

TABLES

Table 1. Ecological Risk-Based Water Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-06-C-847, V-W-07-C-869, and V-W-07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water	Columbia		Microbac				Pace Analytical	
			Eco Risk-PQL	MDL	RL	MDL	RL	MDL	RL	MDL	RL
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Petroleum Volatile Organic Compounds											
Benzene	71-43-2	SW846-8260B	114	0.136	0.5	0.80	5.00			0.41	1.0
Ethylbenzene	100-41-4	SW846-8260B	14	0.13	0.5	0.90	5.00			0.54	1.0
Toluene	108-88-3	SW846-8260B	253	0.108	0.5	0.90	5.00			0.67	1.0
Xylenes (Total)	1330-20-7	SW846-8260B	27	0.219	0.5	0.90	5.00			2.60	3.0
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	--	0.121	0.5	0.90	5.00			0.83	1.0
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	--	0.141	0.5	0.90	5.00			0.97	1.0
Semivolatile Organic Compounds											
Naphthalene	91-20-3	SW846-8270C	5.53	0.365	10.0	0.36	0.63	0.12	1.0	1.4	5.0
C1-naphthalenes	na	SW846-8270C	2.33	0.365**	10.0**						
C2-naphthalenes	na	SW846-8270C	0.86	0.365**	10.0**						
C3-naphthalenes	na	SW846-8270C	0.32	0.365**	10.0**						
C4-naphthalenes	na	SW846-8270C	0.12	0.365**	10.0**						
Acenaphthylene	208-96-8	SW846-8270C	8.77	0.236	10.0	0.42	0.63	0.18	1.0	1.1	5.0
Acenaphthene	83-32-9	SW846-8270C	1.6	0.281	10.0	0.09	0.13	0.15	1.0	1.1	5.0
Fluorene	86-73-7	SW846-8270C	1.12	0.323	10.0	0.09	0.13	0.15	1.0	0.88	5.0
C1-fluorenes	na	SW846-8270C	0.4	0.323**	10.0**						
C2-fluorenes	na	SW846-8270C	0.15	0.323**	10.0**						
C3-fluorenes	na	SW846-8270C	0.055	0.323**	10.0**						
Phenanthrene	85-01-8	SW846-8270C	0.55	0.482	10.0	0.03	0.05	0.18	1.0	0.72	5.0
Anthracene	120-12-7	SW846-8270C	0.59	0.612	10.0	0.02	0.03	0.16	1.0	0.82	5.0
C1-phenanthrene/anthracenes	na	SW846-8270C	0.21	0.612**	10.0**						
C2-phenanthrene/anthracenes	na	SW846-8270C	0.091	0.612**	10.0**						
C3-phenanthrene/anthracenes	na	SW846-8270C	0.04	0.612**	10.0**						
C4-phenanthrene/anthracenes	na	SW846-8270C	0.016	0.612**	10.0**						
Fluoranthene	206-44-0	SW846-8270C	0.2	0.652	10.0	0.03	0.06	0.18	1.0	1.3	5.0
Pyrene	129-00-0	SW846-8270C	0.29	0.731	10.0	0.09	0.13	0.15	1.0	0.95	5.0
C1-pyrene/fluoranthenes	na	SW846-8270C	0.14	0.731**	10.0**						
Benzo(a)anthracene	56-55-3	SW846-8270C	0.064	0.591	10.0	0.04	0.06	0.21	1.0	1.2	5.0
Chrysene	218-01-9	SW846-8270C	0.058	0.787	10.0	0.04	0.06	0.19	1.0	1.6	5.0
C1-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.024	0.787**	10.0**						
C2-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.014	0.787**	10.0**						
C3-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.0048	0.787**	10.0**						
C4-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.002	0.787**	10.0**						
Benzo(b)fluoranthene	205-99-2	SW846-8270C	0.019	0.584	10.0	0.02	0.03	0.25	1.0	0.97	5.0
Benzo(k)fluoranthene	207-08-9	SW846-8270C	0.018	0.827	10.0	0.05	0.05	0.25	1.0	1.2	5.0
Benzo(a)pyrene	50-32-8	SW846-8270C	0.027	0.651	10.0	0.05	0.06	0.35	1.0	1.0	5.0
Perylene	198-55-0	SW846-8270C	0.026	na	na					2.0*	10*
Benzo(e)pyrene	192-97-2	SW846-8270C	0.026	na	na					2.0*	10*
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C	0.008	0.684	10.0	0.05	0.06	0.21	1.0	0.65	5.0
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C	0.008	0.752	10.0	0.10	0.13	0.21	1.0	1.9	5.0
Benzo(g,h,i)perylene	191-24-2	SW846-8270C	0.013	0.812	10.0	0.06	0.10	0.22	1.0	2.0	5.0
Phenols											
2,4-dimethylphenol	105-67-9	SW846-8270C	100	0.264	10.0	0.80	10.00			0.77	5
2-methylphenol (o-cresol)	95-48-7	SW846-8270C	67	0.328	10.0	0.70	10.00			0.77	5
4-methylphenol (p-cresol)	106-44-5	SW846-8270C	25	0.478	10.0	0.80	10.00			0.75	5
phenol	108-95-2	SW846-8270C	180	0.324	10.0	0.40	10.00			0.6	5

Table 1. Ecological Risk-Based Water Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water Eco Risk-	Columbia		Microbac				Pace Analytical	
			PQL mg/L	MDL mg/L	RL mg/L	MDL mg/L	RL mg/L	MDL mg/L	RL mg/L	MDL mg/L	RL mg/L
Inorganics											
Aluminum	7429-90-5	SW846-6020A	87	0.0007	0.002	0.0043	0.2			0.2	0.5
Antimony	7440-36-0	SW846-6020A	80	0.00002	0.00005	0.000038	0.006			0.0082	0.02
Arsenic	7440-38-2	SW846-6020A	148	0.0002	0.0005	0.00031	0.01			0.0082	0.02
Barium	7440-39-3	SW846-6020A	220	0.00003	0.00005	0.000058	0.002			0.001	0.005
Cadmium	7440-43-9	SW846-6020A	0.15	0.0002	0.00002	0.000000044	0.002			0.00092	0.005
Chromium	7440-47-3	SW846-6020A	42	0.00006	0.0002	0.00083	0.003			0.0019	0.005
Copper	7440-50-8	SW846-6020A	1.58	0.00003	0.0001	0.000088	0.01			0.0011	0.01
Cyanide	57-12-5	SW846-9012A	5.2	0.000002	0.01	0.002	0.005			0.0016	0.01
Iron	7439-89-6	SW846-6020A	--	0.02 ^c	0.02 ^c	0.021	0.05			0.05	0.1
Lead	7439-92-1	SW846-6020A	1.17	0.000009	0.00002	0.00012	0.0075			0.0027	0.01
Manganese	7439-96-5	SW846-6020A	1000	0.00002	0.00005	0.000074	0.002			0.00036	0.005
Mercury	7439-97-6	SW846-7470A	0.0013	0.00002	0.0002	0.000026	0.0002			0.000072	0.0002
Nickel	7440-2-0	SW846-6020A	28.9	0.00006	0.0002	0.000031	0.01			0.0039	0.01
Selenium	7782-49-2	SW846-6020A	5	0.0002	0.001	0.000043	0.005			0.0074	0.02
Silver	7440-22-4	SW846-6020A	0.12	0.00009	0.00002	0.000000065	0.01			0.0015	0.01
Vanadium	7440-62-2	SW846-6020A	12	0.00003	0.0002	0.0011	0.008			0.0017	0.005
Zinc	7440-66-6	SW846-6020A	65.7	0.0003	0.0005	0.0038	0.02			0.02	0.04

^a Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

^{**}MDLs and RLs for alkylated PAHs are based on associated parent PAHs.

mg/l = milligrams per liter

[^]: See individual laboratory SOPs for TOC analytical methods.

µg/l = micrograms per liter

^b: Test America available cyanide analysis by the OIA-1677 method.

^c: Analyzed by SW846-6010B

na: Not applicable

-- = indicates a PQL has not been established

Shaded cells indicate the laboratory is not intended to perform this analysis.

Notes:

1. Analytical methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste", Third Edition.

2. **Site specific PQLs and RLs are to be established in the Site-Specific Work Plans and Multi-Site Risk Assessment Framework.**

PQLs and RLs presented herein, are for example only.

3. Surface water and sediment PQLs for petroleum volatile organic compounds (PVOCs) and phenols are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003).

4. Sediment PQLs for PAHs are based on ESB (USEPA, 2003), normalized to 1% TOC. Surface water and sediment PQLs for PCBs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003). Sediments must be reported on a dry wt basis. The reporting limits (RLs) must be based on the lowest-level standard in the calibration curve. Sample-specific RLs will vary based on the % solids of the sediment sample.

5. For hardness-dependent metals (beryllium, cadmium, chromium⁺³, copper, lead, nickel and zinc), freshwater chronic criteria are based on soft water with a total hardness of 50 mg/L as CaCO₃. Soft water is common within Region 5 and this risk-based PQL may be recalculated when site-specific water hardness data is less than 50 mg/L. PQLs for metals in sediment represent Threshold Effect Concentrations as compiled in Wisconsin Department of Natural Resources. December 2003. Consensus-Based Sediment Quality Guidelines. Recommendations for Use & Application. Interim Guidance. WT-732 2003. PQL for cyanide is based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003). Surface water PQLs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003) and represent concentrations of dissolved metals. Surface water PQL for aluminum and iron represent National Ambient Water Quality Criteria.

