

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78						
Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS	
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO	
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1	
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0	
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013	
Field QC:						
Analysis Information:	1X	1X	1X	1X	1X	
Nitrogen, Nitrate-Nitrite (Colorimetric Units Automated, Cadmium Reduction)						
Nitrocellulose	MG/KG	14.0	1.40 J	0.870 J	4.90 U	1.10 J

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SS	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
Nitrogen, Nitrate-Nitrite (Colorimetric Units Automated, Cadmium Reduction)					
Nitrocellulose	MG/KG	5.00 U	1.60 J	5.00 U	4.90 U
					1.10 J

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Site Name: Site 78					
Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X
Nitrogen, Nitrate-Nitrite (Colorimetric Units Automated, Cadmium Reduction)					
Nitrocellulose	MG/KG	4.70 U	3.40 J	5.00 U	4.90 U
					1.20 J

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Site Name: Site 78						
Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3	
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO	
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16	
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0	
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	
Field QC:						Field Duplicate
Analysis Information:	1X	1X	1X	1X	1X	
Nitrogen, Nitrate-Nitrite (Colorimetric Units Automated, Cadmium Reduction)						
Nitrocellulose	MG/KG	5.00 U	5.00 UJ	4.90 U	5.00 U	5.00 U

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Site Name: Site 78						
Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO	
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25	
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0	
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	
Field QC:				Field Duplicate		
Analysis Information:	1X	1X	1X	1X	1X	
Nitrogen, Nitrate-Nitrite (Colorimetric Units Automated, Cadmium Reduction)						
Nitrocellulose	MG/KG	4.90 U	5.00 U	0.890 J	4.80 U	5.50 U

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RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78					
Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5	
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO	
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29	
Lab Name:	TAM0	TAM0	TAM0	TAM0	
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	
Field QC:					
Analysis Information:	1X	1X	1X	1X	
Nitrogen, Nitrate-Nitrite (Colorimetric Units Automated, Cadmium Reduction)					
Nitrocellulose	MG/KG	4.80 U	4.90 U	4.80 U	5.00 U

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Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry	Units					
Aluminum	MG/KG	4200	6000	2700	840	6500
Antimony	MG/KG	2.90 J	0.240 UJ	2.00	0.160 J	0.780
Arsenic	MG/KG	4.10	0.560	2.50	0.850	14.0
Barium	MG/KG	57.0	45.0	65.0	30.0	62.0
Beryllium	MG/KG	0.300	0.440	0.230	0.0830 J	0.420
Cadmium	MG/KG	0.420	0.310	2.10	0.0780 J	0.520
Calcium	MG/KG	1500	410	2600	120	2300
Chromium	MG/KG	8.50	9.00	7.70	1.90	14.0
Cobalt	MG/KG	6.70	7.60	3.30	2.00	6.70
Copper	MG/KG	19.0	9.60	31.0	2.50	45.0
Iron	MG/KG	12000	9600	10000	4600	20000
Lead	MG/KG	130	12.0	83.0	3.80	430
Magnesium	MG/KG	1000	1400	870	110	1700
Manganese	MG/KG	640	520	320	210	300

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Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SS	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

	Units				
Aluminum	MG/KG	1700	7200	4300	1800
Antimony	MG/KG	0.120 J	0.300	0.0610 J	0.180 U
Arsenic	MG/KG	1.30	4.70	5.90	1.10
Barium	MG/KG	17.0	64.0	68.0	22.0
Beryllium	MG/KG	0.270	0.450	0.300	0.280
Cadmium	MG/KG	0.120	0.300	0.210	0.170
Calcium	MG/KG	230	720	490	120
Chromium	MG/KG	4.40	13.0	7.20	4.80
Cobalt	MG/KG	3.30	7.10	8.40	3.70
Copper	MG/KG	7.30	21.0	9.70	3.60
Iron	MG/KG	13000	19000	15000	14000
Lead	MG/KG	8.80	71.0	10.0	7.50
Magnesium	MG/KG	490	2000	1400	450
Manganese	MG/KG	230	350	910	400

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RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

	Units				
Aluminum	MG/KG	1200 J	1900	3400	3800
Antimony	MG/KG	0.0640 J	0.180 J	0.0970 J	0.110 J
Arsenic	MG/KG	1.20	2.00	4.70	5.10
Barium	MG/KG	9.60	25.0	30.0	39.0
Beryllium	MG/KG	0.190	0.170	0.200	0.210
Cadmium	MG/KG	0.100	0.0880 J	0.100	0.120
Calcium	MG/KG	170	100	410	560
Chromium	MG/KG	3.50	3.10	5.70	6.30
Cobalt	MG/KG	2.60	1.60	4.00	4.30
Copper	MG/KG	3.00 J	8.20	8.90	10.0
Iron	MG/KG	12000	7000	12000	12000
Lead	MG/KG	7.00	22.0	9.50	11.0
Magnesium	MG/KG	150	380	740	820
Manganese	MG/KG	73.0	40.0	280	300

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RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	1X	1X	1X	1X	1X

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

	Units					
Aluminum	MG/KG	1300	1000	1200	720	760
Antimony	MG/KG	3.10	0.180 J	0.310	0.350	0.210
Arsenic	MG/KG	1.30	1.30	0.940	0.620	0.740
Barium	MG/KG	62.0	7.20	11.0	16.0	16.0
Beryllium	MG/KG	0.120	0.240	0.180	0.0980	0.110
Cadmium	MG/KG	0.490	0.0670 J	0.0790 J	0.0560 J	0.0700 J
Calcium	MG/KG	1500	160	200	95.0	95.0
Chromium	MG/KG	6.00	4.10	2.90	1.60	2.00
Cobalt	MG/KG	2.80	1.70	2.30	1.70	1.50
Copper	MG/KG	26.0	2.70	4.60	2.80	2.90
Iron	MG/KG	7000	14000	6600	4600	6000
Lead	MG/KG	99.0	6.10	7.00	6.00	7.40
Magnesium	MG/KG	480	170	300	140	150
Manganese	MG/KG	360	62.0	160	130	120

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Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

	Units					
Aluminum	MG/KG	400	2900	1800 J	3300 J	2100
Antimony	MG/KG	0.170 J	0.0510 J	0.190 U	0.0470 J	0.200 U
Arsenic	MG/KG	0.630	1.90	0.940 J	1.80 J	0.820
Barium	MG/KG	4.50	25.0	13.0	19.0	13.0
Beryllium	MG/KG	0.0580 J	0.440	0.220 J	0.450 J	0.330
Cadmium	MG/KG	0.0290 J	0.210	0.0950 J	0.160 J	0.130
Calcium	MG/KG	48.0	330	100 J	180 J	160
Chromium	MG/KG	0.870	7.20	4.00 J	7.30 J	5.00
Cobalt	MG/KG	0.850	7.30	2.60 J	5.50 J	2.10
Copper	MG/KG	4.40	9.60	4.10 J	11.0 J	5.70
Iron	MG/KG	3300	17000	12000	17000	16000
Lead	MG/KG	2.50	12.0	6.00	9.20	5.40
Magnesium	MG/KG	41.0	1000	930 J	1700 J	780
Manganese	MG/KG	32.0	460	290	390	140

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Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

	Units				
Aluminum	MG/KG	3000	3800	2300	950
Antimony	MG/KG	0.190 U	0.190 U	0.0520 J	0.470
Arsenic	MG/KG	1.90	6.30	1.80	0.960
Barium	MG/KG	35.0	25.0	64.0	53.0
Beryllium	MG/KG	0.170	0.250	0.430	0.160
Cadmium	MG/KG	0.150	0.0990	0.350	0.220
Calcium	MG/KG	100	510	110	330
Chromium	MG/KG	4.40	6.20	7.00	2.70
Cobalt	MG/KG	4.20	5.20	6.70	11.0
Copper	MG/KG	3.90	9.30	6.80	2.70
Iron	MG/KG	7900	11000	17000	12000
Lead	MG/KG	6.80	7.60	15.0	7.70
Magnesium	MG/KG	560	1300	320	200
Manganese	MG/KG	600	240	850	1200

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Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
Nickel	MG/KG 11.0	12.0	7.30	2.80	19.0
Potassium	MG/KG 470	910	330	260	630
Selenium	MG/KG 0.650	0.600	0.150 J	0.500 U	0.240 J
Silver	MG/KG 0.0490 J	0.0230 J	0.220	0.100 U	0.260
Sodium	MG/KG 22.0	37.0	28.0	15.0	32.0
Thallium	MG/KG 0.0960 J	0.180	0.0500 J	0.0460 J	0.0820 J
Vanadium	MG/KG 8.80	7.80	4.60	2.40	11.0
Zinc	MG/KG 83.0	89.0	530	12.0	130

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Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
Nickel	MG/KG 6.70	17.0	14.0	6.90	19.0
Potassium	MG/KG 400	750	620	410	700
Selenium	MG/KG 0.0790 J	0.190 J	0.0730 J	0.460 U	0.270 J
Silver	MG/KG 0.0170 J	0.0620 J	0.0140 J	0.0920 U	0.0450 J
Sodium	MG/KG 15.0	26.0	26.0	16.0	26.0
Thallium	MG/KG 0.0530 J	0.100	0.0930 J	0.0420 J	0.0970 J
Vanadium	MG/KG 4.60	13.0	8.70	5.30	12.0
Zinc	MG/KG 27.0	63.0	51.0	37.0	59.0

Notes:

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X
Nickel	MG/KG 3.30	4.80	8.10	8.70	11.0
Potassium	MG/KG 300	330	480	500	320
Selenium	MG/KG 0.0810 J	0.500 U	0.120 J	0.110 J	0.180 J
Silver	MG/KG 0.0970 U	0.0260 J	0.0150 J	0.0220 J	1.40
Sodium	MG/KG 12.0	15.0	21.0	23.0	60.0
Thallium	MG/KG 0.0360 J	0.0330 J	0.0740 J	0.0660 J	0.120
Vanadium	MG/KG 4.30	3.60	6.80	7.20	4.30
Zinc	MG/KG 16.0 J	31.0	29.0	34.0	450

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	1X	1X	1X	1X	1X
Nickel	MG/KG 5.30	4.20	4.90	2.40	2.50
Potassium	MG/KG 270	350	340	260	240
Selenium	MG/KG 0.0780 J	0.470 U	0.450 U	0.490 U	0.450 U
Silver	MG/KG 0.190	0.0110 J	0.0210 J	0.0970 U	0.0900 U
Sodium	MG/KG 25.0	16.0	16.0	14.0	13.0
Thallium	MG/KG 0.0570 J	0.0380 J	0.0350 J	0.0300 J	0.0330 J
Vanadium	MG/KG 3.30	4.50	2.80	1.70	2.10
Zinc	MG/KG 120	21.0 J	20.0	16.0	18.0

Notes:

