

Chemistry Results

Ravenna Army Ammunition Plant

RVAAP. QAPP Oct. 2012

Site Name: Site 75

Location ID:	75-GRTP-DU2-SS	75-GRTP-DU2-SS
Field Sample ID:	075SD-0002-0001-SD	075SD-0003-0001-SD
Lab Sample ID:	240-17467-2	240-17467-4
Lab Name:	TAM0	TAM0
Sample Date:	11/9/2012	11/9/2012
Field QC:		Field Duplicate
Analysis Information:	1X	1X

Nitrogen, Nitrate-Nitrite (Colorimetric Automated, Cadmium Reduction)

	Units		
Nitrocellulose	MG/KG	28 U	28.0 UJ

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75 fixed data vjc 18 Dec2-14 LOD.xls

TAM0 = TestAmerica, Inc., North Canton, OH

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Chemistry Results

Ravenna Army Ammunition Plant

RVAAP, QAPP Oct. 2012

Fall 2012 SI/RI Sampling Event

Site Name: Site 75

Location ID:	75-GRTP-DU2-SS	75-GRTP-DU2-SS
Field Sample ID:	075SD-0002-0001-SD	075SD-0003-0001-SD
Lab Sample ID:	240-17467-2	240-17467-4
Lab Name:	TAM0	TAM0
Sample Date:	11/9/2012	11/9/2012
Field QC:		Field Duplicate
Analysis Information:	1X	10X,1X

Trace Metals by Inductively Coupled Plasma/Mass Spectrometry

	Units		
Aluminum	MG/KG	12000 J	16000
Antimony	MG/KG	0.210 J	0.430 J
Arsenic	MG/KG	9.50 J	9.00
Barium	MG/KG	110 J	130
Beryllium	MG/KG	0.890 J	1.70 J
Cadmium	MG/KG	0.630	0.760
Calcium	MG/KG	6400 J	50000 J
Chromium	MG/KG	15.0 J	21.0
Cobalt	MG/KG	9.60	11.0
Copper	MG/KG	17.0	21.0
Iron	MG/KG	20000	19000
Lead	MG/KG	22.0	32.0
Magnesium	MG/KG	2800 J	5600 J
Manganese	MG/KG	2200 J	4100 J
Nickel	MG/KG	21.0 J	21.0
Potassium	MG/KG	1400 J	1200
Selenium	MG/KG	1.30 J	1.40
Silver	MG/KG	1.50	2.30
Sodium	MG/KG	75.0 J	310 J

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Thallium	MG/KG	0.210 J	0.150
Vanadium	MG/KG	20.0 J	15.0
Zinc	MG/KG	140	130

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Site Name: Site 75				
Location ID:	75-GRTP-DU1-SS	75-GRTP-DU2-SS	75-GRTP-DU2-SS	75-GRTP-DU1-SB1
Field Sample ID:	075SD-0001-0001-SD	075SD-0002-0001-SD	075SD-0003-0001-SD	075SB-0001-0001-SO
Lab Sample ID:	240-17467-1	240-17467-2	240-17467-4	240-18441-20
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	11/9/2012	11/9/2012	11/9/2012	12/4/2012
Field QC:			Field Duplicate	
Analysis Information:	5X	1X	1X	1X

Mercury in Soil (Manual Cold-Vapor Technique)	Units				
Mercury	MG/KG	7.20	0.464 J	1.10 J	0.0500 J

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Site Name: Site 75				
Location ID:	75-GRTP-DU1-TR1	75-GRTP-DU1-TR1	75-GRTP-DU1-TR2	75-GRTP-DU1-TR3
Field Sample ID:	075TR-0002-0001-SO	075TR-0003-0001-SO	075TR-0004-0001-SO	075TR-0005-0001-SO
Lab Sample ID:	240-18544-38	240-18544-39	240-18544-40	240-18544-41
Lab Name:	TAM0	TAM0	TAM0	TAM0
Sample Date:	12/6/2012	12/6/2012	12/6/2012	12/6/2012
Field QC:		Field Duplicate		
Analysis Information:	1X	1X	1X	1X

Mercury in Soil (Manual Cold-Vapor Technique)	Units				
Mercury	MG/KG	0.0460 U	0.0460 U	0.0470 U	0.0520 J

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Site Name: Site 75

Location ID:	75-GRTP-DU1-TR4	75-GRTP-DU1-TR5
Field Sample ID:	075TR-0006-0001-SO	075TR-0007-0001-SO
Lab Sample ID:	240-18544-42	240-18544-43
Lab Name:	TAM0	TAM0
Sample Date:	12/6/2012	12/6/2012
Field QC:		
Analysis Information:	1X	1X