Table 1. Ecological Risk-Based Water Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water	STAT Analysis Corporation		Test America ^B		TriMatrix		Woods Hole	
			Eco Risk-PQL	MDL	RL	MDL	RL	MDL	RL	MDL	RL
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Petroleum Volatile Organic Compounds											
Benzene	71-43-2	SW846-8260B	114	0.20	5.0			0.12	1.0	0.15	2
Ethylbenzene	100-41-4	SW846-8260B	14	0.20	5.0			0.13	1.0	0.09	2
Toluene	108-88-3	SW846-8260B	253	0.30	5.0			0.072	1.0	0.15	2
Xylenes (Total)	1330-20-7	SW846-8260B	27	0.80	15.0			0.36	3.0	0.20	4
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	--	0.30	5.0			0.12	1.0	0.09	2
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	--	0.20	5.0			0.13	1.0	0.08	2
Semivolatile Organic Compounds											
Naphthalene	91-20-3	SW846-8270C	5.53	0.07	0.2			0.023	5.0	0.00209	0.01
C1-naphthalenes	na	SW846-8270C	2.33							0.00209**	0.01
C2-naphthalenes	na	SW846-8270C	0.86							0.00209**	0.01
C3-naphthalenes	na	SW846-8270C	0.32							0.00209**	0.01
C4-naphthalenes	na	SW846-8270C	0.12							0.00209**	0.01
Acenaphthylene	208-96-8	SW846-8270C	8.77	0.05	0.2			0.012	5.0	0.0021	0.01
Acenaphthene	83-32-9	SW846-8270C	1.6	0.05	0.2			0.013	5.0	0.0015	0.01
Fluorene	86-73-7	SW846-8270C	1.12	0.05	0.2			0.011	5.0	0.00155	0.01
C1-fluorenes	na	SW846-8270C	0.4							0.00155**	0.01
C2-fluorenes	na	SW846-8270C	0.15							0.00155**	0.01
C3-fluorenes	na	SW846-8270C	0.055							0.00155**	0.01
Phenanthrene	85-01-8	SW846-8270C	0.55	0.03	0.2			0.015	2.0	0.0041	0.01
Anthracene	120-12-7	SW846-8270C	0.59	0.05	0.2			0.014	5.0	0.00166	0.01
C1-phenanthrene/anthracenes	na	SW846-8270C	0.21							0.0041**	0.01
C2-phenanthrene/anthracenes	na	SW846-8270C	0.091							0.0041**	0.01
C3-phenanthrene/anthracenes	na	SW846-8270C	0.04							0.0041**	0.01
C4-phenanthrene/anthracenes	na	SW846-8270C	0.016							0.0041**	0.01
Fluoranthene	206-44-0	SW846-8270C	0.2	0.04	0.2			0.016	1.0	0.00278	0.01
Pyrene	129-00-0	SW846-8270C	0.29	0.05	0.2			0.047	5.0	0.00516	0.01
C1-pyrene/fluoranthenes	na	SW846-8270C	0.14							0.00516**	0.01
Benzo(a)anthracene	56-55-3	SW846-8270C	0.064	0.04	0.1			0.037	1.0	0.00192	0.01
Chrysene	218-01-9	SW846-8270C	0.058	0.03	0.1			0.020	1.0	0.00138	0.01
C1-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.024							0.00192**	0.01
C2-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.014							0.00192**	0.01
C3-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.0048							0.00192**	0.01
C4-benzo(a)anthracene/chrysenes	na	SW846-8270C	0.002							0.00192**	0.01
Benzo(b)fluoranthene	205-99-2	SW846-8270C	0.019	0.06	0.2			0.040	1.0	0.00641	0.01
Benzo(k)fluoranthene	207-08-9	SW846-8270C	0.018	0.05	0.2			0.036	1.0	0.00774	0.01
Benzo(a)pyrene	50-32-8	SW846-8270C	0.027	0.04	0.2			0.023	1.0	0.00173	0.01
Perylene	198-55-0	SW846-8270C	0.026							0.00119	0.01
Benzo(e)pyrene	192-97-2	SW846-8270C	0.026							0.00135	0.01
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C	0.008	0.07	0.1			0.014	2.0	0.00187	0.01
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C	0.008	0.05	0.1			0.026	2.0	0.00246	0.01
Benzo(g,h,i)perylene	191-24-2	SW846-8270C	0.013	0.04	0.1			0.022	1.0	0.00172	0.01
Phenols											
2,4-dimethylphenol	105-67-9	SW846-8270C	100	1.60	5			0.33	1.0	*	*
2-methylphenol (o-cresol)	95-48-7	SW846-8270C	67	1.90	5			0.14	0.5	*	*
4-methylphenol (p-cresol)	106-44-5	SW846-8270C	25	3.90	5			0.16	0.5	*	*
phenol	108-95-2	SW846-8270C	180	1.2	5			0.028	0.5	*	*

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 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water Eco Risk-	STAT Analysis Corporation		Test America ^b		TriMatrix		Woods Hole	
			PQL mg/L	MDL mg/L	RL mg/L	MDL mg/L	RL mg/L	MDL mg/L	RL mg/L	MDL mg/L	RL mg/L
Inorganics											
Aluminum	7429-90-5	SW846-6020A	87	0.0072	0.02			0.044	0.05	0.0046	0.01
Antimony	7440-36-0	SW846-6020A	80	0.0021	0.003			0.00044	0.001	0.000082	0.0005
Arsenic	7440-38-2	SW846-6020A	148	0.0008	0.002			0.00074	0.001	0.00011	0.0005
Barium	7440-39-3	SW846-6020A	220	0.0015	0.02			0.00052	0.001	0.00011	0.0005
Cadmium	7440-43-9	SW846-6020A	0.15	0.0003	0.001			0.000062	0.0002	0.000054	0.0001
Chromium	7440-47-3	SW846-6020A	42	0.0005	0.004			0.00031	0.001	0.00012	0.0005
Copper	7440-50-8	SW846-6020A	1.58	0.001	0.005			0.00033	0.001	0.00048	0.001
Cyanide	57-12-5	SW846-9012A	5.2	0.0025	0.005	0.5	5	0.0012	0.005	0.004	0.005
Iron	7439-89-6	SW846-6020A	--	0.0265	0.05			0.0057	0.01	0.012	0.05
Lead	7439-92-1	SW846-6020A	1.17	0.0003	0.001			0.00033	0.001	0.000072	0.0001
Manganese	7439-96-5	SW846-6020A	1000	0.0007	0.002			0.00043	0.001	0.0016	0.005
Mercury	7439-97-6	SW846-7470A	0.0013	0.00002	0.00025			0.000039	0.0002	0.000039	0.0002
Nickel	7440-2-0	SW846-6020A	28.9	0.0003	0.002			0.00028	0.001	0.00017	0.0005
Selenium	7782-49-2	SW846-6020A	5	0.0009	0.002			0.00092	0.001	0.00022	0.0005
Silver	7440-22-4	SW846-6020A	0.12	0.0002	0.002			0.00012	0.0002	0.000063	0.0001
Vanadium	7440-62-2	SW846-6020A	12	0.0013	0.002			0.00083	0.001	0.000073	0.0005
Zinc	7440-66-6	SW846-6020A	65.7	0.0013	0.02			0.00084	0.001	0.00082	0.002

^a Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

^{**}MDLs and RLs for alkylated PAHs are based on associated parent PAHs.

^Δ: See individual laboratory SOPs for TOC analytical methods.

^b: Test America available cyanide analysis by the OIA-1677 method.

^c: Analyzed by SW846-6010B

na: Not applicable

-- = indicates a PQL has not been established

Shaded cells indicate the laboratory is not intended to perform this analysis.

Notes:

1. Analytical methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste", Third Edition.

2. **Site specific PQLs and RLs are to be established in the Site-Specific Work Plans and Multi-Site Risk Assessment Framework.**

PQLs and RLs presented herein, are for example only.

3. Surface water and sediment PQLs for petroleum volatile organic compounds (PVOCs) and phenols are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003).

4. Sediment PQLs for PAHs are based on ESB (USEPA, 2003), normalized to 1% TOC. Surface water and sediment PQLs for PCBs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003). Sediments must be reported on a dry wt basis. The reporting limits (RLs) must be based on the lowest-level standard in the calibration curve. Sample-specific RLs will vary based on the % solids of the sediment sample.

5. For hardness-dependent metals (beryllium, cadmium, chromium⁺³, copper, lead, nickel and zinc), freshwater chronic criteria are based on soft water with a total hardness of 50 mg/L as CaCO₃. Soft water is common within Region 5 and this risk-based PQL may be recalculated when site-specific water hardness data is less than 50 mg/L. PQLs for metals in sediment represent Threshold Effect Concentrations as compiled in Wisconsin Department of Natural Resources. December 2003. Consensus-Based Sediment Quality Guidelines. Recommendations for Use & Application. Interim Guidance. WT-732 2003. PQL for cyanide is based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003). Surface water PQLs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003) and represent concentrations of dissolved metals. Surface water PQL for aluminum and iron represent National Ambient Water Quality Criteria.

Table 2. Human Health Risk-Based Water Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water Human Health Risk Based PQL			Columbia		Microbac				Pace Analytical	
			EPA Reg IX PRGs ^a	NRWQC ^c	NRWQC ^c	MDL	RL	MDL	RL	MDL	RL	MDL	RL
			(µg/L)	Organism Only (µg/L)	Water and Organism (µg/L)	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Petroleum Volatile Organic Compounds													
Benzene	71-43-2	SW846-8260B	0.34	51	2.2	0.136	0.5	0.80	5.00			0.41	1.0
Ethylbenzene	100-41-4	SW846-8260B	3	2,100	530	0.13	0.5	0.90	5.00			0.54	1.0
Toluene	108-88-3	SW846-8260B	72	15,000	1,300	0.108	0.5	0.90	5.00			0.67	1.0
Xylenes	1330-20-7	SW846-8260B	21	--	--	0.219	0.5	0.90	5.00			2.60	3.0
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	12	--	--	0.121	0.5	0.90	5.00			0.83	1.0
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	12	--	--	0.141	0.5	0.90	5.00			0.97	1.0
Semivolatile Organic Compounds													
Non-Carcinogenic PAHs													
8270C-SIM													
Acenaphthene	83-32-9	SW846-8270C	37	990	670	0.281	10.0	0.87	1.25	0.15	1.00	1.1	5.0
Acenaphthylene	208-96-8	SW846-8270C	--	--	--	0.236	10.0	0.42	0.06	0.18	1.00	1.1	5.0
Anthracene	120-12-7	SW846-8270C	180	40,000	8,300	0.612	10.0	0.02	0.03	0.16	1.00	0.82	5.0
Benzo(g,h,i)perylene	191-24-2	SW846-8270C	--	--	--	0.812	10.0	0.06	0.10	0.22	1.00	2.0	5.0
Fluoranthene	206-44-0	SW846-8270C	150	140	130	0.652	10.0	0.03	0.06	0.18	1.00	1.3	5.0
Fluorene	86-73-7	SW846-8270C	24	5,300	1,100	0.323	10.0	0.09	0.13	0.15	1.00	0.88	5.0
1-Methylnaphthalene	90-12-0	SW846-8270C	--	--	--	10	10		10.00			1.3	5.0
2-Methylnaphthalene	91-57-6	SW846-8270C	--	--	--	0.239	10	0.70	10.00			1.6	5.0
Naphthalene	91-20-3	SW846-8270C	0.6	--	--	0.365	10.0	0.36	0.63	0.12	1.00	1.4	5.0
Perylene	198-55-0	SW846-8270C	--	--	--	0.00116	0.02	NA	NA			2.0*	10*
Phenanthrene	85-01-8	SW846-8270C	--	--	--	0.482	10.0	0.03	0.05	0.18	1.00	0.72	5.0
Pyrene	119-00-0	SW846-8270C	18	4,000	830	0.731	10.0	0.09	0.13	0.15	1.00	0.95	5.0
Benzo(e)pyrene	192-97-2	SW846-8270C	--	--	--	0.00182	0.02					2.0*	10*
Carcinogenic PAHs													
Benzo(a)anthracene	56-55-3	SW846-8270C	0.092	0.018	0.0038	0.591	10.0	0.04	0.06	0.21	1.00	1.2	5.0
Benzo(a)pyrene	50-32-8	SW846-8270C	0.009	0.018	0.0038	0.651	10.0	0.05	0.06	0.35	1.00	1.0	5.0
Benzo(b)fluoranthene	205-99-2	SW846-8270C	0.092	0.018	0.0038	0.584	10.0	0.02	0.03	0.25	1.00	0.97	5.0
Benzo(k)fluoranthene	207-08-9	SW846-8270C	0.92	0.018	0.0038	0.827	10.0	0.05	0.05	0.25	1.00	1.2	5.0
Chrysene	218-01-9	SW846-8270C	9.2	0.018	0.0038	0.787	10.0	0.04	0.06	0.19	1.00	1.6	5.0
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C	0.009	0.018	0.0038	0.752	10.0	0.10	0.13	0.21	1.00	1.9	5.0
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C	0.092	0.018	0.0038	0.684	10.0	0.05	0.06	0.21	1.00	0.65	5.0
Phenols													
2,4-dimethylphenol	105-67-9	SW846-8270C	730	850	380	0.264	10.0	0.80	10.00			0.77	5
2-methylphenol	95-48-7	SW846-8270C	1825	--	--	0.328	10.0	0.70	10.00			0.77	5
4-methylphenol	106-44-5	SW846-8270C	182	--	--	0.478	10.0	0.80	10.00			0.75	5
phenol	108-95-2	SW846-8270C	10950	1700000	21000	0.324	10.0	0.40	10.00			0.6	5
Indicator Parameters													
alkalinity (bi-carb)		310.10	na	na	na			2000.00	20000.00			1700	10000
alkalinity (carb)		310.10	na	na	na			2000.00	20000.00			1700	10000
Ammonia		350.10	--	--	--			42.00	100.00			200	500
Dissolved organic content		9060.00	na	na	na							800	2000
Nitrate	14797-55-8	300.00	10000	--	10000			7.00	100.00			88	400
Sulfate		300.00	--	--	--			2600.00	10000.00			770	4000
Sulfide		9030B	--	--	--			4.00	50.00			2500	5000
Ferrous Iron			--	--	--			13.00	50.00			30	50
Total Dissolved Solids		160.10	na	--	250000			18000.00	20000.00			11000	20000
Total Organic Carbon (TOC) ^A	7440-44-0	9060	1000000	1000000	1000000			30.00	500.00			800	2000

