Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 7/10/12	MW-136A 1/3/13	MW-136A 1/15/13	MW-136A 2/5/13	MW-136A 270 - 348 10/3/13	MW-136A 270 - 348 10/22/13	MW-136A 270 - 348 11/8/13	MW-136A 270 - 348 8/15/14	MW-136A 270 - 348 10/29/14	MW-136A 270 - 348 9/17/15	MW-136A 356 - 356.5 9/12/13	MW-136A 356 - 356.5 10/2/13
1,4 Dioxane																
1,4-Dioxane	6.4	32		0.78				2.4 J		1.9 U			0.39 J			1.6 J
Alkalinity																
ALKALINITY, BICARBONATE												58000 B				200000 B
ALKALINITY, CARBONATE												3900 J				5000 U
ALKALINITY, TOTAL												62000 B				200000 B
Anions																
Chloride		250000														56000
Nitrate As N	10000	10000	10000	32000												1800
Sulfate																29000 B
Sulfide, Total																3000 U
Cyanide																
Cyanide, Free	200	200	200	1.5				2 U		2 U			25			2 U
Cyanide, Total	200	200		1.5				1 U		10 U			10 U			10 U
METAL																
Antimony	6	6	6	7.8				4.5 B		0.087 J						0.06 J
Arsenic	10	10	10	0.052				0.99 J		0.67 J						1 U
Barium	2000	2000	2000	3800				64 B		36						88
Beryllium	4	4	4	25				0.17 J		1 U						1 U
Cadmium	5	5	5	9.2				0.84 J		1 U						1 U
Calcium										12000 B						72000
Chromium	100	100	100					8.4		4.8						2.4
Copper	1000	1000	1300	800				16		1.6 J						0.63 J
Ferric Iron																140
FERROUS IRON																50 U
Hexavalent Chromium	100	100		0.035				10 U		10 U			110			10 UJ
Lead	5	5	15	15				19		0.15 J						0.15 J B
Magnesium										15000						21000
Mercury	2	2	2	0.63				0.055 J		0.2 U						0.2 U
Nickel	100	100		390				4.6		0.6 J						0.46 J
Potassium										8800						2600
Selenium	50	50	50	100				5 U		1.1 J						5 U
Silver	100	100		94				1 U		0.17 J						1 U
Sodium										15000 B						28000 B
Thallium	2	2	2	0.2				0.22 J B		1 U						0.066 J
Vanadium	260	720		86				5 B		1.3 B						1 U
Zinc	2000	2000		6000				37		14						5.2
METAL (Dissolved)																
Antimony	6	6	6	7.8				1 J		2 U						0.057 J
Arsenic	10	10	10	0.052				1 U		0.35 J						1 U
Barium	2000	2000	2000	3800				49 B		29 B						87
Beryllium	4	4	4	25				1 U		1 U						1 U
Cadmium	5	5	5	9.2				0.15 J		1 U						1 U
Calcium										11000						66000
Chromium	100	100	100					1.8 J		6.5						1.2 J

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 7/10/12	MW-136A 1/3/13	MW-136A 1/15/13	MW-136A 2/5/13	MW-136A 270 - 348 10/3/13	MW-136A 270 - 348 10/22/13	MW-136A 270 - 348 11/8/13	MW-136A 270 - 348 8/15/14	MW-136A 270 - 348 10/29/14	MW-136A 270 - 348 9/17/15	MW-136A 356 - 356.5 9/12/13	MW-136A 356 - 356.5 10/2/13
Copper	1000	1000	1300	800				1.2 J B		2 B						0.97 J
Hexavalent Chromium	100	100		0.035				10 U		10 U			10 U			4.5 J
Iron			300	14000												140
Lead	5	5	15	15				0.11 J		0.12 J B						0.043 J
Magnesium										17000 B						21000
Manganese	300	300	50	430												51
Mercury	2	2	2	0.63				0.2 U		0.2 U						0.2 U
Nickel	100	100		390				1.1		0.84 J						0.52 J
Potassium										8500 B						2200
Selenium	50	50	50	100				0.48 J		5 U						5 U
Silver	100	100		94				1 U		1 U						1 U
Sodium										15000 B						28000
Thallium	2	2	2	0.2				0.039 J		0.11 J B						0.049 J
Vanadium	260	720		86				1 U		1 U						1 U
Zinc	2000	2000		6000				5 B		10						7.4
Other																
Carbon Dioxide																
Ethane																
Ethene																
Methane																
Other (Dissolved)																
Dissolved Organic Carbon																600 J
Semi Volatile Organic Compound																
1,2,4-Trichlorobenzene	70	70	70	1.1				11 U		9.7 U						9.6 U
1,2-Dichlorobenzene	600	600	600	300				11 U		9.7 U						9.6 U
1,3-Dichlorobenzene	600	600						11 U		9.7 U						9.6 U
1,4-Dichlorobenzene	75	75	75	0.48				11 U		9.7 U						9.6 U
2,4,5-Trichlorophenol	3700	10000		1200				11 U		9.7 U						9.6 U
2,4,6-Trichlorophenol	37	100		4				11 U		9.7 U						9.6 U
2,4-Dichlorophenol	20	20		46				2.2 U		1.9 U						9.6 U
2,4-Dimethylphenol	730	2000		360				11 U		9.7 U						9.6 U
2,4-Dinitrophenol	73	200		39				54 U		49 U						48 U
2,4-Dinitrotoluene	2.1	8.4		0.24				11 U		9.7 U						9.6 U
2,6-Dinitrotoluene	37	100		0.048				11 U		9.7 U						9.6 U
2-Chloronaphthalene	2900	8200		750				2.2 U		1.9 U						1.9 U
2-Chlorophenol	40	40		91				11 U		9.7 U						9.6 U
2-Methylnaphthalene	150	410		36				2.2 U		1.9 U						1.9 U
2-Methylphenol	1800	5100		930				11 U		9.7 U						9.6 U
2-Nitroaniline	110	310		190				54 U		49 U						48 U
2-Nitrophenol	290	820						11 U		9.7 U						9.6 U
3-& 4-Methylphenol				180				11 U		9.7 U						9.6 U
3,3'-Dichlorobenzidine	1.5	5.8		0.12				11 U		9.7 U						9.6 U
3-Nitroaniline	11	31						54 U		49 U						48 U
4,6-Dinitro-2-Methylphenol	3.7	10		1.5				54 U		49 U						48 U
4-Bromophenyl phenyl ether								11 U		9.7 U						9.6 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 7/10/12	MW-136A 1/3/13	MW-136A 1/15/13	MW-136A 2/5/13	MW-136A 270 - 348 10/3/13	MW-136A 270 - 348 10/22/13	MW-136A 270 - 348 11/8/13	MW-136A 270 - 348 8/15/14	MW-136A 270 - 348 10/29/14	MW-136A 270 - 348 9/17/15	MW-136A 356 - 356.5 9/12/13	MW-136A 356 - 356.5 10/2/13
4-Chloro-3-Methyl-Phenol	180	510		1400				11 U		9.7 U						9.6 U
4-Chloroaniline	3.3	13		0.36				11 U		9.7 U						9.6 U
4-Chlorodiphenyl Ether								11 U		9.7 U						9.6 U
4-Nitroaniline	33	130		3.8				54 U		49 U						48 U
4-Nitrophenol	60	60						54 U		49 U						48 U
Acenaphthene	2200	3800		530				2.2 U		1.9 U						1.9 U
Acenaphthylene	2200	6100		530				2.2 U		1.9 U						1.9 U
Anthracene	66	66		1800				2.2 U		1.9 U						1.9 U
Benzo (A) Anthracene	0.29	3.6	0.2	0.034				2.2 U		1.9 U						1.9 U
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034				2.2 U		1.9 U						1.9 U
Benzo (b) Fluoranthene	0.29	1.2		0.034				2.2 U		1.9 U						1.9 U
Benzo (g,h,i) Perylene	0.26	0.26						2.2 U		1.9 U						1.9 U
Benzo (k) Fluoranthene	0.55	0.55		0.34				2.2 U		1.9 U						1.9 U
Bis(2-Chloroethoxy) Methane	110	310		59				11 U		9.7 U						9.6 U
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014				2.2 U		1.9 U						9.6 U
Bis(2-Chloroisopropyl) Ether	300	300		0.36				2.2 U		1.9 U						9.6 U
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6				22 U		19 U						19 U
Butylbenzylphthalate	350	1400		16				11 U		9.7 U						9.6 U
Carbazole	33	130						2.2 U		1.9 U						9.6 U
Chrysene	1.9	1.9		3.4				2.2 U		1.9 U						1.9 U
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034				2.2 U		1.9 U						1.9 U
Dibenzofuran	37	100		7.9				11 U		9.7 U						9.6 U
Diethylphthalate	29000	82000		15000				11 U		9.7 U						9.6 U
Dimethylphthalate								11 U		9.7 U						9.6 U
Di-n-Butylphthalate	3700	10000		900				11 U		9.7 U						9.6 U
Di-n-octylphthalate	1500	3000		200				11 U		9.7 U						9.6 U
Fluoranthene	260	260		800				2.2 U		1.9 U						1.9 U
Fluorene	1500	1900		290				2.2 U		1.9 U						1.9 U
Hexachlorobenzene	1	1	1	0.049				2.2 U		1.9 U						9.6 U
Hexachlorobutadiene	8.5	33		0.3				2.2 U		1.9 U						9.6 U
Hexachlorocyclopentadiene	50	50	50	31				11 U		9.7 U						9.6 U
Hexachloroethane	1	1		0.9				11 U		9.7 U						9.6 U
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034				2.2 U		1.9 U						1.9 U
Isophorone	100	100		78				11 U		9.7 U						9.6 U
Naphthalene	100	100		0.17				2.2 U		1.9 U						1.9 U
Nitrobenzene	73	200		0.14				22 U		19 U						19 U
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011				2.2 U		1.9 U						9.6 U
N-Nitrosodiphenylamine	130	530		12				11 U		9.7 U						9.6 U
Pentachlorophenol	1	1	1	0.04				11 U		9.7 U						9.6 U
Phenanthrene	1100	1100						2.2 U		1.9 U						1.9 U
Phenol	2000	2000		5800				2.2 U		1.9 U						9.6 U
Pyrene	130	130		120				2.2 U		1.9 U						1.9 U
TOTAL VOC																
TOTAL VOC					25170	72930	23500	19360	1276	1864	3841	1989	2126.9	20104	15920	29790

Volatile Organic Compound

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 7/10/12	MW-136A 1/3/13	MW-136A 1/15/13	MW-136A 2/5/13	MW-136A 270 - 348 10/3/13	MW-136A 270 - 348 10/22/13	MW-136A 270 - 348 11/8/13	MW-136A 270 - 348 8/15/14	MW-136A 270 - 348 10/29/14	MW-136A 270 - 348 9/17/15	MW-136A 356 - 356.5 9/12/13	MW-136A 356 - 356.5 10/2/13
1,1,1,2-Tetrachloroethane	70	70		0.57	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
1,1,1-Trichloroethane	200	200	200	8000	570 J	1600	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
1,1,2-Trichloroethane	5	5	5	0.28	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
1,1-Dichloroethane	31	160		2.7	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	15 J	1000 U	1000 U
1,1-Dichloroethene	7	7	7	280	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	3 J	10 U	32 J	1000 U	1000 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
1,2-Dichloroethane	5	5	5	0.17	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
1,2-Dichloropropane	5	5	5	0.44	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
1,4-Dioxane	6.4	32		0.78	200000 U	200000 U	200000 U	200000 U	5000 U	20000 U	20000 U	2000 U	2000 U	20000 U	200000 U	200000 U
2-Butanone	4000	4000		5600	5000 U	5000 U	5000 U	5000 U	130 U	500 U	500 U	50 U	50 U	500 U	5000 U	5000 U
2-Hexanone	11	44		38	5000 U	5000 U	5000 U	5000 U	130 UJ	500 U	500 U	50 U	50 U	500 U	5000 U	5000 U
4-Methyl-2-Pentanone	2900	8200		1200	5000 U	5000 U	5000 U	5000 U	130 U	500 U	500 U	50 U	50 U	500 U	5000 U	5000 U
Acetone	33000	92000		14000	5000 U	5000 U	5000 U	5000 U	130 UJ	500 U	500 U	50 U	50 U	500 U	5000 U	5000 U
Acrylonitrile	0.72	3.7		0.052	20000 U	20000 U	20000 U	20000 U	500 U	2000 U	2000 U	200 U	200 U	2000 U	20000 U	20000 U
Benzene	5	5	5	0.45	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Bromochloromethane	90	90		83	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Bromodichloromethane	80	80		0.13	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Bromoform	80	80		9.2	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Bromomethane	10	10		7.5	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Carbon Disulfide	1500	6200		810	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Carbon Tetrachloride	5	5	5	0.45	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Chlorobenzene	100	100	100	78	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Chlorodibromomethane	80	80		0.17	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 UJ	1000 U	1000 U
Chloroethane	230	900		21000	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Chloroform	80	80		0.22	1000 U	1000 U	1000 U	1000 U	22 J	37 J	51 J	15	9.9 J	100 U	400 J	170 J
Chloromethane				190	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
cis-1,2-Dichloroethene	70	70	70	36	270 J	330 J	1000 U	1000 U	54	57 J	90 J	71	67	20000	580 J	660 J
cis-1,3-Dichloropropene	6.6	26		0.47	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Ethylbenzene	700	700	700	1.5	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Methyl tert-butyl ether	20	20		14	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Methylene chloride	5	5		11	330 J	1000	400 J	260 J	10 J	60 J	100 U	10 U	10 U	100 U	240 J	660 J
Styrene	100	100	100	1200	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Tetrachloroethene	5	5	5	11	14000	31000	15000	13000	280	610	1800	1300	1700	100 U	1700	8300
Toluene	1000	1000	1000	1100	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
trans-1,2-Dichloroethene	100	100	100	360	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
trans-1,3-Dichloropropene	6.6	26		0.47	1000 U	1000 U	1000 U	1000 U	25 UJ	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Trichloroethene	5	5	5	0.49	10000	39000	8100	6100	910	1100	1900	600	350	57 J	13000	20000
Vinyl Chloride	2	2	2	0.019	1000 U	1000 U	1000 U	1000 U	25 U	100 U	100 U	10 U	10 U	100 U	1000 U	1000 U
Xylenes (Total)	10000	10000	10000	190	3000 U	3000 U	3000 U	3000 U	75 U	300 U	300 U	30 U	30 U	300 U	3000 U	3000 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
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Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 356 - 356.5 12/4/13	MW-136A 356 - 356.5 8/15/14	MW-136A 356 - 356.5 10/23/14	MW-136A 356 - 356.5 9/16/15	MW-136A 372.5 - 373 9/12/13	MW-136A 372.5 - 373 10/2/13	MW-136A 372.5 - 373 12/4/13	MW-136A 372.5 - 373 8/14/14	MW-136A Dup 372.5 - 373 8/14/14	MW-136A 372.5 - 373 10/23/14	MW-136A 372.5 - 373 9/16/15	MW-136A 434 - 434.5 9/13/13
1,4 Dioxane																
1,4-Dioxane	6.4	32		0.78			9.8			1.7 J				7.3		
Alkalinity																
ALKALINITY, BICARBONATE						200000 B						200000 B	200000			
ALKALINITY, CARBONATE						5000 U						5000 U	5000 U			
ALKALINITY, TOTAL						200000 B						200000 B	200000			
Anions																
Chloride		250000														
Nitrate As N	10000	10000	10000	32000												
Sulfate																
Sulfide, Total																
Cyanide																
Cyanide, Free	200	200	200	1.5			2 U			2 U				2 U		
Cyanide, Total	200	200		1.5			10 U			10 U				10 U		
METAL																
Antimony	6	6	6	7.8						0.11 J						
Arsenic	10	10	10	0.052						0.39 J						
Barium	2000	2000	2000	3800						87						
Beryllium	4	4	4	25						1 U						
Cadmium	5	5	5	9.2						1 U						
Calcium										67000						
Chromium	100	100	100							3.8						
Copper	1000	1000	1300	800						2.6						
Ferric Iron																
FERROUS IRON																
Hexavalent Chromium	100	100		0.035			10 U			2.9 J				10 U		
Lead	5	5	15	15						0.43 J B						
Magnesium										23000						
Mercury	2	2	2	0.63						0.2 U						
Nickel	100	100		390						0.99 J						
Potassium										2400						
Selenium	50	50	50	100						5 U						
Silver	100	100		94						0.43 J						
Sodium										24000 B						
Thallium	2	2	2	0.2						0.067 J						
Vanadium	260	720		86						0.15 J B						
Zinc	2000	2000		6000						6						
METAL (Dissolved)																
Antimony	6	6	6	7.8						0.099 J						
Arsenic	10	10	10	0.052						1 U						
Barium	2000	2000	2000	3800						84						
Beryllium	4	4	4	25						1 U						
Cadmium	5	5	5	9.2						1 U						
Calcium										61000						
Chromium	100	100	100							1.4 J						

