

TABLES

Table 1 - List of Target Analytes

Ash Fill Sample Analyses		
Analyte	Method	Locations
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Ti, V & Zn Toxicity Characteristic Leaching Procedure (TCLP)	Metals by Method 6010 TCLP Metals by Method 6000	3 Ash Fill Grab Samples (SB-BGC-10 through -12) 3 Test Pit Ash Fill Grab Samples
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
Total Phosphorus	E365.3	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Subsurface Soil Sample Analyses		
Acid Producing Potential	Potential Peroxide Acidity (PPA)	3 Grab Soil Samples from Well Locations at Various Depth Intervals (MW-BGC-13 through -15)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Stream/Pond Bank Soil Sample Analyses		
Acid Producing Potential	Potential Peroxide Acidity (PPA)	6 Soil Samples Within the Vicinity of Surface Water Locations (SG-9, SG-10, SG-11, SG-12, SW-13, and SW-22)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Road Bed and Stockpile Soil Sample Analyses		
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Ti, V & Zn	Metals by Method 6010	4 Surface Soil Grab Samples and 4 Stockpile Soil Composite Samples (southwest quadrant of the Site)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
Total Phosphorus	E365.3	
TCLP Metals: Ag, Al, As, B, Ba, Be, Cd, Cr, Co, Cu, Fe, Hg, Mn, Mg, Mo, Ni, Pb, Se, Ti, V, Zn	TCLP Metals by Method 6000	4 Stockpile Composite Samples (Southwest Quadrant of the Site)
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Pond Sediment Sample Analyses		
Metals: Ag, As, Ba, Cd, Cr, Hg, Pb & Se plus Al, B, Be, Ca, Co, Cu, Fe, K, Mn, Mg, Mo, Na, Ni, Sb, Ti, V & Zn	Metals by Method 6010	4 Selected Ponds (Ponds SG9 through SG12)
Anions: Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate as N	SW846 9056 or 9030B/9034	
pH	SW846 9045D	
Total Phosphorus	E365.3	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Groundwater Samples Collected from Previously Existing Monitoring Wells		
Metals: Ag, Al, As, B, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, Hg, K, Mn, Mg, Mo, Na, Ni, Pb, Sb, Se, Ti, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered) & Dissolved (field filtered)	4 Previously Existing Wells Installed by Kimley-Horn (MW-1, MW-2 & MW-3) and URS (URS-2)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300	
Total Organic Halides (TOX)	9020	
Total Phosphorus	E365.3	
Total Dissolved Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: equipment rinse blanks, trip blanks & duplicate samples for all constituents, where applicable.		

Groundwater Samples Collected from New Monitoring Wells		
Analyte	Method	Locations
Metals: Ag, Al, As, B, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, Hg, K, Mn, Mg, Mo, Na, Ni, Pb, Sb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered)	19 New Wells Installed by MACTEC (BGC-MW-5A, 5B, 6A, 6B, 7A, 7B, 8A, 8B, 9A, 9B, 10A, 10B, 11A, 11B, 12A, 12B, 13, 14, and 15)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300	
Total Phosphorus	E365.3	
Total Organic Halides (TOX)	9020	
Total Dissolved Solids (TDS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: duplicate samples for all constituents, where applicable.		
Surface-Water Samples		
Analyte	Method	Locations
Metals: Ag, Al, As, B, Ba, Be, Cd, Cr, Co, Cu, Fe, Hg, Mn, Mg, Mo, Ni, Pb, Se, Tl, V, Zn	SW-846 Method 6010B/7470A Total (unfiltered)	12 Staff-Gauge Locations (SG-3, SG-4, SG-6, SG-7, SG-8, SG-9, SG-10, SG-11, SG-12, SG-13, SG-16, SG-18 and SG-19) and 6 Other Surface-Water Locations (SW-20, SW-21, SW-22, SW-23, SW-24 and SW-25)
Alkalinity & Bicarbonate Alkalinity	SM2320B	
Anions: Bromide, Chloride, Fluoride, Sulfate, Nitrate as N	300	
Total Phosphorus	E365.3	
Total Suspended Solids (TSS)	SM2540C	
Total Organic Carbon (TOC)	SW9060A	
QA/QC Samples: equipment rinse blanks and duplicate samples for all constituents, where applicable.		

Prepared By/Date: JMB 9/28/09

Checked By/Date: GBG 9/28/09

Table 2 - Groundwater Field Parameters

Monitoring Well I.D.	Date Sampled	Time	Approximate Volume Purged (Gal.)	Water Level (Ft. BTOC)	Turbidity (NTU) ¹	Temperature (Degrees C) ¹	pH ¹	Conductivity (ms/cm) ¹	Oxidation Reduction Potential (mV) ¹	Dissolved Oxygen (mg/L) ¹
MW-BGC-5A	12/2/2008	9:20	1.0	1.11	8.2	15.68	6.17	0.552	42	2.39
	6/16/2009	11:10	3.0	1.30	8.5	19.25	7.87	2.470	-119	3.03
MW-BGC-5B	12/4/2008	13:15	4.5	1.18	2.1	17.30	7.01	0.380	-86	BDL
	6/16/2009	10:35	2.0	1.16	5.3	20.74	6.59	0.388	-134	0.28
MW-BGC-6A	11/20/2008	13:30	3.5	1.92	BDL	17.60	6.13	0.352	228	5.39
	6/16/2009	15:00	2.5	2.45	BDL	19.88	7.45	1.700	-101	3.39
MW-BGC-6B	11/24/2008	8:55	4.0	1.99	5.9	16.38	5.10	0.293	149	0.40
	6/16/2009	15:05	0.8	2.21	BDL	21.92	4.58	0.302	147	0.48
MW-BGC-7A	12/2/2008	13:10	0.8	2.60	BDL	15.87	5.02	0.173	165	6.51
	6/17/2009	9:25	2.5	2.97	8.3	18.61	8.56	1.420	-102	2.84
MW-BGC-7B	12/2/2008	12:20	0.8	1.52	8.0	15.11	5.78	0.147	67	1.37
	6/17/2009	9:25	0.8	2.25	BDL	19.38	5.89	0.170	-34	0.54
MW-BGC-8A	12/4/2008	11:05	1.2	9.55	7.9	16.00	3.98	1.630	260	BDL
	6/16/2009	13:15	2.0	9.45	BDL	19.26	6.43	2.500	-45	3.37
MW-BGC-8B	12/8/2008	15:05	2.5	9.05	BDL	15.72	6.65	0.293	-69	BDL
	6/16/2009	13:05	0.6	9.06	BDL	19.02	6.09	0.329	-105	0.25
MW-BGC-9A	12/4/2008	13:25	1.5	7.97	1.8	16.50	6.44	0.455	-56	BDL
	6/17/2009	11:30	3.0	8.09	5.4	18.13	9.12	4.510	-135	2.78
MW-BGC-9B	12/4/2008	12:30	1.5	7.53	BDL	16.30	6.84	0.444	-22	BDL
	6/17/2009	11:05	1.6	7.67	7.6	17.61	7.44	0.479	-153	0.73
MW-BGC-10A	12/4/2008	14:50	2.0	8.71	BDL	16.60	6.40	0.615	-81	BDL
	6/17/2009	12:55	3.5	8.91	6.4	17.01	9.58	3.650	-167	2.86
MW-BGC-10B	12/4/2008	14:05	1.3	8.20	BDL	16.20	7.18	0.592	-81	2.87
	6/17/2009	13:00	2.2	8.48	2.3	18.50	7.31	0.656	-135	0.57
MW-BGC-11A	12/4/2008	11:15	1.3	8.56	BDL	15.83	5.98	0.684	47	0.31
	6/17/2009	14:55	3.5	8.86	5.9	16.99	9.23	1.520	-141	3.03
MW-BGC-11B	12/4/2008	10:15	1.5	8.36	BDL	15.48	6.63	0.674	-39	1.26
	6/17/2009	14:25	1.5	8.69	BDL	17.44	6.40	0.910	-74	0.42
MW-BGC-12A	12/5/2008	10:45	2.0	7.75	6.2	15.22	5.63	0.366	17	BDL
	6/18/2009	13:35	2.5	8.41	1.2	18.42	8.11	1.050	-55	3.15
MW-BGC-12B	12/5/2008	9:45	1.5	8.00	7.8	15.40	6.14	0.514	4	BDL
	6/18/2009	13:40	1.5	8.75	BDL	19.09	6.02	0.455	-33	0.61
MW-BGC-13	6/18/2009	14:55	1.5	8.17	4.4	18.86	5.20	1.060	91	0.40
MW-BGC-14	6/18/2009	16:30	1.6	9.25	BDL	18.90	6.13	0.288	-14	0.20
MW-BGC-15	6/18/2009	15:20	3.5	5.31	6.6	19.89	8.03	5.100	-57	3.07
MW-URS2	11/19/2008	10:10	1.5	6.61	BDL	14.10	5.92	0.405	12	BDL
MW-KH1	11/20/2008	10:25	3.0	4.19	BDL	17.40	5.43	0.731	191	BDL
MW-KH2	11/19/2008	15:50	3.0	2.97	BDL	17.30	6.40	0.687	70	BDL
MW-KH3	11/19/2008	13:00	2.0	1.60	BDL	17.30	5.70	0.725	1	BDL

Prepared/Date: JMB 7/17/09
 Checked/Date: DSD 7/17/09

Notes:

- Ft. BTOC Feet Below Top of Casing
- BDL Below Detection Limit of Horiba U22 Water Quality Analyzer
- NTU Nephelometric Turbidity Units
- Degrees C Degrees Celsius
- ms/cm Millisiemens per Centimeter
- mV Millivolts
- mg/L Milligrams per Liter
- ¹ Water quality parameters collected using a Horiba model U-22 Water Quality Analyzer with flow-through cell