Table 2. Human Health Risk-Based Water Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-06-C-847, V-W-07-C-869, and V-W-07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water Human Health Risk Based PQL			Columbia		Microbac				Pace Analytical		
			EPA Reg IX PRGs ^a	NRWQC ^c	NRWQC ^c	MDL	RL	MDL	RL	MDL	RL	MDL	RL	
			(mg/L)	Organism Only (mg/L)	Water and Organism (mg/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Inorganics														
Aluminum	7429-90-5	SW846-6020A	3.6	--	--	0.0007	0.002	0.0043	0.2			0.2	0.5	
Antimony	7440-36-0	SW846-6020A	0.0015	0.64	0.0056	0.00002	0.00005	0.000038	0.006			0.0082	0.02	
Arsenic	7440-38-2	SW846-6020A	0.000045	0.00014	0.000018	0.0002	0.0005	0.00031	0.01			0.0082	0.02	
Barium	7440-39-3	SW846-6020A	0.26	--	--	0.00003	0.00005	0.000058	0.002			0.001	0.005	
Cadmium	7440-43-9	SW846-6020A	0.002	--	--	0.0002	0.00002	0.000000044	0.002			0.00092	0.005	
Chromium (total)	16065-83-1	SW846-6020A	0.011	--	--	0.00006	0.0002	0.00083	0.003			0.0019	0.005	
Copper	7440-50-8	SW846-6020A	0.15	--	1.3	0.00003	0.0001	0.000088	0.01			0.0011	0.01	
Cyanide (hydrogen)	57-12-5	SW846-9012A	0.00062	0.14	0.14	0.000002	0.01	0.002	0.005			0.0016	0.01	
Iron	7439-89-6	SW846-6020A	1.1	--	0.3	0.02 ^c	0.02 ^c	0.021	0.05			0.05	0.1	
Lead	7439-92-1	SW846-6020A	--	--	--	0.000009	0.00002	0.00012	0.00075			0.0027	0.01	
Manganese	7439-96-5	SW846-6020A	0.088	0.1	0.05	0.00002	0.00005	0.000074	0.002			0.00036	0.005	
Mercury	7439-97-6	SW846-7470A	0.001	--	--	0.00002	0.0002	0.000026	0.002			0.000072	0.0002	
Nickel	7440-02-0	SW846-6020A	0.073	4.6	0.61	0.00006	0.0002	0.000031	0.01			0.0039	0.01	
Selenium	7782-49-2	SW846-6020A	0.018	4.2	0.17	0.0002	0.001	0.000043	0.005			0.0074	0.02	
Silver	7440-22-4	SW846-6020A	0.018	--	--	0.00009	0.00002	0.000000065	0.01			0.0015	0.01	
Vanadium	7440-62-2	SW846-6020A	0.026	--	--	0.00003	0.0002	0.0011	0.008			0.0017	0.005	
Zinc	7440-66-6	SW846-6020A	1.1	26	7.4	0.0003	0.0005	0.0038	0.02			0.02	0.04	

^aUnited States Environmental Protection Agency Region 9 Preliminary Remediation Goals (PRGs). October 2004. Revised December 2004.

[URL: <http://www.epa.gov/region09/waste/sfund/prg/>]. TOC PQLs to be evaluated prior to implementing Site-Specific Work Plans.

[PRGs correspond to residential exposure to tap water via ingestion based on target cancer risk = 1E-6 or noncancer hazard quotient = 0.1.

[URL: <http://www.epa.gov/region09/waste/sfund/prg/>]

^cNRWQC: National Recommended Water Quality Criteria - Correction." USEPA Office of Water. For human health consumption of water and organism and organism only. EPA 822-Z-99-001. April 1999. Updated 2006.

^d"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Third Edition of SW-846, as updated by Updates I, II, IIA, IIB, III and IIIA. U.S.EPA

^eTBD - To Be Determined, SW846-8082 MDL Range 0.054-0.90 ug/L and 57-70 ug/Kg

^f If separate MDLs and CQRLs were cited for m & p- and o-Xylenes, the highest numbers are included in this table.

^B Test America available cyanide analysis by the OIA-1677 method.

^A See individual laboratory SOPs for TOC analytical methods.

na: Not applicable

-- indicates a PQL has not been established

* Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

Shaded cells indicate the laboratory is not intended to perform this analysis.

Notes:

1. Analytical methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste", Third Edition.

2. Site specific PQLs and RLs are to be established in the Site-Specific Work Plans and Multi-Site Risk Assessment Framework. PQLs and RLs presented herein, are for example only.

Table 2. Human Health Risk-Based Water Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water Human Health Risk Based PQL			STAT Analysis Corporation		TriMatrix		Woods Hole	
			EPA Reg IX PRGs ^a	NRWQC ^c	NRWQC ^c	MDL	RL	MDL	RL	MDL	RL
			(µg/L)	Organism Only (µg/L)	Water and Organism (µg/L)	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Petroleum Volatile Organic Compounds											
Benzene	71-43-2	SW846-8260B	0.34	51	2.2	0.20	5.0	0.12	1.0	0.15	2
Ethylbenzene	100-41-4	SW846-8260B	3	2,100	530	0.20	5.0	0.13	1.0	0.09	2
Toluene	108-88-3	SW846-8260B	72	15,000	1,300	0.30	5.0	0.072	1.0	0.15	2
Xylenes	1330-20-7	SW846-8260B	21	--	--	0.80	15.0	0.36	3.0	0.20	4
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	12	--	--	0.30	5.0	0.12	1.0	0.09	2
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	12	--	--	0.20	5.0	0.13	1.0	0.08	2
Semivolatile Organic Compounds											
Non-Carcinogenic PAHs											
Acenaphthene	83-32-9	SW846-8270C	37	990	670	0.05	0.2	0.130	5.0	0.0015	0.01
Acenaphthylene	208-96-8	SW846-8270C	--	--	--	0.05	0.2	0.120	5.0	0.0021	0.01
Anthracene	120-12-7	SW846-8270C	180	40,000	8,300	0.05	0.2	0.014	5.0	0.00166	0.01
Benzo(g,h,i)perylene	191-24-2	SW846-8270C	--	--	--	0.04	0.1	0.022	1.0	0.00172	0.01
Fluoranthene	206-44-0	SW846-8270C	150	140	130	0.04	0.2	0.016	1.0	0.00278	0.01
Fluorene	86-73-7	SW846-8270C	24	5,300	1,100	0.05	0.2	0.011	5.0	0.00155	0.01
1-Methylnaphthalene	90-12-0	SW846-8270C	--	--	--	0.01	0.1	0.010	0.5	0.00129	0.01
2-Methylnaphthalene	91-57-6	SW846-8270C	--	--	--	0.01	0.1	0.015	5.0	0.00149	0.01
Naphthalene	91-20-3	SW846-8270C	0.6	--	--	0.07	0.2	0.023	5.0	0.00209	0.01
Perylene	198-55-0	SW846-8270C	--	--	--	--	--	--	--	0.00119	0.01
Phenanthrene	85-01-8	SW846-8270C	--	--	--	0.03	0.2	0.015	2.0	0.0041	0.01
Pyrene	119-00-0	SW846-8270C	18	4,000	830	0.05	0.2	0.047	5.0	0.00516	0.01
Benzo(e)pyrene	192-97-2	SW846-8270C	--	--	--	--	--	--	--	0.00135	0.01
Carcinogenic PAHs											
Benzo(a)anthracene	56-55-3	SW846-8270C	0.092	0.018	0.0038	0.04	0.1	0.037	1.0	0.00192	0.01
Benzo(a)pyrene	50-32-8	SW846-8270C	0.009	0.018	0.0038	0.04	0.2	0.023	1.0	0.00173	0.01
Benzo(b)fluoranthene	205-99-2	SW846-8270C	0.092	0.018	0.0038	0.06	0.2	0.040	1.0	0.00641	0.01
Benzo(k)fluoranthene	207-08-9	SW846-8270C	0.92	0.018	0.0038	0.05	0.2	0.036	1.0	0.00774	0.01
Chrysene	218-01-9	SW846-8270C	9.2	0.018	0.0038	0.03	0.1	0.020	1.0	0.00138	0.01
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C	0.009	0.018	0.0038	0.05	0.1	0.026	2.0	0.00246	0.01
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C	0.092	0.018	0.0038	0.07	0.1	0.014	2.0	0.00187	0.01
Phenols											
2,4-dimethylphenol	105-67-9	SW846-8270C	730	850	380	1.6	5	0.33	1.0	*	*
2-methylphenol	95-48-7	SW846-8270C	1825	--	--	1.9	5	0.14	0.5	*	*
4-methylphenol	106-44-5	SW846-8270C	182	--	--	3.9	5	0.16	0.5	*	*
phenol	108-95-2	SW846-8270C	10950	1700000	21000	1.2	5	0.028	0.5	*	*
Indicator Parameters											
alkalinity (bi-carb)		310.10	na	na	na	10000	100000	790	2000		
alkalinity (carb)		310.10	na	na	na	10000	100000	2000	2000		
Ammonia		350.10	--	--	--	25	50	5	50		
Dissolved organic content		9060.00	na	na	na						
Nitrate	14797-55-8	300.00	10000	--	10000	100	200	6.5	100		
Sulfate		300.00	--	--	--			540	2000		
Sulfide		9030B	--	--	--	200	500	610	1000		
Ferrous Iron			--	--	--			12	20		
Total Dissolved Solids		160.10	na	--	250000		6000	3300	3300		
Total Organic Carbon (TOC) ^A	7440-44-0	9060	1000000	1000000	1000000		1000	230	1000		

