	A	B	C	D	E	F	G
1	**TABLE 1 - 12/23/11**						
2	**FIELD AND QC SAMPLING SUMMARY**						
3	**DIMOCK RESIDENTIAL GROUNDWATER SITE**						
4	**DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA**						
5	**Parameter/Method**	**Matrix**	**Field Samples**	**Bkgd**	**QC Sample Sum**		
6					**Dup**	**Trip[1] Blanks**	**Rinsate[1,2] Blanks**
7	87Sr/86Sr analysis	drinking water	60	0	6	0	0
8	Alkalinity (SM 2320B) (Total Hardness, HCO3, CO3) (2320B, 2340B)	drinking water	60	0	6	0	0
9	Alcohols: Ethanol, methanol, 1-propanol, 1-butanol, 2-butanol (8015D)	drinking water	60	0	6	0	0
10	Anions, Chloride, Bromide, Fluoride, Nitrate/Nitrite as N, Orthophosphorus as P, Sulfate as SO4 (300.0)	drinking water	60	0	6	0	0
11	Bacteria (total coliform, HPC)	drinking water	60	0	6	0	0
12	C14 isotope (biogenic vs. thermo) (isotech)	drinking water	60	0	6	0	0
13	$d^{13}C$ and $d^{2}H$ of methane (isotech)	drinking water	60	0	6	0	0
14	$d^{13}C$ of inorganic carbon (isotech)	drinking water	60	0	6	0	0
15	Dissolved Gases, Methane, Ethane, & Ethene (RSK-175)	drinking water	60	0	6	0	0
16	Ethylene Glycol (8015M)	drinking water	60	0	6	0	0
17	Gamma Spec (K-40, Ra-226, Ra-228, Th-232, Th-234, U-234, U-235, U-238) (901.1)	drinking water	60	0	6	0	0
18	Glycols incl. 2-Butoxyethanol (8316)	drinking water	60	0	6	0	0
19	Gross Alpha/Beta (900.0)	drinking water	60	0	6	0	0
20	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, V,K, Hg (200.8/245.1)	drinking water	60	0	6	0	0
21	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, V,K, Hg (200.8/245.1)	**Filtered drinking water**	60	0	6	0	0

	A	B	C	D	E	F	G
22	Methylene Blue Active Substances (MBAS) (SM 5540C)	drinking water	60	0	6	0	0
23	Nitrate/Nitrite (353.2)	drinking water	60	0	6	0	0
24	Oil & Grease (HEM) (1664A)	drinking water	60	0	6	0	0
25	pH (9040C)	drinking water	60	0	6	0	0
26	Phosphorus, Total (365.1)	drinking water	60	0	6	0	0
27	Ra-226 (903.1)	drinking water	60	0	6	0	0
28	Ra-228 (904.0)	drinking water	60	0	6	0	0
29	Semi-Volatiles (TCL plus TICs) (CLP Trace plus TICS) (OLC03.2)	drinking water	60	0	6	0	0
30	Solids, Total Dissolved (TDS) (2540C)	drinking water	60	0	6	0	0
31	Solids, Total Suspended (TSS) (2540D)	drinking water	60	0	6	0	0
32	Stable isotopes of water (O,H) (isotech)	drinking water	60	0	6	0	0
33	Turbidity, Nephelometric (180.1)	drinking water	60	0	6	0	0
34	Volatiles Incl. Acrylonitrile (TCL plus TICs) (CLP Trace - 0.5 ug/L QL) (OLC03.2)	drinking water	60	0	6	1 per cooler	0
35	Notes:						
36	1. This QA sample will be an aqueous matrix.						
37	sampling equipment is used.						
38	3. Estimate based on 5 sampling days						
39	Key:						
40	Bkgd = Background	QA/QC = Quality assurance/quality control					
41	MS/MSD = Matrix Spike/Matrix Spike Duplicate	Sr = Strontium					
42	CRQL = Contract-Required Quantitation limit.						
43	Dup = Duplicate						
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	H	I	J	K	L	M	N
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5	**mary**		**Total Field and QA/QC Analyses (not including MS/MSD)[3]**				
6	**Field[1] Blanks**	**MS/MSD**					
7	5	0	71				
8	5	0	71				
9	5	3	71				
10	5	0	71				
11	5	0	71				
12	5	0	71				
13	5	0	71				
14	5	0	71				
15	5	0	71				
16	5	0	71				
17	5	0	71				
18	5	0	71				
19	5	0	71				
20	5	6	71				
21	5	6	71				