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 356 - 356.5 12/4/13	MW-136A 356 - 356.5 8/15/14	MW-136A 356 - 356.5 10/23/14	MW-136A 356 - 356.5 9/16/15	MW-136A 372.5 - 373 9/12/13	MW-136A 372.5 - 373 10/2/13	MW-136A 372.5 - 373 12/4/13	MW-136A 372.5 - 373 8/14/14	MW-136A Dup 372.5 - 373 8/14/14	MW-136A 372.5 - 373 10/23/14	MW-136A 372.5 - 373 9/16/15	MW-136A 434 - 434.5 9/13/13
Copper	1000	1000	1300	800						0.26 J						
Hexavalent Chromium	100	100		0.035			10 U			9.3 J				10 U		
Iron			300	14000												
Lead	5	5	15	15						0.044 J						
Magnesium										22000						
Manganese	300	300	50	430												
Mercury	2	2	2	0.63						0.2 U						
Nickel	100	100		390						0.25 J						
Potassium										2000						
Selenium	50	50	50	100						5 U						
Silver	100	100		94						1 U						
Sodium										22000						
Thallium	2	2	2	0.2						0.054 J						
Vanadium	260	720		86						1 U						
Zinc	2000	2000		6000						7.5						
Other																
Carbon Dioxide																
Ethane																
Ethene																
Methane																
Other (Dissolved)																
Dissolved Organic Carbon																
Semi Volatile Organic Compound																
1,2,4-Trichlorobenzene	70	70	70	1.1						9.6 U						
1,2-Dichlorobenzene	600	600	600	300						9.6 U						
1,3-Dichlorobenzene	600	600								9.6 U						
1,4-Dichlorobenzene	75	75	75	0.48						9.6 U						
2,4,5-Trichlorophenol	3700	10000		1200						9.6 U						
2,4,6-Trichlorophenol	37	100		4						9.6 U						
2,4-Dichlorophenol	20	20		46						9.6 U						
2,4-Dimethylphenol	730	2000		360						9.6 U						
2,4-Dinitrophenol	73	200		39						48 U						
2,4-Dinitrotoluene	2.1	8.4		0.24						9.6 U						
2,6-Dinitrotoluene	37	100		0.048						9.6 U						
2-Chloronaphthalene	2900	8200		750						1.9 U						
2-Chlorophenol	40	40		91						9.6 U						
2-Methylnaphthalene	150	410		36						1.9 U						
2-Methylphenol	1800	5100		930						9.6 U						
2-Nitroaniline	110	310		190						48 U						
2-Nitrophenol	290	820								9.6 U						
3-& 4-Methylphenol				180						9.6 U						
3,3'-Dichlorobenzidine	1.5	5.8		0.12						9.6 U						
3-Nitroaniline	11	31								48 U						
4,6-Dinitro-2-Methylphenol	3.7	10		1.5						48 U						
4-Bromophenyl phenyl ether										9.6 U						

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
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Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 356 - 356.5 12/4/13	MW-136A 356 - 356.5 8/15/14	MW-136A 356 - 356.5 10/23/14	MW-136A 356 - 356.5 9/16/15	MW-136A 372.5 - 373 9/12/13	MW-136A 372.5 - 373 10/2/13	MW-136A 372.5 - 373 12/4/13	MW-136A 372.5 - 373 8/14/14	MW-136A Dup 372.5 - 373 8/14/14	MW-136A 372.5 - 373 10/23/14	MW-136A 372.5 - 373 9/16/15	MW-136A 434 - 434.5 9/13/13
4-Chloro-3-Methyl-Phenol	180	510		1400						9.6 U						
4-Chloroaniline	3.3	13		0.36						9.6 U						
4-Chlorodiphenyl Ether										9.6 U						
4-Nitroaniline	33	130		3.8						48 U						
4-Nitrophenol	60	60								48 U						
Acenaphthene	2200	3800		530						1.9 U						
Acenaphthylene	2200	6100		530						1.9 U						
Anthracene	66	66		1800						1.9 U						
Benzo (A) Anthracene	0.29	3.6	0.2	0.034						1.9 U						
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034						1.9 U						
Benzo (b) Fluoranthene	0.29	1.2		0.034						1.9 U						
Benzo (g,h,i) Perylene	0.26	0.26								1.9 U						
Benzo (k) Fluoranthene	0.55	0.55		0.34						1.9 U						
Bis(2-Chloroethoxy) Methane	110	310		59						9.6 U						
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014						9.6 U						
Bis(2-Chloroisopropyl) Ether	300	300		0.36						9.6 U						
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6						19 U						
Butylbenzylphthalate	350	1400		16						9.6 U						
Carbazole	33	130								9.6 U						
Chrysene	1.9	1.9		3.4						1.9 U						
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034						1.9 U						
Dibenzofuran	37	100		7.9						9.6 U						
Diethylphthalate	29000	82000		15000						9.6 U						
Dimethylphthalate										9.6 U						
Di-n-Butylphthalate	3700	10000		900						9.6 U						
Di-n-octylphthalate	1500	3000		200						9.6 U						
Fluoranthene	260	260		800						1.9 U						
Fluorene	1500	1900		290						1.9 U						
Hexachlorobenzene	1	1	1	0.049						9.6 U						
Hexachlorobutadiene	8.5	33		0.3						9.6 U						
Hexachlorocyclopentadiene	50	50	50	31						9.6 U						
Hexachloroethane	1	1		0.9						9.6 U						
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034						1.9 U						
Isophorone	100	100		78						9.6 U						
Naphthalene	100	100		0.17						1.9 U						
Nitrobenzene	73	200		0.14						19 U						
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011						9.6 U						
N-Nitrosodiphenylamine	130	530		12						9.6 U						
Pentachlorophenol	1	1	1	0.04						9.6 U						
Phenanthrene	1100	1100								1.9 U						
Phenol	2000	2000		5800						9.6 U						
Pyrene	130	130		120						1.9 U						
TOTAL VOC																
TOTAL VOC					4877	13901	3244	13672	31890	48520	8930	24071	23423.7	3505	22562	23690

Volatile Organic Compound

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Table 2.2-2
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1,1,1,2-Tetrachloroethane	70	70		0.57	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
1,1,1-Trichloroethane	200	200	200	8000	100 U	83 J	210	20 J	2500 U	2500 U	400 U	40 J	60	200	29 J	1500 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
1,1,2-Trichloroethane	5	5	5	0.28	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	0.95 J	50 U	50 U	1500 U
1,1-Dichloroethane	31	160		2.7	27 J	32 J	58	12 J	2500 U	2500 U	400 U	100 U	18	54	14 J	1500 U
1,1-Dichloroethene	7	7	7	280	100 U	55 J	52	21 J	2500 U	2500 U	400 U	31 J	29	51	19 J	1500 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
1,2-Dichloroethane	5	5	5	0.17	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
1,2-Dichloropropane	5	5	5	0.44	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
1,4-Dioxane	6.4	32		0.78	20000 U	20000 U	10000 U	10000 U	500000 U	500000 U	80000 U	20000 U	600 U	10000 U	10000 U	300000 U
2-Butanone	4000	4000		5600	500 U	500 U	250 U	250 U	13000 U	13000 U	2000 U	500 U	15 U	250 U	250 U	7500 U
2-Hexanone	11	44		38	500 U	500 U	250 U	250 U	13000 U	13000 U	2000 U	500 U	15 U	250 U	250 U	7500 U
4-Methyl-2-Pentanone	2900	8200		1200	500 U	500 U	250 U	250 UJ	13000 U	13000 U	2000 U	500 U	15 U	250 U	250 U	7500 U
Acetone	33000	92000		14000	500 U	500 U	250 U	250 U	13000 U	13000 U	2000 U	500 U	15 U	250 U	250 U	7500 U
Acrylonitrile	0.72	3.7		0.052	2000 U	2000 U	1000 U	1000 U	50000 U	50000 U	8000 U	2000 U	60 U	1000 U	1000 U	30000 U
Benzene	5	5	5	0.45	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Bromochloromethane	90	90		83	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Bromodichloromethane	80	80		0.13	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Bromoform	80	80		9.2	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Bromomethane	10	10		7.5	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Carbon Disulfide	1500	6200		810	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Carbon Tetrachloride	5	5	5	0.45	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Chlorobenzene	100	100	100	78	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Chlorodibromomethane	80	80		0.17	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 UJ	1500 U
Chloroethane	230	900		21000	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Chloroform	80	80		0.22	100 U	100 U	50 U	50 U	710 J	2500 U	400 U	100 U	0.64 J	50 U	50 U	270 J
Chloromethane				190	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
cis-1,2-Dichloroethene	70	70	70	36	650	8600	1100	2300	2500 U	850 J	730 J	1600	2300	1500	10000	2300
cis-1,3-Dichloropropene	6.6	26		0.47	100 U	100 U	50 U	50 UJ	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Ethylbenzene	700	700	700	1.5	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Methyl tert-butyl ether	20	20		14	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Methylene chloride	5	5		11	100 U	14 J	50 U	50 U	580 J	670 J	400 U	100 U	2.5 J	50 U	50 U	320 J
Styrene	100	100	100	1200	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Tetrachloroethene	5	5	5	11	1200	1400	410	2100	4600	13000	1800	3400	5000	300	2500	2800
Toluene	1000	1000	1000	1100	100 U	100 U	50 U	50 U	2500 U	2500 U	400 U	100 U	0.61 J	50 U	50 U	1500 U
trans-1,2-Dichloroethene	100	100	100	360	100 U	17 J	14 J	50 U	2500 U	2500 U	400 U	100 U	8.6	50 U	50 U	1500 U
trans-1,3-Dichloropropene	6.6	26		0.47	100 U	100 U	50 U	50 UJ	2500 U	2500 U	400 U	100 U	3 U	50 U	50 U	1500 U
Trichloroethene	5	5	5	0.49	3000	3700	1400	9200	26000	34000	6400	19000	16000	1400	10000	18000
Vinyl Chloride	2	2	2	0.019	100 U	100 U	50 U	19 J	2500 U	2500 U	400 U	100 U	3.4	50 U	50 U	1500 U
Xylenes (Total)	10000	10000	10000	190	300 U	300 U	150 U	150 U	7500 U	7500 U	1200 U	300 U	9 U	150 U	150 U	4500 U

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Table 2.2-2
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1,4 Dioxane																
1,4-Dioxane	6.4	32		0.78	2.2			1.9						14		
Alkalinity																
ALKALINITY, BICARBONATE							160000				130000					
ALKALINITY, CARBONATE							5000 U				5000 U					
ALKALINITY, TOTAL					170000 B		160000				130000					
Anions																
Chloride		250000			36000											
Nitrate As N	10000	10000	10000	32000	100 U											
Sulfate					24000 B											
Sulfide, Total					3000 U											
Cyanide																
Cyanide, Free	200	200	200	1.5	2 U			2 U						2 U		
Cyanide, Total	200	200		1.5	10 U			10 U						10 U		
METAL																
Antimony	6	6	6	7.8	0.89 J									0.026 J		
Arsenic	10	10	10	0.052	15									2.9		
Barium	2000	2000	2000	3800	330									84 B		
Beryllium	4	4	4	25	0.69 J									1 U		
Cadmium	5	5	5	9.2	0.12 J									1 U		
Calcium					88000											
Chromium	100	100	100		21									22		
Copper	1000	1000	1300	800	49									3.6		
Ferric Iron					100 U											
FERROUS IRON					260 HF											
Hexavalent Chromium	100	100		0.035	100 U			10 U						10 U		
Lead	5	5	15	15	11 B									0.31 J		
Magnesium					38000											
Mercury	2	2	2	0.63	0.061 J									0.2 U		
Nickel	100	100		390	22									3.6		
Potassium					4100											
Selenium	50	50	50	100	5 U									6		
Silver	100	100		94	19									1 U		
Sodium					16000 B											
Thallium	2	2	2	0.2	0.22 J									0.25 J B		
Vanadium	260	720		86	13 B									1 U		
Zinc	2000	2000		6000	100									22		
METAL (Dissolved)																
Antimony	6	6	6	7.8	0.42 J									0.041 J		
Arsenic	10	10	10	0.052	8.4									2.5		
Barium	2000	2000	2000	3800	230									83		
Beryllium	4	4	4	25	1 U									1 U		
Cadmium	5	5	5	9.2	1 U									1 U		
Calcium					44000											
Chromium	100	100	100		1.3 J									19		

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Copper	1000	1000	1300	800	0.8 J									7		
Hexavalent Chromium	100	100		0.035	10 U			10 U						10 U		
Iron			300	14000	100 U											
Lead	5	5	15	15	0.035 J									0.14 J		
Magnesium					25000											
Manganese	300	300	50	430	190											
Mercury	2	2	2	0.63	0.2 U									0.2 U		
Nickel	100	100		390	0.81 J									3.4		
Potassium					1200											
Selenium	50	50	50	100	5 U									6.3		
Silver	100	100		94	1 U									1 U		
Sodium					17000											
Thallium	2	2	2	0.2	0.25 J									0.28 J B		
Vanadium	260	720		86	1 U									1.4 B		
Zinc	2000	2000		6000	5.7									46		
Other																
Carbon Dioxide																
Ethane																
Ethene																
Methane																
Other (Dissolved)																
Dissolved Organic Carbon					720 J B											
Semi Volatile Organic Compound																
1,2,4-Trichlorobenzene	70	70	70	1.1	10 U									9.6 U		
1,2-Dichlorobenzene	600	600	600	300	10 U									9.6 U		
1,3-Dichlorobenzene	600	600			10 U									9.6 U		
1,4-Dichlorobenzene	75	75	75	0.48	10 U									9.6 U		
2,4,5-Trichlorophenol	3700	10000		1200	10 U									9.6 U		
2,4,6-Trichlorophenol	37	100		4	10 U									9.6 U		
2,4-Dichlorophenol	20	20		46	10 U									1.9 U		
2,4-Dimethylphenol	730	2000		360	10 U									9.6 U		
2,4-Dinitrophenol	73	200		39	50 U									48 U		
2,4-Dinitrotoluene	2.1	8.4		0.24	10 U									9.6 U		
2,6-Dinitrotoluene	37	100		0.048	10 U									9.6 U		
2-Chloronaphthalene	2900	8200		750	2 U									1.9 U		
2-Chlorophenol	40	40		91	10 U									9.6 U		
2-Methylnaphthalene	150	410		36	2 U									1.9 U		
2-Methylphenol	1800	5100		930	10 U									9.6 U		
2-Nitroaniline	110	310		190	50 U									48 U		
2-Nitrophenol	290	820			10 U									9.6 U		
3-& 4-Methylphenol				180	10 U									9.6 U		
3,3'-Dichlorobenzidine	1.5	5.8		0.12	10 U									9.6 U		
3-Nitroaniline	11	31			50 U									48 U		
4,6-Dinitro-2-Methylphenol	3.7	10		1.5	50 U									48 U		
4-Bromophenyl phenyl ether					10 U									9.6 U		

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

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4-Chloro-3-Methyl-Phenol	180	510		1400	10 U									9.6 U		
4-Chloroaniline	3.3	13		0.36	10 U									9.6 U		
4-Chlorodiphenyl Ether					10 U									9.6 U		
4-Nitroaniline	33	130		3.8	50 U									48 U		
4-Nitrophenol	60	60			50 U									48 U		
Acenaphthene	2200	3800		530	2 U									1.9 U		
Acenaphthylene	2200	6100		530	2 U									1.9 U		
Anthracene	66	66		1800	2 U									1.9 U		
Benzo (A) Anthracene	0.29	3.6	0.2	0.034	2 U									1.9 U		
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034	2 U									1.9 U		
Benzo (b) Fluoranthene	0.29	1.2		0.034	2 U									1.9 U		
Benzo (g,h,i) Perylene	0.26	0.26			2 U									1.9 U		
Benzo (k) Fluoranthene	0.55	0.55		0.34	2 U									1.9 U		
Bis(2-Chloroethoxy) Methane	110	310		59	10 U									9.6 U		
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014	10 U									1.9 U		
Bis(2-Chloroisopropyl) Ether	300	300		0.36	10 U									1.9 U		
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6	20 U									19 U		
Butylbenzylphthalate	350	1400		16	10 U									9.6 U		
Carbazole	33	130			10 U									1.9 U		
Chrysene	1.9	1.9		3.4	2 U									1.9 U		
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034	2 U									1.9 U		
Dibenzofuran	37	100		7.9	10 U									9.6 U		
Diethylphthalate	29000	82000		15000	10 U									9.6 U		
Dimethylphthalate					10 U									9.6 U		
Di-n-Butylphthalate	3700	10000		900	10 U									9.6 U		
Di-n-octylphthalate	1500	3000		200	10 U									9.6 U		
Fluoranthene	260	260		800	2 U									1.9 U		
Fluorene	1500	1900		290	2 U									1.9 U		
Hexachlorobenzene	1	1	1	0.049	10 U									1.9 U		
Hexachlorobutadiene	8.5	33		0.3	10 U									1.9 U		
Hexachlorocyclopentadiene	50	50	50	31	10 U									9.6 U		
Hexachloroethane	1	1		0.9	10 U									9.6 U		
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034	2 U									1.9 U		
Isophorone	100	100		78	10 U									9.6 U		
Naphthalene	100	100		0.17	2 U									1.9 U		
Nitrobenzene	73	200		0.14	20 U									19 U		
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011	10 U									1.9 U		
N-Nitrosodiphenylamine	130	530		12	10 U									9.6 U		
Pentachlorophenol	1	1	1	0.04	10 U									9.6 U		
Phenanthrene	1100	1100			2 U									1.9 U		
Phenol	2000	2000		5800	10 U									1.9 U		
Pyrene	130	130		120	2 U									1.9 U		
TOTAL VOC																
TOTAL VOC					20220	16910	18494	16500	15737	3204	2902.6	3017.7	3636.7	1257.5	1612	1132