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X
Nickel	MG/KG 1.70	12.0	6.70	11.0	6.50
Potassium	MG/KG 180	540	400	580	490
Selenium	MG/KG 0.470 U	0.200 J	0.0800 J	0.130 J	0.0920 J
Silver	MG/KG 0.0940 U	0.0190 J	0.0950 U	0.0190 J	0.100 U
Sodium	MG/KG 13.0	22.0	16.0	18.0	20.0
Thallium	MG/KG 0.0180 J	0.0840 J	0.0260 J	0.0690 J	0.0310 J
Vanadium	MG/KG 0.820	7.10	4.50 J	7.60 J	5.40
Zinc	MG/KG 11.0	37.0	40.0	48.0	48.0

Notes:

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MG/KG = Milligrams per Kilogram

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X
Nickel	MG/KG 6.30	11.0	11.0	6.80
Potassium	MG/KG 440	660	450	270
Selenium	MG/KG 0.0620 J	0.0880 J	0.0890 J	0.470 U
Silver	MG/KG 0.0950 U	0.0120 J	0.0170 J	0.0140 J
Sodium	MG/KG 17.0	25.0	16.0	15.0
Thallium	MG/KG 0.0970	0.0600 J	0.100	0.0390 J
Vanadium	MG/KG 6.40	6.80	8.50	3.40
Zinc	MG/KG 25.0	40.0	53.0	51.0

Notes:

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MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS	
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO	
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1	
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0	
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013	
Field QC:						
Analysis Information:	1X	1X	1X	1X	1X	
Mercury in Soil (Manual Cold-Vapor Technique)	Units					
Mercury	MG/KG	0.130 U	0.120 U	1.10	0.0420 J	0.550

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SS	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
Mercury in Soil (Manual Cold-Vapor Technique)		Units			
Mercury	MG/KG	0.0190 J	0.0600 J	0.0310 J	0.110 U
					0.0410 J

Notes:

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MG/KG = Milligrams per Kilogram

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	4X
Mercury in Soil (Manual Cold-Vapor Technique)		Units			
Mercury	MG/KG	0.0150 J	0.0260 J	0.0530 J	0.0630 J
					2.50

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3	
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO	
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16	
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0	
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	
Field QC:					Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X	
Mercury in Soil (Manual Cold-Vapor Technique)		Units				
Mercury	MG/KG	0.920	0.0330 J	0.120 U	0.0380 J	0.0410 J

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X
Mercury in Soil (Manual Cold-Vapor Technique)		Units			
Mercury	MG/KG	0.0180 J	0.0320 J	0.0200 J	0.0240 J
					0.110 U

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X
Mercury in Soil (Manual Cold-Vapor Technique)		Units		
Mercury	MG/KG	0.0370 J	0.0170 J	0.0910 U
				0.110 U

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB2	78-QPSD-DU2-SB2	78-QPSD-DU3-SB2
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0007M-0001-SO	078SB-0016M-0001-SO	078SB-0028M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-7	240-22559-14	240-22559-26
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	50X	1X	2X	1X	1X

Organochlorine Pesticides and PCBs by Capillary GC

	Units					
Aldrin	UG/KG	250 U	4.70 U	8.00 U	4.00 U	4.00 U
alpha-BHC (alpha-Hexachlorocyclohexane)	UG/KG	150 U	2.90 U	5.00 U	2.50 U	2.50 U
alpha-Chlordane	UG/KG	180 U	3.50 U	6.00 U	3.00 U	3.00 U
alpha-Endosulfan	UG/KG	100 U	2.00 U	3.40 U	1.70 U	1.70 U
beta-BHC (beta-Hexachlorocyclohexane)	UG/KG	220 U	4.10 U	7.00 U	3.50 U	3.50 U
beta-Endosulfan	UG/KG	150 U	2.90 U	5.00 UJ	2.50 UJ	2.50 UJ
delta-BHC (delta-Hexachlorocyclohexane)	UG/KG	250 U	4.70 U	8.00 U	4.00 U	4.00 U
Dieldrin	UG/KG	100 U	2.00 U	3.40 U	1.70 U	1.70 U
Endosulfan Sulfate	UG/KG	180 U	3.50 U	6.00 U	3.00 U	3.00 U
Endrin	UG/KG	100 U	2.00 U	3.40 U	1.70 U	1.70 U
Endrin Aldehyde	UG/KG	180 U	3.50 U	6.00 U	3.00 U	3.00 U
Endrin Ketone	UG/KG	120 U	2.40 U	4.00 U	2.00 U	2.00 U

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB2	78-QPSD-DU2-SB2	78-QPSD-DU3-SB2
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0007M-0001-SO	078SB-0016M-0001-SO	078SB-0028M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-7	240-22559-14	240-22559-26
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	50X	1X	2X	1X	1X
gamma-BHC (Lindane)	UG/KG 150 U	2.90 U	5.00 U	2.50 U	2.50 U
gamma-Chlordane	UG/KG 100 U	2.00 U	3.40 U	1.70 U	1.70 U
Heptachlor	UG/KG 220 U	4.10 U	7.00 U	3.50 U	3.50 U
Heptachlor Epoxide	UG/KG 150 U	2.90 U	5.00 U	2.50 U	2.50 U
Methoxychlor	UG/KG 310 UJ	5.90 UJ	10.0 U	5.00 U	5.00 U
p,p'-DDD	UG/KG 120 U	2.40 U	4.00 U	2.00 U	2.00 U
p,p'-DDE	UG/KG 100 U	2.00 U	3.40 UJ	1.70 UJ	1.70 UJ
p,p'-DDT	UG/KG 120 U	2.40 U	4.00 U	1.70 J	2.00 U
Toxaphene	UG/KG 4100 UJ	79.0 UJ	130 U	67.0 U	68.0 U

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Polychlorinated Biphenyls (PCB)	Units					
PCB-1016 (Arochlor 1016)	UG/KG	80.0 U	77.0 U	65.0 U	65.0 U	64.0 U
PCB-1221 (Arochlor 1221)	UG/KG	62.0 U	59.0 U	50.0 UJ	50.0 UJ	49.0 UJ
PCB-1232 (Arochlor 1232)	UG/KG	55.0 U	53.0 U	45.0 U	45.0 U	44.0 U
PCB-1242 (Arochlor 1242)	UG/KG	49.0 U	47.0 U	40.0 U	40.0 U	39.0 U
PCB-1248 (Arochlor 1248)	UG/KG	68.0 U	65.0 U	55.0 U	55.0 U	54.0 U
PCB-1254 (Arochlor 1254)	UG/KG	43.0 J	65.0 U	50.0 J	55.0 U	54.0 U
PCB-1260 (Arochlor 1260)	UG/KG	68.0 U	65.0 U	55.0 U	55.0 U	54.0 U

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SB	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Polychlorinated Biphenyls (PCB)	Units					
PCB-1016 (Arochlor 1016)	UG/KG	64.0 U	64.0 U	65.0 U	65.0 U	64.0 UJ
PCB-1221 (Arochlor 1221)	UG/KG	49.0 UJ	49.0 UJ	50.0 UJ	50.0 UJ	49.0 UJ
PCB-1232 (Arochlor 1232)	UG/KG	44.0 U	44.0 U	45.0 U	45.0 U	45.0 UJ
PCB-1242 (Arochlor 1242)	UG/KG	39.0 U	40.0 U	40.0 U	40.0 U	40.0 UJ
PCB-1248 (Arochlor 1248)	UG/KG	54.0 U	54.0 U	55.0 U	55.0 U	54.0 UJ
PCB-1254 (Arochlor 1254)	UG/KG	54.0 U	170	55.0 U	55.0 U	54.0 UJ
PCB-1260 (Arochlor 1260)	UG/KG	54.0 U	54.0 U	55.0 U	55.0 U	54.0 UJ

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

U = Compound was Not Detected

ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X
Polychlorinated Biphenyls (PCB)		Units			
PCB-1016 (Arochlor 1016)	UG/KG	64.0 U	65.0 U	65.0 U	65.0 U
PCB-1221 (Arochlor 1221)	UG/KG	50.0 UJ	50.0 UJ	50.0 UJ	50.0 UJ
PCB-1232 (Arochlor 1232)	UG/KG	45.0 U	45.0 U	45.0 U	45.0 U
PCB-1242 (Arochlor 1242)	UG/KG	40.0 U	40.0 U	40.0 U	40.0 U
PCB-1248 (Arochlor 1248)	UG/KG	54.0 U	55.0 U	55.0 U	55.0 U
PCB-1254 (Arochlor 1254)	UG/KG	54.0 U	55.0 U	55.0 U	100 J
PCB-1260 (Arochlor 1260)	UG/KG	54.0 U	55.0 U	55.0 U	55.0 U

Notes:

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QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	1X	1X	1X	1X	1X

Polychlorinated Biphenyls (PCB)	Units					
PCB-1016 (Arochlor 1016)	UG/KG	65.0 U	64.0 U	65.0 U	66.0 UJ	65.0 U
PCB-1221 (Arochlor 1221)	UG/KG	50.0 UJ	49.0 UJ	50.0 UJ	51.0 UJ	50.0 UJ
PCB-1232 (Arochlor 1232)	UG/KG	45.0 U	44.0 U	45.0 U	45.0 UJ	45.0 U
PCB-1242 (Arochlor 1242)	UG/KG	40.0 U	39.0 U	40.0 U	40.0 UJ	40.0 U
PCB-1248 (Arochlor 1248)	UG/KG	55.0 U	54.0 U	55.0 U	56.0 UJ	55.0 U
PCB-1254 (Arochlor 1254)	UG/KG	91.0	54.0 U	55.0 U	56.0 UJ	55.0 U
PCB-1260 (Arochlor 1260)	UG/KG	55.0 U	54.0 U	55.0 U	56.0 UJ	55.0 U

Notes:

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ID = Identification

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X

Polychlorinated Biphenyls (PCB)	Units					
PCB-1016 (Arochlor 1016)	UG/KG	66.0 U	66.0 U	66.0 U	66.0 U	71.0 U
PCB-1221 (Arochlor 1221)	UG/KG	51.0 UJ	51.0 UJ	51.0 UJ	50.0 UJ	55.0 UJ
PCB-1232 (Arochlor 1232)	UG/KG	46.0 U	46.0 U	46.0 U	45.0 U	49.0 U
PCB-1242 (Arochlor 1242)	UG/KG	41.0 U	41.0 U	41.0 U	40.0 U	44.0 U
PCB-1248 (Arochlor 1248)	UG/KG	56.0 U	56.0 U	56.0 U	55.0 U	60.0 U
PCB-1254 (Arochlor 1254)	UG/KG	56.0 U	56.0 U	56.0 U	55.0 U	60.0 U
PCB-1260 (Arochlor 1260)	UG/KG	56.0 U	56.0 U	56.0 U	55.0 U	60.0 U

Notes:

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X

Polychlorinated Biphenyls (PCB)	Units				
PCB-1016 (Arochlor 1016)	UG/KG	66.0 U	64.0 U	66.0 U	66.0 U
PCB-1221 (Arochlor 1221)	UG/KG	50.0 UJ	49.0 UJ	50.0 UJ	51.0 UJ
PCB-1232 (Arochlor 1232)	UG/KG	45.0 U	45.0 U	45.0 U	46.0 U
PCB-1242 (Arochlor 1242)	UG/KG	40.0 U	40.0 U	40.0 U	40.0 U
PCB-1248 (Arochlor 1248)	UG/KG	56.0 U	54.0 U	55.0 U	56.0 U
PCB-1254 (Arochlor 1254)	UG/KG	56.0 U	54.0 U	55.0 U	56.0 U
PCB-1260 (Arochlor 1260)	UG/KG	56.0 U	54.0 U	55.0 U	56.0 U

Notes:

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QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SS	78-QPSD-DU2-SS	78-QPSD-DU3-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SS-0210M-0001-SO	078SS-0002M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-1	240-22559-2	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Volatile Organic Compounds by Capillary GC/MS

	Units					
1,1,1-Trichloroethane	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
1,1,2,2-Tetrachloroethane	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
1,1,2-Trichloroethane	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
1,1-Dichloroethane	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
1,1-Dichloroethene	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
1,2-Dibromoethane (EDB)	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
1,2-Dichloroethane	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
1,2-Dichloroethene	UG/KG	12.0 UJ	13.0 UJ	8.80 UJ	10.0 UJ	11.0 UJ
1,2-Dichloropropane	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
2-Butanone (MEK)	UG/KG	25.0 UJ	4.30 J	18.0 UJ	20.0 UJ	6.50 J
2-Hexanone	UG/KG	25.0 UJ	0.980 J	18.0 UJ	20.0 UJ	22.0 UJ
4-Methyl-2-pentanone (MIBK)	UG/KG	25.0 UJ	26.0 UJ	18.0 UJ	20.0 UJ	22.0 UJ
Acetone	UG/KG	25.0 UJ	96.0 J	18.0 U	20.0 U	160 J
Benzene	UG/KG	6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ

Notes:

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0056M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-9
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/27/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X

Volatile Organic Compounds by Capillary GC/MS

	Units					
1,1,1-Trichloroethane	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
1,1,2,2-Tetrachloroethane	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
1,1,2-Trichloroethane	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
1,1-Dichloroethane	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
1,1-Dichloroethene	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
1,2-Dibromoethane (EDB)	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
1,2-Dichloroethane	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
1,2-Dichloroethene	UG/KG	12.0 U	9.70 UJ	11.0 UJ	12.0 UJ	11.0 UJ
1,2-Dichloropropane	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
2-Butanone (MEK)	UG/KG	23.0 U	19.0 UJ	22.0 UJ	25.0 UJ	21.0 UJ
2-Hexanone	UG/KG	23.0 U	19.0 UJ	22.0 UJ	25.0 UJ	21.0 UJ
4-Methyl-2-pentanone (MIBK)	UG/KG	23.0 U	19.0 UJ	22.0 UJ	25.0 UJ	21.0 UJ
Acetone	UG/KG	23.0 UJ	19.0 U	22.0 UJ	25.0 UJ	21.0 UJ
Benzene	UG/KG	5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ

Notes:

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QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB4	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0011M-0001-SO	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO
Lab Sample ID:	240-22559-11	240-22559-12	240-22559-13	240-22559-14	240-22559-15
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Volatile Organic Compounds by Capillary GC/MS

	Units					
1,1,1-Trichloroethane	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
1,1,2,2-Tetrachloroethane	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
1,1,2-Trichloroethane	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
1,1-Dichloroethane	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
1,1-Dichloroethene	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
1,2-Dibromoethane (EDB)	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
1,2-Dichloroethane	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
1,2-Dichloroethene	UG/KG	12.0 UJ	17.0 UJ	10.0 UJ	9.50 U	11.0 UJ
1,2-Dichloropropane	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
2-Butanone (MEK)	UG/KG	24.0 UJ	34.0 UJ	20.0 UJ	19.0 U	22.0 UJ
2-Hexanone	UG/KG	24.0 UJ	34.0 UJ	20.0 UJ	19.0 U	22.0 UJ
4-Methyl-2-pentanone (MIBK)	UG/KG	24.0 UJ	34.0 UJ	20.0 UJ	19.0 U	22.0 UJ
Acetone	UG/KG	24.0 UJ	34.0 UJ	20.0 UJ	19.0 U	22.0 U
Benzene	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ

Notes:

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UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB3	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0018M-0001-SO	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO
Lab Sample ID:	240-22559-16	240-22559-17	240-22559-18	240-22559-23	240-22559-24
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:	Field Duplicate				Field Duplicate
Analysis Information:	1X	1X	1X	1X	1X

Volatile Organic Compounds by Capillary GC/MS

	Units					
1,1,1-Trichloroethane	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
1,1,2,2-Tetrachloroethane	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
1,1,2-Trichloroethane	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
1,1-Dichloroethane	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
1,1-Dichloroethene	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
1,2-Dibromoethane (EDB)	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
1,2-Dichloroethane	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
1,2-Dichloroethene	UG/KG	11.0 U	11.0 UJ	11.0 U	10.0 U	19.0 U
1,2-Dichloropropane	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
2-Butanone (MEK)	UG/KG	22.0 U	23.0 UJ	23.0 U	20.0 U	38.0 U
2-Hexanone	UG/KG	22.0 U	23.0 UJ	23.0 U	20.0 U	38.0 U
4-Methyl-2-pentanone (MIBK)	UG/KG	22.0 U	23.0 UJ	23.0 U	20.0 U	38.0 U
Acetone	UG/KG	22.0 U	23.0 UJ	23.0 U	20.0 U	38.0 U
Benzene	UG/KG	5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB1	78-QPSD-DU3-SB2	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4
Field Sample ID:	078SB-0033M-0001-SO	078SB-0028M-0001-SO	078SB-0034-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO
Lab Sample ID:	240-22559-25	240-22559-26	240-22559-30	240-22559-27	240-22559-28
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/27/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Volatile Organic Compounds by Capillary GC/MS

	Units					
1,1,1-Trichloroethane	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
1,1,2,2-Tetrachloroethane	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
1,1,2-Trichloroethane	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
1,1-Dichloroethane	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
1,1-Dichloroethene	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
1,2-Dibromoethane (EDB)	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
1,2-Dichloroethane	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
1,2-Dichloroethene	UG/KG	13.0 U	11.0 U	8.70 UJ	9.20 U	10.0 U
1,2-Dichloropropane	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
2-Butanone (MEK)	UG/KG	27.0 U	21.0 U	17.0 UJ	18.0 U	21.0 U
2-Hexanone	UG/KG	27.0 U	21.0 U	17.0 UJ	18.0 U	21.0 U
4-Methyl-2-pentanone (MIBK)	UG/KG	27.0 U	21.0 U	17.0 UJ	18.0 U	21.0 U
Acetone	UG/KG	27.0 U	21.0 U	17.0 UJ	18.0 U	21.0 U
Benzene	UG/KG	6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U

Notes:

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MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0057-001-TB	078SB-0032M-0001-SO	078SB-0058-001-TB
Lab Sample ID:	240-22559-20	240-22559-29	240-22559-21
Lab Name:	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/26/2013	3/27/2013
Field QC:			
Analysis Information:	1X	1X	1X

Volatile Organic Compounds by Capillary GC/MS

	Units			
1,1,1-Trichloroethane	UG/KG	1.00 U	5.80 U	1.00 U
1,1,2,2-Tetrachloroethane	UG/KG	1.00 U	5.80 U	1.00 U
1,1,2-Trichloroethane	UG/KG	1.00 U	5.80 U	1.00 U
1,1-Dichloroethane	UG/KG	1.00 U	5.80 U	1.00 U
1,1-Dichloroethene	UG/KG	1.00 U	5.80 U	1.00 U
1,2-Dibromoethane (EDB)	UG/KG	1.00 U	5.80 U	1.00 U
1,2-Dichloroethane	UG/KG	1.00 U	5.80 U	1.00 U
1,2-Dichloroethene	UG/KG	2.00 U	12.0 U	2.00 U
1,2-Dichloropropane	UG/KG	1.00 U	5.80 U	1.00 U
2-Butanone (MEK)	UG/KG	10.0 U	23.0 U	10.0 U
2-Hexanone	UG/KG	10.0 U	23.0 U	10.0 U
4-Methyl-2-pentanone (MIBK)	UG/KG	10.0 U	23.0 U	10.0 U
Acetone	UG/KG	8.60 J	23.0 U	7.60 J
Benzene	UG/KG	1.00 U	5.80 U	1.00 U

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

U = Compound was Not Detected

ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SS	78-QPSD-DU2-SS	78-QPSD-DU3-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SS-0210M-0001-SO	078SS-0002M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-1	240-22559-2	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
Bromochloromethane	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Bromodichloromethane	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Bromoform	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Bromomethane	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Carbon Disulfide	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Carbon Tetrachloride	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Chlorobenzene	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Chloroethane	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Chloroform	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Chloromethane	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
cis-1,3-Dichloropropene	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Dibromochloromethane	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Ethylbenzene	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Methylene Chloride	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Styrene	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ

Notes:

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ID = Identification

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0056M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-9
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/27/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X
Bromochloromethane	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Bromodichloromethane	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Bromoform	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Bromomethane	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Carbon Disulfide	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Carbon Tetrachloride	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Chlorobenzene	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Chloroethane	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Chloroform	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Chloromethane	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
cis-1,3-Dichloropropene	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Dibromochloromethane	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Ethylbenzene	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Methylene Chloride	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Styrene	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ

Notes:

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB4	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0011M-0001-SO	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO
Lab Sample ID:	240-22559-11	240-22559-12	240-22559-13	240-22559-14	240-22559-15
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
Bromochloromethane	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Bromodichloromethane	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Bromoform	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Bromomethane	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Carbon Disulfide	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	3.40 J
Carbon Tetrachloride	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Chlorobenzene	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Chloroethane	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Chloroform	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Chloromethane	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
cis-1,3-Dichloropropene	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Dibromochloromethane	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Ethylbenzene	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Methylene Chloride	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Styrene	UG/KG 6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ

Notes:

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB3	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0018M-0001-SO	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO
Lab Sample ID:	240-22559-16	240-22559-17	240-22559-18	240-22559-23	240-22559-24
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:	Field Duplicate				Field Duplicate
Analysis Information:	1X	1X	1X	1X	1X
Bromochloromethane	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Bromodichloromethane	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Bromoform	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Bromomethane	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Carbon Disulfide	UG/KG 5.40 U	5.70 UJ	3.60 J	5.00 U	9.50 U
Carbon Tetrachloride	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Chlorobenzene	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Chloroethane	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Chloroform	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Chloromethane	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
cis-1,3-Dichloropropene	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Dibromochloromethane	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Ethylbenzene	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Methylene Chloride	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Styrene	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U

