	A	B
1	**TABLE 1 - 12/28**	
2	**FIELD AND QC SAMPLING**	
3	**DIMOCK RESIDENTIAL GROU**	
4	**DIMOCK, SUSQUEHANNA COUN**	
5	**Fort Meade L**	
6	**Parameter/Method**	**Matrix**
7		
8	Alkalinity (SM 2320B) (Total Hardness, HCO3, CO3) (2320B, 2340B)	drinking water
9	Alcohols: Ethanol, methanol, 1-propanol, 1-butanol, 2-butanol (8015D)	drinking water
10	Anions, Chloride, Bromide, Fluoride, Nitrate/Nitrite as N, Orthophosphorus as P, Sulfate as SO4 (300.0)	drinking water
11	Glycols incl. 2-Butoxyethanol (8321 Modified)	drinking water
12	Ethylene Glycol (8015M)	drinking water
13	2-Methoxyethanol (8015B)	drinking water
14	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, VK, Hg (200.8/245.1)	drinking water
15	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, VK, Hg (200.8/245.1)	Filtered drinking water
16	pH (9040C)	drinking water
17	Phosphorus, Total (365.1)	drinking water
18	Nitrate/Nitrite (353.2)	drinking water
19	Semi-Volatiles (TCL plus TICs) (CLP Trace plus TICS) (OLC03.2)	drinking water
20	1-methylnapthalene (8270 or equivalent)	drinking water
21	Volatiles Incl. Acrylonitrile (TCL plus TICs) (CLP Trace - 0.5 ug/L QL) (OLC03.2)	drinking water
22	Oil & Grease (HEM) (1664A)	drinking water
23	Solids, Total Dissolved (TDS) (2540C)	drinking water
24	Solids, Total Suspended (TSS) (2540D)	drinking water
25	Notes:	**Key:**

	A	B
26	1. This QA sample will be an aqueous matrix.	Bkgd = Backg
27	2. Sample to be collected only if non-dedicated sampling equipment is used.	MS/MSD = Ma
28	3. Estimate based on 5 sampling days	CRQL = Contra
29		Dup = Duplica

	A	B
30	**TABLE 1 - 12/28/**	
31	**FIELD AND QC SAMPLING**	
32	**DIMOCK RESIDENTIAL GROU**	
33	**DIMOCK, SUSQUEHANNA COUN**	
34	**EPA Region 9**	
35		
36	**Parameter/Method**	**Matrix**
37	Dissolved Gases, Methane, Ethane, & Ethene (RSK-175)	drinking water
38	DRO (8015M)	drinking water
39	GRO (8015M)	drinking water
40	Notes:	**Key:**
41	1. This QA sample will be an aqueous matrix.	Bkgd = Backg
42	2. Sample to be collected only if non-dedicated sampling equipment is used.	MS/MSD = Ma
43	3. Estimate based on 5 sampling days	CRQL = Contra
44		Dup = Duplica

	A	B
45	**TABLE 1 - 12/28/**	
46	**FIELD AND QC SAMPLING**	
47	**DIMOCK RESIDENTIAL GROU**	
48	**DIMOCK, SUSQUEHANNA COUN**	
49	**EPA Region 2**	
50	**Parameter/Method**	**Matrix**
51		
52	Methylene Blue Active Substances (MBAS) (SM 5540C)	drinking water
53	Notes:	**Key:**
54	1. This QA sample will be an aqueous matrix.	Bkgd = Backg
55	2. Sample to be collected only if non-dedicated sampling equipment is used.	MS/MSD = Ma
56	3. Estimate based on 5 sampling days	CRQL = Contra
57		Dup = Duplica