Volatile Organic Compound

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-136A 434 - 434.5 10/1/13	MW-136A 434 - 434.5 12/5/13	MW-136A 434 - 434.5 8/14/14	MW-136A 434 - 434.5 10/22/14	MW-136A 434 - 434.5 9/16/15	MW-136A 459.5 - 460 12/5/13	MW-136A 459.5 - 460 8/14/14	MW-136A 459.5 - 460 10/30/14	MW-136A 459.5 - 460 9/15/15	MW-137A 10/10/12	MW-137A 1/15/13	MW-137A 295.5 - 296 9/26/13
1,1,1,2-Tetrachloroethane	70	70		0.57	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
1,1,1-Trichloroethane	200	200	200	8000	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
1,1,2-Trichloroethane	5	5	5	0.28	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
1,1-Dichloroethane	31	160		2.7	1500 U	1000 U	34 J	100 U	37 J	100 U	10 U	1.7 J	3.2 J	13 J	16 J	13 J
1,1-Dichloroethene	7	7	7	280	1500 U	1000 U	38 J	100 U	100 U	100 U	10 U	10 U	4 J	17 J	26 J	50 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
1,2-Dichloroethane	5	5	5	0.17	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
1,2-Dichloropropane	5	5	5	0.44	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
1,4-Dioxane	6.4	32		0.78	300000 U	200000 U	20000 U	20000 U	20000 U	20000 U	2000 U	2000 U	2000 U	5000 U	R	10000 U
2-Butanone	4000	4000		5600	7500 U	5000 U	500 U	500 U	500 U	500 U	22 J	38 J	180 J	130 U	250 U	250 U
2-Hexanone	11	44		38	7500 U	5000 U	500 U	500 U	500 U	500 U	50 U	50 U	50 U	130 U	250 U	250 U
4-Methyl-2-Pentanone	2900	8200		1200	7500 U	5000 U	500 U	500 U	500 U	500 U	50 U	50 U	50 U	130 U	250 U	250 U
Acetone	33000	92000		14000	7500 U	5000 U	500 U	500 U	500 U	500 U	50 U	50 U	42 J	130 U	250 U	250 U
Acrylonitrile	0.72	3.7		0.052	30000 U	20000 U	2000 U	2000 U	2000 U	2000 U	150 J	170 J	850	500 U	1000 UJ	1000 U
Benzene	5	5	5	0.45	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Bromochloromethane	90	90		83	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Bromodichloromethane	80	80		0.13	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Bromoform	80	80		9.2	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Bromomethane	10	10		7.5	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Carbon Disulfide	1500	6200		810	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Carbon Tetrachloride	5	5	5	0.45	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Chlorobenzene	100	100	100	78	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Chlorodibromomethane	80	80		0.17	1500 U	1000 U	100 U	100 U	100 UJ	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Chloroethane	230	900		21000	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Chloroform	80	80		0.22	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	11 J
Chloromethane				190	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 UJ	25 U	50 U	50 U
cis-1,2-Dichloroethene	70	70	70	36	2100	3400 J	12000	14000	2900	3000 J	2600	2700	2400	820	1000	700
cis-1,3-Dichloropropene	6.6	26		0.47	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Ethylbenzene	700	700	700	1.5	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Methyl tert-butyl ether	20	20		14	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Methylene chloride	5	5		11	720 J	1000 U	100 U	100 U	100 U	100 U	10 U	18	10 U	11 J	32 J	14 J
Styrene	100	100	100	1200	1500 U	1000 U	12 J	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Tetrachloroethene	5	5	5	11	2400	510 J	510	100	1800	34 J	3.5 J	2.7 J	2.1 J	14 J	13 J	14 J
Toluene	1000	1000	1000	1100	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
trans-1,2-Dichloroethene	100	100	100	360	1500 U	1000 U	100 U	100 U	100 U	100 U	4 J	2.8 J	4.4 J	13 J	50 U	50 U
trans-1,3-Dichloropropene	6.6	26		0.47	1500 U	1000 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	25 U	50 U	50 U
Trichloroethene	5	5	5	0.49	15000	13000	5900	2400	11000	170	120	80	140	360	510	380
Vinyl Chloride	2	2	2	0.019	1500 U	1000 U	100 U	100 U	100 U	100 U	3.1 J	4.5 J	11	9.5 J	15 J	50 U
Xylenes (Total)	10000	10000	10000	190	4500 U	3000 U	300 U	300 U	300 U	300 U	30 U	30 U	30 U	75 U	150 U	150 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-137A 295.5 - 296 10/8/13	MW-137A 295.5 - 296 11/7/13	MW-137A Dup 295.5 - 296 11/7/13	MW-137A 295.5 - 296 8/20/14	MW-137A 295.5 - 296 10/21/14	MW-137A 343 - 343.5 8/12/13	MW-137A 343 - 343.5 9/25/13	MW-137A Dup 343 - 343.5 9/25/13	MW-137A 343 - 343.5 9/30/13	MW-137A 343 - 343.5 8/19/14	MW-137A 343 - 343.5 10/20/14	MW-137A 374.5 - 375 8/12/13	MW-137A 374.5 - 375 9/30/13
1,4 Dioxane																	
1,4-Dioxane	6.4	32		0.78	9.9								8.3				9.3
Alkalinity																	
ALKALINITY, BICARBONATE					220000 B			230000 B	260000 B					200000 B			
ALKALINITY, CARBONATE					5000 U			5000 U	5000 U					5000 U			
ALKALINITY, TOTAL					220000 B			230000 B	260000 B					200000 B			
Anions																	
Chloride		250000			95000				160000								
Nitrate As N	10000	10000	10000	32000	1000				2400								
Sulfate					13000 B				60000								
Sulfide, Total					3000 U				3000 U								
Cyanide																	
Cyanide, Free	200	200	200	1.5	2 U								2 U				2 U
Cyanide, Total	200	200		1.5	10 U								10 U				10 U
METAL																	
Antimony	6	6	6	7.8	0.082 J								0.8 J				0.69 J
Arsenic	10	10	10	0.052	1 U								38				1.3
Barium	2000	2000	2000	3800	55								1700				150
Beryllium	4	4	4	25	1 U								4.6				0.16 J
Cadmium	5	5	5	9.2	1 U								0.58 J				1 U
Calcium					93000								1200000				59000
Chromium	100	100	100		4								320				8
Copper	1000	1000	1300	800	0.94 J								480				12
Ferric Iron					50 J				100 U								
FERROUS IRON					50 U				50 U								
Hexavalent Chromium	100	100		0.035	10 U								130				9.2 J
Lead	5	5	15	15	0.068 J B								100 B				2 B
Magnesium					18000								380000				24000
Mercury	2	2	2	0.63	0.2 U								0.37				0.2 U
Nickel	100	100		390	0.59 J								94				2.5
Potassium					5900								40000				8600
Selenium	50	50	50	100	5 U								3.4 J				5 U
Silver	100	100		94	1 U								0.45 J				1 U
Sodium					27000 B								22000 B				11000 B
Thallium	2	2	2	0.2	0.055 J								1.4				0.11 J
Vanadium	260	720		86	1 U								81 B				3 B
Zinc	2000	2000		6000	110								760				33
METAL (Dissolved)																	
Antimony	6	6	6	7.8	0.05 J								2 U				1.5 J B
Arsenic	10	10	10	0.052	1 U								2.9				4.6
Barium	2000	2000	2000	3800	59								170				100
Beryllium	4	4	4	25	1 U								1 U				1 U
Cadmium	5	5	5	9.2	1 U								1 U				1 U
Calcium					99000				150000				61000 B				42000 B
Chromium	100	100	100		5								1.1 J				1 J

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-137A 295.5 - 296 10/8/13	MW-137A 295.5 - 296 11/7/13	MW-137A Dup 295.5 - 296 11/7/13	MW-137A 295.5 - 296 8/20/14	MW-137A 295.5 - 296 10/21/14	MW-137A 343 - 343.5 8/12/13	MW-137A 343 - 343.5 9/25/13	MW-137A Dup 343 - 343.5 9/25/13	MW-137A 343 - 343.5 9/30/13	MW-137A 343 - 343.5 8/19/14	MW-137A 343 - 343.5 10/20/14	MW-137A 374.5 - 375 8/12/13	MW-137A 374.5 - 375 9/30/13
Copper	1000	1000	1300	800	0.58 J								2.2 B				2 B
Hexavalent Chromium	100	100		0.035	10 U								10 U				10 U
Iron			300	14000	100 U				50 U								
Lead	5	5	15	15	0.021 J B								0.41 J				0.91 J
Magnesium					19000				23000				32000				17000
Manganese	300	300	50	430	36 B				21								
Mercury	2	2	2	0.63	0.2 U								0.2 U				0.2 U
Nickel	100	100		390	0.78 J								0.9 J B				0.41 J B
Potassium					6500 B				8600 B				6300 B				5300 B
Selenium	50	50	50	100	5 U								5 U				5 U
Silver	100	100		94	1 U								1 U				1 U
Sodium					28000 B				76000 B				22000				9700
Thallium	2	2	2	0.2	0.098 J								1 U				1 U
Vanadium	260	720		86	1 U								1 U				1 U
Zinc	2000	2000		6000	97								5.7				9.5
Other																	
Carbon Dioxide									6100								
Ethane									0.27 J								
Ethene									0.42 J								
Methane									0.45 J B								
Other (Dissolved)																	
Dissolved Organic Carbon					1100				1700								
Semi Volatile Organic Compound																	
1,2,4-Trichlorobenzene	70	70	70	1.1	9.6 U								10 U				10 U
1,2-Dichlorobenzene	600	600	600	300	9.6 U								10 U				10 U
1,3-Dichlorobenzene	600	600			9.6 U								10 U				10 U
1,4-Dichlorobenzene	75	75	75	0.48	9.6 U								10 U				10 U
2,4,5-Trichlorophenol	3700	10000		1200	9.6 U								10 U				10 U
2,4,6-Trichlorophenol	37	100		4	9.6 U								10 U				10 U
2,4-Dichlorophenol	20	20		46	9.6 U								10 U				10 U
2,4-Dimethylphenol	730	2000		360	9.6 U								10 U				10 U
2,4-Dinitrophenol	73	200		39	48 U								50 U				50 U
2,4-Dinitrotoluene	2.1	8.4		0.24	9.6 U								10 U				10 U
2,6-Dinitrotoluene	37	100		0.048	9.6 U								10 U				10 U
2-Chloronaphthalene	2900	8200		750	1.9 U								2 U				2 U
2-Chlorophenol	40	40		91	9.6 U								10 U				10 U
2-Methylnaphthalene	150	410		36	1.9 U								2 U				2 U
2-Methylphenol	1800	5100		930	9.6 U								10 U				10 U
2-Nitroaniline	110	310		190	48 U								50 U				50 U
2-Nitrophenol	290	820			9.6 U								10 U				10 U
3-& 4-Methylphenol				180	9.6 U								10 U				10 U
3,3'-Dichlorobenzidine	1.5	5.8		0.12	9.6 U								10 U				10 U
3-Nitroaniline	11	31			48 U								50 U				50 U
4,6-Dinitro-2-Methylphenol	3.7	10		1.5	48 U								50 U				50 U
4-Bromophenyl phenyl ether					9.6 U								10 U				10 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-137A 295.5 - 296 10/8/13	MW-137A 295.5 - 296 11/7/13	MW-137A Dup 295.5 - 296 11/7/13	MW-137A 295.5 - 296 8/20/14	MW-137A 295.5 - 296 10/21/14	MW-137A 343 - 343.5 8/12/13	MW-137A 343 - 343.5 9/25/13	MW-137A Dup 343 - 343.5 9/25/13	MW-137A 343 - 343.5 9/30/13	MW-137A 343 - 343.5 8/19/14	MW-137A 343 - 343.5 10/20/14	MW-137A 374.5 - 375 8/12/13	MW-137A 374.5 - 375 9/30/13
4-Chloro-3-Methyl-Phenol	180	510		1400	9.6 U								10 U				10 U
4-Chloroaniline	3.3	13		0.36	9.6 U								10 U				10 U
4-Chlorodiphenyl Ether					9.6 U								10 U				10 U
4-Nitroaniline	33	130		3.8	48 U								50 U				50 U
4-Nitrophenol	60	60			48 U								50 U				50 U
Acenaphthene	2200	3800		530	1.9 U								2 U				2 U
Acenaphthylene	2200	6100		530	1.9 U								2 U				2 U
Anthracene	66	66		1800	1.9 U								2 U				2 U
Benzo (A) Anthracene	0.29	3.6	0.2	0.034	1.9 U								2 U				2 U
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034	1.9 U								2 U				2 U
Benzo (b) Fluoranthene	0.29	1.2		0.034	1.9 U								2 U				2 U
Benzo (g,h,i) Perylene	0.26	0.26			1.9 U								2 U				2 U
Benzo (k) Fluoranthene	0.55	0.55		0.34	1.9 U								2 U				2 U
Bis(2-Chloroethoxy) Methane	110	310		59	9.6 U								10 U				10 U
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014	9.6 U								10 U				10 U
Bis(2-Chloroisopropyl) Ether	300	300		0.36	9.6 U								10 U				10 U
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6	19 U								20 U				20 U
Butylbenzylphthalate	350	1400		16	9.6 U								10 U				10 U
Carbazole	33	130			9.6 U								10 U				10 U
Chrysene	1.9	1.9		3.4	1.9 U								2 U				2 U
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034	1.9 U								2 U				2 U
Dibenzofuran	37	100		7.9	9.6 U								10 U				10 U
Diethylphthalate	29000	82000		15000	9.6 U								10 U				10 U
Dimethylphthalate					9.6 U								10 U				10 U
Di-n-Butylphthalate	3700	10000		900	9.6 U								10 U				10 U
Di-n-octylphthalate	1500	3000		200	9.6 U								10 U				10 U
Fluoranthene	260	260		800	1.9 U								2 U				2 U
Fluorene	1500	1900		290	1.9 U								2 U				2 U
Hexachlorobenzene	1	1	1	0.049	9.6 U								10 U				10 U
Hexachlorobutadiene	8.5	33		0.3	9.6 U								10 U				10 U
Hexachlorocyclopentadiene	50	50	50	31	9.6 U								10 U				10 U
Hexachloroethane	1	1		0.9	9.6 U								10 U				10 U
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034	1.9 U								2 U				2 U
Isophorone	100	100		78	9.6 U								10 U				10 U
Naphthalene	100	100		0.17	1.9 U								2 U				2 U
Nitrobenzene	73	200		0.14	19 U								20 U				20 U
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011	9.6 U								10 U				10 U
N-Nitrosodiphenylamine	130	530		12	9.6 U								10 U				10 U
Pentachlorophenol	1	1	1	0.04	9.6 U								10 U				10 U
Phenanthrene	1100	1100			1.9 U								2 U				2 U
Phenol	2000	2000		5800	9.6 U								10 U				10 U
Pyrene	130	130		120	1.9 U								2 U				2 U
TOTAL VOC																	
TOTAL VOC					830.9	1351	1212	2817.8	2349	135	102.34	161.97	201.6	445.83	572.21	311.7	201.1

