Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-1 10/23/89	MW-1 10/24/95	MW-1 9/21/99	MW-1 3/28/00	MW-1 4/25/08	MW-2 10/27/95	MW-2 9/21/99	MW-2 3/30/00	MW-2 5/8/08	MW-2 9/17/08	MW-2 6/25/10	MW-3 4/15/87	MW-3 9/22/99	MW-3 4/3/00	MW-3 5/7/08	MW-3 9/11/13	MW-3 10/14/14	MW-4 9/28/99	MW-4 3/29/00	MW-5 9/14/99	MW-5 3/24/00	MW-5 Dup 3/24/00	MW-5 4/24/08
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8			5 U		10 U		5 U		10 U	2 U			5 U		10 U			5 U		5 U			10 U
Arsenic	10	10	10	0.052			5 U		10 U		5 U		10 U	1 U			5 U		10 U			5 U		5 U			10 U
Barium	2000	2000	2000	3800					26.2 B				23.1 B	22.3					121 B J								79 B
Beryllium	4	4	4	25			1 U		4 U		1 U		4 U	1 U			1 U		4 U			1 U		1 U			4 U
Cadmium	5	5	5	9.2			1 U		5 U		1 U		5 U	1 U			1 U		5 U			1 U		1 U			5 U
Calcium					57000	64000	62800	74000			10800	8600					7100	6200				7800	11000	151000	110000	120000	
Chromium	100	100	100				5 U		1.9 B		5 U		3.5 B	20.1 J			5 U		5 U			5 U		5 U			5 U
Copper	1000	1000	1300	800			6		25 U	10 U	6		2.4 B	12			5 U		25 U			5 U		9			31.7
Ferric Iron																				140	100 U						
FERROUS IRON																				23 J HF	50 U						
Hexavalent Chromium	100	100		0.035			10 U		50 U		10 U		50 U				10 U		50 U			10 U		10 U			50 U
Iron			300	14000	110	70 U	1100	620		1800	920	1000					230	68				470	5300	340	50 U		
Lead	5	5	15	15			5 U		3 U		5 U		3 U	0.27 B			5 U		3 U			5 U		5 U			3 U
Magnesium						5900	5900	6700		5500	4400	3800					4100	3700				4300	5500	14400	14000	15000	
Manganese	300	300	50	430	22	20	120	20 U		24	20 U	20 U					20 U	20 U				170	290	65	87	96	
Mercury	2	2	2	0.63			0 U		0.2 U		0 U		0.071 B	0.2 U			0 U		0.2 U			0 U		0 U			0.2 U
Nickel	100	100		390			5 U		1.9 B		5 U		3.7 B	9.6			5		6.2 B			5 U		5 U			3.9 B
Potassium						1400	1900	1600		6200	5700	5400					3800	3600				2300	3000	1700	1600	1700	
Selenium	50	50	50	100			5 U		5 U		5 U		5 U	0.28 B			5 U		5 U			5 U		5 U			5 U
Silver	100	100		94			5 U		5 U		5 U		5 U	1 U			5 U		5 U			5 U		5 U			5 U
Sodium					3400	2000	2600	1900		25000	28600	26000					10500	9400				15700	25000	6000	5800	5900	
Thallium	2	2	2	0.2			2 U		10 U		2 U		10 U	0.037 B			2 U		10 U			2 U		2 U			10 U
Vanadium	260	720		86					50 U				50 U	2.1 J					50 U								1.5 B
Zinc	2000	2000		6000			20 U		2.9 B		36		6.6 B J	19.1		40	20 U		20 U			25		39			6 B
METAL (Dissolved)																											
Antimony	6	6	6	7.8					10 U				10 U	2 U					10 U								10 U
Arsenic	10	10	10	0.052					10 U				10 U	0.47 B					10 U								10 U
Barium	2000	2000	2000	3800					27 B				23 B	21.6					118 B J								74.4 B
Beryllium	4	4	4	25					4 U				4 U	1 U					4 U								4 U
Cadmium	5	5	5	9.2					5 U				5 U	1 U					5 U								5 U
Calcium															7680						7000 B						
Chromium	100	100	100						5 U				1.7 B	12.1 J					5 U								5 U
Copper	1000	1000	1300	800					25 U				25 U	0.95 B					25 U								18.8 B
Ferric Iron																											
Hexavalent Chromium	100	100		0.035					50 U				50 U						50 U								50 U
Iron			300	14000											205					160	50 U						
Lead	5	5	15	15					3 U				3 U	0.11 B					3 U								3 U
Magnesium															3330 B						4100						
Manganese	300	300	50	430											9.5 B					6.8 J B	5.9 B						
Mercury	2	2	2	0.63					0.2 U				0.2 U	0.2 U					0.2 U								0.2 U
Nickel	100	100		390					40 U				2.5 B	7.1					6.1 B								2.5 B
Potassium															4660 B						3900						
Selenium	50	50	50	100					5 U				5 U	5 U					5 U								5 U
Silver	100	100		94					5 U				5 U	1 U					5 U								5 U
Sodium															16100					12000	11000 B						
Thallium	2	2	2	0.2					10 U				10 U	0.036 B					10 U								10 U
Vanadium	260	720		86					50 U				50 U	0.31 B J					50 U								1.1 B
Zinc	2000	2000		6000					4.3 B J				9.7 B J	18.9					14.4 B J								4.5 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-5 9/5/08	MW-6 4/3/90	MW-6 4/28/94	MW-6 7/11/94	MW-6 9/21/99	MW-6 3/23/00	MW-6 6/2/03	MW-6 6/8/04	MW-6 6/13/05	MW-6 6/20/06	MW-6 6/25/07	MW-6 4/25/08	MW-6 9/8/08	MW-7 10/23/89	MW-7 4/2/90	MW-7 4/28/94	MW-7 7/11/94	MW-7 9/28/99	MW-7 4/5/00	MW-7 6/4/03	MW-7 6/9/04	MW-7 Dup 6/9/04	MW-7 6/17/05	MW-7 6/23/06
METAL																												
Aluminum			200	20000																								
Antimony	6	6	6	7.8	0.071 B	100 U	170 U	150 U	5 U							10 U	0.075 B		100 U	170 U	150 U	5 U						
Arsenic	10	10	10	0.052	1 U	10 U	6 U	6 U	5 U							10 U	1 U		10 U	6 U	6 U	5 U						
Barium	2000	2000	2000	3800	72.5											201	157											
Beryllium	4	4	4	25	0.072 B	5 U	6 U	5 U	1 U							4 U	1 U		5 U	6 U	5 U	1 U						
Cadmium	5	5	5	9.2	1 U	100 U	10 U	10 U	1 U							5 U	1 U		100 U	10 U	10 U	1 U						
Calcium									114000	19000								121000				112000	130000					
Chromium	100	100	100		5 J	200 U	20 U	20 U	5 U		0 U	2.8 U	3 U	5 U		5 U	3.9 J		20 U	20 U	30	67		77	63.5	64.1		76.2
Copper	1000	1000	1300	800	17.2	100 U	20 U	20 U	5 U							25 U	1.3 B		10	20 U	20 U	5 U						
Ferric Iron																												
FERROUS IRON																												
Hexavalent Chromium	100	100		0.035					10 U		0 U	10 U	10 U	10 U	10 U	50 U	0 U					100		70	54.8	54.8	37.5	76
Iron			300	14000			150	4700	94	50 U								30		210	220	50 U	50 U					
Lead	5	5	15	15	4.8	150 U	110 U	100 U	5 U		0 U	2.2 U	2.7 U	4.1 J		3 U	0.14 B		150 U	110 U	100 U	5 U			2.2 U	2.2 U		3 U
Magnesium									6800	6500												13400	15000					
Manganese	300	300	50	430			100	120	62	20 U								13		21	31	20 U	20 U					
Mercury	2	2	2	0.63	0.2 U	0.5 U	0.5 U	0.5 U	0 U							0.2 U	0.2 U		0.5 U	0.5 U	0.5 U	0 U						
Nickel	100	100		390	4.3	40 U	40 U	40 U	5 U		0 U	3.9 U	2.4 U	5.7 B		4 B	2.5		40 U	40 U	40 U	5 U		0 U	5 B	4.1 B		1.6 B
Potassium									1300	2100												10500	7500					
Selenium	50	50	50	100	5 U	10 U	5 U	10 U	5 U							5 U	0.42 B		10 U	5 U	5 U	5 U						
Silver	100	100		94	1 U	20 U	40 U	40 U	5 U							5 U	1 U		20 U	40 U	40 U	5 U						
Sodium									22900	4800								8300				17700	17000					
Thallium	2	2	2	0.2	0.033 B	200 U	330 U	200 U	2 U							10 U	0.089 B		200 U	330 U	200 U	2 U						
Vanadium	260	720		86	2.3 J											2 B	1.1 J											
Zinc	2000	2000		6000	6.1	90	60 U	50 U	28		0 U	13.6 B	15.1 B	17.7 JB		6.2 B	4.9 B		40	60 U	50 U			0 U	11.8 B	14 B		6.8 JB
METAL (Dissolved)																												
Antimony	6	6	6	7.8	0.078 B J											10 U	0.049 B J											
Arsenic	10	10	10	0.052	0.25 B											10 U	0.38 B											
Barium	2000	2000	2000	3800	69.4											200	172											
Beryllium	4	4	4	25	1 U											4 U	1 U											
Cadmium	5	5	5	9.2	1 U											5 U	1 U											
Calcium																												
Chromium	100	100	100		4.4 J										5 U	5 U	4.4 J										48.9	
Copper	1000	1000	1300	800	6.6											25 U	1.1 B											
Ferric Iron																												
Hexavalent Chromium	100	100		0.035												50 U	0 U											
Iron			300	14000																								
Lead	5	5	15	15	0.058 B J										3 U	3 U	0.072 B J										2.7 U	
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	2.9										2.9 B	3.4 B	2.9										2.4 U	
Potassium																												
Selenium	50	50	50	100	0.33 B											5 U	0.24 B											
Silver	100	100		94	1 U											5 U	1 U											
Sodium																												
Thallium	2	2	2	0.2	0.032 B J											10 U	0.083 B J											
Vanadium	260	720		86	1.1											50 U	1.1											
Zinc	2000	2000		6000	4.9 B										7.8 B J	8.9 B J	6.1										39.6	

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-7 6/28/07	MW-7 5/19/08	MW-7 10/1/08	MW-7 7/7/09	MW-7 6/29/10	MW-7 6/27/11	MW-7 9/19/13	MW-7 3/19/14	MW-7 5/7/14	MW-7 6/3/14	MW-7 7/2/14	MW-7 8/5/14	MW-7 9/9/14	MW-7 10/7/14	MW-7 10/29/14	MW-7 1/15/15	MW-7 2/26/15	MW-7 3/25/15	MW-7 4/22/15	MW-7 5/19/15	MW-8 4/2/90	MW-8 9/29/99	MW-8 4/4/00	MW-8 5/19/08
METAL																												
Aluminum			200	20000																								
Antimony	6	6	6	7.8		10 U	0.094 B																		100 U	5 U		10 U
Arsenic	10	10	10	0.052		10 U	1 U																		10 U	5 U		10 U
Barium	2000	2000	2000	3800		139 B	86.2																					155 B
Beryllium	4	4	4	25		4 U	1 U																		5 U	1 U		4 U
Cadmium	5	5	5	9.2		5 U	1 U																		100 U	1 U		5 U
Calcium												58000	120000	120000	110000	130000	130000 B	140000 B	150000 B	48000 B	140000	100000 B	93000	55000 B		74200	120000	
Chromium	100	100	100			51.4	84 J	114	54.8	100															20 U	6		2.5 B
Copper	1000	1000	1300	800		2.1 B	13.3																		10 U	5 U		3.4 B
Ferric Iron											77 J								100 U									
FERROUS IRON											23 J HF								50 U									
Hexavalent Chromium	100	100		0.035	45	50 U	110	170 J	61	110	64								95							10 U		50 U
Iron			300	14000																						50 U	50 U	
Lead	5	5	15	15		3 U	3.3																		150 U	5 U		3 U
Magnesium												5500	18000	17000	16000	16000	19000	20000	18000 B	4600 B	21000	11000	10000	5200		21700	34000	
Manganese	300	300	50	430																						20 U	24	
Mercury	2	2	2	0.63		0.2 U	0.2 U																		0.5 U	0 U		0.2 U
Nickel	100	100		390		1.5 B	3.8																		40 U	5 U		40 U
Potassium												33000	37000	32000	17000	33000	36000	48000	42000	25000 B	20000	35000	26000	7000		4600	22000	
Selenium	50	50	50	100		5 U	1.2 B																		10 U	5 U		5 U
Silver	100	100		94		5 U	1 U																		20 U	5 U		5 U
Sodium												56000	72000 B	58000	37000	64000	67000	69000 B	63000	39000 B	56000 B	61000	46000	16000		16400	58000	
Thallium	2	2	2	0.2		10 U	0.1 B J																		200 U	2 U		10 U
Vanadium	260	720		86		2.2 B	3.2 J																					1.6 B
Zinc	2000	2000		6000		5.2 B J	13.6																		40	25		11.6 B J
METAL (Dissolved)																												
Antimony	6	6	6	7.8		10 U	0.087 B																					10 U
Arsenic	10	10	10	0.052		10 U	1 U																					10 U
Barium	2000	2000	2000	3800		135 B	84.1																					155 B
Beryllium	4	4	4	25		4 U	1 U																					4 U
Cadmium	5	5	5	9.2		5 U	0.12 B J																					5 U
Calcium									169000										140000 B									
Chromium	100	100	100		48	51.3	92.7 J	113	56.2	99																		2.2 B
Copper	1000	1000	1300	800		1.9 B	2.9 J																					1.2 B
Ferric Iron																												
Hexavalent Chromium	100	100		0.035		62	96	140	64	110	63								110									50 U
Iron			300	14000					100 U		100 U								50 U									
Lead	5	5	15	15	3 U	3 U	0.44 B J																					3 U
Magnesium									25000										18000 B									
Manganese	300	300	50	430					15.8		48								140 B									
Mercury	2	2	2	0.63		0.17 B	0.2 U																					0.2 U
Nickel	100	100		390	40 U	40 U	4.2																					40 U
Potassium									83200										41000									
Selenium	50	50	50	100		5 U	0.87 B																					5 U
Silver	100	100		94		5 U	1 U																					5 U
Sodium									90400		43000								62000									
Thallium	2	2	2	0.2		10 U	0.12 B																					10 U
Vanadium	260	720		86		2.1 B	1 U																					2.6 B
Zinc	2000	2000		6000	6.8 B J	4.8 B	7																					9.9 B

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-8 6/18/10	MW-9 6/16/05	MW-9 Dup 6/16/05	MW-9 5/9/08	MW-9 9/12/13	MW-9 10/16/14	MW-10 3/27/00	MW-10 6/16/05	MW-10 Dup 6/16/05	MW-10 5/9/08	MW-10 9/22/08	MW-10 6/24/10	MW-11 6/16/05	MW-11 Dup 6/16/05	MW-11 4/24/08	MW-12 9/20/99	MW-12 4/3/00	MW-12 6/4/03	MW-12 6/8/04	MW-12 6/16/05	MW-12 6/23/06	MW-12 6/28/07
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8				10 U						10 U	2 U		5.8 U	5.8 U	10 U	5 U						
Arsenic	10	10	10	0.052				10 U						10 U	1 U				10 U	5 U						
Barium	2000	2000	2000	3800				10.7 B J						10.2 B J	9.6 B J				133 B							
Beryllium	4	4	4	25				4 U						4 U	1 U				4 U	1 U						
Cadmium	5	5	5	9.2				0.51 B						0.46 B	1 U			0.4 U	5 U	1 U						
Calcium											20000									3800	4500					
Chromium	100	100	100			1.8 B	1.6 U	3 B						5 U	13.9 J		28.4	1.6 U	4.2 B	5 U		0 U		1.6 U	5 U	
Copper	1000	1000	1300	800				25 U						25 U	0.44 B				4.5 B	5 U						
Ferric Iron									7100	1000																
FERROUS IRON									6900 HF	12000 HF																
Hexavalent Chromium	100	100		0.035		10 U		10 U				10 U		50 U			10 U		50 U	10 U		0 U	10 U	10 U	10 U	10 U
Iron			300	14000							19000									920	2400					
Lead	5	5	15	15		2.7 U		3 U				5.2	2.7 U	3 U	0.15 B		32.7		3 U	5 U		0 U		2.7 U	2.6 B	
Magnesium											9100									1600	1800					
Manganese	300	300	50	430							450									70	340					
Mercury	2	2	2	0.63				0.2 U						0.2 U	0.2 U				0.2 U	0 U						
Nickel	100	100		390		5.1 B	3.5 B	3.3 B					2.4 U	1.4 B	0.81 B		26.3 B		22.6 B	5		0 U		3.4 B	4.3 B	
Potassium											1500										1400					
Selenium	50	50	50	100				5 U						5 U	0.62 B				5 U	5 U						
Silver	100	100		94				5 U						5 U	1 U				5 U	5 U						
Sodium											9000									6100	8400					
Thallium	2	2	2	0.2				5.4 B J						10 U	1 U				10 U	2 U						
Vanadium	260	720		86				50 U						50 U	3.2 J				1.7 B							
Zinc	2000	2000		6000				6.8 B J				21.2 B		1.7 B J	3.8 B		71	35.3	22.8	69		0 U		43.6	9.3 JB	
METAL (Dissolved)																										
Antimony	6	6	6	7.8				10 U						10 U	0.31 B J				10 U							
Arsenic	10	10	10	0.052				10 U						10 U	0.63 B				10 U							
Barium	2000	2000	2000	3800				9.6 B						10.4 B	9.7 B				134 B							
Beryllium	4	4	4	25				4 U						4 U	1 U				4 U							
Cadmium	5	5	5	9.2				0.5 B						0.53 B	1 U				5 U							
Calcium					129000					28000 B						19200										
Chromium	100	100	100					5 U						5 U	12.1 J				5 U				2.8 U			5 U
Copper	1000	1000	1300	800				25 U						25 U	0.3 B				2.8 B							
Ferric Iron																										
Hexavalent Chromium	100	100		0.035				50 U						50 U					50 U							
Iron			300	14000	100 U				14000	13000						15500										
Lead	5	5	15	15				3 U						3 U	0.048 B				3 U				2.2 U			3 U
Magnesium					33900					12000						8640										
Manganese	300	300	50	430	5.2 B				1400 B	1300 B						400										
Mercury	2	2	2	0.63				0.087 B J						0.095 B J	0.2 U				0.2 U							
Nickel	100	100		390				2.8 B						1.5 B	0.54 B				19.6 B				4.4 B			4.3 B
Potassium					23400					2000						1260 B										
Selenium	50	50	50	100				5 U						5 U	0.5 B J				5 U							
Silver	100	100		94				5 U						5 U	1 U				5 U							
Sodium					65900				26000	23000 B						7490										
Thallium	2	2	2	0.2				10 U						6.1 B	1 U				10 U							
Vanadium	260	720		86				50 U						50 U	2.1 J				50 U							
Zinc	2000	2000		6000				2.5 B J						1.7 B J	4 B				22.7 J				15.2 B			6.2 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-12 5/6/08	MW-12 9/16/08	MW-12 9/12/13	MW-12 10/17/14	MW-14 4/24/08	MW-15 5/8/08	MW-15 9/26/08	MW-16D 5/13/08	MW-16D 6/16/10	MW-16S 5/15/08	MW-16S 10/2/08	MW-16S 7/9/09	MW-16S 6/28/10	MW-17 9/14/99	MW-17 3/23/00	MW-17 4/28/08	MW-17 9/12/08	MW-17 6/18/10	MW-18D 4/23/08	MW-18D 10/7/08	MW-18D 7/9/09	MW-18D 7/1/10
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8	10 U	0.062 B			10 U	10 U	0.14 B	10 U		10 U	1.1 B			5 U		10 U	2 U		10 U	0.31 B		
Arsenic	10	10	10	0.052	10 U	1 U			10 U	10 U	1 U	10 U		10 U	13.8 J	1 U		5 U		10 U	0.24 B		10	4		
Barium	2000	2000	2000	3800	11.6 B	10.6			120 B	114 B	102	55 B		60.8 B	194					20.8 B	26		84.3 B	42.2		
Beryllium	4	4	4	25	4 U	1 U			4 U	0.45 B	1 U	4 U		4 U	3.7			1		4 U	0.17 B		4 U	1 U		
Cadmium	5	5	5	9.2	5 U	1 U			5 U	5 U	1 U	5 U		5 U	1.1			1 U		5 U	1 U		5 U	1 U		
Calcium																		8700	100000							
Chromium	100	100	100		2.4 B	16.6 J			1.6 B	14	13.1 J E	5 U		2.8 B	37 J			5 U		5 U	5.3 J		5 U	13.6 J		
Copper	1000	1000	1300	800	1.9 B	2.4			25 U	9.4 B	3	25 U		3.2 B	30			13		25 U	1.1 B		4.2 B	0.95 B		
Ferric Iron							900	730																		
FERROUS IRON							1000 HF	370 HF																		
Hexavalent Chromium	100	100		0.035	50 U	0 U			50 U	50 U		50 U		50 U				10 U		50 U			50 U			
Iron			300	14000														54	630							
Lead	5	5	15	15	3 U	0.27 B			3 U	3 U	0.79 B	3 U		9.1	142	5.8		5 U		3 U	1.6		5.1	1.1	0.93 B	
Magnesium																		3100	6800							
Manganese	300	300	50	430														20 U	79							
Mercury	2	2	2	0.63	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U		0.092 B J	0.083 B			0 U		0.2 U	0.2 U		0.2 U	0.2 U		
Nickel	100	100		390	5.7 B J	9.4			3.2 B	12 B	4.8	40 U		12.2 B	72.4			5 U		40 U	1.6		2.2 B	3.4 J		
Potassium																		1100	1300							
Selenium	50	50	50	100	5 U	5 U			5 U	5 U	5 U	5 U		5 U	2.4 B			5 U		5 U	5 U		5 U	5.0 U		
Silver	100	100		94	5 U	1 U			5 U	0.68 B	1 U	5 U		0.74 B	0.58 B			5 U		5 U	1 U		5 U	1 U		
Sodium																		2600	24000							
Thallium	2	2	2	0.2	10 U	0.1 B			10 U	10 U	0.26 B	10 U		10 U	0.45 B J			2 U		10 U	0.043 B		5.1 B	0.23 B		
Vanadium	260	720		86	50 U	1.8 J			50 U	50 U	3.8 J	50 U		50 U	9.8 J					50 U	2.4 J		50 U	5.1 J		
Zinc	2000	2000		6000	4.9 B J	4.4 B			7.7 B	23.3 J	12.4	22.1 J		22.8 J	182			20 U		7.6 B	5 J		35.6	8.9		
METAL (Dissolved)																										
Antimony	6	6	6	7.8	10 U	0.073 B			10 U	10 U	0.21 B	10 U		10 U	0.73 B					10 U	2 U		10 U	0.16 B		
Arsenic	10	10	10	0.052	10 U	1 U			10 U	10 U	1 U	10 U		10 U	4.4	1 U				10 U	0.19 B		2.4 B	2.7		
Barium	2000	2000	2000	3800	10.6 B	10.4			117 B	111 B	96.5	55.8 B		46.5 B	109					20.2 B	20.2		39 B	32.2		
Beryllium	4	4	4	25	4 U	1 U			4 U	0.37 B J	1 U	4 U		4 U	2.5					4 U	1 U		4 U	1 U		
Cadmium	5	5	5	9.2	5 U	1 U			5 U	5 U	1 U	5 U		5 U	0.62 B J					5 U	1 U		5 U	1 U		
Calcium								10000					36400 J				22800					16800				35000
Chromium	100	100	100		5 U	9.1 J			5 U	1.6 B	11.7 J E	5 U		5 U	19.8 J					5 U	4.9 J		5 U	14 J		
Copper	1000	1000	1300	800	25 U	1.6 B			25 U	3.4 B	2.8	25 U		25 U	11.6 J					25 U	0.36 B		25 U	0.31 B		
Ferric Iron																										
Hexavalent Chromium	100	100		0.035	50 U	0 U			50 U	50 U		50 U		50 U						50 U			50 U			
Iron			300	14000			1900	1100					2750				100 U					100 U				3110
Lead	5	5	15	15	3 U	0.065 B			3 U	3 U	0.37 B	3 U		3 U	67.2 J	0.043 B				3 U	1 U		3 U	1 U	0.038 B	
Magnesium								4400 B					10200				11600					5830				10600
Manganese	300	300	50	430			950 B	510					243				627					2.3 B				398
Mercury	2	2	2	0.63	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U		0.087 B J	0.2 U					0.2 U	0.2 U		0.2 U	0.2 U		
Nickel	100	100		390	3 B J	8			3.2 B	4.6 B	4.8	40 U		10.3 B	41.8					40 U	0.46 B		1.7 B	3.2		
Potassium								1100					1430 B				3750 B					2180 B				1160 B
Selenium	50	50	50	100	5 U	5 U			5 U	5 U	5 U	5 U		5 U	1.6 B					5 U	0.21 B J		5 U	0.68 B		
Silver	100	100		94	5 U	1 U			5 U	5 U	1 U	5 U		5 U	0.1 B					5 U	1 U		5 U	1 U		
Sodium							6400	5200 B					6730				132000					5300				9300
Thallium	2	2	2	0.2	10 U	0.097 B			10 U	10 U	0.077 B J	10 U		10 U	0.14 B					10 U	0.025 B		3.9 B	0.043 B		
Vanadium	260	720		86	50 U	1.7 J			50 U	50 U	3.7 J	50 U		50 U	4.2 J					50 U	2.3 J		1 B	2.7 J		
Zinc	2000	2000		6000	3.4 B J	6.2			8 B J	20.2 J	15	21.4 J		14.9 B J	74.9					3.5 B	2.9 B J		6.8 B J	5.0 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-18D 9/10/13	MW-18D 10/23/14	MW-18S 5/1/08	MW-18S Dup 5/1/08	MW-18S 10/3/08	MW-18S 7/9/09	MW-18S 6/29/10	MW-18S 9/9/13	MW-18S 10/23/14	MW-19 9/22/99	MW-19 4/3/00	MW-19 5/14/08	MW-20D 5/7/08	MW-20D 9/5/08	MW-20D 6/16/09	MW-20D Dup 6/16/09	MW-20M 5/19/08	MW-20M 9/11/08	MW-20M 6/19/09	MW-20S 5/20/08
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8			10 U	10 U	0.32 B					5 U		10 U	10 U	0.64 B	3.6	2.9	10 U	0.58 B	0.46 B J	10 U
Arsenic	10	10	10	0.052			2.4 B	10 U	1.8 J					5 U		10 U	10 U	1.1	1.2	0.85 B	2.4 B	14.6	17.3	10 U
Barium	2000	2000	2000	3800			269	98.3 B	157							25.5 B	11.9 B J	20.6			360	724		102 B
Beryllium	4	4	4	25			0.65 B	0.53 B	0.096 B					1 U		4 U	4 U	0.36 B	0.16 B	0.13 B	4.8	10.4	9.2	4 U
Cadmium	5	5	5	9.2			0.86 B	5 U	0.21 B					1 U		5 U	5 U	1 U			0.79 B	2.1		5 U
Calcium														33000	35000									
Chromium	100	100	100				4.6 B	2.1 B	8.9 J					5 U		5 U	2.2 B	14.2 J	13.6 J	14.4 J	5 U	24.4 J	52	4 B
Copper	1000	1000	1300	800			4.2 B	1.4 B	4.2					5		25 U	2.3 B	2.7			25.8	68.8		0.92 B
Ferric Iron					3200	900						450	90 J											
FERROUS IRON					810 HF	2800 HF						50 U	110 HF											
Hexavalent Chromium	100	100		0.035			50 U	50 U						10 U		50 U	120	0 U	50 U	50 U	330	0 U	50 U	50 U
Iron			300	14000										190	50 U									
Lead	5	5	15	15			14.2	6.7	10	1.8				5 U		3 U	59.8	31.8	45.6	42	92.6	261	248	3 U
Magnesium														10000	11000									
Manganese	300	300	50	430										20 U	20 U									
Mercury	2	2	2	0.63			0.2 U	0.2 U	0.2 U					0 U		0.2 U	0.2 U	0.2 U			0.13 B	0.12 B		0.2 U
Nickel	100	100		390			10.5 B	3.8 B	5.7					5 U		1.7 B	3.2 B	6.2	5.5	5.9	122	167	181	6.6 B
Potassium														1300	1300									
Selenium	50	50	50	100			5 U	5 U	0.53 B					5 U		5 U	5 U	5 U			5 U	7.5		5 U
Silver	100	100		94			2.2 B	0.99 B	1 U					5 U		5 U	5 U	1 U			5 U	0.52 B		5 U
Sodium														4800	4400									
Thallium	2	2	2	0.2			4.3 B	3.9 B	0.043 B J					2 U		10 U	10 U	0.024 B			10 U	0.69 B		10 U
Vanadium	260	720		86			2.3 B	50 U	6.9 J							50 U	50 U	3.3 J			3.4 B	26.8 J		50 U
Zinc	2000	2000		6000			379 J	222 J	97.9					20 U		20 U	20 U	15.5			217 J	422 J		12.2 B J
METAL (Dissolved)																								
Antimony	6	6	6	7.8			10 U	10 U	2 U							10 U	10 U	0.1 B J	0.77 B J	0.8 B J	10 U	0.34 B	0.33 B J	10 U
Arsenic	10	10	10	0.052			10 U	10 U	1.5							10 U	10 U	0.5 B	0.44 B	0.66 B	10 U	17.1	1 U	10 U
Barium	2000	2000	2000	3800			28.1 B	31.7 B	39.7							23.8 B	5.6 B J	4.1 B			39.9 B	750		101 B
Beryllium	4	4	4	25			0.61 B J	0.54 B J	1 U							4 U	4 U	1 U	1 U	1 U	4 U	11.5	0.16 B	4 U
Cadmium	5	5	5	9.2			5 U	5 U	1 U							5 U	5 U	1 U			5 U	2.2		5 U
Calcium						45000					35900		46000											
Chromium	100	100	100				5 U	5 U	7.9 J							5 U	5 U	4.9 J	6.5 J	7.6 J	5 U	26.1 J	5.9 J	5 U
Copper	1000	1000	1300	800			25 U	25 U	0.54 B J							25 U	25 U	0.26 B			3 B	69		0.91 B
Ferric Iron																								
Hexavalent Chromium	100	100		0.035			50 U	50 U								50 U	50 U	0 U	50 U	50 U	50 U	0 U	50 U	50 U
Iron			300	14000	4000	3700					2120	450	200											
Lead	5	5	15	15			3 U	3 U	0.27 B J	0.053 B						3 U	12.2	0.4 B J	0.071 B	0.14 B	3 U	246 J	0.45 B	3 U
Magnesium						13000					11000		19000											
Manganese	300	300	50	430	880 B	370 B					478	840 B	390 B											
Mercury	2	2	2	0.63			0.2 U	0.2 U	0.2 U							0.2 U	0.2 U	0.2 U			0.2 U	0.14 B		0.2 U
Nickel	100	100		390			40 U	40 U	3.7							40 U	2.2 B	3.3	3.8	4.1	17.1 B	181	12.9	5.1 B
Potassium						1500 B					1200 B		1600 B											
Selenium	50	50	50	100			5 U	5 U	1.2 B							5 U	5 U	5 U			5 U	8.4		5 U
Silver	100	100		94			5 U	5 U	1 U							5 U	5 U	1 U			5 U	0.51 B		5 U
Sodium					7200	10000 B					7630	9600	14000 B											
Thallium	2	2	2	0.2			10 U	10 U	1 U							10 U	10 U	1 U			10 U	0.7 B J		10 U
Vanadium	260	720		86			50 U	1.3 B	2.6 J							50 U	50 U	1.8			50 U	25.5		50 U
Zinc	2000	2000		6000			34.9	22.6	16.8							2.8 B J	20 U	4.4 B			21.6	470 J		13.8 B

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-20S 10/1/08	MW-21 10/26/95	MW-21 9/22/99	MW-21 3/31/00	MW-22 10/23/89	MW-22 10/25/95	MW-22 9/22/99	MW-22 3/29/00	MW-22 Dup 3/29/00	MW-22 4/28/08	MW-23 10/25/95	MW-23 9/22/99	MW-23 3/27/00	MW-24 10/25/95	MW-24 9/22/99	MW-24 3/31/00	MW-25 9/27/99	MW-25 3/23/00	MW-26 9/27/99	MW-26 4/3/00	MW-26 5/5/08	MW-26 9/29/08	MW-27 9/27/99
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8	0.099 B		5 U				5 U			10 U		5 U			5 U		5 U		5 U		10 U	0.24 B	5 U
Arsenic	10	10	10	0.052	0.41 B J		5 U				5 U			10 U		5 U			5 U		5 U		5 U		10 U	0.72 B	5 U
Barium	2000	2000	2000	3800	145									18.6 B											102 B	80.4	
Beryllium	4	4	4	25	0.31 B		3				1 U			4 U		1 U			1 U		1 U		10		0.33 B	0.13 B	1 U
Cadmium	5	5	5	9.2	1 U		1 U				1 U			5 U		1 U			1 U		1 U		2		5 U	1 U	1 U
Calcium						24000	24600	3500	11000	11000	9400	9200			33000	36200	26000	57000	47600	21000	5100	12000	63500	39000			83400
Chromium	100	100	100		10.5 J		57				5 U			7.2		5 U			31		5 U		5 U		3 B	12.2 J	5 U
Copper	1000	1000	1300	800	8.2		16				5 U			25 U		7			8		5 U		18		4.3 B	5.5	5 U
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035			10 U				10 U			50 U		10 U			10 U		10 U		10 U		50 U		10 U
Iron			300	14000		2400	15400	66	220	70 U	50 U	64	50 U		70	4600	880	70 U	2600	360	50 U	50 U	900	170			78
Lead	5	5	15	15	3.7		43				5 U			3 U		5 U			5 U		5 U		5 U		4.1	2.6	5 U
Magnesium						7300	6400	2100		3900	2900	2800	2900		10000	11100	8900	17000	15800	7300	4100	6300	9300	8800			11600
Manganese	300	300	50	430		92	500	20 U	8	6 U	20 U	20 U			6 U	100	22	6 U	180	38	44	20 U	950	110			20 U
Mercury	2	2	2	0.63	0.2 U		0 U				0 U			0.2 U		0 U			0 U		0 U		2		0.2	0.1 B	0 U
Nickel	100	100		390	8.3		67				5 U			4 B		5 U			34		5 U		48		5.2 B J	6.3	5 U
Potassium						2800	2900	1200		2000	2100	2200	2100		1000	1000	970	3000	3100	3600	1900	1700	2400	1700			4400
Selenium	50	50	50	100	0.34 B		5 U				5 U			5 U		5 U			5 U		5 U		5 U		5 U	5 U	5 U
Silver	100	100		94	1 U		5 U				5 U			5 U		5 U			5 U		5 U		5 U		5 U	1 U	5 U
Sodium						2200	2700	2400	3000	3200	2300	1700	2000		3700	3800	3300	5100	4800	6000	5700	3200	5400	6100			17500
Thallium	2	2	2	0.2	0.12 B J		2 U				2 U			10 U		2 U			2 U		2 U		2 U		4.3 B J	0.058 B	2 U
Vanadium	260	720		86	6.7 J									2 B											3.1 B	3.3 J	
Zinc	2000	2000		6000	14.4		86				40			2.4 B		24			26		20 U		410		26.7 J	19	21
METAL (Dissolved)																											
Antimony	6	6	6	7.8	2 U									10 U											10 U	0.21 B	
Arsenic	10	10	10	0.052	1 U									10 U											10 U	1 U	
Barium	2000	2000	2000	3800	95.6									14.3 B											92.6 B	70.6	
Beryllium	4	4	4	25	0.12 B									4 U											4 U	1 U	
Cadmium	5	5	5	9.2	0.12 B J									5 U											5 U	1 U	
Calcium																											
Chromium	100	100	100		7.8 J									5 U											5 U	12.1 J	
Copper	1000	1000	1300	800	7.2 J									25 U											25 U	2.9	
Ferric Iron																											
Hexavalent Chromium	100	100		0.035										50 U											50 U		
Iron			300	14000																							
Lead	5	5	15	15	0.32 B J									3 U											3 U	0.059 B	
Magnesium																											
Manganese	300	300	50	430																							
Mercury	2	2	2	0.63	0.2 U									0.2 U											0.062 B	0.061 B	
Nickel	100	100		390	7.5									1.8 B											1.8 B J	2.7	
Potassium																											
Selenium	50	50	50	100	0.3 B									5 U											5 U	5 U	
Silver	100	100		94	1 U									5 U											5 U	1 U	
Sodium																											
Thallium	2	2	2	0.2	0.069 B									10 U											10 U	0.04 B J	
Vanadium	260	720		86	1.2 J									50 U											50 U	3.5 J	
Zinc	2000	2000		6000	15.3									8.6 B											4.8 B J	11.2	

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-27 4/5/00	MW-27 5/14/08	MW-27 9/30/08	MW-28 10/26/95	MW-28 9/28/99	MW-28 3/24/00	MW-28 5/8/08	MW-29 10/25/95	MW-29 9/1/99	MW-29 3/22/00	MW-29 4/23/08	MW-30 9/27/99	MW-30 3/22/00	MW-30 5/7/08	MW-30 Dup 5/7/08	MW-31D 9/27/99	MW-31D 4/3/00	MW-31D Dup 4/3/00	MW-31D 5/16/08	MW-31D 9/24/08	MW-31S 5/26/95	MW-31S 9/27/99
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8		10 U	0.05 B		5 U		10 U		5 U		10 U	5 U		10 U	10 U	5 U			10 U	0.25 B		5 U
Arsenic	10	10	10	0.052		10 U	1 U		5 U		10 U		5 U		10 U	5 U		2.6 B	2.3 B	5 U			10 U	1 U	4	5 U
Barium	2000	2000	2000	3800		102 B	85.2				284				742			39.8 B J	41.7 B J				44 B	47.6 J		
Beryllium	4	4	4	25		0.56 B	1 U		1 U		4 U		1 U		4 U	1 U		4 U	4 U	1 U			4 U	1 U	4	1 U
Cadmium	5	5	5	9.2		5 U	1 U		1 U		5 U		1 U		0.6 B	1 U		0.5 B	0.5 B	1 U			5 U	1 U	1	1 U
Calcium					100000			72000	75700	120000		150000	174000	290000		278000 E	320000			80200	71000	44000				76000
Chromium	100	100	100			13.1	20.8 J		5 U		2.1 B		5 U		4.9 B	5 U		2 B	1.8 B	5 U			1.7 B	14.6 J	6	5 U
Copper	1000	1000	1300	800		1.9 B	1.1 B		5 U		25 U		5 U		6.8 B	5 U		25 U	25 U	5 U			0.94 B	0.93 B	10	6
Ferric Iron																										
FERROUS IRON																										
Hexavalent Chromium	100	100		0.035		50 U	0 U		10 U		50 U		10 U		50 U	10 U		50 U	50 U	10 U			50 U	0 U	20	10 U
Iron			300	14000	190			70 U	50 U	50 U		70 U	50 U	50 U		25900	36000			250	50 U	66				17500
Lead	5	5	15	15		3 U	0.47 B		5 U		3 U		5 U		4.5	5 U		3 U	3 U	5 U			3 U	0.34 B	6	5 U
Magnesium					14000			22000	24900	39000		41000	45400	60000		38400	46000			11500	6200	10000				9900
Manganese	300	300	50	430	22			6 U	20 U	20 U		6	20 U	20 U		5600	4900			82	20 U					510
Mercury	2	2	2	0.63		0.97 J	0.75		0 U		0.2 U		0 U		0.63	0 U		0.2 U	0.2 U	0 U			0.2 U	0.2 U	5	0 U
Nickel	100	100		390		13.7 B	10.8		5 U		40 U		5 U		7.6 B	12		6.7 B	6.6 B	5 U			1.5 B	3.2	40	5 U
Potassium					14000			5600	21700	42000		88000	140000	520000		3600	3900			2300	930	1500				14200
Selenium	50	50	50	100		5 U	5 U		5 U		5 U		5 U		5 U	5 U		5 U	5 U	5 U			5 U	1 B		5 U
Silver	100	100		94		5 U	1 U		5 U		5 U		5 U		5 U	5 U		0.81 B	0.72 B	5 U			0.7 B	1 U		5 U
Sodium					20000			13000	12500	16000		65000	94800	730000		16400	17000			9200	3600	6200				10400
Thallium	2	2	2	0.2		10 U	0.035 B		2 U		10 U		2 U		10 U	2 U		10 U	10 U	2 U			10 U	0.019 B		2 U
Vanadium	260	720		86		2 B	4.5 J				1.9 B				1.4 B			50 U	50 U				50 U	3.6 J		
Zinc	2000	2000		6000		34.2 J	8		39		10.2 B J		20 U		82.2	54		12.6 B J	13.9 B J	24			12.7 B	6.2	30	54
METAL (Dissolved)																										
Antimony	6	6	6	7.8		10 U	2 U				10 U				10 U			10 U	10 U				10 U	2 U		
Arsenic	10	10	10	0.052		10 U	1 U				10 U				10 U			10 U	2.6 B				10 U	1 U		
Barium	2000	2000	2000	3800		98 B	85.7				294				728			37.7 B J	37.3 B J				39.4 B	46.3		
Beryllium	4	4	4	25		4 U	1 U				4 U				4 U			4 U	4 U				4 U	1 U		
Cadmium	5	5	5	9.2		5 U	1 U				5 U				0.63 B			0.44 B	0.33 B				5 U	1 U		
Calcium																										
Chromium	100	100	100			1.3 B	12.4 J				1.9 B				5 U			5 U	5 U				5 U	14.8 J		
Copper	1000	1000	1300	800		25 U	0.53 B				25 U				25 U			25 U	25 U				25 U	0.63 B		
Ferric Iron																										
Hexavalent Chromium	100	100		0.035		50 U	0 U				50 U				50 U			50 U	50 U				50 U	0 U		
Iron			300	14000																						
Lead	5	5	15	15		3 U	0.044 B				3 U				3 U			3 U	3 U				3 U	0.022 B		
Magnesium																										
Manganese	300	300	50	430																						
Mercury	2	2	2	0.63		0.38 J	0.57				0.2 U				0.2 U			0.2 U	0.2 U				0.2 U	0.2 U		
Nickel	100	100		390		6 B	8.4				40 U				5.3 B			6.6 B	6.2 B				40 U	2.3		
Potassium																										
Selenium	50	50	50	100		5 U	0.47 B				5 U				5 U			5 U	5 U				5 U	5.0 U		
Silver	100	100		94		5 U	1 U				5 U				5 U			0.85 B	0.75 B				5 U	1 U		
Sodium																										
Thallium	2	2	2	0.2		10 U	0.021 B J				10 U				3.2 B			10 U	10 U				10 U	1 U		
Vanadium	260	720		86		1.4 B	3.2 J				1.8 B				1.5 B			50 U	50 U				50 U	1.0 U		
Zinc	2000	2000		6000		23.5 J	6.6				5 B J				28.5 J			20 U	20 U				5.6 B J	3.2 B		