Notes:

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB1	78-QPSD-DU3-SB2	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4
Field Sample ID:	078SB-0033M-0001-SO	078SB-0028M-0001-SO	078SB-0034-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO
Lab Sample ID:	240-22559-25	240-22559-26	240-22559-30	240-22559-27	240-22559-28
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/27/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
Bromochloromethane	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Bromodichloromethane	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Bromoform	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Bromomethane	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Carbon Disulfide	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Carbon Tetrachloride	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Chlorobenzene	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Chloroethane	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Chloroform	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Chloromethane	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
cis-1,3-Dichloropropene	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Dibromochloromethane	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Ethylbenzene	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Methylene Chloride	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Styrene	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U

Notes:

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MG/KG = Milligrams per Kilogram

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0057-001-TB	078SB-0032M-0001-SO	078SB-0058-001-TB
Lab Sample ID:	240-22559-20	240-22559-29	240-22559-21
Lab Name:	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/26/2013	3/27/2013
Field QC:			
Analysis Information:	1X	1X	1X
Bromochloromethane	UG/KG 1.00 U	5.80 U	1.00 U
Bromodichloromethane	UG/KG 1.00 U	5.80 U	1.00 U
Bromoform	UG/KG 1.00 U	5.80 U	1.00 U
Bromomethane	UG/KG 1.00 U	5.80 U	1.00 U
Carbon Disulfide	UG/KG 1.00 U	5.80 U	1.00 U
Carbon Tetrachloride	UG/KG 1.00 U	5.80 U	1.00 U
Chlorobenzene	UG/KG 1.00 U	5.80 U	1.00 U
Chloroethane	UG/KG 1.00 U	5.80 U	1.00 U
Chloroform	UG/KG 1.00 U	5.80 U	1.00 U
Chloromethane	UG/KG 1.00 U	5.80 U	1.00 U
cis-1,3-Dichloropropene	UG/KG 1.00 U	5.80 U	1.00 U
Dibromochloromethane	UG/KG 1.00 U	5.80 U	1.00 U
Ethylbenzene	UG/KG 1.00 U	5.80 U	1.00 U
Methylene Chloride	UG/KG 1.10	5.80 U	0.480 J
Styrene	UG/KG 1.00 U	5.80 U	1.00 U

Notes:

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SS	78-QPSD-DU2-SS	78-QPSD-DU3-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SS-0210M-0001-SO	078SS-0002M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-1	240-22559-2	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
tert-Butyl Methyl Ether (MTBE)	UG/L				
Tetrachloroethene (PCE)	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Toluene	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	0.270 J	5.60 UJ
trans-1,3-Dichloropropene	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Trichloroethene (TCE)	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Vinyl Chloride	UG/KG 6.20 UJ	6.40 UJ	4.40 UJ	5.00 UJ	5.60 UJ
Xylenes, Total	UG/KG 12.0 UJ	13.0 UJ	8.80 UJ	10.0 UJ	11.0 UJ

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

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UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0056M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-9
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/27/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	1X
tert-Butyl Methyl Ether (MTBE)	UG/L				
Tetrachloroethene (PCE)	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Toluene	UG/KG 5.80 U	4.90 UJ	0.300 J	6.20 UJ	5.40 UJ
trans-1,3-Dichloropropene	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Trichloroethene (TCE)	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Vinyl Chloride	UG/KG 5.80 U	4.90 UJ	5.50 UJ	6.20 UJ	5.40 UJ
Xylenes, Total	UG/KG 12.0 U	9.70 UJ	11.0 UJ	12.0 UJ	11.0 UJ

Notes:

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB4	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	
Field Sample ID:	078SB-0011M-0001-SO	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	
Lab Sample ID:	240-22559-11	240-22559-12	240-22559-13	240-22559-14	240-22559-15	
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0	
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013	
Field QC:						
Analysis Information:	1X	1X	1X	1X	1X	
tert-Butyl Methyl Ether (MTBE)	UG/L					
Tetrachloroethene (PCE)	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Toluene	UG/KG	0.450 J	8.50 UJ	0.270 J	4.80 U	5.60 UJ
trans-1,3-Dichloropropene	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Trichloroethene (TCE)	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Vinyl Chloride	UG/KG	6.10 UJ	8.50 UJ	5.10 UJ	4.80 U	5.60 UJ
Xylenes, Total	UG/KG	12.0 UJ	17.0 UJ	10.0 UJ	9.50 U	11.0 UJ

Notes:

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UJ = Compound was not detected and reporting limit is estimated

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB3	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0018M-0001-SO	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO
Lab Sample ID:	240-22559-16	240-22559-17	240-22559-18	240-22559-23	240-22559-24
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:	Field Duplicate				Field Duplicate
Analysis Information:	1X	1X	1X	1X	1X
tert-Butyl Methyl Ether (MTBE)	UG/L				
Tetrachloroethene (PCE)	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Toluene	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
trans-1,3-Dichloropropene	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Trichloroethene (TCE)	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Vinyl Chloride	UG/KG 5.40 U	5.70 UJ	5.70 U	5.00 U	9.50 U
Xylenes, Total	UG/KG 11.0 U	11.0 UJ	11.0 U	10.0 U	19.0 U

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

U = Compound was Not Detected

ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB1	78-QPSD-DU3-SB2	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4
Field Sample ID:	078SB-0033M-0001-SO	078SB-0028M-0001-SO	078SB-0034-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO
Lab Sample ID:	240-22559-25	240-22559-26	240-22559-30	240-22559-27	240-22559-28
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/27/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
tert-Butyl Methyl Ether (MTBE)	UG/L				
Tetrachloroethene (PCE)	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Toluene	UG/KG 0.380 J	5.30 U	4.40 UJ	0.280 J	0.320 J
trans-1,3-Dichloropropene	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Trichloroethene (TCE)	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Vinyl Chloride	UG/KG 6.70 U	5.30 U	4.40 UJ	4.60 U	5.20 U
Xylenes, Total	UG/KG 13.0 U	11.0 U	8.70 UJ	9.20 U	10.0 U

Notes:

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UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0057-001-TB	078SB-0032M-0001-SO	078SB-0058-001-TB
Lab Sample ID:	240-22559-20	240-22559-29	240-22559-21
Lab Name:	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/26/2013	3/27/2013
Field QC:			
Analysis Information:	1X	1X	1X
tert-Butyl Methyl Ether (MTBE)	UG/L 1.00 U		1.00 U
Tetrachloroethene (PCE)	UG/KG 1.00 U	5.80 U	1.00 U
Toluene	UG/KG 1.00 U	5.80 U	1.00 U
trans-1,3-Dichloropropene	UG/KG 1.00 U	5.80 U	1.00 U
Trichloroethene (TCE)	UG/KG 1.00 U	5.80 U	1.00 U
Vinyl Chloride	UG/KG 1.00 U	5.80 U	1.00 U
Xylenes, Total	UG/KG 2.00 U	12.0 U	2.00 U

Notes:

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MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	2.5X	1X	1X	1X	1X

Semivolatile Organic Compounds by Capillary GC/MS

	Units					
1,2,4-Trichlorobenzene	UG/KG	150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
1,2-Dichlorobenzene	UG/KG	150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
1,3-Dichlorobenzene	UG/KG	150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
1,4-Dichlorobenzene	UG/KG	150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
2,4,5-Trichlorophenol	UG/KG	460 UJ	180 U	150 U	150 U	150 U
2,4,6-Trichlorophenol	UG/KG	460 UJ	180 U	150 U	150 U	150 U
2,4-Dichlorophenol	UG/KG	460 UJ	180 U	150 U	150 U	150 U
2,4-Dimethylphenol	UG/KG	460 UJ	180 U	150 U	150 U	150 U
2,4-Dinitrophenol	UG/KG	1000 UJ	400 U	330 UJ	330 UJ	320 UJ
2,4-Dinitrotoluene	UG/KG	610 UJ	240 U	200 U	200 U	200 U
2,6-Dinitrotoluene	UG/KG	610 UJ	240 U	200 U	200 U	200 U
2-Chloronaphthalene	UG/KG	150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
2-Chlorophenol	UG/KG	150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
2-Methylnaphthalene	UG/KG	33.0 J	8.00 U	21.0	6.60 U	29.0

Notes:

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UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SS	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	10X	1X	1X

Semivolatile Organic Compounds by Capillary GC/MS

	Units					
1,2,4-Trichlorobenzene	UG/KG	50.0 U	50.0 U	510 U	50.0 U	50.0 U
1,2-Dichlorobenzene	UG/KG	50.0 U	50.0 U	510 U	50.0 U	50.0 U
1,3-Dichlorobenzene	UG/KG	50.0 U	50.0 U	510 U	50.0 U	50.0 U
1,4-Dichlorobenzene	UG/KG	50.0 U	25.0 J	510 U	50.0 U	50.0 U
2,4,5-Trichlorophenol	UG/KG	150 U	150 U	1500 U	150 U	150 U
2,4,6-Trichlorophenol	UG/KG	150 U	150 U	1500 U	150 U	150 U
2,4-Dichlorophenol	UG/KG	150 U	150 U	1500 U	150 U	150 U
2,4-Dimethylphenol	UG/KG	150 U	150 U	1500 U	150 U	150 U
2,4-Dinitrophenol	UG/KG	330 UJ	330 UJ	3400 UJ	330 UJ	330 UJ
2,4-Dinitrotoluene	UG/KG	200 U	79.0 J	2000 U	200 U	200 U
2,6-Dinitrotoluene	UG/KG	200 U	200 U	2000 U	200 U	200 U
2-Chloronaphthalene	UG/KG	50.0 U	50.0 U	510 U	50.0 U	50.0 U
2-Chlorophenol	UG/KG	50.0 U	50.0 U	510 U	50.0 U	50.0 U
2-Methylnaphthalene	UG/KG	9.10	30.0	68.0 U	6.60 U	9.10

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	12.5X

Semivolatile Organic Compounds by Capillary GC/MS

	Units					
1,2,4-Trichlorobenzene	UG/KG	51.0 U	49.0 U	50.0 U	49.0 U	620 U
1,2-Dichlorobenzene	UG/KG	51.0 U	49.0 U	50.0 U	49.0 U	620 U
1,3-Dichlorobenzene	UG/KG	51.0 U	49.0 U	50.0 U	49.0 U	620 U
1,4-Dichlorobenzene	UG/KG	51.0 U	49.0 U	50.0 U	49.0 U	620 U
2,4,5-Trichlorophenol	UG/KG	150 U	150 U	150 U	150 U	1900 U
2,4,6-Trichlorophenol	UG/KG	150 U	150 U	150 U	150 U	1900 U
2,4-Dichlorophenol	UG/KG	150 U	150 U	150 U	150 U	1900 U
2,4-Dimethylphenol	UG/KG	150 U	150 U	150 U	150 U	1900 U
2,4-Dinitrophenol	UG/KG	340 UJ	330 UJ	330 UJ	330 UJ	4100 UJ
2,4-Dinitrotoluene	UG/KG	200 U	200 U	200 U	200 U	2500 U
2,6-Dinitrotoluene	UG/KG	200 U	200 U	200 U	200 U	2500 U
2-Chloronaphthalene	UG/KG	51.0 U	49.0 U	50.0 U	49.0 U	620 U
2-Chlorophenol	UG/KG	51.0 U	49.0 U	50.0 U	49.0 U	620 U
2-Methylnaphthalene	UG/KG	6.80 U	6.60 U	3.70 J	4.70 J	260