Table 4 - Monitoring Well Construction Data

Monitoring Well I.D.	Latitude	Longitude	Ground Surface Elevation	TOC Elevation	Well Casing Inside Diameter	Approximate Depth of Well	Approximate Screen Interval	Approximate Depth to Water (ft, bgs)			Description of Screened Strata
			(feet)	(feet)	(inches)	(ft, bgs)	(ft-ft, bgs)	12/3/2008	12/10/2008	7/15/2009	
MW-BGC-5A	36.69324	76.17765	10.41	10.14	2	15	5-15	1.18	1.07	3.01	Gray, dense, fine SAND(SP)
MW-BGC-5B	36.69302	76.17618	10.30	10.06	2	35	25-35	1.07	1.08	2.97	Gray, fine SAND (SP), coarse SAND (SP) w/trace gravel & sandy CLAY (CL)
MW-BGC-6A	36.68916	76.17454	15.77	15.55	2	15	5-15	1.68	1.89	3.32	White and yellow to light gray, fine SAND (SP)
MW-BGC-6B	36.68715	76.17200	15.66	15.48	2	42	32-42	1.60	1.89	3.43	Light gray to gray, dense, fine to coarse SAND (SW)
MW-BGC-7A	36.68622	76.17406	14.61	14.36	2	15	5-15	2.65	2.76	3.48	Light brown to gray, loose, fine to medium SAND (SP)
MW-BGC-7B	36.68694	76.17537	14.47	13.90	2	42	32-42	1.64	1.97	3.00	Gray to greenish gray, loose to dense, fine to medium SAND (SP), trace clay
MW-BGC-8A	36.68725	76.17690	13.83	16.49	2	20	10-20	9.46	9.64	9.62	Gray, firm, fine to medium SAND (SP)
MW-BGC-8B	36.68945	76.17740	13.77	16.22	2	44	34-44	8.72	9.03	9.49	Gray to greenish gray, fine to medium SAND (SP) with interbedded clay
MW-BGC-9A	36.68945	76.17740	10.95	14.06	2	20	10-20	7.91	8.08	8.53	Gray, very firm, fine SAND (SP)
MW-BGC-9B	36.68963	76.18231	11.12	13.92	2	40	30-40	7.46	7.65	8.35	Gray to dark greenish gray, loose to dense, fine to medium SAND (SP)
MW-BGC-10A	36.68894	76.18432	10.86	13.71	2	20	10-20	8.63	8.86	9.34	Gray to dark Gray, loose, fine SAND (SP)
MW-BGC-10B	36.68801	76.18269	10.54	13.59	2	35	25-35	8.11	8.40	9.12	Light gray to dark gray, SAND (SP)
MW-BGC-11A	36.68779	76.18379	9.91	12.87	2	20	10-20	8.50	8.85	9.55	Gray, loose fine SAND (SP)
MW-BGC-11B	36.68819	76.18575	9.83	12.59	2	35	25-35	8.28	8.57	9.38	Gray, loose to firm, fine to coarse SAND (SP), trace gravel
MW-BGC-12A	36.68819	76.18575	9.62	12.47	2	20	10-20	7.45	7.98	9.34	Gray, loose, fine SAND (SP)
MW-BGC-12B	36.69233	76.18282	9.62	12.70	2	40	30-40	7.71	8.27	10.02	Gray, dense fine to medium SAND (SP) to CLAY(CH)
MW-BGC-13	36.69381	76.18166	11.37	14.91	2	20	10-20	---	---	8.46	Greenish gray, medium dense, fine to medium SAND (SP)
MW-BGC-14	36.68877	76.17162	14.43	17.26	2	19	9-19	---	---	9.38	Greenish gray, medium dense, fine to medium SAND (SM) with silt
MW-BGC-15	36.69257	76.17789	9.68	12.30	2	14	4-14	---	---	5.53	Gray, medium dense, fine to medium SAND (SM), with silt and clay
KH-MW1	36.68848	76.17391	10.24	9.89	2	23	3-23	4.12	4.37	5.24	N/A
KH-MW2	36.68873	76.17511	9.59	9.22	2	22	2-22	2.96	3.08	3.75	N/A
KH-MW3	36.68924	76.17501	8.12	7.81	2	22	2-22	1.57	1.63	2.33	N/A
URS-MW2	36.69124	76.17388	10.36	13.39	2	25	15-25	6.47	6.86	7.95	Gray, fine SAND (SP)

Prepared By/Date: JMB 7/17/09
 Checked By/Date: JES 7/17/09

Notes:

- TOC Top of PVC Casing
- ft, bgs Feet Below Ground Surface
- TOC Elevation Approximate Elevation of Top of PVC Casing in U.S. Survey Feet relative to NAVD 1988. Approximate Northing and Easting Coordinates are relative to the Virginia State Plane Coordinate System. Horizontal and Vertical Control as surveyed by Site Improvement, Inc., December 2008.
- N/A Not Available - Existing well installed by others (boring logs not provided)
- Data not collected on this date

Table 5 - Surface Water Staff Gauge Data

Surface Water Staff Gauge I.D.	Latitude	Longitude	Top of Gauge El. (feet)	Bottom of Gauge El. (feet)	12/3/2008		12/10/2008		6/16/2009		7/15/2009	
					Water Level (ft, abog)	Surface Water El. (feet)	Water Level (ft, abog)	Surface Water El. (feet)	Water Level (ft, abog)	Surface Water El. (feet)	Water Level (ft, abog)	Surface Water El. (feet)
SG-BGC-1	36.69324	76.17765	11.17	7.83	1.44	9.27	1.28	9.11	1.56	9.39	1.60	9.43
SG-BGC-2	36.69302	76.17618	10.87	7.53	1.72	9.25	1.46	8.99	--	NA	1.10	NA
SG-BGC-3	36.68916	76.17454	7.53	4.19	1.68	5.87	1.54	5.73	1.56	5.75	1.19	5.38
SG-BGC-4	36.68715	76.17200	4.73	1.39	1.56	2.95	1.42	2.81	1.39	2.78	1.08	2.47
SG-BGC-5	36.68622	76.17406	5.45	2.11	1.31	3.42	1.20	3.31	1.40	3.51	1.13	3.24
SG-BGC-6	36.68694	76.17537	9.48	6.14	1.20	7.34	0.94	7.08	1.96	8.10	0.55	6.69
SG-BGC-7	36.68725	76.17690	10.28	6.94	1.30	8.24	1.33	8.27	1.07	8.01	0.34	7.28
SG-BGC-8	36.68945	76.17740	10.00	6.66	1.61	8.27	1.52	8.18	2.11	8.77	1.40	8.06
SG-BGC-9	36.68945	76.17740	10.93	7.59	1.20	8.79	1.11	8.70	1.83	9.42	0.20	7.79
SG-BGC-10	36.68963	76.18231	10.55	7.21	1.60	8.81	1.50	8.71	2.22	9.43	0.60	7.81
SG-BGC-11	36.68894	76.18432	7.96	4.62	2.06	6.68	2.05	6.67	2.06	6.68	1.90	6.52
SG-BGC-12	36.68801	76.18269	7.85	4.51	2.16	6.67	2.12	6.63	2.14	6.65	2.01	6.52
SG-BGC-13	36.68779	76.18379	8.22	4.88	1.40	6.28	1.30	6.18	1.71	6.59	1.54	6.42
SG-BGC-14	36.68819	76.18575	12.76	9.42	0.76	10.18	0.63	10.05	---	NA	---	NA
SG-BGC-15	36.68819	76.18575	13.36	10.02	1.46	11.48	1.44	11.46	1.20	11.22	DRY	DRY
SB-BGC-16	36.69233	76.18282	13.33	9.99	1.84	11.83	1.78	11.77	1.65	11.64	1.02	11.01
SG-BGC-17	36.69381	76.18166	13.74	10.40	1.78	12.18	1.70	12.10	1.87	12.27	1.22	11.62
SG-BGC-18	36.68877	76.17162	5.97	2.63	1.65	4.28	1.50	4.13	1.49	4.12	1.10	3.73
SG-BGC-19	36.69257	76.17789	13.29	9.95	1.38	11.33	1.19	11.14	1.36	11.31	0.60	10.55

Prepared By/Date: JMB 7/17/09

Checked By/Date: DSD 7/17/09

Notes:

- ft, abog Feet Above Bottom of Staff Gauge
- El. Approximate Elevation in U.S. Survey Feet relative to NAVD 1988. Approximate Elevation and Spatial Coordinates (Latitude and Longitude) as surveyed
- NA Not Applicable
-
- Data could not be collected. Staff Gauge damaged or missing.

Table 6 - Monitoring Well Gauging Data

Monitoring Well I.D.	TOC Elevation (feet)	12/3/2008		12/10/2008		6/16/2009		7/15/2009	
		Depth to Water (ft, btoc)	Groundwater Elevation (feet)	Depth to Water (ft, btoc)	Groundwater Elevation (feet)	Depth to Water (ft, btoc)	Groundwater Elevation (feet)	Depth to Water (ft, btoc)	Groundwater Elevation (feet)
MW-BGC-5A	10.14	1.18	8.96	1.07	9.07	1.30	8.84	3.01	7.13
MW-BGC-5B	10.06	1.07	8.99	1.08	8.98	1.15	8.91	2.97	7.09
MW-BGC-6A	15.55	1.68	13.87	1.89	13.66	2.28	13.27	3.32	12.23
MW-BGC-6B	15.48	1.60	13.88	1.89	13.59	2.22	13.26	3.43	12.05
MW-BGC-7A	14.36	2.65	11.71	2.76	11.60	2.90	11.46	3.48	10.88
MW-BGC-7B	13.90	1.64	12.26	1.97	11.93	2.22	11.68	3.00	10.90
MW-BGC-8A	16.49	9.46	7.03	9.64	6.85	9.44	7.05	9.62	6.87
MW-BGC-8B	16.22	8.72	7.50	9.03	7.19	9.06	7.16	9.49	6.73
MW-BGC-9A	14.06	7.91	6.15	8.08	5.98	8.04	6.02	8.53	5.53
MW-BGC-9B	13.92	7.46	6.46	7.65	6.27	7.65	6.27	8.35	5.57
MW-BGC-10A	13.71	8.63	5.08	8.86	4.85	8.80	4.91	9.34	4.37
MW-BGC-10B	13.59	8.11	5.48	8.40	5.19	8.40	5.19	9.12	4.47
MW-BGC-11A	12.87	8.50	4.37	8.85	4.02	8.70	4.17	9.55	3.32
MW-BGC-11B	12.59	8.28	4.31	8.57	4.02	8.60	3.99	9.38	3.21
MW-BGC-12A	12.47	7.45	5.02	7.98	4.49	8.38	4.09	9.34	3.13
MW-BGC-12B	12.70	7.71	4.99	8.27	4.43	8.70	4.00	10.02	2.68
MW-BGC-13	14.91	---	---	---	---	8.14	6.77	8.46	6.45
MW-BGC-14	17.26	---	---	---	---	9.17	8.09	9.38	7.88
MW-BGC-15	12.30	---	---	---	---	5.30	7.00	5.53	6.77
KH-MW1	9.89	4.12	5.77	4.37	5.52	---	NA	5.24	4.65
KH-MW2	9.22	2.96	6.26	3.08	6.14	---	NA	3.75	5.47
KH-MW3	7.81	1.57	6.24	1.63	6.18	---	NA	2.33	5.48
URS-MW2	13.39	6.47	6.92	6.86	6.53	---	NA	7.95	5.44

Prepared By/Date: JMB 6/30/09

Checked By/Date: DSD 7/17/09

Notes:

ft - feet

ft, btoc Feet Below Top of PVC Casing

TOC Elevation Approximate Elevation of Top of PVC Casing in U.S. Survey Feet relative to NAVD 1988. Approximate Northing and Easting Coordinates are relative to the Virginia State Plane Coordinate System. Horizontal and Vertical Control as surveyed by Site Improvement, Inc., December 2008.