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-31S 3/24/00	MW-31S 4/28/08	MW-31S 9/11/08	MW-32D 9/28/99	MW-32D Dup 9/28/99	MW-32D 4/6/00	MW-32D 6/6/03	MW-32D 6/10/04	MW-32D 6/21/05	MW-32D 6/23/06	MW-32D 6/29/07	MW-32D 5/8/08	MW-32D 10/2/08	MW-32S 10/5/89	MW-32S 9/29/99	MW-32S 4/6/00	MW-32S 6/5/03	MW-32S 6/8/04	MW-32S 6/16/05	MW-32S 6/22/06	MW-32S 6/27/07
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8		10 U	0.056 B	5 U								10 U	0.11 B		5 U						
Arsenic	10	10	10	0.052		10 U	0.34 B	5 U	5 U							10 U	1 U		5 U						
Barium	2000	2000	2000	3800		309	142									37.4 B	39.7								
Beryllium	4	4	4	25		4 U	1 U	1 U								4 U	1 U		2						
Cadmium	5	5	5	9.2		5 U	1 U	1 U								5 U	1 U		1 C						
Calcium					160000			56900	60700	70000									73500	85000					
Chromium	100	100	100			1.3 B	4.5 J	31	31		0 U	2.8 U	1.6 U	4.1 B		4.4 B	10.8 J		17		16	7.3 B	3.7 B	13.3	
Copper	1000	1000	1300	800		25 U	0.73 B	5 U								25 U	1.6 B		6						
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035		50 U	0 U	10			0 U	10 U	10 U	10 U	10 U	50 U	0 U		20		10	10 U	10 U	10 U	13
Iron			300	14000	13000			200	220	230								60000	1300	400					
Lead	5	5	15	15		3 U	0.11 B	5 U	5 U		0 U	2.2 U	2.7 U	2.8 B		3 U	1.6		8 C		0 U	2.2 U	2.7 U	3 U	
Magnesium					23000			19900	21300	23000									15900	19000					
Manganese	300	300	50	430	610			40	42	72								1400	170	20					
Mercury	2	2	2	0.63		0.2 U	0.2 U	0 U								0.2 U	0.2 U		0 U						
Nickel	100	100		390		1.3 B	1.6	30	28		0 U	3.9 U	2.4 U	40 U		3.9 B	4.4		7		0 U	3.9 U	2.4 U	40 U	
Potassium					63000			1500	1500	1600									4200	4800					
Selenium	50	50	50	100		5 U	0.95 B	5 U	5 U							5 U	5 U		5 U						
Silver	100	100		94		5 U	1 U	5 U								5 U	1 U		5 U						
Sodium					13000			8000	8700	10000								154000	17200	19000					
Thallium	2	2	2	0.2		4.9 B	1 U	2 U	2 U							10 U	0.024 B J		2 U						
Vanadium	260	720		86		2 B	1.1 J									2.8 B	5.4 J								
Zinc	2000	2000		6000		3.4 B	5.0 U	37			0 U	9.3 B	5.8 U	8.7 JB		9.9 B J	7.3		20 U		0 U	13.2 B	26.4 B	8.8 JB	
METAL (Dissolved)																									
Antimony	6	6	6	7.8		10 U	2 U									10 U	0.088 B								
Arsenic	10	10	10	0.052		10 U	1 U									10 U	1 U								
Barium	2000	2000	2000	3800		303	140									37.4 B	35.6								
Beryllium	4	4	4	25		4 U	1 U									4 U	1 U								
Cadmium	5	5	5	9.2		5 U	1 U									5 U	1 U								
Calcium																									
Chromium	100	100	100			5 U	4.5 J								5 U	5 U	8.4 J								10.8
Copper	1000	1000	1300	800		25 U	0.54 B									25 U	0.32 B J								
Ferric Iron																									
Hexavalent Chromium	100	100		0.035		50 U	0 U									50 U	0 U								
Iron			300	14000																					
Lead	5	5	15	15		3 U	1 U								3 U	3 U	0.078 B J								3 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		40 U	1.4								1.4 B	2.8 B	2.9								1.7 B
Potassium																									
Selenium	50	50	50	100		5 U	0.73 B									5 U	0.65 B								
Silver	100	100		94		5 U	1 U									5 U	1 U								
Sodium																									
Thallium	2	2	2	0.2		7.2 B J	1 U									10 U	1 U								
Vanadium	260	720		86		1.1 B	1.6									2.9 B	2.3 J								
Zinc	2000	2000		6000		3.3 B	5.0 U								4.2 B J	2.6 B J	3.5 B								8.8 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-32S 5/13/08	MW-32S 9/22/08	MW-32S 7/6/09	MW-33 10/26/95	MW-33 9/28/99	MW-33 3/28/00	MW-33 5/12/08	MW-34D 9/28/99	MW-34D Dup 9/28/99	MW-34D 4/5/00	MW-34D 6/4/03	MW-34D 6/8/04	MW-34D 6/15/05	MW-34D 6/21/06	MW-34D 6/26/07	MW-34D 5/6/08	MW-34D 9/17/08	MW-34D 6/25/10	MW-34S 9/14/99	MW-34S 3/24/00	MW-34S 6/4/03
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8	10 U	0.083 B			5 U		10 U	5 U								10 U	0.18 B		5 U		
Arsenic	10	10	10	0.052	10 U	1 U			5 U		10 U	5 U								10 U	1 U		5 U		
Barium	2000	2000	2000	3800	86.2 B	61.9 J					71.4 B									96.1 B	100				
Beryllium	4	4	4	25	4 U	1 U			1 U		4 U	1 U								4 U	1 U		1 U		
Cadmium	5	5	5	9.2	5 U	1 U			1 U		5 U	1 U								5 U	1 U		1 U		
Calcium								54000	52600	76000		65100	67500	86000									68700	52000	
Chromium	100	100	100		8.6	28.9 J	17.3		5 U		9.9	9	9		0 U	2.8 U	3 U	1.2 B		3.6 B	9.4 J		7		0 U
Copper	1000	1000	1300	800	25 U	0.67 B			5 U		1 B	5 U	5 U							25 U	1.3 B		5 U		
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035	50 U	0 U	50 U		10 U		50 U	10 U	10		0 U	10 U	10 U	10 U	10 U	50 U	0 U		10 U		0 U
Iron			300	14000				300	50 U	50 U		260	270	50 U									50 U	50 U	
Lead	5	5	15	15	3 U	0.26 B			5 U		3 U	5 U			0 U	2.2 U	2.7 U	3.3 J		3 U	0.41 B		5 U		0 U
Magnesium								18000	14500	20000		15000	15500	21000									17600	14000	
Manganese	300	300	50	430				10	20 U	20 U		49	53	22									20 U	20 U	
Mercury	2	2	2	0.63	0.2 U	0.2 U			0 U		0.2 U	0 U								0.2 U	0.2 U		0 U		
Nickel	100	100		390	2 B	1.8			5 U		3.1 B	5 U	5 U		0 U	3.9 U	2.4 U	40 U		40 U	1.3		5 U		0 U
Potassium								6700	20800	11000		10300	10500	19000									8000	5600	
Selenium	50	50	50	100	5 U	0.29 B			5 U		5 U	5 U								5 U	0.63 B		5 U		
Silver	100	100		94	5 U	1 U			5 U		5 U	5 U								5 U	1 U		5 U		
Sodium								12000	10600	20000		12500	12800	16000									13300	13000	
Thallium	2	2	2	0.2	10 U	0.037 B			2 U		10 U	2 U								10 U	0.051 B		2 U		
Vanadium	260	720		86	3.3 B	2.8 J					50 U									2.7 B	1.1 J				
Zinc	2000	2000		6000	4.1 B J	4 B			20 U		8.9 B	20 U			0 U	19 B	30.8	18.4 JB		3.5 B J	4.4 B		20		0 U
METAL (Dissolved)																									
Antimony	6	6	6	7.8	10 U	0.061 B J					10 U									10 U	0.11 B				
Arsenic	10	10	10	0.052	10 U	1 U					10 U									10 U	0.41 B				
Barium	2000	2000	2000	3800	84 B	57.7					64.4 B									98 B	95.1				
Beryllium	4	4	4	25	4 U	1 U					4 U									4 U	1 U				
Cadmium	5	5	5	9.2	5 U	1 U					5 U									5 U	1 U				
Calcium																						103000			
Chromium	100	100	100		6.9	28.2 J	16.2				6.4								2.5 B	3.7 B	9.9 J				
Copper	1000	1000	1300	800	25 U	0.6 B					25 U									25 U	1.2 B				
Ferric Iron																									
Hexavalent Chromium	100	100		0.035	50 U	0 U	50 U				50 U									50 U	0 U				
Iron			300	14000																		100 U			
Lead	5	5	15	15	3 U	0.063 B					3 U								3 U	3 U	1 U				
Magnesium																						24800			
Manganese	300	300	50	430																		37.4			
Mercury	2	2	2	0.63	0.2 U	0.2 U					0.2 U									0.2 U	0.2 U				
Nickel	100	100		390	40 U	1.6					1.1 B								40 U	40 U	1.2				
Potassium																						29000			
Selenium	50	50	50	100	5 U	0.23 B J					5 U									5 U	5 U				
Silver	100	100		94	5 U	1 U					5 U									5 U	1 U				
Sodium																						78600			
Thallium	2	2	2	0.2	10 U	0.031 B					10 U									10 U	0.031 B				
Vanadium	260	720		86	2.6 B	4.1 J					50 U									1.4 B	1.2 J				
Zinc	2000	2000		6000	27.8 J	3.2 B					6 B J								6.7 B J	2 B J	2.3 B				

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-34S 6/8/04	MW-34S 6/15/05	MW-34S 6/21/06	MW-34S 6/26/07	MW-34S 4/28/08	MW-34S 9/10/08	MW-34S Dup 9/10/08	MW-34S 6/18/10	MW-35D 9/29/99	MW-35D 4/4/00	MW-35D 5/6/08	MW-35D 9/17/08	MW-35S 5/13/08	MW-35S 6/21/10	MW-36D 9/27/99	MW-36D 4/4/00	MW-36D 5/19/08	MW-36S 5/26/95	MW-36S 9/27/99	MW-36S 3/23/00	MW-36S 5/7/08
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8					10 U	0.12 B	0.13 B		5 U		10 U	0.16 B	10 U		5 U		10 U		5 U		10 U
Arsenic	10	10	10	0.052					10 U	0.61 B	0.64 B		5 U		10 U	0.17 B	10 U		5 U		3.3 B	6	5 U		10 U
Barium	2000	2000	2000	3800					132 B	65.6	66.2				93.6 B	71.7	27.4 B				79.5 B				70.9 B J
Beryllium	4	4	4	25					4 U	1 U	1 U		1 U		4 U	1 U	4 U		1 U		4 U	4	1 U		4 U
Cadmium	5	5	5	9.2					5 U	1 U	1 U		1 U		5 U	1 U	5 U		1 U		0.26 B	1	1 U		0.26 B
Calcium													56700	83000					168000	140000			69700	580000	
Chromium	100	100	100		2.8 U	3 U	1.8 B		1.5 B	5.7 J	5.9 J		15		2.2 B	7.1 J	3.5 B		8		4.7 B	6	69		6.8
Copper	1000	1000	1300	800					25 U	0.86 B	0.96 B		8		25 U	0.87 B	2.1 B		5 U		4.6 B	10	5		25 U
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035	10 U	10 U	10 U	10 U	50 U	0 U	0 U		10 U		50 U		50 U		10 U		50 U	20	10 U		50 U
Iron			300	14000									1700	580					5300	2600			32000	140000	
Lead	5	5	15	15	2.2 U	2.7 U	3 U		3 U	0.31 B	0.33 B		5 U		3 U	0.2 B	3 U		5 U		3.8	6	5 U		3 U
Magnesium													14800	21000					16000	11000			20200	110000	
Manganese	300	300	50	430									35	80					2700	1600			700	3200	
Mercury	2	2	2	0.63					0.2 U	0.2 U	0.2 U		0 U		0.2 U	0.2 U	0.2 U		0 U		0.2 U	5	0 U		0.2 U
Nickel	100	100		390	3.9 U	2.4 U	40 U		40 U	0.94 B	0.89 B		10		1.5 B J	1.4	1.7 B		24		12.2 B	40	130		5.8 B
Potassium													6400	8800					2000	1800			7200	36000	
Selenium	50	50	50	100					5 U	0.85 B	0.54 B		5 U		5 U	0.75 B	5 U		5 U		5 U		5 U		5 U
Silver	100	100		94					5 U	1 U	1 U		5 U		5 U	1 U	5 U		5 U		0.86 B		5 U		5 U
Sodium													11900	17000					12800	17000			10300	54000	
Thallium	2	2	2	0.2					10 U	0.031 B	0.029 B		2 U		3.4 B J	0.13 B	10 U		2 U		10 U		2 U		10 U
Vanadium	260	720		86					2.5 B	1.8 J	2.4 J				3.6 B	2.7 J	1.3 B				3.7 B				50 U
Zinc	2000	2000		6000	10.6 B	32.3	9.6 JB		1.6 B	5.0 U	5.0 U		40		20 U	4.1 B	7.4 B J		53		23.2 J	60	120		20 U
METAL (Dissolved)																									
Antimony	6	6	6	7.8					10 U	0.12 B	0.17 B				10 U	0.17 B	10 U				10 U				10 U
Arsenic	10	10	10	0.052					10 U	1 U	1 U				10 U	1 U	10 U				3.3 B				10 U
Barium	2000	2000	2000	3800					131 B	67.1	64.9				91.5 B	67.5	28 B				75.7 B				73.5 B J
Beryllium	4	4	4	25					4 U	1 U	1 U				4 U	1 U	4 U				4 U				4 U
Cadmium	5	5	5	9.2					5 U	1 U	1 U				5 U	1 U	5 U				0.28 B				5 U
Calcium												81500						236000							
Chromium	100	100	100					1.2 B	5 U	6.1 J	5.6 J				1.7 B	8.1 J	1.5 B				5 U				5 U
Copper	1000	1000	1300	800					25 U	0.7 B	0.74 B				25 U	0.75 B	25 U				1 B				25 U
Ferric Iron																									
Hexavalent Chromium	100	100		0.035					50 U	0 U	0 U				50 U		50 U				50 U				50 U
Iron			300	14000								100 U						100 U							
Lead	5	5	15	15				3 U	3 U	1.0 U	1.0 U				3 U	0.032 B	3 U				3 U				3 U
Magnesium												22000						35200							
Manganese	300	300	50	430								6.4 B						10.2 B							
Mercury	2	2	2	0.63					0.2 U	0.2 U	0.2 U				0.2 U	0.2 U	0.2 U				0.2 U				0.2 U
Nickel	100	100		390				1.7 B	40 U	0.74 B	0.56 B				40 U	1.2	1.3 B				7.5 B				2.1 B
Potassium												31800						55300							
Selenium	50	50	50	100					5 U	0.55 B	0.37 B				5 U	0.56 B	5 U				5 U				5 U
Silver	100	100		94					5 U	1 U	1 U				5 U	1 U	5 U				0.91 B				5 U
Sodium												105000						93100							
Thallium	2	2	2	0.2					10 U	1.0 U	1.0 U				10 U	0.13 B	10 U				10 U				10 U
Vanadium	260	720		86					1.5 B	1.7	1.5				3.2 B	2 J	1.5 B				1.2 B				50 U
Zinc	2000	2000		6000				7.5 B J	5.5 B	5.0 U	5.0 U				5.2 B J	4 B	9.4 B J				8.4 B				20 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-37D 1/26/90	MW-37D 4/3/90	MW-37D 4/28/94	MW-37D 7/12/94	MW-37D 10/27/95	MW-37D Dup 10/27/95	MW-37D 9/22/99	MW-37D 4/3/00	MW-37D 4/7/00	MW-37D 4/15/04	MW-37D 5/14/08	MW-37D 10/1/08	MW-37D 1/23/14	MW-37D 2/18/14	MW-37D 3/20/14	MW-37D 5/8/14	MW-37D 6/2/14	MW-37D 7/2/14	MW-37D 8/6/14	MW-37D 9/9/14
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8	110 U	100 U	170 U	150 U			5 U			3.9 U	10 U	0.63 B								
Arsenic	10	10	10	0.052	11 U	10 U	6 U	6 U			5 U			3.4 U	10 U	1 U								
Barium	2000	2000	2000	3800											38 B	35.2								
Beryllium	4	4	4	25	5 U	5 U	6 U	5 U			1 U			0.1 U	4 U	1 U								
Cadmium	5	5	5	9.2	10 U	10 U	10 U	10 U			1 U			0.65 B	5 U	1 U								
Calcium									52000	43000	46000	82000	50000				94000	84000	90000	83000	62000 B	64000	79000 B	100000 B
Chromium	100	100	100		20 U	20 U	20 U	20			5 U			2.8 U	5 U	6.3 J								
Copper	1000	1000	1300	800	10 U	10 U	20 U	20 U			5 U			5.1 B	1.1 B	1 B								
Ferric Iron																								
FERROUS IRON																								
Hexavalent Chromium	100	100		0.035							10 U			10 U	50 U									
Iron			300	14000			700	90	90	70 U	3200	50 U	68											
Lead	5	5	15	15	160 U	150 U	110 U	100 U			5 U			6.7	3 U	0.52 B								
Magnesium									13000	9500	10200	18000	11000				20000	26000	18000	23000	15000	18000	22000	24000
Manganese	300	300	50	430			18	25	50	6 U	810	25	250											
Mercury	2	2	2	0.63	0.5 U	0.5 U	0.5 U	0.5 U			0 U			0.1 U	0.2 U	0.2 U								
Nickel	100	100		390	50 U	40 U	40 U	40 U			5 U			3.9 U	1.4 B	1.9								
Potassium									3400	2800	6600	2800	7000				14000	14000	14000	14000 B	9800	8600	7000	10000
Selenium	50	50	50	100	11 U	10 U	5 U	5 U			5 U			3.9 U	5 U	5 U								
Silver	100	100		94	20 U	20 U	40 U	40 U			5 U			0.7 U	5 U	1 U								
Sodium									13000	14000	12600	20000	14000				59000 B	65000	56000	88000 B	76000	64000	59000 B	62000
Thallium	2	2	2	0.2	220 U	200 U	330 U	330 U			2 U			1.8 U	10 U	0.095 B J								
Vanadium	260	720		86											50 U	3.7 J								
Zinc	2000	2000		6000	20	40	60 U	60 U			21			21.3 B	2.2 B	5.6								
METAL (Dissolved)																								
Antimony	6	6	6	7.8				150 U						3.9 U	10 U	0.69 B								
Arsenic	10	10	10	0.052				6 U						3.4 U	10 U	0.78 B								
Barium	2000	2000	2000	3800											34.1 B	33.4								
Beryllium	4	4	4	25				5 U						0.1 U	4 U	1 U								
Cadmium	5	5	5	9.2				10 U						0.4 U	5 U	0.12 B J								
Calcium																								
Chromium	100	100	100					20 U						2.8 U	5 U	9.9 J								
Copper	1000	1000	1300	800				20 U						2.1 U	25 U	0.98 B J								
Ferric Iron																								
Hexavalent Chromium	100	100		0.035										10 U	50 U									
Iron			300	14000				90																
Lead	5	5	15	15				100 U						2.2 U	3 U	0.16 B J								
Magnesium																								
Manganese	300	300	50	430				23																
Mercury	2	2	2	0.63				0.5 U						0.1 U	0.2 U	0.2 U								
Nickel	100	100		390				40 U						3.9 U	40 U	1.7								
Potassium																								
Selenium	50	50	50	100				5 U						3.9 U	5 U	0.8 B								
Silver	100	100		94				40 U						0.7 U	5 U	1 U								
Sodium																								
Thallium	2	2	2	0.2				330 U						1.8 U	10 U	0.14 B								
Vanadium	260	720		86											50 U	1 U								
Zinc	2000	2000		6000				60 U						9.4 B	1.8 B J	12.3								

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-37D 10/6/14	MW-37D 10/28/14	MW-37D 1/14/15	MW-37D 2/23/15	MW-37D 3/25/15	MW-37D 4/20/15	MW-37D 5/19/15	MW-37S 1/26/90	MW-37S 4/3/90	MW-37S 4/28/94	MW-37S 7/12/94	MW-37S 10/27/95	MW-37S 9/22/99	MW-37S 4/3/00	MW-37S 4/15/04	MW-37S 5/14/08	MW-37S Dup 5/14/08	MW-37S 9/18/08	MW-37S 6/28/10	MW-37S 1/23/14	MW-37S 2/19/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8								110 U	100 U	170 U	150 U		5 U		3.9 U	10 U	10 U	0.36 B J			
Arsenic	10	10	10	0.052								810	10 U	6 U	6 U		5 U		3.4 U	10 U	10 U	0.43 B			
Barium	2000	2000	2000	3800																66.4 B	64.5 B	53.7			
Beryllium	4	4	4	25								60	5 U	6 U	5 U		1 U		0.24 B	4 U	4 U	1 U			
Cadmium	5	5	5	9.2								44030	10 U	10 U	10 U		1 U		0.4 U	5 U	0.25 B	1 U			
Calcium					91000 B	96000 B	96000 B	87000	87000 B	89000 B	89000 B					54000	64600	80000						98000	88000
Chromium	100	100	100									780	20 U	20 U	20		5 U		6.1 B	3.7 B	3.3 B	5.5 J			
Copper	1000	1000	1300	800								1490	10 U	20 U	20 U		5 U		12.6 B	1.1 B	1.1 B	1.2 B			
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035													10 U		20 U	50 U	50 U				
Iron			300	14000										1500	3800	70 U	50 U	50 U							
Lead	5	5	15	15								990	150 U	110 U	100 U		5 U		13.4	3 U	3 U	0.26 B			
Magnesium					19000	20000	21000 B	22000	20000	21000	18000					17000	17400	19000						21000	28000
Manganese	300	300	50	430										350	410	7	20 U	20 U							
Mercury	2	2	2	0.63								2.4	0.5 U	0.5 U	0.5 U		0 U		0.1 U	0.2 U	0.2 U	0.2 U			
Nickel	100	100		390								1300	40 U	40 U	40 U		5 U		6.3 B	2.5 B	2.2 B	1.1			
Potassium					8700	11000	12000 B	6900	7800	6400	6100					5900	17600	56000						24000	21000
Selenium	50	50	50	100								11 U	10 U	5 U	5 U		5 U		3.9 U	5 U	5 U	0.34 B			
Silver	100	100		94								20 U	20 U	40 U	40 U		5 U		0.7 U	5 U	5 U	1 U			
Sodium					49000	55000 B	57000 B	63000 B	110000	69000 B	58000					12000	14400	76000						52000 B	60000
Thallium	2	2	2	0.2								220 U	200 U	330 U	330 U		2 U		1.8 U	10 U	10 U	0.05 B J			
Vanadium	260	720		86																50 U	50 U	3.9 J			
Zinc	2000	2000		6000								4000	40	60 U	60 U		20 U		34.8	5.2 B	7.2 B	4.6 B			
METAL (Dissolved)																									
Antimony	6	6	6	7.8															3.9 U	10 U	10 U	0.32 B J			
Arsenic	10	10	10	0.052															3.4 U	10 U	10 U	1 U			
Barium	2000	2000	2000	3800																59.4 B	60.3 B	49.2			
Beryllium	4	4	4	25															0.1 U	4 U	4 U	1 U			
Cadmium	5	5	5	9.2															0.4 U	5 U	5 U	1 U			
Calcium																							49600		
Chromium	100	100	100																2.8 U	5 U	5 U	6.5 J			
Copper	1000	1000	1300	800															2.1 U	25 U	25 U	0.97 B			
Ferric Iron																									
Hexavalent Chromium	100	100		0.035															10 U	50 U	50 U				
Iron			300	14000																			100 U		
Lead	5	5	15	15															2.2 U	3 U	3 U	0.064 B			
Magnesium																							12100		
Manganese	300	300	50	430																			2.6 B		
Mercury	2	2	2	0.63															0.1 U	0.2 U	0.2 U	0.2 U			
Nickel	100	100		390															3.9 U	40 U	40 U	1			
Potassium																							37700		
Selenium	50	50	50	100															3.9 U	5 U	5 U	5 U			
Silver	100	100		94															0.7 U	5 U	5 U	1 U			
Sodium																							26000		
Thallium	2	2	2	0.2															1.8 U	10 U	10 U	0.02 B			
Vanadium	260	720		86																50 U	1.4 B	1 U			
Zinc	2000	2000		6000															6.9 B	6.3 B J	6.3 B J	4.5 B			

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-37S Dup 2/19/14	MW-37S 3/21/14	MW-37S 5/8/14	MW-37S 6/2/14	MW-37S Dup 6/2/14	MW-37S 7/2/14	MW-37S 8/5/14	MW-37S 9/9/14	MW-37S 10/6/14	MW-37S 10/29/14	MW-37S 1/13/15	MW-37S Dup 1/13/15	MW-37S 2/24/15	MW-37S 3/25/15	MW-37S 4/21/15	MW-37S 5/19/15
METAL																				
Aluminum			200	20000																
Antimony	6	6	6	7.8																
Arsenic	10	10	10	0.052																
Barium	2000	2000	2000	3800																
Beryllium	4	4	4	25																
Cadmium	5	5	5	9.2																
Calcium					87000	98000	74000	71000 B	72000 B	71000	74000	96000 B	87000 B	100000 B	90000 B	97000 B	81000	83000 B	92000	78000 B
Chromium	100	100	100																	
Copper	1000	1000	1300	800																
Ferric Iron																				
FERROUS IRON																				
Hexavalent Chromium	100	100		0.035																
Iron			300	14000																
Lead	5	5	15	15																
Magnesium					27000	20000	17000	16000	16000	21000	19000	27000	21000	23000 B	21000 B	22000 B	25000	21000	22000	20000
Manganese	300	300	50	430																
Mercury	2	2	2	0.63																
Nickel	100	100		390																
Potassium					20000	22000	24000 B	21000	21000	20000	14000	22000	19000	24000	27000 B	29000 B	15000	24000	20000	14000
Selenium	50	50	50	100																
Silver	100	100		94																
Sodium					59000	60000	33000 B	47000	47000	45000	60000	57000	46000	47000	64000 B	66000 B	86000	64000	72000	62000
Thallium	2	2	2	0.2																
Vanadium	260	720		86																
Zinc	2000	2000		6000																
METAL (Dissolved)																				
Antimony	6	6	6	7.8																
Arsenic	10	10	10	0.052																
Barium	2000	2000	2000	3800																
Beryllium	4	4	4	25																
Cadmium	5	5	5	9.2																
Calcium																				
Chromium	100	100	100																	
Copper	1000	1000	1300	800																
Ferric Iron																				
Hexavalent Chromium	100	100		0.035																
Iron			300	14000																
Lead	5	5	15	15																
Magnesium																				
Manganese	300	300	50	430																
Mercury	2	2	2	0.63																
Nickel	100	100		390																
Potassium																				
Selenium	50	50	50	100																
Silver	100	100		94																
Sodium																				
Thallium	2	2	2	0.2																
Vanadium	260	720		86																
Zinc	2000	2000		6000																

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-38D 1/26/90	MW-38D 4/3/90	MW-38D 4/28/94	MW-38D 7/11/94	MW-38D 9/1/99	MW-38D 3/29/00	MW-38D 6/3/03	MW-38D 4/14/04	MW-38D 6/9/04	MW-38D 6/14/05	MW-38D 6/22/06	MW-38D 6/26/07	MW-38D 4/28/08	MW-38D 9/16/08	MW-38S 2/7/90	MW-38S 4/3/90	MW-38S 9/22/99	MW-38S 3/23/00	MW-39D 2/22/90	MW-39D 4/3/90	MW-39D 4/29/94
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8	110 U	100 U	170 U	150 U	5 U			3.9 U					10 U	0.13 B	110 U	100 U	5 U		110 U	100 U	170 U
Arsenic	10	10	10	0.052	510	10 U	6 U	6 U	5 U			3.4 U					10 U	0.24 B	11 U	10 U	5 U		78	10 U	6 U
Barium	2000	2000	2000	3800													41.4 B	35							
Beryllium	4	4	4	25	51	5 U	6 U	5 U	1 U			0.1 U					4 U	1 U	5 U	5 U	1 U		5 U	5 U	6 U
Cadmium	5	5	5	9.2	30	10 U	10 U	10 U	1 U			0.4 U					5 U	1 U	10 U	10 U	1 U		10 U	10 U	10 U
Calcium									55100	70000											58500	74000			
Chromium	100	100	100		950	20 U	20 U	20 U	12		0 U	7.4 B	2.8 U	3 U	1.9 B		1.6 B	9.4 J	40	20 U	5 U		80	20 U	20 U
Copper	1000	1000	1300	800	1100	10 U	20 U	20 U	8			5.6 B					25 U	0.55 B	30	10 U	5 U		140	10 U	20 U
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035					10 U		0 U	10 U	10 U	10 U	10 U	10 U	50 U	0 U			10 U				
Iron			300	14000			6200	8800	6600	120											50 U	50 U			2600
Lead	5	5	15	15	770	150 U	110 U	100 U	5		0 U	4.9	2.2 U	2.7 U	3 U		3 U	0.097 B	160 U	150 U	5 U		200	150 U	110 U
Magnesium									10700	13000											11600	20000			
Manganese	300	300	50	430			880	460	600	370											20 U	20 U			73
Mercury	2	2	2	0.63	4.6	0.5 U	0.5 U	0.5 U	0 U			0.1 U					0.2 U	0.2 U	0.5 U	0.5 U	0 U		0.6	0.5 U	0.5 U
Nickel	100	100		390	1400	40 U	40 U	40 U	11		0 U	6.8 B	3.9 U	2.4 U	40 U		1.1 B	1.8	50	40 U	5 U		130	40 U	40 U
Potassium									2400	3000											4900	8100			
Selenium	50	50	50	100	11 U	10 U	5 U	5 U	5 U			3.9 U					5 U	0.36 B	11 U	10 U	5 U		11 U	10 U	5 U
Silver	100	100		94	20 U	20 U	40 U	40 U	5 U			0.7 U					5 U	1 U	20 U	20 U	5 U		20 U	20 U	40 U
Sodium									12300	14000											10900	12000			
Thallium	2	2	2	0.2	220 U	200 U	330 U	330 U	2 U			2.4 B					10 U	0.12 B	220 U	200 U	2 U		220 U	200 U	330 U
Vanadium	260	720		86													50 U	1.3 J							
Zinc	2000	2000		6000	6600	60	60 U	60 U	120		0 U	27.5 B	10.1 B	14.3 B	7.2 JB		3.1 B	2.4 B	370	30	20 U		690	50	60 U
METAL (Dissolved)																									
Antimony	6	6	6	7.8			170 U	150 U				3.9 U					10 U	0.1 B							170 U
Arsenic	10	10	10	0.052			6 U	6 U				3.4 U					10 U	1 U							6 U
Barium	2000	2000	2000	3800													41.8 B	34.8							
Beryllium	4	4	4	25			6 U	5 U				0.1 U					4 U	1 U							6 U
Cadmium	5	5	5	9.2			10 U	10 U				0.4 U					5 U	1 U							10 U
Calcium																									
Chromium	100	100	100				20 U	20 U				2.8 U				1.6 B	5 U	11.3 J E							20 U
Copper	1000	1000	1300	800			20 U	20 U				2.1 U					25 U	0.48 B							20 U
Ferric Iron																									
Hexavalent Chromium	100	100		0.035								10 U					50 U	0 U							
Iron			300	14000			60 U	50 U																	60 U
Lead	5	5	15	15			110 U	100 U				2.2 U				3 U	3 U	1 U							110 U
Magnesium																									
Manganese	300	300	50	430			690	250																	6 U
Mercury	2	2	2	0.63			0.5 U	0.5 U				0.1 U					0.2 U	0.2 U							0.5 U
Nickel	100	100		390			40 U	40 U				3.9 U				1.5 B	40 U	1.6							40 U
Potassium																									
Selenium	50	50	50	100			5 U	5 U				3.9 U					5 U	5 U							5 U
Silver	100	100		94			40 U	40 U				0.7 U					5 U	1 U							40 U
Sodium																									
Thallium	2	2	2	0.2			330 U	330 U				1.8 U					10 U	0.073 B							330 U
Vanadium	260	720		86													50 U	2.1 J							
Zinc	2000	2000		6000			60 U	60 U				27.5 B				7.9 B J	3.7 B	3.5 B							60 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-39D 7/12/94	MW-39D 9/1/99	MW-39D 3/30/00	MW-39D 5/9/08	MW-39D 9/18/08	MW-39D Dup 9/18/08	MW-39D 1/21/14	MW-39D 2/26/14	MW-39D 3/20/14	MW-39D 5/7/14	MW-39D 6/3/14	MW-39D 7/1/14	MW-39D 8/6/14	MW-39D 9/9/14	MW-39D Dup 9/9/14	MW-39D 10/7/14	MW-39D 10/30/14	MW-39D 1/16/15	MW-39D 2/24/15	MW-39D 3/26/15
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8	150 U	5 U		10 U	0.066 B J	0.07 B J														
Arsenic	10	10	10	0.052	6 U	5 U		10 U	0.53 B	1 U														
Barium	2000	2000	2000	3800				52.2 B	46.4	46.1														
Beryllium	4	4	4	25	5 U	1 U		4 U	1 U	1 U														
Cadmium	5	5	5	9.2	10 U	1 U		5 U	1 U	1 U														
Calcium						109000	100000				110000	100000	110000	120000	120000	130000 B	130000 B	130000 B	130000 B	120000 B	120000	130000 B	120000	120000 B
Chromium	100	100	100		20 U	12		1.7 B	7 J	6.8 J														
Copper	1000	1000	1300	800	20 U	8		0.81 B	0.86 B	0.82 B														
Ferric Iron																								
FERROUS IRON																								
Hexavalent Chromium	100	100		0.035		0 U		50 U																
Iron			300	14000	450	690	50 U																	
Lead	5	5	15	15	100 U	5 U		3 U	0.43 B	0.4 B														
Magnesium						12300	14000				13000	13000	10000	18000	15000	19000	20000	18000	18000	16000	14000 B	14000 B	17000	13000
Manganese	300	300	50	430	11	530	20 U																	
Mercury	2	2	2	0.63	0.5 U	0 U		0.2 U	0.2 U	0.2 U														
Nickel	100	100		390	40 U	20		1.5 B	2.1	2.3														
Potassium						2400	2200				7200	6500 B	7100	8900	8800	8000 B	7100	7800	7700	7100	8300 B	7700	8500	7700
Selenium	50	50	50	100	5 U	5 U		5 U	0.32 B	5 U														
Silver	100	100		94	40 U	5 U		5 U	1 U	1 U														
Sodium						16400	18000				24000	26000 B	25000	39000 B	35000	33000 B	37000 B	35000	35000	31000 B	31000 B	30000	37000	35000 B
Thallium	2	2	2	0.2	330 U	2 U		10 U	0.033 B J	0.029 B J														
Vanadium	260	720		86				50 U	5 J	4.1 J														
Zinc	2000	2000		6000	60 U	130		59.1	6.1	4.4 B														
METAL (Dissolved)																								
Antimony	6	6	6	7.8	150 U			10 U	2 U	2 U														
Arsenic	10	10	10	0.052	6 U			10 U	1 U	1 U														
Barium	2000	2000	2000	3800				51 B	42.1	42.6														
Beryllium	4	4	4	25	5 U			4 U	1 U	1 U														
Cadmium	5	5	5	9.2	10 U			5 U	1 U	1 U														
Calcium																								
Chromium	100	100	100		20 U			5 U	5 J	4.9 J														
Copper	1000	1000	1300	800	20 U			0.76 B	0.36 B	0.31 B														
Ferric Iron																								
Hexavalent Chromium	100	100		0.035				50 U																
Iron			300	14000	50 U																			
Lead	5	5	15	15	100 U			3 U	0.033 B	0.029 B														
Magnesium																								
Manganese	300	300	50	430	5 U																			
Mercury	2	2	2	0.63	0.5 U			0.1 B J	0.2 U	0.2 U														
Nickel	100	100		390	40 U			40 U	0.89 B	1.2														
Potassium																								
Selenium	50	50	50	100	5 U			5 U	0.5 B	5 U														
Silver	100	100		94	40 U			5 U	1 U	1 U														
Sodium																								
Thallium	2	2	2	0.2	330 U			3.6 B	1 U	1 U														
Vanadium	260	720		86				1 B	1 U	0.25 B J														
Zinc	2000	2000		6000	60 U			8.2 B J	6.1	3.5 B														

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-39D 4/23/15	MW-39D 5/21/15	MW-39S 2/5/90	MW-39S 4/3/90	MW-39S 4/28/94	MW-39S 7/12/94	MW-39S 5/6/08	MW-39S 9/15/08	MW-40D 10/24/95	MW-40D 9/15/99	MW-40D 3/30/00	MW-40D 4/25/08	MW-40D 9/8/08	MW-40D 6/16/10	MW-40S 10/30/95	MW-40S 9/21/99	MW-40S 3/30/00	MW-40S 4/25/08	MW-40S 9/4/08	MW-40S 6/15/09	MW-40S 6/15/10
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8			110 U	100 U	170 U	150 U	10 U	0.079 B		5 U		10 U	0.22 B			5 U		10 U	0.54 B		
Arsenic	10	10	10	0.052			11 U	10 U	6 U	6 U	10 U	0.44 B		5 U		10 U	0.3 B			5 U		10 U	5		
Barium	2000	2000	2000	3800							69.7 B J	84				82.5 B	23.9					41.1 B	85.5		
Beryllium	4	4	4	25			5 U	5 U	6 U	5 U	4 U	1 U		1 U		4 U	1 U			1 U		4 U	1.8		
Cadmium	5	5	5	9.2			10 U	10 U	10 U	10 U	5 U	1 U		1 U		5 U	1 U			1 U		5 U	0.32 B		
Calcium					110000	100000 B							52000	66500	58000				74000	71100	69000				
Chromium	100	100	100				20 U	20 U	20 U	170	1.3 B	5.4 J		5 U		5 U	4.9 J			40		17.2	28.2 J		
Copper	1000	1000	1300	800			10	20	20 U	220	25 U	0.79 B		5 U		25 U	1.1 B			5 U		2.1 B	16.4		
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035							50 U			10 U		50 U				10 U		50 U			
Iron			300	14000					3400	320000			70 U	450	310				70 U	500	50 U				
Lead	5	5	15	15			160 U	150 U	110 U	240	3 U	1 U		6		3 U	0.42 B			5 U		3 U	23.6	62	1.7 B
Magnesium					12000 B	13000							14000	15900	16000				19000	20600	21000				
Manganese	300	300	50	430					70	8100			6 U	120	43				6 U	130	20 U				
Mercury	2	2	2	0.63			0.5 U	0.5 U	0.5 U	0.6	0.2 U	0.2 U		0 U		0.2 U	0.2 U			0 U		0.2 U	0.2 U		
Nickel	100	100		390			50 U	40 U	40 U	110	1.7 B	1.8		5 U		40 U	0.82 B			46		11.6 B	19		
Potassium					6900	6300							1200	1300	1400				1400	1300	1300				
Selenium	50	50	50	100			11 U	10 U	5 U	5 U	5 U	0.33 B		5 U		5 U	0.3 B			5 U		5 U	0.72 B		
Silver	100	100		94			20 U	20 U	40 U	40 U	5 U	1 U		5 U		5 U	1 U			5 U		5 U	1 U		
Sodium					27000 B	29000							11000	11200	14000				18000	12900	10000				
Thallium	2	2	2	0.2			220 U	200 U	330 U	330 U	10 U	0.023 B		2 U		10 U	0.031 B			2 U		10 U	0.2 B		
Vanadium	260	720		86							50 U	1.1 J				50 U	1.9 J					5.3 B	23.6 J		
Zinc	2000	2000		6000			70	60	60 U	770	2.6 B J	2.8 B J		25		4.7 B	5.8			38		17.7 B	90.1		
METAL (Dissolved)																									
Antimony	6	6	6	7.8					170 U	150 U	10 U	0.057 B				10 U	0.13 B J					10 U	0.2 B J		
Arsenic	10	10	10	0.052					6 U	6 U	10 U	1 U				10 U	1 U					10 U	0.53 B		
Barium	2000	2000	2000	3800							70.6 B J	83.5				85.8 B	22.5					31.1 B	28.6		
Beryllium	4	4	4	25					6 U	8	4 U	1 U				4 U	1 U					4 U	1 U		
Cadmium	5	5	5	9.2					10 U	10 U	5 U	1 U				5 U	1 U					5 U	1 U		
Calcium																		78300 J							56800
Chromium	100	100	100						20 U	20 U	5 U	5.4 J				5 U	4.5 J					5 U	5.8 J		
Copper	1000	1000	1300	800					20 U	20 U	0.75 B	1 B				25 U	0.84 B					25 U	0.86 B		
Ferric Iron																									
Hexavalent Chromium	100	100		0.035							50 U					50 U						50 U			
Iron			300	14000					60 U	80								100 U							100 U
Lead	5	5	15	15					110 U	100 U	3 U	1 U				3 U	0.25 B J					3 U	0.097 B J	0.02 B	3 U
Magnesium																		13700							14800
Manganese	300	300	50	430					14	18								116							3.9 B
Mercury	2	2	2	0.63					0.5 U	0.5 U	0.2 U	0.2 U				0.2 U	0.2 U					0.2 U	0.2 U		
Nickel	100	100		390					40 U	40 U	1.5 B	1.1				40 U	0.62 B					1.4 B	2.3		
Potassium																		42900 E							6600
Selenium	50	50	50	100					5 U	5 U	2.7 B	0.58 B J				5 U	5 U					5 U	0.42 B		
Silver	100	100		94					40 U	40 U	5 U	1 U				5 U	1 U					5 U	1 U		
Sodium																		386000							144000
Thallium	2	2	2	0.2					330 U	330 U	10 U	0.02 B				10 U	1 U					10 U	0.13 B J		
Vanadium	260	720		86							50 U	0.94 B J				50 U	1.8					50 U	1.7		
Zinc	2000	2000		6000					60 U	60 U	20 U	4.7 B J				9.2 B J	3.3 B					3.7 B J	3 B		

