANE	12 UJ	12 UJ	13 U	12 U	13 U
1,2,3-TRICHLOROPROPANE	12 UJ	12 UJ	13 U	12 U	13 U
TRANS-1,4-DICHLORO-2-BUTENE	120 R	120 R	130 U	120 U	130 U
1,2-DIBROMO-3-CHLOROPROPANE	24 UJ	24 UJ	26 U	24 U	26 U
2-CHLORO-1,3-BUTADIENE	120 UJ	120 UJ	130 U	120 U	130 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	51SS01	51SS02	51SS03	51SS04	51SS05
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES (ug/kg)					
PHENOL	380 U	410 U	420 U	400 U	440 U
BIS(2-CHLOROETHYL)ETHER	380 U	410 U	420 U	400 U	440 U
2-CHLOROPHENOL	380 U	410 U	420 U	400 U	440 U
1,3-DICHLOROBENZENE	380 U	410 U	420 U	400 U	440 U
1,4-DICHLOROBENZENE	380 U	410 U	420 U	400 U	440 U
BENZYL ALCOHOL	380 U	410 U	420 U	400 U	440 U
1,2-DICHLOROBENZENE	380 U	410 U	420 U	400 U	440 U
2-METHYLPHENOL	380 U	410 U	420 U	400 U	440 U
BIS(2-CHLOROISOPROPYL)ETHER	380 U	410 U	420 U	400 U	440 U
3- AND/OR 4-METHYLPHENOL	380 U	410 U	420 U	400 U	440 U
N-NITROSO-DI-N-PROPYLAMINE	380 U	410 U	420 U	400 U	440 U
HEXACHLOROETHANE	380 U	410 U	420 U	400 U	440 U
NITROBENZENE	380 U	410 U	420 U	400 U	440 U
ISOPHORONE	380 U	410 U	420 U	400 U	440 U
2-NITROPHENOL	380 U	410 U	420 U	400 U	440 U
2,4-DIMETHYLPHENOL	380 U	410 U	420 U	400 U	440 U
BENZOIC ACID	1900 U	110 J	56 J	2000 U	2200 U
BIS(2-CHLOROETHOXY)METHANE	380 U	410 U	420 U	400 U	440 U
2,4-DICHLOROPHENOL	380 U	410 U	420 U	400 U	440 U
1,2,4-TRICHLOROBENZENE	380 U	410 U	420 U	400 U	440 U
NAPHTHALENE	380 U	410 U	420 U	400 U	440 U
4-CHLOROANILINE	380 U	410 U	420 U	400 U	440 U
HEXACHLOROBUTADIENE	380 U	410 U	420 U	400 U	440 U
4-CHLORO-3-METHYLPHENOL	380 U	410 U	420 U	400 U	440 U
2-METHYLNAPHTHALENE	380 U	410 U	420 U	400 U	440 U
HEXACHLOROCYCLOPENTADIENE	380 U	410 U	420 U	400 U	440 U
2,4,6-TRICHLOROPHENOL	380 U	410 U	420 U	400 U	440 U
2,4,5-TRICHLOROPHENOL	1900 U	2000 U	2100 U	2000 U	2200 U
2-CHLORONAPHTHALENE	380 U	410 U	420 U	400 U	440 U
2-NITROANILINE	1900 U	2000 U	2100 U	2000 U	2200 U
DIMETHYLPHTHALATE	380 U	410 U	420 U	400 U	440 U
ACENAPHTHYLENE	380 U	410 U	420 U	400 U	440 U
2,6-DINITROTOLUENE	380 U	410 U	420 U	400 U	440 U
3-NITROANILINE	1900 U	2000 U	2100 U	2000 U	2200 U
ACENAPHTHENE	380 U	410 U	420 U	400 U	440 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	51SS01	51SS02	51SS03	51SS04	51SS05
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/kg)					
2,4-DINITROPHENOL	1900 U	2000 U	2100 U	2000 U	2200 U
4-NITROPHENOL	1900 U	2000 U	2100 U	2000 U	2200 U
DIBENZOFURAN	380 U	410 U	420 U	400 U	440 U
2,4-DINITROTOLUENE	380 U	410 U	420 U	400 U	440 U
DIETHYLPHTHALATE	380 U	410 U	420 U	400 U	440 U
4-CHLOROPHENYL-PHENYLETHER	380 U	410 U	420 U	400 U	440 U
FLUORENE	380 U	410 U	420 U	400 U	440 U
4-NITROANILINE	1900 U	2000 U	2100 U	2000 U	2200 U
4,6-DINITRO-2-METHYLPHENOL	1900 U	2000 U	2100 U	2000 U	2200 U
N-NITROSODIPHENYLAMINE (1)	380 U	410 U	420 U	400 U	440 U
4-BROMOPHENYL-PHENYLETHER	380 U	410 U	420 U	400 U	440 U
HEXACHLOROBENZENE	380 U	410 U	420 U	400 U	440 U
PENTACHLOROPHENOL	1900 U	2000 U	2100 U	2000 U	2200 U
PHENANTHRENE	380 U	410 U	63 J	47 J	79 J
ANTHRACENE	380 U	410 U	420 U	400 U	440 U
DI-N-BUTYLPHTHALATE	380 U	410 U	420 U	400 U	440 U
FLUORANTHENE	380 U	45 J	59 J	75 J	93 J
PYRENE	49 J	72 J	130 J	110 J	140 J
BUTYLBENZYLPHTHALATE	380 U	410 U	420 U	400 U	440 U
3,3'-DICHLOROBENZIDINE	770 U	810 U	830 U	800 U	880 U
BENZO(A)ANTHRACENE	380 U	410 U	420 U	42 J	48 J
CHRYSENE	380 U	410 U	59 J	56 J	62 J
BIS(2-ETHYLHEXYL)PHTHALATE	130 J	79 J	110 J	140 J	150 J
DI-N-OCTYL PHTHALATE	380 U	410 U	420 U	400 U	440 U
BENZO(B)FLUORANTHENE	380 U	410 U	420 U	42 J	50 J
BENZO(K)FLUORANTHENE	380 U	410 U	420 U	41 J	49 J
BENZO(A)PYRENE	380 U	410 U	420 U	46 J	440 U
INDENO(1,2,3-CD)PYRENE	380 U	410 U	420 U	400 U	440 U
DIBENZO(A,H)ANTHRACENE	380 U	410 U	420 U	400 U	440 U
BENZO(G,H,I)PERYLENE	43 J	55 J	77 J	56 J	440 U
1,4-DIOXANE	380 U	410 U	420 U	400 U	440 U
METHYL METHACRYLATE	310 U	410 U	59 J	400 U	440 U
PYRIDINE	380 U	410 U	420 U	400 U	440 U
N-NITROSODIMETHYLAMINE	380 U	95 J	420 U	400 U	440 U
ETHYL METHACRYLATE	380 U	410 U	420 U	400 U	440 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	51SS01	51SS02	51SS03	51SS04	51SS05
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/kg)					
2-PICOLINE	380 U	410 U	420 U	400 U	440 U
N-NITROSOMETHYLETHYLAMINE	380 U	410 U	420 U	400 U	440 U
METHYL METHANESULFONATE	380 U	410 U	420 U	400 U	440 U
N-NITROSODIETHYLAMINE	380 U	410 U	420 U	400 U	440 U
ETHYL METHANESULFONATE	380 U	410 U	420 U	400 U	440 U
ANILINE	380 U	410 U	420 U	400 U	440 U
PENTACHLOROETHANE	380 U	410 U	420 U	400 U	440 U
N-NITROSOPYRROLIDINE	380 U	410 U	420 U	400 U	440 U
ACETOPHENONE	380 U	410 U	420 U	400 U	440 U
N-NITROSOMORPHOLINE	380 U	410 U	420 U	400 U	440 U
O-TOLUIDINE	380 U	410 U	420 U	400 U	440 U
N-NITROSOPIPERIDINE	1900 U	2000 U	2100 U	2000 U	2200 U
A,A-DIMETHYLPHENETHYLAMINE	380 U	410 U	420 U	400 U	440 U
2,6-DICHLOROPHENOL	380 U	410 U	420 U	400 U	440 U
HEXACHLOROPROPENE	380 U	410 U	420 U	400 U	440 U
P-PHENYLENEDIAMINE	380 U	410 U	420 U	400 U	440 U
N-NITROSO-DI-N-BUTYLAMINE	380 U	410 U	420 U	400 U	440 U
SAFROLE	380 U	410 U	420 U	400 U	440 U
1,2,4,5-TETRACHLOROBENZENE	380 U	410 U	420 U	400 U	440 U
ISOSAFROLE	380 U	410 U	420 U	400 U	440 U
1,4-NAPHTHOQUINONE	380 U	410 U	420 U	400 U	440 U
1,3-DINITROBENZENE	380 U	410 U	420 U	400 U	440 U
PENTACHLOROBENZENE	380 U	410 U	420 U	400 U	440 U
1-NAPHTHYLAMINE	380 U	410 U	420 U	400 U	440 U
2-NAPHTHYLAMINE	380 U	410 U	420 U	400 U	440 U
2,3,4,6-TETRACHLOROPHENOL	380 U	410 U	420 U	400 U	440 U
1,3,5-TRINITROBENZENE	380 U	410 U	420 U	400 U	440 U
DIALLATE	380 U	410 U	420 U	400 U	440 U
PHENACETIN	380 U	410 U	420 U	400 U	440 U
DIPHENYLAMINE	380 U	410 U	420 U	400 U	440 U
5-NITRO-O-TOLUIDINE	380 U	410 U	420 U	400 U	440 U
4-AMINOBIPHENYL	380 U	410 U	420 U	400 U	440 U
PRONAMIDE	380 U	410 U	420 U	400 U	440 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	2000 U	2100 U	2000 U	2200 U
PENTACHLORONITROBENZENE	1900 R	2000 R	2100 R	2000 R	2200 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	51SS01	51SS02	51SS03	51SS04	51SS05
SAMPLE DATE	10/26/95	10/26/95	10/26/95	10/26/95	10/26/95
SEMIVOLATILES cont. (ug/kg)					
4-NITROQUINOLINE-1-OXIDE	770 U	810 U	830 U	800 U	880 U
METHAPYRILENE	380 U	410 U	420 U	400 U	440 U
ARAMITE	770 U	810 U	830 U	800 U	880 U
CHLOROBENZILATE	380 U	410 U	420 U	400 U	440 U
P-DIMETHYLAMINOAZOBENZENE	380 U	410 U	420 U	400 U	440 U
3,3'-DIMETHYLBENZIDINE	380 U	410 U	420 U	400 U	440 U
2-ACETYLAMINOFLUORENE	380 U	410 U	420 U	400 U	440 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	410 U	420 U	400 U	440 U
HEXACHLOROPHENE	3500 U	3700 U	3700 U	3600 U	3900 U
3-METHYLCHOLANTHRENE	380 U	410 U	420 U	400 U	440 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	12 U	13 U	ND	ND		0/3	NA	NA
BROMOMETHANE	12 UJ	13 U	ND	ND		0/5	NA	NA
VINYL CHLORIDE	12 UJ	13 U	ND	ND		0/5	NA	NA
CHLOROETHANE	12 UJ	13 U	ND	ND		0/5	NA	NA
METHYLENE CHLORIDE	11 U	49 U	ND	ND		0/5	NA	NA
ACETONE	12 U	13 U	ND	ND		0/3	NA	NA
CARBON DISULFIDE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
1,1-DICHLOROETHENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
1,1-DICHLOROETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 UJ	6 UJ	ND	ND		0/5	NA	NA
CHLOROFORM	6 UJ	6 UJ	ND	ND		0/5	NA	NA
1,2-DICHLOROETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
2-BUTANONE	12 U	13 U	ND	ND		0/3	NA	NA
1,1,1-TRICHLOROETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
CARBON TETRACHLORIDE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
VINYL ACETATE	12 UJ	13 U	ND	ND		0/5	NA	NA
BROMODICHLOROMETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
1,2-DICHLOROPROPANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
CIS-1,3-DICHLOROPROPENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
TRICHLOROETHENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
DIBROMOCHLOROMETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
1,1,2-TRICHLOROETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
BENZENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
BROMOFORM	6 UJ	6 UJ	ND	ND		0/5	NA	NA
4-METHYL-2-PENTANONE	12 UJ	13 U	ND	ND		0/5	NA	NA
2-HEXANONE	12 UJ	13 UJ	ND	ND		0/5	NA	NA
TETRACHLOROETHENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
TOLUENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
CHLOROBENZENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
ETHYLBENZENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
STYRENE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
XYLENE (TOTAL)	6 UJ	6 UJ	2 J	2 J	51SS04	2/5	2.00	2.00
ACROLEIN	12 U	13 U	ND	ND		0/3	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	12 U	13 U	ND	ND		0/3	NA	NA
TRICHLOROFLUOROMETHANE	6 UJ	6 UJ	ND	ND		0/5	NA	NA
DICHLORODIFLUOROMETHANE	12 UJ	13 U	ND	ND		0/5	NA	NA
ACETONITRILE	24 UJ	26 U	ND	ND		0/5	NA	NA
IODOMETHANE	12 UJ	13 U	ND	ND		0/5	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	60 UJ	65 U	ND	ND		0/5	NA	NA
3-CHLOROPROPENE	24 UJ	26 U	ND	ND		0/5	NA	NA
METHACRYLONITRILE	24 UJ	26 U	ND	ND		0/5	NA	NA
DIBROMOMETHANE	12 UJ	13 U	ND	ND		0/5	NA	NA
ISOBUTYL ALCOHOL	120 UJ	130 U	ND	ND		0/5	NA	NA
1,2-DIBROMOETHANE	24 UJ	26 U	ND	ND		0/5	NA	NA
1,1,1,2-TETRACHLOROETHANE	12 UJ	13 U	ND	ND		0/5	NA	NA
1,2,3-TRICHLOROPROPANE	12 UJ	13 U	ND	ND		0/5	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	120 U	130 U	ND	ND		0/3	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	24 UJ	26 U	ND	ND		0/5	NA	NA
2-CHLORO-1,3-BUTADIENE	120 UJ	130 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	380 U	440 U	ND	ND		0/5	NA	NA
BIS(2-CHLOROETHYL)ETHER	380 U	440 U	ND	ND		0/5	NA	NA
2-CHLOROPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
1,3-DICHLOROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
1,4-DICHLOROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
BENZYL ALCOHOL	380 U	440 U	ND	ND		0/5	NA	NA
1,2-DICHLOROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
2-METHYLPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	380 U	440 U	ND	ND		0/5	NA	NA
3- AND/OR 4-METHYLPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
HEXACHLOROETHANE	380 U	440 U	ND	ND		0/5	NA	NA
NITROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
ISOPHORONE	380 U	440 U	ND	ND		0/5	NA	NA
2-NITROPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
2,4-DIMETHYLPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
BENZOIC ACID	1900 U	2200 U	56 J	110 J	51SS02	2/5	83.00	83.00
BIS(2-CHLOROETHOXY)METHANE	380 U	440 U	ND	ND		0/5	NA	NA
2,4-DICHLOROPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
1,2,4-TRICHLOROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
NAPHTHALENE	380 U	440 U	ND	ND		0/5	NA	NA
4-CHLOROANILINE	380 U	440 U	ND	ND		0/5	NA	NA
HEXACHLOROBUTADIENE	380 U	440 U	ND	ND		0/5	NA	NA
4-CHLORO-3-METHYLPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
2-METHYLNAPHTHALENE	380 U	440 U	ND	ND		0/5	NA	NA
HEXACHLOROCYCLOPENTADIENE	380 U	440 U	ND	ND		0/5	NA	NA
2,4,6-TRICHLOROPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
2,4,5-TRICHLOROPHENOL	1900 U	2200 U	ND	ND		0/5	NA	NA
2-CHLORONAPHTHALENE	380 U	440 U	ND	ND		0/5	NA	NA
2-NITROANILINE	1900 U	2200 U	ND	ND		0/5	NA	NA
DIMETHYLPHTHALATE	380 U	440 U	ND	ND		0/5	NA	NA
ACENAPHTHYLENE	380 U	440 U	ND	ND		0/5	NA	NA
2,6-DINITROTOLUENE	380 U	440 U	ND	ND		0/5	NA	NA
3-NITROANILINE	1900 U	2200 U	ND	ND		0/5	NA	NA
ACENAPHTHENE	380 U	440 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1900 U	2200 U	ND	ND		0/5	NA	NA
4-NITROPHENOL	1900 U	2200 U	ND	ND		0/5	NA	NA
DIBENZOFURAN	380 U	440 U	ND	ND		0/5	NA	NA
2,4-DINITROTOLUENE	380 U	440 U	ND	ND		0/5	NA	NA
DIETHYLPHTHALATE	380 U	440 U	ND	ND		0/5	NA	NA
4-CHLOROPHENYL-PHENYLETHER	380 U	440 U	ND	ND		0/5	NA	NA
FLUORENE	380 U	440 U	ND	ND		0/5	NA	NA
4-NITROANILINE	1900 U	2200 U	ND	ND		0/5	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1900 U	2200 U	ND	ND		0/5	NA	NA
N-NITROSODIPHENYLAMINE (1)	380 U	440 U	ND	ND		0/5	NA	NA
4-BROMOPHENYL-PHENYLETHER	380 U	440 U	ND	ND		0/5	NA	NA
HEXACHLOROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
PENTACHLOROPHENOL	1900 U	2200 U	ND	ND		0/5	NA	NA
PHENANTHRENE	380 U	410 U	47 J	79 J	51SS05	3/5	63.00	63.00
ANTHRACENE	380 U	440 U	ND	ND		0/5	NA	NA
DI-N-BUTYLPHTHALATE	380 U	440 U	ND	ND		0/5	NA	NA
FLUORANTHENE	380 U	380 U	45 J	93 J	51SS05	4/5	68.00	67.00
PYRENE	NA	NA	49 J	140 J	51SS05	5/5	100.20	110.00
BUTYLBENZYLPHTHALATE	380 U	440 U	ND	ND		0/5	NA	NA
3,3'-DICHLOROBENZIDINE	770 U	880 U	ND	ND		0/5	NA	NA
BENZO(A)ANTHRACENE	380 U	420 U	42 J	48 J	51SS05	2/5	45.00	45.00
CHRYSENE	380 U	410 U	56 J	62 J	51SS05	3/5	59.00	59.00
BIS(2-ETHYLHEXYL)PHTHALATE	NA	NA	79 J	150 J	51SS05	5/5	121.80	130.00
DI-N-OCTYL PHTHALATE	380 U	440 U	ND	ND		0/5	NA	NA
BENZO(B)FLUORANTHENE	380 U	420 U	42 J	50 J	51SS05	2/5	46.00	46.00
BENZO(K)FLUORANTHENE	380 U	420 U	41 J	49 J	51SS05	2/5	45.00	45.00
BENZO(A)PYRENE	380 U	440 U	46 J	46 J	51SS04	1/5	46.00	46.00
INDENO(1,2,3-CD)PYRENE	380 U	440 U	ND	ND		0/5	NA	NA
DIBENZO(A,H)ANTHRACENE	380 U	440 U	ND	ND		0/5	NA	NA
BENZO(G,H,I)PERYLENE	440 U	440 U	43 J	77 J	51SS03	4/5	57.75	55.50
1,4-DIOXANE	380 U	440 U	ND	ND		0/5	NA	NA
METHYL METHACRYLATE	310 U	440 U	59 J	59 J	51SS03	1/5	59.00	59.00
PYRIDINE	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSODIMETHYLAMINE	380 U	440 U	95 J	95 J	51SS02	1/5	95.00	95.00
ETHYL METHACRYLATE	380 U	440 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2-PICOLINE	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSOMETHYLETHYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
METHYL METHANESULFONATE	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSODIETHYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
ETHYL METHANESULFONATE	380 U	440 U	ND	ND		0/5	NA	NA
ANILINE	380 U	440 U	ND	ND		0/5	NA	NA
PENTACHLOROETHANE	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSOPYRROLIDINE	380 U	440 U	ND	ND		0/5	NA	NA
ACETOPHENONE	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSOMORPHOLINE	380 U	440 U	ND	ND		0/5	NA	NA
O-TOLUIDINE	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSOPIPERIDINE	1900 U	2200 U	ND	ND		0/5	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
2,6-DICHLOROPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
HEXACHLOROPROPENE	380 U	440 U	ND	ND		0/5	NA	NA
P-PHENYLENEDIAMINE	380 U	440 U	ND	ND		0/5	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
SAFROLE	380 U	440 U	ND	ND		0/5	NA	NA
1,2,4,5-TETRACHLOROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
ISOSAFROLE	380 U	440 U	ND	ND		0/5	NA	NA
1,4-NAPHTHOQUINONE	380 U	440 U	ND	ND		0/5	NA	NA
1,3-DINITROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
PENTACHLOROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
1-NAPHTHYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
2-NAPHTHYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
2,3,4,6-TETRACHLOROPHENOL	380 U	440 U	ND	ND		0/5	NA	NA
1,3,5-TRINITROBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
DIALLATE	380 U	440 U	ND	ND		0/5	NA	NA
PHENACETIN	380 U	440 U	ND	ND		0/5	NA	NA
DIPHENYLAMINE	380 U	440 U	ND	ND		0/5	NA	NA
5-NITRO-O-TOLUIDINE	380 U	440 U	ND	ND		0/5	NA	NA
4-AMINOBIPHENYL	380 U	440 U	ND	ND		0/5	NA	NA
PRONAMIDE	380 U	440 U	ND	ND		0/5	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	2200 U	ND	ND		0/5	NA	NA
PENTACHLORONITROBENZENE	NA	NA	ND	ND		0/0	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN SWMU 51 SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
4-NITROQUINOLINE-1-OXIDE	770 U	880 U	ND	ND		0/5	NA	NA
METHAPYRILENE	380 U	440 U	ND	ND		0/5	NA	NA
ARAMITE	770 U	880 U	ND	ND		0/5	NA	NA
CHLOROBENZILATE	380 U	440 U	ND	ND		0/5	NA	NA
P-DIMETHYLAMINOAZOBENZENE	380 U	440 U	ND	ND		0/5	NA	NA
3,3'-DIMETHYLBENZIDINE	380 U	440 U	ND	ND		0/5	NA	NA
2-ACETYLAMINOFLUORENE	380 U	440 U	ND	ND		0/5	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	440 U	ND	ND		0/5	NA	NA
HEXACHLOROPHENE	3500 U	3900 U	ND	ND		0/5	NA	NA
3-METHYLCHOLANTHRENE	380 U	440 U	ND	ND		0/5	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW01	ACBMW03
SAMPLE DATE	03/30/96	03/30/96
WET CHEMISTRY		
TOTAL ORGANIC CARBON (mg/L)	4.5	NA
TOC TEST 2 mg/L)	4.2	NA
SULFIDE (mg/L)	1 U	1 U
COD (mg/L)	41	NA
TOTAL SUSPENDED SOLIDS (mg/L)	8300	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY	NA	NA	0	ND		2/2	0.00	0.00
TOTAL ORGANIC CARBON (mg/L)	NA	NA	4.5	4.5	ACBMW01	1/1	4.50	4.50
TOC TEST 2 mg/L)	NA	NA	4.2	4.2	ACBMW01	1/1	4.20	4.20
SULFIDE (mg/L)	1 U	1 U	ND	ND		0/2	NA	NA
COD (mg/L)	NA	NA	41	41	ACBMW01	1/1	41.00	41.00
TOTAL SUSPENDED SOLIDS (mg/L)	NA	NA	8300	8300	ACBMW01	1/1	8300.00	8300.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW01		ACBMW03	
SAMPLE DATE	03/30/96		03/30/96	
TOTAL METALS (ug/L)				
ANTIMONY, TOTAL	24.6	UJ	24.6	UJ
ARSENIC, TOTAL	5.8	J	3.6	
BARIUM, TOTAL	2210		342	
BERYLLIUM, TOTAL	5.9		1.1	U
CADMIUM, TOTAL	2.9	U	2.9	U
CHROMIUM, TOTAL	168		34.4	
COBALT, TOTAL	162		73.9	
COPPER, TOTAL	2480		429	
LEAD, TOTAL	6.5	J	19.1	J
MERCURY, TOTAL	0.19		0.23	
NICKEL, TOTAL	199		25.4	
SELENIUM, TOTAL	2.8	UJ	2.8	UJ
SILVER, TOTAL	4	U	4	U
THALLIUM, TOTAL	4.5	U	0.9	U
TIN, TOTAL	13.5	U	13.5	U
VANADIUM, TOTAL	790		326	
ZINC, TOTAL	2020		275	
CYANIDE, TOTAL	10	U	10	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (ug/L)								
ANTIMONY, TOTAL	24.6 UJ	24.6 UJ	ND	ND		0/2	NA	NA
ARSENIC, TOTAL	NA	NA	3.6	5.8 J	ACBMW01	2/2	4.70	4.70
BARIUM, TOTAL	NA	NA	342	2210	ACBMW01	2/2	1276.00	1276.00
BERYLLIUM, TOTAL	1.1 U	1.1 U	5.9	5.9	ACBMW01	1/2	5.90	5.90
CADMIUM, TOTAL	2.9 U	2.9 U	ND	ND		0/2	NA	NA
CHROMIUM, TOTAL	NA	NA	34.4	168	ACBMW01	2/2	101.20	101.20
COBALT, TOTAL	NA	NA	73.9	162	ACBMW01	2/2	117.95	117.95
COPPER, TOTAL	NA	NA	429	2480	ACBMW01	2/2	1454.50	1454.50
LEAD, TOTAL	NA	NA	6.5 J	19.1 J	ACBMW03	2/2	12.80	12.80
MERCURY, TOTAL	NA	NA	0.19	0.23	ACBMW03	2/2	0.21	0.21
NICKEL, TOTAL	NA	NA	25.4	199	ACBMW01	2/2	112.20	112.20
SELENIUM, TOTAL	2.8 UJ	2.8 UJ	ND	ND		0/2	NA	NA
SILVER, TOTAL	4 U	4 U	ND	ND		0/2	NA	NA
THALLIUM, TOTAL	0.9 U	4.5 U	ND	ND		0/2	NA	NA
TIN, TOTAL	13.5 U	13.5 U	ND	ND		0/2	NA	NA
VANADIUM, TOTAL	NA	NA	326	790	ACBMW01	2/2	558.00	558.00
ZINC, TOTAL	NA	NA	275	2020	ACBMW01	2/2	1147.50	1147.50
CYANIDE, TOTAL	10 U	10 U	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01		ACBMW03	
DATE SAMPLED	03/30/96		03/30/96	
DISSOLVED METALS (ug/L)				
ANTIMONY, SOLUBLE	24.6	UJ	24.6	UJ
ARSENIC, SOLUBLE	0.9	U	0.9	U
BARIUM, SOLUBLE	333		61.8	
BERYLLIUM, SOLUBLE	1.9		1.1	U
CADMIUM, SOLUBLE	2.9	U	2.9	U
CHROMIUM, SOLUBLE	2.6	U	2.6	U
COBALT, SOLUBLE	3.9	U	3.9	U
COPPER, SOLUBLE	10.6		3.6	
LEAD, SOLUBLE	1.2	UJ	17.5	J
MERCURY, SOLUBLE	0.1	U	0.1	U
NICKEL, SOLUBLE	11.1	U	11.1	U
SELENIUM, SOLUBLE	1.4	U	1.4	U
SILVER, SOLUBLE	4	U	4	U
THALLIUM, SOLUBLE	0.9	U	0.9	U
TIN, SOLUBLE	13.5	U	13.5	U
VANADIUM, SOLUBLE	7		11.2	
ZINC, SOLUBLE	8.9		4.7	

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION DATE SAMPLED	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
DISSOLVED METALS (ug/L)								
ANTIMONY, SOLUBLE	24.6 UJ	24.6 UJ	ND	ND		0/2	NA	NA
ARSENIC, SOLUBLE	0.9 U	0.9 U	ND	ND		0/2	NA	NA
BARIUM, SOLUBLE	NA	NA	61.8	333	ACBMW01	2/2	197.40	197.40
BERYLLIUM, SOLUBLE	1.1 U	1.1 U	1.9	1.9	ACBMW01	1/2	1.90	1.90
CADMIUM, SOLUBLE	2.9 U	2.9 U	ND	ND		0/2	NA	NA
CHROMIUM, SOLUBLE	2.6 U	2.6 U	ND	ND		0/2	NA	NA
COBALT, SOLUBLE	3.9 U	3.9 U	ND	ND		0/2	NA	NA
COPPER, SOLUBLE	NA	NA	3.6	10.6	ACBMW01	2/2	7.10	7.10
LEAD, SOLUBLE	1.2 UJ	1.2 UJ	17.5 J	17.5 J	ACBMW03	1/2	17.50	17.50
MERCURY, SOLUBLE	0.1 U	0.1 U	ND	ND		0/2	NA	NA
NICKEL, SOLUBLE	11.1 U	11.1 U	ND	ND		0/2	NA	NA
SELENIUM, SOLUBLE	1.4 U	1.4 U	ND	ND		0/2	NA	NA
SILVER, SOLUBLE	4 U	4 U	ND	ND		0/2	NA	NA
THALLIUM, SOLUBLE	0.9 U	0.9 U	ND	ND		0/2	NA	NA
TIN, SOLUBLE	13.5 U	13.5 U	ND	ND		0/2	NA	NA
VANADIUM, SOLUBLE	NA	NA	7	11.2	ACBMW03	2/2	9.10	9.10
ZINC, SOLUBLE	NA	NA	4.7	8.9	ACBMW01	2/2	6.80	6.80

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01		ACBMW03	
DATE SAMPLED	03/30/96		03/30/96	
VOLATILES (ug/L)				
DICHLORODIFLUOROMETHANE	20	UJ	20	UJ
CHLOROMETHANE	10	U	10	U
VINYL CHLORIDE	10	U	10	U
BROMOMETHANE	10	UJ	10	UJ
CHLOROETHANE	10	U	10	U
TRICHLOROFLUOROMETHANE	10	UJ	10	UJ
ACROLEIN	500	UJ	500	UJ
1,1-DICHLOROETHENE	5	U	5	U
ACETONE	10	U	10	U
CARBON DISULFIDE	5	U	5	U
METHYLENE CHLORIDE	5	U	5	U
ACRYLONITRILE	100	UJ	100	UJ
1,2-DICHLOROETHENE (TOTAL)	5	U	5	U
1,1-DICHLOROETHANE	5	U	5	U
VINYL ACETATE	10	U	10	U
2-BUTANONE	10	U	10	U
CHLOROFORM	5	U	5	U
1,1,1-TRICHLOROETHANE	5	U	5	U
CARBON TETRACHLORIDE	5	UJ	5	UJ
BENZENE	5	U	5	U
1,2-DICHLOROETHANE	5	UJ	5	UJ
TRICHLOROETHENE	5	U	5	U
1,2-DICHLOROPROPANE	5	U	5	U
BROMODICHLOROMETHANE	5	U	5	U
CIS-1,3-DICHLOROPROPENE	5	U	5	U
4-METHYL-2-PENTANONE	10	U	10	U
TOLUENE	5	U	5	U
TRANS-1,3-DICHLOROPROPENE	5	U	5	U
1,1,2-TRICHLOROETHANE	5	U	5	U
TETRACHLOROETHENE	5	U	5	U
2-HEXANONE	10	U	10	U
DIBROMOCHLOROMETHANE	5	U	5	U
CHLOROBENZENE	5	U	5	U
ETHYLBENZENE	5	U	5	U
STYRENE	5	U	5	U
BROMOFORM	5	U	5	U
1,1,2,2-TETRACHLOROETHANE	5	U	5	U
XYLENE (TOTAL)	5	U	5	U
ACETONITRILE	100	UJ	100	UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01		ACBMW03	
DATE SAMPLED	03/30/96		03/30/96	
VOLATILES (cont) (ug/L)				
PROPIONITRILE (ETHYL CYANIDE)	50	R	50	R
3-CHLOROPROPENE	20	U	20	U
IODOMETHANE	10	U	10	U
METHACRYLONITRILE	20	UJ	20	UJ
ISOBUTYL ALCOHOL	2000	R	2000	R
METHYLMETHACRYLATE	20	U	20	U
DIBROMOMETHANE	10	U	10	U
1,2-DIBROMOETHANE	20	U	20	U
1,1,1,2-TETRACHLOROETHANE	10	U	10	U
1,2,3-TRICHLOROPROPANE	10	U	10	U
TRANS-1,4-DICHLORO-2-BUTENE	20	U	20	U
1,2-DIBROMO-3-CHLOROPROPANE	20	U	20	U
ETHYLMETHACRYLATE	20	UJ	20	UJ
PENTACHLOROETHANE	20	UJ	20	UJ
2-CHLORO-1,3-BUTADIENE	100	U	100	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01	ACBMW03
DATE SAMPLED	03/30/96	03/30/96
SEMIVOLATILES (ug/L)		
PHENOL	10 U	10 U
BIS(2-CHLOROETHYL)ETHER	10 U	10 U
2-CHLOROPHENOL	10 U	10 U
1,3-DICHLOROBENZENE	10 U	10 U
1,4-DICHLOROBENZENE	10 U	10 U
1,2-DICHLOROBENZENE	10 U	10 U
O-CRESOL	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U
META & PARA-CRESOL	10 U	10 U
HEXACHLOROETHANE	10 U	10 U
NITROBENZENE	10 U	10 U
ISOPHORONE	10 U	10 U
2-NITROPHENOL	10 U	10 U
2,4-DIMETHYLPHENOL	10 U	10 U
BIS(2-CHLOROETHOXY)METHANE	10 U	10 U
2,4-DICHLOROPHENOL	10 U	10 U
1,2,4-TRICHLOROBENZENE	10 U	10 U
NAPHTHALENE	10 U	10 U
4-CHLOROANILINE	20 U	20 U
HEXACHLOROBUTADIENE	10 U	10 U
4-CHLORO-3-METHYLPHENOL	20 U	20 U
2-METHYLNAPHTHALENE	10 UJ	10 UJ
HEXACHLOROCYCLOPENTADIENE	10 U	10 U
2,4,6-TRICHLOROPHENOL	10 U	10 U
2,4,5-TRICHLOROPHENOL	50 U	50 U
2-CHLORONAPHTHALENE	10 U	10 U
2-NITROANILINE	50 U	50 U
ACENAPHTHYLENE	10 U	10 U
2,6-DINITROTOLUENE	10 U	10 U
3-NITROANILINE	50 U	50 U
ACENAPHTHENE	10 U	10 U
2,4-DINITROPHENOL	50 UJ	50 UJ
DIBENZOFURAN	10 U	10 U
4-NITROPHENOL	50 UJ	50 UJ
2,4-DINITROTOLUENE	10 U	10 U
FLUORENE	10 U	10 U
DIMETHYLPHTHALATE	10 U	10 U
DIETHYLPHTHALATE	10 U	10 U
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01		ACBMW03	
DATE SAMPLED	03/30/96		03/30/96	
SEMIVOLATILES (cont) (ug/L)				
4-NITROANILINE	50	U	50	U
4,6-DINITRO-2-METHYLPHENOL	50	U	50	U
4-BROMOPHENYL-PHENYLETHER	10	U	10	U
HEXACHLOROBENZENE	10	U	10	U
PENTACHLOROPHENOL	50	U	50	U
PHENANTHRENE	10	U	10	U
ANTHRACENE	10	U	10	U
DI-N-BUTYLPHTHALATE	10	U	10	U
FLUORANTHENE	10	U	10	U
PYRENE	10	U	10	U
BUTYLBENZYLPHTHALATE	10	UJ	10	UJ
BENZO(A)ANTHRACENE	10	U	10	U
3,3'-DICHLOROBENZIDINE	20	U	20	U
CHRYSENE	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	UJ	10	UJ
DI-N-OCTYL PHTHALATE	10	U	10	U
BENZO(B)FLUORANTHENE	10	U	10	U
BENZO(K)FLUORANTHENE	10	U	10	U
BENZO(A)PYRENE	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	U	10	U
DIBENZO(A,H)ANTHRACENE	10	U	10	U
BENZO(G,H,I)PERYLENE	10	U	10	U
CARBAZOLE	10	U	10	U
N-NITROSODIPHENYLAMINE (1)	10	U	10	U
BENZYL ALCOHOL	10	U	10	U
BENZOIC ACID	50	U	50	U
BENZIDINE	100	UJ	100	UJ
N-NITROSODIMETHYLAMINE	10	U	10	U
PYRIDINE	20	U	20	U
1,2-DIPHENYLHYDRAZINE	10	U	10	U
ANILINE	50	UJ	50	UJ
1,4-DIOXANE	20	UJ	20	UJ
2-PICOLINE	10	UJ	10	UJ
N-NITROSOMETHYLETHYLAMINE	10	UJ	10	UJ
METHYL METHANESULFONATE	10	U	10	U
N-NITROSODIETHYLAMINE	10	U	10	U
ETHYL METHANESULFONATE	10	U	10	U
O-TOLUIDINE	10	UJ	10	UJ
N-NITROSOPYRROLIDINE	50	U	50	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01		ACBMW03	
DATE SAMPLED	03/30/96		03/30/96	
SEMIVOLATILES (cont) (ug/L)				
ACETOPHENONE	10	U	10	U
N-NITROSOMORPHOLINE	20	UJ	20	UJ
N-NITROSOPIPERIDINE	10	U	10	U
A,A-DIMETHYLPHENETHYLAMINE	50	UJ	50	UJ
2,6-DICHLOROPHENOL	10	UJ	10	UJ
HEXACHLOROPROPENE	50	U	50	U
P-PHENYLENEDIAMINE	20	R	20	R
N-NITROSO-DI-N-BUTYLAMINE	10	U	10	U
SAFROLE	10	U	10	U
1,2,4,5-TETRACHLOROBENZENE	10	U	10	U
ISOSAFROLE	10	U	10	U
1,4-NAPHTHOQUINONE	50	UJ	50	UJ
1,3-DINITROBENZENE	20	U	20	U
PENTACHLOROBENZENE	10	U	10	U
1-NAPHTHYLAMINE	20	U	20	U
2-NAPHTHYLAMINE	25	U	25	U
2,3,4,6-TETRACHLOROPHENOL	10	UJ	10	UJ
1,3,5-TRINITROBENZENE	100	UJ	100	UJ
DIALLATE	10	U	10	U
PHENACETIN	10	U	10	U
DIPHENYLAMINE	10	U	10	U
5-NITRO-O-TOLUIDINE	20	U	20	U
4-AMINOBIPHENYL	20	U	20	U
PRONAMIDE	10	U	10	U
2-SEC-BUTYL-4,6-DINITROPHENOL	20	U	20	U
PENTACHLORONITROBENZENE	10	U	10	U
4-NITROQUINOLINE-1-OXIDE	50	UJ	50	UJ
METHAPYRILENE	25	U	25	U
ARAMITE	20	UJ	20	UJ
CHLOROBENZILATE	10	UJ	10	UJ
P-DIMETHYLAMINOAZOBENZENE	20	U	20	U
3,3'-DIMETHYLBENZIDINE	50	U	50	U
2-ACETYLAMINOFLUORENE	20	U	20	U
7,12-DIMETHYLBENZ(A)ANTHRACENE	20	U	20	U
HEXACHLOROPHENE	100	UJ	100	UJ
3-METHYLCHOLANTHRENE	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	10	U
ALPHA-BHC	0.054	U	0.051	U
BETA-BHC	0.054	U	0.051	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01		ACBMW03	
DATE SAMPLED	03/30/96		03/30/96	
PESTICIDE/PCBS (ug/L)				
DELTA-BHC	0.054	U	0.051	U
GAMMA-BHC (LINDANE)	0.054	U	0.051	U
HEPTACHLOR	0.054	U	0.051	U
ALDRIN	0.054	U	0.051	U
HEPTACHLOR EPOXIDE	0.054	U	0.051	U
ENDOSULFAN I	0.054	U	0.051	U
DIELDRIN	0.11	U	0.1	U
4,4'-DDE	0.11	U	0.1	U
ENDRIN	0.11	U	0.1	U
ENDOSULFAN II	0.11	U	0.1	U
4,4'-DDD	0.11	U	0.1	U
ENDOSULFAN SULFATE	0.11	U	0.1	U
4,4'-DDT	0.11	U	0.1	U
METHOXYCHLOR	0.54	U	0.51	U
ENDRIN ALDEHYDE	0.11	U	0.1	U
ISODRIN	0.054	U	0.051	U
KEPONE	0.11	UJ	0.1	UJ
ALPHA-CHLORDANE	0.54	U	0.51	U
GAMMA-CHLORDANE	0.54	U	0.51	U
TOXAPHENE	1.1	U	1	U
AROCLOR-1016	0.54	U	0.51	U
AROCLOR-1221	0.54	U	0.51	U
AROCLOR-1232	0.54	U	0.51	U
AROCLOR-1242	0.54	U	0.51	U
AROCLOR-1248	0.54	U	0.51	U
AROCLOR-1254	1.1	U	1	U
AROCLOR-1260	1.1	U	1	U
DIOXION (ug/L)				
2378-TCDD	0.0012	U	0.00079	U
TOTAL TCDD	0.0012	U	0.00079	U
TOTAL PECDD	0.0019	U	0.0014	U
TOTAL HXCDD	0.0015	U	0.0013	U
TOTAL TCDF	0.00083	U	0.00095	U
TOTAL PECDF	0.0011	U	0.0018	U
TOTAL HXCDF	0.0012	U	0.0015	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION	ACBMW01	ACBMW03
DATE SAMPLED	03/30/96	03/30/96
ORTHO PESTICIDES (ug/L)		
O,O,O-TRIETHYL PHOSPHOROTHIOA	2.1 U	2 UJ
PHORATE	2.1 U	2 UJ
THIONAZIN	2.1 U	2 UJ
DISULFOTON	2.1 U	2 UJ
SULFOTEP	2.1 U	2 UJ
DIMETHOATE	2.1 U	2 UJ
METHYL PARATHION	2.1 U	2 UJ
PARATHION	2.1 U	2 UJ
FAMPHUR	2.1 U	2 UJ
HERBICIDES (ug/L)		
2,4-D	1.1 U	1.1 U
2,4,5-TP (SILVEX)	0.11 U	0.11 U
2,4,5-T	0.11 U	0.11 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION DATE SAMPLED	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/L)								
DICHLORODIFLUOROMETHANE	20 UJ	20 UJ	ND	ND		0/2	NA	NA
CHLOROMETHANE	10 U	10 U	ND	ND		0/2	NA	NA
VINYL CHLORIDE	10 U	10 U	ND	ND		0/2	NA	NA
BROMOMETHANE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
CHLOROETHANE	10 U	10 U	ND	ND		0/2	NA	NA
TRICHLOROFLUOROMETHANE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
ACROLEIN	500 UJ	500 UJ	ND	ND		0/2	NA	NA
1,1-DICHLOROETHENE	5 U	5 U	ND	ND		0/2	NA	NA
ACETONE	10 U	10 U	ND	ND		0/2	NA	NA
CARBON DISULFIDE	5 U	5 U	ND	ND		0/2	NA	NA
METHYLENE CHLORIDE	5 U	5 U	ND	ND		0/2	NA	NA
ACRYLONITRILE	100 UJ	100 UJ	ND	ND		0/2	NA	NA
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	ND	ND		0/2	NA	NA
1,1-DICHLOROETHANE	5 U	5 U	ND	ND		0/2	NA	NA
VINYL ACETATE	10 U	10 U	ND	ND		0/2	NA	NA
2-BUTANONE	10 U	10 U	ND	ND		0/2	NA	NA
CHLOROFORM	5 U	5 U	ND	ND		0/2	NA	NA
1,1,1-TRICHLOROETHANE	5 U	5 U	ND	ND		0/2	NA	NA
CARBON TETRACHLORIDE	5 UJ	5 UJ	ND	ND		0/2	NA	NA
BENZENE	5 U	5 U	ND	ND		0/2	NA	NA
1,2-DICHLOROETHANE	5 UJ	5 UJ	ND	ND		0/2	NA	NA
TRICHLOROETHENE	5 U	5 U	ND	ND		0/2	NA	NA
1,2-DICHLOROPROPANE	5 U	5 U	ND	ND		0/2	NA	NA
BROMODICHLOROMETHANE	5 U	5 U	ND	ND		0/2	NA	NA
CIS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/2	NA	NA
4-METHYL-2-PENTANONE	10 U	10 U	ND	ND		0/2	NA	NA
TOLUENE	5 U	5 U	ND	ND		0/2	NA	NA
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	ND	ND		0/2	NA	NA
1,1,2-TRICHLOROETHANE	5 U	5 U	ND	ND		0/2	NA	NA
TETRACHLOROETHENE	5 U	5 U	ND	ND		0/2	NA	NA
2-HEXANONE	10 U	10 U	ND	ND		0/2	NA	NA
DIBROMOCHLOROMETHANE	5 U	5 U	ND	ND		0/2	NA	NA
CHLOROBENZENE	5 U	5 U	ND	ND		0/2	NA	NA
ETHYLBENZENE	5 U	5 U	ND	ND		0/2	NA	NA
STYRENE	5 U	5 U	ND	ND		0/2	NA	NA
BROMOFORM	5 U	5 U	ND	ND		0/2	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	ND	ND		0/2	NA	NA
XYLENE (TOTAL)	5 U	5 U	ND	ND		0/2	NA	NA
ACETONITRILE	100 UJ	100 UJ	ND	ND		0/2	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B GROUNDWATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

LOCATION DATE SAMPLED	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (cont) (ug/L)								
PROPIONITRILE (ETHYL CYANIDE)	NA	NA	ND	ND		0/0	NA	NA
3-CHLOROPROPENE	20 U	20 U	ND	ND		0/2	NA	NA
IODOMETHANE	10 U	10 U	ND	ND		0/2	NA	NA
METHACRYLONITRILE	20 UJ	20 UJ	ND	ND		0/2	NA	NA
ISOBUTYL ALCOHOL	NA	NA	ND	ND		0/0	NA	NA
METHYLMETHACRYLATE	20 U	20 U	ND	ND		0/2	NA	NA
DIBROMOMETHANE	10 U	10 U	ND	ND		0/2	NA	NA
1,2-DIBROMOETHANE	20 U	20 U	ND	ND		0/2	NA	NA
1,1,1,2-TETRACHLOROETHANE	10 U	10 U	ND	ND		0/2	NA	NA
1,2,3-TRICHLOROPROPANE	10 U	10 U	ND	ND		0/2	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	20 U	20 U	ND	ND		0/2	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	20 U	20 U	ND	ND		0/2	NA	NA
ETHYLMETHACRYLATE	20 UJ	20 UJ	ND	ND		0/2	NA	NA
PENTACHLOROETHANE	20 UJ	20 UJ	ND	ND		0/2	NA	NA
2-CHLORO-1,3-BUTADIENE	100 U	100 U	ND	ND		0/2	NA	NA

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SEMIVOLATILES (ug/L)								
PHENOL	10 U	10 U	ND	ND		0/2	NA	NA
BIS(2-CHLOROETHYL)ETHER	10 U	10 U	ND	ND		0/2	NA	NA
2-CHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
1,3-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
1,4-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
1,2-DICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
O-CRESOL	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
META & PARA-CRESOL	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROETHANE	10 U	10 U	ND	ND		0/2	NA	NA
NITROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
ISOPHORONE	10 U	10 U	ND	ND		0/2	NA	NA
2-NITROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
2,4-DIMETHYLPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
BIS(2-CHLOROETHOXY)METHANE	10 U	10 U	ND	ND		0/2	NA	NA
2,4-DICHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
1,2,4-TRICHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
NAPHTHALENE	10 U	10 U	ND	ND		0/2	NA	NA
4-CHLOROANILINE	20 U	20 U	ND	ND		0/2	NA	NA
HEXACHLOROBUTADIENE	10 U	10 U	ND	ND		0/2	NA	NA
4-CHLORO-3-METHYLPHENOL	20 U	20 U	ND	ND		0/2	NA	NA
2-METHYLNAPHTHALENE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
HEXACHLOROCYCLOPENTADIENE	10 U	10 U	ND	ND		0/2	NA	NA
2,4,6-TRICHLOROPHENOL	10 U	10 U	ND	ND		0/2	NA	NA
2,4,5-TRICHLOROPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
2-CHLORONAPHTHALENE	10 U	10 U	ND	ND		0/2	NA	NA
2-NITROANILINE	50 U	50 U	ND	ND		0/2	NA	NA
ACENAPHTHYLENE	10 U	10 U	ND	ND		0/2	NA	NA
2,6-DINITROTOLUENE	10 U	10 U	ND	ND		0/2	NA	NA
3-NITROANILINE	50 U	50 U	ND	ND		0/2	NA	NA
ACENAPHTHENE	10 U	10 U	ND	ND		0/2	NA	NA
2,4-DINITROPHENOL	50 UJ	50 UJ	ND	ND		0/2	NA	NA
DIBENZOFURAN	10 U	10 U	ND	ND		0/2	NA	NA
4-NITROPHENOL	50 UJ	50 UJ	ND	ND		0/2	NA	NA
2,4-DINITROTOLUENE	10 U	10 U	ND	ND		0/2	NA	NA
FLUORENE	10 U	10 U	ND	ND		0/2	NA	NA
DIMETHYLPHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
DIETHYLPHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
4-CHLOROPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/2	NA	NA

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SEMIVOLATILES (cont) (ug/L)								
4-NITROANILINE	50 U	50 U	ND	ND		0/2	NA	NA
4,6-DINITRO-2-METHYLPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
4-BROMOPHENYL-PHENYLETHER	10 U	10 U	ND	ND		0/2	NA	NA
HEXACHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
PENTACHLOROPHENOL	50 U	50 U	ND	ND		0/2	NA	NA
PHENANTHRENE	10 U	10 U	ND	ND		0/2	NA	NA
ANTHRACENE	10 U	10 U	ND	ND		0/2	NA	NA
DI-N-BUTYLPHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
FLUORANTHENE	10 U	10 U	ND	ND		0/2	NA	NA
PYRENE	10 U	10 U	ND	ND		0/2	NA	NA
BUTYLBENZYLPHTHALATE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
BENZO(A)ANTHRACENE	10 U	10 U	ND	ND		0/2	NA	NA
3,3'-DICHLOROBENZIDINE	20 U	20 U	ND	ND		0/2	NA	NA
CHRYSENE	10 U	10 U	ND	ND		0/2	NA	NA
BIS(2-ETHYLHEXYL)PHTHALATE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
DI-N-OCTYL PHTHALATE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(B)FLUORANTHENE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(K)FLUORANTHENE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(A)PYRENE	10 U	10 U	ND	ND		0/2	NA	NA
INDENO(1,2,3-CD)PYRENE	10 U	10 U	ND	ND		0/2	NA	NA
DIBENZO(A,H)ANTHRACENE	10 U	10 U	ND	ND		0/2	NA	NA
BENZO(G,H,I)PERYLENE	10 U	10 U	ND	ND		0/2	NA	NA
CARBAZOLE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSODIPHENYLAMINE (1)	10 U	10 U	ND	ND		0/2	NA	NA
BENZYL ALCOHOL	10 U	10 U	ND	ND		0/2	NA	NA
BENZOIC ACID	50 U	50 U	ND	ND		0/2	NA	NA
BENZIDINE	100 UJ	100 UJ	ND	ND		0/2	NA	NA
N-NITROSODIMETHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
PYRIDINE	20 U	20 U	ND	ND		0/2	NA	NA
1,2-DIPHENYLHYDRAZINE	10 U	10 U	ND	ND		0/2	NA	NA
ANILINE	50 UJ	50 UJ	ND	ND		0/2	NA	NA
1,4-DIOXANE	20 UJ	20 UJ	ND	ND		0/2	NA	NA
2-PICOLINE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
N-NITROSOMETHYLETHYLAMINE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
METHYL METHANESULFONATE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSODIETHYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
ETHYL METHANESULFONATE	10 U	10 U	ND	ND		0/2	NA	NA
O-TOLUIDINE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
N-NITROSOPYRROLIDINE	50 U	50 U	ND	ND		0/2	NA	NA

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SEMIVOLATILES (cont) (ug/L)								
ACETOPHENONE	10 U	10 U	ND	ND		0/2	NA	NA
N-NITROSOMORPHOLINE	20 UJ	20 UJ	ND	ND		0/2	NA	NA
N-NITROSOPIPERIDINE	10 U	10 U	ND	ND		0/2	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	50 UJ	50 UJ	ND	ND		0/2	NA	NA
2,6-DICHLOROPHENOL	10 UJ	10 UJ	ND	ND		0/2	NA	NA
HEXACHLOROPROPENE	50 U	50 U	ND	ND		0/2	NA	NA
P-PHENYLENEDIAMINE	NA	NA	ND	ND		0/0	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
SAFROLE	10 U	10 U	ND	ND		0/2	NA	NA
1,2,4,5-TETRACHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
ISOSAFROLE	10 U	10 U	ND	ND		0/2	NA	NA
1,4-NAPHTHOQUINONE	50 UJ	50 UJ	ND	ND		0/2	NA	NA
1,3-DINITROBENZENE	20 U	20 U	ND	ND		0/2	NA	NA
PENTACHLOROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
1-NAPHTHYLAMINE	20 U	20 U	ND	ND		0/2	NA	NA
2-NAPHTHYLAMINE	25 U	25 U	ND	ND		0/2	NA	NA
2,3,4,6-TETRACHLOROPHENOL	10 UJ	10 UJ	ND	ND		0/2	NA	NA
1,3,5-TRINITROBENZENE	100 UJ	100 UJ	ND	ND		0/2	NA	NA
DIALLATE	10 U	10 U	ND	ND		0/2	NA	NA
PHENACETIN	10 U	10 U	ND	ND		0/2	NA	NA
DIPHENYLAMINE	10 U	10 U	ND	ND		0/2	NA	NA
5-NITRO-O-TOLUIDINE	20 U	20 U	ND	ND		0/2	NA	NA
4-AMINOBIPHENYL	20 U	20 U	ND	ND		0/2	NA	NA
PRONAMIDE	10 U	10 U	ND	ND		0/2	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	20 U	20 U	ND	ND		0/2	NA	NA
PENTACHLORONITROBENZENE	10 U	10 U	ND	ND		0/2	NA	NA
4-NITROQUINOLINE-1-OXIDE	50 UJ	50 UJ	ND	ND		0/2	NA	NA
METHAPYRILENE	25 U	25 U	ND	ND		0/2	NA	NA
ARAMITE	20 UJ	20 UJ	ND	ND		0/2	NA	NA
CHLOROBENZILATE	10 UJ	10 UJ	ND	ND		0/2	NA	NA
P-DIMETHYLAMINOAZOBENZENE	20 U	20 U	ND	ND		0/2	NA	NA
3,3'-DIMETHYLBENZIDINE	50 U	50 U	ND	ND		0/2	NA	NA
2-ACETYLAMINOFLUORENE	20 U	20 U	ND	ND		0/2	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	20 U	20 U	ND	ND		0/2	NA	NA
HEXACHLOROPHENE	100 UJ	100 UJ	ND	ND		0/2	NA	NA
3-METHYLCHOLANTHRENE	10 U	10 U	ND	ND		0/2	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	10 U	10 U	ND	ND		0/2	NA	NA
ALPHA-BHC	0.051 U	0.054 U	ND	ND		0/2	NA	NA
BETA-BHC	0.051 U	0.054 U	ND	ND		0/2	NA	NA

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PESTICIDE/PCBS (ug/L)								
DELTA-BHC	0.051 U	0.054 U	ND	ND		0/2	NA	NA
GAMMA-BHC (LINDANE)	0.051 U	0.054 U	ND	ND		0/2	NA	NA
HEPTACHLOR	0.051 U	0.054 U	ND	ND		0/2	NA	NA
ALDRIN	0.051 U	0.054 U	ND	ND		0/2	NA	NA
HEPTACHLOR EPOXIDE	0.051 U	0.054 U	ND	ND		0/2	NA	NA
ENDOSULFAN I	0.051 U	0.054 U	ND	ND		0/2	NA	NA
DIELDRIN	0.1 U	0.11 U	ND	ND		0/2	NA	NA
4,4'-DDE	0.1 U	0.11 U	ND	ND		0/2	NA	NA
ENDRIN	0.1 U	0.11 U	ND	ND		0/2	NA	NA
ENDOSULFAN II	0.1 U	0.11 U	ND	ND		0/2	NA	NA
4,4'-DDD	0.1 U	0.11 U	ND	ND		0/2	NA	NA
ENDOSULFAN SULFATE	0.1 U	0.11 U	ND	ND		0/2	NA	NA
4,4'-DDT	0.1 U	0.11 U	ND	ND		0/2	NA	NA
METHOXYCHLOR	0.51 U	0.54 U	ND	ND		0/2	NA	NA
ENDRIN ALDEHYDE	0.1 U	0.11 U	ND	ND		0/2	NA	NA
ISODRIN	0.051 U	0.054 U	ND	ND		0/2	NA	NA
KEPONE	0.1 UJ	0.11 UJ	ND	ND		0/2	NA	NA
ALPHA-CHLORDANE	0.51 U	0.54 U	ND	ND		0/2	NA	NA
GAMMA-CHLORDANE	0.51 U	0.54 U	ND	ND		0/2	NA	NA
TOXAPHENE	1 U	1.1 U	ND	ND		0/2	NA	NA
AROCLOR-1016	0.51 U	0.54 U	ND	ND		0/2	NA	NA
AROCLOR-1221	0.51 U	0.54 U	ND	ND		0/2	NA	NA
AROCLOR-1232	0.51 U	0.54 U	ND	ND		0/2	NA	NA
AROCLOR-1242	0.51 U	0.54 U	ND	ND		0/2	NA	NA
AROCLOR-1248	0.51 U	0.54 U	ND	ND		0/2	NA	NA
AROCLOR-1254	1 U	1.1 U	ND	ND		0/2	NA	NA
AROCLOR-1260	1 U	1.1 U	ND	ND		0/2	NA	NA
DIOXION (ug/L)								
2378-TCDD	0.00079 U	0.0012 U	ND	ND		0/2	NA	NA
TOTAL TCDD	0.00079 U	0.0012 U	ND	ND		0/2	NA	NA
TOTAL PECDD	0.0014 U	0.0019 U	ND	ND		0/2	NA	NA
TOTAL HXCDD	0.0013 U	0.0015 U	ND	ND		0/2	NA	NA
TOTAL TCDF	0.00083 U	0.00095 U	ND	ND		0/2	NA	NA
TOTAL PECDF	0.0011 U	0.0018 U	ND	ND		0/2	NA	NA
TOTAL HXCDF	0.0012 U	0.0015 U	ND	ND		0/2	NA	NA

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ORTHO PESTICIDES (ug/L)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	2 UJ	2.1 U	ND	ND		0/2	NA	NA
PHORATE	2 UJ	2.1 U	ND	ND		0/2	NA	NA
THIONAZIN	2 UJ	2.1 U	ND	ND		0/2	NA	NA
DISULFOTON	2 UJ	2.1 U	ND	ND		0/2	NA	NA
SULFOTEP	2 UJ	2.1 U	ND	ND		0/2	NA	NA
DIMETHOATE	2 UJ	2.1 U	ND	ND		0/2	NA	NA
METHYL PARATHION	2 UJ	2.1 U	ND	ND		0/2	NA	NA
PARATHION	2 UJ	2.1 U	ND	ND		0/2	NA	NA
FAMPHUR	2 UJ	2.1 U	ND	ND		0/2	NA	NA
HERBICIDES (ug/L)								
2,4-D	1.1 U	1.1 U	ND	ND		0/2	NA	NA
2,4,5-TP (SILVEX)	0.11 U	0.11 U	ND	ND		0/2	NA	NA
2,4,5-T	0.11 U	0.11 U	ND	ND		0/2	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW01		ACBMW03	
SAMPLE DATE	03/30/96		03/30/96	
TPH				
GASOLINE (ug/L)	30	U	30	U
DIESEL FUEL mg/L)	0.12	U	0.14	U

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TPH								
GASOLINE (ug/L)	30 U	30 U	ND	ND		0/2	NA	NA
DIESEL FUEL mg/L)	0.12 U	0.14 U	ND	ND		0/2	NA	NA

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-01	ACBSB01-02	ACBSB02-01	ACBSB02-02	ACB-MW01-04	ACB-MW01-05
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/26/96	03/20/96	03/20/96
SAMPLE DEPTH (feet)	0-2	2-4	0-2	2-4	6-8	8-10
WET CHEMISTRY						
% SOLIDS	86.9	90.3	94.6	85.6	85	83
TOTAL ORGANIC CARBON (%)	NA	NA	NA	NA	NA	NA

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ALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW03-01	ACBMW03-02	ACBMW03-05	6SB01-01	6SB01-02	6SB02-01
SAMPLE DATE	03/20/96	03/20/96	03/25/96			
SAMPLE DEPTH (feet)	0-2	2-4	8-10			
WET CHEMISTRY						
% SOLIDS	91.8	85.2	77	86.5	93.5	91.2
TOTAL ORGANIC CARBON (%)	NA	NA	0.26	NA	NA	NA

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SB03-01	6SB03-01D	6SB03-03
SAMPLE DATE			
SAMPLE DEPTH (feet)			
WET CHEMISTRY			
% SOLIDS	90.6	92.3	91.1
TOTAL ORGANIC CARBON (%)	NA	NA	NA

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY								
% SOLIDS	NA	NA	77	94.6	ACBSB02-01	15/15	88.31	90.30
TOTAL ORGANIC CARBON (%)	NA	NA	0.26	0.26	ACBMW03-05	1/1	0.26	0.26

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-01	ACBSB01-02	ACBSB02-01	ACBSB02-02	ACB-MW01-04	ACB-MW01-05
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/26/96	03/20/96	03/20/96
SAMPLE DEPTH (feet)	0-2	2-4	0-2	2-4	6-8	8-10
TOTAL METALS (mg/kg)						
ANTIMONY, TOTAL	2.1 UJ	3.1 J	1.5 UJ	2.2 UJ	3.6 J	1.8 J
ARSENIC, TOTAL	0.96 J	0.13 UJ	0.14 UJ	0.15 UJ	1.4	0.45 U
BARIUM, TOTAL	50	89	94.2	91.4	53.3 J	86.2 J
BERYLLIUM, TOTAL	0.32	0.07 U	0.06 U	0.09 U	0.69	0.05 U
CADMIUM, TOTAL	0.42	0.67	0.42	0.24 U	0.18 U	0.22
CHROMIUM, TOTAL	25.6	29.2	81.2	15.5	41.4 J	6.8 J
COBALT, TOTAL	11 J	25.9 J	23.3 J	30.2 J	31.8 J	12.9 J
COPPER, TOTAL	124	163	151	157	78.4	92.7
LEAD, TOTAL	3.9	12.1	2.3	5.7	5.7	1.5
MERCURY, TOTAL	0.05 U	0.05 U	0.05 U	0.05 U	0.06 U	0.04 U
NICKEL, TOTAL	9.3	22.7	15.6	15.2	35.8	6.1
SELENIUM, TOTAL	1.2 J	0.48 UJ	0.49 UJ	0.22 UJ	0.21 U	0.12 UJ
SILVER, TOTAL	0.33 U	0.49	0.39	0.34 U	0.25 U	0.2 U
THALLIUM, TOTAL	0.08 U	0.14	0.09	0.08 U	0.2 UJ	0.12 U
TIN, TOTAL	1.1 U	0.95 U	0.8 U	1.2 U	0.86 U	1.4
VANADIUM, TOTAL	204	134	120	101	146	111
ZINC, TOTAL	46.9 J	132 J	70.9 J	58.2 J	65.4 J	70.6 J
CYANIDE, TOTAL	0.48 U	0.47 U	0.47 U	0.53 U	0.53 U	0.59 U

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW03-01	ACBMW03-02	6SB01-01	6SB01-02	6SB02-01	6SB03-01
SAMPLE DATE	03/20/96	03/20/96				
SAMPLE DEPTH (feet)	0-2	2-4				
TOTAL METALS (mg/kg)						
ANTIMONY, TOTAL	1.4 UJ	2.3 UJ	3.8 J	2.3 J	2.2 UJ	2.1 UJ
ARSENIC, TOTAL	0.49 UJ	0.29 UJ	0.93	0.6 U	1.2 J	0.09 UJ
BARIUM, TOTAL	110	87.1	90	84.6	68.7	37.4
BERYLLIUM, TOTAL	1.1	0.14	0.24	0.23	0.1 U	0.09 U
CADMIUM, TOTAL	0.18	0.54	0.22 U	0.17 U	0.26 U	0.24 U
CHROMIUM, TOTAL	9.8	45.3	18.5 J	17.6 J	13.8 J	6.3 J
COBALT, TOTAL	51.3 J	19.7 J	15.3	10.7	17	18.8
COPPER, TOTAL	336	126	70.5	56.1	118	107
LEAD, TOTAL	3.3 J	22 J	5.9	0.94	9.6	2.1
MERCURY, TOTAL	0.04 UJ	0.04 UJ	0.04 U	0.04 U	0.2	0.05 U
NICKEL, TOTAL	13.4	12.5	9.3	4.8	10.9	6.9
SELENIUM, TOTAL	0.66 J	0.39 U	0.19 UJ	0.83 UJ	0.15 UJ	0.15 UJ
SILVER, TOTAL	0.23 U	0.41	0.31 U	0.24 U	0.36 U	0.33 U
THALLIUM, TOTAL	0.07 U	0.1 U	0.18 UJ	0.16 UJ	0.09 U	0.09 U
TIN, TOTAL	0.77 U	2.2	1.1 U	0.83 U	1.7	1.5
VANADIUM, TOTAL	168	104	79.4	62.3	108 J	48.4 J
ZINC, TOTAL	93.5 J	123 J	48.8	56.3	60.9	43
CYANIDE, TOTAL	0.44	0.41 U	0.5 U	0.43 U	0.49 U	0.52 U

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SB03-01D		6SB03-03	
SAMPLE DATE				
SAMPLE DEPTH (feet)				
TOTAL METALS (mg/kg)				
ANTIMONY, TOTAL	2.1	UJ	2	UJ
ARSENIC, TOTAL	0.17	J	0.34	J
BARIUM, TOTAL	92.8		66.4	
BERYLLIUM, TOTAL	0.09	U	0.09	U
CADMIUM, TOTAL	0.31		0.32	
CHROMIUM, TOTAL	23.5	J	13	J
COBALT, TOTAL	16.9		10.7	
COPPER, TOTAL	122		60	
LEAD, TOTAL	2.5		1.8	
MERCURY, TOTAL	0.04	U	0.04	U
NICKEL, TOTAL	12.6		8.8	
SELENIUM, TOTAL	0.14	UJ	0.13	UJ
SILVER, TOTAL	0.57		0.54	
THALLIUM, TOTAL	0.09	U	0.09	U
TIN, TOTAL	2.3		1.8	
VANADIUM, TOTAL	88.2	J	59.1	J
ZINC, TOTAL	71.4		52.2	
CYANIDE, TOTAL	0.46	U	0.4	U

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
ANTIMONY, TOTAL	1.4 UJ	2.3 UJ	1.8 J	3.8 J	6SB01-01	5/14	2.92	3.10
ARSENIC, TOTAL	0.09 UJ	0.6 U	0.17 J	1.4	ACB-MW01-04	6/14	0.83	0.95
BARIUM, TOTAL	NA	NA	37.4	110	ACBMW03-01	14/14	78.65	86.65
BERYLLIUM, TOTAL	0.05 U	0.1 U	0.14	1.1	ACBMW03-01	6/14	0.45	0.28
CADMIUM, TOTAL	0.17 U	0.26 U	0.18	0.67	ACBSB01-02	8/14	0.39	0.37
CHROMIUM, TOTAL	NA	NA	6.3 J	81.2	ACBSB02-01	14/14	24.82	18.05
COBALT, TOTAL	NA	NA	10.7	51.3 J	ACBMW03-01	14/14	21.11	17.90
COPPER, TOTAL	NA	NA	56.1	336	ACBMW03-01	14/14	125.84	120.00
LEAD, TOTAL	NA	NA	0.94	22 J	ACBMW03-02	14/14	5.67	3.60
MERCURY, TOTAL	0.04 U	0.06 U	0.2	0.2	6SB02-01	1/14	0.20	0.20
NICKEL, TOTAL	NA	NA	4.8	35.8	ACB-MW01-04	14/14	13.14	11.70
SELENIUM, TOTAL	0.12 UJ	0.83 UJ	0.66 J	1.2 J	ACBSB01-01	2/14	0.93	0.93
SILVER, TOTAL	0.2 U	0.36 U	0.39	0.57	6SB03-01D	5/14	0.48	0.49
THALLIUM, TOTAL	0.07 U	0.2 UJ	0.09	0.14	ACBSB01-02	2/14	0.12	0.12
TIN, TOTAL	0.77 U	1.2 U	1.4	2.3	6SB03-01D	6/14	1.82	1.75
VANADIUM, TOTAL	NA	NA	48.4 J	204	ACBSB01-01	14/14	109.53	106.00
ZINC, TOTAL	NA	NA	43	132 J	ACBSB01-02	14/14	70.94	63.15
CYANIDE, TOTAL	0.4 U	0.59 U	0.44	0.44	ACBMW03-01	1/14	0.44	0.44

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-01	ACBSB01-02	ACBSB02-01	ACBSB02-02	ACB-MW01-04	ACB-MW01-05
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/26/96	03/20/96	03/20/96
SAMPLE DEPTH (feet)	0-2	2-4	0-2	2-4	6-8	8-10
VOLATILES (ug/kg)						
ACETONE	12 U	11 U	10 U	12 U	16	12 U
XYLENE (TOTAL)	6 U	6 U	6	6 U	6 U	6 U
SEMIVOLATILES (ug/kg)						
PHENANTHRENE	380 U	360 U	350 U	42 J	390 U	400 U
DI-N-BUTYLPHTHALATE	380 U	360 U	140 J	380 U	49 J	400 U
FLUORANTHENE	380 U	360 U	350 U	140 J	390 U	400 U
PYRENE	380 U	360 U	350 U	59 J	390 U	400 U
BENZO(A)ANTHRACENE	380 U	360 U	350 U	57 J	390 U	400 U
CHRYSENE	380 U	360 U	350 U	60 J	390 U	400 U
BIS(2-ETHYLHEXYL)PHTHALATE	380 U	360 U	350 U	380 U	390 U	400 U
BENZO(B)FLUORANTHENE	380 U	360 U	350 U	70 J	390 U	400 U
BENZO(A)PYRENE	380 U	360 U	350 U	48 J	390 U	400 U
PESTICIDE/PCBS (ug/kg)						
HEPTACHLOR EPOXIDE	4.5 U	220 U	21 U	4.7 U	4.6 U	1.6 J
4,4'-DDE	300	2600	42 U	1.9	9.3 U	6.7
4,4'-DDD	180	9800	42 U	1.2 J	9.3 U	9.5 U
4,4'-DDT	180	2800	42 U	9.3 U	9.3 U	9.5 U
ALPHA-CHLORDANE	45 U	2200 U	210 U	21	46 U	47 U
GAMMA-CHLORDANE	45 U	2200 U	210 U	17	46 U	47 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW03-01	ACBMW03-02	6SB01-01	6SB01-02	6SB02-01	6SB03-01
SAMPLE DATE	03/25/96	03/25/96				
SAMPLE DEPTH (feet)	0-2	2-4				
VOLATILES (ug/kg)						
ACETONE	11 UJ	12 UJ	32 J	14 J	11 UJ	11 UJ
XYLENE (TOTAL)	5 U	6 U	6 U	5 U	5 U	6 U
SEMIVOLATILES (ug/kg)						
PHENANTHRENE	360 U	380 U	380 U	350 U	360 U	360 U
DI-N-BUTYLPHTHALATE	360 U	380 U	380 U	54 J	360 U	360 U
FLUORANTHENE	360 U	380 U	380 U	350 U	360 U	360 U
PYRENE	360 U	380 U	380 U	350 U	360 U	360 U
BENZO(A)ANTHRACENE	360 U	380 U	380 U	350 U	360 U	360 U
CHRYSENE	360 U	380 U	380 U	350 U	360 U	360 U
BIS(2-ETHYLHEXYL)PHTHALATE	36 J	380 U	380 U	350 U	360 UJ	360 UJ
BENZO(B)FLUORANTHENE	360 U	380 U	380 U	350 U	360 U	360 U
BENZO(A)PYRENE	360 U	380 U	380 U	350 U	360 U	360 U
PESTICIDE/PCBS (ug/kg)						
HEPTACHLOR EPOXIDE	4.3 U	4.6 U	4.5 U	4.2 U	4.4 U	4.4 U
4,4'-DDE	8.6 U	9.2 U	9.1 U	8.5 U	8.8 U	8.8 U
4,4'-DDD	8.6 U	9.2 U	9.1 U	8.5 U	8.8 U	8.8 U
4,4'-DDT	8.6 U	9.2 U	9.1 U	8.5 U	8.8 U	8.8 U
ALPHA-CHLORDANE	43 U	46 U	45 U	42 U	44 U	44 U
GAMMA-CHLORDANE	43 U	46 U	45 U	42 U	44 U	44 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SB03-01D		6SB03-03	
SAMPLE DATE				
SAMPLE DEPTH (feet)				
VOLATILES (ug/kg)				
ACETONE	11	UJ	11	UJ
XYLENE (TOTAL)	5	U	5	U
SEMIVOLATILES (ug/kg)				
PHENANTHRENE	360	U	360	U
DI-N-BUTYLPHTHALATE	360	U	360	U
FLUORANTHENE	360	U	360	U
PYRENE	360	U	360	U
BENZO(A)ANTHRACENE	360	U	360	U
CHRYSENE	360	U	360	U
BIS(2-ETHYLHEXYL)PHTHALATE	360	UJ	360	UJ
BENZO(B)FLUORANTHENE	360	U	360	U
BENZO(A)PYRENE	360	U	360	U
PESTICIDE/PCBS (ug/kg)				
HEPTACHLOR EPOXIDE	4.3	U	4.3	U
4,4'-DDE	8.6	U	1.4	J
4,4'-DDD	8.6	U	1.4	J
4,4'-DDT	8.6	U	8.6	U
ALPHA-CHLORDANE	43	U	43	U
GAMMA-CHLORDANE	43	U	43	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
ACETONE	10 U	12 U	14 J	32 J	6SB01-01	3/14	20.67	16.00
XYLENE (TOTAL)	5 U	6 U	6	6	ACBSB02-01	1/14	6.00	6.00
SEMIVOLATILES (ug/kg)								
PHENANTHRENE	350 U	400 U	42 J	42 J	ACBSB02-02	1/14	42.00	42.00
DI-N-BUTYLPHTHALATE	360 U	400 U	49 J	140 J	ACBSB02-01	3/14	81.00	54.00
FLUORANTHENE	350 U	400 U	140 J	140 J	ACBSB02-02	1/14	140.00	140.00
PYRENE	350 U	400 U	59 J	59 J	ACBSB02-02	1/14	59.00	59.00
BENZO(A)ANTHRACENE	350 U	400 U	57 J	57 J	ACBSB02-02	1/14	57.00	57.00
CHRYSENE	350 U	400 U	60 J	60 J	ACBSB02-02	1/14	60.00	60.00
BIS(2-ETHYLHEXYL)PHTHALATE	350 U	400 U	36 J	36 J	ACBMW03-01	1/14	36.00	36.00
BENZO(B)FLUORANTHENE	350 U	400 U	70 J	70 J	ACBSB02-02	1/14	70.00	70.00
BENZO(A)PYRENE	350 U	400 U	48 J	48 J	ACBSB02-02	1/14	48.00	48.00
PESTICIDE/PCBS (ug/kg)								
HEPTACHLOR EPOXIDE	4.2 U	220 U	1.6 J	1.6 J	ACB-MW01-05	1/14	1.60	1.60
4,4'-DDE	8.5 U	42 U	1.4 J	2600	ACBSB01-02	5/14	582.00	6.70
4,4'-DDD	8.5 U	42 U	1.2 J	9800	ACBSB01-02	4/14	2495.65	90.70
4,4'-DDT	8.5 U	42 U	180	2800	ACBSB01-02	2/14	1490.00	1490.00
ALPHA-CHLORDANE	42 U	2200 U	21	21	ACBSB02-02	1/14	21.00	21.00
GAMMA-CHLORDANE	42 U	2200 U	17	17	ACBSB02-02	1/14	17.00	17.00

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-01	ACBSB01-02	ACBSB02-01	ACBSB02-02	ACB-MW01-04	ACB-MW01-05
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/26/96	03/20/96	03/20/96
SAMPLE DEPTH (feet)	0-2	2-4	0-2	2-4	6-8	8-10
TPH						
BOD 5 DAY (mg/kg)	NA	NA	NA	NA	NA	NA
COD (mg/kg)	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW03-01	ACBMW03-02	ACBMW03-05	6SB01-01	6SB01-02	6SB02-01
SAMPLE DATE	03/20/96	03/20/96	03/25/96			
SAMPLE DEPTH (feet)	0-2	2-4	8-10			
TPH						
BOD 5 DAY (mg/kg)	NA	NA	120	NA	NA	NA
COD (mg/kg)	NA	NA	7300	NA	NA	NA

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SB03-01	6SB03-01D	6SB03-03
SAMPLE DATE			
SAMPLE DEPTH (feet)			
TPH			
BOD 5 DAY (mg/kg)	NA	NA	NA
COD (mg/kg)	NA	NA	NA

POSITIVE DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE SAMPLE DEPTH (feet)	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TPH								
BOD 5 DAY (mg/kg)	NA	NA	120	120	ACBMW03-05	1/1	120.00	120.00
COD (mg/kg)	NA	NA	7300	7300	ACBMW03-05	1/1	7300.00	7300.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACBMW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
WET CHEMISTRY						
SULFIDE (mg/kg)	26.1 U	22.7 U	26 U	26.1 U	25.2 U	26.2 U
% SOLIDS	95	94.1	93.3	88.8	97.1	94.6

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW02-00	ACBMW03-00	6SB01-00	6SB02-00	6SB03-00	6SS01
SAMPLE DATE	03/19/96	03/19/96				
WET CHEMISTRY						
SULFIDE (mg/kg)	21.5 U	23 U	24.1 U	25.8 U	23.7 U	23.2 U
% SOLIDS	96.8	96.3	95.1	96.1	95.2	96.4

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D	6SS02
SAMPLE DATE		
WET CHEMISTRY		
SULFIDE (mg/kg)	25.9 U	25.9 U
% SOLIDS	96.5	94.8

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY								
SULFIDE (mg/kg)	21.5 U	26.2 U	ND	ND		0/14	NA	NA
% SOLIDS	NA	NA	88.8	97.1	ACBSS02-00	14/14	95.01	95.15