--- Data not collected on this date

NA Not Applicable

Table 7 - Surface Water Laboratory Analytical Results

Sample Location:	SW-BGC-SG3		SW-BGC-SG4				SW-BGC-SG6		SW-BGC-SG7		SW-BGC-SG8		SW-BGC-SG9				SW-BGC-SG10				Virginia All Other Surface Waters Standard ^d
Sample I.D.:			SW-BGC-SG4		SW-BGC-Dup1																
Sample Date:	11/19/2008		11/19/2008		11/19/2008		11/19/2008		11/19/2008		11/19/2008		11/19/2008		5/27/2009		11/19/2008		5/27/2009		
General Chemistry Parameters (mg/L)																					
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Alkalinity, Total (CaCO ₃)	24.9		<5.00	U	<5.00	U	13.6		32.5		8.90	J	32.4		24.8		34.2		119		---
Bicarbonate Alkalinity as CaCO ₃	27.4		9.40	J	7.52	J	14.3		33.6		9.68	J	33.6		24.7		32.8		21.1		---
Bromide	<0.500	U,M7	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<1.00	U	<1.00	U	<0.500	U	<1.00	U	---
Chloride	16.7	M8	30.0		30.0		10.2		20.9		11.9		26.3		29.2		48.4		37.9		---
Fluoride	0.412	M7	0.319		0.315		0.293		0.330		0.165		0.364		0.225		0.391		0.227		---
Nitrate as N	0.172		0.450		0.471		0.0570	J	<0.0500	U	<0.0500	U	0.150		<0.100	U	<0.0500	U	<0.100	U	---
Phosphorus	0.0710	J	<0.0450	U	<0.0450	U	0.207		0.0510	J	0.165		<0.0450	U	0.126		<0.0450	U	0.340		---
Sulfate	18.3		88.2		88.2		10.5		57.2		5.88		31.8		35.6		35.6		34.6		---
Sulfide ^e	--	--	--	--	--	--	--	--	--	--	---	---	---	---	<0.100	U	---	---	<0.100	U	---
Total Organic Carbon	5.54		3.15		9.20		6.21		6.13		6.85		5.50		6.82		1.52		6.98		---
Total Suspended Solids	13.4		8.20		7.80		26.0		4.67		39.3		28.9		12.1		8.33		3.89		---
Total Metals by USEPA Method 6010B (mg/L)																					
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Aluminum	3.28		0.578		0.574		6.95		0.637		5.58		1.55		0.372		0.464		0.140		---
Antimony	0.00490	J	0.00510	J	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.0100	U	<0.00380	U	<0.0100	U	4.3
Arsenic	<0.00450	U	<0.0450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	---
Barium	0.0462		0.0397		0.0377		0.0546		0.0410		0.0471		0.0515		0.0369		0.0514		0.0325		---
Beryllium	0.00120	J	0.00100	J	0.00110	J	<0.00100	U	<0.00100	U	0.00100	J	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	---
Boron	0.0363	J	0.0364	J	0.0320	J	0.0373	J	0.0314	J	0.0303	J	0.0410	J	<0.0500	U	0.0446	J	<0.0500	U	---
Cadmium	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	---
Calcium	11.8		22.9		22.3		6.99		24.0		5.38		19.1		18.4		25		19.4		---
Chromium ^a	0.00470	J	<0.00150	U	<0.00150	U	0.00990		<0.00150	U	0.00790		0.00220	J	<0.00500	U	<0.00150	U	<0.00500	U	---
Cobalt	<0.00200	U	0.00620	J	0.00620	J	<0.00200	U	<0.00200	U	<0.00200	U	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	---
Copper	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	---
Iron	2.26		2.15		2.07		4.19		0.440		3.28		1.23		0.290		0.458		0.324		---
Lead	<0.00280	U	<0.00280	U	<0.00280	U	0.00390	J	<0.00280	U	0.00420	J	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	---
Magnesium	3.86		8.31		8.03		2.43		8.43		1.7		4.95		4.47		6.06		4.62		---
Manganese	0.0180		0.266		0.258		0.0134	J	0.00560	J	0.0171		0.0246		<0.0150	U	0.0135	J	<0.0150	U	---
Molybdenum	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	---
Nickel ^b	<0.00240	U	0.0134		0.0130		0.00440	J	<0.00240	U	<0.00240	U	<0.00240	U	<0.0100	U	<0.00240	U	<0.0100	U	4.6
Potassium	4.44		4.05		3.90		4.16		4.53		3.70		4.30		4.27		5.95		4.77		---
Selenium	<0.00430	U	<0.00430	U	<0.00430	U	<0.00430	U	0.00460	J	<0.00430	U	0.00550	J	<0.0100	U	<0.00430	U	<0.0100	U	11
Silver	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	---
Sodium	7.00		17.6		17.1		3.44		9.26		4.15		10.0		10.3		20.9		13.6		---
Thallium ^c	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	0.0063
Vanadium	0.00590	J	<0.00150	U	<0.00150	U	0.0101	J	<0.00150	U	0.00910	J	0.00270	J	<0.0200	U	<0.00150	U	<0.0200	U	---
Zinc	<0.0100	U	0.0353	J	0.0244	J	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0500	U	<0.0100	U	<0.0500	U	69
Mercury by USEPA Method 7470/7471A (mg/L)																					
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Mercury	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000150	U	<0.000200	U	<0.000150	U	<0.000200		0.000051

Notes:

---: Not Applicable / Not Available

U: Undetected

M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits (see Lab Data Package)

M8: The MS and/or MSD were below the acceptance limits (see Lab Data Package)

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

Virginia Surface Water Standard for non-public supplies

^a Chromium VI (particulates)

^b Nickel (soluble salts)

^c Thallium (soluble salts)

^d Values based on Virginia DEQ Water Quality Standards 9 VAC 25-260, September 2007 with amendments effective as of October 2008

^e Sulfide analysis was run on 6/18/2009

Table 7 - Surface Water Laboratory Analytical Results

Sample Location: Sample I.D.:	SW-BGC-SG11		SW-BGC-SG12			SW-BGC-SG13	SW-BGC-SG16	SW-BGC-SG18	SW-BGC-SG19	Virginia All Other Surface Waters Standard ^d									
	Sample Date:	11/19/2008	5/27/2009	11/19/2008	5/27/2009	5/27/2009	5/27/2009	11/19/2008	11/21/2008		11/19/2008								
General Chemistry Parameters (mg/L)																			
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Alkalinity, Total (CaCO ₃)	<5.00	U	<10.0	U	<5.00	U	<10.0	U	<10.0	U	<10.0	U	25.9		23.4		14.4		---
Bicarbonate Alkalinity as CaCO ₃	<5.00	U	<10.0	U	32.6		<10.0	U	<10.0	U	<10.0	U	24.3		25.2		15.9		---
Bromide	1.03		1.54		1.22		2.34		2.25		<1.00	U	<0.500	U	<0.500	U	<0.500	U	---
Chloride	178		167		241		216		244		22.7		59.6		6.62		20.8		---
Fluoride	0.190		0.121		0.290		0.151		0.166		0.176		0.183		0.331		0.302		---
Nitrate as N	0.0730	J	<0.100	U	<0.0500	U	<0.100	U	<0.100	U	0.137		<0.0500	U	0.172		0.0650	J	---
Phosphorus	<0.0450	U	0.132		<0.0450	U	0.116		0.113		0.114		0.0570	J	0.366		0.0650	J	---
Sulfate	70.0		90.0		163		142		144		80.5		24.4		17.9		12.6		---
Sulfide ^e	---	---	<0.100	U	---	---	<0.100	U	<0.100	U	<0.100	U	---	---	---	---	---	---	---
Total Organic Carbon	4.67		5.90		2.45		1.44		1.74		1.22		1.38		5.27		5.31		---
Total Suspended Solids	8.86		15.8		2.53		<1.11	U	3.00		2.89		17.0		16.4		28.2		---
Total Metals by USEPA Method 6010B (mg/L)																			
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Aluminum	0.653		0.205		5.00		2.00		1.94		0.495		0.666		2.52		3.21		---
Antimony	<0.00380	U	<0.0100	U	<0.00380	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.00380	U	<0.00380	U	<0.00380	U	4.3
Arsenic	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.00450	U	<0.00450	U	<0.00450	U	---
Barium	0.0575		0.0797		0.0839		0.0776		0.0566		0.0305		0.0566		0.0402		0.0508		---
Beryllium	0.00150	J	<0.00400	U	0.00270	J	<0.00400	U	<0.00400	U	<0.00400	U	<0.00100	U	0.00110	J	<0.00100	U	---
Boron	0.0449	J	0.0612		0.0403	J	<0.0500	U	<0.0500	U	<0.0500	U	0.0459	J	0.0348	J	0.0458	J	---
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.000500	U	---
Calcium	28.4		33.7		41.0		44.6		44.0		17.3		20.1		11.0		9.67		---
Chromium ^a	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00150	U	0.00420	J	0.00410	J	---
Cobalt	0.00500	J	<0.0200	U	0.0377		<0.0200	U	<0.0200	U	<0.0200	U	<0.00200	U	<0.00200	U	<0.00200	U	---
Copper	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.00350	U	<0.00350	U	<0.00350	U	---
Iron	1.80		0.717		4.03		2.02		1.98		0.521		0.654		1.84		2.10		---
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00280	U	<0.00280	U	0.00390	J	---
Magnesium	6.08		6.96		8.98		9.60		9.38		6.29		3.80		3.75		2.24		---
Manganese	0.166		0.179		0.337		0.304		0.299		0.289		0.0191		0.0175		0.00970	J	---
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.00900	U	---
Nickel ^b	0.00520	J	<0.0100	U	0.0383		0.0210		0.0200		0.0134		<0.00240	U	<0.00240	U	<0.00240	U	4.6
Potassium	20.7		24.4		24.0		24.2		23.5		2.26		7.70		4.46		4.80		---
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.0100	U	<0.0100	U	0.0049	J	<0.00430	U	<0.00430	U	11
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00160	U	---
Sodium	81.6		70.6		103		86.2		87.2		13.1		23.7		6.65		7.93		---
Thallium ^c	<0.00750	U	<0.0100	U	<0.00750	U, M2	<0.0100	U	<0.0100	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.00750	U	0.0063
Vanadium	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	<0.0200	U	<0.0200	U	0.00150	J	0.00450	J	0.00600	J	---
Zinc	0.0223	J	<0.0500	U	0.0806		<0.0500	U	<0.0500	U	<0.0500	U	<0.0100	U	<0.0100	U	0.0135	J	69
Mercury by USEPA Method 7470/7471A (mg/L)																			
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Mercury	<0.000150	U	<0.000200	U	<0.000150	U	<0.00200	U	<0.00200	U	<0.000200	U	<0.000150	U	<0.000150	U	<0.000150	U	0.000051

Notes:

---: Not Applicable / Not Available

U: Undetected

M2: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits due to sample matrix interference (see Lab Data Package)

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL).

Concentrations within this range are estimated

Virginia Surface Water Standard for non-public supplies

^a Chromium VI (particulates)

^b Nickel (soluble salts)

^c Thallium (soluble salts)

^d Values based on Virginia DEQ Water Quality Standards 9 VAC 25-260, September 2007 with amendments effective as of October 2008