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-41D 10/27/95	MW-41D 9/20/99	MW-41D 3/29/00	MW-41S 10/27/95	MW-41S 9/20/99	MW-41S 3/29/00	MW-42D 10/27/95	MW-42D 9/21/99	MW-42D 3/30/00	MW-42M 10/27/95	MW-42M 9/26/99	MW-42M 3/29/00	MW-42S 9/28/99	MW-42S 3/27/00	MW-43D 10/25/95	MW-43D 9/17/99	MW-43D 4/6/00	MW-43D 6/5/03	MW-43D 6/8/04	MW-43D 6/15/05	MW-43D 6/20/06
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8		5 U			5 U			5 U			5 U		5 U			5 U					
Arsenic	10	10	10	0.052		5 U			5 U			5			5 U		5 U			5 U					
Barium	2000	2000	2000	3800																					
Beryllium	4	4	4	25		1 U			1 U			2			1 U		1 U			1 U					
Cadmium	5	5	5	9.2		1 U			1 U			1 U			1 U		1			1 U					
Calcium					15000	32000	16000		8900	10000	19000	33100	35000	9100	25300	29000	24800	6900	37000	43100	43000				
Chromium	100	100	100			15			11			13			5 U		5 U			5 U		0 U	2.8 U	3 U	5 U
Copper	1000	1000	1300	800		6		10 U	7			8			5		7			5 U					
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035		0 U			0 U			10 U			10 U		10 U			10 U		0 U	10 U	50 U	10 U
Iron			300	14000	70 U	350	160	320	410	410	800	3500	7500	120	7900	320	2200	300	70 U	160	110				
Lead	5	5	15	15		5 U			5 U			12			10		87			5 U		0 U	2.2 U	2.7 U	3.3 J
Magnesium					2200	4200	2600	2400	2200	2300	4200	6600	11000	2000	6300	6000	7900	5500	8900	9300	9200				
Manganese	300	300	50	430	6 U	22	20 U	200	31	20 U	86	140	140	6 U	970	91	1100	20 U	6 U	20 U	34				
Mercury	2	2	2	0.63		0 U			0 U			0 U			0 U		0 U			0 U					
Nickel	100	100		390		12			18			57			5 U		8			5 U		0 U	3.9 U	2.4 U	40 U
Potassium					2200	2900	5300	2500	2900	2900	3000	2900	3000	2300	4600	2900	4700	4000	1000	1000	980				
Selenium	50	50	50	100		5 U			5 U			5 U			5 U		5 U			5 U					
Silver	100	100		94		5 U			5 U			5 U			5 U		5 U			5 U					
Sodium					2900	8700	15000	3100	4500	3200	83000	64600	76000	19000	27400	13000	3300	7600	4300	4000	4600				
Thallium	2	2	2	0.2		2 U			2 U			2 U			2 U		2 U			2 U					
Vanadium	260	720		86																					
Zinc	2000	2000		6000		130			110			100			39		41			29		0 U	9.1 B	38	8.7 JB
METAL (Dissolved)																									
Antimony	6	6	6	7.8																					
Arsenic	10	10	10	0.052																					
Barium	2000	2000	2000	3800																					
Beryllium	4	4	4	25																					
Cadmium	5	5	5	9.2																					
Calcium																									
Chromium	100	100	100																						
Copper	1000	1000	1300	800																					
Ferric Iron																									
Hexavalent Chromium	100	100		0.035																					
Iron			300	14000																					
Lead	5	5	15	15																					
Magnesium																									
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63																					
Nickel	100	100		390																					
Potassium																									
Selenium	50	50	50	100																					
Silver	100	100		94																					
Sodium																									
Thallium	2	2	2	0.2																					
Vanadium	260	720		86																					
Zinc	2000	2000		6000																					

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-43D 6/25/07	MW-43D 5/13/08	MW-43D 9/25/08	MW-43D 6/29/10	MW-43S 10/25/95	MW-43S 9/17/99	MW-43S 3/22/00	MW-43S 6/2/03	MW-43S 6/8/04	MW-43S 6/13/05	MW-43S 6/20/06	MW-43S 6/25/07	MW-43S 4/24/08	MW-43S 9/4/08	MW-43S 6/16/09	MW-43S 6/16/10	MW-44 10/26/95	MW-44 9/22/99	MW-44 3/23/00	MW-45 5/17/90	MW-45 9/30/99	MW-45 3/23/00
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8		10 U	0.12 B			5 U							10 U	0.3 B				5 U		110 U	5 U	
Arsenic	10	10	10	0.052		10 U	0.25 B			5 U							3.5 B	1.5				5 U		11 U	5 U	
Barium	2000	2000	2000	3800		12.4 B	16.5 J										87.8 B	73.3								
Beryllium	4	4	4	25		4 U	1 U			1 U							0.62 B	0.16 B				1 U		5.5 U	1 U	
Cadmium	5	5	5	9.2		5 U	1 U			1 U							5 U	1 U				1 U		11 U	1 U	
Calcium									31000	41200	28000										8000	10600	10000		40100	50000
Chromium	100	100	100			5 U	14.2 J			5 U		0 U	2.8 U	3 U	1.3 B		3.1 B	7.1 J				5 U		22	5 U	
Copper	1000	1000	1300	800		25 U	1.8 B			5 U							6.4 B	4				5		11 U	5 U	
Ferric Iron																										
FERROUS IRON																										
Hexavalent Chromium	100	100		0.035	10 U	50 U	57			10 U		0 U	10 U	10 U	10 U	10 U	50 U	0 U				10 U			10 U	
Iron			300	14000					70 U	230	240										140	2000	6800		350	1100
Lead	5	5	15	15		3 U	1.8			5 U		0 U	2.2 U	2.7 U	3.2 J		8	4.1	1	3 U		5 U		170 U	5 U	
Magnesium									5100	5500	4300										2500	3000	2800		14000	16000
Manganese	300	300	50	430					6 U	92	57										33	120	73		27	57
Mercury	2	2	2	0.63		0.2 U	0.2 U			0 U							0.057 B	0.2 U				0 U		0.5 U	0 U	
Nickel	100	100		390		40 U	3.1			5 U		0 U	3.9 U	2.4 U	40 U		11.1 B	5.8				5 U		44 U	5 U	
Potassium									2500	2200	2300										2100	2800	2400		630	980
Selenium	50	50	50	100		5 U	5 U			5 U							5 U	5 U				5 U		11 U	5 U	
Silver	100	100		94		5 U	1 U			5 U							5 U	1 U				5 U		22 U	5 U	
Sodium									12000	10400	16000										2300	2900	2400		7100	9600
Thallium	2	2	2	0.2		10 U	0.06 B			2 U							10 U	0.05 B				2 U		220 U	2 U	
Vanadium	260	720		86		50 U	5.1 J										4.8 B	4.2 J								
Zinc	2000	2000		6000		8.2 B J	13.7			86		0 U	10.7 B	20.9 B	5.8 JB		29	27.3				20 U		88	20 U	
METAL (Dissolved)																										
Antimony	6	6	6	7.8		10 U	0.075 B J										10 U	0.15 B J								
Arsenic	10	10	10	0.052		10 U	1 U										10 U	1 U								
Barium	2000	2000	2000	3800		12.6 B	10.7										51.5 B	62.6								
Beryllium	4	4	4	25		4 U	1 U										4 U	1 U								
Cadmium	5	5	5	9.2		5 U	1 U										5 U	1 U								
Calcium								41800												26400 J						
Chromium	100	100	100		5 U	5 U	12.6 J									5 U	5 U	4.2 J								
Copper	1000	1000	1300	800		25 U	0.38 B										25 U	0.34 B								
Ferric Iron																										
Hexavalent Chromium	100	100		0.035		50 U	0 U										50 U	0 U								
Iron			300	14000				100 U												100 U						
Lead	5	5	15	15	3 U	3 U	1 U									3 U	3 U	0.086 B J	1 U	3 U						
Magnesium								9650												5660						
Manganese	300	300	50	430				15 U												3.6 B						
Mercury	2	2	2	0.63		0.2 U	0.2 U										0.2 U	0.2 U								
Nickel	100	100		390	40 U	40 U	1.3									2.5 B	40 U	1.6								
Potassium								1010 B												2660 B						
Selenium	50	50	50	100		5 U	0.68 B J										5 U	0.31 B								
Silver	100	100		94		5 U	1 U										5 U	1 U								
Sodium								3780 B												5550						
Thallium	2	2	2	0.2		10 U	0.039 B										10 U	0.051 B J								
Vanadium	260	720		86		50 U	2.8 J										50 U	1								
Zinc	2000	2000		6000	6.1 B J	11.6 B J	8.1									14.6 B J	5.6 B J	3.4 B								

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-45 5/20/08	MW-46 5/17/90	MW-46 9/29/99	MW-46 4/4/00	MW-46 5/19/08	MW-46 10/3/08	MW-47 5/17/90	MW-47 3/14/95	MW-47 3/24/95	MW-47 9/29/99	MW-47 Dup 9/29/99	MW-47 3/31/00	MW-47 6/5/03	MW-47 6/9/04	MW-47 6/16/05	MW-47 6/24/06	MW-47 Dup 6/24/06	MW-47 6/29/07	MW-47 5/20/08	MW-47 10/9/08	MW-47 7/15/09	MW-47 6/24/10	MW-47 6/27/11
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8	10 U	110 U	5 U		10 U	1.7 B	110 U		0 U	5 U	5 U								10 U	0.22 B			
Arsenic	10	10	10	0.052	10 U	11 U	5 U		10 U	1 U	11 U	6 U	0 U	5 U									10 U	2.5			
Barium	2000	2000	2000	3800	69.8 B				144 B	98.9													177 B J	125			
Beryllium	4	4	4	25	4 U	5.5 U	1 U		4 U	1 U	5.5 U		0 U	1 U	1 U								0.58 B J	0.3 B			
Cadmium	5	5	5	9.2	5 U	11 U	1 U		5 U	1 U	11 U	1 U	0 U	1 U	1 U								5 U	0.21 B			
Calcium							52800	69000						79400	82000	71000											
Chromium	100	100	100		2.5 B	22 U	5 U		2.3 B	7 J	2500	4000	4000	2500	2800		2330	2040	4080	3860	3800		1330	1860 J	4470	4830	2700
Copper	1000	1000	1300	800	1.1 B	11 U	5 U		2.3 B	0.83 B	11 U		0 U	5 U									25 U	4.7			
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035	50 U		10 U		50 U			4400	4400	3000	3000		1790	1960	4430	3600	3500	3000	1400	300	5100	5600	3300
Iron			300	14000			50 U	50 U						180	210	850											
Lead	5	5	15	15	3 U	170 U	5 U		3 U	0.28 B	170 U	6 U	0 U	5 U			0 U	2.2 U	2.7 U	2.2 JB	3 J		3 U	2.7			
Magnesium							17600	23000						8800	9000	8700											
Manganese	300	300	50	430			20 U	160						39	20 U	210											
Mercury	2	2	2	0.63	0.2 U	0.5 U	0 U		0.2 U	0.2 U	0.5 U		0 U	0 U	0 U								0.2 U	0.2 U			
Nickel	100	100		390	1.1 B	44 U	5 U		40 U	1.7	88		0 U	5 U			0 U	4.7 B	6.1 B	2.6 B	1.9 B		9.1 B	11.4 J			
Potassium							2900	3200						1600	1600	1900											
Selenium	50	50	50	100	5 U	11 U	5 U		5 U	5 U	11 U	10 U		5 U									5 U	1.5 B J			
Silver	100	100		94	5 U	22 U	5 U		5 U	1 U	22 U			5 U	5 U								5 U	1 U			
Sodium							10100	15000						9100	9100	8800											
Thallium	2	2	2	0.2	10 U	220 U	2 U		10 U	1 U	220 U	10 U		2 U									4.7 B	0.031 B			
Vanadium	260	720		86	3.3 B				1.7 B	4.1 J													50 U	6.2 J			
Zinc	2000	2000		6000	6.3 B J	44	20 U		3.9 B J	4.1 B	44	20 U	0 U	20 U	20 U		0 U	35.9	39.2	4.9 JB	11.2 JB		13.6 B J	23.5			
METAL (Dissolved)																											
Antimony	6	6	6	7.8	10 U				10 U	1.6 B		10 U											10 U	0.21 B			
Arsenic	10	10	10	0.052	10 U				10 U	0.34 B													10 U	3.4			
Barium	2000	2000	2000	3800	65.6 B				139 B	95.8													204	129			
Beryllium	4	4	4	25	4 U				4 U	1 U		4 U											0.53 B J	0.35 B			
Cadmium	5	5	5	9.2	5 U				5 U	1 U													0.52 B	0.14 B			
Calcium																										115000	
Chromium	100	100	100		1.3 B				1.8 B	9.6 J												3580	1140	2310 J	4440	4040	2900
Copper	1000	1000	1300	800	25 U				25 U	0.78 B J		10 U											25 U	5.9			
Ferric Iron																											
Hexavalent Chromium	100	100		0.035	50 U				50 U														450	0 U	4400	4500	3500
Iron			300	14000																						100 U	
Lead	5	5	15	15	3 U				3 U	0.068 B J												3 U	3 U	3.7			
Magnesium																										14000	
Manganese	300	300	50	430																						12.8 B	
Mercury	2	2	2	0.63	0.2 U				0.2 U	0.2 U		0.5 U											0.2 U	0.021 B			
Nickel	100	100		390	40 U				40 U	1.9		40 U										2.4 B	10.3 B	10.9			
Potassium																										3710 B	
Selenium	50	50	50	100	5 U				5 U	1 B													5 U	1.4 B			
Silver	100	100		94	5 U				5 U	1 U		2 U											0.62 B	1 U			
Sodium																										18300	
Thallium	2	2	2	0.2	10 U				10 U	1 U													10 U	0.047 B			
Vanadium	260	720		86	1.5 B				2.2 B	5.1 J													50 U	13.8 J			
Zinc	2000	2000		6000	2.8 B				5.6 B	2.4 B												4.2 B J	10.6 B J	39.4 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-47 9/4/13	MW-47 10/24/14	MW-47 9/22/15	MW-48 5/17/90	MW-49D 5/21/08	MW-49D 10/6/08	MW-49D 10/23/14	MW-49S 5/22/08	MW-49S 10/9/08	MW-49S 7/14/09	MW-50D 9/28/99	MW-50D 4/4/00	MW-50D Dup 4/4/00	MW-50D 6/9/04	MW-50D 5/22/08	MW-50D 10/7/08	MW-50D 7/2/10	MW-50D 1/29/14	MW-50D 3/21/14	MW-50D 5/6/14	MW-50D 6/4/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8				110 U	10 U	1.2 B		10 U	1.3 B		5 U				10 U	0.2 B					
Arsenic	10	10	10	0.052				11 U	7.6 B	6.7 J		12.7	7.7	5.8	5				10 U	1.6					
Barium	2000	2000	2000	3800					69.5 B J	84.6		200 U	47.4						200 U	36.4					
Beryllium	4	4	4	25				5.5 U	0.41 B J	1 U		4 U	1 U		1				4 U	1 U					
Cadmium	5	5	5	9.2				11 U	5 U	0.15 B		0.39 B	1 U		1 U				5 U	1 U					
Calcium															104000	140000	110000					120000 B	120000	150000 B	130000 B
Chromium	100	100	100					22 U	5 U	5.8 J		4.9 B	11.9 J		56			0 U	2.7 B	14 J					
Copper	1000	1000	1300	800				11 U	0.83 B	2		6.9 B	1.9 B		29				1 B	3.5					
Ferric Iron											280														
FERROUS IRON											330 HF														
Hexavalent Chromium	100	100		0.035	4600	2200	3800		50 U	0 U	10 U	59 J	0 U		10 U			0 U	50 UJ	0 U					
Iron			300	14000											8100	5300	2200								
Lead	5	5	15	15				170 U	3 U	2		7	0.35 B	2.8	28			0 U	3 U	1.5					
Magnesium															24000	32000	32000					39000	39000	58000	43000
Manganese	300	300	50	430											850	910	640								
Mercury	2	2	2	0.63				0.5 U	0.2 U	0.019 B		0.14 B	0.2 U		0 U				0.2 U	0.2 U					
Nickel	100	100		390				44 U	3 B	4.5		12.7 B	4.1 J		96			0 U	3.7 B	5.5 J					
Potassium															5000	4400	3900					2300	2100	2800 B	2300 B
Selenium	50	50	50	100				11 U	5 U	5 U		5 U	1.3 B J		5 U				5 U	5.0 U					
Silver	100	100		94				22 U	5 U	1 U		5 U	1 U		5 U				5 U	1 U					
Sodium															98300	73000	54000					18000 B	15000	14000 B	16000 B
Thallium	2	2	2	0.2				220 U	10 U	0.34 B J		10 U	1 U		2 U				10 U	0.053 B					
Vanadium	260	720		86					3 B	5.1 J		5.3 B	2.8 J						3.2 B	3.9 J					
Zinc	2000	2000		6000				44	7.6 B J	11		50.6 J	8.3		62			15.9	20 U	13.5					
METAL (Dissolved)																									
Antimony	6	6	6	7.8					10 U	0.64 B		10 U	0.85 B						10 U	0.18 B					
Arsenic	10	10	10	0.052					7.9 B	4.4		11.9	4.9	4.3					10 U	1.2					
Barium	2000	2000	2000	3800					71 B	77.8		97.1 B	41.6						32 B	32.9					
Beryllium	4	4	4	25					0.37 B J	1 U		4 U	1 U						4 U	1 U					
Cadmium	5	5	5	9.2					5 U	1 U		5 U	1 U						5 U	1 U					
Calcium											160000										113000				
Chromium	100	100	100						5 U	6.7 J		3.7 B	11.3 J						5 U	13.5 J					
Copper	1000	1000	1300	800					25 U	0.54 B J		5.3 B	0.78 B						25 U	0.88 B					
Ferric Iron																									
Hexavalent Chromium	100	100		0.035	410	2500	3900		50 U	0 U	10 U	62	0 U						50 U	0 U					
Iron			300	14000							610										341				
Lead	5	5	15	15					3 U	0.062 B J		4.3	1 U	0.07 B					3 U	1 U					
Magnesium											54000										36300				
Manganese	300	300	50	430							42 B										220				
Mercury	2	2	2	0.63					0.2 U	0.2 U		0.098 B	0.2 U						0.2 U	0.2 U					
Nickel	100	100		390					3.4 B	3.9		11 B	2.6						1.8 B	3.7					
Potassium											2600 B										27100 J				
Selenium	50	50	50	100					5 U	0.55 B		5 U	1.1 B						5 U	1.2 B					
Silver	100	100		94					5 U	1 U		5 U	1 U						5 U	1 U					
Sodium											32000 B										153000				
Thallium	2	2	2	0.2					10 U	0.41 B		10 U	1 U						10 U	0.13 B					
Vanadium	260	720		86					2.7 B	5.4 J		6.7 B	1.5 J						1.3 B	6.8 J					
Zinc	2000	2000		6000					3.1 B J	3.4 B		29.5 J	6.2 J						20 U	5.0 U					

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-50D 7/9/14	MW-50D 8/7/14	MW-50D 9/10/14	MW-50D 10/8/14	MW-50D 10/29/14	MW-50D 1/15/15	MW-50D 2/26/15	MW-50D 3/26/15	MW-50D 4/22/15	MW-50D 5/20/15	MW-50S 9/28/99	MW-50S 4/6/00	MW-50S 6/10/04	MW-50S 5/15/08	MW-50S 9/30/08	MW-50S 7/1/09	MW-50S 6/29/10	MW-50S 1/24/14	MW-50S 3/21/14	MW-50S 5/6/14	MW-50S 6/5/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8											5 U			10 U	1.2 B						
Arsenic	10	10	10	0.052											5 U			10 U	0.49 B						
Barium	2000	2000	2000	3800														293	71.5						
Beryllium	4	4	4	25											1 U			4 U	0.16 B						
Cadmium	5	5	5	9.2											1 U			0.29 B	0.25 B						
Calcium					130000 B	150000	150000 B	150000	150000 B	150000 B	160000	160000 B	160000	150000 B	83800	100000						94000	83000	77000 B	67000 B
Chromium	100	100	100												17		0 U	5	37.3 J						
Copper	1000	1000	1300	800											7			3.7 B	20.8						
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035											10 U		0 U	50 U	0 U						
Iron			300	14000											880	1700									
Lead	5	5	15	15											5 U		0 U	3 U	7.9	2 J					
Magnesium					52000	55000	53000	46000	45000 B	48000 B	53000	47000	48000	45000	29100	26000						12000	11000	10000	7400
Manganese	300	300	50	430											1100	820									
Mercury	2	2	2	0.63											0 U			0.091 B J	0.2 U						
Nickel	100	100		390											28		6.8	7.6 B	17.3						
Potassium					2000	2200	2400	2300 B	2200	2500 B	2400	2500	2300	2300 B	4300	4900						150000	190000	9300 B	23000
Selenium	50	50	50	100											5 U			5 U	5 U						
Silver	100	100		94											5 U			5 U	1 U						
Sodium					14000	18000	19000	16000 B	16000	18000 B	18000 B	19000 B	17000	17000	38800	38000						260000 B	350000	110000 B	110000
Thallium	2	2	2	0.2											2 U			10 U	0.085 B						
Vanadium	260	720		86														3.3 B	7.2 J						
Zinc	2000	2000		6000											27		7.4	39.1 J	65.2						
METAL (Dissolved)																									
Antimony	6	6	6	7.8														10 U	0.54 B						
Arsenic	10	10	10	0.052														10 U	0.45 B						
Barium	2000	2000	2000	3800														280	66.3						
Beryllium	4	4	4	25														4 U	1 U						
Cadmium	5	5	5	9.2														5 U	1 U						
Calcium																					108000				
Chromium	100	100	100															5 U	13.7 J						
Copper	1000	1000	1300	800														25 U	4.1						
Ferric Iron																									
Hexavalent Chromium	100	100		0.035														50 U	0 U						
Iron			300	14000																	100 U				
Lead	5	5	15	15														3 U	0.12 B	0.049 B J					
Magnesium																					21600				
Manganese	300	300	50	430																	445				
Mercury	2	2	2	0.63														0.087 B J	0.2 U						
Nickel	100	100		390														4.7 B	5						
Potassium																					42100				
Selenium	50	50	50	100														5 U	0.72 B						
Silver	100	100		94														5 U	1 U						
Sodium																					765000				
Thallium	2	2	2	0.2														10 U	0.068 B J						
Vanadium	260	720		86														3.9 B	4.6 J						
Zinc	2000	2000		6000														21 J	15.9						

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-50S 7/9/14	MW-50S 8/8/14	MW-50S 9/10/14	MW-50S 10/9/14	MW-50S 10/30/14	MW-50S 1/16/15	MW-50S 2/27/15	MW-50S 3/27/15	MW-50S 4/23/15	MW-50S 5/21/15	MW-51D 9/21/99	MW-51D 4/6/00	MW-51D 6/6/03	MW-51D 6/9/04	MW-51D 8/4/04	MW-51D 6/21/05	MW-51D 6/24/06	MW-51D 6/29/07	MW-51D 5/12/08	MW-51D 9/18/08	MW-51D 6/30/10
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8											5 U								10 U	5.8 J	
Arsenic	10	10	10	0.052											5 U								10 U	2	
Barium	2000	2000	2000	3800																			64.1 B	40.5	
Beryllium	4	4	4	25											1 U								4 U	1 U	
Cadmium	5	5	5	9.2											1 U								5 U	1 U	
Calcium					93000 B	110000 B	120000 B	140000	130000 B	110000 B	120000 B	130000 B	130000	120000 B	97600	100000									
Chromium	100	100	100												5 U		0 U	2.8 U	2.8 U	1.6 U	4.7 B		4.6 B	8.7 J	2.8 B
Copper	1000	1000	1300	800											5 U								2 B	7.9	
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035											10 U		0 U	10 U	10 U	10 U	10 U	10 U	50 U	0 U	10 U
Iron			300	14000											50 U	50 U									
Lead	5	5	15	15											5 U		0 U	2.2 U	2.2 U	2.7 U	5.3 J		3 U	3.1	
Magnesium					12000	12000	16000	15000	14000 B	11000 B	16000	15000 B	14000 B	15000	28000	30000									
Manganese	300	300	50	430											30	84									
Mercury	2	2	2	0.63											0 U								0.2 U	0.2 U	
Nickel	100	100		390											5 U		0 U	3.9 U	3.9 U	2.4 U	5.3 B		2.3 B	5.8	
Potassium					8800	9800	9600	9800 B	9600	9900	9500	9700	9400	8600	2300	2300									
Selenium	50	50	50	100											5 U								5 U	0.83 B	
Silver	100	100		94											5 U								5 U	1 U	
Sodium					83000	94000 B	73000	63000 B	57000 B	76000	50000 B	51000 B	46000 B	47000	16900	18000									
Thallium	2	2	2	0.2											2 U								10 U	0.18 B J	
Vanadium	260	720		86																			1.9 B	6.6 J	
Zinc	2000	2000		6000											20 U		0 U	15.9 B	12 B	9.5 B	14.6 JB		3 B	29.7	
METAL (Dissolved)																									
Antimony	6	6	6	7.8																			10 U	2.2 J	
Arsenic	10	10	10	0.052																			10 U	2.9	
Barium	2000	2000	2000	3800																			57.2 B	28	
Beryllium	4	4	4	25																			4 U	1 U	
Cadmium	5	5	5	9.2																			5 U	1 U	
Calcium																									43600
Chromium	100	100	100																			2.8 B	5 U	4.6 J	1.2 B
Copper	1000	1000	1300	800																			1.8 B	4.4	
Ferric Iron																									
Hexavalent Chromium	100	100		0.035																			50 U	0 U	10 U
Iron			300	14000																					100 U
Lead	5	5	15	15																		3 U	3 U	0.24 B	
Magnesium																									3920 B
Manganese	300	300	50	430																					4.2 B
Mercury	2	2	2	0.63																			0.2 U	0.2 U	
Nickel	100	100		390																		3 B	40 U	2.5	
Potassium																									18500
Selenium	50	50	50	100																			5 U	0.96 B	
Silver	100	100		94																			5 U	1 U	
Sodium																									87300
Thallium	2	2	2	0.2																			10 U	0.092 B	
Vanadium	260	720		86																			1.2 B	2.3 J	
Zinc	2000	2000		6000																		4 B J	2 B J	13.8	

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-51D 6/24/11	MW-51D 9/18/13	MW-51D 1/21/14	MW-51D 3/21/14	MW-51D Dup 3/21/14	MW-51D 5/6/14	MW-51D 6/5/14	MW-51D 7/9/14	MW-51D 8/8/14	MW-51D 9/10/14	MW-51D 10/9/14	MW-51D 10/30/14	MW-51D 1/15/15	MW-51D 2/27/15	MW-51D 3/27/15	MW-51D 4/23/15	MW-51D 5/21/15	MW-51S 9/20/99	MW-51S 4/5/00	MW-51S 6/6/03	MW-51S 6/10/04
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8																		5 U			
Arsenic	10	10	10	0.052																		5 U			
Barium	2000	2000	2000	3800																					
Beryllium	4	4	4	25																		1 U			
Cadmium	5	5	5	9.2																		1 U			
Calcium							59000	50000	24000	68000 B	76000 B	80000 B	88000 B	91000 B	95000	150000 B	95000 B	100000 B	11000 B	66000	71000 B	98500	96000		
Chromium	100	100	100		2 U																	590		338	2.8 U
Copper	1000	1000	1300	800																		5 U			
Ferric Iron						100										100 U									
FERROUS IRON						50 U										50 U									
Hexavalent Chromium	100	100		0.035	10 U	10 U										10 UJ						0		350	10 U
Iron			300	14000																		50 U	50 U		
Lead	5	5	15	15																		5 U		0 U	2.2 U
Magnesium							7400	4500	3400	15000	14000	21000	20000	28000	28000	27000 B	28000 B	30000	690 B	16000 B	21000	11900	12000		
Manganese	300	300	50	430																		290	140		
Mercury	2	2	2	0.63																		0 U			
Nickel	100	100		390																		100		50	6.8 B
Potassium							11000	48000	63000	33000 B	22000	31000	49000	35000	34000 B	68000	26000 B	24000	10000	19000	20000	3900	3400		
Selenium	50	50	50	100																		5 U			
Silver	100	100		94																		5 U			
Sodium							27000	110000	140000	75000 B	51000	56000	90000 B	61000	57000 B	100000 B	49000 B	49000 B	7000 B	34000 B	39000	20700	22000		
Thallium	2	2	2	0.2																		2 U			
Vanadium	260	720		86																					
Zinc	2000	2000		6000																		20 U		0 U	7.4 B
METAL (Dissolved)																									
Antimony	6	6	6	7.8																					
Arsenic	10	10	10	0.052																					
Barium	2000	2000	2000	3800																					
Beryllium	4	4	4	25																					
Cadmium	5	5	5	9.2																					
Calcium																83000 B									
Chromium	100	100	100		3.8																				
Copper	1000	1000	1300	800																					
Ferric Iron																									
Hexavalent Chromium	100	100		0.035	10 U	10 U										10 UJ									
Iron			300	14000		100 U										50 U									
Lead	5	5	15	15																					
Magnesium																26000 B									
Manganese	300	300	50	430		4.8 J										18 B									
Mercury	2	2	2	0.63																					
Nickel	100	100		390																					
Potassium																57000									
Selenium	50	50	50	100																					
Silver	100	100		94																					
Sodium						77000 B										86000 B									
Thallium	2	2	2	0.2																					
Vanadium	260	720		86																					
Zinc	2000	2000		6000																					

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-51S 8/4/04	MW-51S 6/17/05	MW-51S 6/24/06	MW-51S 6/29/07	MW-51S 5/20/08	MW-51S 10/2/08	MW-51S 7/1/09	MW-51S 7/6/10	MW-51S 6/24/11	MW-51S 9/12/13	MW-51S 1/29/14	MW-51S 2/18/14	MW-51S 3/20/14	MW-51S 5/7/14	MW-51S 6/4/14	MW-51S 7/8/14	MW-51S 8/7/14	MW-51S 9/9/14	MW-51S 10/8/14	MW-51S 10/29/14	MW-51S 1/15/15
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8					10 U	2 U															
Arsenic	10	10	10	0.052					10 U	1 U															
Barium	2000	2000	2000	3800					73.7 B	63															
Beryllium	4	4	4	25					4 U	1 U															
Cadmium	5	5	5	9.2					0.65 B	0.46 B															
Calcium															130000 B	110000	120000	120000	120000 B	140000 B	130000	130000 B	130000	130000 B	130000 B
Chromium	100	100	100		701		225		258	340 J	304 J	193	270												
Copper	1000	1000	1300	800					25 U	0.92 B															
Ferric Iron														100										100 U	
FERROUS IRON														50 U										50 U	
Hexavalent Chromium	100	100		0.035	651	175	220	260	280	330	410	200	320	73										140	
Iron			300	14000																					
Lead	5	5	15	15	2.2 U		2.4 JB		3 U	0.54 B															
Magnesium															16000	18000	11000	18000	15000	19000	18000	18000	15000	15000 B	15000 B
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63					0.2 U	0.2 U															
Nickel	100	100		390	47.4		28.6 B		57.6	27															
Potassium															12000	12000	12000	12000	13000 B	13000 B	11000	12000	10000 B	10000	12000 B
Selenium	50	50	50	100					5 U	0.66 B															
Silver	100	100		94					5 U	1 U															
Sodium															51000 B	51000	47000	56000 B	55000 B	59000 B	59000	61000	50000 B	50000	55000 B
Thallium	2	2	2	0.2					10 U	0.04 B J															
Vanadium	260	720		86					50 U	2.7 J															
Zinc	2000	2000		6000	23.6 B		10.4 JB		3.3 B J	7.5															
METAL (Dissolved)																									
Antimony	6	6	6	7.8					10 U	2 U															
Arsenic	10	10	10	0.052					10 U	1 U															
Barium	2000	2000	2000	3800					74.2 B	61.8															
Beryllium	4	4	4	25					4 U	1 U															
Cadmium	5	5	5	9.2					0.69 B	0.48 B J															
Calcium												116000												130000 B	
Chromium	100	100	100			317		253	259	356 J	301	199	260												
Copper	1000	1000	1300	800					0.88 B	1.1 B J															
Ferric Iron																									
Hexavalent Chromium	100	100		0.035					280	330	400	200	320	78										140	
Iron			300	14000								100 U		100 U										50 U	
Lead	5	5	15	15		2.7 U		3 U	3 U	0.7 B J															
Magnesium												14900												15000 B	
Manganese	300	300	50	430								123		44 B										75 B	
Mercury	2	2	2	0.63					0.2 U	0.2 U															
Nickel	100	100		390		28.3 B		26.4 B	58.3	29.7															
Potassium												8950												10000	
Selenium	50	50	50	100					5 U	0.48 B															
Silver	100	100		94					5 U	1 U															
Sodium												43500		50000										51000	
Thallium	2	2	2	0.2					10 U	0.038 B															
Vanadium	260	720		86					50 U	1 U															
Zinc	2000	2000		6000		19.2 B		6.3 B J	6.7 B	3.5 B															

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-51S 2/26/15	MW-51S 3/26/15	MW-51S 4/22/15	MW-51S 5/20/15	MW-52 9/28/99	MW-52 3/22/00	MW-52 5/6/08	MW-52 9/4/08	MW-52 7/13/09	MW-52 Dup 7/13/09	MW-53 9/28/99	MW-53 3/22/00	MW-53 4/23/08	MW-53 9/11/08	MW-54 7/29/93	MW-54 9/29/99	MW-54 4/10/00	MW-54 6/9/04	MW-54 6/21/05	MW-54 6/23/06	MW-54 6/27/07	MW-54 5/27/08	MW-54 10/8/08
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8					5 U		10 U	0.48 B			5 U		10 U	0.4 B	150 U	5 U						10 U	0.094 B
Arsenic	10	10	10	0.052					5 U		10 U	3			5 U		5.2 B	0.44 B	60 U	5 U						10 U	1 U
Barium	2000	2000	2000	3800							117 B J	144					171 B	95.9								41.1 B	41.2
Beryllium	4	4	4	25					1 U		4 U	0.94 B			1 U		0.64 B	1 U	8 U	1 U						0.34 B J	1 U
Cadmium	5	5	5	9.2					1 U		0.51 B	0.19 B			1 U		5 U	1 U	10 U	1 U						5 U	1 U
Calcium					130000	120000 B	120000	110000 B	77400	73000					29500	52000				77100	98000						
Chromium	100	100	100						5 U		17.6	19.8 J			5 U		21.5	9.9 J	20 U	5 U		2.8 U	1.6 U	5 U		2.8 B	11.9 J
Copper	1000	1000	1300	800					5 U		14.2 B	13.1			5 U		15.1 B	1.2 B	20 U	5 U						1.1 B	2.3
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035					10 U		50 U				10 U		50 U	0 U		10 U		10 U	10 U	10 U	10 U	50 U	0 U
Iron			300	14000					3400	1300					150	190				350	1400						
Lead	5	5	15	15					5 U		11.3	13.5	16.1	16.1	5 U		10.9	0.38 B	100 U	5 U		2.2 U	2.7 U	1.7 B		3 U	1 U
Magnesium					18000	13000	14000	14000	9500	8100					7500	11000				15900	19000						
Manganese	300	300	50	430					430	57					120	20 U				34	97						
Mercury	2	2	2	0.63					0 U		0.2 U	0.2 U			0 U		0.2 U	0.2 U	0.5 U	0 U						0.2 U	0.2 U
Nickel	100	100		390					5 U		34 B	25			5 U		22.9 B	3.3	40 U	5 U		3.9 U	2.4 U	1.9 B		2.5 B	2.8 J
Potassium					9400	8000	8100	7700 B	7900	12000					10100	28000				2300	4300						
Selenium	50	50	50	100					5 U		5 U	0.58 B			5 U		5 U	0.46 B	5 U	5 U						5 U	5.0 U
Silver	100	100		94					5 U		5 U	1 U			5 U		5 U	1 U	40 U	5 U						0.62 B	1 U
Sodium					52000 B	48000 B	47000	44000	11900	6000					6000	6300				11900	12000						
Thallium	2	2	2	0.2					2 U		10 U	0.14 B			2 U		10 U	0.067 B	200 U	2 U						10 U	1 U
Vanadium	260	720		86							6.9 B	11.9 J					16 B	1.2 J								2.1 B	6.4 J
Zinc	2000	2000		6000					26		30.8 J	41.3			20		87.9	5.0 U	50 U	26		15.1 B	13.3 B	11.9 JB		4.3 B J	5.5
METAL (Dissolved)																											
Antimony	6	6	6	7.8							10 U	0.17 B J					10 U	0.37 B								10 U	0.12 B
Arsenic	10	10	10	0.052							10 U	1.3					10 U	0.15 B								10 U	1 U
Barium	2000	2000	2000	3800							86.7 B J	97.5					141 B	97.8								39.9 B	41
Beryllium	4	4	4	25							4 U	1 U					4 U	1 U								4 U	1 U
Cadmium	5	5	5	9.2							5 U	1 U					5 U	1 U								5 U	1 U
Calcium																											
Chromium	100	100	100								10.2	5.1 J					5 U	7 J							5 U	1.6 B	15.1 J
Copper	1000	1000	1300	800							2 B	0.49 B					25 U	0.98 B								25 U	0.99 B
Ferric Iron																											
Hexavalent Chromium	100	100		0.035							50 U						50 U	0 U								50 U	0 U
Iron			300	14000																							
Lead	5	5	15	15							3 U	0.15 B J	0.12 B	0.079 B			3 U	1.0 U							3 U	3 U	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								0.2 U	0.2 U
Nickel	100	100		390							41	8.3					6.1 B	2.6							40 U	1.9 B	2.8
Potassium																											
Selenium	50	50	50	100							5 U	0.49 B					5 U	0.57 B								5 U	2.2 B
Silver	100	100		94							5 U	1 U					5 U	1 U								5 U	1 U
Sodium																											
Thallium	2	2	2	0.2							10 U	0.037 B J					4.4 B	1.0 U								3.2 B	0.02 B
Vanadium	260	720		86							50 U	1.9					50 U	1.7								1.4 B	3.6 J
Zinc	2000	2000		6000							20 U	7.9					7.8 B	7 J							6.8 B J	5.4 B J	5.0 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-55 7/29/93	MW-55 10/27/95	MW-55 5/23/08	MW-55 10/8/08	MW-55 6/30/09	MW-55 7/9/10	MW-56 10/27/95	MW-56 9/30/99	MW-56 3/30/00	MW-56 5/7/08	MW-57 11/19/93	MW-57 7/13/95	MW-57 10/27/95	MW-57 9/29/99	MW-57 4/3/00	MW-57 5/22/08	MW-57 9/30/08	MW-57 9/23/15	MW-58 11/24/93	MW-59 5/26/95	MW-59 9/21/99	MW-59 4/4/00	MW-60 5/26/95
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8	150 U		10 U	0.25 B				5 U		10 U				5 U		10 U	0.054 B				5 U		
Arsenic	10	10	10	0.052	60 U		10 U	1.5				5 U		10 U				5 U		10 U	0.29 B			6	5 U		6
Barium	2000	2000	2000	3800			93.4 B J	74.4						108 B J						200 U	43.4						
Beryllium	4	4	4	25	8 U		0.92 B J	0.24 B				1 U		4 U				1 U		4 U	1 U			4	1 U		4
Cadmium	5	5	5	9.2	10 U		0.44 B	1 U				1 U		5 U	40			1 U		5 U	1 U		20	1	1 U		1
Calcium											110000	96600	110000				51000	54800	58000						58400	130000	
Chromium	100	100	100		20 U		13.6	18.8 J				5 U		6.6		76		24		53.2	69.1 J			6	15		6
Copper	1000	1000	1300	800	20 U	10 U	13.7 B	7.8				5 U		0.96 B	30	950		5 U		1.1 B	0.61 B		40	10	10		10
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035			310			10 U		1000000 U		50 U		60		30		82 J	94	39		20	10 U		20
Iron			300	14000		260					70 U	62	170				70 U	50 U	50 U						1500	600	
Lead	5	5	15	15	100 U		12.1	6.4	5.8 J	16.4		5 U		3 U		110		5 U		3 U	0.68 B			6	5 U		6
Magnesium						19000					5100	5100	6100				23000	24100	26000						28400	30000	
Manganese	300	300	50	430		13					6 U	250	280				6 U	20 U	20 U						420	300	
Mercury	2	2	2	0.63	0.5 U		0.2 U	0.2 U				0 U		0.2 U				0 U		0.2 U	0.2 U			5	0 U		5
Nickel	100	100		390	40 U		17 B	11.5 J				5 U		9.5 B				5 U		40 U	2.4			40	27		40
Potassium						2000					3400	2800	8000				1500	1400	2900						5400	4900	
Selenium	50	50	50	100	5 U		5 U	5.0 U				5 U		5 U				5 U		5 U	5 U				5 U		
Silver	100	100		94	40 U		1.7 B	1 U				5 U		5 U				5 U		5 U	1 U				5 U		
Sodium						5700					24000	28100	31000				6900	9600	8900						41800	35000	
Thallium	2	2	2	0.2	200 U		10 U	0.071 B				2 U		10 U				2 U		10 U	1 U				2 U		
Vanadium	260	720		86			10.6 B	10.6 J						50 U						1.1 B	3.7 J						
Zinc	2000	2000		6000	50 U		95.8 J	35.7				20 U		15.9 B J		500		20 U		20 U	3.3 B			30	130		30
METAL (Dissolved)																											
Antimony	6	6	6	7.8			10 U	0.13 B						10 U						10 U	0.054 B						
Arsenic	10	10	10	0.052			10 U	0.2 B						10 U						10 U	1 U						
Barium	2000	2000	2000	3800			56.4 B	46.7						107 B J						44.9 B	42.2						
Beryllium	4	4	4	25			0.7 B J	1 U						4 U						4 U	1 U						
Cadmium	5	5	5	9.2			5 U	1 U						5 U						5 U	1 U						
Calcium										103000																	
Chromium	100	100	100				5 U	12.5 J						1.4 B						49.4	71.9 J						
Copper	1000	1000	1300	800			25 U	1.4 B						25 U						25 U	0.31 B						
Ferric Iron																											
Hexavalent Chromium	100	100		0.035			50 U			10 U				50 U						50 U	71	38					
Iron			300	14000						769 J																	
Lead	5	5	15	15			3 U	1 U	0.037 B J	3 U				3 U						3 U	0.082 B						
Magnesium										18800																	
Manganese	300	300	50	430						16.4																	
Mercury	2	2	2	0.63			0.2 U	0.2 U						0.2 U						0.2 U	0.2 U						
Nickel	100	100		390			40 U	3.4						3.2 B						40 U	1.8						
Potassium										1220 B																	
Selenium	50	50	50	100			5 U	1.2 B						5 U						5 U	5 U						
Silver	100	100		94			5 U	1 U						5 U						5 U	1 U						
Sodium										3820 B																	
Thallium	2	2	2	0.2			10 U	1 U						10 U						10 U	1 U						
Vanadium	260	720		86			1.5 B	5 J						50 U						50 U	4.1 J						
Zinc	2000	2000		6000			6.5 B J	5.0 U						20 U						20 U	2.7 B						

