Appendixes 2–14

Appendix 2. Quality-assurance, quality-control water samples for the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 3. Quality-assurance, quality-control sediment samples from the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 4. Acid volatile sulfide, simultaneously extracted metals, and particle size results for sediments and quality-assurance, quality-control samples for the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 6. Chemistry and mineralogy results for stream sediments collected in October 2007 from the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 7. Bar chart of relative weight percentages of minerals in stream sediments collected in the Pike Hill copper mine study area, Corinth, Vermont, in October 2007.

Appendix 8. Fish community assessment conducted in September 2007 in the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 9. Fish tissue chemistry results in wet weight for fish collected in September 2007 in the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 10. Sample identification, depth, depth category, concentrations of Cu, Pb, Zn, and Fe, source of data, and geographic coordinates of samples analyzed in the field with x-ray fluorescence spectrometry at Pike Hill copper mine study area, Corinth, Vermont.

Appendix 11. Chemistry results for wetland sediment samples collected in July 2007 from the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 12. Chemistry of wetland core sediments collected in August 2007 from the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 13. Bar chart of relative weight percentages of minerals in cores collected from wetlands in the Pike Hill Brook watershed in August 2007.

Appendix 14. Identification and chemistry results for plant material collected in October 2007 from wetland areas at the Pike Hill copper mine study area, Corinth, Vermont.

Appendix 2. Quality-assurance, quality-control water samples for the Pike Hill copper mine study area, Corinth, Vermont. Replicate sample in italics below each original sample.

[µg/L, micrograms per liter; mg/L, milligrams per liter; ng/L, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; E, estimated value is less than the reporting level but greater than the long-term-method-detection level; NWQL, National Water Quality Laboratory; DOC, dissolved organic carbon]

Sample ID	Station ID	Sample Type	Split	Job No.	Lab No.	Ag (µg/L)	Al (µg/L)	As (µg/L)	Ba (µg/L)	Be (µg/L)	Bi (µg/L)	Ca (mg/L)	Cd (µg/L)	Ce (µg/L)	Co (µg/L)	Cr (µg/L)	Cs (µg/L)
				ICP-MS & ICP-AES	ICP-MS & ICP-AES	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
REPLICATES																	
PHB4C-A FA	4C	surface-water original sample	filtered	MRP-08491	C-305544	<1	8.4	<1	13.7	<0.05	< 0.2	29.8	0.43	0.02	4.91	<1	0.13
PHB4C-A FA	*4C*	*surface-water lab replicate*	filtered	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB4C-B FA	4C	pore-water (in situ) original sample	filtered	MRP-08491	C-305524	<1	4.6	<1	14.5	<0.05	< 0.2	24.7	1.77	0.09	46.2	<1	0.11
PHB4C-BR FA	*4C*	*pore-water (in situ) field replicate*	filtered	*MRP-08491*	*C-305526*	*<1*	*3.6*	*<1*	*15.2*	*<0.05*	*< 0.2*	*24.3*	*1.81*	*0.08*	*49*	*<1*	*0.12*
PHB4C-B RA	4C	pore-water (in situ) original sample	raw	MRP-08491	C-305525	<1	428	<1	16.9	0.05	< 0.2	25.2	2.06	1.24	52.5	1.3	0.2
PHB4C-BR RA	*4C*	*pore-water (in situ) field replicate*	raw	*MRP-08491*	*C-305527*	*<1*	*37.3*	*<1*	*15.9*	*<0.05*	*< 0.2*	*25.4*	*1.93*	*0.17*	*51.5*	*<1*	*0.13*
PHB4E-A FA	4E	surface-water original sample	filtered	MRP-08491	C-305518	<1	5.1	<1	9.12	<0.05	< 0.2	26	0.09	0.01	0.64	<1	0.08
PHB4E-A FA	*4E*	*surface-water lab replicate*	filtered	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB10A-AR FA	10A	surface-water original sample	filtered	MRP-08491	C-305530	<1	5.1	<1	23.6	<0.05	< 0.2	34.4	<0.02	< 0.01	<0.02	<1	0.26
PHB10A-A FA[a]	*10A*	*surface-water field replicate*	filtered	*MRP-08491*	*C-305528*	*<1*	*183*	*<1*	*23.7*	*<0.05*	*< 0.2*	*34.3*	*0.02*	*0.11*	*<0.02*	*<1*	*0.26*
PHB10A-AR RA	10A	surface-water original sample	raw	MRP-08491	C-305531	<1	19.8	<1	24	<0.05	< 0.2	35	<0.02	0.04	<0.02	<1	0.27
PHB10A-A RA[a]	*10A*	*surface-water field replicate*	raw	*MRP-08491*	*C-305529*	*<1*	*57*	*<1*	*24.6*	*<0.05*	*< 0.2*	*35.3*	*<0.02*	*0.2*	*0.04*	*<1*	*0.27*
PKSite5A-C	5A	pore-water (centrifuge) original sample	filtered	MRP-08521	C-306060	<1	243	<1	43.8	<0.05	< 0.2	63.5	0.06	1.05	0.4	<1	0.11
PKSite5A Dup-C	*5A*	*pore-water (centrifuge) lab replicate*	filtered	*MRP-08521*	*C-306061*	*<1*	*123*	*<1*	*41.5*	*<0.05*	*< 0.2*	*61.4*	*0.05*	*0.73*	*0.15*	*<1*	*0.09*
PKSite5-C	5	pore-water (centrifuge) lab sample	filtered	MRP-08521	C-306051	<1	20.7	<1	28.6	<0.05	< 0.2	48.2	0.14	0.19	0.14	<1	0.15
PKSite5X-C	*5X*	*pore-water (centrifuge) lab replicate*	filtered	*MRP-08521*	*C-306052*	*<1*	*39.8*	*<1*	*25.9*	*<0.05*	*< 0.2*	*45.5*	*0.21*	*0.39*	*0.69*	*<1*	*0.13*
PKSite5-D FA	5	pore-water (equilibrated) lab sample	filtered	MRP-08521	C-306066	<1	35.2	<1	97.8	<0.05	< 0.2	118	0.75	0.11	14.3	<1	0.56
PKSite5X-D FA	*5X*	*pore-water (equilibrated) lab replicate*	filtered	*MRP-08521*	*C-306070*	*<1*	*18.3*	*<1*	*100*	*<0.05*	*< 0.2*	*135*	*0.73*	*0.03*	*18.2*	*<1*	*0.6*
PKSite5-P	5	pore-water (peeper) lab sample	filtered	MRP-08521	C-306037	<10	<20	<10	19	<0.5	< 2	25.5	0.3	0.9	3	<10	0.2
PKSite5X-P	*5X*	*pore-water (peeper) lab replicate*	filtered	*MRP-08521*	*C-306038*	*<10*	*60*	*<10*	*18*	*<0.5*	*< 2*	*25.7*	*0.3*	*0.9*	*2.2*	*<10*	*0.2*
wetland 3-3B FA	3-3	pore-water (in situ) original sample	filtered	MRP-08433	C-304614	<1	<2	<1	51.6	<0.05	< 0.2	42	<0.02	0.06	30	<1	0.04
wetland 3-3B-R FA	*3-3*	*pore-water (in situ) field replicate*	filtered	*MRP-08433*	*C-304616*	*<1*	*7.1*	*<1*	*52*	*<0.05*	*< 0.2*	*43.5*	*<0.02*	*0.06*	*30.9*	*<1*	*0.04*
wetland 3-3B RA	3-3	pore-water (in situ) original sample	raw	MRP-08433	C-304615	<1	567	<1	56	0.06	< 0.2	43.8	0.27	2.21	33.6	1.1	0.12
wetland 3-3B-R RA	*3-3*	*pore-water (in situ) field replicate*	raw	*MRP-08433*	*C-304617*	*<1*	*603*	*<1*	*56.8*	*0.06*	*< 0.2*	*44.6*	*0.3*	*2.23*	*35.7*	*1.5*	*0.13*
FIELD AND LAB BLANKS																	
PHB1-AQ FA	-	field blank	filtered	MRP-08491	C-305511	<1	<2	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	< 0.01	<0.02	<1	< 0.02
PHB1-AQ RA	-	field blank	raw	MRP-08491	C-305512	<1	<2	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	< 0.01	<0.02	<1	< 0.02
PHB5-BQ FA	-	field blank	filtered	MRP-08491	C-305513	<1	<2	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	< 0.01	<0.02	<1	< 0.02
PHB5-BQ RA	-	field blank	raw	MRP-08491	C-305514	<1	2.1	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	0.01	0.02	<1	< 0.02
PHB10A-AQ FA	-	field blank	filtered	MRP-08491	C-305509	<1	<2	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	< 0.01	<0.02	<1	< 0.02
PHB10A-AQ RA	-	field blank	raw	MRP-08491	C-305510	<1	<2	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	< 0.01	<0.02	<1	< 0.02
wetland 3-3C-Q FA	-	field blank	filtered	MRP-08433	C-304585	<1	<2	<1	<0.2	0.05	< 0.2	<0.2	<0.02	< 0.01	<0.02	<1	< 0.02
wetland 3-3C-Q RA	-	field blank	raw	MRP-08433	C-304586	<1	3.6	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	< 0.01	<0.02	<1	< 0.02
Blank-1	-	pore water (peeper) blank	filtered	MRP-08521	C-306026	<10	<20	<10	<20	<0.5	< 2	< 2	<0.2	0.83	<0.2	<10	< 0.2
Blank-2	-	pore water (peeper) blank	filtered	MRP-08521	C-306027	<10	<20	<10	<20	<0.5	< 2	< 2	<0.2	0.8	<0.2	<10	< 0.2
Blank-3	-	pore water (peeper) blank	filtered	MRP-08522	C-306074	<10	<20	<10	<20	<0.5	< 2	< 2	<0.2	0.8	<0.2	<10	< 0.2
Blank-C	-	pore water (centrifuge) blank	filtered	MRP-08521	C-306028	<1	6.7	<1	<0.2	<0.05	< 0.2	<0.2	<0.02	0.03	<0.02	<1	< 0.02
REFERENCE AND CONTROL WATERS																	
M-150	-	reference water	-	MRP-08491	C-305515	<1	14.6	<1	10.4	<0.05	< 0.2	5.83	<0.02	0.02	<0.02	1.2	< 0.02
M-150	-	reference water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-150	-	reference water	-	MRP-08433	C-304587	<1	20.2	<1	10.7	0.05	< 0.2	5.74	<0.02	0.02	<0.02	1.2	< 0.02
M-158	-	reference water	-	MRP-08492	C-305576	<1	4.2	<1	17.3	<0.05	< 0.2	35	<0.02	< 0.01	<0.02	4.3	< 0.02
M-158	-	reference water	-	MRP-08521	C-306058	<1	<2	<1	13.5	<0.05	< 0.2	34.4	<0.02	< 0.01	<0.02	3.1	< 0.02
M-158	-	reference water	-	MRP-08433	C-304620	<1	5.4	<1	15	0.05	< 0.2	35.7	<0.02	< 0.01	<0.02	3.7	< 0.02
Q118	-	reference water	-	MRP-08521	C-306044	12	61.8	10.4	69.3	11.9	< 0.2	<0.2	17	0.09	75.5	64.2	< 0.02
T-135	-	reference water	-	MRP-08493	C-305602	8.91	18.5	7.8	54.2	70.9	< 0.2	9.49	46.4	0.02	43.9	81.9	< 0.02
T-135	-	reference water	-	MRP-08522	C-306080	9.95	7	10.4	61.7	52.4	< 0.2	9.38	52	0.03	39.1	72.4	< 0.02
T-135	-	reference water	-	MRP-08433	C-304622	8.61	8.1	9.1	60.1	59.3	< 0.2	9.63	49.8	0.03	39	75	< 0.02
T-137	-	reference water	-	MRP-08492	C-305585	<1	30.7	<1	58.4	4.9	< 0.2	37	6.57	0.04	0.16	18.7	0.02
T-137	-	reference water	-	MRP-08433	C-304621	<1	24.8	<1	59.6	5.1	< 0.2	34.4	6.71	0.04	0.14	18.2	0.02
WB-C	-	control for pore water (centrifuge) using sediment from West Bearskin Lake, Minn.	-	MRP-08521	C-306057	<1	224	<1	35.3	<0.05	< 0.2	55.3	2.19	1.11	41.1	4.3	0.34
WB-P	-	control for pore water (peeper) using sediment from West Bearskin Lake, Minn.	-	MRP-08521	C-306042	<1	<2	<1	7.54	<0.05	< 0.2	1.69	<0.02	0.09	0.09	<1	< 0.02
REFERENCE WATERS STANDARD RESULTS[b]																	
M-150	-	reference water results	-	-	-	-	-	-	-	-	-	6.82±0.41	-	-	-	-	-
M-158	-	reference water results	-	-	-	-	-	-	-	-	-	38.1±1.59	-	-	-	-	-
Q118[c]		reference acceptance limits				144.2-106.6	699.7-498.7	131.5-88.7	768-637	136.9-103.3			206.9-153.5		899-701	794-562	
T-135	-	reference water results	-	-	-	9.81±1.05	10.5±6.8	10.0±1.1	67.8±4.3	59.0±2.6	-	10.4±0.6	50.5±3.2	-	40.0±2.6	79.0±5.5	-
T-137	-	reference water results	-	-	-	-	30.5±6.9	-	65.0±4.8	5.2±0.5	-	38.1±1.5	6.80±0.52	-	-	19.4±2.0	-

Appendix 2. Quality-assurance, quality-control water samples for the Pike Hill copper mine study area, Corinth, Vermont. Replicate sample in italics below each original sample.--Continued

[µg/L, micrograms per liter; mg/L, milligrams per liter; ng/L, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; E, estimated value is less than the reporting level but greater than the long-term-method-detection level; NWQL, National Water Quality Laboratory; DOC, dissolved organic carbon]

Sample ID	Cu (µg/L) ICP-MS	Dy (µg/L) ICP-MS	Er (µg/L) ICP-MS	Eu (µg/L) ICP-MS	Fe (µg/L) ICP-MS	Ga (µg/L) ICP-MS	Gd (µg/L) ICP-MS	Ge (µg/L) ICP-MS	Ho (µg/L) ICP-MS	K (mg/L) ICP-MS	La (µg/L) ICP-MS	Li (µg/L) ICP-MS	Lu (µg/L) ICP-MS	Mg (mg/L) ICP-MS	Mn (µg/L) ICP-MS	Mo (µg/L) ICP-MS	Na (mg/L) ICP-MS	Nb (µg/L) ICP-MS	Nd (µg/L) ICP-MS	Ni (µg/L) ICP-MS	P (mg/L) ICP-MS	Pb (µg/L) ICP-MS
REPLICATES																						
PHB4C-A FA	7.4	0.005	< 0.005	< 0.005	50	< 0.05	< 0.005	< 0.05	< 0.005	1.9	0.01	0.8	< 0.1	1.94	90.7	< 2	1.36	< 0.2	0.01	1.4	< 0.01	<0.05
PHB4C-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB4C-B FA	23.2	< 0.005	0.008	< 0.005	4910	< 0.05	0.008	< 0.05	< 0.005	1.25	0.05	0.4	< 0.1	1.62	1280	< 2	1.27	< 0.2	0.03	2	< 0.01	0.2
PHB4C-BR FA	*20.6*	*0.005*	*< 0.005*	*< 0.005*	*4190*	*< 0.05*	*0.006*	*< 0.05*	*< 0.005*	*1.29*	*0.05*	*0.6*	*< 0.1*	*1.61*	*1410*	*< 2*	*1.21*	*< 0.2*	*0.04*	*1.9*	*< 0.01*	*<0.05*
PHB4C-B RA	95.7	0.092	0.04	0.02	6090	0.1	0.094	< 0.05	0.02	1.33	0.66	2	< 0.1	1.79	1360	< 2	1.28	< 0.2	0.5	2.6	0.01	0.4
PHB4C-BR RA	*36.2*	*0.01*	*0.007*	*< 0.005*	*4720*	*< 0.05*	*0.01*	*< 0.05*	*< 0.005*	*1.35*	*0.1*	*0.8*	*< 0.1*	*1.7*	*1460*	*< 2*	*1.27*	*< 0.2*	*0.07*	*2*	*< 0.01*	*<0.05*
PHB4E-A FA	7.2	< 0.005	< 0.005	< 0.005	120	< 0.05	< 0.005	< 0.05	< 0.005	2.08	< 0.01	1	< 0.1	1.59	59.1	< 2	2.53	< 0.2	0.01	0.8	< 0.01	<0.05
PHB4E-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB10A-AR FA	0.52	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.75	< 0.01	< 0.1	< 0.1	1.42	1.2	< 2	0.57	< 0.2	0.01	<0.4	< 0.01	<0.05
PHB10A-A FA [a]	*0.53*	*0.005*	*0.005*	*0.005*	*<50*	*< 0.05*	*0.005*	*< 0.05*	*< 0.005*	*1.72*	*0.06*	*0.5*	*< 0.1*	*1.42*	*1.3*	*< 2*	*0.58*	*< 0.2*	*0.05*	*0.4*	*< 0.01*	*0.08*
PHB10A-AR RA	0.55	< 0.005	< 0.005	< 0.005	<50	< 0.05	0.006	< 0.05	< 0.005	1.78	0.02	0.6	< 0.1	1.45	3.5	< 2	0.58	< 0.2	0.03	<0.4	< 0.01	<0.05
PHB10A-A RA [a]	*0.89*	*0.01*	*0.007*	*0.008*	*<50*	*< 0.05*	*0.01*	*< 0.05*	*< 0.005*	*1.8*	*0.09*	*< 0.1*	*< 0.1*	*1.47*	*17.2*	*< 2*	*0.59*	*< 0.2*	*0.08*	*<0.4*	*< 0.01*	*0.08*
PKSite5A-C	2.1	0.075	0.04	0.02	640	0.1	0.086	< 0.05	0.02	4.92	0.61	2.8	< 0.1	2.76	70.5	< 2	28	< 0.2	0.51	1.1	0.07	0.7
PKSite5A Dup-C	*1.7*	*0.054*	*0.03*	*0.02*	*372*	*0.06*	*0.065*	*< 0.05*	*0.01*	*4.7*	*0.44*	*2.7*	*< 0.1*	*2.64*	*51.7*	*< 2*	*27.5*	*< 0.2*	*0.38*	*1.1*	*0.06*	*0.58*
PKSite5-C	8.1	0.01	0.009	< 0.005	<50	< 0.05	0.02	< 0.05	< 0.005	3.1	0.08	1.8	< 0.1	2.28	8.7	< 2	4.23	< 0.2	0.06	<0.4	< 0.01	0.1
PKSite5X-C	*10.3*	*0.03*	*0.02*	*0.01*	*166*	*< 0.05*	*0.03*	*< 0.05*	*< 0.005*	*2.93*	*0.17*	*1.6*	*< 0.1*	*2.24*	*56.1*	*< 2*	*4.18*	*< 0.2*	*0.16*	*0.4*	*< 0.01*	*0.2*
PKSite5-D FA	13.3	0.01	0.01	0.01	<50	0.26	0.01	< 0.05	< 0.005	5.88	0.06	3.2	< 0.1	6.43	17000	2.7	9.25	< 0.2	0.04	2.5	< 0.01	<0.05
PKSite5X-D FA	*13.9*	*0.007*	*0.006*	*0.01*	*<50*	*0.26*	*< 0.005*	*< 0.05*	*< 0.005*	*6.63*	*0.02*	*3.8*	*< 0.1*	*7.66*	*15400*	*3.1*	*10.6*	*< 0.2*	*0.02*	*3.4*	*< 0.01*	*<0.05*
PKSite5-P	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	2	< 0.1	15	< 1	3.2	1230	< 20	5.8	<2	< 0.1	<4	< 0.1	<0.5
PKSite5X-P	*<5*	*< 0.05*	*< 0.05*	*< 0.05*	*<500*	*< 0.5*	*< 0.05*	*< 0.5*	*< 0.05*	*2*	*< 0.1*	*15*	*< 1*	*2.7*	*1030*	*< 20*	*6.1*	*<2*	*< 0.1*	*<4*	*< 0.1*	*<0.5*
wetland 3-3B FA	4.1	< 0.005	< 0.005	0.006	60900	0.05	0.01	0.05	< 0.005	1.74	0.03	0.2	< 0.1	2.48	1970	< 2	1.58	< 0.2	0.04	0.5	< 0.01	0.1
wetland 3-3B-R FA	*5*	*0.008*	*0.007*	*0.005*	*61700*	*< 0.05*	*0.007*	*0.06*	*< 0.005*	*1.8*	*0.04*	*< 0.1*	*< 0.1*	*2.53*	*2020*	*< 2*	*1.57*	*< 0.2*	*0.03*	*0.5*	*< 0.01*	*0.1*
wetland 3-3B RA	122	0.14	0.074	0.04	66000	0.2	0.17	0.06	0.03	1.88	1.22	1.4	< 0.1	2.75	2050	< 2	1.61	< 0.2	0.96	1.2	< 0.01	0.85
wetland 3-3B-R RA	*127*	*0.14*	*0.086*	*0.04*	*67700*	*0.21*	*0.17*	*0.07*	*0.03*	*1.91*	*1.25*	*1.6*	*< 0.1*	*2.76*	*2110*	*< 2*	*1.62*	*< 0.2*	*0.94*	*1.5*	*< 0.01*	*0.89*
FIELD AND LAB BLANKS																						
PHB1-AQ FA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	< 0.1	< 0.1	<0.01	<0.2	< 2	<0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
PHB1-AQ RA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	< 0.1	< 0.1	<0.01	<0.2	< 2	<0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
PHB5-BQ FA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	< 0.1	< 0.1	<0.01	0.4	< 2	<0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
PHB5-BQ RA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	0.03	< 0.01	0.6	< 0.1	<0.01	0.6	< 2	0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
PHB10A-AQ FA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	0.03	< 0.01	0.2	< 0.1	<0.01	<0.2	< 2	<0.01	< 0.2	< 0.01	<0.4	< 0.01	0.05
PHB10A-AQ RA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	< 0.1	< 0.1	<0.01	<0.2	< 2	<0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
wetland 3-3C-Q FA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	< 0.1	< 0.1	<0.01	0.5	< 2	<0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
wetland 3-3C-Q RA	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	< 0.1	< 0.1	<0.01	0.6	< 2	<0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
Blank-1	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	<0.3	< 0.1	23.78	< 1	<0.1	<2	< 20	0.31	<2	< 0.1	<4	< 0.1	<0.5
Blank-2	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	<0.3	< 0.1	23	< 1	<0.1	<2	< 20	0.2	<2	< 0.1	<4	< 0.1	<0.5
Blank-3	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	0.4	< 0.1	34	< 1	<0.1	4	< 20	0.2	<2	< 0.1	<4	< 0.1	<0.5
Blank-C	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	1.4	< 0.1	<0.01	<0.2	< 2	0.01	< 0.2	< 0.01	<0.4	< 0.01	<0.05
REFERENCE AND CONTROL WATERS																						
M-150	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	0.98	0.02	1.7	< 0.1	1.19	1.6	< 2	14.7	< 0.2	0.02	<0.4	< 0.01	<0.05
M-150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-150	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	0.96	0.01	1.3	< 0.1	1.17	1.6	< 2	14.9	< 0.2	0.03	<0.4	< 0.01	<0.05
M-158	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.6	< 0.01	1.1	< 0.1	11.4	<0.2	< 2	69.2	< 0.2	< 0.01	<0.4	0.2	<0.05
M-158	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.52	< 0.01	0.8	< 0.1	9.89	<0.2	< 2	61.5	0.53	< 0.01	<0.4	0.2	<0.05
M-158	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.6	< 0.01	1.2	< 0.1	10.4	<0.2	< 2	64.9	< 0.2	< 0.01	<0.4	0.2	<0.05
Q118	63.3	< 0.005	< 0.005	0.008	<50	< 0.05	< 0.005	< 0.05	< 0.005	<0.03	< 0.01	0.7	< 0.1	<0.01	74.2	67.5	0.02	< 0.2	< 0.01	60.7	< 0.01	50.4
T-135	69	0.07	< 0.005	< 0.005	663	0.2	< 0.005	< 0.05	< 0.005	1.22	0.03	123	< 0.1	2.96	446	55.6	43.8	< 0.2	< 0.01	69	0.2	101
T-135	64.1	< 0.005	< 0.005	0.01	202	0.07	0.008	< 0.05	< 0.005	0.8	0.03	66.5	< 0.1	1.46	421	60.8	23.9	< 0.2	0.02	62.9	0.01	102
T-135	61.5	< 0.005	0.006	0.009	170	< 0.05	0.007	< 0.05	< 0.005	0.86	0.02	73.2	< 0.1	1.81	416	53.9	28	< 0.2	0.03	63.3	< 0.01	105
T-137	1.9	0.02	0.01	0.008	<50	< 0.05	0.01	< 0.05	< 0.005	1.2	0.03	7.7	< 0.1	9.04	96.6	6.8	19.8	< 0.2	0.02	14.2	0.04	6.1
T-137	1.8	0.008	< 0.005	0.007	<50	< 0.05	0.006	< 0.05	< 0.005	1.09	0.04	8	< 0.1	8.76	93.6	6.6	19.5	< 0.2	0.04	15.3	0.04	6.1
WB-C	184	0.078	0.05	0.02	764	0.06	0.1	< 0.05	0.02	3.81	0.61	1.8	< 0.1	3.45	2140	< 2	2.14	< 0.2	0.55	3.2	0.03	0.58
WB-P	<0.5	< 0.005	< 0.005	< 0.005	637	< 0.05	< 0.005	< 0.05	< 0.005	0.2	< 0.01	1.9	< 0.1	0.58	761	< 2	0.74	< 0.2	< 0.01	<0.4	0.02	<0.05
REFERENCE WATERS STANDARD RESULTS [b]																						
M-150	-	-	-	-	-	-	-	-	-	1.12±0.09	-	-	-	1.43±0.09	-	-	17.5±1.0	-	-	-	-	-
M-158	-	-	-	-	-	-	-	-	-	1.71±0.119	-	-	-	11.8±0.48	-	-	71.7±2.22	-	-	-	0.190±0.013	-
Q118 [c]	700.9-595.9				454.3-345.1										853-707	864-616				692.8-563.2		607.7-449.5
T-135	62.0±4.2	-	-	-	228±11	-	-	-	-	0.96±0.09	-	73.7±5.2	-	2.00±0.09	423±20	63.0±5.1	30.8±1.2	-	-	65.6±5.0	-	103±7
T-137	1.9±1.2	-	-	-	71±9	-	-	-	-	1.19±0.13	-	8.7±1.5	-	10.1±0.5	98±5	8.9±1.8	22.0±1.1	-	-	15.0±2.5	-	6.3±1.0