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACBMW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
TOTAL METALS (mg/kg)						
ANTIMONY, TOTAL	1.2 UJ	2 UJ	1.4 UJ	2.2 UJ	1.6 J	1.6 UJ
ARSENIC, TOTAL	4.2 J	4.7 J	1.3 J	1	0.72	2.9
BARIUM, TOTAL	76.1	71	49.5	90 J	38.7 J	111 J
BERYLLIUM, TOTAL	0.05 U	0.08 U	0.05 U	0.44	0.06 U	0.55
CADMIUM, TOTAL	1.4	1.5	0.85	0.52	0.88	0.65
CHROMIUM, TOTAL	16	12.9	13.6	23.5 J	31.9 J	19.3 J
COBALT, TOTAL	19.1 J	16.1 J	15.3	30.2 J	14 J	18.4 J
COPPER, TOTAL	123	113	167 J	167	64.6	137
LEAD, TOTAL	34.2	50.1	23.2	16.6	7.9	4.2
MERCURY, TOTAL	0.05 U	0.06	0.05 U	0.04 U	0.09 J	0.05 U
NICKEL, TOTAL	12.1	9.8	14.8	14.6	12.3	12.4
SELENIUM, TOTAL	0.27 U	0.19 UJ	0.17 UJ	0.5 J	0.14 UJ	0.38 J
SILVER, TOTAL	0.19 U	0.32 U	0.21 U	0.34 U	0.24 U	0.25 U
THALLIUM, TOTAL	0.09 U	0.07 U	0.06 U	0.15 UJ	0.13 UJ	0.16 UJ
TIN, TOTAL	0.64 U	1.2	1.5	1.2 U	0.83 U	1.4
VANADIUM, TOTAL	113	98.3	89.5	172	82.2	87.9
ZINC, TOTAL	246 J	221 J	291 J	108 J	43.5 J	88.2 J
CYANIDE, TOTAL	0.36 U	0.46 U	0.48 U	1.8	0.44 U	0.5 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW02-00	ACBMW03-00	6SB01-00	6SB02-00	6SB03-00	6SS01
SAMPLE DATE	03/19/96	03/19/96				
TOTAL METALS (mg/kg)						
ANTIMONY, TOTAL	1.9 UJ	2 UJ	4.1 J	3.6 J	3.6 J	5.2 J
ARSENIC, TOTAL	1.4	2.5	10	0.6	3.4	5.3
BARIUM, TOTAL	39.7 J	13 J	98.8	98.5	53.9	68.2
BERYLLIUM, TOTAL	0.13	0.28	0.27	0.3	0.16	0.25
CADMIUM, TOTAL	0.38	0.43	0.67	0.19 U	1.3	0.51
CHROMIUM, TOTAL	34.7 J	6.7 J	28.6 J	22.8 J	15.7 J	30.8 J
COBALT, TOTAL	12.3 J	1.8 J	10.2	18	7.7	11
COPPER, TOTAL	58.4	11.4	1030	87.3	91.9	203
LEAD, TOTAL	9.7	10.5	225	9.7	50.4	112
MERCURY, TOTAL	0.04 U	0.07 J	12.6	0.28	1.3	4.1
NICKEL, TOTAL	13.2	3.2	9.6	16.5	5.5	14.5
SELENIUM, TOTAL	0.15 UJ	0.68 UJ	0.13 UJ	0.14 UJ	0.17 UJ	0.34 UJ
SILVER, TOTAL	0.3 U	0.31 U	0.3 U	0.27 U	0.22 U	0.27 U
THALLIUM, TOTAL	0.14 UJ	0.13 UJ	0.12 UJ	0.13 UJ	0.16 U	0.16 U
TIN, TOTAL	1 U	1.1 U	1.2	0.91 U	1.6	2.7
VANADIUM, TOTAL	88.5	13.9	71.2	98.5	49.4	69.1
ZINC, TOTAL	63.3 J	25.1 J	335	67.7	105	195
CYANIDE, TOTAL	0.4 U	0.39 U	0.37 U	0.42 U	0.45 U	0.44 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D		6SS02	
SAMPLE DATE				
TOTAL METALS (mg/kg)				
ANTIMONY, TOTAL	3.1	J	4.4	J
ARSENIC, TOTAL	3.7		5.7	
BARIUM, TOTAL	69.1		74.8	
BERYLLIUM, TOTAL	0.27		0.28	
CADMIUM, TOTAL	0.51		0.52	
CHROMIUM, TOTAL	29.7	J	27.7	J
COBALT, TOTAL	10.3		17.3	
COPPER, TOTAL	166		116	
LEAD, TOTAL	131		49.7	
MERCURY, TOTAL	5		0.08	
NICKEL, TOTAL	11.7		11.3	
SELENIUM, TOTAL	0.75	UJ	0.15	UJ
SILVER, TOTAL	0.23	U	0.31	U
THALLIUM, TOTAL	0.14	UJ	0.14	U
TIN, TOTAL	1.5		1.2	
VANADIUM, TOTAL	73.8		101	
ZINC, TOTAL	208		125	
CYANIDE, TOTAL	0.5	U	0.52	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TOTAL METALS (mg/kg)								
ANTIMONY, TOTAL	1.2 UJ	2.2 UJ	1.6 J	5.2 J	6SS01	7/14	3.66	3.60
ARSENIC, TOTAL	NA	NA	0.6	10	6SB01-00	14/14	3.39	3.15
BARIUM, TOTAL	NA	NA	13 J	111 J	ACBMW01-00	14/14	68.02	70.05
BERYLLIUM, TOTAL	0.05 U	0.08 U	0.13	0.55	ACBMW01-00	10/14	0.29	0.28
CADMIUM, TOTAL	0.19 U	0.19 U	0.38	1.5	ACBSB01-00D	13/14	0.78	0.65
CHROMIUM, TOTAL	NA	NA	6.7 J	34.7 J	ACBMW02-00	14/14	22.42	23.15
COBALT, TOTAL	NA	NA	1.8 J	30.2 J	ACBSS01	14/14	14.41	14.65
COPPER, TOTAL	NA	NA	11.4	1030	6SB01-00	14/14	181.11	119.50
LEAD, TOTAL	NA	NA	4.2	225	6SB01-00	14/14	52.44	28.70
MERCURY, TOTAL	0.04 U	0.05 U	0.06	12.6	6SB01-00	9/14	2.62	0.28
NICKEL, TOTAL	NA	NA	3.2	16.5	6SB02-00	14/14	11.54	12.20
SELENIUM, TOTAL	0.13 UJ	0.75 UJ	0.38 J	0.5 J	ACBSS01	2/14	0.44	0.44
SILVER, TOTAL	0.19 U	0.34 U	ND	ND		0/14	NA	NA
THALLIUM, TOTAL	0.06 U	0.16 UJ	ND	ND		0/14	NA	NA
TIN, TOTAL	0.64 U	1.2 U	1.2	2.7	6SS01	8/14	1.54	1.45
VANADIUM, TOTAL	NA	NA	13.9	172	ACBSS01	14/14	86.31	88.20
ZINC, TOTAL	NA	NA	25.1 J	335	6SB01-00	14/14	151.56	116.50
CYANIDE, TOTAL	0.36 U	0.52 U	1.8	1.8	ACBSS01	1/14	1.80	1.80

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACB-MW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
VOLATILES (ug/kg)						
DICHLORODIFLUOROMETHANE	21 U	21 U	21 U	22 U	20 U	21 U
CHLOROMETHANE	10 UJ	11 UJ	11 UJ	11 U	10 UJ	10 U
VINYL CHLORIDE	10 U	11 U	11 U	11 U	10 U	10 U
BROMOMETHANE	10 U	11 U	11 U	11 U	10 U	10 U
CHLOROETHANE	10 U	11 U	11 U	11 U	10 U	10 U
TRICHLOROFLUOROMETHANE	10 U	11 U	11 U	11 U	10 U	10 U
ACROLEIN	530 UJ	530 UJ	540 UJ	560 UJ	520 UJ	530 UJ
1,1-DICHLOROETHENE	5 U	5 U	5 U	6 U	5 U	5 U
ACETONE	20 U	11 U	12 U	11 UJ	10 U	10 UJ
CARBON DISULFIDE	5 U	5 U	5 U	6 U	5 U	5 U
METHYLENE CHLORIDE	5 UJ	5 UJ	5 UJ	6 UJ	5 UJ	5 UJ
ACRYLONITRILE	100 U	110 U	110 U	110 U	100 U	100 U
1,2-DICHLOROETHENE (TOTAL)	5 U	5 U	5 U	6 U	5 U	5 U
1,1-DICHLOROETHANE	5 U	5 U	5 U	6 U	5 U	5 U
VINYL ACETATE	10 U	11 U	11 U	11 U	10 U	10 U
2-BUTANONE	10 U	11 U	11 U	11 U	10 U	10 U
CHLOROFORM	5 U	5 U	5 U	6 U	5 U	5 U
1,1,1-TRICHLOROETHANE	5 U	5 U	5 U	6 UJ	5 UJ	5 UJ
CARBON TETRACHLORIDE	5 U	5 U	5 U	6 UJ	5 UJ	5 UJ
BENZENE	5 U	5 U	5 U	6 U	5 U	5 U
1,2-DICHLOROETHANE	5 U	5 U	5 U	6 UJ	5 UJ	5 UJ
TRICHLOROETHENE	5 U	5 U	5 U	6 U	5 U	5 U
1,2-DICHLOROPROPANE	5 U	5 U	5 U	6 U	5 U	5 U
BROMODICHLOROMETHANE	5 U	5 U	5 U	6 UJ	5 UJ	5 UJ
CIS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	6 U	5 U	5 U
4-METHYL-2-PENTANONE	10 U	11 U	11 U	11 U	10 U	10 U
TOLUENE	5 U	5 U	5 U	6 U	5 U	5 U
TRANS-1,3-DICHLOROPROPENE	5 U	5 U	5 U	6 U	5 U	5 U
1,1,2-TRICHLOROETHANE	5 U	5 U	5 U	6 U	5 U	5 U
TETRACHLOROETHENE	5 U	5 U	5 U	6 U	5 U	5 U
2-HEXANONE	10 U	11 U	11 U	11 UJ	10 U	10 UJ
DIBROMOCHLOROMETHANE	5 U	5 U	5 U	6 UJ	5 UJ	5 UJ
CHLOROBENZENE	5 U	5 U	5 U	6 U	5 U	5 U
ETHYLBENZENE	5 U	5 U	5 U	6 U	5 U	5 U
STYRENE	5 U	5 U	5 U	6 U	5 U	5 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACB-MW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
VOLATILES (cont) (ug/kg)						
BROMOFORM	5 U	5 U	5 U	6 UJ	5 UJ	5 UJ
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U	6 U	5 U	5 U
XYLENE (TOTAL)	5 U	5 U	8	6 U	5 U	5 U
ACETONITRILE	100 U	110 U	110 U	110 UJ	100 U	100 UJ
PROPIONITRILE (ETHYL CYANIDE)	53 U	53 U	54 U	56 R	51 R	53 R
3-CHLOROPROPENE	21 U	21 U	21 U	22 U	20 U	21 U
IODOMETHANE	10 U	11 U	11 U	11 U	10 U	10 U
METHACRYLONITRILE	21 U	21 U	21 U	22 U	20 U	21 U
ISOBUTYL ALCOHOL	2100 U	2100 U	2100 U	2200 R	2000 R	2100 R
METHYLMETHACRYLATE	21 U	21 U	21 U	22 U	20 U	21 U
DIBROMOMETHANE	10 U	11 U	11 U	11 U	10 U	10 U
1,2-DIBROMOETHANE	21 U	21 U	21 U	22 U	20 U	21 U
1,1,1,2-TETRACHLOROETHANE	10 U	11 U	11 U	11 U	10 U	10 U
1,2,3-TRICHLOROPROPANE	10 U	11 U	11 U	11 U	10 U	10 U
TRANS-1,4-DICHLORO-2-BUTENE	21 U	21 U	21 U	22 U	20 U	21 U
1,2-DIBROMO-3-CHLOROPROPANE	21 U	21 U	21 U	22 UJ	20 U	21 UJ
ETHYLMETHACRYLATE	21 U	21 U	21 U	22 U	20 U	21 U
PENTACHLOROETHANE	21 U	21 U	21 U	22 U	20 UJ	21 U
2-CHLORO-1,3-BUTADIENE	100 U	110 U	110 U	110 U	100 U	100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACB-MW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
SEMIVOLATILES (ug/kg)						
PHENOL	340 U	350 U	1800 U	370 U	340 U	350 U
BIS(2-CHLOROETHYL)ETHER	340 U	350 U	1800 U	370 U	340 U	350 U
2-CHLOROPHENOL	340 U	350 U	1800 U	370 U	340 U	350 U
1,3-DICHLOROBENZENE	340 U	350 U	1800 U	370 U	340 U	350 U
1,4-DICHLOROBENZENE	340 U	350 U	1800 U	370 U	340 U	350 U
1,2-DICHLOROBENZENE	340 U	350 U	1800 U	370 U	340 U	350 U
O-CRESOL	340 U	350 U	1800 U	370 U	340 U	350 U
N-NITROSO-DI-N-PROPYLAMINE	340 U	350 U	1800 U	370 U	340 U	350 U
META & PARA-CRESOL	340 U	350 U	1800 U	370 U	340 U	350 U
HEXACHLOROETHANE	340 U	350 U	1800 U	370 U	340 U	350 U
NITROBENZENE	340 U	350 U	1800 U	370 U	340 U	350 U
ISOPHORONE	340 U	350 U	1800 U	370 U	340 U	350 U
2-NITROPHENOL	340 U	350 U	1800 U	370 U	340 U	350 U
2,4-DIMETHYLPHENOL	340 U	350 U	1800 U	370 U	340 U	350 U
BIS(2-CHLOROETHOXY)METHANE	340 U	350 U	1800 U	370 U	340 U	350 U
2,4-DICHLOROPHENOL	340 U	350 U	1800 U	370 U	340 U	350 U
1,2,4-TRICHLOROBENZENE	340 U	350 U	1800 U	370 U	340 U	350 U
NAPHTHALENE	340 U	350 U	1800 U	370 U	340 U	350 U
4-CHLOROANILINE	680 U	700 U	3500 U	750 U	680 U	700 U
HEXACHLOROBUTADIENE	340 U	350 U	1800 U	370 U	340 U	350 U
4-CHLORO-3-METHYLPHENOL	680 U	700 U	3500 U	750 U	680 U	700 U
2-METHYLNAPHTHALENE	340 U	350 U	1800 U	370 U	340 U	350 U
HEXACHLOROCYCLOPENTADIENE	340 U	350 U	1800 U	370 U	340 U	350 U
2,4,6-TRICHLOROPHENOL	340 U	350 U	1800 U	370 U	340 U	350 U
2,4,5-TRICHLOROPHENOL	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
2-CHLORONAPHTHALENE	340 U	350 U	1800 U	370 U	340 U	350 U
2-NITROANILINE	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
ACENAPHTHYLENE	340 U	350 U	1800 U	370 U	340 U	350 U
2,6-DINITROTOLUENE	340 U	350 U	1800 U	370 U	340 U	350 U
3-NITROANILINE	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
ACENAPHTHENE	340 U	350 U	1800 U	370 U	340 U	350 U
2,4-DINITROPHENOL	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
DIBENZOFURAN	340 U	350 U	1800 U	370 U	340 U	350 U
4-NITROPHENOL	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
2,4-DINITROTOLUENE	340 U	350 U	1800 U	370 U	340 U	350 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACB-MW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
SEMIVOLATILES (cont) (ug/kg)						
FLUORENE	340 U	350 U	1800 U	370 U	340 U	350 U
DIMETHYLPHTHALATE	340 U	350 U	1800 U	370 U	340 U	350 U
DIETHYLPHTHALATE	340 U	350 U	1800 U	370 U	340 U	350 U
4-CHLOROPHENYL-PHENYLETHER	340 U	350 U	1800 U	370 U	340 U	350 U
4-NITROANILINE	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
4,6-DINITRO-2-METHYLPHENOL	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
4-BROMOPHENYL-PHENYLETHER	340 U	350 U	1800 U	370 U	340 U	350 U
HEXACHLOROBENZENE	340 U	350 U	1800 U	370 U	340 U	350 U
PENTACHLOROPHENOL	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
PHENANTHRENE	340 U	350 U	1800 U	370 U	170 J	350 U
ANTHRACENE	340 U	350 U	1800 U	370 U	340 U	350 U
DI-N-BUTYLPHTHALATE	77 J	350 U	350 J	370 U	340 U	350 U
FLUORANTHENE	80 J	100 J	1800 U	86 J	390	350 U
PYRENE	42 J	62 J	1800 U	76 J	360	350 U
BUTYLBENZYLPHTHALATE	340 U	350 U	1800 U	370 U	340 U	350 U
BENZO(A)ANTHRACENE	38 J	47 J	1800 U	370 U	150 J	350 U
3,3'-DICHLOROBENZIDINE	680 U	700 U	3500 U	750 U	680 U	700 U
CHRYSENE	45 J	70 J	1800 U	51 J	250 J	350 U
BIS(2-ETHYLHEXYL)PHTHALATE	340 U	350 U	1800 U	370 U	340 U	350 U
DI-N-OCTYL PHTHALATE	340 U	350 U	1800 U	370 U	340 U	350 U
BENZO(B)FLUORANTHENE	340 U	350 U	1800 U	56 J	200 J	350 U
BENZO(K)FLUORANTHENE	340 U	350 U	1800 U	370 U	100 J	350 U
BENZO(A)PYRENE	340 U	350 U	1800 U	39 J	140 J	350 U
INDENO(1,2,3-CD)PYRENE	340 U	43 J	1800 U	370 U	78 J	350 U
DIBENZO(A,H)ANTHRACENE	340 U	350 U	1800 U	370 U	340 U	350 U
BENZO(G,H,I)PERYLENE	340 U	350 U	1800 U	370 U	79 J	350 U
CARBAZOLE	340 U	350 U	1800 U	370 U	340 U	350 U
N-NITROSODIPHENYLAMINE (1)	340 U	350 U	1800 U	370 U	340 U	350 U
BENZYL ALCOHOL	340 U	350 U	1800 U	370 UJ	340 UJ	350 U
BENZOIC ACID	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
BENZIDINE	3400 UJ	3500 UJ	18000 UJ	3700 U	3400 U	3500 UJ
N-NITROSODIMETHYLAMINE	340 UJ	350 UJ	1800 UJ	370 UJ	340 UJ	350 UJ
PYRIDINE	680 UJ	700 UJ	3500 UJ	750 UJ	680 UJ	700 UJ
1,2-DIPHENYLHYDRAZINE	340 U	350 U	1800 U	370 U	340 U	350 U
ANILINE	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACB-MW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
SEMIVOLATILES (cont) (ug/kg)						
1,4-DIOXANE	680 U	700 U	3500 U	750 UJ	680 UJ	700 UJ
2-PICOLINE	340 U	350 U	1800 U	370 U	340 U	350 U
N-NITROSOMETHYLETHYLAMINE	340 U	350 U	1800 U	370 UJ	340 UJ	350 U
METHYL METHANESULFONATE	340 U	350 U	1800 U	370 U	340 U	350 U
N-NITROSODIETHYLAMINE	340 U	350 U	1800 U	370 UJ	340 UJ	350 UJ
ETHYL METHANESULFONATE	340 U	350 U	1800 U	370 U	340 U	350 U
O-TOLUIDINE	340 U	350 U	1800 U	370 U	340 U	350 U
N-NITROSOPYRROLIDINE	1700 U	1800 U	8800 U	1900 U	1700 U	1700 U
ACETOPHENONE	340 U	350 U	1800 U	370 U	340 U	350 U
N-NITROSOMORPHOLINE	680 U	700 U	3500 U	750 U	680 U	700 U
N-NITROSOPIPERIDINE	340 U	350 U	1800 U	370 UJ	340 UJ	350 UJ
A,A-DIMETHYLPHENETHYLAMINE	1700 UJ	1800 UJ	8800 UJ	1900 UJ	1700 UJ	1700 U
2,6-DICHLOROPHENOL	340 UJ	350 UJ	1800 UJ	370 U	340 U	350 U
HEXACHLOROPROPENE	1700 UJ	1800 UJ	8800 UJ	1900 U	1700 U	1700 U
P-PHENYLENEDIAMINE	680 UJ	700 UJ	3500 UJ	750 UJ	680 UJ	700 UJ
N-NITROSO-DI-N-BUTYLAMINE	340 U	350 U	1800 U	370 U	340 U	350 U
SAFROLE	340 U	350 U	1800 U	370 U	340 U	350 U
1,2,4,5-TETRACHLOROBENZENE	340 U	350 U	1800 U	370 R	340 R	350 R
ISOSAFROLE	340 U	350 U	1800 U	370 U	340 U	350 U
1,4-NAPHTHOQUINONE	1700 U	1800 UJ	8800 UJ	1900 UJ	1700 UJ	1700 UJ
1,3-DINITROBENZENE	680 U	700 U	3500 U	750 U	680 U	700 U
PENTACHLOROBENZENE	340 U	350 U	1800 U	370 U	340 U	350 U
1-NAPHTHYLAMINE	680 U	700 U	3500 U	750 U	680 U	700 U
2-NAPHTHYLAMINE	850 U	880 U	4400 U	940 U	860 U	870 U
2,3,4,6-TETRACHLOROPHENOL	340 U	350 U	1800 U	370 U	340 U	350 U
1,3,5-TRINITROBENZENE	3400 UJ	3500 UJ	18000 UJ	3700 U	3400 U	3500 U
DIALLATE	340 U	350 U	1800 U	370 UJ	340 UJ	350 UJ
PHENACETIN	340 U	350 U	1800 U	370 U	340 U	350 U
DIPHENYLAMINE	340 U	350 U	1800 U	370 U	340 UJ	350 U
5-NITRO-O-TOLUIDINE	680 U	700 U	3500 U	750 U	680 U	700 U
4-AMINOBIPHENYL	680 U	700 U	3500 U	750 U	680 U	700 U
PRONAMIDE	340 U	350 U	1800 U	370 U	340 U	350 U
2-SEC-BUTYL-4,6-DINITROPHENOL	680 U	700 U	3500 U	750 U	680 U	700 U
PENTACHLORONITROBENZENE	340 UJ	350 UJ	1800 UJ	370 U	340 U	350 U
4-NITROQUINOLINE-1-OXIDE	1700 UJ	1800 R	8800 R	1900 R	1700 R	1700 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACB-MW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
PESTICIDE/PCBS (ug/kg)						
	850	880	4400	940	860	870
ARAMITE	U	U	U	U	U	UJ
	340	350	1800	370	340	350
P-DIMETHYLAMINOAZOBENZENE	U	U	U	UJ	UJ	U
	1700	1800	8800	1900	1700	1700
2-ACETYLAMINOFLUORENE	U	U	U	U	U	U
	680	700	3500	750	680	700
HEXACHLOROPHENE	UJ	UJ	UJ	U	U	U
	340	350	1800	370	340	350
2,2'-OXYBIS(1-CHLOROPROPANE)	UJ	UJ	UJ	UJ	UJ	U
	210	210	42	4.4	4	4.1
BETA-BHC	U	U	U	U	U	U
	210	210	42	4.4	4	4.1
GAMMA-BHC (LINDANE)	U	U	U	U	U	U
	210	210	42	4.4	4	4.1
ALDRIN	U	U	U	U	U	U
	210	210	42	2.6	U	U
	210	210	42	4.4	4	4.1
DIELDRIN	U	U	U	U	U	U
	19000		15	40	U	U
	420	420	84	8.9	8.1	8.3
ENDOSULFAN II	U	U	U	U	U	U
	17000		40	NJ	U	U
	420	420	84	8.9	8.1	8.3
4,4'-DDT		14000	J	J	U	U
	2100	2100	420	44	40	41
ENDRIN ALDEHYDE	U	U	U	UJ	UJ	UJ
	210	210	42	4.4	4	4.1
KEPONE	UJ	UJ	UJ	UJ	UJ	UJ
	2100	2100	420	44	40	41
GAMMA-CHLORDANE	U	U	U	U	U	U
	4200	4200	840	89	81	83
AROCLOR-1016	U	U	U	U	U	U
	2100	2100	420	44	40	41
AROCLOR-1232	U	U	U	U	U	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACB-MW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
PESTICIDE/PCBS cont.(ug/kg)						
AROCLOR-1242	2100 U	2100 U	420 U	44 U	40 U	41 U
AROCLOR-1248	2100 U	2100 U	420 U	44 U	40 U	41 U
AROCLOR-1254	4200 U	4200 U	840 U	89 U	81 U	83 U
AROCLOR-1260	4200 U	4200 U	840 U	89 U	81 U	83 U
DIOXINS (ug/kg)						
2378-TCDD	0.1 U	0.12 U	0.05 U	0.09 U	0.11 U	0.09 U
TOTAL TCDD	0.1 U	0.12 U	0.05 U	0.09 U	0.11 U	0.09 U
TOTAL PECDD	0.24 U	0.17 U	0.16 U	0.12 U	0.13 U	0.17 U
TOTAL HXCDD	0.43 U	0.12 U	0.21 U	0.08 U	0.15 U	0.11 U
TOTAL TCDF	0.06 U	0.07 U	0.1 U	0.06 U	0.1 U	0.07 U
TOTAL PECDF	0.1 U	0.14 U	0.16 U	0.11 U	0.14 U	0.13 U
TOTAL HXCDF	0.33 U	0.11 U	0.15 U	0.09 U	0.13 U	0.09 U
ORTHO PESTICIDES (ug/kg)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	70 U	70 U	710 U	74 U	68 U	69 U
PHORATE	70 U	70 U	710 U	74 U	68 U	69 U
THIONAZIN	70 U	70 U	710 U	74 U	68 U	69 U
DISULFOTON	70 U	70 U	710 U	74 U	68 U	69 U
SULFOTEP	70 U	70 U	710 U	74 U	68 U	69 U
DIMETHOATE	70 U	70 U	710 U	74 U	68 U	69 U
METHYL PARATHION	70 U	70 U	710 U	74 U	68 U	69 U
PARATHION	70 U	70 U	710 U	74 U	68 U	69 U
FAMPHUR	70 U	70 U	710 U	74 U	68 U	69 U
HERBICIDES (ug/kg)						
2,4-D	340 U	350 UJ	350 U	370 U	340 U	350 U
2,4,5-TP (SILVEX)	34 U	35 UJ	35 U	37 U	34 U	35 U
2,4,5-T	34 U	35 UJ	35 U	37 U	34 U	35 U

CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL

SAMPLE ID	ACBMW02-00			6SB01-00		6SB02-00			6SS01	
SAMPLE DATE			03/19/96	3/19/96				3/19/96	3/19/96	
VOLATILES (ug/kg)										
DICHLORODIFLUOROMETHANE		U	21	21	U		U	21	21	U
	10	U	U	10		10	U	U	10	
VINYL CHLORIDE	10		10 U	U		10		10 U	U	
BROMOMETHANE		U	10	10	U		U	10	10	U
	10	U	U	10		10	U	U	10	
TRICHLOROFLUOROMETHANE	10		10 U	U		10		10 U	U	
ACROLEIN		UJ	520	530	UJ		UJ	520	520	UJ
	5	U	U	5		5	U	U	5	
ACETONE	10		10 UJ	UJ		10		10 UJ	UJ	
CARBON DISULFIDE		U	5	5	U		U	5	5	U
	5	UJ	UJ	5		5	UJ	UJ	5	
ACRYLONITRILE	100		100 U	U		100		100 U	U	
1,2-DICHLOROETHENE (TOTAL)		U	5	2	J		U	5	5	U
	5	U	U	5		5	U	U	5	
VINYL ACETATE	10		10 U	U		10		10 U	U	
2-BUTANONE		U	10	10	U		U	10	10	U
	5	U	U	5		5	U	U	5	
1,1,1-TRICHLOROETHANE	5		5 UJ	UJ		5		5 UJ	UJ	
CARBON TETRACHLORIDE		UJ	5	5	UJ		UJ	5	5	UJ
	5	U	UJ	5		5	U	U	5	
1,2-DICHLOROETHANE	5		5 U	UJ		5		5 UJ	UJ	
TRICHLOROETHENE		U	5	5	U		U	5	5	U
	5	U	U	5		5	U	U	5	
BROMODICHLOROMETHANE	5		5 UJ	UJ		5		5 UJ	UJ	
CIS-1,3-DICHLOROPROPENE		U	5	5	U		U	5	5	U
	10	U	U	10		10	U	U	10	
TOLUENE	5		5 U	U		5		5 U	U	
TRANS-1,3-DICHLOROPROPENE		U	5	5	U		U	5	5	U
	5	U	U	5		5	U	U	5	
TETRACHLOROETHENE	5		5 U	U		5		5 U	U	
2-HEXANONE		UJ	10	10	UJ		UJ	10	10	UJ
	5	UJ	UJ	5		5	UJ	UJ	5	
CHLOROBENZENE	5		5 U	U		5		5 U	U	
ETHYLBENZENE		U	5	5	U		U	5	5	U
	5	U	U	5		5	U	U	5	

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW02-00	ACBMW03-00	6SB01-00	6SB02-00	6SB03-00	6SS01
SAMPLE DATE	03/19/96	03/19/96	3/19/96	3/19/96	3/19/96	3/19/96
VOLATILES (cont) (ug/kg)						
BROMOFORM	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
1,1,2,2-TETRACHLOROETHANE	5 U	5 U	5 U	5 U	5 U	5 U
XYLENE (TOTAL)	5 U	5 U	5 U	5 U	5 U	5 U
ACETONITRILE	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ	100 UJ
PROPIONITRILE (ETHYL CYANIDE)	52 R	52 R	52 R	52 R	52 R	52 R
3-CHLOROPROPENE	21 U	21 U	21 U	21 U	21 U	21 U
IODOMETHANE	10 U	10 U	10 U	10 U	10 U	10 U
METHACRYLONITRILE	21 U	21 U	21 U	21 U	21 U	21 U
ISOBUTYL ALCOHOL	2100 R	2100 R	2100 R	2100 R	2100 R	2100 R
METHYLMETHACRYLATE	21 U	21 U	21 U	21 U	21 U	21 U
DIBROMOMETHANE	10 U	10 U	10 U	10 U	10 U	10 U
1,2-DIBROMOETHANE	21 U	21 U	21 U	21 U	21 U	21 U
1,1,1,2-TETRACHLOROETHANE	10 U	10 U	10 U	10 U	10 U	10 U
1,2,3-TRICHLOROPROPANE	10 U	10 U	10 U	10 U	10 U	10 U
TRANS-1,4-DICHLORO-2-BUTENE	21 U	21 U	21 U	21 U	21 U	21 U
1,2-DIBROMO-3-CHLOROPROPANE	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ
ETHYLMETHACRYLATE	21 U	21 U	21 U	21 U	21 U	21 U
PENTACHLOROETHANE	21 U	21 U	21 U	21 U	21 U	21 U
2-CHLORO-1,3-BUTADIENE	100 U	100 U	100 U	100 U	100 U	100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7

NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID		ACBMW03-00	6SB01-00		6SB03-00	6SS01
	03/19/96	03/19/96		3/19/96	3/19/96	
SEMIVOLATILES (ug/kg)						
PHENOL	340 U	340 U	340 U	340 U	340 U	340 U
BIS(2-CHLOROETHYL)ETHER	340 U	340 U	340 U	340 U	340 U	340 U
2-CHLOROPHENOL	340 U	340 U	340 U	340 U	340 U	340 U
1,3-DICHLOROBENZENE	340 U	340 U	340 U	340 U	340 U	340 U
1,4-DICHLOROBENZENE	340 U	340 U	340 U	340 U	340 U	340 U
1,2-DICHLOROBENZENE	340 U	340 U	340 U	340 U	340 U	340 U
O-CRESOL	340 U	340 U	340 U	340 U	340 U	340 U
N-NITROSO-DI-N-PROPYLAMINE	340 U	340 U	340 U	340 U	340 U	340 U
META & PARA-CRESOL	340 U	340 U	340 U	340 U	340 U	340 U
HEXACHLOROETHANE	340 U	340 U	340 U	340 U	340 U	340 U
NITROBENZENE	340 U	340 U	340 U	340 U	340 U	340 U
ISOPHORONE	340 U	340 U	340 U	340 U	340 U	340 U
2-NITROPHENOL	340 U	340 U	340 U	340 U	340 U	340 U
2,4-DIMETHYLPHENOL	340 U	340 U	340 U	340 U	340 U	340 U
BIS(2-CHLOROETHOXY)METHANE	340 U	340 U	340 U	340 U	340 U	340 U
2,4-DICHLOROPHENOL	340 U	340 U	340 U	340 U	340 U	340 U
1,2,4-TRICHLOROBENZENE	340 U	340 U	340 U	340 U	340 U	340 U
NAPHTHALENE	340 U	340 U	210 J	340 U	340 U	340 U
4-CHLOROANILINE	690 U	680 U	690 U	690 U	690 U	680 U
HEXACHLOROBUTADIENE	340 U	340 U	340 U	340 U	340 U	340 U
4-CHLORO-3-METHYLPHENOL	690 U	680 U	690 U	690 U	690 U	680 U
2-METHYLNAPHTHALENE	340 U	340 U	78 J	340 UJ	340 UJ	340 UJ
HEXACHLOROCYCLOPENTADIENE	340 U	340 U	340 U	340 U	340 U	340 U
2,4,6-TRICHLOROPHENOL	340 U	340 U	340 U	340 U	340 U	340 U
2,4,5-TRICHLOROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2-CHLORONAPHTHALENE	340 U	340 U	340 U	340 U	340 U	340 U
2-NITROANILINE	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
ACENAPHTHYLENE	340 U	340 U	35 J	340 U	340 U	350
2,6-DINITROTOLUENE	340 U	340 U	340 U	340 U	340 U	340 U
3-NITROANILINE	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
ACENAPHTHENE	340 U	340 U	340 U	340 U	340 U	340 U
2,4-DINITROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
DIBENZOFURAN	340 U	340 U	340 U	340 U	340 U	340 U
4-NITROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-DINITROTOLUENE	340 U	340 U	340 U	340 U	340 U	340 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW02-00	ACBMW03-00	6SB01-00	6SB02-00	6SB03-00	6SS01
SAMPLE DATE	03/19/96	03/19/96	3/19/96	3/19/96	3/19/96	3/19/96
SEMIVOLATILES (cont) (ug/kg)						
FLUORENE	340 U	340 U	340 U	340 U	340 U	340 U
DIMETHYLPHTHALATE	340 U	340 U	340 U	340 U	340 U	340 U
DIETHYLPHTHALATE	340 U	340 U	340 U	340 U	340 U	340 U
4-CHLOROPHENYL-PHENYLETHER	340 U	NA	NA	NA	NA	NA
4-NITROANILINE	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4,6-DINITRO-2-METHYLPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4-BROMOPHENYL-PHENYLETHER	340 U	340 U	340 UJ	340 UJ	340 UJ	340 UJ
HEXACHLOROBENZENE	340 U	340 U	340 U	340 U	340 U	340 U
PENTACHLOROPHENOL	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
PHENANTHRENE	340 U	71 J	130 J	340 U	60 J	210 J
ANTHRACENE	340 U	340 U	61 J	340 U	340 U	370
DI-N-BUTYLPHTHALATE	340 U	340 U	38 J	340 U	340 U	340 U
FLUORANTHENE	340 U	150 J	500	340 U	360	3200
PYRENE	340 U	140 J	570	340 U	350	4200
BUTYLBENZYLPHTHALATE	340 U	340 U	340 U	340 U	340 U	49 J
BENZO(A)ANTHRACENE	340 U	67 J	150 J	340 U	170 J	2400
3,3'-DICHLOROBENZIDINE	690 U	680 U	690 U	690 U	690 U	680 U
CHRYSENE	340 U	95 J	200 J	340 U	340 J	3300
BIS(2-ETHYLHEXYL)PHTHALATE	340 U	340 U	1000	340 U	45 J	170 J
DI-N-OCTYL PHTHALATE	340 U	340 U	340 U	340 U	340 U	340 U
BENZO(B)FLUORANTHENE	340 U	91 J	460	340 U	310 J	4300
BENZO(K)FLUORANTHENE	340 U	45 J	190 J	340 U	160 J	1300
BENZO(A)PYRENE	340 U	69 J	290 J	340 U	160 J	1800
INDENO(1,2,3-CD)PYRENE	340 U	46 J	150 J	340 U	120 J	790
DIBENZO(A,H)ANTHRACENE	340 U	340 U	340 U	340 U	340 U	180 J
BENZO(G,H,I)PERYLENE	340 U	46 J	120 J	340 U	100 J	630
CARBAZOLE	340 U	340 U	74 J	340 U	340 U	330 J
N-NITROSODIPHENYLAMINE (1)	340 U	340 U	340 U	340 U	340 U	340 U
BENZYL ALCOHOL	340 UJ	340 U	340 UJ	340 UJ	340 U	340 UJ
BENZOIC ACID	1700 U	1700 U	1700 UJ	1700 UJ	1700 U	410 J
BENZIDINE	3400 U	3400 UJ	3400 UJ	3400 UJ	3400 U	3400 UJ
N-NITROSODIMETHYLAMINE	340 UJ	340 UJ	340 U	340 U	340 U	340 U
PYRIDINE	690 UJ	680 UJ	690 UJ	690 UJ	690 U	680 UJ
1,2-DIPHENYLHYDRAZINE	340 U	340 U	340 U	340 U	340 U	340 U
ANILINE	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW02-00	ACBMW03-00	6SB01-00	6SB02-00	6SB03-00	6SS01
SAMPLE DATE	03/19/96	03/19/96	3/19/96	3/19/96	3/19/96	3/19/96
SEMIVOLATILES (cont) (ug/kg)						
1,4-DIOXANE	690 UJ	680 UJ	690 U	690 U	1400 U	680 U
2-PICOLINE	340 U	340 U	340 U	340 U	340 U	340 U
N-NITROSOMETHYLETHYLAMINE	340 UJ	340 UJ	340 U	340 U	340 U	340 U
METHYL METHANESULFONATE	340 U	340 U	340 U	340 U	340 U	340 U
N-NITROSODIETHYLAMINE	340 UJ	340 U	340 U	340 U	340 U	340 U
ETHYL METHANESULFONATE	340 U	340 U	340 U	340 U	340 U	340 U
O-TOLUIDINE	340 U	340 U	340 U	340 U	340 U	340 U
N-NITROSOPYRROLIDINE	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
ACETOPHENONE	340 U	340 U	300 J	340 U	340 U	340 U
N-NITROSOMORPHOLINE	690 U	680 U	690 U	690 U	690 U	680 U
N-NITROSOPIPERIDINE	340 UJ	340 UJ	340 U	340 U	340 U	340 U
A,A-DIMETHYLPHENETHYLAMINE	1700 UJ	1700 U	1700 UJ	1700 UJ	1700 UJ	1700 UJ
2,6-DICHLOROPHENOL	340 U	340 U	340 UJ	340 UJ	340 UJ	340 UJ
HEXACHLOROPROPENE	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
P-PHENYLENEDIAMINE	690 UJ	680 UJ	690 U	690 U	690 U	680 U
N-NITROSO-DI-N-BUTYLAMINE	340 U	340 U	340 U	340 U	340 U	340 U
SAFROLE	340 U	340 U	340 U	340 U	340 U	340 U
1,2,4,5-TETRACHLOROBENZENE	340 R	340 R	340 R	340 R	340 R	340 R
ISOSAFROLE	340 U	340 U	340 U	340 U	340 U	340 U
1,4-NAPHTHOQUINONE	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ
1,3-DINITROBENZENE	690 U	680 U	690 U	690 U	690 U	680 U
PENTACHLOROBENZENE	340 U	340 U	340 U	340 U	340 U	340 U
1-NAPHTHYLAMINE	690 U	680 U	690 U	690 U	690 U	680 U
2-NAPHTHYLAMINE	860 U	860 U	860 U	860 U	860 U	860 U
2,3,4,6-TETRACHLOROPHENOL	340 U	340 U	340 U	340 U	340 U	340 U
1,3,5-TRINITROBENZENE	3400 U	3400 U	3400 U	3400 U	3400 U	3400 U
DIALLATE	340 UJ	340 UJ	340 U	340 U	340 U	340 U
PHENACETIN	340 U	340 U	340 U	340 U	340 U	340 U
DIPHENYLAMINE	340 UJ	340 U	340 U	340 U	340 U	340 U
5-NITRO-O-TOLUIDINE	690 U	680 U	690 U	690 U	690 U	680 U
4-AMINOBIPHENYL	690 U	680 U	690 U	690 U	690 U	680 U
PRONAMIDE	340 U	340 U	340 U	340 U	340 U	340 U
2-SEC-BUTYL-4,6-DINITROPHENOL	690 U	680 U	690 U	690 U	690 U	680 U
PENTACHLORONITROBENZENE	340 U	340 U	340 R	340 R	340 R	340 R
4-NITROQUINOLINE-1-OXIDE	1700 R	1700 R	1700 R	1700 R	1700 R	1700 R

FREQUENCY OF DETECTION SUMMARY

ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

	ACBMW02-00		ACBMW03-00			6SB02-00		6SB03-00		
SAMPLE DATE	03/19/96				3/19/96	3/19/96				3/19/96
METHAPYRILENE	860		860	UJ	UJ	860		860	UJ	UJ
ARAMITE		U	680		690	U	U	690		680 U
	340	U		U	340	340	U		U	340
P-DIMETHYLAMINOAZOBENZENE	690		680	U	U	690		690	U	U
3,3'-DIMETHYLBENZIDINE		U	1700		1700	U	U	1700		1700 U
	690	U		U	690	690	U		U	680
7,12-DIMETHYLBENZ(A)ANTHRACENE	690		680	U	U	690		690	U	U
HEXACHLOROPHENE		U	3400		3400	R	R	3400		3400 R
	340	U		U	340	340	U		U	340
2,2'-OXYBIS(1-CHLOROPROPANE)	340		340	U	U	340		340	U	U
ALPHA-BHC		U	4.1		42	U	U	21		41 U
	40	U		U	42	4.1	U		U	41
DELTA-BHC	40		4.1	U	U	4.1		21	U	U
GAMMA-BHC (LINDANE)		U	4.1		42	U	U	21		41 U
	40	U		U	42	4.1	U		U	41
ALDRIN	40		4.1	U	U	4.1		21	U	U
HEPTACHLOR EPOXIDE		U	1.7		42	U	U	21		41 U
	40	U		U	42	4.1	U		U	41
DIELDRIN	81		8.2	U	U	8.2		42	U	U
4,4'-DDE		J	8.2		11	J	U	42		82 U
	81	U		U	84	8.2	U		U	82
ENDOSULFAN II	81		8.2	U	U	8.2		42	U	U
4,4'-DDD		U	8.2		84	U	U	42		82 U
	81	U		U	84	8.2	U		U	82
4,4'-DDT	81		1.7	R	U	8.2		42	U	U
METHOXYCHLOR		U	41		420	U	U	210		410 U
	81	UJ		UJ	84	8.2	U		U	82
ISODRIN	40		4.1	U	U	4.1		21	U	U
KEPONE		UJ	8.2		84	UJ	UJ	42		82 R
	400	U		U	420	41	U		U	410
GAMMA-CHLORDANE	400		41	U	U	41		210	U	U
TOXAPHENE		U	82		840	U	U	420		820 U
	400	U		U	420	41	U		U	410
AROCLOR-1221	400		41	U	U	41		210	U	U
AROCLOR-1232		U	41		420	U	U	210		410 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW02-00	ACBMW03-00	6SB01-00	6SB02-00	6SB03-00	6SS01
SAMPLE DATE	03/19/96	03/19/96	3/19/96	3/19/96	3/19/96	3/19/96
PESTICIDE/PCBS cont.(ug/kg)						
AROCLOR-1242	400 U	41 U	420 U	41 U	210 U	410 U
AROCLOR-1248	400 U	41 U	420 U	41 U	210 U	410 U
AROCLOR-1254	810 U	82 U	840 U	82 U	420 U	820 U
AROCLOR-1260	810 U	82 U	840 U	82 U	420 U	820 U
DIOXINS (ug/kg)						
2378-TCDD	0.08 U	0.14 U	0.05 U	0.12 U	0.06 U	0.04 U
TOTAL TCDD	0.08 U	0.14 U	0.05 U	0.12 U	0.06 U	0.05 U
TOTAL PECDD	0.1 U	0.21 U	0.07 U	0.21 U	0.13 U	0.08 U
TOTAL HXCDD	0.1 U	0.23 U	0.25 J	0.3 U	0.07 U	0.76 J
TOTAL TCDF	0.06 U	0.13 U	0.04 U	0.08 U	0.05 U	0.05 U
TOTAL PECDF	0.1 U	0.27 U	0.09 U	0.17 U	0.1 U	0.11 U
TOTAL HXCDF	0.07 U	0.2 U	0.26 J	0.24 U	0.08 U	0.23 J
ORTHO PESTICIDES (ug/kg)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	680 U	67 U	69 U	68 U	70 U	690 U
PHORATE	680 U	67 U	69 U	68 U	70 U	690 U
THIONAZIN	680 U	67 U	69 U	68 U	70 U	690 U
DISULFOTON	680 U	67 U	69 U	68 U	70 U	690 U
SULFOTEP	680 U	67 U	69 U	68 U	70 U	690 U
DIMETHOATE	680 U	67 U	69 U	68 U	70 U	690 U
METHYL PARATHION	680 U	67 U	69 U	68 U	70 U	690 U
PARATHION	680 U	67 U	69 U	68 U	70 U	690 U
FAMPHUR	680 U	67 U	69 U	68 U	70 U	690 U
HERBICIDES (ug/kg)						
2,4-D	340 U	350 U	340 U	340 U	340 U	340 U
2,4,5-TP (SILVEX)	34 U	35 U	34 U	34 U	34 U	34 U
2,4,5-T	34 U	35 U	34 U	34 U	34 U	34 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D		6SS02	
SAMPLE DATE	3/19/96		3/19/96	
VOLATILES (ug/kg)				
DICHLORODIFLUOROMETHANE	21	U	21	U
CHLOROMETHANE	10	U	10	U
VINYL CHLORIDE	10	U	10	U
BROMOMETHANE	10	U	10	U
CHLOROETHANE	10	U	10	U
TRICHLOROFLUOROMETHANE	10	U	10	U
ACROLEIN	520	UJ	530	UJ
1,1-DICHLOROETHENE	5	U	5	U
ACETONE	10	UJ	10	UJ
CARBON DISULFIDE	5	U	5	U
METHYLENE CHLORIDE	5	UJ	5	UJ
ACRYLONITRILE	100	U	100	U
1,2-DICHLOROETHENE (TOTAL)	5	U	2	J
1,1-DICHLOROETHANE	5	U	5	U
VINYL ACETATE	10	U	10	U
2-BUTANONE	10	U	10	U
CHLOROFORM	5	U	5	U
1,1,1-TRICHLOROETHANE	5	UJ	5	UJ
CARBON TETRACHLORIDE	5	UJ	5	UJ
BENZENE	5	U	5	U
1,2-DICHLOROETHANE	5	UJ	5	UJ
TRICHLOROETHENE	5	U	5	U
1,2-DICHLOROPROPANE	5	U	5	U
BROMODICHLOROMETHANE	5	UJ	5	UJ
CIS-1,3-DICHLOROPROPENE	5	U	5	U
4-METHYL-2-PENTANONE	10	U	10	U
TOLUENE	5	U	5	U
TRANS-1,3-DICHLOROPROPENE	5	U	5	U
1,1,2-TRICHLOROETHANE	5	U	5	U
TETRACHLOROETHENE	5	U	5	U
2-HEXANONE	10	UJ	10	UJ
DIBROMOCHLOROMETHANE	5	UJ	5	UJ
CHLOROBENZENE	5	U	5	U
ETHYLBENZENE	5	U	5	U
STYRENE	5	U	5	U

SAMPLE ID	6SS01D			
SAMPLE DATE	3/19/96			
VOLATILES (cont) (ug/kg)				
BROMOFORM	5	UJ	5	UJ
1,1,2,2-TETRACHLOROETHANE	5	U	5	U
XYLENE (TOTAL)	5	U	5	U
ACETONITRILE	100	UJ	100	UJ
PROPIONITRILE (ETHYL CYANIDE)	52	R	53	R
3-CHLOROPROPENE	21	U	21	U
IODOMETHANE	10	U	10	U
METHACRYLONITRILE	21	U	21	U
ISOBUTYL ALCOHOL	2100	R	2100	R
METHYLMETHACRYLATE	21	U	21	U
DIBROMOMETHANE	10	U	10	U
1,2-DIBROMOETHANE	21	U	21	U
1,1,1,2-TETRACHLOROETHANE	10	U	10	U
1,2,3-TRICHLOROPROPANE	10	U	10	U
TRANS-1,4-DICHLORO-2-BUTENE	21	U	21	U
1,2-DIBROMO-3-CHLOROPROPANE	21	UJ	21	UJ
ETHYLMETHACRYLATE	21	U	21	U
PENTACHLOROETHANE	21	U	21	U
2-CHLORO-1,3-BUTADIENE	100	U	100	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D		6SS02	
SAMPLE DATE	3/19/96		3/19/96	
SEMIVOLATILES (ug/kg)				
PHENOL	340	U	340	U
BIS(2-CHLOROETHYL)ETHER	340	U	340	U
2-CHLOROPHENOL	340	U	340	U
1,3-DICHLOROBENZENE	340	U	340	U
1,4-DICHLOROBENZENE	340	U	340	U
1,2-DICHLOROBENZENE	340	U	340	U
O-CRESOL	340	U	340	U
N-NITROSO-DI-N-PROPYLAMINE	340	U	340	U
META & PARA-CRESOL	340	U	340	U
HEXACHLOROETHANE	340	U	340	U
NITROBENZENE	340	U	340	U
ISOPHORONE	340	U	340	U
2-NITROPHENOL	340	U	340	U
2,4-DIMETHYLPHENOL	340	U	340	U
BIS(2-CHLOROETHOXY)METHANE	340	U	340	U
2,4-DICHLOROPHENOL	340	U	340	U
1,2,4-TRICHLOROBENZENE	340	U	340	U
NAPHTHALENE	340	U	340	U
4-CHLOROANILINE	680	U	690	U
HEXACHLOROBUTADIENE	340	U	340	U
4-CHLORO-3-METHYLPHENOL	680	U	690	U
2-METHYLNAPHTHALENE	340	UJ	340	UJ
HEXACHLOROCYCLOPENTADIENE	340	U	340	U
2,4,6-TRICHLOROPHENOL	340	U	340	U
2,4,5-TRICHLOROPHENOL	1700	U	1700	U
2-CHLORONAPHTHALENE	340	U	340	U
2-NITROANILINE	1700	U	1700	U
ACENAPHTHYLENE	280	J	42	J
2,6-DINITROTOLUENE	340	U	340	U
3-NITROANILINE	1700	U	1700	U
ACENAPHTHENE	340	U	340	U
2,4-DINITROPHENOL	1700	U	1700	U
DIBENZOFURAN	340	U	340	U
4-NITROPHENOL	1700	U	1700	U
2,4-DINITROTOLUENE	340	U	340	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D		6SS02	
SAMPLE DATE	3/19/96		3/19/96	
SEMIVOLATILES (cont) (ug/kg)				
FLUORENE	340	U	340	U
DIMETHYLPHTHALATE	340	U	340	U
DIETHYLPHTHALATE	340	U	340	U
4-CHLOROPHENYL-PHENYLETHER	NA		NA	
4-NITROANILINE	1700	U	1700	U
4,6-DINITRO-2-METHYLPHENOL	1700	U	1700	U
4-BROMOPHENYL-PHENYLETHER	340	UJ	340	UJ
HEXACHLOROBENZENE	340	U	340	U
PENTACHLOROPHENOL	1700	U	1700	U
PHENANTHRENE	110	J	240	J
ANTHRACENE	320	J	77	J
DI-N-BUTYLPHTHALATE	37	J	340	U
FLUORANTHENE	1100		890	
PYRENE	1700		840	
BUTYLBENZYLPHTHALATE	150	J	100	J
BENZO(A)ANTHRACENE	1300		430	
3,3'-DICHLOROBENZIDINE	680	U	690	U
CHRYSENE	2300		880	
BIS(2-ETHYLHEXYL)PHTHALATE	120	J	59	J
DI-N-OCTYL PHTHALATE	340	U	340	U
BENZO(B)FLUORANTHENE	3500		840	
BENZO(K)FLUORANTHENE	1000		380	
BENZO(A)PYRENE	1600		380	
INDENO(1,2,3-CD)PYRENE	660		250	J
DIBENZO(A,H)ANTHRACENE	140	J	50	J
BENZO(G,H,I)PERYLENE	540		220	J
CARBAZOLE	210	J	61	J
N-NITROSODIPHENYLAMINE (1)	340	U	340	U
BENZYL ALCOHOL	340	UJ	340	UJ
BENZOIC ACID	1700	UJ	1700	UJ
BENZIDINE	3400	UJ	3400	UJ
N-NITROSODIMETHYLAMINE	340	U	340	U
PYRIDINE	680	UJ	690	UJ
1,2-DIPHENYLHYDRAZINE	340	U	340	U
ANILINE	1700	U	1700	U

FREQUENCY OF DETECTION SUMMARY

ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

	6SS01D 3/19/96		6SS02 3/19/96	
SEMIVOLATILES (cont) (ug/kg)				
1,4-DIOXANE		U	690	
2-PICOLINE	340		340	U
	340	U		U
METHYL METHANESULFONATE		U	340	
N-NITROSODIETHYLAMINE	340		340	U
	340	U		U
O-TOLUIDINE		U	340	
N-NITROSOPYRROLIDINE	1700		1700	U
	340	U		U
N-NITROSOMORPHOLINE		U	690	
N-NITROSOPIPERIDINE	340		340	U
	1700	UJ		UJ
2,6-DICHLOROPHENOL		UJ	340	
HEXACHLOROPROPENE	1700		1700	U
	680	U		U
N-NITROSO-DI-N-BUTYLAMINE		U	340	
SAFROLE	340		340	U
	340	R		R
ISOSAFROLE		U	340	
1,4-NAPHTHOQUINONE	1700		1700	UJ
	680	U		U
PENTACHLOROBENZENE		U	340	
1-NAPHTHYLAMINE	680		690	U
	850	U		U
2,3,4,6-TETRACHLOROPHENOL		U	340	
1,3,5-TRINITROBENZENE	3400		3400	U
	340	U		U
PHENACETIN		U	340	
DIPHENYLAMINE	340		340	U
	680	U		U
4-AMINOBIPHENYL		U	690	
PRONAMIDE	340		340	U
	680	U		U
PENTACHLORONITROBENZENE		R	340	
4-NITROQUINOLINE-1-OXIDE	1700		1700	R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D		6SS02	
SAMPLE DATE	3/19/96		3/19/96	
PESTICIDE/PCBS (ug/kg)				
METHAPYRILENE	850	UJ	860	UJ
ARAMITE	680	U	690	U
CHLOROBENZILATE	340	U	340	U
P-DIMETHYLAMINOAZOBENZENE	680	U	690	U
3,3'-DIMETHYLBENZIDINE	1700	U	1700	U
2-ACETYLAMINOFLUORENE	680	U	690	U
7,12-DIMETHYLBENZ(A)ANTHRACENE	680	U	690	U
HEXACHLOROPHENE	3400	R	3400	R
3-METHYLCHOLANTHRENE	340	U	340	U
2,2'-OXYBIS(1-CHLOROPROPANE)	340	U	340	U
ALPHA-BHC	41	U	21	U
BETA-BHC	41	U	21	U
DELTA-BHC	41	U	21	U
GAMMA-BHC (LINDANE)	41	U	21	U
HEPTACHLOR	41	U	21	U
ALDRIN	41	U	21	U
HEPTACHLOR EPOXIDE	41	U	5.6	R
ENDOSULFAN I	41	U	21	U
DIELDRIN	82	U	42	U
4,4'-DDE	82	U	42	U
ENDRIN	82	U	42	U
ENDOSULFAN II	82	U	42	U
4,4'-DDD	82	U	42	U
ENDOSULFAN SULFATE	82	U	42	U
4,4'-DDT	82	U	42	U
METHOXYCHLOR	410	U	210	U
ENDRIN ALDEHYDE	82	UJ	42	U
ISODRIN	41	U	21	U
KEPONE	82	R	42	UJ
ALPHA-CHLORDANE	410	U	210	U
GAMMA-CHLORDANE	410	U	210	U
TOXAPHENE	820	U	420	U
AROCLOR-1016	410	U	210	U
AROCLOR-1221	410	U	210	U
AROCLOR-1232	410	U	210	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D		6SS02	
SAMPLE DATE	3/19/96		3/19/96	
PESTICIDE/PCBS cont.(ug/kg)				
AROCLOR-1242	410	U	210	U
AROCLOR-1248	410	U	210	U
AROCLOR-1254	820	U	420	U
AROCLOR-1260	820	U	420	U
DIOXINS (ug/kg)				
2378-TCDD	0.07	U	0.06	U
TOTAL TCDD	0.07	U	0.06	U
TOTAL PECDD	0.16	U	0.08	U
TOTAL HXCDD	0.74	J	0.1	U
TOTAL TCDF	0.08	U	0.04	U
TOTAL PECDF	0.14	U	0.009	U
TOTAL HXCDF	0.17	J	0.07	U
ORTHO PESTICIDES (ug/kg)				
O,O,O-TRIETHYL PHOSPHOROTHIOA	690	U	69	U
PHORATE	690	U	69	U
THIONAZIN	690	U	69	U
DISULFOTON	690	U	69	U
SULFOTEP	690	U	69	U
DIMETHOATE	690	U	69	U
METHYL PARATHION	690	U	69	U
PARATHION	690	U	69	U
FAMPHUR	690	U	69	U
HERBICIDES (ug/kg)				
2,4-D	340	U	340	U
2,4,5-TP (SILVEX)	34	U	34	U
2,4,5-T	34	U	34	U

CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL

SAMPLE ID	MINIMUM	MAXIMUM NONDETECTED	DETECTED	MAXIMUM	LOCATION OF MAXIMUM DETECTED	DETECTION	AVERAGE OF POSITIVE	MEDIAN OF POSITIVE DETECTIONS
DICHLORODIFLUOROMETHANE	20	22 U		ND		0/14		NA
CHLOROMETHANE	UJ	11	ND	ND			NA	NA
	10 U	U	ND			0/14	NA	
BROMOMETHANE	10	11 U		ND		0/14		NA
CHLOROETHANE	U	11	ND	ND			NA	NA
	10 U	U	ND			0/14	NA	
ACROLEIN	520	560 UJ		ND		0/14		NA
1,1-DICHLOROETHENE	U	6	ND	ND			NA	NA
	10 U	U	ND			0/14	NA	
CARBON DISULFIDE	5	6 U		ND		0/14		NA
METHYLENE CHLORIDE	UJ	6	ND	ND			NA	NA
	100 U	U	ND			0/14	NA	
1,2-DICHLOROETHENE (TOTAL)	5	6 U	J	2	6SS02	2/14		2.00
1,1-DICHLOROETHANE	U	6	ND	ND			NA	NA
	10 U	U	ND			0/14	NA	
2-BUTANONE	10	11 U		ND		0/14		NA
CHLOROFORM	U	6	ND	ND			NA	NA
	5 U	UJ	ND			0/14	NA	
CARBON TETRACHLORIDE	5	6 UJ		ND		0/14		NA
BENZENE	U	6	ND	ND			NA	NA
	5 U	UJ	ND			0/14	NA	
TRICHLOROETHENE	5	6 U		ND		0/14		NA
1,2-DICHLOROPROPANE	U	6	ND	ND			NA	NA
	5 U	UJ	ND			0/14	NA	
CIS-1,3-DICHLOROPROPENE	5	6 U		ND		0/14		NA
4-METHYL-2-PENTANONE	U	11	ND	ND			NA	NA
	5 U	U	ND			0/14	NA	
TRANS-1,3-DICHLOROPROPENE	5	6 U		ND		0/14		NA
1,1,2-TRICHLOROETHANE	U	6	ND	ND			NA	NA
	5 U	U	ND			0/14	NA	
2-HEXANONE	10	11 U		ND		0/14		NA
DIBROMOCHLOROMETHANE	U	6	ND	ND			NA	NA
	5 U	U	ND			0/14	NA	
ETHYLBENZENE	5	6 U		ND		0/14		NA
STYRENE	U	6	ND	ND			NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (cont) (ug/kg)								
BROMOFORM	5 U	6 UJ	ND	ND		0/14	NA	NA
1,1,2,2-TETRACHLOROETHANE	5 U	6 U	ND	ND		0/14	NA	NA
XYLENE (TOTAL)	5 U	6 U	8	8	ACBSB02-00	1/14	8.00	8.00
ACETONITRILE	100 U	110 U	ND	ND		0/14	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	53 U	54 U	ND	ND		0/3	NA	NA
3-CHLOROPROPENE	20 U	22 U	ND	ND		0/14	NA	NA
IODOMETHANE	10 U	11 U	ND	ND		0/14	NA	NA
METHACRYLONITRILE	20 U	22 U	ND	ND		0/14	NA	NA
ISOBUTYL ALCOHOL	2100 U	2100 U	ND	ND		0/3	NA	NA
METHYLMETHACRYLATE	20 U	22 U	ND	ND		0/14	NA	NA
DIBROMOMETHANE	10 U	11 U	ND	ND		0/14	NA	NA
1,2-DIBROMOETHANE	20 U	22 U	ND	ND		0/14	NA	NA
1,1,1,2-TETRACHLOROETHANE	10 U	11 U	ND	ND		0/14	NA	NA
1,2,3-TRICHLOROPROPANE	10 U	11 U	ND	ND		0/14	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	20 U	22 U	ND	ND		0/14	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	20 U	22 UJ	ND	ND		0/14	NA	NA
ETHYLMETHACRYLATE	20 U	22 U	ND	ND		0/14	NA	NA
PENTACHLOROETHANE	20 UJ	22 U	ND	ND		0/14	NA	NA
2-CHLORO-1,3-BUTADIENE	100 U	110 U	ND	ND		0/14	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
	340 U	U	ND			0/14	NA	
BIS(2-CHLOROETHYL)ETHER	340	1800 U		ND		0/14		NA
2-CHLOROPHENOL	U	1800	ND	ND			NA	NA
	340 U	U	ND			0/14	NA	
1,4-DICHLOROBENZENE	340	1800 U		ND		0/14		NA
1,2-DICHLOROBENZENE	U	1800	ND	ND			NA	NA
	340 U	U	ND			0/14	NA	
N-NITROSO-DI-N-PROPYLAMINE	340	1800 U		ND		0/14		NA
META & PARA-CRESOL	U	1800	ND	ND			NA	NA
	340 U	U	ND			0/14	NA	
NITROBENZENE	340	1800 U		ND		0/14		NA
ISOPHORONE	U	1800	ND	ND			NA	NA
	340 U	U	ND			0/14	NA	
2,4-DIMETHYLPHENOL	340	1800 U		ND		0/14		NA
BIS(2-CHLOROETHOXY)METHANE	U	1800	ND	ND			NA	NA
	340 U	U	ND			0/14	NA	
1,2,4-TRICHLOROBENZENE	340	1800 U		ND		0/14		NA
NAPHTHALENE	U	1800	210 J	J	6SB01-00		210.00	210.00
	680 U	U	ND			0/14	NA	
HEXACHLOROBUTADIENE	340	1800 U		ND		0/14		NA
4-CHLORO-3-METHYLPHENOL	U	3500	ND	ND			NA	NA
	340 U	U	78	78 J		1/14	78.00	
HEXACHLOROCYCLOPENTADIENE	340	1800 U		ND		0/14		NA
2,4,6-TRICHLOROPHENOL	U	1800	ND	ND			NA	NA
	1700 U	U	ND			0/14	NA	
2-CHLORONAPHTHALENE	340	1800 U		ND		0/14		NA
2-NITROANILINE	U	8800	ND	ND			NA	NA
	340 U	U	35	350		4/14	176.75	
2,6-DINITROTOLUENE	340	1800 U		ND		0/14		NA
3-NITROANILINE	U	8800	ND	ND			NA	NA
	340 U	U	ND			0/14	NA	
2,4-DINITROPHENOL	1700	8800 U		ND		0/14		NA
DIBENZOFURAN	U	1800	ND	ND			NA	NA
	1700 U	U	ND			0/14	NA	
2,4-DINITROTOLUENE	340	1800 U		ND		0/14		NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (cont) (ug/kg)								
FLUORENE	340 U	1800 U	ND	ND		0/14	NA	NA
DIMETHYLPHTHALATE	340 U	1800 U	ND	ND		0/14	NA	NA
DIETHYLPHTHALATE	340 U	1800 U	ND	ND		0/14	NA	NA
4-CHLOROPHENYL-PHENYLETHER	340 U	1800 U	ND	ND		0/7	0.00	0.00
4-NITROANILINE	1700 U	8800 U	ND	ND		0/14	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1700 U	8800 U	ND	ND		0/14	NA	NA
4-BROMOPHENYL-PHENYLETHER	340 U	1800 U	ND	ND		0/14	NA	NA
HEXACHLOROBENZENE	340 U	1800 U	ND	ND		0/14	NA	NA
PENTACHLOROPHENOL	1700 U	8800 U	ND	ND		0/14	NA	NA
PHENANTHRENE	340 U	1800 U	60 J	240 J	6SS02	7/14	141.57	130.00
ANTHRACENE	340 U	1800 U	61 J	370	6SS01	4/14	207.00	198.50
DI-N-BUTYLPHTHALATE	340 U	370 U	37 J	350 J	ACBSB02-00	4/14	125.50	57.50
FLUORANTHENE	340 U	1800 U	80 J	3200	6SS01	10/14	685.60	375.00
PYRENE	340 U	1800 U	42 J	4200	6SS01	10/14	834.00	355.00
BUTYLBENZYLPHTHALATE	340 U	1800 U	49 J	150 J	6SS01D	3/14	99.67	100.00
BENZO(A)ANTHRACENE	340 U	1800 U	38 J	2400	6SS01	9/14	528.00	150.00
3,3'-DICHLOROBENZIDINE	680 U	3500 U	ND	ND		0/14	NA	NA
CHRYSENE	340 U	1800 U	45 J	3300	6SS01	10/14	753.10	225.00
BIS(2-ETHYLHEXYL)PHTHALATE	340 U	1800 U	45 J	1000	6SB01-00	5/14	278.80	120.00
DI-N-OCTYL PHTHALATE	340 U	1800 U	ND	ND		0/14	NA	NA
BENZO(B)FLUORANTHENE	340 U	1800 U	56 J	4300	6SS01	8/14	1219.63	385.00
BENZO(K)FLUORANTHENE	340 U	1800 U	45 J	1300	6SS01	7/14	453.57	190.00
BENZO(A)PYRENE	340 U	1800 U	39 J	1800	6SS01	8/14	559.75	225.00
INDENO(1,2,3-CD)PYRENE	340 U	1800 U	43 J	790	6SS01	8/14	267.13	135.00
DIBENZO(A,H)ANTHRACENE	340 U	1800 U	50 J	180 J	6SS01	3/14	123.33	140.00
BENZO(G,H,I)PERYLENE	340 U	1800 U	46 J	630	6SS01	7/14	247.86	120.00
CARBAZOLE	340 U	1800 U	61 J	330 J	6SS01	4/14	168.75	142.00
N-NITROSODIPHENYLAMINE (1)	340 U	1800 U	ND	ND		0/14	NA	NA
BENZYL ALCOHOL	340 U	1800 U	ND	ND		0/14	NA	NA
BENZOIC ACID	1700 U	8800 U	410 J	410 J	6SS01	1/14	410.00	410.00
BENZIDINE	3400 UJ	18000 UJ	ND	ND		0/14	NA	NA
N-NITROSODIMETHYLAMINE	340 UJ	1800 UJ	ND	ND		0/14	NA	NA
PYRIDINE	680 UJ	3500 UJ	ND	ND		0/14	NA	NA
1,2-DIPHENYLHYDRAZINE	340 U	1800 U	ND	ND		0/14	NA	NA
ANILINE	1700 U	8800 U	ND	ND		0/14	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (cont) (ug/kg)								
1,4-DIOXANE	680 U	3500 U	ND	ND		0/14	NA	NA
2-PICOLINE	340 U	1800 U	ND	ND		0/14	NA	NA
N-NITROSOMETHYLETHYLAMINE	340 U	1800 U	ND	ND		0/14	NA	NA
METHYL METHANESULFONATE	340 U	1800 U	ND	ND		0/14	NA	NA
N-NITROSODIETHYLAMINE	340 U	1800 U	ND	ND		0/14	NA	NA
ETHYL METHANESULFONATE	340 U	1800 U	ND	ND		0/14	NA	NA
O-TOLUIDINE	340 U	1800 U	ND	ND		0/14	NA	NA
N-NITROSOPYRROLIDINE	1700 U	8800 U	ND	ND		0/14	NA	NA
ACETOPHENONE	340 U	1800 U	300 J	300 J	6SB01-00	1/14	300.00	300.00
N-NITROSOMORPHOLINE	680 U	3500 U	ND	ND		0/14	NA	NA
N-NITROSOPIPERIDINE	340 U	1800 U	ND	ND		0/14	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	1700 UJ	8800 UJ	ND	ND		0/14	NA	NA
2,6-DICHLOROPHENOL	340 UJ	1800 UJ	ND	ND		0/14	NA	NA
HEXACHLOROPROPENE	1700 UJ	8800 UJ	ND	ND		0/14	NA	NA
P-PHENYLENEDIAMINE	680 UJ	3500 UJ	ND	ND		0/14	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	340 U	1800 U	ND	ND		0/14	NA	NA
SAFROLE	340 U	1800 U	ND	ND		0/14	NA	NA
1,2,4,5-TETRACHLOROBENZENE	340 U	1800 U	ND	ND		0/3	NA	NA
ISOSAFROLE	340 U	1800 U	ND	ND		0/14	NA	NA
1,4-NAPHTHOQUINONE	1700 U	8800 UJ	ND	ND		0/14	NA	NA
1,3-DINITROBENZENE	680 U	3500 U	ND	ND		0/14	NA	NA
PENTACHLOROBENZENE	340 U	1800 U	ND	ND		0/14	NA	NA
1-NAPHTHYLAMINE	680 U	3500 U	ND	ND		0/14	NA	NA
2-NAPHTHYLAMINE	850 U	4400 U	ND	ND		0/14	NA	NA
2,3,4,6-TETRACHLOROPHENOL	340 U	1800 U	ND	ND		0/14	NA	NA
1,3,5-TRINITROBENZENE	3400 UJ	18000 UJ	ND	ND		0/14	NA	NA
DIALLATE	340 U	1800 U	ND	ND		0/14	NA	NA
PHENACETIN	340 U	1800 U	ND	ND		0/14	NA	NA
DIPHENYLAMINE	340 U	1800 U	ND	ND		0/14	NA	NA
5-NITRO-O-TOLUIDINE	680 U	3500 U	ND	ND		0/14	NA	NA
4-AMINOBIPHENYL	680 U	3500 U	ND	ND		0/14	NA	NA
PRONAMIDE	340 U	1800 U	ND	ND		0/14	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	680 U	3500 U	ND	ND		0/14	NA	NA
PENTACHLORONITROBENZENE	340 UJ	1800 UJ	ND	ND		0/8	NA	NA
4-NITROQUINOLINE-1-OXIDE	1700 UJ	1700 UJ	ND	ND		0/1	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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PESTICIDE/PCBS (ug/kg)								
METHAPYRILENE	850 UJ	4400 UJ	ND	ND		0/14	NA	NA
ARAMITE	680 U	3500 U	ND	ND		0/14	NA	NA
CHLOROBENZILATE	340 U	1800 U	ND	ND		0/14	NA	NA
P-DIMETHYLAMINOAZOBENZENE	680 U	3500 U	ND	ND		0/14	NA	NA
3,3'-DIMETHYLBENZIDINE	1700 U	8800 U	ND	ND		0/14	NA	NA
2-ACETYLAMINOFLUORENE	680 U	3500 U	ND	ND		0/14	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	680 U	3500 U	ND	ND		0/14	NA	NA
HEXACHLOROPHENE	3400 UJ	18000 UJ	ND	ND		0/8	NA	NA
3-METHYLCHOLANTHRENE	340 U	1800 U	ND	ND		0/14	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	340 UJ	1800 UJ	ND	ND		0/14	NA	NA
ALPHA-BHC	4 U	210 U	ND	ND		0/14	NA	NA
BETA-BHC	4 U	210 U	ND	ND		0/14	NA	NA
DELTA-BHC	4 U	210 U	ND	ND		0/14	NA	NA
GAMMA-BHC (LINDANE)	4 U	210 U	ND	ND		0/14	NA	NA
HEPTACHLOR	4 U	210 U	ND	ND		0/14	NA	NA
ALDRIN	4 U	210 U	ND	ND		0/14	NA	NA
HEPTACHLOR EPOXIDE	4 U	210 U	1.7 NJ	2.6	ACBSS01	2/13	2.15	2.15
ENDOSULFAN I	4 U	210 U	ND	ND		0/14	NA	NA
DIELDRIN	8.1 U	420 U	ND	ND		0/14	NA	NA
4,4'-DDE	8.1 U	82 U	11 J	22000	ACBSB01-00D	6/14	6847.83	30.50
ENDRIN	8.1 U	420 U	ND	ND		0/14	NA	NA
ENDOSULFAN II	8.1 U	420 U	ND	ND		0/14	NA	NA
4,4'-DDD	8.1 U	84 U	5.9 NJ	18000	ACBSB01-00D	4/14	8761.48	8520.00
ENDOSULFAN SULFATE	8.1 U	420 U	ND	ND		0/14	NA	NA
4,4'-DDT	8.1 U	84 U	13 J	14000	ACBSB01-00D	4/13	6258.00	5509.50
METHOXYCHLOR	40 U	2100 U	ND	ND		0/14	NA	NA
ENDRIN ALDEHYDE	8.1 UJ	420 U	ND	ND		0/14	NA	NA
ISODRIN	4 U	210 U	ND	ND		0/14	NA	NA
KEPONE	8.1 UJ	420 UJ	ND	ND		0/12	NA	NA
ALPHA-CHLORDANE	40 U	2100 U	ND	ND		0/14	NA	NA
GAMMA-CHLORDANE	40 U	2100 U	ND	ND		0/14	NA	NA
TOXAPHENE	81 U	4200 U	ND	ND		0/14	NA	NA
AROCLOR-1016	40 U	2100 U	ND	ND		0/14	NA	NA
AROCLOR-1221	40 U	2100 U	ND	ND		0/14	NA	NA
AROCLOR-1232	40 U	2100 U	ND	ND		0/14	NA	NA

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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PESTICIDE/PCBS cont.(ug/kg)								
AROCLOR-1242	40 U	2100 U	ND	ND		0/14	NA	NA
AROCLOR-1248	40 U	2100 U	ND	ND		0/14	NA	NA
AROCLOR-1254	81 U	4200 U	ND	ND		0/14	NA	NA
AROCLOR-1260	81 U	4200 U	ND	ND		0/14	NA	NA
DIOXINS (ug/kg)								
2378-TCDD	0.04 U	0.14 U	ND	ND		0/14	NA	NA
TOTAL TCDD	0.05 U	0.14 U	ND	ND		0/14	NA	NA
TOTAL PECDD	0.07 U	0.24 U	ND	ND		0/14	NA	NA
TOTAL HXCDD	0.07 U	0.43 U	0.25 J	0.76 J	6SS01	3/14	0.58	0.74
TOTAL TCDF	0.04 U	0.13 U	ND	ND		0/14	NA	NA
TOTAL PECDF	0.009 U	0.27 U	ND	ND		0/14	NA	NA
TOTAL HXCDF	0.07 U	0.33 U	0.17 J	0.26 J	6SB01-00	3/14	0.22	0.23
ORTHO PESTICIDES (ug/kg)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	67 U	710 U	ND	ND		0/14	NA	NA
PHORATE	67 U	710 U	ND	ND		0/14	NA	NA
THIONAZIN	67 U	710 U	ND	ND		0/14	NA	NA
DISULFOTON	67 U	710 U	ND	ND		0/14	NA	NA
SULFOTEP	67 U	710 U	ND	ND		0/14	NA	NA
DIMETHOATE	67 U	710 U	ND	ND		0/14	NA	NA
METHYL PARATHION	67 U	710 U	ND	ND		0/14	NA	NA
PARATHION	67 U	710 U	ND	ND		0/14	NA	NA
FAMPHUR	67 U	710 U	ND	ND		0/14	NA	NA
HERBICIDES (ug/kg)								
2,4-D	340 U	370 U	ND	ND		0/14	NA	NA
2,4,5-TP (SILVEX)	34 U	37 U	ND	ND		0/14	NA	NA
2,4,5-T	34 U	37 U	ND	ND		0/14	NA	NA

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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBSB01-00	ACBSB01-00D	ACBSB02-00	ACBSS01	ACBSS02-00	ACBMW01-00
SAMPLE DATE	03/26/96	03/26/96	03/26/96	03/19/96	03/19/96	03/19/96
TPH						
GASOLINE (ug/kg)	32 U	32 U	36	34 U	31 U	32 U
DIESEL FUEL (mg/kg)	4.3 U	4.4 U	44 U	4.6 U	4.3 U	4.4 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACBMW02-00	ACBMW03-00	6SB01-00	6SB02-00	6SB03-00	6SS01
SAMPLE DATE	03/19/96	03/19/96	3/19/96	3/19/96	3/19/96	3/19/96
TPH						
GASOLINE (ug/kg)	31 U	31 U	NA	NA	NA	NA
DIESEL FUEL (mg/kg)	43 U	4.3 U	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
YTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC B SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6SS01D	6SS02
SAMPLE DATE	3/19/96	3/19/96
TPH		
GASOLINE (ug/kg)	NA	NA
DIESEL FUEL (mg/kg)	NA	NA