^e Sulfide analysis was run on 6/18/2009

Table 7 - Surface Water Laboratory Analytical Results

Sample Location:	SW-BGC-SW20		SW-BCG-SW21	SW-BCG-SW22		SW-BCG-SW23	SW-BCG-SW24	SW-BCG-SW25	SW-BGC-Rinse 1	SW-RinseBlank 052709	Virginia All Other Surface Waters Standard ^d										
Sample I.D.:	SW-BGC-SW20	SW-BGC-Dup2																			
Sample Date:	11/21/2008	11/21/2008	11/21/2008	11/21/2008	5/27/2009	11/21/2008	11/21/2008	11/21/2008	11/20/2008	5/27/2009											
General Chemistry Parameters (mg/L)																					
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Alkalinity, Total (CaCO ₃)	<5.00	U	<5.00	U	53.5		<5.00	M8	<10.0	U	33.6		31.2		35.7		34.7		<10.0	U	---
Bicarbonate Alkalinity as CaCO ₃	<5.00	U	<5.00	U	53.0		<5.00	U	<10.0	U	35.8		33.2		36.4		<5.00	U	<10.0	U	---
Bromide	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<1.0	U	<0.500	U	<0.500	U	<0.500	U	<0.500	U	<1.00	U	---
Chloride	22.7		22.1		7.80		21.2		26.8		21.9		32.5		87.9		<0.500	U	<1.00	U	---
Fluoride	0.232		0.270		0.0820	J	0.662		0.235		0.325		0.290		0.255		<0.0500	U	<0.100	U	---
Nitrate as N	0.123		<0.0500	U	0.223		0.519		0.109		1.51		1.22		2.17		<0.0500	U	<0.100	U	---
Phosphorus	0.274		<0.0450	U	<0.0450	U	0.0780	J	0.180		0.651		0.367		0.408		<0.0450	U	0.169		---
Sulfate	78.5		79.6		24.0		438		154		64.1		78.9		132		<0.500	U	<1.00	U	---
Sulfide	---	---	---	---	---	---	---	---	<0.100	U	---	---	---	---	---	---	---	---	---	---	---
Total Organic Carbon	1.27		1.27		5.30		13.8		4.47		32.1		9.36		7.89		0.614	J	<1.00	U	---
Total Suspended Solids	1.87		1.87		5.33		7.60		27.1		10.8		6.40		18.4		<1.00	U	<1.11	U	---
Total Metals by USEPA Method 6010B (mg/L)																					
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Aluminum	0.356		0.354		0.481		15.6		12.4		0.416		1.19		0.250		0.0352	J, B	<0.100	U	---
Antimony	0.00430	J	<0.00380	U	<0.00380	U	<0.00380	U	<0.0100	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.00380	U	<0.0100	U	4.3
Arsenic	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.0100	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.00450	U	<0.0100	U	---
Barium	0.0308		0.0307		0.0226		0.0492		0.0400		0.0278		0.0713		0.0787		<0.00150	U	<0.0100	U	---
Beryllium	0.00160	J	0.00160	J	0.00110	J	0.0119		0.00450		<0.00100	U	0.0012	J	<0.00100	U	<0.00100	U	<0.00400	U	---
Boron	0.0340	J	0.0336	J	0.0226	J	0.0285	J	<0.0500	U	0.0267	J	0.0152	J	0.0227	J	<0.00200	U	<0.0500	U	---
Cadmium	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.000500	U	<0.00100	U	---
Calcium	17.0		16.7		21.4		46.6		38.0		18.8		25.8		43.7		<0.100	U	<1.00	U	---
Chromium ^a	<0.00150	U	<0.00150	U	<0.00150	U	0.00160	J	<0.00500	U	<0.00150	U	0.00200	J	<0.00150	U	<0.00150	U	<0.00500	U	---
Cobalt	0.00360	J	0.00390	J	<0.00200	U	0.0836		0.0752		<0.00200	U	0.00220	J	0.00520	J	<0.00200	U	<0.0200	U	---
Copper	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.00350	U	<0.0100	U	---
Iron	1.05		1.04		0.740		12.0		18.1		2.82		0.850		3.44		<0.0280	U	<0.0500	U	---
Lead	<0.00280	U	<0.00280	U	<0.00280	U	0.00950		0.00550		0.00330	J	<0.00280	U	<0.00280	U	<0.00280	U	<0.00500	U	---
Magnesium	0.642		6.43		1.94		16.3		11.2		8.24		12.2		18.5		<0.100	U	<1.00	U	---
Manganese	0.264		0.266		0.0611		0.621		0.654		0.111		0.112		0.182		<0.00100	U	<0.0150	U	---
Molybdenum	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.00900	U	<0.0500	U	---
Nickel ^b	0.00900	J	0.00930	J	<0.00240	U	0.0934		0.0862		<0.00240	U	0.00780	J	0.00810	J	<0.00240	U	<0.0100	U	4.6
Potassium	2.58		2.55		3.72		6.71		3.15		4.67		7.24		10.4		<0.200	U	<1.00	U	---
Selenium	<0.00430	U	0.00520	J	<0.00430	U	<0.00430	U	<0.0100	U	<0.00430	U	0.00590	J	<0.00430	U	<0.00430	U	<0.0100	U	11
Silver	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00160	U	<0.00500	U	---
Sodium	13.9		13.9		5.58		14.1		14.5		19.2		14.0		41.0		<0.500	U	<1.00	U	---
Thallium ^c	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.00750	U	<0.0100	U	0.0063
Vanadium	<0.00150	U	<0.00150	U	<0.00150	U	0.00180		<0.0200	U	0.00150	J	0.00190	J	<0.00150	U	<0.00150	U	<0.0200	U	---
Zinc	0.0190		0.0293	J	<0.0100	U	0.235		0.114		0.0217	J	0.0305	J	0.0238	J	<0.0100	U	<0.0500	U	69
Mercury by USEPA Method 7470/7471A (mg/L)																					
	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	(mg/L)
Mercury	<0.000150	U	<0.000150	U	0.000197	J	<0.000150	U	<0.000200	U	0.000188	J	<0.000150	U	<0.000150	U	<0.000150	U	<0.000200	U	0.000051

Prepared By/Date: DSD 7/2/09

Prepared By/Date: JES 7/16/09

Notes:

---: Not Applicable / Not Available

U: Undetected

M8: The MS and/or MSD were below the acceptance limits. See Blank Spike (LCS).

B: Analyte was detected in the associated Method Blank.

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

^a Chromium VI (particulates)

^b Nickel (soluble salts)

^c Thallium (soluble salts)

^d Values based on Virginia DEQ Water Quality Standards 9 VAC 25-260, September 2007 with amendments effective as of October 2008

^e Sulfide analysis was run on 6/18/2009

Table 8 - Summary of Monitoring Well Slug Test Results

Monitoring Well I.D.	Screened Interval (ft below ground)	Lithology of screened interval			Estimated Effective Porosity ⁴ (%)	Date of Test	Measurement Method	Falling Head or Rising Head	Estimated Horizontal Hydraulic Conductivity - K _h				
		Field Description	Sand Content ¹ (%)	Fines Content ¹ (%)					Slug Test Estimates ²		Literature Estimates for Soil Type ⁶		
									(ft/day)	(cm/sec)	(ft/day)	(cm/sec)	
MW-5A	5-15	Gray, dense, fine SAND (SP)	94.1	5.9	40%	12/3/2008	Solinst Levellogger	F	1.0	4E-04	1	4E-04	
								R	0.4	2E-04			
MW-5B	25-35	Gray, fine SAND (SP) to coarse SAND (SP) with trace gravel to sandy CLAY (CL)	85.6	13.8	25%			Solinst Levellogger	F	1.2	4E-04	0.5	2E-04
							R		NA	NA			
MW-6A	5-15	White and yellow to light gray, fine SAND (SP)	97.1	2.9	45%			Solinst Levellogger	F	0.7	2E-04	1	4E-04
							R		0.5	2E-04			
MW-6B	32-42	Light gray to gray, dense, fine to coarse SAND (SW)	94.2	5.1	40%			Solinst Levellogger	F	NA	NA	5	2E-03
							R		NA	NA			
MW-8A	10-20	Gray, firm, fine to medium SAND (SP)	97	3.0	45%			Solinst Levellogger	F	NA	NA	10	4E-03
							R		NA	NA			
MW-8B	34-44	Gray to greenish gray, fine to medium SAND (SP) with interbedded clay	80	19.7	20%			Solinst Levellogger	F	1.1	4E-04	0.1	4E-05
							R		1.0	4E-04			
MW-11A	10-20	Gray, loose fine SAND (SP)	92.9	7.1	35%			Solinst Levellogger	F	0.9	3E-04	5	2E-03
							R		NA	NA			
MW-11B	25-35	Gray, loose to firm, fine to coarse SAND (SP), trace gravel	89.1	9.6	30%			Solinst Levellogger	F	NA	NA	1	4E-04
							R		NA	NA			
MW-8A	10-20	Gray, firm, fine to medium SAND (SP)	97	3.0	45%		7/15/2009	Solinst Levellogger	F	4.6	2E-03	10	4E-03
									R	9.5	3E-03		
MW-13	10-20	Greenish gray, medium dense, fine to medium SAND (SP)	NA	NA	45%			Solinst Levellogger	F	5.7	2E-03	10	4E-03
						R			9.1	3E-03			
MW-14	9-19	Greenish gray, medium dense, fine to medium SAND (SM) with silt	NA	NA	30%			Solinst Levellogger	F	NA	NA	1	4E-04
						R			NA	NA			
MW-15	4-14	Gray, medium dense, fine to medium SAND (SM), with silt and clay	NA	NA	25%			Solinst Levellogger	F	7.3	3E-03	0.5	2E-04
						R			7.3	3E-03			
Average Range of Hydraulic Conductivity Estimates:									3.6	1E-03	4	1.3E-03	
Estimated Range in Hydraulic Gradient ³ based on gauging results (feet/feet):									0.002	to	0.008		
Estimated Range in Effective Porosity ⁴ (%):									20%	to	45%		
Estimated Range in Groundwater Velocity ⁵ (feet/year):									16	to	23		

Notes:

NA Hydraulic conductivity estimate Not Available from this test as the data deemed unreliable (possibly due to insufficient head displacement, inadequate well development or other undetermined cause).

¹ Fines based on percent passing a #200 sieve, Sand based on percent passing a #4 sieve

² Bouwer and Rice Method, 1976 (for water-table conditions) using Aqtesolv Software for analysis of slug test data obtained during this investigation.

³ Hydraulic gradient (change in hydraulic head/distance) estimates based on distance between contour lines across the Site produced from gauging events performed on December 3, 2008 and June 16, 2009.

⁴ Effective Porosity (or specific yield) as projected on a soil classification triangle (Johnson, A.I., U.S. Geological Survey Water-Supply Paper 1662-D, 1967) using particle percentages as indicated above.

⁵ Groundwater Velocity (feet/year) calculated as Hydraulic Conductivity (feet/day) x 365 (days/year) x Hydraulic Gradient (feet/feet)/Effective Porosity (%).

⁶ Hydraulic conductivity estimates for a range of soil types as encountered within the screened interval of wells at the Site (USBR, Ground Water Manual, U.S. Department of the Interior, Bureau of Reclamation, Washington, D.C., 1977).