Appendix 2. Quality-assurance, quality-control water samples for the Pike Hill copper mine study area, Corinth, Vermont. Replicate sample in italics below each original sample.--Continued

[µg/L, micrograms per liter; mg/L, milligrams per liter; ng/L, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; E, estimated value is less than the reporting level but greater than the long-term-method-detection level; NWQL, National Water Quality Laboratory; DOC, dissolved organic carbon]

Sample ID	Pr (µg/L) ICP-MS	Rb (µg/L) ICP-MS	Sb (µg/L) ICP-MS	Sc (µg/L) ICP-MS	Se (µg/L) ICP-MS	SiO2 (mg/L) ICP-MS	Sm (µg/L) ICP-MS	SO4 (mg/L) ICP-MS	Sr (µg/L) ICP-MS	Ta (µg/L) ICP-MS	Tb (µg/L) ICP-MS	Th (µg/L) ICP-MS	Ti (µg/L) ICP-MS	Tl (µg/L) ICP-MS	Tm (µg/L) ICP-MS	U (µg/L) ICP-MS	V (µg/L) ICP-MS	W (µg/L) ICP-MS	Y (µg/L) ICP-MS	Yb (µg/L) ICP-MS	Zn (µg/L) ICP-MS	Zr (µg/L) ICP-MS
REPLICATES																						
PHB4C-A FA	< 0.01	7.07	<0.3	0.9	< 1	6.4	< 0.01	32	116	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.24	<0.5	< 0.5	0.02	< 0.005	52.6	< 0.2
PHB4C-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB4C-B FA	< 0.01	4.2	<0.3	1.1	< 1	7.9	< 0.01	20	96.6	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	0.05	< 0.005	91.8	< 0.2
PHB4C-BR FA	*< 0.01*	*4.42*	*<0.3*	*1.1*	*< 1*	*7.7*	*< 0.01*	*18*	*99.6*	*< 0.02*	*< 0.005*	*< 0.2*	*< 0.5*	*<0.1*	*< 0.005*	*< 0.1*	*<0.5*	*< 0.5*	*0.04*	*< 0.005*	*90.9*	*< 0.2*
PHB4C-B RA	0.16	5.09	<0.3	1.3	< 1	9	0.09	20	103	< 0.02	0.01	< 0.2	18	<0.1	0.006	0.12	0.9	< 0.5	0.44	0.04	123	< 0.2
PHB4C-BR RA	*0.02*	*4.64*	*<0.3*	*1.2*	*< 1*	*8*	*0.01*	*20*	*105*	*< 0.02*	*< 0.005*	*< 0.2*	*1.6*	*<0.1*	*< 0.005*	*< 0.1*	*<0.5*	*< 0.5*	*0.07*	*0.006*	*98.1*	*< 0.2*
PHB4E-A FA	< 0.01	5.92	<0.3	0.8	< 1	5.8	< 0.01	16	99.5	0.06	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	0.01	< 0.005	12.9	< 0.2
PHB4E-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB10A-AR FA	< 0.01	9.1	<0.3	0.6	< 1	4.7	< 0.01	4	113	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.1	<0.5	< 0.5	< 0.01	< 0.005	1.7	< 0.2
PHB10A-A FA [a]	*0.02*	*9.06*	*<0.3*	*0.6*	*< 1*	*4.7*	*< 0.01*	*4*	*112*	*< 0.02*	*< 0.005*	*< 0.2*	*< 0.5*	*<0.1*	*< 0.005*	*0.11*	*<0.5*	*< 0.5*	*0.04*	*0.005*	*5.8*	*< 0.2*
PHB10A-AR RA	< 0.01	9.35	<0.3	0.6	< 1	4.9	< 0.01	4	115	< 0.02	< 0.005	< 0.2	0.8	<0.1	< 0.005	0.11	<0.5	< 0.5	0.02	< 0.005	1.7	< 0.2
PHB10A-A RA [a]	*0.02*	*9.43*	*<0.3*	*0.6*	*< 1*	*4.9*	*0.01*	*4*	*116*	*< 0.02*	*< 0.005*	*< 0.2*	*1.8*	*<0.1*	*< 0.005*	*0.11*	*<0.5*	*< 0.5*	*0.08*	*< 0.005*	*2.6*	*< 0.2*
PKSite5A-C	0.13	9.1	<0.3	1.4	< 1	10	0.1	8	336	0.1	0.01	< 0.2	11.4	<0.1	0.005	2.02	1.3	< 0.5	0.39	0.03	3.9	< 0.2
PKSite5A Dup-C	*0.08*	*8.65*	*<0.3*	*1.3*	*< 1*	*9.2*	*0.08*	*8*	*322*	*0.07*	*0.008*	*< 0.2*	*3.7*	*<0.1*	*< 0.005*	*2.01*	*1*	*< 0.5*	*0.3*	*0.03*	*1.9*	*< 0.2*
PKSite5-C	0.02	12	<0.3	0.8	< 1	7.7	0.01	17	199	< 0.02	< 0.005	< 0.2	0.5	<0.1	< 0.005	0.44	<0.5	< 0.5	0.07	0.006	8.2	< 0.2
PKSite5X-C	*0.04*	*10.6*	*<0.3*	*0.8*	*< 1*	*7.1*	*0.04*	*16*	*186*	*< 0.02*	*0.005*	*< 0.2*	*1.1*	*<0.1*	*< 0.005*	*0.45*	*<0.5*	*< 0.5*	*0.14*	*0.009*	*12.2*	*< 0.2*
PKSite5-D FA	< 0.01	18.5	<0.3	1.6	< 1	11.3	0.01	< 2	462	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	2.76	1.6	< 0.5	0.12	0.01	9.4	< 0.2
PKSite5X-D FA	*< 0.01*	*18.3*	*<0.3*	*1.8*	*< 1*	*13.1*	*< 0.01*	*3*	*508*	*< 0.02*	*< 0.005*	*< 0.2*	*< 0.5*	*<0.1*	*< 0.005*	*2.5*	*0.7*	*< 0.5*	*0.08*	*< 0.005*	*11.3*	*< 0.2*
PKSite5-P	< 0.1	8.8	<3	< 6	< 10	4	< 0.1	30	101	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5	<5	< 0.1	< 0.05	27	< 2
PKSite5X-P	*< 0.1*	*8.8*	*<3*	*< 6*	*< 10*	*4*	*< 0.1*	*30*	*97.7*	*< 0.2*	*< 0.05*	*< 2*	*< 5*	*<1*	*< 0.05*	*< 1*	*<5*	*<5*	*< 0.1*	*< 0.05*	*31*	*< 2*
wetland 3-3B FA	< 0.01	7.23	<0.3	1.7	< 1	12	< 0.01	< 2	133	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	0.07	0.005	5.9	< 0.2
wetland 3-3B-R FA	*< 0.01*	*7.28*	*<0.3*	*1.8*	*< 1*	*12.1*	*< 0.01*	*< 2*	*132*	*< 0.02*	*< 0.005*	*< 0.2*	*< 0.5*	*<0.1*	*< 0.005*	*< 0.1*	*<0.5*	*< 0.5*	*0.07*	*0.008*	*6.7*	*< 0.2*
wetland 3-3B RA	0.27	8	<0.3	2.1	< 1	13.6	0.19	< 2	136	< 0.02	0.03	< 0.2	19.8	<0.1	0.01	0.13	0.8	< 0.5	0.8	0.08	42.3	< 0.2
wetland 3-3B-R RA	*0.27*	*8.22*	*<0.3*	*2.2*	*< 1*	*13.7*	*0.18*	*< 2*	*137*	*< 0.02*	*0.02*	*< 0.2*	*22*	*<0.1*	*0.01*	*0.14*	*1*	*< 0.5*	*0.81*	*0.08*	*45.7*	*< 0.2*
FIELD AND LAB BLANKS																						
PHB1-AQ FA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	< 2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	7.6	< 0.2
PHB1-AQ RA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	< 2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	0.5	< 0.2
PHB5-BQ FA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	< 2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	0.9	< 0.2
PHB5-BQ RA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	< 2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	1	< 0.2
PHB10A-AQ FA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	<0.5	< 0.2
PHB10A-AQ RA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	< 2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	<0.5	< 0.2
wetland 3-3C-Q FA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	< 2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	<0.5	< 0.2
wetland 3-3C-Q RA	< 0.01	< 0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	< 2	< 0.5	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	<0.5	< 0.2
Blank-1	< 0.1	0.10	<3	< 6	< 10	< 2	< 0.1	31.02	< 5	0.52	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5	<5	< 0.1	< 0.05	109.60	< 2
Blank-2	< 0.1	0.1	<3	< 6	< 10	< 2	< 0.1	30	< 5	0.4	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5	<5	< 0.1	< 0.05	58	< 2
Blank-3	< 0.1	0.1	<3	< 6	< 10	< 2	< 0.1	30	< 5	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5	<5	< 0.1	< 0.05	70	< 2
Blank-C	< 0.01	0.01	<0.3	< 0.6	< 1	< 0.2	< 0.01	3	< 0.5	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	2.4	< 0.2
REFERENCE AND CONTROL WATERS																						
M-150	< 0.01	0.33	0.41	1.2	< 1	10.1	< 0.01	< 2	45.2	0.09	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	23.9	1.62	0.01	< 0.005	0.7	< 0.2
M-150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-150	< 0.01	0.35	<0.3	1.1	< 1	9.6	< 0.01	4	47.3	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	22.9	0.85	0.01	< 0.005	<0.5	< 0.2
M-158	< 0.01	0.3	<0.3	1.7	< 1	14.7	< 0.01	117	58	0.1	< 0.005	< 0.2	1.6	<0.1	< 0.005	< 0.1	9.4	0.74	< 0.01	< 0.005	<0.5	< 0.2
M-158	< 0.01	0.32	0.37	1.5	< 1	12.8	< 0.01	94	61.6	0.2	< 0.005	< 0.2	1.3	<0.1	< 0.005	< 0.1	9.7	5.78	< 0.01	< 0.005	<0.5	< 0.2
M-158	< 0.01	0.32	<0.3	1.6	< 1	13.6	< 0.01	97	60.4	0.06	< 0.005	< 0.2	1.2	<0.1	< 0.005	< 0.1	9	0.72	< 0.01	< 0.005	<0.5	< 0.2
Q118	< 0.01	0.01	14.4	< 0.6	17.5	< 0.2	< 0.01	< 2	38.5	< 0.02	< 0.005	< 0.2	< 0.5	9	< 0.005	< 0.1	50	< 0.5	< 0.01	< 0.005	64.8	< 0.2
T-135	0.01	0.53	68.4	2.4	9.7	8.4	< 0.01	99	38.8	0.09	0.01	< 0.2	2.6	<0.1	< 0.005	0.25	49.5	< 0.5	0.02	< 0.005	50.5	< 0.2
T-135	< 0.01	0.67	82.3	< 0.6	11.2	3.1	< 0.01	< 2	49.6	< 0.02	< 0.005	< 0.2	0.6	<0.1	< 0.005	0.25	48.9	< 0.5	0.04	0.008	52.4	< 0.2
T-135	< 0.01	0.57	78.9	< 0.6	10.2	3.7	< 0.01	4	44	< 0.02	< 0.005	< 0.2	< 0.5	0.1	< 0.005	0.27	51.4	< 0.5	0.03	0.005	47.1	< 0.2
T-137	< 0.01	0.82	16.6	0.8	< 1	6.4	0.01	51	208	< 0.02	< 0.005	< 0.2	0.8	167	< 0.005	9.56	13.4	< 0.5	0.06	0.02	49.3	< 0.2
T-137	< 0.01	0.82	16.5	0.7	< 1	6	< 0.01	43	228	< 0.02	< 0.005	< 0.2	0.8	175	< 0.005	10.1	12.6	< 0.5	0.06	0.02	48.6	< 0.2
WB-C	0.14	16.9	<0.3	1.2	< 1	9.2	0.1	44	226	0.03	0.01	< 0.2	2.6	<0.1	0.007	0.64	1.6	< 0.5	0.4	0.05	91.7	< 0.2
WB-P	< 0.01	0.25	<0.3	< 0.6	< 1	3.3	< 0.01	< 2	6.12	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5	< 0.5	< 0.01	< 0.005	<0.5	< 0.2
REFERENCE WATERS STANDARD RESULTS [b]																						
M-150	-	-	-	-	-	12.6±0.8	-	5.50±0.54	51.0±2.5	-	-	-	-	-	-	-	31.0±1.9	-	-	-	-	-
M-158	-	-	-	-	-	15.0±0.67	-	105±3.7	63.6±1.85	-	-	-	-	-	-	-	11.3±0.82	-	-	-	-	-
Q118 [c]			190.3-109.9		235.4-145.2				493.5-364.7					120.0-80.0			605.1-473.7				751-591	
T-135	-	-	76.3±8.7	-	10.0±1.4	4.28±0.31	-	-	46.0±2.3	-	-	-	-	-	-	-	52.8±3.6	-	-	-	48.2±4.7	-
T-137	-	-	15.5±2.7	-	-	6.96±0.56	-	-	230±14	-	-	-	-	162±23	-	10.0±0.5	14.0±1.6	-	-	-	49.5±4.2	-

Appendix 2. Quality-assurance, quality-control water samples for the Pike Hill copper mine study area, Corinth, Vermont. Replicate sample in italics below each original sample.--Continued

[µg/L, micrograms per liter; mg/L, milligrams per liter; ng/L, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; E, estimated value is less than the reporting level but greater than the long-term-method-detection level; NWQL, National Water Quality Laboratory; DOC, dissolved organic carbon]

Sample ID	Ag (µg/L) ICP-AES	Al (µg/L) ICP-AES	As (µg/L) ICP-AES	B (µg/L) ICP-AES	Ba (µg/L) ICP-AES	Be (µg/L) ICP-AES	Ca (mg/L) ICP-AES	Cd (µg/L) ICP-AES	Co (µg/L) ICP-AES	Cr (µg/L) ICP-AES	Cu (µg/L) ICP-AES	Fe (µg/L) ICP-AES	K (mg/L) ICP-AES	Li (µg/L) ICP-AES	Mg (mg/L) ICP-AES	Mn (µg/L) ICP-AES	Mo (µg/L) ICP-AES	Na (mg/L) ICP-AES	Ni (µg/L) ICP-AES	P (mg/L) ICP-AES	Pb (µg/L) ICP-AES	Sb (µg/L) ICP-AES
REPLICATES																						
PHB4C-A FA	<5	<20	<50	<5	15	<10	38	<5	<10	<10	<10	96	2.5	<5	2.6	114	<20	1.8	<10	<0.5	<50	<50
PHB4C-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB4C-B FA	<5	<20	<50	<5	14	<10	24	<5	47	<10	25	5160	1.3	<5	1.7	1400	<20	1.4	<10	<0.5	<50	<50
PHB4C-BR FA	*<5*	*<20*	*<50*	*<5*	*16*	*<10*	*27*	*<5*	*55*	*<10*	*20*	*4930*	*1.5*	*<5*	*1.9*	*1640*	*<20*	*1.5*	*<10*	*<0.5*	*<50*	*<50*
PHB4C-B RA	<5	535	<50	5.2	19	<10	28	<5	59	<10	105	6990	1.5	<5	2.1	1620	<20	1.6	<10	<0.5	<50	<50
PHB4C-BR RA	*<5*	*34*	*<50*	*<5*	*17*	*<10*	*29*	*<5*	*57*	*<10*	*37*	*5400*	*1.6*	*<5*	*2*	*1730*	*<20*	*1.5*	*<10*	*<0.5*	*<50*	*<50*
PHB4E-A FA	<5	<20	<50	<5	9.8	<10	30	<5	<10	<10	<10	172	2.5	<5	1.9	70	<20	3.1	<10	<0.5	<50	<50
PHB4E-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHB10A-AR FA	<5	<20	<50	<5	24	<10	37	<5	<10	<10	<10	<20	1.9	<5	1.6	<10	<20	0.65	<10	<0.5	<50	<50
PHB10A-A FA[a]	*<5*	*197*	*<50*	*18*	*26*	*<10*	*38*	*<5*	*<10*	*<10*	*<10*	*<20*	*2*	*<5*	*1.7*	*<10*	*<20*	*0.7*	*<10*	*<0.5*	*<50*	*<50*
PHB10A-AR RA	<5	<20	<50	<5	25	<10	38	<5	<10	<10	<10	<20	2	<5	1.6	<10	<20	0.66	<10	<0.5	<50	<50
PHB10A-A RA[a]	*<5*	*60*	*<50*	*<5*	*26*	*<10*	*39*	*<5*	*<10*	*<10*	*<10*	*44*	*2*	*<5*	*1.7*	*18*	*<20*	*0.68*	*<10*	*<0.5*	*<50*	*<50*
PKSite5A-C	<5	277	<50	<5	40	<10	64	<5	<10	<10	<10	783	5	<5	2.8	73	<20	29	<10	1.2	<50	<50
PKSite5A Dup-C	*<5*	*145*	*<50*	*<5*	*41*	*<10*	*66*	*<5*	*<10*	*<10*	*<10*	*512*	*5.2*	*<5*	*2.9*	*55*	*<20*	*29*	*<10*	*1.2*	*<50*	*<50*
PKSite5-C	<5	<20	<50	<5	28	<10	51	<5	<10	<10	<10	94	3.3	<5	2.3	<10	<20	4.4	<10	<0.5	<50	<50
PKSite5X-C	*<5*	*36*	*<50*	*<5*	*26*	*<10*	*49*	*<5*	*<10*	*<10*	*10*	*239*	*3.2*	*<5*	*2.3*	*59*	*<20*	*4.4*	*<10*	*<0.5*	*<50*	*<50*
PKSite5-D FA	<5	<20	<50	<5	86	<10	106	<5	15	<10	12	<20	5.2	<5	5.2	16000	<20	7.8	<10	<0.5	<50	<50
PKSite5X-D FA	*<5*	*<20*	*<50*	*<5*	*94*	*<10*	*127*	*<5*	*19*	*<10*	*12*	*<20*	*6.1*	*<5*	*6.2*	*16000*	*<20*	*9*	*<10*	*<0.5*	*<50*	*<50*
PKSite5-P	<50	<200	<500	<50	20	<100	26	<50	<100	<100	<100	<200	1.5	<50	2.9	1400	<200	5.6	<100	<5	<500	<500
PKSite5X-P	*<50*	*<200*	*<500*	*<50*	*17*	*<100*	*25*	*<50*	*<100*	*<100*	*<100*	*<200*	*1.9*	*<50*	*2.5*	*1120*	*<200*	*5.6*	*<100*	*<5*	*<500*	*<500*
wetland 3-3B FA	<5	484	<50	87	57	<10	47	6	32	<10	<10	66000	1.8	<5	3	2160	<20	1.6	<10	<0.5	<50	<50
wetland 3-3B-R FA	*<5*	*475*	*<50*	*93*	*58*	*<10*	*48*	*5.7*	*34*	*<10*	*<10*	*68000*	*1.8*	*<5*	*3.2*	*2220*	*<20*	*1.7*	*<10*	*<0.5*	*<50*	*<50*
wetland 3-3B RA	<5	1020	<50	96	63	<10	49	6.4	37	<10	121	72000	1.8	<5	3.3	2240	<20	1.7	<10	<0.5	<50	<50
wetland 3-3B-R RA	*<5*	*1070*	*<50*	*97*	*62*	*<10*	*48*	*6.5*	*38*	*<10*	*124*	*72000*	*1.8*	*<5*	*3.3*	*2230*	*<20*	*1.7*	*<10*	*<0.5*	*<50*	*<50*
FIELD AND LAB BLANKS																						
PHB1-AQ FA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
PHB1-AQ RA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
PHB5-BQ FA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
PHB5-BQ RA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
PHB10A-AQ FA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
PHB10A-AQ RA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
wetland 3-3C-Q FA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	58	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
wetland 3-3C-Q RA	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
Blank-1	<50	<200	<500	<50	<10	<100	<1	<50	<100	<100	<100	<200	<1	<50	<1	<100	<200	<1	<100	<5	<500	<500
Blank-2	<50	<200	<500	<50	<10	<100	<1	<50	<100	<100	<100	<200	<1	<50	<1	<100	<200	<1	<100	<5	<500	<500
Blank-3	<50	<200	<500	<50	<10	<100	<1	<50	<100	<100	<100	<200	<1	<50	<1	<100	<200	<1	<100	<5	<500	<500
Blank-C	<5	<20	<50	<5	<1	<10	<0.1	<5	<10	<10	<10	<20	<0.1	<5	<0.1	<10	<20	<0.1	<10	<0.5	<50	<50
REFERENCE AND CONTROL WATERS																						
M-150	<5	<20	<50	<5	14	<10	6.4	<5	<10	<10	<10	<20	1.1	<5	1.4	<10	<20	18	<10	<0.5	<50	<50
M-150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-150	<5	<20	<50	<5	21	<10	6.8	<5	<10	<10	<10	<20	0.96	<5	1.5	<10	<20	18	<10	<0.5	<50	<50
M-158	<5	<20	<50	22	8.4	<10	39	<5	<10	<10	<10	<20	1.8	<5	12	<10	<20	73	<10	3	<50	<50
M-158	<5	<20	<50	23	7.3	<10	37	<5	<10	<10	<10	<20	1.7	<5	11	<10	<20	69	<10	2.7	<50	<50
M-158	<5	<20	<50	23	13	<10	38	<5	<10	<10	<10	<20	1.4	<5	12	<10	<20	73	<10	<0.5	<50	<50
Q118	11	74	<50	85	72	12	<0.1	17	85	66	62	54	<0.1	<5	<0.1	86	63	<0.1	55	<0.5	60	<50
T-135	8.1	<20	<50	10	64	60	9.9	51	41	75	63	257	0.92	75	2	462	44	32	62	<0.5	104	84
T-135	8	<20	<50	11	58	58	9.7	44	41	71	63	347	0.86	68	1.9	421	43	28	58	<0.5	93	82
T-135	5.5	<20	<50	11	64	60	10	50	42	80	65	218	0.67	72	2.1	447	46	31	66	<0.5	103	84
T-137	<5	<20	<50	14	64	<10	38	6.6	<10	18	<10	52	1.2	8.9	10	99	<20	21	17	0.86	<50	<50
T-137	<5	<20	<50	14	65	<10	39	6.5	<10	21	<10	49	1	8.5	11	107	<20	23	15	<0.5	<50	<50
WB-C	<5	263	<50	6.1	34	<10	58	<5	46	<10	186	980	4	<5	3.8	2320	<20	2.4	<10	0.85	<50	<50
WB-P	<5	<20	<50	<5	7.2	<10	1.7	<5	<10	<10	<10	784	0.16	<5	0.57	845	<20	0.71	<10	<0.5	<50	<50
REFERENCE WATERS STANDARD RESULTS[b]																						
M-150	-	-	-	-	-	-	6.82±0.41	-	-	-	-	-	1.12±0.09	-	1.43±0.09	-	-	17.5±1.0	-	-	-	-
M-158	-	-	-	23.4±3.45	-	-	38.1±1.59	-	-	-	-	-	1.71±0.119	-	11.8±0.48	-	-	71.7±2.22	-	0.190±0.013	-	-
Q118[c]	144.2-106.6	699.7-498.7	131.5-88.7	906-598	768-637	136.9-103.3		206.9-153.5	899-701	794-562	700.9-595.9	454.3-345.1				853-707	864-616			692.8-563.2	607.7-449.5	190.3-109.9
T-135	9.81±1.05	10.5±6.8	10.0±1.1	13.1±11.1	67.8±4.3	59.0±2.6	10.4±0.6	50.5±3.2	40.0±2.6	79.0±5.5	62.0±4.2	228±11	0.96±0.09	73.7±5.2	2.00±0.09	423±20	63.0±5.1	30.8±1.2	65.6±5.0	-	103±7	76.3±8.7
T-137	-	30.5±6.9	-	15.6±4.2	65.0±4.8	5.2±0.5	38.1±1.5	6.80±0.52	-	19.4±2.0	1.9±1.2	71±9	1.19±0.13	8.7±1.5	10.1±0.5	98±5	8.9±1.8	22.0±1.1	15.0±2.5	-	6.3±1.0	15.5±2.7