Mercury in Soil (Manual Cold-Vapor Technique)	Units	
Mercury	MG/KG	0.350 0.0480 J

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Lab Sample ID:	240-17467-2	240-17467-4
Lab Name:	TAM0	TAM0
Sample Date:	11/9/2012	11/9/2012
Field QC:		Field Duplicate
Analysis Information:	20X	10X

Organochlorine Pesticides and PCBs

by Capillary GC

	Units		
Aldrin	UG/KG	42 U	21.0 U
alpha-BHC (alpha-Hexachlorocyclohexane)	UG/KG	42 U	21.0 U
alpha-Chlordane	UG/KG	42 U	21.0 U
alpha-Endosulfan	UG/KG	21 U	10.0 U
beta-BHC (beta-Hexachlorocyclohexane)	UG/KG	42 U	21.0 U
beta-Endosulfan	UG/KG	42 U	21.0 U
delta-BHC (delta-Hexachlorocyclohexane)	UG/KG	42 U	21.0 UJ
Dieldrin	UG/KG	21 U	10.0 U
Endosulfan Sulfate	UG/KG	42 U	21.0 UJ
Endrin	UG/KG	21 U	10.0 U
Endrin Aldehyde	UG/KG	42 U	21.0 U
Endrin Ketone	UG/KG	21 U	10.0 UJ
gamma-BHC (Lindane)	UG/KG	42 U	21.0 U
gamma-Chlordane	UG/KG	21 U	10.0 U
Heptachlor	UG/KG	42 U	21.0 U
Heptachlor Epoxide	UG/KG	42 UJ	21.0 U
Methoxychlor	UG/KG	110 U	52.0 UJ

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Fall 2012 SI/RI Sampling Sampling Event

p,p'-DDD	UG/KG	21 U	10.0 UJ
p,p'-DDE	UG/KG	13 J	10.0 U
p,p'-DDT	UG/KG	29 J	10.0 U
Toxaphene	UG/KG	640 U	310 U

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Lab Sample ID:	240-17467-2	240-17467-4
Lab Name:	TAM0	TAM0
Sample Date:	11/9/2012	11/9/2012
Field QC:		Field Duplicate
Analysis Information:	1X	1X

Polychlorinated Biphenyls (PCB)	Units		
PCB-1016 (Arochlor 1016)	UG/KG	40.0 U	39.0 UJ
PCB-1221 (Arochlor 1221)	UG/KG	40.0 U	39.0 U
PCB-1232 (Arochlor 1232)	UG/KG	40.0 U	39.0 U
PCB-1242 (Arochlor 1242)	UG/KG	40.0 U	39.0 U
PCB-1248 (Arochlor 1248)	UG/KG	40.0 U	39.0 U
PCB-1254 (Arochlor 1254)	UG/KG	40.0 U	39.0 U
PCB-1260 (Arochlor 1260)	UG/KG	40.0 U	39.0 U

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Fall 2012 SI/RI Sampling Sampling Event

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Field Sample ID:	075SD-0002-0001-SD	075SD-0003-0001-SD	075SD-0004-0001-TB
Lab Sample ID:	240-17467-2	240-17467-4	240-17467-3
Lab Name:	TAM0	TAM0	TAM0
Sample Date:	11/9/2012	11/9/2012	11/9/2012
Field QC:		Field Duplicate	
Analysis Information:	1X	1X	1X

Volatile Organic Compounds by

Capillary GC/MS

Units

	UG/L			
1,1,1-Trichloroethane	UG/L	1.5 UJ	1.60 U	0.250 U
1,1,2,2-Tetrachloroethane	UG/L	0.76 UJ	0.800 U	0.250 U
1,1,2-Trichloroethane	UG/L	0.76 U	0.800 U	0.500 U
1,1-Dichloroethane	UG/L	0.76 U	0.800 U	0.250 U
1,1-Dichloroethene	UG/L	1.5 U	1.60 U	0.250 U
1,2-Dibromoethane (EDB)	UG/L	1.50 UJ	1.60 U	0.250 U
1,2-Dichloroethane	UG/L	0.76 U	0.800 U	0.250 U
1,2-Dichloroethene	UG/L	1.50 UJ	1.60 U	0.500 U
1,2-Dichloropropane	UG/L	1.5 U	1.60 U	0.250 U
2-Butanone (MEK)	UG/L	3.1 U	3.20 U	0.570 U
2-Hexanone	UG/L	1.6 J	1.60 U	0.500 U
4-Methyl-2-pentanone (MIBK)	UG/L	1.5 U	1.60 U	0.500 U
Acetone	UG/L	9.6 U	10.0 U	1.10 U
Benzene	UG/L	0.76 U	0.800 U	0.250 U
Bromochloromethane	UG/L	1.5 U	1.60 U	0.500 U
Bromodichloromethane	UG/L	0.76 UJ	0.800 U	0.250 U
Bromoform	UG/L	0.76 U	0.800 U	0.640 U
Bromomethane	UG/L	1.50 UJ	1.60 U	0.500 U
Carbon Disulfide	UG/L	1.3 J	0.800 U	0.250 U