Prepared By/Date: LLC 9-28-09
 Checked By/Date: GBG 9-28-09

Table 9 - Groundwater Laboratory Analytical Results - Shallow Wells

Well ID:	MW-BGC-11A		MW-BGC-12A				MW-BGC-13	MW-BGC-14	MW-BGC-15				MW-BGC RB 04	U.S. EPA Maximum Contaminant Levels (MCLs) ^d	VA DEQ Groundwater Quality Standards ^e	VA DEQ Groundwater Quality Criteria ^f								
	Sample ID:		MW-BGC-12A	MW-Dup-3	MW-BGC-12A				MW-BGC-15	MW-BGC-DUP04														
Sample Date:	12/4/2008	6/17/2009	12/5/2008	12/5/2009	6/18/2009		6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009	6/18/2009												
General Chemistry Parameters (mg/L)																								
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)			
Alkalinity, Total (CaCO ₃)	115		125		42.4		41.7		27.6		<10.0	U	59.1		<10.0	U	<10.0	U	<10.0	U	---	---	30-500	
Bicarbonate Alkalinity as CaCO ₃	120		125		50.3		47.9		27.6		---	---	59.1		<10.0	U	<10.0	U	<10.0	U	---	---	---	
Bromide	<0.500	U	<1.00	U	<0.500	U	<0.500	U	<1.00	U	<1.00	U	<1.00	U	7.67		7.59		<1.00	U	---	---	---	
Chloride	82.6		60.1		32.1		31.7		39.1		30.1		16.4		1,140		1,050		<1.00	U	---	---	50	
Fluoride	0.356		0.319		0.310		0.328		0.173		0.817		<0.100	U	0.206		0.187		<0.100	U	---	---	1.4	
Nitrate as N	<0.0500	U	<0.100	U	<0.0500	U	<0.0500	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	10	---	5	---
Phosphorus	0.0730	J	0.198		0.0520	J	0.120		0.113		<0.100	U	<0.100	U	<0.100	U	<0.100	U	<0.100	U	---	---	---	
Sulfate	90.7		62.2		76.9		77.4		155		550		53.8		408		383		<1.00	U	---	---	50	
Sulfide	---	---	<1.00	U	---	---	---	---	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	---	---	---	
Total Dissolved Solids	387		336		263		271		311		828		66.0		2,190	H2	3,600	H2	<10.0	U	---	---	1,000	
Total Organic Carbon	2.81		<1.00	U	2.60		2.86		1.53		2.23		1.97		4.98		4.70		<1.00	U	---	---	10	
Total Organic Halides	<0.0270	U	---	---	<0.0270	U	<0.0270	U	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Total Metals by USEPA Method 6010B (mg/L)																								
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)			
Aluminum	0.0643	J	<0.100	U	0.324		0.321		<0.100	U	1.52		0.242		6.92		6.74		<0.100	U	---	---	---	
Antimony	0.00790	B, J	<0.0100	U	<0.00380	U	<0.00380	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	0.006	---	---	---
Arsenic	<0.00450	U	<0.0100	U	0.0205		0.0195		<0.0100	U	<0.0100	U	<0.0100	U	0.0336		0.0332		<0.0100	U	0.01	0.05	---	
Barium	0.360		<0.0100	U	0.0520		0.0518		0.0297		0.0436		0.0531		0.0694		0.0695		<0.0100	U	2	1	---	
Beryllium	<0.00100	U	<0.00400	U	<0.00100	U	<0.00100	U	<0.00400	U	0.0145		<0.00400	U	<0.00400	U	<0.00400	U	<0.00400	U	0.004	---	---	---
Boron	0.0527	B1	<0.0500	U	0.0185	J	0.0196	J	<0.0500	U	<0.0500	U	<0.0500	U	0.162		0.157		<0.0500	U	---	---	---	
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.00100	U	<0.00100	U	0.005	0.0004	---	
Calcium	64.0		47.3		27.6		27.9		37.4		110		29.1		196		196		<1.00	U	---	---	---	
Chromium ^a	<0.00150	U	<0.00500	U	0.00150	J	<0.0150	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	---	---	0.05	
Cobalt	<0.00200	U	<0.0200	U	<0.00200	U	<0.00200	U	<0.0200	U	0.0454		<0.0200	U	<0.0200	U	<0.0200	U	<0.0200	U	---	---	---	
Copper	<0.00350	U	<0.0100	U	<0.00350	U	<0.00350	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	1.3	1	---	
Iron	3.87		3.57		6.95		6.96		6.26		6.95		7.99		91.9		90.7		<0.0500	U	---	---	0.0563	0.3
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00280	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	0.015	0.05	---	
Magnesium	24.7		20.4		14.0		14.0		22.5		27.7		4.78		34.6		34.3		<1.00	U	---	---	---	
Manganese	0.117		0.0633		0.172		0.174		0.132		0.565		0.2146		0.385		0.383		<0.0150	U	---	---	0.05	
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	<0.0500	U	---	---	---	
Nickel ^b	<0.00240	U	<0.0100	U	0.00430	J	0.00510	J	0.0117		0.0883		<0.0100	U	0.0236		0.02340		<0.0100	U	---	---	---	
Potassium	4.18		2.58		2.24		2.28		1.33		9.47		2.82		63.6		63.4		<1.00	U	---	---	---	
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.00430	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	0.05	0.01	---	
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	<0.00500	U	---	---	---	
Sodium	28.6		21.0		14.1		14.2		15.3		10.6		10.9		384		382		<1.00	U	---	---	100	
Thallium ^c	<0.00750	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	<0.0100	U	0.002	---	---	
Vanadium	<0.00150	U	<0.0200	U	0.00170	J	0.00170	J	<0.0200	U	<0.0200	U	<0.0200	U	0.0363		0.0382		<0.0200	U	---	---	---	
Zinc	0.0137	J	<0.0500	U	0.0281	J	0.0213	J	<0.0500	U	0.224		<0.0500	U	0.107		0.112		<0.0500	U	---	---	0.05	
Mercury by USEPA Method 7470/7471A (mg/L)																								
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)			
Mercury ^g	<0.000150	U	<0.000200	H	<0.000150	U	<0.000150	U	<0.000200	H	<0.000200	H	<0.000200	H	<0.000200	H	<0.000200	H	<0.000200	H	0.002	0.00005	---	

Prepared By/Date: DSD 7/14/09
 Checked By/Date: JES 7/17/09

Notes:

- Q: Data Qualifier
- J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
- B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
- B: Analyte was detected in the associated Method Blank.
- H2: Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past the holding time.
- U: Undetected
- H: Sample analysis performed past method-specified holding time.
- : Not Applicable / Not Available

- Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable
- Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable

- ^a Chromium VI (particulates)
- ^b Nickel (soluble salts)
- ^c Thallium (soluble salts)
- ^d U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in (mg/L)
- ^e Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004
- ^f Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.
- ^g Samples collected in June 2009 were analyzed for mercury on 7/16/09

Table 10 - Groundwater Laboratory Analytical Results - Intermediate-Depth Wells

Well I.D.:	MW-BGC-5B		MW-BGC-6B			MW-BGC-7B		MW-BGC-8B		U.S. EPA Maximum Contaminant Levels (MCLs) ^d	VA DEQ Groundwater Quality Standards ^e	VA DEQ Groundwater Quality Criteria ^f										
	Sample I.D.:		MW-BGC-6B	MW-DUP-2	MW-BGC-6B																	
Sample Date:	12/4/2008	6/16/2009	11/24/2008	11/24/2008	6/16/2009	12/2/2008	6/17/2009	12/8/2008	6/16/2009													
General Chemistry Parameters (mg/L)																						
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)							
Alkalinity, Total (CaCO ₃)	86.3		88.3		<5.00	U	<5.00	U	<10.0	U	<5.00	U	36.0	111	117	30-500						
Bicarbonate Alkalinity as CaCO ₃	88.7		88.3		7.91	J, HTI	5.17	HTI, J	<10.0	U	9.40	J	36.0	116	117	---						
Bromide	<0.500	U	<1.00	U	<0.500	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<0.500	M7	<1.00	U	---			
Chloride	29.6		31.3		31.6		31.8		28.1		14.0		15.7	12.0	M8	13.0			50			
Fluoride	0.424		0.245		0.153		0.154		<0.100	U	0.087	J	0.102	0.277		0.180			1.4			
Nitrate as N	<0.0500	U	<0.100	U	<0.0500	U	<0.0500	U	<0.100	U	<0.0500	H2	<0.100	U	<0.0500	U	<0.100	U	10	5		
Phosphorus	0.137		0.151		0.331		0.313		<0.100	U	0.0550	J	0.147	0.073	J	0.100	U		---			
Sulfate	120		56.8		79.9		81.6		79.7		41.8		11.2	16.0		19.0			---			
Sulfide	---	---	<1.00	U	---	---	---	---	<1.00	U	---	---	<1.00	---	---	<1.00	U		---			
Total Dissolved Solids	217		227		218	B1,L1,B	211	B1,L1,B	169		58.0		108	168		178			---			
Total Organic Carbon	2.19		<1.00	U	0.954	J	1.22		<1.00	U	3.13		<1.00	U	2.44	1.27			---			
Total Organic Halides	<0.0270	U	---	---	<0.0270	U	<0.0270	U	---	---	<0.0270	U	---	---	---	<0.0270	U	---	---			
Total Metals by USEPA Method 6010B (mg/L)																						
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)	
Aluminum	0.127		<0.100	U	0.526	B1	0.652	B1	0.300		0.318		0.227	0.233		<0.100	U		---	---	---	
Antimony	0.00490	J, B	<0.0100	U	<0.00380	U	<0.00380	U	<0.0100	U	0.00700	B, J	<0.0100	U	<0.00380	U	<0.0100	U	0.006	---	---	---
Arsenic	<0.00450	U	<0.0100	U	<0.00450	U	<0.00450	U	<0.0100	U	0.00560	J	<0.0100	U	<0.00450	U	<0.0100	U	0.01	0.05	---	---
Barium	0.0224		0.0130		0.128		0.129		0.0845		0.0836		0.0146	0.0257		0.0159			2	1	---	---
Beryllium	<0.00100	U	<0.00400	U	0.00200	J	0.00190	J	<0.00400	U	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	0.004	---	---	---
Boron	0.0939	B1	0.0835		0.0149	J	0.0146	J	<0.0500	U	0.0233	B, J	<0.0500	0.0557		0.0520			---	---	---	
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	0.005	0.0004	---	---
Calcium	28.6		31.7		23.7		23.7		22.8		11.4		6.72	26.8		27.5			---	---	---	
Chromium ^a	<0.00150	U	<0.00500	U	<0.00150	U	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	---	0.05	---	---
Cobalt	<0.00200	U	<0.0200	U	0.00390	J	0.00380	J	<0.0200	U	0.00330		<0.0200	U	<0.0200	U	<0.0200	U	---	---	---	---
Copper	<0.00350	U	0.0122		<0.00350	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	1.3	1	---	---
Iron	0.580		0.647		4.65		4.85		4.49		4.51		6.17	5.62		6.84			---	---	0.3	
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	0.015	0.05	---	---
Magnesium	10.1		10.6		3.98		3.99		3.95		2.75		2.79	9.53		9.82			---	---	---	
Manganese	0.0549		0.0490		0.142		0.144		0.133		0.0282		0.153	0.238		0.234			---	---	0.05	
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	---	---	---	
Nickel ^b	<0.00240	U	<0.0100	U	0.00780	J	0.00850	J	0.0127		0.00460	J	<0.0100	U	<0.00240	U	<0.0100	U	---	---	---	
Potassium	7.35		6.47		3.22		3.25		2.88		3.31		4.82	4.56					---	---	---	
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	0.05	0.01	---	---
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	---	---	---	
Sodium	26.2		23.7	MHA	14.5		14.7		13.1		7.73		10.1	14.4		13.2			---	---	100	
Thallium ^c	<0.00750	U	<0.0100	U	<0.00750	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	0.002	---	---	---
Vanadium	<0.00150	U	<0.0200	U	<0.00150	U	0.00170	J	<0.0200	U	0.00170	J	<0.0200	U	<0.00150	U	<0.0200	U	---	---	---	
Zinc	0.0119	J	<0.0500	U	0.0296	J	0.0365	J	<0.0500	U	0.0184	J	<0.0500	U	0.013	J	<0.0500	U	---	0.05	---	
Mercury by USEPA Method 7470/7471A (mg/L)																						
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)	
Mercury ^g	<0.000150	U	<0.000200	H	<0.000150	U	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	0.002	0.00005	---	

Notes

Q: Data Qualifier

J: Analyte detected at a level less than the Reporting limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.

HTI: The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.

B: Analyte was detected in the associated Method Blank.

H2: Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past the holding time.

L1: Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

M2: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits due to sample matrix interference. See Appendix E for laboratory data packages and laboratory control sample (LCS).

M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits. See Appendix E for laboratory data packages.

M8: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits. See Appendix E for laboratory data packages.

H: Sample analysis performed past method-specified holding time.

MHA: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Appendix E for laboratory data packages.

Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable

Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable

U: Undetected

---: Not Applicable / Not Available

^a Chromium VI (particulates)

^b Nickel (soluble salts)

^c Thallium (soluble salts)

^d U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in (mg/L)

^e Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004

^f Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.