Appendix 2. Quality-assurance, quality-control water samples for the Pike Hill copper mine study area, Corinth, Vermont. Replicate sample in italics below each original sample.--Continued

[µg/L, micrograms per liter; mg/L, milligrams per liter; ng/L, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; E, estimated value is less than the reporting level but greater than the long-term-method-detection level; NWQL, National Water Quality Laboratory; DOC, dissolved organic carbon]

Sample ID	Se (µg/L) ICP-AES	SiO2 (mg/L) ICP-AES	SO4 (mg/L) ICP-AES	Sr (µg/L) ICP-AES	Ti (µg/L) ICP-AES	V (µg/L) ICP-AES	Zn (µg/L) ICP-AES	Job No. IC	Lab No. IC	Field No. IC	Cl (mg/L) IC	F (mg/L) IC	NO3 (mg/L) IC	SO4 (mg/L) IC	Job No. CVAF	Lab No. CVAF	Field No. CVAF	Hg ng/L Hg CVAF	NWQL Lab ID
REPLICATES																			
PHB4C-A FA	< 200	8.5	40	135	<50	<10	59	MRP-08488	C-305450	PHB4C-A FU	2.7	<.08	0.7	40.5	MRP-08509	C-305794	PHB4C-A FA	<5	20072360354
PHB4C-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*20072960068*
PHB4C-B FA	< 200	8.4	22	100	<50	<10	88	MRP-08488	C-305440	PHB4C-B FU	2.7	0.14	<.08	24.6	MRP-08509	C-305796	PHB4C-B FA	<5	20072960130
PHB4C-BR FA	*< 200*	*9*	*23*	*112*	*<50*	*<10*	*95*	*MRP-08488*	*C-305441*	*PHB4C-BR FU*	*2.7*	*0.16*	*<.08*	*24.3*	*MRP-08509*	*C-305798*	*PHB4C-BR FA*	*<5*	*20072960126*
PHB4C-B RA	< 200	11	25	116	191	<10	128	-	-	-	-	-	-	-	MRP-08509	C-305797	PHB4C-B RA	7	-
PHB4C-BR RA	*< 200*	*9.6*	*24*	*115*	*<50*	*<10*	*103*	-	-	-	-	-	-	-	*MRP-08509*	*C-305799*	*PHB4C-BR RA*	*5*	-
PHB4E-A FA	< 200	7	22	114	<50	<10	<20	MRP-08488	C-305437	PHB4E-A FU	4.5	<.08	0.6	22	MRP-08509	C-305800	PHB4E-A FA	<5	20072360355
PHB4E-A FA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*20072960073*
PHB10A-AR FA	< 200	5.2	8.3	120	<50	<10	<20	MRP-08488	C-305443	PHB10A-AR FU	1.5	<.08	<.08	9.6	-	-	-	-	20072960125
PHB10A-A FA [a]	*< 200*	*5.4*	*8.6*	*124*	*<50*	*<10*	*<20*	*MRP-08488*	*C-305442*	*PHB10A-A FU*	*1.5*	*<.08*	*<.08*	*9.6*	-	-	-	-	*20072960131*
PHB10A-AR RA	< 200	5.4	8.6	124	<50	<10	<20	-	-	-	-	-	-	-	MRP-08509	C-305820	PHB10A-AR RA	<5	-
PHB10A-A RA [a]	*< 200*	*5.6*	*8.7*	*126*	*<50*	*<10*	*<20*	-	-	-	-	-	-	-	*MRP-08509*	*C-305818*	*PHB10A-A RA*	*<5*	-
PKSite5A-C	< 200	11	11	333	116	<10	<20	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5A Dup-C	*< 200*	*11*	*11*	*343*	*<50*	*<10*	*<20*	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5-C	< 200	8.5	19	223	<50	<10	<20	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5X-C	*< 200*	*7.9*	*19*	*212*	*<50*	*<10*	*<20*	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5-D FA	< 200	9.7	2.1	462	<50	<10	<20	MRP-08519	C-305980	PKSite5-D FU	8.7	<.08	<.08	5.8	-	-	-	-	-
PKSite5X-D FA	*< 200*	*11*	*1.8*	*550*	*<50*	*<10*	*<20*	*MRP-08519*	*C-305981*	*PKSite5X-D FU*	*8.8*	*<.08*	*<.08*	*5.6*	-	-	-	-	-
PKSite5-P	< 2000	3.8	<10	120	<500	<100	<200	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5X-P	*< 2000*	*4*	*<10*	*110*	*<500*	*<100*	*<200*	-	-	-	-	-	-	-	-	-	-	-	-
wetland 3-3B FA	< 200	14	< 1	141	<50	<10	<20	MRP-08434	C-304631	wetland 3-3B FU	2.3	<.08	<.08	1.6	-	-	-	-	
wetland 3-3B-R FA	*< 200*	*15*	*< 1*	*145*	*<50*	*<10*	*<20*	*MRP-08434*	*C-304632*	*wetland3-3B-RFU*	*2.4*	*<.08*	*<.08*	*1.6*	-	-	-	-	
wetland 3-3B RA	< 200	16	< 1	146	189	<10	45	-	-	-	-	-	-	-	-	-	-	-	-
wetland 3-3B-R RA	*< 200*	*16*	*< 1*	*146*	*207*	*<10*	*48*	-	-	-	-	-	-	-	-	-	-	-	-
FIELD AND LAB BLANKS																			
PHB1-AQ FA	< 200	<0.1	< 1	<1	<50	<10	<20	MRP-08488	C-305433	PHB1-AQ FU	<.08	<.08	0.5	<.08	-	-	-	-	20072960083
PHB1-AQ RA	< 200	<0.1	< 1	<1	<50	<10	<20	-	-	-	-	-	-	-	-	-	-	-	-
PHB5-BQ FA	< 200	<0.1	< 1	<1	<50	<10	<20	MRP-08488	C-305434	PHB5-BQ FU	<.08	<.08	<.08	<.08	-	-	-	-	20072960136
PHB5-BQ RA	< 200	<0.1	< 1	<1	<50	<10	<20	-	-	-	-	-	-	-	MRP-08509	C-305812	PHB5-BQ	<5	-
PHB10A-AQ FA	< 200	<0.1	< 1	<1	<50	<10	<20	MRP-08488	C-305432	PHB10A-AQ FU	<.08	<.08	<.08	<.08	-	-	-	-	20072960084
PHB10A-AQ RA	< 200	<0.1	< 1	<1	<50	<10	<20	-	-	-	-	-	-	-	MRP-08509	C-305819	PHB10A-AQ RA	<5	-
wetland 3-3C-Q FA	< 200	<0.1	< 1	<1	<50	<10	<20	MRP-08434	C-304633	wetland3-3C-QFU	<.08	<.08	<.08	<.08	-	-	-	-	-
wetland 3-3C-Q RA	< 200	<0.1	< 1	<1	<50	<10	<20	-	-	-	-	-	-	-	-	-	-	-	-
Blank-1	< 2000	< 1	<10	<10	<500	<100	<200	-	-	-	-	-	-	-	-	-	-	-	-
Blank-2	< 2000	< 1	<10	<10	<500	<100	<200	-	-	-	-	-	-	-	-	-	-	-	-
Blank-3	< 2000	< 1	<10	<10	<500	<100	<200	-	-	-	-	-	-	-	-	-	-	-	-
Blank-C	< 200	<0.1	< 1	<1	<50	<10	<20	-	-	-	-	-	-	-	-	-	-	-	-
REFERENCE AND CONTROL WATERS																			
M-150	< 200	11	4.8	51	<50	26	<20	MRP-08488	C-305435	M-150	17.3	1.1	9.7	5.7	-	-	-	-	-
M-150	-	-	-	-	-	-	-	MRP-08519	C-305973	M-150	17.9	1.02	11	5.7	-	-	-	-	-
M-150	< 200	12	5.4	50	<50	29	<20	MRP-08434	C-304663	M-150	17.5	0.9	<.08	5.9	-	-	-	-	-
M-158	< 200	15	111	61	<50	<10	<20	MRP-08489	C-305466	M-158	88.7	0.6	1.6	104	-	-	-	-	-
M-158	< 200	14	115	60	<50	<10	<20	-	-	-	-	-	-	-	-	-	-	-	-
M-158	< 200	15	109	62	<50	<10	<20	MRP-08434	C-304664	M-158	91.1	1	2.7	104.3	-	-	-	-	-
Q118	< 200	0.16	< 1	46	<50	56	65	-	-	-	-	-	-	-	-	-	-	-	-
T-135	< 200	3.9	6.5	48	<50	54	46	-	-	-	-	-	-	-	-	-	-	-	-
T-135	< 200	3.9	7.8	45	<50	55	43	-	-	-	-	-	-	-	-	-	-	-	-
T-135	< 200	4.2	6.3	46	<50	53	49	-	-	-	-	-	-	-	-	-	-	-	-
T-137	< 200	6.9	49	225	<50	14	51	-	-	-	-	-	-	-	-	-	-	-	-
T-137	< 200	7.1	51	234	<50	13	50	-	-	-	-	-	-	-	-	-	-	-	-
WB-C	< 200	9.7	54	227	<50	<10	87	-	-	-	-	-	-	-	-	-	-	-	-
WB-P	< 200	3.4	< 1	7.1	<50	<10	<20	-	-	-	-	-	-	-	-	-	-	-	-
REFERENCE WATERS STANDARD RESULTS [b]																			
M-150	-	12.6±0.8	5.50±0.54	51.0±2.5	-	31.0±1.9	-	-	-	-	17.0±1.5	1.00±0.07	-	5.50±0.54	-	-	-	-	-
M-158	-	15.0±0.67	105±3.7	63.6±1.85	-	11.3±0.82	-	-	-	-	90.7±2.74	0.350±0.045	-	105±3.7	-	-	-	-	-
Q118 [c]	235.4-145.2			493.5-364.7		605.1-473.7	751-591												
T-135	10.1±1.4	4.28±0.31	-	46.0±2.3	-	52.8±3.6	48.2±4.7	-	-	-	-	-	-	-	-	-	-	-	-
T-137	-	6.96±0.56	-	230±14	-	14.0±1.6	49.5±4.2	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 2. Quality-assurance, quality-control water samples for the Pike Hill copper mine study area, Corinth, Vermont. Replicate sample in italics below each original sample.--Continued

[µg/L, micrograms per liter; mg/L, milligrams per liter; ng/L, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; E, estimated value is less than the reporting level but greater than the long-term-method-detection level; NWQL, National Water Quality Laboratory; DOC, dissolved organic carbon]

Sample ID	N (total) (mg/L) AKP01	P (total) (mg/L) CL021	P (total) Dilution	Alkalinity (mg $CaCO_3$/L) TT040	Ammonia as N (dissolved) (mg/L) 48	Ammonia as N (dissolved) Dilution	DOC (mg/L) OX006	N (dissolved) (mg/L) CL048	N (dissolved) (mg/L) CL048	Nitrite as N (dissolved) (mg/L) 49	Orthophosphate as P (dissolved) (mg/L) 48	Orthophosphate as P (dissolved) Dilution
REPLICATES												
PHB4C-A FA	0.15	<0.008	1	76	E0.012	1	1.3	0.088	-	<0.002	E0.005	1
PHB4C-A FA	*E0.04*	*<0.008*	*1*	*72*	*0.025*	*1*	*1.5*	-	*0.061*	*E0.002*	*E0.003*	*1*
PHB4C-B FA	0.27	0.035	1	61	0.198	1	2.3	-	<0.04	E0.002	<0.006	1
PHB4C-BR FA	*0.22*	*0.01*	*1*	*64*	*0.225*	*1*	*2.5*	-	*<0.04*	*E0.002*	*<0.006*	*1*
PHB4C-B RA	-	-	-	-	-	-	-	-	-	-	-	-
PHB4C-BR RA	-	-	-	-	-	-	-	-	-	-	-	-
PHB4E-A FA	0.11	E0.007	1	84	<0.02	1	2.5	<0.060		<0.002	E0.005	1
PHB4E-A FA	*E0.04*	*<0.008*	*1*	*67*	*0.025*	*1*	*2.6*	-	*E0.027*	*E0.002*	*<0.006*	*1*
PHB10A-AR FA	<0.06	<0.008	1	101	E0.015	1	1.1	-	<0.04	E0.001	E0.003	1
PHB10A-A FA[a]	*<0.06*	*<0.008*	*1*	*101*	*0.021*	*1*	*0.9*	-	*<0.04*	*E0.002*	*<0.006*	*1*
PHB10A-AR RA	-	-	-	-	-	-	-	-	-	-	-	-
PHB10A-A RA[a]	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5A-C	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5A Dup-C	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5-C	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5X-C	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5-D FA	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5X-D FA	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5-P	-	-	-	-	-	-	-	-	-	-	-	-
PKSite5X-P	-	-	-	-	-	-	-	-	-	-	-	-
wetland 3-3B FA	0.37	0.035	1	142	0.029	1	5.2	<0.060	-	0.003	<0.030	5
wetland 3-3B-R FA	*0.42*	*E0.004*	*1*	*141*	*0.228*	*1*	*5.2*	*<0.060*	-	*0.004*	*<0.030*	*5*
wetland 3-3B RA	-	-	-	-	-	-	-	-	-	-	-	-
wetland 3-3B-R RA	-	-	-	-	-	-	-	-	-	-	-	-
FIELD AND LAB BLANKS												
PHB1-AQ FA	<0.06	<0.008	1	-	E0.013	1	E0.2	-	<0.04	E0.001	<0.006	1
PHB1-AQ RA	-	-	-	-	-	-	-	-	-	-	-	-
PHB5-BQ FA	<0.06	<0.008	1	-	0.023	1	E0.4	-	<0.04	E0.001	<0.006	1
PHB5-BQ RA	-	-	-	-	-	-	-	-	-	-	-	-
PHB10A-AQ FA	<0.06	<0.008	1	-	0.023	1	<0.4	-	<0.04	E0.001	<0.006	1
PHB10A-AQ RA	-	-	-	-	-	-	-	-	-	-	-	-
wetland 3-3C-Q FA	<0.06	<0.008	1	-	<0.02	1	E0.2	<0.060		<0.002	E0.003	1
wetland 3-3C-Q RA	-	-	-	-	-	-	-	-	-	-	-	-
Blank-1	-	-	-	-	-	-	-	-	-	-	-	-
Blank-2	-	-	-	-	-	-	-	-	-	-	-	-
Blank-3	-	-	-	-	-	-	-	-	-	-	-	-
Blank-C	-	-	-	-	-	-	-	-	-	-	-	-
REFERENCE AND CONTROL WATERS												
M-150	-	-	-	-	-	-	-	-	-	-	-	-
M-150	-	-	-	-	-	-	-	-	-	-	-	-
M-150	-	-	-	-	-	-	-	-	-	-	-	-
M-158	-	-	-	-	-	-	-	-	-	-	-	-
M-158	-	-	-	-	-	-	-	-	-	-	-	-
M-158	-	-	-	-	-	-	-	-	-	-	-	-
Q118	-	-	-	-	-	-	-	-	-	-	-	-
T-135	-	-	-	-	-	-	-	-	-	-	-	-
T-135	-	-	-	-	-	-	-	-	-	-	-	-
T-135	-	-	-	-	-	-	-	-	-	-	-	-
T-137	-	-	-	-	-	-	-	-	-	-	-	-
T-137	-	-	-	-	-	-	-	-	-	-	-	-
WB-C	-	-	-	-	-	-	-	-	-	-	-	-
WB-P	-	-	-	-	-	-	-	-	-	-	-	-
REFERENCE WATERS STANDARD RESULTS[b]												
M-150	-	-	-	-	-	-	-	-	-	-	-	-
M-158	-	-	-	-	-	-	-	-	-	-	-	-
Q118[c]												
T-135	-	-	-	-	-	-	-	-	-	-	-	-
T-137	-	-	-	-	-	-	-	-	-	-	-	-

[a] For sample PHB10A-A, the raw split (RA) contains lower concentrations of Al and Zn compared to the filtered split. The field replicate (PHB10A-AR) is used to replace the original sample.

[b] Round robin results with one standard deviation or the acceptance limits (Q118).

[c] Q118 was diluted 1:10 with deionized water; the acceptance limits are for undiluted reference water.

Appendix 3. Quality-assurance, quality-control sediment samples from the Pike Hill copper mine study area, Corinth, Vermont.

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectrometry; XRF, x-ray fluorescence]

Station ID	Sample	Date Collected	Time Collected	Composite or grab	Weight of >2mm (g)	Weight of <2mm (g)	Fraction of <2mm (wt. %)	Chemistry Job No.	Chemistry Lab No.	Total C (wt. % as C) EA	CO_2 (wt. % as C) EA	Carbonate C (wt. % as C) CT	Organic C (wt. % as C) calculated	Al (wt. %) AES_MS	Ca (wt. %) AES_MS	Fe (wt. %) AES_MS
FIELD REPLICATES																
5	PKSite5	10/17/07	8:25	composite	33	1479	98	MRP-08540	C-306654	0.32	0.07	0.02	0.3	3.85	0.98	0.96
5X	PKSite5X	10/17/07	8:30	composite	32	1459	98	MRP-08540	C-306655	0.4	0.09	0.02	0.38	4.23	1.1	1.08
REFERENCE SAMPLES																
DGPM-1								MRP-08119	C-299896	0.09	0.03	0.01	0.08	4.97	0.14	1.42
GSP-QC								MRP-08119	C-299897	0.16	0.34	0.09	0.07	7.27	1.48	2.77
GXR-6								MRP-08119	C-299898	0.19	0.03	0.01	0.18	8.72	0.15	5.67
SAR-M.1	-	-	-	-	-	-	-	MRP-08541	C-306665	0.28	0.09	0.02	0.26	5.92	0.56	3.11
SAR-L.1	-	-	-	-	-	-	-	MRP-08541	C-306666	1.04	0.39	0.11	0.93	5.83	1.08	2.72
REFERENCE SAMPLES STANDARD RESULTS																
DGPM-1	*Target Value*		-	-	-	-	-	-	-	*0.1*	-	*0.01*	*0.09*	*5.06*	*0.157*	*1.34*
GSP-QC	*Target Value*		-	-	-	-	-	-	-	-	-	-	-	*7.57*	*1.5*	*2.77*
GXR-6	*Target Value*		-	-	-	-	-	-	-	-	-	-	-	*17.7*	*0.18*	*5.58*
SAR-M.1	*Target Value*		-	-	-	-	-	-	-	*0.3*	*0.07*	*0.02*	*0.28*	*6.09*	*0.58*	*3.22*
SAR-L.1	*Target Value*		-	-	-	-	-	-	-	*0.97*	*0.4*	*0.11*	*0.86*	*5.79*	*1.06*	*2.67*

Appendix 3. Quality-assurance, quality-control sediment samples from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectrometry; XRF, x-ray fluorescence]

Station ID	Mg (wt. %) AES_MS	Na (wt. %) AES_MS	S (wt. %) AES_MS	S (wt. %) EA	Ti (wt. %) AES_MS	Ag (mg/kg) AES_MS	As (mg/kg) AES_MS	Ba (mg/kg) AES_MS	Be (mg/kg) AES_MS	Bi (mg/kg) AES_MS	Cd (mg/kg) AES_MS	Ce (mg/kg) AES_MS	Co (mg/kg) AES_MS	Cr (mg/kg) AES_MS	Cs (mg/kg) AES_MS	Cu (mg/kg) AES_MS	Ga (mg/kg) AES_MS	Hg (mg/kg) CVAF	In (mg/kg) AES_MS	La (mg/kg) AES_MS
FIELD REPLICATES																				
5	0.46	1.17	<0.01	-	0.08	<1	1	243	2.6	0.09	0.3	14.7	11.9	20	<5	36.6	8.79	0.01	<0.02	7.5
5X	0.52	1.22	<0.01	-	0.1	<1	2	275	2.7	0.09	0.4	16.8	13.9	24	<5	43.7	9.34	0.01	<0.02	8.5
REFERENCE SAMPLES																				
DGPM-1	0.33	0.06	0.41	0.32	0.29	<1	186	1380	1.7	0.17	0.3	84.3	1.8	119	8	15.3	10.7	-	<0.02	46.6
GSP-QC	0.6	1.79	0.08	0.05	0.34	2	29	1340	1.4	3.89	0.2	397	6	18	<5	35	20.6	-	0.04	161
GXR-6	0.56	0.09	0.03	<0.05	0.48	<1	325	1250	1.2	0.26	0.1	35.2	13.3	67	<5	75.2	20.7	-	0.07	12.4
SAR-M.1	0.46	1.14	0.12	-	0.23	3	42	822	2.5	1.77	5.8	121	14.4	88	<5	307	16.8	0.12	1.13	58.1
SAR-L.1	0.53	1.51	0.07	-	0.21	2	20	936	2.9	1.84	2.9	154	8.1	98	<5	360	16.8	0.16	0.28	71.4
REFERENCE SAMPLES STANDARD RESULTS																				
DGPM-1	*0.337*	*0.06*	*0.363*	*0.363*	*0.266*	*-*	*180*	*1326*	*-*	*0.114*	*0.33*	*-*	*1.36*	*97*	*-*	*13.7*	*10.8*	*-*	*-*	*-*
GSP-QC	*0.615*	*1.87*	*0.074*	*0.074*	*0.339*	*-*	*31.4*	*1310*	*-*	*4.28*	*0.227*	*-*	*6.3*	*16.6*	*-*	*31.3*	*22.2*	*-*	*0.044*	*-*
GXR-6	*0.61*	*0.11*	*0.016*	*0.016*	*0.50*	*0.26*	*330*	*1300*	*1.4*	*0.29*	*1*	*36*	*13.8*	*96*	*4.2*	*66*	*35*	*0.068*	*0.26*	*13.9*
SAR-M.1	*0.5*	*1.19*	*0.13*	*0.13*	*0.35*	*3.1*	*37*	*764*	*2.4*	*1.33*	*4.76*	*120*	*11*	*101*	*-*	*320*	*20*	*0.117*	*-*	*61*
SAR-L.1	*0.55*	*1.53*	*0.07*	*0.07*	*0.29*	*2.56*	*16.5*	*879.2*	*3.244*	*1.1*	*2.5*	*150*	*7.5*	*110*	*-*	*370*	*17*	*0.155*	*-*	*75*