FREQUENCY OF DETECTION SUMMARY
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SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
TPH								
GASOLINE (ug/kg)	31 U	34 U	36	36	ACBSB02-00	1/8	36.00	36.00
DIESEL FUEL (mg/kg)	4.3 U	44 U	ND	ND		0/8	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC ANALYTES IN AOC B SURFACE WATER
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
TOTAL METALS		
ANTIMONY, TOTAL	19.8	U
ARSENIC, TOTAL	5	
BARIUM, TOTAL	116	
BERYLLIUM, TOTAL	0.8	U
CADMIUM, TOTAL	3.6	
CHROMIUM, TOTAL	6.7	
COBALT, TOTAL	3	U
COPPER, TOTAL	1170	
LEAD, TOTAL	735	
MERCURY, TOTAL	22	
NICKEL, TOTAL	11.3	U
SELENIUM, TOTAL	1.8	U
SILVER, TOTAL	3.1	U
THALLIUM, TOTAL	1.7	U
TIN, TOTAL	10.6	U
VANADIUM, TOTAL	7.1	
ZINC, TOTAL	572	
CYANIDE, TOTAL	66.6	J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
SAMPLE DATE	3/21/96	
VOLATILES (ug/L)		
DICHLORODIFLUOROMETHANE	20	U
CHLOROMETHANE	10	UJ
VINYL CHLORIDE	10	U
BROMOMETHANE	10	U
CHLOROETHANE	10	U
TRICHLOROFLUOROMETHANE	10	U
ACROLEIN	500	U
1,1-DICHLOROETHENE	5	U
ACETONE	10	U
CARBON DISULFIDE	5	UJ
METHYLENE CHLORIDE	5	U
ACRYLONITRILE	100	UJ
1,2-DICHLOROETHENE (TOTAL)	5	U
1,1-DICHLOROETHANE	5	U
VINYL ACETATE	10	U
2-BUTANONE	10	U
CHLOROFORM	5	U
1,1,1-TRICHLOROETHANE	5	U
CARBON TETRACHLORIDE	5	U
BENZENE	5	U
1,2-DICHLOROETHANE	5	U
TRICHLOROETHENE	5	U
1,2-DICHLOROPROPANE	5	U
BROMODICHLOROMETHANE	5	U
CIS-1,3-DICHLOROPROPENE	5	U
4-METHYL-2-PENTANONE	10	U
TOLUENE	5	U
TRANS-1,3-DICHLOROPROPENE	5	U
1,1,2-TRICHLOROETHANE	5	U
TETRACHLOROETHENE	5	U
2-HEXANONE	10	U
DIBROMOCHLOROMETHANE	5	U
CHLOROBENZENE	5	U
ETHYLBENZENE	5	U
STYRENE	5	U

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
SAMPLE DATE	3/21/96	
VOLATILES cont.(ug/L)		
BROMOFORM	5	U
1,1,2,2-TETRACHLOROETHANE	5	U
XYLENE (TOTAL)	5	U
ACETONITRILE	100	U
PROPIONITRILE (ETHYL CYANIDE)	50	R
3-CHLOROPROPENE	20	U
IODOMETHANE	10	U
METHACRYLONITRILE	20	UJ
ISOBUTYL ALCOHOL	2000	R
METHYLMETHACRYLATE	20	UJ
DIBROMOMETHANE	10	U
1,2-DIBROMOETHANE	20	U
1,1,1,2-TETRACHLOROETHANE	10	U
1,2,3-TRICHLOROPROPANE	10	U
TRANS-1,4-DICHLORO-2-BUTENE	20	U
1,2-DIBROMO-3-CHLOROPROPANE	20	U
ETHYLMETHACRYLATE	20	U
PENTACHLOROETHANE	20	U
2-CHLORO-1,3-BUTADIENE	100	U

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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
SAMPLE DATE	3/21/96	
SEMIVOLATILES (ug/L)		
PHENOL	1	J
BIS(2-CHLOROETHYL)ETHER	10	U
2-CHLOROPHENOL	10	U
1,3-DICHLOROBENZENE	10	U
1,4-DICHLOROBENZENE	10	U
1,2-DICHLOROBENZENE	10	U
O-CRESOL	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U
META & PARA-CRESOL	10	U
HEXACHLOROETHANE	10	U
NITROBENZENE	10	U
ISOPHORONE	10	U
2-NITROPHENOL	10	U
2,4-DIMETHYLPHENOL	10	U
BIS(2-CHLOROETHOXY)METHANE	10	U
2,4-DICHLOROPHENOL	10	U
1,2,4-TRICHLOROBENZENE	10	U
NAPHTHALENE	10	U
4-CHLOROANILINE	21	U
HEXACHLOROBUTADIENE	10	U
4-CHLORO-3-METHYLPHENOL	21	U
2-METHYLNAPHTHALENE	10	U
HEXACHLOROCYCLOPENTADIENE	10	U
2,4,6-TRICHLOROPHENOL	10	U
2,4,5-TRICHLOROPHENOL	52	U
2-CHLORONAPHTHALENE	10	U
2-NITROANILINE	52	U
ACENAPHTHYLENE	10	U
2,6-DINITROTOLUENE	10	U
3-NITROANILINE	52	U
ACENAPHTHENE	10	U
2,4-DINITROPHENOL	52	U
DIBENZOFURAN	10	U
4-NITROPHENOL	52	U
2,4-DINITROTOLUENE	10	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
SAMPLE DATE	3/21/96	
SEMIVOLATILES cont. (ug/L)		
FLUORENE	10	U
DIMETHYLPHTHALATE	10	U
DIETHYLPHTHALATE	10	U
4-CHLOROPHENYL-PHENYLETHER	10	U
4-NITROANILINE	52	U
4,6-DINITRO-2-METHYLPHENOL	52	U
4-BROMOPHENYL-PHENYLETHER	10	U
HEXACHLOROBENZENE	10	U
PENTACHLOROPHENOL	52	U
PHENANTHRENE	10	U
ANTHRACENE	10	U
DI-N-BUTYLPHTHALATE	10	U
FLUORANTHENE	1	J
PYRENE	1	J
BUTYLBENZYLPHTHALATE	10	U
BENZO(A)ANTHRACENE	10	U
3,3'-DICHLOROBENZIDINE	21	U
CHRYSENE	1	J
BIS(2-ETHYLHEXYL)PHTHALATE	14	U
DI-N-OCTYL PHTHALATE	10	U
BENZO(B)FLUORANTHENE	1	J
BENZO(K)FLUORANTHENE	10	U
BENZO(A)PYRENE	10	U
INDENO(1,2,3-CD)PYRENE	10	U
DIBENZO(A,H)ANTHRACENE	10	U
BENZO(G,H,I)PERYLENE	10	U
CARBAZOLE	10	U
N-NITROSODIPHENYLAMINE (1)	10	U
BENZYL ALCOHOL	10	U
BENZOIC ACID	4	J
BENZIDINE	100	UJ
N-NITROSODIMETHYLAMINE	10	UJ
PYRIDINE	21	U
1,2-DIPHENYLHYDRAZINE	10	U
ANILINE	52	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
SAMPLE DATE	3/21/96	
SEMIVOLATILES cont. (ug/L)		
1,4-DIOXANE	21	R
2-PICOLINE	10	UJ
N-NITROSOMETHYLETHYLAMINE	10	U
METHYL METHANESULFONATE	10	UJ
N-NITROSODIETHYLAMINE	10	U
ETHYL METHANESULFONATE	10	U
O-TOLUIDINE	10	R
N-NITROSOPYRROLIDINE	52	UJ
ACETOPHENONE	2	J
N-NITROSOMORPHOLINE	21	UJ
N-NITROSOPIPERIDINE	10	U
A,A-DIMETHYLPHENETHYLAMINE	52	U
2,6-DICHLOROPHENOL	10	U
HEXACHLOROPROPENE	52	U
P-PHENYLENEDIAMINE	21	UJ
N-NITROSO-DI-N-BUTYLAMINE	10	U
SAFROLE	10	U
1,2,4,5-TETRACHLOROBENZENE	10	U
ISOSAFROLE	10	U
1,4-NAPHTHOQUINONE	52	UJ
1,3-DINITROBENZENE	21	U
PENTACHLOROBENZENE	10	U
1-NAPHTHYLAMINE	21	U
2-NAPHTHYLAMINE	26	U
2,3,4,6-TETRACHLOROPHENOL	10	UJ
1,3,5-TRINITROBENZENE	100	UJ
DIALLATE	10	U
PHENACETIN	10	UJ
DIPHENYLAMINE	10	U
5-NITRO-O-TOLUIDINE	21	U
4-AMINOBIPHENYL	21	U
PRONAMIDE	10	U
2-SEC-BUTYL-4,6-DINITROPHENOL	21	UJ
PENTACHLORONITROBENZENE	10	U
4-NITROQUINOLINE-1-OXIDE	52	R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
SAMPLE DATE	3/21/96	
SEMIVOLATILES cont. (ug/L)		
METHAPYRILENE	26	U
ARAMITE	21	UJ
CHLOROBENZILATE	10	UJ
P-DIMETHYLAMINOAZOBENZENE	21	U
3,3'-DIMETHYLBENZIDINE	52	UJ
2-ACETYLAMINOFLUORENE	21	UJ
7,12-DIMETHYLBENZ(A)ANTHRACENE	21	U
HEXACHLOROPHENE	100	R
3-METHYLCHOLANTHRENE	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U
PESTICIDE/PCBS (ug/L)		
ALPHA-BHC	0.05	U
BETA-BHC	0.05	U
DELTA-BHC	0.05	U
GAMMA-BHC (LINDANE)	0.05	U
HEPTACHLOR	0.05	U
ALDRIN	0.05	U
HEPTACHLOR EPOXIDE	0.05	U
ENDOSULFAN I	0.05	U
DIELDRIN	0.1	U
4,4'-DDE	0.52	
ENDRIN	0.1	U
ENDOSULFAN II	0.1	U
4,4'-DDD	1.5	R
ENDOSULFAN SULFATE	0.1	U
4,4'-DDT	0.1	U
METHOXYCHLOR	0.5	U
ENDRIN ALDEHYDE	0.1	U
ISODRIN	0.05	U
KEPONE	0.1	UJ
ALPHA-CHLORDANE	0.5	U
GAMMA-CHLORDANE	0.5	U
TOXAPHENE	1	U
AROCLOR-1016	0.5	U
AROCLOR-1221	0.5	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC ANALYTES IN AOC B SUBSURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	6-SW01	
SAMPLE DATE	3/21/96	
PESTICIDE/PCBS cont. (ug/L)		
AROCLOR-1232	0.5	U
AROCLOR-1242	0.5	U
AROCLOR-1248	0.5	U
AROCLOR-1254	1	U
AROCLOR-1260	1	U
HERBICIDES (ug/L)		
2,4-D	1.1	UJ
2,4,5-TP (SILVEX)	0.11	UJ
2,4,5-T	0.11	UJ
DIOXIN (ug/L)		
2378-TCDD	0.00048	U
TOTAL TCDD	0.00048	U
TOTAL PECDD	0.00084	U
TOTAL HXCDD	0.0012	U
TOTAL TCDF	0.00058	U
TOTAL PECDF	0.00037	U
TOTAL HXCDF	0.001	J
ORTHO PEST (ug/L)		
O,O,O-TRIETHYL PHOSPHOROTHIOA	2	U
PHORATE	2	U
THIONAZIN	2	U
DISULFOTON	2	U
SULFOTEP	2	U
DIMETHOATE	2	U
METHYL PARATHION	2	U
PARATHION	2	U
FAMPHUR	2	U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03
SAMPLE DATE	10/25/95	10/25/95	10/25/95
WET CHEMISTRY (mg/kg)			
Cyanide, Total	0.57 U	0.71 U	0.97
Sulfide	29.6 U	34.4 U	32.9 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.57 U	0.71 U	0.97	0.97	ACSS03	1/3	0.97	0.97
Sulfide	29.6 U	34.4 U	ND	ND		0/3	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS5D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
METALS (mg/kg)						
Silver, Total	0.2 U	0.35 U	0.37 U	0.77 U	0.73 U	0.83 U
Arsenic, Total	0.77	1.4	19.2	1.1 J	3.2 J	4 J
Barium, Total	53.6	65.7	108	78.2	55.5	63.4
Beryllium, Total	0.19	0.27	0.14	NA	NA	NA
Cadmium, Total	0.61 J	0.49 J	5.5	0.59 UJ	1.8 J	1.5 J
Cobalt, Total	13.4	9.8	21.6	NA	NA	NA
Chromium, Total	15.6 J	10.8 J	131 J	22.9 J	23.1 J	26.4 J
Copper, Total	117	173	249	NA	NA	NA
Mercury, Total	0.06 U	0.05 U	0.33	0.09 R	0.08 R	0.09 R
Nickel, Total	9.5	8.3	28.3	NA	NA	NA
Lead, Total	10.8 J	12.2 J	718	195	581	456
Antimony, Total	1.7 UJ	2.8 UJ	15.7 J	NA	NA	NA
Selenium, Total	1.2 U	1.3 U	1.5 U	0.23 UJ	0.21 UJ	0.24 UJ
Tin, Total	1.3 UJ	2.2 UJ	6 J	NA	NA	NA
Thallium, Total	0.13 UJ	0.14 UJ	0.16 UJ	NA	NA	NA
Vanadium, Total	103 J	86.7 J	59.8 J	NA	NA	NA
Zinc, Total	90 J	86.9 J	1830 J	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95
METALS (mg/kg)						
Silver, Total	0.51 U	0.58 U	0.53 U	0.59 U	0.57 U	0.49 U
Arsenic, Total	1.3 J	1.2 J	1.5 J	1.3 J	1.8 J	3.4 J
Barium, Total	16.4	14.4	25.2	81	66.5	40.2
Beryllium, Total	NA	NA	NA	NA	NA	NA
Cadmium, Total	0.4 UJ	0.45 UJ	0.41 UJ	0.45 UJ	0.44 UJ	0.38 UJ
Cobalt, Total	NA	NA	NA	NA	NA	NA
Chromium, Total	13.7 J	16.6 J	14.6 J	16.6 J	7.1 J	11 J
Copper, Total	NA	NA	NA	NA	NA	NA
Mercury, Total	0.06 R	0.07 R	0.06 U	0.07 R	0.06 R	0.06 R
Nickel, Total	NA	NA	NA	NA	NA	NA
Lead, Total	4.9 J	75.8	2.3 J	116	6 J	15.1
Antimony, Total	NA	NA	NA	NA	NA	NA
Selenium, Total	0.19 J	0.3 J	0.16 UJ	0.17 UJ	0.17 UJ	0.14 UJ
Tin, Total	NA	NA	NA	NA	NA	NA
Thallium, Total	NA	NA	NA	NA	NA	NA
Vanadium, Total	NA	NA	NA	NA	NA	NA
Zinc, Total	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS12	
SAMPLE DATE	10/26/95	
METALS (mg/kg)		
Silver, Total	0.53	U
Arsenic, Total	0.67	J
Barium, Total	75.4	
Beryllium, Total	NA	
Cadmium, Total	0.41	UJ
Cobalt, Total	NA	
Chromium, Total	26.3	
Copper, Total	NA	
Mercury, Total	0.06	R
Nickel, Total	NA	
Lead, Total	12.1	J
Antimony, Total	NA	
Selenium, Total	0.16	UJ
Tin, Total	NA	
Thallium, Total	NA	
Vanadium, Total	NA	
Zinc, Total	NA	

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
METALS (mg/kg)								
Silver, Total	0.2 U	0.83 U	ND	ND		0/13	NA	NA
Arsenic, Total	NA	NA	0.67 J	19.2	ACSS03	13/13	3.14	1.40
Barium, Total	NA	NA	14.4	108	ACSS03	13/13	57.19	63.40
Beryllium, Total	NA	NA	0.14	0.27	ACSS02	3/3	0.20	0.19
Cadmium, Total	0.38 UJ	0.59 UJ	0.49 J	5.5	ACSS03	5/13	1.98	1.50
Cobalt, Total	NA	NA	9.8	21.6	ACSS03	3/3	14.93	13.40
Chromium, Total	NA	NA	7.1 J	131 J	ACSS03	13/13	25.82	16.60
Copper, Total	NA	NA	117	249	ACSS03	3/3	179.67	173.00
Mercury, Total	0.05 U	0.06 U	0.33	0.33	ACSS03	1/4	0.33	0.33
Nickel, Total	NA	NA	8.3	28.3	ACSS03	3/3	15.37	9.50
Lead, Total	NA	NA	2.3 J	718	ACSS03	13/13	169.63	15.10
Antimony, Total	1.7 UJ	2.8 UJ	15.7 J	15.7 J	ACSS03	1/3	15.70	15.70
Selenium, Total	0.14 UJ	1.5 U	0.19 J	0.3 J	ACSS07	2/13	0.25	0.25
Tin, Total	1.3 UJ	2.2 UJ	6 J	6 J	ACSS03	1/3	6.00	6.00
Thallium, Total	0.13 UJ	0.16 UJ	ND	ND		0/3	NA	NA
Vanadium, Total	NA	NA	59.8 J	103 J	ACSS01	3/3	83.17	86.70
Zinc, Total	NA	NA	86.9 J	1830 J	ACSS03	3/3	668.97	90.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES (ug/kg)						
CHLOROMETHANE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
BROMOMETHANE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
VINYL CHLORIDE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
CHLOROETHANE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
METHYLENE CHLORIDE	6 U	7 U	7 U	28	17 U	48 J
ACETONE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
CARBON DISULFIDE	6 U	7 U	7 U	9 U	8 UJ	10 UJ
1,1-DICHLOROETHENE	6 U	7 U	7 U	9 U	8 UJ	10 UJ
1,1-DICHLOROETHANE	6 U	7 U	7 U	9 U	8 UJ	10 UJ
1,2-DICHLOROETHENE (TOTAL)	6 U	7 U	7 U	9 U	8 UJ	10 UJ
CHLOROFORM	6 U	7 U	7 U	9 U	8 UJ	10 UJ
1,2-DICHLOROETHANE	6 U	7 U	7 U	9 U	8 UJ	10 UJ
2-BUTANONE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
1,1,1-TRICHLOROETHANE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
CARBON TETRACHLORIDE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
VINYL ACETATE	12 U	15 U	13 UJ	18 U	16 UJ	19 UJ
BROMODICHLOROMETHANE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
1,2-DICHLOROPROPANE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
CIS-1,3-DICHLOROPROPENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
TRICHLOROETHENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
DIBROMOCHLOROMETHANE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
1,1,2-TRICHLOROETHANE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
BENZENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
TRANS-1,3-DICHLOROPROPENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
BROMOFORM	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
4-METHYL-2-PENTANONE	12 U	15 U	13 UJ	18 U	16 UJ	19 UJ
2-HEXANONE	12 U	15 U	13 UJ	18 U	16 UJ	19 UJ
TETRACHLOROETHENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
1,1,2,2-TETRACHLOROETHANE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
TOLUENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
CHLOROBENZENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
ETHYLBENZENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
STYRENE	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
XYLENE (TOTAL)	6 U	7 U	7 UJ	9 U	8 UJ	10 UJ
ACROLEIN	620 U	740 U	660 U	18 U	16 UJ	19 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
VOLATILES cont. (ug/kg)						
ACRYLONITRILE	120 U	150 U	130 U	18 U	16 UJ	19 UJ
TRICHLOROFLUOROMETHANE	12 U	15 U	13 U	4 J	8 UJ	10 UJ
DICHLORODIFLUOROMETHANE	25 U	30 U	27 U	18 U	16 UJ	19 UJ
ACETONITRILE	120 U	150 U	130 U	36 U	32 UJ	38 UJ
IODOMETHANE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
PROPIONITRILE (ETHYL CYANIDE)	62 R	74 R	66 U	90 U	80 UJ	95 UJ
3-CHLOROPROPENE	25 U	30 U	27 U	36 U	32 UJ	38 UJ
METHACRYLONITRILE	25 U	30 U	27 U	36 U	32 UJ	38 UJ
DIBROMOMETHANE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
ISOBUTYL ALCOHOL	2500 R	3000 R	2700 R	180 U	160 UJ	190 UJ
1,2-DIBROMOETHANE	25 U	30 U	27 U	36 U	32 UJ	38 UJ
1,1,1,2-TETRACHLOROETHANE	12 U	15 U	13 U	18 U	16 UJ	19 UJ
1,2,3-TRICHLOROPROPANE	12 U	15 U	13 UJ	18 U	16 UJ	19 UJ
TRANS-1,4-DICHLORO-2-BUTENE	25 U	30 U	27 U	180 U	160 UJ	190 UJ
1,2-DIBROMO-3-CHLOROPROPANE	25 U	30 U	27 U	36 U	32 UJ	38 UJ
2-CHLORO-1,3-BUTADIENE	120 U	150 U	130 U	180 U	160 UJ	190 UJ
METHYLMETHACRYLATE	25 U	30 U	27 U	NA	NA	NA
ETHYLMETHACRYLATE	25 U	30 U	27 U	NA	NA	NA
PENTACHLOROETHANE	25 U	30 U	27 U	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES (ug/kg)						
PHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
BIS(2-CHLOROETHYL)ETHER	400 U	5000 U	440 U	580 U	2800 U	3100 U
2-CHLOROPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
1,3-DICHLOROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
1,4-DICHLOROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
BENZYL ALCOHOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
1,2-DICHLOROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
O-CRESOL	400 U	5000 U	440 U	NA	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	400 U	5000 U	440 U	NA	NA	NA
META & PARA-CRESOL	400 U	5000 U	440 U	NA	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
HEXACHLOROETHANE	400 U	5000 U	440 U	580 U	2800 U	3100 U
NITROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
ISOPHORONE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2-NITROPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
2,4-DIMETHYLPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
BENZOIC ACID	2000 U	25000 U	710 J	2900 U	140000 U	15000 U
BIS(2-CHLOROETHOXY)METHANE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2,4-DICHLOROPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
1,2,4-TRICHLOROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
NAPHTHALENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
4-CHLOROANILINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
HEXACHLOROBUTADIENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
4-CHLORO-3-METHYLPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
2-METHYLNAPHTHALENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
HEXACHLOROCYCLOPENTADIENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2,4,6-TRICHLOROPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
2,4,5-TRICHLOROPHENOL	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
2-CHLORONAPHTHALENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2-NITROANILINE	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
DIMETHYLPHTHALATE	400 U	5000 U	440 U	580 U	2800 U	3100 U
ACENAPHTHYLENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2,6-DINITROTOLUENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
3-NITROANILINE	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
ACENAPHTHENE	400 U	5000 U	440 U	580 U	2800 U	3100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
2,4-DINITROPHENOL	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
4-NITROPHENOL	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
DIBENZOFURAN	400 U	5000 U	440 U	580 U	2800 U	3100 U
2,4-DINITROTOLUENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
DIETHYLPHTHALATE	400 U	5000 U	440 U	580 U	2800 U	3100 U
4-CHLOROPHENYL-PHENYLETHER	400 U	5000 U	440 U	580 U	2800 U	3100 U
FLUORENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
4-NITROANILINE	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
4,6-DINITRO-2-METHYLPHENOL	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
N-NITROSODIPHENYLAMINE (1)	400 U	5000 U	440 U	580 U	2800 U	3100 U
4-BROMOPHENYL-PHENYLETHER	400 U	5000 U	440 U	580 U	2800 U	3100 U
HEXACHLOROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
PENTACHLOROPHENOL	2000 U	25000 U	2200 U	2900 U	14000 U	15000 U
PHENANTHRENE	400 U	5000 U	440 U	63 J	2800 U	3100 U
ANTHRACENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
DI-N-BUTYLPHTHALATE	400 U	5000 U	4800	580 U	2800 U	3100 U
FLUORANTHENE	400 U	5000 U	210 J	150 J	2800 U	410 J
PYRENE	400 U	5000 U	210 J	120 J	2800 U	3100 U
BUTYLBENZYLPHTHALATE	400 U	5000 U	1100	580 U	2800 U	3100 U
3,3'-DICHLOROBENZIDINE	810 U	9900 U	880 U	1200 U	5600 U	6200 U
BENZO(A)ANTHRACENE	400 U	5000 U	77 J	54 J	2800 U	3100 U
CHRYSENE	400 U	5000 U	160 J	97 J	2800 U	3100 U
BIS(2-ETHYLHEXYL)PHTHALATE	400 U	5000 U	19000	580 U	2800 U	3100 U
DI-N-OCTYL PHTHALATE	400 U	5000 U	170 J	580 U	2800 U	3100 U
BENZO(B)FLUORANTHENE	400 U	5000 U	480	100 J	2800 U	3100 U
BENZO(K)FLUORANTHENE	400 U	5000 U	440 U	93 J	2800 U	3100 U
BENZO(A)PYRENE	400 U	5000 U	120 J	76 J	2800 U	3100 U
INDENO(1,2,3-CD)PYRENE	400 U	5000 U	74 J	48 J	2800 U	3100 U
DIBENZO(A,H)ANTHRACENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
BENZO(G,H,I)PERYLENE	400 U	5000 U	440 U	63 J	2800 U	420 J
1,4-DIOXANE	1600 U	20000 U	1800 U	580 U	2800 U	3100 U
PYRIDINE	810 U	9900 U	880 U	580 U	2800 U	3100 U
N-NITROSODIMETHYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2-PICOLINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
N-NITROSOMETHYLETHYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
METHYL METHANESULFONATE	400 U	5000 U	440 U	580 U	2800 U	3100 U
N-NITROSODIETHYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
ETHYL METHANESULFONATE	400 U	5000 U	440 U	580 U	2800 U	3100 U
ANILINE	2000 U	25000 U	2200 U	580 U	2800 U	3100 U
N-NITROSOPYRROLIDINE	2000 U	25000 U	2200 U	580 U	2800 U	3100 U
ACETOPHENONE	400 U	5000 U	440 U	580 U	2800 U	3100 U
N-NITROSOMORPHOLINE	810 U	9900 U	880 U	580 U	2800 U	3100 U
O-TOLUIDINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
N-NITROSOPIPERIDINE	400 U	5000 U	440 U	2900 U	14000 U	15000 U
A,A-DIMETHYLPHENETHYLAMINE	2000 U	25000 U	2200 U	580 U	2800 U	3100 U
2,6-DICHLOROPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
HEXACHLOROPROPENE	810 U	9900 U	880 U	580 U	2800 U	3100 U
P-PHENYLENEDIAMINE	810 U	9900 U	880 U	580 U	2800 U	3100 U
N-NITROSO-DI-N-BUTYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
SAFROLE	400 U	5000 U	440 U	580 U	2800 U	3100 U
1,2,4,5-TETRACHLOROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
ISOSAFROLE	400 U	5000 U	440 U	580 U	2800 U	3100 U
1,4-NAPHTHOQUINONE	2000 U	25000 U	2200 U	580 U	2800 U	3100 U
1,3-DINITROBENZENE	810 U	9900 U	880 U	580 U	2800 U	3100 U
PENTACHLOROBENZENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
1-NAPHTHYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2-NAPHTHYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2,3,4,6-TETRACHLOROPHENOL	400 U	5000 U	440 U	580 U	2800 U	3100 U
1,3,5-TRINITROBENZENE	4000 U	50000 U	4400 U	580 U	2800 U	3100 U
DIALLATE	400 U	5000 U	440 U	580 U	2800 U	3100 U
PHENACETIN	400 U	5000 U	440 U	580 U	2800 U	3100 U
DIPHENYLAMINE	400 U	5000 U	440 U	580 U	2800 U	3100 U
5-NITRO-O-TOLUIDINE	810 U	9900 U	880 U	580 U	2800 U	3100 U
4-AMINOBIPHENYL	400 U	5000 U	440 U	580 U	2800 U	3100 U
PRONAMIDE	400 U	5000 U	440 U	580 U	2800 U	3100 U
2-SEC-BUTYL-4,6-DINITROPHENOL	810 U	9900 U	880 U	2900 U	14000 U	15000 U
PENTACHLORONITROBENZENE	400 U	5000 U	440 U	2900 R	14000 U	15000 R
4-NITROQUINOLINE-1-OXIDE	2000 R	25000 U	2200 R	1200 U	5600 U	6200 U
METHAPYRILENE	1000 U	12000 U	1100 U	580 U	2800 U	3100 U
ARAMITE	810 U	9900 U	880 U	1200 U	5600 U	6200 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
SEMIVOLATILES cont. (ug/kg)						
CHLOROBENZILATE	400 U	5000 U	440 U	580 U	2800 U	3100 U
P-DIMETHYLAMINOAZOBENZENE	810 U	9900 U	880 U	580 U	2800 U	3100 U
3,3'-DIMETHYLBENZIDINE	810 R	9900 R	880 R	580 U	28000 U	3100 U
2-ACETYLAMINOFLUORENE	810 U	9900 U	880 U	580 U	2800 U	3100 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	810 U	9900 U	880 U	580 U	2800 U	3100 U
HEXACHLOROPHENE	4000 U	50000 U	4400 U	5200 U	25000 R	28000 U
3-METHYLCHOLANTHRENE	400 U	5000 U	440 U	580 U	2800 U	3100 U
CARBAZOLE	400 U	5000 U	440 U	NA	NA	NA
PENTACHLOROETHANE	NA	NA	NA	580 U	2800 U	3100 U
2-METHYLPHENOL	NA	NA	NA	580 U	2800 U	3100 U
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	NA	580 U	2800 U	3100 U
3- AND/OR 4-METHYLPHENOL	NA	NA	NA	580 U	2800 U	3100 U
METHYL METHACRYLATE	NA	NA	NA	580 U	2800 U	3100 U
ETHYL METHACRYLATE	NA	NA	NA	580 U	2800 U	3100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	25 U	2900 U	510 U	NA	NA	NA
BETA-BHC	25 U	2900 U	510 U	NA	NA	NA
DELTA-BHC	25 U	2900 U	510 U	NA	NA	NA
GAMMA-BHC (LINDANE)	25 U	2900 U	510 U	NA	NA	NA
HEPTACHLOR	25 U	2900 U	510 U	NA	NA	NA
ALDRIN	25 U	2900 U	510 U	NA	NA	NA
HEPTACHLOR EPOXIDE	25 U	2900 U	510 U	NA	NA	NA
ENDOSULFAN I	25 U	2900 U	510 U	NA	NA	NA
DIELDRIN	49 U	5900 U	1000 U	NA	NA	NA
4,4'-DDE	49 U	5900 U	2700	NA	NA	NA
ENDRIN	49 U	5900 U	1000 U	NA	NA	NA
ENDOSULFAN II	49 U	5900 U	1000 U	NA	NA	NA
4,4'-DDD	49 U	5900 U	240	NA	NA	NA
ENDOSULFAN SULFATE	49 U	5900 U	1000 U	NA	NA	NA
4,4'-DDT	49 U	5900 U	5400	NA	NA	NA
METHOXYCHLOR	250 U	29000 U	5100 U	NA	NA	NA
ENDRIN ALDEHYDE	49 U	5900 U	1000 UJ	NA	NA	NA
ISODRIN	25 U	2900 U	510 U	NA	NA	NA
KEPONE	49 UJ	5900 UJ	2500	NA	NA	NA
ALPHA-CHLORDANE	250 U	29000 U	840 J	NA	NA	NA
GAMMA-CHLORDANE	250 U	29000 U	760 J	NA	NA	NA
TOXAPHENE	490 U	59000 U	10000 U	NA	NA	NA
AROCLOR-1016	250 U	29000 U	5100 U	NA	NA	NA
AROCLOR-1221	250 U	29000 U	5100 U	NA	NA	NA
AROCLOR-1232	250 U	29000 U	5100 U	NA	NA	NA
AROCLOR-1242	250 U	29000 U	5100 U	NA	NA	NA
AROCLOR-1248	250 U	29000 U	5100 U	NA	NA	NA
AROCLOR-1254	490 U	59000 U	10000 U	NA	NA	NA
AROCLOR-1260	170	140000	10000 U	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS01	ACSS02	ACSS03	ACSS04	ACSS05	ACSS05D
SAMPLE DATE	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95	10/25/95
PCB (ug/kg)						
AROCLOR-1016	NA	NA	NA	280 UJ	540000 UJ	620000 U
AROCLOR-1221	NA	NA	NA	550 U	1100000 U	1200000 U
AROCLOR-1232	NA	NA	NA	280 U	540000 U	620000 U
AROCLOR-1242	NA	NA	NA	280 U	540000 U	620000 U
AROCLOR-1248	NA	NA	NA	280 U	540000 U	620000 U
AROCLOR-1254	NA	NA	NA	280 U	540000 U	620000 U
AROCLOR-1260	NA	NA	NA	1100	4900000	5200000
ORTHO PESTICIDES (ug/kg)						
O,O,O-TRIETHYL PHOSPHOROTHIOA	80 U	97 U	87 U	NA	NA	NA
PHORATE	80 U	97 U	87 U	NA	NA	NA
THIONAZIN	80 U	97 U	87 U	NA	NA	NA
DISULFOTON	80 U	97 U	87 U	NA	NA	NA
SULFOTEP	80 U	97 U	87 U	NA	NA	NA
DIMETHOATE	80 U	97 U	87 U	NA	NA	NA
METHYL PARATHION	80 U	97 U	87 U	NA	NA	NA
PARATHION	80 U	97 U	87 U	NA	NA	NA
FAMPHUR	80 U	97 U	87 U	NA	NA	NA
HERBICIDES (ug/kg)						
2,4-D	410 U	480 U	440 U	NA	NA	NA
2,4,5-TP (SILVEX)	82 U	96 U	87 U	NA	NA	NA
2,4,5-T	82 U	96 U	87 U	NA	NA	NA
DIOXIN (ug/kg)						
TCDD-2378	0.11 U	0.12 U	0.1 U	NA	NA	NA
TOTAL TCDD	0.11 U	0.12 U	0.1 U	NA	NA	NA
TOTAL PECDD	0.11 U	0.13 U	0.09 U	NA	NA	NA
TOTAL HXCDD	0.14 U	0.17 U	0.15 U	NA	NA	NA
TOTAL TCDF	0.05 U	1 J	0.07 U	NA	NA	NA
TOTAL PECDF	0.06 U	2.4	0.08 U	NA	NA	NA
TOTAL HXCDF	0.13 U	2	0.14 J	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
VOLATILES (ug/kg)							
CHLOROMETHANE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
BROMOMETHANE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
VINYL CHLORIDE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
CHLOROETHANE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
METHYLENE CHLORIDE	14 U	26	24	17 J	13 U	17	15 U
ACETONE	15 U	13 U	12 U	6 U	13 U	6 U	12 U
CARBON DISULFIDE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
1,1-DICHLOROETHENE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
1,1-DICHLOROETHANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
1,2-DICHLOROETHENE (TOTAL)	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
CHLOROFORM	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
1,2-DICHLOROETHANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
2-BUTANONE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
1,1,1-TRICHLOROETHANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
CARBON TETRACHLORIDE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
VINYL ACETATE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
BROMODICHLOROMETHANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
1,2-DICHLOROPROPANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
CIS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
TRICHLOROETHENE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
DIBROMOCHLOROMETHANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
1,1,2-TRICHLOROETHANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
BENZENE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
TRANS-1,3-DICHLOROPROPENE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
BROMOFORM	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
4-METHYL-2-PENTANONE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
2-HEXANONE	12 UJ	13 U	11 U	13 UJ	13 UJ	11 U	12 U
TETRACHLOROETHENE	6 UJ	6 U	6 U	6 UJ	6 UJ	6 U	6 U
1,1,2,2-TETRACHLOROETHANE	6 UJ	6 U	6 U	6 UJ	6 UJ	6 U	6 U
TOLUENE	6 UJ	6 U	6 U	6 UJ	6 UJ	6 U	6 U
CHLOROBENZENE	6 UJ	6 U	6 U	6 UJ	6 UJ	6 U	6 U
ETHYLBENZENE	6 UJ	6 U	6 U	6 UJ	6 UJ	6 U	6 U
STYRENE	6 UJ	6 U	6 U	6 UJ	6 UJ	6 U	6 U
XYLENE (TOTAL)	3 J	6 U	6 U	6 UJ	6 UJ	6 U	6 U
ACROLEIN	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
VOLATILES cont. (ug/kg)							
ACRYLONITRILE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
TRICHLOROFLUOROMETHANE	6 U	6 U	6 U	6 UJ	6 U	6 U	6 U
DICHLORODIFLUOROMETHANE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
ACETONITRILE	24 U	26 U	22 U	26 UJ	26 U	22 U	24 U
IODOMETHANE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
PROPIONITRILE (ETHYL CYANIDE)	60 U	65 U	55 U	65 UJ	65 U	55 U	60 U
3-CHLOROPROPENE	24 U	26 U	22 U	26 UJ	26 U	22 U	24 U
METHACRYLONITRILE	24 U	26 U	22 U	26 UJ	26 U	22 U	24 U
DIBROMOMETHANE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
ISOBUTYL ALCOHOL	120 R	130 U	110 U	130 UJ	130 R	110 U	120 U
1,2-DIBROMOETHANE	24 U	26 U	22 U	26 UJ	26 U	22 U	24 U
1,1,1,2-TETRACHLOROETHANE	12 UJ	13 U	11 U	13 UJ	13 UJ	11 U	12 U
1,2,3-TRICHLOROPROPANE	12 U	13 U	11 U	13 UJ	13 U	11 U	12 U
TRANS-1,4-DICHLORO-2-BUTENE	120 U	130 U	110 U	130 UJ	130 U	110 U	120 U
1,2-DIBROMO-3-CHLOROPROPANE	24 U	26 U	22 U	26 UJ	26 U	22 U	24 U
2-CHLORO-1,3-BUTADIENE	120 U	130 U	110 U	130 UJ	130 U	110 U	120 U
METHYLMETHACRYLATE	NA	NA	NA	NA	NA	NA	NA
ETHYLMETHACRYLATE	NA	NA	NA	NA	NA	NA	NA
PENTACHLOROETHANE	NA	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES (ug/kg)							
PHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
BIS(2-CHLOROETHYL)ETHER	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-CHLOROPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,3-DICHLOROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,4-DICHLOROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
BENZYL ALCOHOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,2-DICHLOROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
O-CRESOL	NA	NA	NA	NA	NA	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	NA	NA	NA	NA	NA	NA	NA
META & PARA-CRESOL	NA	NA	NA	NA	NA	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
HEXACHLOROETHANE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
NITROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ISOPHORONE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-NITROPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,4-DIMETHYLPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
BENZOIC ACID	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
BIS(2-CHLOROETHOXY)METHANE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,4-DICHLOROPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,2,4-TRICHLOROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
NAPHTHALENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
4-CHLOROANILINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
HEXACHLOROBUTADIENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
4-CHLORO-3-METHYLPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-METHYLNAPHTHALENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
HEXACHLOROCYCLOPENTADIENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,4,6-TRICHLOROPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,4,5-TRICHLOROPHENOL	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
2-CHLORONAPHTHALENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-NITROANILINE	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
DIMETHYLPHTHALATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ACENAPHTHYLENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,6-DINITROTOLUENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
3-NITROANILINE	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
ACENAPHTHENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES cont. (ug/kg)							
2,4-DINITROPHENOL	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
4-NITROPHENOL	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
DIBENZOFURAN	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,4-DINITROTOLUENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
DIETHYLPHTHALATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
4-CHLOROPHENYL-PHENYLETHER	380 U	450 U	390 U	440 U	430 U	370 U	400 U
FLUORENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
4-NITROANILINE	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
4,6-DINITRO-2-METHYLPHENOL	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
N-NITROSODIPHENYLAMINE (1)	380 U	450 U	390 U	440 U	430 U	370 U	400 U
4-BROMOPHENYL-PHENYLETHER	380 U	450 U	390 U	440 U	430 U	370 U	400 U
HEXACHLOROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
PENTACHLOROPHENOL	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
PHENANTHRENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ANTHRACENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
DI-N-BUTYLPHTHALATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
FLUORANTHENE	170 J	450 U	390 U	440 U	430 U	240 J	400 U
PYRENE	200 J	450 U	390 U	440 U	430 U	430	400 U
BUTYLBENZYLPHTHALATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
3,3'-DICHLOROBENZIDINE	770 U	890 U	780 U	890 U	860 U	740 U	800 U
BENZO(A)ANTHRACENE	68 J	450 U	390 U	440 U	430 U	150 J	400 U
CHRYSENE	150 J	450 U	390 U	440 U	430 U	480	400 U
BIS(2-ETHYLHEXYL)PHTHALATE	380 U	450 U	390 U	160 J	100 J	370 U	400 U
DI-N-OCTYL PHTHALATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
BENZO(B)FLUORANTHENE	130 J	450 U	390 U	440 U	430 U	360 J	400 U
BENZO(K)FLUORANTHENE	120 J	450 U	390 U	440 U	430 U	330 J	400 U
BENZO(A)PYRENE	65 J	450 U	390 U	440 U	430 U	220 J	400 U
INDENO(1,2,3-CD)PYRENE	40 J	450 U	390 U	440 U	430 U	120 J	400 U
DIBENZO(A,H)ANTHRACENE	380 U	450 U	390 U	440 U	430 U	47 J	400 U
BENZO(G,H,I)PERYLENE	43 J	450 U	390 U	440 U	430 U	140 J	400 U
1,4-DIOXANE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
PYRIDINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
N-NITROSODIMETHYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-PICOLINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
N-NITROSOMETHYLETHYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES cont. (ug/kg)							
METHYL METHANESULFONATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
N-NITROSODIETHYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ETHYL METHANESULFONATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ANILINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
N-NITROSOPYRROLIDINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ACETOPHENONE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
N-NITROSOMORPHOLINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
O-TOLUIDINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
N-NITROSOPIPERIDINE	1900 U	2200 U	2000 U	2200 U	2100 U	1800 U	2000 U
A,A-DIMETHYLPHENETHYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,6-DICHLOROPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
HEXACHLOROPROPENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
P-PHENYLENEDIAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
N-NITROSO-DI-N-BUTYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
SAFROLE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,2,4,5-TETRACHLOROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ISOSAFROLE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,4-NAPHTHOQUINONE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,3-DINITROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
PENTACHLOROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1-NAPHTHYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-NAPHTHYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2,3,4,6-TETRACHLOROPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
1,3,5-TRINITROBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
DIALLATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
PHENACETIN	380 U	450 U	390 U	440 U	430 U	370 U	400 U
DIPHENYLAMINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
5-NITRO-O-TOLUIDINE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
4-AMINOBIPHENYL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
PRONAMIDE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1900 U	2200 R	2000 R	2200 U	2100 U	1800 U	2000 U
PENTACHLORONITROBENZENE	1900 U	2200 U	2000 U	2200 R	2100 R	1800 R	2000 R
4-NITROQUINOLINE-1-OXIDE	770 U	890 U	780 U	890 U	860 U	740 U	800 R
METHAPYRILENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ARAMITE	770 U	890 U	780 U	890 U	860 U	740 U	800 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
SEMIVOLATILES cont. (ug/kg)							
CHLOROBENZILATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
P-DIMETHYLAMINOAZOBENZENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
3,3'-DIMETHYLBENZIDINE	380 U	450 U	780 U	440 U	430 U	370 U	400 U
2-ACETYLAMINOFLUORENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
HEXACHLOROPHENE	3400 R	4000 U	3500 U	4000 U	3900 U	3300 U	3600 U
3-METHYLCHOLANTHRENE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
CARBAZOLE	NA	NA	NA	NA	NA	NA	NA
PENTACHLOROETHANE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
2-METHYLPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
BIS(2-CHLOROISOPROPYL)ETHER	380 U	450 U	390 U	440 U	430 U	370 U	400 U
3- AND/OR 4-METHYLPHENOL	380 U	450 U	390 U	440 U	430 U	370 U	400 U
METHYL METHACRYLATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U
ETHYL METHACRYLATE	380 U	450 U	390 U	440 U	430 U	370 U	400 U

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CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
PESTICIDE/PCBS (ug/kg)							
ALPHA-BHC	NA	NA	NA	NA	NA	NA	NA
BETA-BHC	NA	NA	NA	NA	NA	NA	NA
DELTA-BHC	NA	NA	NA	NA	NA	NA	NA
GAMMA-BHC (LINDANE)	NA	NA	NA	NA	NA	NA	NA
HEPTACHLOR	NA	NA	NA	NA	NA	NA	NA
ALDRIN	NA	NA	NA	NA	NA	NA	NA
HEPTACHLOR EPOXIDE	NA	NA	NA	NA	NA	NA	NA
ENDOSULFAN I	NA	NA	NA	NA	NA	NA	NA
DIELDRIN	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA
ENDRIN	NA	NA	NA	NA	NA	NA	NA
ENDOSULFAN II	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA
ENDOSULFAN SULFATE	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA
METHOXYCHLOR	NA	NA	NA	NA	NA	NA	NA
ENDRIN ALDEHYDE	NA	NA	NA	NA	NA	NA	NA
ISODRIN	NA	NA	NA	NA	NA	NA	NA
KEPONE	NA	NA	NA	NA	NA	NA	NA
ALPHA-CHLORDANE	NA	NA	NA	NA	NA	NA	NA
GAMMA-CHLORDANE	NA	NA	NA	NA	NA	NA	NA
TOXAPHENE	NA	NA	NA	NA	NA	NA	NA
AROCLOR-1016	NA	NA	NA	NA	NA	NA	NA
AROCLOR-1221	NA	NA	NA	NA	NA	NA	NA
AROCLOR-1232	NA	NA	NA	NA	NA	NA	NA
AROCLOR-1242	NA	NA	NA	NA	NA	NA	NA
AROCLOR-1248	NA	NA	NA	NA	NA	NA	NA
AROCLOR-1254	NA	NA	NA	NA	NA	NA	NA
AROCLOR-1260	NA	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACSS06	ACSS07	ACSS08	ACSS09	ACSS10	ACSS11	ACSS12
SAMPLE DATE	10/25/95	10/25/95		10/25/95	10/25/95	10/25/95	10/26/95
PCB (ug/kg)							
AROCLOR-1016	38 U	43 U	38 U	44 UJ	41 UJ	35 UJ	79 UJ
AROCLOR-1221	77 U	85 U	76 U	89 U	81 U	70 U	160 U
AROCLOR-1232	38 U	43 U	38 U	44 U	41 U	35 U	79 U
AROCLOR-1242	38 U	43 U	38 U	44 U	41 U	35 U	79 U
AROCLOR-1248	38 U	43 U	38 U	44 U	41 U	35 U	79 U
AROCLOR-1254	38 U	43 U	38 U	44 U	41 U	35 U	79 U
AROCLOR-1260	180	43 U	38 U	79	41 U	74	170
ORTHO PESTICIDES (ug/kg)							
O,O,O-TRIETHYL PHOSPHOROTHIOA	NA	NA	NA	NA	NA	NA	NA
PHORATE	NA	NA	NA	NA	NA	NA	NA
THIONAZIN	NA	NA	NA	NA	NA	NA	NA
DISULFOTON	NA	NA	NA	NA	NA	NA	NA
SULFOTEP	NA	NA	NA	NA	NA	NA	NA
DIMETHOATE	NA	NA	NA	NA	NA	NA	NA
METHYL PARATHION	NA	NA	NA	NA	NA	NA	NA
PARATHION	NA	NA	NA	NA	NA	NA	NA
FAMPHUR	NA	NA	NA	NA	NA	NA	NA
HERBICIDES (ug/kg)							
2,4-D	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (SILVEX)	NA	NA	NA	NA	NA	NA	NA
2,4,5-T	NA	NA	NA	NA	NA	NA	NA
DIOXIN (ug/kg)							
TCDD-2378	NA	NA	NA	NA	NA	NA	NA
TOTAL TCDD	NA	NA	NA	NA	NA	NA	NA
TOTAL PECDD	NA	NA	NA	NA	NA	NA	NA
TOTAL HXCDD	NA	NA	NA	NA	NA	NA	NA
TOTAL TCDF	NA	NA	NA	NA	NA	NA	NA
TOTAL PECDF	NA	NA	NA	NA	NA	NA	NA
TOTAL HXCDF	NA	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
YTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	11 U	19 UJ	ND	ND		0/13	NA	NA
BROMOMETHANE	11 U	19 UJ	ND	ND		0/13	NA	NA
VINYL CHLORIDE	11 U	19 UJ	ND	ND		0/13	NA	NA
CHLOROETHANE	11 U	19 UJ	ND	ND		0/13	NA	NA
METHYLENE CHLORIDE	6 U	17 U	17 J	48 J	ACSS05D	6/13	26.67	25.00
ACETONE	6 U	19 UJ	ND	ND		0/13	NA	NA
CARBON DISULFIDE	6 U	10 UJ	ND	ND		0/13	NA	NA
1,1-DICHLOROETHENE	6 U	10 UJ	ND	ND		0/13	NA	NA
1,1-DICHLOROETHANE	6 U	10 UJ	ND	ND		0/13	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	10 UJ	ND	ND		0/13	NA	NA
CHLOROFORM	6 U	10 UJ	ND	ND		0/13	NA	NA
1,2-DICHLOROETHANE	6 U	10 UJ	ND	ND		0/13	NA	NA
2-BUTANONE	11 U	19 UJ	ND	ND		0/13	NA	NA
1,1,1-TRICHLOROETHANE	6 U	10 UJ	ND	ND		0/13	NA	NA
CARBON TETRACHLORIDE	6 U	10 UJ	ND	ND		0/13	NA	NA
VINYL ACETATE	11 U	19 UJ	ND	ND		0/13	NA	NA
BROMODICHLOROMETHANE	6 U	10 UJ	ND	ND		0/13	NA	NA
1,2-DICHLOROPROPANE	6 U	10 UJ	ND	ND		0/13	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	10 UJ	ND	ND		0/13	NA	NA
TRICHLOROETHENE	6 U	10 UJ	ND	ND		0/13	NA	NA
DIBROMOCHLOROMETHANE	6 U	10 UJ	ND	ND		0/13	NA	NA
1,1,2-TRICHLOROETHANE	6 U	10 UJ	ND	ND		0/13	NA	NA
BENZENE	6 U	10 UJ	ND	ND		0/13	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	10 UJ	ND	ND		0/13	NA	NA
BROMOFORM	6 U	10 UJ	ND	ND		0/13	NA	NA
4-METHYL-2-PENTANONE	11 U	19 UJ	ND	ND		0/13	NA	NA
2-HEXANONE	11 U	19 UJ	ND	ND		0/13	NA	NA
TETRACHLOROETHENE	6 U	10 UJ	ND	ND		0/13	NA	NA
1,1,2,2-TETRACHLOROETHANE	6 U	10 UJ	ND	ND		0/13	NA	NA
TOLUENE	6 U	10 UJ	ND	ND		0/13	NA	NA
CHLOROBENZENE	6 U	10 UJ	ND	ND		0/13	NA	NA
ETHYLBENZENE	6 U	10 UJ	ND	ND		0/13	NA	NA
STYRENE	6 U	10 UJ	ND	ND		0/13	NA	NA
XYLENE (TOTAL)	6 U	10 UJ	3 J	3 J	ACSS06	1/13	3.00	3.00
ACROLEIN	11 U	740 U	ND	ND		0/13	NA	NA

FREQUENCY OF DETECTION SUMMARY
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NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
ACRYLONITRILE	11 U	150 U	ND	ND		0/13	NA	NA
TRICHLOROFLUOROMETHANE	6 U	15 U	4 J	4 J	ACSS04	1/13	4.00	4.00
DICHLORODIFLUOROMETHANE	11 U	30 U	ND	ND		0/13	NA	NA
ACETONITRILE	22 U	150 U	ND	ND		0/13	NA	NA
IODOMETHANE	11 U	19 UJ	ND	ND		0/13	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	55 U	95 UJ	ND	ND		0/11	NA	NA
3-CHLOROPROPENE	22 U	38 UJ	ND	ND		0/13	NA	NA
METHACRYLONITRILE	22 U	38 UJ	ND	ND		0/13	NA	NA
DIBROMOMETHANE	11 U	19 UJ	ND	ND		0/13	NA	NA
ISOBUTYL ALCOHOL	110 U	190 UJ	ND	ND		0/8	NA	NA
1,2-DIBROMOETHANE	22 U	38 UJ	ND	ND		0/13	NA	NA
1,1,1,2-TETRACHLOROETHANE	11 U	19 UJ	ND	ND		0/13	NA	NA
1,2,3-TRICHLOROPROPANE	11 U	19 UJ	ND	ND		0/13	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	25 U	190 UJ	ND	ND		0/13	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	22 U	38 UJ	ND	ND		0/13	NA	NA
2-CHLORO-1,3-BUTADIENE	110 U	190 UJ	ND	ND		0/13	NA	NA
METHYLMETHACRYLATE	25 U	30 U	ND	ND		0/3	NA	NA
ETHYLMETHACRYLATE	25 U	30 U	ND	ND		0/3	NA	NA
PENTACHLOROETHANE	25 U	30 U	ND	ND		0/3	NA	NA

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SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
BIS(2-CHLOROETHYL)ETHER	370 U	5000 U	ND	ND		0/13	NA	NA
2-CHLOROPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
1,3-DICHLOROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
1,4-DICHLOROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
BENZYL ALCOHOL	370 U	5000 U	ND	ND		0/13	NA	NA
1,2-DICHLOROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
O-CRESOL	400 U	5000 U	ND	ND		0/3	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	400 U	5000 U	ND	ND		0/3	NA	NA
META & PARA-CRESOL	400 U	5000 U	ND	ND		0/3	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA
HEXACHLOROETHANE	370 U	5000 U	ND	ND		0/13	NA	NA
NITROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
ISOPHORONE	370 U	5000 U	ND	ND		0/13	NA	NA
2-NITROPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
2,4-DIMETHYLPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
BENZOIC ACID	1800 U	140000 U	710 J	710 J	ACSS03	1/13	710.00	710.00
BIS(2-CHLOROETHOXY)METHANE	370 U	5000 U	ND	ND		0/13	NA	NA
2,4-DICHLOROPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
1,2,4-TRICHLOROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
NAPHTHALENE	370 U	5000 U	ND	ND		0/13	NA	NA
4-CHLOROANILINE	370 U	5000 U	ND	ND		0/13	NA	NA
HEXACHLOROBUTADIENE	370 U	5000 U	ND	ND		0/13	NA	NA
4-CHLORO-3-METHYLPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
2-METHYLNAPHTHALENE	370 U	5000 U	ND	ND		0/13	NA	NA
HEXACHLOROCYCLOPENTADIENE	370 U	5000 U	ND	ND		0/13	NA	NA
2,4,6-TRICHLOROPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
2,4,5-TRICHLOROPHENOL	1800 U	25000 U	ND	ND		0/13	NA	NA
2-CHLORONAPHTHALENE	370 U	5000 U	ND	ND		0/13	NA	NA
2-NITROANILINE	1800 U	25000 U	ND	ND		0/13	NA	NA
DIMETHYLPHTHALATE	370 U	5000 U	ND	ND		0/13	NA	NA
ACENAPHTHYLENE	370 U	5000 U	ND	ND		0/13	NA	NA
2,6-DINITROTOLUENE	370 U	5000 U	ND	ND		0/13	NA	NA
3-NITROANILINE	1800 U	25000 U	ND	ND		0/13	NA	NA
ACENAPHTHENE	370 U	5000 U	ND	ND		0/13	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
YTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
2,4-DINITROPHENOL	1800 U	25000 U	ND	ND		0/13	NA	NA
4-NITROPHENOL	1800 U	25000 U	ND	ND		0/13	NA	NA
DIBENZOFURAN	370 U	5000 U	ND	ND		0/13	NA	NA
2,4-DINITROTOLUENE	370 U	5000 U	ND	ND		0/13	NA	NA
DIETHYLPHTHALATE	370 U	5000 U	ND	ND		0/13	NA	NA
4-CHLOROPHENYL-PHENYLETHER	370 U	5000 U	ND	ND		0/13	NA	NA
FLUORENE	370 U	5000 U	ND	ND		0/13	NA	NA
4-NITROANILINE	1800 U	25000 U	ND	ND		0/13	NA	NA
4,6-DINITRO-2-METHYLPHENOL	1800 U	25000 U	ND	ND		0/13	NA	NA
N-NITROSODIPHENYLAMINE (1)	370 U	5000 U	ND	ND		0/13	NA	NA
4-BROMOPHENYL-PHENYLETHER	370 U	5000 U	ND	ND		0/13	NA	NA
HEXACHLOROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
PENTACHLOROPHENOL	1800 U	25000 U	ND	ND		0/13	NA	NA
PHENANTHRENE	370 U	5000 U	63 J	63 J	ACSS04	1/13	63.00	63.00
ANTHRACENE	370 U	5000 U	ND	ND		0/13	NA	NA
DI-N-BUTYLPHTHALATE	370 U	5000 U	4800	4800	ACSS03	1/13	4800.00	4800.00
FLUORANTHENE	390 U	5000 U	150 J	410 J	ACSS05D	5/13	236.00	210.00
PYRENE	390 U	5000 U	120 J	430	ACSS11	4/13	240.00	205.00
BUTYLBENZYLPHTHALATE	370 U	5000 U	1100	1100	ACSS03	1/13	1100.00	1100.00
3,3'-DICHLOROBENZIDINE	740 U	9900 U	ND	ND		0/13	NA	NA
BENZO(A)ANTHRACENE	390 U	5000 U	54 J	150 J	ACSS11	4/13	87.25	72.50
CHRYSENE	390 U	5000 U	97 J	480	ACSS11	4/13	221.75	155.00
BIS(2-ETHYLHEXYL)PHTHALATE	370 U	5000 U	100 J	19000	ACSS03	3/13	6420.00	160.00
DI-N-OCTYL PHTHALATE	370 U	5000 U	170 J	170 J	ACSS03	1/13	170.00	170.00
BENZO(B)FLUORANTHENE	390 U	5000 U	100 J	480	ACSS03	4/13	267.50	245.00
BENZO(K)FLUORANTHENE	390 U	5000 U	93 J	330 J	ACSS11	3/13	181.00	120.00
BENZO(A)PYRENE	390 U	5000 U	65 J	220 J	ACSS11	4/13	120.25	98.00
INDENO(1,2,3-CD)PYRENE	390 U	5000 U	40 J	120 J	ACSS11	4/13	70.50	61.00
DIBENZO(A,H)ANTHRACENE	380 U	5000 U	47 J	47 J	ACSS11	1/13	47.00	47.00
BENZO(G,H,I)PERYLENE	390 U	5000 U	43 J	420 J	ACSS05D	4/13	166.50	101.50
1,4-DIOXANE	370 U	20000 U	ND	ND		0/13	NA	NA
PYRIDINE	370 U	9900 U	ND	ND		0/13	NA	NA
N-NITROSODIMETHYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA
2-PICOLINE	370 U	5000 U	ND	ND		0/13	NA	NA
N-NITROSOMETHYLETHYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
YTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
METHYL METHANESULFONATE	370 U	5000 U	ND	ND		0/13	NA	NA
N-NITROSODIETHYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA
ETHYL METHANESULFONATE	370 U	5000 U	ND	ND		0/13	NA	NA
ANILINE	370 U	25000 U	ND	ND		0/13	NA	NA
N-NITROSOPYRROLIDINE	370 U	25000 U	ND	ND		0/13	NA	NA
ACETOPHENONE	370 U	5000 U	ND	ND		0/13	NA	NA
N-NITROSOMORPHOLINE	370 U	9900 U	ND	ND		0/13	NA	NA
O-TOLUIDINE	370 U	5000 U	ND	ND		0/13	NA	NA
N-NITROSOPIPERIDINE	400 U	15000 U	ND	ND		0/13	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	370 U	25000 U	ND	ND		0/13	NA	NA
2,6-DICHLOROPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
HEXACHLOROPROPENE	370 U	9900 U	ND	ND		0/13	NA	NA
P-PHENYLENEDIAMINE	370 U	9900 U	ND	ND		0/13	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA
SAFROLE	370 U	5000 U	ND	ND		0/13	NA	NA
1,2,4,5-TETRACHLOROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
ISOSAFROLE	370 U	5000 U	ND	ND		0/13	NA	NA
1,4-NAPHTHOQUINONE	370 U	25000 U	ND	ND		0/13	NA	NA
1,3-DINITROBENZENE	370 U	9900 U	ND	ND		0/13	NA	NA
PENTACHLOROBENZENE	370 U	5000 U	ND	ND		0/13	NA	NA
1-NAPHTHYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA
2-NAPHTHYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA
2,3,4,6-TETRACHLOROPHENOL	370 U	5000 U	ND	ND		0/13	NA	NA
1,3,5-TRINITROBENZENE	370 U	50000 U	ND	ND		0/13	NA	NA
DIALLATE	370 U	5000 U	ND	ND		0/13	NA	NA
PHENACETIN	370 U	5000 U	ND	ND		0/13	NA	NA
DIPHENYLAMINE	370 U	5000 U	ND	ND		0/13	NA	NA
5-NITRO-O-TOLUIDINE	370 U	9900 U	ND	ND		0/13	NA	NA
4-AMINOBIPHENYL	370 U	5000 U	ND	ND		0/13	NA	NA
PRONAMIDE	370 U	5000 U	ND	ND		0/13	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	810 U	15000 U	ND	ND		0/11	NA	NA
PENTACHLORONITROBENZENE	400 U	14000 U	ND	ND		0/7	NA	NA
4-NITROQUINOLINE-1-OXIDE	740 U	25000 U	ND	ND		0/10	NA	NA
METHAPYRILENE	370 U	12000 U	ND	ND		0/13	NA	NA
ARAMITE	740 U	9900 U	ND	ND		0/13	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
YTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
CHLOROBENZILATE	370 U	5000 U	ND	ND		0/13	NA	NA
P-DIMETHYLAMINOAZOBENZENE	370 U	9900 U	ND	ND		0/13	NA	NA
3,3'-DIMETHYLBENZIDINE	370 U	28000 U	ND	ND		0/10	NA	NA
2-ACETYLAMINOFLUORENE	370 U	9900 U	ND	ND		0/13	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	370 U	9900 U	ND	ND		0/13	NA	NA
HEXACHLOROPHENE	3300 U	50000 U	ND	ND		0/11	NA	NA
3-METHYLCHOLANTHRENE	370 U	5000 U	ND	ND		0/13	NA	NA
CARBAZOLE	400 U	5000 U	ND	ND		0/3	NA	NA
PENTACHLOROETHANE	370 U	3100 U	ND	ND		0/10	NA	NA
2-METHYLPHENOL	370 U	3100 U	ND	ND		0/10	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	370 U	3100 U	ND	ND		0/10	NA	NA
3- AND/OR 4-METHYLPHENOL	370 U	3100 U	ND	ND		0/10	NA	NA
METHYL METHACRYLATE	370 U	3100 U	ND	ND		0/10	NA	NA
ETHYL METHACRYLATE	370 U	3100 U	ND	ND		0/10	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
YTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

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PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	25 U	2900 U	ND	ND		0/3	NA	NA
BETA-BHC	25 U	2900 U	ND	ND		0/3	NA	NA
DELTA-BHC	25 U	2900 U	ND	ND		0/3	NA	NA
GAMMA-BHC (LINDANE)	25 U	2900 U	ND	ND		0/3	NA	NA
HEPTACHLOR	25 U	2900 U	ND	ND		0/3	NA	NA
ALDRIN	25 U	2900 U	ND	ND		0/3	NA	NA
HEPTACHLOR EPOXIDE	25 U	2900 U	ND	ND		0/3	NA	NA
ENDOSULFAN I	25 U	2900 U	ND	ND		0/3	NA	NA
DIELDRIN	49 U	5900 U	ND	ND		0/3	NA	NA
4,4'-DDE	49 U	5900 U	2700	2700	ACSS03	1/3	2700.00	2700.00
ENDRIN	49 U	5900 U	ND	ND		0/3	NA	NA
ENDOSULFAN II	49 U	5900 U	ND	ND		0/3	NA	NA
4,4'-DDD	49 U	5900 U	240	240	ACSS03	1/3	240.00	240.00
ENDOSULFAN SULFATE	49 U	5900 U	ND	ND		0/3	NA	NA
4,4'-DDT	49 U	5900 U	5400	5400	ACSS03	1/3	5400.00	5400.00
METHOXYCHLOR	250 U	29000 U	ND	ND		0/3	NA	NA
ENDRIN ALDEHYDE	49 U	5900 U	ND	ND		0/3	NA	NA
ISODRIN	25 U	2900 U	ND	ND		0/3	NA	NA
KEPONE	49 UJ	5900 UJ	2500	2500	ACSS03	1/3	2500.00	2500.00
ALPHA-CHLORDANE	250 U	29000 U	840 J	840 J	ACSS03	1/3	840.00	840.00
GAMMA-CHLORDANE	250 U	29000 U	760 J	760 J	ACSS03	1/3	760.00	760.00
TOXAPHENE	490 U	59000 U	ND	ND		0/3	NA	NA
AROCLOR-1016	250 U	29000 U	ND	ND		0/3	NA	NA
AROCLOR-1221	250 U	29000 U	ND	ND		0/3	NA	NA
AROCLOR-1232	250 U	29000 U	ND	ND		0/3	NA	NA
AROCLOR-1242	250 U	29000 U	ND	ND		0/3	NA	NA
AROCLOR-1248	250 U	29000 U	ND	ND		0/3	NA	NA
AROCLOR-1254	490 U	59000 U	ND	ND		0/3	NA	NA
AROCLOR-1260	10000 U	10000 U	170	140000	ACSS02	2/3	70085.00	70085.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
YTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C SURFACE SOIL
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PCB (ug/kg)								
AROCLOR-1016	35 UJ	620000 U	ND	ND		0/10	NA	NA
AROCLOR-1221	70 U	1200000 U	ND	ND		0/10	NA	NA
AROCLOR-1232	35 U	620000 U	ND	ND		0/10	NA	NA
AROCLOR-1242	35 U	620000 U	ND	ND		0/10	NA	NA
AROCLOR-1248	35 U	620000 U	ND	ND		0/10	NA	NA
AROCLOR-1254	35 U	620000 U	ND	ND		0/10	NA	NA
AROCLOR-1260	38 U	43 U	74	5200000	ACSS05D	7/10	1443086.14	180.00
ORTHO PESTICIDES (ug/kg)								
O,O,O-TRIETHYL PHOSPHOROTHIOA	80 U	97 U	ND	ND		0/3	NA	NA
PHORATE	80 U	97 U	ND	ND		0/3	NA	NA
THIONAZIN	80 U	97 U	ND	ND		0/3	NA	NA
DISULFOTON	80 U	97 U	ND	ND		0/3	NA	NA
SULFOTEP	80 U	97 U	ND	ND		0/3	NA	NA
DIMETHOATE	80 U	97 U	ND	ND		0/3	NA	NA
METHYL PARATHION	80 U	97 U	ND	ND		0/3	NA	NA
PARATHION	80 U	97 U	ND	ND		0/3	NA	NA
FAMPHUR	80 U	97 U	ND	ND		0/3	NA	NA
HERBICIDES (ug/kg)								
2,4-D	410 U	480 U	ND	ND		0/3	NA	NA
2,4,5-TP (SILVEX)	82 U	96 U	ND	ND		0/3	NA	NA
2,4,5-T	82 U	96 U	ND	ND		0/3	NA	NA
DIOXIN (ug/kg)								
TCDD-2378	0.1 U	0.12 U	ND	ND		0/3	NA	NA
TOTAL TCDD	0.1 U	0.12 U	ND	ND		0/3	NA	NA
TOTAL PECDD	0.09 U	0.13 U	ND	ND		0/3	NA	NA
TOTAL HXCDD	0.14 U	0.17 U	ND	ND		0/3	NA	NA
TOTAL TCDF	0.05 U	0.07 U	1 J	1 J	ACSS02	1/3	1.00	1.00
TOTAL PECDF	0.06 U	0.08 U	2.4	2.4	ACSS02	1/3	2.40	2.40
TOTAL HXCDF	0.13 U	0.13 U	0.14 J	2	ACSS02	2/3	1.07	1.07

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C CONCRETE
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACWS01	ACWS02	ACWS03	ACWS04	ACWS05	ACWS06
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95
PCB (ug/wipe)						
Aroclor-1016	20000 U	500 U	500 U	1 U	100 U	1 U
Aroclor-1221	40000 U	1000 U	1000 U	2 U	200 U	2 U
Aroclor-1232	20000 U	500 U	500 U	1 U	100 U	1 U
Aroclor-1242	20000 U	500 U	500 U	1 U	100 U	1 U
Aroclor-1248	20000 U	500 U	500 U	1 U	100 U	1 U
Aroclor-1254	20000 U	500 U	500 U	1 U	100 U	1 U
Aroclor-1260	130000	720	560	1	220	1 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C CONCRETE
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	ACWS07	ACWS08	ACWS09	ACW10
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95
PCB (ug/wipe)				
Aroclor-1016	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1.6	1 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC C CONCRETE
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
PCB (ug/wipe)								
Aroclor-1016	1 U	20000 U	ND	ND		0/10	NA	NA
Aroclor-1221	2 U	40000 U	ND	ND		0/10	NA	NA
Aroclor-1232	1 U	20000 U	ND	ND		0/10	NA	NA
Aroclor-1242	1 U	20000 U	ND	ND		0/10	NA	NA
Aroclor-1248	1 U	20000 U	ND	ND		0/10	NA	NA
Aroclor-1254	1 U	20000 U	ND	ND		0/10	NA	NA
Aroclor-1260	1 U	1 U	1	130000	ACWS01	6/10	21917.10	390.00

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
WET CHEMISTRY (mg/kg)						
Cyanide, Total	0.59 U	0.57 U	0.72 U	0.65 U	1.2 U	0.56 U
Sulfide	31.1 U	33.8 UJ	45.2 J	41.9 UJ	296 J	34.8 UJ

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
WET CHEMISTRY (mg/kg)						
Cyanide, Total	0.61 U	0.62 U	0.66 U	0.73 U	0.73 U	0.7 U
Sulfide	55 J	33.9 U	33.3 U	90.8	139	42.2 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
WET CHEMISTRY (mg/kg)						
Cyanide, Total	0.7 U	0.65 U	0.64 U	0.91 U	0.85 U	0.74 U
Sulfide	37.1 U	35.5 U	37.7 U	69.4	44.9 U	69.1 J

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
WET CHEMISTRY (mg/kg)						
Cyanide, Total	0.74 U	0.85 U	1.2 U	0.73 U	0.66 U	0.6 U
Sulfide	69.9 J	242 J	58.4 UJ	102 J	59.3 J	44.2

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04
SAMPLE DATE	10/27/95	10/27/95	10/27/95
WET CHEMISTRY (mg/kg)			
Cyanide, Total	0.66 U	0.73 U	0.69 U
Sulfide	445	37.4 U	34.7 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ENGINEERING PARAMETERS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
WET CHEMISTRY (mg/kg)								
Cyanide, Total	0.56 U	1.2 U	ND	ND		0/27	NA	NA
Sulfide	31.1 U	58.4 UJ	44.2	445	7SD02	13/27	132.84	69.90