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Carbon Tetrachloride	UG/L	0.76 U	0.800 U	0.250 U
Chlorobenzene	UG/L	0.76 UJ	0.800 U	0.250 U
Chloroethane	UG/L	1.5 UJ	1.60 U	0.500 U
Chloroform	UG/L	0.76 U	0.800 U	0.250 U
Chloromethane	UG/L	0.76 U	0.800 U	0.500 U
cis-1,3-Dichloropropene	UG/L	0.76 U	0.800 U	0.250 U
Dibromochloromethane	UG/L	1.5 UJ	1.60 U	0.250 U
Ethylbenzene	UG/L	0.76 UJ	0.800 U	0.250 U
Methylene Chloride	UG/L	0.76 U	4.10 J	0.500 U
Styrene	UG/L	0.31 J	0.800 U	0.250 U
tert-Butyl Methyl Ether (MTBE)	UG/L	0.76 U	0.800 U	0.250 U
Tetrachloroethene (PCE)	UG/L	1.5 UJ	1.60 U	0.500 U
Toluene	UG/L	0.76 UJ	0.800 U	0.250 U
trans-1,3-Dichloropropene	UG/L	1.5 U	1.60 U	0.250 U
Trichloroethene (TCE)	UG/L	0.76 U	0.800 U	0.250 U
Vinyl Chloride	UG/L	0.76 U	0.800 U	0.250 U
Xylenes, Total	UG/L	2.3 UJ	2.40 U	0.750 U

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Lab Name:	TAM0	TAM0
Sample Date:	11/9/2012	11/9/2012
Field QC:		Field Duplicate
Analysis Information:	1X	1X

Semivolatile Organic Compounds by

Capillary GC/MS

Units

	UG/KG		
1,2,4-Trichlorobenzene	UG/KG	43.0 U	42.0 U
1,2-Dichlorobenzene	UG/KG	140 J	42.0 UJ
1,3-Dichlorobenzene	UG/KG	43.0 U	42.0 U
1,4-Dichlorobenzene	UG/KG	50 J	42.0 U
2,4,5-Trichlorophenol	UG/KG	43.0 U	42.0 U
2,4,6-Trichlorophenol	UG/KG	130 U	130 U
2,4-Dichlorophenol	UG/KG	43.0 U	42.0 U
2,4-Dimethylphenol	UG/KG	130 U	130 U
2,4-Dinitrophenol	UG/KG	130 U	130 U
2,4-Dinitrotoluene	UG/KG	43.0 U	42.0 U
2,6-Dinitrotoluene	UG/KG	43.0 U	42.0 U
2-Chloronaphthalene	UG/KG	5.30 U	5.20 U
2-Chlorophenol	UG/KG	43.0 U	42.0 U
2-Methylnaphthalene	UG/KG	18.0	15.0
2-Methylphenol (o-Cresol)	UG/KG	130 U	130 U
2-Nitroaniline	UG/KG	43.0 U	42.0 U
2-Nitrophenol	UG/KG	43.0 U	42.0 U
3,3'-Dichlorobenzidine	UG/KG	130 R	130 UJ
3-Nitroaniline	UG/KG	130 UJ	130 U