	A	B
58	**TABLE 1 - 12/28/**	
59	**FIELD AND QC SAMPLING**	
60	**DIMOCK RESIDENTIAL GROU**	
61	**DIMOCK, SUSQUEHANNA COUN**	
62	**Isotech Lab**	
63		
64	**Parameter/Method**	**Matrix**
65	$d^{13}C$ and $d^{2}H$ of methane (isotech)	drinking water
66	$d^{13}C$ of inorganic carbon (isotech)	drinking water
67	Stable isotopes of water (O,H) (isotech)	drinking water
68	Complete compositional analysis of headspace gas (isotech)	drinking water
69	Diss. gases methane, ethane, ethene (isotech)	drinking water
70	Notes:	**Key:**
71	1. This QA sample will be an aqueous matrix.	Bkgd = Backg
72	2. Sample to be collected only if non-dedicated sampling equipment is used.	MS/MSD = Ma
73	3. Estimate based on 5 sampling days	CRQL = Contra
74		Dup = Duplica

	A	B
75	**TABLE 1 - 12/28/**	
76	**FIELD AND QC SAMPLING**	
77	**DIMOCK RESIDENTIAL GROU**	
78	**DIMOCK, SUSQUEHANNA COUN**	
79	**NAREL Lab**	
80		
81	**Parameter/Method**	**Matrix**
82	Gamma Spec (K-40, Ra-226, Ra-228, Th-232, Th-234, U-234, U-235, U-238) (901.1)	drinking water
83	Ra-226 (903.1)	drinking water
84	Ra-228 (904.0)	drinking water
85	Gross Alpha/Beta (900.0)	drinking water
86	Notes:	**Key:**
87	1. This QA sample will be an aqueous matrix.	Bkgd = Backg
88	2. Sample to be collected only if non-dedicated sampling equipment is used.	MS/MSD = Ma
89	3. Estimate based on 5 sampling days	CRQL = Contra
90		Dup = Duplica

	A	B
91		**TABLE 1 - 12/28/**
92		**FIELD AND QC SAMPLING**
93		**DIMOCK RESIDENTIAL GROU**
94		**DIMOCK, SUSQUEHANNA COUN**
95		**TechLaw Pace**
96		
97	**Parameter/Method**	**Matrix**
98	Bacteria (total coliform, HPC)	drinking water
99	Turbidity, Nephelometric (180.1)	drinking water
100	Notes:	**Key:**
101	1. This QA sample will be an aqueous matrix.	Bkgd = Backg
102	2. Sample to be collected only if non-dedicated sampling equipment is used.	MS/MSD = Ma
103	3. Estimate based on 5 sampling days	CRQL = Contra
104		Dup = Duplica

/11

SUMMARY

NDWATER SITE

TY, PENNSYLVANIA

.ab

Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD)[3]
		Dup	Trip[1] Blanks	Rinsate[1,2] Blanks	Field[1] Blanks	MS/MSD	
60	0	6	0	0	5	0	71
60	0	6	0	0	5	3	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	6	71
60	0	6	0	0	5	6	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	3	71
60	0	6	0	0	5	0	71
60	0	6	1 per cooler	0	5	3	71 + Trip Blanks for Coolers
60	0	6	0	0	5	0	71
60	0	6	0	0	5	0	71
60	0	6	0	0	5	0	71

	C	D	E	F	G	H	I	J	K	L
26	round				QA/QC = Quality assurance/quality control					
27	trix Spike/Matrix Spike Duplicate				Sr = Strontium					
28	ct-Required Quantitation limit.									
29	ate									

	C	D	E	F	G	H	I	J	K	L
30	/11									
31	SUMMARY									
32	NDWATER SITE									
33	TY, PENNSYLVANIA									
34	**Lab**									
35	**Field Samples**	**Bkgd**	**QC Sample Summary**					**Total Field and QA/QC Analyses (not including MS/MSD)[3]**		
36			**Dup**	**Trip[1] Blanks**	**Rinsate[1,2] Blanks**	**Field[1] Blanks**	**MS/MSD**			
37	60	0	6	0	0	5	0	71		
38	60	0	6	0	0	5	0	71		
39	60	0	6	0	0	5	0	71		
40										
41	round				QA/QC = Quality assurance/quality control					
42	trix Spike/Matrix Spike Duplicate				Sr = Strontium					
43	ct-Required Quantitation limit.									
44	ate									