Volatile Organic Compound

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-137A 295.5 - 296 10/8/13	MW-137A 295.5 - 296 11/7/13	MW-137A Dup 295.5 - 296 11/7/13	MW-137A 295.5 - 296 8/20/14	MW-137A 295.5 - 296 10/21/14	MW-137A 343 - 343.5 8/12/13	MW-137A 343 - 343.5 9/25/13	MW-137A Dup 343 - 343.5 9/25/13	MW-137A 343 - 343.5 9/30/13	MW-137A 343 - 343.5 8/19/14	MW-137A 343 - 343.5 10/20/14	MW-137A 374.5 - 375 8/12/13	MW-137A 374.5 - 375 9/30/13
1,1,1,2-Tetrachloroethane	70	70		0.57	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
1,1,1-Trichloroethane	200	200	200	8000	25 U	50 U	50 U	310	250	10 U	5 U	5 U	5 U	1.1	5.3	10 U	10 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
1,1,2-Trichloroethane	5	5	5	0.28	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	0.25 J	2.5 U	10 U	10 U
1,1-Dichloroethane	31	160		2.7	13 J	50 U	50 U	20 J	15 J	1.9 J	1.4 J	2.7 J	2.4 J	4.7	7.7	6.1 J	3.9 J
1,1-Dichloroethene	7	7	7	280	25 U	16 J	50 U	120	74	10 U	5 U	5 U	5 U	2.8	4.7	10 U	10 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
1,2-Dichloroethane	5	5	5	0.17	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
1,2-Dichloropropane	5	5	5	0.44	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
1,4-Dioxane	6.4	32		0.78	5000 U	10000 U	10000 U	R	10000 U	2000 U	1000 U	1000 U	1000 U	200 U	500 U	2000 U	2000 U
2-Butanone	4000	4000		5600	130 U	250 U	250 U	250 U	250 U	50 U	25 U	25 U	25 U	55	55	50 U	50 U
2-Hexanone	11	44		38	130 U	250 U	250 U	250 U	250 U	50 U	25 U	25 U	25 U	5 U	13 U	50 U	50 U
4-Methyl-2-Pentanone	2900	8200		1200	130 U	250 U	250 U	250 U	250 U	50 U	25 U	25 U	25 U	5 U	13 U	50 U	50 U
Acetone	33000	92000		14000	130 U	250 U	250 U	250 U	250 U	37 J	25 U	25 U	25 U	6.8	13 U	50 U	50 U
Acrylonitrile	0.72	3.7		0.052	500 U	1000 U	1000 U	1000 U	1000 U	200 U	100 U	100 U	100 U	2.9 J	3.1 J	200 U	200 U
Benzene	5	5	5	0.45	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	0.27 J	10 U	10 U
Bromochloromethane	90	90		83	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Bromodichloromethane	80	80		0.13	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Bromoform	80	80		9.2	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Bromomethane	10	10		7.5	25 U	50 U	50 U	50 UJ	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Carbon Disulfide	1500	6200		810	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Carbon Tetrachloride	5	5	5	0.45	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Chlorobenzene	100	100	100	78	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Chlorodibromomethane	80	80		0.17	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Chloroethane	230	900		21000	25 U	50 U	50 U	50 UJ	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Chloroform	80	80		0.22	7.9 J	21 J	22 J	50 U	50 U	10 U	5 U	2.3 J	1.8 J	0.7 J	0.83 J	10 U	10 U
Chloromethane				190	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
cis-1,2-Dichloroethene	70	70	70	36	640	920	880	1200	1100	93	74	120	150	360	480	290	170
cis-1,3-Dichloropropene	6.6	26		0.47	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Ethylbenzene	700	700	700	1.5	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Methyl tert-butyl ether	20	20		14	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	0.19 J	2.5 U	10 U	10 U
Methylene chloride	5	5		11	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	2.4 J	1 U	2.5 U	10 U	6.2 J
Styrene	100	100	100	1200	25 U	50 U	50 U	4.8 J	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Tetrachloroethene	5	5	5	11	25 U	14 J	50 U	180	160	10 U	0.94 J	0.97 J	1 J	0.19 J	0.39 J	10 U	10 U
Toluene	1000	1000	1000	1100	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	0.42 J	0.39 J	10 U	10 U
trans-1,2-Dichloroethene	100	100	100	360	25 U	50 U	50 U	13 J	50 U	10 U	5 U	5 U	5 U	0.45 J	0.66 J	10 U	10 U
trans-1,3-Dichloropropene	6.6	26		0.47	25 U	50 U	50 U	50 U	50 U	10 U	5 U	5 U	5 U	1 U	2.5 U	10 U	10 U
Trichloroethene	5	5	5	0.49	170	380	310	970	750	3.1 J	26	36	44	9.6	13	12	21
Vinyl Chloride	2	2	2	0.019	25 U	50 U	50 U	50 UJ	50 U	10 U	5 U	5 U	5 U	0.73 J	0.87 J	3.6 J	10 U
Xylenes (Total)	10000	10000	10000	190	75 U	150 U	150 U	150 U	150 U	30 U	15 U	15 U	15 U	3 U	7.5 U	30 U	30 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-137A 374.5 - 375 8/19/14	MW-137A 374.5 - 375 10/20/14	MW-137A 420 - 420.5 8/12/13	MW-137A 420 - 420.5 9/4/13	MW-137A Dup 420 - 420.5 9/4/13	MW-137A 420 - 420.5 8/18/14	MW-137A 420 - 420.5 10/17/14	MW-137A 434.5 - 435 8/12/13	MW-137A 434.5 - 435 8/30/13	MW-137A 434.5 - 435 9/20/13	MW-137A 434.5 - 435 11/6/13	MW-137A 434.5 - 435 8/18/14	MW-137A 434.5 - 435 10/17/14
1,4 Dioxane																	
1,4-Dioxane	6.4	32		0.78				9.6					13				
Alkalinity																	
ALKALINITY, BICARBONATE					150000 B					140000 B						430000 B	
ALKALINITY, CARBONATE					5000 U					5000 U						5000 U	
ALKALINITY, TOTAL					150000 B					140000 B						430000 B	
Anions																	
Chloride		250000															
Nitrate As N	10000	10000	10000	32000													
Sulfate																	
Sulfide, Total																	
Cyanide																	
Cyanide, Free	200	200	200	1.5				2 U					2 U				
Cyanide, Total	200	200		1.5				10 U					10 U				
METAL																	
Antimony	6	6	6	7.8				0.34 J					0.26 J B				
Arsenic	10	10	10	0.052				1 U					1 U				
Barium	2000	2000	2000	3800				150					140				
Beryllium	4	4	4	25				1 U					1 U				
Cadmium	5	5	5	9.2				1 U					1 U				
Calcium																	
Chromium	100	100	100					1.7 J					2.2				
Copper	1000	1000	1300	800				0.59 J					1.8 J				
Ferric Iron																	
FERROUS IRON																	
Hexavalent Chromium	100	100		0.035				10 U					11				
Lead	5	5	15	15				0.053 J					0.97 J B				
Magnesium																	
Mercury	2	2	2	0.63				0.2 U					0.2 U				
Nickel	100	100		390				3.2					2.8				
Potassium																	
Selenium	50	50	50	100				5 U					0.9 J				
Silver	100	100		94				0.11 J					1 U				
Sodium																	
Thallium	2	2	2	0.2				0.19 J B					0.044 J				
Vanadium	260	720		86				0.51 J					4.6 J				
Zinc	2000	2000		6000				96					270				
METAL (Dissolved)																	
Antimony	6	6	6	7.8				0.32 J B					0.21 J B				
Arsenic	10	10	10	0.052				1 U					0.31 J				
Barium	2000	2000	2000	3800				150					140 B				
Beryllium	4	4	4	25				1 U					1 U				
Cadmium	5	5	5	9.2				1 U					1 U				
Calcium																	
Chromium	100	100	100					2					1.9 J				

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Copper	1000	1000	1300	800				0.24 J					0.31 J				
Hexavalent Chromium	100	100		0.035				10 U					17				
Iron			300	14000													
Lead	5	5	15	15				1 U					0.2 J				
Magnesium																	
Manganese	300	300	50	430													
Mercury	2	2	2	0.63				0.2 U					0.2 U				
Nickel	100	100		390				2.9					2.9				
Potassium																	
Selenium	50	50	50	100				5 U					5 U				
Silver	100	100		94				1 U					1 U				
Sodium																	
Thallium	2	2	2	0.2				0.04 J B					0.042 J B				
Vanadium	260	720		86				1 U					5.8 J				
Zinc	2000	2000		6000				130					140				
Other																	
Carbon Dioxide																	
Ethane																	
Ethene																	
Methane																	
Other (Dissolved)																	
Dissolved Organic Carbon																	
Semi Volatile Organic Compound																	
1,2,4-Trichlorobenzene	70	70	70	1.1				9.7 U					9.9 U				
1,2-Dichlorobenzene	600	600	600	300				9.7 U					9.9 U				
1,3-Dichlorobenzene	600	600						9.7 U					9.9 U				
1,4-Dichlorobenzene	75	75	75	0.48				9.7 U					9.9 U				
2,4,5-Trichlorophenol	3700	10000		1200				9.7 U					9.9 U				
2,4,6-Trichlorophenol	37	100		4				9.7 U					9.9 U				
2,4-Dichlorophenol	20	20		46				1.9 U					2 U				
2,4-Dimethylphenol	730	2000		360				9.7 U					9.9 U				
2,4-Dinitrophenol	73	200		39				49 U					50 U				
2,4-Dinitrotoluene	2.1	8.4		0.24				9.7 U					9.9 U				
2,6-Dinitrotoluene	37	100		0.048				9.7 U					9.9 U				
2-Chloronaphthalene	2900	8200		750				1.9 U					2 U				
2-Chlorophenol	40	40		91				9.7 U					9.9 U				
2-Methylnaphthalene	150	410		36				1.9 U					2 U				
2-Methylphenol	1800	5100		930				9.7 U					9.9 U				
2-Nitroaniline	110	310		190				49 U					50 U				
2-Nitrophenol	290	820						9.7 U					9.9 U				
3-& 4-Methylphenol				180				9.7 U					9.9 U				
3,3'-Dichlorobenzidine	1.5	5.8		0.12				9.7 U					9.9 U				
3-Nitroaniline	11	31						49 U					50 U				
4,6-Dinitro-2-Methylphenol	3.7	10		1.5				49 U					50 U				
4-Bromophenyl phenyl ether								9.7 U					9.9 U				

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4-Chloro-3-Methyl-Phenol	180	510		1400				9.7 U					9.9 U				
4-Chloroaniline	3.3	13		0.36				9.7 U					9.9 U				
4-Chlorodiphenyl Ether								9.7 U					9.9 U				
4-Nitroaniline	33	130		3.8				49 U					50 U				
4-Nitrophenol	60	60						49 U					50 U				
Acenaphthene	2200	3800		530				1.9 U					2 U				
Acenaphthylene	2200	6100		530				1.9 U					2 U				
Anthracene	66	66		1800				1.9 U					2 U				
Benzo (A) Anthracene	0.29	3.6	0.2	0.034				1.9 U					2 U				
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034				1.9 U					2 U				
Benzo (b) Fluoranthene	0.29	1.2		0.034				1.9 U					2 U				
Benzo (g,h,i) Perylene	0.26	0.26						1.9 U					2 U				
Benzo (k) Fluoranthene	0.55	0.55		0.34				1.9 U					2 U				
Bis(2-Chloroethoxy) Methane	110	310		59				9.7 U					9.9 U				
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014				1.9 U					2 U				
Bis(2-Chloroisopropyl) Ether	300	300		0.36				1.9 U					2 U				
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6				19 U					20 U				
Butylbenzylphthalate	350	1400		16				9.7 U					9.9 U				
Carbazole	33	130						1.9 U					2 U				
Chrysene	1.9	1.9		3.4				1.9 U					2 U				
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034				1.9 U					2 U				
Dibenzofuran	37	100		7.9				9.7 U					9.9 U				
Diethylphthalate	29000	82000		15000				3.3 J					1.4 J				
Dimethylphthalate								9.7 U					9.9 U				
Di-n-Butylphthalate	3700	10000		900				9.7 U					3.8 J				
Di-n-octylphthalate	1500	3000		200				9.7 U					9.9 U				
Fluoranthene	260	260		800				1.9 U					2 U				
Fluorene	1500	1900		290				1.9 U					2 U				
Hexachlorobenzene	1	1	1	0.049				1.9 U					2 U				
Hexachlorobutadiene	8.5	33		0.3				1.9 U					2 U				
Hexachlorocyclopentadiene	50	50	50	31				9.7 U					9.9 U				
Hexachloroethane	1	1		0.9				9.7 U					9.9 U				
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034				1.9 U					2 U				
Isophorone	100	100		78				9.7 U					9.9 U				
Naphthalene	100	100		0.17				1.9 U					2 U				
Nitrobenzene	73	200		0.14				19 U					20 U				
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011				1.9 U					2 U				
N-Nitrosodiphenylamine	130	530		12				9.7 U					9.9 U				
Pentachlorophenol	1	1	1	0.04				9.7 U					9.9 U				
Phenanthrene	1100	1100						1.9 U					2 U				
Phenol	2000	2000		5800				1.9 U					2 U				
Pyrene	130	130		120				1.9 U					2 U				
TOTAL VOC																	
TOTAL VOC					520.3	537.02	267.4	357	347.3	108.11	109.15	643.4	993.7	229.36	131.8	546.09	624.75

Volatile Organic Compound

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1,1,1,2-Tetrachloroethane	70	70		0.57	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
1,1,1-Trichloroethane	200	200	200	8000	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	3.8 J	25 U	3 U	5 U	1 U	2.0 UJ
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
1,1,2-Trichloroethane	5	5	5	0.28	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
1,1-Dichloroethane	31	160		2.7	5	6.8	5.2 J	6.9 J	6.1 J	1.2	1.2 J	11	13 J	1.2 J	5 U	1.6	0.69 J
1,1-Dichloroethene	7	7	7	280	3.6 J	3	10 U	20 U	20 U	0.44 J	2 UJ	4.4 J	11 J	1.5 J	5 U	1.1	0.69 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
1,2-Dichloroethane	5	5	5	0.17	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
1,2-Dichloropropane	5	5	5	0.44	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
1,4-Dioxane	6.4	32		0.78	1000 U	500 U	2000 U	4000 U	4000 U	200 U	400 UJ	2000 U	5000 U	600 U	1000 U	200 U	400 UJ
2-Butanone	4000	4000		5600	25 U	12 J	50 U	100 U	100 U	9.3	16 J	50 U	130 U	11 J	9.8 J	27	20 J
2-Hexanone	11	44		38	25 U	13 U	50 U	100 U	100 U	5 U	10 UJ	50 U	130 U	1.8 J	25 U	5 U	10 UJ
4-Methyl-2-Pentanone	2900	8200		1200	25 U	13 U	50 U	100 U	100 U	5 U	10 UJ	50 U	130 U	15 U	25 U	5 U	10 UJ
Acetone	33000	92000		14000	25 U	13 U	50 U	100 U	100 U	11	10 UJ	50 U	130 U	40	25 U	59	10 UJ
Acrylonitrile	0.72	3.7		0.052	100 U	2.7 J	200 U	400 U	400 U	14 J	15 J	200 U	500 U	29 J	60 J	360	540 J
Benzene	5	5	5	0.45	5 U	2.5 U	10 U	20 U	20 U	0.32 J	0.3 J	10 U	25 U	0.56 J	5 U	0.52 J	0.47 J
Bromochloromethane	90	90		83	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Bromodichloromethane	80	80		0.13	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Bromoform	80	80		9.2	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Bromomethane	10	10		7.5	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Carbon Disulfide	1500	6200		810	5 U	2.5 U	10 U	15 J	12 J	0.28 J	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Carbon Tetrachloride	5	5	5	0.45	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Chlorobenzene	100	100	100	78	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Chlorodibromomethane	80	80		0.17	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Chloroethane	230	900		21000	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Chloroform	80	80		0.22	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	2.7 J	25 U	0.7 J	5 U	1 U	2.0 UJ
Chloromethane				190	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
cis-1,2-Dichloroethene	70	70	70	36	510	510	250	310	300	68	73 J	540	740	80	48	85	50 J
cis-1,3-Dichloropropene	6.6	26		0.47	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Ethylbenzene	700	700	700	1.5	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Methyl tert-butyl ether	20	20		14	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Methylene chloride	5	5		11	5 U	2.5 U	10 U	9.1 J	8.6 J	1 U	2 UJ	10 U	25 U	1 U	5 U	1 U	2.0 UJ
Styrene	100	100	100	1200	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Tetrachloroethene	5	5	5	11	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	1.1 J	5 U	1 U	2.0 UJ
Toluene	1000	1000	1000	1100	5 U	0.38 J	10 U	20 U	20 U	0.36 J	0.35 J	10 U	25 U	1 J	5 U	0.67 J	0.80 J
trans-1,2-Dichloroethene	100	100	100	360	5 U	2.5 U	10 U	20 U	20 U	0.17 J	2 UJ	7.2 J	25 U	3 U	5 U	1 U	2.0 UJ
trans-1,3-Dichloropropene	6.6	26		0.47	5 U	2.5 U	10 U	20 U	20 U	1 U	2 UJ	10 U	25 U	3 U	5 U	1 U	2.0 UJ
Trichloroethene	5	5	5	0.49	1.7 J	1.4 J	9.8 J	16 J	16 J	2.1	2.2 J	67	220	60	14	10	11 J
Vinyl Chloride	2	2	2	0.019	5 U	0.74 J	2.4 J	20 U	4.6 J	0.94 J	1.1 J	7.3 J	9.7 J	1.5 J	5 U	1.2	1.1 J
Xylenes (Total)	10000	10000	10000	190	15 U	7.5 U	30 U	60 U	60 U	3 U	6 UJ	30 U	75 U	9 U	15 U	3 U	6.0 UJ

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 8/30/12	MW-139A 9/25/12	MW-139A 10/9/12	MW-139A 333.5 - 334 8/8/13	MW-139A 333.5 - 334 8/21/13	MW-139A 333.5 - 334 10/4/13	MW-139A 333.5 - 334 10/16/14	MW-139A 365 - 365.5 8/8/13	MW-139A 365 - 365.5 8/30/13	MW-139A 365 - 365.5 9/18/13	MW-139A 365 - 365.5 10/15/14	MW-139A 421.5 - 422 8/7/13	MW-139A 421.5 - 422 8/21/13	MW-139A 421.5 - 422 9/18/13
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78	4				2.3 J				0.88 J				0.55 J	
Alkalinity																		
ALKALINITY, BICARBONATE																		
ALKALINITY, CARBONATE																		
ALKALINITY, TOTAL																		
Anions																		
Chloride		250000																
Nitrate As N	10000	10000	10000	32000														
Sulfate																		
Sulfide, Total																		
Cyanide																		
Cyanide, Free	200	200	200	1.5	2 U				2 U				2 U				2 U	
Cyanide, Total	200	200		1.5	3.1 J				8.8 J				10 U				10 U	
METAL																		
Antimony	6	6	6	7.8	0.29 J				0.049 J				0.51 J B				0.13 J	
Arsenic	10	10	10	0.052	0.63 J				1 U				10				0.81 J	
Barium	2000	2000	2000	3800	130				180 B				330				270 B	
Beryllium	4	4	4	25	1 U				1 U				1.8				0.31 J	
Cadmium	5	5	5	9.2	1 U				0.19 J				0.49 J				1 U	
Calcium																		
Chromium	100	100	100		4.6				1.6 J				100				13	
Copper	1000	1000	1300	800	1.9 J				3.9				140				16	
Ferric Iron																		
FERROUS IRON																		
Hexavalent Chromium	100	100		0.035	3.9 J				13				7.8 J				33	
Lead	5	5	15	15	0.64 J B				0.63 J B				53 B				5.3 B	
Magnesium																		
Mercury	2	2	2	0.63	0.2 U				0.2 U				0.046 J				0.2 U	
Nickel	100	100		390	3.6				1.3				70				7.3	
Potassium																		
Selenium	50	50	50	100	5 U				5 U				0.81 J				5 U	
Silver	100	100		94	1 U				1 U				0.23 J				1 U	
Sodium																		
Thallium	2	2	2	0.2	1 U				0.037 J B				0.38 J				0.081 J B	
Vanadium	260	720		86	6.3 B				1 U				32 J				5	
Zinc	2000	2000		6000	10				9				530				79	
METAL (Dissolved)																		
Antimony	6	6	6	7.8	0.17 J				0.14 J				0.14 J B				0.17 J	
Arsenic	10	10	10	0.052	0.69 J B				0.59 J				0.51 J				1 U	
Barium	2000	2000	2000	3800	140 B				170				69 B				140	
Beryllium	4	4	4	25	1 U				1 U				1 U				1 U	
Cadmium	5	5	5	9.2	1 U				1 U				1 U				1 U	
Calcium																		
Chromium	100	100	100		2.8 B				2 U				1.7 J				2 U	