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-60 9/29/99	MW-60 4/4/00	MW-61D 10/18/95	MW-61D 12/29/95	MW-61D 9/27/99	MW-61D 3/23/00	MW-61S 10/20/95	MW-61S 12/29/95	MW-61S 9/27/99	MW-61S 3/22/00	MW-62D 10/18/95	MW-62D 12/29/95	MW-62S 10/20/95	MW-62S 12/29/95	MW-63D 10/19/95	MW-63D 12/29/95	MW-63S 10/19/95	MW-63S 12/28/95	MW-64D 10/18/95	MW-64D 12/28/95	MW-64D 9/17/99
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8	5 U		10 U		5 U		10 U		5 U		10 U		10 U		10 U		10 U		10 U		5 U
Arsenic	10	10	10	0.052	5 U		6 U		5 U		6 U		5 U		6 U		6 U		6 U		6 U		6 U		5 U
Barium	2000	2000	2000	3800																					
Beryllium	4	4	4	25	1 U		4 U		1 U		4 U		1 U		4 U		4 U		4 U		4 U		4 U		1 U
Cadmium	5	5	5	9.2	4 C		1 U		1 U		1 U		1 U		1 U		2		1 U		1 U		1 U		1 U
Calcium					154000	170000	61000	52000	56200	66000	97000	93000	108000	120000	55000	50000	42000	41000	55000	50000	62000	62000	53000	49000	57400
Chromium	100	100	100		5 U		6 U		5 U		9		5 U		6 U		6 U		6 U		6 U		6 U		9
Copper	1000	1000	1300	800	12		10 U		5 U		10 U		5 U		10 U		10 U		10 U		10 U		10 U		5 U
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035	10 U				10 U				10 U												10 U
Iron			300	14000	4800	160	330	70 U	56	50 U	480	70 U	160	160	430	70 U	2400	190	130	70 U	12000	90	3300	70 U	94
Lead	5	5	15	15	8 C		6 U		5 U		6 U		5 U		6 U		6 U		6 U		6 U		6 U		5 U
Magnesium					17600	27000	21000	24000	27500	34000	20000	16000	16400	18000	19000	17000	7600	8200	18000	17000	12000	11000	4100	3400	3900
Manganese	300	300	50	430	1400	2000	53	6 U	20 U	20 U	28	6 U	20 U	20 U	86	6 U	230	310	31	6 U	440	6 U	120	6	20 U
Mercury	2	2	2	0.63	0 U		0.5 U		0 U		0.5 U		0 U		0.5 U		0.5 U		0.5 U		0.5 U		0.5 U		0 U
Nickel	100	100		390	24		40 U		5 U		40 U		5 U		40 U		40 U		40 U		40 U		40 U		8
Potassium					10300	9100	1500	1100	1100	1400	14000	3300	3300	5100	1400	1600	3000	1900	1700	1600	5000	2000	4000	2600	2800
Selenium	50	50	50	100	5 U		10 U		5 U		10 U		5 U		10 U		10 U		10 U		10 U		10 U		5 U
Silver	100	100		94	5 U		2 U		5 U		2 U		5 U		2 U		2 U		2 U		2 U		2 U		5 U
Sodium					54400	66000	59000	16000	14500	12000	22000	7700	5800	21000	21000	17000	190000	91000	13000	3700	5300	4000	3900	3800	3300
Thallium	2	2	2	0.2	2 U		10 U		2 U		10 U		2 U		10 U		10 U		10 U		10 U		10 U		2 U
Vanadium	260	720		86																					
Zinc	2000	2000		6000	130		40		53		30		70		20 U		200		20 U		20 U		30		59
METAL (Dissolved)																									
Antimony	6	6	6	7.8																					
Arsenic	10	10	10	0.052																					
Barium	2000	2000	2000	3800																					
Beryllium	4	4	4	25																					
Cadmium	5	5	5	9.2																					
Calcium																									
Chromium	100	100	100																						
Copper	1000	1000	1300	800																					
Ferric Iron																									
Hexavalent Chromium	100	100		0.035																					
Iron			300	14000																					
Lead	5	5	15	15																					
Magnesium																									
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63																					
Nickel	100	100		390																					
Potassium																									
Selenium	50	50	50	100																					
Silver	100	100		94																					
Sodium																									
Thallium	2	2	2	0.2																					
Vanadium	260	720		86																					
Zinc	2000	2000		6000																					

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-64D 4/6/00	MW-64D 5/19/08	MW-64D 9/29/08	MW-64D 6/28/10	MW-64D 9/11/13	MW-64D 10/22/14	MW-64S 12/29/95	MW-64S 5/14/08	MW-64S 9/25/08	MW-64S 6/30/09	MW-64S 7/1/10	MW-64S 9/12/13	MW-65D 9/7/99	MW-65D 3/27/00	MW-65D 4/25/08	MW-65D Dup 4/25/08	MW-65D 9/10/08	MW-65D 6/22/09	MW-65S 9/1/99	MW-65S 4/4/00	MW-65S 5/8/08
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8		10 U	2 U					10 U	0.58 B				5 U		10 U	10 U	0.17 B		5 U		10 U
Arsenic	10	10	10	0.052		10 U	0.25 B					12.4	11	0.45 B			5 U		10 U	10 U	0.6 B		5 U		10 U
Barium	2000	2000	2000	3800		34 B	29.4					799	914 J						38.8 B	31.5 B	33.5				24.2 B
Beryllium	4	4	4	25		4 U	1 U					3.2 B	3.3				1		4 U	4 U	0.18 B		1		4 U
Cadmium	5	5	5	9.2		5 U	1 U					1.6 B	1.8				2		5 U	5 U	1 U		1		5 U
Calcium					61000						31000						11700	12000					7700	10000	
Chromium	100	100	100			4.6 B	9.6 J					55.4	77.9 J				6		37.4	40.9	237 J	17.3	5 U		11.5
Copper	1000	1000	1300	800		25 U	0.54 B					32.4	42.6				5 U		5.4 B	7.6 B	10.3		5 U		25 U
Ferric Iron									100	100 U						100 U									
FERROUS IRON									50 U	50 U						810 HF									
Hexavalent Chromium	100	100		0.035		50 U						50 U					10 U		50 U	50 U		50 U			50 U
Iron			300	14000	130						70 U						260	170					1400	1600	
Lead	5	5	15	15		3 U	0.78 B					55.4	73.4	0.92 B J			5 U		2.8 B	3 U	2.2		5 U		3 U
Magnesium					3900						2700						7500	7500					4000	4200	
Manganese	300	300	50	430	20 U						480						100	38					100	280	
Mercury	2	2	2	0.63		0.2 U	0.2 U					0.12 B	0.15 B				0 U		0.2 U	0.2 U	0.2 U		0 U		0.2 U
Nickel	100	100		390		4.4 B	1.4					46.2	50.7				8		41.7	69.7	171	10.2	6		10.9 B
Potassium					2800						2400						3100	3300					3100	3100	
Selenium	50	50	50	100		5 U	0.71 B					5 U	4.4 B				5 U		5 U	5 U	5 U		5 U		5 U
Silver	100	100		94		5 U	1 U					5 U	0.24 B				5 U		5 U	5 U	1 U		5 U		5 U
Sodium					3200						42000						13300	11000					13900	13000	
Thallium	2	2	2	0.2		10 U	0.037 B					10 U	0.77 B				2 U		10 U	10 U	0.094 B		2 U		4 B
Vanadium	260	720		86		50 U	4.2 J					27.7 B	36.7 J						5.3 B	2.2 B	2.1 J				50 U
Zinc	2000	2000		6000		5.6 B J	1.9 B					200	206				28		30.1	22.1	21.2 J		20 U		18.4 B J
METAL (Dissolved)																									
Antimony	6	6	6	7.8		10 U	2 U					10 U	0.094 B J						10 U	10 U	0.14 B				10 U
Arsenic	10	10	10	0.052		10 U	1 U					10 U	1 U	1 U					10 U	10 U	1 U				10 U
Barium	2000	2000	2000	3800		33.8 B	30.3					34.4 B	18.1						17.1 B	17.2 B	15.9				20.1 B
Beryllium	4	4	4	25		4 U	1 U					4 U	0.12 B						4 U	4 U	1 U				0.46 B J
Cadmium	5	5	5	9.2		5 U	1 U					5 U	1 U						5 U	5 U	1 U				5 U
Calcium								66000		74000					2980 B										
Chromium	100	100	100			5 U	11.4 J					5 U	14.5 J						2.2 B	5.2	9.8 J	6.2 J			4.6 B
Copper	1000	1000	1300	800		25 U	0.45 B					25 U	0.96 B						3.6 B	4.2 B	2.4				25 U
Ferric Iron																									
Hexavalent Chromium	100	100		0.035		50 U						50 U							50 U	50 U		50 U			50 U
Iron			300	14000				100 U	100 U	7.8 J					100 U	100 U									
Lead	5	5	15	15		3 U	0.12 B					3 U	0.089 B	0.05 B J					3 U	3 U	1.0 U				3 U
Magnesium								4470 B		4700					1030 B										
Manganese	300	300	50	430				0.79 B	0.59 J B	1.0 J					19.3	20 B									
Mercury	2	2	2	0.63		0.2 U	0.2 U					0.2 U	0.2 U						0.2 U	0.2 U	0.2 U				0.2 U
Nickel	100	100		390		2.2 B	1.9					1.5 B	3						77.4	214	26.3	7.1			8.5 B
Potassium								2750 B		3100 B					1970 B										
Selenium	50	50	50	100		5 U	5 U					5 U	5 U						5 U	5 U	0.5 B				5 U
Silver	100	100		94		5 U	1 U					5 U	1 U						5 U	5 U	1 U				5 U
Sodium								3190 B	4500 J	7700 B					6900	6200									
Thallium	2	2	2	0.2		10 U	0.04 B J					10 U	0.026 B						10 U	10 U	1.0 U				6.8 B
Vanadium	260	720		86		50 U	2.4 J					50 U	1.3 J						50 U	50 U	2.1				50 U
Zinc	2000	2000		6000		6.9 B	2.8 B					13.9 B J	12.3						29.7 J	54.2 J	16.5 J				19.5 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-66D 9/9/99	MW-66D 3/28/00	MW-66D 4/30/08	MW-66S 9/1/99	MW-66S 3/28/00	MW-66S 4/30/08	MW-66S 9/10/08	MW-66S 7/7/09	MW-67D 9/7/99	MW-67D 3/29/00	MW-67D 5/6/08	MW-67S 9/1/99	MW-67S 3/31/00	MW-67S 5/6/08	MW-68 9/9/99	MW-68 3/28/00	MW-68 5/12/08	MW-69 9/9/99	MW-69 4/4/00	MW-69 5/5/08	MW-69 9/22/08	MW-70D 9/10/99
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8	5 U		10 U	5 U		10 U	0.71 B		5 U		10 U	5 U		10 U	5 U		10 U	6		10 U	0.21 B	5 U
Arsenic	10	10	10	0.052	5 U		10 U	5 U		10 U	30.8	1 U	5 U		10 U	5 U		2.4 B	5 U		10 U	5 U		10 U	1 U	5 U
Barium	2000	2000	2000	3800			4.2 B J			11 B J	388				23 B			44.3 B			75.1 B			86.4 B	96.2 J	
Beryllium	4	4	4	25	1 U		4 U	1		4 U	3.3		1 U		4 U	2		4 U	1 U		4 U	1 U		4 U	1 U	1 U
Cadmium	5	5	5	9.2	1 U		5 U	1		5 U	0.38 B		1 U		5 U	1 U		5 U	2		5 U	1 U		5 U	1 U	1 U
Calcium					13000	19000		12200	23000				21000	17000		25800	34000		14600	14000		26600	20000			29200
Chromium	100	100	100		5 U		5 U	5 U		3.3 B	167 J	11.9	5 U		1.3 B	5 U		6.5	5 U		5 U	5 U		1.4 B	14.9 J	12
Copper	1000	1000	1300	800	5 U		0.9 B	5 U		8.3 B	53.1		5 U		25 U	6		4.2 B	5 U		25 U	5 U		25 U	1.1 B	5 U
Ferric Iron																										
FERROUS IRON																										
Hexavalent Chromium	100	100		0.035	10 U		50 U	10 U		53	0 U	50 UJ	10 U		50 U	10 U		50 U	10 U		50 U	10 U		50 U		10 U
Iron			300	14000	1100	310		86	5900				54	50 U		1100	58		26700	32000		7300	3000			1600
Lead	5	5	15	15	5 U		3 U	5 U		3 U	72	0.82 B	5 U		3 U	18		3 U	5 U		3 U	5 U		3 U	0.13 B	5 U
Magnesium					6600	7600		6600	8000				5900	5000		8700	9800		4600	5000		17700	14000			8200
Manganese	300	300	50	430	360	170		29	570				110	30		760	24		1400	770		110	48			190
Mercury	2	2	2	0.63	0 U		0.2 U	0 U		0.2 U	0.23		0 U		0.2 U	0 U		0.2 U	0 U		0.2 U	0 U		0.2 U	0.2 U	0 U
Nickel	100	100		390	5 U		2.3 B	5 U		6 B	79.1		5 U		40 U	5 U		3.8 B J	5 U		2.1 B	5 U		1.5 B J	3	17
Potassium					2500	2700		2400	2900				2800	2500		3000	2500		3300	3200		4200	3200			1200
Selenium	50	50	50	100	5 U		5 U	5 U		5 U	2.8 B		5 U		5 U	5 U		2.5 B	5 U		5 U	5 U		5 U	0.22 B	5 U
Silver	100	100		94	5 U		5 U	5 U		5 U	0.099 B		5 U		5 U	5 U		5 U	5 U		5 U	5 U		5 U	1 U	5 U
Sodium					6800	7500		7100	8500				8100	6700		6100	3000		6400	6500		4800	2800			6100
Thallium	2	2	2	0.2	2 U		10 U	2 U		3.4 B J	0.57 B		2 U		10 U	2 U		10.7 J	2 U		10 U	2 U		10 U	1 U	2 U
Vanadium	260	720		86			50 U			50 U	78.2 J				50 U			2.4 B			50 U			2.3 B	5.5 J	
Zinc	2000	2000		6000	92		5.5 B J	20 U		8.7 B J	124 J		25		1.8 B J	43		9.3 B J	51		1.6 B	84		20 U	3 B	31
METAL (Dissolved)																										
Antimony	6	6	6	7.8			10 U			10 U	0.099 B				10 U			10 U			10 U			10 U	0.061 B J	
Arsenic	10	10	10	0.052			10 U			10 U	0.44 B	1 U			10 U			10 U			10 U			10 U	1 U	
Barium	2000	2000	2000	3800			2.5 B J			6.6 B J	6.9 B				23.7 B			35 B			68.8 B			78.9 B	94.4	
Beryllium	4	4	4	25			4 U			4 U	1 U				4 U			4 U			4 U			4 U	1 U	
Cadmium	5	5	5	9.2			5 U			5 U	1 U				5 U			5 U			5 U			5 U	1 U	
Calcium																										
Chromium	100	100	100				5 U			5 U	7.5 J	6.2			5 U			1.4 B			5 U			5 U	16.1 J	
Copper	1000	1000	1300	800			25 U			2.2 B	1 B				25 U			25 U			25 U			25 U	1.2 B	
Ferric Iron																										
Hexavalent Chromium	100	100		0.035			50 U			50 U	0 U	50 U			50 U			50 U			50 U			50 U		
Iron			300	14000																						
Lead	5	5	15	15			3 U			3 U	0.45 B J	0.17 B J			3 U			3 U			3 U			3 U	0.071 B	
Magnesium																										
Manganese	300	300	50	430																						
Mercury	2	2	2	0.63			0.2 U			0.2 U	0.075 B				0.2 U			0.2 U			0.2 U			0.2 U	0.2 U	
Nickel	100	100		390			1.2 B			2.9 B	2.8				40 U			2.5 B J			40 U			40 U	1.3	
Potassium																										
Selenium	50	50	50	100			5 U			5 U	0.23 B				5 U			5 U			5 U			5 U	5 U	
Silver	100	100		94			5 U			5 U	1 U				5 U			5 U			5 U			5 U	1 U	
Sodium																										
Thallium	2	2	2	0.2			10 U			10 U	1.0 U				10 U			10 U			3.1 B			10 U	1 U	
Vanadium	260	720		86			50 U			50 U	2.1				50 U			50 U			50 U			1.3 B	2.5 J	
Zinc	2000	2000		6000			2.7 B J			4.3 B J	6.2 J				2.5 B J			2.8 B J			2.1 B J			20 U	3.3 B	

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Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-70D 4/3/00	MW-70D 5/15/08	MW-70S 9/10/99	MW-70S 4/3/00	MW-70S 5/12/08	MW-71D 9/10/99	MW-71D Dup 9/10/99	MW-71D 4/5/00	MW-72 9/13/99	MW-72 3/28/00	MW-73 9/13/99	MW-73 3/24/00	MW-74D 9/15/99	MW-74D 4/6/00	MW-74D 6/5/03	MW-74D 6/9/04	MW-74D 6/21/05	MW-74D 6/23/06	MW-74D 6/28/07	MW-74D 5/9/08	MW-74D 9/17/08
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8		10 U	5 U		10 U	5 U	5 U		5 U		5 U		5 U							10 U	0.11 B
Arsenic	10	10	10	0.052		10 U	5 U		10 U	5 U	5 U		5 U		5 U		5 U							10 U	1 U
Barium	2000	2000	2000	3800		37.9 B			89.8 B															103 B	99.2
Beryllium	4	4	4	25		0.33 B	1 U		4 U	1 U	1 U		1 U		1 U		1 U							4 U	1 U
Cadmium	5	5	5	9.2		5 U	1 U		5 U	1 U	1 U		1 U		1 U		1 U							5 U	1 U
Calcium					31000		7200	6400		34600	35800	42000	27100	34000	28900	31000	81300	91000							
Chromium	100	100	100			8.9	5 U		8.2	5 U	5 U		5 U		5 U		5 U		0 U	2.8 U	1.6 U	1.8 B		2.4 B	9.9 J
Copper	1000	1000	1300	800		4.8 B	5 U		2 B	5	5		5 U		5 U		5 U							0.84 B	1.3 B
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035		50 U	10 U		50 U	10 U	10 U		10 U		10 U		10 U		0 U	10 U	10 U	10 U	10 U	50 U	0 U
Iron			300	14000	180		970	78		240	230	94	6300	3600	2600	790	550	820							
Lead	5	5	15	15		3.8	5 U		3 U	5 U	5 U		5 U		5 U		5 U		0 U	2.2 U	2.7 U	4.8 J		3 U	0.65 B
Magnesium					8600		2900	3600		6900	7200	7600	14600	14000	27000	28000	17500	20000							
Manganese	300	300	50	430	120		190	90		110	120	170	190	73	59	26	250	91							
Mercury	2	2	2	0.63		0.11 B J	0 U		0.2 U	0 U	0 U		0 U		0 U		0 U							0.2 U	0.2 U
Nickel	100	100		390		25.4 B	5		11.8 B	5 U	5 U		5 U		5 U		5		0 U	4.7 B	2.4 U	1.4 B		2 B	2.9
Potassium					1400		2600	2400		2500	2500	2000	3400	2800	2500	2200	2400	3000							
Selenium	50	50	50	100		5 U	5 U		5 U	5 U	5 U		5 U		5 U		5 U							5 U	0.8 B
Silver	100	100		94		5 U	5 U		5 U	5 U	5 U		5 U		5 U		5 U							5 U	1 U
Sodium					6000		8700	7600		14800	15100	7600	11600	5800	3300	2500	28500	27000							
Thallium	2	2	2	0.2		10 U	2 U		10 U	2 U	2 U		2 U		2 U		2 U							10 U	0.062 B
Vanadium	260	720		86		2.1 B			50 U															50 U	1.5 J
Zinc	2000	2000		6000		30.6 J	25		32.9	28	29		22		20 U		130		0 U	17.9 B	12.7 B	10.2 JB		4.1 B	6.5
METAL (Dissolved)																									
Antimony	6	6	6	7.8		10 U			10 U															10 U	0.062 B
Arsenic	10	10	10	0.052		10 U			10 U															10 U	1 U
Barium	2000	2000	2000	3800		25.9 B			77.7 B															100 B	95
Beryllium	4	4	4	25		4 U			4 U															4 U	1 U
Cadmium	5	5	5	9.2		5 U			5 U															5 U	1 U
Calcium																									
Chromium	100	100	100			5 U			3.2 B														1.2 B	5 U	7.5 J
Copper	1000	1000	1300	800		25 U			1.6 B															1.1 B	0.44 B
Ferric Iron																									
Hexavalent Chromium	100	100		0.035		50 U			50 U															50 U	0 U
Iron			300	14000																					
Lead	5	5	15	15		3 U			3 U														3 U	3 U	1 U
Magnesium																									
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63		0.077 B J			0.2 U															0.093 B J	0.2 U
Nickel	100	100		390		1.2 B			7.9 B														40 U	40 U	1.8
Potassium																									
Selenium	50	50	50	100		5 U			5 U															5 U	5 U
Silver	100	100		94		5 U			5 U															5 U	1 U
Sodium																									
Thallium	2	2	2	0.2		10 U			10 U															10 U	0.036 B
Vanadium	260	720		86		1 B			2.1 B															50 U	1.3 J
Zinc	2000	2000		6000		7.3 B J			20.4 J														4.3 B J	8.9 B J	4.4 B

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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Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-74D 6/22/10	MW-74S 9/15/99	MW-74S 4/3/00	MW-74S 6/3/03	MW-74S 6/9/04	MW-74S 6/14/05	MW-74S 6/22/06	MW-74S Dup 6/22/06	MW-74S 6/28/07	MW-74S 4/29/08	MW-74S 9/16/08	MW-74S 6/22/10	MW-74S 1/20/14	MW-74S 2/26/14	MW-74S 3/20/14	MW-74S 5/7/14	MW-74S 6/3/14	MW-74S 7/1/14	MW-74S 8/6/14	MW-74S 9/9/14	MW-74S 10/7/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8		5 U								10 U	0.083 B										
Arsenic	10	10	10	0.052		5 U								10 U	0.29 B										
Barium	2000	2000	2000	3800										47.9 B	35										
Beryllium	4	4	4	25		3								4 U	1 U										
Cadmium	5	5	5	9.2		1								5 U	1 U										
Calcium						125000	84000										120000 B	120000	110000	110000	120000	130000 B	130000 B	130000 B	130000 B
Chromium	100	100	100		2.6 B	5 U		0 U	2.8 U	3 U	3 B	2.6 B		8.6	10.1 J	7.2									
Copper	1000	1000	1300	800		13								2.8 B	1.3 B										
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035	10 U	10 U		0 U	10 U	10 U	10 U	10 U	10 U	50 U	0 U	10 U									
Iron			300	14000		740	440																		
Lead	5	5	15	15		5 U		0 U	2.2 U	2.7 U	3 U	3 U		3.6	0.99 B										
Magnesium						15000	9200										13000	15000	11000	15000	14000	18000	19000	17000	17000
Manganese	300	300	50	430		6600	180																		
Mercury	2	2	2	0.63		1								0.2 U	0.2 U										
Nickel	100	100		390		55		0 U	3.9 U	2.4 U	40 U	40 U		3.6 B	2.9										
Potassium						3500	2400										7600	5800 B	9000	8500	10000	11000 B	8700	9700	9100
Selenium	50	50	50	100		5 U								5 U	0.53 B										
Silver	100	100		94		5 U								5 U	1 U										
Sodium						19200	9100										45000	41000 B	56000	58000 B	58000	62000 B	66000 B	65000	58000 B
Thallium	2	2	2	0.2		2 U								10 U	0.089 B										
Vanadium	260	720		86										6.2 B	1 J										
Zinc	2000	2000		6000		89		0 U	9.2 B	14.6 B	10.3 JB	14.6 JB		14.4 B	6.8										
METAL (Dissolved)																									
Antimony	6	6	6	7.8										10 U	0.089 B										
Arsenic	10	10	10	0.052										10 U	0.16 B										
Barium	2000	2000	2000	3800										35.2 B	32.4										
Beryllium	4	4	4	25										4 U	1 U										
Cadmium	5	5	5	9.2										5 U	1 U										
Calcium					91100											85600									
Chromium	100	100	100		1.1 B								2.1 B	2.2 B	9 J	0.64 B									
Copper	1000	1000	1300	800										25 U	0.58 B										
Ferric Iron																									
Hexavalent Chromium	100	100		0.035	10 U									50 U	0 U	10 U									
Iron			300	14000	100 U											100 U									
Lead	5	5	15	15									3 U	3 U	0.037 B										
Magnesium					20700											10400									
Manganese	300	300	50	430	7.2 B											42.5									
Mercury	2	2	2	0.63										0.2 U	0.2 U										
Nickel	100	100		390									40 U	40 U	0.81 B										
Potassium					3760 B											2850 B									
Selenium	50	50	50	100										5 U	0.58 B										
Silver	100	100		94										5 U	1 U										
Sodium					34700											16800									
Thallium	2	2	2	0.2										10 U	0.14 B										
Vanadium	260	720		86										50 U	1 J										
Zinc	2000	2000		6000									7.2 B J	1.5 B	4.6 B										

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-74S 10/30/14	MW-74S 1/16/15	MW-74S 2/24/15	MW-74S 3/26/15	MW-74S 4/23/15	MW-74S 5/21/15	MW-75D 9/17/99	MW-75D 4/7/00	MW-75D 6/6/03	MW-75D 4/15/04	MW-75D 6/10/04	MW-75D 6/17/05	MW-75D 6/24/06	MW-75D 6/29/07	MW-75D 5/21/08	MW-75D 10/2/08	MW-75D 1/24/14	MW-75D 2/19/14	MW-75D 3/20/14	MW-75D 5/8/14	MW-75D 6/2/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8							5 U			3.9 U					10 U	0.16 B					
Arsenic	10	10	10	0.052							5 U			3.4 U					10 U	0.24 B J					
Barium	2000	2000	2000	3800															43.8 B J	46.6					
Beryllium	4	4	4	25							1 U			0.1 U					0.4 B J	1 U					
Cadmium	5	5	5	9.2							1 U			0.4 U					5 U	1 U					
Calcium					130000 B	130000 B	90000	91000 B	92000	88000 B	83600	74000									110000	100000	100000	100000	86000 B
Chromium	100	100	100								15		11	7.1 B	13.2		5 U		10.2	13.7 J					
Copper	1000	1000	1300	800							5 U			2.1 U					25 U	1.4 B					
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035							10		0 U	10 U	13.3	10 U	10 U	10 U	50 U	0 U					
Iron			300	14000							590	50 U													
Lead	5	5	15	15							5 U		0 U	2.2 U	2.2 U		2.2 JB		3 U	0.66 B					
Magnesium					14000 B	14000 B	11000	9600	9700 B	12000	18400	16000									18000	21000	13000	27000	19000
Manganese	300	300	50	430							110	21													
Mercury	2	2	2	0.63							0 U			0.1 U					0.2 U	0.2 U					
Nickel	100	100		390							5 U		0 U	4.1 B	3.9 U		40 U		19.8 B	2.1					
Potassium					8000	9700	3100	3200	3200	3400	2900	2600									5700	5600	5400	18000 B	11000
Selenium	50	50	50	100							5 U			3.9 U					5 U	1.2 B					
Silver	100	100		94							5 U			0.7 U					5 U	1 U					
Sodium					48000 B	52000	20000	27000 B	24000 B	29000	18300	18000									43000 B	40000	37000	64000 B	49000
Thallium	2	2	2	0.2							2 U			1.8 U					10 U	0.071 B J					
Vanadium	260	720		86															50 U	4.9 J					
Zinc	2000	2000		6000							260		0 U	10.6 B	6.2 B		17.6 JB		19.8 B J	3.9 B					
METAL (Dissolved)																									
Antimony	6	6	6	7.8										3.9 U					10 U	2 U					
Arsenic	10	10	10	0.052										3.4 U					10 U	0.17 B					
Barium	2000	2000	2000	3800															43.7 B	41.4					
Beryllium	4	4	4	25										0.1 U					0.4 B J	1 U					
Cadmium	5	5	5	9.2										0.4 U					5 U	1 U					
Calcium																									
Chromium	100	100	100											2.8 U		1.6 U		2 B	10.2	15.6 J					
Copper	1000	1000	1300	800										2.1 U					25 U	0.78 B J					
Ferric Iron																									
Hexavalent Chromium	100	100		0.035										10 U					50 U	0 U					
Iron			300	14000																					
Lead	5	5	15	15										2.2 U		2.7 U		3 U	3 U	0.068 B J					
Magnesium																									
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63										0.1 U					0.2 U	0.2 U					
Nickel	100	100		390										3.9 U		2.4 U		1.4 B	40 U	1.9					
Potassium																									
Selenium	50	50	50	100										3.9 U					5 U	1.3 B					
Silver	100	100		94										0.7 U					5 U	1 U					
Sodium																									
Thallium	2	2	2	0.2										1.8 U					10 U	0.029 B					
Vanadium	260	720		86															50 U	2.3 J					
Zinc	2000	2000		6000										8.3 B		39.4		18.1 B J	1.4 B J	2.3 B					

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-75D 7/1/14	MW-75D 8/7/14	MW-75D 9/9/14	MW-75D 10/7/14	MW-75D 10/29/14	MW-75D 1/14/15	MW-75D 2/24/15	MW-75D 3/27/15	MW-75D 4/21/15	MW-75D 5/19/15	MW-75S 9/17/99	MW-75S 4/7/00	MW-75S 6/6/03	MW-75S 4/15/04	MW-75S 6/10/04	MW-75S 6/17/05	MW-75S 6/23/06	MW-75S 6/29/07	MW-75S 5/21/08	MW-75S 10/6/08	MW-75S 7/6/10
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8											5 U			3.9 U					10 U	0.056 B	
Arsenic	10	10	10	0.052											5 U			3.4 U					10 U	1 U	
Barium	2000	2000	2000	3800																			21.2 B J	22.7	
Beryllium	4	4	4	25											1 U			0.11 B					0.34 B J	1 U	
Cadmium	5	5	5	9.2											1 U			0.57 B					5 U	1 U	
Calcium					94000 B	85000	97000 B	93000 B	100000 B	100000 B	93000	91000 B	98000	89000 B	68800	53000									
Chromium	100	100	100												5 U		0 U	7.3 B	2.8 U		1.3 B		5 U	5.5 J	
Copper	1000	1000	1300	800											8			7.5 B					25 U	1 B	
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035											10 U		0 U	10 U	10 U	10 U	10 U	10 U	50 U	0 U	
Iron			300	14000											2800	53									
Lead	5	5	15	15											5 U		0 U	7.1	2.2 U		3.4 J		3 U	0.85 B	
Magnesium					26000	20000	21000	20000	18000 B	18000 B	23000	20000 B	18000	18000	13500	12000									
Manganese	300	300	50	430											570	20 U									
Mercury	2	2	2	0.63											0 U			0.1 U					0.2 U	0.2 U	
Nickel	100	100		390											6		0 U	4.6 B	3.9 U		40 U		1.4 B	2.2	
Potassium					14000 B	8700	6700	6600	6300	6800 B	7600	8700	7500	6300	2000	1800									
Selenium	50	50	50	100											5 U			3.9 U					5 U	0.41 B	
Silver	100	100		94											5 U			0.7 U					0.6 B	1 U	
Sodium					57000 B	53000 ^	55000	50000 B	48000	50000 B	61000	75000 B	59000	56000	16300	15000									
Thallium	2	2	2	0.2											2 U			1.8 U					10 U	1 U	
Vanadium	260	720		86																			1.2 B	4.5 J	
Zinc	2000	2000		6000											150		0 U	29.2 B	8.7 B		12.4 JB		6.3 B J	10.1	
METAL (Dissolved)																									
Antimony	6	6	6	7.8														3.9 U					10 U	0.063 B	
Arsenic	10	10	10	0.052														3.4 U					10 U	1 U	
Barium	2000	2000	2000	3800																			20.7 B	20.6	
Beryllium	4	4	4	25														0.1 U					0.39 B J	1 U	
Cadmium	5	5	5	9.2														0.4 U					5 U	1 U	
Calcium																									57500
Chromium	100	100	100															2.8 U		1.6 U		5 U	5 U	6.8 J E	
Copper	1000	1000	1300	800														2.1 U					25 U	0.37 B J	
Ferric Iron																									
Hexavalent Chromium	100	100		0.035														10 U					50 U	0 U	
Iron			300	14000																					20.5 B J
Lead	5	5	15	15														2.2 U		2.7 U		3 U	3 U	0.062 B J	
Magnesium																									12500
Manganese	300	300	50	430																					28.6
Mercury	2	2	2	0.63														0.1 U					0.2 U	0.2 U	
Nickel	100	100		390														3.9 U		2.4 U		1.6 B	1.1 B	1.7	
Potassium																									6000
Selenium	50	50	50	100														3.9 U					5 U	5 U	
Silver	100	100		94														0.7 U					5 U	1 U	
Sodium																									20700
Thallium	2	2	2	0.2														1.8 U					10 U	1 U	
Vanadium	260	720		86																			2.1 B	3.6 J	
Zinc	2000	2000		6000														7.2 B		32.6		8.4 B J	6.5 B J	2.5 B	

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-75S 1/24/14	MW-75S 2/19/14	MW-75S 3/19/14	MW-75S 5/8/14	MW-75S 6/2/14	MW-75S 7/1/14	MW-75S 8/6/14	MW-75S 9/8/14	MW-75S 10/6/14	MW-75S 10/29/14	MW-75S 1/14/15	MW-75S 2/24/15	MW-75S 3/25/15	MW-75S 4/21/15	MW-75S 5/19/15	MW-76 9/14/99	MW-76 3/28/00	MW-76 6/2/03	MW-77 9/10/99	MW-77 3/24/00	MW-77 4/24/08	MW-77 10/2/08
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8																5 U			5 U		10 U	2 U
Arsenic	10	10	10	0.052																5 U			5 U		5.2 B	4.3 J
Barium	2000	2000	2000	3800																					146 B	125
Beryllium	4	4	4	25																1 U			1 U		4 U	0.19 B
Cadmium	5	5	5	9.2																1 U			1 U		5 U	0.15 B
Calcium					91000	77000	85000	83000	72000 B	80000 B	81000 B	80000	88000 B	91000 B	90000 B	76000	86000 B	92000	82000 B	108000	120000		194000	98000		
Chromium	100	100	100																	5 U		0 U	19		2.2 B	7.5 J
Copper	1000	1000	1300	800																5 U			5 U		1.4 B	1.6 B
Ferric Iron																										
FERROUS IRON																										
Hexavalent Chromium	100	100		0.035																10 U		0 U	10 U		50 U	0 U
Iron			300	14000																220	2000		700	15000		
Lead	5	5	15	15																5 U		0 U	5 U		3 U	2.7
Magnesium					18000	23000	16000	22000	17000	21000	22000	19000	19000	18000 B	20000 B	20000	18000	17000	17000	13100	13000		36800	7400		
Manganese	300	300	50	430																260	200		190	4900		
Mercury	2	2	2	0.63																0 U			0 U		0.096 B	0.2 U
Nickel	100	100		390																5 U		0 U	5 U		64.1	56.2
Potassium					7000	6500	7100	7900 B	7100	6700 B	5800	6600	7600	7900	8600 B	5600	6000	5900	5400	2700	2300		3600	3800		
Selenium	50	50	50	100																5 U			5 U		5 U	5 U
Silver	100	100		94																5 U			5 U		1.8 B	1 U
Sodium					48000 B	51000	48000	55000 B	48000	48000 B	54000 B	55000	55000	53000	56000 B	50000	63000	55000	53000	21100	14000		7800	7400		
Thallium	2	2	2	0.2																2 U			2 U		10 U	0.099 B J
Vanadium	260	720		86																					50 U	3.9 J
Zinc	2000	2000		6000																73		0 U	38		7.9 B	6
METAL (Dissolved)																										
Antimony	6	6	6	7.8																					10 U	2 U
Arsenic	10	10	10	0.052																					6.9 B	5
Barium	2000	2000	2000	3800																					146 B	112
Beryllium	4	4	4	25																					4 U	1 U
Cadmium	5	5	5	9.2																					5 U	1 U
Calcium																										
Chromium	100	100	100																						1.8 B	6.3 J
Copper	1000	1000	1300	800																					25 U	0.54 B J
Ferric Iron																										
Hexavalent Chromium	100	100		0.035																					50 U	0 U
Iron			300	14000																						
Lead	5	5	15	15																					3 U	0.19 B J
Magnesium																										
Manganese	300	300	50	430																						
Mercury	2	2	2	0.63																					0.2 U	0.2 U
Nickel	100	100		390																					64.2	63.4
Potassium																										
Selenium	50	50	50	100																					5 U	0.92 B
Silver	100	100		94																					2.1 B	1 U
Sodium																										
Thallium	2	2	2	0.2																					7.9 B	0.041 B
Vanadium	260	720		86																					50 U	1 U
Zinc	2000	2000		6000																					5.6 B J	6.1