Notes:

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MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	4X	1X	1X	1X	1X

Semivolatile Organic Compounds by Capillary GC/MS

	Units					
1,2,4-Trichlorobenzene	UG/KG	200 U	50.0 U	50.0 U	50.0 U	51.0 U
1,2-Dichlorobenzene	UG/KG	200 U	50.0 U	50.0 U	50.0 U	51.0 U
1,3-Dichlorobenzene	UG/KG	200 U	50.0 U	50.0 U	50.0 U	51.0 U
1,4-Dichlorobenzene	UG/KG	200 U	50.0 U	50.0 U	50.0 U	51.0 U
2,4,5-Trichlorophenol	UG/KG	610 U	150 U	150 U	150 U	150 U
2,4,6-Trichlorophenol	UG/KG	610 U	150 U	150 U	150 U	150 U
2,4-Dichlorophenol	UG/KG	610 U	150 U	150 U	150 U	150 U
2,4-Dimethylphenol	UG/KG	610 U	150 U	150 U	150 U	150 U
2,4-Dinitrophenol	UG/KG	1300 UJ	330 UJ	330 UJ	330 UJ	340 UJ
2,4-Dinitrotoluene	UG/KG	810 U	200 U	200 U	200 U	200 U
2,6-Dinitrotoluene	UG/KG	810 U	200 U	200 U	200 U	200 U
2-Chloronaphthalene	UG/KG	200 U	50.0 U	50.0 U	50.0 U	51.0 U
2-Chlorophenol	UG/KG	200 U	50.0 U	50.0 U	50.0 U	51.0 U
2-Methylnaphthalene	UG/KG	31.0	6.60 U	11.0	6.70 U	6.80 U

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	5X	5X	1X

Semivolatile Organic Compounds by Capillary GC/MS

	Units					
1,2,4-Trichlorobenzene	UG/KG	50.0 U	51.0 U	250 U	250 U	55.0 U
1,2-Dichlorobenzene	UG/KG	50.0 U	51.0 U	250 U	250 U	55.0 U
1,3-Dichlorobenzene	UG/KG	50.0 U	51.0 U	250 U	250 U	55.0 U
1,4-Dichlorobenzene	UG/KG	50.0 U	51.0 U	250 U	250 U	55.0 U
2,4,5-Trichlorophenol	UG/KG	150 U	150 U	750 U	760 U	160 U
2,4,6-Trichlorophenol	UG/KG	150 U	150 U	750 U	760 U	160 U
2,4-Dichlorophenol	UG/KG	150 U	150 U	750 U	760 U	160 U
2,4-Dimethylphenol	UG/KG	150 U	150 U	750 U	760 U	160 U
2,4-Dinitrophenol	UG/KG	330 UJ	330 UJ	1700 UJ	1700 UJ	360 UJ
2,4-Dinitrotoluene	UG/KG	200 U	39.0 J	1000 U	1000 U	220 U
2,6-Dinitrotoluene	UG/KG	200 U	200 U	1000 U	1000 U	220 U
2-Chloronaphthalene	UG/KG	50.0 U	51.0 U	250 U	250 U	55.0 U
2-Chlorophenol	UG/KG	50.0 U	51.0 U	250 U	250 U	55.0 U
2-Methylnaphthalene	UG/KG	6.70 U	16.0	33.0 U	34.0 U	7.30 U

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UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X

Semivolatile Organic Compounds by Capillary GC/MS

	Units				
1,2,4-Trichlorobenzene	UG/KG	50.0 U	50.0 U	50.0 U	50.0 U
1,2-Dichlorobenzene	UG/KG	50.0 U	50.0 U	50.0 U	50.0 U
1,3-Dichlorobenzene	UG/KG	50.0 U	50.0 U	50.0 U	50.0 U
1,4-Dichlorobenzene	UG/KG	50.0 U	50.0 U	50.0 U	50.0 U
2,4,5-Trichlorophenol	UG/KG	150 U	150 U	150 U	150 U
2,4,6-Trichlorophenol	UG/KG	150 U	150 U	150 U	150 U
2,4-Dichlorophenol	UG/KG	150 U	150 U	150 U	150 U
2,4-Dimethylphenol	UG/KG	150 U	150 U	150 U	150 U
2,4-Dinitrophenol	UG/KG	330 UJ	330 UJ	330 UJ	330 UJ
2,4-Dinitrotoluene	UG/KG	200 U	200 U	200 U	200 U
2,6-Dinitrotoluene	UG/KG	200 U	200 U	200 U	200 U
2-Chloronaphthalene	UG/KG	50.0 U	50.0 U	50.0 U	50.0 U
2-Chlorophenol	UG/KG	50.0 U	50.0 U	50.0 U	50.0 U
2-Methylnaphthalene	UG/KG	6.70 U	6.60 U	6.70 U	5.70 J

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	2.5X	1X	1X	1X	1X
2-Methylphenol (o-Cresol)	UG/KG 610 UJ	240 U	200 U	200 U	200 U
2-Nitroaniline	UG/KG 610 UJ	240 U	200 U	200 U	200 U
2-Nitrophenol	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
3,3'-Dichlorobenzidine	UG/KG 310 UJ	120 U	100 U	100 U	98.0 U
3-Nitroaniline	UG/KG 610 UJ	240 U	200 U	200 U	200 U
4,6-Dinitro-2-Methylphenol	UG/KG 460 UJ	180 U	150 UJ	150 UJ	150 UJ
4-Bromophenyl phenyl ether	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
4-Chloro-3-Methylphenol	UG/KG 460 UJ	180 U	150 U	150 U	150 U
4-Chloroaniline	UG/KG 460 UJ	180 U	150 U	150 U	150 U
4-Chlorophenyl Phenyl Ether	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
4-Nitroaniline	UG/KG 610 UJ	240 U	200 U	200 U	200 U
4-Nitrophenol	UG/KG 1000 UJ	400 U	330 U	330 U	320 U
Acenaphthene	UG/KG 20.0 UJ	8.00 U	42.0	6.60 U	6.60 U
Acenaphthylene	UG/KG 34.0 J	8.00 U	11.0	6.60 U	4.60 J
Anthracene	UG/KG 75.0 J	8.00 U	150	6.60 U	11.0

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SS	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	10X	1X	1X
2-Methylphenol (o-Cresol)	UG/KG 200 U	200 U	2000 U	200 U	200 U
2-Nitroaniline	UG/KG 200 U	200 U	2000 U	200 U	200 U
2-Nitrophenol	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
3,3'-Dichlorobenzidine	UG/KG 100 U	100 U	1000 U	99.0 U	99.0 U
3-Nitroaniline	UG/KG 200 U	200 U	2000 U	200 U	200 U
4,6-Dinitro-2-Methylphenol	UG/KG 150 UJ	150 UJ	1500 UJ	150 UJ	150 UJ
4-Bromophenyl phenyl ether	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
4-Chloro-3-Methylphenol	UG/KG 150 U	150 U	1500 U	150 U	150 U
4-Chloroaniline	UG/KG 150 U	150 U	1500 U	150 U	150 U
4-Chlorophenyl Phenyl Ether	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
4-Nitroaniline	UG/KG 200 U	200 U	2000 U	200 U	200 U
4-Nitrophenol	UG/KG 330 U	330 U	3400 U	330 U	330 U
Acenaphthene	UG/KG 6.70 U	9.90	68.0 U	6.60 U	6.60 U
Acenaphthylene	UG/KG 6.70 U	3.50 J	68.0 U	6.60 U	3.70 J
Anthracene	UG/KG 6.70 U	16.0	68.0 U	6.60 U	6.60 U

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

U = Compound was Not Detected

ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	12.5X
2-Methylphenol (o-Cresol)	UG/KG 200 U	200 U	200 U	200 U	2500 U
2-Nitroaniline	UG/KG 200 U	200 U	200 U	200 U	2500 U
2-Nitrophenol	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
3,3'-Dichlorobenzidine	UG/KG 100 U	99.0 U	99.0 U	99.0 U	1200 U
3-Nitroaniline	UG/KG 200 U	200 U	200 U	200 U	2500 U
4,6-Dinitro-2-Methylphenol	UG/KG 150 UJ	150 UJ	150 UJ	150 UJ	1900 UJ
4-Bromophenyl phenyl ether	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
4-Chloro-3-Methylphenol	UG/KG 150 U	150 U	150 U	150 U	1900 U
4-Chloroaniline	UG/KG 150 U	150 U	150 U	150 U	1900 U
4-Chlorophenyl Phenyl Ether	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
4-Nitroaniline	UG/KG 200 U	200 U	200 U	200 U	2500 U
4-Nitrophenol	UG/KG 340 U	330 U	330 U	330 U	4100 U
Acenaphthene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	820
Acenaphthylene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	220
Anthracene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	2300

Notes:

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	4X	1X	1X	1X	1X
2-Methylphenol (o-Cresol)	UG/KG 810 U	200 U	200 U	200 U	200 U
2-Nitroaniline	UG/KG 810 U	200 U	200 U	200 U	200 U
2-Nitrophenol	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
3,3'-Dichlorobenzidine	UG/KG 410 U	100 U	100 U	100 U	100 U
3-Nitroaniline	UG/KG 810 U	200 U	200 U	200 U	200 U
4,6-Dinitro-2-Methylphenol	UG/KG 610 UJ	150 UJ	150 UJ	150 UJ	150 UJ
4-Bromophenyl phenyl ether	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
4-Chloro-3-Methylphenol	UG/KG 610 U	150 U	150 U	150 U	150 U
4-Chloroaniline	UG/KG 610 U	150 U	150 U	150 U	150 U
4-Chlorophenyl Phenyl Ether	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
4-Nitroaniline	UG/KG 810 U	200 U	200 U	200 U	200 U
4-Nitrophenol	UG/KG 1300 U	330 U	330 U	330 U	340 U
Acenaphthene	UG/KG 180	6.60 U	6.60 U	6.70 U	6.80 U
Acenaphthylene	UG/KG 27.0 U	6.60 U	6.60 U	6.70 U	6.80 U
Anthracene	UG/KG 790	6.60 U	6.60 U	6.70 U	6.80 U