Appendix 3. Quality-assurance, quality-control sediment samples from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectrometry; XRF, x-ray fluorescence]

Station ID	Mn (mg/kg) AES_MS	Mo (mg/kg) AES_MS	Nb (mg/kg) AES_MS	Ni (mg/kg) AES_MS	P (mg/kg) AES_MS	Pb (mg/kg) AES_MS	Rb (mg/kg) AES_MS	Sb (mg/kg) AES_MS	Sc (mg/kg) AES_MS	Se (mg/kg) HG-AAS	Sn (mg/kg) AES_MS	Sr (mg/kg) AES_MS	Te (mg/kg) AES_MS	Th (mg/kg) AES_MS	Tl (mg/kg) AES_MS	U (mg/kg) AES_MS	V (mg/kg) AES_MS	W (mg/kg) AES_MS	Y (mg/kg) AES_MS	Zn (mg/kg) AES_MS
FIELD REPLICATES																				
5	435	0.13	2.2	7.6	200	17.9	74.4	<0.05	3.6	<0.2	0.8	180	<0.1	2.3	0.4	0.9	26	0.3	5.6	81
5X	530	0.18	2.7	8.9	250	19.2	81.6	0.05	4.2	<0.2	1	203	<0.1	2.6	0.4	1.2	29	0.3	6.6	92
REFERENCE SAMPLES																				
DGPM-1	28	14	8.5	9.9	460	10.7	85.6	15.2	8.8	1.3	1.5	89.5	<0.1	9.8	7.2	2.6	98	73.5	16.9	26
GSP-QC	272	1.67	18.9	8.6	1380	36.7	212	0.97	5.8	4.1	4.4	213	4	99.3	1.8	2	69	6.6	23.2	114
GXR-6	1040	2.4	5.8	22.2	460	86.4	85.8	3.46	27.6	0.8	1	35.5	<0.1	5.5	1.9	1.2	189	1.8	9.3	128
SAR-M.1	5280	14.3	29.4	40.6	700	994	161	6.64	8	0.3	2.7	142	0.9	16	2.5	3.4	64	11.8	25.2	988
SAR-L.1	2190	14.1	29.7	49.9	760	593	152	5.09	7.8	0.8	6.1	148	0.5	18.3	1.2	4	134	2.9	38.3	441
REFERENCE SAMPLES STANDARD RESULTS																				
DGPM-1	*28*	-	-	*11.4*	*418*	*9.8*	*90*	*14*	-		-	*91.5*	-	-	-	-	*106*	*76*	-	*24.4*
GSP-QC	*281*	-	-	*11.5*	*1230*	*40.4*	*228*	-	-		-	*226*	-	-	-	-	*73.3*	-	-	*117*
GXR-6	*1020*	*2.4*	*7.5*	*27*	*349*	*101*	*90*	*3.6*	*27.6*	*0.94*	*1.7*	*35*	*0.018*	*5.3*	*2.2*	*1.54*	*186*	*1.9*	*14*	*118*
SAR-M.1	*5200*	*12*	*31*	*41*	*800*	*960*	-	*5.6*	*8.3*	*0.33*	*9.4*	*156*	*0.69*	*18*	*2.8*	*2.6*	*66*	*14*	*33*	*888*
SAR-L.1	*2094*	*13*	*35*	*52*	*900*	*578*	-	*5.1*	*7.8*	*0.9*	*6*	*158*	*0.6*	*19*	*1.4*	*5.2*	*140*	*3.7*	*44*	*420*

Appendix 3. Quality-assurance, quality-control sediment samples from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectrometry; XRF, x-ray fluorescence]

Station ID	CaO (wt. %) XRF	Cr_2O_3 (wt. %) XRF	Fe_2O_3 (wt. %) XRF	K_2O (wt. %) XRF	LOI (wt. %) XRF	MgO (wt. %) XRF	MnO (wt. %) XRF	Na_2O (wt. %) XRF	P_2O_5 (wt. %) XRF	SiO_2 (wt. %) XRF	TiO_2 (wt. %) XRF
FIELD REPLICATES											
5	-	-	-	-	-	-	-	-	-	-	-
5X	-	-	-	-	-	-	-	-	-	-	-
REFERENCE SAMPLES											
DGPM-1	0.19	0.02	1.95	2.64	3.91	0.6	<0.01	0.11	0.1	81.2	0.56
GSP-QC	2.06	<0.01	4.07	4.93	1.23	1.03	0.04	2.53	0.29	68.3	0.66
GXR-6	0.21	0.01	8.15	2.25	8.32	1.06	0.14	0.1	0.09	47.5	0.88
SAR-M.1	-	-	-	-	-	-	-	-	-	-	-
SAR-L.1	-	-	-	-	-	-	-	-	-	-	-
REFERENCE SAMPLES STANDARD RESULTS											
DGPM-1	*0.22*	*0.01*	*1.92*	*2.73*	-	*0.56*	*0.00*	*0.08*	*0.10*	-	*0.44*
GSP-QC	*2.10*	*0.00*	*3.96*	*5.12*	-	*1.02*	*0.04*	*2.52*	*0.28*	-	*0.57*
GXR-6	*0.25*	*0.01*	*7.98*	*2.25*	*7.6*	*1.01*	*0.13*	*0.14*	*0.08*	*46.68*	*0.83*
SAR-M.1	-	-	-	-	-	-	-	-	-	-	-
SAR-L.1	-	-	-	-	-	-	-	-	-	-	-

Appendix 4. Acid volatile sulfide (AVS), simultaneously extracted metals (SEM), and particle size results for sediments and quality-assurance, quality-control samples for the Pike Hill copper mine study area, Corinth, Vermont.

[%, percent; mg/kg, milligrams per kilogram; µmol/g, micromoles per gram; µm, micrometer; -, not determined; <, analyte not detected at the reporting level; (bkgd), background sampling locatio

Station ID	Sample ID	Sample description	Solids[a]	ASS[b]	AVS[c]	SEM[d]						SEM/AVS[e]	Particle Size of Soils (percent passing)[g]									
						Cd	Cu	Pb	Ni	Zn	Hg		1.4	1.5	3.2	3.3	3.4	3.5	6.4	6.7	6.8	6.9
			(%)	(mg/kg)	(µmole/g)	(µmole/g)	(µmole/g)	(µmole/g)	(µmole/g)	(µmole/g)	(µmole/g)		(µm)	(µm)	(µm)	(µm)	(µm)	(µm)	(µm)	(µm)	(µm)	(µm)
SAMPLES																						
1	PKSITE 1	stream sediment	74.8	<21.3	<0.66	0.0041	8.5	0.072	0.0072	1.4	<0.0002	0	-0.1	-	-	-	0.4	-	-	-	-	-
4	PKSITE 4	stream sediment	80.6	<19.2	<0.58	0.0044	0.83	0.0097	0.051	0.97	<0.0001	0	-0.4	-	-	0.1	-	-	-	-	-	-
4A	PKSITE 4A	stream sediment	75.3	<20.8	<0.65	0.014	7.7	0.018	0.12	4.4	<0.0002	0	-0.2	-	-	-0.2	-	-	-	-	-	0.3
4C	PKSITE 4C	stream sediment	66.9	<23.3	<0.75	0.026	17.6	0.032	0.16	6.8	<0.0002	0	-0.4	-	-	-	-	-0.4	-	-	-	0.2
4E	PKSITE 4E	stream sediment	81.5	<16.8	<0.61	0.011	4.2	0.014	0.087	3.5	<0.0002	0	-0.4	-	-	-	-	-0.4	-	-	-	-
4F	PKSITE 4F	stream sediment	70.5	<21.8	<0.67	0.021	26.4	0.046	0.17	8.0	<0.0002	0	-0.6	-	-	0.1	-	-	-	-	0.6	-
5	PKSITE 5	stream sediment	74.9	<19.7	<0.61	0.0017	0.40	0.0097	0.075	0.88	<0.0002	0	0.2	-	-	-	0.6	-	-	-	-	-
5A (bkgd)	PKSITE 5A	stream sediment	78.6	<19.8	<0.58	<0.00026	0.027	0.017	0.11	0.24	<0.0001	0	0.2	-	-	-	0.2	-	-	-	-	-
6	PKSITE 6	stream sediment	77.3	<20.5	<0.56	0.0042	0.66	0.0063	0.070	1.6	<0.0001	0	0.3	-	-	-	0.3	-	-	0.3	-	-
10	PKSITE 10	stream sediment	69.3	<22.8	<0.71	0.0088	4	0.017	0.19	5.1	<0.0002	0	-0.3	-	-	-	-	-0.3	-	-	-	-
10A	PKSITE 10A	stream sediment	60	<26	<0.81	0.0052	0.41	0.024	0.11	0.92	<0.0002	0	-	-1.3	-	-	-0.7		-	-	-	-
10B	PKSITE 10B	stream sediment	61.2	<25.2	<0.77	0.018	12	0.029	0.27	7.1	<0.0002	0	-	-0.9	-	-	-	-0.9	-	-	-0.9	-
10C	PKSITE 10C	stream sediment	75.6	<21	<0.64	0.0012	0.068	0.014	0.051	0.7	<0.0002	0	-	-1.1	-	-	-	-0.6	-	-	-	-
10D (bkgd)	PKSITE 10D	stream sediment	74.4	<20.9	<0.65	<0.0003	0.02	0.014	0.082	0.18	<0.0002	0	-	-0.3	-	-	-	-0.3	-	0.3	-	-
11	PKSITE 11	stream sediment	68	<21.2	<0.72	0.028	10.9	0.014	0.39	12	<0.0002	0	-0.3	-	-	-	-0.3	-	-	-	-	-
12	PKSITE 12	stream sediment	74.5	<21.5	<0.63	0.0081	2.9	0.018	0.17	3.8	<0.0002	0	0.2	-	-	-	0.2	-	-	0.3	-	-
1-1	WETLAND 1-1	wetland sediment	24.3	62.2	<2.01	0.1726	34.8	0.133	0.58	28.3	<0.0005	0	2	-	-	2	-	-	-	-	6.9	-
2-1	WETLAND 2-1	wetland sediment	32.8	<47.9	<1.52	0.1219	100.1	0.118	0.40	29.8	<0.0003	0	3.9	-	-	5.7	-	-	-	13.0	-	-
3-1	WETLAND 3-1	wetland sediment	30.3	<51.9	<1.59	0.1486	92.1	0.037	0.45	28.6	<0.0004	0	2.8	-	-	2.8	-	-	-	-	-	7.5
3-2	WETLAND 3-2	wetland sediment	27	<56.5	<1.79	0.0418	42.5	0.053	0.14	12.0	<0.0004	0	8	-	-	10.0	-	-	18.4	-	-	-
3-3	WETLAND 3-3	wetland sediment	30	<51	<1.64	0.0409	42.3	0.083	0.15	9.0	<0.0004	0	3.9	-	-	-	3.9	-	-	12.4	-	-
3-4	WETLAND 3-4	wetland sediment	26.6	<55.4	<1.87	0.0418	28.5	0.025	0.09	7.7	<0.0004	0	6.3	-	-	-		6.3	-	-	11.8	-
3-5	WETLAND 3-5	wetland sediment	35.4	3460	25.2	0.0694	36.5	0.203	0.13	12.5	<0.0003	2.0	4.6	-	4.6	-	-	-	-	7.5	-	-
4-1	WETLAND 4-1	wetland sediment	31.2	<47.7	<1.58	0.0187	10.5	0.032	0.07	3.9	<0.0004	0	1.4	-	-	1.4	-	-	-	-	4.2	-
QUALITY-ASSURANCE QUALITY-CONTROL SAMPLES																						
1	PKSITE 1REP	lab replicate	-	<20.9	<0.61	0.0020	8.0	0.068	0.0084	1.2	<0.0001	0	-	-	-	-	-	-	-	-	-	-
12	PKSITE 12REP	lab replicate	-	<19.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-5	WETLAND 3-5REP	lab replicate	27.8	3350	25.3	0.0763	33.7	0.202	0.12	13.2	<0.0003	1.9	-	-	-	-	-	-	-	-	-	-
5	PKSITE 5X	field duplicate	76.9	<20.3	<0.60	0.0020	0.43	0.0097	0.073	0.92	<0.0001	0	0.2	-	-	0.2	-	-	-	-	-	0.7
1	PKSITE 1MS	matrix spiked sample	-	(55%[f])	(93%)	(86.3%)	(-87.9%)	(78.2%)	(87.4%)	(56.8%)	(56.5%)	-	-	-	-	-	-	-	-	-	-	-
12	PKSITE 12MS	matrix spiked sample	74.5	(58%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	LCS103007AMS	matrix spiked	-	-	-	(90.6%)	(90%)	(87.7%)	(91.8%)	(92.7%)	(84.5%)	-	-	-	-	-	-	-	-	-	-	-
Spiked	LCS103007AMS	matrix spiked	-	-	-	(91.4%)	(90%)	(87.7%)	(91.8%)	(93.5%)	(83.8%)	-	-	-	-	-	-	-	-	-	-	-
Spiked	LCSSU102207B	matrix spiked	-	(99%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	LCSSU102407A	matrix spiked	-	(96%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	LCSSU103007A	matrix spiked	-	-	(96%)	(90.6%)	(90.0%)	(87.7%)	(91.8%)	(92.7%)	(84.5%)	-	-	-	-	-	-	-	-	-	-	-
Blank	BLK083107A	lab blank	-	<16	<0.5	<0.0008	<0.01	<0.004	<0.003	<0.002	<0.0001	0	-	-	-	-	-	-	-	-	-	-
Blank	BLK103007A	lab blank	-	-	-	<0.0002	<0.002	0.002	0.004	0.004	<0.0001	-	-	-	-	-	-	-	-	-	-	-
Blank	BLK103007A	lab blank	-	-	-	<0.0002	-0.0064	0.0023	0.0027	0.006	<0.0001	-	-	-	-	-	-	-	-	-	-	-
Blank	BLKSU102207B	lab blank	-	<16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	BLKSU102407A	lab blank	-	<16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	BLKSU103007A	lab blank	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 4. Acid volatile sulfide (AVS), simultaneously extracted metals (SEM), and particle size results for sediments and quality-assurance, quality-control samples for the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[%, percent; mg/kg, milligrams per kilogram; µmol/g, micromoles per gram; µm, micrometer; -, not determined; <, analyte not detected at the reporting level; (bkgd), background sampling locatio

Station ID	7.1 (µm)	7.2 (µm)	9.2 (µm)	9.3 (µm)	9.4 (µm)	9.5 (µm)	9.6 (µm)	9.7 (µm)	9.8 (µm)	9.9 (µm)	10 (µm)	12.8 (µm)	12.9 (µm)	13.1 (µm)	13.3 (µm)	13.7 (µm)	13.8 (µm)	14 (µm)	21 (µm)	22 (µm)	23 (µm)	24 (µm)	32 (µm)	33 (µm)	34 (µm)	35 (µm)	36 (µm)	37 (µm)	38 (µm)	75 (µm)	150 (µm)	180 (µm)	250 (µm)	425 (µm)	850 (µm)	2000 (µm)
SAMPLES																																				
1	0.4	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	1.4	-	-	-	-	1.9	-	-	-	-	-	-	1.9	7.8	16.3	20.6	31.2	48.8	67.0	81
4	-	-	-	-	-	0.6	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	0.6	-	-	-	-	-	-	0.6	4.1	6.6	8.3	14.6	32.2	59.4	82.1
4A	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	-	0.3	-	-	-	-	0.8	-	-	-	-	-	1.3	-	6.2	12.1	16.8	31.4	59.2	79.3	89.1
4C	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	2.5	-	-	-	-	-	3.1	-	14.1	25.7	31.7	46.7	67.4	80.9	89.7
4E	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	0.6	-	-	-	-	-	-	0.6	6.7	8.0	8.9	13.3	32.7	63.7	82.2
4F	-	-	-	-	-	-	-	-	0.6	-	-	-	-	-	-	-	1.2	-	-	-	-	1.8	-	-	-	-	-	-	1.8	4.9	17.5	26.7	51.8	32.2	59.4	82.1
5	-	-	-	-	-	-	-	1.1		-	-	-	-	-	-	1.1	-	-	-	-	-	1.1	-	-	-	-	-	1.6	-	3.2	6.2	10.0	27.6	66.0	91.2	98.5
5A (bkgd)	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	1.2	-	-	-	-	-	1.7	-	-	-	-	-	1.7	-	7.8	13.9	17.4	26.8	46.2	73.9	94
6	-	-	-	-	-	-	-	-	-		0.7	-	-	-	-	-	0.7	-	-	-	-	0.7	-	-	-	-	-	-	0.7	4.4	6.4	7.9	14.4	35.7	62.4	80.7
10	0.3	-	-	-	-	-	0.3	-	-		-	-	-	-	-	-	0.9	-	-	-	-	0.9	-	-	-	-	-	-	0.9	5.1	9.8	12	20.4	36.6	61.9	85.2
10A	-	-0.7	-	-	-	-	-	-	-	-0.7	-	-	-	-	-	-	-	-0.7	-	-	-	-0.7	-	-	-	-	-	-	0	5.2	11.9	16.4	30.1	54.8	73	81.6
10B	-	-	-	-	-	-	-	-	-	-0.9	-	-	-	-	-	-	0.7	-	-	-	-	0.7	-	-	-	-	-	2.4	-	18.3	35.3	42.3	58.2	78.2	91.3	96.3
10C	-	-0.6	-	-	-	-	-	-0.6	-	-	-	-	-	-	-	-	-	-0.6	-	-	-	-0.6	-	-	-	-	-	-	-0.6	5.5	8.9	11.2	17.9	31.9	49.5	65
10D (bkgd)	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	0.3	-	-	-	-	0.8	-	-	-	-	-	0.8	-	4.9	6.4	7.4	12	25.6	55.6	85.5
11	0.3	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-	-	0.8	-	-	-	-	0.8	-	-	-	-	-	-	0.8	9.8	13	14.8	21.8	35.7	54.7	66.8
12	-	-	-	-	-	-	-	0.9	-	-	-	-	-	-	-	0.9	-	-	-	-	-	0.9	-	-	-	-	-	0.9	-	3.2	6.8	9.7	21.6	45.8	71.3	84.2
1-1	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	11.7	-	-	-	-	-	16.6	-	-	-	34.4	-	-	-	-	45.6	58.8	61.5	68.5	74.6	78.9	83.5
2-1	-	-	-	16.6	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	29.3	-	-	-	-	42.0	-	-	-	-	67.2	75.3	76.4	79.0	80.9	82.3	82.8
3-1	-	-	-	-	-	-	-	9.9	-	-	-	-	-	-	14.6	-	-	-	-	-	19.3	-	-	-	-	-	24.0	-	-	55.0	65.9	67.3	70.6	72.8	74.2	74.5
3-2	-	-	-	-	22.4	-	-	-	-	-	-	30.5	-	-	-	-	-	-	-	38.6	-	-	-	52.7	-	-	-	-	-	71.4	77.0	77.6	79.0	80.1	80.9	81
3-3	-	-	16.5	-	-	-	-	-	-	-	-	-	24.7	-	-	-	-	-	43.1	-	-	-	63.5	-	-	-	-	-	-	81.9	87.8	88.5	90.5	92.3	93.9	94.6
3-4	-	-	-	16.9	-	-	-	-	-	-	-	-	-	24.5	-	-	-	-	-	34.6	-	-	-	-	54.8	-	-	-	-	76.2	82.7	83.4	85.1	86.5	87.6	88
3-5	-	-	10.4	-	-	-	-	-	-	-	-	-	-	14.8	-	-	-	-	-	26.4	-	-	-	-	33.7	-	-	-	-	54.3	64.2	66.1	71.4	75.3	77.6	79.7
4-1	-	-	-	5.6	-	-	-	-	-	-	-	-	-	-	8.6	-	-	-	-	-	11.4	-	-	-	-	19.8	-	-	-	68.2	83.1	84.1	86.3	87.8	88.7	90.2
QUALITY-ASSURANCE QUALITY-CONTROL SAMPLES																																				
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	0.7	-	-	-	-	-	-	0.7	3.7	6.3	9.8	27	64.7	89.7	97.9
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 4. Acid volatile sulfide (AVS), simultaneously extracted metals (SEM), and particle size results for sediments and quality-assurance, quality-control samples for the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[%, percent; mg/kg, milligrams per kilogram; µmol/g, micromoles per gram; µm, micrometer; -, not determined; <, analyte not detected at the reporting level; (bkgd), background sampling locatio

Station ID	9500 (µm)	19000 (µm)	25000 (µm)	37500 (µm)	50000 (µm)	75000 (µm)	Gravel (%)	Coarse Sand (%)	Medium Sand (%)	Fine Sand (%)	Silt (%)	Clay (%)
SAMPLES												
1	96.5	100	100	100	100	100	8.2	10.8	32.2	41	7.6	0.2
4	100	100	100	100	100	100	4.4	13.5	49.9	28.1	4	0.2
4A	96.2	100	100	100	100	100	6.4	4.5	29.8	52.9	5.8	0.7
4C	100	100	100	100	100	100	1.9	8.4	22.2	53.3	13.9	0.3
4E	98.2	100	100	100	100	100	7	10.8	49.5	25.9	6.5	0.2
4F	90	90	100	100	100	100	10.5	1.3	11.8	71.4	4.2	0.8
5	100	100	100	100	100	100	0.2	1.3	32.5	62.8	2.5	0.7
5A (bkgd)	99.2	100	100	100	100	100	1.4	4.7	47.8	38.5	7	0.7
6	99.4	100	100	100	100	100	8.7	10.6	45	31.3	4.1	0.2
10	99.6	99.7	100	100	100	100	3.1	11.7	48.6	31.4	4.8	0.3
10A	88.6	88.6	100	100	100	100	14	4.4	26.8	49.7	5.8	-0.7
10B	100	100	100	100	100	100	2	1.8	18	59.9	19.2	-0.9
10C	90	100	100	100	100	100	21.6	13.4	33.1	26.3	6.1	-0.6
10D (bkgd)	99.6	100	100	100	100	100	2.1	12.4	59.9	20.8	4.6	0.3
11	92.6	93.4	100	100	100	100	14	19.2	31.1	25.8	9.6	0.3
12	98.8	100	100	100	100	100	6.9	8.8	38.4	42.6	2.9	0.3
1-1	99.5	100	100	100	100	100	3.2	13.3	9	29	38.7	6.8
2-1	96.1	100	100	100	100	100	5.4	11.8	1.9	13.6	54.3	13
3-1	97.5	100	100	100	100	100	6.2	19.4	1.6	17.9	47.5	7.5
3-2	96.3	100	100	100	100	100	5.7	13.3	0.9	8.6	53	18.5
3-3	99.8	100	100	100	100	100	0.5	4.9	2.3	10.4	69.4	12.6
3-4	99.2	98.7	100	100	100	100	3.7	9.6	1.5	10.2	64.5	10.5
3-5	98.6	100	100	100	100	100	4.7	15.6	4.4	21	46.8	7.5
4-1	97.6	100	100	100	100	100	4.6	5.2	2.4	19.6	64	4.2
QUALITY-ASSURANCE QUALITY-CONTROL SAMPLES												
1	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
3-5	-	-	-	-	-	-	-	-	-	-	-	-
5	100	100	100	100	100	100	0.1	2	33.2	61	3	0.8
1	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-
Spiked	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-

[a] Solids determined by Method IN623.

[b] Acid soluble sulfide (total sulfide) determined by SW846 Method 9030B/9034

[c] Acid volatile sulfide determined by SW846 Method 6010B

[d] Simultaneously extracted metals determined by SW846 Method 6010B(ICP-AES) for all metals except Hg, which was determined by Method 7471A (cold-vapor atomic absorption

[e] SEM/AVS is the sum of the concentrations of all metals divided by AVS, which in this study was less than the detection limit for all samples except one

[f] Recovery for spiked sample.