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
TOTAL METALS (mg/kg)						
Antimony, Total	2.2 UJ	2.5 UJ	2.9 UJ	2.6 UJ	5 UJ	3.1 UJ
Arsenic, Total	0.19 UJ	0.43 J	0.32 J	2 J	7 J	7.6 J
Barium, Total	122	147	129	12.1	55.9 J	59.4
Beryllium, Total	0.1 U	0.1 U	0.12 U	0.11 U	0.21 UJ	0.13 U
Cadmium, Total	0.4 U	0.44 U	0.52 U	0.46 U	1.2 J	0.55 U
Chromium, Total	15.1	38.9	18.3	6.6	18.7 J	34.7
Cobalt, Total	6.4	28	4.6	1.2	4.6 J	7.9
Copper, Total	14.5	110	21.5	8.2	332 J	830
Lead, Total	1.5	2.9	4.3	3.8	339 J	202 J
Mercury, Total	0.062 U	0.06 U	0.054 U	0.06 U	0.8 J	2.7
Nickel, Total	3.1	16.7	5	2.4	7.8 J	9.1
Selenium, Total	0.18 UJ	0.35 J	0.41 J	0.25 UJ	0.35 UJ	0.15 J
Silver, Total	0.31 U	0.37	0.39 U	0.35 U	0.69 UJ	0.42 U
Thallium, Total	0.16 UJ	0.15 UJ	0.18 UJ	0.22 UJ	0.3 UJ	0.59 UJ
Tin, Total	1.7 U	1.9 U	2.2 U	2 U	13.5 J	13.7
Vanadium, Total	65.3	220	101	15	37.1 J	79.2
Zinc, Total	9.9	32.3	21.6	9.6	432 J	401
Cyanide, Total	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
TOTAL METALS (mg/kg)						
Antimony, Total	2.6 UJ	7.4 U	6.8 U	7.7 U	8.2 U	8.5 U
Arsenic, Total	6.2 J	1.8	1.7	5 J	4.3	1.4
Barium, Total	49.8	9.3	8.6	9.1	9.1	7.5
Beryllium, Total	0.11 U	0.18 U	0.16 U	0.19 U	0.2 U	0.21 U
Cadmium, Total	0.47 U	2.5 U	2.3 U	2.6 U	2.8 U	2.9 U
Chromium, Total	23.1	5.1	5	14.7	15.3	5
Cobalt, Total	7.9	1.3	1.2 U	4.7	4.6	1.5 U
Copper, Total	384	13.8	12.9	28	29.1	19.3
Lead, Total	144 J	1.2 J	0.89 J	1.8 J	1.7 J	1.8 J
Mercury, Total	2.6	0.06 U	0.07 U	0.08 U	0.073 U	0.074 U
Nickel, Total	6.7	2.2 U	2 U	4.2	4.3	2.6 U
Selenium, Total	0.34 J	0.61 UJ	0.73 UJ	0.9 UJ	1.6 UJ	1.6 UJ
Silver, Total	0.36 U	1.9 UJ	1.8 UJ	2 UJ	2.1 UJ	2.2 UJ
Thallium, Total	0.58 UJ	0.66 UJ	0.16 UJ	0.98 UJ	0.87 UJ	0.84 UJ
Tin, Total	9.4	6.8 U	6.2 U	7.1 U	7.5 U	7.8 U
Vanadium, Total	57.1	6.2	5.5	33.6	27.7	7.2
Zinc, Total	281	2.9	3.4	18.4	20.2	7.9
Cyanide, Total	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
TOTAL METALS (mg/kg)						
Antimony, Total	8.8 U	6.6 U	7.1 U	7.8 U	8.4 U	3.6 UJ
Arsenic, Total	0.89 U	0.94 U	1.1	2.1	3.2	0.9
Barium, Total	8.2	6.3	8.4	8.3	8.6	7
Beryllium, Total	0.21 U	0.16 U	0.2	0.19 U	0.2 U	0.15 U
Cadmium, Total	3 U	2.3 U	2.4 U	2.6 U	2.9 U	0.33 U
Chromium, Total	5.8	3.7	8.2	3.9	3.1 U	7.6
Cobalt, Total	1.6	1.2 U	1.7	1.4 U	1.5 U	1.5
Copper, Total	14.8	11.4	20.9	16.6	15.2	7.9
Lead, Total	0.36 J	0.7 J	0.96 J	1.2 J	0.76 J	2
Mercury, Total	0.055 U	0.073 U	0.059 U	0.08 U	0.075 U	0.08 U
Nickel, Total	2.6 U	2 U	2.1 U	2.3 U	2.5 U	2.7
Selenium, Total	1.8 J	1.4 UJ	1.4 UJ	2.2 UJ	1.7 UJ	0.89
Silver, Total	2.3 UJ	1.7 UJ	1.8 UJ	2 UJ	2.2 UJ	0.45 U
Thallium, Total	0.73 UJ	0.15 UJ	0.76 UJ	0.24 UJ	0.94 UJ	0.87 UJ
Tin, Total	8.1 U	6.1 U	6.5 U	7.1 U	7.7 U	2.8 U
Vanadium, Total	5	7.1	19.7	12.7	13.4	20.2
Zinc, Total	3	3.6	8.3	6.4	6.8	9.6
Cyanide, Total	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
TOTAL METALS (mg/kg)						
Antimony, Total	3.7 UJ	4.3 UJ	5.3 UJ	2.7 UJ	3.4 UJ	2.5 UJ
Arsenic, Total	0.82	1.4	0.57	0.97 J	3.8 J	8.5
Barium, Total	9	13.2	6.6	15	16.9	11.1
Beryllium, Total	0.16 U	0.26	0.23 U	0.12 U	0.14 U	0.11 U
Cadmium, Total	0.33 U	0.38 U	0.48 U	0.24 U	0.3 U	0.22 U
Chromium, Total	5	13	6.8	19.8	18.8	15.9
Cobalt, Total	1.6	5.3	0.93	6.8	7.3	4.6
Copper, Total	9.4	18.7	11.4	38.4	25.7	34.1
Lead, Total	0.73	0.96	1.1	2.1	1.6	13.8
Mercury, Total	0.07 U	0.09 U	0.12 U	0.06 U	0.08 U	0.11 U
Nickel, Total	1.8	7.1	3.2	7.6	10.6	4.5
Selenium, Total	0.62 U	1 U	1.1 U	0.74 U	0.68 U	0.63 U
Silver, Total	0.45 U	0.53 U	0.66 U	0.34 U	0.42 U	0.3 U
Thallium, Total	0.68 UJ	0.22 UJ	1.2 U	0.16 UJ	0.74 UJ	0.14 UJ
Tin, Total	2.8 U	3.4	4.2	2.1 U	2.6 U	1.9 U
Vanadium, Total	19.6	29	12.2	66.9	40.2	63.1
Zinc, Total	6.8	15.2	10.3	29.8	16.7	35.9 J
Cyanide, Total	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF INORGANIC ANALYTES IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
TOTAL METALS (mg/kg)						
Antimony, Total	3.3 UJ	2.8 UJ	2.7 UJ	NA	NA	NA
Arsenic, Total	9.8	3.2	3.4	5.8 J	9.2 J	13.2 J
Barium, Total	14	7.5	8.1	12.4	10.6	10
Beryllium, Total	0.14 U	0.12 U	0.12 U	NA	NA	NA
Cadmium, Total	0.3 U	0.86	0.25 U	0.56 UJ	0.55 UJ	0.57 UJ
Chromium, Total	15.2	7.9	5.5	8.4 J	4 J	4.2 J
Cobalt, Total	3.1	1.8	1.4	NA	NA	NA
Copper, Total	21.5	7.4	5	NA	NA	NA
Lead, Total	17.6	1.2	0.85	194 J	38.7 J	26.2 J
Mercury, Total	0.05 U	0.08 U	0.07 U	0.08 R	0.17 R	0.09 R
Nickel, Total	4.1	2.7	2.2	NA	NA	NA
Selenium, Total	0.74 U	0.74 U	0.79 U	0.71 R	0.45 R	0.27 UJ
Silver, Total	0.41 U	0.34 U	0.63	0.73 UJ	0.71 UJ	0.73 UJ
Thallium, Total	0.16 UJ	0.16 UJ	0.17 UJ	NA	NA	NA
Tin, Total	2.6 U	3.3	2.1 U	NA	NA	NA
Vanadium, Total	44.5	32.3	17.7	NA	NA	NA
Zinc, Total	32.7 J	8.3 J	5.1 J	NA	NA	NA
Cyanide, Total	NA	NA	NA	0.83 U	0.81 U	0.83 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
VOLATILES (ug/kg)						
CHLOROMETHANE	12 U	14 U	16 U	17 U	24 U	16 U
BROMOMETHANE	12 U	14 U	16 U	17 U	24 U	16 U
VINYL CHLORIDE	12 U	14 U	16 U	17 U	24 U	16 U
CHLOROETHANE	12 U	14 U	16 U	17 U	24 U	16 U
METHYLENE CHLORIDE	6 U	7 U	8 U	9 U	12 U	8 U
ACETONE	18 U	14 U	22 U	30 U	42 U	33 U
CARBON DISULFIDE	6 U	7 U	8 U	9 U	12 U	8 U
1,1-DICHLOROETHENE	6 U	7 U	8 U	9 U	12 U	8 U
1,1-DICHLOROETHANE	6 U	7 U	8 U	9 U	12 U	8 U
1,2-DICHLOROETHENE (TOTAL)	6 U	7 U	8 U	9 U	12 U	8 U
CHLOROFORM	6 U	7 U	8 U	9 U	12 U	8 U
1,2-DICHLOROETHANE	6 U	7 U	8 U	9 U	12 U	8 U
2-BUTANONE	12 U	14 U	16 U	17 U	24 U	16 U
1,1,1-TRICHLOROETHANE	6 U	7 U	8 U	9 U	12 U	8 U
CARBON TETRACHLORIDE	6 U	7 U	8 U	9 U	12 U	8 U
VINYL ACETATE	12 U	14 U	16 U	17 U	24 U	16 U
BROMODICHLOROMETHANE	6 U	7 U	8 U	9 U	12 U	8 U
1,2-DICHLOROPROPANE	6 U	7 U	8 U	9 U	12 U	8 U
CIS-1,3-DICHLOROPROPENE	6 U	7 U	8 U	9 U	12 U	8 U
TRICHLOROETHENE	6 U	7 U	8 U	9 U	12 U	8 U
DIBROMOCHLOROMETHANE	6 U	7 U	8 U	9 U	12 U	8 U
1,1,2-TRICHLOROETHANE	6 U	7 U	8 U	9 U	12 U	8 U
BENZENE	6 U	7 U	8 U	9 U	12 U	8 U
TRANS-1,3-DICHLOROPROPENE	6 U	7 U	8 U	9 U	12 U	8 U
BROMOFORM	6 U	7 U	8 U	9 U	12 U	8 U
4-METHYL-2-PENTANONE	12 U	14 U	16 U	17 U	24 U	16 U
2-HEXANONE	12 U	14 U	16 U	17 U	24 U	16 U
TETRACHLOROETHENE	6 U	2 J	2 J	9 U	12 U	8 U
1,1,2,2-TETRACHLOROETHANE	6 U	7 U	8 U	9 U	12 U	8 U
TOLUENE	6 U	7 U	8 U	9 U	12 U	8 U
CHLOROBENZENE	6 U	7 U	8 U	9 U	12 U	8 U
ETHYLBENZENE	6 U	7 U	8 U	9 U	12 U	8 U
STYRENE	6 U	7 U	8 U	9 U	12 U	8 U
XYLENE (TOTAL)	6 U	7 U	8 U	9 U	12 U	8 U
ACROLEIN	620 R	710 R	800 R	860 R	1200 R	820 R
ACRYLONITRILE	120 U	140 U	160 U	170 U	240 U	160 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
VOLATILES cont. (ug/kg)						
TRICHLOROFLUOROMETHANE	12 U	14 U	16 U	17 U	24 U	16 U
DICHLORODIFLUOROMETHANE	25 U	28 U	32 U	35 U	47 U	33 U
ACETONITRILE	120 U	140 U	160 U	170 U	240 U	160 U
IODOMETHANE	12 U	14 U	16 U	17 U	24 U	16 U
PROPIONITRILE (ETHYL CYANIDE)	62 U	71 U	80 U	86 U	120 U	82 U
3-CHLOROPROPENE	25 U	28 U	32 U	35 U	47 U	33 U
METHACRYLONITRILE	25 U	28 U	32 U	35 U	47 U	33 U
DIBROMOMETHANE	12 U	14 U	16 U	17 U	24 U	16 U
ISOBUTYL ALCOHOL	2500 U	2800 U	3200 R	3500 U	4700 U	3300 U
1,2-DIBROMOETHANE	25 U	28 U	32 U	35 U	47 U	33 U
1,1,1,2-TETRACHLOROETHANE	12 U	14 U	16 U	17 U	24 U	16 U
1,2,3-TRICHLOROPROPANE	12 U	14 U	16 U	17 U	24 U	16 U
TRANS-1,4-DICHLORO-2-BUTENE	25 U	28 U	32 U	35 U	47 U	33 U
1,2-DIBROMO-3-CHLOROPROPANE	25 U	28 U	32 U	35 U	47 U	33 U
2-CHLORO-1,3-BUTADIENE	120 U	140 U	160 U	170 U	240 U	160 U
METHYLMETHACRYLATE	25 U	28 U	32 U	35 U	47 U	33 U
ETHYLMETHACRYLATE	25 U	28 U	32 U	35 U	47 U	33 U
PENTACHLOROETHANE	25 U	28 U	32 U	35 U	47 U	33 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES (ug/kg)						
PHENOL	410 U	470 U	530 U	560 U	780 U	540 U
BIS(2-CHLOROETHYL)ETHER	410 U	470 U	530 U	560 U	780 U	540 U
2-CHLOROPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
1,3-DICHLOROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
1,4-DICHLOROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
BENZYL ALCOHOL	410 U	470 U	530 U	560 U	780 U	540 U
1,2-DICHLOROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
O-CRESOL	410 U	470 U	530 U	560 U	780 U	540 U
2,2'-OXYBIS(1-CHLOROPROPANE)	410 U	470 U	530 U	560 U	780 U	540 U
META & PARA-CRESOL	410 U	470 U	530 U	560 U	780 U	540 U
N-NITROSO-DI-N-PROPYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U
HEXACHLOROETHANE	410 U	470 U	530 U	560 U	780 U	540 U
NITROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
ISOPHORONE	410 U	470 U	530 U	560 U	780 U	540 U
2-NITROPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
2,4-DIMETHYLPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
BENZOIC ACID	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
BIS(2-CHLOROETHOXY)METHANE	410 U	470 U	530 U	560 U	780 U	540 U
2,4-DICHLOROPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
1,2,4-TRICHLOROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
NAPHTHALENE	410 U	470 U	530 U	560 U	780 U	540 U
4-CHLOROANILINE	410 U	470 U	530 U	560 U	780 U	540 U
HEXACHLOROBUTADIENE	410 U	470 U	530 U	560 U	780 U	540 U
4-CHLORO-3-METHYLPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
2-METHYLNAPHTHALENE	410 U	470 U	530 U	560 U	780 U	540 U
HEXACHLOROCYCLOPENTADIENE	410 U	470 U	530 U	560 U	780 U	540 U
2,4,6-TRICHLOROPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
2,4,5-TRICHLOROPHENOL	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
2-CHLORONAPHTHALENE	410 U	470 U	530 U	560 U	780 U	540 U
2-NITROANILINE	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
DIMETHYLPHTHALATE	410 U	470 U	530 U	560 U	780 U	540 U
ACENAPHTHYLENE	410 U	470 U	530 U	560 U	780 U	540 U
2,6-DINITROTOLUENE	410 U	470 U	530 U	560 U	780 U	540 U
3-NITROANILINE	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
ACENAPHTHENE	410 U	470 U	530 U	560 U	780 U	540 U
2,4-DINITROPHENOL	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/kg)						
4-NITROPHENOL	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
DIBENZOFURAN	410 U	470 U	530 U	560 U	780 U	540 U
2,4-DINITROTOLUENE	410 U	470 U	530 U	560 U	780 U	540 U
DIETHYLPHTHALATE	410 U	470 U	530 U	560 U	780 U	540 U
4-CHLOROPHENYL-PHENYLETHER	410 U	470 U	530 U	560 U	780 U	540 U
FLUORENE	410 U	470 U	530 U	560 U	780 U	540 U
4-NITROANILINE	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
4,6-DINITRO-2-METHYLPHENOL	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
N-NITROSODIPHENYLAMINE (1)	410 U	470 U	530 U	560 U	780 U	540 U
4-BROMOPHENYL-PHENYLETHER	410 U	470 U	530 U	560 U	780 U	540 U
HEXACHLOROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
PENTACHLOROPHENOL	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
PHENANTHRENE	410 U	470 U	530 U	560 U	290 J	630
ANTHRACENE	410 U	470 U	530 U	560 U	780 U	95 J
DI-N-BUTYLPHTHALATE	410 U	470 U	530 U	560 U	910 U	540 U
FLUORANTHENE	410 U	470 U	530 U	560 U	960	1900
PYRENE	410 U	470 U	530 U	560 U	1200	2200
BUTYLBENZYLPHTHALATE	410 U	470 U	530 U	560 U	780 U	540 U
3,3'-DICHLOROBENZIDINE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
BENZO(A)ANTHRACENE	410 U	470 U	530 U	560 U	530 J	970
CHRYSENE	410 U	470 U	530 U	560 U	720 J	1200
BIS(2-ETHYLHEXYL)PHTHALATE	130 J	470 U	110 J	200 J	880	540 U
DI-N-OCTYL PHTHALATE	410 U	470 U	530 U	560 U	780 U	540 U
BENZO(B)FLUORANTHENE	410 U	470 U	530 U	560 U	780 U	1800
BENZO(K)FLUORANTHENE	410 U	470 U	530 U	560 U	780 U	140 J
BENZO(A)PYRENE	410 U	470 U	530 U	560 U	780 U	920
INDENO(1,2,3-CD)PYRENE	410 U	470 U	530 U	560 U	780 U	90 J
DIBENZO(A,H)ANTHRACENE	410 U	470 U	530 U	560 U	780 U	540 U
BENZO(G,H,I)PERYLENE	410 U	470 U	530 U	560 U	780 U	540 U
1,4-DIOXANE	1700 U	1900 U	2100 U	2300 U	3100 U	2100 U
PYRIDINE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
N-NITROSODIMETHYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U
2-PICOLINE	410 U	470 U	530 U	560 U	780 U	540 U
N-NITROSOMETHYLETHYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U
METHYL METHANESULFONATE	410 U	470 U	530 U	560 U	780 U	540 U
N-NITROSODIETHYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/kg)						
ETHYL METHANESULFONATE	410 U	470 U	530 U	560 U	780 U	540 U
ANILINE	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
N-NITROSOPYRROLIDINE	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
ACETOPHENONE	410 U	470 U	530 U	560 U	780 U	540 U
N-NITROSOMORPHOLINE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
O-TOLUIDINE	410 U	470 U	530 U	560 U	780 U	540 U
N-NITROSOPIPERIDINE	410 U	470 U	530 U	560 U	780 U	540 U
A,A-DIMETHYLPHENETHYLAMINE	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
2,6-DICHLOROPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
HEXACHLOROPROPENE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
P-PHENYLENEDIAMINE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
N-NITROSO-DI-N-BUTYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U
SAFROLE	410 U	470 U	530 U	560 U	780 U	540 U
1,2,4,5-TETRACHLOROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
ISOSAFROLE	410 U	470 U	530 U	560 U	780 U	540 U
1,4-NAPHTHOQUINONE	2100 U	2300 U	2700 U	2800 U	3900 U	2700 U
1,3-DINITROBENZENE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
PENTACHLOROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
1-NAPHTHYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U
2-NAPHTHYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U
2,3,4,6-TETRACHLOROPHENOL	410 U	470 U	530 U	560 U	780 U	540 U
1,3,5-TRINITROBENZENE	4100 U	4700 U	5300 U	5600 U	7800 U	5400 U
DIALLATE	410 U	470 U	530 U	560 U	780 U	540 U
PHENACETIN	410 U	470 U	530 U	560 U	780 U	540 U
DIPHENYLAMINE	410 U	470 U	530 U	560 U	780 U	540 U
5-NITRO-O-TOLUIDINE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
4-AMINOBIPHENYL	410 U	470 U	530 U	560 U	780 U	540 U
PRONAMIDE	410 U	470 U	530 U	560 U	780 U	540 U
2-SEC-BUTYL-4,6-DINITROPHENOL	830 U	930 U	1100 U	1100 U	1600 U	1100 U
PENTACHLORONITROBENZENE	410 U	470 U	530 U	560 U	780 U	540 U
4-NITROQUINOLINE-1-OXIDE	2100 R	2300 U	2700 R	2800 R	3900 R	2700 R
METHAPYRILENE	1000 U	1200 U	1300 U	1400 U	1900 U	1300 U
ARAMITE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
CHLOROBENZILATE	410 U	470 U	530 U	560 U	780 U	540 U
P-DIMETHYLAMINOAZOBENZENE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
3,3'-DIMETHYLBENZIDINE	830 R	930 U	1100 R	1100 R	1600 R	1100 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
SEMIVOLATILES cont. (ug/kg)						
2-ACETYLAMINOFLUORENE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	830 U	930 U	1100 U	1100 U	1600 U	1100 U
HEXACHLOROPHENE	4100 U	4700 U	5300 U	5600 U	7800 U	5400 U
3-METHYLCHOLANTHRENE	410 U	470 U	530 U	560 U	780 U	540 U
CARBAZOLE	410 U	470 U	530 U	560 U	780 U	540 U
PENTACHLOROETHANE	NA	NA	NA	NA	NA	NA
2-METHYLPHENOL	NA	NA	NA	NA	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	NA	NA	NA	NA
3- AND/OR 4-METHYLPHENOL	NA	NA	NA	NA	NA	NA
METHYL METHACRYLATE	NA	NA	NA	NA	NA	NA
ETHYL METHACRYLATE	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	4.8 U	5.6 U	32 U	34 U	92 U	65 U
BETA-BHC	4.8 U	5.6 U	32 U	34 U	92 U	65 U
DELTA-BHC	4.8 U	5.6 U	32 U	34 U	92 U	65 U
GAMMA-BHC (LINDANE)	4.8 U	5.6 U	32 U	34 U	92 U	65 U
HEPTACHLOR	4.8 U	5.6 U	32 U	34 U	92 U	65 U
ALDRIN	4.8 U	5.6 U	32 U	34 U	92 U	65 U
HEPTACHLOR EPOXIDE	4.8 U	5.6 U	32 U	34 U	92 U	65 U
ENDOSULFAN I	4.8 U	5.6 U	32 U	34 U	92 U	65 U
DIELDRIN	9.7 U	11 U	64 U	68 U	180 U	130 U
4,4'-DDE	9.7 U	11 U	64 U	68 U	180 U	29
ENDRIN	9.7 U	11 U	64 U	68 U	180 U	130 U
ENDOSULFAN II	9.7 U	11 U	64 U	68 U	180 U	130 U
4,4'-DDD	9.7 U	11 U	64 U	68 U	180 U	130 U
ENDOSULFAN SULFATE	9.7 U	11 U	64 U	68 U	180 U	130 U
4,4'-DDT	9.7 U	11 U	64 U	68 U	180 U	130 U
METHOXYCHLOR	48 U	56 U	320 U	340 U	920 U	650 U
ENDRIN ALDEHYDE	9.7 U	11 U	64 U	68 U	180 U	130 U
ISODRIN	4.8 UJ	5.6 UJ	32 UJ	34 UJ	92 UJ	65 UJ
KEPONE	9.7 UJ	11 UJ	64 UJ	68 UJ	180 UJ	130 UJ
ALPHA-CHLORDANE	48 U	56 U	320 U	340 U	920 U	650 U
GAMMA-CHLORDANE	48 U	56 U	320 U	340 U	920 U	650 U
TOXAPHENE	97 U	110 U	640 U	680 U	1800 U	1300 U
AROCLOR-1016	48 U	56 U	320 U	340 U	920 U	650 U
AROCLOR-1221	48 U	56 U	320 U	340 U	920 U	650 U
AROCLOR-1232	48 U	56 U	320 U	340 U	920 U	650 U
AROCLOR-1242	48 U	56 U	320 U	340 U	920 U	650 U
AROCLOR-1248	48 U	56 U	320 U	340 U	920 U	650 U
AROCLOR-1254	97 U	110 U	640 U	680 U	1800 U	1300 U
AROCLOR-1260	97 U	110 U	640 U	680 U	1800 U	1300 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	1SD01	1SD02	1SD03	2SD01	2SD02	2SD03
SAMPLE DATE	10/30/95	10/30/95	10/30/95	10/31/95	10/31/95	10/31/95
ORTHO PESTICIDES (ug/kg)						
DIMETHOATE	82 U	93 U	110 U	110 U	150 U	110 U
DISULFOTON	82 U	93 U	110 U	110 U	150 U	110 U
FAMPHUR	82 U	93 U	110 U	110 U	150 U	110 U
METHYL PARATHION	82 U	93 U	110 U	110 U	150 U	110 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	82 U	93 U	110 U	110 U	150 U	110 U
PARATHION	82 U	93 U	110 U	110 U	150 U	110 U
PHORATE	82 U	93 U	110 U	110 U	150 U	110 U
SULFOTEP	82 U	93 U	110 U	110 U	150 U	110 U
THIONAZIN	82 U	93 U	110 U	110 U	150 U	110 U
HERBICIDES (ug/kg)						
2,4-D	410 U	460 U	530 U	560 U	760 U	540 U
2,4,5-T	83 U	93 U	110 U	110 U	150 U	110 U
2,4,5-TP (SILVEX)	83 U	93 U	110 U	110 U	150 U	110 U
DIOXIN (ug/kg)						
TCDD-2378	0.12 U	0.12 U	0.21 U	0.14 U	0.17 U	0.1 U
TOTAL TCDD	0.12 U	0.12 U	0.21 U	0.14 U	0.17 U	0.1 U
TOTAL PECDD	0.14 U	0.15 U	0.21 U	0.19 U	0.2 U	0.24 U
TOTAL HXCDD	0.15 U	0.19 U	0.24 U	0.2 U	0.23 U	2.5
TOTAL TCDF	0.1 U	0.1 U	0.1 U	0.06 U	0.12 U	0.08 U
TOTAL PECDF	0.15 U	0.12 U	0.14 U	0.16 U	0.19 U	0.11 U
TOTAL HXCDF	0.13 U	0.13 U	0.22 U	0.19 U	0.2 U	0.91 J
EXPLOSIVES (ug/kg)						
NITROBENZENE	240 U	250 U	250 U	250 U	250 U	240 U
2,6-DINITROTOLUENE	240 U	250 U	250 U	250 U	250 U	240 U
2,4-DINITROTOLUENE	230 U	240 U	240 U	240 U	240 U	230 U
1,3-DINITROBENZENE	230 U	240 U	240 U	240 U	240 U	230 U
1,3,5-TRINITROBENZENE	230 U	240 U	240 U	240 U	240 U	230 U
2-NITROTOLUENE	920 U	950 U	950 U	970 U	940 U	900 U
2,4,6-TRINITROTOLUENE	230 U	240 U	240 U	240 U	240 U	230 U
3-NITROTOLUENE	920 U	950 U	950 U	970 U	940 U	900 U
4-NITROTOLUENE	2800 U	2900 U	2900 U	2900 U	2800 U	2700 U
AMINO-DNTS	460 U	480 U	480 U	490 U	470 U	450 U
HMX	2000 U	2100 U	2100 U	2100 U	2100 U	2000 U
RDX	1000 U	1000 U	1000 U	1000 U	1000 U	980 U
TETRYL	690 U	720 U	720 U	730 U	710 U	680 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
VOLATILES (ug/kg)						
CHLOROMETHANE	14 U	14 U	14 U	15 U	16 U	17 U
BROMOMETHANE	14 U	14 U	14 U	15 U	16 U	17 U
VINYL CHLORIDE	14 U	14 U	14 U	15 U	16 U	17 U
CHLOROETHANE	14 U	14 U	14 U	15 U	16 U	17 U
METHYLENE CHLORIDE	7 U	7 U	7 U	8 U	8 U	9 U
ACETONE	51 U	14 U	14 U	19 U	20 U	17 U
CARBON DISULFIDE	7 U	7 U	7 U	8 U	8 U	9 U
1,1-DICHLOROETHENE	7 U	7 U	7 U	8 U	8 U	9 U
1,1-DICHLOROETHANE	7 U	7 U	7 U	8 U	8 U	9 U
1,2-DICHLOROETHENE (TOTAL)	7 U	7 U	7 U	8 U	8 U	9 U
CHLOROFORM	7 U	7 U	7 U	8 U	8 U	9 U
1,2-DICHLOROETHANE	7 U	7 U	7 U	8 U	8 U	9 U
2-BUTANONE	11 J	14 U	14 U	15 U	16 U	17 U
1,1,1-TRICHLOROETHANE	7 U	7 U	7 U	8 U	8 U	9 U
CARBON TETRACHLORIDE	7 U	7 U	7 U	8 U	8 U	9 U
VINYL ACETATE	14 U	14 U	14 U	15 U	16 U	17 U
BROMODICHLOROMETHANE	7 U	7 U	7 U	8 U	8 U	9 U
1,2-DICHLOROPROPANE	7 U	7 U	7 U	8 U	8 U	9 U
CIS-1,3-DICHLOROPROPENE	7 U	7 U	7 U	8 U	8 U	9 U
TRICHLOROETHENE	7 U	7 U	7 U	8 U	8 U	9 U
DIBROMOCHLOROMETHANE	7 U	7 U	7 U	8 U	8 U	9 U
1,1,2-TRICHLOROETHANE	7 U	7 U	7 U	8 U	8 U	9 U
BENZENE	7 U	7 U	7 U	8 U	8 U	9 U
TRANS-1,3-DICHLOROPROPENE	7 U	7 U	7 U	8 U	8 U	9 U
BROMOFORM	7 U	7 U	7 U	8 U	8 U	9 U
4-METHYL-2-PENTANONE	14 U	14 U	14 U	15 U	16 U	17 U
2-HEXANONE	14 U	14 U	14 U	15 U	16 U	17 U
TETRACHLOROETHENE	7 U	7 U	7 U	8 U	8 U	9 U
1,1,2,2-TETRACHLOROETHANE	7 U	7 U	7 U	8 U	8 U	9 U
TOLUENE	7 U	7 U	7 U	8 U	8 U	9 U
CHLOROBENZENE	7 U	7 U	7 U	8 U	8 U	9 U
ETHYLBENZENE	7 U	7 U	7 U	8 U	8 U	9 U
STYRENE	7 U	7 U	7 U	8 U	8 U	9 U
XYLENE (TOTAL)	7 U	7 U	7 U	8 U	8 U	9 U
ACROLEIN	720 R	680 R	680 U	760 R	800 U	860 R
ACRYLONITRILE	140 U	140 U	140 U	150 U	160 U	170 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
VOLATILES cont. (ug/kg)						
TRICHLOROFLUOROMETHANE	14 U	14 R	14 R	15 R	16 U	17 U
DICHLORODIFLUOROMETHANE	29 U	27 U	27 U	31 U	32 U	34 U
ACETONITRILE	140 U	140 U	140 U	150 U	160 U	170 U
IODOMETHANE	14 U	14 U	14 U	15 U	16 U	17 U
PROPIONITRILE (ETHYL CYANIDE)	72 U	68 R	68 U	76 R	80 U	86 U
3-CHLOROPROPENE	29 U	27 U	27 U	31 U	32 U	34 U
METHACRYLONITRILE	29 U	27 U	27 U	31 U	32 U	34 U
DIBROMOMETHANE	14 U	14 U	14 U	15 U	16 U	17 U
ISOBUTYL ALCOHOL	2900 U	2700 R	2700 U	3100 R	3200 R	3400 R
1,2-DIBROMOETHANE	29 U	27 U	27 U	31 U	32 U	34 U
1,1,1,2-TETRACHLOROETHANE	14 U	14 U	14 U	15 U	16 U	17 U
1,2,3-TRICHLOROPROPANE	14 U	14 U	14 U	15 U	16 U	17 U
TRANS-1,4-DICHLORO-2-BUTENE	29 U	27 U	27 U	31 U	32 U	34 U
1,2-DIBROMO-3-CHLOROPROPANE	29 U	27 U	27 U	31 U	32 U	34 U
2-CHLORO-1,3-BUTADIENE	140 U	140 U	140 U	150 U	160 U	170 U
METHYLMETHACRYLATE	29 U	27 U	27 U	31 U	32 U	34 U
ETHYLMETHACRYLATE	29 U	27 U	27 U	31 U	32 U	34 U
PENTACHLOROETHANE	29 U	27 U	27 U	31 U	32 U	34 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
SEMIVOLATILES (ug/kg)						
PHENOL	470 U	450 U	450 U	500 U	520 U	560 U
BIS(2-CHLOROETHYL)ETHER	470 U	450 U	450 U	500 U	520 U	560 U
2-CHLOROPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
1,3-DICHLOROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
1,4-DICHLOROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
BENZYL ALCOHOL	470 U	450 U	450 U	500 U	520 U	560 U
1,2-DICHLOROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
O-CRESOL	470 U	450 U	450 U	500 U	520 U	560 U
2,2'-OXYBIS(1-CHLOROPROPANE)	470 U	450 U	450 U	500 U	520 U	560 U
META & PARA-CRESOL	470 U	450 U	450 U	500 U	520 U	560 U
N-NITROSO-DI-N-PROPYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U
HEXACHLOROETHANE	470 U	450 U	450 U	500 U	520 U	560 U
NITROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
ISOPHORONE	470 U	450 U	450 U	500 U	520 U	560 U
2-NITROPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
2,4-DIMETHYLPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
BENZOIC ACID	2300 U	2300 U	2200 U	2500 U	2600 U	3600
BIS(2-CHLOROETHOXY)METHANE	470 U	450 U	450 U	500 U	520 U	560 U
2,4-DICHLOROPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
1,2,4-TRICHLOROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
NAPHTHALENE	470 U	450 U	450 U	500 U	520 U	560 U
4-CHLOROANILINE	470 U	450 U	450 U	500 U	520 U	560 U
HEXACHLOROBUTADIENE	470 U	450 U	450 U	500 U	520 U	560 U
4-CHLORO-3-METHYLPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
2-METHYLNAPHTHALENE	470 U	450 U	450 U	500 U	520 U	560 U
HEXACHLOROCYCLOPENTADIENE	470 U	450 U	450 U	500 U	520 U	560 U
2,4,6-TRICHLOROPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
2,4,5-TRICHLOROPHENOL	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
2-CHLORONAPHTHALENE	470 U	450 U	450 U	500 U	520 U	560 U
2-NITROANILINE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
DIMETHYLPHTHALATE	470 U	450 U	450 U	500 U	520 U	560 U
ACENAPHTHYLENE	470 U	450 U	450 U	500 U	520 U	560 U
2,6-DINITROTOLUENE	470 U	450 U	450 U	500 U	520 U	560 U
3-NITROANILINE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
ACENAPHTHENE	470 U	450 U	450 U	500 U	520 U	560 U
2,4-DINITROPHENOL	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
4-NITROPHENOL	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
DIBENZOFURAN	470 U	450 U	450 U	500 U	520 U	560 U
2,4-DINITROTOLUENE	470 U	450 U	450 U	500 U	520 U	560 U
DIETHYLPHTHALATE	470 U	450 U	450 U	500 U	520 U	560 U
4-CHLOROPHENYL-PHENYLETHER	470 U	450 U	450 U	500 U	520 U	560 U
FLUORENE	62 J	450 U	450 U	500 U	520 U	560 U
4-NITROANILINE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
4,6-DINITRO-2-METHYLPHENOL	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
N-NITROSODIPHENYLAMINE (1)	470 U	450 U	450 U	500 U	520 U	560 U
4-BROMOPHENYL-PHENYLETHER	470 U	450 U	450 U	500 U	520 U	560 U
HEXACHLOROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
PENTACHLOROPHENOL	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
PHENANTHRENE	1900	450 U	450 U	500 U	520 U	560 U
ANTHRACENE	300 J	450 U	450 U	500 U	520 U	560 U
DI-N-BUTYLPHTHALATE	710 U	450 U	450 U	500 U	520 U	560 U
FLUORANTHENE	3500	450 U	450 U	500 U	520 U	560 U
PYRENE	5500	450 U	450 U	500 U	520 U	560 U
BUTYLBENZYLPHTHALATE	470 U	450 U	450 U	500 U	520 U	560 U
3,3'-DICHLOROBENZIDINE	940 U	900 U	900 U	1000 U	1000 U	1100 U
BENZO(A)ANTHRACENE	2200	450 U	450 U	500 U	520 U	560 U
CHRYSENE	2600	450 U	450 U	500 U	520 U	560 U
BIS(2-ETHYLHEXYL)PHTHALATE	470 U	450 U	450 U	500 U	520 U	560 U
DI-N-OCTYL PHTHALATE	470 U	450 U	450 U	500 U	520 U	560 U
BENZO(B)FLUORANTHENE	2700	450 U	450 U	500 U	520 U	560 U
BENZO(K)FLUORANTHENE	1400	450 U	450 U	500 U	520 U	560 U
BENZO(A)PYRENE	1900	450 U	450 U	500 U	520 U	560 U
INDENO(1,2,3-CD)PYRENE	1000	450 U	450 U	500 U	520 U	560 U
DIBENZO(A,H)ANTHRACENE	260 J	450 U	450 U	500 U	520 U	560 U
BENZO(G,H,I)PERYLENE	870	450 U	450 U	500 U	520 U	560 U
1,4-DIOXANE	1900 U	1800 U	1800 U	2000 U	2100 U	2300 U
PYRIDINE	940 U	900 U	900 U	1000 U	1000 U	1100 U
N-NITROSODIMETHYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U
2-PICOLINE	470 U	450 U	450 U	500 U	520 U	560 U
N-NITROSOMETHYLETHYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U
METHYL METHANESULFONATE	470 U	450 U	450 U	500 U	520 U	560 U
N-NITROSODIETHYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
ETHYL METHANESULFONATE	470 U	450 U	450 U	500 U	520 U	560 U
ANILINE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
N-NITROSOPYRROLIDINE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
ACETOPHENONE	470 U	450 U	450 U	500 U	520 U	560 U
N-NITROSOMORPHOLINE	940 U	900 U	900 U	1000 U	1000 U	1100 U
O-TOLUIDINE	470 U	450 U	450 U	500 U	520 U	560 U
N-NITROSOPIPERIDINE	470 U	450 U	450 U	500 U	520 U	560 U
A,A-DIMETHYLPHENETHYLAMINE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
2,6-DICHLOROPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
HEXACHLOROPROPENE	940 U	900 U	900 U	1000 U	1000 U	1100 U
P-PHENYLENEDIAMINE	940 U	900 U	900 U	1000 U	1000 U	1100 U
N-NITROSO-DI-N-BUTYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U
SAFROLE	470 U	450 U	450 U	500 U	520 U	560 U
1,2,4,5-TETRACHLOROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
ISOSAFROLE	470 U	450 U	450 U	500 U	520 U	560 U
1,4-NAPHTHOQUINONE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
1,3-DINITROBENZENE	940 U	900 U	900 U	1000 U	1000 U	1100 U
PENTACHLOROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
1-NAPHTHYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U
2-NAPHTHYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U
2,3,4,6-TETRACHLOROPHENOL	470 U	450 U	450 U	500 U	520 U	560 U
1,3,5-TRINITROBENZENE	4700 U	4500 U	4500 U	5000 U	5200 U	5600 U
DIALLATE	470 U	450 U	450 U	500 U	520 U	560 U
PHENACETIN	470 U	450 U	450 U	500 U	520 U	560 U
DIPHENYLAMINE	470 U	450 U	450 U	500 U	520 U	560 U
5-NITRO-O-TOLUIDINE	940 U	900 U	900 U	1000 U	1000 U	1100 U
4-AMINOBIPHENYL	470 U	450 U	450 U	500 U	520 U	560 U
PRONAMIDE	470 U	450 U	450 U	500 U	520 U	560 U
2-SEC-BUTYL-4,6-DINITROPHENOL	940 U	900 U	900 U	1000 U	1000 U	1100 U
PENTACHLORONITROBENZENE	470 U	450 U	450 U	500 U	520 U	560 U
4-NITROQUINOLINE-1-OXIDE	2300 U	2300 U	2200 U	2500 U	2600 U	2800 U
METHAPYRILENE	1200 U	1100 U	1100 U	1300 U	1300 U	1400 U
ARAMITE	940 U	900 U	900 U	1000 U	1000 U	1100 U
CHLOROBENZILATE	470 U	450 U	450 U	500 U	520 U	560 U
P-DIMETHYLAMINOAZOBENZENE	940 U	900 U	900 U	1000 U	1000 U	1100 U
3,3'-DIMETHYLBENZIDINE	940 U	900 R	900 R	1000 R	1000 R	1100 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
2-ACETYLAMINOFLUORENE	940 U	900 U	900 U	1000 U	1000 U	1100 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	940 U	900 U	900 U	1000 U	1000 U	1100 U
HEXACHLOROPHENE	4700 U	4500 U	4500 U	5000 U	5200 U	5600 U
3-METHYLCHOLANTHRENE	470 U	450 U	450 U	500 U	520 U	560 U
CARBAZOLE	65 J	450 U	450 U	500 U	520 U	560 U
PENTACHLOROETHANE	NA	NA	NA	NA	NA	NA
2-METHYLPHENOL	NA	NA	NA	NA	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	NA	NA	NA	NA
3- AND/OR 4-METHYLPHENOL	NA	NA	NA	NA	NA	NA
METHYL METHACRYLATE	NA	NA	NA	NA	NA	NA
ETHYL METHACRYLATE	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	57 U	26 U	27 U	30 U	31 U	33 U
BETA-BHC	22	26 U	27 U	30 U	31 U	33 U
DELTA-BHC	57 U	26 U	27 U	30 U	31 U	33 U
GAMMA-BHC (LINDANE)	57 U	26 U	27 U	30 U	31 U	33 U
HEPTACHLOR	57 U	26 U	27 U	30 U	31 U	33 U
ALDRIN	57 U	26 U	27 U	30 U	31 U	33 U
HEPTACHLOR EPOXIDE	57 U	26 U	27 U	30 U	31 U	33 U
ENDOSULFAN I	57 U	26 U	27 U	30 U	31 U	33 U
DIELDRIN	110 U	53 U	54 U	60 U	63 U	66 U
4,4'-DDE	33	53 U	54 U	60 U	63 U	66 U
ENDRIN	110 U	53 U	54 U	60 U	63 U	66 U
ENDOSULFAN II	110 U	53 U	54 U	60 U	63 U	66 U
4,4'-DDD	110 U	53 U	54 U	60 U	63 U	66 U
ENDOSULFAN SULFATE	110 U	53 U	54 U	60 U	63 U	66 U
4,4'-DDT	110 U	53 U	54 U	60 U	63 U	66 U
METHOXYCHLOR	570 U	260 U	270 U	300 U	310 U	330 U
ENDRIN ALDEHYDE	110 U	53 U	54 U	60 U	63 U	66 U
ISODRIN	57 UJ	26 UJ	27 UJ	30 UJ	31 UJ	33 UJ
KEPONE	110 UJ	53 U	54 U	60 UJ	63 UJ	66 UJ
ALPHA-CHLORDANE	570 U	260 U	270 U	300 U	310 U	330 U
GAMMA-CHLORDANE	570 U	260 U	270 U	300 U	310 U	330 U
TOXAPHENE	1100 U	530 U	540 U	600 U	630 U	660 U
AROCLOR-1016	570 U	260 U	270 U	300 U	310 U	330 U
AROCLOR-1221	570 U	260 U	270 U	300 U	310 U	330 U
AROCLOR-1232	570 U	260 U	270 U	300 U	310 U	330 U
AROCLOR-1242	570 U	260 U	270 U	300 U	310 U	330 U
AROCLOR-1248	570 U	260 U	270 U	300 U	310 U	330 U
AROCLOR-1254	1100 U	530 U	540 U	600 U	630 U	660 U
AROCLOR-1260	1100 U	530 U	540 U	600 U	630 U	660 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	2SD03D	3SD01	3SD01D	3SD02	3SD03	3SD04
SAMPLE DATE	10/31/95	10/29/95	10/29/95	10/29/95	10/29/95	10/27/95
ORTHO PESTICIDES (ug/kg)						
DIMETHOATE	95 U	89 U	90 U	100 U	110 U	110 U
DISULFOTON	95 U	89 U	90 U	100 U	110 U	110 U
FAMPHUR	95 U	89 U	90 U	100 U	110 U	110 U
METHYL PARATHION	95 U	89 U	90 U	100 U	110 U	110 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	95 U	89 U	90 U	100 U	110 U	110 U
PARATHION	95 U	89 U	90 U	100 U	110 U	110 U
PHORATE	95 U	89 U	90 U	100 U	110 U	110 U
SULFOTEP	95 U	89 U	90 U	100 U	110 U	110 U
THIONAZIN	95 U	89 U	90 U	100 U	110 U	110 U
HERBICIDES (ug/kg)						
2,4-D	470 U	420 U	420 U	500 U	520 U	570 U
2,4,5-T	93 U	84 U	84 U	99 U	100 U	110 U
2,4,5-TP (SILVEX)	93 U	84 U	84 U	99 U	100 U	110 U
DIOXIN (ug/kg)						
TCDD-2378	0.17 U	0.17 U	0.12 U	0.16 U	0.11 U	0.12 U
TOTAL TCDD	0.17 U	0.17 U	0.12 U	0.16 U	0.11 U	0.12 U
TOTAL PECDD	0.26 J	0.18 U	0.2 U	0.18 U	0.14 U	0.19 U
TOTAL HXCDD	3.3	0.19 U	0.16 U	0.18 U	0.12 U	0.21 U
TOTAL TCDF	0.13 U	0.08 U	0.08 U	0.09 U	0.05 U	0.1 U
TOTAL PECDF	0.17 U	0.09 U	0.12 U	0.12 U	0.07 U	0.11 U
TOTAL HXCDF	1 J	0.17 U	0.18 U	0.18 U	0.11 U	0.18 U
EXPLOSIVES (ug/kg)						
NITROBENZENE	250 U	260 U	240 U	250 U	250 U	250 U
2,6-DINITROTOLUENE	250 U	260 U	240 U	250 U	250 U	250 U
2,4-DINITROTOLUENE	240 U	250 U	230 U	240 U	240 U	240 U
1,3-DINITROBENZENE	240 U	250 U	230 U	240 U	240 U	240 U
1,3,5-TRINITROBENZENE	240 U	250 U	230 U	240 U	240 U	240 U
2-NITROTOLUENE	960 U	1000 U	930 U	960 U	970 U	950 U
2,4,6-TRINITROTOLUENE	240 U	250 U	230 U	240 U	240 U	240 U
3-NITROTOLUENE	960 U	1000 U	930 U	960 U	970 U	950 U
4-NITROTOLUENE	2900 U	3000 U	2800 U	2900 U	2900 U	2800 U
AMINO-DNTS	480 U	500 U	470 U	480 U	480 U	470 U
HMX	2100 U	2200 U	2000 U	2100 U	2100 U	2100 U
RDX	1000 U	1100 U	1000 U	1000 U	1000 U	1000 U
TETRYL	720 U	750 U	700 U	720 U	730 U	710 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
VOLATILES (ug/kg)						
CHLOROMETHANE	15 U	15 U	16 U	20 U	18 U	19 U
BROMOMETHANE	15 U	15 U	16 U	20 U	18 U	19 U
VINYL CHLORIDE	15 U	15 U	16 U	20 U	18 U	19 U
CHLOROETHANE	15 U	15 U	16 U	20 U	18 U	19 U
METHYLENE CHLORIDE	8 U	7 U	8 U	10 U	9 U	9 U
ACETONE	26 U	15 U	18 U	26 U	18 U	22 U
CARBON DISULFIDE	8 U	7 U	8 U	10 U	9 U	9 U
1,1-DICHLOROETHENE	8 U	7 U	8 U	10 U	9 U	9 U
1,1-DICHLOROETHANE	8 U	7 U	8 U	10 U	9 U	9 U
1,2-DICHLOROETHENE (TOTAL)	8 U	7 U	8 U	10 U	9 U	9 U
CHLOROFORM	8 U	7 U	8 U	10 U	9 U	9 U
1,2-DICHLOROETHANE	8 U	7 U	8 U	10 U	9 U	9 U
2-BUTANONE	15 U	15 U	16 U	20 U	18 U	19 U
1,1,1-TRICHLOROETHANE	8 U	7 U	8 U	10 U	9 U	9 U
CARBON TETRACHLORIDE	8 U	7 U	8 U	10 U	9 U	9 U
VINYL ACETATE	15 U	15 U	16 U	20 U	18 U	19 U
BROMODICHLOROMETHANE	8 U	7 U	8 U	10 U	9 U	9 U
1,2-DICHLOROPROPANE	8 U	7 U	8 U	10 U	9 U	9 U
CIS-1,3-DICHLOROPROPENE	8 U	7 U	8 U	10 U	9 U	9 U
TRICHLOROETHENE	8 U	7 U	8 U	10 U	9 U	9 U
DIBROMOCHLOROMETHANE	8 U	7 U	8 U	10 U	9 U	9 U
1,1,2-TRICHLOROETHANE	8 U	7 U	8 U	10 U	9 U	9 U
BENZENE	8 U	7 U	8 U	10 U	9 U	9 U
TRANS-1,3-DICHLOROPROPENE	8 U	7 U	8 U	10 U	9 U	9 U
BROMOFORM	8 U	7 U	8 U	10 U	9 U	9 U
4-METHYL-2-PENTANONE	15 U	15 U	16 U	20 U	18 U	19 U
2-HEXANONE	15 U	15 U	16 U	20 U	18 U	19 U
TETRACHLOROETHENE	8 U	7 U	8 U	10 U	9 U	9 U
1,1,2,2-TETRACHLOROETHANE	8 U	7 U	8 U	10 U	9 U	9 U
TOLUENE	8 U	7 U	8 U	10 U	9 U	9 U
CHLOROBENZENE	8 U	7 U	8 U	10 U	9 U	9 U
ETHYLBENZENE	8 U	7 U	8 U	10 U	9 U	9 U
STYRENE	8 U	7 U	8 U	10 U	9 U	9 U
XYLENE (TOTAL)	8 U	7 U	8 U	10 U	9 U	9 U
ACROLEIN	770 R	730 U	800 R	1000 R	900 R	940 R
ACRYLONITRILE	150 U	150 U	160 U	200 U	180 U	190 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
VOLATILES cont. (ug/kg)						
TRICHLOROFLUOROMETHANE	15 U	15 U	16 U	20 U	18 U	19 U
DICHLORODIFLUOROMETHANE	31 U	29 U	32 U	40 U	36 U	38 U
ACETONITRILE	150 U	150 U	160 U	200 U	180 U	190 U
IODOMETHANE	15 U	15 U	16 U	20 U	18 U	19 U
PROPIONITRILE (ETHYL CYANIDE)	77 U	73 U	80 U	100 U	90 U	94 U
3-CHLOROPROPENE	31 U	29 U	32 U	40 U	36 U	38 U
METHACRYLONITRILE	31 U	29 U	32 U	40 U	36 U	38 U
DIBROMOMETHANE	15 U	15 U	16 U	20 U	18 U	19 U
ISOBUTYL ALCOHOL	3100 R	2900 R	3200 R	4000 R	3600 R	3800 R
1,2-DIBROMOETHANE	31 U	29 U	32 U	40 U	36 U	38 U
1,1,1,2-TETRACHLOROETHANE	15 U	15 U	16 U	20 U	18 U	19 U
1,2,3-TRICHLOROPROPANE	15 U	15 U	16 U	20 U	18 U	19 U
TRANS-1,4-DICHLORO-2-BUTENE	31 U	29 U	32 U	40 U	36 U	38 U
1,2-DIBROMO-3-CHLOROPROPANE	31 U	29 U	32 U	40 U	36 U	38 U
2-CHLORO-1,3-BUTADIENE	150 U	150 U	160 U	200 U	180 U	190 U
METHYLMETHACRYLATE	31 U	29 U	32 U	40 U	36 U	38 U
ETHYLMETHACRYLATE	31 U	29 U	32 U	40 U	36 U	38 U
PENTACHLOROETHANE	31 U	29 U	32 U	40 U	36 U	38 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES (ug/kg)						
PHENOL	510 U	480 U	520 U	660 U	590 U	420 J
BIS(2-CHLOROETHYL)ETHER	510 U	480 U	520 U	660 U	590 U	630 U
2-CHLOROPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
1,3-DICHLOROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
1,4-DICHLOROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
BENZYL ALCOHOL	510 U	480 U	520 U	660 U	590 U	630 U
1,2-DICHLOROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
O-CRESOL	510 U	480 U	520 U	660 U	590 U	630 U
2,2'-OXYBIS(1-CHLOROPROPANE)	510 U	480 U	520 U	660 U	590 U	630 U
META & PARA-CRESOL	510 U	480 U	520 U	660 U	590 U	630 U
N-NITROSO-DI-N-PROPYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U
HEXACHLOROETHANE	510 U	480 U	520 U	660 U	590 U	630 U
NITROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
ISOPHORONE	510 U	480 U	520 U	660 U	590 U	630 U
2-NITROPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
2,4-DIMETHYLPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
BENZOIC ACID	770 J	770 J	570 J	3300 U	3000 U	2400 J
BIS(2-CHLOROETHOXY)METHANE	510 U	480 U	520 U	660 U	590 U	630 U
2,4-DICHLOROPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
1,2,4-TRICHLOROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
NAPHTHALENE	510 U	480 U	520 U	660 U	590 U	630 U
4-CHLOROANILINE	510 U	480 U	520 U	660 U	590 U	630 U
HEXACHLOROBUTADIENE	510 U	480 U	520 U	660 U	590 U	630 U
4-CHLORO-3-METHYLPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
2-METHYLNAPHTHALENE	510 U	480 U	520 U	660 U	590 U	630 U
HEXACHLOROCYCLOPENTADIENE	510 U	480 U	520 U	660 U	590 U	630 U
2,4,6-TRICHLOROPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
2,4,5-TRICHLOROPHENOL	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
2-CHLORONAPHTHALENE	510 U	480 U	520 U	660 U	590 U	630 U
2-NITROANILINE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
DIMETHYLPHTHALATE	510 U	480 U	520 U	660 U	590 U	630 U
ACENAPHTHYLENE	510 U	480 U	520 U	660 U	590 U	630 U
2,6-DINITROTOLUENE	510 U	480 U	520 U	660 U	590 U	630 U
3-NITROANILINE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
ACENAPHTHENE	510 U	480 U	520 U	660 U	590 U	630 U
2,4-DINITROPHENOL	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
4-NITROPHENOL	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
DIBENZOFURAN	510 U	480 U	520 U	660 U	590 U	630 U
2,4-DINITROTOLUENE	510 U	480 U	520 U	660 U	590 U	630 U
DIETHYLPHTHALATE	510 U	480 U	520 U	660 U	590 U	630 U
4-CHLOROPHENYL-PHENYLETHER	510 U	480 U	520 U	660 U	590 U	630 U
FLUORENE	510 U	480 U	520 U	660 U	590 U	630 U
4-NITROANILINE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
4,6-DINITRO-2-METHYLPHENOL	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
N-NITROSODIPHENYLAMINE (1)	510 U	480 U	520 U	660 U	590 U	630 U
4-BROMOPHENYL-PHENYLETHER	510 U	480 U	520 U	660 U	590 U	630 U
HEXACHLOROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
PENTACHLOROPHENOL	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
PHENANTHRENE	510 U	480 U	520 U	660 U	590 U	630 U
ANTHRACENE	510 U	480 U	520 U	660 U	590 U	630 U
DI-N-BUTYLPHTHALATE	510 U	480 U	520 U	660 U	590 U	630 U
FLUORANTHENE	510 U	480 U	520 U	660 U	590 U	630 U
PYRENE	510 U	480 U	520 U	660 U	590 U	630 U
BUTYLBENZYLPHTHALATE	510 U	480 U	520 U	660 U	590 U	630 U
3,3'-DICHLOROBENZIDINE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
BENZO(A)ANTHRACENE	510 U	480 U	520 U	660 U	590 U	630 U
CHRYSENE	510 U	480 U	520 U	660 U	590 U	630 U
BIS(2-ETHYLHEXYL)PHTHALATE	510 U	480 U	520 U	660 U	590 U	630 U
DI-N-OCTYL PHTHALATE	510 U	480 U	520 U	660 U	590 U	630 U
BENZO(B)FLUORANTHENE	510 U	480 U	520 U	660 U	590 U	630 U
BENZO(K)FLUORANTHENE	510 U	480 U	520 U	660 U	590 U	630 U
BENZO(A)PYRENE	510 U	480 U	520 U	660 U	590 U	630 U
INDENO(1,2,3-CD)PYRENE	510 U	480 U	520 U	660 U	590 U	630 U
DIBENZO(A,H)ANTHRACENE	510 U	480 U	520 U	660 U	590 U	630 U
BENZO(G,H,I)PERYLENE	510 U	480 U	520 U	660 U	590 U	630 U
1,4-DIOXANE	2100 U	1900 U	2100 U	2600 U	2400 U	2500 U
PYRIDINE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
N-NITROSODIMETHYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U
2-PICOLINE	510 U	480 U	520 U	660 U	590 U	630 U
N-NITROSOMETHYLETHYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U
METHYL METHANESULFONATE	510 U	480 U	520 U	660 U	590 U	630 U
N-NITROSODIETHYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
ETHYL METHANESULFONATE	510 U	480 U	520 U	660 U	590 U	630 U
ANILINE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
N-NITROSOPYRROLIDINE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
ACETOPHENONE	510 U	480 U	520 U	660 U	590 U	630 U
N-NITROSOMORPHOLINE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
O-TOLUIDINE	510 U	480 U	520 U	660 U	590 U	630 U
N-NITROSOPIPERIDINE	510 U	480 U	520 U	660 U	590 U	630 U
A,A-DIMETHYLPHENETHYLAMINE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
2,6-DICHLOROPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
HEXACHLOROPROPENE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
P-PHENYLENEDIAMINE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
N-NITROSO-DI-N-BUTYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U
SAFROLE	510 U	480 U	520 U	660 U	590 U	630 U
1,2,4,5-TETRACHLOROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
ISOSAFROLE	510 U	480 U	520 U	660 U	590 U	630 U
1,4-NAPHTHOQUINONE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 U
1,3-DINITROBENZENE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
PENTACHLOROBENZENE	510 U	480 U	520 U	660 U	590 U	630 U
1-NAPHTHYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U
2-NAPHTHYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U
2,3,4,6-TETRACHLOROPHENOL	510 U	480 U	520 U	660 U	590 U	630 U
1,3,5-TRINITROBENZENE	5100 U	4800 U	5200 U	6600 U	5900 U	6300 U
DIALLATE	510 U	480 U	520 U	660 U	590 U	630 U
PHENACETIN	510 U	480 U	520 U	660 U	590 U	630 U
DIPHENYLAMINE	510 U	480 U	520 U	660 U	590 U	630 U
5-NITRO-O-TOLUIDINE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
4-AMINOBIPHENYL	510 U	480 U	520 U	660 U	590 U	630 U
PRONAMIDE	510 U	480 U	520 U	660 U	590 U	630 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
PENTACHLORONITROBENZENE	510 U	480 R	520 R	660 R	590 R	630 U
4-NITROQUINOLINE-1-OXIDE	2600 U	2400 U	2600 U	3300 U	3000 U	3100 R
METHAPYRILENE	1300 U	1200 U	1300 U	1600 U	1500 U	1600 U
ARAMITE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
CHLOROBENZILATE	510 U	480 U	520 U	660 U	590 U	630 U
P-DIMETHYLAMINOAZOBENZENE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
3,3'-DIMETHYLBENZIDINE	1000 R	950 R	1000 R	1300 R	1200 R	1300 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
2-ACETYLAMINOFLUORENE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	1000 U	950 U	1000 U	1300 U	1200 U	1300 U
HEXACHLOROPHENE	5100 U	4800 U	5200 U	6600 U	5900 U	6300 U
3-METHYLCHOLANTHRENE	510 U	480 U	520 U	660 U	590 U	630 U
CARBAZOLE	510 U	480 U	520 U	660 U	590 U	630 U
PENTACHLOROETHANE	NA	NA	NA	NA	NA	NA
2-METHYLPHENOL	NA	NA	NA	NA	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	NA	NA	NA	NA
3- AND/OR 4-METHYLPHENOL	NA	NA	NA	NA	NA	NA
METHYL METHACRYLATE	NA	NA	NA	NA	NA	NA
ETHYL METHACRYLATE	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	31 U	28 U	32 U	39 U	36 U	38 U
BETA-BHC	31 U	28 U	32 U	39 U	36 U	38 U
DELTA-BHC	31 U	28 U	32 U	39 U	36 U	38 U
GAMMA-BHC (LINDANE)	31 UJ	28 U	32 U	39 U	36 U	38 U
HEPTACHLOR	31 U	28 U	32 U	39 U	36 U	38 U
ALDRIN	31 U	28 U	32 U	39 U	36 U	38 U
HEPTACHLOR EPOXIDE	31 U	28 U	32 U	39 U	36 U	38 U
ENDOSULFAN I	31 UJ	28 U	32 U	39 U	36 U	38 U
DIELDRIN	61 U	57 U	64 U	79 U	71 U	75 U
4,4'-DDE	61 U	57 U	64 U	79 U	71 U	75 U
ENDRIN	61 U	57 U	64 U	79 U	71 U	75 U
ENDOSULFAN II	61 U	57 U	64 U	79 U	71 U	75 U
4,4'-DDD	61 U	57 U	64 U	79 U	71 U	75 U
ENDOSULFAN SULFATE	61 U	57 U	64 U	79 U	71 U	75 U
4,4'-DDT	61 U	57 U	64 U	79 U	71 U	75 U
METHOXYCHLOR	310 U	280 U	320 U	390 U	360 U	380 UJ
ENDRIN ALDEHYDE	61 U	57 U	64 U	79 U	71 U	75 U
ISODRIN	31 UJ	28 UJ	32 UJ	39 UJ	36 UJ	38 UJ
KEPONE	61 U	57 UJ	64 UJ	79 UJ	71 UJ	75 U
ALPHA-CHLORDANE	310 U	280 U	320 U	390 U	360 U	380 U
GAMMA-CHLORDANE	310 U	280 U	320 U	390 U	360 U	380 U
TOXAPHENE	610 U	570 U	640 U	790 U	710 U	750 U
AROCLOR-1016	310 U	280 U	320 U	390 U	360 U	380 U
AROCLOR-1221	310 U	280 U	320 U	390 U	360 U	380 U
AROCLOR-1232	310 U	280 U	320 U	390 U	360 U	380 U
AROCLOR-1242	310 U	280 U	320 U	390 U	360 U	380 U
AROCLOR-1248	310 U	280 U	320 U	390 U	360 U	380 U
AROCLOR-1254	610 U	570 U	640 U	790 U	710 U	750 U
AROCLOR-1260	610 U	570 U	640 U	790 U	710 U	750 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD05	3SD06	3SD07	3SD08	3SD09	3SD10
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/27/95
ORTHO PESTICIDES (ug/kg)						
DIMETHOATE	100 U	97 U	110 U	130 U	120 U	120 U
DISULFOTON	100 U	97 U	110 U	130 U	120 U	120 U
FAMPHUR	100 U	97 U	110 U	130 U	120 U	120 U
METHYL PARATHION	100 U	97 U	110 U	130 U	120 U	120 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	100 U	97 U	110 U	130 U	120 U	120 U
PARATHION	100 U	97 U	110 U	130 U	120 U	120 U
PHORATE	100 U	97 U	110 U	130 U	120 U	120 U
SULFOTEP	100 U	97 U	110 U	130 U	120 U	120 U
THIONAZIN	100 U	97 U	110 U	130 U	120 U	120 U
HERBICIDES (ug/kg)						
2,4-D	500 U	470 U	520 U	660 U	590 U	630 U
2,4,5-T	100 U	94 U	100 U	130 U	120 U	130 U
2,4,5-TP (SILVEX)	100 U	94 U	100 U	130 U	120 U	130 U
DIOXIN (ug/kg)						
TCDD-2378	0.16 U	0.11 U	0.09 U	0.26 U	0.16 U	0.19 U
TOTAL TCDD	0.16 U	0.11 U	0.09 U	0.26 U	0.16 U	0.19 U
TOTAL PECDD	0.29 U	0.15 U	0.15 U	0.27 U	0.26 U	0.17 U
TOTAL HXCDD	0.27 U	0.17 U	0.12 U	0.28 U	0.31 U	0.2 U
TOTAL TCDF	0.09 U	0.07 U	0.06 U	0.19 U	0.13 U	0.11 U
TOTAL PECDF	0.12 U	0.08 U	0.12 U	0.2 U	0.11 U	0.13 U
TOTAL HXCDF	0.27 U	0.14 U	0.14 U	0.25 U	0.26 U	0.2 U
EXPLOSIVES (ug/kg)						
NITROBENZENE	260 U	250 U	250 U	240 U	240 U	250 U
2,6-DINITROTOLUENE	260 U	250 U	250 U	240 U	240 U	250 U
2,4-DINITROTOLUENE	250 U	240 U	240 U	230 U	230 U	240 U
1,3-DINITROBENZENE	250 U	240 U	240 U	230 U	230 U	240 U
1,3,5-TRINITROBENZENE	250 U	240 U	240 U	230 U	230 U	250 U
2-NITROTOLUENE	1000 U	950 U	960 U	930 U	920 U	980 U
2,4,6-TRINITROTOLUENE	250 U	240 U	240 U	230 U	230 U	250 U
3-NITROTOLUENE	1000 U	950 U	960 U	930 U	920 U	980 U
4-NITROTOLUENE	3000 U	2900 U	2900 U	2800 U	2800 U	2900 U
AMINO-DNTS	500 U	480 U	480 U	460 U	460 U	490 U
HMX	2200 U	2100 U	2100 U	2000 U	2000 U	2100 U
RDX	1100 U	1000 U	1000 U	1000 U	990 U	1100 U
TETRYL	750 U	720 U	720 U	700 U	690 U	730 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
VOLATILES (ug/kg)						
CHLOROMETHANE	16 U	19 U	25 U	16 U	16 U	15 U
BROMOMETHANE	16 U	19 U	25 U	16 U	16 U	15 U
VINYL CHLORIDE	16 U	19 U	25 U	16 U	16 U	15 U
CHLOROETHANE	16 U	19 U	25 U	16 U	16 U	15 U
METHYLENE CHLORIDE	8 U	10 U	12 U	8 U	8 U	8 U
ACETONE	16 U	93	26	18 U	19 U	120
CARBON DISULFIDE	8 U	10 U	12 U	8 U	8 U	8 U
1,1-DICHLOROETHENE	8 U	10 U	12 U	8 U	8 U	8 U
1,1-DICHLOROETHANE	8 U	10 U	12 U	8 U	8 U	8 U
1,2-DICHLOROETHENE (TOTAL)	8 U	10 U	12 U	8 U	8 U	8 U
CHLOROFORM	8 U	10 U	12 U	8 U	8 U	8 U
1,2-DICHLOROETHANE	8 U	10 U	12 U	8 U	8 U	8 U
2-BUTANONE	16 U	19 U	25 U	16 U	16 U	15 U
1,1,1-TRICHLOROETHANE	8 U	10 U	12 U	8 U	8 U	8 U
CARBON TETRACHLORIDE	8 U	10 U	12 U	8 U	8 U	8 U
VINYL ACETATE	16 U	19 U	25 U	16 U	16 U	15 U
BROMODICHLOROMETHANE	8 U	10 U	12 U	8 U	8 U	8 U
1,2-DICHLOROPROPANE	8 U	10 U	12 U	8 U	8 U	8 U
CIS-1,3-DICHLOROPROPENE	8 U	10 U	12 U	8 U	8 U	8 U
TRICHLOROETHENE	8 U	10 U	12 U	8 U	8 U	8 U
DIBROMOCHLOROMETHANE	8 U	10 U	12 U	8 U	8 U	8 U
1,1,2-TRICHLOROETHANE	8 U	10 U	12 U	8 U	8 U	8 U
BENZENE	8 U	10 U	12 U	8 U	8 U	8 U
TRANS-1,3-DICHLOROPROPENE	8 U	10 U	12 U	8 U	8 U	8 U
BROMOFORM	8 U	10 U	12 U	8 U	8 U	8 U
4-METHYL-2-PENTANONE	16 U	19 U	25 U	16 U	16 U	15 U
2-HEXANONE	16 U	19 U	25 U	16 U	16 U	15 U
TETRACHLOROETHENE	8 U	10 U	12 U	8 U	8 U	8 U
1,1,2,2-TETRACHLOROETHANE	8 U	10 U	12 U	8 U	8 U	8 U
TOLUENE	8 U	10 U	12 U	8 U	8 U	8 U
CHLOROBENZENE	8 U	10 U	12 U	8 U	8 U	8 U
ETHYLBENZENE	8 U	10 U	12 U	8 U	8 U	8 U
STYRENE	8 U	10 U	12 U	8 U	8 U	8 U
XYLENE (TOTAL)	8 U	10 U	12 U	8 U	8 U	8 U
ACROLEIN	800 R	960 R	1200 R	780 R	800 R	760 U
ACRYLONITRILE	160 U	190 U	250 U	160 U	160 U	150 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
VOLATILES cont. (ug/kg)						
TRICHLOROFLUOROMETHANE	16 U	19 U	25 U	16 U	16 U	15 U
DICHLORODIFLUOROMETHANE	32 U	38 U	50 U	31 U	32 U	30 U
ACETONITRILE	160 U	190 U	250 U	160 U	160 U	150 U
IODOMETHANE	16 U	19 U	25 U	16 U	16 U	15 U
PROPIONITRILE (ETHYL CYANIDE)	80 U	96 U	120 U	78 U	80 U	76 U
3-CHLOROPROPENE	32 U	38 U	50 U	31 U	32 U	30 U
METHACRYLONITRILE	32 U	38 U	50 U	31 U	32 U	30 U
DIBROMOMETHANE	16 U	19 U	25 U	16 U	16 U	15 U
ISOBUTYL ALCOHOL	3200 R	3800 R	5000 R	3100 R	3200 R	3000 R
1,2-DIBROMOETHANE	32 U	38 U	50 U	31 U	32 U	30 U
1,1,1,2-TETRACHLOROETHANE	16 U	19 U	25 U	16 U	16 U	15 U
1,2,3-TRICHLOROPROPANE	16 U	19 U	25 U	16 U	16 U	15 U
TRANS-1,4-DICHLORO-2-BUTENE	32 U	38 U	50 U	31 U	32 U	30 U
1,2-DIBROMO-3-CHLOROPROPANE	32 U	38 U	50 U	31 U	32 U	30 U
2-CHLORO-1,3-BUTADIENE	160 U	190 U	250 U	160 U	160 U	150 U
METHYLMETHACRYLATE	32 U	38 U	50 U	31 U	32 U	30 U
ETHYLMETHACRYLATE	32 U	38 U	50 U	31 U	32 U	30 U
PENTACHLOROETHANE	32 U	38 U	50 U	31 U	32 U	30 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES (ug/kg)						
PHENOL	160 J	800	810 U	100 J	530 U	500 U
BIS(2-CHLOROETHYL)ETHER	520 U	620 U	810 U	520 U	530 U	500 U
2-CHLOROPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
1,3-DICHLOROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
1,4-DICHLOROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
BENZYL ALCOHOL	520 U	620 U	810 U	520 U	530 U	500 U
1,2-DICHLOROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
O-CRESOL	520 U	620 U	810 U	520 U	530 U	500 U
2,2'-OXYBIS(1-CHLOROPROPANE)	520 U	620 U	810 U	520 U	530 U	500 U
META & PARA-CRESOL	520 U	620 U	810 U	520 U	530 U	500 U
N-NITROSO-DI-N-PROPYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U
HEXACHLOROETHANE	520 U	620 U	810 U	520 U	530 U	500 U
NITROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
ISOPHORONE	520 U	620 U	810 U	520 U	530 U	500 U
2-NITROPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
2,4-DIMETHYLPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
BENZOIC ACID	2600 U	3100 U	4100 U	2600 U	2700 U	870 J
BIS(2-CHLOROETHOXY)METHANE	520 U	620 U	810 U	520 U	530 U	500 U
2,4-DICHLOROPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
1,2,4-TRICHLOROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
NAPHTHALENE	520 U	620 U	810 U	520 U	530 U	500 U
4-CHLOROANILINE	520 U	620 U	810 U	520 U	530 U	500 U
HEXACHLOROBUTADIENE	520 U	620 U	810 U	520 U	530 U	500 U
4-CHLORO-3-METHYLPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
2-METHYLNAPHTHALENE	520 U	620 U	810 U	520 U	530 U	500 U
HEXACHLOROCYCLOPENTADIENE	520 U	620 U	810 U	520 U	530 U	500 U
2,4,6-TRICHLOROPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
2,4,5-TRICHLOROPHENOL	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
2-CHLORONAPHTHALENE	520 U	620 U	810 U	520 U	530 U	500 U
2-NITROANILINE	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
DIMETHYLPHTHALATE	520 U	620 U	810 U	520 U	530 U	500 U
ACENAPHTHYLENE	520 U	620 U	810 U	520 U	530 U	500 U
2,6-DINITROTOLUENE	520 U	620 U	810 U	520 U	530 U	500 U
3-NITROANILINE	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
ACENAPHTHENE	520 U	620 U	810 U	520 U	530 U	500 U
2,4-DINITROPHENOL	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
4-NITROPHENOL	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
DIBENZOFURAN	520 U	620 U	810 U	520 U	530 U	500 U
2,4-DINITROTOLUENE	520 U	620 U	810 U	520 U	530 U	500 U
DIETHYLPHTHALATE	520 U	620 U	810 U	520 U	530 U	500 U
4-CHLOROPHENYL-PHENYLETHER	520 U	620 U	810 U	520 U	530 U	500 U
FLUORENE	520 U	620 U	810 U	520 U	530 U	500 U
4-NITROANILINE	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
4,6-DINITRO-2-METHYLPHENOL	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
N-NITROSODIPHENYLAMINE (1)	520 U	620 U	810 U	520 U	530 U	500 U
4-BROMOPHENYL-PHENYLETHER	520 U	620 U	810 U	520 U	530 U	500 U
HEXACHLOROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
PENTACHLOROPHENOL	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
PHENANTHRENE	520 U	620 U	810 U	520 U	530 U	66 J
ANTHRACENE	520 U	620 U	810 U	520 U	530 U	500 U
DI-N-BUTYLPHTHALATE	520 U	620 U	810 U	520 U	530 U	500 U
FLUORANTHENE	520 U	620 U	810 U	520 U	530 U	230 J
PYRENE	520 U	620 U	810 U	520 U	530 U	270 J
BUTYLBENZYLPHTHALATE	520 U	620 U	810 U	520 U	530 U	500 U
3,3'-DICHLOROBENZIDINE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
BENZO(A)ANTHRACENE	520 U	620 U	810 U	520 U	530 U	69 J
CHRYSENE	520 U	620 U	810 U	520 U	530 U	470 J
BIS(2-ETHYLHEXYL)PHTHALATE	130 J	64 J	200 J	520 U	59 J	500 U
DI-N-OCTYL PHTHALATE	520 U	620 U	810 U	520 U	530 U	500 U
BENZO(B)FLUORANTHENE	520 U	620 U	810 U	520 U	530 U	390 J
BENZO(K)FLUORANTHENE	520 U	620 U	810 U	520 U	530 U	230 J
BENZO(A)PYRENE	520 U	620 U	810 U	520 U	530 U	150 J
INDENO(1,2,3-CD)PYRENE	520 U	620 U	810 U	520 U	530 U	110 J
DIBENZO(A,H)ANTHRACENE	520 U	620 U	810 U	520 U	530 U	500 U
BENZO(G,H,I)PERYLENE	520 U	620 U	810 U	520 U	530 U	86 J
1,4-DIOXANE	2100 U	2500 U	3300 U	2100 U	2100 U	2000 U
PYRIDINE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
N-NITROSODIMETHYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U
2-PICOLINE	520 U	620 U	810 U	520 U	530 U	500 U
N-NITROSOMETHYLETHYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U
METHYL METHANESULFONATE	520 U	620 U	810 U	520 U	530 U	500 U
N-NITROSODIETHYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
ETHYL METHANESULFONATE	520 U	620 U	810 U	520 U	530 U	500 U
ANILINE	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
N-NITROSOPYRROLIDINE	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
ACETOPHENONE	520 U	620 U	810 U	520 U	530 U	500 U
N-NITROSOMORPHOLINE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
O-TOLUIDINE	520 U	620 U	810 U	520 U	530 U	500 U
N-NITROSOPIPERIDINE	520 U	620 U	810 U	520 U	530 U	500 U
A,A-DIMETHYLPHENETHYLAMINE	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
2,6-DICHLOROPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
HEXACHLOROPROPENE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
P-PHENYLENEDIAMINE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
N-NITROSO-DI-N-BUTYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U
SAFROLE	520 U	620 U	810 U	520 U	530 U	500 U
1,2,4,5-TETRACHLOROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
ISOSAFROLE	520 U	620 U	810 U	520 U	530 U	500 U
1,4-NAPHTHOQUINONE	2600 U	3100 U	4100 U	2600 U	2700 U	2500 U
1,3-DINITROBENZENE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
PENTACHLOROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
1-NAPHTHYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U
2-NAPHTHYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U
2,3,4,6-TETRACHLOROPHENOL	520 U	620 U	810 U	520 U	530 U	500 U
1,3,5-TRINITROBENZENE	5200 U	6200 U	8100 U	5200 U	5300 U	5000 U
DIALLATE	520 U	620 U	810 U	520 U	530 U	500 U
PHENACETIN	520 U	620 U	810 U	520 U	530 U	500 U
DIPHENYLAMINE	520 U	620 U	810 U	520 U	530 U	500 U
5-NITRO-O-TOLUIDINE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
4-AMINOBIPHENYL	520 U	620 U	810 U	520 U	530 U	500 U
PRONAMIDE	520 U	620 U	810 U	520 U	530 U	500 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
PENTACHLORONITROBENZENE	520 U	620 U	810 U	520 U	530 U	500 U
4-NITROQUINOLINE-1-OXIDE	2600 R	3100 R	4100 R	2600 R	2700 R	2500 R
METHAPYRILENE	1300 U	1600 U	2000 U	1300 U	1300 U	1300 U
ARAMITE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
CHLOROBENZILATE	520 U	620 U	810 U	520 U	530 U	500 U
P-DIMETHYLAMINOAZOBENZENE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
3,3'-DIMETHYLBENZIDINE	1000 R	1200 R	1600 R	1000 R	1100 R	1000 R