Table 2. Human Health Risk-Based Water Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Surface Water Human Health Risk Based PQL			STAT Analysis Corporation		TriMatrix		Woods Hole	
			EPA Reg IX PRGs ^a	NRWQC ^c	NRWQC ^c	MDL	RL	MDL	RL	MDL	RL
			(mg/L)	Organism Only (mg/L)	Water and Organism (mg/L)	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Inorganics											
Aluminum	7429-90-5	SW846-6020A	3.6	--	--	0.0072	0.02	0.044	0.05	0.0046	0.01
Antimony	7440-36-0	SW846-6020A	0.0015	0.64	0.0056	0.0021	0.003	0.00044	0.001	0.00082	0.0005
Arsenic	7440-38-2	SW846-6020A	0.000045	0.00014	0.000018	0.0008	0.002	0.00074	0.001	0.00011	0.0005
Barium	7440-39-3	SW846-6020A	0.26	--	--	0.0015	0.02	0.00052	0.001	0.00011	0.0005
Cadmium	7440-43-9	SW846-6020A	0.002	--	--	0.0003	0.001	0.000062	0.0002	0.000054	0.0001
Chromium (total)	16065-83-1	SW846-6020A	0.011	--	--	0.0005	0.004	0.00031	0.001	0.00012	0.0005
Copper	7440-50-8	SW846-6020A	0.15	--	1.3	0.001	0.005	0.00033	0.001	0.00048	0.001
Cyanide (hydrogen)	57-12-5	SW846-9012A	0.00062	0.14	0.14	0.0025	0.005	0.0012	0.005	0.004	0.005
Iron	7439-89-6	SW846-6020A	1.1	--	0.3	0.0265	0.05	0.0057	0.01	0.012	0.05
Lead	7439-92-1	SW846-6020A	--	--	--	0.0003	0.001	0.00033	0.001	0.00072	0.0001
Manganese	7439-96-5	SW846-6020A	0.088	0.1	0.05	0.0007	0.002	0.00043	0.001	0.0016	0.005
Mercury	7439-97-6	SW846-7470A	0.001	--	--	0.00002	0.00025	0.000039	0.0002	0.0000039	0.0002
Nickel	7440-02-0	SW846-6020A	0.073	4.6	0.61	0.0003	0.002	0.00028	0.001	0.00017	0.0005
Selenium	7782-49-2	SW846-6020A	0.018	4.2	0.17	0.0009	0.002	0.00092	0.001	0.00022	0.0005
Silver	7440-22-4	SW846-6020A	0.018	--	--	0.0002	0.002	0.00012	0.0002	0.000063	0.0001
Vanadium	7440-62-2	SW846-6020A	0.026	--	--	0.0013	0.002	0.00083	0.001	0.000073	0.0005
Zinc	7440-66-6	SW846-6020A	1.1	26	7.4	0.0013	0.02	0.00084	0.001	0.00082	0.002

^aUnited States Environmental Protection Agency Region 9 Preliminary Remediation Goals (PRGs). October 2004. Revised December 2004.

[URL: <http://www.epa.gov/region09/waste/sfund/prg/>]. TOC PQLs to be evaluated prior to implementing Site-Specific Work Plans.

[PRGs correspond to residential exposure to tap water via ingestion based on target cancer risk = 1E-6 or noncancer hazard quotient = 0.1.

[URL: <http://www.epa.gov/region09/waste/sfund/prg/>]

^cNRWQC: National Recommended Water Quality Criteria - Correction." USEPA Office of Water. For human health consumption of water and organism and organism only. EPA 822-Z-99-001. April 1999. Updated 2006.

^d"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Third Edition of SW-846, as updated by Updates I, II, IIA, IIB, III and IIIA. U.S.EPA

^eTBD - To Be Determined, SW846-8082 MDL Range 0.054-0.90 ug/L and 57-70 ug/Kg

^f If separate MDLs and CQRLs were cited for m & p- and o-Xylenes, the highest numbers are included in this table.

^B Test America available cyanide analysis by the OIA-1677 method.

^A: See individual laboratory SOPs for TOC analytical methods.

na: Not applicable

-- indicates a PQL has not been established

* Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

Shaded cells indicate the laboratory is not intended to perform this analysis.

Notes:

1. Analytical methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste", Third Edition.

2. Site specific PQLs and RLs are to be established in the Site-Specific Work Plans and Multi-Site Risk Assessment Framework. PQLs and RLs presented herein, are for example only.

Table 3. Ecological Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil	Sediment	Columbia		Microbac		New Age Landmark	
			Eco-Risk Based PQL µg/kg (dry wt.)	Eco-Risk Based PQL µg/kg (dry wt.)	MDL µg/kg (dry wt.)	RL µg/kg (dry wt.)	MDL µg/kg (dry wt.)	RL µg/kg (dry wt.)	MDL µg/kg (dry wt.)	RL µg/kg (dry wt.)
Petroleum Volatile Organic										
Benzene	71-43-2	SW846-8260B	255	142	0.79	5.0	1.2	5	0.1	1
Ethylbenzene	100-41-4	SW846-8260B	5160	175	0.57	5.0	0.7	5	0.31	1
Toluene	108-88-3	SW846-8260B	5450	1220	0.84	5.0	0.7	5	0.29	1
Xylenes (Total)	1330-20-7	SW846-8260B	10000	433	0.82	20.0	0.9	5	0.49	2
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	--	--	0.82	20.0	0.8	5	0.25	2
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	--	--	1.5	5.0	1.1	5	0.28	2
Semivolatile Organic Compounds										
Naphthalene	91-20-3	SW846-8270C-SIM PAH	99.4	110	0.34	5	5.3	50	0.34	100
C1-naphthalenes	na	SW846-8270C-SIM PAH	--	127	5	5			0.34**	100
C2-naphthalenes	na	SW846-8270C-SIM PAH	--	146	5	5			0.34**	100
C3-naphthalenes	na	SW846-8270C-SIM PAH	--	166	5	5			0.34**	100
C4-naphthalenes	na	SW846-8270C-SIM PAH	--	188	5	5			0.34**	100
Acenaphthylene	208-96-8	SW846-8270C-SIM PAH	682000	129	0.22	5	5.4	50	0.52	100
Acenaphthene	83-32-9	SW846-8270C-SIM PAH	682000	140	0.16	5	5.6	50	0.37	100
Fluorene	86-73-7	SW846-8270C-SIM PAH	122000	154	0.19	5	5.80	50	0.45	100
C1-fluorenes	na	SW846-8270C-SIM PAH	--	174	5	5			0.45**	100
C2-fluorenes	na	SW846-8270C-SIM PAH	--	196	5	5			0.45**	100
C3-fluorenes	na	SW846-8270C-SIM PAH	--	220	5	5			0.45**	100
Phenanthrene	85-01-8	SW846-8270C-SIM PAH	45700	170	0.33	5	8.30	50	0.53	100
Anthracene	120-12-7	SW846-8270C-SIM PAH	1480000	170	0.22	5	7.80	50	0.54	100
C1-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	191	5	5			0.54**	100
C2-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	213	5	5			0.54**	100
C3-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	237	5	5			0.54**	100
C4-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	261	5	5			0.54**	100
Fluoranthene	206-44-0	SW846-8270C-SIM PAH	122000	202	0.34	5	9.5	50	0.37	100
Pyrene	129-00-0	SW846-8270C-SIM PAH	78500	199	0.36	5	6.10	50	0.53	100
C1-pyrene/fluoranthenes	na	SW846-8270C-SIM PAH	--	220	5	5			0.53**	100
Benzo(a)anthracene	56-55-3	SW846-8270C-SIM PAH	5210	240	0.16	5	6.70	50	0.48	100
Chrysene	218-01-9	SW846-8270C-SIM PAH	4730	241	0.41	5	6.20	50	0.55	100
C1-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	266	5	5			0.55**	100
C2-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	288	5	5			0.55**	100
C3-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	318	5	5			0.55**	100
C4-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	347	5	5			0.55**	100
Benzo(b)fluoranthene	205-99-2	SW846-8270C-SIM PAH	59800	280	0.48	5	11.00	50	0.55	100
Benzo(k)fluoranthene	207-08-9	SW846-8270C-SIM PAH	148000	280	0.33	5	9.30	50	0.67	100
Benzo(a)pyrene	50-32-8	SW846-8270C-SIM PAH	1520	276	0.22	5	7.10	50	0.47	100
Perylene	198-55-0	SW846-8270C-SIM PAH	--	276	0.17	5	NA	NA	*	*
Benzo(e)pyrene	192-97-2	SW846-8270C-SIM PAH	--	276	0.39	5	NA	NA	0.47	100
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C-SIM PAH	109000	319	0.24	5	6.80	50	0.44	100
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C-SIM PAH	18400	321	0.26	5	7.40	50	0.36	100
Benzo(g,h,i)perylene	191-24-2	SW846-8270C-SIM PAH	119000	313	0.23	5	7.10	50	0.57	100
Phenols										
2,4-dimethylphenol	105-67-9	SW846-8270C	10	304	15.1	330	29.8	330	0.4	170
2-methylphenol (o-cresol)	95-48-7	SW846-8270C	40400	55.4	16.7	330	20.9	330	0.47	170
4-methylphenol (p-cresol)	106-44-5	SW846-8270C	163000	20.2	16.8	330	24.7	330	0.43	170
phenol	108-95-2	SW846-8270C	120000	49.1	19.5	330	23.1	330	0.46	170
Indicator Parameters										
Soot Carbon		see footnote ⁵	descriptive***	descriptive***						
Total Organic Carbon (TOC) ^A	7440-44-0	9060/ASTM D4129-82M	na	1,000,000	200000	500000	100	100		

Table 3. Ecological Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil	Sediment	Columbia		Microbac		New Age Landmark	
			Eco-Risk Based PQL mg/kg (dry wt.)	Eco-Risk Based PQL mg/kg (dry wt.)	MDL mg/kg (dry wt.)	RL mg/kg (dry wt.)	MDL mg/kg (dry wt.)	RL mg/kg (dry wt.)	MDL mg/kg (dry wt.)	RL mg/kg (dry wt.)
Inorganics										
Aluminum	7429-90-5	SW846-6020A	--	--	2	2	0.0052	10	0.000101	20
Antimony	7440-36-0	SW846-6020A	0.142	2	0.02	0.05	0.00055	1.0	0.00001	0.5
Arsenic	7440-38-2	SW846-6020A	5.7	9.8	0.07	0.5	0.011	0.5	0.00001	0.2
Barium	7440-39-3	SW846-6020A	1.04	--	0.03	0.05	0.00068	0.1	0.000086	0.5
Cadmium	7440-43-9	SW846-6020A	0.00222	0.99	0.007	0.05	0.00011	0.1	0.00001	0.2
Chromium	7440-47-3	SW846-6020A	0.4	43	0.04	0.2	0.038	0.15	0.000031	0.5
Copper	7440-50-8	SW846-6020A	5.4	32	0.02	0.1	0.00078	0.5	0.000014	0.5
Cyanide	57-12-5	SW846-9012A	1.33	100	0.04	0.1	0.002	0.005		
Iron	7439-89-6	SW846-6020A	--	20	3B	4	0.251	2.5	0.000115	20
Lead	7439-92-1	SW846-6020A	0.0537	36	0.02	0.05	0.000434	0.375	0.000012	0.5
Manganese	7439-96-5	SW846-6020A	--	460	0.04	0.1	0.0053	0.1	0.000024	0.5
Mercury	7439-97-6	SW846-7471A/B	0.1	0.18	0.004	0.02	0.00059	0.01	0.00002	0.001
Nickel	7440-2-0	SW846-6020A	13.6	23	0.04	0.2	0.00055	0.5	0.000081	0.5
Selenium	7782-49-2	SW846-6020A	0.0276	--	0.2	1	0.0028	0.25	0.000027	0.5
Silver	7440-22-4	SW846-6020A	4.04	1.6	0.003	0.02	0.0013	0.5	0.000009	0.5
Vanadium	7440-62-2	SW846-6020A	1.59	--	0.03	0.2	0.059	0.4	0.000013	0.5
Zinc	7440-66-6	SW846-6020A	6.62	120	0.2	0.5	0.149	1.0	0.000029	0.5

^a Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

^{**} MDLs and RLs for alkylated PAHs are based on associated parent PAHs.