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-77 7/8/10	MW-78 9/9/99	MW-78 3/22/00	MW-78 4/23/08	MW-79 9/13/99	MW-79 3/23/00	MW-79 4/24/08	MW-79 9/15/08	MW-80 9/10/99	MW-80 3/28/00	MW-80 5/1/08	MW-80 6/21/10	MW-81D 9/13/99	MW-81D 4/4/00	MW-81D 5/23/08	MW-81D 10/7/08	MW-81D 7/8/10	MW-81S 9/13/99	MW-81S 4/4/00	MW-81S 5/23/08	MW-81S 10/7/08	MW-81S 7/9/10	MW-82 9/10/99
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8		5 U		10 U	5 U		10 U	0.091 B	5 U		10 U		5 U		10 U	0.12 B		5 U		10 U	0.12 B		5 U
Arsenic	10	10	10	0.052		5 U		10 U	5 U		10 U	1 U	5 U		10 U		5 U		10 U	0.38 B		5 U		10 U	0.24 B		5 U
Barium	2000	2000	2000	3800				31.1 B			260	268			192 B				79.3 B J	82.4				197 B J	147		
Beryllium	4	4	4	25		1 U		4 U	1 U		4 U	0.099 B	1 U		0.64 B		1 U		0.64 B J	1 U		1		0.67 B J	1 U		1 U
Cadmium	5	5	5	9.2		1 U		5 U	1 U		5 U	1 U	2		5 U		1 U		5 U	1 U		1 U		5 U	1 U		1 U
Calcium						4000	12000		122000	390000			90000	100000			85800	79000				121000	120000				61300
Chromium	100	100	100			5 U		5 U	5 U		2.2 B	7.1 J	7		11.4		190		3.8 B	15.1 J		7		2.6 B	12.9 J		5 U
Copper	1000	1000	1300	800		5 U		6.2 B	5 U		25 U	1.8 B	5 U		25 U		15		2.5 B	2		10		25 U	1.1 B		5 U
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035		10 U		50 U	10 U		50 U	0 U	10 U		50 U		10 U		50 U			10 U		50 U			10 U
Iron			300	14000		76	77		160	360			8400	1100			1400	120				1500	50 U				2100
Lead	5	5	15	15		5 U		3 U	5 U		3 U	0.38 B	5 U		3 U		5 U		3 U	0.89 B		7		3 U	1 U		5 U
Magnesium						1900	3200		8400	12000			7300	33000			9500	9200				16100	17000				8600
Manganese	300	300	50	430		28	51		200	440			4500	200			400	82				730	20 U				76
Mercury	2	2	2	0.63		0 U		0.2 U	0 U		0.2 U	0.2 U	0 U		0.4		0 U		0.2 U	0.2 U		0 U		0.2 U	0.2 U		0 U
Nickel	100	100		390		5 U		2.5 B	5 U		2.7 B	3	66		5 B		1100		2.6 B	5.2 J		7		2.6 B	3.6 J		5 U
Potassium						1600	6000		2600	4900			3600	5800			1800	1900				9300	14000				2300
Selenium	50	50	50	100		5 U		5 U	5 U		5 U	0.46 B	5 U		5 U		5 U		5 U	5.0 U		5 U		5 U	5.0 U		5 U
Silver	100	100		94		5 U		5 U	5 U		5 U	1 U	5 U		5 U		5 U		0.87 B	1 U		5 U		5 U	1 U		5 U
Sodium						3100	3800		6500	7700			7400	7800			12900	12000				20600	19000				6700
Thallium	2	2	2	0.2		2 U		10 U	2 U		10 U	0.032 B	2 U		10 U		2 U		10 U	0.039 B		2 U		10 U	0.026 B		2 U
Vanadium	260	720		86				50 U			2.6 B	2.5 J			5.5 B				1.2 B	3.8 J				3.2 B	3 J		
Zinc	2000	2000		6000		20 U		10.3 B	20 U		4.6 B	4.5 B J	29		14.9 B J		39		58 J	13.7		36		17.3 B J	17.6		22
METAL (Dissolved)																											
Antimony	6	6	6	7.8				10 U			10 U	2 U			10 U				10 U	0.36 B				10 U	0.16 B		
Arsenic	10	10	10	0.052				10 U			10 U	0.99 B			10 U				10 U	1 U				10 U	1 U		
Barium	2000	2000	2000	3800				28.1 B			259	283			174 B				72.9 B	81.5				188 B	146		
Beryllium	4	4	4	25				4 U			4 U	1 U			0.58 B J				0.73 B J	1 U				0.74 B J	1 U		
Cadmium	5	5	5	9.2				5 U			5 U	1 U			5 U				5 U	1 U				5 U	1 U		
Calcium					96900											97900					152000					155000	
Chromium	100	100	100					5 U			5 U	4.9 J			7.4				5 U	13 J				5 U	12 J		
Copper	1000	1000	1300	800				12.9 B			25 U	1.6 B			25 U				25 U	0.74 B				25 U	1.5 B		
Ferric Iron																											
Hexavalent Chromium	100	100		0.035				50 U			50 U	0 U			50 U				50 U					50 U			
Iron			300	14000	40000 J											100 U					100 U					100 U	
Lead	5	5	15	15				3 U			3 U	1 U			3 U				3 U	1 U				3 U	1 U		
Magnesium					8490											34600					18600					21800	
Manganese	300	300	50	430	8620											11 B					9.6 B					1.3 B	
Mercury	2	2	2	0.63				0.2 U			0.2 U	0.2 U			0.18 B				0.2 U	0.2 U				0.2 U	0.2 U		
Nickel	100	100		390				1.5 B			1.6 B	2.4			1.2 B				40 U	3.6				1.8 B	3.1		
Potassium					3380 B											7520					9640					20700	
Selenium	50	50	50	100				5 U			5 U	0.34 B J			5 U				5 U	1.6 B				5 U	2.2 B		
Silver	100	100		94				5 U			5 U	1 U			5 U				5 U	1 U				5 U	1 U		
Sodium					7910											32900					38300					57900	
Thallium	2	2	2	0.2				10 U			10 U	1 U			10 U				10 U	1 U				10 U	1 U		
Vanadium	260	720		86				50 U			50 U	2 J			1.3 B				1.2 B	3.5 J				1.6 B	3.4 J		
Zinc	2000	2000		6000				18.9 B			5.2 B J	5.3 J			2.2 B				16.2 B J	5.0 U				9.4 B J	5.0 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-82 3/31/00	MW-82 4/25/08	MW-82 9/12/08	MW-82 6/18/10	MW-83 9/13/99	MW-83 3/22/00	MW-83 5/23/08	MW-83 10/7/08	MW-84 9/9/99	MW-84 3/30/00	MW-84 5/14/08	MW-85 4/11/00	MW-85 Dup 4/11/00	MW-85 6/3/03	MW-85 6/8/04	MW-85 6/15/05	MW-85 6/20/06	MW-85 6/26/07	MW-85 4/25/08	MW-85 9/18/08	MW-86D 9/7/99	MW-86D 4/3/00	MW-86D 5/5/08
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8		10 U	0.049 B		5 U		10 U	0.18 B	5 U		10 U	5 U							10 U	0.24 B J	5 U		10 U
Arsenic	10	10	10	0.052		10 U	1 U		5 U		10 U	1 U	5 U		10 U	5 U							10 U	0.75 B	5 U		10 U
Barium	2000	2000	2000	3800		34.8 B	30.2				45.7 B J	91.7			45.8 B								13 B	10			217
Beryllium	4	4	4	25		4 U	1 U		1 U		0.73 B J	1 U	1 U		4 U	1 U							4 U	1 U	1 U		4 U
Cadmium	5	5	5	9.2		5 U	1 U		1 U		5 U	1 U	1 U		0.24 B	1 U							5 U	1 U	1 U		5 U
Calcium					66000				45200	68000			71300	84000		70000	69000								34100	41000	
Chromium	100	100	100			5 U	4.4 J		5 U		1.9 B	12 J	5 U		4 B	7.2	5	0 U	2.8 U	3 U	5 U		1.5 B	6.7 J	5 U		2.7 B
Copper	1000	1000	1300	800		25 U	0.35 B		6		25 U	0.84 B	5 U		4.1 B	5 U							25 U	3	5 U		25 U
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035		50 U			10 U		95	0 U	10 U		50 U	10 U		0 U	10 U	10 U	10 U	10 U	50 U	0 U	10 U		50 U
Iron			300	14000	2900				11700	12000			1200	610		12000									50 U	50 U	
Lead	5	5	15	15		3 U	1 U		5 U		3 U	1 U	5 U		3	5 U		0 U	2.2 U	2.7 U	3.2 J		3 U	0.79 B	5 U		3 U
Magnesium					12000				14300	18000			7700	8800		38000									14800	16000	
Manganese	300	300	50	430	73				180	160			1100	500		180									20 U	20 U	
Mercury	2	2	2	0.63		0.2 U	0.2 U		0 U		0.2 U	0.2 U	0 U		0.2 U	0.2 U							0.2 U	0.2 U	0 U		0.2 U
Nickel	100	100		390		40 U	0.54 B		5 U		1.2 B	1.0 U	5 U		10.5 B	5 U		0 U	3.9 U	2.4 U	40 U		1.6 B	2.7	5 U		2.4 B J
Potassium					2800				3000	2600			1800	1800		16000									1800	1700	
Selenium	50	50	50	100		5 U	5 U		5 U		5 U	5.0 U	5 U		5 U	5 U							5 U	5 U	5 U		5 U
Silver	100	100		94		5 U	1 U		5 U		5 U	1 U	5 U		5 U	5 U							5 U	1 U	5 U		5 U
Sodium					7300				26800	16000			7400	7600		28000									8200	4600	
Thallium	2	2	2	0.2		10 U	0.047 B		2 U		10 U	0.11 B	2 U		10 U	2 U							10 U	0.06 B J	2 U		10 U
Vanadium	260	720		86		50 U	1.9 J				50 U	2.9 J			1.8 B								2 B	5 J			1.7 B
Zinc	2000	2000		6000		3.8 B	3.2 B J		36		8.2 B J	15.9	75		22.3	180	24	0 U	14.3 B	19.9 B	9.8 JB		2.5 B	15.4	26		4.2 B J
METAL (Dissolved)																											
Antimony	6	6	6	7.8		10 U	2 U				10 U	0.11 B			10 U								10 U	2 U			10 U
Arsenic	10	10	10	0.052		10 U	0.31 B				10 U	1 U			10 U								10 U	0.17 B			10 U
Barium	2000	2000	2000	3800		35 B	29.8				46.4 B	78.4			34.8 B								11.3 B	6.3 B			190 B
Beryllium	4	4	4	25		4 U	1 U				0.71 B J	1 U			4 U								4 U	1 U			4 U
Cadmium	5	5	5	9.2		5 U	1 U				5 U	1 U			5 U								5 U	1 U			5 U
Calcium								68400																			
Chromium	100	100	100			5 U	4.8 J				5 U	10.7 J			5 U							5 U	5 U	5.3 J			5 U
Copper	1000	1000	1300	800		25 U	0.39 B				25 U	0.31 B			25 U								25 U	0.18 B			25 U
Ferric Iron																											
Hexavalent Chromium	100	100		0.035		50 U					50 U	0 U			50 U								50 U	0 U			50 U
Iron			300	14000				100 U																			
Lead	5	5	15	15		3 U	1 U				3 U	1 U			3 U							3 U	3 U	0.029 B			3 U
Magnesium								8950																			
Manganese	300	300	50	430				2.4 B																			
Mercury	2	2	2	0.63		0.2 U	0.2 U				0.2 U	0.2 U			0.2 U								0.2 U	0.2 U			0.2 U
Nickel	100	100		390		40 U	0.58 B				40 U	1.2			1.1 B							1.9 B	40 U	0.59 B			40 U
Potassium								2100 B																			
Selenium	50	50	50	100		5 U	0.3 B J				5 U	1.3 B			5 U								5 U	0.26 B			5 U
Silver	100	100		94		5 U	1 U				5 U	1 U			5 U								5 U	1 U			5 U
Sodium								10200																			
Thallium	2	2	2	0.2		10 U	0.029 B				10 U	0.036 B			10 U								10 U	1 U			10 U
Vanadium	260	720		86		50 U	1.5 J				50 U	3.3 J			50 U								1.1 B	1 U			50 U
Zinc	2000	2000		6000		2.1 B J	4.7 B J				2.6 B J	5.0 U			6.1 B J							6.6 B J	3.6 B J	7.9			1.5 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-86S 9/7/99	MW-86S 3/31/00	MW-86S 5/5/08	MW-87 9/17/99	MW-87 4/4/00	MW-87 6/5/03	MW-87 6/10/04	MW-87 6/17/05	MW-87 6/23/06	MW-87 6/28/07	MW-87 Dup 6/28/07	MW-87 5/15/08	MW-87 10/1/08	MW-87 7/9/09	MW-87 7/2/10	MW-88 4/10/00	MW-88 6/3/03	MW-88 6/9/04	MW-88 6/16/05	MW-88 6/23/06	MW-88 6/28/07	MW-88 4/29/08	MW-88 9/25/08
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8	5 U		10 U	5 U								10 U	0.28 B			5 U						10 U	0.12 B
Arsenic	10	10	10	0.052	5 U		10 U	5 U								10 U	7.1 J			5 U						10 U	1 U
Barium	2000	2000	2000	3800			44.1 B									45.5 B	94.8									271	192 J
Beryllium	4	4	4	25	1 U		4 U	1 U								4 U	0.43 B			1 U						4 U	1 U
Cadmium	5	5	5	9.2	1 U		5 U	1 U								5 U	0.21 B			1 U						5 U	1 U
Calcium					7900	15000		97200	88000											50 U							
Chromium	100	100	100		5 U		5 U	6		0 U	2.8 U		5 U			1.8 B	20.5 J			5 U	0 U	2.8 U	1.6 U	5 U		1.9 B	15.4 J
Copper	1000	1000	1300	800	5 U		25 U	7								25 U	6.9			5 U						25 U	1.9 B
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035	10 U		50 U	10 U		0 U	10 U	10 U	10 U	10 U	10 U	50 U	0 U			10 U	0 U	10 U	10 U	10 U	10 U	50 U	0 U
Iron			300	14000	210	50 U		8200	50 U											99							
Lead	5	5	15	15	5 U		3 U	5 U		0 U	2.2 U		2.1 B			3 U	9.3	0.52 B	3 U	5 U	0 U	2.2 U	2.7 U	3 U		3 U	0.56 B
Magnesium					3200	4900		14000	14000											50 U							
Manganese	300	300	50	430	120	20 U		760	20 U											10 U							
Mercury	2	2	2	0.63	0 U		0.2 U	0 U								0.094 B J	0.2 U			0.2 U						0.2 U	0.2 U
Nickel	100	100		390	5 U		40 U	7		0 U	3.9 U		40 U			2.4 B	15			5 U	0 U	3.9 U	2.4 U	40 U		40 U	3
Potassium					2800	3200		2100	2000											100 U							
Selenium	50	50	50	100	5 U		5 U	5 U								5 U	2 B			5 U						5 U	0.68 B
Silver	100	100		94	5 U		5 U	5 U								5 U	1 U			5 U						5 U	1 U
Sodium					5700	7300		7500	8000											4000							
Thallium	2	2	2	0.2	2 U		7.8 B J	2 U								10 U	0.16 B J			2 U						10 U	0.12 B
Vanadium	260	720		86			50 U									2.6 B	10.8 J									1.3 B	4.1 J
Zinc	2000	2000		6000	20 U		6.5 B J	83		0 U	12.6 B		11.1 JB			17.4 B J	30			20 U	0 U	20.3 B	23.1 B	3.1 JB		3.9 B	4.8 B
METAL (Dissolved)																											
Antimony	6	6	6	7.8			10 U									10 U	2 U									10 U	0.14 B J
Arsenic	10	10	10	0.052			10 U									10 U	1 U									10 U	1 U
Barium	2000	2000	2000	3800			45.7 B									29.3 B	28.7									269	192
Beryllium	4	4	4	25			4 U									4 U	1 U									4 U	1 U
Cadmium	5	5	5	9.2			5 U									5 U	1 U									5 U	1 U
Calcium																			95200								
Chromium	100	100	100				1.2 B					1.6 U		5 U	5 U	5 U	9.1 J								5 U	5 U	16.8 J
Copper	1000	1000	1300	800			25 U									25 U	0.67 B J									25 U	0.96 B
Ferric Iron																											
Hexavalent Chromium	100	100		0.035			50 U									50 U	0 U									50 U	0 U
Iron			300	14000															100 U								
Lead	5	5	15	15			3 U					2.7 U		3 U	3 U	3 U	0.11 B J	1 U	3 U						3 U	3 U	0.036 B
Magnesium																			14200								
Manganese	300	300	50	430															1.3 B								
Mercury	2	2	2	0.63			0.2 U									0.085 B J	0.2 U									0.2 U	0.2 U
Nickel	100	100		390			1.6 B J					2.4 U		1.2 B	40 U	40 U	2.6								40 U	40 U	2.6
Potassium																			2420 B J								
Selenium	50	50	50	100			5 U									5 U	0.8 B									5 U	1.3 B J
Silver	100	100		94			5 U									5 U	1 U									5 U	1 U
Sodium																			11100								
Thallium	2	2	2	0.2			7.2 B									10 U	0.049 B									10 U	0.12 B
Vanadium	260	720		86			50 U									2.3 B	1 U									50 U	0.61 B J
Zinc	2000	2000		6000			6.8 B J					22.8 B		13.3 B J	13.7 B J	7 B J	4.4 B								2.5 B J	20 U	2.5 B

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-88 6/25/10	MW-89 4/11/00	MW-90 4/11/00	MW-91 4/10/00	MW-91 5/7/08	MW-91 9/19/08	MW-92 4/10/00	MW-92 5/14/08	MW-92 9/30/08	MW-92 6/29/10	MW-93D 4/15/04	MW-93D 4/16/04	MW-93D 4/26/04	MW-93D Dup 4/26/04	MW-93D 6/20/05	MW-93D 6/23/06	MW-93D 6/27/07	MW-93D 5/13/08	MW-93D 9/22/08	MW-93D 6/28/10	MW-93D 1/20/14	MW-93D 2/18/14
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8		5 U	5 U	5 U	10 U	0.058 B	5 U	10 U	0.074 B		0 U	5.8 U	3.9 U	7.8 U				10 U	0.057 B			
Arsenic	10	10	10	0.052		5 U	5 U	5 U	10 U	1 U	5 U	10 U	1 U		0 U	3.2 U	4.1 B	3.4 U				10 U	1 U			
Barium	2000	2000	2000	3800					152 B	156 J		102 B	68.9									18.6 B	19.8 J			
Beryllium	4	4	4	25		1 U	1 U	1 U	0.37 B	1 U	1 U	4 U	1 U		0 U	0.3 U	0.16 B	0.12 B				4 U	1 U			
Cadmium	5	5	5	9.2		1 U	1 U	1 U	5 U	1 U	1 U	5 U	1 U		0.5 B		2.4 B	2 B				5 U	1 U			
Calcium						70000	31000	50 U			16000														66000 B	58000
Chromium	100	100	100			8.6	5 U	5 U	5 U	22 J	5 U	5 U	8.1 J			3.4 B	16.5	12.4	1.6 U	5 U		5 U	14.4 J			
Copper	1000	1000	1300	800		6.1	5 U	5 U	25 U	1.7 B	5 U	25 U	0.81 B			10.2 B	14.9 B	12.5 B				25 U	0.8 B			
Ferric Iron																										
FERROUS IRON																										
Hexavalent Chromium	100	100		0.035		10 U	10 U	10 U	50 U		10 U	50 U			0 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	0 U			
Iron			300	14000		570	1300	50 U			250															
Lead	5	5	15	15		5 U	8.5	5 U	3 U	0.7 B	5 U	3 U	0.071 B		0 U	2.3 U	5.9	5.1	2.7 U	3 U		3 U	0.1 B			
Magnesium						11000	6100	50 U			5700														13000	16000
Manganese	300	300	50	430		510	130	10 U			61															
Mercury	2	2	2	0.63		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0 U	0.1 U	0.1 U	0.1 U				0.2 U	0.2 U			
Nickel	100	100		390		18	5 U	5 U	2.4 B	6.4	5 U	1.5 B	1.6		2.4 B		16.1 B	13 B	2.4 U	40 U		40 U	1.6			
Potassium						1600	1900	100 U			3800														5100	4800
Selenium	50	50	50	100		5 U	5 U	5 U	5 U	5 U	5 U	2.8 B	5 U			4.2 U	3.9 U	3.9 U				5 U	5 U			
Silver	100	100		94		5 U	5 U	5 U	5 U	1 U	5 U	5 U	1 U			1.4 U	0.7 U	0.7 U				5 U	1 U			
Sodium						4100	3500	3300			8200														32000	33000
Thallium	2	2	2	0.2		2 U	2 U	2 U	10 U	0.072 B	2 U	10 U	0.021 B			1.8 U	1.8 U	1.8 U				10 U	1 U			
Vanadium	260	720		86					1.1 B	3.2 J		50 U	1.9 J									50 U	3 J			
Zinc	2000	2000		6000		480	43	20 U	15.7 B J	8.6	28	2 B	5.7		21.8 B		65	57.7	47.5	7.2 JB		20 U	3.6 B			
METAL (Dissolved)																										
Antimony	6	6	6	7.8					10 U	0.16 B J		10 U	0.22 B			5.8 U	3.9 U	3.9 U				10 U	0.052 B J			
Arsenic	10	10	10	0.052					10 U	1 U		10 U	1 U			3.2 U	3.4 U	3.4 U				10 U	1 U			
Barium	2000	2000	2000	3800					152 B	160		90.9 B	68.5									18 B	19.5			
Beryllium	4	4	4	25					4 U	1 U		4 U	1 U			0.3 U	0.1 U	0.1 U				4 U	1 U			
Cadmium	5	5	5	9.2					5 U	1 U		5 U	1 U			0.4 U	0.4 U	0.42 B				5 U	1 U			
Calcium					102000									15400										51900		
Chromium	100	100	100						5 U	17.2 J		5 U	10.5 J			2.5 B	2.8 U	2.8 U			5 U	5 U	15.4 J			
Copper	1000	1000	1300	800					25 U	1.4 B		25 U	0.84 B			3.7 U	2.1 U	2.1 U				25 U	0.68 B			
Ferric Iron																										
Hexavalent Chromium	100	100		0.035					50 U			50 U				10 U	10 U	10 U				50 U	0 U			
Iron			300	14000	100 U									19.7 B										100 U		
Lead	5	5	15	15					3 U	0.31 B		3 U	0.061 B			2.3 U	2.2 U	2.2 U			3 U	3 U	0.081 B			
Magnesium					23500									5910										11400		
Manganese	300	300	50	430	8.4 B									3.7 B										22.5		
Mercury	2	2	2	0.63					0.2 U	0.2 U		0.2 U	0.2 U			0.1 U	0.1 U	0.1 U				0.2 U	0.2 U			
Nickel	100	100		390					2.4 B	6.8		40 U	1.8			1.6 U	3.9 U	3.9 U			1.3 B	40 U	1.6			
Potassium					59900									3410 B										3430 B		
Selenium	50	50	50	100					5 U	0.3 B J		5 U	5 U			4.2 U	3.9 U	3.9 U				5 U	5 U			
Silver	100	100		94					5 U	1 U		5 U	1 U			1.4 U	0.7 U	0.7 U				5 U	1 U			
Sodium					135000									8970										14600		
Thallium	2	2	2	0.2					10 U	0.083 B		5.9 B	0.026 B J			1.8 U	1.8 U	1.8 U				10 U	1 U			
Vanadium	260	720		86					50 U	2.7 J		50 U	2.8 J									50 U	3.7 J			
Zinc	2000	2000		6000					18 B J	14.9		10.8 B J	5.6			13 B	11.7 B	10.4 B			9.9 B J	4.4 B J	5.4			

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-93D 3/19/14	MW-93D 5/8/14	MW-93D 6/3/14	MW-93D 6/30/14	MW-93D 8/6/14	MW-93D 9/8/14	MW-93D 10/8/14	MW-93D 10/28/14	MW-93D 1/13/15	MW-93D 2/23/15	MW-93D 3/24/15	MW-93D 4/20/15	MW-93D 5/18/15	MW-93S 4/15/04	MW-93S Dup 4/15/04	MW-93S 4/26/04	MW-93S 6/20/05	MW-93S 6/22/06	MW-93S 6/27/07	MW-93S 4/25/08	MW-93S 9/15/08
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8														3.9 U	3.9 U	3.9 U				10 U	0.92 B
Arsenic	10	10	10	0.052														3.4 U	3.4 U	3.4 U				10 U	0.47 B
Barium	2000	2000	2000	3800																				34.3 B	25.5
Beryllium	4	4	4	25															0.1 U	0.1 U				4 U	1 U
Cadmium	5	5	5	9.2														0.4 U	0.4 U	0.4 U				5 U	1 U
Calcium					65000	76000	74000	75000 B	73000 B	69000	71000	69000 B	81000 B	68000	72000 B	67000 B	63000								
Chromium	100	100	100																42.1	34.6	9 B	6.7		1.9 B	6.2 J
Copper	1000	1000	1300	800														6.5 B	7 B	7.2 B				25 U	0.6 B
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035															37.3	30.5	10 U	10 U	10 U	50 U	0 U
Iron			300	14000																					
Lead	5	5	15	15														2.2 U	2.2 U	2.2 U	2.7 U	3 U		3 U	1 U
Magnesium					11000	18000	15000	18000	18000	15000	14000	13000	15000 B	16000	15000	17000	13000								
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63														0.1 U	0.1 U	0.1 U				0.2 U	0.2 U
Nickel	100	100		390														3.9 U	3.9 U	3.9 U	2.4 U	40 U		40 U	0.62 B
Potassium					5100	6000 B	6200	5800 B	5600	5300	5500 B	5500	6600 B	5400	5400	4600	4500								
Selenium	50	50	50	100														3.9 U	3.9 U	3.9 U				5 U	0.39 B
Silver	100	100		94														0.7 U	0.7 U	0.7 U				5 U	1 U
Sodium					32000	41000 B	40000	37000	42000 B	37000	35000 B	36000 B	41000 B	38000 B	43000	50000 B	35000								
Thallium	2	2	2	0.2														1.8 U	1.8 U	1.8 U				10 U	0.021 B
Vanadium	260	720		86																				50 U	2.9 J
Zinc	2000	2000		6000														30.9	23 B	26 B	19.9 B	4.3 JB		7 B	2.5 B J
METAL (Dissolved)																									
Antimony	6	6	6	7.8														3.9 U	3.9 U	3.9 U				10 U	0.96 B
Arsenic	10	10	10	0.052														3.4 U	3.4 U	3.4 U				10 U	0.79 B
Barium	2000	2000	2000	3800																				34.9 B	25.9
Beryllium	4	4	4	25														0.1 U	0.1 U	0.1 U				4 U	1 U
Cadmium	5	5	5	9.2														0.4 U	0.4 U	0.4 U				5 U	1 U
Calcium																									
Chromium	100	100	100															39.7	39.9	34.3			2.4 B	1.6 B	6.3 J
Copper	1000	1000	1300	800														5.5 B	5.5 B	2.8 B				25 U	0.54 B
Ferric Iron																									
Hexavalent Chromium	100	100		0.035														37.3	37.3	29.5				50 U	0 U
Iron			300	14000																					
Lead	5	5	15	15														2.2 U	2.2 U	2.2 U			3 U	3 U	1 U
Magnesium																									
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63														0.1 U	0.1 U	0.1 U				0.2 U	0.2 U
Nickel	100	100		390														3.9 U	3.9 U	3.9 U			40 U	40 U	0.38 B
Potassium																									
Selenium	50	50	50	100														3.9 U	3.9 U	3.9 U				5 U	0.77 B J
Silver	100	100		94														0.7 U	0.7 U	0.7 U				5 U	1 U
Sodium																									
Thallium	2	2	2	0.2														1.8 U	1.8 U	1.8 U				10 U	0.019 B
Vanadium	260	720		86																				50 U	3.3 J
Zinc	2000	2000		6000														5.8 U	5.8 U	8 B			3.3 B J	2.8 B J	3.7 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-93S 6/23/10	MW-93S 1/20/14	MW-93S 2/19/14	MW-93S 3/19/14	MW-93S 5/8/14	MW-93S 6/3/14	MW-93S 7/1/14	MW-93S 8/5/14	MW-93S 9/8/14	MW-93S 10/8/14	MW-93S 10/28/14	MW-93S 1/13/15	MW-93S 2/23/15	MW-93S Dup 2/23/15	MW-93S 3/24/15	MW-93S 4/20/15	MW-93S 5/18/15	MW-94 5/8/08	MW-94 9/29/08	MW-94 7/8/09	MW-94 7/7/10	MW-95 5/2/08
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8																		10 U	0.87 B			10 U
Arsenic	10	10	10	0.052																		10 U	35.5	1 U	15.2	10 U
Barium	2000	2000	2000	3800																		54.7 B	684			76 B
Beryllium	4	4	4	25																		4 U	7.7	1 U	1.6 B	0.56 B
Cadmium	5	5	5	9.2																		5 U	4.4			5 U
Calcium						98000 B	79000	73000	73000	73000	70000 B	55000	68000	61000	66000 B	73000 B	70000	71000	69000 B	67000 B	61000					
Chromium	100	100	100																			5 U	187 J	10.4 J	44.5	8.7
Copper	1000	1000	1300	800																		25 U	172			2.1 B
Ferric Iron																										
FERROUS IRON																										
Hexavalent Chromium	100	100		0.035																		50 U		50 U		50 U
Iron			300	14000																						
Lead	5	5	15	15																		3 U	123	0.36 B	30.4	3 U
Magnesium						22000	26000	16000	26000	23000	22000	15000	19000	16000	17000	18000 B	21000	21000	17000	21000	15000					
Manganese	300	300	50	430																						
Mercury	2	2	2	0.63																		0.2 U	0.57			0.2 U
Nickel	100	100		390																		40 U	117	5.9	29.8 B	5.9 B
Potassium						28000	31000	33000	35000 B	37000	21000 B	12000	16000	15000 B	18000	21000 B	14000	14000	9700	9200	9300					
Selenium	50	50	50	100																		5 U	6.3			5 U
Silver	100	100		94																		5 U	1.5			5 U
Sodium						110000	140000	110000	120000 B	110000	75000 B	66000	70000	59000 B	65000 B	71000 B	73000 B	73000 B	94000	100000 B	61000					
Thallium	2	2	2	0.2																		10 U	1.5			10 U
Vanadium	260	720		86																		50 U	192 J			50 U
Zinc	2000	2000		6000																		3.3 B J	358			11.5 B J
METAL (Dissolved)																										
Antimony	6	6	6	7.8																		10 U	0.27 B			10 U
Arsenic	10	10	10	0.052																		10 U	1 U	1 U	10 U	10 U
Barium	2000	2000	2000	3800																		58.2 B	63.5			37.9 B
Beryllium	4	4	4	25																		0.34 B J	1 U	1 U	4 U	0.57 B J
Cadmium	5	5	5	9.2																		5 U	1 U			5 U
Calcium					39600																				16100	
Chromium	100	100	100																			5 U	11.1 J	4.3	5 U	1.4 B
Copper	1000	1000	1300	800																		25 U	0.68 B			25 U
Ferric Iron																										
Hexavalent Chromium	100	100		0.035																		50 U		50 U		50 U
Iron			300	14000	100 U																				810 J	
Lead	5	5	15	15																		3 U	0.19 B	0.14 B	2.9 B	3 U
Magnesium					8530																				7690	
Manganese	300	300	50	430	15 U																				7.1 B	
Mercury	2	2	2	0.63																		0.2 U	0.2 U			0.2 U
Nickel	100	100		390																		4.2 B	1.1	3.5	40 U	40 U
Potassium					6910																				3580 B	
Selenium	50	50	50	100																		5 U	5 U			5 U
Silver	100	100		94																		5 U	1 U			5 U
Sodium					33900																				17500	
Thallium	2	2	2	0.2																		10 U	0.15 B J			10 U
Vanadium	260	720		86																		50 U	4.7 J			1.3 B
Zinc	2000	2000		6000																		16.2 B J	5.7			2.1 B

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-95 9/11/08	MW-95 6/23/10	MW-95 1/20/14	MW-95 2/18/14	MW-95 3/18/14	MW-95 Dup 3/18/14	MW-95 5/6/14	MW-95 6/5/14	MW-95 7/2/14	MW-95 8/6/14	MW-95 9/10/14	MW-95 10/8/14	MW-95 10/30/14	MW-95 1/15/15	MW-95 2/27/15	MW-95 3/25/15	MW-95 4/22/15
METAL																					
Aluminum			200	20000																	
Antimony	6	6	6	7.8	2 U																
Arsenic	10	10	10	0.052	0.3 B																
Barium	2000	2000	2000	3800	35.2																
Beryllium	4	4	4	25	1 U																
Cadmium	5	5	5	9.2	1 U																
Calcium							120000 B	110000	130000 B	130000 B	110000 B	120000 B	110000	110000 B	120000 B	120000	120000	100000 B	110000 B	110000 B	100000
Chromium	100	100	100		6.7 J																
Copper	1000	1000	1300	800	1.1 B																
Ferric Iron																					
FERROUS IRON																					
Hexavalent Chromium	100	100		0.035																	
Iron			300	14000																	
Lead	5	5	15	15	0.27 B																
Magnesium							7500	9400	8000	7800	8200	6900	7700	8300	9800	9200	7900 B	6700 B	9100	7800	7800
Manganese	300	300	50	430																	
Mercury	2	2	2	0.63	0.2 U																
Nickel	100	100		390	1.6																
Potassium							4400	4700	5400	5300	5400 B	4300	3700	3800	5100	5400 B	5500 B	4100 B	3100	3000	2600
Selenium	50	50	50	100	0.85 B																
Silver	100	100		94	1 U																
Sodium							23000	27000	26000	25000	20000 B	21000	20000	26000 B	34000	33000 B	30000 B	29000 B	30000 B	26000	21000
Thallium	2	2	2	0.2	1 U																
Vanadium	260	720		86	1.2 J																
Zinc	2000	2000		6000	5.0 U																
METAL (Dissolved)																					
Antimony	6	6	6	7.8	0.051 B																
Arsenic	10	10	10	0.052	0.18 B																
Barium	2000	2000	2000	3800	31.9																
Beryllium	4	4	4	25	1 U																
Cadmium	5	5	5	9.2	1 U																
Calcium						104000															
Chromium	100	100	100		5.8 J																
Copper	1000	1000	1300	800	0.48 B																
Ferric Iron																					
Hexavalent Chromium	100	100		0.035																	
Iron			300	14000		100 U															
Lead	5	5	15	15	1 U																
Magnesium						9170															
Manganese	300	300	50	430		11.7 B															
Mercury	2	2	2	0.63	0.2 U																
Nickel	100	100		390	1																
Potassium						2810 B															
Selenium	50	50	50	100	0.34 B																
Silver	100	100		94	1 U																
Sodium						20000															
Thallium	2	2	2	0.2	1 U																
Vanadium	260	720		86	1.7																
Zinc	2000	2000		6000	5.0 U																

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Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-95 5/20/15	MW-96D 5/2/08	MW-96D 9/24/08	MW-96D 6/28/10	MW-96D 1/21/14	MW-96D 2/18/14	MW-96D 3/18/14	MW-96D 5/6/14	MW-96D 6/3/14	MW-96D 7/2/14	MW-96D 8/7/14	MW-96D 9/9/14	MW-96D 10/8/14	MW-96D 10/30/14	MW-96D 1/15/15	MW-96D 2/26/15	MW-96D 3/26/15	MW-96D 4/22/15	MW-96D 5/20/15	MW-96S 5/2/08	MW-96S 10/1/08
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8		10 U	0.062 B																	10 U	0.14 B
Arsenic	10	10	10	0.052		10 U	0.7 B																	10 U	1 U
Barium	2000	2000	2000	3800		48.3 B	57.9 J																	42.7 B	40
Beryllium	4	4	4	25		4 U	0.097 B																	0.42 B	1 U
Cadmium	5	5	5	9.2		5 U	1 U																	5 U	1 U
Calcium					96000 B				110000	100000	120000 B	110000 B	110000	120000	120000	130000 B	120000	130000	130000 B	130000	110000 B	110000	110000 B		
Chromium	100	100	100			2.7 B	14.6 J																	3.5 B	7.2 J
Copper	1000	1000	1300	800		25 U	3.3																	25 U	1.1 B
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035		50 U																		50 U	
Iron			300	14000																					
Lead	5	5	15	15		3 U	2.6																	3 U	0.36 B
Magnesium					8000				16000	19000	17000	19000	15000	18000	18000	19000	15000	17000 B	17000 B	22000	16000	16000	15000		
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		40 U	4.4																	1.7 B	2.4
Potassium					2700 B				4700	4700	6300	5200 B	5900	5900	6100	6800	5800 B	6800 B	7600 B	5900	5000	4700	4400 B		
Selenium	50	50	50	100		5 U	5 U																	5 U	0.76 B
Silver	100	100		94		5 U	1 U																	5 U	1 U
Sodium					23000				39000	45000	53000	49000 B	51000	50000	58000 ^	65000	49000 B	57000 B	57000 B	53000 B	48000 B	43000	40000		
Thallium	2	2	2	0.2		10 U	0.026 B																	10 U	0.047 B J
Vanadium	260	720		86		1.5 B	5.5 J																	2.2 B	5.8 J
Zinc	2000	2000		6000		2.7 B J	10.7																	4.2 B J	4 B
METAL (Dissolved)																									
Antimony	6	6	6	7.8		10 U	2 U																	10 U	0.23 B
Arsenic	10	10	10	0.052		10 U	1 U																	10 U	1 U
Barium	2000	2000	2000	3800		47.4 B	45.7																	39.3 B	38.6
Beryllium	4	4	4	25		0.53 B J	1 U																	0.6 B J	1 U
Cadmium	5	5	5	9.2		5 U	1 U																	5 U	1 U
Calcium								106000																	
Chromium	100	100	100			2.3 B	16.4 J																	2.2 B	9 J
Copper	1000	1000	1300	800		25 U	0.79 B																	25 U	1 B J
Ferric Iron																									
Hexavalent Chromium	100	100		0.035		50 U																		50 U	
Iron			300	14000				100 U																	
Lead	5	5	15	15		3 U	0.16 B																	3 U	0.1 B J
Magnesium								17900																	
Manganese	300	300	50	430				7.8 B																	
Mercury	2	2	2	0.63		0.2 U	0.2 U																	0.2 U	0.2 U
Nickel	100	100		390		40 U	2.2																	40 U	3
Potassium								3580 B																	
Selenium	50	50	50	100		5 U	5.0 U																	5 U	5 U
Silver	100	100		94		5 U	1 U																	5 U	1 U
Sodium								34400																	
Thallium	2	2	2	0.2		4 B	1 U																	10 U	0.073 B
Vanadium	260	720		86		2.1 B	4.5 J																	1.2 B	1 U
Zinc	2000	2000		6000		1.8 B	6.8																	2.3 B	10.5

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-96S Dup 10/1/08	MW-96S 7/2/10	MW-96S 1/24/14	MW-96S 2/18/14	MW-96S 3/18/14	MW-96S 5/6/14	MW-96S 6/3/14	MW-96S 7/2/14	MW-96S 8/7/14	MW-96S 9/9/14	MW-96S 10/8/14	MW-96S 10/30/14	MW-96S 1/15/15	MW-96S 2/26/15	MW-96S 3/26/15	MW-96S 4/22/15	MW-96S 5/20/15	MW-97 5/2/08	MW-97 9/19/08	MW-97 1/30/14	MW-97 2/18/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8	0.13 B																	10 U	2 U		
Arsenic	10	10	10	0.052	1 U																	10 U	0.38 B		
Barium	2000	2000	2000	3800	39.7																	41.5 B	36.8 J		
Beryllium	4	4	4	25	1 U																	0.4 B	1 U		
Cadmium	5	5	5	9.2	1 U																	5 U	1 U		
Calcium							140000	120000	130000 B	110000 B	110000	120000	130000	140000 B	130000	140000	140000 B	140000	120000 B	120000	120000 B			81000 B	71000
Chromium	100	100	100		8 J																	2.9 B	13.8 J		
Copper	1000	1000	1300	800	1 B																	25 U	1.1 B		
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035																		50 U			
Iron			300	14000																					
Lead	5	5	15	15	0.34 B																	3 U	1.5		
Magnesium							17000	21000	19000	21000	16000	19000	20000	22000	18000	20000 B	20000 B	24000	18000	17000	17000			17000	18000
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63	0.2 U																	0.2 U	0.2 U		
Nickel	100	100		390	2.4																	2.4 B	2.4		
Potassium							5100	5300	7800	17000 B	8100	7600	8000	7900	7100 B	8200 B	10000 B	11000	12000	7100	7000 B			5700	5600
Selenium	50	50	50	100	5 U																	5 U	0.42 B		
Silver	100	100		94	1 U																	5 U	1 U		
Sodium							51000 B	61000	75000	63000 B	65000	59000	76000	78000	62000 B	68000 B	67000 B	66000 B	64000 B	55000	56000			31000 B	30000
Thallium	2	2	2	0.2	0.047 B J																	10 U	1 U		
Vanadium	260	720		86	4.3 J																	50 U	4.4 J		
Zinc	2000	2000		6000	3.8 B																	4.7 B J	5		
METAL (Dissolved)																									
Antimony	6	6	6	7.8	0.17 B																	10 U	0.065 B J		
Arsenic	10	10	10	0.052	1 U																	10 U	1 U		
Barium	2000	2000	2000	3800	38.6																	40.6 B	38.6		
Beryllium	4	4	4	25	1 U																	0.61 B J	1 U		
Cadmium	5	5	5	9.2	1 U																	5 U	1 U		
Calcium						110000																			
Chromium	100	100	100		8.8 J																	5 U	16.6 J		
Copper	1000	1000	1300	800	0.98 B J																	25 U	1.4 B		
Ferric Iron																									
Hexavalent Chromium	100	100		0.035																		50 U			
Iron			300	14000		100 U																			
Lead	5	5	15	15	0.079 B J																	3 U	0.19 B		
Magnesium						19700																			
Manganese	300	300	50	430		16.8																			
Mercury	2	2	2	0.63	0.2 U																	0.2 U	0.2 U		
Nickel	100	100		390	2.9																	40 U	2.3		
Potassium						3950 B J																			
Selenium	50	50	50	100	0.61 B																	5 U	0.97 B J		
Silver	100	100		94	1 U																	5 U	1 U		
Sodium						40500																			
Thallium	2	2	2	0.2	0.046 B																	10 U	1 U		
Vanadium	260	720		86	1.2 J																	50 U	5.3 J		
Zinc	2000	2000		6000	1.6 B																	20 U	6.2		

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-97 3/19/14	MW-97 5/6/14	MW-97 6/5/14	MW-97 7/2/14	MW-97 8/6/14	MW-97 9/9/14	MW-97 10/9/14	MW-97 10/30/14	MW-97 1/15/15	MW-97 2/27/15	MW-97 3/27/15	MW-97 4/21/15	MW-97 Dup 4/21/15	MW-97 5/20/15	MW-98D 5/27/08	MW-98D 9/8/08	MW-98D 6/15/10	MW-98D 10/29/14	MW-98I 5/23/08	MW-98I 9/12/08	MW-98I 6/16/10	MW-98I 9/18/13
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8															10 U	0.061 B			10 U	0.11 B		
Arsenic	10	10	10	0.052															10 U	0.33 B			10 U	0.18 B		
Barium	2000	2000	2000	3800															78.2 B	69			52.2 B J	46.4		
Beryllium	4	4	4	25															0.41 B J	1 U			0.61 B J	1 U		
Cadmium	5	5	5	9.2															5 U	1 U			5 U	1 U		
Calcium					76000	68000 B	79000 B	80000	88000 B	91000 B	94000	93000	94000 B	93000 B	95000 B	99000	96000	88000 B				7500 B				
Chromium	100	100	100																5 U	4.3 J			2.2 B	5.6 J E		
Copper	1000	1000	1300	800															25 U	1.5 B			25 U	0.74 B		
Ferric Iron																										100
FERROUS IRON																										50 U
Hexavalent Chromium	100	100		0.035															50 U				50 U			
Iron			300	14000																						
Lead	5	5	15	15															3 U	0.26 B			3 U	0.34 B		
Magnesium					13000	16000	16000	19000	21000	20000	19000	17000 B	18000 B	20000	19000 B	17000	17000 B	16000				3600 B				
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															1.1 B	0.51 B			1.2 B	1.2		
Potassium					6400	5500 B	6200 B	5900	6200	7100	7800 B	8200 B	7600 B	6800	7200	7200	7000	6400 B				2500				
Selenium	50	50	50	100															5 U	5 U			5 U	0.45 B		
Silver	100	100		94															0.6 B	1 U			5 U	1 U		
Sodium					27000	25000 B	32000 B	28000	38000 B	38000	39000 B	37000 B	39000 B	40000 B	42000 B	36000	36000	35000				3000				
Thallium	2	2	2	0.2															5.1 B	1 U			10 U	0.057 B		
Vanadium	260	720		86															50 U	2 J			50 U	0.72 B J		
Zinc	2000	2000		6000															4.4 B J	4.8 B			3.4 B J	3.9 B J		
METAL (Dissolved)																										
Antimony	6	6	6	7.8															10 U	2 U			10 U	0.081 B		
Arsenic	10	10	10	0.052															10 U	0.69 B			10 U	0.15 B		
Barium	2000	2000	2000	3800															74.8 B	66.1			46.7 B	45.6		
Beryllium	4	4	4	25															4 U	1 U			0.67 B J	1 U		
Cadmium	5	5	5	9.2															5 U	1 U			5 U	1 U		
Calcium																					9620				134000 J	
Chromium	100	100	100																5 U	4.1 J			1.6 B	5.8 J E		
Copper	1000	1000	1300	800															25 U	0.25 B			25 U	0.48 B		
Ferric Iron																										
Hexavalent Chromium	100	100		0.035															50 U				50 U			
Iron			300	14000																	10900				100 U	100 U
Lead	5	5	15	15															3 U	0.025 B J			3 U	1 U		
Magnesium																					4300 B				16100	
Manganese	300	300	50	430																	710				22.6	33
Mercury	2	2	2	0.63															0.2 U	0.2 U			0.2 U	0.2 U		
Nickel	100	100		390															1.2 B	0.42 B			40 U	1		
Potassium																					2360 B				3010 B	
Selenium	50	50	50	100															5 U	5 U			5 U	0.44 B J		
Silver	100	100		94															5 U	1 U			5 U	1 U		
Sodium																					3450 B				22900	22000 B
Thallium	2	2	2	0.2															5.9 B	1 U			10 U	0.098 B		
Vanadium	260	720		86															50 U	1.8			1.2 B	1.5 J		
Zinc	2000	2000		6000															1.5 B J	3.5 B			3.1 B J	2.4 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-98I 1/31/14	MW-98I 2/24/14	MW-98I 3/18/14	MW-98I 5/8/14	MW-98I 6/4/14	MW-98I 6/30/14	MW-98I 8/6/14	MW-98I 9/8/14	MW-98I 10/7/14	MW-98I 10/29/14	MW-98I 1/15/15	MW-98I Dup 1/15/15	MW-98I 2/25/15	MW-98I 3/26/15	MW-98I 4/20/15	MW-98I 5/18/15	MW-98S 5/22/08	MW-98S 9/8/08	MW-98S 6/16/10	MW-98S 9/18/13	MW-98S 1/31/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8																	10 U	0.12 B			
Arsenic	10	10	10	0.052																	10 U	0.38 B			
Barium	2000	2000	2000	3800																	200 U	39.7			
Beryllium	4	4	4	25																	4 U	1 U			
Cadmium	5	5	5	9.2																	5 U	1 U			
Calcium					120000 B	110000	130000 B	120000	100000 B	110000 B	100000 B	100000	100000 B	110000 B	97000 B	100000 B	120000	120000 B	110000 B	100000					120000 B
Chromium	100	100	100																		1.7 B	6.4 J			
Copper	1000	1000	1300	800																	0.75 B	1.1 B			
Ferric Iron														100 U										100	
FERROUS IRON														50 U										50 U	
Hexavalent Chromium	100	100		0.035																	50 UJ				
Iron			300	14000																					
Lead	5	5	15	15																	3 U	0.37 B			
Magnesium					14000	12000	14000	15000	12000	14000	14000	12000	12000	11000 B	11000 B	12000 B	15000	12000	14000	11000					13000
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63																	0.2 U	0.2 U			
Nickel	100	100		390																	40 U	2			
Potassium					2900	3000	3500	3100 B	2900 B	2700	2700	2700	3000	3200	3200 B	3400 B	3500	3200	2700	2700					3100
Selenium	50	50	50	100																	5 U	0.36 B			
Silver	100	100		94																	5 U	1 U			
Sodium					17000 B	18000	20000	17000 B	16000 B	16000 B	19000 B	18000	19000 B	20000	21000 B	23000 B	31000	26000 B	28000 B	21000					18000 B
Thallium	2	2	2	0.2																	10 U	1 U			
Vanadium	260	720		86																	50 U	1.3 J			
Zinc	2000	2000		6000																	20 U	3.9 B			
METAL (Dissolved)																									
Antimony	6	6	6	7.8																	10 U	0.13 B J			
Arsenic	10	10	10	0.052																	10 U	0.25 B			
Barium	2000	2000	2000	3800																	47.7 B	39.2			
Beryllium	4	4	4	25																	4 U	1 U			
Cadmium	5	5	5	9.2																	5 U	1 U			
Calcium														110000 B									133000 J		
Chromium	100	100	100																		5 U	5.6 J			
Copper	1000	1000	1300	800																	25 U	0.59 B			
Ferric Iron														50 U											
Hexavalent Chromium	100	100		0.035																	50 U				
Iron			300	14000										50 U									100 U	100 U	
Lead	5	5	15	15																	3 U	0.041 B J			
Magnesium														11000 B									15100		
Manganese	300	300	50	430										24 B									15 U	2.4 J	
Mercury	2	2	2	0.63																	0.2 U	0.2 U			
Nickel	100	100		390																	40 U	1.2			
Potassium														3200									3150 B		
Selenium	50	50	50	100																	5 U	0.63 B			
Silver	100	100		94																	5 U	1 U			
Sodium														20000									24700	24000 B	
Thallium	2	2	2	0.2																	10 U	1 U			
Vanadium	260	720		86																	50 U	0.87 B			
Zinc	2000	2000		6000																	20 U	3.3 B			