	H	I	J	K	L	M	N
22	5	0	71				
23	5	0	71				
24	5	0	71				
25	5	0	71				
26	5	0	71				
27	5	0	71				
28	5	0	71				
29	5	3	71				
30	5	0	71				
31	5	0	71				
32	5	0	71				
33	5	0	71				
34	5	3	71 + Trip Blanks for Coolers				
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	A	B	C	D	E	F	G	H
1	TABLE 2 - 12/23/11							
2	SAMPLE ANALYTICAL REQUIREMENTS SUMMARY							
3	DIMOCK RESIDENTIAL GROUNDWATER SITE							
4	DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA							
5	**Analytical parameter and Method**		**Matrix**		**Sample Preservation**		**Holding Time**	
6								
7	87Sr/86Sr Analysis		drinking water		HNO_3, pH $\leq$ 2, Ice 4°C		6 months	
8	Alcohols: Ethanol, methanol, 1-propanol, 1-butanol, 2-butanol (8015D)		drinking water		Ice, 6°C		7 days	
9	Alkalinity (2320B, 2340B)		drinking water		Ice, 6°C		14 days	
10	Anions: Chloride, Bromide, Fluoride, Nitrate/Nitrate as N, Orthophosphorus as P, Sulfate as SO4 (300.0)		drinking water		Ice, 6°C		28 days	
11	Bacteria (total coliform, HPC)		drinking water		Ice, 4°C (.008% Na2S2O3 if residual Cl- present)		6 hours	
12	C14 isotope (biogenic vs. thermo) (Isotech)		drinking water		Ice, 4°C		6 months	
13	d13C and d2H of methane (Isotech)		drinking water		Ice, 4°C, biocide pill in sample container		6 months	
14	d13C of inorganic carbon (Isotech)		drinking water		Ice, 4°C		6 months	
15	Dissolved Gases, Methane, Ethane, & Ethene (RSK-175)		drinking water		pH<2 with HCl and cool with ice, 4°C		7 days	
16	Ethylene Glycol (8015M)		drinking water		Ice, 4°C		7 days	
17	Gamma Spec (K-40, Ra-226, Ra-228, Th-232, Th-234, U-235, U-238) (901.1)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
18	Glycols incl. 2-Butoxyethanol (8316)		drinking water		Ice, 6°C		7 days	
19	Gross Alpha/Beta (900.0)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
20	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, V, K, Hg (200.8/245.1)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
21	Methylene Blue Active Substances (MBAS) (SM 5540C)		drinking water		Ice, 4°C		48 hours	
22	Nitrate/Nitrite (Total N) ((353.2)		drinking water		pH<2, H2SO4, and cool with ice, 4°C		7 days	
23	Oil & Grease (HEM) (1664A)		drinking water		pH<2, H2SO4, and cool with ice, 4°C		28 days	
24	pH (9040C)		drinking water		Ice, 6°C		As soon as possible	

	A	B	C	D	E	F	G	H
25	Phosphorus, Total (365.1)		drinking water		Ice, 6°C		28 days	
26	Ra-226 (903.1)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
27	Ra-228 (904.0)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
28	Semi-Volatiles (TCL plus TICs) (OLC03.2)		drinking water		Ice, 6°C		7 days	
29	Solids, Total Dissolved (TDS) (SM 2540C)		drinking water		Ice, 6°C		7 days	
30	Solids, Total Suspended (TSS) (SM 2540D)		drinking water		Ice, 6°C		7 days	
31	Stable isotopes of water (O,H) (Isotech)		drinking water		Ice, 4°C		6 months	
32	Turbidity, Nephelometric (180.1)		drinking water		Ice, 4°C		48 hours	
33	Volatiles (TCL plus TICs) (CLP Trace - 0.5 ug/L QL) (OLC03.2) incl. Acrylonitrile		drinking water		2 drops of 1:1 HCl, pH<2, Ice, 6°C		7 days	
34	**Note: Analyses will be combined into sample bottles as applicable/appropriate based on determination by lab(s)**							
35	**KEY:**							
36	Celsius		milliliter					
37	C14 = Carbon 14		= Sodium					
38	CLP = Contract Lab		potential					
39	D13C = delta of		QL =					
40	D2H = delta of		Sr =					
41	Acid		Target					
42	density		Tentativel					
43	HN03 = Nitric Acid		microgra					
44	Heterotrophic							

	I	J	K	L	M
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5	**Sample Container(s)**			Procurement	Number
6				Source or Lab	
7	one 1-L poly/TBD			Tier 4	1
8	Three 40-ml glass vials (Fill to capacity with no head space)			Ft. Meade	3
9	One 500-ml HDPE			Ft. Meade	1
10	One 500-ml HDPE			Ft. Meade	1
11	125 ml Pre-sterilized polyproylene			Tier 4	1
12	one 1-L poly/TBD			Tier 4	1
13	one 1-L poly/TBD			Tier 4	1
14	one 1-L poly/TBD			Tier 4	1
15	One 40-ml glass vial			Tier 4	1
16	Three 40-ml glass vials (Fill to capacity with no head space)			Tier 4	3
17	One 1-Liter HDPE			Tier 4	1
18	Three 40-ml glass vials (Fill to capacity with no head space)			Ft. Meade	3
19	One 1-Liter HDPE			Tier 4	1
20	One 1-Liter HDPE			Ft. Meade	1
21	One 500-ml HDPE			Tier 4	1
22	Two 1-Liter amber glass jars with teflon-lined lids			Ft. Meade	2
23	One 1-Liter amber glass jars with teflon-lined lids			Tier 4	1
24	One 250-ml HDPE			Ft. Meade	1

	I	J	K	L	M
25	One 400-ml HDPE			Ft. Meade	1
26	One 1-Liter HDPE			Tier 4	1
27	One 1-Liter HDPE			Tier 4	1
28	Two 1-Liter amber glass jars with teflon-lined lids			Ft. Meade	2
29	One 500-ml HDPE			Ft. Meade	1
30	One 500-ml HDPE			Ft. Meade	1
31	one 1-L poly/TBD			Tier 4	1
32	One 250-ml HDPE			Tier 4	1
33	Six 40-ml glass vials w/Teflon lined cap (no head space)			Ft. Meade	6
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