	C	D	E	F	G	H	I	J	K	L
45	/11									
46	SUMMARY									
47	NDWATER SITE									
48	TY, PENNSYLVANIA									
49	**Lab**									
50	**Field Samples**	**Bkgd**	**QC Sample Summary**					**Total Field and QA/QC Analyses (not including MS/MSD)[3]**		
51			**Dup**	**Trip[1]**	**Rinsate Blanks**	**Field Blanks**	**MS/MSD**			
52	60	0	6	0	0	5	0	71		
53										
54	round				QA/QC = Quality assurance/quality control					
55	trix Spike/Matrix Spike Duplicate				Sr = Strontium					
56	ct-Required Quantitation limit.									
57	ate									

	C	D	E	F	G	H	I	J	K	L
58	/11									
59	SUMMARY									
60	NDWATER SITE									
61	TY, PENNSYLVANIA									
62										
63	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD)[3]		
64			Dup	Trip[1] Blanks	Rinsate[1,2] Blanks	Field[1] Blanks	MS/MSD			
65	10	0	0	0	0	0	0	10		
66	10	0	0	0	0	0	0	10		
67	10	0	0	0	0	0	0	10		
68	10	0	0	0	0	0	0	10		
69	10	0	0	0	0	0	0	10		
70										
71	round				QA/QC = Quality assurance/quality control					
72	trix Spike/Matrix Spike Duplicate				Sr = Strontium					
73	ct-Required Quantitation limit.									
74	ate									

	C	D	E	F	G	H	I	J	K	L
75	/11									
76	SUMMARY									
77	NDWATER SITE									
78	TY, PENNSYLVANIA									
79										
80	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD)[3]		
81			Dup	Trip[1] Blanks	Rinsate[1,2] Blanks	Field[1] Blanks	MS/MSD			
82	60	0	6	0	0	5	0	71		
83	60	0	6	0	0	5	0	71		
84	60	0	6	0	0	5	0	71		
85	60	0	6	0	0	5	0	71		
86										
87	round				QA/QC = Quality assurance/quality control					
88	trix Spike/Matrix Spike Duplicate				Sr = Strontium					
89	ct-Required Quantitation limit.									
90	ate									

	C	D	E	F	G	H	I	J	K	L
91	/11									
92	SUMMARY									
93	NDWATER SITE									
94	TY, PENNSYLVANIA									
95	Lab									
96	Field Samples	Bkgd	QC Sample Summary					Total Field and QA/QC Analyses (not including MS/MSD)[3]		
97			Dup	Trip[1] Blanks	Rinsate[1,2] Blanks	Field[1] Blanks	MS/MSD			
98	60	0	6	0	0	5	0	71		
99	60	0	6	0	0	5	0	71		
100										
101	round				QA/QC = Quality assurance/quality control					
102	trix Spike/Matrix Spike Duplicate				Sr = Strontium					
103	ct-Required Quantitation limit.									
104	ate									