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Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 8/30/12	MW-139A 9/25/12	MW-139A 10/9/12	MW-139A 333.5 - 334 8/8/13	MW-139A 333.5 - 334 8/21/13	MW-139A 333.5 - 334 10/4/13	MW-139A 333.5 - 334 10/16/14	MW-139A 365 - 365.5 8/8/13	MW-139A 365 - 365.5 8/30/13	MW-139A 365 - 365.5 9/18/13	MW-139A 365 - 365.5 10/15/14	MW-139A 421.5 - 422 8/7/13	MW-139A 421.5 - 422 8/21/13	MW-139A 421.5 - 422 9/18/13
Copper	1000	1000	1300	800	1.8 J B				0.47 J				0.31 J				0.29 J	
Hexavalent Chromium	100	100		0.035	2.4 J				6.2 J				10 U				10 U	
Iron			300	14000														
Lead	5	5	15	15	0.79 J B				1 U				0.39 J				1 U	
Magnesium																		
Manganese	300	300	50	430														
Mercury	2	2	2	0.63	0.2 U				0.2 U				0.2 U				0.2 U	
Nickel	100	100		390	1.7				0.98 J				1.8				0.54 J	
Potassium																		
Selenium	50	50	50	100	5 U				5 U				5 U				5 U	
Silver	100	100		94	0.037 J				1 U				1 U				1 U	
Sodium																		
Thallium	2	2	2	0.2	1 U				0.076 J				0.088 J B				1 U	
Vanadium	260	720		86	5.2 B				3.2 B				5.2 J				3.3 B	
Zinc	2000	2000		6000	8.2				8.7				7.8				2.5 J	
Other																		
Carbon Dioxide																		
Ethane																		
Ethene																		
Methane																		
Other (Dissolved)																		
Dissolved Organic Carbon																		
Semi Volatile Organic Compound																		
1,2,4-Trichlorobenzene	70	70	70	1.1	9.6 U				9.6 U				10 U				10 U	
1,2-Dichlorobenzene	600	600	600	300	9.6 U				9.6 U				10 U				10 U	
1,3-Dichlorobenzene	600	600			9.6 U				9.6 U				10 U				10 U	
1,4-Dichlorobenzene	75	75	75	0.48	9.6 U				9.6 U				10 U				10 U	
2,4,5-Trichlorophenol	3700	10000		1200	9.6 U				9.6 U				10 U				10 U	
2,4,6-Trichlorophenol	37	100		4	9.6 U				9.6 U				10 U				10 U	
2,4-Dichlorophenol	20	20		46	1.9 U				1.9 U				2 U				2 U	
2,4-Dimethylphenol	730	2000		360	9.6 U				9.6 U				10 U				10 U	
2,4-Dinitrophenol	73	200		39	48 U				48 U				51 U				51 U	
2,4-Dinitrotoluene	2.1	8.4		0.24	9.6 U				9.6 U				10 U				10 U	
2,6-Dinitrotoluene	37	100		0.048	9.6 U				9.6 U				10 U				10 U	
2-Chloronaphthalene	2900	8200		750	1.9 U				1.9 U				2 U				2 U	
2-Chlorophenol	40	40		91	9.6 U				9.6 U				10 U				10 U	
2-Methylnaphthalene	150	410		36	1.9 U				1.9 U				2 U				2 U	
2-Methylphenol	1800	5100		930	9.6 U				9.6 U				10 U				10 U	
2-Nitroaniline	110	310		190	48 U				48 U				51 U				51 U	
2-Nitrophenol	290	820			9.6 U				9.6 U				10 U				10 U	
3-& 4-Methylphenol				180	9.6 U				9.6 U				10 U				10 U	
3,3'-Dichlorobenzidine	1.5	5.8		0.12	9.6 U				9.6 U				10 U				10 U	
3-Nitroaniline	11	31			48 U				48 U				51 U				51 U	
4,6-Dinitro-2-Methylphenol	3.7	10		1.5	48 U				48 U				51 U				51 U	
4-Bromophenyl phenyl ether					9.6 U				9.6 U				10 U				10 U	

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 8/30/12	MW-139A 9/25/12	MW-139A 10/9/12	MW-139A 333.5 - 334 8/8/13	MW-139A 333.5 - 334 8/21/13	MW-139A 333.5 - 334 10/4/13	MW-139A 333.5 - 334 10/16/14	MW-139A 365 - 365.5 8/8/13	MW-139A 365 - 365.5 8/30/13	MW-139A 365 - 365.5 9/18/13	MW-139A 365 - 365.5 10/15/14	MW-139A 421.5 - 422 8/7/13	MW-139A 421.5 - 422 8/21/13	MW-139A 421.5 - 422 9/18/13
4-Chloro-3-Methyl-Phenol	180	510		1400	9.6 U				9.6 U				10 U				10 U	
4-Chloroaniline	3.3	13		0.36	9.6 U				9.6 U				10 U				10 U	
4-Chlorodiphenyl Ether					9.6 U				9.6 U				10 U				10 U	
4-Nitroaniline	33	130		3.8	48 U				48 U				51 U				51 U	
4-Nitrophenol	60	60			48 U				48 U				51 U				51 U	
Acenaphthene	2200	3800		530	1.9 U				1.9 U				2 U				2 U	
Acenaphthylene	2200	6100		530	1.9 U				1.9 U				2 U				2 U	
Anthracene	66	66		1800	1.9 U				1.9 U				2 U				2 U	
Benzo (A) Anthracene	0.29	3.6	0.2	0.034	1.9 U				1.9 U				2 U				2 U	
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034	1.9 U				1.9 U				2 U				2 U	
Benzo (b) Fluoranthene	0.29	1.2		0.034	1.9 U				1.9 U				2 U				2 U	
Benzo (g,h,i) Perylene	0.26	0.26			1.9 U				1.9 U				2 U				2 U	
Benzo (k) Fluoranthene	0.55	0.55		0.34	1.9 U				1.9 U				2 U				2 U	
Bis(2-Chloroethoxy) Methane	110	310		59	9.6 U				9.6 U				10 U				10 U	
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014	1.9 U				1.9 U				2 U				2 U	
Bis(2-Chloroisopropyl) Ether	300	300		0.36	1.9 U				1.9 U				2 U				2 U	
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6	19 U				19 U				20 U				20 U	
Butylbenzylphthalate	350	1400		16	9.6 U				9.6 U				10 U				10 U	
Carbazole	33	130			1.9 U				1.9 U				2 U				2 U	
Chrysene	1.9	1.9		3.4	1.9 U				1.9 U				2 U				2 U	
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034	1.9 U				1.9 U				2 U				2 U	
Dibenzofuran	37	100		7.9	9.6 U				9.6 U				10 U				10 U	
Diethylphthalate	29000	82000		15000	9.6 U				18				16				9 J	
Dimethylphthalate					9.6 U				9.6 U				10 U				10 U	
Di-n-Butylphthalate	3700	10000		900	9.6 U				3.7 J				5.6 J				3.1 J	
Di-n-octylphthalate	1500	3000		200	9.6 U				9.6 U				10 U				10 U	
Fluoranthene	260	260		800	1.9 U				1.9 U				2 U				2 U	
Fluorene	1500	1900		290	1.9 U				1.9 U				2 U				2 U	
Hexachlorobenzene	1	1	1	0.049	1.9 U				1.9 U				2 U				2 U	
Hexachlorobutadiene	8.5	33		0.3	1.9 U				1.9 U				2 U				2 U	
Hexachlorocyclopentadiene	50	50	50	31	9.6 U				9.6 U				10 U				10 U	
Hexachloroethane	1	1		0.9	9.6 U				9.6 U				10 U				10 U	
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034	1.9 U				1.9 U				2 U				2 U	
Isophorone	100	100		78	9.6 U				9.6 U				10 U				10 U	
Naphthalene	100	100		0.17	1.9 U				1.9 U				2 U				2 U	
Nitrobenzene	73	200		0.14	19 U				19 U				20 U				20 U	
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011	1.9 U				1.9 U				2 U				2 U	
N-Nitrosodiphenylamine	130	530		12	9.6 U				9.6 U				10 U				10 U	
Pentachlorophenol	1	1	1	0.04	9.6 U				9.6 U				10 U				10 U	
Phenanthrene	1100	1100			1.9 U				1.9 U				2 U				2 U	
Phenol	2000	2000		5800	1.9 U				1.4 J				2 U				0.93 J	
Pyrene	130	130		120	1.9 U				1.9 U				2 U				2 U	
TOTAL VOC																		
TOTAL VOC					733.1	611.1	1446.1	82.25	37.91	60.9	60.04	72.4	29.21	33.01	28.45	29	16.07	5.17

Volatile Organic Compound

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 8/30/12	MW-139A 9/25/12	MW-139A 10/9/12	MW-139A 333.5 - 334 8/8/13	MW-139A 333.5 - 334 8/21/13	MW-139A 333.5 - 334 10/4/13	MW-139A 333.5 - 334 10/16/14	MW-139A 365 - 365.5 8/8/13	MW-139A 365 - 365.5 8/30/13	MW-139A 365 - 365.5 9/18/13	MW-139A 365 - 365.5 10/15/14	MW-139A 421.5 - 422 8/7/13	MW-139A 421.5 - 422 8/21/13	MW-139A 421.5 - 422 9/18/13
1,1,1,2-Tetrachloroethane	70	70		0.57	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	31	160		2.7	25 U	3.9 J	8.1 J	0.89 J	0.5 J	0.65 J	0.4 J	0.69 J	0.37 J	0.28 J	1 U	0.22 J	1 U	1 U
1,1-Dichloroethene	7	7	7	280	9.1 J	6.2 J	17 J	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	5	0.17	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	5	5	5	0.44	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
1,4-Dioxane	6.4	32		0.78	5000 U	2500 U	8000 U	400 U	400 U	400 U	200 U	400 U	400 U	200 U	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	130 U	63 U	200 U	6.3 J	10 U	8.5 J	14	8.1 J	10 U	4.5 J	5.3	3.2 J	5 U	1 J
2-Hexanone	11	44		38	130 U	63 U	200 U	10 U	0.64 J	0.52 J	5 U	10 U	10 U	5 U	5 U	0.33 J	0.74 J	5 U
4-Methyl-2-Pentanone	2900	8200		1200	130 U	63 U	200 U	10 U	10 U	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U
Acetone	33000	92000		14000	130 U	63 U	200 U	8.1 J	9.4 J	6.6 J	7	9.4 J	10 U	3.9 J	4.7 J	4.4 J	5.4	5 U
Acrylonitrile	0.72	3.7		0.052	500 U	250 U	800 U	40 U	40 U	40 U	2.9 J	40 U	40 U	20 U	1.1 J	20 U	20 U	20 U
Benzene	5	5	5	0.45	25 U	13 U	40 U	0.27 J	2 U	0.42 J	0.19 J	0.29 J	0.22 J	0.2 J	0.18 J	0.22 J	1 U	1 U
Bromochloromethane	90	90		83	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	80	80		0.13	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80		9.2	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	10	10		7.5	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	1500	6200		810	12 J	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	0.24 J	1 U	1 U
Carbon Tetrachloride	5	5	5	0.45	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	100	100	78	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	80	80		0.17	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	230	900		21000	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	80		0.22	25 U	13 U	40 U	0.69 J	0.41 J	0.39 J	1 U	0.57 J	2 U	1 U	1 U	0.21 J	1 U	1 U
Chloromethane				190	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	430	330	860	62	25	42	33	50	26	22	15	18	8.5	2.7
cis-1,3-Dichloropropene	6.6	26		0.47	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	20		14	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	5		11	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Styrene	100	100	100	1200	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	5	11	42	31	110	0.49 J	0.34 J	0.45 J	0.36 J	0.42 J	0.6 J	0.61 J	0.46 J	0.38 J	0.46 J	0.52 J
Toluene	1000	1000	1000	1100	25 U	13 U	40 U	0.71 J	0.36 J	2 U	1.2	0.53 J	0.49 J	0.53 J	1.3	0.6 J	0.36 J	0.55 J
trans-1,2-Dichloroethene	100	100	100	360	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	25 U	13 U	40 U	2 U	2 U	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	5	0.49	240	240	440	1.4 J	0.69 J	0.44 J	0.3 J	1.4 J	1 J	0.57 J	0.41 J	0.86 J	0.61 J	0.4 J
Vinyl Chloride	2	2	2	0.019	25 U	13 U	11 J	1.4 J	0.57 J	0.93 J	0.69 J	1 J	0.53 J	0.42 J	1 U	0.34 J	1 U	1 U
Xylenes (Total)	10000	10000	10000	190	75 U	38 U	120 U	6 U	6 U	6 U	3 U	6 U	6 U	3 U	3 U	3 U	3 U	3 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 421.5 - 422 10/16/14	MW-139A 454 - 454.5 8/9/13	MW-139A 454 - 454.5 8/21/13	MW-139A 454 - 454.5 9/18/13	MW-140A 9/25/12	MW-140A 10/9/12	MW-140A 209.5 - 210 8/9/13	MW-140A 209.5 - 210 8/27/13	MW-140A 209.5 - 210 8/29/13	MW-140A 209.5 - 210 10/2/13	MW-140A 209.5 - 210 10/14/14	MW-140A 285 - 285.5 8/9/13	MW-140A 285 - 285.5 8/28/13
1,4 Dioxane																	
1,4-Dioxane	6.4	32		0.78			2.7		4.8			1.3 J					1.7 J
Alkalinity																	
ALKALINITY, BICARBONATE					120000 B												
ALKALINITY, CARBONATE					5000 U												
ALKALINITY, TOTAL					120000 B												
Anions																	
Chloride		250000			940 J												
Nitrate As N	10000	10000	10000	32000	100 U												
Sulfate					4300												
Sulfide, Total					6600												
Cyanide																	
Cyanide, Free	200	200	200	1.5			2 U		2 U			2 U					2 U
Cyanide, Total	200	200		1.5			10 U		10 U			10 U					2.6 J B
METAL																	
Antimony	6	6	6	7.8			0.25 J		0.58 J B			0.35 J B					0.18 J
Arsenic	10	10	10	0.052			2.4		0.78 J			5.1					3.1
Barium	2000	2000	2000	3800			130 B		210			110					150
Beryllium	4	4	4	25			0.35 J		1 U			0.75 J					3
Cadmium	5	5	5	9.2			0.3 J		1 U			0.22 J					1 U
Calcium																	
Chromium	100	100	100				22		2.6			11					9.6
Copper	1000	1000	1300	800			35		2			19 B					12
Ferric Iron					100 U												
FERROUS IRON					230 HF												
Hexavalent Chromium	100	100		0.035			97		10 U			10 UJ	98				10 U
Lead	5	5	15	15			18 B		0.41 J B			10					26 B
Magnesium																	
Mercury	2	2	2	0.63			0.2 U		0.2 U			0.2 U					0.2 U
Nickel	100	100		390			17		0.63 J			5.3					7.9
Potassium																	
Selenium	50	50	50	100			5 U		5 U			1.2 J					5 U
Silver	100	100		94			1 U		1 U			0.054 J					1 U
Sodium																	
Thallium	2	2	2	0.2			0.076 J B		0.043 J			0.19 J B					0.36 J
Vanadium	260	720		86			5.1		1 U			9.2					28 B
Zinc	2000	2000		6000			140		11 B			110 B					140
METAL (Dissolved)																	
Antimony	6	6	6	7.8			0.16 J		0.17 J			0.15 J					0.4 J
Arsenic	10	10	10	0.052			0.45 J		1 U			3.1					2.4
Barium	2000	2000	2000	3800			170		210			24					45
Beryllium	4	4	4	25			1 U		1 U			1 U					1 U
Cadmium	5	5	5	9.2			1 U		1 U			1 U					1 U
Calcium					18000 B												
Chromium	100	100	100				2 U		3.8			2.3					2