[g] Percent of particles that passed through sieve size determined by ASTM D422.

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Sample ID	Date Collected	Time Collected	Media	Drainage (mi^2)	Discharge (ft^3/s)	Discharge (SE%)	Pump Rate (mL/s)	Flow (cfs)	Flow error (%)	Dilution factor[a]	SC (field) (µS/cm)	SC (lab) (µS/cm)
SURFACE WATER													
1	PHB1-A FA	10/18/2007	10:00	surface water	0.11	0.11	9.1	-				589	600
1	PHB1-A RA	10/18/2007	10:00	surface water	0.11	0.11	9.1	-	-	-	-	589	600
4	PHB4-A FA	10/18/2007	8:30	surface water	1.10	0.77	7.1	-	-	-	-	233	274
4	PHB4-A RA	10/18/2007	8:30	surface water	1.10	0.77	7.1	-	-	-	-	233	274
4A	PHB4A-A FA	10/17/2007	16:00	surface water	1.60	0.92	6.3	-	-	-	-	236	235
4A	PHB4A-A RA	10/17/2007	16:00	surface water	1.60	0.92	6.3	-	-	-	-	236	235
4C	PHB4C-A FA	10/17/2007	13:00	surface water	1.88	1.01	6.1	-	-	-	-	232	231
4C	PHB4C-A RA	10/17/2007	13:00	surface water	1.88	1.01	6.1	-	-	-	-	232	231
4E	PHB4E-A FA	10/17/2007	14:00	surface water	2.45	1.61	6.6	-	-	-	-	193	188
4E	PHB4E-A RA	10/17/2007	14:00	surface water	2.45	1.61	6.6	-	-	-	-	193	188
4F	PHB4F-A FA	10/18/2007	9:00	surface water	0.70	0.58	7.7	-	-	-	-	287	303
4F	PHB4F-A RA	10/18/2007	9:00	surface water	0.70	0.58	7.7	-	-	-	-	287	303
5	PHB5-A FA	10/17/2007	8:30	surface water	3.64	2.38	5.7	-	-	-	-	208	214
5	PHB5-A RA	10/17/2007	8:30	surface water	3.64	2.38	5.7	-	-	-	-	208	214
5A	PHB5A-A FA	10/17/2007	10:00	surface water	0.26	0.28	3.6	-	-	-	-	356	348
5A	PHB5A-A RA	10/17/2007	10:00	surface water	0.26	0.28	3.6	-	-	-	-	356	348
6	PHB6-A FA	10/17/2007	11:00	surface water	4.39	2.63	4.6	-	-	-	-	208	214
6	PHB6-A RA	10/17/2007	11:00	surface water	4.39	2.63	4.6	-	-	-	-	208	214
10	PHB10-A FA	10/16/2007	9:30	surface water	0.41	0.27	7.1	-	-	-	-	242	237
10	PHB10-A RA	10/16/2007	9:30	surface water	0.41	0.27	7.1	-	-	-	-	242	237
10A	PHB10A-AR FA	10/16/2007	12:31	surface water	0.09	0.08	8.9	-	-	-	-	208	205
10A	PHB10A-AR RA	10/16/2007	12:31	surface water	0.09	0.08	8.9	-	-	-	-	208	205
10B	PHB10B-A FA	10/16/2007	13:30	surface water	0.11	0.12	6.5	-	-	-	-	226	225
10B	PHB10B-A RA	10/16/2007	13:30	surface water	0.11	0.12	6.5	-	-	-	-	226	225
10C	PHB10C-A FA	10/16/2007	11:00	surface water	0.70	0.42	7.8	-	-	-	-	248	247
10C	PHB10C-A RA	10/16/2007	11:00	surface water	0.70	0.42	7.8	-	-	-	-	248	247
10D	PHB10D-A FA	10/16/2007	17:00	surface water	3.29	2.34	5.6	-	-	-	-	188	189
10D	PHB10D-A RA	10/16/2007	17:00	surface water	3.29	2.34	5.6	-	-	-	-	188	189
11	PHB11-A FA	10/16/2007	15:00	surface water	0.19	0.22	8.1	-	-	-	-	225	221
11	PHB11-A RA	10/16/2007	15:00	surface water	0.19	0.22	8.1	-	-	-	-	225	221
12	PHB12-A FA	10/16/2007	15:30	surface water	0.31	0.22	8.5	-	-	-	-	236	237
12	PHB12-A RA	10/16/2007	15:30	surface water	0.31	0.22	8.5	-	-	-	-	236	237
2	PKHL-11-4 FA	10/18/2007	10:00	surface water	-	-	-	-	-	-	-	202	-
2	PKHL-11-4 RA	10/18/2007	10:00	surface water	-	-	-	-	-	-	-	202	-
4C	PKSite4C-A FA	8/21/2007	15:00	surface water	-	-	-	-	0.46	9.6	-	-	210
4C	PKSite4C-A RA	8/21/2007	15:00	surface water	-	-	-	-	0.46	9.6	-	-	210
4E	PKSite4E-A FA	8/21/2007	14:00	surface water	-	-	-	-	0.66	6.5	-	-	200
4E	PKSite4E-A RA	8/21/2007	14:00	surface water	-	-	-	-	0.66	6.5	-	-	200
3-1	wetland 3-1A FA	8/21/2007	13:00	surface water, 0.5 ft	-	-	-	-	-	-	-	-	200
3-1	wetland 3-1A RA	8/21/2007	13:00	surface water, 0.5 ft	-	-	-	-	-	-	-	-	200
3-2	wetland 3-2A FA	8/21/2007	10:00	surface water, 0.5 ft	-	-	-	-	-	-	-	-	239
3-2	wetland 3-2A RA	8/21/2007	10:00	surface water, 0.5 ft	-	-	-	-	-	-	-	-	239
3-5	wetland 3-5A FA	8/21/2007	7:45	surface water, 0.5 ft	-	-	-	-	-	-	-	-	239
3-5	wetland 3-5A RA	8/21/2007	7:45	surface water, 0.5 ft	-	-	-	-	-	-	-	-	239
PORE WATER													
1	PHB1-B FA	10/18/2007	10:15	in situ pore water	0.11	-	-	4.13	-	-	-	616	563
1	PHB1-B RA	10/18/2007	10:15	in situ pore water	0.11	-	-	4.13	-	-	-	616	563

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	pH	Water Temp (^{0}C)	ORP (mV)	DO (mg/L)	Alkalinity (mg/L as $CaCO_3$)	Hardness- calculated (mg/L as $CaCO_3$)	Hardness- measured (mg/L as $CaCO_3$)	Ammonia (mg/L as N)	Job No.	Lab No.	Sample ID	Ag (µg/L) ICP-MS	Al (µg/L) ICP-MS	As (µg/L) ICP-MS	Ba (µg/L) ICP-MS	Be (µg/L) ICP-MS
									ICP-MS & ICP-AE[a]-MS & ICP-A		ICP-MS & ICP-AES					
SURFACE WATER																
1	4.7	9.9	264	10.2	-	165	-	-	MRP-08492	C-305577	PHB1-A FA	<1	3650	<1	26.8	0.3
1	4.7	9.9	264	10.2	-	-	-	-	MRP-08492	C-305578	PHB1-A RA	<1	4850	<1	17.6	0.4
4	7.2	8.1	242	10.34	-	82	-	-	MRP-08491	C-305546	PHB4-A FA	<1	12.4	<1	13.9	<0.05
4	7.2	8.1	242	10.34	-	-	-	-	MRP-08491	C-305547	PHB4-A RA	<1	42.2	<1	14	<0.05
4A	7.7	8.4	233	10.7	-	97	-	-	MRP-08492	C-305550	PHB4A-A FA	<1	9.7	<1	15.6	<0.05
4A	7.7	8.4	233	10.7	-	-	-	-	MRP-08492	C-305551	PHB4A-A RA	<1	118	<1	15.7	0.06
4C	7.5	7.2	145	9.5	-	82	-	-	MRP-08491	C-305544	PHB4C-A FA	<1	8.4	<1	13.7	<0.05
4C	7.5	7.2	145	9.5	-	-	-	-	MRP-08491	C-305545	PHB4C-A RA	<1	25.4	<1	14	<0.05
4E	7.9	9.5	46	10	-	72	-	-	MRP-08491	C-305518	PHB4E-A FA	<1	5.1	<1	9.12	<0.05
4E	7.9	9.5	46	10	-	-	-	-	MRP-08491	C-305519	PHB4E-A RA	<1	34.9	<1	9.74	<0.05
4F	7.3	7.8	133	9.47	-	119	-	-	MRP-08492	C-305570	PHB4F-A FA	<1	11.1	<1	16.7	<0.05
4F	7.3	7.8	133	9.47	-	-	-	-	MRP-08492	C-305571	PHB4F-A RA	<1	185	<1	17.6	<0.05
5	7.5	6.7	328	10.86	-	77	-	-	MRP-08491	C-305532	PHB5-A FA	<1	5.4	<1	12.7	<0.05
5	7.5	6.7	328	10.86	-	-	-	-	MRP-08491	C-305533	PHB5-A RA	<1	11.4	<1	12.6	0.05
5A	7.6	6.5	132	10.94	-	124	-	-	MRP-08492	C-305574	PHB5A-A FA	<1	6.7	<1	23.2	<0.05
5A	7.6	6.5	132	10.94	-	-	-	-	MRP-08492	C-305575	PHB5A-A RA	<1	35.2	<1	24.3	<0.05
6	7.5	7.8	258	10.5	-	73	-	-	MRP-08491	C-305534	PHB6-A FA	<1	4	<1	11.9	<0.05
6	7.5	7.8	258	10.5	-	-	-	-	MRP-08491	C-305535	PHB6-A RA	<1	7.9	<1	12.7	<0.05
10	7.3	8.3	389	10.3	-	105	-	-	MRP-08492	C-305554	PHB10-A FA	<1	14.2	<1	16.6	<0.05
10	7.3	8.3	389	10.3	-	-	-	-	MRP-08492	C-305555	PHB10-A RA	<1	16.1	<1	16.6	<0.05
10A	7.6	10.1	292	9.4	-	92	-	-	MRP-08491	C-305530	PHB10A-AR FA	<1	5.1	<1	23.6	<0.05
10A	7.6	10.1	292	9.4	-	-	-	-	MRP-08491	C-305531	PHB10A-AR RA	<1	19.8	<1	24	<0.05
10B	7.1	9.6	389	9.7	-	81	-	-	MRP-08491	C-305542[b]	PHB10B-A FA	<1	117	<1	20.1	0.06
10B	7.1	9.6	389	9.7	-	-	-	-	MRP-08491	C-305539	PHB10B-A RA	<1	680	<1	21.7	<0.05
10C	7.6	8.7	384	9.91	-	108	-	-	MRP-08492	C-305560	PHB10C-A FA	<1	7.8	<1	16.1	<0.05
10C	7.6	8.7	384	9.91	-	-	-	-	MRP-08492	C-305561	PHB10C-A RA	<1	23	<1	17	<0.05
10D	7.6	8.6	315	10.51	-	78	-	-	MRP-08491	C-305516	PHB10D-A FA	<1	9.7	<1	7.61	<0.05
10D	7.6	8.6	315	10.51	-	-	-	-	MRP-08491	C-305517	PHB10D-A RA	<1	12	<1	7.8	<0.05
11	7.8	9.1	358	10.43	-	94	-	-	MRP-08491	C-305536	PHB11-A FA	<1	38.8	<1	17	<0.05
11	7.8	9.1	358	10.43	-	-	-	-	MRP-08491	C-305537	PHB11-A RA	<1	48.8	<1	17	<0.05
12	7.8	9.1	350	9.86	-	88	-	-	MRP-08492	C-305548	PHB12-A FA	<1	22.7	<1	15.2	<0.05
12	7.8	9.1	350	9.86	-	-	-	-	MRP-08492	C-305549	PHB12-A RA	<1	55.4	<1	15.8	<0.05
2	7.5	9.81	262.7	9.44	80	94	-	-	MRP-08491	C-305522	PKHL-11-4 FA	<1	3.3	<1	20	<0.05
2	7.5	9.81	262.7	9.44	80	-	-	-	MRP-08491	C-305523	PKHL-11-4 RA	<1	41.6	<1	20.3	<0.05
4C	7.7	-	-	-	-	-	-	-	MRP-08433	C-304594	PKSite4C-A FA	<1	7.6	<1	14.4	<0.05
4C	7.7	-	-	-	-	-	-	-	MRP-08433	C-304595	PKSite4C-A RA	<1	23.7	<1	14.8	<0.05
4E	7.6	-	-	-	-	-	-	-	MRP-08433	C-304590	PKSite4E-A FA	<1	<2	<1	11.1	<0.05
4E	7.6	-	-	-	-	-	-	-	MRP-08433	C-304591	PKSite4E-A RA	<1	2.9	<1	11.2	<0.05
3-1	7.2	-	-	4.0	-	-	-	-	MRP-08433	C-304592	wetland 3-1A FA	<1	37.8	<1	12.9	<0.05
3-1	7.2	-	-	4.0	-	-	-	-	MRP-08433	C-304593	wetland 3-1A RA	<1	8.3	<1	12	<0.05
3-2	7.3	-	344	4.0	-	-	-	-	MRP-08433	C-304600	wetland 3-2A FA	<1	3.8	<1	17.6	<0.05
3-2	7.3	-	344	4.0	-	-	-	-	MRP-08433	C-304601	wetland 3-2A RA	<1	1260	<1	23	0.05
3-5	7.1	-	-	4.5	-	-	-	-	MRP-08433	C-304602	wetland 3-5A FA	<1	20.7	<1	12.4	<0.05
3-5	7.1	-	-	4.5	-	-	-	-	MRP-08433	C-304603	wetland 3-5A RA	<1	914	<1	25.9	0.09
PORE WATER																
1	4.0	9.3	296	1.9	-	178	-	-	MRP-08492	C-305579	PHB1-B FA	<1	3910	<1	17.6	0.4
1	4.0	9.3	296	1.9	-	-	-	-	MRP-08492	C-305580	PHB1-B RA	<1	3240	<1	27.2	0.3

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Bi (µg/L) ICP-MS	Ca (mg/L) ICP-MS	Cd (µg/L) ICP-MS	Ce (µg/L) ICP-MS	Co (µg/L) ICP-MS	Cr (µg/L) ICP-MS	Cs (µg/L) ICP-MS	Cu (µg/L) ICP-MS	Dy (µg/L) ICP-MS	Er (µg/L) ICP-MS	Eu (µg/L) ICP-MS	Fe (µg/L) ICP-MS	Ga (µg/L) ICP-MS	Gd (µg/L) ICP-MS	Ge (µg/L) ICP-MS	Ho (µg/L) ICP-MS	K (mg/L) ICP-MS	La (µg/L) ICP-MS	Li (µg/L) ICP-MS	Lu (µg/L) ICP-MS	Mg (mg/L) ICP-MS	Mn (µg/L) ICP-MS	Mo (µg/L) ICP-MS
SURFACE WATER																								
1	< 0.2	56.4	9.35	16.2	174	<1	0.83	1380	1.06	0.57	0.26	16700	0.1	1.32	< 0.05	0.2	4.41	7.43	7.2	< 0.1	5.82	693	< 2
1	< 0.2	63.2	9.48	22.6	190	1	0.82	2390	1.43	0.76	0.35	16100	0.22	1.89	0.05	0.27	3.24	11	9.5	0.1	6.88	911	< 2
4	< 0.2	29.7	0.5	0.02	5.8	<1	0.14	10.6	0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.89	0.01	0.8	< 0.1	1.94	55.4	< 2
4	< 0.2	30.6	0.54	0.16	6.08	<1	0.15	21.9	0.01	0.006	< 0.005	115	< 0.05	0.02	< 0.05	< 0.005	1.96	0.08	1.2	< 0.1	2.01	58.8	< 2
4A	< 0.2	34.8	0.88	0.02	15.8	<1	0.21	9.4	0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	2.17	0.01	1.4	< 0.1	2.4	138	< 2
4A	< 0.2	34.8	1.03	0.49	16.2	<1	0.21	58.9	0.04	0.02	0.01	454	< 0.05	0.051	< 0.05	0.006	2.19	0.25	1.9	< 0.1	2.38	140	< 2
4C	< 0.2	29.8	0.43	0.02	4.91	<1	0.13	7.4	0.005	< 0.005	< 0.005	50	< 0.05	< 0.005	< 0.05	< 0.005	1.9	0.01	0.8	< 0.1	1.94	90.7	< 2
4C	< 0.2	30.1	0.5	0.1	4.96	<1	0.14	16.2	0.006	0.007	0.005	171	< 0.05	0.01	< 0.05	< 0.005	1.91	0.06	0.7	< 0.1	1.96	91.5	< 2
4E	< 0.2	26	0.09	0.01	0.64	<1	0.08	7.2	< 0.005	< 0.005	< 0.005	120	< 0.05	< 0.005	< 0.05	< 0.005	2.08	< 0.01	1	< 0.1	1.59	59.1	< 2
4E	< 0.2	26.6	0.1	0.07	0.82	<1	0.08	9.5	0.008	< 0.005	< 0.005	208	< 0.05	0.007	< 0.05	< 0.005	2.11	0.04	0.9	< 0.1	1.62	65.2	< 2
4F	< 0.2	42.4	1.24	0.02	23	<1	0.26	10.7	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	2.6	0.01	1.8	< 0.1	3.14	194	< 2
4F	< 0.2	43	1.44	0.74	23.5	<1	0.26	86.9	0.05	0.03	0.02	738	< 0.05	0.064	< 0.05	0.01	2.64	0.37	1.6	< 0.1	3.12	194	< 2
5	< 0.2	28.3	0.1	0.03	0.9	<1	0.06	7.1	< 0.005	< 0.005	< 0.005	170	< 0.05	< 0.005	< 0.05	< 0.005	2.15	0.02	0.3	< 0.1	1.58	58.6	< 2
5	< 0.2	28.1	0.12	0.05	1	<1	0.07	9.4	0.006	< 0.005	< 0.005	228	< 0.05	< 0.005	< 0.05	< 0.005	2.12	0.04	1.3	< 0.1	1.57	61.6	< 2
5A	< 0.2	45.8	<0.02	0.02	<0.02	<1	< 0.02	0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	3.32	0.02	1.7	< 0.1	2.26	55.2	< 2
5A	< 0.2	46.9	<0.02	0.1	0.04	<1	0.02	<0.5	0.01	0.006	< 0.005	103	< 0.05	0.02	< 0.05	< 0.005	3.42	0.06	1.6	< 0.1	2.34	65.5	< 2
6	< 0.2	26.7	0.07	0.02	0.43	<1	0.06	5.8	< 0.005	< 0.005	< 0.005	150	< 0.05	< 0.005	< 0.05	< 0.005	1.99	0.02	1	< 0.1	1.52	51.1	< 2
6	< 0.2	28.3	0.07	0.04	0.52	<1	0.07	6.9	0.005	< 0.005	< 0.005	236	< 0.05	< 0.005	< 0.05	< 0.005	2.12	0.03	0.5	< 0.1	1.6	59.3	< 2
10	< 0.2	39.2	0.07	< 0.01	0.05	<1	0.24	2.6	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.7	0.01	< 0.1	< 0.1	1.7	9.1	< 2
10	< 0.2	39.9	0.06	0.01	0.05	<1	0.24	3	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.71	0.02	0.3	< 0.1	1.75	9.4	< 2
10A	< 0.2	34.4	<0.02	< 0.01	<0.02	<1	0.26	0.52	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.75	< 0.01	< 0.1	< 0.1	1.42	1.2	< 2
10A	< 0.2	35	<0.02	0.04	<0.02	<1	0.27	0.55	< 0.005	< 0.005	< 0.005	<50	< 0.05	0.006	< 0.05	< 0.005	1.78	0.02	0.6	< 0.1	1.45	3.5	< 2
10B	< 0.2	29.6	0.77	0.48	8.05	<1	0.34	79.9	0.04	0.02	0.01	<50	< 0.05	0.051	< 0.05	0.007	1.44	0.32	0.6	< 0.1	1.76	95.7	< 2
10B	< 0.2	34.1	0.92	3.84	9.05	<1	0.38	217	0.33	0.19	0.079	<50	< 0.05	0.42	< 0.05	0.063	1.63	2.22	1.3	< 0.1	2.08	110	< 2
10C	< 0.2	40.6	<0.02	< 0.01	<0.02	<1	0.19	1.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	2.24	< 0.01	< 0.1	< 0.1	1.62	9.8	< 2
10C	< 0.2	44.4	<0.02	0.04	<0.02	<1	0.2	0.8	< 0.005	< 0.005	< 0.005	<50	< 0.05	0.006	< 0.05	< 0.005	2.43	0.02	< 0.1	< 0.1	1.77	37.6	< 2
10D	< 0.2	29.8	<0.02	0.02	<0.02	<1	0.19	3.2	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	0.97	0.02	0.2	< 0.1	0.81	7.8	< 2
10D	< 0.2	31.6	<0.02	0.04	<0.02	<1	0.2	0.5	0.006	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.02	0.04	0.8	< 0.1	0.85	10	< 2
11	< 0.2	34.6	0.26	0.05	0.98	<1	0.3	10.8	< 0.005	0.006	< 0.005	<50	< 0.05	0.006	< 0.05	< 0.005	1.51	0.04	0.7	< 0.1	1.79	23.1	< 2
11	< 0.2	34.7	0.27	0.1	1	<1	0.3	11.9	0.007	0.007	< 0.005	<50	< 0.05	0.01	< 0.05	< 0.005	1.52	0.08	0.8	< 0.1	1.82	23.5	< 2
12	< 0.2	32.6	0.13	0.02	0.13	<1	0.25	8	< 0.005	< 0.005	0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.44	0.02	< 0.1	< 0.1	1.53	5.3	< 2
12	< 0.2	36	0.18	0.15	0.35	<1	0.27	8.9	0.01	0.007	0.005	<50	< 0.05	0.02	< 0.05	< 0.005	1.56	0.1	0.7	< 0.1	1.68	12.1	< 2
2	< 0.2	35.6	<0.02	< 0.01	4.03	<1	0.15	0.68	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.72	< 0.01	0.2	< 0.1	1.27	18.2	< 2
2	< 0.2	36.2	<0.02	0.13	0.05	<1	0.16	1.2	0.01	< 0.005	< 0.005	<50	< 0.05	0.009	< 0.05	< 0.005	1.75	0.07	0.4	< 0.1	1.31	23.5	< 2
4C	< 0.2	31.9	0.37	0.01	3.04	<1	0.13	10	< 0.005	< 0.005	< 0.005	122	< 0.05	0.006	< 0.05	< 0.005	1.9	0.01	1	< 0.1	1.92	132	< 2
4C	< 0.2	33	0.41	0.09	3.36	<1	0.14	14.9	0.009	< 0.005	< 0.005	252	< 0.05	0.008	< 0.05	< 0.005	1.93	0.05	0.7	< 0.1	1.94	136	< 2
4E	< 0.2	30.2	0.16	< 0.01	1.58	<1	0.1	8.9	< 0.005	< 0.005	< 0.005	220	< 0.05	< 0.005	< 0.05	< 0.005	1.94	< 0.01	0.3	< 0.1	1.68	129	< 2
4E	< 0.2	30.3	0.18	0.01	1.58	<1	0.1	10.2	< 0.005	< 0.005	< 0.005	385	< 0.05	< 0.005	< 0.05	< 0.005	1.98	0.01	0.5	< 0.1	1.68	127	< 2
3-1	< 0.2	29.2	0.39	0.12	2.27	<1	0.08	32.9	0.007	0.006	< 0.005	111	< 0.05	0.02	< 0.05	< 0.005	1.96	0.07	0.3	< 0.1	1.51	77.8	< 2
3-1	< 0.2	29.2	0.18	< 0.01	0.09	<1	0.08	17.8	0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.87	< 0.01	0.9	< 0.1	1.48	6.9	< 2
3-2	< 0.2	41.7	0.31	0.01	6.41	<1	0.11	18.2	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	2.69	< 0.01	0.4	< 0.1	2.51	305	< 2
3-2	< 0.2	42	1.12	3.79	26.1	1.1	0.19	522	0.26	0.15	0.061	4490	0.2	0.32	< 0.05	0.052	2.84	1.77	1.3	< 0.1	2.64	694	< 2
3-5	< 0.2	26.8	<0.02	0.29	3.5	<1	0.14	8.4	0.03	0.02	0.008	16200	< 0.05	0.03	< 0.05	0.005	4.07	0.11	0.6	< 0.1	1.92	325	< 2
3-5	< 0.2	29.7	0.3	6.1	5.46	2.8	0.32	154	0.37	0.21	0.11	69200	0.37	0.52	0.07	0.068	4.34	2.5	2.8	< 0.1	2.3	392	< 2
PORE WATER																							
1	< 0.2	60.5	9.48	22.3	180	<1	0.81	2270	1.4	0.79	0.37	10800	0.2	1.8	< 0.05	0.28	3.01	11	9.3	0.1	6.52	866	< 2
1	< 0.2	50.4	9.44	16.4	163	<1	0.84	1390	1.03	0.56	0.26	17300	0.2	1.3	< 0.05	0.19	3.97	7.4	6.5	< 0.1	5.04	638	< 2