^g Samples collected in June 2009 were analyzed for mercury on 7/16/09

Table 10 - Groundwater Laboratory Analytical Results - Intermediate-Depth Wells

Well I.D.:	MW-BGC-9B				MW-BGC-10B				MW-BGC-11B				MW-BGC-12B				MW-BGC-RB03	U.S. EPA Maximum Contaminant Levels (MCLs) ^d	VA DEQ Groundwater Quality Standards ^e	VA DEQ Groundwater Quality Criteria ^f	
Sample I.D.:																					
Sample Date:	12/4/2008	6/17/2009	12/4/2008	6/17/2009	12/4/2008	6/17/2009	12/4/2008	6/17/2009	12/5/2008	6/18/2009	6/16/2009										
General Chemistry Parameters (mg/L)																					
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)
Alkalinity, Total (CaCO ₃)	148	M8	159		176		175		176		143		76.2		55.2		<10.0	U	---	---	30-500
Bicarbonate Alkalinity as CaCO ₃	161		159		179		175		175		143		81.4		55.2		<10.0	U	---	---	---
Bromide	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<0.500	U	<1.00	U	<1.00	U	---	---	---
Chloride	36.9		36.2		57.5		56.1		66.8		130		43.4		34.8		<1.00	U	---	---	50
Fluoride	0.320		0.310		0.334		0.281		0.384		0.238		0.439		0.460		<0.100	U	---	---	1.4
Nitrate as N	<0.0500	U	<0.100	U	<0.0500	U	<0.100	U	<0.0500	U	<0.100	U	<0.0500	U	<0.100	U	<0.100	U	10	5	---
Phosphorus	0.123		0.222		0.176		0.195		0.101		0.212		0.138		0.319		<0.100	U	---	---	---
Sulfate	11.9		12.1		38.6		55.1		50.0		96.2		117		113		<1.00	U	---	---	50
Sulfide	---	---	<1.00	U	---	---	<1.00	U	---	---	<1.00	U	---	---	<1.00	U	<1.00	U	---	---	---
Total Dissolved Solids	227		243		312		348	U	372		522		382		285		<10.0	U	---	---	1,000
Total Organic Carbon	2.87		<1.00	U	4.56		1.32		2.61		1.13		3.02		1.71		<1.00	U	---	---	10
Total Organic Halides	0.0286	J	---	---	<0.0270	U	---	---	0.0925		---	---	<0.0270	U	---	---	---	---	---	---	---
Total Metals by USEPA Method 6010B (mg/L)																					
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)
Aluminum	0.0660	J	0.163		0.0382	J	<0.100	U	0.698		0.138		1.14		<0.100	U	<0.100	U	---	---	---
Antimony	0.00550	B, J	<0.0100	U	<0.00380	U	<0.0100	U	0.00400	J, B	<0.0100	U	<0.00380	U	<0.0100	U	<0.0100	U	0.006	---	---
Arsenic	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	<0.00450	U	<0.0100	U	0.00540	J	<0.0100	U	<0.0100	U	0.01	0.05	---
Barium	0.0198		0.0151		0.00930	J	<0.0100	U	0.0385		0.0301		0.0357		0.0150		<0.0100	U	2	1	---
Beryllium	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	<0.00100	U	<0.00400	U	<0.00400	U	0.004	---	---
Boron	0.0115	B1	0.109		0.138		0.135		0.120	B1	0.0691		0.0867		<0.0500	U	<0.0500	U	---	---	---
Cadmium	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.000500	U	<0.00100	U	<0.00100	U	0.005	0.0004	---
Calcium	30.6		28.9		40.2		42.2		37.2		61.0		48.0		39.5		<1.00	U	---	---	---
Chromium ^a	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	<0.00150	U	<0.00500	U	0.00230	J	<0.00500	U	<0.00500	U	---	0.05	---
Cobalt	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	<0.00200	U	<0.0200	U	<0.0200	U	<0.0200	U	<0.0200	U	---	---	---
Copper	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.00350	U	<0.0100	U	<0.0100	U	1.3	1	---
Iron	0.272		0.467		0.380		0.375		1.79		4.30		4.69		7.27		<0.0500	U	---	---	0.3
Lead	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00280	U	<0.00500	U	<0.00500	U	0.015	0.05	---
Magnesium	13.6		12.9		18.5		19.3		19.6		22.3		17.4		17.9		<1.00	U	---	---	---
Manganese	0.102		0.0722		0.0708		0.0729		0.141		0.270		0.201		0.160		<0.0150	U	---	---	0.05
Molybdenum	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.00900	U	<0.0500	U	<0.0500	U	---	---	---
Nickel ^b	<0.00240	U	<0.0100	U	<0.00240	U	<0.0100	U	<0.00240	U	<0.0100	U	<0.00240	U	<0.0100	U	<0.0100	U	---	---	---
Potassium	11.6		10.8		15.9		15.5		16.0		13.4		7.26		2.14		<1.00	U	---	---	---
Selenium	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.00430	U	<0.0100	U	<0.0100	U	0.05	0.01	---
Silver	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00160	U	<0.00500	U	<0.00500	U	---	---	---
Sodium	28.0		27.4		45.2		40.0		56.8		64.8		44.5		16.4		<1.00	U	---	---	100
Thallium ^c	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.00750	U	<0.0100	U	<0.0100	U	0.002	---	---
Vanadium	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	<0.00150	U	<0.0200	U	0.00200	J	<0.0200	U	<0.0200	U	---	---	---
Zinc	<0.0100	U	<0.0500	U	<0.0100	U	<0.0500	U	0.0143	J	<0.0500	U	0.0172	J	0.0839		<0.0500	U	---	0.05	---
Mercury by USEPA Method 7470/7471A (mg/L)																					
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	(mg/L)	(mg/L)	(mg/L)
Mercury ^g	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000150	U	<0.000200	H	<0.000200	H	0.002	0.00005	---

Prepared By/Date: DD 7/14/09
 Checked By/Date: JES 7/16/09

Notes

Q: Data Qualifier

J: Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated

B1: Analyte was detected in the associated Method Blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.

HTI: The holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes.

B: Analyte was detected in the associated Method Blank.

H2: Initial analysis within holding time. Reanalysis for the required dilution or confirmation was past the holding time.

L1: Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

M2: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits due to sample matrix interference. See Appendix E for laboratory data packages and laboratory control sample (LCS).

M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits. See Appendix E for laboratory data packages.

M8: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptance limits. See Appendix E for laboratory data packages.

H: Sample analysis performed past method-specified holding time.

Sample result greater than the U.S. EPA Maximum Contaminant Levels (MCLs) for drinking water, where applicable

Sample result greater than the VA DEQ Groundwater Quality Standard, where applicable

U: Undetected

---: Not Applicable / Not Available

^a Chromium VI (particulates)

^b Nickel (soluble salts)

^c Thallium (soluble salts)

^d U.S. Environmental Protection Agency (EPA) Region III Maximum Contaminant Level (MCL) in (mg/L)

^e Virginia DEQ Groundwater Quality Standards 9 VAC 25-280-40, effective February 12, 2004

^f Virginia DEQ Groundwater Criteria of the Coastal Plain 9 VAC 25-280-70, effective February 12, 2004. These criteria apply to naturally occurring constituents and enforceable standards were not adopted.

^g Samples collected in June 2009 were analyzed for mercury on 7/16/09

Table 11 - Ash Fill TCLP Analytical Results

Field Sample ID:	ASH-BCG-TP1	ASH-BCG-TP2	ASH-BCG-TP3	TCLP Regulatory Limits (mg/L) and Hazard Classification ¹			
Sample Location:	TP1	TP2	TP3				
Sample Date:	12/10/2008	12/10/2008	12/10/2008				
Matrix	Ash	Ash	Ash				
Waste Characterization Parameters							
pH	10.7	8.3	9.4	NA			
TCLP Metals by US EPA Method 6000/7000 series (mg/L)							
Analyte	Result	Q	Result	Q	Result	Q	
Arsenic	<0.050		<0.050	U	<0.050		5.0
Barium	0.243		0.342		0.825		100
Cadmium	<0.005		0.006	J	<0.005		1.0
Chromium	0.071		0.023	J	0.043	J	5.0
Lead	<0.028		<0.028	U	0.032	J	5.0
Selenium	0.106		0.158		0.140		1.0
Silver	<0.016		<0.016	U	<0.016		5.0
Mercury	<0.0015		<0.0015	U	<0.0015		0.2

Prepared By/Date: DSD 1/29/09

Checked By/Date: JES 2/2/09

Notes:

¹ EPA Toxicity Characteristic Leachate Procedure (TCLP) regulatory limits, and EPA hazardous waste classification. Values, unless otherwise noted, are in mg/L

J: Analyte detected at a level less than the Reporting Limit (RL) and greater then or equal to the Method Detection Limit (MDL). Concentrations with in this range are estimated.

mg/L: milligrams per Liter

Table - 12 Summary of Particle Identification Analyses for Ash and Kiln Dust Samples

Analytical Method	Ash Sample I.D.			Explanation
	ASH-BGC-TP-1	ASH-BGC-TP-2	ASH-BGC-TP-3	
Stereomicroscopy	I	I	A	Polarized light microscopy shows more minerals (i.e. calcite) in TP-1 than in the ash standard, fewer in TP-2 and an absence of similar crystals in TP-3).
Polarized Light Microscopy (PLM)				
Scanning Electron Microscope (SEM)	A	I	I	TP-2 and TP-3 were observed to have elevated calcium levels in the SEM/EDX analysis, relative to the ash standard. Calcium content in TP-1 appeared consistent with the ash standard (no apparent addition of calcium from kiln dust).
Energy Dispersive X-Ray (EDX)				
X-Ray Diffraction (XRD)	I	I	I	The XRD analysis detected calcite in each of the amended ash samples, as well as the ash standard and kiln dust standard. Relative amounts of calcite are not able to be determined.
X-Ray Fluorescence (XRF)	P	I	I	Copper Oxide (CuO) was selected by the laboratory as a fingerprint for determining the presence of kiln dust in the amended ash samples, as it was present in the kiln dust but notably absent from the ash standard. Utilizing CuO as an indicator for the presence of kiln dust, it's absence from TP-2 and TP-3 suggests the absence of kiln dust from these ash fills samples. However, XRF identified Calcium Oxide (CaO) as the primary component of the kiln dust standard and, although CaO is also present in the ash standard, it appears at elevated levels in ash fill samples TP-2 and TP-3. This data appears to be contradictory and the absence of kiln dust from ash fill samples TP-2 and TP-3 based solely on the absence of CuO is considered inconclusive.

Prepared By/Date: DD 2/4/09
 Checked By/Date: GBG 2/26/09

Notes:

- P: Evidence of Kiln Dust present in sample
- A: Evidence of Kiln dust absent from sample
- I: Inconclusive

Conclusions:

Calcium was determined to be a substantial component of the ash standard (approximately 2.37% as CaO by weight, primarily in the form of calcite). Calcium was determined to be a major component in the kiln dust standard (approximately 90.1% as CaO by weight, primarily as lime and other calcium minerals). The addition of kiln dust to fly ash at a ratio of 1:49 (or approximately 2%) would be expected to increase the proportion of CaO by weight in an amended ash sample by approximately 1.8% (or from 2.37% as CaO by weight to approximately 4.2% as CaO by weight). This subtle increase in calcium content was reportedly difficult to perceive or quantify due to the substantial calcium content present in the fly ash standard. The laboratory expected to find lime or other calcium minerals present in the amended ash, in addition to an increase in the overall calcium content (therefore, CuO was utilized as indicated above). However, the exposure of ash fill to weathering since placement of the ash from 2001 to 2004 may have reduced the presence of lime and other calcium minerals (that were generally absent, but were expected to be present if amending agent similar to the kiln dust standard were added at the prescribed ratio).

The results from this analysis are generally inconclusive, although ash fill sample ASH-BGC-TP-1 showed stronger evidence of kiln dust content than ash fill samples TP-2 and TP-3. Comparison of a freshly prepared amended ash sample may be useful to further calibrate these results.