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Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 421.5 - 422 10/16/14	MW-139A 454 - 454.5 8/9/13	MW-139A 454 - 454.5 8/21/13	MW-139A 454 - 454.5 9/18/13	MW-140A 9/25/12	MW-140A 10/9/12	MW-140A 209.5 - 210 8/9/13	MW-140A 209.5 - 210 8/27/13	MW-140A 209.5 - 210 8/29/13	MW-140A 209.5 - 210 10/2/13	MW-140A 209.5 - 210 10/14/14	MW-140A 285 - 285.5 8/9/13	MW-140A 285 - 285.5 8/28/13
Copper	1000	1000	1300	800			0.28 J		1 J			0.47 J					0.4 J
Hexavalent Chromium	100	100		0.035			10 U		10 U			10 UJ	2.2 J				10 U
Iron			300	14000	130												
Lead	5	5	15	15			1 U		1 U			0.053 J B					0.039 J B
Magnesium					4900												
Manganese	300	300	50	430	58 B												
Mercury	2	2	2	0.63			0.2 U		0.2 U			0.2 U					0.2 U
Nickel	100	100		390			0.47 J		0.56 J			1.2					1.5
Potassium					1500												
Selenium	50	50	50	100			5 U		5 U			5 U					5 U
Silver	100	100		94			1 U		1 U			1 U					1 U
Sodium					15000 B												
Thallium	2	2	2	0.2			1 U		0.19 J			0.12 J					0.053 J
Vanadium	260	720		86			2.8 B		1 U			10 B					9 B
Zinc	2000	2000		6000			4.2 J		7.5			2.5 J					5.5
Other																	
Carbon Dioxide					6300												
Ethane					0.6												
Ethene					1.1												
Methane					1000												
Other (Dissolved)																	
Dissolved Organic Carbon					3300												
Semi Volatile Organic Compound																	
1,2,4-Trichlorobenzene	70	70	70	1.1			9.5 U		9.6 U			9.8 U					14 U
1,2-Dichlorobenzene	600	600	600	300			9.5 U		9.6 U			9.8 U					14 U
1,3-Dichlorobenzene	600	600					9.5 U		9.6 U			9.8 U					14 U
1,4-Dichlorobenzene	75	75	75	0.48			9.5 U		9.6 U			9.8 U					14 U
2,4,5-Trichlorophenol	3700	10000		1200			9.5 U		9.6 U			9.8 U					14 U
2,4,6-Trichlorophenol	37	100		4			9.5 U		9.6 U			9.8 U					14 U
2,4-Dichlorophenol	20	20		46			1.9 U		1.9 U			2 U					2.7 U
2,4-Dimethylphenol	730	2000		360			9.5 U		9.6 U			9.8 U					14 U
2,4-Dinitrophenol	73	200		39			48 U		48 U			49 U					68 U
2,4-Dinitrotoluene	2.1	8.4		0.24			9.5 U		9.6 U			9.8 U					14 U
2,6-Dinitrotoluene	37	100		0.048			9.5 U		9.6 U			9.8 U					14 U
2-Chloronaphthalene	2900	8200		750			1.9 U		1.9 U			2 U					2.7 U
2-Chlorophenol	40	40		91			9.5 U		9.6 U			9.8 U					14 U
2-Methylnaphthalene	150	410		36			1.9 U		1.9 U			2 U					2.7 U
2-Methylphenol	1800	5100		930			9.5 U		9.6 U			9.8 U					14 U
2-Nitroaniline	110	310		190			48 U		48 U			49 U					68 U
2-Nitrophenol	290	820					9.5 U		9.6 U			9.8 U					14 U
3-& 4-Methylphenol				180			9.5 U		9.6 U			9.8 U					14 U
3,3'-Dichlorobenzidine	1.5	5.8		0.12			9.5 U		9.6 U			9.8 U					14 U
3-Nitroaniline	11	31					48 U		48 U			49 U					68 U
4,6-Dinitro-2-Methylphenol	3.7	10		1.5			48 U		48 U			49 U					68 U
4-Bromophenyl phenyl ether							9.5 U		9.6 U			9.8 U					14 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 421.5 - 422 10/16/14	MW-139A 454 - 454.5 8/9/13	MW-139A 454 - 454.5 8/21/13	MW-139A 454 - 454.5 9/18/13	MW-140A 9/25/12	MW-140A 10/9/12	MW-140A 209.5 - 210 8/9/13	MW-140A 209.5 - 210 8/27/13	MW-140A 209.5 - 210 8/29/13	MW-140A 209.5 - 210 10/2/13	MW-140A 209.5 - 210 10/14/14	MW-140A 285 - 285.5 8/9/13	MW-140A 285 - 285.5 8/28/13
4-Chloro-3-Methyl-Phenol	180	510		1400			9.5 U		9.6 U			9.8 U					14 U
4-Chloroaniline	3.3	13		0.36			9.5 U		9.6 U			9.8 U					14 U
4-Chlorodiphenyl Ether							9.5 U		9.6 U			9.8 U					14 U
4-Nitroaniline	33	130		3.8			48 U		48 U			49 U					68 U
4-Nitrophenol	60	60					48 U		48 U			49 U					68 U
Acenaphthene	2200	3800		530			1.9 U		1.9 U			2 U					2.7 U
Acenaphthylene	2200	6100		530			1.9 U		1.9 U			2 U					2.7 U
Anthracene	66	66		1800			1.9 U		1.9 U			2 U					2.7 U
Benzo (A) Anthracene	0.29	3.6	0.2	0.034			1.9 U		1.9 U			2 U					2.7 U
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034			1.9 U		1.9 U			2 U					2.7 U
Benzo (b) Fluoranthene	0.29	1.2		0.034			1.9 U		1.9 U			2 U					2.7 U
Benzo (g,h,i) Perylene	0.26	0.26					1.9 U		1.9 U			2 U					2.7 U
Benzo (k) Fluoranthene	0.55	0.55		0.34			1.9 U		1.9 U			2 U					2.7 U
Bis(2-Chloroethoxy) Methane	110	310		59			9.5 U		9.6 U			9.8 U					14 U
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014			1.9 U		1.9 U			2 U					2.7 U
Bis(2-Chloroisopropyl) Ether	300	300		0.36			1.9 U		1.9 U			2 U					2.7 U
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6			19 U		19 U			18 J					27 U
Butylbenzylphthalate	350	1400		16			9.5 U		9.6 U			9.8 U					14 U
Carbazole	33	130					1.9 U		1.9 U			2 U					2.7 U
Chrysene	1.9	1.9		3.4			1.9 U		1.9 U			2 U					2.7 U
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034			1.9 U		1.9 U			2 U					2.7 U
Dibenzofuran	37	100		7.9			9.5 U		9.6 U			9.8 U					14 U
Diethylphthalate	29000	82000		15000			3.9 J		9.6 U			9.8 U					14 U
Dimethylphthalate							9.5 U		9.6 U			9.8 U					14 U
Di-n-Butylphthalate	3700	10000		900			2.5 J		9.6 U			9.8 U					14 U
Di-n-octylphthalate	1500	3000		200			9.5 U		9.6 U			9.8 U					14 U
Fluoranthene	260	260		800			1.9 U		1.9 U			2 U					2.7 U
Fluorene	1500	1900		290			1.9 U		1.9 U			2 U					2.7 U
Hexachlorobenzene	1	1	1	0.049			1.9 U		1.9 U			2 U					2.7 U
Hexachlorobutadiene	8.5	33		0.3			1.9 U		1.9 U			2 U					2.7 U
Hexachlorocyclopentadiene	50	50	50	31			9.5 U		9.6 U			9.8 U					14 U
Hexachloroethane	1	1		0.9			9.5 U		9.6 U			9.8 U					14 U
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034			1.9 U		1.9 U			2 U					2.7 U
Isophorone	100	100		78			9.5 U		9.6 U			9.8 U					14 U
Naphthalene	100	100		0.17			1.9 U		1.9 U			2 U					2.7 U
Nitrobenzene	73	200		0.14			19 U		19 U			20 U					27 U
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011			1.9 U		1.9 U			2 U					2.7 U
N-Nitrosodiphenylamine	130	530		12			9.5 U		9.6 U			9.8 U					14 U
Pentachlorophenol	1	1	1	0.04			9.5 U		9.6 U			9.8 U					14 U
Phenanthrene	1100	1100					1.9 U		1.9 U			2 U					2.7 U
Phenol	2000	2000		5800			0.95 J		1.9 U			2 U					2.7 U
Pyrene	130	130		120			1.9 U		1.9 U			2 U					2.7 U
TOTAL VOC																	
TOTAL VOC					13.44	27.46	46.29	162.6	3575	2488	271.6	238.7	0	1237.71	1844.7	206.9	440.2

Volatile Organic Compound

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-139A 421.5 - 422 10/16/14	MW-139A 454 - 454.5 8/9/13	MW-139A 454 - 454.5 8/21/13	MW-139A 454 - 454.5 9/18/13	MW-140A 9/25/12	MW-140A 10/9/12	MW-140A 209.5 - 210 8/9/13	MW-140A 209.5 - 210 8/27/13	MW-140A 209.5 - 210 8/29/13	MW-140A 209.5 - 210 10/2/13	MW-140A 209.5 - 210 10/14/14	MW-140A 285 - 285.5 8/9/13	MW-140A 285 - 285.5 8/28/13
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
1,1,1-Trichloroethane	200	200	200	8000	1 U	1 U	1 U	10 U	160	87	15	11		100 U	6.8 J	8.2 J	19
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
1,1-Dichloroethane	31	160		2.7	1 U	0.57 J	0.35 J	10 U	100	83	21	22		62 J	67	19	42
1,1-Dichloroethene	7	7	7	280	1 U	1 U	1 U	10 U	35 J	18 J	10 U	10 U		12	3 J	10 U	4.2 J
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
1,2-Dichloroethane	5	5	5	0.17	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
1,2-Dichloropropane	5	5	5	0.44	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	2000 U	20000 U	10000 U	2000 U	2000 U		200 U	2000 U	2000 U	2000 U
2-Butanone	4000	4000		5600	3.6 J	9.7	17	160	500 U	250 U	50 U	50 U		3.9 J	50 U	50 U	50 U
2-Hexanone	11	44		38	5 U	0.35 J	1 J	50 U	500 U	250 U	50 U	50 U		5 U	50 U	50 U	50 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	5 U	5 U	50 U	500 U	250 U	50 U	50 U		5 U	50 U	50 U	50 U
Acetone	33000	92000		14000	2.7 J	11	16	50 U	500 U	250 U	50 U	50 U		5 U	43 J	50 U	50 U
Acrylonitrile	0.72	3.7		0.052	4.3 J	20 U	20 U	200 U	2000 U	1000 U	200 U	200 U		20 U	200 U	200 U	200 U
Benzene	5	5	5	0.45	0.22 J	0.49 J	1 U	10 U	100 U	50 U	10 U	10 U		0.24 J	10 U	10 U	10 U
Bromochloromethane	90	90		83	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Bromodichloromethane	80	80		0.13	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Bromoform	80	80		9.2	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Bromomethane	10	10		7.5	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Carbon Disulfide	1500	6200		810	1 U	0.35 J	1 U	10 U	100 U	50 U	10 U	10 U		0.22 J	10 U	10 U	10 U
Carbon Tetrachloride	5	5	5	0.45	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Chlorobenzene	100	100	100	78	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Chlorodibromomethane	80	80		0.17	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Chloroethane	230	900		21000	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		0.65 J	3.4 J	10 U	10 U
Chloroform	80	80		0.22	1 U	1 U	1 U	10 U	100 U	50 U	2.4 J	2.3 J		1 U	10 U	1.9 J	2 J
Chloromethane				190	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	70	70	70	36	1.6	3.4	10	2.6 J	1100	900	190	180		1100	1600	170	340
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Ethylbenzene	700	700	700	1.5	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Methyl tert-butyl ether	20	20		14	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Methylene chloride	5	5		11	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	5.9 J	10 U	10 U
Styrene	100	100	100	1200	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Tetrachloroethene	5	5	5	11	0.43 J	0.69 J	0.55 J	10 U	580	300	4 J	2.3 J		5.9	10 U	10 U	2.4 J
Toluene	1000	1000	1000	1100	0.59 J	0.32 J	0.35 J	10 U	100 U	50 U	3.2 J	2.1 J		2.4	1.5 J	10 U	10 U
trans-1,2-Dichloroethene	100	100	100	360	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		2.2	2.4 J	10 U	1.8 J
trans-1,3-Dichloropropene	6.6	26		0.47	1 U	1 U	1 U	10 U	100 U	50 U	10 U	10 U		1 U	10 U	10 U	10 U
Trichloroethene	5	5	5	0.49	1 U	0.59 J	0.8 J	10 U	1600	1100	36	19		42 J	1.7 J	7.8 J	26
Vinyl Chloride	2	2	2	0.019	1 U	1 U	0.24 J	10 U	100 U	50 U	10 U	10 U		6.2	110	10 U	2.8 J
Xylenes (Total)	10000	10000	10000	190	3 U	3 U	3 U	30 U	300 U	150 U	30 U	30 U		3 U	30 U	30 U	30 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 323.5 - 324 8/9/13	MW-140A 323.5 - 324 8/27/13	MW-140A 323.5 - 324 8/29/13	MW-140A 323.5 - 324 9/27/13	MW-140A 323.5 - 324 10/14/14	MW-140A 372 - 372.5 8/9/13	MW-140A 372 - 372.5 8/29/13	MW-140A 372 - 372.5 9/27/13	MW-140A 372 - 372.5 10/31/13	MW-140A 372 - 372.5 12/6/13	MW-140A 372 - 372.5 10/13/14	MW-140A 407.5 - 408 8/9/13	MW-140A 407.5 - 408 8/28/13	MW-140A 407.5 - 408 9/27/13
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78		110					2.2 U						1.9 J	
Alkalinity																		
ALKALINITY, BICARBONATE																		
ALKALINITY, CARBONATE																		
ALKALINITY, TOTAL																		
Anions																		
Chloride		250000																
Nitrate As N	10000	10000	10000	32000														
Sulfate																		
Sulfide, Total																		
Cyanide																		
Cyanide, Free	200	200	200	1.5		2.3					2 U						2 U	
Cyanide, Total	200	200		1.5		7.7 J					2 J B						3.8 J B	
METAL																		
Antimony	6	6	6	7.8		0.89 J B					0.087 J						0.12 J	
Arsenic	10	10	10	0.052		0.63 J					1.4						1 U	
Barium	2000	2000	2000	3800		250					250						81	
Beryllium	4	4	4	25		0.18 J					0.28 J						1 U	
Cadmium	5	5	5	9.2		1 U					1 U						1 U	
Calcium																		
Chromium	100	100	100			670					8.9						47	
Copper	1000	1000	1300	800		13 B					12						1.5 J	
Ferric Iron																		
FERROUS IRON																		
Hexavalent Chromium	100	100		0.035		94 J	65				110						10 U	
Lead	5	5	15	15		2.4					3.2 B						0.25 J B	
Magnesium																		
Mercury	2	2	2	0.63		0.2 U					0.2 U						0.2 U	
Nickel	100	100		390		17					4.4						1.8	
Potassium																		
Selenium	50	50	50	100		5 U					5 U						5 U	
Silver	100	100		94		0.15 J					1 U						1 U	
Sodium																		
Thallium	2	2	2	0.2		0.072 J B					0.095 J						0.06 J	
Vanadium	260	720		86		1 U					11 B						10 B	
Zinc	2000	2000		6000		350 B					160						44	
METAL (Dissolved)																		
Antimony	6	6	6	7.8		0.91 J					0.044 J						0.16 J	
Arsenic	10	10	10	0.052		1 U					0.47 J						1 U	
Barium	2000	2000	2000	3800		250					110						61	
Beryllium	4	4	4	25		1 U					1 U						1 U	
Cadmium	5	5	5	9.2		1 U					1 U						1 U	
Calcium																		
Chromium	100	100	100			670					2.4						39	

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Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 323.5 - 324 8/9/13	MW-140A 323.5 - 324 8/27/13	MW-140A 323.5 - 324 8/29/13	MW-140A 323.5 - 324 9/27/13	MW-140A 323.5 - 324 10/14/14	MW-140A 372 - 372.5 8/9/13	MW-140A 372 - 372.5 8/29/13	MW-140A 372 - 372.5 9/27/13	MW-140A 372 - 372.5 10/31/13	MW-140A 372 - 372.5 12/6/13	MW-140A 372 - 372.5 10/13/14	MW-140A 407.5 - 408 8/9/13	MW-140A 407.5 - 408 8/28/13	MW-140A 407.5 - 408 9/27/13
Copper	1000	1000	1300	800		0.64 J					2 U						2 U	
Hexavalent Chromium	100	100		0.035		180 J	5.4 J				10 U						10 U	
Iron			300	14000														
Lead	5	5	15	15		0.05 J B					0.023 J B						0.019 J B	
Magnesium																		
Manganese	300	300	50	430														
Mercury	2	2	2	0.63		0.2 U					0.2 U						0.2 U	
Nickel	100	100		390		18					0.24 J						1.1	
Potassium																		
Selenium	50	50	50	100		5 U					5 U						5 U	
Silver	100	100		94		1 U					1 U						1 U	
Sodium																		
Thallium	2	2	2	0.2		0.25 J					0.02 J						0.03 J	
Vanadium	260	720		86		12 B					9.6 B						7.2 B	
Zinc	2000	2000		6000		370					5.2						5.6	
Other																		
Carbon Dioxide																		
Ethane																		
Ethene																		
Methane																		
Other (Dissolved)																		
Dissolved Organic Carbon																		
Semi Volatile Organic Compound																		
1,2,4-Trichlorobenzene	70	70	70	1.1		9.6 U					9.7 U						9.7 U	
1,2-Dichlorobenzene	600	600	600	300		9.6 U					9.7 U						9.7 U	
1,3-Dichlorobenzene	600	600				9.6 U					9.7 U						9.7 U	
1,4-Dichlorobenzene	75	75	75	0.48		9.6 U					9.7 U						9.7 U	
2,4,5-Trichlorophenol	3700	10000		1200		9.6 U					9.7 U						9.7 U	
2,4,6-Trichlorophenol	37	100		4		9.6 U					9.7 U						9.7 U	
2,4-Dichlorophenol	20	20		46		1.9 U					1.9 U						1.9 U	
2,4-Dimethylphenol	730	2000		360		9.6 U					9.7 U						9.7 U	
2,4-Dinitrophenol	73	200		39		48 U					49 U						49 U	
2,4-Dinitrotoluene	2.1	8.4		0.24		9.6 U					9.7 U						9.7 U	
2,6-Dinitrotoluene	37	100		0.048		9.6 U					9.7 U						9.7 U	
2-Chloronaphthalene	2900	8200		750		1.9 U					1.9 U						1.9 U	
2-Chlorophenol	40	40		91		9.6 U					9.7 U						9.7 U	
2-Methylnaphthalene	150	410		36		1.9 U					1.9 U						1.9 U	
2-Methylphenol	1800	5100		930		4 J					9.7 U						9.7 U	
2-Nitroaniline	110	310		190		48 U					49 U						49 U	
2-Nitrophenol	290	820				9.6 U					9.7 U						9.7 U	
3-& 4-Methylphenol				180		9.6 U					9.7 U						2.2 J	
3,3'-Dichlorobenzidine	1.5	5.8		0.12		9.6 U					9.7 U						9.7 U	
3-Nitroaniline	11	31				48 U					49 U						49 U	
4,6-Dinitro-2-Methylphenol	3.7	10		1.5		48 U					49 U						49 U	
4-Bromophenyl phenyl ether						9.6 U					9.7 U						9.7 U	