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
SEMIVOLATILES cont. (ug/kg)						
2-ACETYLAMINOFLUORENE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	1000 U	1200 U	1600 U	1000 U	1100 U	1000 U
HEXACHLOROPHENE	5200 U	6200 U	8100 U	5200 U	5300 U	5000 U
3-METHYLCHOLANTHRENE	520 U	620 U	810 U	520 U	530 U	500 U
CARBAZOLE	520 U	620 U	810 U	520 U	530 U	500 U
PENTACHLOROETHANE	NA	NA	NA	NA	NA	NA
2-METHYLPHENOL	NA	NA	NA	NA	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	NA	NA	NA	NA
3- AND/OR 4-METHYLPHENOL	NA	NA	NA	NA	NA	NA
METHYL METHACRYLATE	NA	NA	NA	NA	NA	NA
ETHYL METHACRYLATE	NA	NA	NA	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	32 U	37 U	49 U	31 U	32 U	60 U
BETA-BHC	32 U	37 U	49 U	31 U	32 U	60 U
DELTA-BHC	32 U	37 U	49 U	31 U	32 U	60 U
GAMMA-BHC (LINDANE)	32 U	37 U	49 U	31 U	32 U	60 U
HEPTACHLOR	32 U	37 U	49 U	31 U	32 U	60 U
ALDRIN	32 U	37 U	49 U	31 U	32 U	60 U
HEPTACHLOR EPOXIDE	32 U	37 U	49 U	31 U	32 U	60 U
ENDOSULFAN I	32 U	37 U	49 U	31 U	32 U	60 U
DIELDRIN	63 U	74 U	97 U	62 U	63 U	120 U
4,4'-DDE	63 U	74 U	97 U	62 U	63 U	120 U
ENDRIN	63 U	74 U	97 U	62 U	63 U	120 U
ENDOSULFAN II	63 U	74 U	97 U	62 U	63 U	120 U
4,4'-DDD	63 U	74 U	97 U	62 U	63 U	120 U
ENDOSULFAN SULFATE	63 U	74 U	97 U	62 U	63 U	120 U
4,4'-DDT	63 U	74 U	97 U	62 U	63 U	120 U
METHOXYCHLOR	320 UJ	370 UJ	490 UJ	310 UJ	320 UJ	600 U
ENDRIN ALDEHYDE	63 U	74 U	97 U	62 U	63 U	120 UJ
ISODRIN	32 UJ	37 UJ	49 UJ	31 U	32 U	60 U
KEPONE	63 U	74 U	97 U	62 U	63 U	120 U
ALPHA-CHLORDANE	320 U	370 U	490 U	310 U	320 U	600 U
GAMMA-CHLORDANE	320 U	370 U	490 U	310 U	320 U	600 U
TOXAPHENE	630 U	740 U	970 U	620 U	630 U	1200 U
AROCLOR-1016	320 U	370 U	490 U	310 U	320 U	600 U
AROCLOR-1221	320 U	370 U	490 U	310 U	320 U	600 U
AROCLOR-1232	320 U	370 U	490 U	310 U	320 U	600 U
AROCLOR-1242	320 U	370 U	490 U	310 U	320 U	600 U
AROCLOR-1248	320 U	370 U	490 U	310 U	320 U	600 U
AROCLOR-1254	630 U	740 U	970 U	620 U	630 U	1200 U
AROCLOR-1260	630 U	740 U	970 U	620 U	630 U	1200 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	3SD11	3SD12	3SD13	3SD14	3SD15	7SD01
SAMPLE DATE	10/28/95	10/28/95	10/28/95	10/28/95	10/28/95	10/27/95
ORTHO PESTICIDES (ug/kg)						
DIMETHOATE	110 U	130 U	160 U	100 U	110 U	100 U
DISULFOTON	110 U	130 U	160 U	100 U	110 U	100 U
FAMPHUR	110 U	130 U	160 U	100 U	110 U	100 U
METHYL PARATHION	110 U	130 U	160 U	100 U	110 U	100 U
O,O,O-TRIETHYL PHOSPHOROTHIOA	110 U	130 U	160 U	100 U	110 U	100 U
PARATHION	110 U	130 U	160 U	100 U	110 U	100 U
PHORATE	110 U	130 U	160 U	100 U	110 U	100 U
SULFOTEP	110 U	130 U	160 U	100 U	110 U	100 U
THIONAZIN	110 U	130 U	160 U	100 U	110 U	100 U
HERBICIDES (ug/kg)						
2,4-D	520 U	630 U	810 U	520 U	540 U	500 U
2,4,5-T	100 U	130 U	160 U	100 U	110 U	100 U
2,4,5-TP (SILVEX)	100 U	130 U	160 U	100 U	110 U	100 U
DIOXIN (ug/kg)						
TCDD-2378	0.1 U	0.13 U	0.2 U	0.15 U	0.16 U	0.13 U
TOTAL TCDD	0.1 U	0.14 U	0.2 U	0.15 U	0.16 U	0.13 U
TOTAL PECDD	0.15 U	0.27 U	0.4 U	0.19 U	0.18 U	0.22 U
TOTAL HXCDD	0.12 U	0.17 U	0.38 U	0.23 U	1 J	0.21 U
TOTAL TCDF	0.09 U	0.09 U	0.12 U	0.1 U	0.1 U	0.1 U
TOTAL PECDF	0.12 U	0.12 U	0.19 U	0.12 U	0.14 U	0.12 U
TOTAL HXCDF	0.17 U	0.16 U	0.28 U	0.16 U	0.22 U	0.15 U
EXPLOSIVES (ug/kg)						
NITROBENZENE	250 U	260 U	240 U	250 U	230 U	250 U
2,6-DINITROTOLUENE	250 U	260 U	240 U	250 U	230 U	250 U
2,4-DINITROTOLUENE	240 U	250 U	230 U	240 U	220 U	240 U
1,3-DINITROBENZENE	240 U	250 U	230 U	240 U	220 U	240 U
1,3,5-TRINITROBENZENE	240 U	250 U	230 U	240 U	220 U	240 U
2-NITROTOLUENE	960 U	990 U	900 U	950 U	880 U	970 U
2,4,6-TRINITROTOLUENE	240 U	250 U	230 U	240 U	220 U	240 U
3-NITROTOLUENE	960 U	990 U	900 U	950 U	880 U	970 U
4-NITROTOLUENE	2900 U	3000 U	2700 U	2900 U	2600 U	2900 U
AMINO-DNTS	480 U	500 U	450 U	480 U	440 U	490 U
HMX	2100 U	2200 U	2000 U	2100 U	1900 U	2100 U
RDX	1000 U	1100 U	980 U	1000 U	950 U	1000 U
TETRYL	720 U	740 U	680 U	720 U	660 U	730 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
VOLATILES (ug/kg)						
CHLOROMETHANE	16 U	16 U	15 U	17 U	16 U	17 U
BROMOMETHANE	16 U	16 U	15 U	17 U	16 U	17 U
VINYL CHLORIDE	16 U	16 U	15 U	17 U	16 U	17 U
CHLOROETHANE	16 U	16 U	15 U	17 U	16 U	17 U
METHYLENE CHLORIDE	8 U	8 U	7 U	13 U	10 U	10 U
ACETONE	50	43	15 U	22 U	37 U	17 U
CARBON DISULFIDE	8 U	8 U	7 U	4 J	15	6 J
1,1-DICHLOROETHENE	8 U	8 U	7 U	8 U	8 U	8 U
1,1-DICHLOROETHANE	8 U	8 U	7 U	8 U	8 U	8 U
1,2-DICHLOROETHENE (TOTAL)	8 U	8 U	7 U	8 U	8 U	8 U
CHLOROFORM	8 U	8 U	7 U	8 U	8 U	8 U
1,2-DICHLOROETHANE	8 U	8 U	7 U	8 U	8 U	8 U
2-BUTANONE	16 U	16 U	15 U	17 U	16 U	17 U
1,1,1-TRICHLOROETHANE	8 U	8 U	7 U	8 U	8 U	8 U
CARBON TETRACHLORIDE	8 U	8 U	7 U	8 U	8 U	8 U
VINYL ACETATE	16 U	16 U	15 U	17 U	16 U	17 U
BROMODICHLOROMETHANE	8 U	8 U	7 U	8 U	8 U	8 U
1,2-DICHLOROPROPANE	8 U	8 U	7 U	8 U	8 U	8 U
CIS-1,3-DICHLOROPROPENE	8 U	8 U	7 U	8 U	8 U	8 U
TRICHLOROETHENE	8 U	8 U	7 U	8 U	8 U	8 U
DIBROMOCHLOROMETHANE	8 U	8 U	7 U	8 U	8 U	8 U
1,1,2-TRICHLOROETHANE	8 U	8 U	7 U	8 U	8 U	8 U
BENZENE	8 U	8 U	7 U	8 U	8 U	8 U
TRANS-1,3-DICHLOROPROPENE	8 U	8 U	7 U	8 U	8 U	8 U
BROMOFORM	8 U	8 U	7 U	8 U	8 U	8 U
4-METHYL-2-PENTANONE	16 U	16 U	15 U	17 U	16 U	17 U
2-HEXANONE	16 U	16 U	15 U	17 U	16 U	17 U
TETRACHLOROETHENE	8 U	8 U	7 U	8 U	8 U	8 U
1,1,2,2-TETRACHLOROETHANE	8 U	8 U	7 U	8 U	8 U	8 U
TOLUENE	8 U	8 U	7 U	8 U	8 U	8 U
CHLOROBENZENE	8 U	8 U	7 U	8 U	8 U	8 U
ETHYLBENZENE	8 U	8 U	7 U	8 U	8 U	8 U
STYRENE	8 U	8 U	7 U	8 U	8 U	8 U
XYLENE (TOTAL)	8 U	8 U	7 U	8 U	8 U	8 U
ACROLEIN	780 U	800 U	740 U	17 U	16 U	17 U
ACRYLONITRILE	160 U	160 U	150 U	17 U	16 U	17 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
VOLATILES cont. (ug/kg)						
TRICHLOROFLUOROMETHANE	16 U	16 U	15 U	8 U	8 U	8 U
DICHLORODIFLUOROMETHANE	31 U	32 U	29 U	17 U	16 U	17 U
ACETONITRILE	160 U	160 U	150 U	34 U	32 U	34 U
IODOMETHANE	16 U	16 U	15 U	17 U	16 U	17 U
PROPIONITRILE (ETHYL CYANIDE)	78 U	80 U	74 U	85 R	80 R	85 R
3-CHLOROPROPENE	31 U	32 U	29 U	34 U	32 U	34 U
METHACRYLONITRILE	31 U	32 U	29 U	34 U	32 U	34 U
DIBROMOMETHANE	16 U	16 U	15 U	17 U	16 U	17 U
ISOBUTYL ALCOHOL	3100 R	3200 R	2900 R	170 U	160 U	170 U
1,2-DIBROMOETHANE	31 U	32 U	29 U	34 U	32 U	34 U
1,1,1,2-TETRACHLOROETHANE	16 U	16 U	15 U	17 U	16 U	17 U
1,2,3-TRICHLOROPROPANE	16 U	16 U	15 U	17 U	16 U	17 U
TRANS-1,4-DICHLORO-2-BUTENE	31 U	32 U	29 U	170 R	160 R	170 R
1,2-DIBROMO-3-CHLOROPROPANE	31 U	32 U	29 U	34 U	32 U	34 U
2-CHLORO-1,3-BUTADIENE	160 U	160 U	150 U	170 U	160 U	170 U
METHYLMETHACRYLATE	31 U	32 U	29 U	NA	NA	NA
ETHYLMETHACRYLATE	31 U	32 U	29 U	NA	NA	NA
PENTACHLOROETHANE	31 U	32 U	29 U	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
SEMIVOLATILES (ug/kg)						
PHENOL	500 U	520 U	480 U	5500 U	540 U	83 J
BIS(2-CHLOROETHYL)ETHER	500 U	520 U	480 U	5500 U	540 U	560 U
2-CHLOROPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
1,3-DICHLOROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
1,4-DICHLOROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
BENZYL ALCOHOL	500 U	520 U	480 U	5500 U	540 U	560 U
1,2-DICHLOROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
O-CRESOL	500 U	520 U	480 U	NA	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	500 U	520 U	480 U	NA	NA	NA
META & PARA-CRESOL	500 U	520 U	480 U	NA	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U
HEXACHLOROETHANE	500 U	520 U	480 U	5500 U	540 U	560 U
NITROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
ISOPHORONE	500 U	520 U	480 U	5500 U	540 U	560 U
2-NITROPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
2,4-DIMETHYLPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
BENZOIC ACID	680 J	790 J	960 J	28000 U	2700 U	2800 U
BIS(2-CHLOROETHOXY)METHANE	500 U	520 U	480 U	5500 U	540 U	560 U
2,4-DICHLOROPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
1,2,4-TRICHLOROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
NAPHTHALENE	500 U	520 U	480 U	5500 U	540 U	560 U
4-CHLOROANILINE	500 U	520 U	480 U	5500 U	540 U	560 U
HEXACHLOROBUTADIENE	500 U	520 U	480 U	5500 U	540 U	560 U
4-CHLORO-3-METHYLPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
2-METHYLNAPHTHALENE	500 U	520 U	480 U	5500 U	540 U	560 U
HEXACHLOROCYCLOPENTADIENE	500 U	520 U	480 U	5500 U	540 U	560 U
2,4,6-TRICHLOROPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
2,4,5-TRICHLOROPHENOL	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U
2-CHLORONAPHTHALENE	500 U	520 U	480 U	5500 U	540 U	560 U
2-NITROANILINE	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U
DIMETHYLPHTHALATE	500 U	520 U	480 U	5500 U	540 U	560 U
ACENAPHTHYLENE	500 U	520 U	480 U	1800 J	67 J	120 J
2,6-DINITROTOLUENE	500 U	520 U	480 U	5500 U	540 U	560 U
3-NITROANILINE	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U
ACENAPHTHENE	500 U	520 U	480 U	5500 U	540 U	560 U
2,4-DINITROPHENOL	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
SEMIVOLATILES cont. (ug/kg)						
4-NITROPHENOL	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U
DIBENZOFURAN	500 U	520 U	480 U	5500 U	540 U	560 U
2,4-DINITROTOLUENE	500 U	520 U	480 U	5500 U	540 U	560 U
DIETHYLPHTHALATE	500 U	520 U	480 U	5500 U	540 U	560 U
4-CHLOROPHENYL-PHENYLETHER	500 U	520 U	480 U	5500 U	540 U	560 U
FLUORENE	500 U	520 U	480 U	5500 U	540 U	560 U
4-NITROANILINE	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U
4,6-DINITRO-2-METHYLPHENOL	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U
N-NITROSODIPHENYLAMINE (1)	500 U	520 U	480 U	5500 U	540 U	560 U
4-BROMOPHENYL-PHENYLETHER	500 U	520 U	480 U	5500 U	540 U	560 U
HEXACHLOROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
PENTACHLOROPHENOL	2500 U	2600 U	2400 U	28000 U	2700 U	2800 U
PHENANTHRENE	86 J	520 U	480 U	5500 U	540 U	70 J
ANTHRACENE	500 U	520 U	480 U	2200 J	82 J	150 J
DI-N-BUTYLPHTHALATE	500 U	520 U	480 U	5500 U	540 U	560 U
FLUORANTHENE	120 J	520 U	480 U	660 J	85 J	280 J
PYRENE	150 J	520 U	480 U	6000	88 J	530 J
BUTYLBENZYLPHTHALATE	500 U	520 U	480 U	5500 U	540 U	560 U
3,3'-DICHLOROBENZIDINE	1000 U	1000 U	970 U	11000 U	1100 U	1100 U
BENZO(A)ANTHRACENE	500 U	520 U	480 U	3700 J	110 J	300 J
CHRYSENE	140 J	520 U	480 U	10000	320 J	620
BIS(2-ETHYLHEXYL)PHTHALATE	500 U	520 U	480 U	5500 U	97 J	140 J
DI-N-OCTYL PHTHALATE	500 U	520 U	480 U	5500 U	540 U	560 U
BENZO(B)FLUORANTHENE	150 J	520 U	480 U	24000	850	1600
BENZO(K)FLUORANTHENE	72 J	520 U	480 U	21000	740	1400
BENZO(A)PYRENE	64 J	520 U	480 U	23000	690	1400
INDENO(1,2,3-CD)PYRENE	51 J	55 J	480 U	10000	410 J	690
DIBENZO(A,H)ANTHRACENE	500 U	520 U	480 U	4200 J	170 J	280 J
BENZO(G,H,I)PERYLENE	500 U	520 U	480 U	11000	450 J	780
1,4-DIOXANE	2000 U	2100 U	1900 U	5500 U	540 U	560 U
PYRIDINE	1000 U	1000 U	970 U	5500 U	540 U	560 U
N-NITROSODIMETHYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U
2-PICOLINE	500 U	520 U	480 U	5500 U	540 U	560 U
N-NITROSOMETHYLETHYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U
METHYL METHANESULFONATE	500 U	520 U	480 U	5500 U	540 U	560 U
N-NITROSODIETHYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
SEMIVOLATILES cont. (ug/kg)						
ETHYL METHANESULFONATE	500 U	520 U	480 U	5500 U	540 U	560 U
ANILINE	2500 U	2600 U	2400 U	5500 U	540 U	560 U
N-NITROSOPYRROLIDINE	2500 U	2600 U	2400 U	5500 U	540 U	560 U
ACETOPHENONE	500 U	520 U	480 U	5500 U	540 U	560 U
N-NITROSOMORPHOLINE	1000 U	1000 U	970 U	5500 U	540 U	560 U
O-TOLUIDINE	500 U	520 U	480 U	5500 U	540 U	560 U
N-NITROSOPIPERIDINE	500 U	520 U	480 U	28000 U	2700 U	2800 U
A,A-DIMETHYLPHENETHYLAMINE	2500 U	2600 U	2400 U	5500 U	540 U	560 U
2,6-DICHLOROPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
HEXACHLOROPROPENE	1000 U	1000 U	970 U	5500 U	540 U	560 U
P-PHENYLENEDIAMINE	1000 U	1000 U	970 U	5500 U	540 U	560 U
N-NITROSO-DI-N-BUTYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U
SAFROLE	500 U	520 U	480 U	5500 U	540 U	560 U
1,2,4,5-TETRACHLOROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
ISOSAFROLE	500 U	520 U	480 U	5500 U	540 U	560 U
1,4-NAPHTHOQUINONE	2500 U	2600 U	2400 U	5500 U	540 U	560 U
1,3-DINITROBENZENE	1000 U	1000 U	970 U	5500 U	540 U	560 U
PENTACHLOROBENZENE	500 U	520 U	480 U	5500 U	540 U	560 U
1-NAPHTHYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U
2-NAPHTHYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U
2,3,4,6-TETRACHLOROPHENOL	500 U	520 U	480 U	5500 U	540 U	560 U
1,3,5-TRINITROBENZENE	5000 U	5200 U	4800 U	5500 U	540 U	560 U
DIALLATE	500 U	520 U	480 U	5500 U	540 U	560 U
PHENACETIN	500 U	520 U	480 U	5500 U	540 U	560 U
DIPHENYLAMINE	500 U	520 U	480 U	5500 U	540 U	560 U
5-NITRO-O-TOLUIDINE	1000 U	1000 U	970 U	5500 U	540 U	560 U
4-AMINOBIPHENYL	500 U	520 U	480 U	5500 U	540 U	560 U
PRONAMIDE	500 U	520 U	480 U	5500 U	540 U	560 U
2-SEC-BUTYL-4,6-DINITROPHENOL	1000 U	1000 U	970 U	28000 U	2700 U	2800 U
PENTACHLORONITROBENZENE	500 U	520 U	480 U	28000 R	2700 R	2800 R
4-NITROQUINOLINE-1-OXIDE	2500 R	2600 R	2400 R	11000 U	1100 U	1100 U
METHAPYRILENE	1200 U	1300 U	1200 U	5500 U	540 U	560 U
ARAMITE	1000 U	1000 U	970 U	11000 U	1100 U	1100 U
CHLOROBENZILATE	500 U	520 U	480 U	5500 U	540 U	560 U
P-DIMETHYLAMINOAZOBENZENE	1000 U	1000 U	970 U	5500 U	540 J	560 U
3,3'-DIMETHYLBENZIDINE	1000 R	1000 R	970 R	11000 U	540 U	560 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
SEMIVOLATILES cont. (ug/kg)						
2-ACETYLAMINOFLUORENE	1000 U	1000 U	970 U	5500 U	540 U	560 U
7,12-DIMETHYLBENZ(A)ANTHRACENE	1000 U	1000 U	970 U	5500 U	540 U	560 U
HEXACHLOROPHENE	5000 U	5200 R	4800 U	50000 U	4900 U	5000 U
3-METHYLCHOLANTHRENE	500 U	520 U	480 U	5500 U	540 U	560 U
CARBAZOLE	500 U	520 U	480 U	NA	NA	NA
PENTACHLOROETHANE	NA	NA	NA	5500 U	540 U	560 U
2-METHYLPHENOL	NA	NA	NA	5500 U	540 U	560 U
BIS(2-CHLOROISOPROPYL)ETHER	NA	NA	NA	5500 U	540 U	560 U
3- AND/OR 4-METHYLPHENOL	NA	NA	NA	5500 U	540 U	560 U
METHYL METHACRYLATE	NA	NA	NA	5500 U	540 U	560 U
ETHYL METHACRYLATE	NA	NA	NA	5500 U	540 U	560 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
PESTICIDE/PCBS (ug/kg)						
ALPHA-BHC	60 U	64 U	58 U	NA	NA	NA
BETA-BHC	60 U	64 U	58 U	NA	NA	NA
DELTA-BHC	60 U	64 U	58 U	NA	NA	NA
GAMMA-BHC (LINDANE)	60 U	64 U	58 U	NA	NA	NA
HEPTACHLOR	60 U	64 U	58 U	NA	NA	NA
ALDRIN	60 U	64 U	58 U	NA	NA	NA
HEPTACHLOR EPOXIDE	60 U	64 U	58 U	NA	NA	NA
ENDOSULFAN I	60 U	64 U	58 U	NA	NA	NA
DIELDRIN	120 U	130 U	120 U	NA	NA	NA
4,4'-DDE	120 U	130 U	120 U	NA	NA	NA
ENDRIN	120 U	130 U	120 U	NA	NA	NA
ENDOSULFAN II	120 U	130 U	120 U	NA	NA	NA
4,4'-DDD	120 U	130 U	120 U	NA	NA	NA
ENDOSULFAN SULFATE	120 U	130 U	120 U	NA	NA	NA
4,4'-DDT	120 U	130 U	120 U	NA	NA	NA
METHOXYCHLOR	600 U	640 U	580 U	NA	NA	NA
ENDRIN ALDEHYDE	120 UJ	130 U	120 U	NA	NA	NA
ISODRIN	60 U	64 U	58 U	NA	NA	NA
KEPONE	120 U	130 U	120 U	NA	NA	NA
ALPHA-CHLORDANE	600 U	640 U	580 U	NA	NA	NA
GAMMA-CHLORDANE	600 U	640 U	580 U	NA	NA	NA
TOXAPHENE	1200 U	1300 U	1200 U	NA	NA	NA
AROCLOR-1016	600 U	640 U	580 U	55 U	54 U	56 U
AROCLOR-1221	600 U	640 U	580 U	110 U	110 U	110 U
AROCLOR-1232	600 U	640 U	580 U	55 U	54 U	56 U
AROCLOR-1242	600 U	640 U	580 U	55 U	54 U	56 U
AROCLOR-1248	600 U	640 U	580 U	55 U	54 U	56 U
AROCLOR-1254	1200 U	1300 U	1200 U	55 U	54 U	56 U
AROCLOR-1260	1200 U	1300 U	1200 U	55 U	54 U	61 U

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID	7SD02	7SD03	7SD04	11SD01	11SD02	11SD03
SAMPLE DATE	10/27/95	10/27/95	10/27/95	10/28/95	10/28/95	10/28/95
ORTHO PESTICIDES (ug/kg)						
DIMETHOATE	100 U	110 U	98 U	NA	NA	NA
DISULFOTON	100 U	110 U	98 U	NA	NA	NA
FAMPHUR	100 U	110 U	98 U	NA	NA	NA
METHYL PARATHION	100 U	110 U	98 U	NA	NA	NA
O,O,O-TRIETHYL PHOSPHOROTHIOA	100 U	110 U	98 U	NA	NA	NA
PARATHION	100 U	110 U	98 U	NA	NA	NA
PHORATE	100 U	110 U	98 U	NA	NA	NA
SULFOTEP	100 U	110 U	98 U	NA	NA	NA
THIONAZIN	100 U	110 U	98 U	NA	NA	NA
HERBICIDES (ug/kg)						
2,4-D	510 U	520 U	480 U	NA	NA	NA
2,4,5-T	100 U	100 U	96 U	NA	NA	NA
2,4,5-TP (SILVEX)	100 U	100 U	40 J	NA	NA	NA
DIOXIN (ug/kg)						
TCDD-2378	0.14 U	0.07 U	0.12 U	NA	NA	NA
TOTAL TCDD	0.14 U	0.07 U	0.12 U	NA	NA	NA
TOTAL PECDD	0.18 U	0.08 U	0.16 U	NA	NA	NA
TOTAL HXCDD	0.22 U	0.1 U	0.13 U	NA	NA	NA
TOTAL TCDF	0.08 U	0.04 U	0.07 U	NA	NA	NA
TOTAL PECDF	0.12 U	0.05 U	0.1 U	NA	NA	NA
TOTAL HXCDF	0.17 U	0.09 U	0.09 U	NA	NA	NA
EXPLOSIVES (ug/kg)						
NITROBENZENE	240 U	240 U	240 U	NA	NA	NA
2,6-DINITROTOLUENE	240 U	240 U	240 U	NA	NA	NA
2,4-DINITROTOLUENE	230 U	230 U	230 U	NA	NA	NA
1,3-DINITROBENZENE	230 U	230 U	230 U	NA	NA	NA
1,3,5-TRINITROBENZENE	240 U	230 U	230 U	NA	NA	NA
2-NITROTOLUENE	940 U	910 U	910 U	NA	NA	NA
2,4,6-TRINITROTOLUENE	240 U	230 U	230 U	NA	NA	NA
3-NITROTOLUENE	940 U	910 U	910 U	NA	NA	NA
4-NITROTOLUENE	2800 U	2700 U	2700 U	NA	NA	NA
AMINO-DNTS	470 U	450 U	450 U	NA	NA	NA
HMX	2100 U	2000 U	2000 U	NA	NA	NA
RDX	1000 U	980 U	980 U	NA	NA	NA
TETRYL	710 U	680 U	680 U	NA	NA	NA

FREQUENCY OF DETECTION SUMMARY
CTO-0277RFI REPORT OU#1 AND OU#7
ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES (ug/kg)								
CHLOROMETHANE	12 U	25 U	ND	ND		0/30	NA	NA
BROMOMETHANE	12 U	25 U	ND	ND		0/30	NA	NA
VINYL CHLORIDE	12 U	25 U	ND	ND		0/30	NA	NA
CHLOROETHANE	12 U	25 U	ND	ND		0/30	NA	NA
METHYLENE CHLORIDE	6 U	13 U	ND	ND		0/30	NA	NA
ACETONE	14 U	51 U	26	120	7SD01	5/30	66.40	50.00
CARBON DISULFIDE	6 U	12 U	4 J	15	11SD02	3/30	8.33	6.00
1,1-DICHLOROETHENE	6 U	12 U	ND	ND		0/30	NA	NA
1,1-DICHLOROETHANE	6 U	12 U	ND	ND		0/30	NA	NA
1,2-DICHLOROETHENE (TOTAL)	6 U	12 U	ND	ND		0/30	NA	NA
CHLOROFORM	6 U	12 U	ND	ND		0/30	NA	NA
1,2-DICHLOROETHANE	6 U	12 U	ND	ND		0/30	NA	NA
2-BUTANONE	12 U	25 U	11 J	11 J	2SD03D	1/30	11.00	11.00
1,1,1-TRICHLOROETHANE	6 U	12 U	ND	ND		0/30	NA	NA
CARBON TETRACHLORIDE	6 U	12 U	ND	ND		0/30	NA	NA
VINYL ACETATE	12 U	25 U	ND	ND		0/30	NA	NA
BROMODICHLOROMETHANE	6 U	12 U	ND	ND		0/30	NA	NA
1,2-DICHLOROPROPANE	6 U	12 U	ND	ND		0/30	NA	NA
CIS-1,3-DICHLOROPROPENE	6 U	12 U	ND	ND		0/30	NA	NA
TRICHLOROETHENE	6 U	12 U	ND	ND		0/30	NA	NA
DIBROMOCHLOROMETHANE	6 U	12 U	ND	ND		0/30	NA	NA
1,1,2-TRICHLOROETHANE	6 U	12 U	ND	ND		0/30	NA	NA
BENZENE	6 U	12 U	ND	ND		0/30	NA	NA
TRANS-1,3-DICHLOROPROPENE	6 U	12 U	ND	ND		0/30	NA	NA
BROMOFORM	6 U	12 U	ND	ND		0/30	NA	NA
4-METHYL-2-PENTANONE	12 U	25 U	ND	ND		0/30	NA	NA
2-HEXANONE	12 U	25 U	ND	ND		0/30	NA	NA
TETRACHLOROETHENE	6 U	12 U	2 J	2 J	1SD03	2/30	2.00	2.00
1,1,2,2-TETRACHLOROETHANE	6 U	12 U	ND	ND		0/30	NA	NA
TOLUENE	6 U	12 U	ND	ND		0/30	NA	NA
CHLOROBENZENE	6 U	12 U	ND	ND		0/30	NA	NA
ETHYLBENZENE	6 U	12 U	ND	ND		0/30	NA	NA
STYRENE	6 U	12 U	ND	ND		0/30	NA	NA
XYLENE (TOTAL)	6 U	12 U	ND	ND		0/30	NA	NA
ACROLEIN	16 U	800 U	ND	ND		0/10	NA	NA
ACRYLONITRILE	16 U	250 U	ND	ND		0/30	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
VOLATILES cont. (ug/kg)								
TRICHLOROFLUOROMETHANE	8 U	25 U	ND	ND		0/27	NA	NA
DICHLORODIFLUOROMETHANE	16 U	50 U	ND	ND		0/30	NA	NA
ACETONITRILE	32 U	250 U	ND	ND		0/30	NA	NA
IODOMETHANE	12 U	25 U	ND	ND		0/30	NA	NA
PROPIONITRILE (ETHYL CYANIDE)	62 U	120 U	ND	ND		0/25	NA	NA
3-CHLOROPROPENE	25 U	50 U	ND	ND		0/30	NA	NA
METHACRYLONITRILE	25 U	50 U	ND	ND		0/30	NA	NA
DIBROMOMETHANE	12 U	25 U	ND	ND		0/30	NA	NA
ISOBUTYL ALCOHOL	160 U	4700 U	ND	ND		0/10	NA	NA
1,2-DIBROMOETHANE	25 U	50 U	ND	ND		0/30	NA	NA
1,1,1,2-TETRACHLOROETHANE	12 U	25 U	ND	ND		0/30	NA	NA
1,2,3-TRICHLOROPROPANE	12 U	25 U	ND	ND		0/30	NA	NA
TRANS-1,4-DICHLORO-2-BUTENE	25 U	50 U	ND	ND		0/27	NA	NA
1,2-DIBROMO-3-CHLOROPROPANE	25 U	50 U	ND	ND		0/30	NA	NA
2-CHLORO-1,3-BUTADIENE	120 U	250 U	ND	ND		0/30	NA	NA
METHYLMETHACRYLATE	25 U	50 U	ND	ND		0/27	NA	NA
ETHYLMETHACRYLATE	25 U	50 U	ND	ND		0/27	NA	NA
PENTACHLOROETHANE	25 U	50 U	ND	ND		0/27	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES (ug/kg)								
PHENOL	410 U	5500 U	83 J	800	3SD12	5/30	312.60	160.00
BIS(2-CHLOROETHYL)ETHER	410 U	5500 U	ND	ND		0/30	NA	NA
2-CHLOROPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
1,3-DICHLOROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
1,4-DICHLOROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
BENZYL ALCOHOL	410 U	5500 U	ND	ND		0/30	NA	NA
1,2-DICHLOROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
O-CRESOL	410 U	810 U	ND	ND		0/27	NA	NA
2,2'-OXYBIS(1-CHLOROPROPANE)	410 U	810 U	ND	ND		0/27	NA	NA
META & PARA-CRESOL	410 U	810 U	ND	ND		0/27	NA	NA
N-NITROSO-DI-N-PROPYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA
HEXACHLOROETHANE	410 U	5500 U	ND	ND		0/30	NA	NA
NITROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
ISOPHORONE	410 U	5500 U	ND	ND		0/30	NA	NA
2-NITROPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
2,4-DIMETHYLPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
BENZOIC ACID	2100 U	28000 U	570 J	3600	3SD04	9/30	1267.78	790.00
BIS(2-CHLOROETHOXY)METHANE	410 U	5500 U	ND	ND		0/30	NA	NA
2,4-DICHLOROPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
1,2,4-TRICHLOROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
NAPHTHALENE	410 U	5500 U	ND	ND		0/30	NA	NA
4-CHLOROANILINE	410 U	5500 U	ND	ND		0/30	NA	NA
HEXACHLOROBUTADIENE	410 U	5500 U	ND	ND		0/30	NA	NA
4-CHLORO-3-METHYLPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
2-METHYLNAPHTHALENE	410 U	5500 U	ND	ND		0/30	NA	NA
HEXACHLOROCYCLOPENTADIENE	410 U	5500 U	ND	ND		0/30	NA	NA
2,4,6-TRICHLOROPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
2,4,5-TRICHLOROPHENOL	2100 U	28000 U	ND	ND		0/30	NA	NA
2-CHLORONAPHTHALENE	410 U	5500 U	ND	ND		0/30	NA	NA
2-NITROANILINE	2100 U	28000 U	ND	ND		0/30	NA	NA
DIMETHYLPHTHALATE	410 U	5500 U	ND	ND		0/30	NA	NA
ACENAPHTHYLENE	410 U	810 U	67 J	1800 J	11SD01	3/30	662.33	120.00
2,6-DINITROTOLUENE	410 U	5500 U	ND	ND		0/30	NA	NA
3-NITROANILINE	2100 U	28000 U	ND	ND		0/30	NA	NA
ACENAPHTHENE	410 U	5500 U	ND	ND		0/30	NA	NA
2,4-DINITROPHENOL	2100 U	28000 U	ND	ND		0/30	NA	NA

FREQUENCY OF DETECTION SUMMARY
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ANALYTICAL SUMMARY OF ORGANIC COMPOUNDS IN AOC D SEDIMENTS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

SAMPLE ID SAMPLE DATE	MINIMUM NONDETECTED	MAXIMUM NONDETECTED	MINIMUM DETECTED	MAXIMUM DETECTED	LOCATION OF MAXIMUM DETECTED	FREQUENCY OF DETECTION	AVERAGE OF POSITIVE DETECTIONS	MEDIAN OF POSITIVE DETECTIONS
SEMIVOLATILES cont. (ug/kg)								
4-NITROPHENOL	2100 U	28000 U	ND	ND		0/30	NA	NA
DIBENZOFURAN	410 U	5500 U	ND	ND		0/30	NA	NA
2,4-DINITROTOLUENE	410 U	5500 U	ND	ND		0/30	NA	NA
DIETHYLPHTHALATE	410 U	5500 U	ND	ND		0/30	NA	NA
4-CHLOROPHENYL-PHENYLETHER	410 U	5500 U	ND	ND		0/30	NA	NA
FLUORENE	410 U	5500 U	62 J	62 J	2SD03D	1/30	62.00	62.00
4-NITROANILINE	2100 U	28000 U	ND	ND		0/30	NA	NA
4,6-DINITRO-2-METHYLPHENOL	2100 U	28000 U	ND	ND		0/30	NA	NA
N-NITROSODIPHENYLAMINE (1)	410 U	5500 U	ND	ND		0/30	NA	NA
4-BROMOPHENYL-PHENYLETHER	410 U	5500 U	ND	ND		0/30	NA	NA
HEXACHLOROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
PENTACHLOROPHENOL	2100 U	28000 U	ND	ND		0/30	NA	NA
PHENANTHRENE	410 U	5500 U	66 J	1900	2SD03D	6/30	507.00	188.00
ANTHRACENE	410 U	810 U	82 J	2200 J	11SD01	5/30	565.40	150.00
DI-N-BUTYLPHTHALATE	410 U	5500 U	ND	ND		0/30	NA	NA
FLUORANTHENE	410 U	810 U	85 J	3500	2SD03D	8/30	966.88	470.00
PYRENE	410 U	810 U	88 J	6000	11SD01	8/30	1992.25	865.00
BUTYLBENZYLPHTHALATE	410 U	5500 U	ND	ND		0/30	NA	NA
3,3'-DICHLOROBENZIDINE	830 U	11000 U	ND	ND		0/30	NA	NA
BENZO(A)ANTHRACENE	410 U	810 U	69 J	3700 J	11SD01	7/30	1125.57	530.00
CHRYSENE	410 U	810 U	140 J	10000	11SD01	8/30	2008.75	670.00
BIS(2-ETHYLHEXYL)PHTHALATE	450 U	5500 U	59 J	880	2SD02	10/30	201.00	130.00
DI-N-OCTYL PHTHALATE	410 U	5500 U	ND	ND		0/30	NA	NA
BENZO(B)FLUORANTHENE	410 U	810 U	150 J	24000	11SD01	7/30	4498.57	1600.00
BENZO(K)FLUORANTHENE	410 U	810 U	72 J	21000	11SD01	7/30	3568.86	740.00
BENZO(A)PYRENE	410 U	810 U	64 J	23000	11SD01	7/30	4017.71	920.00
INDENO(1,2,3-CD)PYRENE	410 U	810 U	51 J	10000	11SD01	8/30	1550.75	260.00
DIBENZO(A,H)ANTHRACENE	410 U	810 U	170 J	4200 J	11SD01	4/30	1227.50	270.00
BENZO(G,H,I)PERYLENE	410 U	810 U	86 J	11000	11SD01	5/30	2637.20	780.00
1,4-DIOXANE	540 U	5500 U	ND	ND		0/30	NA	NA
PYRIDINE	540 U	5500 U	ND	ND		0/30	NA	NA
N-NITROSODIMETHYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA
2-PICOLINE	410 U	5500 U	ND	ND		0/30	NA	NA
N-NITROSOMETHYLETHYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA
METHYL METHANESULFONATE	410 U	5500 U	ND	ND		0/30	NA	NA
N-NITROSODIETHYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA

FREQUENCY OF DETECTION SUMMARY
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SEMIVOLATILES cont. (ug/kg)								
ETHYL METHANESULFONATE	410 U	5500 U	ND	ND		0/30	NA	NA
ANILINE	540 U	5500 U	ND	ND		0/30	NA	NA
N-NITROSOPYRROLIDINE	540 U	5500 U	ND	ND		0/30	NA	NA
ACETOPHENONE	410 U	5500 U	ND	ND		0/30	NA	NA
N-NITROSOMORPHOLINE	540 U	5500 U	ND	ND		0/30	NA	NA
O-TOLUIDINE	410 U	5500 U	ND	ND		0/30	NA	NA
N-NITROSOPIPERIDINE	410 U	28000 U	ND	ND		0/30	NA	NA
A,A-DIMETHYLPHENETHYLAMINE	540 U	5500 U	ND	ND		0/30	NA	NA
2,6-DICHLOROPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
HEXACHLOROPROPENE	540 U	5500 U	ND	ND		0/30	NA	NA
P-PHENYLENEDIAMINE	540 U	5500 U	ND	ND		0/30	NA	NA
N-NITROSO-DI-N-BUTYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA
SAFROLE	410 U	5500 U	ND	ND		0/30	NA	NA
1,2,4,5-TETRACHLOROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
ISOSAFROLE	410 U	5500 U	ND	ND		0/30	NA	NA
1,4-NAPHTHOQUINONE	540 U	5500 U	ND	ND		0/30	NA	NA
1,3-DINITROBENZENE	540 U	5500 U	ND	ND		0/30	NA	NA
PENTACHLOROBENZENE	410 U	5500 U	ND	ND		0/30	NA	NA
1-NAPHTHYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA
2-NAPHTHYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA
2,3,4,6-TETRACHLOROPHENOL	410 U	5500 U	ND	ND		0/30	NA	NA
1,3,5-TRINITROBENZENE	540 U	8100 U	ND	ND		0/30	NA	NA
DIALLATE	410 U	5500 U	ND	ND		0/30	NA	NA
PHENACETIN	410 U	5500 U	ND	ND		0/30	NA	NA
DIPHENYLAMINE	410 U	5500 U	ND	ND		0/30	NA	NA
5-NITRO-O-TOLUIDINE	540 U	5500 U	ND	ND		0/30	NA	NA
4-AMINOBIPHENYL	410 U	5500 U	ND	ND		0/30	NA	NA
PRONAMIDE	410 U	5500 U	ND	ND		0/30	NA	NA
2-SEC-BUTYL-4,6-DINITROPHENOL	830 U	28000 U	ND	ND		0/30	NA	NA
PENTACHLORONITROBENZENE	410 U	810 U	ND	ND		0/23	NA	NA
4-NITROQUINOLINE-1-OXIDE	1100 U	11000 U	ND	ND		0/15	NA	NA
METHAPYRILENE	540 U	5500 U	ND	ND		0/30	NA	NA
ARAMITE	830 U	11000 U	ND	ND		0/30	NA	NA
CHLOROBENZILATE	410 U	5500 U	ND	ND		0/30	NA	NA
P-DIMETHYLAMINOAZOBENZENE	560 U	5500 U	540 J	540 J	11SD02	1/30	540.00	540.00
3,3'-DIMETHYLBENZIDINE	540 U	11000 U	ND	ND		0/5	NA	NA

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SEMIVOLATILES cont. (ug/kg)								
2-ACETYLAMINOFLUORENE	540 U	5500 U	ND	ND		0/30	NA	NA
7,12-DIMETHYLBENZ(A)ANTHRACENE	540 U	5500 U	ND	ND		0/30	NA	NA
HEXACHLOROPHENE	4100 U	50000 U	ND	ND		0/29	NA	NA
3-METHYLCHOLANTHRENE	410 U	5500 U	ND	ND		0/30	NA	NA
CARBAZOLE	410 U	810 U	65 J	65 J	2SD03D	1/27	65.00	65.00
PENTACHLOROETHANE	540 U	5500 U	ND	ND		0/3	NA	NA
2-METHYLPHENOL	540 U	5500 U	ND	ND		0/3	NA	NA
BIS(2-CHLOROISOPROPYL)ETHER	540 U	5500 U	ND	ND		0/3	NA	NA
3- AND/OR 4-METHYLPHENOL	540 U	5500 U	ND	ND		0/3	NA	NA
METHYL METHACRYLATE	540 U	5500 U	ND	ND		0/3	NA	NA
ETHYL METHACRYLATE	540 U	5500 U	ND	ND		0/3	NA	NA

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PESTICIDE/PCBS (ug/kg)								
ALPHA-BHC	4.8 U	92 U	ND	ND		0/27	NA	NA
BETA-BHC	4.8 U	92 U	22	22	2SD03D	1/27	22.00	22.00
DELTA-BHC	4.8 U	92 U	ND	ND		0/27	NA	NA
GAMMA-BHC (LINDANE)	4.8 U	92 U	ND	ND		0/27	NA	NA
HEPTACHLOR	4.8 U	92 U	ND	ND		0/27	NA	NA
ALDRIN	4.8 U	92 U	ND	ND		0/27	NA	NA
HEPTACHLOR EPOXIDE	4.8 U	92 U	ND	ND		0/27	NA	NA
ENDOSULFAN I	4.8 U	92 U	ND	ND		0/27	NA	NA
DIELDRIN	9.7 U	180 U	ND	ND		0/27	NA	NA
4,4'-DDE	9.7 U	180 U	29	33	2SD03D	2/27	31.00	31.00
ENDRIN	9.7 U	180 U	ND	ND		0/27	NA	NA
ENDOSULFAN II	9.7 U	180 U	ND	ND		0/27	NA	NA
4,4'-DDD	9.7 U	180 U	ND	ND		0/27	NA	NA
ENDOSULFAN SULFATE	9.7 U	180 U	ND	ND		0/27	NA	NA
4,4'-DDT	9.7 U	180 U	ND	ND		0/27	NA	NA
METHOXYCHLOR	48 U	920 U	ND	ND		0/27	NA	NA
ENDRIN ALDEHYDE	9.7 U	180 U	ND	ND		0/27	NA	NA
ISODRIN	4.8 UJ	92 UJ	ND	ND		0/27	NA	NA
KEPONE	9.7 UJ	180 UJ	ND	ND		0/27	NA	NA
ALPHA-CHLORDANE	48 U	920 U	ND	ND		0/27	NA	NA
GAMMA-CHLORDANE	48 U	920 U	ND	ND		0/27	NA	NA
TOXAPHENE	97 U	1800 U	ND	ND		0/27	NA	NA
AROCLOR-1016	48 U	920 U	ND	ND		0/30	NA	NA
AROCLOR-1221	48 U	920 U	ND	ND		0/30	NA	NA
AROCLOR-1232	48 U	920 U	ND	ND		0/30	NA	NA
AROCLOR-1242	48 U	920 U	ND	ND		0/30	NA	NA
AROCLOR-1248	48 U	920 U	ND	ND		0/30	NA	NA
AROCLOR-1254	54 U	1800 U	ND	ND		0/30	NA	NA
AROCLOR-1260	54 U	1800 U	ND	ND		0/30	NA	NA

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ORTHO PESTICIDES (ug/kg)								
DIMETHOATE	82 U	160 U	ND	ND		0/27	NA	NA
DISULFOTON	82 U	160 U	ND	ND		0/27	NA	NA
FAMPHUR	82 U	160 U	ND	ND		0/27	NA	NA
METHYL PARATHION	82 U	160 U	ND	ND		0/27	NA	NA
O,O,O-TRIETHYL PHOSPHOROTHIOA	82 U	160 U	ND	ND		0/27	NA	NA
PARATHION	82 U	160 U	ND	ND		0/27	NA	NA
PHORATE	82 U	160 U	ND	ND		0/27	NA	NA
SULFOTEP	82 U	160 U	ND	ND		0/27	NA	NA
THIONAZIN	82 U	160 U	ND	ND		0/27	NA	NA
HERBICIDES (ug/kg)								
2,4-D	410 U	810 U	ND	ND		0/27	NA	NA
2,4,5-T	83 U	160 U	ND	ND		0/27	NA	NA
2,4,5-TP (SILVEX)	83 U	160 U	40 J	40 J	7SD04	1/27	40.00	40.00
DIOXIN (ug/kg)								
TCDD-2378	0.07 U	0.26 U	ND	ND		0/27	NA	NA
TOTAL TCDD	0.07 U	0.26 U	ND	ND		0/27	NA	NA
TOTAL PECDD	0.08 U	0.4 U	0.26 J	0.26 J	2SD03D	1/27	0.26	0.26
TOTAL HXCDD	0.1 U	0.38 U	1 J	3.3	2SD03D	3/27	2.27	2.50
TOTAL TCDF	0.04 U	0.19 U	ND	ND		0/27	NA	NA
TOTAL PECDF	0.05 U	0.2 U	ND	ND		0/27	NA	NA
TOTAL HXCDF	0.09 U	0.28 U	0.91 J	1 J	2SD03D	2/27	0.96	0.96
EXPLOSIVES (ug/kg)								
NITROBENZENE	230 U	260 U	ND	ND		0/27	NA	NA
2,6-DINITROTOLUENE	230 U	260 U	ND	ND		0/27	NA	NA
2,4-DINITROTOLUENE	220 U	250 U	ND	ND		0/27	NA	NA
1,3-DINITROBENZENE	220 U	250 U	ND	ND		0/27	NA	NA
1,3,5-TRINITROBENZENE	220 U	250 U	ND	ND		0/27	NA	NA
2-NITROTOLUENE	880 U	1000 U	ND	ND		0/27	NA	NA
2,4,6-TRINITROTOLUENE	220 U	250 U	ND	ND		0/27	NA	NA
3-NITROTOLUENE	880 U	1000 U	ND	ND		0/27	NA	NA
4-NITROTOLUENE	2600 U	3000 U	ND	ND		0/27	NA	NA
AMINO-DNTS	440 U	500 U	ND	ND		0/27	NA	NA
HMX	1900 U	2200 U	ND	ND		0/27	NA	NA
RDX	950 U	1100 U	ND	ND		0/27	NA	NA
TETRYL	660 U	750 U	ND	ND		0/27	NA	NA

APPENDIX E
TOXICOLOGICAL PROFILES

Date of Last Revision: 12/14/94
Revisor: Patrick B. Moroney

ANTIMONY

INTRODUCTION

Chemical Name:	Antimony
CAS Number (1):	7440-36-0
Molecular Formula (1):	Sb
Molecular Weight (1):	151.18 g/mole

Antimony is a silvery or gray lustrous metal that comes from the ores stibnite, dermasite, tetrahedrite, livingstonite, and jamisonite (1). Stibnite is the most common naturally occurring form of antimony. Antimony is used as a hardening alloy for lead, solder, sheet and pipe, semiconductor technology, production of fireproofing chemicals, ceramics, glassware, and pigments, and pyrotechnics (2,3). Antimony exists in four valence states (−3, 0, +3, and +5) (4). Antimony is a common air pollutant from industrial emissions but exposure in the general population is largely from food (3).

FATE AND TRANSPORT

Antimony occurs as a soluble oxide or as antinomite (+3) salt in most natural water systems. It may change to volatile stibine in a reducing environment. Stibine is very soluble in water, but it is not stable in under aerobic conditions. Sediment beds offer a reducing environment allowing for remobilization of antimony previously removed from solution. Sorption to clays and minerals is the most important mechanism resulting in the removal of antimony from solution. Insoluble forms of antimony compounds may be formed when heavy metals in solution react with antimonite or antimonate. Bioaccumulation represents a minor fate process for antimony. (4)

PHARMACOKINETICS

Antimony is slowly absorbed from the gastrointestinal tract. The metal accumulates in lung tissue when humans are exposed to antimony dust in an occupational setting. Trivalent antimony is concentrated in red blood cells and the liver. Pentavalent antimony is mostly found in plasma. Both trivalent and pentavalent antimony are excreted in feces and urine. More trivalent antimony is excreted in the urine, where more pentavalent antimony is excreted in the feces (3).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

Studies have reported that antimony trioxide, antimony trichloride, and antimony pentachloride may be mutagenic. Reproductive studies have indicated that female workers exposed to metallic antimony dust, antimony trioxide, and pentoxide had an increase in incident of gynecological disorders and late spontaneous abortions. Antimony was found in the breast milk, placental tissue,

amniotic tissue, and blood of the umbilical cord in exposed workers. Intraperitoneal administration of antimony in rats supported the findings of the human reproductive effects (4).

Cardiovascular effects in humans consist of changes in electrocardiograms, cardiac edema, myocardial fibrosis, and other signs of myocardial structural damage when exposed to either trivalent or pentavalent antimonial compounds. Animal studies have supported these findings (4).

Antimony and/or its compounds are known to cause pneumoconiosis upon inhalation exposure. Chronic exposure by inhalation causes rhinitis, pharyngitis, tracheitis, and bronchitis. Dermatitis may occur in humans dermally exposed to antimony (4). Also transient skin eruptions, termed "antimony spots", may occur in workers with chronic exposure to antimony (3). An oral RfD of 4.0×10^{-4} has been established by EPA.

Carcinogenic Effects

Antimony production workers have demonstrated higher incidences of lung cancer. Also, animal studies involving rats have indicated that antimony trioxide may produce lung and liver tumors (4).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

Although criteria have not been established for antimony, the lowest values known to be toxic in aquatic organisms have been reported. These values are as follows (5):

Freshwater:

Acute toxicity:	88 µg/L (proposed criteria)
Chronic toxicity:	30 µg/L (proposed criteria)

Marine:

Acute toxicity:	1,500 µg/L (proposed criteria)
Chronic toxicity:	500 µg/L (proposed criteria)

These values were established from a study involving the exposure of antimony potassium tartrate and antimony trichloride to Daphnia magna. The LC_{50} and EC_{50} values for Daphnia magna and the fathead minnow ranged from 9,000 to 21,900 µg/L. The chronic value for the fathead minnow and Daphnia magna are 1,600 and 5,400 µg/L, respectively. No detectable bioconcentration of antimony by the bluegill was observed (4).

Terrestrial and Avian

Studies regarding the toxicity of antimony to wildlife and domestic animals were not located in the available literature (4).

REGULATORY LEVELS AND CRITERIA

Oral RfD (7):	$4x10^{-4}$ mg/kg/day
EPA Carcinogenic Classification (7):	Group D - not classified as a carcinogen
Ambient Water Quality Criteria (8):	
Water and Organisms	14 µg/L
Organisms Only	43,000 µg/L
MCL	0.006 mg/L
MCLG	0.006 mg/L
OSHA PEL-TWA:	0.5 mg/m^3 (antimony and its compounds as Sb)
ACGIH TLV-TWA:	0.5 mg/m^3 (antimony and its compounds as Sb)

SUMMARY OF CRITERIA

The Oral RfD for antimony was reported as $4.0x10^{-04}$. The study supporting this value involved the exposure of 5 ppm of antimony potassium tartrate in drinking water to rats (7).

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Revisor: Patrick B. Moroney

ARSENIC

INTRODUCTION

Chemical Name:	Arsenic
CAS Number:	7440-38-2
Molecular Formula:	As
Molecular Weight:	74.92 g/mole
Chemical Structure:	As

Arsenic (elemental) exists as a silvery to black, brittle, crystalline and amorphous metalloid. Arsenic is used in the production of glass, enamels, ceramics, oil, cloth, linoleum, electrical semiconductors, pigments, fireworks, pesticides, fungicides, veterinary pharmaceuticals and wood preservatives. Arsenic also has been shown to occur in municipal sewage (7).

FATE AND TRANSPORT

BCF (1):	Accumulates to toxic levels in food chain organisms
Degradation Products:	None
Solubility:	
In Water (5):	Insoluble
In Organics (6):	Unknown (5); soluble in nitric acid
Vapor Pressure (6):	1 mm Hg @ 372° C (sublimes)
Specific Gravity (5):	5.727

Arsenic can occur in soil, water, or air. Since it is an element, it cannot be degraded by environmental processes. However, transformation from one arsenic compound to another is possible.

In the environment, arsenic can occur in four different oxidation states (-3, 0, +3, +5). The particular chemical speciation is important in determining mobility. Interconversions between the +3 and +5 states, as well as organic complexation, are most important (8).

In the soil, the concentration and chemical form in which arsenic occurs is affected by pH, soil type and iron and aluminum content of the soil. Lowered pH and reducing conditions tend to favor the development of arsine, a toxic gas comprised of arsenic and oxygen (7).

In the aquatic environment, volatilization is an important mechanism when biological activity or highly reducing conditions favor the production of arsine or methylarsenics. Sorption of arsenic onto sediments is also an important process in aquatic transport processes. While arsenic may cycle considerably in the environment given its mobility, the deep ocean probably serves as a sink for most inorganic arsenic (7).

PHARMACOKINETICS

Human and animal studies have shown that gastrointestinal absorption of arsenic is very high (>90 to 95 percent). Absorption of arsenic via the inhalation and dermal routes is limited in both animal and human studies. In terms of the developing fetus, inorganic arsenic has been shown to rapidly cross the transplacental barrier after oral administration to mice and rats (5).

Most animals and humans tend to clear arsenic rapidly from the blood and other tissues (including the liver, kidneys, and lungs). Arsenic has been shown to be retained in the brain of experimental animals (5). Arsenic has a tendency to accumulate in the skin and desquamous tissues, such as hair and nails of animals (2).

The main route of excretion for absorbed arsenic is via the urine. Studies demonstrate that only six to nine percent of ingested arsenic appears in the feces, indicating nearly complete gastrointestinal absorption of the metal. The biological half-life is on the order of ten hours, with 50 to 80 percent excreted in about three days (2).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

Trivalent compounds of arsenic are the principal toxic forms. Arsenic's principal mode of toxic action is at the cellular level, where it affects mitochondrial enzymes that are critical in tissue respiration (2).

Ingestion of large doses of arsenic can be acutely fatal. Symptoms include fever, anorexia, cardiac arrhythmia and eventual cardiovascular failure. Additionally, central nervous system (CNS) effects, including peripheral neuropathy and sensory loss, are usually noted (2).

Chronic long-term exposure is characterized by liver injury. This is usually reflected as jaundice, and may progress to cirrhosis. Also, peripheral vascular disease has been observed in persons chronically exposed to arsenic (2).

USEPA has established an oral RfD of 3×10^{-4} mg/kg/day for arsenic. This is based on keratosis and hyperpigmentation (1).

Carcinogenic Effects

Arsenic has been implicated as a carcinogen by the inhalation route in both animal and human studies.

Studies of populations living near arsenic-using pesticide manufacturing plants were shown to have an increased incidence of lung cancer. Also, case reports of arsenical pesticide applicators have demonstrated an association between arsenic exposure and lung cancer (1).

Evidence for the carcinogenicity of arsenic via oral exposure comes from an epidemiological study where an arsenic-contaminated water supply was associated with a significant increase in cancer of the bladder, lung, liver, kidney, skin and colon (1).

Because of arsenic's carcinogenic potential in humans, the EPA has classified it as a Group A carcinogen-human carcinogen. The carcinogenic slope factor for arsenic by inhalation exposure is 15.1 $(mg/kg/day)^{-1}$. Also, a carcinogenic slope factor of 1.50 $(mg/kg/day)^{-1}$ has been derived for ingestion exposure to this element (1,4).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

While various forms of inorganic arsenic seem to have roughly similar toxicities in aquatic organisms, they all seem to be much more toxic than the organic forms. Acute toxicity of adult freshwater animals has been shown to occur at arsenic trioxide levels as low as 812 µg/L and as low as 40 µg/L in early life stage organisms (8).

Ambient Water Quality Criteria for the protection of aquatic organisms are as follows: (1)

Freshwater:

Acute Toxicity:	3.6×10^2 µg/L (Arsenic III)
Chronic Toxicity:	1.9×10^2 µg/L (Arsenic III)

Marine:

Acute Toxicity:	6.9×10^1 µg/L (Arsenic III)
Chronic Toxicity:	3.6×10^1 µg/L (Arsenic III)

Terrestrial and Avian

Information on arsenic toxicity among terrestrial wildlife is very limited. However, arsenic poisoning has been known to occur on rare occasions in domestic animals. Arsenic poisoning in domestic animals leads to hyperemia and edema of the gastrointestinal tract, hemorrhage of the cardiac serosal surfaces and peritoneum, and pulmonary congestion and edema (8).

REGULATORY LEVELS AND CRITERIA

The following regulatory levels and criteria have been established for arsenic:

OSHA PEL-TWA (9):	10 µg/m^3 (inorganic)
ACGIH TLV-TWA (10):	0.01 mg/m^3
MCL(1):	0.05 mg/lL
EPA Ambient Water Quality Criteria (11):	
Ingestion of Water and Aquatic Organisms:	0.018 µg/L
Ingestion of Organisms Only:	0.14 µg/L

SUMMARY OF CRITERIA

EPA Carcinogenic Classification (1):	Group A-human carcinogen
Cancer Slope Factor (Inhalation) (1):	15.1 $(mg/kg/day)^{-1}$
Cancer Slope Factor (Oral) (4):	1.5 $(mg/kg/day)^{-1}$
Oral RfD (1):	3×10^{-4} mg/kg/day
Inhalation RfD (4):	Not Determined
NOAEL (4):	0.009 mg/L

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Date of Last Revision: 12/14/94
Revisor: Patrick B. Moroney

BERYLLIUM

INTRODUCTION

Chemical Name:	Beryllium
CAS Number:	7440-41-7
Molecular Formula:	Be
Molecular Weight:	9.01 g/mole

Beryllium is a dark gray metal from the alkaline earth family. Most of the beryllium ore that is mined is converted into metal alloys which are used in the fields of electronics and metal fabrication. Pure beryllium is used in nuclear weapons and reactors and x-ray transmission windows and mirrors (4).

FATE AND TRANSPORT

BCF:	100 for freshwater and marine plants, invertebrates, and fish (4)
Solubility:	
In Water:	Insoluble
In Organics (1):	Soluble in dilute acid and alkali; insoluble in alcohol, ether, and CCl_4
Specific Gravity (1):	1.85 @ 20° C

Beryllium can be present in the air, water, and soil although it can not be degraded by environmental fate processes. However, it may transform from one beryllium compound to another. The major source of its emissions to the environment is the release of particulates and fly ash into the atmosphere through the combustion of coal and fuel oil. Other sources of emission are associated with ore processing, metal fabrication, and beryllium oxide production and use. Beryllium is most likely found in the environment in the particulate form rather than the dissolved form (4).

There is no information regarding the aquatic or soil biotransformation of beryllium and its compounds (4).

The removal of beryllium from the atmosphere occurs through wet and dry deposition. Because beryllium displaces divalent cations which share common sorption sites, in most types of soil, it is expected to be tightly adsorbed. Since the BCF is reported at <1000, beryllium will not significantly bioaccumulate (4).

PHARMACOKINETICS

Beryllium enters the body through inhalation of air, consumption of food, and contact with water. The primary route of exposure is by inhalation. Based on animal studies, pulmonary absorption does not appear to be extensive, and absorption through the gastrointestinal tract and the skin appears to

be minimal. Dermal exposure to soluble beryllium compounds can cause contact dermatitis in humans (4).

Animal studies indicate that once beryllium enters the body via inhalation, it is circulated in the blood as an orthophosphate colloid and then distributed to the bone, liver, and kidneys in both humans and animals. Oral exposure of soluble beryllium in animal studies showed that distribution of the compound was mainly to the liver and intestine whereas insoluble beryllium was found mainly in the intestine.

Although beryllium is not biotransformed, soluble beryllium compounds are partially converted to more insoluble forms in the lungs (4).

Due to the poor absorption of beryllium compounds through the gastrointestinal tract, excretion of beryllium after oral administration of the compound is primarily in the feces, as demonstrated in animal studies. Following oral exposure to animals, only a very small amount appears in the urine; however, if beryllium is inhaled, a large portion of the absorbed beryllium is excreted in the urine (4).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

The most profound effect from inhalation appears in the lungs. Exposure to beryllium oxide or to soluble beryllium compounds may lead to the development of acute chemical pneumonitis. Beryllium and chemical pneumonitis in humans may result from exposures ranging from < 2 to 1000 $\mu g/m^3$. Chronic exposure to insoluble forms may lead to berylliosis. The most common clinical symptom of berylliosis is a granulomatous lung inflammation. Additional respiratory effects are rhinitis, pharyngitis, and tracheobronchitis. Besides the lung, beryllium also accumulates in the bone, liver and kidneys (1,4). No studies were identified describing the toxicity of beryllium when administered to humans by the oral route (4).

Beryllium can be absorbed through the skin; however, this route is minor. Exposure levels producing skin lesions associated with acute dermal exposure were not available (4). Also, direct contact with the eyes may cause inflammation to the conjunctiva (1).

No human data were available concerning decreased longevity. One study involving mice reported acute oral LD_{50}s of 18 to 20 mg/kg. The EPA has verified an oral RfD of 0.005 mg/kg/day. This figure was based on a study where rats were exposed to beryllium sulfate in drinking water at a concentration of 5 mg/L. A NOAEL was calculated at 5 mg/L (3).

Carcinogenic Effects

This chemical is among the substances classifed as a probable human carcinogen. This classification is based on limited evidence of carcinogenicity in humans from epidemiologic studies (3). Studies indicating increased lung cancer in individuals who have been exposed to beryllium failed to account for confounding factors such as lung cancer associated with smoking, and did not include employees of the beryllium industry who were not exposed to the beryllium (control groups) (4).

There has been sufficient information to link beryllium to lung cancer via inhalation in animals; osteosarcomas have been observed in rabbits via intravenous or intramedullary injection (3). Also, there has been sufficient information to link beryllium to an induction of tumors via inhalation and intratracheal instillation in rats and monkeys, and the induction of osteosarcomas in rabbits by intravenous or intramedullary injection in multiple studies.

Slight increases in cancer incidence were reported in Long-Evans rats that were administered 5 ppm beryllium sulfate in drinking water for a lifetime. An increase in reticulum cell carcinomas of the lungs was seen in male Wistar-derived rats administered beryllium sulfate in the diet at 5 and 50 ppm, but not at 500 ppm.

Osteogenic sarcomas were induced in rabbits by intravenous injection of beryllium compounds. Bone tumors were induced by beryllium oxide, zinc beryllium silicate, beryllium phosphate, beryllium silicate, and beryllium metal.

Lung tumors (adenomas and adenocarcinomas) have been induced via the inhalation route in both male and female Sprague-Dawley rats during exposure periods of up to 72 weeks by beryllium sulfate, in Sherman and Wistar rats by beryllium phosphate, beryllium fluoride, and zinc beryllium silicate, in male Charles River CR-CD rats by beryl ore, and in both male and female rhesus monkeys by beryllium sulfate. Positive results were seen in rats exposed to beryllium sulfate at concentrations as low as 2 $\mu g/m^3$ (3).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

Available data are not adequate to develop ambient water quality criteria for aquatic life protection. However, the EPA has reported the lowest concentration of beryllium known to cause toxic effects. The criterion for acute beryllium exposure to freshwater organisms is 130 $\mu g/L$. The chronic exposure for freshwater organisms is 5.3 $\mu g/L$. No saltwater acute or chronic studies are available (4).

Terrestrial and Avian

No data are available for terrestrial and avian life forms (4).

REGULATORY LEVELS AND CRITERIA

OSHA Ceiling Limit (4):	5 $\mu g/m^3$
OSHA PEL-TWA (4):	2 $\mu g/m^3$
ACGIH TLV-TWA (4):	2 $\mu g/m^3$
Ingestion of water and fish (8):	8.7×10^{-3} $\mu g/L$
Ingestion of organisms only (8):	6.4×10^{-2} $\mu g/L$
Reportable quantity (3):	10 lbs
MCL (3):	0.004 mg/L
MCLG (3):	0.004 mg/L

SUMMARY OF CRITERIA

EPA Carcinogenic Classification (3):	Group B2-Probable human carcinogen
Cancer Slope Factor (Oral) (3):	4.3 $(mg/kg/day)^{-1}$
Cancer Slope Factory (Inhalation) (3):	8.4 $(mg/kg/day)^{-1}$
Oral RfD (3):	0.005 mg/kg/day
Inhalation RfD (3):	Not available
NOAEL (7):	50 mg/kg/day

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BIS (2-ETHYLHEXYL) PHTHALATE

INTRODUCTION

Chemical Name: Bis (2-ethylhexyl) phthalate
CAS Number (1): 117-81-7
Molecular Formula (1): $C_{24}H_{38}O_4$
Molecular Weight (1): 390.5 g/mole

Bis (2-ethylhexyl) phthalate (BEHP) is a man-made chemical that is added to plastics to increase their flexibility. This compound is essentially a colorless liquid. BEHP is also known by the tradenames of Palatinol AH, Octoil, Sicol 150, Bisoflex 81, and Eviplast 80. It is present in a variety of plastics, especially vinyl materials, which have BEHP contents as high as 40 percent. Materials containing BEHP include rainwear, footwear, upholstery materials, imitation leather, waterproof gloves, tablecloths, shower curtains, food packaging materials, floor tiles, paints, flexible tubing, and plastic bags. BEHP has been detected in commercial organic solvents (2).

FATE AND TRANSPORT

Log K_{ow} (1):	5.11
Surface Water $t_{1/2}$: (2):	2-3 weeks
Log K_{oc} (1):	4 to 5
Henry's Law Constant (1):	1.1×10^{-5} atm·m^3/mole
BCF (1):	100 to 10,000 for fish and invertebrates
Water Solubility (1):	0.3 mg/L at 25° C
Vapor Pressure (1):	6.45×10^{-6} mmHg at 25° C

BEHP is released into the atmosphere through emissions from manufacturers and other industries and will exist in the gaseous phase. It is also released to the atmosphere via volatilization from plastic materials and the burning of plastics (2). BEHP released to the air will be carried for significant distances in the troposphere with wash out by rain being a significant removal process (1).

If released into a water system, BEHP biodegrades fairly rapidly with a half-life of approximately 2-3 weeks. BEHP also will strongly adsorb to soils and sediments and accumulate in aquatic organisms (1). As a result, evaporation and hydrolysis are not significant removal processes in the aquatic environment.

As mentioned above, BEHP has a strong tendency to adhere to soils and sediments. Therefore, when BEHP comes into contact with surface soils, release via evaporation or leaching into groundwater is negligible. Some studies suggest that BEHP may biodegrade in soil under aerobic conditions following acclimation.

PHARMACOKINETICS

The absorption of BEHP following inhalation, dermal contact, and oral exposure has been studied in humans and/or animals. Absorption following exposure to airborne BEHP has not been quantified in either humans or animals although data suggest it is absorbed via this route (2). Oral exposure in humans has resulted in urinary excretion of 11-15% of the administered dose. However, the total oral absorption rate is probably higher (approximately 20-25%) since it has been demonstrated in animals that 15-20% of the absorbed dose is eliminated via the bile (2). In terms of dermal absorption, the available animal studies indicate that absorption is poor via this pathway. One study suggests a dermal absorption rate of BEHP of approximately five percent. No data are available on the absorption of BEHP following dermal exposure in man (2).

No studies are available describing the distribution of BEHP and its metabolites following exposure in man. The tissue distribution in rats and monkeys is mainly to the liver, kidney, blood, and testes following oral exposure to BEHP. Dermal contact in rats resulted in the largest accumulation in the muscle, followed by the liver, kidney, and fat. No data were available regarding distribution of BEHP in animals after inhalation exposure (2).

In terms of BEHP metabolism, the available data in both humans and animals suggest that a complex series of reactions occur resulting in the production of 30 or more metabolites. The initial metabolic stop involves the lipolytic cleavage of DEHP to mono(2-ethylhexyl)phthalate (MEHP) and, after a series of primary metabolic reactions, the oxidized derivatives of MEHP undergo glucuronidation prior to excretion. It should be noted that the integrity of the aromatic phthalic acid moiety is maintained during these metabolic conversions (2).

The excretion of BEHP varies with the route of primary exposure. Following oral exposure to BEHP, a majority of the metabolites are excreted in the urine with lesser quantities eliminated via the bile in both humans and animals. A similar pattern of excretion was evident following dermal exposure in rats. No data are available regarding BEHP excretion following inhalation exposure in humans or animals (2).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

There are currently no data available suggesting that human exposure to BEHP results in the development of systemic effects. However, animal data suggest that exposure may affect the liver, testes, kidney, thyroid, and pancreas (2).

Oral exposure of rodents to BEHP has resulted in significant effects on the liver. Hepatic effects of BEHP in rodent systems includes increased hyperplasia, decreased cholesterol synthesis and degredation, alterations in the morphology of bile ducts, and appearance of precancerous altered cell foci, nodules, and tumors of the liver. The degree of liver perturbation is a function of both the dose and duration of exposure (2).

A number of studies in rats have demonstrated that BEHP exposure results in increased weight of the testes, prostate, seminal vesicles, and epididymus. The severity of testicular damage appears to be greater in younger than older male rats (2).

Chronic exposure to BEHP in animals has resulted in focal cystic changes of the kidney cells, decreased creatinine clearance, and an accumulation of lipofuscin deposits in the tubular epithetial cells (2).

The U.S. EPA has developed an oral reference dose (RfD) for BEHP based on an increased relative liver weight in guinea pigs (3). The guinea pigs were orally fed BEHP-containing feed and a lowest observed adverse effect level (LOAEL) of 19 mg/kg/day was established. An uncertainty factor of 1,000 was applied to the LOAEL to derived an oral RfD of 2×10^{-2} mg/kg/day for BEHP (3).

Carcinogenic Effects

The U.S. EPA has classified BEHP as a Group B2 carcinogen -- probable human carcinogen. This classification is based on sufficient evidence of carcinogenicity in animals and inadequate evidence in humans (3).

Based upon an NTP study involving Fisher 344 rats and B6C3F1 mice, an oral slope factor for BEHP was derived. Male and female rats were fed doses of 0, 6,000 and 12,000 ppm BEHP for 103 weeks and examined histologically for evidence of carcinogenicity. The histological examination revealed a statistically significant increase in the incidence of hepatocellular carcinomas and combined incidence of carcinomas and adenomas. A positive trend between increasing dose and increased cancer incidence also was apparent. An oral slope factor of 1.4×10^{-2} $(mg/kg/day)^{-1}$ was developed by the U.S. EPA using the linearized multistage model (3). There is currently no slope factor available for assessing carcinogenicity of BEHP by the inhalation route.

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Revisor: Patrick B. Moroney

CADMIUM

INTRODUCTION

Chemical Name:	Cadmium
CAS Number:	7440-43-9
Molecular Formula:	Cd
Molecular Weight:	112.4 g/mole

Cadmium is a soft, blue-white, malleable metal or grayish-white powder. It is obtained as a by-product from the treatment of copper, lead, and iron (1). Its primary uses are as a pigment, and in batteries, specialized metal alloys, and photography (2).

FATE AND TRANSPORT

BCF:	81 (4)
Solubility (4) :	Salts are water soluble; metal is insoluble
Specific Gravity (1):	8.642

Cadmium can be present in the air, water, and soil. Most often, cadmium exists in small particles which tend to be more persistent. Photochemical reactions are not involved in the atmospheric fate of cadmium. The largest source of atmospheric cadmium occurs as a result of fossil fuel combustion (4).

In water, cadmium is relatively mobile and may exist as a hydrated ion or as metal inorganic complexes. Many inorganic cadmium compounds are soluble in water; however, cadmium oxide and sulfide have very low solubilities (4).

Cadmium exists in soil as free cadmium compounds. It is strongly accumulated by organisms through food and water. The bioaccumulation capabilities of cadmium allow for elevated cadmium concentrations in mollusks, crustaceans, fish, and aquatic plants. Elevated cadmium levels in beef and poultry are often a result of cadmium-containing fertilizers (4).

PHARMACOKINETICS

Cadmium readily enters the body through ingestion of water or food and the inhalation of ambient air. Increased cadmium levels are largely attributed to plumbing, municipal incinerators, coal combustion, food grown in phosphate fertilizers, and smoking. Dermal exposure to cadmium is not considered a significant pathway (4).

Absorption of inhaled cadmium through the lung is dependent on particle size and whether or not the particles are respirable. It has been estimated that roughly 30 to 60 percent of inhaled cadmium is absorbed. Cadmium ingested in food or water is poorly absorbed (one to six percent) from the gastrointestinal tract of humans (4).

Cadmium is distributed to most organs in the body; however, the areas of greatest accumulation are the kidneys and liver. The primary route of excretion is through the urine. However, since only a small amount of cadmium is excreted per day, there is a strong tendency for cadmium to accumulate in the body over time. The half-life in humans ranges from 17 to 38 years (4).

Cadmium is not known to undergo any direct metabolic conversions in vivo such as oxidation, reduction, or alkylation. However, the cadmium ion does bind to protein and nonprotein sulfhydryl groups and to anionic groups in proteins and other molecules (4).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

The primary adverse health effect in humans associated with long-term cadmium exposure is renal dysfunction. Manifestation, associated with abnormal renal function include the formation of renal stones, disturbances in mineral metabolism, and renal functional lesions (4).

In the industrial environment, acute pulmonary exposure may lead to pneumonitis and severe pulmonary edema. Also, bone disorders, such as, osteomalacia, osteoporosis, and spontaneous bone fracture, have been observed in humans who are chronically exposed to cadmium (4). In recent studies, it has been found that relatively low doses of cadmium can alter the immune response in experimental animals; however, there is little evidence for suppression of the immune response in chronically exposed human populations (4). Other systemic effects include immunosuppression in animals, anemia, possible effects on the endocrine system, and defects in sensory function in humans. The LD_{50} in rats is 225 mg/kg (4). Cadmium is also an animal teratogen and reproductive toxin in laboratory animals.

The EPA has established an oral RfD values of 5.0×10^{-4} mg/kg/day (water) and 1.0×10^{-3} mg/kg/day (food). A concentration of 200 μg cadmium/gm wet human renal cortex is the highest renal level not associated with significant proteinuria. The toxicokinetic model assumes that 0.01% day of the cadmium body burden is eliminated per day. Assuming 2.5% of absorption of cadmium from food or 5% from water, the toxicokinetic model predicts that the NOAEL for chronic cadmium exposure is 0.005 and 0.01 mg cadmium/kg/day from water and food, respectively.

Carcinogenic Effects

Cadmium is classified as an EPA Group B1 carcinogen, a probable human carcinogen by inhalation. An Inhalation Cancer Slope Factor of 6.3 has been established by EPA (3).

There is a significant association between cadmium and bronchogenic carcinomas and total malignant neoplasms in animals (4). Also, there is limited evidence which links cadmium inhalation exposure to an increased incidence of prostate cancer in exposed workers.

Studies with experimental animals have shown cadmium to produce significant increases in lung tumors. Also, administration of cadmium by injection has led to tumor formation at the injection site (4). Based on a large number of studies, it has been hypothesized that cadmium is not directly mutagenic, but impedes genetic repair (4).

It should be noted that carcinogenic effects have not been reported in either humans or laboratory animals exposed orally or dermally to cadmium (4).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

Laboratory experiments suggest that cadmium may have adverse effects on reproduction in fish at levels present in lightly to moderately polluted water (1).

Freshwater fish and invertebrates exhibit an acute LC_{50} ranging from 100 to 1000 µg/L. Saltwater species were 10-fold more tolerant to cadmium. The bioconcentration factors are generally less than 1000, but as high as 10,000 for some freshwater fish (1).

Ambient Water Quality Criteria have been established for cadmium and are as follows (3):

Freshwater:	
Acute toxicity:	3.9 µg/L (1-hr)*
Chronic toxicity:	1.1 µg/L (4-day)*
Marine:	
Acute toxicity:	$4.3 \times 10^{+1}$ µg/L (1-hr)
Chronic toxicity:	9.3 µg/L (4-day)

*Hardness dependent criteria

Terrestrial and Avian

No data characterizing adverse effects on domestic or wild animals are available (1).

SUMMARY OF REGULATORY LEVELS AND CRITERIA

EPA Carcinogenic Classification (3):	B1-Probable human carcinogen via inhalation
Cancer Potency Factor (inhalation) (3):	6.3×10^{0} $(mg/kg/day)^{-1}$
Oral RfD (3):	5×10^{-4} mg/kg/day (water)
	1×10^{-3} mg/kg/day (food)
Ingestion of water and organisms (3):	1.0×10^{1} µg/L
Reportable quantity (3):	10 lbs
OSHA PEL-TWA (7):	5 µg/m^3
MCL:	5.0 µg/L
MCLG (6):	5 µg/L
WHO (drinking water) (4):	0.005 mg/L
ACGIH TLV-TWA (8):	0.01 mg/m^3 (total dust/particulate)
	0.002 mg/m^3 (respirable fraction)

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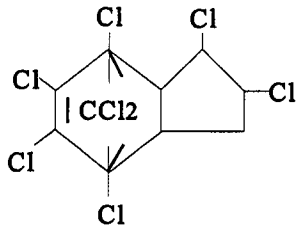
Date of Last Revision: 11/10/94
Revisor: Rich Hoff

CHLORDANE

INTRODUCTION

Chemical Name:	1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-hexahydro-4,7-methamoindene	
Synonyms:	cis-Chlordane:	alpha-Chlordane
	trans-Chlordane:	gamma-Chlordane
CAS Number:	Chlordane (mixture):	57-74-9
	cis-Chlordane:	5103-74-2
	trans-Chlordane:	5103-71-9
Molecular Formula:	$C_{10}H_6Cl_8$	
Molecular Weight:	409.8	
Chemical Structure:		



Chlordane is an organochlorine pesticide that was formerly used on field crops and is presently used to control structural pests in homes. Technical chlordane is a complex mixture that includes two isomers of chlordane, heptachlor, and two isomers of nonachlor. It is very persistent in the environment and is strongly bioaccumulated in fish and other aquatic organisms. Chlordane causes liver tumors in mice, and the results of a mutagenicity assay were positive. It also has adverse reproductive effects in mice, and chronic exposure causes liver changes and adversely affects the central nervous system. Chlordane is very toxic to aquatic organisms (1).

Technical chlordane is a complex mixture, the major components of which are cis-Chlordane and trans-Chlordane. The technical product also contains a variety of other chlorinated hydrocarbons, including heptachlor. It is a viscous amber-colored liquid. Much of the available literature does not distinguish between the chlordane isomers and appears to discuss mixtures of these compounds (1).

FATE AND TRANSPORT

Boiling Point:	175°C at 2 mm Hg	
Melting Point:	cis-Chlordane	107-109°C
	trans-Chlordane	103-105°C
Specific Gravity:	1.59 - 1.635 at 16°C (technical chlordane)	

Solubility:	
In Water:	From 0.056 to 1.85 mg/liter at 25°C
In Organics:	Miscible in aliphatic and aromatic solvents (technical chlordane)
Log Octanol/Water Partition Coefficient:	2.78
Vapor Pressure:	1×10^{-5} mm Hg at 20°C (refined product)
Flash Point:	Minimum 81°C (technical chlordane)

Chlordane is very persistent in the environment, resisting chemical and biological degradation into harmless substances. Chlordane in water is somewhat volatile, which is an important loss process. Loss of chlordane from aquatic systems occurs when organics are present, and when residue concentrations in sediment are higher than in water. Therefore, sorption to sediments is an in removing the chemical from the aquatic environment. Chlordane binds tightly to soil particles and persists for years in soil after surface application. However, chlordane applied as an emulsifiable concentrate is more readily volatilized than when it is applied as a granular formulation. Certain food and feed crops accumulate residues by absorption from the soil. Atmospheric transport of vapors and contaminated dust particles from soil application sites can occur (1).

HUMAN HEALTH EFFECTS

Mixtures of cis-Chlordane and trans-Chlordane produce liver cancer in mice. Chlordane also has mutagenic effects in at least one test system. Reproductive effects, including developmental defects and neonatal metabolic and biochemical disorders, are observed in the offspring of mice exposed to chlordane. Tests with laboratory animals, primarily rodents, demonstrate acute and chronic toxic effects. Either isomer alone, or a mixture of the two, appears to exhibit approximately equal toxicity. Acute effects include anorexia, weight loss, tremors, convulsions, and death. Chronic exposure to chlordane causes liver changes and induces or suppresses a variety of enzyme systems. In addition, chlordane may act as a cumulative neurotoxin. The oral LD_{50} in the rate is 283 mg/kg. Oxychlordane, an epoxide metabolite formed from either chlordane isomer, is significantly more acutely toxic than chlordane. The oral LD_{50} of oxychlordane administered to rats in corn oil is 19 mg/kg and 43 mg/kg when administered in an aqueous suspension (1).

Acute oral or skin exposure to chlordane can cause vomiting, seizures, electroencephalographic dysrhythmia, convulsions, and death in humans. However, most reports of human toxicity are inconclusive. Oxychlordane has been found in a high percentage of human adipose tissue samples and also in human milk samples (1).

ENVIRONMENTAL HEALTH EFFECTS

The toxic effects of chlordane are seen at relatively low concentrations in some fish and invertebrate species. Chlordane also shows strong tendencies for bioaccumulation in some aquatic and terrestrial organisms. It can concentrate at levels thousands of times greater than the surrounding water medium in a variety of aquatic organisms, including bacteria, algae, daphnids, and fish. The EPA criteria for acute exposure to freshwater species is 2.4 μg/L, and it is 4.3E-3 μg/L for chronic exposure. The corresponding acute and chronic values for saltwater species are 0.09 μg/L and 0.0040 μg/L. Very little information exists concerning the biotransformation of chlordane.

Although biotransformations may be important for the ultimate degradation of chlordane, these processes are likely to be very slow (1).

Chlordane or oxychlordane residues have been found in a wide variety of wildlife and domestic animal species, but usually at relatively low levels. Chlordane does not appear to be extensively concentrated in the higher members of the terrestrial food chain. Studies indicate that chlordane may produce toxic effects in certain soil invertebrates after surface application. Although little information concerning bioaccumulation in these organisms is available, the potential bioconcentration of chlordane or oxychlordane by terrestrial insectivores is of concern. Little information on the toxic effects of chlordane to mammalian wildlife and domestic animal species is available. Chlordane or oxychlordane residues have been found in crops, meat, fish, and poultry, dairy products, and eggs. Oral LD_{50} values for chlordane ranging from 331 to 858 ppm in the diet (approximately 25 to 50 mg/kg) are reported for a variety of wild bird species. Oral LD_{50} values ranging from 100 to 1,000 mg/kg are reported for a variety of animals, including rodents, goats, sheep, and chickens (1).

REGULATIONS AND STANDARDS

Ambient Water Quality Criteria (2):

- Aquatic Life
  - Freshwater
    - -- Acute Toxicity: 1.1 μg/L
    - -- Chronic Toxicity: 0.001 μg/L
  - Saltwater
    - -- Acute Toxicity: 0.13 μg/L
    - -- Chronic Toxicity: 0.001 μg/L

- Human Health
  - Water and Organisms: 5.9E-4
  - Organisms only: 5.9E-4

Summary of Toxicological Indices (3):

- Weight of Evidence: B2 - probable human carcinogen
- Oral Cancer Slope Factor: 1.3 $(mg/kg/day)^{-1}$
- Inhalation Cancer Slope Factor: 1.29 $(mg/kg/day)^{-1}$
- Oral RfD: $6x10^{-5}$

Other Regulations

- OSHA PEL-TWA: 0.5 mg/m^3
- ACGIH TLV-TWA (skin): 0.5 mg/m^3
- Department of Transportation: Combustible Liquid

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Revisor: Rich Hoff

COPPER

INTRODUCTION

Chemical Name:	Copper
Synonyms (1):	Bronze Powder, C.I. 77400
CAS Number (1):	7440-50-8
Molecular Formula:	Cu
Molecular Weight (1):	63.546 g/mole
Chemical Structure:	Cu

Copper is a reddish colored metal that occurs naturally in rock, soil, water, sediment, and air. Also, copper occurs naturally in plants and animals. A concentration of approximately 50 ppm can be found in the earth's crust. Copper is considered to be ductile and an excellent conductor. The primary uses of copper consist of use as the metal or alloy in the manufacture of wire, sheet metal, pipe, and other metal products. Copper compounds occur both naturally and are man-made and exhibit a characteristic blue-green color. Copper compounds are used in agriculture to treat plant diseases, for water treatment, and as preservatives for wood, leather, and fabrics (1,2,3).

FATE AND TRANSPORT

Fish BCF (4):	200 L/kg
Solubility(3):	In Water : Insoluble
Density (3):	8.92

The largest release of copper to the environment is to the land with an estimated 97% deposited to this media. Tailings and overburdens from copper mines and tailings from mills are the primary contributors. It is also released through mining operations, agriculture, solid waste, and sludge from publicly-owned treatment works. The majority of copper deposited in the soil is strongly adsorbed and remains in the upper few centimeters of soil. The copper adsorbs to organic matter, carbonate minerals, clay minerals, or hydrous iron and manganese oxides (3).

Copper is released to water bodies primarily through natural weathering of soil and discharges from industries and sewage treatment plants. The majority of copper in water is found in the form of particulates. Approximately 2.4% of total copper released to the environment is attributed to release into a waterway. An estimated 68% of release to water is associated with natural weathering or disturbed soil. Copper sulfate use represents 13% of releases to water. Only 2% is contributed by urban runoff. The copper discharged into waterways is in the form of particulate matter. The particulate matter either settles out, precipitates out, or adsorbs in organic matter, hydrous iron and manganese oxides, and clay in sediment. When copper is present as the Cu(I) ion, it tends to disproportionate to Cu(II) and copper metal. The concentration of dissolved copper depends on factors such as pH, the oxidation-reduction potential of the water, and the presence of competing cations, anions of insoluble cupric salts and organic and inorganic complexing agents (3).