^{***} MDLs and RLs will be

^A: See individual laboratory SOPs for TOC analytical methods.

^B: Analyzed by SW846-6010B

^C: Microwave digestion

^d "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Third Edition of SW-846, as updated by Updates I, II, IIA, IIB, III and IIIA. USEPA

na: not applicable

-- : indicates a PQL has not been established

Shaded cells indicate the laboratory is not intended to perform this analysis.

Notes:

1. Surface water and sediment PQLs for petroleum volatile organic chemicals (PVOCs) and phenols and soil PQLs for all analytes are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003).

2. Sediment PQLs for PAHs are based on ESB (USEPA, 2003), normalized to 1% TOC. Surface water and sediment PQLs for PCBs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003). Sediments must be reported on a dry wt basis. The reporting limits (RLs) must be based on the lowest-level standard in the calibration curve. Sample-specific RLs will vary based on the % solids of the sediment sample.

3. For hardness-dependent metals (beryllium, cadmium, chromium+3, copper, lead, nickel and zinc), freshwater chronic criteria are based on soft water with a total hardness of 50 mg/L as CaCO3. Soft water is common within Region 5 and this risk-based PQL may be recalculated when site-specific water hardness data is less than 50 mg/L. PQLs for metals in sediment represent Threshold Effect Concentrations as compiled in Wisconsin Department of Natural Resources. December 2003. Consensus-Based Sediment Quality Guidelines. Recommendations for Use & Application. Interim Guidance. WT-732 2003. PQL for cyanide is based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003). Surface water PQLs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003) and represent concentrations of dissolved metals. Surface water PQL for aluminum and iron represent National Ambient Water Quality Criteria.

4. Site specific PQLs and RLs are to be established in the Site-Specific Work Plans and Multi-Site Risk Assessment Framework. PQLs and RLs presented herein, are for example only.

5. Soot Carbon will be analyzed based on "Reinterpreting Literature Sorption Data Considering Both Absorption into Organic Carbon and Adsorption onto Black Carbon". See Lab SOP for details

Table 3. Ecological Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil	Sediment	Pace Analytical		STAT Analysis Corporation		TriMatrix		Woods Hole	
			Eco-Risk Based PQL µg/kg (dry wt.)	Eco-Risk Based PQL µg/kg (dry wt.)	MDL µg/kg (dry wt.)	RL µg/kg (dry wt.)	MDL µg/kg (dry wt.)	RL µg/kg (dry wt.)	MDL µg/kg (dry wt.)	RL µg/kg (dry wt.)	MDL µg/kg (dry wt.)	RL µg/kg (dry wt.)
Petroleum Volatile Organic												
Benzene	71-43-2	SW846-8260B	255	142	14	50	0.1	5	0.13	10	14	50
Ethylbenzene	100-41-4	SW846-8260B	5160	175	15	50	0.1	5	0.12	10	15	50
Toluene	108-88-3	SW846-8260B	5450	1220	8.5	50	0.1	5	0.40	10	8.5	50
Xylenes (Total)	1330-20-7	SW846-8260B	10000	433	21	150	0.5	15	0.58	30	21	150
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	--	--	9.2	50	0.1	5	0.12	10	9.2	50
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	--	--	19	50	0.2	5	0.11	10	19	50
Semivolatile Organic Compounds												
Naphthalene	91-20-3	SW846-8270C-SIM PAH	99.4	110	56	250	3.3	25	0.23	16.7	1.22	1
C1-naphthalenes	na	SW846-8270C-SIM PAH	--	127							1.22**	1
C2-naphthalenes	na	SW846-8270C-SIM PAH	--	146							1.22**	1
C3-naphthalenes	na	SW846-8270C-SIM PAH	--	166							1.22**	1
C4-naphthalenes	na	SW846-8270C-SIM PAH	--	188							1.22**	1
Acenaphthylene	208-96-8	SW846-8270C-SIM PAH	682000	129	31	250	1.0	25	0.60	16.7	0.24	1
Acenaphthene	83-32-9	SW846-8270C-SIM PAH	682000	140	36	250	1.0	25	0.40	16.7	0.38	1
Fluorene	86-73-7	SW846-8270C-SIM PAH	122000	154	45	250	1.4	25	0.28	16.7	0.26	1
C1-fluorenes	na	SW846-8270C-SIM PAH	--	174							0.26**	1
C2-fluorenes	na	SW846-8270C-SIM PAH	--	196							0.26**	1
C3-fluorenes	na	SW846-8270C-SIM PAH	--	220							0.26**	1
Phenanthrene	85-01-8	SW846-8270C-SIM PAH	45700	170	28	250	1.4	25	3.6	16.7	0.29	1
Anthracene	120-12-7	SW846-8270C-SIM PAH	1480000	170	32	250	0.8	25	0.43	16.7	0.27	1
C1-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	191							0.29**	1
C2-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	213							0.29**	1
C3-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	237							0.29**	1
C4-phenanthrene/anthracenes	na	SW846-8270C-SIM PAH	--	261							0.29**	1
Fluoranthene	206-44-0	SW846-8270C-SIM PAH	122000	202	49	250	0.6	25	3.8	16.7	0.34	1
Pyrene	129-00-0	SW846-8270C-SIM PAH	78500	199	25	250	0.6	25	0.32	16.7	0.3	1
C1-pyrene/fluoranthenes	na	SW846-8270C-SIM PAH	--	220							0.34**	1
Benzo(a)anthracene	56-55-3	SW846-8270C-SIM PAH	5210	240	29	250	0.5	25	0.54	16.7	0.28	1
Chrysene	218-01-9	SW846-8270C-SIM PAH	4730	241	44	250	0.5	25	0.48	16.7	0.23	1
C1-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	266							0.28**	1
C2-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	288							0.28**	1
C3-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	318							0.28**	1
C4-benzo(a)anthracene/chrysenes	na	SW846-8270C-SIM PAH	--	347							0.28**	1
Benzo(b)fluoranthene	205-99-2	SW846-8270C-SIM PAH	59800	280	36	250	0.9	25	0.85	16.7	0.37	1
Benzo(k)fluoranthene	207-08-9	SW846-8270C-SIM PAH	148000	280	32	250	0.9	25	0.72	16.7	0.27	1
Benzo(a)pyrene	50-32-8	SW846-8270C-SIM PAH	1520	276	34	250	0.6	25	1.0	16.7	0.31	1
Perylene	198-55-0	SW846-8270C-SIM PAH	--	276	50*	250*					0.33	1
Benzo(e)pyrene	192-97-2	SW846-8270C-SIM PAH	--	276	50*	250*					0.29	1
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C-SIM PAH	109000	319	55	250	0.9	25	0.70	16.7	0.22	1
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C-SIM PAH	18400	321	49	250	0.7	25	0.54	16.7	0.26	1
Benzo(g,h,i)perylene	191-24-2	SW846-8270C-SIM PAH	119000	313	44	250	0.6	25	2.3	16.7	0.95	1
Phenols												
2,4-dimethylphenol	105-67-9	SW846-8270C	10	304	84	250	40	170	5.7	16.7	*	*
2-methylphenol (o-cresol)	95-48-7	SW846-8270C	40400	55.4	130	250	32	170	8.1	16.7	*	*
4-methylphenol (p-cresol)	106-44-5	SW846-8270C	163000	20.2	25	250	72	170	9.1	16.7	*	*
phenol	108-95-2	SW846-8270C	120000	49.1	35	250	38	170	0.7	16.7	*	*
Indicator Parameters												
Soot Carbon		see footnote ⁵	descriptive***	descriptive***							5.4***	300***
Total Organic Carbon (TOC) ^A	7440-44-0	9060/ASTM D4129-82M	na	1,000,000					46	100	1,839	100,000

Table 3. Ecological Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil	Sediment	Pace Analytical		STAT Analysis Corporation		TriMatrix		Woods Hole	
			Eco-Risk Based PQL mg/kg (dry wt.)	Eco-Risk Based PQL mg/kg (dry wt.)	MDL mg/kg (dry wt.)	RL mg/kg (dry wt.)	MDL mg/kg (dry wt.)	RL mg/kg (dry wt.)	MDL mg/kg (dry wt.)	RL mg/kg (dry wt.)	MDL mg/kg (dry wt.)	RL mg/kg (dry wt.)
Inorganics												
Aluminum	7429-90-5	SW846-6020A	--	--	1.2	15	0.272	2.0	2.1	10	0.70	2.0
Antimony	7440-36-0	SW846-6020A	0.142	2	0.66	2	0.072	0.2	0.042	0.1	0.004	0.05
Arsenic	7440-38-2	SW846-6020A	5.7	9.8	0.11	0.30	0.047	0.1	0.071	0.1	0.008	0.002
Barium	7440-39-3	SW846-6020A	1.04	--	0.92	0.30	0.011	0.1	0.028	0.1	0.083	0.2
Cadmium	7440-43-9	SW846-6020A	0.00222	0.99	0.074	0.10	0.009	0.05	0.0057	0.05	0.04	0.01
Chromium	7440-47-3	SW846-6020A	0.4	43	0.14	0.30	0.03	0.1	0.06	0.1	0.008	0.02
Copper	7440-50-8	SW846-6020A	5.4	32	0.077	1.0	0.04	0.25	0.044	0.1	0.014	0.05
Cyanide	57-12-5	SW846-9012A	1.33	100	0.17	0.3	0.1	0.25	0.013	0.1	0.246	0.25
Iron	7439-89-6	SW846-6020A	--	20	3.3	30	0.8	3.0	0.48	5.0	0.96	2.0
Lead	7439-92-1	SW846-6020A	0.0537	36	0.076	0.25	0.02	0.05	0.022	0.1	0.01	0.02
Manganese	7439-96-5	SW846-6020A	--	460	0.074	0.10	0.019	0.1	0.049	0.1	0.047	0.2
Mercury	7439-97-6	SW846-7471A/B	0.1	0.18	0.0015	0.01	0.0016	0.025	0.0077	0.05	0.0008	0.01
Nickel	7440-2-0	SW846-6020A	13.6	23	0.099	0.30	0.016	0.1	0.036	0.1	0.027	0.05
Selenium	7782-49-2	SW846-6020A	0.0276	--	0.35	1.0	0.031	0.1	0.089	0.1	0.016	0.05
Silver	7440-22-4	SW846-6020A	4.04	1.6	0.022	0.30	0.007	0.1	0.013	0.1	0.006	0.02
Vanadium	7440-62-2	SW846-6020A	1.59	--	0.054	0.30	0.044	0.1	0.034	1.0	0.019	0.05
Zinc	7440-66-6	SW846-6020A	6.62	120	0.37	3.0	0.045	0.5	0.42	10	0.070	0.2

* Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

**MDLs and RLs for alkylated PAHs are based on associated parent PAHs.

*** MDLs and RLs will be

^A: See individual laboratory SOPs for TOC analytical methods.