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Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 323.5 - 324 8/9/13	MW-140A 323.5 - 324 8/27/13	MW-140A 323.5 - 324 8/29/13	MW-140A 323.5 - 324 9/27/13	MW-140A 323.5 - 324 10/14/14	MW-140A 372 - 372.5 8/9/13	MW-140A 372 - 372.5 8/29/13	MW-140A 372 - 372.5 9/27/13	MW-140A 372 - 372.5 10/31/13	MW-140A 372 - 372.5 12/6/13	MW-140A 372 - 372.5 10/13/14	MW-140A 407.5 - 408 8/9/13	MW-140A 407.5 - 408 8/28/13	MW-140A 407.5 - 408 9/27/13
4-Chloro-3-Methyl-Phenol	180	510		1400		9.6 U					9.7 U						9.7 U	
4-Chloroaniline	3.3	13		0.36		9.6 U					9.7 U						9.7 U	
4-Chlorodiphenyl Ether						9.6 U					9.7 U						9.7 U	
4-Nitroaniline	33	130		3.8		48 U					49 U						49 U	
4-Nitrophenol	60	60				48 U					49 U						49 U	
Acenaphthene	2200	3800		530		1.9 U					1.9 U						1.9 U	
Acenaphthylene	2200	6100		530		1.9 U					1.9 U						1.9 U	
Anthracene	66	66		1800		1.9 U					1.9 U						1.9 U	
Benzo (A) Anthracene	0.29	3.6	0.2	0.034		1.9 U					1.9 U						1.9 U	
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034		1.9 U					1.9 U						1.9 U	
Benzo (b) Fluoranthene	0.29	1.2		0.034		1.9 U					1.9 U						1.9 U	
Benzo (g,h,i) Perylene	0.26	0.26				1.9 U					1.9 U						1.9 U	
Benzo (k) Fluoranthene	0.55	0.55		0.34		1.9 U					1.9 U						1.9 U	
Bis(2-Chloroethoxy) Methane	110	310		59		9.6 U					9.7 U						9.7 U	
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014		1.9 U					1.9 U						1.9 U	
Bis(2-Chloroisopropyl) Ether	300	300		0.36		1.9 U					1.9 U						1.9 U	
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6		19 U					19 U						19 U	
Butylbenzylphthalate	350	1400		16		9.6 U					9.7 U						9.7 U	
Carbazole	33	130				1.9 U					1.9 U						1.9 U	
Chrysene	1.9	1.9		3.4		1.9 U					1.9 U						1.9 U	
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034		1.9 U					1.9 U						1.9 U	
Dibenzofuran	37	100		7.9		9.6 U					9.7 U						9.7 U	
Diethylphthalate	29000	82000		15000		9.6 U					9.7 U						75	
Dimethylphthalate						9.6 U					9.7 U						9.7 U	
Di-n-Butylphthalate	3700	10000		900		1.2 J					9.7 U						9.7 U	
Di-n-octylphthalate	1500	3000		200		9.6 U					9.7 U						9.7 U	
Fluoranthene	260	260		800		1.9 U					1.9 U						1.9 U	
Fluorene	1500	1900		290		1.9 U					1.9 U						1.9 U	
Hexachlorobenzene	1	1	1	0.049		1.9 U					1.9 U						1.9 U	
Hexachlorobutadiene	8.5	33		0.3		1.9 U					1.9 U						1.9 U	
Hexachlorocyclopentadiene	50	50	50	31		9.6 U					9.7 U						9.7 U	
Hexachloroethane	1	1		0.9		9.6 U					9.7 U						9.7 U	
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034		1.9 U					1.9 U						1.9 U	
Isophorone	100	100		78		9.6 U					9.7 U						9.7 U	
Naphthalene	100	100		0.17		1.9 U					1.9 U						1.9 U	
Nitrobenzene	73	200		0.14		19 U					19 U						19 U	
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011		1.9 U					1.9 U						1.9 U	
N-Nitrosodiphenylamine	130	530		12		9.6 U					9.7 U						9.7 U	
Pentachlorophenol	1	1	1	0.04		9.6 U					9.7 U						9.7 U	
Phenanthrene	1100	1100				1.9 U					1.9 U						1.9 U	
Phenol	2000	2000		5800		1.9 U					1.9 U						1.9 U	
Pyrene	130	130		120		1.9 U					1.9 U						1.9 U	
TOTAL VOC																		
TOTAL VOC					136.98	197.2	0	185.6	813.3	27.66	103.95	27.08	21.4	28.22	158.84	93.27	108.45	307.68

Volatile Organic Compound

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Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 323.5 - 324 8/9/13	MW-140A 323.5 - 324 8/27/13	MW-140A 323.5 - 324 8/29/13	MW-140A 323.5 - 324 9/27/13	MW-140A 323.5 - 324 10/14/14	MW-140A 372 - 372.5 8/9/13	MW-140A 372 - 372.5 8/29/13	MW-140A 372 - 372.5 9/27/13	MW-140A 372 - 372.5 10/31/13	MW-140A 372 - 372.5 12/6/13	MW-140A 372 - 372.5 10/13/14	MW-140A 407.5 - 408 8/9/13	MW-140A 407.5 - 408 8/28/13	MW-140A 407.5 - 408 9/27/13
1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
1,1,1-Trichloroethane	200	200	200	8000	4.4	4.1 J		2.2 J	10 U	0.64 J	3.2	0.48 J	1 U	1.8	1.5	3.8	2.4	1.6 J
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
1,1-Dichloroethane	31	160		2.7	11	10		8.5	33	0.72 J	6.5	0.76 J	0.58 J	0.83 J	5.5	4.9	6.8	3.5 J
1,1-Dichloroethene	7	7	7	280	1.7	10 U		5 U	10 U	0.41 J	1.7	0.35 J	0.52 J	0.59 J	1.6	0.87 J	1.2 J	5 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
1,2-Dichloroethane	5	5	5	0.17	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
1,2-Dichloropropane	5	5	5	0.44	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
1,4-Dioxane	6.4	32		0.78	200 U	2000 U		1000 U	2000 U	200 U	200 U	200 U	200 U	200 U	R	400 U	400 U	1000 U
2-Butanone	4000	4000		5600	2.6 J	16 J		36	320	5 U	5 U	5 U	5 U	5 U	41	3.2 J	8.7 J	240
2-Hexanone	11	44		38	0.48 J	50 U		1.7 J	50 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	0.69 J	25 U
4-Methyl-2-Pentanone	2900	8200		1200	0.86 J	50 U		25 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	1.4 J	25 U
Acetone	33000	92000		14000	8	52		36	70	5 U	5 U	5 U	5 U	5 U	11	5 J	8.2 J	25 U
Acrylonitrile	0.72	3.7		0.052	0.64 J	200 U		5 J	22 J	20 U	20 U	20 U	20 U	20 U	5.2 J	40 U	40 U	100 U
Benzene	5	5	5	0.45	0.35 J	10 U		5 U	10 U	0.17 J	0.28 J	1 U	1 U	1 U	0.14 J	2 U	0.28 J	5 U
Bromochloromethane	90	90		83	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Bromodichloromethane	80	80		0.13	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Bromoform	80	80		9.2	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Bromomethane	10	10		7.5	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Carbon Disulfide	1500	6200		810	1.3	10 U		5 U	10 U	0.21 J	1 U	1 U	1 U	0.35 J	0.24 J	3	2 U	5 U
Carbon Tetrachloride	5	5	5	0.45	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Chlorobenzene	100	100	100	78	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Chlorodibromomethane	80	80		0.17	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Chloroethane	230	900		21000	1 U	10 U		5 U	4.4 J	1 U	1 U	1 U	1 U	1 U	1.4	2 U	2 U	5 U
Chloroform	80	80		0.22	0.83 J	10 U		1 J	10 U	0.23 J	0.72 J	1 U	1 U	1 U	1 U	1.1 J	0.87 J	5 U
Chloromethane				190	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
cis-1,2-Dichloroethene	70	70	70	36	87	84		83	320	17	65	15	12	17	66	56	66	46
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Ethylbenzene	700	700	700	1.5	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Methyl tert-butyl ether	20	20		14	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Methylene chloride	5	5		11	1 U	10 J		1.7 J	4.6 J	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	1.4 J
Styrene	100	100	100	1200	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Tetrachloroethene	5	5	5	11	1.2	2.1 J		1.1 J	10 U	0.84 J	2.5	1.5	1.4	1.3	0.86 J	1.2 J	0.97 J	1.4 J
Toluene	1000	1000	1000	1100	0.62 J	10 U		5 U	10 U	0.44 J	0.73 J	0.39 J	1 U	0.45 J	1 U	1.2 J	0.46 J	0.78 J
trans-1,2-Dichloroethene	100	100	100	360	1 U	10 U		5 U	10 U	1 U	0.22 J	1 U	1 U	1 U	1 U	2 U	2 U	5 U
trans-1,3-Dichloropropene	6.6	26		0.47	1 U	10 U		5 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2 U	5 U
Trichloroethene	5	5	5	0.49	15	19		9.4	2.3 J	7	22	8.6	6.9	5.9	4.4	13	9.6	13
Vinyl Chloride	2	2	2	0.019	1	10 U		5 U	37	1 U	1.1	1 U	1 U	1 U	20	2 U	0.88 J	5 U
Xylenes (Total)	10000	10000	10000	190	3 U	30 U		15 U	30 U	3 U	3 U	3 U	3 U	3 U	3 U	6 U	6 U	15 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 407.5 - 408 10/30/13	MW-140A 407.5 - 408 10/13/14	MW-148A 72.5 - 73 2/21/13	MW-148A 72.5 - 73 4/3/13	MW-148A 72.5 - 73 9/19/13	MW-148A 72.5 - 73 10/28/14	MW-148A 136 - 136.5 2/21/13	MW-148A 136 - 136.5 4/3/13	MW-148A 136 - 136.5 9/19/13	MW-148A 136 - 136.5 10/28/14	MW-148A 218 - 218.5 2/21/13	MW-148A 218 - 218.5 4/3/13	MW-148A 218 - 218.5 9/19/13	MW-148A 218 - 218.5 10/28/14
1,4 Dioxane																		
1,4-Dioxane	6.4	32		0.78														
Alkalinity																		
ALKALINITY, BICARBONATE																		
ALKALINITY, CARBONATE																		
ALKALINITY, TOTAL																		
Anions																		
Chloride		250000																
Nitrate As N	10000	10000	10000	32000														
Sulfate																		
Sulfide, Total																		
Cyanide																		
Cyanide, Free	200	200	200	1.5				2 U				2 U				2 U		
Cyanide, Total	200	200		1.5				10 U				10 U				10 U		
METAL																		
Antimony	6	6	6	7.8				0.17 J B				0.39 J B				0.096 J B		
Arsenic	10	10	10	0.052				1 U				1				0.3 J		
Barium	2000	2000	2000	3800				75 B				110 B				86 B		
Beryllium	4	4	4	25				1 U				0.45 J				1 U		
Cadmium	5	5	5	9.2				1 U				1 U				1 U		
Calcium																		
Chromium	100	100	100					1.1 J				4.4				6.3		
Copper	1000	1000	1300	800				1.9 J				5.3				3.3		
Ferric Iron																		
FERROUS IRON																		
Hexavalent Chromium	100	100		0.035				10 U				50 U				50 U		
Lead	5	5	15	15				0.58 J B				7.8 B				0.78 J B		
Magnesium																		
Mercury	2	2	2	0.63				0.2 U				0.2 U				0.2 U		
Nickel	100	100		390				6.3				3.6				2.1		
Potassium																		
Selenium	50	50	50	100				5 U				0.84 J				5 U		
Silver	100	100		94				1 U				0.15 J				0.3 J		
Sodium																		
Thallium	2	2	2	0.2				0.16 J				0.089 J				0.025 J		
Vanadium	260	720		86				1 U				4.8				0.45 J		
Zinc	2000	2000		6000				9.9				23				16		
METAL (Dissolved)																		
Antimony	6	6	6	7.8				0.14 J				0.37 J				2 U		
Arsenic	10	10	10	0.052				0.52 J				1 U				1 U		
Barium	2000	2000	2000	3800				81				88				74		
Beryllium	4	4	4	25				1 U				1 U				1 U		
Cadmium	5	5	5	9.2				1 U				1 U				1 U		
Calcium																		
Chromium	100	100	100					0.91 J				0.98 J				0.89 J		

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 407.5 - 408 10/30/13	MW-140A 407.5 - 408 10/13/14	MW-148A 72.5 - 73 2/21/13	MW-148A 72.5 - 73 4/3/13	MW-148A 72.5 - 73 9/19/13	MW-148A 72.5 - 73 10/28/14	MW-148A 136 - 136.5 2/21/13	MW-148A 136 - 136.5 4/3/13	MW-148A 136 - 136.5 9/19/13	MW-148A 136 - 136.5 10/28/14	MW-148A 218 - 218.5 2/21/13	MW-148A 218 - 218.5 4/3/13	MW-148A 218 - 218.5 9/19/13	MW-148A 218 - 218.5 10/28/14
Copper	1000	1000	1300	800				4.7 B				2.7 B				1.9 J B		
Hexavalent Chromium	100	100		0.035				10 U				10 U				10 U		
Iron			300	14000														
Lead	5	5	15	15				0.027 J				0.2 J				3.8		
Magnesium																		
Manganese	300	300	50	430														
Mercury	2	2	2	0.63				0.039 J				0.2 U				0.2 U		
Nickel	100	100		390				8.4 B				4.8 B				3.4 B		
Potassium																		
Selenium	50	50	50	100				1.2 J				1.2 J				0.57 J		
Silver	100	100		94				1 U				1 U				1 U		
Sodium																		
Thallium	2	2	2	0.2				0.31 J				0.078 J				0.074 J		
Vanadium	260	720		86				4.5				4.5				3.4		
Zinc	2000	2000		6000				16				4.1 J				1.2 J		
Other																		
Carbon Dioxide																		
Ethane																		
Ethene																		
Methane																		
Other (Dissolved)																		
Dissolved Organic Carbon																		
Semi Volatile Organic Compound																		
1,2,4-Trichlorobenzene	70	70	70	1.1				9.6 U				9.6 U				10 U		
1,2-Dichlorobenzene	600	600	600	300				9.6 U				9.6 U				10 U		
1,3-Dichlorobenzene	600	600						9.6 U				9.6 U				10 U		
1,4-Dichlorobenzene	75	75	75	0.48				9.6 U				9.6 U				10 U		
2,4,5-Trichlorophenol	3700	10000		1200				9.6 U				9.6 U				10 U		
2,4,6-Trichlorophenol	37	100		4				9.6 U				9.6 U				10 U		
2,4-Dichlorophenol	20	20		46				1.9 U				1.9 U				2.1 U		
2,4-Dimethylphenol	730	2000		360				9.6 U				9.6 U				10 U		
2,4-Dinitrophenol	73	200		39				48 U				48 U				52 U		
2,4-Dinitrotoluene	2.1	8.4		0.24				9.6 U				9.6 U				10 U		
2,6-Dinitrotoluene	37	100		0.048				9.6 U				9.6 U				10 U		
2-Chloronaphthalene	2900	8200		750				1.9 U				1.9 U				2.1 U		
2-Chlorophenol	40	40		91				9.6 U				9.6 U				10 U		
2-Methylnaphthalene	150	410		36				1.9 U				1.9 U				2.1 U		
2-Methylphenol	1800	5100		930				9.6 U				9.6 U				10 U		
2-Nitroaniline	110	310		190				48 U				48 U				52 U		
2-Nitrophenol	290	820						9.6 U				9.6 U				10 U		
3-& 4-Methylphenol				180				9.6 U				9.6 U				10 U		
3,3'-Dichlorobenzidine	1.5	5.8		0.12				9.6 U				9.6 U				10 U		
3-Nitroaniline	11	31						48 U				48 U				52 U		
4,6-Dinitro-2-Methylphenol	3.7	10		1.5				48 U				48 U				52 U		
4-Bromophenyl phenyl ether								9.6 U				9.6 U				10 U		