Table 13 - Soil Cover Thickness and Hand Auger Data Summary

Hand Auger I.D.	Estimated Hand Auger Location		Approximate Depth to Ash (in, bgs)	Cover Description
	Lat	Long		
A4	36.69378	76.18233	20	Red-brown, clayey SILT with fine sand, mottled light gray and orange after 6"
B3	36.69292	76.18247	22	Brown, fine sandy SILT
B5	36.69328	76.18064	20	Gray and orange, mottled, silty CLAY, trace gravel to very fine clayey SAND with gravel, no gravel below 12"
B6	36.69333	76.17964	20	Gray-brown to orange, mottled, clayey SILT with sand to very fine silty SAND
B7	36.69322	76.17886	26	Red-brown clayey SILT, to red-gray silty CLAY and fine SAND with clay
C2	36.69203	76.18378	24	Red to brown and red to gray, very fine clayey SAND, trace gravel
C5	36.69200	76.18047	7	Gray, fine silty SAND, trace clay
C7	36.69247	76.17864	17	Red-brown fine sandy SILT, trace clay and wood fragments to light gray very fine silty SAND
D10	36.68797	76.17517	28	Gray and orange, mottled silty CLAY with fine sand to clayey SILT with fine sand
D2	36.69139	76.18397	23	Brown to dark gray, fine silty SAND, trace gravel
D3	36.69156	76.18297	4	Red-brown, fine sandy SILT
D5	36.69111	76.18056	20	Red-brown, clayey SILT with very fine sand, contains wood fragments
D8	36.69161	76.17786	23	Gray, silty fine SAND, trace clay and gravel, no clay below 6"
E2	36.69042	76.18436	24	Red-brown very fine silty SAND, trace clay
E3	36.69078	76.18311	20	Red-brown, very fine silty SAND to silty CLAY with fine sand
E4	36.69100	76.18183	17	Yellow, red-brown, and orange, very fine silty SANDS and CLAYs
E5	36.69028	76.18081	30	Gray and orange, mottled, clayey SILT to silty CLAY, trace gravel
E8	36.69103	76.17792	23	Red-brown to gray and orange mottled, clayey SILT with fine sand
F1	36.69019	76.18475	29	Medium to dark gray SILT, and very fine SAND
F2	36.69008	76.18344	16	Red-brown, clayey silty SAND, with pea gravel to silty sandy CLAY
F4	36.69003	76.18214	24	Red-brown to brown, fine silty SAND to clayey SAND, trace gravel
G1	36.68931	76.18417	24	Red-brown to light gray, very fine SAND, trace gravel and wood fragments
G3	36.68900	76.18275	23	Brown, clayey SILT with fine sand
G6	36.68894	76.18003	11	Gray to orange, mottled, clayey SILT with fine sand
G7	36.68894	76.17842	16	Red-brown to gray and orange mottled, clayey SILT
H2	36.68864	76.18433	66	Brown to orangish brown, fine clayey and silty SANDs
H4	36.68844	76.18156	33	Brown, clayey SILT, trace brick
H6	36.68789	76.17989	20	Brown, clayey SILT with fine sand, trace wood fragments
H7	36.68789	76.18053	13	Red-brown to gray and orange mottled, clayey SILT with fine sand
H9	36.68803	76.17608	22	Red-brown to gray and orange mottled, very fine clayey SAND with silt to clayey SILT with fine sand
H13	36.68797	76.17344	14	Red-brown to gray and orange mottled, clayey SILT with fine sand, to SILT
I11	36.68767	76.17494	21	Red-brown to gray and orange mottled, very fine clayey SAND with silt
I12	36.68711	76.17381	35	Red-brown to gray and orange mottled, fine clayey SAND

Average Thickness (inches) 22
 Minimum Thickness (inches): 4
 Maximum Thickness (inches): 66

Prepared By/Date: DD 1/6/09
 Checked By/Date: JES 2/2/09

Notes:

in inches
 bgs below ground surface

Table 14 - Surface Water pH Measurements

Surface Water Location I.D.	3/11/2009	5/27/2009	6/18/2009	7/15/2009	Average pH Measurement
SG-BGC-9	6.3	8.8	7.6	8.2	7.7
SG-BGC-10	6.8	8.9	7.1	8.1	7.7
SG-BGC-11	5.5	5.1	5.0	4.2	4.9
SG-BGC-12	4.5	3.4	3.4	3.2	3.6
SG-BGC-13	5.6	3.3	5.1	--	4.7
SW-22	4.1	4.3	3.8	--	4.1

Prepared By/Date: JMB 11/2/09

Checked By/Date: GBG 11/2/09

Notes:

pH measurements were collected in the field using a Hobiba pH pen or HANNA pH meter.

-- Data not collected on this date.

Table 15 - Ash Fill Laboratory Analytical Results

Sample I.D.:	SB-BGC-10 (1.8-5)		SB-BGC-11 (1.9-4)		SB-BGC-12 (1.75-2.75)				Average Ash Fill Result
Sample Location:					SB-BGC-12 (1.75-2.75)	SB-BGC-DUP 01			
Sample Interval:	1.8-5'		1.9-4'		1.75-2.75'		1.75-2.75'		
Sample Date:	6/8/2009		6/8/2009		6/8/2009		6/8/2009		
General Chemistry Parameters (mg/kg)									
	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Chloride	<10.0	U	348		<10.0	U	<10.0	U	91
Fluoride	5.11		9.46		5.01		5.15		6.18
Phosphorus	105	M7, M8	112		93.0		388		175
Sulfate	652		718		775		975		780
Sulfide	<100	U	<100	U	425		<100	U	144
Bromide	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0
Nitrate as N	1.54		5.81		<1.00	U	2.46		3.27
pH (pH units)	6.80		8.50		8.60		7.90		7.95
Temperature of pH determination (Deg C)	22.7		22.7		22.7		22.7		NA
Total Metals by USEPA Method 6010B (mg/kg)									
	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Aluminum	6,790		10,900	MHA	12,300		12,300		10,573
Antimony (metallic)	<9.94	U	<10.1	U	<9.63	U	<9.60	U	<10
Arsenic	13.6		74.6	MI	51.9		30.7		42.7
Barium	67.8		441	MI	378		248		284
Beryllium	<0.994	U	3.05		2.62		2.19		2.62
Boron	<9.94	U	11.5		11.2		12.7		11.8
Cadmium (water)	<0.994	U	<1.01	U	<0.963	U	<0.960	U	<0.9
Calcium	1,930		9,290	MHA	6,370		4,500		5,523
Chromium (total)	16.2		23.0		21.7		25.3		21.6
Cobalt	1.35		9.56		8.29		8.06		6.82
Copper	7.53		35.9	MI	29.2		23.5		24.0
Iron	3,770		13,200	MHA	12,300		9,530		9,700
Lead	16.0		17.2		13.4		16.4		15.8
Magnesium	445		1,050	MI	1,050		969		879
Manganese (water)	26.7		56.6		50.1		50.2		45.9
Molybdenum	<2.98	U	6.26		<2.89	U	<2.88	U	6.26
Nickel (soluble salts)	3.50		17.2		15.8		15.1		12.9
Potassium	515		1,640	MI	1,370		1,520		1,261
Selenium	<1.99	U	8.86		8.28		6.37		7.84
Silver	<0.994	U	<1.01	U	<0.963	U	<0.960	U	<0.9
Sodium	<199	U	621	MI	361		287		423
Thallium (soluble salts)	<1.99	U	<2.02	M2, U	<1.93	U	<1.92	U	<1.9
Vanadium (metallic)	13.8		48.2		39.7		36.8		34.6
Zinc (metallic)	14.3		24.1		20.3		22.9		20.4
Mercury by USEPA Method 7470/7471A (mg/kg)									
	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Mercury	0.221		0.218		0.188		0.164		0.198

Prepared By/Date: DSD 7/2/2009
 Checked By/Date: JES 7/15/09

Notes:

Q: Data Qualifier

B: Analyte was detected in the associated Method Blank.

M1: The Matrix Spike (MS) and/or MS Duplicate (MSD) were above the acceptance limits due to sample matrix interference (see Lab Data Package)

M7: The Matrix Spike (MS) and/or MS Duplicate (MSD) were below the acceptable limits (see Lab Data Package)

M8: The MS and/or MSD were below the acceptance limits (see Lab Data Package)

MHA: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information (see Lab Data package) laboratory data packages

U: Undetected

--: Data not available

mg/kg: milligrams per kilograms

Table 16 - Soil Laboratory Analytical Results - Potential Peroxide Acidity (PPA)

Sample Location/Sample I.D.	Sample Interval:	Sample Date:	Potential Peroxide Acidity (Tons CaCO ₃ /1000 Tons Material)	
HA-BGC-SG9	8-14 inches bgs	6/11/2009	2.04	
HA-BGC-SG10	6-12 inches bgs	6/11/2009	14.70	
HA-BGC-SG11	10-16 inches bgs	6/11/2009	11.16	
HA-BGC-SG12	16-22 inches bgs	6/11/2009	18.52	
HA-BGC-SG13	10-16 inches bgs	6/11/2009	7.66	
HA-BGC-SW22	HA-BGC-SW22	12-18 inches bgs	6/11/2009	11.14
	HA-BGC-DUP-01	12-18 inches bgs	6/11/2009	7.94
SB-BGC-4 (0-4)	SB-BGC-4 (0-4)	0-4 ft bgs	6/19/2009	Neutral pH
	SB-BGC-Dup02	0-4 ft bgs	6/19/2009	Neutral pH
SB-BGC-5 (2-4)	2-4 ft bgs	6/19/2009	9.02	
SB-BGC-6 (0-3)	0-3 ft bgs	6/19/2009	9.11	
SB-BGC-6 (4-8)	4-8 ft bgs	6/19/2009	18.14	
MW-BGC-13 (0-2)	0-2 ft bgs	6/19/2009	1.64	
MW-BGC-13 (10-12)	10-12 ft bgs	6/19/2009	16.55	
MW-BGC-14 (0-2)	0-2 ft bgs	6/19/2009	4.19	
MW-BGC-14 (13-15)	13-15 ft bgs	6/19/2009	10.99	
MW-BGC-15 (0-2)	MW-BGC-15 (0-2)	0-2 ft bgs	6/19/2009	20.20
	MW-BGC-DUP01	0-2 ft bgs	6/19/2009	22.60
MW-BGC-15 (8-10)	8-10 ft bgs	6/19/2009	14.64	

Prepared By/Date: JES 7/16/09

Checked By/Date: JMB 7/17/09

Note:

Potential Peroxide Acidity (PPA) results are expressed in tons of CaCO₃ per 1,000 tons of material.