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-98S 2/24/14	MW-98S 3/18/14	MW-98S 5/7/14	MW-98S Dup 5/7/14	MW-98S 6/4/14	MW-98S 6/30/14	MW-98S 8/6/14	MW-98S 9/8/14	MW-98S 10/7/14	MW-98S 10/29/14	MW-98S 1/15/15	MW-98S 2/25/15	MW-98S 3/26/15	MW-98S Dup 3/26/15	MW-98S 4/20/15	MW-98S Dup 4/20/15	MW-98S 5/18/15	MW-99D 5/22/08	MW-99D 9/18/08	MW-99D 6/22/10
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8																		10 U	0.2 B J	
Arsenic	10	10	10	0.052																		10 U	0.59 B	
Barium	2000	2000	2000	3800																		200 U	49.3	
Beryllium	4	4	4	25																		4 U	1 U	
Cadmium	5	5	5	9.2																		5 U	1 U	
Calcium					120000	130000 B	120000	120000	100000 B	110000 B	110000 B	110000	110000 B	120000 B	100000 B	110000	120000 B	120000 B	110000 B	110000 B	110000			
Chromium	100	100	100																			5.2	7.8 J	
Copper	1000	1000	1300	800																		25 U	0.6 B	
Ferric Iron														100 U										
FERROUS IRON														50 U										
Hexavalent Chromium	100	100		0.035																		50 UJ		
Iron			300	14000																				
Lead	5	5	15	15																		3 U	0.1 B	
Magnesium					11000	13000	14000	15000	11000	13000	13000	12000	12000	11000 B	11000 B	13000	12000	11000	15000	12000	11000			
Manganese	300	300	50	430																				
Mercury	2	2	2	0.63																		0.2 U	0.2 U	
Nickel	100	100		390																		1.4 B	0.83 B	
Potassium					3300	3500	3000	3000	2900 B	2800	2800	3000	3000	3300	3500 B	3400	3300	3200	2900	2900	2800			
Selenium	50	50	50	100																		5 U	0.74 B	
Silver	100	100		94																		0.61 B	1 U	
Sodium					20000	20000	16000 B	17000 B	15000 B	16000 B	21000 B	21000	22000 B	23000	25000 B	33000	25000 B	24000 B	30000 B	25000 B	23000			
Thallium	2	2	2	0.2																		3.8 B	0.081 B J	
Vanadium	260	720		86																		50 U	3.9 J	
Zinc	2000	2000		6000																		20 U	7.2	
METAL (Dissolved)																								
Antimony	6	6	6	7.8																		10 U	0.11 B J	
Arsenic	10	10	10	0.052																		10 U	0.45 B	
Barium	2000	2000	2000	3800																		30.1 B	39.6	
Beryllium	4	4	4	25																		4 U	1 U	
Cadmium	5	5	5	9.2																		5 U	1 U	
Calcium														120000 B										91500
Chromium	100	100	100																			4.6 B	7.7 J	
Copper	1000	1000	1300	800																		25 U	0.51 B	
Ferric Iron																								
Hexavalent Chromium	100	100		0.035																		50 U		
Iron			300	14000										50 U										100 U
Lead	5	5	15	15																		3 U	0.07 B	
Magnesium														12000 B										17900
Manganese	300	300	50	430										0.17 J B										3.5 B
Mercury	2	2	2	0.63																		0.2 U	0.2 U	
Nickel	100	100		390																		40 U	0.82 B	
Potassium														3300										4730 B
Selenium	50	50	50	100																		5 U	0.4 B	
Silver	100	100		94																		5 U	1 U	
Sodium														24000										37800
Thallium	2	2	2	0.2																		6.8 B	0.031 B	
Vanadium	260	720		86																		50 U	0.78 B J	
Zinc	2000	2000		6000																		20 U	6.1	

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-99D 9/16/13	MW-99D 1/27/14	MW-99D 2/24/14	MW-99D 3/18/14	MW-99D 5/6/14	MW-99D 6/4/14	MW-99D 6/30/14	MW-99D 8/5/14	MW-99D 9/8/14	MW-99D 10/7/14	MW-99D 10/30/14	MW-99D 1/14/15	MW-99D 2/25/15	MW-99D 3/24/15	MW-99D 4/21/15	MW-99D 5/19/15	MW-99S 5/22/08	MW-99S 9/24/08	MW-99S 6/22/10	MW-99S 9/16/13	MW-99S 1/31/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8																	10 U	0.069 B			
Arsenic	10	10	10	0.052																	10 U	1 U			
Barium	2000	2000	2000	3800																	200 U	40.6 J			
Beryllium	4	4	4	25																	4 U	1 U			
Cadmium	5	5	5	9.2																	5 U	1 U			
Calcium						91000	92000	96000 B	91000 B	80000 B	88000 B	95000	86000	88000 B	92000 B	91000 B	87000	91000	95000	88000 B					93000 B
Chromium	100	100	100																		2.1 B	15.5 J			
Copper	1000	1000	1300	800																	1.2 B	0.75 B			
Ferric Iron					100										100 U									100	
FERROUS IRON					50 U										50 U									50 U	
Hexavalent Chromium	100	100		0.035																	50 UJ				
Iron			300	14000																					
Lead	5	5	15	15																	3 U	0.077 B			
Magnesium						11000	10000	13000	16000	12000	16000	10000	9900	13000	11000 B	13000 B	15000	13000 B	13000 B	13000					15000
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63																	0.2 U	0.2 U			
Nickel	100	100		390																	1.6 B	2.8			
Potassium						3300	3300	3600	2900 B	2600 B	2600	3000	2800	5100	3800	3000 B	2600	3000	2800	3000					3500
Selenium	50	50	50	100																	5 U	0.35 B			
Silver	100	100		94																	5 U	1 U			
Sodium						18000	19000	22000	21000 B	19000 B	19000 B	19000	17000	18000 B	16000 B	19000 B	18000	24000 B	20000	27000					23000 B
Thallium	2	2	2	0.2																	10 U	1 U			
Vanadium	260	720		86																	1.6 B	4.4 J			
Zinc	2000	2000		6000																	20 U	3.4 B			
METAL (Dissolved)																									
Antimony	6	6	6	7.8																	10 U	2 U			
Arsenic	10	10	10	0.052																	10 U	1 U			
Barium	2000	2000	2000	3800																	40.5 B	39.2			
Beryllium	4	4	4	25																	4 U	1 U			
Cadmium	5	5	5	9.2																	5 U	1 U			
Calcium															95000 B								102000		
Chromium	100	100	100																		5 U	15.4 J E			
Copper	1000	1000	1300	800																	25 U	0.75 B			
Ferric Iron																									
Hexavalent Chromium	100	100		0.035																	50 U				
Iron			300	14000	100 U										50 U								100 U	100 U	
Lead	5	5	15	15																	3 U	0.047 B			
Magnesium															11000 B								17700		
Manganese	300	300	50	430	1.2 J B										0.79 J B								19	28 B	
Mercury	2	2	2	0.63																	0.2 U	0.2 U			
Nickel	100	100		390																	1.4 B	2.5			
Potassium															3900								3940 B		
Selenium	50	50	50	100																	5 U	5.0 U			
Silver	100	100		94																	5 U	1 U			
Sodium					42000										17000 B								37900	39000	
Thallium	2	2	2	0.2																	4 B	1 U			
Vanadium	260	720		86																	50 U	1.0 U			
Zinc	2000	2000		6000																	20 U	5			

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-99S 2/24/14	MW-99S 3/18/14	MW-99S 5/6/14	MW-99S Dup 5/6/14	MW-99S 6/4/14	MW-99S 6/30/14	MW-99S Dup 6/30/14	MW-99S 8/5/14	MW-99S 9/8/14	MW-99S 10/7/14	MW-99S Dup 10/7/14	MW-99S 10/30/14	MW-99S Dup 10/30/14	MW-99S 1/15/15	MW-99S 2/25/15	MW-99S 3/24/15	MW-99S 4/20/15	MW-99S 5/18/15	MW-100D 5/22/08
METAL																							
Aluminum			200	20000																			
Antimony	6	6	6	7.8																			10 U
Arsenic	10	10	10	0.052																			10 U
Barium	2000	2000	2000	3800																			200 U
Beryllium	4	4	4	25																			4 U
Cadmium	5	5	5	9.2																			5 U
Calcium					93000	100000 B	100000 B	100000 B	87000 B	92000 B	96000 B	93000	85000	89000 B	93000 B	100000 B	93000 B	96000 B	98000	110000	94000 B	95000	
Chromium	100	100	100																				3.8 B
Copper	1000	1000	1300	800																			25 U
Ferric Iron																100 U	100 U						
FERROUS IRON																50 U	50 U						
Hexavalent Chromium	100	100		0.035																			50 UJ
Iron			300	14000																			
Lead	5	5	15	15																			3 U
Magnesium					12000	14000	16000	16000	12000	14000	14000	12000	11000	12000	12000	11000 B	11000 B	12000 B	14000	14000 B	16000	13000	
Manganese	300	300	50	430																			
Mercury	2	2	2	0.63																			0.2 U
Nickel	100	100		390																			2.1 B
Potassium					3600	4100	3600 B	3600 B	3300 B	3100 B	3200 B	3200	2900	3200	3200	3300	3100	3600 B	3300	3800	3400	3500	
Selenium	50	50	50	100																			5 U
Silver	100	100		94																			5 U
Sodium					21000	24000	22000 B	22000 B	19000 B	18000	18000	21000	17000	18000 B	18000 B	18000 B	17000 B	20000 B	26000	37000 B	48000 B	34000	
Thallium	2	2	2	0.2																			10 U
Vanadium	260	720		86																			50 U
Zinc	2000	2000		6000																			20 U
METAL (Dissolved)																							
Antimony	6	6	6	7.8																			10 U
Arsenic	10	10	10	0.052																			10 U
Barium	2000	2000	2000	3800																			35.8 B
Beryllium	4	4	4	25																			4 U
Cadmium	5	5	5	9.2																			5 U
Calcium																100000 B	99000 B						
Chromium	100	100	100																				2.8 B
Copper	1000	1000	1300	800																			25 U
Ferric Iron																							
Hexavalent Chromium	100	100		0.035																			50 U
Iron			300	14000												50 U	50 U						
Lead	5	5	15	15																			3 U
Magnesium																12000 B	12000 B						
Manganese	300	300	50	430												4.3 J B	4.4 J B						
Mercury	2	2	2	0.63																			0.2 U
Nickel	100	100		390																			1.8 B
Potassium																3400	3200						
Selenium	50	50	50	100																			5 U
Silver	100	100		94																			0.73 B
Sodium																19000 B	18000 B						
Thallium	2	2	2	0.2																			10 U
Vanadium	260	720		86																			1.3 B
Zinc	2000	2000		6000																			20 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-100D 9/22/08	MW-100D 6/24/10	MW-100D 9/17/13	MW-100D 1/30/14	MW-100D 2/24/14	MW-100D 3/17/14	MW-100D 4/21/14	MW-100D Dup 4/21/14	MW-100D 5/6/14	MW-100D 5/19/14	MW-100D Dup 5/19/14	MW-100D 6/3/14	MW-100D 7/1/14	MW-100D 7/14/14	MW-100D 8/5/14	MW-100D 9/8/14	MW-100D 10/6/14
METAL																					
Aluminum			200	20000																	
Antimony	6	6	6	7.8	2 U																
Arsenic	10	10	10	0.052	1 U																
Barium	2000	2000	2000	3800	43.4 J																
Beryllium	4	4	4	25	1 U																
Cadmium	5	5	5	9.2	1 U																
Calcium								83000 B	92000	74000 B	76000 B	83000 B	82000 B	82000 B	81000 B	89000	95000 B	87000	93000	85000	85000 B
Chromium	100	100	100		14.7 J																
Copper	1000	1000	1300	800	1.1 B																
Ferric Iron							100														
FERROUS IRON							50 U														
Hexavalent Chromium	100	100		0.035																	
Iron			300	14000																	
Lead	5	5	15	15	0.28 B																
Magnesium								18000	17000	16000	18000	20000	20000	18000	18000	19000	23000	21000	19000	18000	16000
Manganese	300	300	50	430																	
Mercury	2	2	2	0.63	0.2 U																
Nickel	100	100		390	4.1																
Potassium								4000	4200	4100	3400 B	3700 B	4300 B	3900	3900	4200	4100 B	4000	4300	4000	4000
Selenium	50	50	50	100	5 U																
Silver	100	100		94	1 U																
Sodium								46000 B	48000	42000 B	40000 B	44000 B	44000 B	46000	46000	47000	46000 B	46000	52000	47000	42000
Thallium	2	2	2	0.2	1 U																
Vanadium	260	720		86	3 J																
Zinc	2000	2000		6000	3.5 B																
METAL (Dissolved)																					
Antimony	6	6	6	7.8	2 U																
Arsenic	10	10	10	0.052	1 U																
Barium	2000	2000	2000	3800	41																
Beryllium	4	4	4	25	1 U																
Cadmium	5	5	5	9.2	1 U																
Calcium						86300															
Chromium	100	100	100		12.7 J																
Copper	1000	1000	1300	800	0.69 B																
Ferric Iron																					
Hexavalent Chromium	100	100		0.035																	
Iron			300	14000		100 U	100 U														
Lead	5	5	15	15	0.045 B																
Magnesium						19600															
Manganese	300	300	50	430		104	49														
Mercury	2	2	2	0.63	0.2 U																
Nickel	100	100		390	3.8																
Potassium						2830 B															
Selenium	50	50	50	100	0.46 B J																
Silver	100	100		94	1 U																
Sodium						32000	39000 B														
Thallium	2	2	2	0.2	1 U																
Vanadium	260	720		86	2.7 J																
Zinc	2000	2000		6000	6.6																

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-100D Dup 10/6/14	MW-100D 10/28/14	MW-100D 1/14/15	MW-100D 2/25/15	MW-100D 3/25/15	MW-100D 4/21/15	MW-100D 5/19/15	MW-100I 5/21/08	MW-100I 9/24/08	MW-100I 6/24/10	MW-100I 1/30/14	MW-100I 2/24/14	MW-100I 3/17/14	MW-100I 4/21/14	MW-100I 5/6/14	MW-100I 5/19/14	MW-100I 6/3/14	MW-100I 7/1/14	MW-100I 7/14/14
METAL																							
Aluminum			200	20000																			
Antimony	6	6	6	7.8								10 U	2 U										
Arsenic	10	10	10	0.052								10 U	1 U										
Barium	2000	2000	2000	3800								43.8 B J	40.4 J										
Beryllium	4	4	4	25								0.35 B J	1 U										
Cadmium	5	5	5	9.2								5 U	1 U										
Calcium					83000 B	85000 B	91000 B	97000	94000 B	95000	93000 B				93000 B	90000	89000 B	90000 B	96000 B	91000 B	89000	97000 B	90000
Chromium	100	100	100									3.6 B	15.5 J										
Copper	1000	1000	1300	800								25 U	1.5 B										
Ferric Iron						100 U																	
FERROUS IRON						250 U																	
Hexavalent Chromium	100	100		0.035								50 U											
Iron			300	14000																			
Lead	5	5	15	15								3 U	0.79 B										
Magnesium					16000	16000	17000 B	22000	18000	16000 B	17000				20000	16000	19000	21000	23000	20000	18000	22000	21000
Manganese	300	300	50	430																			
Mercury	2	2	2	0.63								0.2 U	0.2 U										
Nickel	100	100		390								40 U	2.6										
Potassium					3900	4100	4600 B	4700	4800	4700	4600				4600	4500	4700	4500 B	4900 B	4800	4800	4800 B	4700
Selenium	50	50	50	100								5 U	0.36 B										
Silver	100	100		94								5 U	1 U										
Sodium					42000	43000 B	46000 B	53000	58000	52000	53000				47000 B	47000	54000 B	53000 B	54000 B	55000	51000	50000 B	50000
Thallium	2	2	2	0.2								10 U	1 U										
Vanadium	260	720		86								50 U	3.1 J										
Zinc	2000	2000		6000								6.7 B J	7.1										
METAL (Dissolved)																							
Antimony	6	6	6	7.8								10 U	2 U										
Arsenic	10	10	10	0.052								10 U	1 U										
Barium	2000	2000	2000	3800								42 B	38										
Beryllium	4	4	4	25								4 U	1 U										
Cadmium	5	5	5	9.2								5 U	1 U										
Calcium						87000 B								92200									
Chromium	100	100	100									4 B	17.3 J										
Copper	1000	1000	1300	800								25 U	0.73 B										
Ferric Iron																							
Hexavalent Chromium	100	100		0.035								50 U											
Iron			300	14000		50 U								100 U									
Lead	5	5	15	15								3 U	0.06 B										
Magnesium						16000								20100									
Manganese	300	300	50	430		35 B								8 B									
Mercury	2	2	2	0.63								0.2 U	0.2 U										
Nickel	100	100		390								40 U	1.9										
Potassium						4200								3700 B									
Selenium	50	50	50	100								5 U	5 U										
Silver	100	100		94								5 U	1 U										
Sodium						44000 B								36500									
Thallium	2	2	2	0.2								10 U	1 U										
Vanadium	260	720		86								50 U	4.9 J										
Zinc	2000	2000		6000								6.2 B J	2 B										

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-100I 8/5/14	MW-100I Dup 8/5/14	MW-100I 9/8/14	MW-100I Dup 9/8/14	MW-100I 10/6/14	MW-100I 10/28/14	MW-100I Dup 10/28/14	MW-100I 1/14/15	MW-100I 2/25/15	MW-100I 3/24/15	MW-100I Dup 3/24/15	MW-100I 4/21/15	MW-100I 5/19/15	MW-100S 5/22/08	MW-100S Dup 5/22/08	MW-100S 9/24/08	MW-100S 6/22/10	MW-100S 9/17/13
METAL																						
Aluminum			200	20000																		
Antimony	6	6	6	7.8														10 U	10 U	0.092 B		
Arsenic	10	10	10	0.052														10 U	10 U	0.45 B		
Barium	2000	2000	2000	3800														200 U	200 U	42.5 J		
Beryllium	4	4	4	25														4 U	4 U	0.097 B		
Cadmium	5	5	5	9.2														5 U	5 U	1 U		
Calcium					92000	93000	87000	83000	87000 B	88000 B	91000 B	94000 B	97000	95000 B	92000	99000	90000 B					
Chromium	100	100	100															11	11.1	16.6 J		
Copper	1000	1000	1300	800														25 U	25 U	3.1		
Ferric Iron																						100
FERROUS IRON																						50 U
Hexavalent Chromium	100	100		0.035														50 UJ	50 UJ			
Iron			300	14000																		
Lead	5	5	15	15														3 U	3 U	1.8		
Magnesium					18000	18000	18000	17000	17000	17000	17000	18000 B	22000	19000	18000 B	17000 B	17000					
Manganese	300	300	50	430																		
Mercury	2	2	2	0.63														0.2 U	0.2 U	0.2 U		
Nickel	100	100		390														40 U	1.6 B	4		
Potassium					4600	4600	4300	4000	4700	4600	4700	5000 B	4700	4700	4600	4600	4200					
Selenium	50	50	50	100														5 U	5 U	5 U		
Silver	100	100		94														5 U	0.62 B	1 U		
Sodium					53000	54000	50000	46000	45000	45000 B	47000 B	49000 B	51000	54000	52000 B	53000	50000					
Thallium	2	2	2	0.2														10 U	10 U	0.02 B		
Vanadium	260	720		86														2.5 B	2.6 B	4.7 J		
Zinc	2000	2000		6000														20 U	20 U	13		
METAL (Dissolved)																						
Antimony	6	6	6	7.8														10 U	10 U	2 U		
Arsenic	10	10	10	0.052														10 U	10 U	1 U		
Barium	2000	2000	2000	3800														36 B	38.7 B	32.3		
Beryllium	4	4	4	25														4 U	4 U	1 U		
Cadmium	5	5	5	9.2														5 U	5 U	1 U		
Calcium																					90000	
Chromium	100	100	100															9.2	9.4	17.1 J		
Copper	1000	1000	1300	800														25 U	25 U	0.75 B		
Ferric Iron																						
Hexavalent Chromium	100	100		0.035														50 U	50 U			
Iron			300	14000																	100 U	100 U
Lead	5	5	15	15														3 U	3 U	0.081 B		
Magnesium																					18500	
Manganese	300	300	50	430																	49.9	39
Mercury	2	2	2	0.63														0.2 U	0.2 U	0.2 U		
Nickel	100	100		390														40 U	40 U	2		
Potassium																					3770 B	
Selenium	50	50	50	100														5 U	5 U	5 U		
Silver	100	100		94														5 U	5 U	1 U		
Sodium																					35600	37000 B
Thallium	2	2	2	0.2														10 U	10 U	1 U		
Vanadium	260	720		86														50 U	50 U	2.7 J		
Zinc	2000	2000		6000														20 U	20 U	3.3 B		

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-100S 1/30/14	MW-100S 2/24/14	MW-100S 3/17/14	MW-100S 4/21/14	MW-100S 5/6/14	MW-100S 5/19/14	MW-100S 6/3/14	MW-100S 7/1/14	MW-100S Dup 7/1/14	MW-100S 7/14/14	MW-100S 8/5/14	MW-100S 9/8/14	MW-100S 10/6/14	MW-100S 10/28/14	MW-100S 1/14/15	MW-100S 2/25/15	MW-100S 3/24/15	MW-100S 4/21/15	MW-100S 5/19/15
METAL																							
Aluminum			200	20000																			
Antimony	6	6	6	7.8																			
Arsenic	10	10	10	0.052																			
Barium	2000	2000	2000	3800																			
Beryllium	4	4	4	25																			
Cadmium	5	5	5	9.2																			
Calcium					87000 B	87000	83000 B	87000 B	89000 B	88000 B	85000	93000 B	94000 B	88000	94000	82000	84000 B	90000 B	89000 B	95000	93000 B	97000	91000 B
Chromium	100	100	100																				
Copper	1000	1000	1300	800																			
Ferric Iron																		100 U					
FERROUS IRON																		50 U					
Hexavalent Chromium	100	100		0.035																			
Iron			300	14000																			
Lead	5	5	15	15																			
Magnesium					19000	16000	19000	21000	22000	20000	18000	22000	22000	20000	19000	18000	16000	17000	17000 B	22000	18000	17000 B	17000
Manganese	300	300	50	430																			
Mercury	2	2	2	0.63																			
Nickel	100	100		390																			
Potassium					3800	3900	3900	3800 B	4100 B	4100	4200	4200 B	4200 B	4200	4400	3700	4300	4000	4400 B	4300	4300	4300	4100
Selenium	50	50	50	100																			
Silver	100	100		94																			
Sodium					38000 B	39000	42000 B	44000 B	46000 B	49000	46000	45000 B	46000 B	46000	54000	44000	39000	42000 B	44000 B	48000	48000	47000	48000
Thallium	2	2	2	0.2																			
Vanadium	260	720		86																			
Zinc	2000	2000		6000																			
METAL (Dissolved)																							
Antimony	6	6	6	7.8																			
Arsenic	10	10	10	0.052																			
Barium	2000	2000	2000	3800																			
Beryllium	4	4	4	25																			
Cadmium	5	5	5	9.2																			
Calcium																		89000 B					
Chromium	100	100	100																				
Copper	1000	1000	1300	800																			
Ferric Iron																							
Hexavalent Chromium	100	100		0.035																			
Iron			300	14000														50 U					
Lead	5	5	15	15																			
Magnesium																		17000					
Manganese	300	300	50	430														36 B					
Mercury	2	2	2	0.63																			
Nickel	100	100		390																			
Potassium																		4000					
Selenium	50	50	50	100																			
Silver	100	100		94																			
Sodium																		42000 B					
Thallium	2	2	2	0.2																			
Vanadium	260	720		86																			
Zinc	2000	2000		6000																			

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-101D 5/21/08	MW-101D 9/12/08	MW-101D 6/16/10	MW-101S 5/22/08	MW-101S 9/10/08	MW-101S 6/22/10	MW-102D 4/29/08	MW-102D 9/19/08	MW-102D 6/23/10	MW-102S 4/30/08	MW-102S 9/17/08	MW-102S 6/21/10	MW-103D 4/30/08	MW-103D 9/19/08	MW-103D 6/18/10	MW-103S 4/30/08	MW-103S 9/19/08	MW-103S 6/24/10	MW-104 5/5/08
METAL																							
Aluminum			200	20000																			
Antimony	6	6	6	7.8	10 U	0.2 B		10 U	0.14 B		10 U	0.24 B		10 U	2 U		10 U	2 U		10 U	2 U		10 U
Arsenic	10	10	10	0.052	10 U	0.31 B		10 U	0.32 B		10 U	0.71 B		10 U	0.48 B		10 U	1 U		10 U	1 U		10 U
Barium	2000	2000	2000	3800	32.9 B J	38.1		200 U	56.6		11.4 B J	10 J		100 B J	95.3		64.7 B J	59.5 J		90.5 B J	87.3 J		86.1 B
Beryllium	4	4	4	25	0.45 B J	1 U		4 U	1 U		4 U	1 U		4 U	1 U		4 U	1 U		4 U	1 U		4 U
Cadmium	5	5	5	9.2	5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U
Calcium																							
Chromium	100	100	100		1.7 B	5.6 J		1.3 B	8.1 J		5 U	12.6 J		1.6 B	12.3 J		5 U	18.2 J		5 U	18.6 J		13.2
Copper	1000	1000	1300	800	25 U	0.65 B		25 U	0.8 B		25 U	0.84 B		0.84 B	2		1 B	2.2		25 U	1.2 B		25 U
Ferric Iron																							
FERROUS IRON																							
Hexavalent Chromium	100	100		0.035	50 U			50 UJ			50 U			50 U			50 U			50 U			50 U
Iron			300	14000																			
Lead	5	5	15	15	3 U	0.14 B		3 U	0.11 B		3 U	0.15 B		3 U	1.3		3 U	0.092 B		3 U	0.26 B		3 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		0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U		0.2 U
Nickel	100	100		390	2.1 B	2.2		1.4 B	1.9		40 U	0.9 B		6.8 B	7.8		40 U	3.6		2.4 B	4.1		9.9 B J
Potassium																							
Selenium	50	50	50	100	5 U	0.79 B		5 U	2 B		5 U	0.39 B		5 U	0.4 B		5 U	5 U		5 U	5 U		5 U
Silver	100	100		94	5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U
Sodium																							
Thallium	2	2	2	0.2	10 U	0.16 B		10 U	0.045 B		10 U	0.019 B		6.8 B J	1 U		10 U	1 U		10 U	0.043 B		10 U
Vanadium	260	720		86	2.9 B	1.2 J		1.4 B	0.95 B J		50 U	4.7 J		50 U	1.4 J		50 U	1.8 J		50 U	5 J		50 U
Zinc	2000	2000		6000	16.5 B J	5.4 J		20 U	5.0 U		20 U	3.2 B		8.7 B J	17.8		2.8 B J	4.3 B		4.1 B J	3.9 B		37.1 J
METAL (Dissolved)																							
Antimony	6	6	6	7.8	10 U	0.24 B		10 U	0.12 B		10 U	2 U		10 U	2 U		10 U	2 U		10 U	0.063 B J		10 U
Arsenic	10	10	10	0.052	10 U	0.92 B		10 U	1 U		10 U	0.36 B		10 U	1 U		10 U	1 U		10 U	1 U		10 U
Barium	2000	2000	2000	3800	33.9 B	38.8		49.8 B	57.5		7.7 B J	7.3 B		94.1 B J	86.9		61 B J	54.7		90 B J	78.2		82.2 B
Beryllium	4	4	4	25	0.45 B J	1 U		4 U	1 U		4 U	1 U		4 U	1 U		4 U	1 U		4 U	1 U		4 U
Cadmium	5	5	5	9.2	5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U
Calcium							84600 J			119000			27400			8540			33500			27400	
Chromium	100	100	100		5 U	5.7 J		5 U	7.9 J		5 U	14.4 J		5 U	7.9 J		5 U	15.8 J		5 U	16.6 J		2.6 B
Copper	1000	1000	1300	800	25 U	0.42 B		25 U	0.73 B		25 U	0.37 B		0.72 B	1.4 B		25 U	0.4 B		25 U	0.47 B		25 U
Ferric Iron																							
Hexavalent Chromium	100	100		0.035	50 U			50 U			50 U			50 U			50 U			50 U			50 U
Iron			300	14000			259			100 U			1190			100 U			100 U			12.8 B	
Lead	5	5	15	15	3 U	1 U		3 U	1.0 U		3 U	0.068 B		3 U	0.92 B		3 U	0.063 B		3 U	0.072 B		3 U
Magnesium							34200			25500			7520			4250 B			14900			11100	
Manganese	300	300	50	430			182			6.8 B			80.3			23			15 U			5.7 B	
Mercury	2	2	2	0.63	0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U		0.2 U
Nickel	100	100		390	2.7 B	2		40 U	2.1		40 U	0.69 B		7.2 B	6.5		40 U	3.1		1.3 B	3.4		8.2 B J
Potassium							2100 B			3960 B			1120 B			2400 B			2520 B			2240 B	
Selenium	50	50	50	100	5 U	0.68 B J		5 U	1.8 B		5 U	0.84 B J		5 U	0.22 B		5 U	0.46 B J		5 U	0.64 B J		5 U
Silver	100	100		94	5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U	1 U		5 U
Sodium							13800			41100			6400			12900			10400			8410	
Thallium	2	2	2	0.2	10 U	0.081 B		10 U	1.0 U		10 U	1 U		10 U	1 U		3.6 B	1 U		9.7 B	0.037 B		10 U
Vanadium	260	720		86	2.7 B	1.1 J		1.6 B	1.1		50 U	3.5 J		50 U	0.86 B J		50 U	1.7 J		1.8 B	5.2 J		50 U
Zinc	2000	2000		6000	12.2 B J	4.6 B J		20 U	5.0 U		5 B J	9.9		9.9 B J	15.9		4.2 B J	3.7 B		2 B J	4 B		35.2 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-104 10/9/08	MW-104 6/24/09	MW-104 6/23/10	MW-105 5/5/08	MW-105 10/2/08	MW-106 4/29/08	MW-106 9/29/08	MW-106 6/18/10	MW-106 Dup 6/18/10	MW-107 5/6/08	MW-107 9/10/08	MW-107 6/18/10	MW-107 1/20/14	MW-107 2/19/14	MW-107 3/20/14	MW-107 5/8/14	MW-107 6/2/14	MW-107 7/2/14	MW-107 8/8/14	MW-107 9/10/14	MW-107 10/7/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8	0.34 B			10 U	2 U	10 U	0.086 B			10 U	0.082 B										
Arsenic	10	10	10	0.052	5			10 U	1 U	10 U	1.2			10 U	0.53 B										
Barium	2000	2000	2000	3800	307			46.4 B	47.8	156 B	123			182 B	66										
Beryllium	4	4	4	25	2.5			4 U	1 U	4 U	1 U			4 U	1 U										
Cadmium	5	5	5	9.2	0.85 B			5 U	1 U	5 U	1 U			5 U	1 U										
Calcium																	110000 B	96000	100000	84000	78000 B	120000	120000 B	130000 B	110000 B
Chromium	100	100	100		34.8 J			2.6 B	7.5 J	6.6	14.8 J			7.7	14.7 J										
Copper	1000	1000	1300	800	14.6			25 U	1.1 B	1.2 B	1.7 B			25 U	0.73 B										
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035				50 U		50 U				50 U											
Iron			300	14000																					
Lead	5	5	15	15	10.7	0.87 B	3 U	3 U	0.36 B	3 U	1			3 U	0.16 B										
Magnesium																	27000	34000	23000	28000	21000	40000	35000	40000	31000
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63	0.03 B			0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U										
Nickel	100	100		390	31.5 J			2.5 B J	3.3	5.8 B	6.3			5.9 B J	3.5										
Potassium																	33000	30000	41000	20000 B	15000	31000	30000	29000	23000
Selenium	50	50	50	100	3.7 B J			5 U	0.73 B	5 U	3.3 B			5 U	0.37 B										
Silver	100	100		94	0.26 B			5 U	1 U	5 U	1 U			5 U	1 U										
Sodium																	58000	63000	49000	56000 B	48000	35000	44000 B	44000	47000 B
Thallium	2	2	2	0.2	0.18 B			10 U	0.041 B J	6 B	0.087 B			10 U	0.031 B										
Vanadium	260	720		86	27 J			1.6 B	6.3 J	2 B	2.7 J			4.7 B	1.9 J										
Zinc	2000	2000		6000	63.3			4.8 B J	3.5 B	17.7 B	5.8			42.1 J	5.0 U										
METAL (Dissolved)																									
Antimony	6	6	6	7.8	0.12 B			10 U	2 U	10 U	0.094 B			10 U	0.12 B										
Arsenic	10	10	10	0.052	1 U			10 U	1 U	10 U	1 U			10 U	1 U										
Barium	2000	2000	2000	3800	72.2			45.6 B	46.1	151 B	135			180 B	66.6										
Beryllium	4	4	4	25	1 U			4 U	1 U	4 U	1 U			4 U	1 U										
Cadmium	5	5	5	9.2	1 U			5 U	1 U	5 U	1 U			5 U	1 U										
Calcium							9030					130000	131000			191000									
Chromium	100	100	100		13.2 J			2.3 B	10.6 J	5 U	10.8 J			2.7 B	12 J										
Copper	1000	1000	1300	800	0.41 B			25 U	1.4 B J	25 U	0.94 B			25 U	0.61 B										
Ferric Iron																									
Hexavalent Chromium	100	100		0.035				50 U		50 U				50 U											
Iron			300	14000			100 U					100 U	100 U			100 U									
Lead	5	5	15	15	1 U	1 U	3 U	3 U	0.15 B J	3 U	0.31 B			3 U	1.0 U										
Magnesium							4600 B					22900	23200			58700									
Manganese	300	300	50	430			4.1 B					1470	1500			1.6 B									
Mercury	2	2	2	0.63	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.059 B										
Nickel	100	100		390	2.8			1.6 B J	4.3	1.5 B	4.6			2.8 B J	2.8										
Potassium							2980 B					74000	74500			25500									
Selenium	50	50	50	100	1.3 B			5 U	0.28 B	5 U	5 U			5 U	0.31 B										
Silver	100	100		94	1 U			5 U	1 U	5 U	1 U			5 U	1 U										
Sodium							11800					87400	88300			26400									
Thallium	2	2	2	0.2	1 U			10 U	0.038 B	7.6 B J	0.078 B J			10 U	1.0 U										
Vanadium	260	720		86	4.7 J			1.6 B	0.63 B J	50 U	2 J			4.2 B	1.3										
Zinc	2000	2000		6000	9.4 J			8.2 B J	11.3	3.2 B	6			18.8 B J	5.0 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-107 10/30/14	MW-107 1/13/15	MW-108D 4/23/08	MW-108D 9/5/08	MW-108S 4/23/08	MW-108S 9/5/08	MW-108S 6/22/09	MW-108S 7/1/10	MW-108S 6/24/11	MW-109D 5/20/08	MW-109D 9/17/08	MW-109S 5/20/08	MW-109S 9/16/08	MW-109S 6/21/10	MW-110 5/14/08	MW-110 9/22/08	MW-110 6/21/10	MW-110 9/12/13	MW-110 10/22/14	MW-111 5/16/08
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8			10 U	0.072 B	50 U	2.9				10 U	0.081 B	10 U	0.058 B		10 U	2 U				10 U
Arsenic	10	10	10	0.052			10 U	1 U	93.4	78.1	1 U	20.3	2.8	10 U	1.6	10 U	1.2		10 U	1 U				10 U
Barium	2000	2000	2000	3800			7.9 B	7.8 B	1350	1470				418	318	214	172		39.9 B	36.8 J				108 B
Beryllium	4	4	4	25			4 U	1 U	39.2	44.5	0.19 B	4 U	1.2	4 U	1 U	4 U	0.15 B		4 U	1 U				4 U
Cadmium	5	5	5	9.2			5 U	1 U	25 U	8.1	1 U			5 U	1 U	5 U	1 U		5 U	1 U				5 U
Calcium					140000	120000 B																		
Chromium	100	100	100				5 U	4.3 J	49.9	85.4 J				5 U	5.5 J	5 U	7.2 J		5 U	16.3 J				1.7 B
Copper	1000	1000	1300	800			25 U	0.86 B	274	307				25 U	0.39 B	25 U	1.5 B		25 U	0.83 B				0.99 B
Ferric Iron																						100	100 U	
FERROUS IRON																						50 U	50 U	
Hexavalent Chromium	100	100		0.035			50 U		50 U					50 U		50 U			50 U					50 U
Iron			300	14000																				
Lead	5	5	15	15			3 U	0.2 B	374	446	1.2	164	14	3 U	0.18 B	3 U	1.5		3 U	0.22 B				3 U
Magnesium					39000 B	29000 B																		
Manganese	300	300	50	430																				
Mercury	2	2	2	0.63			0.2 U	0.2 U	0.27	0.53				0.2 U	0.2 U	0.31	0.62		0.093 B J	0.2 U				0.2 U
Nickel	100	100		390			40 U	0.52 B	337	352	5.7	187	12	1.1 B	1.6	2.9 B	6.2		40 U	2.7				1.8 B
Potassium					41000 B	26000 B																		
Selenium	50	50	50	100			5 U	5 U	13.8 B	23.5				5 U	0.58 B	5 U	0.26 B		5 U	0.21 B				5 U
Silver	100	100		94			5 U	1 U	7.2 B	0.5 B				5 U	1 U	5 U	1 U		5 U	1 U				5 U
Sodium					37000 B	57000 B																		
Thallium	2	2	2	0.2			10 U	1 U	17.9 B	2.5				10 U	0.034 B	10 U	0.077 B		10 U	1 U				10 U
Vanadium	260	720		86			50 U	1.4 J	65.2 B	69.8 J				50 U	1.4 J	2 B	1.1 J		50 U	3.5 J				50 U
Zinc	2000	2000		6000			5.6 B	2.8 B	1130	1010				2 B J	2.5 B	3.9 B J	11.1		16.9 B J	2 B				1.6 B
METAL (Dissolved)																								
Antimony	6	6	6	7.8			10 U	2 U	10 U	2 U				10 U	0.052 B	10 U	0.064 B		10 U	0.078 B J				10 U
Arsenic	10	10	10	0.052			10 U	1 U	10 U	0.42 B	1 U	10 U	0.32 J	10 U	0.47 B	10 U	0.59 B		10 U	0.28 B				10 U
Barium	2000	2000	2000	3800			7.3 B	6.8 B	71.2 B	72				420	306	221	166		39.3 B	35.2				108 B
Beryllium	4	4	4	25			4 U	1 U	4 U	0.09 B	0.21 B	4 U	0.14 J	4 U	1 U	4 U	1 U		4 U	1 U				4 U
Cadmium	5	5	5	9.2			5 U	1 U	5 U	1 U	1 U			5 U	1 U	5 U	1 U		5 U	1 U				5 U
Calcium												9270						86600			72700		86000	
Chromium	100	100	100				5 U	4.3 J	5 U	4.6 J				5 U	6.3 J	5 U	6.9 J		5 U	14.9 J				5 U
Copper	1000	1000	1300	800			25 U	0.22 B	25 U	0.28 B				25 U	0.43 B	25 U	0.5 B		25 U	1.1 B				25 U
Ferric Iron																								
Hexavalent Chromium	100	100		0.035			50 U		50 U					50 U		50 U			50 U					50 U
Iron			300	14000								109						639			100 U	100 U	50 U	
Lead	5	5	15	15			3 U	1 U	3 U	0.031 B J	1 U	3 U	1 U	3 U	0.16 B	3 U	0.4 B		3 U	0.23 B				3 U
Magnesium												4190 B						9410			8760		11000	
Manganese	300	300	50	430								85.3						1800			15 U	15 U	0.52 J	
Mercury	2	2	2	0.63			0.2 U	0.2 U	0.2 U	0.2 U				0.2 U	0.2 U	0.1 B	0.073 B		0.09 B J	0.2 U				0.2 U
Nickel	100	100		390			40 U	0.27 B	5.6 B	7.6	4.3	31.9 B	1.8	40 U	1.9	3 B	4.1		40 U	2.7				40 U
Potassium												3330 B						2710 B			2380 B		2900 B	
Selenium	50	50	50	100			5 U	5 U	5 U	0.46 B				5 U	0.28 B	5 U	0.36 B		5 U	5 U				5 U
Silver	100	100		94			5 U	1 U	5 U	1 U				5 U	1 U	5 U	1 U		5 U	1 U				5 U
Sodium												13500						27500			10500	12000	19000 B	
Thallium	2	2	2	0.2			10 U	1 U	10 U	0.056 B J				10 U	0.022 B	10 U	0.055 B		10 U	1 U				7.3 B
Vanadium	260	720		86			50 U	1.5	50 U	1.5				50 U	1.6 J	50 U	1.7 J		50 U	3.6 J				50 U
Zinc	2000	2000		6000			3.2 B	2.5 B	8.6 B	7.7				1.9 B	5.3	5.5 B	9.1		3.3 B J	3.3 B				2.3 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-111 9/15/08	MW-111 6/30/10	MW-112 5/1/08	MW-112 9/3/08	MW-112 6/23/10	MW-113 10/25/07	MW-113 5/15/08	MW-113 9/3/08	MW-113 7/6/09	MW-113 7/6/10	MW-114 5/23/08	MW-114 10/3/08	MW-114 7/2/10	MW-114 3/20/14	MW-114 5/7/14	MW-114 6/5/14	MW-114 7/2/14	MW-114 8/7/14	MW-114 Dup 8/7/14	MW-114 9/10/14	MW-114 10/9/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8	2 U		10 U	0.14 B		10 U	10 U	0.096 B			10 U	0.11 B									
Arsenic	10	10	10	0.052	0.34 B		10 U	1 U		15.1	10 U	1 U	1.0 U	10 U	10 U	1 U									
Barium	2000	2000	2000	3800	95		54.6 B	53.8		204	42.9 B	37.5			42.8 B	53.8									
Beryllium	4	4	4	25	1 U		4 U	1 U		4 U	4 U	1 U			4 U	1 U									
Cadmium	5	5	5	9.2	1 U		5 U	1 U		5 U	5 U	1 U			5 U	1 U									
Calcium																		85000	89000	76000 B	98000	50000	50000	130000 B	130000
Chromium	100	100	100		4.4 J		10.7	16.2 J		60.8	2.1 B	4.4 J			1.8 B	5.5 J									
Copper	1000	1000	1300	800	0.81 B		25 U	0.58 B		53.3	25 U	0.45 B			25 U	1 B									
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035			50 U				50 U				10 U										
Iron			300	14000																					
Lead	5	5	15	15	1 U		3 U	0.14 B		17.8	3 U	0.038 B	0.27 B	3 U	3 U	0.37 B									
Magnesium																		14000	21000	17000	21000	15000	15000	25000	23000
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63	0.2 U		0.2 U	0.2 U		4.5	0.097 B J	0.2 U	0.20 U	0.091 B J	0.2 U	0.2 U									
Nickel	100	100		390	0.33 B		40 U	0.7 B		79.6	2.1 B	0.38 B			2.5 B	3.7									
Potassium																		23000	25000	27000 B	16000	33000	33000	9400	9000 B
Selenium	50	50	50	100	5 U		5 U	0.83 B		4.9 B	5 U	5 U			5 U	5 U									
Silver	100	100		94	1 U		5 U	1 U		0.79 B	5 U	1 U			5 U	1 U									
Sodium																		50000	60000 B	58000 B	42000	68000 ^	69000 ^	44000	39000 B
Thallium	2	2	2	0.2	0.032 B		3.9 B	0.046 B		10 U	10 U	0.076 B			4.3 B	0.057 B J									
Vanadium	260	720		86	1.9 J		1.2 B	1.6 J		28.4 B	1.9 B	1.4 J			1.1 B	4 J									
Zinc	2000	2000		6000	2 B J		5.4 B J	5.2		174 J	18.6 B J	3.7 B			6.7 B J	9.2									
METAL (Dissolved)																									
Antimony	6	6	6	7.8	2 U		10 U	0.17 B J			10 U	0.15 B J			10 U	0.11 B									
Arsenic	10	10	10	0.052	1 U		10 U	0.19 B			10 U	1 U	1.0 U	10 U	10 U	1 U									
Barium	2000	2000	2000	3800	93.8		54.7 B	54.1			42.1 B	38.4			41.8 B	44.4									
Beryllium	4	4	4	25	1 U		0.57 B J	1 U			4 U	1 U			4 U	1 U									
Cadmium	5	5	5	9.2	1 U		5 U	1 U			5 U	1 U			5 U	1 U									
Calcium						34000			165000					80800			122000								
Chromium	100	100	100		4.9 J		8.8	17 J			5 U	4.3 J			5 U	7 J									
Copper	1000	1000	1300	800	0.23 B		25 U	0.55 B			25 U	0.62 B			25 U	0.52 B J									
Ferric Iron																									
Hexavalent Chromium	100	100		0.035			50 U				50 U				10 U										
Iron			300	14000		2120			100 U					100 U			846								
Lead	5	5	15	15	1 U		3 U	0.068 B J			3 U	0.087 B J	1.0 U	3 U	3 U	0.049 B J									
Magnesium						8790			19700					14100			22300								
Manganese	300	300	50	430		77.8			3.6 B					1.1 B			84.7								
Mercury	2	2	2	0.63	0.2 U		0.2 U	0.2 U			0.1 B J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U									
Nickel	100	100		390	0.3 B		40 U	0.49 B			40 U	0.34 B			1.8 B	4.3									
Potassium						1040 B			19400					2180 B			18400 J								
Selenium	50	50	50	100	0.34 B J		5 U	0.97 B			5 U	0.22 B			5 U	0.67 B									
Silver	100	100		94	1 U		5 U	1 U			5 U	1 U			5 U	1 U									
Sodium						4610 B			262000					9170			30700								
Thallium	2	2	2	0.2	1 U		8.4 B	0.053 B J			10 U	0.12 B J			5.8 B	0.041 B									
Vanadium	260	720		86	1.8 J		50 U	1.8			50 U	1.3			50 U	0.57 B J									
Zinc	2000	2000		6000	2.7 B J		1.6 B	4.3 B			20.5 J	4.9 B			20 U	2.3 B									