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4,6-Dinitro-2-Methylphenol	UG/KG	130 UJ	130 U
4-Bromophenyl phenyl ether	UG/KG	43.0 U	42.0 U
4-Chloro-3-Methylphenol	UG/KG	43.0 U	42.0 U
4-Chloroaniline	UG/KG	43.0 U	42.0 U
4-Chlorophenyl Phenyl Ether	UG/KG	43.0 U	42.0 U
4-Nitroaniline	UG/KG	43.0 UJ	42.0 U
4-Nitrophenol	UG/KG	130 U	130 U
Acenaphthene	UG/KG	19.0	14.0
Acenaphthylene	UG/KG	13.0	12.0
Anthracene	UG/KG	57.0 J	33.0 J
Benzo(a)anthracene	UG/KG	230	150
Benzo(a)pyrene	UG/KG	250	160
Benzo(b)fluoranthene	UG/KG	360 J	210 J
Benzo(g,h,i)perylene	UG/KG	120 J	80.0
Benzo(k)fluoranthene	UG/KG	140 J	100
Benzoic acid	UG/KG	530 U	520 U
Benzyl alcohol	UG/KG	43.0 U	42.0 U
Benzyl butyl phthalate	UG/KG	43.0 U	41.0 J
bis(2-Chloroethoxy) Methane	UG/KG	43.0 U	42.0 U
bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	UG/KG	5.30 U	5.20 U
bis(2-Chloroisopropyl) Ether	UG/KG	43.0 U	42.0 U
bis(2-Ethylhexyl) Phthalate	UG/KG	43.0 UJ	41.0 J
Carbazole	UG/KG	44.0 J	42.0 U
Chrysene	UG/KG	270 J	160 J
Cresols, m & p	UG/KG	130 U	130 U
Dibenz(a,h)anthracene	UG/KG	5.30 UJ	5.20 U
Dibenzofuran	UG/KG	17.0 J	15.0 J
Diethyl Phthalate	UG/KG	43.0 U	42.0 U

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Dimethyl Phthalate	UG/KG	43.0 U	42.0 U
Di-n-Butyl Phthalate	UG/KG	43.0 U	42.0 U
Di-n-Octylphthalate	UG/KG	43.0 U	42.0 U
Fluoranthene	UG/KG	510	310
Fluorene	UG/KG	5.30 U	17.0 J
Hexachlorobenzene	UG/KG	5.30 U	5.20 U
Hexachlorobutadiene	UG/KG	43.0 U	42.0 U
Hexachlorocyclopentadiene	UG/KG	43.0 U	42.0 U
Hexachloroethane	UG/KG	43.0 UJ	42.0 U
Indeno(1,2,3-c,d)pyrene	UG/KG	120 J	77.0
Isophorone	UG/KG	43.0 U	42.0 U
Naphthalene	UG/KG	18.0	12.0
Nitrobenzene	UG/KG	5.30 U	5.20 U
n-Nitrosodi-n-propylamine	UG/KG	43.0 U	42.0 U
n-Nitrosodiphenylamine	UG/KG	43.0 U	42.0 U
Pentachlorophenol	UG/KG	130 U	130 U
Phenanthrene	UG/KG	260 J	140 J
Phenol	UG/KG	43.0 U	42.0 U
Pyrene	UG/KG	390	240

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Field QC:		Field Duplicate
Analysis Information:	1X	1X

Nitroaromatics and Nitramines by

HPLC	Units		
1,3,5-Trinitrobenzene	MG/KG	0.0490 U	0.0500 U
1,3-Dinitrobenzene	MG/KG	0.0490 U	0.0500 UJ
2,4,6-Trinitrotoluene	MG/KG	0.0490 U	0.0500 UJ
2,4-Dinitrotoluene	MG/KG	0.0490 U	0.0500 UJ
2,6-Dinitrotoluene	MG/KG	0.0490 U	0.0500 UJ
2-Amino-4,6-dinitrotoluene	MG/KG	0.0490 U	0.0500 UJ
2-Nitrotoluene	MG/KG	0.0490 UJ	0.0500 UJ
3-Nitrotoluene	MG/KG	0.0490 U	0.0500 UJ
4-Amino-2,6-Dinitrotoluene	MG/KG	0.0490 U	0.0500 UJ
4-Nitrotoluene	MG/KG	0.0490 UJ	0.0500 UJ
Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	MG/KG	0.0490 UJ	0.0500 UJ
Nitrobenzene	MG/KG	0.0490 UJ	0.0500 UJ
Nitroglycerin	MG/KG	0.250 U	0.250 UJ
NITROGUANIDINE	MG/KG	0.0390 UJ	0.0390 U
Octahydro-1,3,5,7-Tetranitro-1,3,5,7-Tetrazocine (HMX)	MG/KG	0.0490 UJ	0.0500 UJ
Pentaerythritol Tetranitrate	MG/KG	0.250 UJ	0.250 UJ
Tetryl	MG/KG	0.0290 J	0.0500 UJ

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