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 407.5 - 408 10/30/13	MW-140A 407.5 - 408 10/13/14	MW-148A 72.5 - 73 2/21/13	MW-148A 72.5 - 73 4/3/13	MW-148A 72.5 - 73 9/19/13	MW-148A 72.5 - 73 10/28/14	MW-148A 136 - 136.5 2/21/13	MW-148A 136 - 136.5 4/3/13	MW-148A 136 - 136.5 9/19/13	MW-148A 136 - 136.5 10/28/14	MW-148A 218 - 218.5 2/21/13	MW-148A 218 - 218.5 4/3/13	MW-148A 218 - 218.5 9/19/13	MW-148A 218 - 218.5 10/28/14
4-Chloro-3-Methyl-Phenol	180	510		1400				9.6 U				9.6 U				10 U		
4-Chloroaniline	3.3	13		0.36				9.6 U				9.6 U				10 U		
4-Chlorodiphenyl Ether								9.6 U				9.6 U				10 U		
4-Nitroaniline	33	130		3.8				48 U				48 U				52 U		
4-Nitrophenol	60	60						48 U				48 U				52 U		
Acenaphthene	2200	3800		530				1.9 U				1.9 U				2.1 U		
Acenaphthylene	2200	6100		530				1.9 U				1.9 U				2.1 U		
Anthracene	66	66		1800				1.9 U				1.9 U				2.1 U		
Benzo (A) Anthracene	0.29	3.6	0.2	0.034				1.9 U				1.9 U				2.1 U		
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034				1.9 U				1.9 U				2.1 U		
Benzo (b) Fluoranthene	0.29	1.2		0.034				1.9 U				1.9 U				2.1 U		
Benzo (g,h,i) Perylene	0.26	0.26						1.9 U				1.9 U				2.1 U		
Benzo (k) Fluoranthene	0.55	0.55		0.34				1.9 U				1.9 U				2.1 U		
Bis(2-Chloroethoxy) Methane	110	310		59				9.6 U				9.6 U				10 U		
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014				1.9 U				1.9 U				2.1 U		
Bis(2-Chloroisopropyl) Ether	300	300		0.36				1.9 U				1.9 U				2.1 U		
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6				19 U				19 U				21 U		
Butylbenzylphthalate	350	1400		16				9.6 U				9.6 U				10 U		
Carbazole	33	130						1.9 U				1.9 U				2.1 U		
Chrysene	1.9	1.9		3.4				1.9 U				1.9 U				2.1 U		
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034				1.9 U				1.9 U				2.1 U		
Dibenzofuran	37	100		7.9				9.6 U				9.6 U				10 U		
Diethylphthalate	29000	82000		15000				9.6 U				9.6 U				10 U		
Dimethylphthalate								9.6 U				9.6 U				10 U		
Di-n-Butylphthalate	3700	10000		900				9.6 U				9.6 U				10 U		
Di-n-octylphthalate	1500	3000		200				9.6 U				9.6 U				10 U		
Fluoranthene	260	260		800				1.9 U				1.9 U				2.1 U		
Fluorene	1500	1900		290				1.9 U				1.9 U				2.1 U		
Hexachlorobenzene	1	1	1	0.049				1.9 U				1.9 U				2.1 U		
Hexachlorobutadiene	8.5	33		0.3				1.9 U				1.9 U				2.1 U		
Hexachlorocyclopentadiene	50	50	50	31				9.6 U				9.6 U				10 U		
Hexachloroethane	1	1		0.9				9.6 U				9.6 U				10 U		
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034				1.9 U				1.9 U				2.1 U		
Isophorone	100	100		78				9.6 U				9.6 U				10 U		
Naphthalene	100	100		0.17				1.9 U				1.9 U				2.1 U		
Nitrobenzene	73	200		0.14				19 U				19 U				21 U		
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011				1.9 U				1.9 U				2.1 U		
N-Nitrosodiphenylamine	130	530		12				9.6 U				9.6 U				10 U		
Pentachlorophenol	1	1	1	0.04				9.6 U				9.6 U				10 U		
Phenanthrene	1100	1100						1.9 U				1.9 U				2.1 U		
Phenol	2000	2000		5800				1.9 U				1.9 U				2.1 U		
Pyrene	130	130		120				1.9 U				1.9 U				2.1 U		
TOTAL VOC																		
TOTAL VOC					284.6	378.03	0.75	0.2	0	0	1.97	1	0	0	0.74	0	0	0

Volatile Organic Compound

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-140A 407.5 - 408 10/30/13	MW-140A 407.5 - 408 10/13/14	MW-148A 72.5 - 73 2/21/13	MW-148A 72.5 - 73 4/3/13	MW-148A 72.5 - 73 9/19/13	MW-148A 72.5 - 73 10/28/14	MW-148A 136 - 136.5 2/21/13	MW-148A 136 - 136.5 4/3/13	MW-148A 136 - 136.5 9/19/13	MW-148A 136 - 136.5 10/28/14	MW-148A 218 - 218.5 2/21/13	MW-148A 218 - 218.5 4/3/13	MW-148A 218 - 218.5 9/19/13	MW-148A 218 - 218.5 10/28/14
1,1,1,2-Tetrachloroethane	70	70		0.57	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	200	8000	3.1 J	2.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	5	5	5	0.28	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	31	160		2.7	6.7	10	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	7	280	5 U	2.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	5	5	5	0.17	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	5	5	5	0.44	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dioxane	6.4	32		0.78	1000 U	R	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	180	160	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	11	44		38	25 U	0.71 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone	2900	8200		1200	25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	33000	92000		14000	25 U	31	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	0.72	3.7		0.052	100 U	19 J	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	5 U	0.28 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane	90	90		83	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	80	80		0.13	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	80	80		9.2	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	10	10		7.5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	1500	6200		810	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	5	5	5	0.45	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	100	100	78	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorodibromomethane	80	80		0.17	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	230	900		21000	5 U	3 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	80		0.22	5 U	0.18 J	0.75 J	0.2 J	1 U	1 U	1.8	1	1 U	1 U	0.57 J	1 U	1 U	1 U
Chloromethane				190	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	70	36	88	110	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	6.6	26		0.47	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	700	700	700	1.5	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl tert-butyl ether	20	20		14	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	5		11	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	100	100	100	1200	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	5	5	11	5 U	0.44 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1000	1000	1000	1100	5 U	0.51 J	1 U	1 U	1 U	1 U	0.17 J	1 U	1 U	1 U	0.17 J	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	100	360	5 U	0.31 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	6.6	26		0.47	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	5	5	0.49	6.8	3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	2	2	2	0.019	5 U	35	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylenes (Total)	10000	10000	10000	190	15 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference.

Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-152 23 - 23.5 10/4/13	MW-152 23 - 23.5 10/22/13	MW-152 23 - 23.5 10/27/14	MW-152 137.5 - 138 10/4/13	MW-152 137.5 - 138 10/22/13	MW-152 137.5 - 138 10/24/14
1,4 Dioxane										
1,4-Dioxane	6.4	32		0.78						
Alkalinity										
ALKALINITY, BICARBONATE										
ALKALINITY, CARBONATE										
ALKALINITY, TOTAL										
Anions										
Chloride		250000								
Nitrate As N	10000	10000	10000	32000						
Sulfate										
Sulfide, Total										
Cyanide										
Cyanide, Free	200	200	200	1.5		2 U			2 U	
Cyanide, Total	200	200		1.5		10 U			5.2 J	
METAL										
Antimony	6	6	6	7.8		0.12 J			0.5 J	
Arsenic	10	10	10	0.052		1 U			0.82 J	
Barium	2000	2000	2000	3800		54			43	
Beryllium	4	4	4	25		1 U			1 U	
Cadmium	5	5	5	9.2		1 U			1 U	
Calcium						120000 B			58000 B	
Chromium	100	100	100			4.7			5.1	
Copper	1000	1000	1300	800		1.7 J			4.1	
Ferric Iron										
FERROUS IRON										
Hexavalent Chromium	100	100		0.035		10 U			3 J	
Lead	5	5	15	15		0.12 J			0.21 J	
Magnesium						25000			24000	
Mercury	2	2	2	0.63		0.2 U			0.2 U	
Nickel	100	100		390		2.4			1.6	
Potassium						5000			1300	
Selenium	50	50	50	100		2.4 J			0.94 J	
Silver	100	100		94		1 U			1 U	
Sodium						20000 B			12000 B	
Thallium	2	2	2	0.2		1 U			1 U	
Vanadium	260	720		86		2.7 B			2.5 B	
Zinc	2000	2000		6000		5.8			11	
METAL (Dissolved)										
Antimony	6	6	6	7.8		0.2 J B			1.6 J B	
Arsenic	10	10	10	0.052		1 U			1 U	
Barium	2000	2000	2000	3800		54 B			47 B	
Beryllium	4	4	4	25		1 U			1 U	
Cadmium	5	5	5	9.2		0.75 J B			3.4 B	
Calcium						120000			55000	
Chromium	100	100	100			5.8			5.9	

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Table 2.2-2
Groundwater Chemistry Data for Waterloo Wells
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-152 23 - 23.5 10/4/13	MW-152 23 - 23.5 10/22/13	MW-152 23 - 23.5 10/27/14	MW-152 137.5 - 138 10/4/13	MW-152 137.5 - 138 10/22/13	MW-152 137.5 - 138 10/24/14
Copper	1000	1000	1300	800		3 B			3.4 B	
Hexavalent Chromium	100	100		0.035		10 U			10 U	
Iron			300	14000						
Lead	5	5	15	15		0.96 J B			2.5 B	
Magnesium						25000 B			25000 B	
Manganese	300	300	50	430						
Mercury	2	2	2	0.63		0.2 U			0.2 U	
Nickel	100	100		390		2.8			3.7	
Potassium						4900 B			1300 B	
Selenium	50	50	50	100		1.1 J			5 U	
Silver	100	100		94		0.24 J B			1.2 B	
Sodium						19000 B			11000 B	
Thallium	2	2	2	0.2		0.55 J B			1.2 B	
Vanadium	260	720		86		1 U			1 U	
Zinc	2000	2000		6000		11			11	
Other										
Carbon Dioxide										
Ethane										
Ethene										
Methane										
Other (Dissolved)										
Dissolved Organic Carbon										
Semi Volatile Organic Compound										
1,2,4-Trichlorobenzene	70	70	70	1.1		9.6 U			9.3 U	
1,2-Dichlorobenzene	600	600	600	300		9.6 U			9.3 U	
1,3-Dichlorobenzene	600	600				9.6 U			9.3 U	
1,4-Dichlorobenzene	75	75	75	0.48		9.6 U			9.3 U	
2,4,5-Trichlorophenol	3700	10000		1200		9.6 U			9.3 U	
2,4,6-Trichlorophenol	37	100		4		9.6 U			9.3 U	
2,4-Dichlorophenol	20	20		46		1.9 U			1.9 U	
2,4-Dimethylphenol	730	2000		360		9.6 U			9.3 U	
2,4-Dinitrophenol	73	200		39		48 U			46 U	
2,4-Dinitrotoluene	2.1	8.4		0.24		9.6 U			9.3 U	
2,6-Dinitrotoluene	37	100		0.048		9.6 U			9.3 U	
2-Chloronaphthalene	2900	8200		750		1.9 U			1.9 U	
2-Chlorophenol	40	40		91		9.6 U			9.3 U	
2-Methylnaphthalene	150	410		36		1.9 U			1.9 U	
2-Methylphenol	1800	5100		930		9.6 U			9.3 U	
2-Nitroaniline	110	310		190		48 U			46 U	
2-Nitrophenol	290	820				9.6 U			9.3 U	
3-& 4-Methylphenol				180		9.6 U			9.3 U	
3,3'-Dichlorobenzidine	1.5	5.8		0.12		9.6 U			9.3 U	
3-Nitroaniline	11	31				48 U			46 U	
4,6-Dinitro-2-Methylphenol	3.7	10		1.5		48 U			46 U	
4-Bromophenyl phenyl ether						9.6 U			9.3 U	

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Groundwater Chemistry Data for Waterloo Wells
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4-Chloro-3-Methyl-Phenol	180	510		1400		9.6 U			9.3 U	
4-Chloroaniline	3.3	13		0.36		9.6 U			9.3 U	
4-Chlorodiphenyl Ether						9.6 U			9.3 U	
4-Nitroaniline	33	130		3.8		48 U			46 U	
4-Nitrophenol	60	60				48 U			46 U	
Acenaphthene	2200	3800		530		1.9 U			1.9 U	
Acenaphthylene	2200	6100		530		1.9 U			1.9 U	
Anthracene	66	66		1800		1.9 U			1.9 U	
Benzo (A) Anthracene	0.29	3.6	0.2	0.034		1.9 U			1.9 U	
Benzo (a) Pyrene	0.2	0.2	0.2	0.0034		1.9 U			1.9 U	
Benzo (b) Fluoranthene	0.29	1.2		0.034		1.9 U			1.9 U	
Benzo (g,h,i) Perylene	0.26	0.26				1.9 U			1.9 U	
Benzo (k) Fluoranthene	0.55	0.55		0.34		1.9 U			1.9 U	
Bis(2-Chloroethoxy) Methane	110	310		59		9.6 U			9.3 U	
Bis(2-Chloroethyl) Ether	0.15	0.76		0.014		1.9 U			1.9 U	
Bis(2-Chloroisopropyl) Ether	300	300		0.36		1.9 U			1.9 U	
Bis(2-Ethylhexyl) Phthalate	6	6	6	5.6		19 U			19 U	
Butylbenzylphthalate	350	1400		16		9.6 U			9.3 U	
Carbazole	33	130				1.9 U			1.9 U	
Chrysene	1.9	1.9		3.4		1.9 U			1.9 U	
Dibenzo (a,h) Anthracene	0.029	0.36		0.0034		1.9 U			1.9 U	
Dibenzofuran	37	100		7.9		9.6 U			9.3 U	
Diethylphthalate	29000	82000		15000		9.6 U			9.3 U	
Dimethylphthalate						9.6 U			9.3 U	
Di-n-Butylphthalate	3700	10000		900		9.6 U			9.3 U	
Di-n-octylphthalate	1500	3000		200		9.6 U			9.3 U	
Fluoranthene	260	260		800		1.9 U			1.9 U	
Fluorene	1500	1900		290		1.9 U			1.9 U	
Hexachlorobenzene	1	1	1	0.049		1.9 U			1.9 U	
Hexachlorobutadiene	8.5	33		0.3		1.9 U			1.9 U	
Hexachlorocyclopentadiene	50	50	50	31		9.6 U			9.3 U	
Hexachloroethane	1	1		0.9		9.6 U			9.3 U	
Indeno (1,2,3-cd) Pyrene	0.29	3.6		0.034		1.9 U			1.9 U	
Isophorone	100	100		78		9.6 U			9.3 U	
Naphthalene	100	100		0.17		1.9 U			1.9 U	
Nitrobenzene	73	200		0.14		19 U			19 U	
N-Nitrosodi-N-Propylamine	0.094	0.37		0.011		1.9 U			1.9 U	
N-Nitrosodiphenylamine	130	530		12		9.6 U			9.3 U	
Pentachlorophenol	1	1	1	0.04		9.6 U			9.3 U	
Phenanthrene	1100	1100				1.9 U			1.9 U	
Phenol	2000	2000		5800		1.9 U			1.9 U	
Pyrene	130	130		120		1.9 U			1.9 U	
TOTAL VOC										
TOTAL VOC					0	0	0	2.5	1.9	0.3

Volatile Organic Compound

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1,1,1,2-Tetrachloroethane	70	70		0.57	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,1,1-Trichloroethane	200	200	200	8000	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,1,2,2-Tetrachloroethane	0.84	4.3		0.076	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,1,2-Trichloroethane	5	5	5	0.28	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,1-Dichloroethane	31	160		2.7	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,1-Dichloroethene	7	7	7	280	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,2-Dibromoethane	0.05	0.05	0.05	0.0075	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,2-Dichloroethane	5	5	5	0.17	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,2-Dichloropropane	5	5	5	0.44	1 U	1 U	1.0 U	1 U	1 U	1.0 U
1,4-Dioxane	6.4	32		0.78	200 U	200 U	200 U	200 U	200 U	200 U
2-Butanone	4000	4000		5600	5 U	5 U	5.0 U	5 U	5 U	5.0 U
2-Hexanone	11	44		38	5 U	5 U	5.0 U	5 U	5 U	5.0 U
4-Methyl-2-Pentanone	2900	8200		1200	5 U	5 U	5.0 U	5 U	5 U	5.0 U
Acetone	33000	92000		14000	5 U	5 U	5.0 U	5 U	5 U	5.0 U
Acrylonitrile	0.72	3.7		0.052	20 U	20 U	20 U	20 U	20 U	20 U
Benzene	5	5	5	0.45	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Bromochloromethane	90	90		83	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Bromodichloromethane	80	80		0.13	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Bromoform	80	80		9.2	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Bromomethane	10	10		7.5	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Carbon Disulfide	1500	6200		810	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Carbon Tetrachloride	5	5	5	0.45	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Chlorobenzene	100	100	100	78	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Chlorodibromomethane	80	80		0.17	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Chloroethane	230	900		21000	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Chloroform	80	80		0.22	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Chloromethane				190	1 U	1 U	1.0 U	1 U	1 U	1.0 U
cis-1,2-Dichloroethene	70	70	70	36	1 U	1 U	1.0 U	1 U	1 U	1.0 U
cis-1,3-Dichloropropene	6.6	26		0.47	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Ethylbenzene	700	700	700	1.5	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Methyl tert-butyl ether	20	20		14	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Methylene chloride	5	5		11	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Styrene	100	100	100	1200	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Tetrachloroethene	5	5	5	11	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Toluene	1000	1000	1000	1100	1 U	1 U	1.0 U	2.5	1.9	0.30 J
trans-1,2-Dichloroethene	100	100	100	360	1 U	1 U	1.0 U	1 U	1 U	1.0 U
trans-1,3-Dichloropropene	6.6	26		0.47	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Trichloroethene	5	5	5	0.49	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Vinyl Chloride	2	2	2	0.019	1 U	1 U	1.0 U	1 U	1 U	1.0 U
Xylenes (Total)	10000	10000	10000	190	3 U	3 U	3.0 U	3 U	3 U	3.0 U

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