Notes:

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	5X	5X	1X
2-Methylphenol (o-Cresol)	UG/KG 200 U	200 U	1000 U	1000 U	220 U
2-Nitroaniline	UG/KG 200 U	200 U	1000 U	1000 U	220 U
2-Nitrophenol	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
3,3'-Dichlorobenzidine	UG/KG 100 U	100 U	500 U	510 U	110 U
3-Nitroaniline	UG/KG 200 U	200 U	1000 U	1000 U	220 U
4,6-Dinitro-2-Methylphenol	UG/KG 150 UJ	150 UJ	750 UJ	760 UJ	160 UJ
4-Bromophenyl phenyl ether	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
4-Chloro-3-Methylphenol	UG/KG 150 U	150 U	750 U	760 U	160 U
4-Chloroaniline	UG/KG 150 U	150 U	750 U	760 U	160 U
4-Chlorophenyl Phenyl Ether	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
4-Nitroaniline	UG/KG 200 U	200 U	1000 U	1000 U	220 U
4-Nitrophenol	UG/KG 330 U	330 U	1700 U	1700 U	360 U
Acenaphthene	UG/KG 6.70 U	6.80 U	33.0 U	34.0 U	7.30 U
Acenaphthylene	UG/KG 6.70 U	6.80 U	33.0 U	34.0 U	7.30 U
Anthracene	UG/KG 6.70 U	6.80 U	33.0 U	34.0 U	7.30 U

Notes:

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U = Compound was Not Detected

ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X
2-Methylphenol (o-Cresol)	UG/KG 200 U	200 U	200 U	200 U
2-Nitroaniline	UG/KG 200 U	200 U	200 U	200 U
2-Nitrophenol	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
3,3'-Dichlorobenzidine	UG/KG 100 U	99.0 U	100 U	100 U
3-Nitroaniline	UG/KG 200 U	200 U	200 U	200 U
4,6-Dinitro-2-Methylphenol	UG/KG 150 UJ	150 UJ	150 UJ	150 UJ
4-Bromophenyl phenyl ether	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
4-Chloro-3-Methylphenol	UG/KG 150 U	150 U	150 U	150 U
4-Chloroaniline	UG/KG 150 U	150 U	150 U	150 U
4-Chlorophenyl Phenyl Ether	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
4-Nitroaniline	UG/KG 200 U	200 U	200 U	200 U
4-Nitrophenol	UG/KG 330 U	330 U	330 U	330 U
Acenaphthene	UG/KG 6.70 U	6.60 U	6.70 U	6.70 U
Acenaphthylene	UG/KG 6.70 U	6.60 U	6.70 U	6.70 U
Anthracene	UG/KG 6.70 U	6.60 U	6.70 U	4.60 J

Notes:

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	2.5X	1X	1X	1X	1X
Benzo(a)anthracene	UG/KG 710 J	5.00 J	300	6.60 U	35.0
Benzo(a)pyrene	UG/KG 530 J	5.30 J	290	6.60 U	46.0
Benzo(b)fluoranthene	UG/KG 820 J	5.10 J	450	6.60 U	62.0
Benzo(g,h,i)perylene	UG/KG 390 J	8.00 U	110	6.60 U	27.0 J
Benzo(k)fluoranthene	UG/KG 400 J	8.00 U	150	6.60 U	24.0
Benzoic acid	UG/KG 2000 R	790 R	670 R	660 R	650 R
Benzyl alcohol	UG/KG 1000 UJ	400 U	330 U	330 U	320 U
Benzyl butyl phthalate	UG/KG 210 UJ	60.0 U	50.0 U	50.0 U	49.0 U
bis(2-Chloroethoxy) Methane	UG/KG 310 UJ	120 U	100 U	100 U	98.0 U
bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	UG/KG 310 UJ	120 U	100 U	100 U	98.0 U
bis(2-Chloroisopropyl) Ether	UG/KG 310 UJ	120 U	100 U	100 U	98.0 U
bis(2-Ethylhexyl) Phthalate	UG/KG 210 UJ	25.0 J	83.0	94.0	49.0 U
Carbazole	UG/KG 150 J	60.0 U	78.0	50.0 U	49.0 U
Chrysene	UG/KG 740 J	6.50 J	330	6.60 U	45.0
Cresols, m & p	UG/KG 1200 UJ	480 U	400 U	400 U	390 U

Notes:

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MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SS	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	10X	1X	1X
Benzo(a)anthracene	UG/KG 6.30 J	76.0	68.0 U	6.60 U	17.0
Benzo(a)pyrene	UG/KG 6.70 U	76.0	68.0 U	6.60 U	20.0
Benzo(b)fluoranthene	UG/KG 16.0	130	68.0 U	6.60 U	41.0
Benzo(g,h,i)perylene	UG/KG 10.0	45.0 J	68.0 U	6.60 U	8.90 J
Benzo(k)fluoranthene	UG/KG 6.70 U	37.0	68.0 U	6.60 U	7.60
Benzoic acid	UG/KG 660 R	390 J	6700 R	650 R	470 J
Benzyl alcohol	UG/KG 330 U	33.0 J	3400 U	330 U	34.0 J
Benzyl butyl phthalate	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
bis(2-Chloroethoxy) Methane	UG/KG 100 U	100 U	1000 U	99.0 U	99.0 U
bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	UG/KG 100 U	100 U	1000 U	99.0 U	99.0 U
bis(2-Chloroisopropyl) Ether	UG/KG 100 U	100 U	1000 U	99.0 U	99.0 U
bis(2-Ethylhexyl) Phthalate	UG/KG 90.0	50.0 U	510 U	98.0	19.0 J
Carbazole	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Chrysene	UG/KG 21.0	120	68.0 U	6.60 U	24.0
Cresols, m & p	UG/KG 400 U	400 U	4100 U	400 U	400 U

Notes:

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UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	12.5X
Benzo(a)anthracene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	3900
Benzo(a)pyrene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	3400
Benzo(b)fluoranthene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	4500
Benzo(g,h,i)perylene	UG/KG 6.80 U	6.60 UJ	6.60 UJ	6.60 UJ	1400 J
Benzo(k)fluoranthene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	1700
Benzoic acid	UG/KG 670 R	650 R	660 R	650 R	8200 R
Benzyl alcohol	UG/KG 340 U	330 U	330 U	330 U	4100 U
Benzyl butyl phthalate	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
bis(2-Chloroethoxy) Methane	UG/KG 100 U	99.0 U	99.0 U	99.0 U	1200 U
bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	UG/KG 100 U	99.0 U	99.0 U	99.0 U	1200 U
bis(2-Chloroisopropyl) Ether	UG/KG 100 U	99.0 U	99.0 U	99.0 U	1200 U
bis(2-Ethylhexyl) Phthalate	UG/KG 59.0	40.0 J	54.0 J	180 J	620 U
Carbazole	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	1100
Chrysene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	4000
Cresols, m & p	UG/KG 410 U	390 U	400 U	400 U	5000 U

Notes:

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	4X	1X	1X	1X	1X
Benzo(a)anthracene	UG/KG 1300	6.60 U	6.60 U	6.70 U	6.80 U
Benzo(a)pyrene	UG/KG 870	6.60 U	7.50	6.70 U	6.80 U
Benzo(b)fluoranthene	UG/KG 1200	6.60 U	19.0	6.70 U	6.80 U
Benzo(g,h,i)perylene	UG/KG 370 J	6.60 UJ	7.60 J	6.70 UJ	6.80 UJ
Benzo(k)fluoranthene	UG/KG 480	6.60 U	6.60 U	6.70 U	6.80 U
Benzoic acid	UG/KG 2700 R	660 R	660 R	660 R	670 R
Benzyl alcohol	UG/KG 1300 U	330 U	330 U	330 U	340 U
Benzyl butyl phthalate	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
bis(2-Chloroethoxy) Methane	UG/KG 410 U	100 U	100 U	100 U	100 U
bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	UG/KG 410 U	100 U	100 U	100 U	100 U
bis(2-Chloroisopropyl) Ether	UG/KG 410 U	100 U	100 U	100 U	100 U
bis(2-Ethylhexyl) Phthalate	UG/KG 93.0 J	44.0 J	55.0	35.0 J	41.0 J
Carbazole	UG/KG 130 J	50.0 U	50.0 U	50.0 U	51.0 U
Chrysene	UG/KG 1300	6.60 U	6.60 U	6.70 U	6.80 U
Cresols, m & p	UG/KG 1600 U	400 U	400 U	400 U	410 U

Notes:

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ID = Identification

QC = Quality Control

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MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	5X	5X	1X
Benzo(a)anthracene	UG/KG 6.70 U	12.0	33.0 U	34.0 U	7.30 U
Benzo(a)pyrene	UG/KG 6.70 U	6.80	33.0 U	34.0 U	7.30 U
Benzo(b)fluoranthene	UG/KG 6.70 U	27.0	33.0 U	34.0 U	7.30 U
Benzo(g,h,i)perylene	UG/KG 6.70 UJ	24.0 J	33.0 U	34.0 U	7.30 U
Benzo(k)fluoranthene	UG/KG 6.70 U	6.90	33.0 U	34.0 U	7.30 U
Benzoic acid	UG/KG 670 R	670 R	3300 R	3300 R	720 R
Benzyl alcohol	UG/KG 330 U	330 U	1700 U	1700 U	360 U
Benzyl butyl phthalate	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
bis(2-Chloroethoxy) Methane	UG/KG 100 U	100 U	500 U	510 U	110 U
bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	UG/KG 100 U	100 U	500 U	510 U	110 U
bis(2-Chloroisopropyl) Ether	UG/KG 100 U	100 U	500 U	510 U	110 U
bis(2-Ethylhexyl) Phthalate	UG/KG 34.0 J	83.0	250 U	250 U	76.0
Carbazole	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Chrysene	UG/KG 6.70 U	50.0	33.0 U	34.0 U	7.30 U
Cresols, m & p	UG/KG 400 U	400 U	2000 U	2000 U	440 U

Notes:

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X
Benzo(a)anthracene	UG/KG 6.70 U	6.60 U	6.70 U	24.0
Benzo(a)pyrene	UG/KG 6.70 U	6.60 U	6.70 U	22.0
Benzo(b)fluoranthene	UG/KG 6.70 U	6.60 U	6.70 U	29.0
Benzo(g,h,i)perylene	UG/KG 6.70 U	6.60 U	6.70 U	14.0
Benzo(k)fluoranthene	UG/KG 6.70 U	6.60 U	6.70 U	10.0
Benzoic acid	UG/KG 660 R	660 R	660 R	670 R
Benzyl alcohol	UG/KG 330 U	330 U	330 U	330 U
Benzyl butyl phthalate	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
bis(2-Chloroethoxy) Methane	UG/KG 100 U	99.0 U	100 U	100 U
bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	UG/KG 100 U	99.0 U	100 U	100 U
bis(2-Chloroisopropyl) Ether	UG/KG 100 U	99.0 U	100 U	100 U
bis(2-Ethylhexyl) Phthalate	UG/KG 50.0	44.0 J	58.0	30.0 J
Carbazole	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Chrysene	UG/KG 6.70 U	6.60 U	6.70 U	23.0
Cresols, m & p	UG/KG 400 U	400 U	400 U	400 U