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-114 10/30/14
METAL					
Aluminum			200	20000	
Antimony	6	6	6	7.8	
Arsenic	10	10	10	0.052	
Barium	2000	2000	2000	3800	
Beryllium	4	4	4	25	
Cadmium	5	5	5	9.2	
Calcium					89000
Chromium	100	100	100		
Copper	1000	1000	1300	800	
Ferric Iron					
FERROUS IRON					
Hexavalent Chromium	100	100		0.035	
Iron			300	14000	
Lead	5	5	15	15	
Magnesium					17000 B
Manganese	300	300	50	430	
Mercury	2	2	2	0.63	
Nickel	100	100		390	
Potassium					24000 B
Selenium	50	50	50	100	
Silver	100	100		94	
Sodium					56000 B
Thallium	2	2	2	0.2	
Vanadium	260	720		86	
Zinc	2000	2000		6000	
METAL (Dissolved)					
Antimony	6	6	6	7.8	
Arsenic	10	10	10	0.052	
Barium	2000	2000	2000	3800	
Beryllium	4	4	4	25	
Cadmium	5	5	5	9.2	
Calcium					
Chromium	100	100	100		
Copper	1000	1000	1300	800	
Ferric Iron					
Hexavalent Chromium	100	100		0.035	
Iron			300	14000	
Lead	5	5	15	15	
Magnesium					
Manganese	300	300	50	430	
Mercury	2	2	2	0.63	
Nickel	100	100		390	
Potassium					
Selenium	50	50	50	100	
Silver	100	100		94	
Sodium					
Thallium	2	2	2	0.2	
Vanadium	260	720		86	
Zinc	2000	2000		6000	

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-114 1/16/15	MW-114 2/26/15	MW-114 3/27/15	MW-114 4/23/15	MW-114 5/21/15	MW-115 4/30/08	MW-115 9/3/08	MW-115 6/30/09	MW-115 7/1/10	MW-116 5/21/08	MW-116 9/3/08	MW-116 7/1/10	MW-117 2/26/09	MW-117 6/23/10	MW-126 7/6/12	MW-127 7/6/12	MW-127 1/21/14	MW-127 2/18/14	MW-127 3/21/14	MW-127 5/8/14	MW-127 6/5/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8						10 U	0.54 B			10 U	0.076 B		0.47 B J	0.33 B J	0.45 J	0.16 J					
Arsenic	10	10	10	0.052						17.3	15.3	5.8	6 B	10 U	1 U		0.89 B	1 U	0.39 J ^	0.72 J ^					
Barium	2000	2000	2000	3800						316	305			26.8 B J	26.2		273 J	102	40	14					
Beryllium	4	4	4	25						3.1 B	3.1			0.49 B J	1 U		1 U	1 U	0.045 J	0.048 J					
Cadmium	5	5	5	9.2						5 U	0.99 B			0.51 B	0.44 B		1 U	1 U	1 U	1 U					
Calcium					120000 B	130000	120000 B	120000	120000 B												110000	88000	83000	110000	100000 B
Chromium	100	100	100							39.8	52.2 J			2.9 B	8.9 J		7.1 J	4	1.1 J	1.5 J					
Copper	1000	1000	1300	800						23.6 B	30.8			25 U	0.9 B		2.5	1.6 B	1.2 J	1.1 J					
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035						50 U				50 U	0 U		10 U	10 U	4.6 J	3.3 J					
Iron			300	14000																					
Lead	5	5	15	15						39	47.6	5.6 J	2.2 B	3 U	0.28 B		0.29 B J	0.57 B	0.054 J	0.1 J					
Magnesium					20000 B	25000	23000 B	20000 B	21000												20000	23000	15000	26000	21000
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63						0.12 B	0.083 B			0.2 U	0.2 U		0.2 U	0.049 B J	0.2 U	0.2 U					
Nickel	100	100		390						50.1	57.1			19.4 B	18.6		4.8	1.7	0.54 J	0.33 J					
Potassium					8100	9900	10000	8100	7900												5900	4600	4700	6600 B	6000
Selenium	50	50	50	100						5 U	2.9 B			5 U	0.39 B		1.5 B J	1.3 B	1.1 J B	1.5 J B					
Silver	100	100		94						5 U	0.13 B			1.4 B	1 U		1 U	1 U	1 U	1 U					
Sodium					35000	42000 B	43000 B	35000 B	36000												27000	26000	27000	43000 B	33000
Thallium	2	2	2	0.2						3.8 B	0.48 B			10 U	0.099 B		0.072 B J	0.13 B	0.39 J	0.075 J					
Vanadium	260	720		86						44.1 B	49 J			2.2 B	1.4 J		1.4 J	2 J	0.12 J	1 U					
Zinc	2000	2000		6000						129 J	134			20.2 J	15.8		4.7 B	4.2 B	5.3	4.7 J					
METAL (Dissolved)																									
Antimony	6	6	6	7.8						10 U	0.097 B J			10 U	0.091 B J		0.51 B	0.26 B	0.58 J B	0.23 J B					
Arsenic	10	10	10	0.052						6.1 B	5.1	5.4	6 B	10 U	1 U		1 U	1 U	0.62 J B ^	0.55 J B ^					
Barium	2000	2000	2000	3800						174 B	166			25.7 B	25.1		266 J	101	41	13					
Beryllium	4	4	4	25						0.57 B J	1 U			0.41 B J	1 U		1 U	1 U	0.039 J	1 U					
Cadmium	5	5	5	9.2						5 U	1 U			0.64 B	0.48 B		1 U	1 U	1 U	1 U					
Calcium													173000			204000		117000							
Chromium	100	100	100							5 U	5.1 J			2.9 B	7.3 J E		6.7 J E	3.5	1 J	1.2 J					
Copper	1000	1000	1300	800						25 U	1.2 B			25 U	0.86 B		1.6 B	1.4 B	1.1 J	0.77 J					
Ferric Iron																									
Hexavalent Chromium	100	100		0.035						50 U				50 U	0 U		10 U	10 U	10 U	10 U					
Iron			300	14000									9890			100 U		100 U							
Lead	5	5	15	15						3 U	1 J	0.021 B J	3 U	3 U	0.12 B J		0.23 B J	0.094 B	0.12 J	0.025 J					
Magnesium													18300			41000		16000							
Manganese	300	300	50	430									723			3940		12.5 B							
Mercury	2	2	2	0.63						0.2 U	0.2 U			0.2 U	0.2 U		0.2 U	0.044 B	0.2 U	0.2 U					
Nickel	100	100		390						40 U	2.8			18.6 B	17.6		4.3	0.91 B	0.59 J	1 U					
Potassium													4810 B			6570		102000							
Selenium	50	50	50	100						5 U	0.55 B			5 U	0.59 B		0.76 B	0.72 B	3.2 J B	2.9 J B					
Silver	100	100		94						5 U	1 U			1.5 B	1 U		1 U	1 U	1 U	1 U					
Sodium													25400			44100		235000							
Thallium	2	2	2	0.2						3.7 B	0.039 B J			10 U	0.092 B J		0.15 B J	0.14 B	0.5 J	0.082 J					
Vanadium	260	720		86						50 U	2			3 B	0.58 B		1 U	2	0.35 J	1 U					
Zinc	2000	2000		6000						20 U	5.7			15.8 B J	16.3		4.2 B	4 B	3.1 J	4.9 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-127 6/30/14	MW-127 8/7/14	MW-127 9/10/14	MW-127 10/9/14	MW-127 10/14/14	MW-127 Dup 10/31/14	MW-127 1/16/15	MW-127 2/27/15	MW-127 3/27/15	MW-127 4/23/15	MW-127 5/21/15	MW-128 7/6/12	MW-128 Dup 7/6/12	MW-129 7/6/12	MW-130 7/2/12	MW-131 7/5/12	MW-132 7/5/12	MW-132 3/19/14	MW-132 5/7/14	MW-132 6/4/14
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8												0.072 J	0.056 J	0.14 J	2 U	0.38 J B	0.44 J B			
Arsenic	10	10	10	0.052												0.43 J ^	1 U	2.4 ^	1 U	1 U	1 U			
Barium	2000	2000	2000	3800												20	20	68	80	53	31			
Beryllium	4	4	4	25												1 U	1 U	0.071 J	1 U	0.058 J	0.05 J			
Cadmium	5	5	5	9.2												1 U	1 U	1 U	1 U	1 U	1 U			
Calcium					97000 B	98000	100000 B	99000	99000 B	94000 B	100000 B	100000 B	110000 B	100000	92000 B							58000	46000	46000 B
Chromium	100	100	100													1.2 J	1.4 J	2	6.8	1.9 J	1.6 J			
Copper	1000	1000	1300	800												0.92 J	0.84 J	1.3 J	2 U	1.9 J	1.4 J			
Ferric Iron																								
FERROUS IRON																								
Hexavalent Chromium	100	100		0.035												10 U	10 U	4.6 J	3.93 J	4.57 J	5.8 J			
Iron			300	14000																				
Lead	5	5	15	15												0.1 J	1.8	0.69 J	1 U	0.3 J	0.055 J			
Magnesium					23000	23000	22000	19000	19000	18000	19000 B	21000	19000 B	18000 B	19000							3800	3900	3500
Manganese	300	300	50	430																				
Mercury	2	2	2	0.63												0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
Nickel	100	100		390												1 U	1 U	1.6	0.53 J	2.3	0.71 J			
Potassium					4800 B	4400	4300	4100 B	3900	3800	4700	4200	4200	4200	3800							1600	1800	1700 B
Selenium	50	50	50	100												1.5 J B	1.3 J B	2.2 J B	5 U	5 U	5 U			
Silver	100	100		94												1 U	1 U	1 U	1 U	0.048 J	0.037 J			
Sodium					26000	25000 ^	24000	20000 B	19000 B	20000 B	25000	25000 B	34000 B	32000 B	27000							4500	5100 B	4700 B
Thallium	2	2	2	0.2												0.068 J	0.049 J	0.067 J	1 U	0.32 J B	0.33 J B			
Vanadium	260	720		86												1 U	1 U	0.4 J	9.1 B	1 U	1 U			
Zinc	2000	2000		6000												5.8	3.7 J	5.3	5 U	3.7 J B	5.8 B			
METAL (Dissolved)																								
Antimony	6	6	6	7.8												0.14 J B	0.073 J B	0.14 J B	2 U	0.38 J B	0.38 J B			
Arsenic	10	10	10	0.052												0.51 J B ^	0.64 J B ^	1.7 B ^	1 U	1 U	1 U			
Barium	2000	2000	2000	3800												19	20	65	82	49	28			
Beryllium	4	4	4	25												0.041 J	1 U	1 U	1 U	1 U	1 U			
Cadmium	5	5	5	9.2												1 U	1 U	1 U	1 U	1 U	1 U			
Calcium																								
Chromium	100	100	100													1.4 J	1.1 J	0.89 J	1.9 J	1.5 J	1.4 J			
Copper	1000	1000	1300	800												0.86 J	0.74 J	0.69 J	2 U	1.9 J	1.3 J			
Ferric Iron																								
Hexavalent Chromium	100	100		0.035												10 U	10 U	10 U	10 U	3.3 J	10 U			
Iron			300	14000																				
Lead	5	5	15	15												0.047 J	0.028 J	0.021 J	1 U	0.16 J B	0.083 J B			
Magnesium																								
Manganese	300	300	50	430																				
Mercury	2	2	2	0.63												0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			
Nickel	100	100		390												1 U	1 U	0.87 J	0.46 J	1.7	0.75 J			
Potassium																								
Selenium	50	50	50	100												5 U	2.7 J B	0.65 J B	5 U	5 U	5 U			
Silver	100	100		94												1 U	1 U	1 U	1 U	0.038 J	1 U			
Sodium																								
Thallium	2	2	2	0.2												0.067 J	0.045 J	0.06 J	1 U	0.35 J	0.31 J			
Vanadium	260	720		86												1 U	1 U	1 U	1 U	1 U	0.41 J			
Zinc	2000	2000		6000												3.5 J	1.8 J	5.2	5 U	3.7 J	4.6 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-132 7/2/14	MW-132 8/7/14	MW-132 9/10/14	MW-132 10/9/14	MW-132 10/15/14	MW-132 Dup 10/31/14	MW-132 1/16/15	MW-132 2/27/15	MW-132 3/27/15	MW-132 4/23/15	MW-132 5/21/15	MW-133 7/5/12	MW-134 7/5/12	MW-135 7/2/12	MW-138A 11/13/12	MW-141A 1/7/13	MW-141A 9/5/13	MW-141A 10/21/14	MW-142D 11/12/12	MW-142S 11/12/12
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8												0.24 J B	0.24 J B	2 U	1.5 J	0.4 J			4.4	2 U
Arsenic	10	10	10	0.052												1 U	1 U	1 U	7.3 B	1 U			1.1 B	0.36 J B
Barium	2000	2000	2000	3800												55	56	66	180	88			140	44
Beryllium	4	4	4	25												1 U	1 U	1 U	1 U	1 U			0.06 J	0.13 J
Cadmium	5	5	5	9.2												1 U	1 U	1 U	1 U	1 U			1 U	1 U
Calcium					50000	56000	60000 B	65000	63000 B	60000 B	56000 B	56000 B	50000 B	60000	59000 B									
Chromium	100	100	100													2.4	1.5 J	6.5	11	2 U			3.4	1.7 J
Copper	1000	1000	1300	800												1.5 J	1.2 J	2 U	2.6	0.91 J			4	0.42 J
Ferric Iron																					56 J	100 U		
FERROUS IRON																					44 J HF	50 U		
Hexavalent Chromium	100	100		0.035												3.9 J	5.2 J	12	10 U	10 U			10 U	9.4 J
Iron			300	14000																				
Lead	5	5	15	15												0.13 J	0.064 J	1 U	1.2	0.05 J B			3.8	1.2
Magnesium					4200	4500	4800	5100	4700	4400	3600 B	4100	3300 B	3700 B	4200									
Manganese	300	300	50	430																				
Mercury	2	2	2	0.63												0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U
Nickel	100	100		390												0.86 J	1	6.6	0.77 J	0.61 J			2.2	0.53 J
Potassium					1600	1700	1700	1900 B	1800	1600	1900	1800	1900	1800	1700									
Selenium	50	50	50	100												5 U	5 U	5 U	5 U	2.4 J			2.5 J B	5 U
Silver	100	100		94												1 U	1 U	0.04 J	1 U	1 U			1 U	1 U
Sodium					4300	5400 ^	5300	5800 B	5000 B	4900 B	4800	4800 B	5100 B	4500 B	4700									
Thallium	2	2	2	0.2												0.12 J B	0.11 J B	1 U	1 U	0.12 J B			0.24 J B	0.17 J B
Vanadium	260	720		86												0.27 J	1 U	9 B	3.7	1 U			2.4 B	2.9 B
Zinc	2000	2000		6000												5.4 B	2.5 J B	5 U	19	2.5 J			28	13
METAL (Dissolved)																								
Antimony	6	6	6	7.8												0.19 J B	0.15 J B	2 U	1.1 J	0.4 J			1.7 J	2 U
Arsenic	10	10	10	0.052												1 U	1 U	1 U	1 U	1 U			1 U	0.65 J
Barium	2000	2000	2000	3800												51	55	71	160	92			18	39
Beryllium	4	4	4	25												1 U	1 U	1 U	1 U	1 U			1 U	1 U
Cadmium	5	5	5	9.2												1 U	1 U	1 U	1 U	1 U			1 U	1 U
Calcium																						42000		
Chromium	100	100	100													2	2.2	2	12	2 U			1.1 J	1.1 J
Copper	1000	1000	1300	800												1.5 J	1.5 J	2.5 B	2	0.85 J B			1.1 J	2 U
Ferric Iron																								
Hexavalent Chromium	100	100		0.035												3.29 J	5.8 J	10 U	10 U	10 U			10 U	10 U
Iron			300	14000																	100 U	17 J		
Lead	5	5	15	15												0.097 J B	0.047 J B	0.034 J B	0.14 J	0.051 J B			0.088 J	1.5
Magnesium																						11000		
Manganese	300	300	50	430																	220 B	190		
Mercury	2	2	2	0.63												0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U
Nickel	100	100		390												0.81 J	0.92 J	8	0.67 J	0.85 J B			0.51 J	0.26 J
Potassium																						3300 B		
Selenium	50	50	50	100												5 U	5 U	5 U	5 U	5 U			1.4 J B	5 U
Silver	100	100		94												1 U	1 U	0.054 J	1 U	1 U			1 U	1 U
Sodium																					7600	11000 B		
Thallium	2	2	2	0.2												0.12 J	0.088 J	0.037 J	1 U	0.16 J B			0.2 J B	0.13 J B
Vanadium	260	720		86												0.59 J	0.45 J	1 U	5.4	1 U			2.4 B	1.8 B
Zinc	2000	2000		6000												5.6	4 J	6.2 B	6.3	4.1 J B			8.8	6.1

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-142S Dup 11/12/12	MW-143D 11/13/12	MW-143S 11/13/12	MW-144 11/20/12	MW-145A 2/5/13	MW-145A 1/30/14	MW-145A 2/24/14	MW-145A 3/17/14	MW-145A 5/7/14	MW-145A 6/4/14	MW-145A 6/30/14	MW-145A 8/5/14	MW-145A 9/8/14	MW-145A 10/6/14	MW-145A 10/30/14	MW-145A 1/15/15	MW-145A 2/25/15	MW-145A 3/24/15
METAL																						
Aluminum			200	20000																		
Antimony	6	6	6	7.8	0.075 J	0.39 J	0.34 J	0.2 J	0.22 J B													
Arsenic	10	10	10	0.052	0.83 J B	9.2 B	9.3 B	2.4	0.64 J													
Barium	2000	2000	2000	3800	39	60	80	96	42 B													
Beryllium	4	4	4	25	0.084 J	1 U	0.047 J	0.42 J	0.06 J													
Cadmium	5	5	5	9.2	1 U	1 U	1 U	0.17 J	1 U													
Calcium										100000 B	95000	98000 B	110000	94000 B	100000 B	98000	89000	87000 B	100000 B	99000 B	92000	95000
Chromium	100	100	100		1.5 J	12	13	10	6.6													
Copper	1000	1000	1300	800	0.32 J	1.9 J	2.6	16	7.6													
Ferric Iron																						
FERROUS IRON																						
Hexavalent Chromium	100	100		0.035	4.4 J	10 UJ	10 U	40 U	10 U													
Iron			300	14000																		
Lead	5	5	15	15	1.4	0.61 J	0.96 J	14 B	1.3													
Magnesium										18000	16000	16000	19000	15000	19000	16000	16000	15000	16000 B	16000 B	21000	18000 B
Manganese	300	300	50	430																		
Mercury	2	2	2	0.63	0.2 U	0.2 U	0.2 U	0.11 J	0.2 U													
Nickel	100	100		390	0.43 J	0.86 J	7	14	2.9													
Potassium										4500	4900	4200	4200	3900 B	4100	4600	4100	4300	4600	5000 B	5100	5600
Selenium	50	50	50	100	5 U	5 U	5 B	5 U	0.53 J													
Silver	100	100		94	1 U	1 U	1 U	1 U	0.74 J													
Sodium										32000 B	48000	29000 B	30000 B	29000 B	31000 B	45000	40000	40000	40000 B	42000 B	54000	68000 B
Thallium	2	2	2	0.2	0.14 J B	1 U	1 U	0.16 J	0.099 J B													
Vanadium	260	720		86	2.8 B	4.3	2.4	13 B	1.5 B													
Zinc	2000	2000		6000	13	3.4 J	9.2	55	36													
METAL (Dissolved)																						
Antimony	6	6	6	7.8	2 U	0.21 J	0.27 J	0.04 J	0.2 J													
Arsenic	10	10	10	0.052	1 U	1 U	1 U	1 U	0.48 J													
Barium	2000	2000	2000	3800	42	46	63	58	38 B													
Beryllium	4	4	4	25	0.11 J	1 U	1 U	1 U	1 U													
Cadmium	5	5	5	9.2	1 U	1 U	1 U	1 U	1 U													
Calcium																						
Chromium	100	100	100		1.6 J	15	17	0.97 J	3.5													
Copper	1000	1000	1300	800	0.29 J	2.4	2.5	0.97 J	0.55 J B													
Ferric Iron																						
Hexavalent Chromium	100	100		0.035	10 U	10 U	10 U	10 U	10 U													
Iron			300	14000																		
Lead	5	5	15	15	0.98 J	1 U	0.14 J	0.04 J B	1 U													
Magnesium																						
Manganese	300	300	50	430																		
Mercury	2	2	2	0.63	0.2 U	0.2 U	0.2 U	0.055 J	0.2 U													
Nickel	100	100		390	0.48 J	0.85 J	6.1	1.6	0.75 J													
Potassium																						
Selenium	50	50	50	100	5 U	5 U	5 U	5 U	5 U													
Silver	100	100		94	1 U	1 U	1 U	1 U	1 U													
Sodium																						
Thallium	2	2	2	0.2	0.14 J B	1 U	1 U	0.047 J B	0.033 J													
Vanadium	260	720		86	2.8 B	4.5	4.7	1.7 B	1 U													
Zinc	2000	2000		6000	8.9	2.6 J	7.6	2.9 J	4.5 J B													

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-145A 4/20/15	MW-145A 5/18/15	MW-145A Dup 5/18/15	MW-146 11/27/12	MW-146 9/17/13	MW-146 10/14/14	MW-147A 11/20/12	MW-147A 5/7/13	MW-147A 9/17/13	MW-147A Dup 9/17/13	MW-147A 1/23/14	MW-147A Dup 1/23/14	MW-147A 2/24/14	MW-147A 3/19/14	MW-147A 4/21/14	MW-147A 5/6/14	MW-147A 5/19/14	MW-147A 6/3/14
METAL																						
Aluminum			200	20000																		
Antimony	6	6	6	7.8				0.14 J			0.23 J											
Arsenic	10	10	10	0.052				1 U			1 U											
Barium	2000	2000	2000	3800				50			46											
Beryllium	4	4	4	25				1 U			0.11 J											
Cadmium	5	5	5	9.2				1 U			1 U											
Calcium					84000 B	84000	84000								82000	88000	91000	86000	91000 B	93000 B	87000 B	85000
Chromium	100	100	100					4			8.8											
Copper	1000	1000	1300	800				1.7 J			2.7											
Ferric Iron									100 U	100 U			110	96 J								
FERROUS IRON									75 HF	50 U			64 HF	44 J HF								
Hexavalent Chromium	100	100		0.035				10 U			1.9 J											
Iron			300	14000																		
Lead	5	5	15	15				0.24 J			1.2 B											
Magnesium					20000	16000	16000								16000	17000	16000	14000	22000	22000	19000	18000
Manganese	300	300	50	430																		
Mercury	2	2	2	0.63				0.2 U			0.044 J											
Nickel	100	100		390				1 U			4.4											
Potassium					4900	4700	4700								5200	5500	5400	5200	5400 B	5700 B	5500	5400
Selenium	50	50	50	100				2 J			5 U											
Silver	100	100		94				1 U			1 U											
Sodium					74000 B	49000	51000					39000			47000 B	49000 B	61000	54000	61000 B	66000 B	59000	51000
Thallium	2	2	2	0.2				0.084 J			0.092 J											
Vanadium	260	720		86				0.68 J			3.2 B											
Zinc	2000	2000		6000				4.1 J			12											
METAL (Dissolved)																						
Antimony	6	6	6	7.8				2 U			0.1 J											
Arsenic	10	10	10	0.052				1 U			1 U											
Barium	2000	2000	2000	3800				49			38											
Beryllium	4	4	4	25				1 U			1 U											
Cadmium	5	5	5	9.2				1 U			1 U											
Calcium										110000 B												
Chromium	100	100	100					3.3			1.1 J											
Copper	1000	1000	1300	800				3.7			0.64 J											
Ferric Iron																						
Hexavalent Chromium	100	100		0.035				10 U			10 U											
Iron			300	14000					100 U	50 U			170	140								
Lead	5	5	15	15				0.17 J B			0.044 J B											
Magnesium										20000												
Manganese	300	300	50	430					4.1 J	6.7 B			39	35								
Mercury	2	2	2	0.63				0.2 U			0.056 J											
Nickel	100	100		390				1.3			1.3											
Potassium										3800												
Selenium	50	50	50	100				5 U			5 U											
Silver	100	100		94				1 U			1 U											
Sodium									37000 B	44000 B			39000	40000 B								
Thallium	2	2	2	0.2				0.53 J			0.07 J B											
Vanadium	260	720		86				1 U			1.8 B											
Zinc	2000	2000		6000				3.6 J B			4.1 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	MW-147A 7/1/14	MW-147A 7/14/14	MW-147A 8/5/14	MW-147A 9/8/14	MW-147A 10/6/14	MW-147A 10/28/14	MW-147A 1/14/15	MW-147A 2/25/15	MW-147A 3/25/15	MW-147A 4/21/15	MW-147A 5/19/15	MW-150 10/21/13	MW-151 10/21/13	MW-155 10/8/13	MW-156 10/9/13	WPLSS-2 6/28/91	WPLSS-7 6/28/91	WPLSS-8 6/28/91	WPLSS-15 6/28/91	CW-1 2/7/91
METAL																								
Aluminum			200	20000																				
Antimony	6	6	6	7.8												0.084 J	0.16 J	0.15 J	0.16 J	U	170 U	170 U	170 U	
Arsenic	10	10	10	0.052												1 U	1 U	2.9	0.41 J	U	5 U	5 U	6	
Barium	2000	2000	2000	3800												100	12	85	130					
Beryllium	4	4	4	25												0.043 J	1 U	0.074 J	1 U	U	30	7	6 U	
Cadmium	5	5	5	9.2												1 U	1 U	0.11 J	0.11 J	U	10	10 U	20	
Calcium					93000 B	88000	87000	83000	84000 B	85000 B	87000 B	94000	97000 B	100000	88000 B	33000	50000	180000 B	89000					
Chromium	100	100	100													4.2	2.3	1.6 J	1.3 J	30	480	20 U	2200	
Copper	1000	1000	1300	800												2.1	1.1 J	4.5 B	1.5 J	400	410	120	190	
Ferric Iron										100 U														
FERROUS IRON										50 U														
Hexavalent Chromium	100	100		0.035												5.2 J	10	3 J	10 U					
Iron			300	14000																				4500
Lead	5	5	15	15												0.6 J B	0.099 J B	1.8	0.51 J	9400	6500	11000	8600	
Magnesium					22000	20000	17000	17000	16000	16000	17000 B	21000	19000	17000 B	17000	11000	28000	21000	19000					
Manganese	300	300	50	430																				
Mercury	2	2	2	0.63												0.2 U	0.2 U	0.2 U	0.2 U	U	0.5 U	0.5 U	0.5 U	
Nickel	100	100		390												1.5	0.22 J	6.1 B	3.5	80	600	100	280	
Potassium					5500 B	5400	5200	4900	4800	4900	5600 B	5600	6000	5800	5000	1100	15000	4600	15000					
Selenium	50	50	50	100												5 U	5 U	5 U	5 U	U	5 U	5 U	5 U	
Silver	100	100		94												0.19 J	0.039 J	1 U	1 U	U	40 U	40 U	40 U	
Sodium					53000 B	50000	54000	50000	44000	46000 B	49000 B	60000	75000	61000	54000	5700 B	28000 B	23000	60000					
Thallium	2	2	2	0.2												0.085 J	0.099 J	0.028 J	0.11 J	U	220 U	220 U	220 U	
Vanadium	260	720		86												0.67 J	1 U	0.33 J	0.2 J					
Zinc	2000	2000		6000												12	5	19	6.4	500	1200	170	2300	
METAL (Dissolved)																								
Antimony	6	6	6	7.8												0.042 J	0.11 J	0.22 J	0.13 J					
Arsenic	10	10	10	0.052												1 U	1 U	1.3	0.43 J					
Barium	2000	2000	2000	3800												92	9.7 J	86	120					
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										85000 B						30000 B	46000 B	180000	81000					
Chromium	100	100	100													0.78 J	1.5 J	1.8 J	1.8 J					
Copper	1000	1000	1300	800												0.37 J	0.68 J	0.94 J	1.5 J					
Ferric Iron																								
Hexavalent Chromium	100	100		0.035												10 U	10 U	10 U	10 U					
Iron			300	14000						24 J														
Lead	5	5	15	15												0.054 J B	0.023 J B	0.12 J B	0.11 J					
Magnesium										16000						7700	23000	22000	17000					
Manganese	300	300	50	430						2.8 J B														
Mercury	2	2	2	0.63												0.2 U	0.049 J	0.2 U	0.2 U					
Nickel	100	100		390												1 U	1 U	5.1	3.5					
Potassium										5000						1000	15000	4200 B	14000					
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										46000 B						5300	25000	23000 B	56000					
Thallium	2	2	2	0.2												0.023 J	0.023 J	0.2 J	0.13 J B					
Vanadium	260	720		86												1 U	1 U	0.42 J	1 U					
Zinc	2000	2000		6000												6.1 B	6.4 B	13	5.4					

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-1 1/26/94	CW-1 5/6/08	CW-1 7/7/10	CW-1A 6/21/93	CW-1A 1/26/94	CW-1A 5/7/08	CW-1A 7/7/10	CW-2 8/30/93	CW-2 1/26/94	CW-2 5/13/08	CW-2 7/7/10	CW-3 4/24/91	CW-3 1/26/94	CW-3 5/6/08	CW-3 7/7/10	CW-3 Dup 7/7/10	CW-4 12/5/90	CW-4 1/26/94	CW-4 5/6/08	CW-4 7/7/10	CW-4 9/16/13	CW-4 10/14/14	CW-5 3/6/91	CW-5 1/26/94
METAL																												
Aluminum			200	20000																								
Antimony	6	6	6	7.8		10 U				10 U				10 U				10 U					10 U					
Arsenic	10	10	10	0.052		10 U				10 U				3.2 B				10 U					10 U					
Barium	2000	2000	2000	3800		21.4 B J				112 B J				49.5 B				18.2 B J					20.4 B J					
Beryllium	4	4	4	25		4 U				4 U				4 U				4 U					4 U					
Cadmium	5	5	5	9.2		5 U				5 U				0.68 B				5 U					5 U					
Calcium																												
Chromium	100	100	100			5 U				5 U				2.7 B				5 U					5 U					
Copper	1000	1000	1300	800		25 U				1.3 B				16.7 B				25 U					25 U					
Ferric Iron																									6200	2800		
FERROUS IRON																									1100 HF	2700 HF		
Hexavalent Chromium	100	100		0.035		50 U				50 U				50 U				50 U					50 U					
Iron			300	14000	6500			310	110			1300	2900			2300	2800				530	3400					70	60
Lead	5	5	15	15		3 U				3 U				3.1				3 U					3 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					0.2 U					
Nickel	100	100		390		3.8 B				9.7 B				10 B				7.1 B					6.8 B					
Potassium																												
Selenium	50	50	50	100		5 U				5 U				5 U				5 U					5 U					
Silver	100	100		94		5 U				5 U				5 U				5 U					5 U					
Sodium																												
Thallium	2	2	2	0.2		10 U				10 U				3.9 B				10 U					10 U					
Vanadium	260	720		86		50 U				50 U				50 U				50 U					50 U					
Zinc	2000	2000		6000		20 U				25.6 J				32.2 J				20 U					20 U					
METAL (Dissolved)																												
Antimony	6	6	6	7.8		10 U				10 U				10 U				10 U					10 U					
Arsenic	10	10	10	0.052		10 U				10 U				10 U				10 U					10 U					
Barium	2000	2000	2000	3800		18.3 B J				112 B J				34.5 B				17.7 B J					20 B J					
Beryllium	4	4	4	25		4 U				4 U				4 U				4 U					4 U					
Cadmium	5	5	5	9.2		5 U				5 U				5 U				5 U					5 U					
Calcium							14300				6110				22400				19100	19300				28700		33000 B		
Chromium	100	100	100			5 U				5 U				5 U				5 U					5 U					
Copper	1000	1000	1300	800		25 U				2 B				25 U				25 U					25 U					
Ferric Iron																												
Hexavalent Chromium	100	100		0.035		50 U				50 U				50 U				50 U					50 U					
Iron			300	14000	6200		7580 J		60 U		100 U		2900		663 J		2400		6990 J	7040 J		3300		6650 J	7300	5500 B		60
Lead	5	5	15	15		3 U				3 U				3 U				3 U					3 U					
Magnesium							7200				5870				9200				8380	8490				10800		11000		
Manganese	300	300	50	430			764				35.9				1520				488	495				483	690 B	570 B		
Mercury	2	2	2	0.63		0.2 U				0.2 U				0.2 U				0.2 U					0.2 U					
Nickel	100	100		390		4 B				9.5 B				9.1 B				7.2 B					6.9 B					
Potassium							1530 B				3410 B				1920 B				1490 B	1590 B				1250 B		1300		
Selenium	50	50	50	100		5 U				5 U				5 U				5 U					5 U					
Silver	100	100		94		5 U				5 U				5 U				5 U					5 U					
Sodium							7370				35400				10500				12600	12700				10700	13000	10000 B		
Thallium	2	2	2	0.2		10 U				10 U				3.9 B				10 U					10 U					
Vanadium	260	720		86		50 U				50 U				50 U				50 U					50 U					
Zinc	2000	2000		6000		20 U				27.1 J				21.3 J				20 U					20 U					