^B: Analyzed by SW846-6010B

^C: Microwave digestion

^d "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Third Edition of SW-846, as updated by Updates I, II, III, and IIIA. USEPA

na: not applicable

-- : indicates a PQL has not been established

Shaded cells indicate the laboratory is not intended to perform this analysis.

Notes:

- Surface water and sediment PQLs for petroleum volatile organic chemicals (PVOCs) and phenols and soil PQLs for all analytes are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003).
- Sediment PQLs for PAHs are based on ESB (USEPA, 2003), normalized to 1% TOC. Surface water and sediment PQLs for PCBs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August 2003). Sediments must be reported on a dry wt basis. The reporting limits (RLs) must be based on the lowest-level standard in the calibration curve. Sample-specific RLs will vary based on the % solids of the sediment sample.
- For hardness-dependent metals (beryllium, cadmium, chromium+3, copper, lead, nickel and zinc), freshwater chronic criteria are based on soft water with a total hardness of 50 mg/L as CaCO₃. Soft water is common within Region 5 and this risk-based PQL may be recalculated when site-specific water hardness data is less than 50 mg/L. PQLs for metals in sediment represent Threshold Effect Concentrations as compiled in Wisconsin Department of Natural Resources. December 2003. Consensus-Based Sediment Quality Guidelines. Recommendations for Use & Application. Interim Guidance. WT-732 2003. PQL for cyanide is based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003). Surface water PQLs are based on U.S. EPA, Region 5, RCRA Ecological Screening Levels (August, 2003) and represent concentrations of dissolved metals. Surface water PQL for aluminum and iron represent National Ambient Water Quality Criteria.
- Site specific PQLs and RLs are to be established in the Site-Specific Work Plans and Multi-Site Risk Assessment Framework. PQLs and RLs presented herein, are for example only.
- Soot Carbon will be analyzed based on "Reinterpreting Literature Sorption Data Considering Both Absorption into Organic Carbon and Adsorption onto Black Carbon". See Lab SOP for details

Table 4. Human Health Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-06-C-847, V-W-07-C-869, and V-W-07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil/ Sediment Human Health Risk Based PQL EPA Reg IX PRGs ^a (µg/kg, dry)	Columbia		Microbac		New Age Landmark	
				MDL µg/kg	RL µg/kg	MDL µg/kg	RL µg/kg	MDL µg/kg	RL µg/kg
Petroleum Volatile Organic Compounds									
Benzene	71-43-2	SW846-8260B	640	0.79	5.0	1.2	5	0.1	1
Ethylbenzene	100-41-4	SW846-8260B	190,000	0.57	5.0	0.7	5	0.31	1
Toluene	108-88-3	SW846-8260B	66,000	0.84	5.0	0.7	5	0.29	1
Xylenes	1330--20-7	SW846-8260B	27,000	1.5	5.0	0.9	5	0.49	2
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	21,253	0.82	20.0	0.8	5	0.25	2
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	51,608	0.82	20.0	1.1	5	0.28	2
Semivolatile Organic Compounds									
Non-Carcinogenic PAHs									
Acenaphthene	83-32-9	SW846-8270C	130,000 ^b	13.4	330	5.6	50	0.37	100
Acenaphthylene	208-96-8	SW846-8270C	--	16	330	5.4	50	0.52	100
Anthracene	120-12-7	SW846-8270C	6,100 ^b	13.9	330	7.8	50	0.54	100
Benzo(g,h,i)perylene	191-24-2	SW846-8270C	--	20.2	330	7.1	50	0.57	100
Fluoranthene	206-44-0	SW846-8270C	230,000	11.5	330	9.5	50	0.37	100
Fluorene	86-73-7	SW846-8270C	160,000 ^b	13	330	5.80	50	0.45	100
1-Methylnaphthalene	90-12-0	SW846-8270C	--	330	330	20.9	330	0.39	100
2-Methylnaphthalene	91-57-6	SW846-8270C	--	11	330		330	0.39	100
Naphthalene	91-20-3	SW846-8270C	5,600	14.4	330	5.3	50	0.34	100
Perylene	198-55-0	SW846-8270C	--	na	330			*	*
Phenanthrene	85-01-8	SW846-8270C	--	10	330	8.3	50	0.53	100
Pyrene	119-00-0	SW846-8270C	85,000 ^b	14	330	6.1	50	0.53	100
Benzo(e)pyrene	192-97-2	SW846-8270C	--	na	330			*	*
Carcinogenic PAHs									
Benzo(a)anthracene	56-55-3	SW846-8270C	620	12.3	330	6.7	50	0.48	100
Benzo(a)pyrene	50-32-8	SW846-8270C	62	19.8	330	7.1	50	0.47	100
Benzo(b)fluoranthene	205-99-2	SW846-8270C	620	17.2	330	11	50	0.55	100
Benzo(k)fluoranthene	207-08-9	SW846-8270C	6,200	19.4	330	9.3	50	0.67	100
Chrysene	218-01-9	SW846-8270C	3,800 ^b	11.8	330	6.2	50	0.55	100
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C	62	27.5	330	7.4	50	0.36	100
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C	620	38.9	330	6.8	50	0.44	100
Phenols									
2,4-dimethylphenol	105-67-9	SW846-8270C	1,222,062	15.1	330	29.8	330	0.4	170
2-methylphenol	95-48-7	SW846-8270C	3,055,155	16.7	330	20.9	330	0.47	170
4-methylphenol	106-44-5	SW846-8270C	305,515	16.8	330	24.7	330	0.43	170
phenol	108-95-2	SW846-8270C	18,330,929	19.5	330	23.1	330	0.46	170
Indicator Parameters									
Total Organic Carbon (TOC) ^g	7440-44-0	9060/ASTM D4129-82M	1000000	200000	500000	100	100		

Table 4. Human Health Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-06-C-847, V-W-07-C-869, and V-W-07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil/ Sediment Human Health Risk Based PQL EPA Reg IX PRGs ^a (mg/kg, dry)	Columbia		Microbac		New Age Landmark	
				MDL mg/kg	RL mg/kg	MDL mg/kg	RL mg/kg	MDL mg/kg	RL mg/kg
Inorganics									
Aluminum	7429-90-5	SW846-6020A	7,600	2	2	0.052	10	0.000101	20
Antimony	7440-36-0	SW846-6020A	3.1	0.02	0.05	0.00055	1.0	0.00001	0.5
Arsenic	7440-38-2	SW846-6020A	0.39	0.07	0.5	0.011	0.5	0.00001	0.2
Barium	7440-39-3	SW846-6020A	540	0.03	0.05	0.00068	0.1	0.000086	0.5
Cadmium	7440-43-9	SW846-6020A	3.7	0.007	0.05	0.00011	0.1	0.00001	0.2
Chromium (total)	16065-83-1	SW846-6020A	210	0.04	0.2	0.038	0.15	0.000031	0.5
Copper	7440-50-8	SW846-6020A	310	0.02	0.1	0.00078	0.5	0.000014	0.5
Cyanide (hydrogen)	57-12-5	SW846-9012A	1.1	0.04	0.1	0.002	0.005		
Iron	7439-89-6	SW846-6020A	2,300	3B	4	0.251	2.5	0.000115	20
Lead	7439-92-1	SW846-6020A	400	0.02	0.05	0.000434	0.375	0.000012	0.5
Manganese	7439-96-5	SW846-6020A	180	0.04	0.1	0.0053	0.1	0.000024	0.5
Mercury	7439-97-6	SW846-7471A/B	2.3	0.004	0.02	0.00059	0.01	0.00002	0.001
Nickel	7440-02-0	SW846-6020A	160	0.04	0.2	0.00055	0.5	0.000081	0.5
Selenium	7782-49-2	SW846-6020A	39	0.2	1	0.0028	0.25	0.000027	0.5
Silver	7440-22-4	SW846-6020A	39	0.003	0.02	0.0013	0.5	0.000009	0.5
Vanadium	7440-62-2	SW846-6020A	7.8	0.03	0.2	0.059	0.4	0.000013	0.5
Zinc	7440-66-6	SW846-6020A	2,300	0.2	0.5	0.149	1.0	0.000029	0.5

^aUSEPA Region 9 Preliminary Remediation Goals (PRGs). October 2004. Revised December 2004. [URL: <http://www.epa.gov/region09/waste/sfund/prg/>].
 [PRGs correspond to residential exposure to soil via ingestion, dermal contact, and inhalation based on target cancer risk = 1E-6 or noncancer hazard quotient = 0.1.
^bNumber represents EPA Region 9 estimate of soil saturation limit; PRG is higher.
^cNRWQC: National Recommended Water Quality Criteria - Correction." USEPA Office of Water. For human health consumption of water and organism and organism only. EPA 822-Z-99-001. April 1999. Updated January 2004
^d"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Third Edition of SW-846, as updated by Updates I, II, IIA, IIB, III and IIIA. USEPA
^eTBD - To Be Determined, SW846-8082 MDL Range 0.054-0.90 ug/L and 57-70 ug/Kg
^A: See individual laboratory SOPs for TOC analytical methods.
^B: Analyzed by SW846-6010B
^F: Microwave digestion
 * Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

1. Analytical methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste", Third Edition.
 2. Site specific PQLs and RLs are to be established in the Site-Specific Work Plans. PQLs and RLs presented herein, are for example only.