Notes:

J = Detected, Estimated

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TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	2.5X	1X	1X	1X	1X
Dibenz(a,h)anthracene	UG/KG 110 J	8.00 U	30.0	6.60 U	6.60 U
Dibenzofuran	UG/KG 150 UJ	60.0 U	35.0 J	50.0 U	10.0 J
Diethyl Phthalate	UG/KG 210 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Dimethyl Phthalate	UG/KG 210 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Di-n-Butyl Phthalate	UG/KG 210 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Di-n-Octylphthalate	UG/KG 210 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Fluoranthene	UG/KG 1200 J	6.10 J	740	6.60 U	75.0
Fluorene	UG/KG 20.0 UJ	8.00 U	58.0	6.60 U	5.10 J
Hexachlorobenzene	UG/KG 20.0 UJ	8.00 U	6.70 U	6.60 U	6.60 U
Hexachlorobutadiene	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Hexachlorocyclopentadiene	UG/KG 1000 UJ	400 U	330 U	330 U	320 U
Hexachloroethane	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 UJ
Indeno(1,2,3-c,d)pyrene	UG/KG 330 J	8.00 U	110	6.60 U	20.0
Isophorone	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Naphthalene	UG/KG 31.0 J	8.00 U	28.0	6.60 U	26.0

Notes:

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MG/KG = Milligrams per Kilogram

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SB	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	10X	1X	1X
Dibenz(a,h)anthracene	UG/KG 6.70 U	12.0	68.0 U	6.60 U	6.60 U
Dibenzofuran	UG/KG 50.0 U	16.0 J	510 U	50.0 U	50.0 U
Diethyl Phthalate	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Dimethyl Phthalate	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Di-n-Butyl Phthalate	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Di-n-Octylphthalate	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Fluoranthene	UG/KG 15.0	6.60 U	68.0 U	6.60 U	34.0
Fluorene	UG/KG 6.70 U	12.0	68.0 U	6.60 U	6.60 U
Hexachlorobenzene	UG/KG 6.70 U	6.60 U	68.0 U	6.60 U	6.60 U
Hexachlorobutadiene	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Hexachlorocyclopentadiene	UG/KG 330 U	330 U	3400 U	330 U	330 U
Hexachloroethane	UG/KG 50.0 U	50.0 UJ	510 U	50.0 U	50.0 UJ
Indeno(1,2,3-c,d)pyrene	UG/KG 6.70 U	33.0	68.0 U	6.60 U	11.0
Isophorone	UG/KG 50.0 U	17.0 J	510 U	50.0 U	50.0 U
Naphthalene	UG/KG 5.70 J	23.0	68.0 U	6.60 U	10.0

Notes:

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	12.5X
Dibenz(a,h)anthracene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	310
Dibenzofuran	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	670
Diethyl Phthalate	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Dimethyl Phthalate	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Di-n-Butyl Phthalate	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Di-n-Octylphthalate	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Fluoranthene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	10000
Fluorene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	1100
Hexachlorobenzene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	83.0 U
Hexachlorobutadiene	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Hexachlorocyclopentadiene	UG/KG 340 U	330 U	330 U	330 U	4100 U
Hexachloroethane	UG/KG 51.0 U	49.0 UJ	50.0 UJ	49.0 UJ	620 UJ
Indeno(1,2,3-c,d)pyrene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	1400
Isophorone	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Naphthalene	UG/KG 6.80 U	4.50 J	3.90 J	5.00 J	450

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	4X	1X	1X	1X	1X
Dibenz(a,h)anthracene	UG/KG 83.0	6.60 U	6.60 U	6.70 U	6.80 U
Dibenzofuran	UG/KG 100 J	50.0 U	50.0 U	50.0 U	51.0 U
Diethyl Phthalate	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Dimethyl Phthalate	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Di-n-Butyl Phthalate	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Di-n-Octylphthalate	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Fluoranthene	UG/KG 3400	4.60 J	16.0	6.70 U	6.80 U
Fluorene	UG/KG 200	6.60 U	6.60 U	6.70 U	6.80 U
Hexachlorobenzene	UG/KG 27.0 U	6.60 U	6.60 U	6.70 U	6.80 U
Hexachlorobutadiene	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Hexachlorocyclopentadiene	UG/KG 1300 U	330 U	330 U	330 U	340 U
Hexachloroethane	UG/KG 200 UJ	50.0 UJ	50.0 UJ	50.0 UJ	51.0 UJ
Indeno(1,2,3-c,d)pyrene	UG/KG 360	6.60 U	6.60 U	6.70 U	6.80 U
Isophorone	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Naphthalene	UG/KG 20.0 J	6.60 U	5.90 J	6.70 U	6.80 U

Notes:

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MG/KG = Milligrams per Kilogram

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	5X	5X	1X
Dibenz(a,h)anthracene	UG/KG 6.70 U	6.80 U	33.0 U	34.0 U	7.30 U
Dibenzofuran	UG/KG 50.0 U	5.40 J	250 U	250 U	55.0 U
Diethyl Phthalate	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Dimethyl Phthalate	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Di-n-Butyl Phthalate	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Di-n-Octylphthalate	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Fluoranthene	UG/KG 6.70 U	33.0	33.0 U	34.0 U	7.30 U
Fluorene	UG/KG 6.70 U	6.80 U	33.0 U	34.0 U	7.30 U
Hexachlorobenzene	UG/KG 6.70 U	6.80 U	33.0 U	34.0 U	7.30 U
Hexachlorobutadiene	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Hexachlorocyclopentadiene	UG/KG 330 U	330 U	1700 U	1700 U	360 U
Hexachloroethane	UG/KG 50.0 UJ	51.0 UJ	250 U	250 U	55.0 U
Indeno(1,2,3-c,d)pyrene	UG/KG 6.70 U	9.70	33.0 U	34.0 U	7.30 U
Isophorone	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Naphthalene	UG/KG 6.70 U	7.50	33.0 U	34.0 U	7.30 U

Notes:

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X
Dibenz(a,h)anthracene	UG/KG 6.70 U	6.60 U	6.70 U	6.70 U
Dibenzofuran	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Diethyl Phthalate	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Dimethyl Phthalate	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Di-n-Butyl Phthalate	UG/KG 50.0 U	16.0 J	50.0 U	50.0 U
Di-n-Octylphthalate	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Fluoranthene	UG/KG 6.70 U	6.60 U	6.70 U	46.0
Fluorene	UG/KG 6.70 U	6.60 U	6.70 U	6.70 U
Hexachlorobenzene	UG/KG 6.70 U	6.60 U	6.70 U	6.70 U
Hexachlorobutadiene	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Hexachlorocyclopentadiene	UG/KG 330 U	330 U	330 U	330 U
Hexachloroethane	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Indeno(1,2,3-c,d)pyrene	UG/KG 6.70 U	6.60 U	6.70 U	11.0
Isophorone	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Naphthalene	UG/KG 6.70 U	3.90 J	6.70 U	4.50 J

Notes:

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UJ = Compound was not detected and reporting limit is estimated

U = Compound was Not Detected

ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	2.5X	1X	1X	1X	1X
Nitrobenzene	UG/KG 310 UJ	120 U	100 U	100 U	98.0 U
n-Nitrosodi-n-propylamine	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
n-Nitrosodiphenylamine	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Pentachlorophenol	UG/KG 460 UJ	180 U	150 U	150 U	150 U
Phenanthrene	UG/KG 260 J	8.00 U	530	6.60 U	61.0
Phenol	UG/KG 150 UJ	60.0 U	50.0 U	50.0 U	49.0 U
Pyrene	UG/KG 960 J	5.50 J	600	6.60 U	64.0

Notes:

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MG/KG = Milligrams per Kilogram

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SB	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	10X	1X	1X
Nitrobenzene	UG/KG 100 U	100 U	1000 U	99.0 U	99.0 U
n-Nitrosodi-n-propylamine	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
n-Nitrosodiphenylamine	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Pentachlorophenol	UG/KG 150 U	150 U	1500 U	150 U	150 U
Phenanthrene	UG/KG 26.0	250	68.0 U	6.60 U	19.0
Phenol	UG/KG 50.0 U	50.0 U	510 U	50.0 U	50.0 U
Pyrene	UG/KG 13.0	140	68.0 U	6.60 U	30.0

Notes:

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MG/KG = Milligrams per Kilogram

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	1X	1X	12.5X
Nitrobenzene	UG/KG 100 U	99.0 U	99.0 U	99.0 U	1200 U
n-Nitrosodi-n-propylamine	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
n-Nitrosodiphenylamine	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Pentachlorophenol	UG/KG 150 U	150 U	150 U	150 U	1900 U
Phenanthrene	UG/KG 6.80 U	4.90 J	6.60 U	6.60 U	8400
Phenol	UG/KG 51.0 U	49.0 U	50.0 U	49.0 U	620 U
Pyrene	UG/KG 6.80 U	6.60 U	6.60 U	6.60 U	7700

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

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ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					Field Duplicate
Analysis Information:	4X	1X	1X	1X	1X
Nitrobenzene	UG/KG 410 U	100 U	100 U	100 U	100 U
n-Nitrosodi-n-propylamine	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
n-Nitrosodiphenylamine	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Pentachlorophenol	UG/KG 610 U	150 U	150 U	150 U	150 U
Phenanthrene	UG/KG 2200	6.60 U	34.0	6.70 U	5.50 J
Phenol	UG/KG 200 U	50.0 U	50.0 U	50.0 U	51.0 U
Pyrene	UG/KG 2600	4.20 J	16.0	6.70 U	6.80 U

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				Field Duplicate	
Analysis Information:	1X	1X	5X	5X	1X
Nitrobenzene	UG/KG 100 U	100 U	500 U	510 U	110 U
n-Nitrosodi-n-propylamine	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
n-Nitrosodiphenylamine	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Pentachlorophenol	UG/KG 150 U	150 U	750 U	760 U	160 U
Phenanthrene	UG/KG 6.70 U	110	33.0 U	34.0 U	7.30 U
Phenol	UG/KG 50.0 U	51.0 U	250 U	250 U	55.0 U
Pyrene	UG/KG 6.70 U	19.0	33.0 U	34.0 U	7.30 U