PPA results for soil greater than 5 tons CaCO₃/1,000 tons material are considered acid sulfate material (soil that may produce acidic runoff when exposed to weathering) . (Virginia Tech Lab, 7/8/2009)

ft: feet

bgs: below ground surface

Table 17 - Soil Stockpile and Road Bed Laboratory Analytical Results

Sample Location:	SP-BGC-01	SP-BGC-02	SP-BGC-03		SP-BGC-04	HA-BGC-RB-1	HA-BGC-RB-2	HA-BGC-RB-3		HA-BGC-RB-4	Average Ash Fill Result										
Sample I.D.:			SP-BGC-03	SP-BGC-DUP01				HA-BGC-RB-3	HA-BGC-RB-DUP												
Sample Interval:	--	--	--	--	--	0-6 inches	0-6 inches	0-6 inches	0-6 inches	0-6 inches											
Sample Date:	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009	5/28/2009											
General Chemistry Parameters (mg/kg)																					
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Chloride	<10.0	U	14.8		10.1		<10.0	U	<10.0	U	<10.0	U	14.3		<10.0	U	12.2		<10.0	U	91
Fluoride	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	1.20		<1.00	U	<1.00	U	<1.00		<1.00	U	6.18
Phosphorus	26.5	B	157	B, B1	82.5	B	90.5	B	68.5	B	385	B1, B	304	B1, B	149	B1, B	149	B1, B	60.7	B	175
Sulfate	134		87.3		79.0		84.7		62.1		75.9		50.7		73.5		171		104		780
Sulfide	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	<20.0	U	144
Bromide	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0
Nitrate as N	3.80		5.60		5.70		3.60		<1.00	U	4.00		4.40		1.60		1.50		3.20		3.27
pH (pH units)	4.50	HTI	5.00	HTI	4.80	HTI	5.30	HTI	5.40	HTI	5.30	HTI	5.20	HTI	5.30	HTI	5.40	HTI	5.40	HTI	7.95
Temperature of pH determination (Deg C)	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	23.6	HTI	NA
Total Metals by USEPA Method 6010B (mg/kg)																					
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Aluminum	25,900	MHA	16,800		17,200		14,200		9,070		12,800		121,100		21,900		25,400		10,200		10,573
Antimony (metallic)	<9.65	U	<10.0	U	<9.94	U	<10.0	U	<9.96	U	<10.0	U	<9.92	U	<9.94	U	<9.90	U	<9.98	U	<10
Arsenic	3.30		<1.00	U	<0.994	U	<1.00	U	<0.996	U	7.37		4.07		6.12		6.24		1.46		42.7
Barium	58.1		62.8		45.7		37.9		47.8		48.2		39.0		78.5		78.4		38.0		284
Beryllium	<0.965	U	<1.00	U	<0.994	U	<1.00	U	<0.996	U	<1.00	U	<0.992	U	<0.994	U	<0.990	U	<0.998	U	2.62
Boron	<9.65	U	<10.0	U	<9.94	U	<10.0	U	<9.96	U	<10.0	U	<9.92	U	<9.94	U	<9.90	U	<9.98	U	11.8
Cadmium (water)	<0.965	U	<1.00	U	<0.994	U	<1.00	U	<0.996	U	<1.00	U	<0.992	U	<0.994	U	<0.990	U	<0.998	U	<0.9
Calcium	236		923		207		338		588		549		555		442		478		644		5,523
Chromium (total)	24.1		19.4		16.8		13.8		9.58		17.4		15.0		24.3		26.9		11.7		21.6
Cobalt	1.66		2.31		1.41		<0.100	U	0.996		2.11		1.49		1.51		2.20		<0.998	U	6.82
Copper	<1.93	U	3.15		<1.99	U	<0.200	U	8.57		4.68		3.06		3.44		3.70		<2.00	U	24.0
Iron	11,900	MHA	6,340		4,030		3,260		5,630		4,640		5,050		35,800		26,700		6,710		9,700
Lead	12.7		14.3		8.82		8.53		48.0		12.2		9.27		15.3		12.6		8.92		15.8
Magnesium	907	M1	882		712		568		483		666		696		1,110		1,200		520		879
Manganese (water)	22.5		32.1		23.0		18.4		39.5		24.2		41.2		23.5		25.7		19.6		45.9
Molybdenum	<2.90	U	<3.01	U	<2.98	U	<3.00	U	<2.99	U	<3.01	U	<2.98	U	<2.98	U	<2.97	U	<2.99	U	6.26
Nickel (soluble salts)	4.25		6.00		5.13		4.28		3.19		5.58		4.37		6.54		7.60		2.28		12.9
Potassium	703	M1	634		638		344		287		603		641		483		661		306		1,261
Selenium	<1.93	U	<2.01	U	<1.99	U	<2.00	U	2.05		<2.01	U	<1.98	U	3.79		3.15		<2.00	U	7.84
Silver	<0.965	U	<1.00	U	<0.994	U	<1.00	U	<0.996	U	<1.00	U	<0.992	U	<0.994	U	<0.990	U	<0.998	U	<0.9
Sodium	361		346		300		215		<199	U	<201	U	<198	U	291		330		<200	U	423
Thallium (soluble salts)	<1.93	U	<2.01	U	<1.99	U	<2.00	U	<1.99	U	<2.01	U	<1.98	U	<1.99	U	<1.98	U	<2.00	U	<1.9
Vanadium (metallic)	42.6		23.9		23.5		17.0		13.2		18.1		16.8		47.3		50.1		17.2		34.6
Zinc (metallic)	<9.65	U	22.5		<9.94	U	<10.0	U	63.5		12.7		15.1		<9.94	U	<9.90	U	<9.98	U	20.4
Mercury by USEPA Method 7470/7471A (mg/kg)																					
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Mercury (elemental)	<0.0982	U	<0.0993	U	<0.0998	U	<0.0990	U	<0.0992	U	<0.0998	U	<0.0980	U	<0.0968	U	<0.101	U	<0.0966	U	0.198

Prepared By/Date: JMB 12/15/09
 Checked By/Date: DSD 12/15/09

Notes:

mg/kg: milligrams per kilograms

Q: Data Qualifier

B: Analyte was detected in the associated Method Blank.

B1: Analyte was detected in the associated method blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank (see Lab Data Package)

HTI: Holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes

M1: The Matrix Spike (MS) and/or MS Duplicate (MSD) were above the acceptance limits due to sample matrix interference (see Lab Data Package)

MHA: Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information (see Lab Data package)

U: Undetected

NA: Not Applicable

Constituent result is less than the average corresponding ash fill result

Table 18 - Pond Sediment Laboratory Analytical Results

Sample Location:	PS-BGC-SG9-1	PS-BGC-SG9-2	PS-BGC-SG10-1	PS-BGC-SG10-2	PS-BGC-SG11-1	PS-BGC-SG11-2	PS-BGC-SG12-1	PS-BGC-SG12-2		Average Ash Fill Result ¹									
	Sample I.D.:	PS-BGC-SG12-2	PS-BGC-DUP-01	Sample Depth Below Pond Surface:	15'	8'	15'	10'	5'		7'	7'	10'	10'					
Sample Date:	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009	6/3/2009						
General Chemistry Parameters (mg/kg)																			
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Chloride	17.4		12.1		161		23.6		120		325		143		154		144		91
Fluoride	4.78		1.57		1.40		1.43		1.80		2.70		<1.00	U, M8	2.60		2.50		6.18
Phosphorus	145		130		161		84.4		201		300		122		136		141		175
Sulfate	93.8		<10.0	U	78.4		33.7		<10.0	U	<10.0	U	1,020		12.2		91.8	R3	780
Sulfide	<100	U	<100	U	190		<100	U	130		565		<100	U	<100	U	130		144
Bromide	<10.0	U	<10.0	U	<10.0	U	<10.1	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0	U	<10.0
Nitrate as N	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.00	U	<1.0	U	<1.00	U	3.27
pH (pH units)	6.70	HTI	6.60	HTI	6.80	HTI	6.90	HTI	6.80	HTI	6.60	HTI	6.30	HTI	6.60	HTI	6.70	HTI	7.95
Temperature of pH determination (Deg C)	23.4	HTI	23.4	HTI	23.4	HTI	23.4	HTI	23.4	HTI	23.4	HTI	23.4	HTI	23.4	HTI	23.4	HTI	NA
Total Metals by USEPA Method 6010B (mg/kg)																			
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Aluminum	7,920		5,680		8,030		5,440		8,800		10,700		10,300		11,600		16,500		10,573
Antimony (metallic)	<9.71	U	<10.1	U	<10.1	U	<9.90	U	<9.78	U	<9.82	U	<9.63	U	<9.54	U	<9.80	U	<10
Arsenic	2.87		2.24		3.56		1.52		6.91		9.63		7.28		6.15		8.25		42.7
Barium	42.6		27.7		42.2		37.7		29.1		44.0		33.2		34.2		47.6		284
Beryllium	<0.971	U	<1.01	U	<1.01	U	<0.990	U	<0.978	U	<0.982	U	<0.963	U	<0.954	U	<0.980	U	2.62
Boron	<9.71	U	<10.1	U	<10.1	U	<9.90	U	<9.78	U	<9.82	U	<9.63	U	<9.54	U	<9.80	U	11.8
Cadmium (water)	<0.971	U	<1.01	U	<1.01	U	<0.990	U	<0.978	U	<0.982	U	<0.963	U	<0.954	U	<0.980	U	<0.9
Calcium	752		568		806		689		531		641		371		424		513		5,523
Chromium (total)	13.1		8.59		11.5		9.27		11.0		13.0		13.3		13.6		18.3		21.6
Cobalt	1.32		<1.01	U	1.45		<0.990	U	1.96		2.36		1.39		2.19		2.86		6.82
Copper	2.47		<2.02	U	3.78		<1.98	U	4.54		4.68		2.70		3.05		3.69		24.0
Iron	6,810		6,630		7,260		5,370		13,300		17,200		28,500		16,500		18,600		9,700
Lead	10.5		16.5		7.27		9.85		11.0		8.58		7.53		8.22		15.5		15.8
Magnesium	670		431		554		510		477		588		613		568		826		879
Manganese (water)	37.5		27.7		19.4		30.8		17.0		22.2		19.3		18.3		25.5		45.9
Molybdenum	<2.91	U	<3.02	U	<3.03	U	<2.97	U	<2.94	U	<2.95	U	<2.89	U	<2.86	U	<2.94	U	6.26
Nickel (soluble salts)	5.22		2.90		4.42		3.50		4.36		5.30		4.22		5.38		6.80		12.9
Potassium	383		239		403		258		379		479		481		457		903		1,261
Selenium	<1.94	U	<2.02	U	<2.02	U	<1.98	U	<1.96	U	<1.96	U	2.92		<1.91	U	<1.96	U	7.84
Silver	<0.971	U	<1.01	U	<1.01	U	<0.990	U	<0.978	U	<0.982	U	<0.963	U	<0.954	U	<0.980	U	<0.9
Sodium	<194	U	<202	U	426		<198	U	353		432		425		313		307		423
Thallium (soluble salts)	<1.94	U	<2.02	U	<2.02	U	<1.98	U	<1.96	U	<1.96	U	<1.93	U	<1.91	U	<1.96	U	<1.9
Vanadium (metallic)	14.6		10.3		14.4		10.1		13.8		16.4		17.8		18.0		24.6		34.6
Zinc (metallic)	12.8		10.1		15.6		12.6		19.2		18.2		13.2		18.7		21.8		20.4
Mercury by USEPA Method 7470/7471A (mg/kg)																			
	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	mg/kg
Mercury (elemental)	<0.100	U	<0.0960	U	<0.0979	U	<0.0960	U	<0.0960	U	<0.0979	U	<0.0995	U	<0.0985	U	<0.0982	U	0.198

Prepared By/Date: JMB 12/15/09
 Checked By/Date: DSD 12/15/09

Notes:
 mg/kg: milligrams per kilograms
 Q: Data Qualifier
 HTI: Holding time for this test is immediate. The laboratory measurement, therefore, may not be suitable for compliance purposes
 M8: The MS and/or MSD were below the acceptance limits (see Lab Data Package)
 U: Undetected
 R3: The relative percent difference (RPD) exceeded the acceptance limit due to sample matrix effects (see Lab Data Package)
 -: Data not available
¹The Average Ash Fill Results and Highest Ash Fill Results are from Appendix E Table 1
 NA: Not Applicable

Constituent result is less than the average corresponding ash fill result