Table 4. Human Health Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-06-C-847, V-W-07-C-869, and V-W-07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil/ Sediment Human Health Risk Based PQL EPA Reg IX PRGs ^a (µg/kg, dry)	Pace Analytical		STAT Analysis Corporation		TriMatrix		Woods Hole		
				MDL µg/kg	RL µg/kg	MDL µg/kg	RL µg/kg	MDL µg/kg	RL µg/kg	MDL µg/kg	RL µg/kg	
Petroleum Volatile Organic Compounds												
Benzene	71-43-2	SW846-8260B	640	14	50	0.1	5	0.13	10	9.43	100	
Ethylbenzene	100-41-4	SW846-8260B	190,000	15	50	0.1	5	0.12	10	4.22	100	
Toluene	108-88-3	SW846-8260B	66,000	8.5	50	0.1	5	0.40	10	9.1	100	
Xylenes	1330--20-7	SW846-8260B	27,000	21	150	0.5	15	0.58	30	25.8	200	
1,3,5-Trimethylbenzene	108-67-8	SW846-8260B	21,253	9.2	50	0.1	5	0.12	10	9.34	100	
1,2,4-Trimethylbenzene	95-63-6	SW846-8260B	51,608	19	50	0.2	5	0.11	10	17.1	100	
Semivolatile Organic Compounds												
Non-Carcinogenic PAHs												
Acenaphthene	83-32-9	SW846-8270C	130,000 ^b	36	250	1	25	0.40	16.7	0.38	1	
Acenaphthylene	208-96-8	SW846-8270C	--	31	250	1	25	0.60	16.7	0.24	1	
Anthracene	120-12-7	SW846-8270C	6,100 ^b	32	250	0.8	25	0.43	16.7	0.27	1	
Benzo(g,h,i)perylene	191-24-2	SW846-8270C	--	44	250	0.6	25	2.3	16.7	0.95	1	
Fluoranthene	206-44-0	SW846-8270C	230,000	49	250	0.6	25	3.8	16.7	0.34	1	
Fluorene	86-73-7	SW846-8270C	160,000 ^b	45	250	1.40	25	0.28	16.7	0.26	1	
1-Methylnaphthalene	90-12-0	SW846-8270C	--	33	250	0.7	25	0.34	16.7	0.24	1	
2-Methylnaphthalene	91-57-6	SW846-8270C	--	37	250	1.4	25	0.48	16.7	0.28	1	
Naphthalene	91-20-3	SW846-8270C	5,600	56	250	3.3	25	0.23	16.7	1.22	1	
Perylene	198-55-0	SW846-8270C	--	50*	250*					0.33	1	
Phenanthrene	85-01-8	SW846-8270C	--	28	250	1.4	25	3.60	16.7	0.29	1	
Pyrene	119-00-0	SW846-8270C	85,000 ^b	25	250	0.6	25	0.32	16.7	0.3	1	
Benzo(e)pyrene	192-97-2	SW846-8270C	--	50*	250*					0.29	1	
Carcinogenic PAHs												
Benzo(a)anthracene	56-55-3	SW846-8270C	620	29	250	0.5	25	0.54	16.7	0.28	1	
Benzo(a)pyrene	50-32-8	SW846-8270C	62	34	250	0.6	25	1.00	16.7	0.31	1	
Benzo(b)fluoranthene	205-99-2	SW846-8270C	620	36	250	0.9	25	0.85	16.7	0.37	1	
Benzo(k)fluoranthene	207-08-9	SW846-8270C	6,200	32	250	0.9	25	0.72	16.7	0.27	1	
Chrysene	218-01-9	SW846-8270C	3,800 ^b	44	250	0.5	25	0.48	16.7	0.23	1	
Dibenzo(a,h)anthracene	53-70-3	SW846-8270C	62	49	250	0.7	25	0.54	16.7	0.26	1	
Indeno(1,2,3-cd)pyrene	193-39-5	SW846-8270C	620	55	250	0.9	25	0.70	16.7	0.22	1	
Phenols												
2,4-dimethylphenol	105-67-9	SW846-8270C	1,222,062	84	250	40	170	5.7	16.7	*	*	
2-methylphenol	95-48-7	SW846-8270C	3,055,155	130	250	32	170	8.1	16.7	*	*	
4-methylphenol	106-44-5	SW846-8270C	305,515	25	250	72	170	9.1	16.7	*	*	
phenol	108-95-2	SW846-8270C	18,330,929	35	250	38	170	0.70	16.7	*	*	
Indicator Parameters												
Total Organic Carbon (TOC) ^h	7440-44-0	9060/ASTM D4129-82M	1000000	60	500			46	100	1839	100000	

Table 4. Human Health Risk-Based Soil/ Sediment Matrix

Analytical Methods, Practical Quantitation Limits (PQLs), Method Detection Limits (MDLs) and Reporting Limits (RLs)
 Integrys Business Support, LLC
 Former MGP Sites
 USEPA Region 5
 CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Project Compound List	CAS Number	Analytical Method Number ^d	Soil/ Sediment Human Health Risk Based PQL EPA Reg IX PRGs ^a (mg/kg, dry)	Pace Analytical		STAT Analysis Corporation		TriMatrix		Woods Hole	
				MDL mg/kg	RL mg/kg	MDL mg/kg	RL mg/kg	MDL mg/kg	RL mg/kg	MDL mg/kg	RL mg/kg
Inorganics											
Aluminum	7429-90-5	SW846-6020A	7,600	1.2	15	0.272	2.0	2.1	10	0.83	2
Antimony	7440-36-0	SW846-6020A	3.1	0.66	2	0.072	0.2	0.042	0.1	0.010	0.050
Arsenic	7440-38-2	SW846-6020A	0.39	0.11	0.30	0.047	0.1	0.071	0.1	0.008	0.002
Barium	7440-39-3	SW846-6020A	540	0.92	0.30	0.011	0.1	0.028	0.1	0.083	0.2
Cadmium	7440-43-9	SW846-6020A	3.7	0.074	0.10	0.009	0.05	0.0057	0.05	0.04	0.01
Chromium (total)	16065-83-1	SW846-6020A	210	0.14	0.30	0.03	0.1	0.06	0.1	0.010	0.020
Copper	7440-50-8	SW846-6020A	310	0.077	1.0	0.04	0.25	0.044	0.1	0.063	0.05
Cyanide (hydrogen)	57-12-5	SW846-9012A	1.1	0.17	0.3	0.1	0.25	0.013	0.1	0.246	0.25
Iron	7439-89-6	SW846-6020A	2,300	3.3	30	0.8	3.0	0.48	5.0	1.4	2
Lead	7439-92-1	SW846-6020A	400	0.076	0.25	0.02	0.05	0.022	0.1	0.90	0.02
Manganese	7439-96-5	SW846-6020A	180	0.074	0.10	0.019	0.1	0.049	0.1	0.40	0.20
Mercury	7439-97-6	SW846-7471A/B	2.3	0.0015	0.01	0.0016	0.025	0.0077	0.05	0.0008	0.01
Nickel	7440-02-0	SW846-6020A	160	0.099	0.30	0.016	0.1	0.036	0.1	0.027	0.05
Selenium	7782-49-2	SW846-6020A	39	0.35	1.0	0.031	0.1	0.089	0.1	0.025	0.05
Silver	7440-22-4	SW846-6020A	39	0.022	0.30	0.007	0.1	0.013	0.1	0.009	0.02
Vanadium	7440-62-2	SW846-6020A	7.8	0.054	0.30	0.044	0.1	0.034	1.0	0.019	0.05
Zinc	7440-66-6	SW846-6020A	2,300	0.37	3.0	0.045	0.5	0.42	10	0.16	0.2

^aUSEPA Region 9 Preliminary Remediation Goals (PRGs). October 2004. Revised December 2004. [URL: <http://www.epa.gov/region09/waste/sfund/prg/>].
 [PRGs correspond to residential exposure to soil via ingestion, dermal contact, and inhalation based on target cancer risk = 1E-6 or noncancer hazard quotient = 0.1.]
^bNumber represents EPA Region 9 estimate of soil saturation limit; PRG is higher.
^cNRWQC: National Recommended Water Quality Criteria - Correction." USEPA Office of Water. For human health consumption of water and organism and organism only. EPA 822-Z-99-001. April 1999. Updated January 2004
^d"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Third Edition of SW-846, as updated by Updates I, II, IIA, IIB, III and IIIA. USEPA
^eTBD - To Be Determined, SW846-8082 MDL Range 0.054-0.90 ug/L and 57-70 ug/Kg
^A: See individual laboratory SOPs for TOC analytical methods.
^B: Analyzed by SW846-6010B
^F: Microwave digestion
 * Laboratory is in the process of updating or developing MDLs/RLs, to be determined prior to site investigation

1. Analytical methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste", Third Edition.
2. Site specific PQLs and RLs are to be established in the Site-Specific Work Plans. PQLs and RLs presented herein, are for example only.

Table 5. Sampling and Analysis Summary
Integrus Business Support, LLC
Former MGP Sites
USEPA Region 5
CERCLA Docket Nos. V-W-06-C-847, V-W-07-C-869, and V-W-07-C-877

Sample Type/Location ¹	Matrix	Parameter ²	Sample Quantity ³	Field Duplicates ⁴	Equipment Blanks ⁵	MS/MSD ⁶	TOTAL	Container Type	Minimum Volume	Preservation (Cool to 4° >2 °C for all samples)	Holding Time from Sample Date	
Soil Samples (surface and subsurface soil)	soil	BTEX						glass vial	2-40 ml	HCl to pH<2, Zero Headspace	14 days	
		PAHs						amber glass	2 liters		Cool to 4 ° < 2°C	14 days
		MGP Metals ⁷						plastic	600 ml	HNO ₃ to pH<2	6 months	
Groundwater and Surface Water	water	BTEX						glass vial	2-40 ml	HCl to pH<2, Zero Headspace	14 days	
		PAHs						amber glass	2 liters		Cool to 4 ° < 2°C	14 days
		MGP Metals ⁷						plastic	600 ml	HNO ₃ to pH<2	6 months	
		Alkalinity						plastic	100 ml	Cool to 4 ° < 2°C	14 days	
		Alk (bi-carb)						plastic	100 ml	Cool to 4 ° < 2°C	14 days	
		Alk (carb)						plastic	100 ml	Cool to 4 ° < 2°C	14 days	
		Ammonia						plastic	500 ml	H ₂ SO ₄ to pH<2	28 days	
		Chloride						plastic	50 ml	Cool to 4 ° < 2°C	28 days	
		DOC						amber glass	250 ml	Cool to 4 ° < 2°C	28 days	
		Total Hardness						plastic	100 ml	H ₂ SO ₄ to pH<2	6 months	
		Nitrate						plastic	100 ml	H ₂ SO ₄ to pH<2	48 hours	
		Sulfate						plastic	50 ml	Cool to 4 ° < 2°C	28 days	
		Sulfide						plastic	500 ml	NaOH, 20 drops Zinc Acetate to pH>9, Cool to 4 °C	7 days	
		Ferrous Iron						plastic	8 oz.	Cool to 4 ° < 2°C	upon receipt	
		TDS						plastic	100 ml	Cool to 4 ° < 2°C	7 days	
		TKN						plastic	500 ml	H ₂ SO ₄ to pH<2	28 days	
		TSS						plastic	100 ml	Cool to 4 ° < 2°C	7 days	
		TOC						plastic	(3) 40 ml	H ₂ SO ₄ to pH<2	28 days	
		Temperature							field measured			
		pH							field measured			
Specific Conductivity							field measured					
Oxidation-Reduction Potential							field measured					
DO							field measured					
Turbidity							field measured					
Sediment (Human Health Risk Assessment)	sediment	BTEX						Glass	2 oz.	methanol, cool to 4°C	7/28 days	
		PAHs						amber glass	4 oz.		Cool to 4 ° < 2°C	14/40 days
		MGP Metals ⁷						glass	16 oz	Cool to 4 ° < 2°C	6 months	
		Percent Solids						Glass	4 oz	cool to 4°C, dark	28 days	
		TOC						plastic	100 g	cool to 4°C, dark	28 days	
		Description						field measured				
Sediment (Ecological Risk Assessment)	sediment	BTEX						Glass	2 oz.	methanol, cool to 4°C	7/28 days	
		34 PAHs ⁸						amber glass	4 oz.		Cool to 4 ° < 2°C	14/40 days
		MGP Metals ⁷						glass	16 oz	Cool to 4 ° < 2°C	6 months	
		"Soot" Carbon ⁹						Plastic	500 g	cool to 4°C, dark	28 days	
		Percent Solids						Glass	4 oz	cool to 4°C, dark	28 days	
		TOC						plastic	100 g	cool to 4°C, dark	28 days	
		Description						field measured				
Biological Testing ¹⁰						Plastic	2L	cool to 4°C, dark				

Table 5. Sampling and Analysis Summary

Integrus Business Support, LLC

Former MGP Sites

USEPA Region 5

CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877

Sample Type/Location ¹	Matrix	Parameter ²	Sample Quantity ³	Field Duplicates ⁴	Equipment Blanks ⁵	MS/MSD ⁶	TOTAL	Container Type	Minimum Volume	Preservation (Cool to 4° >2 °C for all samples)	Holding Time from Sample Date
Sample Type/Location	Matrix	Geotechnical Parameter						Container Type	Minimum Volume	Preservation	Holding Time from Sample Date
Soil and Sediment	soil	Grain Size Distribution						5 gal bucket	5 gal.	NA	NA
		Atterberg Limits						Glass or Plastic	8 oz.	NA	NA
		TOC						plastic	100 g	cool to 4°C, dark	28 days
		Modified Proctor						Glass or Plastic	8 oz.	NA	NA
		Recompacted Perm.						Glass or Plastic	8 oz.	NA	NA
		Shear Strength						Glass or Plastic	8 oz.	NA	NA
		Moisture Content						Glass or Plastic	8 oz.	NA	NA

References:

- (1) Test Methods for Evaluating Solid Wastes, USEPA SW-846, revised 1991.
- (2) Code of Federal Regulations Chapter 40 Part 136.