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Na (mg/L) ICP-MS	Nb (µg/L) ICP-MS	Nd (µg/L) ICP-MS	Ni (µg/L) ICP-MS	P (mg/L) ICP-MS	Pb (µg/L) ICP-MS	Pr (µg/L) ICP-MS	Rb (µg/L) ICP-MS	Sb (µg/L) ICP-MS	Sc (µg/L) ICP-MS	Se (µg/L) ICP-MS	SiO2 (mg/L) ICP-MS	Sm (µg/L) ICP-MS	SO4 (mg/L) ICP-MS	Sr (µg/L) ICP-MS	Ta (µg/L) ICP-MS	Tb (µg/L) ICP-MS	Th (µg/L) ICP-MS	Ti (µg/L) ICP-MS	Tl (µg/L) ICP-MS	Tm (µg/L) ICP-MS	U (µg/L) ICP-MS	V (µg/L) ICP-MS
SURFACE WATER																							
1	1.4	< 0.2	6.76	20.8	< 0.01	2	1.85	21.6	<0.3	3	< 1	23	1.26	264	172	0.07	0.2	< 0.2	3.1	0.2	0.088	0.37	<0.5
1	1.41	< 0.2	9.74	22.8	< 0.01	1.9	2.7	19.5	<0.3	3.4	1	22.9	1.75	293	186	0.03	0.26	< 0.2	4.1	0.1	0.11	0.47	<0.5
4	1.33	< 0.2	0.02	1.6	< 0.01	0.3	< 0.01	7.38	<0.3	0.8	< 1	6.4	< 0.01	34	116	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.24	<0.5
4	1.4	< 0.2	0.08	1.5	< 0.01	<0.05	0.02	7.61	<0.3	0.9	< 1	6.5	< 0.01	35	119	< 0.02	< 0.005	< 0.2	0.7	<0.1	< 0.005	0.25	<0.5
4A	1.28	< 0.2	0.01	2.7	< 0.01	<0.05	< 0.01	9.82	<0.3	0.9	< 1	7.1	< 0.01	56	123	< 0.02	< 0.005	< 0.2	0.7	<0.1	< 0.005	0.12	<0.5
4A	1.27	< 0.2	0.22	2.6	< 0.01	0.05	0.06	9.79	<0.3	1	< 1	7.3	0.04	56	123	< 0.02	0.006	< 0.2	0.8	<0.1	< 0.005	0.13	<0.5
4C	1.36	< 0.2	0.01	1.4	< 0.01	<0.05	< 0.01	7.07	<0.3	0.9	< 1	6.4	< 0.01	32	116	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.24	<0.5
4C	1.36	< 0.2	0.04	1.3	< 0.01	<0.05	0.01	7.18	<0.3	0.9	< 1	6.5	< 0.01	33	118	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.24	<0.5
4E	2.53	< 0.2	0.01	0.8	< 0.01	<0.05	< 0.01	5.92	<0.3	0.8	< 1	5.8	< 0.01	16	99.5	0.06	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
4E	2.57	< 0.2	0.05	1.1	< 0.01	<0.05	0.01	6.09	<0.3	0.8	< 1	6	< 0.01	17	102	0.05	< 0.005	< 0.2	1.5	<0.1	< 0.005	< 0.1	<0.5
4F	1.5	< 0.2	0.01	3.8	< 0.01	<0.05	< 0.01	11.2	<0.3	1.2	< 1	8.9	< 0.01	87	132	< 0.02	< 0.005	< 0.2	1.2	<0.1	< 0.005	< 0.1	<0.5
4F	1.5	< 0.2	0.33	3.8	< 0.01	0.08	0.08	11.6	<0.3	1.2	< 1	9.2	0.07	86	135	< 0.02	0.007	< 0.2	1.1	<0.1	< 0.005	0.1	<0.5
5	3.98	< 0.2	0.02	0.4	< 0.01	<0.05	< 0.01	5.34	<0.3	0.7	< 1	6	< 0.01	11	115	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.24	<0.5
5	3.94	< 0.2	0.03	0.4	< 0.01	0.2	< 0.01	5.3	<0.3	0.7	< 1	6	< 0.01	11	115	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.25	<0.5
5A	15.6	< 0.2	0.02	0.5	< 0.01	0.1	< 0.01	2.72	<0.3	1	< 1	8.5	< 0.01	7	216	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	1.08	<0.5
5A	16.2	< 0.2	0.06	<0.4	< 0.01	0.09	0.01	2.82	<0.3	1.1	< 1	8.8	< 0.01	8	224	< 0.02	< 0.005	< 0.2	1.5	<0.1	< 0.005	1.12	<0.5
6	4.15	< 0.2	0.02	0.5	< 0.01	<0.05	< 0.01	5.16	<0.3	0.7	< 1	5.4	< 0.01	8	110	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.2	<0.5
6	4.4	< 0.2	0.03	0.4	< 0.01	<0.05	< 0.01	5.38	<0.3	0.7	< 1	5.8	< 0.01	8	115	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.22	<0.5
10	0.63	< 0.2	0.01	<0.4	< 0.01	<0.05	< 0.01	8.85	<0.3	0.7	< 1	5.9	< 0.01	11	142	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.16	<0.5
10	0.65	< 0.2	0.01	<0.4	< 0.01	<0.05	< 0.01	8.92	<0.3	0.8	< 1	6	< 0.01	12	142	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.16	<0.5
10A	0.57	< 0.2	0.01	<0.4	< 0.01	<0.05	< 0.01	9.1	<0.3	0.6	< 1	4.7	< 0.01	4	113	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.1	<0.5
10A	0.58	< 0.2	0.03	<0.4	< 0.01	<0.05	< 0.01	9.35	<0.3	0.6	< 1	4.9	< 0.01	4	115	< 0.02	< 0.005	< 0.2	0.8	<0.1	< 0.005	0.11	<0.5
10B	0.6	< 0.2	0.28	3.4	< 0.01	<0.05	0.08	8.59	<0.3	1	< 1	7.2	0.04	20	117	0.03	0.007	< 0.2	< 0.5	<0.1	< 0.005	0.17	<0.5
10B	0.7	< 0.2	2.22	3.9	< 0.01	<0.05	0.63	9.2	<0.3	1	< 1	8.4	0.42	23	126	< 0.02	0.064	< 0.2	1.7	<0.1	0.02	0.24	<0.5
10C	0.67	< 0.2	< 0.01	<0.4	< 0.01	0.06	< 0.01	10.5	<0.3	0.7	< 1	5.5	< 0.01	3	141	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
10C	0.72	< 0.2	0.02	<0.4	< 0.01	<0.05	< 0.01	11	<0.3	0.8	< 1	6	< 0.01	4	148	< 0.02	< 0.005	< 0.2	0.9	<0.1	< 0.005	< 0.1	<0.5
10D	0.69	< 0.2	0.02	<0.4	< 0.01	0.2	< 0.01	4.54	<0.3	0.6	< 1	4.4	< 0.01	< 2	153	0.1	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.24	<0.5
10D	0.77	< 0.2	0.03	<0.4	< 0.01	<0.05	< 0.01	4.83	<0.3	0.6	< 1	4.7	0.01	< 2	162	0.09	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.25	<0.5
11	0.62	< 0.2	0.04	1.2	< 0.01	0.08	< 0.01	8.52	<0.3	0.8	< 1	6.2	0.01	16	131	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.16	<0.5
11	0.63	< 0.2	0.06	1.3	< 0.01	<0.05	0.02	8.62	<0.3	0.8	< 1	6.4	0.02	16	131	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.16	<0.5
12	0.55	< 0.2	0.02	0.6	< 0.01	0.2	< 0.01	8.22	<0.3	0.7	< 1	5.4	< 0.01	11	127	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.16	<0.5
12	0.59	< 0.2	0.09	0.7	< 0.01	<0.05	0.02	8.68	<0.3	0.8	< 1	5.9	< 0.01	13	134	< 0.02	< 0.005	< 0.2	1.1	<0.1	< 0.005	0.17	<0.5
2	0.97	< 0.2	< 0.01	1	< 0.01	<0.05	< 0.01	8.66	<0.3	0.7	< 1	5.9	< 0.01	< 2	114	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.11	<0.5
2	1	< 0.2	0.05	<0.4	< 0.01	0.08	0.02	8.73	<0.3	0.7	< 1	6.1	0.01	2	116	< 0.02	< 0.005	< 0.2	1.4	<0.1	< 0.005	0.12	<0.5
4C	1.61	< 0.2	0.01	1	< 0.01	0.2	< 0.01	7.01	<0.3	0.8	< 1	6.4	< 0.01	30	126	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.3	<0.5
4C	1.67	< 0.2	0.04	0.9	< 0.01	<0.05	0.01	7.36	<0.3	0.9	< 1	6.6	< 0.01	30	131	< 0.02	< 0.005	< 0.2	0.8	<0.1	< 0.005	0.31	<0.5
4E	3.31	< 0.2	< 0.01	0.4	< 0.01	0.05	< 0.01	7.03	<0.3	0.8	< 1	5.8	< 0.01	15	118	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
4E	3.28	< 0.2	< 0.01	<0.4	< 0.01	<0.05	< 0.01	6.92	<0.3	0.8	< 1	5.9	< 0.01	15	120	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-1	5.18	< 0.2	0.06	0.5	< 0.01	0.1	0.02	5.25	<0.3	< 0.6	< 1	4.5	< 0.01	8	124	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-1	5.25	< 0.2	< 0.01	0.6	< 0.01	0.2	< 0.01	4.93	<0.3	< 0.6	< 1	4.3	< 0.01	8	123	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-2	1.88	< 0.2	0.01	0.6	< 0.01	<0.05	< 0.01	9.8	<0.3	1	< 1	7.1	< 0.01	4	136	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.13	<0.5
3-2	1.89	< 0.2	1.76	2	< 0.01	0.99	0.46	10.6	<0.3	1.3	< 1	9.2	0.32	4	139	< 0.02	0.051	< 0.2	14.8	<0.1	0.02	0.4	0.8
3-5	1.73	< 0.2	0.17	<0.4	< 0.01	0.63	0.04	14.4	<0.3	1.7	< 1	12.6	0.03	53	94.6	< 0.02	0.005	< 0.2	1.3	<0.1	< 0.005	< 0.1	<0.5
3-5	1.77	< 0.2	3.03	1.3	0.1	5.1	0.78	16.5	<0.3	2.8	1.2	18	0.58	55	112	< 0.02	0.07	0.41	44.1	<0.1	0.03	0.38	3.1
PORE WATER																							
1	1.31	< 0.2	9.56	21.5	< 0.01	1.3	2.61	19.3	<0.3	3	< 1	21.4	1.74	259	184	< 0.02	0.25	< 0.2	2.8	0.1	0.11	0.45	<0.5
1	1.2	< 0.2	6.68	19.1	< 0.01	3.2	1.88	21.2	<0.3	2.7	< 1	20	1.24	225	158	< 0.02	0.19	< 0.2	16	0.2	0.078	0.37	0.6

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Y (µg/L) ICP-MS	Yb (µg/L) ICP-MS	Zn (µg/L) ICP-MS	Zr (µg/L) ICP-MS	Ag (µg/L) ICP-AES	Al (µg/L) ICP-AES	As (µg/L) ICP-AES	B (µg/L) ICP-AES	Ba (µg/L) ICP-AES	Be (µg/L) ICP-AES	Ca (mg/L) ICP-AES	Cd (µg/L) ICP-AES	Co (µg/L) ICP-AES	Cr (µg/L) ICP-AES	Cu (µg/L) ICP-AES	Fe (µg/L) ICP-AES	K (mg/L) ICP-AES	Li (µg/L) ICP-AES	Mg (mg/L) ICP-AES	Mn (µg/L) ICP-AES	Mo (µg/L) ICP-AES
SURFACE WATER																					
1	4.83	0.53	1600	< 0.2	<5	3960	<50	13	31	<10	68	11	195	<10	1500	18000	5.3	7.6	7	749	<20
1	7.16	0.71	1960	< 0.2	<5	6100	<50	13	22	<10	84	12	229	<10	2760	19000	4.3	11	9.6	1050	<20
4	0.02	< 0.005	61.4	< 0.2	<5	<20	<50	<5	16	<10	39	<5	<10	<10	11	<20	2.6	<5	2.7	70	<20
4	0.06	0.008	70.8	< 0.2	<5	42	<50	<5	15	<10	38	<5	<10	<10	23	174	2.5	<5	2.7	71	<20
4A	0.02	< 0.005	131	< 0.2	<5	<20	<50	<5	17	<10	43	<5	19	<10	<10	<20	2.7	<5	3.1	164	<20
4A	0.17	0.01	152	< 0.2	<5	134	<50	<5	18	<10	44	<5	19	<10	68	573	2.8	<5	3.2	171	<20
4C	0.02	< 0.005	52.6	< 0.2	<5	<20	<50	<5	15	<10	38	<5	<10	<10	<10	96	2.5	<5	2.6	114	<20
4C	0.04	< 0.005	58.3	< 0.2	<5	22	<50	<5	16	<10	38	<5	<10	<10	18	238	2.5	<5	2.6	114	<20
4E	0.01	< 0.005	12.9	< 0.2	<5	<20	<50	<5	9.8	<10	30	<5	<10	<10	<10	172	2.5	<5	1.9	70	<20
4E	0.03	< 0.005	13.2	< 0.2	<5	37	<50	<5	10	<10	30	<5	<10	<10	10	270	2.5	<5	1.9	75	<20
4F	0.02	< 0.005	186	< 0.2	<5	<20	<50	<5	20	<10	50	<5	26	<10	11	<20	3.1	<5	3.8	223	<20
4F	0.25	0.02	220	< 0.2	<5	188	<50	<5	20	<10	49	<5	27	<10	95	830	3.1	<5	3.7	219	<20
5	0.02	< 0.005	11.4	< 0.2	<5	<20	<50	<5	14	<10	32	<5	<10	<10	<10	224	2.5	<5	1.8	66	<20
5	0.03	< 0.005	11.9	< 0.2	<5	<20	<50	<5	14	<10	32	<5	<10	<10	<10	302	2.6	<5	1.9	71	<20
5A	0.02	< 0.005	1.9	< 0.2	<5	<20	<50	<5	26	<10	49	<5	<10	<10	<10	<20	3.6	<5	2.5	55	<20
5A	0.06	0.006	0.7	< 0.2	<5	24	<50	<5	27	<10	48	<5	<10	<10	<10	101	3.5	<5	2.4	63	<20
6	0.02	< 0.005	8.6	< 0.2	<5	<20	<50	<5	13	<10	30	<5	<10	<10	<10	208	2.4	<5	1.8	59	<20
6	0.03	< 0.005	9.3	< 0.2	<5	<20	<50	<5	13	<10	32	<5	<10	<10	<10	301	2.5	<5	1.9	68	<20
10	0.02	< 0.005	9.5	< 0.2	<5	<20	<50	<5	18	<10	45	<5	<10	<10	<10	<20	2	<5	2.1	<10	<20
10	0.02	< 0.005	9.3	< 0.2	<5	<20	<50	<5	19	<10	46	<5	<10	<10	<10	<20	2	<5	2.1	<10	<20
10A	< 0.01	< 0.005	1.7	< 0.2	<5	<20	<50	<5	24	<10	37	<5	<10	<10	<10	<20	1.9	<5	1.6	<10	<20
10A	0.02	< 0.005	1.7	< 0.2	<5	<20	<50	<5	25	<10	38	<5	<10	<10	<10	<20	2	<5	1.6	<10	<20
10B	0.2	0.01	114	< 0.2	<5	139	<50	<5	24	<10	40	<5	11	<10	91	<20	2	<5	2.5	126	<20
10B	1.48	0.15	161	< 0.2	<5	785	<50	<5	23	<10	39	<5	11	<10	230	<20	2	<5	2.5	123	<20
10C	< 0.01	< 0.005	1.9	< 0.2	<5	<20	<50	<5	18	<10	47	<5	<10	<10	<10	<20	2.7	<5	2	11	<20
10C	0.02	< 0.005	1.5	< 0.2	<5	<20	<50	<5	20	<10	48	<5	<10	<10	<10	51	2.7	<5	2	40	<20
10D	0.02	< 0.005	3.8	< 0.2	<5	<20	<50	<5	9.1	<10	36	<5	<10	<10	<10	34	1.2	<5	1	<10	<20
10D	0.03	< 0.005	0.6	< 0.2	<5	<20	<50	<5	8.8	<10	35	<5	<10	<10	<10	40	1.2	<5	1	11	<20
11	0.04	< 0.005	35.8	< 0.2	<5	35	<50	<5	18	<10	39	<5	<10	<10	11	<20	1.8	<5	2.2	26	<20
11	0.06	< 0.005	36.4	< 0.2	<5	49	<50	<5	18	<10	40	<5	<10	<10	12	<20	1.9	<5	2.2	26	<20
12	0.02	< 0.005	19	< 0.2	<5	22	<50	<5	17	<10	41	<5	<10	<10	<10	<20	1.9	<5	2	<10	<20
12	0.08	0.005	20.8	< 0.2	<5	54	<50	<5	18	<10	43	<5	<10	<10	<10	<20	2	<5	2.1	14	<20
2	< 0.01	< 0.005	3.4	< 0.2	<5	<20	<50	<5	21	<10	38	<5	<10	<10	<10	<20	1.9	<5	1.4	19	<20
2	0.05	< 0.005	1.3	< 0.2	<5	44	<50	<5	22	<10	39	<5	<10	<10	<10	46	2	<5	1.4	26	<20
4C	0.01	< 0.005	35.3	< 0.2	<5	<20	<50	<5	15	<10	36	<5	<10	<10	<10	166	2.1	<5	2.4	150	<20
4C	0.04	< 0.005	38.3	< 0.2	<5	21	<50	<5	16	<10	38	<5	<10	<10	14	328	2.2	<5	2.5	161	<20
4E	< 0.01	< 0.005	16.1	< 0.2	<5	<20	<50	<5	12	<10	35	<5	<10	<10	<10	287	2.2	<5	2.1	148	<20
4E	0.01	< 0.005	18.5	< 0.2	<5	<20	<50	<5	11	<10	35	<5	<10	<10	10	490	2.2	<5	2.1	148	<20
3-1	0.04	< 0.005	43.5	< 0.2	<5	35	<50	<5	13	<10	33	<5	<10	<10	34	150	2.2	<5	1.9	90	<20
3-1	< 0.01	< 0.005	28.5	< 0.2	<5	<20	<50	<5	13	<10	32	<5	<10	<10	17	<20	2	<5	1.8	<10	<20
3-2	< 0.01	< 0.005	37.9	< 0.2	<5	<20	<50	<5	19	<10	45	<5	<10	<10	17	47	2.8	<5	2.8	331	<20
3-2	1.27	0.14	161	< 0.2	<5	1370	<50	7.2	24	<10	45	<5	29	<10	544	4950	2.9	<5	3	742	<20
3-5	0.14	0.03	10.6	< 0.2	<5	115	<50	24	13	<10	30	<5	<10	<10	<10	18000	4.5	<5	2.3	372	<20
3-5	1.67	0.2	30.2	0.3	<5	1440	<50	105	27	<10	33	6.6	<10	<10	154	77000	4.6	<5	2.7	428	<20
PORE WATER																					
1	7.04	0.7	1900	< 0.2	<5	5000	<50	8.4	21	<10	82	11	221	<10	2670	13000	4.2	11	9.3	1030	<20
1	4.8	0.52	1540	< 0.2	<5	4220	<50	16	32	<10	68	11	196	<10	1620	23000	5.4	8.2	7.2	762	<20