Copper emitted to the air occurs from windblown dust, volcanos, and manufacturing processes such as primary copper smelters and ore processing facilities. An estimated 0.04% of all copper released to the environment is to the air. Copper is released to the atmosphere in the form of particulate matter or adsorbed to particulate matter. Gravitational settling accounts for the removal of particles that are >5 μm while smaller particles are removed by either dry deposition or washout by rain. Deposition rates in urban areas are 0.119 and 0.164 kg/ha/yr for dry and wet deposition, respectively. It is assumed that copper transformations in the atmosphere exist as oxides. As the oxides age, sulfatization may occur (3).

PHARMACOKINETICS

No data were located that studied absorption of copper through inhalation or dermal exposure. However, via oral exposure, copper is absorbed in the stomach and small intestine. In humans, approximately 60% of an oral dose of Cu^{64} as copper acetate was absorbed from the gastrointestinal tract. Once absorbed from the gastrointestinal tract, copper forms ionic copper or binds to amino acids. The factors which may affect copper absorption include: competition with other metals, the amount of copper in the stomach, certain dietary components, and forms of copper. High dietary ascorbic acid has been shown to impair copper absorption (3).

Studies regarding distribution of copper through inhalation and dermal exposure are not available. Through oral exposure, copper is distributed by loosely binding to plasma albumen and amino acids in the portal blood and transported to the liver. Studies have also shown that copper binds to transcuprein, a plasma protein. Once in the liver, copper is incorporated into ceruloplasmin and released into the plasma (3).

Copper is metabolized mainly by its transfer to and from various organic ligands. Several binding proteins for copper have been identified that are important in the uptake, storage, and release of copper from tissues (3).

Oral exposure is the only pathway which has been studied with regard to excretion. The major pathway for the excretion of copper is through bile following oral exposure. Studies have shown that 72% of ingested radioactive copper was excreted as copper acetate in the feces. Reabsorption of biliary copper is negligible; however, a fraction of fecal copper is of endogenous biliary origin (3).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

Wilson's disease (hepatolenticular degeneration), is the only significant manifestation of copper toxicity in humans. Death has been reported upon ingestion of large amounts of copper and attributed to extensive hepatic centrilobular necrosis (3).

Systemic effects induced by copper ingestion include gastrointestinal irritation, manifested as vomiting, nausea, diarrhea, and anorexia. In individuals totally poisoned from copper, centrilobular necrosis of the liver and necrosis and sloughing of tubular cells in the kidney have been observed (3).

Immunological effects in humans have been exhibited as allergic dermatitis upon contact with copper. Additionally, inhalation studies in mice have found that after exposure to copper, an impaired immune function is present (3).

Neurological effects are manifested as Wilson's disease. Wilson's disease affects the central nervous system and includes symptoms of poor coordination, psychological impairment, tremor, disturbed gait, and rigidity. Increased copper levels in the brain have been observed in humans with Wilson's disease and in animals exposed to high levels of copper (3).

Mice, mink, and hamsters injected with copper or fed a diet high in copper have shown developmental effects. These effects include fetal mortality and developmental abnormalities. No developmental effects have been reported in humans; however, there is a possibility that there may be an increased incidence of spontaneous abortion and miscarriage in women exposed to high levels of copper. Developmental effects have not been observed in healthy humans or in the offspring of mothers with Wilson's disease (3).

In humans, reproductive effects have not been reported when exposed to high levels of copper. Mink did not exhibit adverse effects when fed a diet high in copper. However, when a copper wire was inserted into the vas deferens or uterus of monkeys, rats, hamsters, and rabbits prior to conception or at gestational day 3, decreased fertility was observed (3).

The Drinking Water Criteria Document concluded toxicity data were inadequate for calculation of an RfD for copper.

Carcinogenic Effects

The EPA carcinogen classification for copper is Group D- inadequate evidence of carcinogenicity. An elevated incidence of cancer has not been observed in humans or animals exposed to copper via inhalation, oral, or dermal route of exposure (3).

Although there are no data on the mutagenicity of copper in humans, in vivo and in vitro studies of mammalian systems suggest that copper is a potential human mutagen (3).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

However, the bioconcentration factor of copper in fish has been developed. The results of these studies indicate a low potential for bioconcentration with a range of factors for fish of 10- 100. The bioconcentration factor for molluscs, such as oysters was considerably higher at a peak of 30,000. Evidence suggests that there is no biomagnification of copper in the food chain. The biomagnification ratio in fish studied from lakes that were known to have received elevated loadings of copper, revealed that the ratio was <1 (3). The criterion for acute and chronic exposure to freshwater organisms are 18 µg/L and 12 µg/L, respectively. The criterion for acute exposure to marine organisms is 2.9 µg/L (8).

Terrestrial and Avian

In bioaccumulation studies of pollutant concentrations in the muscle and livers of 10 mammal species in Donana National Park in Spain, no evidence of bioaccumulation was obtained. No evidence of copper biomagnification in the food chain was observed (3).

REGULATORY LEVELS AND CRITERIA

OSHA PEL-TWA	
Fumes (3):	0.1 mg/m^3
Dusts and Mists (3):	1.0 mg/m^3
EPA SMCL (3):	1.0 mg/L
MCL (3):	1.3 mg/L (Action Level)
MCLG (3):	1.3 mg/L
EPA Reportable Quantity (3):	5000 lbs
ACGIH TLV-TWA:	
Fumes (3):	0.2 mg/m^3
Dusts and Mists (3):	1.0 mg/m^3
1-Day Health Advisory (3):	1.3 mg/L

SUMMARY OF CRITERIA

EPA Classification (6):	Group D - Inadequate evidence of carcinogenicity
Noncarcinogenic Effects	
Oral RfD (7):	4.00×10^{-2} mg/kg/day
Inhalation RfC (6):	Not determined

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DDT SERIES PESTICIDES

INTRODUCTION

Technical DDT is a mixture containing 65-80% p,p'-DDT, 15-20% o,-p' DDT and up to 4% p,p'-DDD plus other trace materials. The metabolites of DDT include p,p'-DDE and o,p'-DDD. DDT isomers and their metabolites are usually found together and generally have the similar properties, therefore DDT has been referenced as the total combination of isomers and metabolites. However, specific differences between isomers are identified.

DDT, along with it's metabolites, are organochlorine pesticides which are very persistent in the environment. Historically, DDT was released to the environment during its formulation and extensive use as a pesticide in agricultural and vector control applications. It was banned from use in the United States in 1972, but is still used in other areas of the world. These compounds have been shown to be carcinogenic in mice and chronic exposure primarily cause liver and lung tumors and lymphomas. In addition, the nervous system appears to be one of the primary target organs for DDT toxicity in humans (6). In general, organochlorine pesticides are highly toxic to aquatic organisms, in addition to being responsible for a decreased population of many bird species (1).

Chemical Name:
p,p'-DDT: p,p'-1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane
p,p'-DDD: p,p'-1,1-Dichloro-2,2-bis(4-chlorophenyl)-ethane
p,p'-DDE: p,p'-1,1-Dichloro-2,2-bis(4-chlorophenyl)-ethene

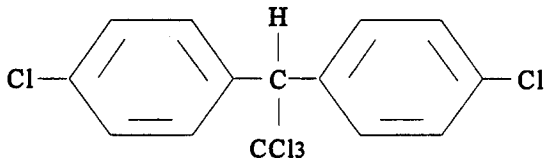
CAS Number (1):
p,p'-DDT: 50-29-3
p,p'-DDD: 72-54-8
p,p'-DDE: 72-55-9

Molecular Formula (1):
p,p'-DDT: $C_{14}H_9Cl_5$
p,p'-DDD: $C_{13}H_{10}Cl_4$
p,p'-DDE: $C_{14}H_8Cl_4$

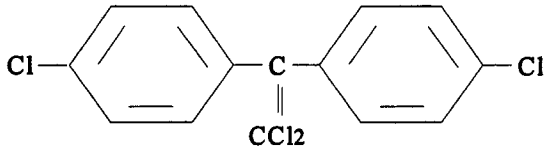
Molecular Weight (1):
p,p'-DDT: 354.5 g/mole
p,p'-DDD: 320 g/mole
p,p'-DDE: 318 g/mole

Chemical Structure (6):

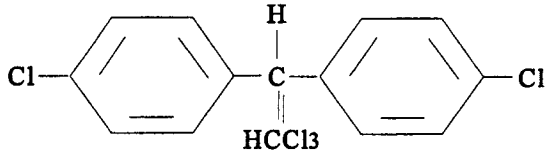
DDT:



DDE:



DDD:



FATE AND TRANSPORT

<u>Chemical and Physical Properties</u>

Log K_{ow} (6):

p,p'-DDT:	6.19
p,p'-DDD:	6.20
p,p'-DDE:	7.00

Log K_{oc} (6):

p,p'-DDT:	5.4
p,p'-DDD:	5.9
p,p'-DDE:	6.6

Boiling Point (1):

p,p-DDT:	260°C

Melting Point:

DDT:	109°C
DDD:	112°C
DDE:	90°C

Solubility in Water @ 25°C (6):
p,p'-DDT: 3.4 μg/L
p,p'-DDD: 160 μg/L
p,p'-DDE: 120 μg/L

Solubility in Organics (1):
p,p'-DDT: Soluble in acetone, benzene, cyclohexane, morpholine, pyridine, and dioxane

Vapor Pressure (1):
p,p'-DDT: $1.9E^{-7}$ mm Hg at 25°C
p,p'-DDD: $1.0E^{-6}$ mm Hg at 30°C
p,p'-DDE: $6.5E^{-6}$ mm Hg at 20°C

TRANSPORT AND PARTITIONING

DDT and its metabolites may be transported from one medium to another by the processes of solubilization, adsorption, bioaccumulation, or volatilization. Each of these processes will be discussed in the following paragraphs. Studies of DDT transformations in soils predict prolonged persistence. During these extended periods of time, these compounds undergo extensive adsorption to soil particles, as predicted by their organic carbon partition coefficients (K_{oc}) of 2.4×10^5, 4.4×10^6, and 7.7×10^5, for DDT, DDE and DDD, respectively. DDT, DDE and DDD are only slightly soluble in water (solubilities of 0.0034, 0.12, and 0.160 mg/L at 25°C, respectively). Therefore, loss of these compounds in runoff is primarily due to transport of particulates to which these compounds are bound. Since they are bound strongly to soil, they are not easily displaced from their site of application, nor do they tend to leach to groundwater, and appreciable amounts may remain in the soil for extended periods of time. When DDT is released to water, it quickly adsorbs to particles and is subject to sedimentation, or may bioconcentrate in microorganisms and can become part of the food chain.(6)

Volatilization of DDT and DDE is known to account for considerable losses of these compounds from solids and water. Their tendency to volatilize can be predicted by their Henry's Law Constants, 5.13×10^{-4} and 6.8×10^{-5} atm-m^3/mol, respectively, and their vapor pressures, 5.5×10^{-6} and 6.5×10^{-6} Torr, respectively. The tendency of DDD to volatilize is approximately three-fold less than that of DDT or DDE. Estimates of the rate of evaporative losses of DDT from water range from several hours to 50 hours. Laboratory studies of the air/water partition coefficient of DDE indicate that it will volatilize from seawater 10 to 20 times faster than from freshwater. The authors suggest that this process may be related to interaction at the bubble-water surface (6).

Small particles which carry DDT or its degradation products may also be distributed through the atmosphere. Once volatilized or airborne, transport of these compounds into the ambient atmosphere of North America is facilitated by a circulation pattern which brings moisture from the Gulf of Mexico into the Midwest and airflow patterns across the eastern seaboard. Residues are removed from the atmosphere by precipitation, diffusion into large bodies of water, and chemical transformation. Precipitation is believed to account for the greatest rate of removal (6).

DDT, DDE, and DDD are highly lipid soluble, as reflected by their log octanol-water partition coefficients (log K_{ow}) of 6.19, 7.00, and 6.20, respectively. This lipophilic property, combined with

an extremely long half-life, has resulted in bioaccumulation (levels in organisms exceed those levels occurring in the surrounding environment). When they are present in ambient water, DDT and its metabolites are concentrated in freshwater and marine plankton, insects, mollusks, other invertebrates, and fish. As these organisms become part of the food chain, a progressive accumulation of residues may result in high levels of residues in organisms at the top of the food chain. In some cases, man may be the ultimate consumer of these contaminated organisms. The bioconcentration factor (BCF) is defined as the ratio at equilibrium between the concentration of the chemical in the organism or tissue of the organism, and the concentration of the chemical in the surrounding media. There are numerous measurements and estimates of BCFs in fish. Oliver and Niimi estimated the steady-state BCF in rainbow trout as 12000.

TRANSFORMATION AND DEGRADATION

The dominant mechanism for removal of DDT from the atmosphere is believed to be via precipitation and secondarily, particulate fallout. Under simulated atmospheric conditions, both DDT and DDE decompose to form carbon dioxide and hydrochloric acid (6).

AIR

In air and sunlight, DDT is subject to direct photooxidation and reaction with photochemically produced hydroxyl radicals. The latter process has an estimated half-life of two days. Since DDT residues are ubiquitous in the atmosphere, it seems likely that photodegradation must occur at a slow rate. DDT which reaches the photochemically active ionosphere may be rapidly destroyed by solar irradiation as indicated under laboratory conditions (6).

WATER

DDT present in water may be partitioned, transported, or converted in several ways: adsorption to sediments, bioconcentration in aquatic organisms, volatilization, photodegradation, and biodegradation. DDT in water is photodegradable by wavelengths of light which are present in the troposphere. DDT in excess of water solubility limits is adsorbed onto sediments which act as the primary reservoir for excess quantities of DDT. There it is available for ingestion by organisms. Biodegradation is reported to be a minor source of transformation (6).

SOIL

Four mechanisms have been suggested to account for most losses of DDT residues from soils: (1) volatilization, (2) removal by harvest of organic matter, (3) water runoff and (4) chemical transformation. DDT is subject to volatilization, with an estimated half-life of 100 days. Photoxidation of DDT is known to occur on soil surfaces; however, DDT is not known to hydrolyze. Biodegradation may occur under both aerobic and anaerobic conditions in the presence of certain microorganisms. Under aerobic conditions, slow conversion to DDE normally occurs, whereas, under anaerobic conditions, conversion to DDD results and is much more rapid than the aerobic conversion to DDE. Under aerobic conditions, dehydrochlorination is the dominant reaction, while under anaerobic conditions, reductive dechlorination occurs. Both metabolites are very resistant to further transformation. Due to the prolonged half-life of DDE, average levels of DDT are expected

to decline slowly while the ratio of DDE to DDT is expected to increase. Estimates of the half-life for DDT biodegraded in soil range from 2 to >15 years (6).

PHARMACOKINETICS

Absorption of DDT by the lung is considered to be a minor route of entry. Due to the large particle size, it does not enter into the smaller spaces of the lung, but is deposited in the upper respiratory tract, and due to the action of the mucociliary apparatus it is eventually swallowed. However, some particles may be small enough to enter the tracheal system. No studies have been located that quantify the rate or extent of absorption of DDT, DDD or DDE (6).

Absorption following ingestion of DDT, DDE and DDD is evident in humans from measurements of serum and adipose tissue concentrations of these chemicals after occupational exposure. Gastrointestinal absorption is evidenced by the presence of DDT and metabolites measured in bile and the induction of tumors in animals following oral administration of the compounds. Approximately 70-90% of the dose has been absorbed following oral exposure to DDT in vegetable oils (6).

Dermal absorption of DDT in humans is considered to be limited, but can be inferred by observation of toxicity following dermal application of DDT. Acute toxicity studies have shown that toxicity is less when DDT is applied dermally than when given by gavage or injection (6).

The distribution and storage of DDT in humans and animals has been extensively studied. DDT and its metabolites are lipid soluble compounds, and once absorbed readily distribute to all body tissues in proportion to respective tissue lipid content (6).

HUMAN HEALTH EFFECTS

Carcinogenic Effects

DDT has been classified as a B2 carcinogen, a probable human carcinogen, however, the existing epidemiological human health research data for carcinogenicity are inadequate . The basis for the B2 classification is the observation of tumors (generally liver tumors) in various mouse strains and in three studies of rats. In addition, DDT is structurally similar to other probable carcinogens such as DDD and DDE. Lung tumors have also been observed in chronic studies of mice, while increased tumor incidence in hamsters have also been observed (2).

DDT has produced both negative and positive responses in tests for genotoxicity (2).

An oral slope factor (CSF) for DDT has been set at 3.4×10^{-1} $(mg/kg/day)^{-1}$ by the United States Environmental Protection Agency (USEPA). An inhalation unit risk number has also been set at $9.7E^{-5}$ $\mu g/m^3$, or an inhalation slope factor of 3.4×10^{-1} $(mg/kg/day)^{-1}$ (2).

For DDD the USEPA has set an oral slope factor of 2.4×10^{-1} $(mg/kg/day)^{-1}$, and for DDE the USEPA has set an oral slope factor of 3.4×10^{-1} $(mg/kg/day)^{-1}$ (2).

Noncarcinogenic Effects

Increased hepatocellular hypertrophy, cytoplasmic oxyphilia and peripheral basophilic cytoplasmic granules were observed in chronic rat studies where rats were fed commercial DDT. Liver lesions were also seen in one 2 year rat study. In addition, DDT-induced liver effects were observed in mice, hamsters and dogs. One three generation rat reproduction study showed offspring mortality at all administered doses. Three other rat studies showed no reproductive effects at much higher dose levels (2).

An oral reference dose (RfD) of $5x10^{-4}$ mg/kg/day has been set by the USEPA. The Lowest Observed Adverse Effects Level for the study in which the RfD was derived was 0.25 mg/kg-d. The study from which the RfD was derived was chosen for the following reasons; male rats were used in the study (male rats are more sensitive than female rats to DDT), the study was of sufficient length to observe toxic effects and several doses were administered in the diet over the range of the dose-response curve (2).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

DDT has been extensively studied in freshwater invertebrates and fish and is quite toxic to most species. Saltwater species are even more sensitive than freshwater species (1).

Ambient Water Quality Criteria (AWQC) have been set for DDT, however, criteria have not been set for DDD and DDE, the Lowest Observed Adverse Effects Level (LOAEL) have been reported as a guideline for aquatic adverse effects for these two compounds (3).

DDT: (AWQC)

Freshwater Acute:	1.1 μg/L
Freshwater Chronic:	0.001 μg/L
Marine Acute:	0.13 μg/L
Marine Chronic:	0.001 μg/L

DDD: (LOAEL)

Freshwater Acute:	0.6 μg/L
Marine Acute:	3.6 μg/L

DDE: (LOAEL)

Freshwater Acute:	1,050 μg/L
Marine Acute:	14 μg/L

Terrestrial and Avian

DDT, DDD and DDE and other persistent organochlorine pesticides are primarily responsible for the great decrease in the reproductive capabilities and consequently in the populations of fish-eating birds, such as the bald eagle, brown pelican, and osprey. DDT has also been shown to decrease the populations of numerous other species of waterbirds, raptors, and passerines significantly (1).

OCCUPATIONAL REGULATORY LEVELS AND CRITERIA

Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL), Time-weighted average for DDT: 1 mg/m^3, skin (5).

American Conference of Governmental Industrial Hygienist (ACGIH) Time-Weighted Average Threshold Limit Value (TLV) for DDT: 1 mg/m^3 (4).

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Revisor: Patrick B. Moroney

LEAD

INTRODUCTION

Chemical Name:	Lead
CAS Number:	7439-92-1
Molecular Formula:	Pb
Molecular Weight:	207 g/mole
Chemical Structure:	Pb

Elemental lead is a heavy, ductile, bluish-gray solid at ambient conditions. It is used widely in industry because of its softness, resistance to corrosion and radiation, and high density. Lead is also used as a paint pigment, in solder, and in storage batteries.

FATE AND TRANSPORT

BCF:	49 (1)
Degradation Products:	None
Solubility:	Lead is insoluble in water and organic solvents. It does dissolve in dilute nitric acid (2), and hot, concentrated sulfuric acid (3).
Specific Gravity (2):	11.35 @ 20°C

Lead and lead compounds can be present in air, water, and soil and are extremely persistent in water and soil (4). Metallic lead and common lead minerals are insoluble in water while manufactured alkyl lead compounds are water soluble. A major transport process for inorganic and organic lead compounds is atmospheric dispersion as particulate matter. Lead is removed from air by either wet or dry deposition. Photolysis of atmospheric organic lead compounds occurs rapidly (3). The average residence time of atmospheric lead is 7 to 30 days (4).

Natural lead compounds are not mobile in normal surface and groundwater because lead leached from ore is adsorbed by ferric hydroxide. It also readily combines with hydroxide, carbonate, and sulfate ions to form insoluble compounds. These compounds precipitate and settle in the bed sediment. Lead is not volatile, therefore, volatilization is not an important transport process from aquatic environments (3).

Sorption is a dominant effect on the distribution of lead in soil. Lead readily adsorbs to inorganic solids, organic material and hydrous iron and manganese oxides. Because of its affinity for other materials and its solubility characteristics, the mobility of lead in soil is low. (3). Most lead is retained in soil and not transported via leaching or runoff to surface water (4).

Lead is not readily taken up by plants. Consequently, its availability to terrestrial life forms is limited (3). Lead does not appear to significantly bioaccumulate in most fish (4). Microcosm studies indicate that lead is not biomagnified through the food chain (3).

PHARMACOKINETICS

Lead primarily enters the body by inhalation and ingestion. For all practical purposes, it will not enter the body by dermal contact. Approximately 30-50 percent of all inhaled lead particulate is deposited in the respiratory tract. Almost all of the lead present will be absorbed by the lungs. The primary site of absorption by ingestion in children is the gastrointestinal tract. Fifty percent of all dietary lead ingested by children is absorbed, whereas only 8-15 percent is absorbed by adults. Studies have also demonstrated that transplacental transfer of lead is possible.

Lead is not homogeneously distributed upon entering the body. It concentrates in the following three organs: bone, blood, and soft tissue. The lead in each of these compartments has a different rate of intercompartmental movement and residence time (4).

Inorganic lead is not metabolized in the body; rather it is absorbed, distributed and excreted. However, organic alkyl lead is metabolized in the liver via an oxidative dealkylation reaction which is catalyzed by cytochrome P-450 in animals (4).

Lead that is not absorbed by the respiratory or gastrointestinal tract is excreted in the feces. Blood lead not retained by the body is eliminated by the kidney or bile (4).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

Numerous studies have been conducted on the toxic effects of lead. The data present dose-effect relationships and are expressed in terms of internal exposure measured in blood lead levels (4).

Lead affects various systems of the body. The endpoints elicited at low level exposure are neurobehavioral impairment, growth retardation in children, and hypertension in middle-aged men. High exposure levels produce encephalopathy, gastrointestinal effects, anemia, nephropathy, and electrocardiographic abnormalities (4).

Lead affects the hematopoietic system by interfering with heme biosynthesis and ferrochelatase. This interference results in a reduction of the hemoglobin concentration in blood and an increase in erythrocyte (red blood cell) destruction. The combination of these two effects produce hypochromic, normocytic anemia with associated reticulocytosis. The impairment of heme synthesis has a far ranging impact that is not limited to the hematopoietic system.

Lead exposure also affects the central nervous system. Overt neurological signs have been documented in adults with blood lead levels ranging as low as 40 to 60 μg/dl. Encephalopathy can occur at blood lead levels of 100 to 200 μg/dl and 80 to 100 μg/dl for adults and children, respectively. As indicated by these levels, children are much more sensitive to neurological effects of lead. Death or irreversible health effects may occur as a result of central nervous system impairment (4).

The cardiovascular system is also impacted by lead exposure. Common effects from high level exposure include cardiac lesions and electrocardiographic abnormalities. Hypertension has been

clearly related to lead exposure. Studies suggest that high blood pressure resulting from lead exposure may be mediated through effects on the kidney (4).

A direct relationship has been drawn between blood lead level and children's height, weight, and chest circumference. The strongest relationship was drawn with height. As the blood lead level increases the child's growth is retarded (4).

Exposure to lead has significantly effected the human reproductive system. Because lead accumulates in the bones and is sporadically released into the blood, exposure prior to pregnancy may affect the fetus. Blood lead reaches the fetus by crossing through the placental barrier. It was observed in animals that exposure to lead by non-natural routes (e.g., intravenous or intraperitoneal injection) resulted in malformations of the fetus (4).

In the body, lead can interact with other chemicals. Calcium and phosphorus reduce the amount of lead taken up by the body while zinc helps to reduce the toxic effects of lead. Cadmium increases the toxic effects of lead; and lead increases the toxic effects of mercury. Due to the effect of lead on the hemapoietic system, iron deficiency increases as blood lead increases (4).

Derivation of Oral Reference Dose for Lead

In a review of available toxicological data on the potentially adverse effects associated with various blood lead (PbB) levels in adults and children, Marcus (1986) has concluded that the effects on the enzymes of heme synthesis necessary for red blood cell formation occur at low PbB levels of about 10 micrograms per decaliter (µg/dL). Further, the author noted that neurotoxicity in children begins to appear at 15 to 20 µg/L and at 25 to 30 µg/dL in adults. According to the author, the data suggests, "that PbB values of 15 µg/dL should not be exceeded in children and values of 25 µg/dL should not be exceeded in adults".

In order to protect the fetus, it is necessary to set the PbB level in adults at 15 µg/dL since studies have indicated that the ratio of fetal/maternal PbB values can be approximated at a ratio of one to one (Marcus, 1986). It should be noted that this position is consistent with current EPA's conclusions that "PbB levels of 10 to 15 µg/dL constitute an appropriate range of concern for health effects that warrant avoidance" (Federal Register 50, No. 10, 26460-26550, June 7, 1991).

The acceptable daily intake (ADI) of lead via oral ingestion by adults has been determined to be 48 µg/day (Marcus, 1986). This value is equivalent to a PbB level (15 µg/dL) at which no adverse effects are observed to occur in humans.

Carcinogenic Effects

The EPA has stated that "little can be concluded from available epidemiological studies" concerning the carcinogenic potential of lead (4). However, the carcinogenicity of lead salts (primarily phosphates and acetates) administered via injection or the oral route has been demonstrated in rats and mice in several studies. In most of the investigations, the carcinogenic response has been demonstrated only at the highest dose. Although the EPA has stated that animal data are sufficient to conclude carcinogenicity in animals, the Agency has further stated that available toxicity data on metallic lead and lead compounds are inadequate for quantitative risk assessment (6).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

Freshwater species are more sensitive to lead contamination in soft water than hard water for both acute and chronic exposure. The ambient water quality criteria for aquatic life are as follows (5):

Four-day average concentration that should not be exceeded more than one time per year.

Freshwater	Salt Water
$e^{(1.273 (\ln (\text{hardness}))-4.705)}$ µg/L or 3.2 µg/L	8.5 µg/L

One-hour average concentration that should not be exceeded more than one time per year.

Freshwater	Salt Water
$e^{(1.273 (\ln (\text{hardness}))-4.460)}$ µg/L or 82 µg/L	220 µg/L

The BCF for saltwater species ranges from 17.5 to 2570 µg/L (3).

Terrestrial

Lead occurs in the tissues of many wildlife species. Lead poisoning has also been reported for a variety of domestic animals including cattle, horses, dogs, and cats. Cattle appear to experience lead poisoning more often because of their indiscriminate eating habits (3).

REGULATORY LEVELS AND CRITERIA

Ambient Air Quality Standard (4):	1.5 µg/m^3
OSHA PEL-TWA (4):	50 µg/m^3
MCL (4):	0.015 mg/L (Action Level)
MCLG (4):	0 mg/L
Reportable Quantity (metallic) (4):.	1 lb
ACGIH TLV-TWA (4):	0.15 mg/m^3 (inorganic lead, dust, and fumes)
	0.15 mg/m^3 (lead arsenate)
	0.05 mg/m^3 (lead chromate)
Ambient Water Quality Criterion:	50 µg/L

SUMMARY OF CRITERIA

EPA Carcinogenic Classification (4):	Group B2-probable human carcinogen
RfD (oral) (1)	Not Available
Cancer Slope Factor (oral, inhalation)	Not Available

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Revisor: Rich Hoff

MERCURY

INTRODUCTION

Chemical Name:	Mercury
CAS Number:	7439-97-6
Molecular Formula:	Hg
Molecular Weight:	200.59 g/mole
Chemical Structure:	Hg

Mercury is a silvery, heavy liquid with valences of +1, and +2. Mercury exists as insoluble elemental mercury, organic species, and inorganic species. Solubility depends upon the reduction-oxidation potential and the pH of the environment (2).

Common uses for mercury are amalgams, catalysts, electrical apparati, instruments such as thermometers and barometers, and neutron absorbers in nuclear power plants (2).

FATE AND TRANSPORT

Solubility (4):	81.3
In Water:	µg/L at 30° C; some salts and organic compounds are soluble (1).
Vapor Pressure(4):	0.0012mm Hg at 20° C (1)
Specific Gravity(4):	13.5939 at 20° C (1)

Mercury appears in ambient air, water, soil, and foodstuffs. Because mercury volatilizes from aquatic and terrestrial sources, the atmosphere becomes a reservoir for the element and its compounds. Wet and dry deposition processes return mercury to the land and surface, where it is absorbed in the soil and water surfaces. The sorption rate is related to the organic content of the soil. Since inorganic mercury is sorbed to particulate matter more readily than it is desorbed, sediments become repositories for inorganic forms of the compound. Although leaching is an insignificant transport process, mobilization from particulates can occur through biotic and abiotic oxidation and reduction to elemental mercury and bioconversion to volatile organic forms (1).

The transformation processes of mercury in the atmosphere, water, and soil are biotransformation and bioaccumulation. The primary transformation process is photolysis of organomercurials (1).

PHARMACOKINETICS

Inorganic mercury is absorbed rapidly by the lungs in humans. One study showed that 80 percent of inhaled elemental mercury vapor is retained in human tissues (4). Oral absorption of inorganic mercury is estimated to be about 10 percent while organic mercury is readily absorbed in humans (approximately 95 percent) (4). There are few dermal absorption studies with inorganic and organic mercury, but dermal absorption is known to occur with both types of mercury (4).

Inorganic mercury in body fluids is highly diffusible and lipophilic and, therefore, distributes to all tissues in the body. The highest levels of inorganic mercury occur in the kidney, while lower levels are found in the chest area and lung. Animal inhalation studies have shown mercury to concentrate in the kidney, intestinal mucosa, epithelial layers of the skin, salivary and sweat glands, pancreas, testes and prostate (4).

Organic mercury (i.e., methyl mercury) distributes readily to all tissues in the body following gastrointestinal tract absorption. It can cross diffusion barriers and penetrate membranes easily and, therefore, distributes uniformly in the body; the highest levels being found in the kidney. Organic mercury can easily cross over the placental barrier, and is secreted in breast milk in the inorganic form. Methyl mercury also tends to accumulate in the hair (4).

Inhaled inorganic mercury undergoes rapid oxidation to its divalent form primarily in the red blood cells, and in the lung. Rat studies indicate that inorganic mercury is oxidized in the liver, while other studies indicate that divalent mercury is reduced by mammalian tissue to elemental mercury after its oxidation (4).

Organic mercury (i.e., methyl mercury) is converted to an inorganic form before it enters the oxidation-reduction cycle. Phenyl mercury also metabolizes into inorganic mercury (4).

The urine and feces are the main excretory pathways of organic and inorganic mercury in humans. The fecal pathway is the primary excretory route for organic mercury. In humans, all mercury in the feces is in its inorganic form after organic mercury exposure. Minor amounts of mercury are excreted through saliva, bile and sweat (4).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

Irreversible damage to the brain, kidneys, or developing fetus are effects of long-term exposure to mercury (1). In humans, inorganic mercury which is inhaled causes damage to the brain. If inorganic mercury is consumed through water or food, the effect will be focused in the kidneys. Adverse affects of inorganic mercury are characterized by tremors, memory loss, and kidney disease (1).

An oral RfD of 3.0×10^{-4} mg/kg/d and an inhalation RfD of 8.57×10^{-5} mg/kg/d have been established (8).

Carcinogenic Effects

The EPA has classified mercury as a Group D carcinogen - not classifiable as to human carcinogenicity. No human data are available and animal studies are inadequate to determine carcinogenicity.

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

Freshwater plants exhibit a wide range of sensitivity to mercury, however, the most sensitive plant is less sensitive than the most sensitive freshwater animal.

Fish tend to be more resistant to mercury than mollusks and crustaceans. Aquatic organisms should not be adversely affected if the following average concentrations are not exceeded more than once every three years on the average.

Freshwater organisms:

4-day average: 0.012 µg/L (5)
1-hour average: 2.4 µg/L (5)

Marine organisms:

4-day average: 0.025 µg/L (5)
1-hour average: 2.1 µg/L (5)

Terrestrial and Avian

No data are available pertaining to the effects of mercury on terrestrial and avian life forms (4).

SUMMARY OF REGULATORY LEVELS AND CRITERIA

Oral RfD (6)	3.0×10^{-4} mg/kg/day (inorganic)
Inhalation RfD (6)	8.57×10^{-5} mg/kg/day (inorganic)
EPA Carcinogen Classification (3)	Group-D Not classified as a human carcinogen
AWQC (human)(4)	0.144 µg/L
MCL (4)	2 µg/L
OSHA Ceiling Level(7)	1 mg/10 m^3 (inorganic and vapor)

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NICKEL

INTRODUCTION

Chemical Name:	Nickel
CAS Number:	7440-02-0
Molecular Formula:	Ni
Molecular Weight:	58.7 g/mole
Chemical Structure:	Ni

Nickel is a malleable silver-white metal that occurs in valences 0,+1, +2, +3, and +4. It is almost always found in the divalent oxidation state in aquatic systems. Nickel is commonly used in alloys, electroplated protective coatings, and fuel cell electrodes. The main source of nickel in the atmosphere is due to the burning of fuel oil. Nickel-containing sewage sludge, the use of certain fertilizers and the deposition of aerosol particles are primarily responsible for nickel contaminated soil (1,2).

FATE AND TRANSPORT

Solubility (1):	Insoluble in water; some salts are soluble
Specific Gravity (1):	8.902 at 25°C

Nickel is found in the air, water, and soil. The average residence time for nickel in the atmosphere is seven days, the residence time in water is between 19 and 23,000 years, and the average time in soil is estimated to be 2400-3500 years (4).

The bioconcentration factors for most aquatic organisms suggests that bioaccumulation would not be significant. However, the BCFs for marine phytoplankton range from 20-8000. Nickel is reasonably mobile in soils with a low pH and cation exchange capacity. It is less mobile in soils with a high organic content. Uptake of nickel in plants from the soil is common (4).

There are no data referencing the significance of biodegradation, photolysis, or volatilization of nickel as environmental fate processes (1,4).

PHARMACOKINETICS

Quantitative data concerning the uptake of nickel by the respiratory tract are not available, however, studies have shown that nickel accumulates in the soft tissue of the lungs. Dietary nickel which has been ingested is absorbed at a level of 1-10%. Following ingestion of nickel, it was found in serum as ultrafilterable nickel, albumin-bound nickel, and in a metalloprotein. Oral doses of nickel chloride have been found to localize in the kidneys, lungs and central nervous system of animals (4).

Dermal penetration of nickel on human skin was found to occur at a level of 55 to 77% in one study. Studies concerning the distribution of nickel which is dermally absorbed are not available (4).

Once nickel is absorbed in the body it binds to a number of serum macromolecular components, (e.g. in humans, nickel binds to albumin, 1 - histidine and alpha-2-macroglobulin).

Most of the nickel that is introduced into the body by inhalation, oral, and dermal absorption is excreted in the urine. Unabsorbed nickel resulting from oral exposure is excreted in the feces (4).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

In both humans and animals, the lung has been the organ targeted for nickel toxicity. Inhalation of nickel is associated with lung cancer, allergenic response, asthma, and pulmonary infections. No human or animal studies regarding dermal absorption are available. No studies concerning oral effects on humans have been identified. However, pulmonary effects on animals were observed when nickel was administered orally (4).

No immunological, renal, or hematological effects have been observed in humans. Injection studies have shown immunological effects in mice. These mice showed significant immunosuppression. Renal effects in mice consisted of aminoaciduria and proteinuria, which are indicative of renal dysfunction. Hematological effects in animals were exhibited by increased white blood cell counts, decreased hemoglobin concentration, decreased hematocrit, and histological lesions in the bone marrow (4).

Teratogenic and reproductive effects of nickel in humans and animals are inadequate. However, mammalian cell transformation data indicates that specific nickel compounds are mutagenic and cause chromosomal alterations (4).

The most common effect of nickel exposure is a sensitization reaction exhibited by dermatitis (4).

The oral RfD is 0.02 mg/kg/day (soluable salts) and is based on decreased organ and body weights in rats. A NOAEL of 5 mg/kg/day was identified. An uncertainty factor of 100 was applied based on a factor of 10 for interspecies extrapolation and a factor of 10 to protect sensitive populations; the modifying factor is 3 due to inadequacies in the reproductive studies (4). The oral RfD supporting study consisted of a 2-year feeding study using rats administered nickel sulfate hexahydrate in concentrations of 0, 100, 1000, or 2500 ppm in the diet. Body weight was significantly decreased at 1000 and 2500 ppm. No significant effects were reported at 100 ppm (3).

Carcinogenic Effects

Although the EPA has not assigned a carcinogen classification for soluble salts of nickel, it has assigned a Group A classification for nickel refinery dust, nickel carbonyl and nickel subsulfide. This classification indicates that there is sufficient evidence from epidemiologic studies to support a causal association between nickel exposure and cancer in humans (4). EPA has also established an inhalation slope factor of 8.4×10^{-1} $(mg/kg/day)^{-1}$ (3).

Epidemiological studies found that nickel-exposed workers developed three types of respiratory cancer: epidermoid, anaplastic, and pleomorphic carcinomas (4).

Experimental animal studies indicate that upon injection, tumors appear on animals at the injection site (4).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

The Ambient Water Quality Criteria for the level of nickel that will not adversely affect aquatic organisms and their uses are as follows (5):

Freshwater:
- Acute toxicity: 1,400 µg/L*
- Chronic toxicity: 160 µg/L*

Saltwater:
- Acute toxicity: 140 µg/L
- Chronic toxicity: 7.1 µg/L

* Based on a hardness of 100 mg/L as $CaCO_3$ (calcium carbonate)

Terrestrial and Avian

No data are available for terrestrial and avian life forms (4).

REGULATORY LEVELS AND CRITERIA

OSHA PEL-TWA (8):	1.0 mg/m^3 (metal and insoluble compounds) 1.0 mg/m^3 (soluble compounds)
ACGIH TLV-TWA (9):	1.0 mg/m^3 (insoluble compounds, nickel sulfide roasting, fume and dust, and metal) 0.1 mg/m^3 (soluble compounds)
AWQC (4)	
Ingestion of Water and Organisms:	632 µg/L
Ingestion of Only Organisms:	4.77 µg/L (ingesting only organisms)
Reportable quantity (3)	1 lb
Maximum Contaminant Level (MCL) (6)	0.1 mg/L 0.1 mg/L

SUMMARY OF CRITERIA

EPA Carcinogenic Classification(3)	Group A-Sufficient evidence to support the causal association between nickel inhalation (nickel refinery dust, nickel carbonyl, and nickel subsulfide) and cancer
	Group C - Limited evidence of carcinogenicity to support the causal association between exposure (nickel soluble salts) and cancer.

Nickel Refinery Dust

Cancer Slope Factor (inhalation) (7)	8.4×10^{-1} $(mg/kg/day)^{-1}$

Nickel (Soluble Salts)

Oral RfD (3)	0.02 mg/kg/day
Inhalation RfD (3)	Pending

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POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)

INTRODUCTION

The PAHs are a diverse class of compounds consisting of two or more substituted and unsubstituted polycyclic aromatic rings formed by the incomplete combustion of carbonaceous materials. PAHs are ubiquitous in the modern environment and commonly are constituents of coal tar, soot, vehicular exhausts, cigarette smoke, certain petroleum products, road tar, mineral oils, creosote and many cooked foods.

The physiochemical properties of the various PAHs are shown on Table 1.

FATE AND TRANSPORT

Other than naphthalene, the PAHs can be separated into two major groups based on chemical and physical properties relevant to their fate and transport. Table 2 lists the PAHs belonging to the anthracene group and benzo(a)pyrene group. The following paragraphs discuss the groups' fate and environmental pathways.

The Anthracene Group: (anthracene, acenaphthene, acenaphthalene, fluoranthene, fluorene, phenanthrene and pyrene): The majority of the information presented below is specific to anthracene. However, the properties and fate characteristics of anthracene are considered to be representative of the other PAHs in this group.

Under ambient conditions, atmospheric anthracene will exist predominantly (approximately 90%) in the vapor phase with very little adsorption to aerosols. Anthracene can be returned to aquatic and terrestrial systems by wet and dry deposition; however, the majority of the deposition will be dry. A significant amount of airborne anthracene may be removed and deposited near combustion sources. The anthracene remaining in the air will probably undergo photoxidation to quinones and other oxygenated compounds (8).

Dissolved anthracene can undergo some removal from surface waters via volatilization, but its low vapor pressure (2.4×10^{-4} torr at 25°C) prevents this from being a significant transport pathway. A half-life of 16 hours for anthracene was reported in the aquatic environment under maximum volatilization conditions (6). With a log octanol-water partition coefficient of 4.45, anthracene has a very strong tendency to partition from water to other environmental media. Adsorption and sedimentation are the primary environmental fates in aquatic systems with absorption both organic and non-organic particulate matter (6).

Anthracene in the aquatic system will tend to accumulate preferentially in the sediment and remain there unless considerable mixing at the sediment/water column interface occurs. In rivers, the major fate pathway is transport of sediment-adsorbed anthracene to the oceans, since neither photolysis

or anaerobic degradation are important fate pathways. Depending on the actual conditions in the environment, biotransformation could be an important fate process (6).

Biological processes such as uptake, depuration, and biodegradation are considered potential environmental fate mechanisms for anthracene. Bioaccumulation of anthracene is probably short-term, especially for vertebrates. Biodegradation by microorganisms may also be a significant fate process (6). Half-lives on the order of 1-2 weeks under laboratory conditions were reported for the anthracene group.

The Benzo[a]pyrene Group: (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, indeno[1,2,3-c,d]pyrene): The majority of the information presented below is specific to benzo[a]pyrene; however, the properties and fate characteristics of benzo[a]pyrene are considered to be representative of the other PAHs in this group.

Under ambient conditions, atmospheric benzo[a]pyrene will exist predominantly (approximately 99%) adsorbed to aerosols. Benzo[a]pyrene can be returned to aquatic and terrestrial systems by wet and dry deposition; however, the majority of the deposition will be dry. A significant amount of airborne benzo[a]pyrene may be removed and deposited near combustion sources. The physical removal mechanisms are expected to be significant with an atmospheric residence time of approximately eight days (6).

Dissolved benzo[a]pyrene can undergo some removal from surface waters via volatilization, but its very low vapor pressure (5.6×10^{-9} torr at 25°C) prevents this from being significant. A half-life of 430 hours for benzo[a]pyrene was reported in aquatic environments under maximum volatilization conditions (6).

With a log octanol-water partition coefficient of 6.08, benzo[a]pyrene has a very strong tendency for water-lipid and water-sediment partitioning. Adsorption and sedimentation represent primary environmental pathways in aquatic systems through adsorption both organic and non-organic particulate matter (6).

Benzo[a]pyrene in aquatic systems will accumulate preferentially in sediments and tend to remain there unless considerable mixing occurs at the sediment/water column interface. In rivers, the major fate pathway is transport of adsorbed benzo[a]pyrene to oceans. Photolysis and biotransformation can also be important fate processes (6).

Biological processes such as uptake, depuration, and biodegradation are considered potential environmental fate mechanisms for benzo[a]pyrene. Bioaccumulation of benzo[a]pyrene is probably short-term, especially for vertebrates. Biodegradation by microorganisms is slower and not as extensive in the benzo[a]pyrene group as in the lower-molecular-weight PAHs (6). Half-lives on the order of months or longer under laboratory conditions were reported for the benzo[a]pyrene group.

PHARMACOKINETICS

No studies have been located concerning the absorption of PAHs via inhalation and oral ingestion. However, it can be inferred from the presence of urinary metabolites in workers exposed to PAHs that absorption occurs via inhalation. Rats orally administered PAHs showed elevated concentrations in the liver, lung and kidneys (11). In terms of dermal exposure, measurable quantities of PAHs were detected in blood after percutaneous exposure in humans (11).

PAHs were distributed to the lung, kidney, liver and gastrointestinal tract of rats following exposure via inhalation. Orally administered PAHs in the same species were detected in the liver, lung and kidney. Very little of the PAHs absorbed through the skin are distributed to tissues (11).

The lipophilicity of PAHs enables them to readily penetrate cellular membranes and circulate in the body indefinitely. However, metabolic processes alter PAHs both chemically and structurally producing more water-soluble and excretable compounds. These metabolic processes occur in all tissues. The following metabolic pathway is that of benzo[a]pyrene and is similar to that of the other PAHs. Benzol[a]pyrene is initially metabolized by the microsomal P-450 system to form an arene oxide. Once the arene oxide is formed, it undergoes hydration via epoxide hydrolase to form a dihydrodiol. Further metabolic activity can lead to the generation of diol epoxides which are believed responsible for BaPs toxic effects. Benzo[a]pyrene can also be oxidized spontaneously or metabolically to quinones (11).

In terms of elimination, animal studies suggest that PAHs are eliminated rapidly from the lung when the animals are exposed via inhalation (11). Rats orally exposed to PAHs excreted the compounds in the feces (11). PAHs applied to the skin of rats were determined to be excreted in the urine and feces equally (11).

HUMAN HEALTH EFFECTS

For practical purposes, PAHs are often separated into two categories, the carcinogenic and non-carcinogenic PAHs. This is a somewhat misleading categorization as some evidence exists that many of the non-carcinogenic PAHs have some, albeit weak, carcinogenic activity or act as promoters or co-carcinogens. Another factor complicating PAH categorization is that they do not occur alone in nature but as complex mixtures containing numerous PAHs of varying carcinogenic potencies. The potential interactions of the individual PAHs present as components of these mixtures must be addressed in attempting to quantify the carcinogenic and non-carcinogenic risks (7).

The USEPA, in reviewing the carcinogenicity of several PAHs, indicated those for which there was sufficient, limited, or inadequate, evidence of carcinogenicity. These classifications are presented in Table 3.

Benzo[a]anthracene, benzo[a]pyrene, benzo(b)fluoranthene, benzo[k]fluoranthene, benzo[g,h,i]perylene, chrysene, indeno[1,2,3-c,d]pyrene, and dibenzo[a,h]anthracene are probable human carcinogens. Acenaphthylene, anthracene, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene are either possible human carcinogens, the evidence is inadequate to assess carcinogenic potential, or there is no evidence for carcinogenicity (6).

Non-carcinogenic effects: Acute effects from direct contact with PAHs are generally limited to phototoxicity. Percutaneous exposure to PAHs, followed by exposure to sunlight, can result in dermatitis consisting of erythema, itching, and burning. Dermatitis can result from a single 90-minute exposure to a one-percent solution of coal tar. Chronic exposure to PAHs may result in chronic dermatitis, hyperkeratoses, and other skin disorders (1,2,3,4). PAHs have also been shown to cause cytotoxicity in rapidly proliferating cells throughout the body with the hematopoietic system, lymphoid system, and testes frequently noted as targets (10). This effect appears to result from PAH mediated inhibition of DNA replication (6).

The PAHs can also cause systemic toxicity at high doses. The liver and kidney of rats have exhibited slight morphological changes following oral administration of acenaphthene. The major effects linked to naphthalene exposure include cataracts with accompanying retinopathy and hemolytic anemia (6).

Carcinogenic effects: Most carcinogenic PAHs are not direct carcinogens but require metabolic activation before carcinogenesis is initiated (6). The metabolites of carcinogenic PAHs have been found to bind to DNA in every tissue examined regardless of species, dose, or route of administration (6).

In mice, carcinogenic PAHs can produce hepatomas and lung adenomas following repeated oral administration and bladder tumors following implantation. In addition, they can produce tumors in mice following subcutaneous injection (6). Lung tumors have developed in hamsters and mice following intratracheal and intravenous administration, respectively (8).

REGULATORY LEVELS AND CRITERIA

OSHA PEL (1):	0.2 mg/m^3 (coal tar pitch volatiles - benzene soluble fraction)
ACGIH TLV TWA (11):	0.2 mg/m^3 (coal tar pitch volatiles - benzene soluble fraction)
NIOSH REL TWA (11):	0.1 mg/m^3 (benzene soluble PAH)
IDLH (11):	400 mg/m^3 (coal tar pitch volatiles)
Reportable Quantity (11):	1 lb

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TABLE 1

POLYNUCLEAR AROMATIC HYDROCARBON PHYSICAL AND CHEMICAL INFORMATION

	Formula	Water Solubility* (mg/L)	Vapor Pressure* (torr)	Henry's Law Constant (atm-m^3/mole)	Log K_{oc}	Log K_{ow}
Anthracene	$C_{14}H_{10}$	0.045	2.4×10^{-4}	1.25×10^{-3}	4.20	4.45
Acenaphthene	$C_{12}H_{10}$	3.47	1.5×10^{-3}	1.5×10^{-4}	1.25	3.97
Acenaphthylene	$C_{12}H_8$	3.42	1.6×10^{-3}	9.33×10^{-5}	3.72	4.33
Fluoranthene	$C_{16}H_{10}$	0.26	5×10^{-6}	5.12×10^{-6}	4.64	5.33
Fluorene	$C_{13}H_{10}$	1.69	1×10^{-2}	1.29×10^{-3}	3.65	4.18
Phenanthrene	$C_{14}H_{10}$	1.0	9.6×10^{-4}	2.25×10^{-4}	4.20	4.46
Pyrene	$C_{16}H_{10}$	0.14	2.5×10^{-6}	4.75×10^{-6}	4.64	5.32
Benzo[a]pyrene	$C_{20}H_{12}$	3.8×10^{-3}	5.6×10^{-9}	4.89×10^{-7}	--	6.08
Benzo[a]anthracene	$C_{18}H_{12}$	5.7×10^{-3}	2.2×10^{-8}	7.34×10^{-7}	5.34	5.61
Benzo[b)fluoranthene	$C_{20}H_{12}$	1.0×10^{-3}	5.0×10^{-7}	1.66×10^{-4}	--	6.08
Benzo[k]fluoranthene	$C_{20}H_{12}$	5.5×10^{-4}	5.0×10^{-7}	3.02×10^{-4}	--	6.08
Benzo[g,h,i]perylene	$C_{22}H_{12}$	3.0×10^{-4}	1.0×10^{-10}	1.21×10^{-7}	--	6.51
Chrysene	$C_{12}H_{12}$	1.8×10^{-3}	6.3×10^{-9}	1.05×10^{-6}	5.34	5.61
Indeno[1,2,3-c,d]pyrene	$C_{22}H_{12}$	5.0×10^{-4}	1.0×10^{-10}	6.0×10^{-10}	--	6.51

*Values expressed at 25°C.
Source: Ref. 8

TABLE 2

MAJOR GROUPINGS OF POLYNUCLEAR AROMATIC HYDROCARBONS*

THE ANTHRACENE GROUP

- Anthracene
- Acenaphthene
- Acenaphthylene
- Fluoranthene
- Fluorene
- Phenanthrene
- Pyrene

THE BENZO[a]PYRENE GROUP

- Benzo[a]anthracene
- Benzo[a]pyrene
- Benzo[b]fluoranthene
- Benzo[g,h,i]perylene
- Benzo[k]fluoranthene
- Chrysene
- Dibenzo[a,h]anthracene
- Indeno[1,2,3-c,d]pyrene

* Note: Naphthalene is addressed in a separate toxicity profile.

TABLE 3

CLASSIFICATION OF PAHS ACCORDING TO EVIDENCE FOR CARCINOGENICITY

Chemicals for which there is sufficient evidence that they are carcinogens:

Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Chrysene
Dibenz(a,h)anthracene
Indeno(1,2,3-c,d)pyrene

Chemicals for which the evidence is inadequate to assess their carcinogenicity:

Acenaphthylene
Anthracene
Benzo(g,h,i)perylene
Fluoranthene
Fluorene
Naphthalene
Phenanthrene
Pyrene

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Revisor: Rich Hoff

POLYCHLORINATED BIPHENYLS (PCBS)

INTRODUCTION

Chemical Name:	Polychlorinated Biphenyls (PCBs)
Synonyms and Trade Names:	Aroclor, Kanechlor, Clophen
CAS Numbers:	Aroclor 1242: 53469-21-9
	Aroclor 1248: 12672-29-6
	Aroclor 1254: 11097-69-1
	Aroclor 1260: 001336-36-3
Molecular Formula:	$C_6H_xCl_xC_6H_xClx$
Molecular Weights:	Aroclor 1242: 266.5 g/mole
	Aroclor 1248: 299.5 g/mole
	Aroclor 1254: 328.4 g/mole
	Aroclor 1260: 377.8 g/mole

The term polychlorinated biphenyls (PCBs) commonly refers to a variety of mixtures of individual biphenyl isomers, each consisting of two joined benzene rings and up to ten chlorine atoms. Mixtures of these isomers are known by their commercial designation of Aroclor. This trade name is followed by a four-digit number; the first two numbers indicate the type of isomer mixture and the last two numbers indicate the approximate weight percent of chlorine in the mixture (3).

PCBs are man-made chemicals that were used widely in transformers, electrical equipment and as lubricants (2). Because of their persistence and toxicity in the environment, their manufacture was discontinued in the United States in 1977 (1). However, PCB equipment manufactured before 1977 is currently still being used in the U.S. and this use is being regulated by the Environmental Protection Agency.

PCBs are very stable chemically and tend to be persistent in the environment. Persistence and bioaccumulation in living organisms also occur due to the high lipophilicity of these compounds (2).

CHEMICAL AND PHYSICAL PROPERTIES

Aroclor	**1242**	**1248**	**1254**	**1260**
Log K_{oc}	3.8	5.75	5.51	6.3
Log K_{ow} (2):	5.6	6.11	6.03	7.15
Henry's Law Constant(2): (atm-m^3/mol at 25° C)	5.7×10^{-4}	3.5×10^{-3}	8.4×10^{-3}	7.1×10^{-3}
Water Solubility (mg/L):	0.24	0.054	0.012	0.0027
Vapor Pressure(2): (mm Hg at 25° C)	4.06×10^{-4}	4.94×10^{-4}	7.71×10^{-5}	4.0×10^{-5}
Density (2):	1.35	1.41	1.50	1.57

FATE AND TRANSPORT

PCBs can be found in the atmosphere, water, and soil. Adsorption to sediments is the major fate process for PCBs in water. Because of lower water solubilities and higher octanol-water partition coefficients, higher chlorinated isomers will adsorb more strongly than the lower chlorinated isomers. This also indicates that significant leaching should not occur in soil under most conditions (2).

For PCBs that exist in the dissolved state in water, volatilization becomes the primary fate process. Therefore, the volatilization process is the major removal mechanism of PCBs from water sources. However, the rate of volatilization is dependent upon PCB adsorption to sediment (2).

In the atmosphere, PCBs exist in the vapor phase and can be removed by wet and dry deposition. A typical range of PCB concentrations in the atmosphere is between 1 and 250 μg/L (2).

Degradation of PCBs in the environment is dependent upon the degree of chlorination. Generally, the more chlorinated the PCB molecule, the more persistent it will be in the environment. Factors which determine biodegradability include the amount of chlorination, concentration, type of microbial population, available nutrients, and temperature (2). The dominant degradation process in the atmosphere is dependent upon the vapor phase reaction of PCBs with hydroxyl radicals (2).

Photolysis is thought to be the only transformation process in the aquatic environment. However, the process is extremely slow. It appears the hydrolysis and oxidation do not degrade PCBs (2).

In the atmosphere, typical airborne concentrations of PCBs are as follows (2):

Location	Concentration Range (mg/m^3)
Urban	0.5 to 30
Rural	0.1 to 2.0
Great Lakes	0.4 to 3.0
Marine	0.05 to 2.0
Remote	0.02 to 0.5

The concentrations of PCBs in the open waters of oceans and lakes are shown below (2):

Location	Concentration Range (μg/L)
North Pacific	0.04 to 0.59
Antarctic	0.035 to 0.069
North Atlantic	0.02 to 0.20
Lake Superior	0.63 to 3.30
Lake Michigan	3.0 to 9.0
Lake Huron	0.49 to 17.15

PCBs are found in the soils from different areas of the world in the following concentrations (2):

Location	Concentration Range (ppb)
Great Britain	2.3 to 444
South Wales/Scotland	4.5 to 47.7
Japan	<10 to 100
United States	
Everglades National Forest, Florida	<1 to 33
U.S. Urban areas	0.02 to 11.94
Rocky Mountain National Park	0.098 to 0.54
Great Lakes	2.5 to 251.7

PHARMACOKINETICS

PCBs are absorbed primarily through inhalation and dermal contact in occupational environments. However, the general public absorbs PCBs primarily through oral exposure, such as the ingestion of PCB contaminated fish (2).

Animal studies have shown that PCBs are readily absorbed, but studies to quantify the rate of absorption are needed. Studies indicate that PCBs are absorbed by the gastrointestinal tract, and have been found in the serum and breast milk of woman orally exposed to PCBs (2).

PCBs accumulate in human plasma and adipose tissue with the extent of accumulation dependent on the positions of chlorines on the PCB congeners. Congeners with chlorines in both 4 positions as opposed to the 3 ,4 positions were found in greater concentrations (2). Also, PCBs have been shown to accumulate in human breast milk. The extent of accumulation is approximately 4 to 10 times less than the concentration in maternal blood (2).

Animal studies have indicated maximum concentrations in the liver, brain, and adipose tissue. Studies show that distribution occurs in a biphasic manner. First, PCBs accumulate in the liver and muscle from the blood stream. Following this accumulation, PCBs are either stored in the adipose tissue or metabolized by the liver. It has been suggested that PCBs concentrate in the adipose tissue regardless of the route of exposure (2).

The metabolism of PCBs depends on chlorine content and on the site of chlorination. The major metabolic products are phenolic in nature. Other identified end products are sulfur-containing compounds, trans-dehydrodiols, polyhydroxylated PCBs and methyl ether derivatives (2).

Data regarding the excretion of PCBs following inhalation or dermal exposure are not available. When oral exposure occurs, excretion is dependent upon the metabolism of PCBs to more polar compounds (2).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

The evaluation of the toxicity of PCBs is complicated by a number of factors including differences in isomer/congener/mixture composition, differences in species susceptibility, quantitatively inconsistent data, and varying degrees of contamination from other chemicals such as chlorinated dibenzofurans. Also, it should be noted that because of changes in congener and impurity composition resulting from environmental and/or biological transformations, PCBs currently in the environment may differ from the original PCB mixture (2).

Inhalation Exposure

There are no human data available regarding the lethality/decreased longevity of humans due to acute or chronic inhalation exposure. However, the primary target organs associated with PCB inhalation are the liver and cutaneous tissue. Occupational exposure has been associated with elevated serum levels in the liver and enzyme and dermatologic effects such as chloracne and skin rashes (2).

Human developmental studies have proved inconclusive and lack monitoring data. However, there were suggestions that mothers occupationally exposed to PCBs exhibited a slight decrease in birth weight and gestational age of offspring. No animal studies were available concerning developmental toxicity (2).

In animals, the liver and skin are unequivocal targets of PCB toxicity, especially in terms of chronic toxicity. The range of toxicity for dermal and hepatic effects is from 0.007 to 11.0 mg/m^3 (2).

Oral Exposure

There are no studies which address oral PCB exposure in humans. However, animal studies have established a single dose LD50s for rats and mice. The levels are 1,010 mg/kg for Aroclor 1254 and 750 mg/kg for Aroclor 1221, respectively (2).

Systemic effects in animals include perturbations of the liver and cutaneous tissues. Rats fed 0, 4, 8, and 16 ppm of Aroclor 1254 for 4 days resulted in an increase in liver weight at concentrations greater than 8 ppm and an increase of serum HDL cholesterol levels at 16 ppm. A lowest observed adverse effect level (LOAEL) of 5 ppm was identified in rats based on hepatic effects. At this level, hepatic microsomal enzyme activities increased, production of liver lipid content increased, and frank degenerative liver alterations were observed (2).

Developmental effects in humans from oral exposure to PCB contaminated fish include effects on birth weight, head circumference, gestational age and/or neonatal behavior. For animals, a LOAEL of 50 ppm in female rats has been identified based on fetotoxicity. At this level, effects such as reduced litter size, ultrastructural lesions in the thyroid follicular cells of neonates and weanlings and reduced serum levels of thyroid hormone were observed (2).

The only study relating PCBs to reproduction demonstrated that doses of >2 ppm Aroclor 1254 administered to mink for 4 months prior to mating and during gestation were lethal to fetuses and caused reproductive failure (2).

Dermal Exposure

Dermal exposure is a major route of PCB absorption. However, the current data does not allow for the quantification of dermal absorption to the total body burden of PCBs (2).

A study involving capacitor workers does not show clear evidence of liver disease. However, a correlation can be made between the PCB exposure and liver enzyme induction in the workers. It is not clear to what extent the dermal absorption affected the hepatic changes since inhalation exposure also occurred (2).

A study involving dermal exposure of Aroclor 1260 to female New Zealand rabbits for 5 days/week at a dose of 118 mg/day for 38 days produced degenerative lesions of the liver and kidneys, increased fetal porphyrin elimination and hyperplasia and hyperkeratosis of the follicular and epidermal epithelium (2). Other studies indicate that the median lethal dose for single dermal exposure for rabbits was >1269 mg/kg for Aroclor 1242 and 1248 to <3,169 for Aroclor 1221 (2).

No studies have been located which address immunological, neurological, developmental or reproductive effects of PCBs on humans or animals (2).

Carcinogenic Effects

The EPA has classified PCBs as a Group B2 carcinogen - a probable human carcinogen. This classification is based on the evidence of hepatocellular carcinomas in three strains of rats and two strains of mice. There is suggestive evidence that links PCBs to liver cancer in humans by the ingestion, inhalation, or dermal pathways. However, this evidence is inadequate due to confounding factors and lack of exposure quantification (4).

There have been several studies attempting to associate PCB exposure with carcinogenicity. In New Jersey, a petrochemical plant reported a statistically significant increase in malignant melanomas among 31 research and development employees and 41 refinery workers. Because the study failed to report quantified exposure levels and to identify the presence of other potential or known carcinogens, it was discredited (4).

Two outbreaks of poisoning following accidental consumption of PCB-contaminated rice oil (also containing polychlorinated dibenzofurans and polychlorinated quinones) occurred in Japan in 1968 (Yusho) and in Taiwan in 1979 (Yu-Cheng). A 16-year mortality study was completed which identified an increase in liver cancer in both males and females. There is strong evidence indicating the health effects were attributable to the polychlorinated dibenzofurans in the oil as opposed to the PCBs. Therefore, this study only suggests carcinogenicity of PCBs (4).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

PCBs have the capability to bioaccumulate and biomagnify. For rainbow trout, bluegills and channel catfish, the 96-hour LC50 values were approximately 20 mg/liter. When the exposure was increased to 10 to 20 days, the average LC50 value was 0.1 mg/liter. Studies indicate that juvenile organisms appear to be more susceptible to PCBs than either eggs or adults (3).

A study which experimentally determined the bioconcentration factors of various Aroclors in aquatic species found bioconcentration factors ranging from 26,000 to 660,000 (2).

In a study conducted by the U.S. Fish and Wildlife Service, 315 fish from 107 stations nationwide were analyzed for PCBs. Results showed that 94% of all fish were found to contain PCB residues. The geometric mean concentration of all Aroclors was found to be 0.53 µg/g. It should be noted that this study included the analyses of whole fish samples which include both the edible and nonedible portions of the fish. Therefore, the concentration will not reflect the actual human exposure through oral consumption (2).

Subsequent studies have shown PCB levels in fish collected and analyzed from Lake Huron to contain 600 to 72,000 µg/g PCBs on a lipid basis. Analyses of 62 samples of commercial fish collected from Lake Ontario revealed PCB levels ranging from 0.11 to 4.90 ppm (2).

The Ambient Water Quality Criteria for the protection of aquatic organisms are as follows (3):

Freshwater:

Acute toxicity:	2.0 µg/L
Chronic toxicity:	0.014 µg/L

Marine:

Acute toxicity:	10.0 µg/L
Chronic toxicity:	0.030 µg/L

Terrestrial and Avian

PCBs can affect terrestrial wildlife in three primary ways: mortality, adversely affecting reproduction, and changing behavior. Behavioral effects include increased activity, decreased avoidance response, and decreased nesting (3).

In sensitive bird species, PCB levels of greater than 200 ppm in the diet or 10 mg/kg body weight caused some mortality. When the doses were increased to 1,500 ppm or 100 mg/kg body weight, extensive mortality was exhibited (3).

In studies in which chicken were fed levels of 20 ppm PCBs in the diet, lower egg production, deformities, decreased hatchability, lower growth, and survival were observed (3).

REGULATORY LEVELS AND CRITERIA

OSHA Advisory TWA (2):	Aroclor 1242 - 1.0 mg/m3
	Aroclor 1254 - 0.5 mg/m3
FDA Temporary Tolerances (2):	Foods - 0.2-3.0 ppm
	Packaging - 10.0 ppm
ACGIH (2):	
TLV-TWA for Aroclor 1242:	1.0 mg/m3
TLV-TWA for Aroclor 1254:	0.5 mg/m3
Ambient Water Quality Criteria (2):	0.79 to 0.0079 ng/L for carcinogenicity at 10^{-5} to 10^{-7} risk levels
Drinking Water Criteria (2):	MCLG: 0 μg/L
	MCL: 0.5 μg/L
Reportable Quantity (2):	10 lbs. (statutory)
	1 lb. (proposed)

SUMMARY OF TOXICOLOGICAL INDICES

EPA Carcinogenic Classification (4) Group: B2-Probable human carcinogen

Carcinogenic Effects:	
Oral CSF(4):	7.7 $(mg/kg/day)^{-1}$
Inhalation CSF (4):	Not Available.
Oral RfD (4) for Aroclor 1254:	2.0×10^{-5} mg/kg/day
NOAEL:	None
LOAEL:	0.005 mg/kg-day

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POLYCHLORINATED DIBENZO(P)DIOXINS (PCDDs) AND POLYCHLORINATED DIBENZOFURANS (PCDFs)

INTRODUCTION

Chemical Name: Polychlorinated dibenzo(p)dioxins (PCDDs) and Polychlorinated dibenzofurans (PCDFs)
Synonyms (1): Dioxins, diphenylene oxide, dibenzodioxin, dibenzo(1,4)dioxin
Molecular Formula (1): $C_{12} H_4 Cl_x O_2$

Polychlorinated dibenzo(p)dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) are two classes of environmentally stable chlorinated tricyclic aromatic hydrocarbons. PCDDs consist of two benzene rings connected by a furan ring. There are 75 chlorinated dioxins and 135 chlorinated furans, each with different chemical, physical, and toxicological properties. The PCDDs and PCDFs of primary interest in terms of toxicity are 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDD), and 2,3,4,7,8-pentachlorodibenzofuran (2,3,4,7,8-P5CDF) (1,2). This profile will focus on 2,3,7,8-TCDD since it is the most potent congener and the most widely studied of the PCDDs and PCDFs.

FATE AND TRANSPORT

2,3,7,8-TCDD has a vapor pressure of 1.7×10^{-7} mm Hg at 25 C and 1 atmosphere, a melting point of 305 - 306 C, and is highly lipophilic (1). As a result, it is virtually insoluble in water (0.2 ppb). The log Kow of 2,3,7,8-TCDD is 6.6 and the Henry's Law constant is 5×10^{-5} atm·m^3/mol (29).

PCDDs/PCDFs are not manufactured commercially but may be formed as byproducts during the production of herbicides and chlorinated phenols or as a result of incomplete combustion of mixtures containing chlorine and organics (1,2). The environmental fate of PCDDs is not understood with certainty (5).

Estimates of ambient air levels and the atmospheric half-life of PCDDs/PCDFs are generally unavailable. However, in 12 air samples collected near Niagara Falls, one contained TCDDs (1.2 pg/m^3) and three samples contained TCDF concentrations ranging from 1 to 13.6 pg/m^3 (6). Levels of 2,3,7,8-TCDD in flue gases of incinerators ranged from 0.05 to 1.3 ng/m^3 (7,8). PCDDs are immobile in most soils, but horizontal movement of soil-bound PCDD may occur in runoff water. The estimated half-life of PCDDs ranges from 1 to 3 years in surface soil and 10 to 12 years in subsurface soils (1). Soil concentrations range from below the limit of detection (0.0002 ng/g) to 0.0094 ng/g in soil samples from 10 urban areas (9). The estimated half-life in surface water is less than 1 year and PCDDs have not been detected in drinking water supplies (1). PCDDs were detected in industrial discharges and leachates from waste sites (10). The ultimate environmental sink of PCDDs is believed to be the sediments of surface waters (5).

PHARMACOKINETICS

The pharmacokinetics of 2,3,7,8-TCDD in humans and animals after inhalation exposure is unknown. Absorption of 2,3,7,8-TCDD through the gastrointestinal tract of experimental animals ranges from less than 37 to 86 percent and was dependent on the vehicle used (e.g., corn oil or soil) (1). A human experiment involving oral exposure indicated that greater than 87 percent of the dose was absorbed (13). Dermal application of a 2,3,7,8-TCDD/soil mixture resulted in only 2 percent absorption (12). Distribution studies with animals given 2,3,7,8-TCDD orally or intraperitoneally indicate the liver was the principal site of accumulation in rats, mice, and hamsters, while adipose tissue was the principal site of accumulation in rhesus monkeys and guinea pigs (13,14).

Metabolism of 2,3,7,8-TCDD occurs very slowly via the P450 mono-oxygenase system in the liver with the formation of hydroxylated or conjugated metabolites. Unmetabolized 2,3,7,8 TCDD also may be eliminated in the feces and milk. Animal experiments indicate PCDDs are eliminated primarily in the feces (54-100%) with half-lives of elimination ranging from 10 days to greater than 1 year (1). Whole body half-life for 2,3,7,8-TCDD in humans was estimated to be 2,120 days (5.8 years) (11).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

Exposure to 2,3,7,8-TCDD among humans has been associated with adverse health effects in almost every organ system. Acute exposures of humans to 2,3,7,8-TCDD-containing material has primarily resulted in chloracne. However, other effects have been observed including nausea, vomiting, muscular pains, weight loss, abnormal liver functions, neuropathy, and psychological disturbances. Some of these symptoms have lasted up to 2 years after acute exposure but the dosages necessary to induce these effects are not available (1). Animal studies have shown that 2,3,7,8-TCDD is highly toxic via oral exposure with LD_{50} values ranging from 0.6 - 70 μg/kg. Skin lesions resembling chloracne, facial swelling, hair loss, liver toxicity, and a wasting syndrome (gradual body weight loss) were observed in almost all animal species tested. Limited data for other PCDD/PCDFs indicate that these chemicals produce the same effects as 2,3,7,8-TCDD in a given species; however, the doses required are larger (1,2).

To date, epidemiological evidence of developmental and reproductive effects induced by exposure to PCDD-contaminated materials or 2,3,7,8-TCDD is equivocal (19). However, animal data clearly indicates the occurrence of these effects at low doses in all species tested.

Reproductive effects in rats, including smaller litter sizes, decreased fetal weights and survival, and reduced fertility were demonstrated following oral exposure to 0.01 - 0.1 μg/kg/day 2,3,7,8-TCDD (20). Fetal deaths and developmental effects in rats and mice, including cleft palates, kidney anomalies, and hemorrhages of internal organs, were observed at higher oral doses (1,21,22). Spontaneous abortions and maternal toxicity were observed in rhesus monkeys given oral doses ranging from 1.0 - 5.0 μg/kg/day over days 20-40 of gestation (13). In addition, reproductive failure was observed in rhesus monkeys exposed to daily doses of 0.7 and 1.5 ng/kg for 48 and 7 months, respectively (23-25). No adverse reproductive outcomes were observed in monkeys exposed to 0.13 ng/kg/day for 3.5 years (25).

Individuals occupationally exposed to PCDD-containing material have experienced persistent chloracne, porphyria cutanea tarda (a severe skin disorder), peripheral neuropathy, and

gastrointestinal disturbances. The majority of the effects have been reported among occupationally exposed groups, including chemical production workers, pesticide users, and individuals handling or exposed to materials treated with TCDD-contaminated pesticides, and among residents of communities contaminated with tainted waste oil and industrial effluent. It is presumed that the predominant route of exposure was dermal, but some oral and inhalation exposure would also be expected (1).

Studies reporting toxic effects following chronic inhalation or dermal exposure to PCDDs/PCDFs in experimental animals are generally lacking. Effects observed after oral exposure to 2,3,7,8-TCDD in guinea pigs, mice, and rats include body weight loss, decreased thymus weights, and suppressed immune functions (26). Oral exposure of rats and mice to 2,3,7,8-TCDD for 2 years induced hepatotoxic effects at dose levels exceeding 0.001 μg/kg/day (15,16). Rhesus monkeys fed diets containing 2,3,7,8-TCDD (0.0015 - 0.014 μg/kg/day for 7 to 12 months exhibited skin lesions, subcutaneous edema, and hair and body weight loss (23-25, 27). In addition, 6 of the 8 monkeys maintained on the high dosage diet (0.014 μg/kg/day) died within 12 months (27).

Carcinogenic Effects

Animal bioassay data provides substantial presumptive evidence of the human carcinogenicity of TCDD, but validation must come from human studies. TCDD is a multi-organ carcinogen in animals. Target organs include the liver, thyroid, lung, skin and soft tissues. There is, to date, no assumption of target tissue concordance from animals to humans although site concordance would add support to a casual interpretation. Several epidemiological studies have reported an association between occupational exposure to phenoxyacetic acid herbicides and/or chlorophenols (which contain 2,3,7,8-TCDD or other PCDDs as impurities) and an increased incidence of soft-tissue sarcomas (1). However, these studies are difficult to assess since the exposure to 2,3,7,8-TCDD is poorly documented and exposure to other carcinogenic chemicals may have occurred. Most studies rely solely on interviews and questionnaires of work history to ascertain exposure surrogates. Thus, these data are inadequate to evaluate the carcinogenic potential of PCDDs in humans.

A number of positive chronic animal bioassays have been reported (1). In rats, oral exposure to 2,3,7,8-TCDD resulted in a significant increase of hepatocellular carcinomas, carcinomas of the tongue, hard palate, nasal turbinates, and lungs (15,16). In male and female mice, increased incidences of liver tumors, lymphomas, and leukemia of the hematopoietic system and thyroid adenomas were observed (16). 2,3,7,8-TCDD has also induced fibrosarcomas at the site of application after dermal exposure (17).

The International Agency of Research on Cancer (IARC) has classified 2,3,7,8-TCDD in group B2 based on a combination of sufficient evidence for carcinogenicity in animals and inadequate data in humans (18). Based on these same criteria, the U.S. EPA has classified 2,3,7,8-TCDD in group B2 (probable human carcinogen) (1).

The mutagenic potential of 2,3,7,8-TCDD has been examined in a wide variety of assays. Available data indicates that 2,3,7,8-TCDD may be a weak mutagen but the data are not conclusive (1). Initial investigations with the S. typhimurium strain TA1532 yielded positive results without metabolic activation (1). However, more recent studies have shown negative results both with and without metabolic activation in bacterial systems. Studies have also been conducted to determine if 2,3,7,8-TCDD interacts with DNA or has the ability to cause chromosomal aberrations. Both in vitro and in vivo studies have indicated that 2,3,7,8-TCDD interacts very little, if at all, with DNA and that the potential for clastogenic effects is also minimal (1).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic/Terrestrial and Avian

Freshwater aquatic species exposed to low concentrations of TCDD (in the parts per trillion range) for 4 days displayed toxic signs and died from 40 to 140 days later. Acute toxic effects were not noted in many of the aquatic species at the level of TCDD water solubility, 0.2 μg/liter. Horses exposed to TCDD in contaminated waste oil used to control dust in corrals, became sick and died.

SUMMARY OF CRITERIA

An acute oral LD_{50} of 1 μg/kg body weight in the guinea pig and 250 μg/kg in the mouse has been found during studies (30). The U.S. EPA derived a cancer potency factor (CPF) of 1.56×10^5 $(mg/kg/day)^{-1}$ for lifetime exposure to 2,3,7,8-TCDD (1). This CPF is based on the study by Kociba et al. (1978) (15) which reported an increased incidence of tumors in the lungs, liver, hard palate, and nasal turbinates in rats fed diets containing 2,3,7,8-TCDD for 2 years and a re-examination of the histological data by Squire (1980) (28). The CPF was derived based on an oral study but the U.S. EPA deems the CPF sufficient for evaluating both the oral and inhalation routes of exposure (1):

Ingestion Cancer Potency Factor = 1.56×10^5 $(mg/kg/day)^{-1}$
Inhalation Cancer Potency Factor = 1.56×10^5 $(mg/kg/day)^{-1}$

There is not enough data to develop Ambient Water Quality Criteria, therefore a Lowest Observed Effect Level (LOEL) is used (3):

Freshwater Acute Criteria: 1.3×10^{-8} μg/L
Freshwater Chronic Criteria: 1.4×10^{-8} μg/L

Human Health (10^{-6} Risk Level for Carcinogens) Published Criteria:

Water and Organisms: 1.3×10^{-8} μg/L
Organisms Only: 1.4×10^{-8} μg/L

Bioaccumulation (29)

Food Chain
Fresh Bioconcentration Factor: 2.0×10^3
Environmental
Fresh Bioconcentration Factor: 2.0×10^3

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ZINC

INTRODUCTION

Chemical Name: Zinc
Synonyms (1): Zinc dust; Zinc powder
Trade Names (1,2): Asarco; Blue powder; CI 77945; JASAD; PASCO
CAS Number (1): 7440-66-6
Molecular Formula (1): Zn
Molecular Weight (1): 65.38 g/mole
Chemical Structure (1): Zn

Zinc is a shiny white metal with a bluish-gray luster that exhibits a valence of +2 and has five stable isotopes. It is derived from the pyrometallurgical or distillation process, or the hydrometallurgical or electrolytic process. Among zincs uses are as an alloy in brass, bronze, and die-casting alloys; galvanizing iron; as a fungicide; and as a protective coating for other metals (3).