Notes:

1. Sample locations will be provided in Site-Specific Work Plans.
2. Parameter list includes anticipated chemical constituents of concern and will be detailed in Site-Specific Work Plans, provided herein as an example parameter list. EPA-approved methods published in References 1 and 2 above may be used. The list of analytes, laboratory method and the method detection limit for each parameter are included in Tables 2 through 5 of the QAPP for each matrix.
3. Sample media and quantities to be determined in Site-Specific Work Plans.
4. Field duplicates will be collected at a frequency of one per group of ten or fewer investigative water samples and one per group of twenty or fewer investigative soil samples.
5. Equipment blanks will be collected at a frequency of one per sampling day with non-dedicated sampling equipment.
6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples will be collected at a frequency of one per group of twenty or fewer investigative water samples. Additional volume will be determined per laboratory requirements.
7. MGP Metals as determined in the Multi-Site Risk Assessment Framework.
8. May include a list of 34 PAHs, including chain parameters as provided in USEPA Guidance Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures, 2002 by SW-846 Method 8270C with gas chromatograph/mass spectrometry in selected ion mode of operation.
9. "Soot" Carbon is the remaining carbon after muffle furnace drying and acid treatment of sediments to remove other forms of carbon. Used to estimate the bioavailable concentration of PAHs in sediment from the "freely-dissolved" chemical in the interstitial water based on USEPA Bioavailability Procedure, 2000, Gustafsson, et al. 1997, and Accardi-Day and Gschwend, 2003.
10. The *Hyallella* (amphipod) 28-day test may be used to evaluate the toxicity of whole sediments. This test will be performed in accordance with USEPA.

Acronyms:

Alk (bi-carb) = Bi-carbonate alkalinity
 Alk (carb) = Carbonate alkalinity
 DO = Dissolved Oxygen (field measured)
 BTEX = Benzene, Toluene, Ethylbenzene and Xylenes
 PAHs = Polynuclear Aromatic Hydrocarbons

DOC = Dissolved Organic Carbon
 TOC = Total Organic Carbon
 TSS = Total Suspended Solids
 VOC = Volatile Organic Compounds

Geotechnical Parameter Methods:
 Atterberg Limit=American Society of Testing and Materials (ASTM) D4318
 TOC=Walkley Black Method
 Grainsize Distribution=ASTM D421, 422
 Shear Strength=ASTM D3080
 Modified Proctor=ASTM D1557
 Recompacted Permeability=ASTM D5084
 Moisture Content=ASTM D2216

TABLE 6

**PROJECT GOALS FOR PRECISION, ACCURACY, AND
COMPLETENESS FOR LABORATORY MEASUREMENTS**

Analytical Method	Precision goal¹ (%RPD)	Accuracy Goal (%R)		Completeness Goal (%)
	Soil & Water	Soil	Water	
EPA 8260B	± 30	± 50	± 30	90
EPA 8270C	± 30	± 50	± 30	90
EPA 6010B, 6020, 7196/7470/7471A and EPA 9012A	± 30	± 50	± 30	90

Note:

1. Precision goals vary depending on the compound being analyzed; the precision goals presented here are general in nature.

TABLE 7

**PROJECT GOALS FOR PRECISION, ACCURACY, AND
COMPLETION OF FIELD MEASUREMENTS**

	Precision Goal	Accuracy Goal	Completion Goal
Temperature (°C) ¹	± 0.1°C	± 0.4°C	90%
pH (units)	± 0.1 unit	± 0.1 unit	90%
Specific Conductance (uS/cm @ 25°C) ²	± 100 µS/cm @ 25 °C	± 100 µS/cm @ 25 °C	90%
Turbidity (NTU)	± 0.05 NTU	± 0.05 NTU	90%
Eh (mV)	± 1.0 mV	± 1.0 mV	90%
Dissolved Oxygen (mg/L)	± 0.3 mg/L	± 0.3 mg/L	90%
Water level (feet)	± 0.01 foot	± 0.01 foot	90%

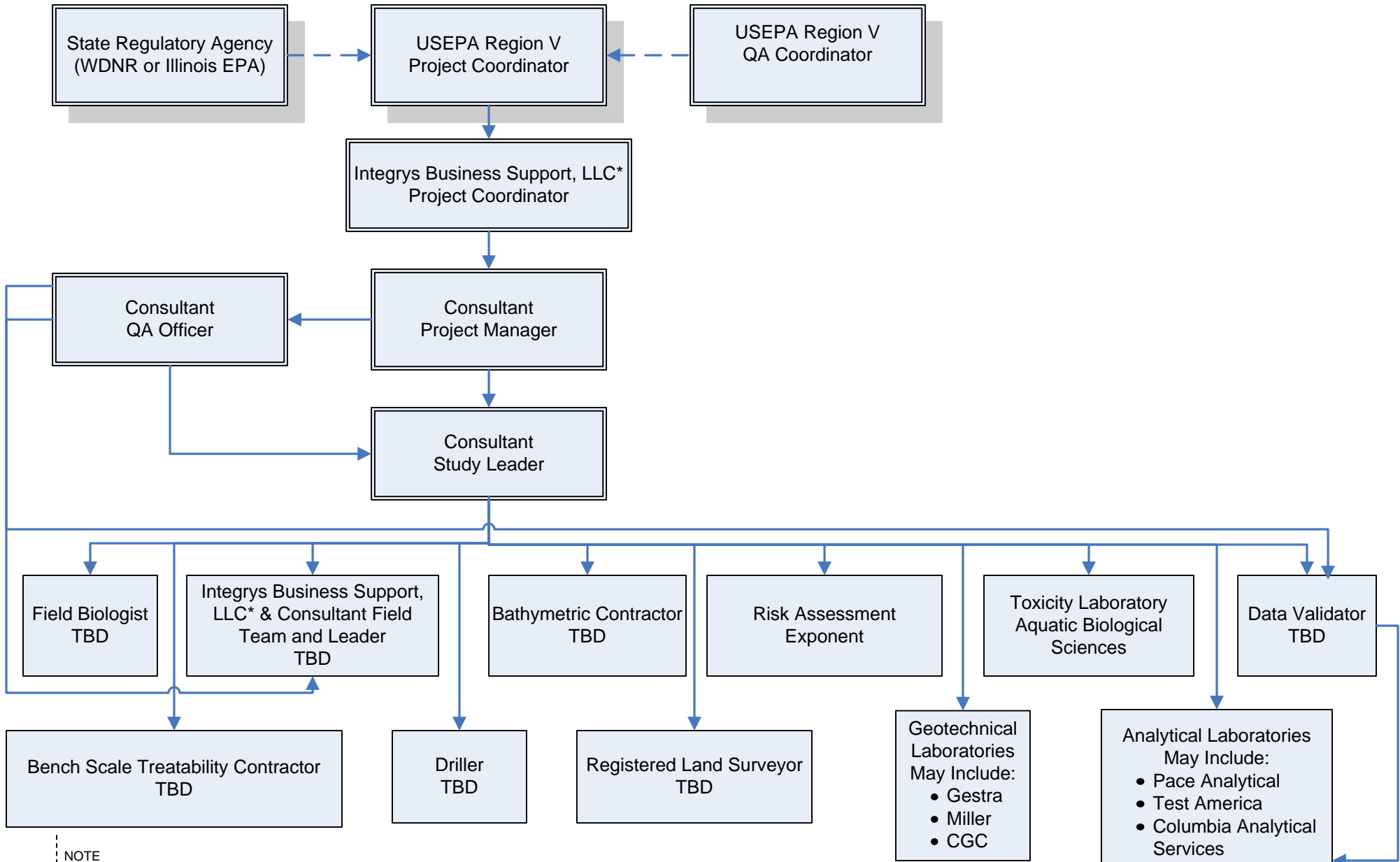
Notes:

1. °C = degrees Centigrade
2. µS/cm @ 25 °C = microsiemens per centimeter @ 25°C

**Table 8. Data Measurement Units for Field and Laboratory Measurements
Integrus Business Support, LLC
Former MGP Sites
USEPA Region 5
CERCLA Docket Nos. V-W-'06-C-847, V-W-'07-C-869, and V-W-'07-C-877**

Parameter	Units
pH	pH units
Temperature	degrees Celsius (°C)
Turbidity	Nephelometric Turbidity Unit (NTU)
Dissolved Oxygen	milligrams per liter (mg/L)
Specific Conductance	microsiemens per centimeter @ 25°C (uS/cm @ 25°C)
Concentration of chemical in water matrix	micrograms per liter (ug/l) organic milligrams per liter (mg/l) inorganic
Concentration of chemical in soil/sediment matrix	micrograms per kilogram (ug/kg) organic milligrams per kilogram (mg/kg) inorganic
Organic Content by Loss-on-Ignition	percent (%)
Total Organic Carbon (TOC)	milligrams per kilogram (mg/kg)
Atterberg Limits	percent (%)
Grain Size Distribution	percent (%)
Specific Gravity	(dimensionless)
Moisture Content	percent (%)
Strength	pounds per foot inch (psf)

FIGURE



NOTE

* Study work performed for Wisconsin Public Service Corporation, The Peoples Gas Light And Coke Company, and North Shore Gas Company former MGP Sites is managed by Integrys Business Support, LLC.

FIGURE NO. 1	Integrys Business Support, LLC 130 East Randolph Drive Chicago, Illinois 60601	Organization Chart for Multi-Site QAPP INTEGRYS BUSINESS SUPPORT, LLC Former MGP Sites USEPA REGION V CERCLA DOCKET NOS: V-W-06-C-547, V-W-'07-C-869, & V-W-'07-C-877	DRAWN BY: TJG	DATE 08/17/07
REVISION NO. 0			CHECKED BY: MK	DATE 08/17/07
			APPROVED BY: SJM	DATE 08/17/07