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Table 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-5 5/6/08	CW-5 7/7/10	CW-6 8/2/89	CW-6 6/11/92	CW-6 1/26/94	CW-6 5/6/08	CW-6 7/7/10	CW-7 1/26/94	CW-7 5/6/08	CW-7 9/11/08	CW-7 7/7/10	CW-7A 1/26/94	CW-7A 5/6/08	CW-7A 7/7/10	CW-8 1/11/90	CW-8 6/20/06	CW-8 5/6/08	CW-8 9/11/08	CW-8 9/16/13	CW-8 10/30/14	CW-9 2/19/90	CW-9 2/28/90	CW-9 4/3/90	CW-9 7/11/94
METAL																												
Aluminum			200	20000																34.3 JB								
Antimony	6	6	6	7.8	10 U					10 U			10 U	0.24 B			10 U				10 U	0.067 B			110 U	110 U	100 U	150 U
Arsenic	10	10	10	0.052	10 U					10 U			10 U	0.86 B			10 U				10 U	1			11 U	11 U	10 U	6 U
Barium	2000	2000	2000	3800	25.2 B J					33.3 B J			41.4 B J	42.3			113 B J			56.7 B	74.8 B	57.8						
Beryllium	4	4	4	25	4 U					4 U			4 U	1 U			4 U				4 U	1 U			5 U	5 U	5 U	5 U
Cadmium	5	5	5	9.2	5 U					5 U			5 U	1 U			5 U			5 U	5 U	1 U			10 U	10 U	10 U	10 U
Calcium																			44000	81800					68000	68000		
Chromium	100	100	100		5 U					5 U			5 U	4.7 J			5 U			5.5	4.3 B	8.9 J			20 U	20 U	20 U	20 U
Copper	1000	1000	1300	800	25 U					25 U			5.2 B	6.7			37.4				25 U	1.1 B			80	10	10 U	20 U
Ferric Iron																							100	100 U				
FERROUS IRON																							50 U	50 U				
Hexavalent Chromium	100	100		0.035	50 U					50 U			50 U				50 U				50 U							
Iron			300	14000			90	70	3100			3100				60 U			90	58.2 B					150	150		150
Lead	5	5	15	15	3 U					3 U			3 U	1.7			3 U			3.7 J	3 U	0.62 B			160 U	160 U	150 U	100 U
Magnesium																				18800								
Manganese	300	300	50	430															5 U	7.4 B								260
Mercury	2	2	2	0.63	0.2 U					0.2 U			0.2 U	0.2 U			0.2 U				0.2 U	0.2 U			0.5 U	0.5 U	0.5 U	0.5 U
Nickel	100	100		390	40 U					1.2 B			9.1 B	8.2			8.7 B				40 U	0.6 B			50 U	50 U	40 U	40 U
Potassium																												
Selenium	50	50	50	100	5 U					5 U			5 U	5 U			5 U				5 U	0.72 B			11 U	11 U	10 U	5 U
Silver	100	100		94	5 U					5 U			5 U	1 U			5 U				5 U	1 U			20 U	20 U	20 U	40 U
Sodium																			8200	19600					13000	13000		
Thallium	2	2	2	0.2	10 U					10 U			10 U	1 U			10 U				10 U	0.021 B			220 U	220 U	200 U	200 U
Vanadium	260	720		86	50 U					50 U			50 U	2.6 J			50 U				1 B	1.7 J						
Zinc	2000	2000		6000	20 U					20 U			20 U	9 J			12.2 B J			19.4 JB	16.9 B J	15.8 J			240	20	40	50 U
METAL (Dissolved)																												
Antimony	6	6	6	7.8	10 U					10 U			10 U	2 U			10 U				10 U	0.057 B						150 U
Arsenic	10	10	10	0.052	10 U					10 U			10 U	0.2 B			10 U				10 U	0.43 B						6 U
Barium	2000	2000	2000	3800	27.1 B J					33.7 B J			42.9 B J	38.6			119 B J				74.5 B	55.9						
Beryllium	4	4	4	25	4 U					4 U			4 U	1 U			4 U				4 U	1 U						5 U
Cadmium	5	5	5	9.2	5 U					5 U			5 U	1 U			5 U				5 U	1 U						10 U
Calcium						32300					32500				4280 B			4840 B						84000 B				
Chromium	100	100	100		5 U					5 U			5 U	5 J			5 U				4.1 B	9.1 J						20 U
Copper	1000	1000	1300	800	25 U					25 U			6.2 B	5			9.2 B				25 U	0.65 B						20 U
Ferric Iron																												
Hexavalent Chromium	100	100		0.035	50 U					50 U			50 U				50 U				50 U							
Iron			300	14000		173 J			3100		6240 J	3100			100 U	60 U		100 U					100 U	76				60
Lead	5	5	15	15	3 U					3 U			3 U	1.0 U			3 U				3 U	1.0 U						100 U
Magnesium						7550					11100				3670 B			3930 B						16000 B				
Manganese	300	300	50	430		435					385				54			89.8					0.99 J B	130 B				250
Mercury	2	2	2	0.63	0.2 U					0.2 U			0.2 U	0.2 U			0.2 U				0.2 U	0.2 U						0.5 U
Nickel	100	100		390	40 U					1.6 B			10 B	7.8			9.1 B				40 U	0.4 B						40 U
Potassium						2270 B					1170 B				2520 B			3040 B						9500				
Selenium	50	50	50	100	5 U					5 U			5 U	5 U			5 U				5 U	0.39 B						5 U
Silver	100	100		94	5 U					5 U			5 U	1 U			5 U				5 U	1 U						40 U
Sodium						18500					9540				10600			29200					96000	55000 B				
Thallium	2	2	2	0.2	10 U					10 U			10 U	1 U			10 U				10 U	1 U						200 U
Vanadium	260	720		86	50 U					50 U			50 U	0.88 B			50 U				2.7 B	0.77 B						
Zinc	2000	2000		6000	20 U					20 U			20 U	7.9 J			20 U				44.5 J	11.7 J						50 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-9 4/16/04	CW-9 5/6/08	CW-9 9/11/08	CW-9 7/7/10	CW-9 1/23/14	CW-9 2/21/14	CW-9 3/18/14	CW-9 5/7/14	CW-9 6/5/14	CW-9 7/2/14	CW-9 8/5/14	CW-9 9/10/14	CW-9 10/8/14	CW-9 10/31/14	CW-9 1/20/15	CW-9 2/25/15	CW-9 3/25/15	CW-9 4/22/15	CW-9 5/20/15	CW-10 4/25/90	CW-10 6/24/93	CW-10 10/25/95	CW-11 4/18/90
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8	5.8 U	10 U	0.38 B																				
Arsenic	10	10	10	0.052	3.2 U	10 U	1 U																				
Barium	2000	2000	2000	3800		55.4 B	46.1																				
Beryllium	4	4	4	25	0.3 U	4 U	1 U																				
Cadmium	5	5	5	9.2	0.4 U	5 U	1 U																				
Calcium									120000	83000	120000 B	110000	100000 B	110000	91000	120000 B	110000	110000 B	120000 B	100000	95000 B	90000	86000 B	17000		17000	35000
Chromium	100	100	100		8.7 B	6.6	8.9 J																				
Copper	1000	1000	1300	800	3.7 U	25 U	2.2																				
Ferric Iron																											
FERROUS IRON																											
Hexavalent Chromium	100	100		0.035	10 U	50 U	0 U																				
Iron			300	14000																				150	1000	70 U	70
Lead	5	5	15	15	2.3 U	3 U	0.23 B																				
Magnesium									28000	28000 B	28000	31000	26000	30000	23000	31000	25000	26000	27000 B	26000	21000	20000	19000			5200	
Manganese	300	300	50	430																				5 U		6 U	5 U
Mercury	2	2	2	0.63	0.1 U	0.2 U	0.2 U																				
Nickel	100	100		390	6.1 B	5.2 B J	5.8																				
Potassium									25000	20000	30000	30000	30000 B	30000	19000	27000	25000 B	28000	30000 B	15000	18000	14000	12000			1100	
Selenium	50	50	50	100	4.8 B	5 U	0.36 B																				
Silver	100	100		94	1.4 U	5 U	1 U																				
Sodium									69000 B	58000	83000	81000 B	76000 B	72000	68000	83000	69000 B	72000 B	73000 B	80000	91000	73000	72000	2200 U		2600	2500
Thallium	2	2	2	0.2	1.8 U	10 U	1 U																				
Vanadium	260	720		86		1.7 B	2.4 J																				
Zinc	2000	2000		6000	20 B	1.7 B J	5.0 U																				
METAL (Dissolved)																											
Antimony	6	6	6	7.8	5.8 U	10 U	0.43 B																				
Arsenic	10	10	10	0.052	3.2 U	10 U	0.6 B																				
Barium	2000	2000	2000	3800		55 B	47.4																				
Beryllium	4	4	4	25	0.3 U	4 U	1 U																				
Cadmium	5	5	5	9.2	0.4 U	5 U	1 U																				
Calcium								72400																			
Chromium	100	100	100		7.8 B	6.4	9.1 J																				
Copper	1000	1000	1300	800	3.7 U	25 U	0.58 B																				
Ferric Iron																											
Hexavalent Chromium	100	100		0.035	10 U	50 U	0 U																				
Iron			300	14000				100 U																			
Lead	5	5	15	15	2.3 U	3 U	1.0 U																				
Magnesium								18400																			
Manganese	300	300	50	430				3.5 B																			
Mercury	2	2	2	0.63	0.1 U	0.2 U	0.065 B																				
Nickel	100	100		390	5.3 B	6.2 B J	3.2																				
Potassium								13300																			
Selenium	50	50	50	100	4.2 U	5 U	0.54 B																				
Silver	100	100		94	1.4 U	5 U	1 U																				
Sodium								37500																			
Thallium	2	2	2	0.2	1.8 U	10 U	1 U																				
Vanadium	260	720		86		50 U	1.8																				
Zinc	2000	2000		6000	10.8 B	1.4 B J	5.0 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-11 10/24/95	CW-12 2/10/92	CW-12 9/21/99	CW-12 3/29/00	CW-12 6/3/03	CW-12A 9/21/99	CW-12A 3/30/00	CW-13 7/11/94	CW-13 5/7/08	CW-13 5/7/08	CW-13 9/11/08	CW-13 7/7/10	CW-13 9/16/13	CW-13 1/23/14	CW-13 2/21/14	CW-13 3/18/14	CW-13 5/7/14	CW-13 6/5/14	CW-13 7/2/14	CW-13 8/5/14	CW-13 9/10/14	CW-13 10/8/14	CW-13 10/30/14
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8			5 U			5 U		150 U		10 U	0.076 B												
Arsenic	10	10	10	0.052			5 U			5 U		6 U		10 U	1 U												
Barium	2000	2000	2000	3800										86.9 B	65.8												
Beryllium	4	4	4	25			1 U			1 U		5 U		4 U	1 U												
Cadmium	5	5	5	9.2			1 U			1 U		10 U		5 U	1 U												
Calcium					42000		72200	61000		64900	68000							120000	110000	140000 B	150000	150000 B	150000	160000	150000 B	140000	140000 B
Chromium	100	100	100				5 U		0 U	5 U		30		2.8 B	8.5 J												
Copper	1000	1000	1300	800			5			5		20 U		25 U	2.5												
Ferric Iron																	100										100 U
FERROUS IRON																	50 U										50 U
Hexavalent Chromium	100	100		0.035			10 U		0 U	10 U			50 U		0 U												
Iron			300	14000	70 U	1000	1700	1600		1400	480	150															
Lead	5	5	15	15			5 U		0 U	5 U		100 U		3 U	0.67 B												
Magnesium					5800		21700	21000		24500	28000							20000	25000 B	25000	28000	25000	29000	24000	28000	23000	23000 B
Manganese	300	300	50	430	8		27	140		48	44	320															
Mercury	2	2	2	0.63			0 U			0 U		0.5 U		0.2 U	0.2 U												
Nickel	100	100		390			5 U		0 U	5 U		40 U		5.6 B	5.6												
Potassium					1900		4000	4600		4100	4300							18000	20000	30000	32000	33000 B	29000	22000	25000	24000 B	25000
Selenium	50	50	50	100			5 U			5 U		5 U		5 U	0.23 B												
Silver	100	100		94			5 U			5 U		40 U		5 U	1 U												
Sodium					3200		12400	10000		10600	11000							65000 B	72000	100000	99000 B	93000 B	81000	82000	91000	80000 B	79000 B
Thallium	2	2	2	0.2			2 U			2 U		200 U		10 U	0.03 B												
Vanadium	260	720		86										50 U	1 J												
Zinc	2000	2000		6000			23		0 U	20 U		50 U		11.9 B J	5.0 U												
METAL (Dissolved)																											
Antimony	6	6	6	7.8								150 U		10 U	2 U												
Arsenic	10	10	10	0.052								6 U		10 U	1 U												
Barium	2000	2000	2000	3800										84.4 B	67.4												
Beryllium	4	4	4	25								5 U		4 U	1 U												
Cadmium	5	5	5	9.2								10 U		5 U	1 U												
Calcium																116000											140000 B
Chromium	100	100	100									20 U		2.6 B	9.3 J												
Copper	1000	1000	1300	800								20 U		25 U	1 B												
Ferric Iron																											
Hexavalent Chromium	100	100		0.035									50 U		0 U												
Iron			300	14000								50 U				100 U	100 U										12 J
Lead	5	5	15	15								100 U		3 U	1.0 U												
Magnesium																19100											24000 B
Manganese	300	300	50	430								270				159	98 B										310 B
Mercury	2	2	2	0.63								0.5 U		0.2 U	0.2 U												
Nickel	100	100		390								40 U		5.6 B	5.1												
Potassium																15600											25000
Selenium	50	50	50	100								5 U		5 U	0.31 B												
Silver	100	100		94								40 U		5 U	1 U												
Sodium																44800	49000										79000 B
Thallium	2	2	2	0.2								200 U		10 U	1.0 U												
Vanadium	260	720		86										1 B	1												
Zinc	2000	2000		6000								50 U		20.1 J	5.0 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-13 1/20/15	CW-13 2/25/15	CW-13 3/25/15	CW-13 4/22/15	CW-13 5/20/15	CW-14 7/11/94	CW-14 5/20/08	CW-14 9/30/08	CW-15 9/1/99	CW-15 4/10/00	CW-15A 7/11/94	CW-15A 5/6/08	CW-15A 10/9/08	CW-15A 7/7/10	CW-15A 9/16/13	CW-15A 1/23/14	CW-15A 2/21/14	CW-15A 3/18/14	CW-15A 5/7/14	CW-15A 6/5/14	CW-15A 7/2/14	CW-15A 8/5/14	CW-15A 9/10/14
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8						150 U	10 U	0.061 B	5 U		150 U	10 U	0.052 B										
Arsenic	10	10	10	0.052						6 U	10 U	0.25 B	5 U		6 U	10 U	1 U										
Barium	2000	2000	2000	3800							59.9 B	43.5				70.9 B	65.3										
Beryllium	4	4	4	25						5 U	4 U	1 U	1 U		5 U	4 U	1 U										
Cadmium	5	5	5	9.2						10 U	0.3 B	1 U	1 U		10 U	5 U	1 U										
Calcium					150000 B	130000	130000 B	120000	120000 B				121000	140000						75000	59000	70000 B	42000	51000 B	60000	59000	74000 B
Chromium	100	100	100							30	1.9 B	11.5 J	5 U		20 U	1.3 B	10.6 J										
Copper	1000	1000	1300	800						20 U	18.5 B	2.7	5 U		20 U	25 U	1.8 B										
Ferric Iron																			100								
FERROUS IRON																			50 U								
Hexavalent Chromium	100	100		0.035							50 U	0 U	10 U			50 U											
Iron			300	14000						130			1100	12000	200												
Lead	5	5	15	15						100 U	3.5	0.87 B	5 U		100 U	3 U	1 U										
Magnesium					25000 B	23000	19000	17000	16000				31100	30000						7900	8900 B	8200	5800	6600	8700	7800	9900
Manganese	300	300	50	430						110			280	390	1800												
Mercury	2	2	2	0.63						0.5 U	0.2 U	0.2 U	0 U		0.5 U	0.2 U	0.018 B										
Nickel	100	100		390						40 U	3.8 B	5.5	5 U		60	9.6 B J	10.5 J										
Potassium					30000 B	15000	15000	13000	12000				1900	2000						6900	6000	7100	4600	5800 B	6100	6500	7300
Selenium	50	50	50	100						5 U	5 U	0.37 B	5 U		5 U	5 U	1.2 B J										
Silver	100	100		94						40 U	5 U	1 U	5 U		40 U	5 U	1 U										
Sodium					87000 B	56000	56000	48000	44000				11600	13000						32000 B	35000	42000	24000 B	35000 B	36000	36000	55000
Thallium	2	2	2	0.2						200 U	10 U	0.068 B	2 U		200 U	10 U	1 U										
Vanadium	260	720		86							1.8 B	4.1 J				2.6 B	2.1 J										
Zinc	2000	2000		6000						50 U	115 J	21.9	20 U		410	8.9 B J	8.1										
METAL (Dissolved)																											
Antimony	6	6	6	7.8						150 U	10 U	0.053 B			150 U	10 U	0.064 B										
Arsenic	10	10	10	0.052						6 U	10 U	1 U			6 U	10 U	1 U										
Barium	2000	2000	2000	3800							53.7 B	43.8				70.2 B	65.8										
Beryllium	4	4	4	25						5 U	4 U	1 U			5 U	4 U	1 U										
Cadmium	5	5	5	9.2						10 U	5 U	1 U			10 U	5 U	1 U										
Calcium																		187000									
Chromium	100	100	100							30	5 U	11.1 J			20 U	1.8 B	10.8 J										
Copper	1000	1000	1300	800						20 U	0.79 B	1.5 B			20 U	0.73 B	2										
Ferric Iron																											
Hexavalent Chromium	100	100		0.035							50 U	0 U				50 U											
Iron			300	14000						60					160			100 U	100 U								
Lead	5	5	15	15						100 U	3 U	0.15 B			100 U	3 U	1 U										
Magnesium																		23600									
Manganese	300	300	50	430						100					1700			315	540 B								
Mercury	2	2	2	0.63						0.5 U	0.2 U	0.2 U			0.5 U	0.2 U	0.2 U										
Nickel	100	100		390						40 U	2.3 B	5			50	9.7 B J	10.5										
Potassium																		12800									
Selenium	50	50	50	100						5 U	5 U	5 U			5 U	5 U	2.1 B										
Silver	100	100		94						40 U	5 U	1 U			40 U	5 U	1 U										
Sodium																		45700	100000								
Thallium	2	2	2	0.2						200 U	10 U	0.035 B J			200 U	10 U	1 U										
Vanadium	260	720		86							2.8 B	2.3 J				1.9 B	3.1 J										
Zinc	2000	2000		6000						50 U	7.9 B	7.8			240	10.7 B J	12.5 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-15A 10/8/14	CW-15A 10/30/14	CW-15A 1/20/15	CW-15A 2/25/15	CW-15A 3/25/15	CW-15A 4/22/15	CW-15A 5/20/15	CW-16 8/15/94	CW-16 5/23/08	CW-16 10/8/08	CW-17 5/6/08	CW-17 9/11/08	CW-17 6/15/09	CW-17 12/16/09	CW-17 7/7/10	CW-17 1/23/14	CW-17 2/21/14	CW-17 3/18/14	CW-17 5/7/14	CW-17 6/5/14	CW-17 7/2/14	CW-17 8/5/14	CW-17 9/10/14
METAL																											
Aluminum			200	20000																							
Antimony	6	6	6	7.8									10 U	0.11 B	10 U	0.18 B											
Arsenic	10	10	10	0.052									10 U	1 U	10 U	0.67 B											
Barium	2000	2000	2000	3800									68.9 B J	49	41.1 B	37.4											
Beryllium	4	4	4	25									0.6 B J	1 U	4 U	1 U											
Cadmium	5	5	5	9.2									5 U	1 U	5 U	1 U											
Calcium					79000	79000 B	72000 B	200000	190000 B	180000	140000 B	65000								110000	96000	110000 B	100000	110000 B	100000	130000	130000 B
Chromium	100	100	100										4.6 B	16.4 J	10.4	12.3 J											
Copper	1000	1000	1300	800									25 U	1.5 B	1.1 B	348											
Ferric Iron						130																					
FERROUS IRON						50 U																					
Hexavalent Chromium	100	100		0.035									50 U	0 U	50 U	0 U											
Iron			300	14000								1300															
Lead	5	5	15	15									3 U	0.07 B	4.8	67.7	1.1	0.56 B									
Magnesium					9300	8800 B	7400 B	29000	22000	20000	16000									9600	12000 B	11000	12000	12000	13000	14000	15000
Manganese	300	300	50	430								24															
Mercury	2	2	2	0.63									0.2 U	0.2 U	0.2 U	0.2 U											
Nickel	100	100		390									4.3 B	5.4 J	7.6 B J	17.9											
Potassium					7000 B	7700	8000 B	16000	15000	12000	9100									15000	17000	21000	17000	21000 B	19000	23000	17000
Selenium	50	50	50	100									5 U	5.0 U	5 U	0.5 B											
Silver	100	100		94									5 U	1 U	5 U	1 U											
Sodium					49000 B	49000 B	46000 B	98000	94000	77000	54000	8400								73000 B	90000	98000	83000 B	85000 B	74000	100000	88000
Thallium	2	2	2	0.2									10 U	1 U	10 U	0.022 B											
Vanadium	260	720		86									1.6 B	2.4 J	50 U	1.7 J											
Zinc	2000	2000		6000									4.8 B J	4.9 B	4.2 B J	191 J											
METAL (Dissolved)																											
Antimony	6	6	6	7.8									10 U	0.11 B	10 U	2 U											
Arsenic	10	10	10	0.052									10 U	1 U	10 U	1 U											
Barium	2000	2000	2000	3800									65 B	47.8	40.8 B	37.6											
Beryllium	4	4	4	25									0.73 B J	1 U	4 U	1 U											
Cadmium	5	5	5	9.2									5 U	1 U	5 U	1 U											
Calcium						79000 B													99200								
Chromium	100	100	100										2.1 B	13.9 J	9.9	12.6 J											
Copper	1000	1000	1300	800									25 U	1.7 B	25 U	0.95 B											
Ferric Iron																											
Hexavalent Chromium	100	100		0.035									50 U	0 U	50 U	0 U											
Iron			300	14000		130													100 U								
Lead	5	5	15	15									3 U	1 U	3 U	0.61 B J	0.58 B	0.54 B									
Magnesium						8600 B													11900								
Manganese	300	300	50	430		690 B													4 B								
Mercury	2	2	2	0.63									0.2 U	0.2 U	0.2 U	0.2 U											
Nickel	100	100		390									3.6 B	4.6	4.1 B J	4.3											
Potassium						7600													6250								
Selenium	50	50	50	100									5 U	1.5 B	5 U	0.51 B											
Silver	100	100		94									5 U	1 U	5 U	1 U											
Sodium						50000 B													25800								
Thallium	2	2	2	0.2									10 U	1 U	10 U	1.0 U											
Vanadium	260	720		86									50 U	4.7 J	50 U	1.7											
Zinc	2000	2000		6000									4.9 B J	5.0 U	23.1 J	5.0 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-17 10/8/14	CW-17 10/31/14	CW-17 1/20/15	CW-17 2/26/15	CW-17 3/25/15	CW-17 4/22/15	CW-17 5/20/15	CW-18 4/10/96	CW-18 5/23/08	CW-18 1/23/14	CW-18 2/26/14	CW-18 3/19/14	CW-18 5/8/14	CW-18 6/5/14	CW-18 Dup 6/5/14	CW-18 7/8/14	CW-18 Dup 7/8/14	CW-18 8/6/14	CW-18 9/10/14	CW-18 10/9/14	CW-18 10/30/14
METAL																									
Aluminum			200	20000																					
Antimony	6	6	6	7.8								10 U	10 U												
Arsenic	10	10	10	0.052								6 U	10 U												
Barium	2000	2000	2000	3800									58.6 B J												
Beryllium	4	4	4	25								4 U	0.56 B J												
Cadmium	5	5	5	9.2								1 U	5 U												
Calcium					120000	110000 B	130000 B	120000	110000 B	100000	100000 B	81000		95000	88000	82000	80000	85000 B	89000 B	100000 B	100000 B	100000 B	94000 B	100000	91000
Chromium	100	100	100									6 U	5 U												
Copper	1000	1000	1300	800								10 U	25 U												
Ferric Iron																									
FERROUS IRON																									
Hexavalent Chromium	100	100		0.035								20 U	50 U												
Iron			300	14000								4200													
Lead	5	5	15	15								6 U	3 U												
Magnesium					13000	10000	14000 B	15000	11000	10000	11000	42000		38000	37000	31000	48000	44000	44000	57000	56000	58000	48000	42000	41000 B
Manganese	300	300	50	430								2200													
Mercury	2	2	2	0.63								0.5 U	0.2 U												
Nickel	100	100		390								660	43.6												
Potassium					16000 B	14000	13000 B	8900	5600	4800	4900 B			12000	12000 B	12000	14000 B	12000 B	12000	12000 B	12000 B	10000	11000	12000 B	12000 B
Selenium	50	50	50	100								10 U	5 U												
Silver	100	100		94								2 U	5 U												
Sodium					74000 B	66000 B	65000 B	46000 B	39000	32000	35000	86000		120000 B	130000 B	110000	140000 B	140000 B	150000	150000 B	150000 B	170000 B	140000	130000 B	130000 B
Thallium	2	2	2	0.2								10 U	10 U												
Vanadium	260	720		86									1.1 B												
Zinc	2000	2000		6000								70	25.6 J												
METAL (Dissolved)																									
Antimony	6	6	6	7.8									10 U												
Arsenic	10	10	10	0.052									10 U												
Barium	2000	2000	2000	3800									56.1 B												
Beryllium	4	4	4	25									0.72 B J												
Cadmium	5	5	5	9.2									5 U												
Calcium																									
Chromium	100	100	100										5 U												
Copper	1000	1000	1300	800									25 U												
Ferric Iron																									
Hexavalent Chromium	100	100		0.035									50 U												
Iron			300	14000																					
Lead	5	5	15	15									3 U												
Magnesium																									
Manganese	300	300	50	430																					
Mercury	2	2	2	0.63									0.2 U												
Nickel	100	100		390									38.9 B												
Potassium																									
Selenium	50	50	50	100									5 U												
Silver	100	100		94									5 U												
Sodium																									
Thallium	2	2	2	0.2									10 U												
Vanadium	260	720		86									50 U												
Zinc	2000	2000		6000									2 B 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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-18 1/16/15	CW-18 2/26/15	CW-18 Dup 2/26/15	CW-18 3/27/15	CW-18 4/22/15	CW-18 5/20/15	CW-20 10/13/06	CW-20 Dup 10/13/06	CW-20 5/21/08	CW-20 9/30/08	CW-20 7/8/10	CW-20 1/29/14	CW-20 2/19/14	CW-20 3/28/14	CW-20 5/7/14	CW-20 6/5/14	CW-20 7/2/14	CW-20 8/5/14	CW-20 9/10/14	CW-20 10/8/14	CW-20 10/31/14	CW-20 1/20/15
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8									10 U	0.1 B												
Arsenic	10	10	10	0.052									10 U	1 U												
Barium	2000	2000	2000	3800									47 B J	42												
Beryllium	4	4	4	25									0.43 B J	1 U												
Cadmium	5	5	5	9.2									5 U	1 U												
Calcium					80000 B	100000	100000	120000 B	100000	95000 B						62000 B	70000	120000	94000	86000 B	84000	88000	95000 B	91000	96000 B	96000 B
Chromium	100	100	100								10.4	5.9	14.2	19.6 J												
Copper	1000	1000	1300	800									0.81 B	1.1 B												
Ferric Iron																										
FERROUS IRON																										
Hexavalent Chromium	100	100		0.035							10 U	10 U	50 U													
Iron			300	14000																						
Lead	5	5	15	15							3 U	3 U	3 U	0.31 B												
Magnesium					40000 B	53000	52000	50000 B	42000	42000						20000	21000	18000	25000	21000	23000	19000	22000	17000	18000	19000 B
Manganese	300	300	50	430																						
Mercury	2	2	2	0.63									0.2 U	0.2 U												
Nickel	100	100		390							1.7 B	1.9 B	40 U	2												
Potassium					11000	11000	12000	12000	10000	11000 B						4100	5400	7500	14000	14000 B	11000	8500	6500	6000 B	6100	6800 B
Selenium	50	50	50	100									5 U	5 U												
Silver	100	100		94									5 U	1 U												
Sodium					140000	170000 B	170000 B	200000 B	150000	150000						45000 B	68000	50000	64000 B	60000 B	52000	60000	58000	49000 B	51000 B	51000 B
Thallium	2	2	2	0.2									5 B	0.029 B												
Vanadium	260	720		86									50 U	3 J												
Zinc	2000	2000		6000							10.4 JB	14.4 JB	131 J	27.7												
METAL (Dissolved)																										
Antimony	6	6	6	7.8									10 U	0.1 B												
Arsenic	10	10	10	0.052									10 U	1 U												
Barium	2000	2000	2000	3800									43.4 B	40.3												
Beryllium	4	4	4	25									0.36 B J	1 U												
Cadmium	5	5	5	9.2									5 U	1 U												
Calcium															81400											
Chromium	100	100	100										5.2	19.7 J												
Copper	1000	1000	1300	800									25 U	0.61 B												
Ferric Iron																										
Hexavalent Chromium	100	100		0.035									50 U													
Iron			300	14000											41.1 B J											
Lead	5	5	15	15									3 U	0.045 B												
Magnesium															18700											
Manganese	300	300	50	430											15.8											
Mercury	2	2	2	0.63									0.2 U	0.2 U												
Nickel	100	100		390									1.1 B	1.5												
Potassium															4040 B											
Selenium	50	50	50	100									5 U	0.44 B												
Silver	100	100		94									0.6 B	1 U												
Sodium															36200											
Thallium	2	2	2	0.2									10 U	0.019 B J												
Vanadium	260	720		86									50 U	5 J												
Zinc	2000	2000		6000									3.2 B J	3.7 B												

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	CW-20 2/25/15	CW-20 3/25/15	CW-20 4/22/15	CW-20 5/20/15	Lift Station 6/20/06	Lift Station Deep Foundation 5/20/08	Lift Station Toe of Slope 5/20/08	Cole D 5/1/08	Cole D 9/12/08	Cole D 7/9/10	Cole F 5/1/08	Cole F 9/8/08	Cole F 7/8/10	Cole F 9/19/13	Cole F 10/28/14	MW-4 (Cole) 5/1/08	MW-4 (Cole) 9/8/08	MW-4 (Cole) 7/8/10
METAL																						
Aluminum			200	20000					35 JB													
Antimony	6	6	6	7.8						10 U	10 U	10 U	0.075 B		10 U	0.23 B				10 U	2 U	
Arsenic	10	10	10	0.052						10 U	10 U	10 U	1 U		10 U	0.45 B				10 U	1 U	
Barium	2000	2000	2000	3800					80.7 B	42.7 B	59.3 B	31.3 B	25.2		31.3 B	32.5				141 B	102	
Beryllium	4	4	4	25						4 U	4 U	4 U	1 U		4 U	1 U				0.55 B	1 U	
Cadmium	5	5	5	9.2					5 U	5 U	5 U	5 U	1 U		5 U	1 U				5 U	1 U	
Calcium					96000	91000 B	89000	87000 B	67000													
Chromium	100	100	100						5 U	5 U	5 U	5 U	5.7 J		5 U	4.1 J				1.7 B	5.1 J	
Copper	1000	1000	1300	800						1.3 B	0.84 B	25 U	0.8 B		25 U	1.3 B				25 U	0.8 B	
Ferric Iron																		100	100 U			
FERROUS IRON																		50 U	50 U			
Hexavalent Chromium	100	100		0.035						50 U	50 U	50 U			50 U					50 U		
Iron			300	14000					31.8 B													
Lead	5	5	15	15					3.1 J	3 U	3 U	3 U	0.057 B		3 U	0.19 B				3 U	0.39 B	
Magnesium					24000	19000	18000	18000	15900													
Manganese	300	300	50	430					4.5 B													
Mercury	2	2	2	0.63						0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U				0.2 U	0.2 U	
Nickel	100	100		390						40 U	1.2 B	40 U	0.59 B		40 U	0.5 B				2.5 B	2.1	
Potassium					6900	7600	6200	6000 B														
Selenium	50	50	50	100						5 U	5 U	5 U	0.62 B		5 U	5 U				5 U	1.2 B	
Silver	100	100		94						5 U	5 U	5 U	1 U		5 U	1 U				5 U	1 U	
Sodium					65000	71000	60000	62000	7070													
Thallium	2	2	2	0.2						10 U	10 U	10 U	0.067 B		10 U	0.12 B				10 U	0.022 B	
Vanadium	260	720		86						2.2 B	50 U	50 U	2.1 J		50 U	1.8 J				1.5 B	1.4 J	
Zinc	2000	2000		6000					50.7 J	11.8 B J	26.4 J	3.8 B J	3.1 B J		2.7 B J	5.3				12.3 B J	8.3	
METAL (Dissolved)																						
Antimony	6	6	6	7.8						10 U	10 U	10 U	0.073 B		10 U	0.16 B J				10 U	0.2 B J	
Arsenic	10	10	10	0.052						10 U	10 U	10 U	1 U		10 U	0.23 B				10 U	1	
Barium	2000	2000	2000	3800						41 B	62 B	31.7 B	24.9		29.2 B	33.1				139 B	107	
Beryllium	4	4	4	25						4 U	4 U	0.52 B J	1 U		0.66 B J	1 U				0.6 B J	0.15 B	
Cadmium	5	5	5	9.2						5 U	5 U	5 U	1 U		5 U	1 U				5 U	1 U	
Calcium														48800			79500		80000 B			35400
Chromium	100	100	100							5 U	5 U	5 U	5.3 J		5 U	4 J				5 U	8.2 J	
Copper	1000	1000	1300	800						1.9 B	0.97 B	25 U	0.68 B		25 U	1.1 B				25 U	2.1	
Ferric Iron																						
Hexavalent Chromium	100	100		0.035						50 U	50 U	50 U			50 U					50 U		
Iron			300	14000										100 U			100 U	100 U	50 U			100 U
Lead	5	5	15	15						3 U	3 U	3 U	1 U		3 U	0.055 B J				3 U	2 J	
Magnesium														18100			7930		7600			15700
Manganese	300	300	50	430										15 U			15 U	0.64 J	0.57 J B			18.7
Mercury	2	2	2	0.63						0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U				0.2 U	0.2 U	
Nickel	100	100		390						40 U	40 U	40 U	0.39 B		40 U	0.4 B				1.5 B	4.9	
Potassium														3510 B			1850 B		1900			2120 B
Selenium	50	50	50	100						5 U	5 U	5 U	0.46 B J		5 U	5 U				5 U	1.6 B	
Silver	100	100		94						5 U	5 U	5 U	1 U		5 U	1 U				5 U	1 U	
Sodium														27100			36500	26000	31000 B			59500
Thallium	2	2	2	0.2						10 U	10 U	3.5 B	0.041 B		3.2 B	1 U				4.3 B	0.044 B J	
Vanadium	260	720		86						50 U	50 U	1.5 B	2 J		50 U	0.84 B				50 U	2.2	
Zinc	2000	2000		6000						8.9 B	26	2.4 B	3.2 B J		8.3 B	4.7 B				9.5 B	14	

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	RW-2 4/15/87	RW-2 7/30/99	RW-2 3/30/00	RW-2 6/15/05	RW-2 4/22/08	RW-2 9/26/08	RW-2 7/6/10	RW-2 9/10/13	RW-2 10/20/14	RW-4 Folk 4/14/87	RW-4 Folk 5/14/08	RW-4 Folk 9/10/08	RW-4 Folk 6/18/09	RW-4 FOLK 6/25/10	RW-4 Folk 6/28/11	RW-5 10/27/95	RW-5 12/29/95	RW-5 7/30/99	RW-5 3/31/00	RW-5 4/22/08	RW-5 9/26/08	RW-5 7/7/10
METAL																										
Aluminum			200	20000																						
Antimony	6	6	6	7.8				4.9 U	10 U	0.18 B					10 U	0.17 B								10 U	0.11 B	
Arsenic	10	10	10	0.052					10 U	1 U					10 U	0.17 B								10 U	1 U	
Barium	2000	2000	2000	3800					42.5 B	23.9					90.4 B	74.2								49.4 B	37.3	
Beryllium	4	4	4	25					4 U	1 U					4 U	1 U								4 U	1 U	
Cadmium	5	5	5	9.2				1.1	5 U	1 U					0.59 B	1 U								5 U	1 U	
Calcium						6500	4900													80000	82000	67100	72000			
Chromium	100	100	100					2.8 U	10.6	13.9 J					5 U	6 J								5 U	10.9 J	
Copper	1000	1000	1300	800					42.6	5				70	475	398								25 U	0.97 B	
Ferric Iron												100	100 U													
FERROUS IRON												50 U	150 HF													
Hexavalent Chromium	100	100		0.035				10 U	50 U						50 U									50 U		
Iron			300	14000		2900	190													70 U	70 U	2300	1500			
Lead	5	5	15	15				2.7	4.7	0.99 B					28.9	23	6.1 J	9	8.7					3 U	0.053 B	
Magnesium						3600	3200													28000	29000	26800	30000			
Manganese	300	300	50	430		140	23													6 U	6 U	50	180			
Mercury	2	2	2	0.63					0.2 U	0.2 U					0.2 U	0.2 U								0.081 B	0.2 U	
Nickel	100	100		390				4	11.8 B	5.1				50	14 B	9								40 U	1.9	
Potassium						2000	2000													2200	2300	1700	1800			
Selenium	50	50	50	100					5 U	5 U					5 U	5 U								5 U	5 U	
Silver	100	100		94					5 U	1 U					5 U	1 U								5 U	1 U	
Sodium						3600	3800													18000	19000	13600	14000			
Thallium	2	2	2	0.2					5.6 B	0.32 B					10 U	0.078 B								4.3 B	0.12 B	
Vanadium	260	720		86					1.3 B	4.1 J					50 U	2.1 J								1.2 B	3.3 J	
Zinc	2000	2000		6000	30			37.7	51.7	29.7				40	145	93.2 J								6.1 B	2.9 B	
METAL (Dissolved)																										
Antimony	6	6	6	7.8				4.9 U	10 U	0.09 B					10 U	0.13 B								10 U	0.1 B	
Arsenic	10	10	10	0.052					10 U	1 U					10 U	1 U								10 U	1 U	
Barium	2000	2000	2000	3800					36.9 B	21.5					86.9 B	73.3								50.4 B	36.3	
Beryllium	4	4	4	25					4 U	1 U					4 U	1 U								4 U	1 U	
Cadmium	5	5	5	9.2				0.5 U	5 U	1 U					5 U	1 U								5 U	1 U	
Calcium											4470 B		4200					3970 B								103000
Chromium	100	100	100					2.8 U	1.4 B	12 J					5 U	7.5 J								5 U	11 J	
Copper	1000	1000	1300	800					14 B	3.4					522	274								25 U	0.51 B	
Ferric Iron																										
Hexavalent Chromium	100	100		0.035					50 U						50 U									50 U		
Iron			300	14000							100 U	100 U	88					255								83.9 B J
Lead	5	5	15	15				2.2 U	3 U	0.15 B					5.9	12.6 J	2.3 J	7.8	3.3					3 U	0.29 B	
Magnesium											3340 B		3300 B					3590 B								30800
Manganese	300	300	50	430							5.4 B	23 B	140					29.2								26.6
Mercury	2	2	2	0.63					0.2 U	0.2 U					0.2 U	0.2 U								0.2 U	0.2 U	
Nickel	100	100		390				3.9 U	11.3 B	4.9					13.6 B	8.8								40 U	1.9	
Potassium											1710 B		1800					2710 B								7200
Selenium	50	50	50	100					5 U	5 U					5 U	0.57 B								5 U	0.56 B	
Silver	100	100		94					5 U	1 U					5 U	1 U								5 U	1 U	
Sodium											5140	4900 J	5800 B					16300								85500
Thallium	2	2	2	0.2					10 U	0.15 B J					10 U	1.0 U								10 U	0.1 B J	
Vanadium	260	720		86					1.8 B	3.2 J					50 U	2.7								3.1 B	3.7 J	
Zinc	2000	2000		6000				34.3	54.5	32.6					158 J	88 J								3.6 B	3.4 B	

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	TWB-6 7/13/95	HERMAN (S-7) 5/14/08	S-3 6/8/98	S-3 3/22/00	S-4 6/8/98	S-4 3/22/00	S-9 6/8/98	S-9 3/22/00	Spring at Bldg 14 S1 4/30/08	Spring at Bldg 14 S1 9/5/08	Spring at Bldg 14 S1 6/24/09	Spring at Bldg 14 S1 6/25/10	Spring at Bldg 14 S2 4/30/08	Spring at Bldg 14 S2 9/5/08
METAL																		
Aluminum			200	20000														
Antimony	6	6	6	7.8		10 U	0 U	0 U	0 U	0 U	0 U	7.3	27.2	26.9	15.4 J	3.6 J	10 U	0.39 B
Arsenic	10	10	10	0.052		10 U	33	0 U	0 U	0 U	16	0 U	10 U	1.9			10 U	1 U
Barium	2000	2000	2000	3800		40.5 B							60.1 B J	260			71 B J	75.6
Beryllium	4	4	4	25		4 U	13	0 U	0 U	0 U	3	0 U	4 U	1 U			4 U	1 U
Cadmium	5	5	5	9.2		5 U	18	0 U	0 U	0 U	0 U	0 U	5 U	0.24 B			5 U	0.21 B
Calcium																		
Chromium	100	100	100		260	5 U	120	0 U	0 U	0 U	28	0 U	4.7 B	30.2 J			5 U	7.7 J
Copper	1000	1000	1300	800	620	0.97 B							12 B	89.4			25 U	75.9
Ferric Iron																		
FERROUS IRON																		
Hexavalent Chromium	100	100		0.035	260	50 U	0 U	0 U	0 U	0 U	0 U	0 U	50 U				50 U	
Iron			300	14000			177000	350	0 U	0 U	47600	190						
Lead	5	5	15	15	68	3 U	1000	16	0 U	0 U	0 U	0 U	5.9	142	30.4	1.3 B	3 U	122
Magnesium																		
Manganese	300	300	50	430			11400	64	0 U	0 U	3000	18						
Mercury	2	2	2	0.63		0.2 U	0 U	0 U	0 U	0 U	0 U	0 U	0.2 U	0.17 B			0.2 U	0.2 U
Nickel	100	100		390		40 U	180	0 U	0 U	0 U	20	0 U	2.3 B	3.6			1.4 B	1.8
Potassium																		
Selenium	50	50	50	100		5 U	0 U	0 U	0 U	0 U	0 U	0 U	5 U	0.99 B			5 U	5 U
Silver	100	100		94		5 U	0 U	0 U	0 U	0 U	0 U	0 U	5 U	0.33 B			5 U	1 U
Sodium																		
Thallium	2	2	2	0.2		10 U	0 U	0 U	0 U	0 U	0 U	0 U	10 U	1 U			10 U	1 U
Vanadium	260	720		86		50 U							50 U	3.7 J			50 U	1.9 J
Zinc	2000	2000		6000	450	5.1 B							191 J	246			7.8 B J	96.2
METAL (Dissolved)																		
Antimony	6	6	6	7.8		10 U							27.2	21.5 J	15.2	5.6 J	10 U	0.31 B J
Arsenic	10	10	10	0.052		10 U							10 U	0.62 B			10 U	1 U
Barium	2000	2000	2000	3800		36.2 B							54.2 B J	67.1			68.8 B J	64.6
Beryllium	4	4	4	25		4 U							4 U	1 U			4 U	1 U
Cadmium	5	5	5	9.2		5 U							5 U	1 U			5 U	0.12 B
Calcium																82200		
Chromium	100	100	100			5 U							4 B	9 J			5 U	4.2 J
Copper	1000	1000	1300	800		25 U							10 B	9.5			25 U	12.8
Ferric Iron																		
Hexavalent Chromium	100	100		0.035		50 U							50 U				50 U	
Iron			300	14000												100 U		
Lead	5	5	15	15		3 U							3 U	1.4 J	1.3	3 U	3 U	5.6 J
Magnesium																12500		
Manganese	300	300	50	430												40.7		
Mercury	2	2	2	0.63		0.2 U							0.2 U	0.2 U			0.2 U	0.2 U
Nickel	100	100		390		40 U							2.8 B	1.3			2.2 B	1
Potassium																8700		
Selenium	50	50	50	100		5 U							5 U	0.49 B			5 U	0.45 B
Silver	100	100		94		5 U							5 U	1 U			5 U	1 U
Sodium																30600		
Thallium	2	2	2	0.2		10 U							10 U	1 U			8.5 B	1 U
Vanadium	260	720		86		50 U							50 U	1.9			50 U	1.8
Zinc	2000	2000		6000		7.9 B J							175 J	127			4 B J	33.7

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 2.2-4c
Groundwater Data Summary - Metal Analyses
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	PA MSC UA R (ug/L)	PA MSC UA NR (ug/L)	Federal MCL (ug/L)	EPA RSL (ug/L)	Spring at Bldg 14 S2 6/24/09	Spring at Bldg 14 S2 7/9/10	TATE (S-6) 5/14/08
METAL							
Aluminum			200	20000			
Antimony	6	6	6	7.8		0.76 B J	10 U
Arsenic	10	10	10	0.052			10 U
Barium	2000	2000	2000	3800			56.7 B
Beryllium	4	4	4	25			4 U
Cadmium	5	5	5	9.2			5 U
Calcium							
Chromium	100	100	100				5 U
Copper	1000	1000	1300	800			25 U
Ferric Iron							
FERROUS IRON							
Hexavalent Chromium	100	100		0.035			50 U
Iron			300	14000			
Lead	5	5	15	15	0.033 B	4540	3 U
Magnesium							
Manganese	300	300	50	430			
Mercury	2	2	2	0.63			0.2 U
Nickel	100	100		390			3.4 B
Potassium							
Selenium	50	50	50	100			5 U
Silver	100	100		94			5 U
Sodium							
Thallium	2	2	2	0.2			10 U
Vanadium	260	720		86			50 U
Zinc	2000	2000		6000			8 B
METAL (Dissolved)							
Antimony	6	6	6	7.8		0.098 B	10 U
Arsenic	10	10	10	0.052			10 U
Barium	2000	2000	2000	3800			52.6 B
Beryllium	4	4	4	25			4 U
Cadmium	5	5	5	9.2			5 U
Calcium						20300	
Chromium	100	100	100				5 U
Copper	1000	1000	1300	800			25 U
Ferric Iron							
Hexavalent Chromium	100	100		0.035			50 U
Iron			300	14000		100 U	
Lead	5	5	15	15	0.81 B	8.3	3 U
Magnesium						5310	
Manganese	300	300	50	430		1.2 B	
Mercury	2	2	2	0.63			0.2 U
Nickel	100	100		390			2.2 B
Potassium						3110 B	
Selenium	50	50	50	100			5 U
Silver	100	100		94			5 U
Sodium						6790	
Thallium	2	2	2	0.2			3.3 B
Vanadium	260	720		86			50 U
Zinc	2000	2000		6000			6.5 B 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.