FATE AND TRANSPORT

Density (1): 7.14
Solubility (1):
In Water: Insoluble
In Organics: Soluble in acetic acid and alkali

Zinc occurs in the environment in the +2 oxidation state in both the suspended and dissolved forms. Sorption to other materials is the dominant environmental fate of zinc. The predominant fate of zinc in an aerobic aquatic system is the sorption of the divalent cation by hydrous iron and manganese oxide, clay minerals, and organic material. The efficiency of these materials in removing zinc from solution varies according to their compositions and concentrations, the pH and salinity of the water (1).

Zinc concentrations in air are relatively low and fairly constant except near industrial sources such as smelters (1).

Zinc is strongly bioaccumulated even in the absence of abnormally high ambient concentrations although it does not appear to biomagnify. Although zinc is actively bioaccumulated in aquatic systems, the biota appear to represent a relatively minor sink compared to the sediments (8).

PHARMACOKINETICS

The efficiency with which zinc is absorbed following ingestion has been reported to be approximately 80 percent (4). Information was not available on zinc absorption via other routes of exposure. Zinc is primarily distributed to the prostate gland, liver, bone, muscle, kidney, and pancreas following absorption.

During initial absorption, zinc binds to carrier macromolecules by a process influenced by prostaglandins E2 and F2 and chelated by the tryptophan derivative picolinic acid. Zinc induces

metallothionein synthesis in mucosal cells. Zinc also binds to metallothionein in other tissues including liver, salivary glands, intestinal mucosa, and pancreas. In blood, zinc binds principally to albumin and beta-2-macroglobulin proteins. It also binds to the enzyme acid phosphatase which is most abundant in the prostate gland. Binding with metallothionein may be followed by release into the gastrointestinal tract via the salivary glands, intestinal mucosa, pancreas, and liver (5). Urinary excretion constitutes an important route and is correlated quantitatively with dietary zinc intake (5). However, the major route of elimination is in feces. (6).

HUMAN HEALTH EFFECTS

Noncarcinogenic Effects

In humans, death has been exhibited following acute inhalation of zinc chloride. The concentration of zinc chloride was unknown and other chemicals were detected. Therefore, death can not be exclusively attributed to zinc exposure. Death was reported in ferrets and mice following acute and intermediate oral exposure. However, no animal studies addressing the effects of zinc following inhalation exposure were located (1).

The adverse effects of zinc following acute inhalation exposure were limited to the respiratory tract of both humans and animals. Following oral exposure, zinc has been shown to cause adverse effects on the gastrointestinal system. The hematological and renal systems are also affected following acute, intermediate, and chronic exposures in humans and animals (1).

Zinc has been found to reduce the serum HDL-cholesterol levels in humans following intermediate oral exposure. The decrease in HDL levels may increase risk of coronary artery disease (1).

Zinc is essential to maintain one's health. However, ingestion of high levels of zinc present a potential for gastrointestinal disorders in humans and animals such as pancreatic abnormalities and gastrointestinal irritation. Biochemical changes (increased serum amylase levels and hypocalcemia) were evident in humans following ingestion of a zinc chloride solution. Animal studies have shown adverse effects including pancreatic fibrosis and degeneration and necrosis of acinar cells of the pancreas. Zinc has also caused internal bleeding in humans and animals following ingestion of high levels (1).

Respiratory disorders have been observed in humans and animals following acute inhalation exposure to zinc compounds. Acute exposure to high concentrations of zinc oxide in humans cause metal fume fever, and penetrates the alveoli, damages lung tissue and transiently impairs pulmonary function. The same effects have been exhibited in animals. Zinc compounds such as zinc chloride cause more damage to respiratory tissue following inhalation exposure than other compounds (1).

Hematological effects in humans and animals following high level acute, intermediate or chronic oral exposure to zinc and zinc compounds consist of anemia which can be exacerbated by gastrointestinal bleeding. These effects occur over a wide range of concentrations depending upon the species (1).

No adverse hepatic effects were reported following intermediate oral exposure to zinc in humans. This indicates that the liver is not a primary target organ for zinc toxicity. Hepatic necrosis was reported in sheep following acute and intermediate exposure, and enzymatic changes where exhibited in rats exposed following intermediate exposure to zinc (1).

The only renal effects observed were in laboratory animals following intermediate oral exposure to zinc compounds. No adverse renal effects have occurred in humans (1).

In vitro studies suggest that neurological symptoms and lethargy can occur in humans following oral administration of zinc. These studies indicate that zinc inhibits the entry of calcium ions into the nerve terminals, which influences the release of neurotransmitters. Additionally, zinc has been known to be toxic to neurons and glia cells of the central nervous system (1).

Zinc has retarded fetal growth and altered fetal and maternal concentrations of zinc and copper in rats. Congenital malformations such as exencephaly and rib fusions have been exhibited in offspring of pregnant hamsters injected intravenously with zinc sulfate. There is no evidence of these effects occurring in humans (1).

The EPA has established an oral RfD value of 3.0×10^{-1} mg/kg/day for zinc. This value is based on a LOAEL of 1 mg/kg/day in human females. Zinc exposure affected the blood as manifested by decreased concentration of the blood enzyme erythrocyte superoxide dismutase (ESOD) (9).

Carcinogenic Effects

Zinc has not been shown to be carcinogenic. Therefore, the EPA has not assigned a carcinogenicity classification of D for zinc (1).

Although studies have failed to provide evidence for mutagenicity of zinc, there are indications that zinc is a weak clastogen. Human studies involving the treatment of human lymphocytes in cultures with zinc have shown a slight increase in chromosomal aberrations (1).

ENVIRONMENTAL HEALTH EFFECTS

Aquatic

The EPA has established Ambient Water Quality Criteria for zinc in order to protect freshwater and marine aquatic life. The criteria are as follows (7):

Freshwater:

Acute toxicity:	120* µg/L
Chronic toxicity:	110 µg/L*

Saltwater:

Acute toxicity:	95 µg/L
Chronic toxicity:	86 µg/L

*Hardness dependent criteria.

Terrestrial and Avian

Information regarding the toxicity of zinc to terrestrial and avian wildlife or domestic animals was not available.

REGULATORY LEVELS AND CRITERIA

SMCL (8):	5 mg/L
Reportable Quantity (1):	1,000 lbs
Permissible Level in bottled water (1):	5.0 mg/L
OSHA Standard PEL TWA (10):	5 mg/m^3 (zinc oxide fume/zinc oxide dust, respirable fraction) 15 mg/m^3 (zinc oxide, total dust)

ACGIH TLV (11):

Compound	TWA	STEL
Zinc chloride fume:	1 mg/m^3	2 mg/m^3
Zinc oxide fume:	5 mg/m^3	10 mg/m^3
Zinc oxide dust:	10 mg/m^3	--
Zinc chromates:	0.01 mg/m^3	--

SUMMARY OF CRITERIA

Oral RfD (9):	3.0×10^{-1} mg/kg/day
NOAEL (9):	2.14 mg/kg/day
Uncertainty Factor (9):	10

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APPENDIX F
HUMAN HEALTH RISK CALCULATIONS

APPENDIX F
HUMAN HEALTH RISK CALCULATIONS

TABLE 1
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 1
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Copper	110.0	NA	0.04	1.9E-05	--	--	5.4E-05	1.3E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 2
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 1
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Copper	110	0.01	NA	0.024	1.6E-05	–	–	4.4E-05	1.8E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 3
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 2
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Anthracene	0.3	NA	0.3	5.2E-08	–	–	1.5E-07	4.9E-07	0.0%
Benzo(a)anthracene	2.2	0.73	NA	3.8E-07	2.8E-07	1.5%	1.1E-06	–	–
Benzo(a)pyrene	1.9	7.3	NA	3.3E-07	2.4E-06	12.9%	9.3E-07	–	–
Benzo(b)fluoranthene	2.7	0.73	NA	4.7E-07	3.4E-07	1.8%	1.3E-06	–	–
Chrysene	2.6	0.0073	NA	4.5E-07	3.3E-09	0.0%	1.3E-06	–	–
Dibenzo(a,h)anthracene	0.26	7.3	NA	4.5E-08	3.3E-07	1.8%	1.3E-07	–	–
Fluoranthene	3.5	NA	0.04	6.1E-07	–	–	1.7E-06	4.3E-05	0.3%
Fluorene	0.062	NA	0.04	1.1E-08	–	–	3.0E-08	7.6E-07	0.0%
Indeno(1,2,3-cd)pyrene	1	0.73	NA	1.7E-07	1.3E-07	0.7%	4.9E-07	–	–
Phenanthrene	1.9	NA	0.04	3.3E-07	–	–	9.3E-07	2.3E-05	0.1%
Pyrene	5.5	NA	0.03	9.6E-07	–	–	2.7E-06	9.0E-05	0.5%
4,4'-DDE	0.033	0.34	NA	5.8E-09	2.0E-09	0.0%	1.6E-08	–	–
Total PeCDD (2378-TCDD TEC)	0.00013	156,000	NA	2.3E-11	3.5E-06	18.9%	6.4E-11	–	–
Total HxCDD (2378-TCDD TEC)	0.00033	156,000	NA	5.8E-11	9.0E-06	47.9%	1.6E-10	–	–
Total HxCDF (2378-TCDD TEC)	0.0001	156,000	NA	1.7E-11	2.7E-06	14.5%	4.9E-11	–	–
Cadmium	1.2	NA	0.0005	2.1E-07	–	–	5.9E-07	1.2E-03	7.1%
Copper	830.0	NA	0.04	1.5E-04	–	–	4.1E-04	1.0E-02	61.2%
Lead	339	NA	NA	5.9E-05	–	–	1.7E-04	–	–
Mercury	2.7	NA	0.0003	4.7E-07	–	–	1.3E-06	4.4E-03	26.5%
Zinc	432	NA	0.3	7.5E-05	–	–	2.1E-04	7.0E-04	4.2%
				Total ILCR:	1.9E-05	100.0%	Total HI:	1.7E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 4
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU2
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Anthracene	0.3	0.1	NA	0.6	4.3E-07	--	--	1.2E-06	2.0E-06	0.0%
Benzo(a)anthracene	2.2	0.1	1.46	NA	3.2E-06	4.6E-06	4.6%	8.8E-06	--	--
Benzo(a)pyrene	1.9	0.1	14.6	NA	2.7E-06	4.0E-05	40.0%	7.6E-06	--	--
Benzo(b)fluoranthene	2.7	0.1	1.46	NA	3.9E-06	5.6E-06	5.7%	1.1E-05	--	--
Chrysene	2.6	0.1	0.0146	NA	3.7E-06	5.4E-08	0.1%	1.0E-05	--	--
Dibenzo(a,h)anthracene	0.26	0.1	14.6	NA	3.7E-07	5.4E-06	5.5%	1.0E-06	--	--
Fluoranthene	3.5	0.1	NA	0.02	5.0E-06	--	--	1.4E-05	7.0E-04	0.2%
Fluorene	0.062	0.1	NA	0.02	8.9E-08	--	--	2.5E-07	1.2E-05	0.0%
Indeno(1,2,3-cd)pyrene	1	0.1	1.46	NA	1.4E-06	2.1E-06	2.1%	4.0E-06	--	--
Phenanthrene	1.9	0.1	NA	0.02	2.7E-06	--	--	7.6E-06	3.8E-04	0.1%
Pyrene	5.5	0.1	NA	0.015	7.9E-06	--	--	2.2E-05	1.5E-03	0.5%
4,4'-DDE	0.033	0.1	0.38	NA	4.7E-08	1.8E-08	0.0%	1.3E-07	--	--
Total PeCDD (2378-TCDD TEC)	0.00013	0.03	173,000	NA	5.6E-11	9.7E-06	9.7%	1.6E-10	--	--
Total HxCDD (2378-TCDD TEC)	0.00033	0.03	173,000	NA	1.4E-10	2.5E-05	24.7%	4.0E-10	--	--
Total HxCDF (2378-TCDD TEC)	0.0001	0.03	173,000	NA	4.3E-11	7.4E-06	7.5%	1.2E-10	--	--
Cadmium	1.2	0.01	NA	0.0000125	1.7E-07	--	--	4.8E-07	3.9E-02	12.9%
Copper	830.0	0.01	NA	0.024	1.2E-04	--	--	3.3E-04	1.4E-02	4.7%
Lead	339	0.01	NA	NA	4.9E-05	--	--	1.4E-04	--	--
Mercury	2.7	0.01	NA	0.0000045	3.9E-07	--	--	1.1E-06	2.4E-01	80.8%
Zinc	432	0.01	NA	0.075	6.2E-05	--	--	1.7E-04	2.3E-03	0.8%
					Total ILCR:	9.9E-05	100.0%	Total HI:	3.0E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 5
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib HI
Total HxCDD (2378-TCDD TEC)	0.0001	156,000	NA	1.7E-11	2.7E-06	93.3%	4.9E-11	--	--
Beryllium	0.26	4.3	0.005	4.5E-08	2.0E-07	6.7%	1.3E-07	2.5E-05	5.1%
Copper	38.4	NA	0.04	6.7E-06	--	--	1.9E-05	4.7E-04	94.9%
Lead	194	NA	NA	3.4E-05	--	--	9.5E-05	--	--
				Total ILCR:	2.9E-06	100.0%	Total HI:	5.0E-04	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 6
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Total HxCDD (2378-TCDD TEC)	0.0001	0.03	173,000	NA	4.3E-11	7.4E-06	31.7%	1.2E-10	–	–
Beryllium	0.26	0.01	430	0.00005	3.7E-08	1.6E-05	68.3%	1.0E-07	2.1E-03	76.5%
Copper	38.4	0.01	NA	0.024	5.5E-06	–	–	1.5E-05	6.4E-04	23.5%
Lead	194	0.01	NA	NA	2.8E-05	–	–	7.8E-05	–	–
					Total ILCR:	2.3E-05	100.0%	Total HI:	2.7E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 7
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 7
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.15	7.3	NA	2.6E-08	1.9E-07	6.9%	7.3E-08	--	--
Chrysene	0.47	0.0073	NA	8.2E-08	6.0E-10	0.0%	2.3E-07	--	--
Arsenic	9.8	1.5	0.0003	1.7E-06	2.6E-06	93.0%	4.8E-06	1.6E-02	100.0%
				Total ILCR:	2.8E-06	100.0%	Total HI:	1.6E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 8
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 7
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.15	0.1	14.6	NA	2.1E-07	3.1E-06	30.6%	6.0E-07	–	–
Chrysene	0.47	0.1	0.0146	NA	6.7E-07	9.8E-09	0.1%	1.9E-06	–	–
Arsenic	9.8	0.032	1.58	0.00028	4.5E-06	7.1E-06	69.3%	1.3E-05	4.5E-02	100.0%
					Total ILCR:	1.0E-05	100.0%	Total HI:	4.5E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 9
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 11
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	NA	0.04	3.1E-07	--	--	8.8E-07	2.2E-05	0.1%
Anthracene	2.2	NA	0.3	3.8E-07	--	--	1.1E-06	3.6E-06	0.0%
Benzo(a)anthracene	3.7	0.73	NA	6.5E-07	4.7E-07	1.1%	1.8E-06	--	--
Benzo(a)pyrene	23	7.3	NA	4.0E-06	2.9E-05	67.8%	1.1E-05	--	--
Benzo(b)fluoranthene	24	0.73	NA	4.2E-06	3.1E-06	7.1%	1.2E-05	--	--
Benzo(k)fluoranthene	21	0.073	NA	3.7E-06	2.7E-07	0.6%	1.0E-05	--	--
Chrysene	10	0.0073	NA	1.7E-06	1.3E-08	0.0%	4.9E-06	--	--
Dibenzo(a,h)anthracene	4.2	7.3	NA	7.3E-07	5.4E-06	12.4%	2.1E-06	--	--
Fluoranthene	0.66	NA	0.04	1.2E-07	--	--	3.2E-07	8.1E-06	0.0%
Indeno(1,2,3-cd)pyrene	10	0.73	NA	1.7E-06	1.3E-06	2.9%	4.9E-06	--	--
Pyrene	6	NA	0.03	1.0E-06	--	--	2.9E-06	9.8E-05	0.5%
Arsenic	13.2	1.5	0.0003	2.3E-06	3.5E-06	8.0%	6.5E-06	2.2E-02	99.4%
Lead	194	NA	NA	3.4E-05	--	--	9.5E-05	--	--
				Total ILCR:	4.3E-05	100.0%	Total HI:	2.2E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 10
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 11
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	0.1	NA	0.02	2.6E-06	--	--	7.2E-06	3.6E-04	0.6%
Anthracene	2.2	0.1	NA	0.6	3.2E-06	--	--	8.8E-06	1.5E-05	0.0%
Benzo(a)anthracene	3.7	0.1	1.46	NA	5.3E-06	7.7E-06	1.2%	1.5E-05	--	--
Benzo(a)pyrene	23	0.1	14.6	NA	3.3E-05	4.8E-04	72.7%	9.2E-05	--	--
Benzo(b)fluoranthene	24	0.1	1.46	NA	3.4E-05	5.0E-05	7.6%	9.6E-05	--	--
Benzo(k)fluoranthene	21	0.1	0.146	NA	3.0E-05	4.4E-06	0.7%	8.4E-05	--	--
Chrysene	10	0.1	0.0146	NA	1.4E-05	2.1E-07	0.0%	4.0E-05	--	--
Dibenzo(a,h)anthracene	4.2	0.1	14.6	NA	6.0E-06	8.8E-05	13.3%	1.7E-05	--	--
Fluoranthene	0.66	0.1	NA	0.02	9.5E-07	--	--	2.6E-06	1.3E-04	0.2%
Indeno(1,2,3-cd)pyrene	10	0.1	1.46	NA	1.4E-05	2.1E-05	3.2%	4.0E-05	--	--
Pyrene	6	0.1	NA	0.015	8.6E-06	--	--	2.4E-05	1.6E-03	2.6%
Arsenic	13.2	0.032	1.58	0.00028	6.1E-06	9.6E-06	1.4%	1.7E-05	6.1E-02	96.6%
Lead	194	0.01	NA	NA	2.8E-05	--	--	7.8E-05	--	--
					Total ILCR:	6.6E-04	100.0%	Total HI:	6.3E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 11
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.44	7.3	NA	7.7E-08	5.6E-07	21.4%	2.2E-07	--	--
4,4'-DDE	7.6	0.34	NA	1.3E-06	4.5E-07	17.2%	3.7E-06	--	--
4,4'-DDT	6	0.34	0.0005	1.0E-06	3.6E-07	13.6%	2.9E-06	5.9E-03	42.9%
Arsenic	4.8	1.5	0.0003	8.4E-07	1.3E-06	47.9%	2.3E-06	7.8E-03	57.1%
Lead	413	NA	NA	7.2E-05	--	0.0%	2.0E-04	--	--
				Total ILCR:	2.6E-06	100.0%	Total HI:	1.4E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 12
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.44	0.1	14.6	NA	6.3E-07	9.2E-06	45.8%	1.8E-06	--	--
4,4'-DDE	7.6	0.1	0.38	NA	1.1E-05	4.1E-06	20.6%	3.0E-05	--	--
4,4'-DDT	6	0.1	0.38	0.00045	8.6E-06	3.3E-06	16.3%	2.4E-05	5.3E-02	71.2%
Arsenic	4.8	0.032	1.58	0.000285	2.2E-06	3.5E-06	17.3%	6.2E-06	2.2E-02	28.8%
Lead	413	0.01	NA	NA	5.9E-05	--	--	1.7E-04	--	--
					Total ILCR:	2.0E-05	100.0%	Total HI:	7.5E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 13
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.44	6.48E-10	6.1	NA	2.3E-11	1.4E-10	3.5%	6.3E-11	--	--
4,4'-DDE	7.6	1.12E-08	NA	NA	3.9E-10	--	--	1.1E-09	--	--
4,4'-DDT	6	8.84E-09	0.34	NA	3.1E-10	1.0E-10	2.6%	8.6E-10	--	--
Arsenic	4.8	7.07E-09	15.1	NA	2.5E-10	3.7E-09	93.9%	6.9E-10	--	--
Lead	413	6.08E-07	NA	NA	2.1E-08	--	--	6.0E-08	--	--
					Total ILCR:	4.0E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 14
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.39	7.3	NA	6.8E-08	5.0E-07	8.1%	1.9E-07	–	–
4,4'-DDD	12	0.24	NA	2.1E-06	5.0E-07	8.2%	5.9E-06	–	–
4,4'-DDE	34	0.34	NA	5.9E-06	2.0E-06	33.1%	1.7E-05	–	–
4,4'-DDT	52	0.34	0.0005	9.1E-06	3.1E-06	50.6%	2.5E-05	5.1E-02	93.6%
Cadmium	1.6	NA	0.0005	2.8E-07	–	–	7.8E-07	1.6E-03	2.9%
Copper	74.7	NA	0.04	1.3E-05	–	–	3.7E-05	9.1E-04	1.7%
Lead	121	NA	NA	2.1E-05	–	–	5.9E-05	–	–
Mercury	0.42	NA	0.0003	7.3E-08	–	–	2.1E-07	6.8E-04	1.3%
Zinc	189	NA	0.3	3.3E-05	–	–	9.2E-05	3.1E-04	0.6%
				Total ILCR:	6.1E-06	100.0%	Total HI:	5.4E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 15
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib HI
Benzo(a)pyrene	0.39	0.1	14.6	NA	5.6E-07	8.2E-06	13.7%	1.6E-06	--	--
4,4'-DDD	12	0.1	0.27	NA	1.7E-05	4.6E-06	7.8%	4.8E-05	--	--
4,4'-DDE	34	0.1	0.38	NA	4.9E-05	1.9E-05	31.0%	1.4E-04	--	--
4,4'-DDT	52	0.1	0.38	0.00045	7.5E-05	2.8E-05	47.5%	2.1E-04	4.6E-01	83.6%
Cadmium	1.6	0.01	NA	0.0000125	2.3E-07	--	--	6.4E-07	5.1E-02	9.3%
Copper	74.7	0.01	NA	0.024	1.1E-05	--	--	3.0E-05	1.2E-03	0.2%
Lead	121	0.01	NA	NA	1.7E-05	--	--	4.9E-05	--	--
Mercury	0.42	0.01	NA	0.0000045	6.0E-08	--	--	1.7E-07	3.7E-02	6.8%
Zinc	189	0.01	NA	0.075	2.7E-05	--	--	7.6E-05	1.0E-03	0.2%
					Total ILCR:	6.0E-05	100.0%	Total HI:	5.5E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 16
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 23
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.36	7.3	NA	6.3E-08	4.6E-07	100.0%	1.8E-07	–	–

NOTES:
– Not applicable.

TABLE 17
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 23
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.36	0.1	14.6	NA	5.2E-07	7.5E-06	100.0%	1.4E-06	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 18
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 23
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.36	5.30E-10	6.1	NA	1.9E-11	1.1E-10	100.0%	5.2E-11	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 19
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.12	7.3	NA	2.1E-08	1.5E-07	17.2%	5.9E-08	--	--
Bis(2-ethylhexyl)phthalate	77	0.014	0.02	1.3E-05	1.9E-07	21.1%	3.8E-05	1.9E-03	35.5%
Arsenic	2.1	1.5	0.0003	3.7E-07	5.5E-07	61.7%	1.0E-06	3.4E-03	64.5%
				Total ILCR:	8.9E-07	100.0%	Total HI:	5.3E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 20
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.12	0.1	14.6	NA	1.7E-07	2.5E-06	35.3%	4.8E-07	--	--
Bis(2-ethylhexyl)phthalate	77	0.1	0.028	0.01	1.1E-04	3.1E-06	43.4%	3.1E-04	3.1E-02	76.2%
Arsenic	2.1	0.032	1.58	0.00028	9.6E-07	1.5E-06	21.4%	2.7E-06	9.6E-03	23.8%
					Total ILCR:	7.1E-06	100.0%	Total HI:	4.1E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 21
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.12	1.77E-10	6.1	NA	6.2E-12	3.8E-11	1.2%	1.7E-11	–	–
Bis(2-ethylhexyl)phthalate	77	1.13E-07	0.34	NA	4.0E-09	1.3E-09	44.7%	1.1E-08	–	–
Arsenic	2.1	3.09E-09	15.1	NA	1.1E-10	1.6E-09	54.1%	3.0E-10	–	–
					Total ILCR:	3.0E-09	100.0%	Total HI:	–	–

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 22
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.19	4.3	0.005	3.3E-08	1.4E-07	100.0%	9.3E-08	1.9E-05	1.1%
Copper	66.6	NA	0.04	1.2E-05	--	--	3.3E-05	8.1E-04	48.1%
Nickel	35.2	NA	0.02	6.2E-06	--	--	1.7E-05	8.6E-04	50.8%
				Total ILCR:	1.4E-07	100.0%	Total HI:	1.7E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 23
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/ (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Paramete	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Paramete	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.19	0.01	430	0.00005	2.7E-08	1.2E-05	100.0%	7.6E-08	1.5E-03	8.0%
Copper	66.6	0.01	NA	0.024	9.5E-06	--	--	2.7E-05	1.1E-03	5.8%
Nickel	35.2	0.01	NA	0.00086	5.0E-06	--	--	1.4E-05	1.6E-02	86.2%
					Total ILCR:	1.2E-05	100.0%	Total HI:	1.9E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 24
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 26
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	1.2	1.5	0.0003	2.1E-07	3.1E-07	54.5%	5.9E-07	2.0E-03	98.3%
Beryllium	0.35	4.3	0.005	6.1E-08	2.6E-07	45.5%	1.7E-07	3.4E-05	1.7%
				Total ILCR:	5.8E-07	100.0%	Total HI:	2.0E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 25
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 26
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Arsenic	1.2	0.032	1.58	0.00028	5.5E-07	8.7E-07	3.9%	1.5E-06	5.5E-03	66.2%
Beryllium	0.35	0.01	430	0.00005	5.0E-08	2.2E-05	96.1%	1.4E-07	2.8E-03	33.8%
					Total ILCR:	2.2E-05	100.0%	Total HI:	8.3E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 26
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 26
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	1.2	1.77E-09	15.1	NA	6.2E-11	9.3E-10	86.0%	1.7E-10	--	--
Beryllium	0.35	5.15E-10	8.4	NA	1.8E-11	1.5E-10	14.0%	5.0E-11	--	--
					Total ILCR:	1.1E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 27
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.25	7.7	NA	4.4E-08	3.4E-07	44.5%	1.2E-07	--	--
Arsenic	1.6	1.5	0.0003	2.8E-07	4.2E-07	55.5%	7.8E-07	2.6E-03	100.0%
				Total ILCR:	7.6E-07	100.0%	Total HI:	2.6E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 28
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d) (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.25	0.1	8.7	NA	3.6E-07	3.1E-06	72.9%	1.0E-06	--	--
Arsenic	1.6	0.032	1.58	0.000285	7.3E-07	1.2E-06	27.1%	2.1E-06	7.2E-03	100.0%
					Total ILCR:	4.3E-06	100.0%	Total HI:	7.2E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 29
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.25	3.68E-10	NA	NA	1.3E-11	--	--	3.6E-11	--	--
Arsenic	1.6	2.36E-09	15.1	NA	8.2E-11	1.2E-09	100.0%	2.3E-10	--	--
					Total ILCR:	1.2E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 30
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.23	7.7	NA	4.0E-08	3.1E-07	47.6%	1.1E-07	–	–
Arsenic	1.3	1.5	0.0003	2.3E-07	3.4E-07	52.4%	6.4E-07	2.1E-03	100.0%
				Total ILCR:	6.5E-07	100.0%	Total HI:	2.1E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 31
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.23	0.1	8.7	NA	3.3E-07	2.9E-06	75.3%	9.2E-07	--	--
Arsenic	1.3	0.032	1.58	0.000285	6.0E-07	9.4E-07	24.7%	1.7E-06	5.9E-03	100.0%
					Total ILCR:	3.8E-06	100.0%	Total HI:	5.9E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 32
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.23	3.39E-10	NA	NA	1.2E-11	--	--	3.3E-11	--	--
Arsenic	1.3	1.91E-09	15.1	NA	6.7E-11	1.0E-09	100.0%	1.9E-10	--	--
					Total ILCR:	1.2E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 33
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1254	2.6	7.7	0.00002	4.5E-07	3.5E-06	87.0%	1.3E-06	6.4E-02	95.1%
Arsenic	2.0	1.5	0.0003	3.5E-07	5.2E-07	13.0%	9.8E-07	3.3E-03	4.9%
				Total ILCR:	4.0E-06	100.0%	Total HI:	6.7E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 34
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1254	2.6	0.1	8.7	0.000018	3.7E-06	3.2E-05	95.7%	1.0E-05	5.8E-01	98.5%
Arsenic	2.0	0.032	1.58	0.000285	9.2E-07	1.4E-06	4.3%	2.6E-06	9.0E-03	1.5%
					Total ILCR:	3.4E-05	100.0%	Total HI:	5.9E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 35
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1254	2.6	3.83E-09	NA	NA	1.3E-10	--	--	3.7E-10	--	--
Arsenic	2.0	2.95E-09	15.1	NA	1.0E-10	1.6E-09	100.0%	2.9E-10	--	--
					Total ILCR:	1.2E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 36
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 37
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.73	7.3	NA	1.3E-07	9.3E-07	67.8%	3.6E-07	--	--
Benzo(b)fluoranthene	1.3	0.73	NA	2.3E-07	1.7E-07	12.1%	6.4E-07	--	--
Dibenzo(a,h)anthracene	0.12	7.3	NA	2.1E-08	1.5E-07	11.2%	5.9E-08	--	--
Aroclor-1260	0.091	7.7	NA	1.6E-08	1.2E-07	8.9%	4.5E-08	--	--
				Total ILCR:	1.4E-06	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 37
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 37
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.73	0.1	14.6	NA	1.0E-06	1.5E-05	70.6%	2.9E-06	--	--
Benzo(b)fluoranthene	1.3	0.1	1.46	NA	1.9E-06	2.7E-06	12.6%	5.2E-06	--	--
Dibenzo(a,h)anthracene	0.12	0.1	14.6	NA	1.7E-07	2.5E-06	11.6%	4.8E-07	--	--
Aroclor-1260	0.091	0.1	8.7	NA	1.3E-07	1.1E-06	5.2%	3.7E-07	--	--
					Total ILCR:	2.2E-05	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 38
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 37
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.73	1.08E-09	6.1	NA	3.8E-11	2.3E-10	74.5%	1.1E-10	--	--
Benzo(b)fluoranthene	1.3	1.91E-09	0.61	NA	6.7E-11	4.1E-11	13.3%	1.9E-10	--	--
Dibenzo(a,h)anthracene	0.12	1.77E-10	6.1	NA	6.2E-12	3.8E-11	12.2%	1.7E-11	--	--
Aroclor-1260	0.091	1.34E-10	NA	NA	4.7E-12	--	--	1.3E-11	--	--
					Total ILCR:	3.1E-10	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 39
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 39
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	3.5	1.5	0.0003	6.1E-07	9.2E-07	100.0%	1.7E-06	5.7E-03	100.0%

TABLE 40
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 39
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Arsenic	3.5	0.032	1.58	0.000285	1.6E-06	2.5E-06	100.0%	4.5E-06	1.6E-02	100.0%

TABLE 41
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 39
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	3.5	5.15E-09	15.1	NA	1.8E-10	2.7E-09	100.0%	5.0E-10	–	–

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 42
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.89	7.3	NA	1.6E-07	1.1E-06	16.7%	4.4E-07	–	–
Benzo(b)fluoranthene	1.2	0.73	NA	2.1E-07	1.5E-07	2.2%	5.9E-07	–	–
Dibenzo(a,h)anthracene	0.1	7.3	NA	1.7E-08	1.3E-07	1.9%	4.9E-08	–	–
Aroclor-1260	3.6	7.7	NA	6.3E-07	4.8E-06	71.1%	1.8E-06	–	–
Arsenic	1.6	1.5	0.0003	2.8E-07	4.2E-07	6.2%	7.8E-07	2.6E-03	99.3%
Beryllium	0.18	4.3	0.005	3.1E-08	1.4E-07	2.0%	8.8E-08	1.8E-05	0.7%
				Total ILCR:	6.8E-06	100.0%	Total HI:	2.6E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 43
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.89	0.1	14.6	NA	1.3E-06	1.9E-05	23.2%	3.6E-06	–	–
Benzo(b)fluoranthene	1.2	0.1	1.46	NA	1.7E-06	2.5E-06	3.1%	4.8E-06	–	–
Dibenzo(a,h)anthracene	0.1	0.1	14.6	NA	1.4E-07	2.1E-06	2.6%	4.0E-07	–	–
Aroclor-1260	3.6	0.1	8.7	NA	5.2E-06	4.5E-05	55.9%	1.4E-05	–	–
Arsenic	1.6	0.032	1.58	0.00028	7.3E-07	1.2E-06	1.4%	2.1E-06	7.3E-03	83.6%
Beryllium	0.18	0.01	430	0.00005	2.6E-08	1.1E-05	13.8%	7.2E-08	1.4E-03	16.4%
					Total ILCR:	8.0E-05	100.0%	Total HI:	8.8E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 44
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.89	1.31E-09	6.1	NA	4.6E-11	2.8E-10	17.6%	1.3E-10	--	--
Benzo(b)fluoranthene	1.2	1.77E-09	0.61	NA	6.2E-11	3.8E-11	2.4%	1.7E-10	--	--
Dibenzo(a,h)anthracene	0.1	1.47E-10	6.1	NA	5.1E-12	3.1E-11	2.0%	1.4E-11	--	--
Aroclor-1260	3.6	5.30E-09	NA	NA	1.9E-10	--	--	5.2E-10	--	--
Arsenic	1.6	2.36E-09	15.1	NA	8.2E-11	1.2E-09	78.1%	2.3E-10	--	--
Beryllium	0.18	2.65E-10	NA	8.4	9.3E-12	--	--	2.6E-11	3.1E-12	100.0%
					Total ILCR:	1.6E-09	100.0%	Total HI:	3.1E-12	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 45
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 51
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
N-Nitrosodimethylamine	0.095	51	NA	1.7E-08	8.5E-07	100.0%	4.6E-08	--	--

TABLE 46
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 51
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
N-Nitrosodimethylamine	0.095	0.1	102	NA	1.4E-07	1.4E-05	100.0%	3.8E-07	--	--

TABLE 47
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 51
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
N-Nitrosodimethylamine	0.095	1.40E-10	49	NA	4.9E-12	2.4E-10	100.0%	1.4E-11	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 48
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)anthracene	2.4	0.73	NA	4.2E-07	3.1E-07	2.5%	1.2E-06	--	--
Benzo(a)pyrene	1.8	7.3	NA	3.1E-07	2.3E-06	19.0%	8.8E-07	--	--
Benzo(b)fluoranthene	4.3	0.73	NA	7.5E-07	5.5E-07	4.5%	2.1E-06	--	--
Dibenzo(a,h)anthracene	0.18	7.3	NA	3.1E-08	2.3E-07	1.9%	8.8E-08	--	--
4,4'-DDE	22	0.34	NA	3.8E-06	1.3E-06	10.8%	1.1E-05	--	--
4,4'-DDD	18	0.24	NA	3.1E-06	7.5E-07	6.2%	8.8E-06	--	--
4,4'-DDT	14	0.34	0.0005	2.4E-06	8.3E-07	6.9%	6.8E-06	1.4E-02	45.6%
Total HxCDD (2378-TCDD TEC)	0.000076	156,000	NA	1.3E-11	2.1E-06	17.1%	3.7E-11	--	--
Total HxCDF (2378-TCDD TEC)	0.000026	156,000	NA	4.5E-12	7.1E-07	5.9%	1.3E-11	--	--
Arsenic	10.0	1.5	0.0003	1.7E-06	2.6E-06	21.7%	4.9E-06	1.6E-02	54.3%
Beryllium	0.55	4.3	0.005	9.6E-08	4.1E-07	3.4%	2.7E-07	5.4E-05	0.2%
				Total ILCR:	1.2E-05	100.0%	Total HI:	3.0E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 49
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)anthracene	2.4	0.1	1.46	NA	3.4E-06	5.0E-06	3.8%	9.6E-06	--	--
Benzo(a)pyrene	1.8	0.1	14.6	NA	2.6E-06	3.8E-05	28.8%	7.2E-06	--	--
Benzo(b)fluoranthene	4.3	0.1	1.46	NA	6.2E-06	9.0E-06	6.9%	1.7E-05	--	--
Dibenzo(a,h)anthracene	0.18	0.1	14.6	NA	2.6E-07	3.8E-06	2.9%	7.2E-07	--	--
4,4'-DDE	22	0.1	0.38	NA	3.2E-05	1.2E-05	9.2%	8.8E-05	--	--
4,4'-DDD	18	0.1	0.27	NA	2.6E-05	7.0E-06	5.3%	7.2E-05	--	--
4,4'-DDT	14	0.1	0.38	0.00045	2.0E-05	7.6E-06	5.8%	5.6E-05	1.2E-01	100.0%
Total HxCDD (2378-TCDD TEC)	0.000076	0.03	173,000	NA	3.3E-11	5.7E-06	4.3%	9.1E-11	--	--
Total HxCDF (2378-TCDD TEC)	0.000026	0.03	173,000	NA	1.1E-11	1.9E-06	1.5%	3.1E-11	--	--
Arsenic	10.0	0.032	1.58	0.000285	4.6E-06	7.2E-06	5.5%	1.3E-05	4.5E-02	100.0%
Beryllium	0.55	0.01	430	0.00005	7.9E-08	3.4E-05	25.9%	2.2E-07	4.4E-03	100.0%
					Total ILCR:	1.3E-04	100.0%	Total HI:	1.7E-01	300.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 50
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)anthracene	2.4	3.53E-09	0.61	NA	1.2E-10	7.5E-11	0.8%	3.5E-10	--	--
Benzo(a)pyrene	1.8	2.65E-09	6.1	NA	9.3E-11	5.7E-10	6.0%	2.6E-10	--	--
Benzo(b)fluoranthene	4.3	6.33E-09	0.61	NA	2.2E-10	1.3E-10	1.4%	6.2E-10	--	--
Dibenzo(a,h)anthracene	0.18	2.65E-10	6.1	NA	9.3E-12	5.7E-11	0.6%	2.6E-11	--	--
4,4'-DDE	22	3.24E-08	NA	NA	1.1E-09	--	--	3.2E-09	--	--
4,4'-DDD	18	2.65E-08	NA	NA	9.3E-10	--	--	2.6E-09	--	--
4,4'-DDT	14	2.06E-08	0.34	NA	7.2E-10	2.4E-10	2.6%	2.0E-09	--	--
Total HxCDD (2378-TCDD TEC)	0.000076	1.12E-13	116,000	NA	3.9E-15	4.5E-10	4.8%	1.1E-14	--	--
Total HxCDF (2378-TCDD TEC)	0.000026	3.83E-14	116,000	NA	1.3E-15	1.6E-10	1.6%	3.7E-15	--	--
Arsenic	10.0	1.47E-08	15.1	NA	5.1E-10	7.8E-09	82.2%	1.4E-09	--	--
Beryllium	0.55	8.10E-10	NA	8.4	2.8E-11	--	--	7.9E-11	9.4E-12	100.0%
					Total ILCR:	9.5E-09	100.0%	Total HI:	9.4E-12	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 51
ON-SITE WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN AOC C
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	100	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	0.5	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.22	7.3	NA	3.8E-08	2.8E-07	0.0%	1.1E-07	--	--
4,4'-DDE	2.7	0.34	NA	4.7E-07	1.6E-07	0.0%	1.3E-06	--	--
4,4'-DDT	5.4	0.34	0.0005	9.4E-07	3.2E-07	0.0%	2.6E-06	5.3E-03	10.6%
Kepone	2.5	18	NA	4.4E-07	7.9E-06	0.1%	1.2E-06	--	--
alpha-Chlordane	0.84	1.3	0.00006	1.5E-07	1.9E-07	0.0%	4.1E-07	6.8E-03	13.8%
gamma-Chlordane	0.76	1.3	0.00006	1.3E-07	1.7E-07	0.0%	3.7E-07	6.2E-03	12.5%
Aroclor-1260	5,200	7.7	NA	9.1E-04	7.0E-03	99.8%	2.5E-03	--	--
Arsenic	19.2	1.5	0.0003	3.4E-06	5.0E-06	0.1%	9.4E-06	3.1E-02	63.0%
Beryllium	0.27	4.3	0.005	4.7E-08	2.0E-07	0.0%	1.3E-07	2.6E-05	0.1%
Lead	7.8	NA	NA	1.4E-06	--	--	3.8E-06	--	--
				Total ILCR:	7.0E-03	100.0%	Total HI:	5.0E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 52
ON-SITE WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN AOC C
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	On-site Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.22	0.1	14.6	NA	3.2E-07	4.6E-06	0.0%	8.8E-07	--	--
4,4'-DDE	2.7	0.1	0.38	NA	3.9E-06	1.5E-06	0.0%	1.1E-05	--	--
4,4'-DDT	5.4	0.1	0.38	0.00045	7.7E-06	2.9E-06	0.0%	2.2E-05	4.8E-02	13.7%
Kepone	2.5	0.1	36	NA	3.6E-06	1.3E-04	0.2%	1.0E-05	--	--
alpha-Chlordane	0.84	0.1	2.6	0.00003	1.2E-06	3.1E-06	0.0%	3.4E-06	1.1E-01	32.0%
gamma-Chlordane	0.76	0.1	2.6	0.00003	1.1E-06	2.8E-06	0.0%	3.0E-06	1.0E-01	29.0%
Aroclor-1260 (1)	5,200	0.1	8.7	NA	7.5E-03	6.3E-02	99.7%	2.1E-02	--	--
Arsenic	19.2	0.032	1.58	0.000285	8.8E-06	1.4E-05	0.0%	2.5E-05	8.6E-02	24.7%
Beryllium	0.27	0.01	430	0.00005	3.9E-08	1.7E-05	0.0%	1.1E-07	2.2E-03	0.6%
Lead	7.8	0.01	NA	NA	1.1E-06	--	--	3.1E-06	--	--
					Total ILCR:	6.3E-02	100.0%	Total HI:	3.5E-01	100.0%

NOTES:
(1) ILCR presented was obtained from USEPA's (1989b) one-hit equation since it exceeds 1.0E-02.
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 53
ON-SITE WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN AOC C
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	On-site Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	25	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	9125	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.22	3.24E-10	6.1	NA	1.1E-11	6.9E-11	0.5%	3.2E-11	--	--
4,4'-DDE	2.7	3.98E-09	NA	NA	1.4E-10	--	--	3.9E-10	--	--
4,4'-DDT	5.4	7.95E-09	0.34	NA	2.8E-10	9.4E-11	0.6%	7.8E-10	--	--
Kepone	2.5	3.68E-09	NA	NA	1.3E-10	--	--	3.6E-10	--	--
alpha-Chlordane	0.84	1.24E-09	1.29	NA	4.3E-11	5.6E-11	0.4%	1.2E-10	--	--
gamma-Chlordane	0.76	1.12E-09	1.29	NA	3.9E-11	5.0E-11	0.3%	1.1E-10	--	--
Aroclor-1260	5,200	7.66E-06	NA	NA	2.7E-07	--	--	7.5E-07	--	--
Arsenic	19.2	2.83E-08	15.1	NA	9.9E-10	1.5E-08	98.2%	2.8E-09	--	--
Beryllium	0.27	3.98E-10	NA	8.4	1.4E-11	--	--	3.9E-11	4.6E-12	100.0%
Lead	7.8	1.15E-08	NA	NA	4.0E-10	--	--	1.1E-09	--	--
					Total ILCR:	1.5E-08	100.0%	Total HI:	4.6E-12	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 54
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 1
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Copper	110.0	NA	0.04	9.6E-06	--	--	2.2E-05	5.6E-04	100.0%	5.4E-06	--	--	4.2E-05	1.1E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 55
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 1
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Copper	110	0.01	NA	0.024	3.8E-05	--	--	9.0E-05	3.7E-03	100.0%	1.7E-05	--	--	1.3E-04	5.5E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 56
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 2
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Anthracene	0.3	NA	0.3	2.6E-08	--	--	6.1E-08	2.0E-07	0.0%	1.5E-08	--	--	1.2E-07	3.9E-07	0.0%
Benzo(a)anthracene	2.2	0.73	NA	1.9E-07	1.4E-07	1.5%	4.5E-07	--	--	1.1E-07	8.0E-08	1.5%	8.5E-07	--	--
Benzo(a)pyrene	1.9	7.3	NA	1.7E-07	1.2E-06	12.9%	3.9E-07	--	--	9.4E-08	6.9E-07	12.9%	7.3E-07	--	--
Benzo(b)fluoranthene	2.7	0.73	NA	2.4E-07	1.7E-07	1.8%	5.5E-07	--	--	1.3E-07	9.8E-08	1.8%	1.0E-06	--	--
Chrysene	2.6	0.0073	NA	2.3E-07	1.7E-09	0.0%	5.3E-07	--	--	1.3E-07	9.4E-10	0.0%	1.0E-06	--	--
Dibenzo(a,h)anthracene	0.26	7.3	NA	2.3E-08	1.7E-07	1.8%	5.3E-08	--	--	1.3E-08	9.4E-08	1.8%	1.0E-07	--	--
Fluoranthene	3.5	NA	0.04	3.1E-07	--	--	7.1E-07	1.8E-05	0.3%	1.7E-07	--	--	1.3E-06	3.4E-05	0.3%
Fluorene	0.062	NA	0.04	5.4E-09	--	--	1.3E-08	3.2E-07	0.0%	3.1E-09	--	--	2.4E-08	6.0E-07	0.0%
Indeno(1,2,3-cd)pyrene	1	0.73	NA	8.7E-08	6.4E-08	0.7%	2.0E-07	--	--	5.0E-08	3.6E-08	0.7%	3.9E-07	--	--
Phenanthrene	1.9	NA	0.04	1.7E-07	--	--	3.9E-07	9.7E-06	0.1%	9.4E-08	--	--	7.3E-07	1.8E-05	0.1%
Pyrene	5.5	NA	0.03	4.8E-07	--	--	1.1E-06	3.7E-05	0.5%	2.7E-07	--	--	2.1E-06	7.1E-05	0.5%
4,4'-DDE	0.033	0.34	NA	2.9E-09	9.8E-10	0.0%	6.7E-09	--	--	1.6E-09	5.6E-10	0.0%	1.3E-08	--	--
Total PeCDD (2378-TCDD TEC)	0.00013	156,000	NA	1.1E-11	1.8E-06	18.9%	2.6E-11	--	--	6.4E-12	1.0E-06	18.9%	5.0E-11	--	--
Total HxCDD (2378-TCDD TEC)	0.00033	156,000	NA	2.9E-11	4.5E-06	47.9%	6.7E-11	--	--	1.6E-11	2.5E-06	47.9%	1.3E-10	--	--
Total HxCDF (2378-TCDD TEC)	0.0001	156,000	NA	8.7E-12	1.4E-06	14.5%	2.0E-11	--	--	5.0E-12	7.7E-07	14.5%	3.9E-11	--	--
Cadmium	1.2	NA	0.0005	1.0E-07	--	--	2.4E-07	4.9E-04	7.1%	5.9E-08	--	--	4.6E-07	9.2E-04	7.1%
Copper	830.0	NA	0.04	7.2E-05	--	--	1.7E-04	4.2E-03	61.2%	4.1E-05	--	--	3.2E-04	8.0E-03	61.2%
Lead	339	NA	NA	3.0E-05	--	--	6.9E-05	--	--	1.7E-05	--	--	1.3E-04	--	--
Mercury	2.7	NA	0.0003	2.4E-07	--	--	5.5E-07	1.8E-03	26.5%	1.3E-07	--	--	1.0E-06	3.5E-03	26.5%
Zinc	432	NA	0.3	3.8E-05	--	--	8.8E-05	2.9E-04	4.2%	2.1E-05	--	--	1.7E-04	5.5E-04	4.2%
				Total ILCR:	9.4E-06	100.0%	Total HI:	6.9E-03	100.0%	Total ILCR:	5.3E-06	100.0%	Total HI:	1.3E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 57
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU2
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Anthracene	0.3	0.1	NA	0.6	1.0E-06	–	–	2.4E-06	4.1E-06	0.0%	4.7E-07	–	–	3.6E-06	6.0E-06	0.0%
Benzo(a)anthracene	2.2	0.1	1.46	NA	7.7E-06	1.1E-05	4.6%	1.8E-05	–	–	3.4E-06	5.0E-06	4.6%	2.7E-05	–	–
Benzo(a)pyrene	1.9	0.1	14.6	NA	6.6E-06	9.7E-05	40.0%	1.5E-05	–	–	3.0E-06	4.3E-05	40.0%	2.3E-05	–	–
Benzo(b)fluoranthene	2.7	0.1	1.46	NA	9.4E-06	1.4E-05	5.7%	2.2E-05	–	–	4.2E-06	6.1E-06	5.7%	3.3E-05	–	–
Chrysene	2.6	0.1	0.0146	NA	9.1E-06	1.3E-07	0.1%	2.1E-05	–	–	4.0E-06	5.9E-08	0.1%	3.1E-05	–	–
Dibenzo(a,h)anthracene	0.26	0.1	14.6	NA	9.1E-07	1.3E-05	5.5%	2.1E-06	–	–	4.0E-07	5.9E-06	5.5%	3.1E-06	–	–
Fluoranthene	3.5	0.1	NA	0.02	1.2E-05	–	–	2.8E-05	1.4E-03	0.2%	5.4E-06	–	–	4.2E-05	2.1E-03	0.2%
Fluorene	0.062	0.1	NA	0.02	2.2E-07	–	–	5.0E-07	2.5E-05	0.0%	9.6E-08	–	–	7.5E-07	3.7E-05	0.0%
Indeno(1,2,3-cd)pyrene	1	0.1	1.46	NA	3.5E-06	5.1E-06	2.1%	8.1E-06	–	–	1.6E-06	2.3E-06	2.1%	1.2E-05	–	–
Phenanthrene	1.9	0.1	NA	0.02	6.6E-06	–	–	1.5E-05	7.7E-04	0.1%	3.0E-06	–	–	2.3E-05	1.1E-03	0.1%
Pyrene	5.5	0.1	NA	0.015	1.9E-05	–	–	4.5E-05	3.0E-03	0.5%	8.5E-06	–	–	6.6E-05	4.4E-03	0.5%
4,4'-DDE	0.033	0.1	0.38	NA	1.2E-07	4.4E-08	0.0%	2.7E-07	–	–	5.1E-08	1.9E-08	0.0%	4.0E-07	–	–
Total PeCDD (2378-TCDD TEC)	0.00013	0.03	173,000	NA	1.4E-10	2.4E-05	9.7%	3.2E-10	–	–	6.1E-11	1.0E-05	9.7%	4.7E-10	–	–
Total HxCDD (2378-TCDD TEC)	0.00033	0.03	173,000	NA	3.5E-10	6.0E-05	24.7%	8.1E-10	–	–	1.5E-10	2.7E-05	24.7%	1.2E-09	–	–
Total HxCDF (2378-TCDD TEC)	0.0001	0.03	173,000	NA	1.0E-10	1.8E-05	7.5%	2.4E-10	–	–	4.7E-11	8.1E-06	7.5%	3.6E-10	–	–
Cadmium	1.2	0.01	NA	0.0000125	4.2E-07	–	–	9.8E-07	7.8E-02	12.9%	1.9E-07	–	–	1.5E-06	1.2E-01	12.9%
Copper	830.0	0.01	NA	0.024	2.9E-04	–	–	6.8E-04	2.8E-02	4.7%	1.3E-04	–	–	1.0E-03	4.2E-02	4.7%
Lead	339	0.01	NA	NA	1.2E-04	–	–	2.8E-04	–	–	5.3E-05	–	–	4.1E-04	–	–
Mercury	2.7	0.01	NA	0.0000045	9.4E-07	–	–	2.2E-06	4.9E-01	80.8%	4.2E-07	–	–	3.3E-06	7.3E-01	80.8%
Zinc	432	0.01	NA	0.075	1.5E-04	–	–	3.5E-04	4.7E-03	0.8%	6.7E-05	–	–	5.2E-04	7.0E-03	0.8%
					Total ILCR:	2.4E-04	100.0%	Total HI:	6.0E-01	100.0%	Total ILCR:	1.1E-04	100.0%	Total HI:	9.0E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 58
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Total HxCDD (2378-TCDD TEC)	0.0001	156,000	NA	8.7E-12	1.4E-06	93.3%	2.0E-11	–	–	5.0E-12	7.7E-07	93.3%	3.9E-11	–	–
Beryllium	0.26	4.3	0.005	2.3E-08	9.8E-08	6.7%	5.3E-08	1.1E-05	5.1%	1.3E-08	5.5E-08	6.7%	1.0E-07	2.0E-05	5.1%
Copper	38.4	NA	0.04	3.3E-06	–	–	7.8E-06	2.0E-04	94.9%	1.9E-06	–	–	1.5E-05	3.7E-04	94.9%
Lead	194	NA	NA	1.7E-05	–	–	3.9E-05	–	–	9.6E-06	–	–	7.5E-05	–	–
				Total ILCR	1.5E-06	100.0%	Total HI:	2.1E-04	100.0%	Total ILCR:	8.3E-07	100.0%	Total HI:	3.9E-04	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 59
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Total HxCDD (2378-TCDD TEC)	0.0001	0.03	173,000	NA	1.0E-10	1.8E-05	31.7%	2.4E-10	–	–	4.7E-11	8.1E-06	31.7%	3.6E-10	–	–
Beryllium	0.26	0.01	430	0.00005	9.1E-08	3.9E-05	68.3%	2.1E-07	4.2E-03	76.5%	4.0E-08	1.7E-05	68.3%	3.1E-07	6.3E-03	76.5%
Copper	38.4	0.01	NA	0.024	1.3E-05	–	–	3.1E-05	1.3E-03	23.5%	6.0E-06	–	–	4.6E-05	1.9E-03	23.5%
Lead	194	0.01	NA	NA	6.8E-05	–	–	1.6E-04	–	–	3.0E-05	–	–	2.3E-04	–	–
					Total ILCR:	5.7E-05	100.0%	Total HI:	5.5E-03	100.0%	Total ILCR:	2.5E-05	100.0%	Total HI:	8.2E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 60
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 7
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib HI
Benzo(a)pyrene	0.15	7.3	NA	1.3E-08	9.6E-08	6.9%	3.1E-08	--	--	7.4E-09	5.4E-08	6.9%	5.8E-08	--	--
Chrysene	0.47	0.0073	NA	4.1E-08	3.0E-10	0.0%	9.6E-08	--	--	2.3E-08	1.7E-10	0.0%	1.8E-07	--	--
Arsenic	9.8	1.5	0.0003	8.5E-07	1.3E-06	93.0%	2.0E-06	6.6E-03	100.0%	4.9E-07	7.3E-07	93.0%	3.8E-06	1.3E-02	100.0%
				Total ILCR:	1.4E-06	100.0%	Total HI:	6.6E-03	100.0%	Total ILCR:	7.8E-07	100.0%	Total HI:	1.3E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 61
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 7
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.15	0.1	14.6	NA	5.2E-07	7.6E-06	30.6%	1.2E-06	–	–	2.3E-07	3.4E-06	30.6%	1.8E-06	–	–
Chrysene	0.47	0.1	0.0146	NA	1.6E-06	2.4E-08	0.1%	3.8E-06	–	–	7.3E-07	1.1E-08	0.1%	5.7E-06	–	–
Arsenic	9.8	0.032	1.58	0.00028	1.1E-05	1.7E-05	69.3%	2.6E-05	9.1E-02	100.0%	4.9E-06	7.7E-06	69.3%	3.8E-05	1.4E-01	100.0%
					Total ILCR:	2.5E-05	100.0%	Total HI:	9.1E-02	100.0%	Total ILCR:	1.1E-05	100.0%	Total HI:	1.4E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 62
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 11
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	NA	0.04	1.6E-07	–	–	3.7E-07	9.2E-06	0.1%	8.9E-08	–	–	6.9E-07	1.7E-05	0.1%
Anthracene	2.2	NA	0.3	1.9E-07	–	–	4.5E-07	1.5E-06	0.0%	1.1E-07	–	–	8.5E-07	2.8E-06	0.0%
Benzo(a)anthracene	3.7	0.73	NA	3.2E-07	2.4E-07	1.1%	7.5E-07	–	–	1.8E-07	1.3E-07	1.1%	1.4E-06	–	–
Benzo(a)pyrene	23	7.3	NA	2.0E-06	1.5E-05	67.8%	4.7E-06	–	–	1.1E-06	8.3E-06	67.8%	8.9E-06	–	–
Benzo(b)fluoranthene	24	0.73	NA	2.1E-06	1.5E-06	7.1%	4.9E-06	–	–	1.2E-06	8.7E-07	7.1%	9.2E-06	–	–
Benzo(k)fluoranthene	21	0.073	NA	1.8E-06	1.3E-07	0.6%	4.3E-06	–	–	1.0E-06	7.6E-08	0.6%	8.1E-06	–	–
Chrysene	10	0.0073	NA	8.7E-07	6.4E-09	0.0%	2.0E-06	–	–	5.0E-07	3.6E-09	0.0%	3.9E-06	–	–
Dibenzo(a,h)anthracene	4.2	7.3	NA	3.7E-07	2.7E-06	12.4%	8.5E-07	–	–	2.1E-07	1.5E-06	12.4%	1.6E-06	–	–
Fluoranthene	0.66	NA	0.04	5.8E-08	–	–	1.3E-07	3.4E-06	0.0%	3.3E-08	–	–	2.5E-07	6.4E-06	0.0%
Indeno(1,2,3-cd)pyrene	10	0.73	NA	8.7E-07	6.4E-07	2.9%	2.0E-06	–	–	5.0E-07	3.6E-07	2.9%	3.9E-06	–	–
Pyrene	6	NA	0.03	5.2E-07	–	–	1.2E-06	4.1E-05	0.5%	3.0E-07	–	–	2.3E-06	7.7E-05	0.5%
Arsenic	13.2	1.5	0.0003	1.2E-06	1.7E-06	8.0%	2.7E-06	9.0E-03	99.4%	6.5E-07	9.8E-07	8.0%	5.1E-06	1.7E-02	99.4%
Lead	194	NA	NA	1.7E-05	–	–	3.9E-05	–	–	9.6E-06	–	–	7.5E-05	–	–
				Total ILCR:	2.2E-05	100.0%	Total HI:	9.0E-03	100.0%	Total ILCR:	1.2E-05	100.0%	Total HI:	1.7E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 63
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 11
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	0.1	NA	0.02	6.3E-06	–	–	1.5E-05	7.3E-04	0.6%	2.8E-06	–	–	2.2E-05	1.1E-03	0.6%
Anthracene	2.2	0.1	NA	0.6	7.7E-06	–	–	1.8E-05	3.0E-05	0.0%	3.4E-06	–	–	2.7E-05	4.4E-05	0.0%
Benzo(a)anthracene	3.7	0.1	1.46	NA	1.3E-05	1.9E-05	1.2%	3.0E-05	–	–	5.8E-06	8.4E-06	1.2%	4.5E-05	–	–
Benzo(a)pyrene	23	0.1	14.6	NA	8.0E-05	1.2E-03	72.7%	1.9E-04	–	–	3.6E-05	5.2E-04	72.7%	2.8E-04	–	–
Benzo(b)fluoranthene	24	0.1	1.46	NA	8.4E-05	1.2E-04	7.6%	2.0E-04	–	–	3.7E-05	5.4E-05	7.6%	2.9E-04	–	–
Benzo(k)fluoranthene	21	0.1	0.146	NA	7.3E-05	1.1E-05	0.7%	1.7E-04	–	–	3.3E-05	4.8E-06	0.7%	2.5E-04	–	–
Chrysene	10	0.1	0.0146	NA	3.5E-05	5.1E-07	0.0%	8.1E-05	–	–	1.6E-05	2.3E-07	0.0%	1.2E-04	–	–
Dibenzo(a,h)anthracene	4.2	0.1	14.6	NA	1.5E-05	2.1E-04	13.3%	3.4E-05	–	–	6.5E-06	9.5E-05	13.3%	5.1E-05	–	–
Fluoranthene	0.66	0.1	NA	0.02	2.3E-06	–	–	5.4E-06	2.7E-04	0.2%	1.0E-06	–	–	8.0E-06	4.0E-04	0.2%
Indeno(1,2,3-cd)pyrene	10	0.1	1.46	NA	3.5E-05	5.1E-05	3.2%	8.1E-05	–	–	1.6E-05	2.3E-05	3.2%	1.2E-04	–	–
Pyrene	6	0.1	NA	0.015	2.1E-05	–	–	4.9E-05	3.3E-03	2.6%	9.3E-06	–	–	7.3E-05	4.8E-03	2.6%
Arsenic	13.2	0.032	1.58	0.00028	1.5E-05	2.3E-05	1.4%	3.4E-05	1.2E-01	96.6%	6.6E-06	1.0E-05	1.4%	5.1E-05	1.8E-01	96.6%
Lead	194	0.01	NA	NA	6.8E-05	–	–	1.6E-04	–	–	3.0E-05	–	–	2.3E-04	–	–
					Total ILCR:	1.6E-03	100.0%	Total HI:	1.3E-01	100.0%	Total ILCR:	7.2E-04	100.0%	Total HI:	1.9E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 64
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.39	7.3	NA	3.4E-08	2.5E-07	8.1%	7.9E-08	–	–	1.9E-08	1.4E-07	8.1%	1.5E-07	–	–
4,4'-DDD	12	0.24	NA	1.0E-06	2.5E-07	8.2%	2.4E-06	–	–	5.9E-07	1.4E-07	8.2%	4.6E-06	–	–
4,4'-DDE	34	0.34	NA	3.0E-06	1.0E-06	33.1%	6.9E-06	–	–	1.7E-06	5.7E-07	33.1%	1.3E-05	–	–
4,4'-DDT	52	0.34	0.0005	4.5E-06	1.5E-06	50.6%	1.1E-05	2.1E-02	93.6%	2.6E-06	8.8E-07	50.6%	2.0E-05	4.0E-02	93.6%
Cadmium	1.6	NA	0.0005	1.4E-07	–	–	3.3E-07	6.5E-04	2.9%	7.9E-08	–	–	6.2E-07	1.2E-03	2.9%
Copper	74.7	NA	0.04	6.5E-06	–	–	1.5E-05	3.8E-04	1.7%	3.7E-06	–	–	2.9E-05	7.2E-04	1.7%
Lead	121	NA	NA	1.1E-05	–	–	2.5E-05	–	–	6.0E-06	–	–	4.7E-05	–	–
Mercury	0.42	NA	0.0003	3.7E-08	–	–	8.5E-08	2.8E-04	1.3%	2.1E-08	–	–	1.6E-07	5.4E-04	1.3%
Zinc	189	NA	0.3	1.6E-05	–	–	3.8E-05	1.3E-04	0.6%	9.4E-06	–	–	7.3E-05	2.4E-04	0.6%
				Total ILCR:	3.0E-06	100.0%	Total HI:	2.3E-02	100.0%	Total ILCR:	1.7E-06	100.0%	Total HI:	4.3E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 65
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.39	0.1	14.6	NA	1.4E-06	2.0E-05	13.7%	3.2E-06	--	--	6.1E-07	8.9E-06	13.7%	4.7E-06	--	--
4,4'-DDD	12	0.1	0.27	NA	4.2E-05	1.1E-05	7.8%	9.8E-05	--	--	1.9E-05	5.0E-06	7.8%	1.5E-04	--	--
4,4'-DDE	34	0.1	0.38	NA	1.2E-04	4.5E-05	31.0%	2.8E-04	--	--	5.3E-05	2.0E-05	31.0%	4.1E-04	--	--
4,4'-DDT	52	0.1	0.38	0.00045	1.8E-04	6.9E-05	47.5%	4.2E-04	9.4E-01	83.6%	8.1E-05	3.1E-05	47.5%	6.3E-04	1.4E+00	83.6%
Cadmium	1.6	0.01	NA	0.0000125	5.6E-07	--	--	1.3E-06	1.0E-01	9.3%	2.5E-07	--	--	1.9E-06	1.5E-01	9.3%
Copper	74.7	0.01	NA	0.024	2.6E-05	--	--	6.1E-05	2.5E-03	0.2%	1.2E-05	--	--	9.0E-05	3.8E-03	0.2%
Lead	121	0.01	NA	NA	4.2E-05	--	--	9.9E-05	--	--	1.9E-05	--	--	1.5E-04	--	--
Mercury	0.42	0.01	NA	0.0000045	1.5E-07	--	--	3.4E-07	7.6E-02	6.8%	6.5E-08	--	--	5.1E-07	1.1E-01	6.8%
Zinc	189	0.01	NA	0.075	6.6E-05	--	--	1.5E-04	2.1E-03	0.2%	2.9E-05	--	--	2.3E-04	3.0E-03	0.2%
					Total ILCR:	1.5E-04	100.0%	Total HI:	1.1E+00	100.0%	Total ILCR:	6.5E-05	100.0%	Total HI:	1.7E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 66
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.19	4.3	0.005	1.7E-08	7.1E-08	100.0%	3.9E-08	7.7E-06	1.1%	9.4E-09	4.0E-08	100.0%	7.3E-08	1.5E-05	1.1%
Copper	66.6	NA	0.04	5.8E-06	–	–	1.4E-05	3.4E-04	48.1%	3.3E-06	–	–	2.6E-05	6.4E-04	48.1%
Nickel	35.2	NA	0.02	3.1E-06	–	–	7.2E-06	3.6E-04	50.8%	1.7E-06	–	–	1.4E-05	6.8E-04	50.8%
				Total ILCR:	7.1E-08	100.0%	Total HI:	7.0E-04	100.0%	Total ILCR:	4.0E-08	100.0%	Total HI:	1.3E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 67
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d) (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.19	0.01	430	0.00005	6.6E-08	2.9E-05	100.0%	1.5E-07	3.1E-03	8.0%	3.0E-08	1.3E-05	100.0%	2.3E-07	4.6E-03	8.0%
Copper	66.6	0.01	NA	0.024	2.3E-05	--	--	5.4E-05	2.3E-03	5.8%	1.0E-05	--	--	8.1E-05	3.4E-03	5.8%
Nickel	35.2	0.01	NA	0.00086	1.2E-05	--	--	2.9E-05	3.3E-02	86.2%	5.5E-06	--	--	4.3E-05	4.9E-02	86.2%
					Total ILCR:	2.9E-05	100.0%	Total HI:	3.9E-02	100.0%	Total ILCR:	1.3E-05	100.0%	Total HI:	5.7E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 68
RECREATIONAL USERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN AOC D
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	100	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	0.5	0.5	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

				Adult Recreational User						Adolescent Recreational User					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	NA	0.04	1.6E-07	--	--	3.7E-07	9.2E-06	0.1%	8.9E-08	--	--	6.9E-07	1.7E-05	0.1%
Anthracene	2.2	NA	0.3	1.9E-07	--	--	4.5E-07	1.5E-06	0.0%	1.1E-07	--	--	8.5E-07	2.8E-06	0.0%
Benzo(a)anthracene	3.7	0.73	NA	3.2E-07	2.4E-07	0.8%	7.5E-07	--	--	1.8E-07	1.3E-07	0.8%	1.4E-06	--	--
Benzo(a)pyrene	23	7.3	NA	2.0E-06	1.5E-05	50.0%	4.7E-06	--	--	1.1E-06	8.3E-06	50.0%	8.9E-06	--	--
Benzo(b)fluoranthene	24	0.73	NA	2.1E-06	1.5E-06	5.2%	4.9E-06	--	--	1.2E-06	8.7E-07	5.2%	9.2E-06	--	--
Benzo(k)fluoranthene	21	0.073	NA	1.8E-06	1.3E-07	0.5%	4.3E-06	--	--	1.0E-06	7.6E-08	0.5%	8.1E-06	--	--
Chrysene	10	0.0073	NA	8.7E-07	6.4E-09	0.0%	2.0E-06	--	--	5.0E-07	3.6E-09	0.0%	3.9E-06	--	--
Dibenzo(a,h)anthracene	4.2	7.3	NA	3.7E-07	2.7E-06	9.1%	8.5E-07	--	--	2.1E-07	1.5E-06	9.1%	1.6E-06	--	--
Fluoranthene	3.5	NA	0.04	3.1E-07	--	--	7.1E-07	1.8E-05	0.1%	1.7E-07	--	--	1.3E-06	3.4E-05	0.1%
Fluorene	0.062	NA	0.04	5.4E-09	--	--	1.3E-08	3.2E-07	0.0%	3.1E-09	--	--	2.4E-08	6.0E-07	0.0%
Indeno(1,2,3-cd)pyrene	10	0.73	NA	8.7E-07	6.4E-07	2.2%	2.0E-06	--	--	5.0E-07	3.6E-07	2.2%	3.9E-06		
Phenanthrene	1.9	NA	0.04	1.7E-07	--	--	3.9E-07	9.7E-06	0.1%	9.4E-08	--	--	7.3E-07	1.8E-05	0.1%
Pyrene	6	NA	0.03	5.2E-07	--	--	1.2E-06	4.1E-05	0.3%	3.0E-07	--	--	2.3E-06	7.7E-05	0.3%
4,4'-DDE	0.033	0.34	NA	2.9E-09	9.8E-10	0.0%	6.7E-09	--	--	1.6E-09	5.6E-10	0.0%	1.3E-08	--	--
Total PeCDD (2378-TCDD TEC)	0.00013	156,000	NA	1.1E-11	1.8E-06	6.0%	2.6E-11	--	--	6.4E-12	1.0E-06	6.0%	5.0E-11	--	--
Total HxCDD (2378-TCDD TEC)	0.00033	156,000	NA	2.9E-11	4.5E-06	15.3%	6.7E-11	--	--	1.6E-11	2.5E-06	15.3%	1.3E-10	--	--
Total HxCDF (2378-TCDD TEC)	0.0001	156,000	NA	8.7E-12	1.4E-06	4.6%	2.0E-11	--	--	5.0E-12	7.7E-07	4.6%	3.9E-11	--	--
Arsenic	13.2	1.5	0.0003	1.2E-06	1.7E-06	5.9%	2.7E-06	9.0E-03	56.4%	6.5E-07	9.8E-07	5.9%	5.1E-06	1.7E-02	56.4%
Beryllium	0.26	4.3	0.005	2.3E-08	9.8E-08	0.3%	5.3E-08	1.1E-05	0.1%	1.3E-08	5.5E-08	0.3%	1.0E-07	2.0E-05	0.1%
Cadmium	1.2	NA	0.0005	1.0E-07	--	--	2.4E-07	4.9E-04	3.1%	5.9E-08	--	--	4.6E-07	9.2E-04	3.1%
Copper	830	NA	0.04	7.2E-05	--	--	1.7E-04	4.2E-03	26.6%	4.1E-05	--	--	3.2E-04	8.0E-03	26.6%
Lead	339	NA	NA	3.0E-05	--	--	6.9E-05	--	--	1.7E-05	--	--	1.3E-04	--	--
Mercury	2.7	NA	0.0003	2.4E-07	--	--	5.5E-07	1.8E-03	11.5%	1.3E-07	--	--	1.0E-06	3.5E-03	11.5%
Zinc	432	NA	0.3	3.8E-05	--	--	8.8E-05	2.9E-04	1.8%	2.1E-05	--	--	1.7E-04	5.5E-04	1.8%
				Total ILCR:	2.9E-05	100.0%	Total HI:	1.6E-02	100.0%	Total ILCR:	1.7E-05	100.0%	Total HI:	3.0E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 69
RECREATIONAL USERS - CURRENT SCENARIO
DERMAL CONTACT WITH SEDIMENT IN AOC D
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult Recreational User	Adolescent Recreational User	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	15700	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	30	9	
BW	Body weight (kg)	70	37	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	10950	3285	

					Adult Recreational User						Adolescent Recreational User					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	0.1	NA	0.2	6.3E-06	–	–	1.5E-05	7.3E-05	0.0%	2.8E-06	–	–	2.2E-05	1.1E-04	0.0%
Anthracene	2.2	0.1	NA	0.6	7.7E-06	–	–	1.8E-05	3.0E-05	0.0%	3.4E-06	–	–	2.7E-05	4.4E-05	0.0%
Benzo(a)anthracene	3.7	0.1	1.46	NA	1.3E-05	1.9E-05	1.1%	3.0E-05	–	–	5.8E-06	8.4E-06	1.1%	4.5E-05	–	–
Benzo(a)pyrene	23	0.1	14.6	NA	8.0E-05	1.2E-03	66.9%	1.9E-04	–	–	3.6E-05	5.2E-04	66.9%	2.8E-04	–	–
Benzo(b)fluoranthene	24	0.1	1.46	NA	8.4E-05	1.2E-04	7.0%	2.0E-04	–	–	3.7E-05	5.4E-05	7.0%	2.9E-04	–	–
Benzo(k)fluoranthene	21	0.1	0.146	NA	7.3E-05	1.1E-05	0.6%	1.7E-04	–	–	3.3E-05	4.8E-06	0.6%	2.5E-04	–	–
Chrysene	10	0.1	0.0146	NA	3.5E-05	5.1E-07	0.0%	8.1E-05	–	–	1.6E-05	2.3E-07	0.0%	1.2E-04	–	–
Dibenzo(a,h)anthracene	4.2	0.1	14.6	NA	1.5E-05	2.1E-04	12.2%	3.4E-05	–	–	6.5E-06	9.5E-05	12.2%	5.1E-05	–	–
Fluoranthene	3.5	0.1	NA	0.02	1.2E-05	–	–	2.8E-05	1.4E-03	0.2%	5.4E-06	–	–	4.2E-05	2.1E-03	0.2%
Fluorene	0.062	0.1	NA	0.02	2.2E-07	–	–	5.0E-07	2.5E-05	0.0%	9.6E-08	–	–	7.5E-07	3.7E-05	0.0%
Indeno(1,2,3-cd)pyrene	10	0.1	1.46	NA	3.5E-05	5.1E-05	2.9%	8.1E-05	–	–	1.6E-05	2.3E-05	2.9%	1.2E-04	–	–
Phenanthrene	1.9	0.1	NA	0.02	6.6E-06	–	–	1.5E-05	7.7E-04	0.1%	3.0E-06	–	–	2.3E-05	1.1E-03	0.1%
Pyrene	6	0.1	NA	0.015	2.1E-05	–	–	4.9E-05	3.3E-03	0.4%	9.3E-06	–	–	7.3E-05	4.8E-03	0.4%
4,4'-DDE	0.033	0.1	0.38	NA	1.2E-07	4.4E-08	0.0%	2.7E-07	–	–	5.1E-08	1.9E-08	0.0%	4.0E-07	–	–
Total PeCDD (2378-TCDD TEC)	0.00013	0.03	173,000	NA	1.4E-10	2.4E-05	1.3%	3.2E-10	–	–	6.1E-11	1.0E-05	1.3%	4.7E-10	–	–
Total HxCDD (2378-TCDD TEC)	0.00033	0.03	173,000	NA	3.5E-10	6.0E-05	3.4%	8.1E-10	–	–	1.5E-10	2.7E-05	3.4%	1.2E-09	–	–
Total HxCDF (2378-TCDD TEC)	0.0001	0.03	173,000	NA	1.0E-10	1.8E-05	1.0%	2.4E-10	–	–	4.7E-11	8.1E-06	1.0%	3.6E-10	–	–
Arsenic	13.2	0.032	1.58	0.00028	1.5E-05	2.3E-05	1.3%	3.4E-05	1.2E-01	16.8%	6.6E-06	1.0E-05	1.3%	5.1E-05	1.8E-01	16.8%
Beryllium	0.26	0.01	430	0.00005	9.1E-08	3.9E-05	2.2%	2.1E-07	4.2E-03	0.6%	4.0E-08	1.7E-05	2.2%	3.1E-07	6.3E-03	0.6%
Cadmium	1.2	0.01	NA	0.0000125	4.2E-07	–	–	9.8E-07	7.8E-02	10.7%	1.9E-07	–	–	1.5E-06	1.2E-01	10.7%
Copper	830	0.01	NA	0.024	2.9E-04	–	–	6.8E-04	2.8E-02	3.8%	1.3E-04	–	–	1.0E-03	4.2E-02	3.8%
Lead	339	0.01	NA	NA	1.2E-04	–	–	2.8E-04	–	–	5.3E-05	–	–	4.1E-04	–	–
Mercury	2.7	0.01	NA	0.0000045	9.4E-07	–	–	2.2E-06	4.9E-01	66.7%	4.2E-07	–	–	3.3E-06	7.3E-01	66.7%
Zinc	432	0.01	NA	0.075	1.5E-04	–	–	3.5E-04	4.7E-03	0.6%	6.7E-05	–	–	5.2E-04	7.0E-03	0.6%
					Total ILCR:	1.8E-03	100.0%	Total HI:	7.3E-01	100.0%	Total ILCR:	7.8E-04	100.0%	Total HI:	1.1E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 70
CONSTRUCTION WORKERS - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SUBSURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	480	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	1	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.34	4.3	0.005	2.3E-08	9.8E-08	100.0%	1.6E-06	3.2E-04	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 71
CONSTRUCTION WORKERS - FUTURE SCENARIO
DERMAL CONTACT WITH SUBSURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Construction Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.34	0.01	430	0.00005	1.9E-09	8.4E-07	100.0%	1.4E-07	2.7E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 72
CONSTRUCTION WORKERS - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM EXCAVATED SUBSURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.34	5.01E-10	8.4	NA	7.0E-13	5.9E-12	100.0%	4.9E-11	--	--
					Total ILCR:	1.2E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 73
CONSTRUCTION WORKERS - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SUBSURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	480	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	1	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	0.45	1.5	0.0003	3.0E-08	4.5E-08	100.0%	2.1E-06	7.0E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 74
CONSTRUCTION WORKERS - FUTURE SCENARIO
DERMAL CONTACT WITH SUBSURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Construction Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Arsenic	0.45	0.032	1.58	0.000285	8.3E-09	1.3E-08	100.0%	5.8E-07	2.0E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 75
CONSTRUCTION WORKERS - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM EXCAVATED SUBSURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	2.0	2.95E-09	15.1	NA	4.1E-12	6.2E-11	100.0%	2.9E-10	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 76
CONSTRUCTION WORKERS - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SUBSURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	480	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	1	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	0.68	1.5	0.0003	4.6E-08	6.8E-08	100.0%	3.2E-06	1.1E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 77
CONSTRUCTION WORKERS - FUTURE SCENARIO
DERMAL CONTACT WITH SUBSURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Construction Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Arsenic	0.68	0.032	1.58	0.00028	1.2E-08	2.0E-08	100.0%	8.7E-07	3.1E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 78
CONSTRUCTION WORKERS - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM EXCAVATED SUBSURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	0.68	1.00E-09	15.1	NA	1.4E-12	2.1E-11	100.0%	9.8E-11	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 79
CONSTRUCTION WORKERS - CURRENT SCENARIO
ACCIDENTAL INGESTION OF SUBSURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
IR	Ingestion Rate (mg/d)	480	
CF	Conversion factor (kg/mg)	1E-06	
FI	Fraction of soil ingested from site	1	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

				Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
4,4'-DDE	2.6	0.34	NA	1.7E-07	5.9E-08	8.0%	1.2E-05	--	--
4,4'-DDD	9.8	0.24	NA	6.6E-07	1.6E-07	21.3%	4.6E-05	--	--
4,4'-DDT	2.8	0.34	0.0005	1.9E-07	6.4E-08	8.6%	1.3E-05	2.6E-02	53.4%
Arsenic	1.4	1.5	0.0003	9.4E-08	1.4E-07	19.1%	6.6E-06	2.2E-02	44.5%
Beryllium	1.1	4.3	0.005	7.4E-08	3.2E-07	42.9%	5.2E-06	1.0E-03	2.1%
				Total ILCR:	7.4E-07	100.0%	Total HI:	4.9E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 80
CONSTRUCTION WORKERS - CURRENT SCENARIO
DERMAL CONTACT WITH SUBSURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Construction Worker	
DAD	Dermally absorbed dose (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
CF	Conversion factor (kg/mg)	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	
ABS	Absorption fraction	CS	
A	Skin surface area available for contact (cm2)	4100	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
4,4'-DDE	2.6	0.1	0.38	NA	1.5E-07	5.7E-08	1.9%	1.0E-05	--	--
4,4'-DDD	9.8	0.1	0.27	NA	5.6E-07	1.5E-07	5.0%	3.9E-05	--	--
4,4'-DDT	2.8	0.1	0.38	0.00045	1.6E-07	6.1E-08	2.0%	1.1E-05	2.5E-02	100.0%
Arsenic	1.4	0.032	1.58	0.000285	2.6E-08	4.1E-08	1.3%	1.8E-06	6.3E-03	100.0%
Beryllium	1.1	0.01	430	0.00005	6.3E-09	2.7E-06	89.7%	4.4E-07	8.8E-03	100.0%
					Total ILCR:	3.0E-06	100.0%	Total HI:	4.0E-02	300.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 81
CONSTRUCTION WORKERS - CURRENT SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM EXCAVATED SUBSURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Construction Worker	
CDI	Chronic daily intake (mg/kg/d)	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	
HQ	Hazard quotient	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	
RR	Respiration rate (m3/hr)	1.25	
ET	Exposure time (hrs/d)	8	
EF	Exposure Frequency (d/yr)	250	
ED	Exposure Duration (yrs)	1	
BW	Body weight (kg)	70	
ATc	Averaging time, carcinogens (d)	25550	
ATn	Averaging time, noncarcinogens (d)	365	

					Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
4,4'-DDE	22	3.24E-08	NA	NA	4.5E-11	--	--	3.2E-09	--	--
4,4'-DDD	18	2.65E-08	NA	NA	3.7E-11	--	--	2.6E-09	--	--
4,4'-DDT	14	2.06E-08	0.34	NA	2.9E-11	9.8E-12	6.3%	2.0E-09	--	--
Arsenic	4.7	6.92E-09	15.1	NA	9.7E-12	1.5E-10	93.7%	6.8E-10	--	--
Beryllium	0.55	8.10E-10	NA	8.4	1.1E-12	--	--	7.9E-11	9.4E-12	100.0%
					Total ILCR:	1.6E-10	100.0%	Total HI:	9.4E-12	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 82
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 1
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Copper	110.0	NA	0.04	1.5E-05	–	–	4.5E-05	1.1E-03	100.0%	3.6E-05	–	–	4.2E-04	1.0E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 83
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 1
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Copper	110	0.01	NA	0.024	3.1E-05	--	--	9.0E-05	3.7E-03	100.0%	1.4E-05	--	--	1.7E-04	7.0E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 84
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 2
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Anthracene	0.3	NA	0.3	4.2E-08	--	--	1.2E-07	4.1E-07	0.0%	9.8E-08	--	--	1.1E-06	3.8E-06	0.0%
Benzo(a)anthracene	2.2	0.73	NA	3.1E-07	2.2E-07	1.5%	9.0E-07	--	--	7.2E-07	5.2E-07	1.5%	8.4E-06	--	--
Benzo(a)pyrene	1.9	7.3	NA	2.7E-07	1.9E-06	12.9%	7.7E-07	--	--	6.2E-07	4.5E-06	12.9%	7.2E-06	--	--
Benzo(b)fluoranthene	2.7	0.73	NA	3.8E-07	2.8E-07	1.8%	1.1E-06	--	--	8.8E-07	6.4E-07	1.8%	1.0E-05	--	--
Chrysene	2.6	0.0073	NA	3.6E-07	2.6E-09	0.0%	1.1E-06	--	--	8.5E-07	6.2E-09	0.0%	9.9E-06	--	--
Dibenzo(a,h)anthracene	0.26	7.3	NA	3.6E-08	2.6E-07	1.8%	1.1E-07	--	--	8.5E-08	6.2E-07	1.8%	9.9E-07	--	--
Fluoranthene	3.5	NA	0.04	4.9E-07	--	--	1.4E-06	3.6E-05	0.3%	1.1E-06	--	--	1.3E-05	3.3E-04	0.3%
Fluorene	0.062	NA	0.04	8.7E-09	--	--	2.5E-08	6.3E-07	0.0%	2.0E-08	--	--	2.4E-07	5.9E-06	0.0%
Indeno(1,2,3-cd)pyrene	1	0.73	NA	1.4E-07	1.0E-07	0.7%	4.1E-07	--	--	3.3E-07	2.4E-07	0.7%	3.8E-06	--	--
Phenanthrene	1.9	NA	0.04	2.7E-07	--	--	7.7E-07	1.9E-05	0.1%	6.2E-07	--	--	7.2E-06	1.8E-04	0.1%
Pyrene	5.5	NA	0.03	7.7E-07	--	--	2.2E-06	7.5E-05	0.5%	1.8E-06	--	--	2.1E-05	7.0E-04	0.5%
4,4'-DDE	0.033	0.34	NA	4.6E-09	1.6E-09	0.0%	1.3E-08	--	--	1.1E-08	3.7E-09	0.0%	1.3E-07	--	--
Total PeCDD (2378-TCDD TEC)	0.00013	156,000	NA	1.8E-11	2.8E-06	18.9%	5.3E-11	--	--	4.2E-11	6.6E-06	18.9%	4.9E-10	--	--
Total HxCDD (2378-TCDD TEC)	0.00033	156,000	NA	4.6E-11	7.2E-06	47.9%	1.3E-10	--	--	1.1E-10	1.7E-05	47.9%	1.3E-09	--	--
Total HxCDF (2378-TCDD TEC)	0.0001	156,000	NA	1.4E-11	2.2E-06	14.5%	4.1E-11	--	--	3.3E-11	5.1E-06	14.5%	3.8E-10	--	--
Cadmium	1.2	NA	0.0005	1.7E-07	--	--	4.9E-07	9.8E-04	7.1%	3.9E-07	--	--	4.6E-06	9.1E-03	7.1%
Copper	830.0	NA	0.04	1.2E-04	--	--	3.4E-04	8.4E-03	61.2%	2.7E-04	--	--	3.2E-03	7.9E-02	61.2%
Lead	339	NA	NA	4.7E-05	--	--	1.4E-04	--	--	1.1E-04	--	--	1.3E-03	--	--
Mercury	2.7	NA	0.0003	3.8E-07	--	--	1.1E-06	3.7E-03	26.5%	8.8E-07	--	--	1.0E-05	3.4E-02	26.5%
Zinc	432	NA	0.3	6.0E-05	--	--	1.8E-04	5.9E-04	4.2%	1.4E-04	--	--	1.6E-03	5.5E-03	4.2%
				Total ILCR:	1.5E-05	100.0%	Total HI:	1.4E-02	100.0%	Total ILCR:	3.5E-05	100.0%	Total HI:	1.3E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 85
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU2
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Anthracene	0.3	0.1	NA	0.6	8.4E-07	–	–	2.4E-06	4.1E-06	0.0%	3.9E-07	–	–	4.6E-06	7.6E-06	0.0%
Benzo(a)anthracene	2.2	0.1	1.46	NA	6.1E-06	9.0E-06	4.6%	1.8E-05	–	–	2.9E-06	4.2E-06	4.6%	3.4E-05	–	–
Benzo(a)pyrene	1.9	0.1	14.6	NA	5.3E-06	7.7E-05	40.0%	1.5E-05	–	–	2.5E-06	3.6E-05	40.0%	2.9E-05	–	–
Benzo(b)fluoranthene	2.7	0.1	1.46	NA	7.5E-06	1.1E-05	5.7%	2.2E-05	–	–	3.5E-06	5.1E-06	5.7%	4.1E-05	–	–
Chrysene	2.6	0.1	0.0146	NA	7.3E-06	1.1E-07	0.1%	2.1E-05	–	–	3.4E-06	5.0E-08	0.1%	4.0E-05	–	–
Dibenzo(a,h)anthracene	0.26	0.1	14.6	NA	7.3E-07	1.1E-05	5.5%	2.1E-06	–	–	3.4E-07	5.0E-06	5.5%	4.0E-06	–	–
Fluoranthene	3.5	0.1	NA	0.02	9.8E-06	–	–	2.8E-05	1.4E-03	0.2%	4.6E-06	–	–	5.3E-05	2.7E-03	0.2%
Fluorene	0.062	0.1	NA	0.02	1.7E-07	–	–	5.0E-07	2.5E-05	0.0%	8.1E-08	–	–	9.4E-07	4.7E-05	0.0%
Indeno(1,2,3-cd)pyrene	1	0.1	1.46	NA	2.8E-06	4.1E-06	2.1%	8.1E-06	–	–	1.3E-06	1.9E-06	2.1%	1.5E-05	–	–
Phenanthrene	1.9	0.1	NA	0.02	5.3E-06	–	–	1.5E-05	7.7E-04	0.1%	2.5E-06	–	–	2.9E-05	1.4E-03	0.1%
Pyrene	5.5	0.1	NA	0.015	1.5E-05	–	–	4.5E-05	3.0E-03	0.5%	7.2E-06	–	–	8.4E-05	5.6E-03	0.5%
4,4'-DDE	0.033	0.1	0.38	NA	9.2E-08	3.5E-08	0.0%	2.7E-07	–	–	4.3E-08	1.6E-08	0.0%	5.0E-07	–	–
Total PeCDD (2378-TCDD TEC)	0.00013	0.03	173,000	NA	1.1E-10	1.9E-05	9.7%	3.2E-10	–	–	5.1E-11	8.8E-06	9.7%	5.9E-10	–	–
Total HxCDD (2378-TCDD TEC)	0.00033	0.03	173,000	NA	2.8E-10	4.8E-05	24.7%	8.1E-10	–	–	1.3E-10	2.2E-05	24.7%	1.5E-09	–	–
Total HxCDF (2378-TCDD TEC)	0.0001	0.03	173,000	NA	8.4E-11	1.4E-05	7.5%	2.4E-10	–	–	3.9E-11	6.8E-06	7.5%	4.6E-10	–	–
Cadmium	1.2	0.01	NA	0.0000125	3.3E-07	–	–	9.8E-07	7.8E-02	12.9%	1.6E-07	–	–	1.8E-06	1.5E-01	12.9%
Copper	830.0	0.01	NA	0.024	2.3E-04	–	–	6.8E-04	2.8E-02	4.7%	1.1E-04	–	–	1.3E-03	5.3E-02	4.7%
Lead	339	0.01	NA	NA	9.5E-05	–	–	2.8E-04	–	–	4.4E-05	–	–	5.2E-04	–	–
Mercury	2.7	0.01	NA	0.0000045	7.5E-07	–	–	2.2E-06	4.9E-01	80.8%	3.5E-07	–	–	4.1E-06	9.1E-01	80.8%
Zinc	432	0.01	NA	0.075	1.2E-04	–	–	3.5E-04	4.7E-03	0.8%	5.6E-05	–	–	6.6E-04	8.8E-03	0.8%
					Total ILCR:	1.9E-04	100.0%	Total HI:	6.0E-01	100.0%	Total ILCR:	9.0E-05	100.0%	Total HI:	1.1E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 86
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Total HxCDD (2378-TCDD TEC)	0.0001	156,000	NA	1.4E-11	2.2E-06	93.3%	4.1E-11	--	--	3.3E-11	5.1E-06	93.3%	3.8E-10	--	--
Beryllium	0.26	4.3	0.005	3.6E-08	1.6E-07	6.7%	1.1E-07	2.1E-05	5.1%	8.5E-08	3.6E-07	6.7%	9.9E-07	2.0E-04	5.1%
Copper	38.4	NA	0.04	5.4E-06	--	--	1.6E-05	3.9E-04	94.9%	1.3E-05	--	--	1.5E-04	3.6E-03	94.9%
Lead	194	NA	NA	2.7E-05	--	--	7.9E-05	--	--	6.3E-05	--	--	7.4E-04	--	--
				Total ILCR:	2.3E-06	100.0%	Total HI:	4.1E-04	100.0%	Total ILCR:	5.4E-06	100.0%	Total HI:	3.8E-03	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 87
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Total HxCDD (2378-TCDD TEC)	0.0001	0.03	173,000	NA	8.4E-11	1.4E-05	31.7%	2.4E-10	--	--	3.9E-11	6.8E-06	31.7%	4.6E-10	--	--
Beryllium	0.26	0.01	430	0.00005	7.3E-08	3.1E-05	68.3%	2.1E-07	4.2E-03	76.5%	3.4E-08	1.5E-05	68.3%	4.0E-07	7.9E-03	76.5%
Copper	38.4	0.01	NA	0.024	1.1E-05	--	--	3.1E-05	1.3E-03	23.5%	5.0E-06	--	--	5.9E-05	2.4E-03	23.5%
Lead	194	0.01	NA	NA	5.4E-05	--	--	1.6E-04	--	--	2.5E-05	--	--	3.0E-04	--	--
					Total ILCR:	4.6E-05	100.0%	Total HI:	5.5E-03	100.0%	Total ILCR:	2.1E-05	100.0%	Total HI:	1.0E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 88
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 7
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.15	7.3	NA	2.1E-08	1.5E-07	6.9%	6.1E-08	--	--	4.9E-08	3.6E-07	6.9%	5.7E-07	--	--
Chrysene	0.47	0.0073	NA	6.6E-08	4.8E-10	0.0%	1.9E-07	--	--	1.5E-07	1.1E-09	0.0%	1.8E-06	--	--
Arsenic	9.8	1.5	0.0003	1.4E-06	2.1E-06	93.0%	4.0E-06	1.3E-02	100.0%	3.2E-06	4.8E-06	93.0%	3.7E-05	1.2E-01	100.0%
				Total ILCR:	2.2E-06	100.0%	Total HI:	1.3E-02	100.0%	Total ILCR:	5.1E-06	100.0%	Total HI:	1.2E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 89
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 7
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.15	0.1	14.6	NA	4.2E-07	6.1E-06	30.6%	1.2E-06	–	–	2.0E-07	2.9E-06	30.6%	2.3E-06	–	–
Chrysene	0.47	0.1	0.0146	NA	1.3E-06	1.9E-08	0.1%	3.8E-06	–	–	6.1E-07	9.0E-09	0.1%	7.2E-06	–	–
Arsenic	9.8	0.032	1.58	0.00028	8.8E-06	1.4E-05	69.3%	2.6E-05	9.1E-02	100.0%	4.1E-06	6.5E-06	69.3%	4.8E-05	1.7E-01	100.0%
					Total ILCR:	2.0E-05	100.0%	Total HI:	9.1E-02	100.0%	Total ILCR:	9.3E-06	100.0%	Total HI:	1.7E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 90
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 11
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	NA	0.04	2.5E-07	--	--	7.3E-07	1.8E-05	0.1%	5.9E-07	--	--	6.8E-06	1.7E-04	0.1%
Anthracene	2.2	NA	0.3	3.1E-07	--	--	9.0E-07	3.0E-06	0.0%	7.2E-07	--	--	8.4E-06	2.8E-05	0.0%
Benzo(a)anthracene	3.7	0.73	NA	5.2E-07	3.8E-07	1.1%	1.5E-06	--	--	1.2E-06	8.8E-07	1.1%	1.4E-05	--	--
Benzo(a)pyrene	23	7.3	NA	3.2E-06	2.3E-05	67.8%	9.4E-06	--	--	7.5E-06	5.5E-05	67.8%	8.7E-05	--	--
Benzo(b)fluoranthene	24	0.73	NA	3.3E-06	2.4E-06	7.1%	9.8E-06	--	--	7.8E-06	5.7E-06	7.1%	9.1E-05	--	--
Benzo(k)fluoranthene	21	0.073	NA	2.9E-06	2.1E-07	0.6%	8.5E-06	--	--	6.8E-06	5.0E-07	0.6%	8.0E-05	--	--
Chrysene	10	0.0073	NA	1.4E-06	1.0E-08	0.0%	4.1E-06	--	--	3.3E-06	2.4E-08	0.0%	3.8E-05	--	--
Dibenzo(a,h)anthracene	4.2	7.3	NA	5.9E-07	4.3E-06	12.4%	1.7E-06	--	--	1.4E-06	1.0E-05	12.4%	1.6E-05	--	--
Fluoranthene	0.66	NA	0.04	9.2E-08	--	--	2.7E-07	6.7E-06	0.0%	2.1E-07	--	--	2.5E-06	6.3E-05	0.0%
Indeno(1,2,3-cd)pyrene	10	0.73	NA	1.4E-06	1.0E-06	2.9%	4.1E-06	--	--	3.3E-06	2.4E-06	2.9%	3.8E-05	--	--
Pyrene	6	NA	0.03	8.4E-07	--	--	2.4E-06	8.1E-05	0.5%	2.0E-06	--	--	2.3E-05	7.6E-04	0.5%
Arsenic	13.2	1.5	0.0003	1.8E-06	2.8E-06	8.0%	5.4E-06	1.8E-02	99.4%	4.3E-06	6.4E-06	8.0%	5.0E-05	1.7E-01	99.4%
Lead	194	NA	NA	2.7E-05	--	--	7.9E-05	--	--	6.3E-05	--	--	7.4E-04	--	--
				Total ILCR:	3.5E-05	100.0%	Total HI:	1.8E-02	100.0%	Total ILCR:	8.1E-05	100.0%	Total HI:	1.7E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 91
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 11
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	0.1	NA	0.02	5.0E-06	--	--	1.5E-05	7.3E-04	0.6%	2.4E-06	--	--	2.7E-05	1.4E-03	0.6%
Anthracene	2.2	0.1	NA	0.6	6.1E-06	--	--	1.8E-05	3.0E-05	0.0%	2.9E-06	--	--	3.4E-05	5.6E-05	0.0%
Benzo(a)anthracene	3.7	0.1	1.46	NA	1.0E-05	1.5E-05	1.2%	3.0E-05	--	--	4.8E-06	7.1E-06	1.2%	5.6E-05	--	--
Benzo(a)pyrene	23	0.1	14.6	NA	6.4E-05	9.4E-04	72.7%	1.9E-04	--	--	3.0E-05	4.4E-04	72.7%	3.5E-04	--	--
Benzo(b)fluoranthene	24	0.1	1.46	NA	6.7E-05	9.8E-05	7.6%	2.0E-04	--	--	3.1E-05	4.6E-05	7.6%	3.7E-04	--	--
Benzo(k)fluoranthene	21	0.1	0.146	NA	5.9E-05	8.6E-06	0.7%	1.7E-04	--	--	2.7E-05	4.0E-06	0.7%	3.2E-04	--	--
Chrysene	10	0.1	0.0146	NA	2.8E-05	4.1E-07	0.0%	8.1E-05	--	--	1.3E-05	1.9E-07	0.0%	1.5E-04	--	--
Dibenzo(a,h)anthracene	4.2	0.1	14.6	NA	1.2E-05	1.7E-04	13.3%	3.4E-05	--	--	5.5E-06	8.0E-05	13.3%	6.4E-05	--	--
Fluoranthene	0.66	0.1	NA	0.02	1.8E-06	--	--	5.4E-06	2.7E-04	0.2%	8.6E-07	--	--	1.0E-05	5.0E-04	0.2%
Indeno(1,2,3-cd)pyrene	10	0.1	1.46	NA	2.8E-05	4.1E-05	3.2%	8.1E-05	--	--	1.3E-05	1.9E-05	3.2%	1.5E-04	--	--
Pyrene	6	0.1	NA	0.015	1.7E-05	--	--	4.9E-05	3.3E-03	2.6%	7.8E-06	--	--	9.1E-05	6.1E-03	2.6%
Arsenic	13.2	0.032	1.58	0.00028	1.2E-05	1.9E-05	1.4%	3.4E-05	1.2E-01	96.6%	5.5E-06	8.7E-06	1.4%	6.4E-05	2.3E-01	96.6%
Lead	194	0.01	NA	NA	5.4E-05	--	--	1.6E-04	--	--	2.5E-05	--	--	3.0E-04	--	--
					Total ILCR:	1.3E-03	100.0%	Total HI:	1.3E-01	100.0%	Total ILCR:	6.0E-04	100.0%	Total HI:	2.4E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 92
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.44	7.3	NA	2.1E-07	1.5E-06	21.4%	6.0E-07	–	–	4.8E-07	3.5E-06	21.4%	5.6E-06	–	–
4,4'-DDE	7.6	0.34	NA	3.6E-06	1.2E-06	17.2%	1.0E-05	–	–	8.3E-06	2.8E-06	17.2%	9.7E-05	–	–
4,4'-DDT	6	0.34	0.0005	2.8E-06	9.6E-07	13.6%	8.2E-06	1.6E-02	42.9%	6.6E-06	2.2E-06	13.6%	7.7E-05	1.5E-01	42.9%
Arsenic	4.8	1.5	0.0003	2.3E-06	3.4E-06	47.9%	6.6E-06	2.2E-02	57.1%	5.3E-06	7.9E-06	47.9%	6.1E-05	2.0E-01	57.1%
Lead	413	NA	NA	1.9E-04	–	0.0%	5.7E-04	–	–	4.5E-04	–	0.0%	5.3E-03	–	–
				Total ILCR:	7.1E-06	100.0%	Total HI:	3.8E-02	100.0%	Total ILCR:	1.6E-05	100.0%	Total HI:	3.6E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 93
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.44	0.1	14.6	NA	1.1E-06	1.6E-05	45.8%	3.2E-06	--	--	4.8E-07	7.1E-06	45.8%	5.6E-06	--	--
4,4'-DDE	7.6	0.1	0.38	NA	1.9E-05	7.2E-06	20.6%	5.5E-05	--	--	8.4E-06	3.2E-06	20.6%	9.7E-05	--	--
4,4'-DDT	6	0.1	0.38	0.00045	1.5E-05	5.7E-06	16.3%	4.4E-05	9.7E-02	71.2%	6.6E-06	2.5E-06	16.3%	7.7E-05	1.7E-01	71.2%
Arsenic	4.8	0.032	1.58	0.000285	3.8E-06	6.0E-06	17.3%	1.1E-05	3.9E-02	28.8%	1.7E-06	2.7E-06	17.3%	2.0E-05	6.9E-02	28.8%
Lead	413	0.01	NA	NA	1.0E-04	--	--	3.0E-04	--	--	4.5E-05	--	--	5.3E-04	--	--
					Total ILCR:	3.5E-05	100.0%	Total HI:	1.4E-01	100.0%	Total ILCR:	1.5E-05	100.0%	Total HI:	2.4E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 94
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.44	6.48E-10	6.1	NA	6.1E-11	3.7E-10	3.5%	1.8E-10	–	–	7.1E-11	4.3E-10	3.5%	8.3E-10	–	–
4,4'-DDE	7.6	1.12E-08	NA	NA	1.0E-09	–	–	3.1E-09	–	–	1.2E-09	–	–	3.1E-09	–	–
4,4'-DDT	6	8.84E-09	0.34	NA	8.3E-10	2.8E-10	2.6%	2.4E-09	–	–	9.6E-10	3.3E-10	2.6%	2.4E-09	–	–
Arsenic	4.8	7.07E-09	15.1	NA	6.6E-10	1.0E-08	93.9%	1.9E-09	–	–	7.7E-10	1.2E-08	93.9%	1.9E-09	–	–
Lead	413	6.08E-07	NA	NA	5.7E-08	–	–	1.7E-07	–	–	6.6E-08	–	–	1.7E-07	–	–
					Total ILCR:	1.1E-08	100.0%	Total HI:	–	–	Total ILCR:	1.2E-08	100.0%	Total HI:	–	–

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 95
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.39	7.3	NA	5.4E-08	4.0E-07	8.1%	1.6E-07	--	--	1.3E-07	9.3E-07	8.1%	1.5E-06	--	--
4,4'-DDD	12	0.24	NA	1.7E-06	4.0E-07	8.2%	4.9E-06	--	--	3.9E-06	9.4E-07	8.2%	4.6E-05	--	--
4,4'-DDE	34	0.34	NA	4.7E-06	1.6E-06	33.1%	1.4E-05	--	--	1.1E-05	3.8E-06	33.1%	1.3E-04	--	--
4,4'-DDT	52	0.34	0.0005	7.3E-06	2.5E-06	50.6%	2.1E-05	4.2E-02	93.6%	1.7E-05	5.8E-06	50.6%	2.0E-04	4.0E-01	93.6%
Cadmium	1.6	NA	0.0005	2.2E-07	--	--	6.5E-07	1.3E-03	2.9%	5.2E-07	--	--	6.1E-06	1.2E-02	2.9%
Copper	74.7	NA	0.04	1.0E-05	--	--	3.0E-05	7.6E-04	1.7%	2.4E-05	--	--	2.8E-04	7.1E-03	1.7%
Lead	121	NA	NA	1.7E-05	--	--	4.9E-05	--	--	3.9E-05	--	--	4.6E-04	--	--
Mercury	0.42	NA	0.0003	5.9E-08	--	--	1.7E-07	5.7E-04	1.3%	1.4E-07	--	--	1.6E-06	5.3E-03	1.3%
Zinc	189	NA	0.3	2.6E-05	--	--	7.7E-05	2.6E-04	0.6%	6.2E-05	--	--	7.2E-04	2.4E-03	0.6%
				Total ILCR:	4.9E-06	100.0%	Total HI:	4.5E-02	100.0%	Total ILCR:	1.1E-05	100.0%	Total HI:	4.2E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 96
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 13
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.39	0.1	14.6	NA	1.1E-06	1.6E-05	13.7%	3.2E-06	--	--	5.1E-07	7.4E-06	13.7%	5.9E-06	--	--
4,4'-DDD	12	0.1	0.27	NA	3.3E-05	9.0E-06	7.8%	9.8E-05	--	--	1.6E-05	4.2E-06	7.8%	1.8E-04	--	--
4,4'-DDE	34	0.1	0.38	NA	9.5E-05	3.6E-05	31.0%	2.8E-04	--	--	4.4E-05	1.7E-05	31.0%	5.2E-04	--	--
4,4'-DDT	52	0.1	0.38	0.00045	1.5E-04	5.5E-05	47.5%	4.2E-04	9.4E-01	83.6%	6.8E-05	2.6E-05	47.5%	7.9E-04	1.8E+00	83.6%
Cadmium	1.6	0.01	NA	0.0000125	4.5E-07	--	--	1.3E-06	1.0E-01	9.3%	2.1E-07	--	--	2.4E-06	2.0E-01	9.3%
Copper	74.7	0.01	NA	0.024	2.1E-05	--	--	6.1E-05	2.5E-03	0.2%	9.8E-06	--	--	1.1E-04	4.7E-03	0.2%
Lead	121	0.01	NA	NA	3.4E-05	--	--	9.9E-05	--	--	1.6E-05	--	--	1.8E-04	--	--
Mercury	0.42	0.01	NA	0.0000045	1.2E-07	--	--	3.4E-07	7.6E-02	6.8%	5.5E-08	--	--	6.4E-07	1.4E-01	6.8%
Zinc	189	0.01	NA	0.075	5.3E-05	--	--	1.5E-04	2.1E-03	0.2%	2.5E-05	--	--	2.9E-04	3.8E-03	0.2%
					Total ILCR:	1.2E-04	100.0%	Total HI:	1.1E+00	100.0%	Total ILCR:	5.4E-05	100.0%	Total HI:	2.1E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 97
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 23
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.36	7.3	NA	1.7E-07	1.2E-06	100.0%	4.9E-07	--	--	3.9E-07	2.9E-06	100.0%	4.6E-06	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 98
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 23
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.36	0.1	14.6	NA	9.0E-07	1.3E-05	100.0%	2.6E-06	–	–	4.0E-07	5.8E-06	100.0%	4.6E-06	–	–

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 99
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 23
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.36	5.30E-10	6.1	NA	5.0E-11	3.0E-10	100.0%	1.4E-10	--	--	5.8E-11	3.5E-10	100.0%	6.8E-10	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 100
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.12	7.3	NA	5.6E-08	4.1E-07	17.2%	1.6E-07	--	--	1.3E-07	9.6E-07	17.2%	1.5E-06	--	--
Bis(2-ethylhexyl)phthalate	77	0.014	0.02	3.6E-05	5.1E-07	21.1%	1.1E-04	5.3E-03	35.5%	8.4E-05	1.2E-06	21.1%	9.8E-04	4.9E-02	35.5%
Arsenic	2.1	1.5	0.0003	9.9E-07	1.5E-06	61.7%	2.9E-06	9.6E-03	64.5%	2.3E-06	3.5E-06	61.7%	2.7E-05	8.9E-02	64.5%
				Total ILCR:	2.4E-06	100.0%	Total HI:	1.5E-02	100.0%	Total ILCR:	5.6E-06	100.0%	Total HI:	1.4E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 101
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.12	0.1	14.6	NA	3.0E-07	4.4E-06	35.3%	8.7E-07	--	--	1.3E-07	1.9E-06	35.3%	1.5E-06	--	--
Bis(2-ethylhexyl)phthalate	77	0.1	0.028	0.01	1.9E-04	5.4E-06	43.4%	5.6E-04	5.6E-02	76.2%	8.5E-05	2.4E-06	43.4%	9.9E-04	9.9E-02	76.2%
Arsenic	2.1	0.032	1.58	0.00028	1.7E-06	2.6E-06	21.4%	4.9E-06	1.7E-02	23.8%	7.4E-07	1.2E-06	21.4%	8.6E-06	3.1E-02	23.8%
					Total ILCR:	1.2E-05	100.0%	Total HI:	7.3E-02	100.0%	Total ILCR:	5.5E-06	100.0%	Total HI:	1.3E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 102
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.12	1.77E-10	6.1	NA	1.7E-11	1.0E-10	1.2%	4.8E-11	--	--	1.9E-11	1.2E-10	1.2%	2.3E-10	--	--
Bis(2-ethylhexyl)phthalate	77	1.13E-07	0.34	NA	1.1E-08	3.6E-09	44.7%	3.1E-08	--	--	1.2E-08	4.2E-09	44.7%	1.4E-07	--	--
Arsenic	2.1	3.09E-09	15.1	NA	2.9E-10	4.4E-09	54.1%	8.4E-10	--	--	3.4E-10	5.1E-09	54.1%	3.9E-09	--	--
					Total ILCR:	8.1E-09	100.0%	Total HI:	--	--	Total ILCR:	9.4E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 103
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN SWMU 25
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.19	4.3	0.005	2.7E-08	1.1E-07	100.0%	7.7E-08	1.5E-05	1.1%	6.2E-08	2.7E-07	100.0%	7.2E-07	1.4E-04	1.1%
Copper	66.6	NA	0.04	9.3E-06	--	--	2.7E-05	6.8E-04	48.1%	2.2E-05	--	--	2.5E-04	6.3E-03	48.1%
Nickel	35.2	NA	0.02	4.9E-06	--	--	1.4E-05	7.2E-04	50.8%	1.1E-05	--	--	1.3E-04	6.7E-03	50.8%
				Total ILCR:	1.1E-07	100.0%	Total HI:	1.4E-03	100.0%	Total ILCR:	2.7E-07	100.0%	Total HI:	1.3E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 104
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN SWMU 3
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Beryllium	0.19	0.01	430	0.00005	5.3E-08	2.3E-05	100.0%	1.5E-07	3.1E-03	8.0%	2.5E-08	1.1E-05	100.0%	2.9E-07	5.8E-03	8.0%
Copper	66.6	0.01	NA	0.024	1.9E-05	--	--	5.4E-05	2.3E-03	5.8%	8.7E-06	--	--	1.0E-04	4.2E-03	5.8%
Nickel	35.2	0.01	NA	0.00086	9.8E-06	--	--	2.9E-05	3.3E-02	86.2%	4.6E-06	--	--	5.4E-05	6.2E-02	86.2%
					Total ILCR:	2.3E-05	100.0%	Total HI:	3.9E-02	100.0%	Total ILCR:	1.1E-05	100.0%	Total HI:	7.2E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 105
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 26
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	1.2	1.5	0.0003	5.6E-07	8.5E-07	54.5%	1.6E-06	5.5E-03	98.3%	1.3E-06	2.0E-06	54.5%	1.5E-05	5.1E-02	98.3%
Beryllium	0.35	4.3	0.005	1.6E-07	7.1E-07	45.5%	4.8E-07	9.6E-05	1.7%	3.8E-07	1.6E-06	45.5%	4.5E-06	8.9E-04	1.7%
				Total ILCR:	1.6E-06	100.0%	Total HI:	5.6E-03	100.0%	Total ILCR:	3.6E-06	100.0%	Total HI:	5.2E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 106
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 26
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Arsenic	1.2	0.032	1.58	0.00028	9.6E-07	1.5E-06	3.9%	2.8E-06	1.0E-02	66.2%	4.2E-07	6.7E-07	3.9%	4.9E-06	1.8E-02	66.2%
Beryllium	0.35	0.01	430	0.00005	8.7E-08	3.7E-05	96.1%	2.5E-07	5.1E-03	33.8%	3.8E-08	1.7E-05	96.1%	4.5E-07	9.0E-03	33.8%
					Total ILCR:	3.9E-05	100.0%	Total HI:	1.5E-02	100.0%	Total ILCR:	1.7E-05	100.0%	Total HI:	2.7E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 107
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 26
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	1.2	1.77E-09	15.1	NA	1.7E-10	2.5E-09	86.0%	4.8E-10	--	--	1.9E-10	2.9E-09	86.0%	2.3E-09	--	--
Beryllium	0.35	5.15E-10	8.4	NA	4.8E-11	4.1E-10	14.0%	1.4E-10	--	--	5.6E-11	4.7E-10	14.0%	6.6E-10	--	--
					Total ILCR:	2.9E-09	100.0%	Total HI:	--	--	Total ILCR:	3.4E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 108
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.25	7.7	NA	1.2E-07	9.0E-07	44.5%	3.4E-07	--	--	2.7E-07	2.1E-06	44.5%	3.2E-06	--	--
Arsenic	1.6	1.5	0.0003	7.5E-07	1.1E-06	55.5%	2.2E-06	7.3E-03	100.0%	1.8E-06	2.6E-06	55.5%	2.0E-05	6.8E-02	100.0%
				Total ILCR:	2.0E-06	100.0%	Total HI:	7.3E-03	100.0%	Total ILCR:	4.7E-06	100.0%	Total HI:	6.8E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 109
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.25	0.1	8.7	NA	6.2E-07	5.4E-06	72.9%	1.8E-06	--	--	2.7E-07	2.4E-06	72.9%	3.2E-06	--	--
Arsenic	1.6	0.032	1.58	0.000285	1.3E-06	2.0E-06	27.1%	3.7E-06	1.3E-02	100.0%	5.6E-07	8.9E-07	27.1%	6.6E-06	2.3E-02	100.0%
					Total ILCR:	7.4E-06	100.0%	Total HI:	1.3E-02	100.0%	Total ILCR:	3.3E-06	100.0%	Total HI:	2.3E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 110
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.25	3.68E-10	NA	NA	3.4E-11	–	–	1.0E-10	–	–	4.0E-11	–	–	4.7E-10	–	–
Arsenic	1.6	2.36E-09	15.1	NA	2.2E-10	3.3E-09	100.0%	6.4E-10	–	–	2.6E-10	3.9E-09	100.0%	3.0E-09	–	–
					Total ILCR:	1.2E-09	100.0%	Total HI:	–	–	Total ILCR:	1.2E-09	100.0%	Total HI:	–	–

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 111
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INGESTION OF GROUNDWATER AS DRINKING WATER AT SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cw*IR*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cw	Concentration of chemical in water (mg/L)	CS	CS	
IR	Ingestion Rate (L/d)	2	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cw (mg/L)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Dissolved Antimony	0.0233	NA	4.00E-04	2.2E-04	--	--	6.4E-04	1.6E+00	85.3%	1.3E-04	--	--	1.5E-03	3.7E+00	85.3%
Dissolved Arsenic	0.0030	1.50E+00	3.00E-04	2.8E-05	4.2E-05	100.0%	8.2E-05	2.7E-01	14.7%	1.6E-05	2.5E-05	100.0%	1.9E-04	6.4E-01	14.7%
				Total ILCR:	4.2E-05	100.0%	HI:	1.9E+00	100.0%	Total ILCR:	2.5E-05	100.0%	HI:	4.4E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 112
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INGESTION OF GROUNDWATER AS DRINKING WATER AT SWMU 30
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cw*CF*Kp*SA*EF*ED*ET)/(BW*AT)

ILCR = CDI*CSFo Adj CSF Adj = CSF/AD
HQ = CDI/RfDo Adj RfD Adj = RfD*AD

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
SA	Skin surface area available for contact (cm2)	20000	8023	
ET	Exposure frequency (d/yr)	350	350	
ED	Exposure duration (yrs)	24	6	
ET	Exposure time (hrs/day)	0.2	0.2	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	
Cw	Concentration of chemical in water (mg/L)	CS	CS	
CF	Conversion factor (L/cm3)	0.001	0.001	
Kp	Dermal permeability coefficient (cm/hour)	CS	CS	
AD	Adjustment for Absorbed Dose	CS	CS	

								Adult						Young Child		
						Adj	Adj	Carcinogens			Noncarcinogens			Carcinogens		
Parameter	Cw (mg/L)	Kp (cm/hour)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	AD (unitless)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR
Dissolved Antimony	0.0233	1.00E-03	NA	4.00E-04	0.20	NA	8.00E-05	4.4E-07	–	–	1.3E-06	1.6E-02	96.5%	2.0E-07	–	–
Dissolved Arsenic	0.0030	1.00E-03	1.50E+00	3.00E-04	0.95	1.58E+00	2.85E-04	5.6E-08	8.9E-08	100.0%	1.6E-07	5.8E-04	3.5%	2.6E-08	4.2E-08	100.0%
								Total ILCR:	8.9E-08	100.0%	HI:	1.7E-02	100.0%	Total ILCR:	4.2E-08	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 113
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.23	7.7	NA	1.1E-07	8.3E-07	47.6%	3.2E-07	--	--	2.5E-07	1.9E-06	47.6%	2.9E-06	--	--
Arsenic	1.3	1.5	0.0003	6.1E-07	9.2E-07	52.4%	1.8E-06	5.9E-03	100.0%	1.4E-06	2.1E-06	52.4%	1.7E-05	5.5E-02	100.0%
				Total ILCR:	1.7E-06	100.0%	Total HI:	5.9E-03	100.0%	Total ILCR:	4.1E-06	100.0%	Total HI:	5.5E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 114
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.23	0.1	8.7	NA	5.7E-07	5.0E-06	75.3%	1.7E-06	--	--	2.5E-07	2.2E-06	75.3%	2.9E-06	--	--
Arsenic	1.3	0.032	1.58	0.000285	1.0E-06	1.6E-06	24.7%	3.0E-06	1.1E-02	100.0%	4.6E-07	7.2E-07	24.7%	5.3E-06	1.9E-02	100.0%
					Total ILCR:	6.6E-06	100.0%	Total HI:	1.1E-02	100.0%	Total ILCR:	2.9E-06	100.0%	Total HI:	1.9E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 115
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 31
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1260	0.23	3.39E-10	NA	NA	3.2E-11	--	--	9.2E-11	--	--	3.7E-11	--	--	4.3E-10	--	--
Arsenic	1.3	1.91E-09	15.1	NA	1.8E-10	2.7E-09	100.0%	5.2E-10	--	--	2.1E-10	3.2E-09	100.0%	2.4E-09	--	--
					Total ILCR:	1.2E-09	100.0%	Total HI:	--	--	Total ILCR:	1.2E-09	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 116
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1254	2.6	7.7	0.00002	1.2E-06	9.4E-06	87.0%	3.6E-06	1.8E-01	95.1%	2.8E-06	2.2E-05	87.0%	3.3E-05	1.7E+00	95.1%
Arsenic	2.0	1.5	0.0003	9.4E-07	1.4E-06	13.0%	2.7E-06	9.1E-03	4.9%	2.2E-06	3.3E-06	13.0%	2.6E-05	8.5E-02	4.9%
				Total ILCR:	1.1E-05	100.0%	Total HI:	1.9E-01	100.0%	Total ILCR:	2.5E-05	100.0%	Total HI:	1.7E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 117
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1254	2.6	0.1	8.7	0.000018	6.5E-06	5.6E-05	95.7%	1.9E-05	1.0E+00	98.5%	2.9E-06	2.5E-05	95.7%	3.3E-05	1.9E+00	98.5%
Arsenic	2.0	0.032	1.58	0.000285	1.6E-06	2.5E-06	4.3%	4.6E-06	1.6E-02	1.5%	7.0E-07	1.1E-06	4.3%	8.2E-06	2.9E-02	1.5%
					Total ILCR:	5.9E-05	100.0%	Total HI:	1.1E+00	100.0%	Total ILCR:	2.6E-05	100.0%	Total HI:	1.9E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 118
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 32
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Aroclor-1254	2.6	3.83E-09	NA	NA	3.6E-10	–	–	1.0E-09	–	–	4.2E-10	–	–	4.9E-09	–	–
Arsenic	2.0	2.95E-09	15.1	NA	2.8E-10	4.2E-09	100.0%	8.0E-10	–	–	3.2E-10	4.9E-09	100.0%	3.8E-09	–	–
					Total ILCR:	1.2E-09	100.0%	Total HI:	–	–	Total ILCR:	1.2E-09	100.0%	Total HI:	–	–

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 119
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 37
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.73	7.3	NA	3.4E-07	2.5E-06	67.8%	1.0E-06	--	--	8.0E-07	5.8E-06	67.8%	9.3E-06	--	--
Benzo(b)fluoranthene	1.3	0.73	NA	6.1E-07	4.5E-07	12.1%	1.8E-06	--	--	1.4E-06	1.0E-06	12.1%	1.7E-05	--	--
Dibenzo(a,h)anthracene	0.12	7.3	NA	5.6E-08	4.1E-07	11.2%	1.6E-07	--	--	1.3E-07	9.6E-07	11.2%	1.5E-06	--	--
Aroclor-1260	0.091	7.7	NA	4.3E-08	3.3E-07	8.9%	1.2E-07	--	--	1.0E-07	7.7E-07	8.9%	1.2E-06	--	--
				Total ILCR:	3.7E-06	100.0%	Total HI:	--	--	Total ILCR:	8.6E-06	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 120
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 37
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.73	0.1	14.6	NA	1.8E-06	2.7E-05	70.6%	5.3E-06	--	--	8.0E-07	1.2E-05	70.6%	9.4E-06	--	--
Benzo(b)fluoranthene	1.3	0.1	1.46	NA	3.2E-06	4.7E-06	12.6%	9.4E-06	--	--	1.4E-06	2.1E-06	12.6%	1.7E-05	--	--
Dibenzo(a,h)anthracene	0.12	0.1	14.6	NA	3.0E-07	4.4E-06	11.6%	8.7E-07	--	--	1.3E-07	1.9E-06	11.6%	1.5E-06	--	--
Aroclor-1260	0.091	0.1	8.7	NA	2.3E-07	2.0E-06	5.2%	6.6E-07	--	--	1.0E-07	8.7E-07	5.2%	1.2E-06	--	--
					Total ILCR:	3.8E-05	100.0%	Total HI:	--	--	Total ILCR:	1.7E-05	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 121
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 37
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.73	1.08E-09	6.1	NA	1.0E-10	6.1E-10	74.5%	2.9E-10	--	--	1.2E-10	7.2E-10	74.5%	1.4E-09	--	--
Benzo(b)fluoranthene	1.3	1.91E-09	0.61	NA	1.8E-10	1.1E-10	13.3%	5.2E-10	--	--	2.1E-10	1.3E-10	13.3%	2.4E-09	--	--
Dibenzo(a,h)anthracene	0.12	1.77E-10	6.1	NA	1.7E-11	1.0E-10	12.2%	4.8E-11	--	--	1.9E-11	1.2E-10	12.2%	2.3E-10	--	--
Aroclor-1260	0.091	1.34E-10	NA	NA	1.3E-11	--	--	3.7E-11	--	--	1.5E-11	--	--	1.7E-10	--	--
					Total ILCR:	8.2E-10	100.0%	Total HI:	--	--	Total ILCR:	9.6E-10	100.0%	Total HI:	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 122
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 39
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	3.5	1.5	0.0003	1.6E-06	2.5E-06	100.0%	4.8E-06	1.6E-02	100.0%	3.8E-06	5.8E-06	100.0%	4.5E-05	1.5E-01	100.0%

TABLE 123
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 39
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Arsenic	3.5	0.032	1.58	0.000285	2.8E-06	4.4E-06	100.0%	8.1E-06	2.9E-02	100.0%	1.2E-06	1.9E-06	100.0%	1.4E-05	5.0E-02	100.0%

TABLE 124
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 39
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Arsenic	3.5	5.15E-09	15.1	NA	4.8E-10	7.3E-09	100.0%	1.4E-09	--	--	5.6E-10	8.5E-09	100.0%	6.6E-09	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 125
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.89	7.3	NA	4.2E-07	3.1E-06	16.7%	1.2E-06	--	--	9.8E-07	7.1E-06	16.7%	1.1E-05	--	--
Benzo(b)fluoranthene	1.2	0.73	NA	5.6E-07	4.1E-07	2.2%	1.6E-06	--	--	1.3E-06	9.6E-07	2.2%	1.5E-05	--	--
Dibenzo(a,h)anthracene	0.1	7.3	NA	4.7E-08	3.4E-07	1.9%	1.4E-07	--	--	1.1E-07	8.0E-07	1.9%	1.3E-06	--	--
Aroclor-1260	3.6	7.7	NA	1.7E-06	1.3E-05	71.1%	4.9E-06	--	--	3.9E-06	3.0E-05	71.1%	4.6E-05	--	--
Arsenic	1.6	1.5	0.0003	7.5E-07	1.1E-06	6.2%	2.2E-06	7.3E-03	100.0%	1.8E-06	2.6E-06	6.2%	2.0E-05	6.8E-02	99.3%
Beryllium	0.18	4.3	0.005	8.5E-08	3.6E-07	2.0%	2.5E-07	4.9E-05	100.0%	2.0E-07	8.5E-07	2.0%	2.3E-06	4.6E-04	0.7%
				Total ILCR:	1.8E-05	100.0%	Total HI:	7.4E-03	200.0%	Total ILCR:	4.3E-05	100.0%	Total HI:	6.9E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 126
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.89	0.1	14.6	NA	2.2E-06	3.2E-05	23.2%	6.5E-06	–	–	9.8E-07	1.4E-05	23.2%	1.1E-05	–	–
Benzo(b)fluoranthene	1.2	0.1	1.46	NA	3.0E-06	4.4E-06	3.1%	8.7E-06	–	–	1.3E-06	1.9E-06	3.1%	1.5E-05	–	–
Dibenzo(a,h)anthracene	0.1	0.1	14.6	NA	2.5E-07	3.6E-06	2.6%	7.3E-07	–	–	1.1E-07	1.6E-06	2.6%	1.3E-06	–	–
Aroclor-1260	3.6	0.1	8.7	NA	9.0E-06	7.8E-05	55.9%	2.6E-05			4.0E-06	3.4E-05	55.9%	4.6E-05		
Arsenic	1.6	0.032	1.58	0.00028	1.3E-06	2.0E-06	1.4%	3.7E-06	1.3E-02	100.0%	5.6E-07	8.9E-07	1.4%	6.6E-06	2.3E-02	83.6%
Beryllium	0.18	0.01	430	0.00005	4.5E-08	1.9E-05	13.8%	1.3E-07	2.6E-03	100.0%	2.0E-08	8.5E-06	13.8%	2.3E-07	4.6E-03	16.4%
					Total ILCR:	1.4E-04	100.0%	Total HI:	1.6E-02	200.0%	Total ILCR:	6.2E-05	100.0%	Total HI:	2.8E-02	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 127
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 46
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.89	1.31E-09	6.1	NA	1.2E-10	7.5E-10	17.6%	3.6E-10	–	–	1.4E-10	8.7E-10	17.6%	1.7E-09	–	–
Benzo(b)fluoranthene	1.2	1.77E-09	0.61	NA	1.7E-10	1.0E-10	2.4%	4.8E-10	–	–	1.9E-10	1.2E-10	2.4%	2.3E-09	–	–
Dibenzo(a,h)anthracene	0.1	1.47E-10	6.1	NA	1.4E-11	8.4E-11	2.0%	4.0E-11	–	–	1.6E-11	9.8E-11	2.0%	1.9E-10	–	–
Aroclor-1260	3.6	5.30E-09	NA	NA	5.0E-10	–	–	1.4E-09	–	–	5.8E-10	–	–	6.8E-09	–	–
Arsenic	1.6	2.36E-09	15.1	NA	2.2E-10	3.3E-09	78.1%	6.4E-10	–	–	2.6E-10	3.9E-09	78.1%	3.0E-09	–	–
Beryllium	0.18	2.65E-10	NA	8.4	2.5E-11	–	–	7.2E-11	8.6E-12	100.0%	2.9E-11	–	–	3.4E-10	4.0E-11	100.0%
					Total ILCR:	4.3E-09	100.0%	Total HI:	8.6E-12	100.0%	Total ILCR:	5.0E-09	100.0%	Total HI:	4.0E-11	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 128
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN SWMU 51
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
N-Nitrosodimethylamine	0.095	51	NA	4.5E-08	2.3E-06	100.0%	1.3E-07	–	–	1.0E-07	5.3E-06	100.0%	1.2E-06	–	–

TABLE 129
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN SWMU 51
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
N-Nitrosodimethylamine	0.095	0.1	102	NA	2.4E-07	2.4E-05	100.0%	6.9E-07	--	--	1.0E-07	1.1E-05	100.0%	1.2E-06	--	--

TABLE 130
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN SWMU 51
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
N-Nitrosodimethylamine	0.095	1.40E-10	49	NA	1.3E-11	6.4E-10	100.0%	3.8E-11	--	--	1.5E-11	7.5E-10	100.0%	1.8E-10	--	--

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 131
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)anthracene	2.4	0.73	NA	1.1E-06	8.2E-07	2.5%	3.3E-06	–	–	2.6E-06	1.9E-06	2.5%	3.1E-05	–	–
Benzo(a)pyrene	1.8	7.3	NA	8.5E-07	6.2E-06	19.0%	2.5E-06	–	–	2.0E-06	1.4E-05	19.0%	2.3E-05	–	–
Benzo(b)fluoranthene	4.3	0.73	NA	2.0E-06	1.5E-06	4.5%	5.9E-06	–	–	4.7E-06	3.4E-06	4.5%	5.5E-05	–	–
Dibenzo(a,h)anthracene	0.18	7.3	NA	8.5E-08	6.2E-07	1.9%	2.5E-07	–	–	2.0E-07	1.4E-06	1.9%	2.3E-06	–	–
4,4'-DDE	22	0.34	NA	1.0E-05	3.5E-06	10.8%	3.0E-05	–	–	2.4E-05	8.2E-06	10.8%	2.8E-04	–	–
4,4'-DDD	18	0.24	NA	8.5E-06	2.0E-06	6.2%	2.5E-05	–	–	2.0E-05	4.7E-06	6.2%	2.3E-04	–	–
4,4'-DDT	14	0.34	0.0005	6.6E-06	2.2E-06	6.9%	1.9E-05	3.8E-02	45.6%	1.5E-05	5.2E-06	6.9%	1.8E-04	3.6E-01	45.6%
Total HxCDD (2378-TCDD TEC)	0.000076	156,000	NA	3.6E-11	5.6E-06	17.1%	1.0E-10	–	–	8.3E-11	1.3E-05	17.1%	9.7E-10	–	–
Total HxCDF (2378-TCDD TEC)	0.000026	156,000	NA	1.2E-11	1.9E-06	5.9%	3.6E-11	–	–	2.8E-11	4.4E-06	5.9%	3.3E-10	–	–
Arsenic	10.0	1.5	0.0003	4.7E-06	7.0E-06	21.7%	1.4E-05	4.6E-02	54.3%	1.1E-05	1.6E-05	21.7%	1.3E-04	4.3E-01	54.3%
Beryllium	0.55	4.3	0.005	2.6E-07	1.1E-06	3.4%	7.5E-07	1.5E-04	0.2%	6.0E-07	2.6E-06	3.4%	7.0E-06	1.4E-03	0.2%
				Total ILCR:	3.2E-05	100.0%	Total HI:	8.4E-02	100.0%	Total ILCR:	7.6E-05	100.0%	Total HI:	7.9E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 132
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)anthracene	2.4	0.1	1.46	NA	6.0E-06	8.7E-06	3.8%	1.7E-05	--	--	2.6E-06	3.9E-06	3.8%	3.1E-05	--	--
Benzo(a)pyrene	1.8	0.1	14.6	NA	4.5E-06	6.5E-05	28.8%	1.3E-05	--	--	2.0E-06	2.9E-05	28.8%	2.3E-05	--	--
Benzo(b)fluoranthene	4.3	0.1	1.46	NA	1.1E-05	1.6E-05	6.9%	3.1E-05	--	--	4.7E-06	6.9E-06	6.9%	5.5E-05	--	--
Dibenzo(a,h)anthracene	0.18	0.1	14.6	NA	4.5E-07	6.5E-06	2.9%	1.3E-06	--	--	2.0E-07	2.9E-06	2.9%	2.3E-06	--	--
4,4'-DDE	22	0.1	0.38	NA	5.5E-05	2.1E-05	9.2%	1.6E-04	--	--	2.4E-05	9.2E-06	9.2%	2.8E-04	--	--
4,4'-DDD	18	0.1	0.27	NA	4.5E-05	1.2E-05	5.3%	1.3E-04	--	--	2.0E-05	5.3E-06	5.3%	2.3E-04	--	--
4,4'-DDT	14	0.1	0.38	0.00045	3.5E-05	1.3E-05	5.8%	1.0E-04	2.3E-01	71.6%	1.5E-05	5.8E-06	5.8%	1.8E-04	4.0E-01	71.6%
Total HxCDD (2378-TCDD TEC)	0.000076	0.03	173,000	NA	5.7E-11	9.8E-06	4.3%	1.7E-10	--	--	2.5E-11	4.3E-06	4.3%	2.9E-10	--	--
Total HxCDF (2378-TCDD TEC)	0.000026	0.03	173,000	NA	1.9E-11	3.4E-06	1.5%	5.7E-11	--	--	8.6E-12	1.5E-06	1.5%	1.0E-10	--	--
Arsenic	10.0	0.032	1.58	0.000285	8.0E-06	1.3E-05	5.5%	2.3E-05	8.2E-02	25.8%	3.5E-06	5.6E-06	5.5%	4.1E-05	1.4E-01	25.8%
Beryllium	0.55	0.01	430	0.00005	1.4E-07	5.9E-05	25.9%	4.0E-07	8.0E-03	2.5%	6.0E-08	2.6E-05	25.9%	7.1E-07	1.4E-02	2.5%
					Total ILCR:	2.3E-04	100.0%	Total HI:	3.2E-01	100.0%	Total ILCR:	1.0E-04	100.0%	Total HI:	5.6E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
-- Not applicable.

TABLE 133
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN AOC B
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)anthracene	2.4	3.53E-09	0.61	NA	3.3E-10	2.0E-10	0.8%	9.6E-10	–	–	3.9E-10	2.4E-10	0.8%	4.5E-09	–	–
Benzo(a)pyrene	1.8	2.65E-09	6.1	NA	2.5E-10	1.5E-09	6.0%	7.2E-10	–	–	2.9E-10	1.8E-09	6.0%	3.4E-09	–	–
Benzo(b)fluoranthene	4.3	6.33E-09	0.61	NA	5.9E-10	3.6E-10	1.4%	1.7E-09	–	–	6.9E-10	4.2E-10	1.4%	8.1E-09	–	–
Dibenzo(a,h)anthracene	0.18	2.65E-10	6.1	NA	2.5E-11	1.5E-10	0.6%	7.2E-11	–	–	2.9E-11	1.8E-10	0.6%	3.4E-10	–	–
4,4'-DDE	22	3.24E-08	NA	NA	3.0E-09	–	–	8.8E-09	–	–	3.5E-09	–	–	4.1E-08	–	–
4,4'-DDD	18	2.65E-08	NA	NA	2.5E-09	–	–	7.2E-09	–	–	2.9E-09	–	–	3.4E-08	–	–
4,4'-DDT	14	2.06E-08	0.34	NA	1.9E-09	6.6E-10	2.6%	5.6E-09	–	–	2.3E-09	7.7E-10	2.6%	2.6E-08	–	–
Total HxCDD (2378-TCDD TEC)	0.000076	1.12E-13	116,000	NA	1.0E-14	1.2E-09	4.8%	3.1E-14	–	–	1.2E-14	1.4E-09	4.8%	1.4E-13	–	–
Total HxCDF (2378-TCDD TEC)	0.000026	3.83E-14	116,000	NA	3.6E-15	4.2E-10	1.6%	1.0E-14	–	–	4.2E-15	4.8E-10	1.6%	4.9E-14	–	–
Arsenic	10.0	1.47E-08	15.1	NA	1.4E-09	2.1E-08	82.2%	4.0E-09	–	–	1.6E-09	2.4E-08	82.2%	1.9E-08	–	–
Beryllium	0.55	8.10E-10	NA	8.4	7.6E-11	–	–	2.2E-10	2.6E-11	100.0%	8.8E-11	–	–	1.0E-09	1.2E-10	100.0%
					Total ILCR:	2.5E-08	100.0%	Total HI:	2.6E-11	100.0%	Total ILCR:	3.0E-08	100.0%	Total HI:	1.2E-10	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 134
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SURFACE SOIL IN AOC C
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.22	7.3	NA	1.0E-07	7.5E-07	0.0%	3.0E-07	–	–	2.4E-07	1.8E-06	0.0%	2.8E-06	–	–
4,4'-DDE	2.7	0.34	NA	1.3E-06	4.3E-07	0.0%	3.7E-06	–	–	3.0E-06	1.0E-06	0.0%	3.5E-05	–	–
4,4'-DDT	5.4	0.34	0.0005	2.5E-06	8.6E-07	0.0%	7.4E-06	1.5E-02	10.6%	5.9E-06	2.0E-06	0.0%	6.9E-05	1.4E-01	10.6%
Kepone	2.5	18	NA	1.2E-06	2.1E-05	0.1%	3.4E-06	–	–	2.7E-06	4.9E-05	0.1%	3.2E-05	–	–
alpha-Chlordane	0.84	1.3	0.00006	3.9E-07	5.1E-07	0.0%	1.2E-06	1.9E-02	13.8%	9.2E-07	1.2E-06	0.0%	1.1E-05	1.8E-01	13.8%
gamma-Chlordane	0.76	1.3	0.00006	3.6E-07	4.6E-07	0.0%	1.0E-06	1.7E-02	12.5%	8.3E-07	1.1E-06	0.0%	9.7E-06	1.6E-01	12.5%
Aroclor-1260 (1)	5,200	7.7	NA	2.4E-03	1.9E-02	99.8%	7.1E-03	–	–	5.7E-03	4.4E-02	99.8%	6.6E-02	–	–
Arsenic	19.2	1.5	0.0003	9.0E-06	1.4E-05	0.1%	2.6E-05	8.8E-02	63.0%	2.1E-05	3.2E-05	0.1%	2.5E-04	8.2E-01	63.0%
Beryllium	0.27	4.3	0.005	1.3E-07	5.5E-07	0.0%	3.7E-07	7.4E-05	0.1%	3.0E-07	1.3E-06	0.0%	3.5E-06	6.9E-04	0.1%
Lead	7.8	NA	NA	3.7E-06	–	–	1.1E-05	–	–	8.5E-06	–	–	1.0E-04	–	–
				Total ILCR:	1.9E-02	100.0%	Total HI:	1.4E-01	100.0%	Total ILCR:	4.4E-02	100.0%	Total HI:	1.3E+00	100.0%

NOTES:
(1) ILCR presented was obtained from USEPA's (1989b) one-hit equation since it exceeds 1.0E-02.
NA - Toxicity criterion not available.
– Not applicable.

TABLE 135
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SURFACE SOIL IN AOC C
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	5300	2006	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.22	0.1	14.6	NA	5.5E-07	8.0E-06	0.0%	1.6E-06	–	–	2.4E-07	3.5E-06	0.0%	2.8E-06	–	–
4,4'-DDE	2.7	0.1	0.38	NA	6.7E-06	2.6E-06	0.0%	2.0E-05	–	–	3.0E-06	1.1E-06	0.0%	3.5E-05	–	–
4,4'-DDT	5.4	0.1	0.38	0.00045	1.3E-05	5.1E-06	0.0%	3.9E-05	8.7E-02	13.7%	5.9E-06	2.3E-06	0.0%	6.9E-05	1.5E-01	13.7%
Kepone	2.5	0.1	36	NA	6.2E-06	2.2E-04	0.2%	1.8E-05	–	–	2.7E-06	9.9E-05	0.2%	3.2E-05	–	–
alpha-Chlordane	0.84	0.1	2.6	0.00003	2.1E-06	5.4E-06	0.0%	6.1E-06	2.0E-01	32.0%	9.2E-07	2.4E-06	0.0%	1.1E-05	3.6E-01	32.0%
gamma-Chlordane	0.76	0.1	2.6	0.00003	1.9E-06	4.9E-06	0.0%	5.5E-06	1.8E-01	29.0%	8.4E-07	2.2E-06	0.0%	9.7E-06	3.2E-01	29.0%
Aroclor-1260 (1)	5,200	0.1	8.7	NA	1.3E-02	1.0E-01	99.7%	3.8E-02	–	–	5.7E-03	5.0E-02	99.7%	6.7E-02	–	–
Arsenic	19.2	0.032	1.58	0.000285	1.5E-05	2.4E-05	0.0%	4.5E-05	1.6E-01	24.7%	6.8E-06	1.1E-05	0.0%	7.9E-05	2.8E-01	24.7%
Beryllium	0.27	0.01	430	0.00005	6.7E-08	2.9E-05	0.0%	2.0E-07	3.9E-03	0.6%	3.0E-08	1.3E-05	0.0%	3.5E-07	6.9E-03	0.6%
Lead	7.8	0.01	NA	NA	1.9E-06	–	–	5.7E-06	–	–	8.6E-07	–	–	1.0E-05	–	–
					Total ILCR:	1.0E-01	100.0%	Total HI:	6.3E-01	100.0%	Total ILCR:	5.0E-02	100.0%	Total HI:	1.1E+00	100.0%

NOTES:
(1) ILCR presented was obtained from USEPA's (1989b) one-hit equation since it exceeds 1.0E-02.
NA - Toxicity criterion not available.
– Not applicable.

TABLE 136
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
INHALATION OF FUGITIVE DUSTS EMANATING FROM SURFACE SOIL IN AOC C
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Ca*RR*ET*EF*ED)/(BW*AT)
Where: Ca = Cs * (1/PEF)

ILCR = CDI*CSFi
HQ = CDI/RfDi

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFi	Inhalation cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDi	Inhalation reference dose (mg/kg/d)	CS	CS	
Ca	Concentration of chemical in air as fugitive dusts (mg/m3)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
PEF	Particulate emission factor (m3/kg)	6.79E+08	6.79E+08	
RR	Respiration rate (m3/hr)	0.83	0.83	
ET	Exposure time (hrs/d)	24	24	
EF	Exposure Frequency (d/yr)	350	350	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	Ca (mg/m3)	CSFi 1/(mg/kg/d)	RfDi (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Benzo(a)pyrene	0.22	3.24E-10	6.1	NA	3.0E-11	1.8E-10	0.5%	8.8E-11	–	–	3.5E-11	2.2E-10	0.5%	4.1E-10	–	–
4,4'-DDE	2.7	3.98E-09	NA	NA	3.7E-10	–	–	1.1E-09	–	–	4.3E-10	–	–	5.1E-09	–	–
4,4'-DDT	5.4	7.95E-09	0.34	NA	7.4E-10	2.5E-10	0.6%	2.2E-09	–	–	8.7E-10	3.0E-10	0.6%	1.0E-08	–	–
Kepone	2.5	3.68E-09	NA	NA	3.4E-10	–	–	1.0E-09	–	–	4.0E-10	–	–	4.7E-09	–	–
alpha-Chlordane	0.84	1.24E-09	1.29	NA	1.2E-10	1.5E-10	0.4%	3.4E-10	–	–	1.4E-10	1.7E-10	0.4%	1.6E-09	–	–
gamma-Chlordane	0.76	1.12E-09	1.29	NA	1.0E-10	1.4E-10	0.3%	3.1E-10	–	–	1.2E-10	1.6E-10	0.3%	1.4E-09	–	–
Aroclor-1260	5,200	7.66E-06	NA	NA	7.2E-07	–	–	2.1E-06	–	–	8.4E-07	–	–	9.8E-06	–	–
Arsenic	19.2	2.83E-08	15.1	NA	2.6E-09	4.0E-08	98.2%	7.7E-09	–	–	3.1E-09	4.7E-08	98.2%	3.6E-08	–	–
Beryllium	0.27	3.98E-10	NA	8.4	3.7E-11	–	–	1.1E-10	1.3E-11	100.0%	4.3E-11	–	–	5.1E-10	6.0E-11	100.0%
Lead	7.8	1.15E-08	NA	NA	1.1E-09	–	–	3.1E-09	–	–	1.3E-09	–	–	1.5E-08	–	–
					Total ILCR:	4.1E-08	100.0%	Total HI:	1.3E-11	100.0%	Total ILCR:	4.7E-08	100.0%	Total HI:	6.0E-11	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 137
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
ACCIDENTAL INGESTION OF SEDIMENT IN AOC D
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

CDI (mg/kg/d)= (Cs*IR*CF*FI*EF*ED)/(BW*AT)
ILCR = CDI*CSFo
HQ = CDI/RfDo

Parameter	Description	Adult	Young Child	
CDI	Chronic daily intake (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
IR	Ingestion Rate (mg/d)	100	200	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
FI	Fraction of soil ingested from site	1	1	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

				Adult						Young Child					
				Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	CSFo 1/(mg/kg/d)	RfDo (mg/kg/d)	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI	CDI (mg/kg/d)	ILCR	% Contrib. Total ILCR	CDI (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	NA	0.04	2.5E-07	–	–	7.3E-07	1.8E-05	0.1%	5.9E-07	–	–	6.8E-06	1.7E-04	0.1%
Anthracene	2.2	NA	0.3	3.1E-07	–	–	9.0E-07	3.0E-06	0.0%	7.2E-07	–	–	8.4E-06	2.8E-05	0.0%
Benzo(a)anthracene	3.7	0.73	NA	5.2E-07	3.8E-07	0.8%	1.5E-06	–	–	1.2E-06	8.8E-07	0.8%	1.4E-05	–	–
Benzo(a)pyrene	23	7.3	NA	3.2E-06	2.3E-05	50.0%	9.4E-06	–	–	7.5E-06	5.5E-05	50.0%	8.7E-05	–	–
Benzo(b)fluoranthene	24	0.73	NA	3.3E-06	2.4E-06	5.2%	9.8E-06	–	–	7.8E-06	5.7E-06	5.2%	9.1E-05	–	–
Benzo(k)fluoranthene	21	0.073	NA	2.9E-06	2.1E-07	0.5%	8.5E-06	–	–	6.8E-06	5.0E-07	0.5%	8.0E-05	–	–
Chrysene	10	0.0073	NA	1.4E-06	1.0E-08	0.0%	4.1E-06	–	–	3.3E-06	2.4E-08	0.0%	3.8E-05	–	–
Dibenzo(a,h)anthracene	4.2	7.3	NA	5.9E-07	4.3E-06	9.1%	1.7E-06	–	–	1.4E-06	1.0E-05	9.1%	1.6E-05	–	–
Fluoranthene	3.5	NA	0.04	4.9E-07	–	–	1.4E-06	3.6E-05	0.1%	1.1E-06	–	–	1.3E-05	3.3E-04	0.1%
Fluorene	0.062	NA	0.04	8.7E-09	–	–	2.5E-08	6.3E-07	0.0%	2.0E-08	–	–	2.4E-07	5.9E-06	0.0%
Indeno(1,2,3-cd)pyrene	10	0.73	NA	1.4E-06	1.0E-06	2.2%	4.1E-06	–	–	3.3E-06	2.4E-06	2.2%	3.8E-05		
Phenanthrene	1.9	NA	0.04	2.7E-07	–	–	7.7E-07	1.9E-05	0.1%	6.2E-07	–	–	7.2E-06	1.8E-04	0.1%
Pyrene	6	NA	0.03	8.4E-07	–	–	2.4E-06	8.1E-05	0.3%	2.0E-06	–	–	2.3E-05	7.6E-04	0.3%
4,4'-DDE	0.033	0.34	NA	4.6E-09	1.6E-09	0.0%	1.3E-08	–	–	1.1E-08	3.7E-09	0.0%	1.3E-07	–	–
Total PeCDD (2378-TCDD TEC)	0.00013	156,000	NA	1.8E-11	2.8E-06	6.0%	5.3E-11	–	–	4.2E-11	6.6E-06	6.0%	4.9E-10	–	–
Total HxCDD (2378-TCDD TEC)	0.00033	156,000	NA	4.6E-11	7.2E-06	15.3%	1.3E-10	–	–	1.1E-10	1.7E-05	15.3%	1.3E-09	–	–
Total HxCDF (2378-TCDD TEC)	0.0001	156,000	NA	1.4E-11	2.2E-06	4.6%	4.1E-11	–	–	3.3E-11	5.1E-06	4.6%	3.8E-10	–	–
Arsenic	13.2	1.5	0.0003	1.8E-06	2.8E-06	5.9%	5.4E-06	1.8E-02	56.4%	4.3E-06	6.4E-06	5.9%	5.0E-05	1.7E-01	56.4%
Beryllium	0.26	4.3	0.005	3.6E-08	1.6E-07	0.3%	1.1E-07	2.1E-05	0.1%	8.5E-08	3.6E-07	0.3%	9.9E-07	2.0E-04	0.1%
Cadmium	1.2	NA	0.0005	1.7E-07	–	–	4.9E-07	9.8E-04	3.1%	3.9E-07	–	–	4.6E-06	9.1E-03	3.1%
Copper	830	NA	0.04	1.2E-04	–	–	3.4E-04	8.4E-03	26.6%	2.7E-04	–	–	3.2E-03	7.9E-02	26.6%
Lead	339	NA	NA	4.7E-05	–	–	1.4E-04	–	–	1.1E-04	–	–	1.3E-03	–	–
Mercury	2.7	NA	0.0003	3.8E-07	–	–	1.1E-06	3.7E-03	11.5%	8.8E-07	–	–	1.0E-05	3.4E-02	11.5%
Zinc	432	NA	0.3	6.0E-05	–	–	1.8E-04	5.9E-04	1.8%	1.4E-04	–	–	1.6E-03	5.5E-03	1.8%
				Total ILCR:	4.7E-05	100.0%	Total HI:	3.2E-02	100.0%	Total ILCR:	1.1E-04	100.0%	Total HI:	3.0E-01	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.

TABLE 138
ADULT AND YOUNG CHILD RESIDENTS (AGES 1 TO 6 YEARS) - FUTURE SCENARIO
DERMAL CONTACT WITH SEDIMENT IN AOC D
REASONABLE MAXIMUM EXPOSURE
POTENTIAL CARCINOGENIC AND NONCARCINOGENIC RISKS
NAVAL STATION ROOSEVELT ROADS, PUERTO RICO

DAD (mg/kg/d)= (Cs*CF*AF*ABS*A*EF*ED)/(BW*AT)
ILCR = CDI*CSFd
HQ = CDI/RfDd

Parameter	Description	Adult	Young Child	
DAD	Dermally absorbed dose (mg/kg/d)	CS	CS	(Chemical Specific)
ILCR	Incremental lifetime cancer risk	CS	CS	
CSFo	Oral cancer slope factor (1/(mg/kg/d))	CS	CS	
HQ	Hazard quotient	CS	CS	
RfDo	Oral reference dose (mg/kg/d)	CS	CS	
Cs	Concentration of chemical in soil (mg/kg)	CS	CS	
CF	Conversion factor (kg/mg)	1E-06	1E-06	
AF	Soil to skin adherence factor (mg/cm2-event)	1	1	
ABS	Absorption fraction	CS	CS	
A	Skin surface area available for contact (cm2)	20000	8023	
EF	Exposure Frequency (d/yr)	104	104	
ED	Exposure Duration (yrs)	24	6	
BW	Body weight (kg)	70	15	
ATc	Averaging time, carcinogens (d)	25550	25550	
ATn	Averaging time, noncarcinogens (d)	8760	2190	

					Adult						Young Child					
					Carcinogens			Noncarcinogens			Carcinogens			Noncarcinogens		
Parameter	Cs (mg/kg)	ABS	CSFd 1/(mg/kg/d)	RfDd (mg/kg/d)	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI	DAD (mg/kg/d)	ILCR	% Contrib. Total ILCR	DAD (mg/kg/d)	HQ	% Contrib. HI
Acenaphthylene	1.8	0.1	NA	0.2	5.0E-06	–	–	1.5E-05	7.3E-05	0.0%	2.4E-06	–	–	2.7E-05	1.4E-04	0.0%
Anthracene	2.2	0.1	NA	0.6	6.1E-06	–	–	1.8E-05	3.0E-05	0.0%	2.9E-06	–	–	3.4E-05	5.6E-05	0.0%
Benzo(a)anthracene	3.7	0.1	1.46	NA	1.0E-05	1.5E-05	1.1%	3.0E-05	–	–	4.8E-06	7.1E-06	1.1%	5.6E-05	–	–
Benzo(a)pyrene	23	0.1	14.6	NA	6.4E-05	9.4E-04	66.9%	1.9E-04	–	–	3.0E-05	4.4E-04	66.9%	3.5E-04	–	–
Benzo(b)fluoranthene	24	0.1	1.46	NA	6.7E-05	9.8E-05	7.0%	2.0E-04	–	–	3.1E-05	4.6E-05	7.0%	3.7E-04	–	–
Benzo(k)fluoranthene	21	0.1	0.146	NA	5.9E-05	8.6E-06	0.6%	1.7E-04	–	–	2.7E-05	4.0E-06	0.6%	3.2E-04	–	–
Chrysene	10	0.1	0.0146	NA	2.8E-05	4.1E-07	0.0%	8.1E-05	–	–	1.3E-05	1.9E-07	0.0%	1.5E-04	–	–
Dibenzo(a,h)anthracene	4.2	0.1	14.6	NA	1.2E-05	1.7E-04	12.2%	3.4E-05	–	–	5.5E-06	8.0E-05	12.2%	6.4E-05	–	–
Fluoranthene	3.5	0.1	NA	0.02	9.8E-06	–	–	2.8E-05	1.4E-03	0.2%	4.6E-06	–	–	5.3E-05	2.7E-03	0.2%
Fluorene	0.062	0.1	NA	0.02	1.7E-07	–	–	5.0E-07	2.5E-05	0.0%	8.1E-08	–	–	9.4E-07	4.7E-05	0.0%
Indeno(1,2,3-cd)pyrene	10	0.1	1.46	NA	2.8E-05	4.1E-05	2.9%	8.1E-05	–	–	1.3E-05	1.9E-05	2.9%	1.5E-04	–	–
Phenanthrene	1.9	0.1	NA	0.02	5.3E-06	–	–	1.5E-05	7.7E-04	0.1%	2.5E-06	–	–	2.9E-05	1.4E-03	0.1%
Pyrene	6	0.1	NA	0.015	1.7E-05	–	–	4.9E-05	3.3E-03	0.4%	7.8E-06	–	–	9.1E-05	6.1E-03	0.4%
4,4'-DDE	0.033	0.1	0.38	NA	9.2E-08	3.5E-08	0.0%	2.7E-07	–	–	4.3E-08	1.6E-08	0.0%	5.0E-07	–	–
Total PeCDD (2378-TCDD TEC)	0.00013	0.03	173,000	NA	1.1E-10	1.9E-05	1.3%	3.2E-10	–	–	5.1E-11	8.8E-06	1.3%	5.9E-10	–	–
Total HxCDD (2378-TCDD TEC)	0.00033	0.03	173,000	NA	2.8E-10	4.8E-05	3.4%	8.1E-10	–	–	1.3E-10	2.2E-05	3.4%	1.5E-09	–	–
Total HxCDF (2378-TCDD TEC)	0.0001	0.03	173,000	NA	8.4E-11	1.4E-05	1.0%	2.4E-10	–	–	3.9E-11	6.8E-06	1.0%	4.6E-10	–	–
Arsenic	13.2	0.032	1.58	0.00028	1.2E-05	1.9E-05	1.3%	3.4E-05	1.2E-01	16.8%	5.5E-06	8.7E-06	1.3%	6.4E-05	2.3E-01	16.8%
Beryllium	0.26	0.01	430	0.00005	7.3E-08	3.1E-05	2.2%	2.1E-07	4.2E-03	0.6%	3.4E-08	1.5E-05	2.2%	4.0E-07	7.9E-03	0.6%
Cadmium	1.2	0.01	NA	0.0000125	3.3E-07	–	–	9.8E-07	7.8E-02	10.7%	1.6E-07	–	–	1.8E-06	1.5E-01	10.7%
Copper	830	0.01	NA	0.024	2.3E-04	–	–	6.8E-04	2.8E-02	3.8%	1.1E-04	–	–	1.3E-03	5.3E-02	3.8%
Lead	339	0.01	NA	NA	9.5E-05	–	–	2.8E-04	–	–	4.4E-05	–	–	5.2E-04	–	–
Mercury	2.7	0.01	NA	0.0000045	7.5E-07	–	–	2.2E-06	4.9E-01	66.7%	3.5E-07	–	–	4.1E-06	9.1E-01	66.7%
Zinc	432	0.01	NA	0.075	1.2E-04	–	–	3.5E-04	4.7E-03	0.6%	5.6E-05	–	–	6.6E-04	8.8E-03	0.6%
					Total ILCR:	1.4E-03	100.0%	Total HI:	7.3E-01	100.0%	Total ILCR:	6.6E-04	100.0%	Total HI:	1.4E+00	100.0%

NOTES:
NA - Toxicity criterion not available.
– Not applicable.