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Ni (µg/L) ICP-AES	P (mg/L) ICP-AES	Pb (µg/L) ICP-AES	Sb (µg/L) ICP-AES	Se (µg/L) ICP-AES	SiO2 (mg/L) ICP-AES	SO4 (mg/L) ICP-AES	Sr (µg/L) ICP-AES	Ti (µg/L) ICP-AES	V (µg/L) ICP-AES	Zn (µg/L) ICP-AES	Job No. IC	Lab No. IC	Sample ID IC	Cl (mg/L) IC	F (mg/L) IC	NO3 (mg/L) IC	SO4 (mg/L) IC
SURFACE WATER																		
1	22	1.5	<50	<50	< 200	27	256	187	<50	<10	1800	MRP-08489	C-305467	PHB1-A FU	6.8	0.8	<.08	296
1	26	3	<50	<50	< 200	31	304	217	<50	<10	2330	-	-	-	-	-	-	-
4	<10	<0.5	<50	<50	< 200	8.4	43	138	<50	<10	71	MRP-08488	C-305451	PHB4-A FU	2.2	<.08	0.6	65.5
4	<10	<0.5	<50	<50	< 200	8.4	43	136	<50	<10	78	-	-	-	-	-	-	-
4A	<10	<0.5	<50	<50	< 200	8.9	63	138	<50	<10	147	MRP-08488	C-305453	PHB4A-A FU	2.6	<.08	0.8	43.8
4A	<10	<0.5	<50	<50	< 200	9.4	65	142	<50	<10	179	-	-	-	-	-	-	-
4C	<10	<0.5	<50	<50	< 200	8.5	40	135	<50	<10	59	MRP-08488	C-305450	PHB4C-A FU	2.7	<.08	0.7	40.5
4C	<10	<0.5	<50	<50	< 200	8.5	40	135	<50	<10	64	-	-	-	-	-	-	-
4E	<10	<0.5	<50	<50	< 200	7	22	114	<50	<10	<20	MRP-08488	C-305437	PHB4E-A FU	4.5	<.08	0.6	22
4E	<10	<0.5	<50	<50	< 200	7.1	22	115	<50	<10	<20	-	-	-	-	-	-	-
4F	<10	<0.5	<50	<50	< 200	11	88	155	<50	<10	217	MRP-08489	C-305463	PHB4F-A FU	1.8	<.08	0.6	87.7
4F	<10	<0.5	<50	<50	< 200	11	87	154	<50	<10	248	-	-	-	-	-	-	-
5	<10	<0.5	<50	<50	< 200	7.1	16	127	<50	<10	<20	MRP-08488	C-305444	PHB5-A FU	6.5	<.08	0.7	16.2
5	<10	<0.5	<50	<50	< 200	7.2	16	131	<50	<10	<20	-	-	-	-	-	-	-
5A	<10	<0.5	<50	<50	< 200	9	8.9	231	<50	<10	<20	MRP-08489	C-305465	PHB5A-A FU	19.3	<.08	2.2	10.2
5A	<10	<0.5	<50	<50	< 200	9	9	226	<50	<10	<20	-	-	-	-	-	-	-
6	<10	<0.5	<50	<50	< 200	6.4	12	122	<50	<10	<20	MRP-08488	C-305445	PHB6-A FU	7.4	<.08	0.63	13.6
6	<10	<0.5	<50	<50	< 200	6.8	13	128	<50	<10	<20	-	-	-	-	-	-	-
10	<10	<0.5	<50	<50	< 200	7	16	158	<50	<10	<20	MRP-08488	C-305455	PHB10-A FU	1.5	<.08	0.9	15.4
10	<10	<0.5	<50	<50	< 200	7.1	16	161	<50	<10	<20	-	-	-	-	-	-	-
10A	<10	<0.5	<50	<50	< 200	5.2	8.3	120	<50	<10	<20	MRP-08488	C-305443	PHB10A-AR FU	1.5	<.08	<.08	9.6
10A	<10	<0.5	<50	<50	< 200	5.4	8.6	124	<50	<10	<20	-	-	-	-	-	-	-
10B	<10	<0.5	<50	<50	< 200	9.9	30	143	<50	<10	135	MRP-08488	C-305447	PHB10B-A FU	1.6	<.08	1.4	29
10B	<10	<0.5	<50	<50	< 200	10	29	139	<50	<10	172	-	-	-	-	-	-	-
10C	<10	<0.5	<50	<50	< 200	6.4	7.4	163	<50	<10	<20	MRP-08488	C-305458	PHB10C-A FU	2.1	<.08	<.08	7.7
10C	<10	<0.5	<50	<50	< 200	6.6	7.5	168	<50	<10	<20	-	-	-	-	-	-	-
10D	<10	<0.5	<50	<50	< 200	5.7	6.3	188	<50	<10	<20	MRP-08488	C-305436	PHB10D-A FU	1.8	<.08	0.7	6.4
10D	<10	<0.5	<50	<50	< 200	5.4	6	180	<50	<10	<20	-	-	-	-	-	-	-
11	<10	<0.5	<50	<50	< 200	7.5	21	145	<50	<10	38	MRP-08488	C-305446	PHB11-A FU	1.5	<.08	1.1	22.2
11	<10	<0.5	<50	<50	< 200	7.7	22	147	<50	<10	39	-	-	-	-	-	-	-
12	<10	<0.5	<50	<50	< 200	7	17	148	<50	<10	22	MRP-08488	C-305452	PHB12-A FU	1.6	<.08	1.1	18
12	<10	<0.5	<50	<50	< 200	7.5	18	153	<50	<10	24	-	-	-	-	-	-	-
2	<10	<0.5	<50	<50	< 200	6.3	6.3	124	<50	<10	<20	MRP-08488	C-305439	PKHL-11-4 FU	1.8	<.08	<.08	7
2	<10	<0.5	<50	<50	< 200	6.5	6.4	127	<50	<10	<20	-	-	-	-	-	-	-
4C	<10	<0.5	<50	<50	< 200	8.4	33	128	<50	<10	37	MRP-08434	C-304623	PKSite4C-A FU	2.1	<.08	0.8	32.3
4C	<10	<0.5	<50	<50	< 200	8.8	34	134	<50	<10	41	-	-	-	-	-	-	-
4E	<10	<0.5	<50	<50	< 200	7.6	17	125	<50	<10	<20	MRP-08434	C-304624	PKSite4E-A FU	5.1	<.08	0.5	16.4
4E	<10	<0.5	<50	<50	< 200	7.6	17	124	<50	<10	<20	-	-	-	-	-	-	-
3-1	<10	<0.5	<50	<50	< 200	5.7	8.9	127	<50	<10	45	MRP-08434	C-304625	wetland 3-1A FU	8.5	<.08	0.7	8.3
3-1	<10	<0.5	<50	<50	< 200	5.4	8.6	121	<50	<10	30	-	-	-	-	-	-	-
3-2	<10	<0.5	<50	<50	< 200	8	6.1	144	<50	<10	40	MRP-08434	C-304628	wetland 3-2A FU	2.6	<.08	<.08	6.2
3-2	<10	<0.5	<50	<50	< 200	10	6.3	146	125	<10	173	-	-	-	-	-	-	-
3-5	<10	<0.5	<50	<50	< 200	15	60	103	<50	<10	<20	MRP-08434	C-304637	wetland 3-5A FU	2.3	<.08	<.08	61.3
3-5	<10	<0.5	<50	<50	< 200	21	62	116	425	<10	31	-	-	-	-	-	-	-
PORE WATER																		
1	26	2.6	<50	<50	< 200	30	296	211	<50	<10	2280	MRP-08489	C-305468	PHB1-B FU	6.9	0.8	<.08	256
1	24	1.3	<50	<50	< 200	28	262	190	228	<10	1810	-	-	-	-	-	-	-

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Lab No.	Field No.	Hg (ng/L)	NWQL Lab ID	N (total) (mg/L)	P (total) (mg/L)	P (total) (mg/L)	Alkalinity (mg $CaCO_3$/L)	Ammonia as N (dissolved) (mg/L)	Ammonia as N (dissolved) Dilution	N (dissolved) (mg/L)	N (dissolved) (mg/L)
	CVAF	CVAF	CV-AAS		AKP01	AKP01	CL021	TT040	48		CL048	CL048
SURFACE WATER												
1	-	-	-	20072960135	-	-	-	<5	0.078	1	-	E0.035
1	C-305786	PHB1-A RA	<5	20072960135	E0.05	-	E0.004	-	-	-	-	-
4	-	-	-	20072960072	-	-	-	63	0.031	1	-	0.043
4	C-305788	PHB4-A RA	<5	20072960072	<0.06	-	<0.008	-	-	-	-	-
4A	C-305790	PHB4A-A FA	<5	20072960072	-	-	-	71	0.023	1	-	0.063
4A	C-305791	PHB4A-A RA	<5	20072960072	E0.04	-	<0.008	-	-	-	-	-
4C	C-305794	PHB4C-A FA	<5	20072360354	-	-	-	76	E0.012	1	0.088	
4C	C-305795	PHB4C-A RA	<5	20072360354	0.15	-	<0.008	-	-	-	-	-
4E	C-305800	PHB4E-A FA	<5	20072360355	-	-	-	84	<0.02	1	<0.060	
4E	C-305801	PHB4E-A RA	<5	20072360355	0.11	-	E0.007	-	-	-	-	-
4F	-	-	-	20072960132	-	-	-	55	0.036	1	-	0.045
4F	-	-	-	20072960132	<0.06	-	<0.008	-	-	-	-	-
5	C-305804	PHB5-A FA	<5	20072960067	-	-	-	78	0.028	1	-	0.063
5	C-305805	PHB5-A RA	<5	20072960067	0.1	-	<0.008	-	-	-	-	-
5A	C-305808	PHB5A-A FA	12	20072960066	-	-	-	134	0.021	1	-	0.312
5A	C-305809	PHB5A-A RA	5	20072960066	0.42	-	E0.007	-	-	-	-	-
6	C-305813	PHB6-A FA	<5	20072960074	-	-	-	81	0.027	1	-	0.041
6	C-305814	PHB6-A RA	<5	20072960074	0.09	-	<0.008	-	-	-	-	-
10	-	-	-	20072960133	-	-	-	113	E0.016	1	-	0.089
10	C-305817	PHB10-A RA	<5	20072960133	0.08	-	E0.005	-	-	-	-	-
10A	-	-	-	20072960125	-	-	-	101	E0.015	1	-	<0.04
10A	C-305820	PHB10A-AR RA	<5	20072960125	<0.06	-	<0.008	-	-	-	-	-
10B	-	-	-	20072960127	-	-	-	86	E0.018	1	-	0.134
10B	C-305823	PHB10B-A RA	<5	20072960127	0.13	-	0.011	-	-	-	-	-
10C	-	-	-	20072960078	-	-	-	126	0.026	1	-	<0.04
10C	C-305825	PHB10C-A RA	<5	20072960078	<0.06	-	<0.008	-	-	-	-	-
10D	-	-	-	20072960134	-	-	-	92	0.023	1	-	0.055
10D	C-305827	PHB10D-A RA	<5	20072960134	0.07	-	<0.008	-	-	-	-	-
11	-	-	-	20072960064	-	-	-	93	E0.016	1	-	0.136
11	C-305829	PHB11-A RA	<5	20072960064	0.09	-	<0.008	-	-	-	-	-
12	-	-	-	20072960062	-	-	-	105	E0.017	1	-	0.126
12	C-305830	PHB12-A RA	<5	20072960062	0.11	-	<0.008	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-
4C	-	-	-	-	-	-	-	-	-	-	-	-
4C	-	-	-	-	-	-	-	-	-	-	-	-
4E	-	-	-	-	-	-	-	-	-	-	-	-
4E	-	-	-	-	-	-	-	-	-	-	-	-
3-1	-	-	-	-	-	-	-	86	0.031	1	E0.046	
3-1	-	-	-	-	0.86	-	0.02	-	-	-	-	-
3-2	-	-	-	-	-	-	-	127	<0.02	1	<0.060	
3-2	-	-	-	-	0.36	-	0.035	-	-	-	-	-
3-5	-	-	-	-	-	-	-	33	0.299	1	<0.060	
3-5	-	-	-	-	2.53	0.09	-	-	-	-	-	-
PORE WATER												
1	-	-	-	20072960080	-	-	-	-	0.067	1	-	<0.04
1	C-305787	PHB1-B RA	<5	20072960080	<0.06	-	0.012	-	-	-	-	-

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Orthophosphate as P (dissolved) (mg/L) 48	Orthophosphate as P (dissolved) Dilution	DOC (mg/L) OX006	DOC from CERC
SURFACE WATER				
1	E0.006	1	0.8	-
1	-	-	-	-
4	< 0.006	1	1.6	-
4	-	-	-	-
4A	E0.003	1	1.6	-
4A	-	-	-	-
4C	E0.005	1	1.3	-
4C	-	-	-	-
4E	E0.005	1	2.5	-
4E	-	-	-	-
4F	E0.003	1	1.6	-
4F	-	-	-	-
5	<0.006	1	3.1	-
5	-	-	-	-
5A	<0.006	1	4.2	-
5A	-	-	-	-
6	<0.006	1	3.3	-
6	-	-	-	-
10	<0.006	1	0.9	-
10	-	-	-	-
10A	E0.003	1	1.1	-
10A	-	-	-	-
10B	<0.006	1	3.3	-
10B	-	-	-	-
10C	E0.003	1	2.1	-
10C	-	-	-	-
10D	<0.006	1	2	-
10D	-	-	-	-
11	E0.003	1	0.8	-
11	-	-	-	-
12	E0.003	1	1	-
12	-	-	-	-
2	-	-	-	-
2	-	-	-	-
4C	-	-	-	-
4C	-	-	-	-
4E	-	-	-	-
4E	-	-	-	-
3-1	E0.004	1	3.2	-
3-1	-	-	-	-
3-2	E0.004	1	1.8	-
3-2	-	-	-	-
3-5	<0.006	1	4.8	-
3-5	-	-	-	-
PORE WATER				
1	0.006	1	0.5	-
1	-	-	-	-

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Sample ID	Date Collected	Time Collected	Media	Drainage (mi^2)	Discharge (ft^3/s)	Discharge (SE%)	Pump Rate (mL/s)	Flow (cfs)	Flow error (%)	Dilution factor[a]	SC (field) (µS/cm)	SC (lab) (µS/cm)
1	PKSite1-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	961
1	PKSite1-D FA	11/15/07	8:00	equilibrated pore water	-	-	-	-	-	-	-	-	5497
1	PKSite1-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
4A	PHB4A-B FA	10/17/2007	16:15	in situ pore water	1.60	-	-	3.85	-	-	-	245	232
4A	PHB4A-B RA	10/17/2007	16:15	in situ pore water	1.60	-	-	3.85	-	-	-	245	232
4A	PKSite4A-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	362
4A	PKSite4A-D FA	11/14/07	9:10	equilibrated pore water	-	-	-	-	-	-	-	-	1187
4A	PKSite4A-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
4	PHB4-B FA	10/18/2007	8:45	in situ pore water	1.10	-	-	4.44	-	-	-	247	258
4	PHB4-B RA	10/18/2007	8:45	in situ pore water	1.10	-	-	4.44	-	-	-	247	258
4	PKSite4-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	142
4	PKSite4-D FA	11/15/07	8:02	equilibrated pore water	-	-	-	-	-	-	-	-	895
4	PKSite4-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
4C	PHB4C-B FA	10/17/2007	13:15	in situ pore water	1.88	-	-	3.45	-	-	-	206	190
4C	PHB4C-B RA	10/17/2007	13:15	in situ pore water	1.88	-	-	3.45	-	-	-	206	190
4C	PKSite4C-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	217
4C	PKSite4C-D FA	11/14/07	9:12	equilibrated pore water	-	-	-	-	-	-	-	-	513
4C	PKSite4C-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
4E	PHB4E-B FA	10/17/2007	14:15	in situ pore water	2.45	-	-	3.61	-	-	-	195	183
4E	PHB4E-B RA	10/17/2007	14:15	in situ pore water	2.45	-	-	3.61	-	-	-	195	183
4E	PKSite4E-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	227
4E	PKSite4E-D FA	11/14/07	9:14	equilibrated pore water	-	-	-	-	-	-	-	-	498
4E	PKSite4E-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
4F	PKSite4F-D FA	11/15/07	8:04	pore water (GD 28 days)	-	-	-	-	-	-	-	-	483
5A	PHB5A-B FA	10/17/2007	10:15	in situ pore water	0.26	-	-	3.97	-	-	-	354	316
5A	PHB5A-B RA	10/17/2007	10:15	in situ pore water	0.26	-	-	3.97	-	-	-	354	316
5A	PKSite5A-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	495
5A	PKSite5A-D FA	11/14/07	9:18	equilibrated pore water	-	-	-	-	-	-	-	-	659
5A	PKSite5A-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
5	PHB5-B FA	10/17/2007	8:45	in situ pore water	3.64	-	-	5.56	-	-	-	268	257
5	PHB5-B RA	10/17/2007	8:45	in situ pore water	3.64	-	-	5.56	-	-	-	268	257
5	PKSite5-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	293
5	PKSite5-D FA	11/14/07	9:16	equilibrated pore water	-	-	-	-	-	-	-	-	634
5	PKSite5-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
6	PHB6-B FA	10/17/2007	11:15	in situ pore water	4.39	-	-	4.08	-	-	-	227	211
6	PHB6-B RA	10/17/2007	11:15	in situ pore water	4.39	-	-	4.08	-	-	-	227	211
6	PKSite6-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	266
6	PKSite6-D FA	11/14/07	9:22	equilibrated pore water	-	-	-	-	-	-	-	-	606
6	PKSite6-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
10A	PHB10A-B FA	10/16/2007	12:45	in situ pore water	0.09	-	-	4.35	-	-	-	230	205
10A	PHB10A-B RA	10/16/2007	12:45	in situ pore water	0.09	-	-	4.35	-	-	-	230	205
10A	PKSite10A-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	293
10A	PKSite10A-D FA	11/13/07	12:09	equilibrated pore water	-	-	-	-	-	-	-	-	987
10A	PKSite10A-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10.34	-	-
10B	PHB10B-B FA	10/16/2007	13:45	in situ pore water	0.11	-	-	4.76	-	-	-	241	224
10B	PHB10B-B RA	10/16/2007	13:45	in situ pore water	0.11	-	-	4.76	-	-	-	241	224
10B	PKSite10B-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	307
10B	PKSite10B-D FA	11/13/07	12:11	equilibrated pore water	-	-	-	-	-	-	-	-	1009

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	pH	Water Temp (^{0}C)	ORP (mV)	DO (mg/L)	Alkalinity (mg/L as $CaCO_3$)	Hardness- calculated (mg/L as $CaCO_3$)	Hardness- measured (mg/L as $CaCO_3$)	Ammonia (mg/L as N)	Job No.	Lab No.	Sample ID	Ag (µg/L)	Al (µg/L)	As (µg/L)	Ba (µg/L)	Be (µg/L)
									ICP-MS & ICP-AE²-MS & ICP-A		ICP-MS & ICP-AES	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
1	3.59	18.8	-	-	0	269	2800	0.35	MRP-08522	C-306075	PKSite1-C	<1	8190	<1	26	0.5
1	3.8	21.18	429.7	7.48	-	640	-	-	MRP-08522	C-306079	PKSite1-D FA	<1	4500	1	81.7	0.2
1	-	-	-	-	-	157	-	-	MRP-08521	C-306043	PKSite1-P	<10	1260	<10	54.4	<0.5
4A	7.4	7.6	219	8.17	-	93	-	-	MRP-08492	C-305556	PHB4A-B FA	<1	7.5	<1	12	<0.05
4A	7.4	7.6	219	8.17	-	-	-	-	MRP-08492	C-305557	PHB4A-B RA	<1	118	<1	12.4	0.06
4A	7.8	17.5	-	-	130	119	160	0.20	MRP-08521	C-306056	PKSite4A-C	<1	420	5	181	<0.05
4A	7.4	21.95	388.8	6.76	540	661	-	-	MRP-08522	C-306078	PKSite4A-D FA	<1	8.6	1	188	<0.05
4A	-	-	-	-	-	133	-	-	MRP-08521	C-306040	PKSite4A-P	<10	71	<10	66.2	<0.5
4	7.2	8.1	231	9.03	-	95	-	-	MRP-08492	C-305558	PHB4-B FA	<1	9.1	<1	12.9	<0.05
4	7.2	8.1	231	9.03	-	-	-	-	MRP-08492	C-305559	PHB4-B RA	<1	794	<1	16.6	0.06
4	8.0	18.8	-	-	-	142	-	0.17	MRP-08521	C-306045	PKSite4-C	<1	98.2	<1	23.7	<0.05
4	7.9	21.62	250.2	6.83	360	475	-	-	MRP-08521	C-306073	PKSite4-D FA	<1	27.7	1	196	<0.05
4	-	-	-	-	-	141	-	-	MRP-08521	C-306029	PKSite4-P	<10	33	<10	43.6	<0.5
4C	6.6	8.3	33	2.1	-	68	-	-	MRP-08491	C-305524	PHB4C-B FA	<1	4.6	<1	14.5	<0.05
4C	6.6	8.3	33	2.1	-	-	-	-	MRP-08491	C-305525	PHB4C-B RA	<1	428	<1	16.9	0.05
4C	7.3	18.4	-	-	76	80	82	0.36	MRP-08521	C-306046	PKSite4C-C	<1	423	<1	28.4	<0.05
4C	7.1	21.78	410.2	6.72	228	219	-	-	MRP-08521	C-306063	PKSite4C-D FA	<1	3.4	<1	83.8	<0.05
4C	-	-	-	-	-	77	-	-	MRP-08521	C-306035	PKSite4C-P	<10	<20	<10	32.9	<0.5
4E	7.2	8.6	185	6.8	-	68	-	-	MRP-08491	C-305520	PHB4E-B FA	<1	4	<1	9.98	<0.05
4E	7.2	8.6	185	6.8	-	-	-	-	MRP-08491	C-305521	PHB4E-B RA	<1	83	<1	10.6	<0.05
4E	7.9	18.6	-	-	-	95	-	0.17	MRP-08521	C-306047	PKSite4E-C	<1	194	<1	13.8	<0.05
4E	7.9	21.93	368.9	7.57	180	223	-	-	MRP-08521	C-306062	PKSite4E-D FA	<1	9.4	<1	43.3	<0.05
4E	-	-	-	-	-	75	-	-	MRP-08521	C-306036	PKSite4E-P	<10	<20	<10	16.2	<0.5
4F	7.5	21.71	253.6	7.69	200	219	-	-	MRP-08521	C-306059	PKSite4F-D FA	<1	1.9	<1	55.2	<0.05
5A	7.3	6.9	158	7.05	-	113	-	-	MRP-08492	C-305572	PHB5A-B FA	<1	4.3	<1	19	<0.05
5A	7.3	6.9	158	7.05	-	-	-	-	MRP-08492	C-305573	PHB5A-B RA	<1	25	<1	20.8	<0.05
5A	7.9	17.7	-	-	192	170	180	0.46	MRP-08521	C-306060	PKSite5A-C	<1	243	<1	43.8	<0.05
5A	8.1	21.85	359.2	7.42	256	279	-	-	MRP-08521	C-306069	PKSite5A-D FA	<1	63.4	2	128	<0.05
5A	-	-	-	-	-	115	-	-	MRP-08521	C-306041	PKSite5A-P	<10	66	<10	43.4	<0.5
5	7.1	7.9	74	0.87	-	102	-	-	MRP-08492	C-305566	PHB5-B FA	<1	6.1	<1	30.4	<0.05
5	7.1	7.9	74	0.87	-	-	-	-	MRP-08492	C-305567	PHB5-B RA	<1	44.2	<1	32.4	<0.05
5	7.7	18.2	-	-	-	130	-	0.17	MRP-08521	C-306051	PKSite5-C	<1	20.7	<1	28.6	<0.05
5	7.9	21.98	366.9	7.17	292	321	-	-	MRP-08521	C-306066	PKSite5-D FA	<1	35.2	<1	97.8	<0.05
5	-	-	-	-	-	77	-	-	MRP-08521	C-306037	PKSite5-P	<10	<20	<10	19	<0.5
6	7.2	8.7	218	5.3	-	72	-	-	MRP-08491	C-305540	PHB6-B FA	<1	3.6	<1	12	<0.05
6	7.2	8.7	218	5.3	-	-	-	-	MRP-08491	C-305541	PHB6-B RA	<1	20.1	<1	12.4	<0.05
6	7.6	19.6			62	110	140	0.37	MRP-08521	C-306049	PKSite6-C	<1	152	<1	19	<0.05
6	8.0	21.93	378.4	7.15	264	283	-	-	MRP-08521	C-306065	PKSite6-D FA	<1	12.9	<1	56	<0.05
6	-	-	-	-	-	99	-	-	MRP-08521	C-306039	PKSite6-P	<10	<20	<10	18.4	<0.5
10A	7.4	9.6	338	7.54	-	91	-	-	MRP-08491	C-305538[b]	PHB10A-B FA	<1	5.3	<1	23.3	<0.05
10A	7.4	9.6	338	7.54	-	-	-	-	MRP-08491	C-305543	PHB10A-B RA	<1	18.6	<1	23.3	<0.05
10A	8.0	18.4	-	-	132	135	140	0.37	MRP-08521	C-306050	PKSite10A-C	<1	239	<1	39.6	<0.05
10A	7.6	21.79	383.1	6.91	472	575	-	-	MRP-08522	C-306076	PKSite10A-D FA	<1	15.1	2	239	<0.05
10A	-	-	-	-	-	108	-	-	MRP-08521	C-306030	PKSite10A-P	<10	260.6	<10	68.9	<0.5
10B	7.1	9.5	381	6.4	-	89	-	-	MRP-08492	C-305552	PHB10B-B FA	<1	4.4	<1	19.3	<0.05
10B	7.1	9.5	381	6.4	-	-	-	-	MRP-08492	C-305553	PHB10B-B RA	<1	152	<1	20.2	<0.05
10B	7.8	17.5	-	-	130	139	150	0.38	MRP-08521	C-306055	PKSite10B-C	<1	24.6	<1	33.3	<0.05
10B	7.9	21.78	361.8	6.75	452	666	-	-	MRP-08522	C-306077	PKSite10B-D FA	<1	46.1	2	232	<0.05