	A	B	C	D	E	F	G	H
1	TABLE 2 - 12/28/11							
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	Alcohols: Ethanol, methanol, 1-propanol, 1-butanol, 2-butanol (8015D)		drinking water		Ice, 6°C		7 days	
8	Alkalinity (2320B, 2340B)		drinking water		Ice, 6°C		14 days	
9	Anions: Chloride, Bromide, Fluoride, Nitrate/Nitrate as N, Orthophosphorus as P, Sulfate as SO4 (300.0)		drinking water		Ice, 6°C		28 days	
10	Bacteria (total coliform, HPC)		drinking water		Ice, 4°C (.008% Na2S2O3 if residual Cl- present)		6 hours	
11	d13C and d2H of methane (Isotech)		drinking water		Ice, 4°C, biocide pill in sample container		6 months	
12	d13C of inorganic carbon (Isotech)		drinking water		Ice, 4°C		6 months	
13	Complete compositional analysis of headspace gas (isotech)		drinking water		Ice, 4°C, biocide pill in sample container		6 months	
14	Diss. gases methane, ethane, ethene (isotech)		drinking water		Ice, 4°C, biocide pill in sample container		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	DRO (8105M)		drinking water		Ice, 4°C		7 days extract; 40 days analysis	
18	GRO (8105M)		drinking water		pH<2 with HCl and cool with ice, 4°C		14 days	
19	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	
20	Glycols incl. 2-Butoxyethanol (8316)		drinking water		Ice, 6°C		7 days	
21	Gross Alpha/Beta (900.0)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
22	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	
23	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		pH<2 with HNO3 and cool with ice, 4°C		6 months	
24	Methylene Blue Active Substances (MBAS) (SM 5540C)		drinking water		Ice, 4°C		48 hours	

	A	B	C	D	E	F	G	H
25	Nitrate/Nitrite (Total N) (353.2)		drinking water		pH<2, H2SO4, and cool with ice, 4°C		7 days	
26	Oil & Grease (HEM) (1664A)		drinking water		pH<2, H2SO4, and cool with ice, 4°C		28 days	
27	pH (9040C)		drinking water		Ice, 6°C		As soon as possible	
28	Phosphorus, Total (365.1)		drinking water		Ice, 6°C		28 days	
29	Ra-226 (903.1)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
30	Ra-228 (904.0)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
31	Semi-Volatiles (TCL plus TICs) (OLC03.2)		drinking water		Ice, 6°C		7 days	
32	Solids, Total Dissolved (TDS) (SM 2540C)		drinking water		Ice, 6°C		7 days	
33	Solids, Total Suspended (TSS) (SM 2540D)		drinking water		Ice, 6°C		7 days	
34	Stable isotopes of water (O,H) (Isotech)		drinking water		Ice, 4°C		6 months	
35	Turbidity, Nephelometric (180.1)		drinking water		Ice, 4°C		48 hours	
36	2-Methoxyethanol (8015B)		drinking water		Ice, 6°C		7 days	
37	1-methylnapthalene (8270 or equivalent)		drinking water		Ice, 6°C		7 days	
38	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	
39	**Note: Analyses will be combined into sample bottles as applicable/appropriate based on determination by lab(s)**							
40	**KEY:**							
41	Celsius		milliliter					
42	C14 = Carbon 14		= Sodium					
43	CLP = Contract Lab		potential					
44	D13C = delta of		QL =					
45	D2H = delta of		Sr =					
46	Acid		Target					
47	density		Tentativel					
48	HN03 = Nitric Acid		microgra					
49	Heterotrophic		paramete					

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

	I	J	K	L	M
25	Two 1-Liter amber glass jars with teflon-lined lids			Ft. Meade	2
26	One 1-Liter amber glass jars with teflon-lined lids			Tier 4	1
27	One 250-ml HDPE			Ft. Meade	1
28	One 400-ml HDPE			Ft. Meade	1
29	One 1-Liter HDPE			Tier 4	1
30	One 1-Liter HDPE			Tier 4	1
31	Two 1-Liter amber glass jars with teflon-lined lids			Ft. Meade	2
32	One 500-ml HDPE			Ft. Meade	1
33	One 500-ml HDPE			Ft. Meade	1
34	one 1-L poly/TBD*			Tier 4	1
35	One 250-ml HDPE			Tier 4	1
36	Two 1-Liter amber glass jars with teflon-lined lids			Tier 4	2
37	Two 1-Liter amber glass jars with teflon-lined lids			Tier 4	2
38	Six 40-ml glass vials w/Teflon lined cap (no head space)			Ft. Meade	6
39	.				**50**
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					