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X
Nitrobenzene	UG/KG 100 U	99.0 U	100 U	100 U
n-Nitrosodi-n-propylamine	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
n-Nitrosodiphenylamine	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Pentachlorophenol	UG/KG 150 U	150 U	150 U	150 U
Phenanthrene	UG/KG 6.70 U	6.60 U	6.70 U	24.0
Phenol	UG/KG 50.0 U	50.0 U	50.0 U	50.0 U
Pyrene	UG/KG 6.70 U	6.60 U	6.70 U	38.0

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Nitroaromatics and Nitramines by HPLC

	Units				
1,3,5-Trinitrobenzene	MG/KG	0.130 J	0.250 U		
1,3-Dinitrobenzene	MG/KG	0.250 U	0.250 U		
2,4,6-Trinitrotoluene	MG/KG	7.10 J	0.880		
2,4-Dinitrotoluene	MG/KG	0.250 U	0.250 U		
2,6-Dinitrotoluene	MG/KG	0.250 U	0.250 U		
2-Amino-4,6-dinitrotoluene	MG/KG	2.40 J	0.110 J		
2-Nitrotoluene	MG/KG	0.250 U	0.250 U		
3-Nitrotoluene	MG/KG	0.250 U	0.250 U		
4-Amino-2,6-Dinitrotoluene	MG/KG	2.50 J	0.0640 J		
4-Nitrotoluene	MG/KG	0.250 U	0.250 U		
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	MG/KG	0.250 U	0.250 U		
Nitrobenzene	MG/KG	0.250 U	0.250 U		
Nitroglycerin	MG/KG	0.500 U	0.500 U	0.500 UJ	0.500 UJ

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SB	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Nitroaromatics and Nitramines by HPLC

	Units
1,3,5-Trinitrobenzene	MG/KG
1,3-Dinitrobenzene	MG/KG
2,4,6-Trinitrotoluene	MG/KG
2,4-Dinitrotoluene	MG/KG
2,6-Dinitrotoluene	MG/KG
2-Amino-4,6-dinitrotoluene	MG/KG
2-Nitrotoluene	MG/KG
3-Nitrotoluene	MG/KG
4-Amino-2,6-Dinitrotoluene	MG/KG
4-Nitrotoluene	MG/KG
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	MG/KG
Nitrobenzene	MG/KG
Nitroglycerin	MG/KG 0.500 UJ 0.500 UJ 0.500 UJ 0.500 UJ 0.500 UJ

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Nitroaromatics and Nitramines by HPLC

	Units				
1,3,5-Trinitrobenzene	MG/KG	0.250 U			
1,3-Dinitrobenzene	MG/KG	0.250 U			
2,4,6-Trinitrotoluene	MG/KG	0.250 U			
2,4-Dinitrotoluene	MG/KG	0.250 U			
2,6-Dinitrotoluene	MG/KG	0.250 U			
2-Amino-4,6-dinitrotoluene	MG/KG	0.250 U			
2-Nitrotoluene	MG/KG	0.250 U			
3-Nitrotoluene	MG/KG	0.250 U			
4-Amino-2,6-Dinitrotoluene	MG/KG	0.250 U			
4-Nitrotoluene	MG/KG	0.250 U			
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	MG/KG	0.250 U			
Nitrobenzene	MG/KG	0.250 U			
Nitroglycerin	MG/KG	0.500 UJ	0.500 U	0.500 UJ	0.500 UJ

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Nitroaromatics and Nitramines by HPLC

	Units				
1,3,5-Trinitrobenzene	MG/KG			0.250 U	
1,3-Dinitrobenzene	MG/KG			0.250 U	
2,4,6-Trinitrotoluene	MG/KG			0.250 U	
2,4-Dinitrotoluene	MG/KG			0.250 U	
2,6-Dinitrotoluene	MG/KG			0.250 U	
2-Amino-4,6-dinitrotoluene	MG/KG			0.250 U	
2-Nitrotoluene	MG/KG			0.250 U	
3-Nitrotoluene	MG/KG			0.250 U	
4-Amino-2,6-Dinitrotoluene	MG/KG			0.250 U	
4-Nitrotoluene	MG/KG			0.250 U	
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	MG/KG			0.250 U	
Nitrobenzene	MG/KG			0.250 U	
Nitroglycerin	MG/KG	0.500 UJ	0.500 UJ	0.500 U	0.500 UJ

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X

Nitroaromatics and Nitramines by HPLC

	Units
1,3,5-Trinitrobenzene	MG/KG
1,3-Dinitrobenzene	MG/KG
2,4,6-Trinitrotoluene	MG/KG
2,4-Dinitrotoluene	MG/KG
2,6-Dinitrotoluene	MG/KG
2-Amino-4,6-dinitrotoluene	MG/KG
2-Nitrotoluene	MG/KG
3-Nitrotoluene	MG/KG
4-Amino-2,6-Dinitrotoluene	MG/KG
4-Nitrotoluene	MG/KG
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	MG/KG
Nitrobenzene	MG/KG
Nitroglycerin	MG/KG 0.500 UJ 0.500 UJ 0.500 UJ 0.500 UJ 0.500 UJ

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UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X

Nitroaromatics and Nitramines by HPLC

	Units			
1,3,5-Trinitrobenzene	MG/KG	0.250 U		
1,3-Dinitrobenzene	MG/KG	0.250 U		
2,4,6-Trinitrotoluene	MG/KG	0.250 U		
2,4-Dinitrotoluene	MG/KG	0.250 U		
2,6-Dinitrotoluene	MG/KG	0.250 U		
2-Amino-4,6-dinitrotoluene	MG/KG	0.250 U		
2-Nitrotoluene	MG/KG	0.250 U		
3-Nitrotoluene	MG/KG	0.250 U		
4-Amino-2,6-Dinitrotoluene	MG/KG	0.250 U		
4-Nitrotoluene	MG/KG	0.250 U		
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	MG/KG	0.250 U		
Nitrobenzene	MG/KG	0.250 U		
Nitroglycerin	MG/KG	0.500 U	0.500 UJ	0.500 UJ

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-TPA-TP6	78-TPA-TP7	78-QPSD-DU1-SB	78-QPSD-DU1-SB	78-QPSD-DU1-SS
Field Sample ID:	078TP-0039-0001-TP	078TP-0040-0001-TP	078SB-0004M-0001-SO	078SB-0005M-0001-SO	078SS-0210M-0001-SO
Lab Sample ID:	240-22562-17	240-22562-21	240-22559-4	240-22559-5	240-22559-1
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/27/2013	3/27/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
NITROGUANIDINE	MG/KG 0.250 U	0.240 U	0.240 U	0.240 U	0.240 U
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	MG/KG 0.250 U	0.250 U			
Pentaerythritol Tetranitrate	MG/KG 0.500 U	0.500 U			
Tetryl	MG/KG 0.250 U	0.250 U			

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB	78-QPSD-DU2-SS	78-QPSD-DU3-SB	78-QPSD-DU3-SB	78-QPSD-DU3-SS
Field Sample ID:	078SB-0013M-0001-SO	078SS-0002M-0001-SO	078SB-0023M-0001-SO	078SB-0024M-0001-SO	078SS-0003M-0001-SO
Lab Sample ID:	240-22559-19	240-22559-2	240-22559-22	240-22559-31	240-22559-3
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
NITROGUANIDINE	MG/KG 0.240 U	0.240 U	0.240 U	0.250 U	0.250 U
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	MG/KG				
Pentaerythritol Tetranitrate	MG/KG				
Tetryl	MG/KG				

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB1	78-QPSD-DU1-SB2	78-QPSD-DU1-SB3	78-QPSD-DU1-SB3	78-QPSD-DU1-SB4
Field Sample ID:	078SB-0006M-0001-SO	078SB-0007M-0001-SO	078SB-0008M-0001-SO	078SB-0009M-0001-SO	078SB-0011M-0001-SO
Lab Sample ID:	240-22559-6	240-22559-7	240-22559-8	240-22559-10	240-22559-11
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
NITROGUANIDINE	MG/KG 0.240 U	0.250 U	0.250 U	0.240 U	0.250 U
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	MG/KG	0.250 U			
Pentaerythritol Tetranitrate	MG/KG	0.500 U			
Tetryl	MG/KG	0.250 U			

Notes:

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU1-SB5	78-QPSD-DU2-SB1	78-QPSD-DU2-SB2	78-QPSD-DU2-SB3	78-QPSD-DU2-SB3
Field Sample ID:	078SB-0012M-0001-SO	078SB-0015M-0001-SO	078SB-0016M-0001-SO	078SB-0017M-0001-SO	078SB-0018M-0001-SO
Lab Sample ID:	240-22559-12	240-22559-13	240-22559-14	240-22559-15	240-22559-16
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
NITROGUANIDINE	MG/KG	0.250 U	0.250 U	0.250 U	0.240 U
0.250 U					
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	MG/KG		0.250 U		
Pentaerythritol Tetranitrate	MG/KG		0.500 U		
Tetryl	MG/KG		0.250 U		

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

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MG/KG = Milligrams per Kilogram

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU2-SB4	78-QPSD-DU2-SB5	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1	78-QPSD-DU3-SB1
Field Sample ID:	078SB-0020M-0001-SO	078SB-0021M-0001-SO	078SB-0025M-0001-SO	078SB-0026M-0001-SO	078SB-0033M-0001-SO
Lab Sample ID:	240-22559-17	240-22559-18	240-22559-23	240-22559-24	240-22559-25
Lab Name:	TAM0	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:					
Analysis Information:	1X	1X	1X	1X	1X
NITROGUANIDINE	MG/KG 0.250 U	0.250 U	0.250 U	0.240 U	0.250 U
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	MG/KG				
Pentaerythritol Tetranitrate	MG/KG				
Tetryl	MG/KG				

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

U = Compound was Not Detected

ID = Identification

QC = Quality Control

TAM0 = TestAmerica, Inc., North Canton, OH

MG/KG = Milligrams per Kilogram

UG/KG = Micrograms per Kilogram

UG/L = Micrograms per Liter

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Spring 2013 RI/SI Sampling Event Sampling Event

Site Name: Site 78

Location ID:	78-QPSD-DU3-SB2	78-QPSD-DU3-SB3	78-QPSD-DU3-SB4	78-QPSD-DU3-SB5
Field Sample ID:	078SB-0028M-0001-SO	078SB-0030M-0001-SO	078SB-0031M-0001-SO	078SB-0032M-0001-SO
Lab Sample ID:	240-22559-26	240-22559-27	240-22559-28	240-22559-29
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	3/26/2013	3/26/2013	3/26/2013	3/26/2013
Field QC:				
Analysis Information:	1X	1X	1X	1X
NITROGUANIDINE	MG/KG 0.240 U	0.250 U	0.240 U	0.250 U
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	MG/KG 0.250 U			
Pentaerythritol Tetranitrate	MG/KG 0.500 U			
Tetryl	MG/KG 0.250 U			

Notes:

J = Detected, Estimated

UJ = Compound was not detected and reporting limit is estimated

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MG/KG = Milligrams per Kilogram

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