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Bi (µg/L) ICP-MS	Ca (mg/L) ICP-MS	Cd (µg/L) ICP-MS	Ce (µg/L) ICP-MS	Co (µg/L) ICP-MS	Cr (µg/L) ICP-MS	Cs (µg/L) ICP-MS	Cu (µg/L) ICP-MS	Dy (µg/L) ICP-MS	Er (µg/L) ICP-MS	Eu (µg/L) ICP-MS	Fe (µg/L) ICP-MS	Ga (µg/L) ICP-MS	Gd (µg/L) ICP-MS	Ge (µg/L) ICP-MS	Ho (µg/L) ICP-MS	K (mg/L) ICP-MS	La (µg/L) ICP-MS	Li (µg/L) ICP-MS	Lu (µg/L) ICP-MS	Mg (mg/L) ICP-MS	Mn (µg/L) ICP-MS	Mo (µg/L) ICP-MS
1	< 0.2	92.1	25.2	44.9	545	<1	0.88	4600	2.68	1.56	0.65	42500	0.36	3.36	0.1	0.51	5.72	22	12.2	0.2	9.38	3700	< 2
1	< 0.2	217	17.2	183	813	<1	6.25	41.6	4.49	2.56	1.45	2820000	1.8	7.41	1.8	0.87	64	94.6	21	0.3	23.9	18400	< 2
1	< 2	48.7	11	31.4	224	<10	1.9	15	0.88	0.5	0.3	461000	< 0.5	1.2	< 0.5	0.2	15.6	16	18	< 1	8.7	2850	< 20
4A	< 0.2	33.6	0.47	0.02	2.11	<1	0.11	15.6	< 0.005	< 0.005	< 0.005	<50	< 0.05	0.005	< 0.05	< 0.005	2.16	0.02	0.6	< 0.1	2.19	126	< 2
4A	< 0.2	33.1	0.54	0.3	3.2	<1	0.12	33.6	0.02	0.02	0.009	274	< 0.05	0.03	< 0.05	< 0.005	2.15	0.22	0.7	< 0.1	2.19	136	< 2
4A	< 0.2	29.5	0.24	2.86	2.9	1.6	0.15	11.3	0.24	0.13	0.098	16400	0.34	0.32	0.1	0.05	4.1	1.54	4.3	< 0.1	11	16700	25.7
4A	< 0.2	236	2.71	0.01	501	<1	1.85	101	< 0.005	< 0.005	0.03	<50	0.59	< 0.005	< 0.05	< 0.005	17.4	< 0.01	8.8	< 0.1	17.4	49000	< 2
4A	< 2	46.5	1.7	0.9	173	<10	0.8	7	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	4.8	< 0.1	18	< 1	4.2	11800	< 20
4	< 0.2	34.4	0.21	0.03	1.1	<1	0.1	24.6	0.005	< 0.005	< 0.005	<50	< 0.05	0.007	< 0.05	< 0.005	2.2	0.02	0.6	< 0.1	2.27	1	< 2
4	< 0.2	36	0.47	1.52	12	1.7	0.18	143	0.09	0.062	0.02	1500	0.2	0.12	< 0.05	0.02	2.37	0.81	1.9	< 0.1	2.73	43.2	< 2
4	< 0.2	51.3	0.35	0.52	0.63	<1	0.33	42.2	0.04	0.02	0.01	421	< 0.05	0.057	< 0.05	0.008	3.56	0.3	1.9	< 0.1	3.28	52.4	< 2
4	< 0.2	170	1.23	0.03	30.7	<1	0.78	37	0.005	< 0.005	0.03	<50	0.33	0.005	< 0.05	< 0.005	11.8	0.02	4.6	< 0.1	12.2	23700	3.6
4	< 2	46.1	<0.2	0.9	13.3	<10	0.8	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	4	< 0.1	18	< 1	6.2	5480	< 20
4C	< 0.2	24.7	1.77	0.09	46.2	<1	0.11	23.2	< 0.005	0.008	< 0.005	4910	< 0.05	0.008	< 0.05	< 0.005	1.25	0.05	0.4	< 0.1	1.62	1280	< 2
4C	< 0.2	25.2	2.06	1.24	52.5	1.3	0.2	95.7	0.092	0.04	0.02	6090	0.1	0.094	< 0.05	0.02	1.33	0.66	2	< 0.1	1.79	1360	< 2
4C	< 0.2	29.1	2.53	2.17	119	<1	0.29	263	0.13	0.084	0.04	2110	0.1	0.17	< 0.05	0.03	2.42	1.13	1.6	< 0.1	1.87	5300	< 2
4C	< 0.2	79.4	3.6	0.02	354	<1	1.2	64.6	< 0.005	< 0.005	0.01	<50	0.24	< 0.005	< 0.05	< 0.005	6.05	0.01	3.4	< 0.1	4.92	20200	< 2
4C	< 2	26.3	2.8	0.9	150	<10	0.4	16	< 0.05	< 0.05	< 0.05	1020	< 0.5	< 0.05	< 0.5	< 0.05	2	< 0.1	16	< 1	2.8	5780	< 20
4E	< 0.2	24.9	0.41	0.02	0.15	<1	0.1	14.9	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.98	0.02	0.7	< 0.1	1.51	0.5	< 2
4E	< 0.2	25.5	0.44	0.17	1.1	<1	0.11	21.7	0.008	0.009	< 0.005	105	< 0.05	0.02	< 0.05	< 0.005	2.06	0.1	1	< 0.1	1.56	9.3	< 2
4E	< 0.2	34.7	0.46	1.22	1.54	<1	0.18	90.9	0.095	0.053	0.03	1960	< 0.05	0.12	< 0.05	0.02	2.92	0.91	1.4	< 0.1	2.08	40.4	< 2
4E	< 0.2	81.1	2.47	0.02	28.7	<1	1.18	55.3	< 0.005	< 0.005	< 0.005	<50	0.1	0.005	< 0.05	< 0.005	6.26	0.02	2.6	< 0.1	4.97	7500	< 2
4E	< 2	25.5	1.1	0.8	7.1	<10	0.4	10	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	3	< 0.1	14	< 1	2.8	1160	< 20
4F	< 0.2	80.6	1.26	< 0.01	122	<1	0.98	23.3	< 0.005	< 0.005	0.008	<50	0.1	< 0.005	< 0.05	< 0.005	7.34	< 0.01	2.5	< 0.1	4.18	7560	< 2
5A	< 0.2	41.8	<0.02	< 0.01	<0.02	<1	< 0.02	<0.5	< 0.005	0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	2.98	0.01	0.6	< 0.1	2.09	0.8	< 2
5A	< 0.2	44.8	<0.02	0.07	0.03	<1	< 0.02	<0.5	0.006	< 0.005	0.005	<50	< 0.05	0.009	< 0.05	< 0.005	3.17	0.04	0.9	< 0.1	2.24	12.1	< 2
5A	< 0.2	63.5	0.06	1.05	0.4	<1	0.11	2.1	0.075	0.04	0.02	640	0.1	0.086	< 0.05	0.02	4.92	0.61	2.8	< 0.1	2.76	70.5	< 2
5A	< 0.2	102	0.07	0.08	1.07	<1	0.03	3.8	0.01	0.005	0.02	<50	0.24	0.01	< 0.05	< 0.005	7.64	0.04	5	< 0.1	5.9	11100	23.2
5A	< 2	41.2	<0.2	0.8	0.2	<10	< 0.2	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	3.1	< 0.1	14	< 1	3	4640	< 20
5	< 0.2	37.7	0.6	0.06	10.9	<1	0.08	6.3	0.005	0.008	0.006	308	0.06	0.005	< 0.05	< 0.005	1.89	0.03	< 0.1	< 0.1	1.96	2740	< 2
5	< 0.2	37.6	0.64	0.14	11.3	<1	0.1	9.3	0.01	< 0.005	0.008	370	0.08	0.01	< 0.05	< 0.005	1.91	0.07	0.1	< 0.1	1.96	2740	< 2
5	< 0.2	48.2	0.14	0.19	0.14	<1	0.15	8.1	0.01	0.009	< 0.005	<50	< 0.05	0.02	< 0.05	< 0.005	3.1	0.08	1.8	< 0.1	2.28	8.7	< 2
5	< 0.2	118	0.75	0.11	14.3	<1	0.56	13.3	0.01	0.01	0.01	<50	0.26	0.01	< 0.05	< 0.005	5.88	0.06	3.2	< 0.1	6.43	17000	2.7
5	< 2	25.5	0.3	0.9	3	<10	0.2	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	2	< 0.1	15	< 1	3.2	1230	< 20
6	< 0.2	26.5	0.18	< 0.01	0.15	<1	0.07	7.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	2.03	0.01	0.9	< 0.1	1.49	12.9	< 2
6	< 0.2	25.9	0.18	0.04	0.27	<1	0.08	6.6	0.007	0.007	< 0.005	<50	< 0.05	0.007	< 0.05	< 0.005	2.01	0.03	0.7	< 0.1	1.48	17.1	< 2
6	< 0.2	40.5	0.25	0.77	1.34	<1	0.22	34.8	0.058	0.03	0.02	1050	< 0.05	0.068	< 0.05	0.01	3.13	0.52	1.9	< 0.1	2.21	48.9	< 2
6	< 0.2	103	1.37	0.02	15.9	<1	0.94	21.4	0.005	< 0.005	0.01	<50	0.23	< 0.005	< 0.05	< 0.005	5.87	0.01	3.5	< 0.1	6.18	16800	4.4
6	< 2	31.7	0.6	0.9	4.2	<10	0.4	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	2	< 0.1	15	< 1	4.7	3090	< 20
10A	< 0.2	34	<0.02	< 0.01	<0.02	<1	0.25	<0.5	< 0.005	< 0.005	0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.81	< 0.01	0.2	< 0.1	1.44	0.6	< 2
10A	< 0.2	31.4	<0.02	0.03	<0.02	<1	0.25	<0.5	< 0.005	< 0.005	< 0.005	<50	< 0.05	0.007	< 0.05	< 0.005	1.74	0.02	< 0.1	< 0.1	1.31	1.2	< 2
10A	< 0.2	50.5	0.15	1.25	0.24	<1	0.54	4.9	0.1	0.057	0.02	254	0.08	0.1	< 0.05	0.02	2.65	0.65	0.9	< 0.1	2.17	69.4	< 2
10A	< 0.2	215	0.03	0.08	1.16	<1	3.41	2.6	0.007	0.008	0.03	<50	0.2	0.01	0.05	< 0.005	8.05	0.04	1	< 0.1	9.09	11600	2.7
10A	< 2	37.6	<0.2	1.55	0.41	<10	1.24	<5	0.07	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	3.10	0.31	17.58	< 1	3.31	2729.76	< 20
10B	< 0.2	32.3	0.39	< 0.01	0.02	<1	0.3	7.9	< 0.005	< 0.005	< 0.005	<50	< 0.05	0.005	< 0.05	< 0.005	1.6	0.02	< 0.1	< 0.1	1.98	0.7	< 2
10B	< 0.2	32.9	0.45	0.35	1.03	<1	0.31	20.6	0.03	0.02	0.008	54	< 0.05	0.04	< 0.05	0.006	1.67	0.22	0.1	< 0.1	2.08	19.1	< 2
10B	< 0.2	50.7	0.66	0.11	2.5	<1	0.58	26.3	0.006	0.005	0.006	<50	< 0.05	0.007	< 0.05	< 0.005	2.73	0.08	1.1	< 0.1	2.89	260	< 2
10B	< 0.2	240	0.53	0.21	33.3	<1	3.79	27.2	0.02	0.02	0.03	<50	0.36	0.02	< 0.05	0.006	9.95	0.13	4.3	< 0.1	16.1	25900	< 2

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Na (mg/L) ICP-MS	Nb (µg/L) ICP-MS	Nd (µg/L) ICP-MS	Ni (µg/L) ICP-MS	P (mg/L) ICP-MS	Pb (µg/L) ICP-MS	Pr (µg/L) ICP-MS	Rb (µg/L) ICP-MS	Sb (µg/L) ICP-MS	Sc (µg/L) ICP-MS	Se (µg/L) ICP-MS	SiO2 (mg/L) ICP-MS	Sm (µg/L) ICP-MS	SO4 (mg/L) ICP-MS	Sr (µg/L) ICP-MS	Ta (µg/L) ICP-MS	Tb (µg/L) ICP-MS	Th (µg/L) ICP-MS	Ti (µg/L) ICP-MS	Tl (µg/L) ICP-MS	Tm (µg/L) ICP-MS	U (µg/L) ICP-MS	V (µg/L) ICP-MS
1	2.06	< 0.2	18.1	64.7	< 0.01	4.6	5.1	31.4	<0.3	4.9	4.1	29.6	3.25	420	268	0.02	0.52	0.25	7	0.2	0.21	0.92	<0.5
1	16.1	< 0.2	55.6	144	0.08	4.9	16.3	280	0.71	9.2	5.6	57.8	7.95	5420	872	0.1	0.96	0.26	93	<0.1	0.34	0.6	<0.5
1	9.4	<2	8.9	37	< 0.1	2	2.8	68	<3	< 6	< 10	29	1.4	920	250	< 0.2	0.2	< 2	12	<1	0.05	< 1	<5
4A	1.51	< 0.2	0.02	0.9	< 0.01	0.2	< 0.01	6.75	<0.3	0.9	< 1	7	< 0.01	41	121	< 0.02	< 0.005	< 0.2	0.5	<0.1	< 0.005	0.24	<0.5
4A	1.49	< 0.2	0.16	1.1	< 0.01	0.2	0.04	6.77	<0.3	0.9	< 1	7.2	0.03	40	120	< 0.02	0.005	< 0.2	4.1	<0.1	< 0.005	0.26	<0.5
4A	3.03	< 0.2	1.59	10.6	0.2	8.4	0.4	6.06	0.39	5	1.2	30	0.31	17	109	0.05	0.04	0.22	14.2	<0.1	0.02	0.23	2.2
4A	7.83	< 0.2	0.01	13.6	< 0.01	<0.05	< 0.01	55.6	0.86	3.1	4	22.8	< 0.01	36	839	< 0.02	< 0.005	< 0.2	0.5	<0.1	< 0.005	1.39	<0.5
4A	5.6	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	22	<3	< 6	< 10	10	< 0.1	40	183	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
4	1.29	< 0.2	0.02	0.9	< 0.01	0.59	< 0.01	8.55	<0.3	0.8	< 1	6.6	< 0.01	50	119	< 0.02	< 0.005	< 0.2	0.7	<0.1	< 0.005	0.12	<0.5
4	1.37	< 0.2	0.7	1.5	< 0.01	0.65	0.19	9.58	<0.3	1.2	< 1	8.8	0.12	51	126	< 0.02	0.02	< 0.2	30.3	<0.1	0.007	0.21	1.3
4	1.84	< 0.2	0.27	0.8	0.01	0.2	0.07	16.3	<0.3	1	< 1	8.3	0.06	47	182	< 0.02	0.008	< 0.2	1.7	<0.1	< 0.005	0.55	<0.5
4	5.43	< 0.2	< 0.01	6.8	< 0.01	<0.05	< 0.01	36.1	0.44	2	2.4	14.3	< 0.01	84	637	< 0.02	< 0.005	< 0.2	1.2	0.2	< 0.005	2.94	0.8
4	6	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	19.5	<3	< 6	< 10	6	< 0.1	40	171	0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
4C	1.27	< 0.2	0.03	2	< 0.01	0.2	< 0.01	4.2	<0.3	1.1	< 1	7.9	< 0.01	20	96.6	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
4C	1.28	< 0.2	0.5	2.6	0.01	0.4	0.16	5.09	<0.3	1.3	< 1	9	0.09	20	103	< 0.02	0.01	< 0.2	18	<0.1	0.006	0.12	0.9
4C	1.54	< 0.2	1.01	2.8	0.05	1	0.28	9.64	<0.3	1.1	< 1	8.3	0.19	24	113	< 0.02	0.03	< 0.2	3.5	<0.1	0.01	0.2	0.7
4C	3.29	< 0.2	< 0.01	7.3	< 0.01	<0.05	< 0.01	26.9	0.3	2.4	< 1	17.6	< 0.01	15	336	0.04	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.33	<0.5
4C	4.9	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	9.4	<3	< 6	< 10	10	< 0.1	30	104	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
4E	2.4	< 0.2	0.02	0.7	< 0.01	0.2	< 0.01	5.06	<0.3	0.6	< 1	4.9	< 0.01	16	92.8	0.05	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.11	<0.5
4E	2.49	< 0.2	0.09	0.8	< 0.01	0.06	0.02	5.21	<0.3	0.7	< 1	5.3	0.01	16	95.6	0.03	< 0.005	< 0.2	2.6	<0.1	< 0.005	0.14	<0.5
4E	3.12	< 0.2	0.74	<0.4	< 0.01	0.57	0.2	9.73	<0.3	0.9	< 1	7.1	0.12	22	128	< 0.02	0.02	< 0.2	1.9	<0.1	0.008	0.15	<0.5
4E	5.46	< 0.2	0.01	2.7	< 0.01	<0.05	< 0.01	29.6	<0.3	1.2	1.1	9.6	< 0.01	31	325	0.05	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.47	<0.5
4E	5.6	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	11.3	<3	< 6	< 10	6	< 0.1	30	97.5	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
4F	4.7	0.22	< 0.01	3.1	< 0.01	0.06	< 0.01	30.6	0.3	2	< 1	15.6	< 0.01	18	393	0.1	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	1.79	<0.5
5A	13.8	< 0.2	< 0.01	0.4	< 0.01	<0.05	< 0.01	2.21	<0.3	0.9	< 1	7.6	< 0.01	6	194	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.86	<0.5
5A	14.8	< 0.2	0.04	0.4	< 0.01	<0.05	0.01	2.42	<0.3	1	< 1	8.2	< 0.01	7	206	< 0.02	< 0.005	< 0.2	1.5	<0.1	< 0.005	0.91	<0.5
5A	28	< 0.2	0.51	1.1	0.07	0.7	0.13	9.1	<0.3	1.4	< 1	10	0.1	8	336	0.1	0.01	< 0.2	11.4	<0.1	0.005	2.02	1.3
5A	36.8	< 0.2	0.03	4.7	0.05	0.1	< 0.01	0.83	0.59	1.4	3.3	10.2	0.01	6	518	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	8.61	2.2
5A	10.3	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	3.5	<3	< 6	< 10	4	< 0.1	30	188	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	1.4	<5
5	3.78	< 0.2	0.03	0.9	< 0.01	<0.05	< 0.01	6.76	<0.3	0.9	< 1	6.2	< 0.01	9	135	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.5	<0.5
5	3.84	< 0.2	0.06	0.8	< 0.01	<0.05	0.01	7.11	<0.3	0.9	< 1	6.3	< 0.01	9	138	< 0.02	< 0.005	< 0.2	2.5	<0.1	< 0.005	0.51	<0.5
5	4.23	< 0.2	0.06	<0.4	< 0.01	0.1	0.02	12	<0.3	0.8	< 1	7.7	0.01	17	199	< 0.02	< 0.005	< 0.2	0.5	<0.1	< 0.005	0.44	<0.5
5	9.25	< 0.2	0.04	2.5	< 0.01	<0.05	< 0.01	18.5	<0.3	1.6	< 1	11.3	0.01	< 2	462	0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	2.76	1.6
5	5.8	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	8.8	<3	< 6	< 10	4	< 0.1	30	101	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
6	4.02	< 0.2	< 0.01	0.5	< 0.01	0.1	< 0.01	4.97	<0.3	0.8	< 1	5.5	< 0.01	9	111	0.04	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.21	<0.5
6	4.01	< 0.2	0.03	0.5	< 0.01	<0.05	< 0.01	5.05	<0.3	0.8	< 1	5.4	< 0.01	8	112	0.04	< 0.005	< 0.2	0.9	<0.1	< 0.005	0.22	<0.5
6	5.37	< 0.2	0.42	0.5	0.02	0.56	0.12	10.6	<0.3	0.8	< 1	6.8	0.07	16	166	< 0.02	0.01	< 0.2	3.8	<0.1	0.005	0.5	0.7
6	8.67	< 0.2	0.01	2.8	< 0.01	<0.05	< 0.01	22.5	<0.3	1.2	1.1	8	< 0.01	3	407	0.03	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	3.07	<0.5
6	7.2	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	8.6	<3	< 6	< 10	4	< 0.1	30	122	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
10A	0.59	< 0.2	< 0.01	0.4	< 0.01	<0.05	< 0.01	9.36	<0.3	< 0.6	< 1	4.8	< 0.01	4	111	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.11	<0.5
10A	0.54	< 0.2	0.01	<0.4	< 0.01	<0.05	< 0.01	9.43	<0.3	0.6	< 1	4.5	< 0.01	4	112	0.02	< 0.005	< 0.2	0.6	<0.1	< 0.005	0.11	<0.5
10A	1.04	< 0.2	0.52	0.5	0.07	0.6	0.16	14.5	<0.3	0.7	1.3	5.8	0.11	11	163	< 0.02	0.02	< 0.2	5.8	<0.1	0.008	0.2	0.7
10A	2.28	< 0.2	0.03	2.4	< 0.01	<0.05	< 0.01	51.6	<0.3	1.9	5.4	13.8	< 0.01	< 2	696	< 0.02	< 0.005	< 0.2	< 0.5	0.2	< 0.005	1.14	<0.5
10A	5.07	<2	0.21	<4	< 0.1	<0.5	< 0.1	16.23	<3	< 6	< 10	5.17	< 0.1	31.02	128.22	< 0.2	< 0.05	< 2	10.34	<1	< 0.05	< 1	<5
10B	0.65	< 0.2	0.02	1.2	< 0.01	<0.05	< 0.01	8.68	<0.3	0.9	< 1	7.2	< 0.01	23	120	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.15	<0.5
10B	0.66	< 0.2	0.2	1.5	< 0.01	0.08	0.05	9.03	<0.3	1	< 1	7.6	0.03	24	123	< 0.02	0.005	< 0.2	4.6	<0.1	< 0.005	0.15	<0.5
10B	0.97	< 0.2	0.05	2	< 0.01	<0.05	0.01	16.5	<0.3	1.2	< 1	9.3	< 0.01	26	191	0.05	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.39	<0.5
10B	3.56	< 0.2	0.09	4.6	0.01	0.08	0.02	59.1	0.44	2.3	6.8	16.5	0.01	3	772	< 0.02	< 0.005	< 0.2	< 0.5	0.1	< 0.005	2.65	1.2

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Y (µg/L) ICP-MS	Yb (µg/L) ICP-MS	Zn (µg/L) ICP-MS	Zr (µg/L) ICP-MS	Ag (µg/L) ICP-AES	Al (µg/L) ICP-AES	As (µg/L) ICP-AES	B (µg/L) ICP-AES	Ba (µg/L) ICP-AES	Be (µg/L) ICP-AES	Ca (mg/L) ICP-AES	Cd (µg/L) ICP-AES	Co (µg/L) ICP-AES	Cr (µg/L) ICP-AES	Cu (µg/L) ICP-AES	Fe (µg/L) ICP-AES	K (mg/L) ICP-AES	Li (µg/L) ICP-AES	Mg (mg/L) ICP-AES	Mn (µg/L) ICP-AES	Mo (µg/L) ICP-AES
1	14.7	1.37	4540	< 0.2	<5	9940	<50	33	27	<10	99	27	605	<10	4770	51000	6.5	14	11	4020	<20
1	31.6	2.09	8400	0.3	<5	4320	<50	1750	70	<10	183	179	777	<10	<10	2256000	56	27	23	16000	<20
1	4.7	0.5	2470	< 2	<50	1430	<500	<50	52	<100	51	<50	260	<100	<100	540000	17	<50	9.4	3270	<200
4A	0.02	< 0.005	44.8	< 0.2	<5	<20	<50	<5	13	<10	39	<5	<10	<10	16	<20	2.5	<5	2.7	143	<20
4A	0.12	0.007	51.4	< 0.2	<5	133	<50	<5	14	<10	39	<5	<10	<10	38	332	2.5	<5	2.7	156	<20
4A	1.38	0.12	27.4	0.2	<5	648	<50	22	174	<10	31	<5	<10	<10	<10	19000	4.5	<5	12	18000	23
4A	0.08	< 0.005	128	< 0.2	5.3	<20	<50	7.2	167	<10	202	<5	466	<10	97	<20	15	6.4	14	46000	<20
4A	< 0.1	< 0.05	125	< 2	<50	<200	<500	<50	62	<100	46	<50	180	<100	<100	780	4.5	<50	3.7	12900	<200
4	0.02	< 0.005	26.1	< 0.2	<5	<20	<50	<5	15	<10	40	<5	<10	<10	27	<20	2.7	<5	2.8	<10	<20
4	0.46	0.05	54.4	< 0.2	<5	938	<50	<5	19	<10	42	<5	14	<10	160	1880	2.8	<5	3.3	49	<20
4	0.22	0.02	23.2	< 0.2	<5	103	<50	<5	22	<10	51	<5	<10	<10	43	507	3.6	<5	3.2	49	<20
4	0.1	0.008	23.7	< 0.2	<5	<20	<50	<5	190	<10	171	<5	33	<10	34	<20	12	<5	11	25000	<20
4	< 0.1	< 0.05	25	< 2	<50	<200	<500	<50	41	<100	45	<50	<100	<100	<100	<200	3.1	<50	5.3	5820	<200
4C	0.05	< 0.005	91.8	< 0.2	<5	<20	<50	<5	14	<10	24	<5	47	<10	25	5160	1.3	<5	1.7	1400	<20
4C	0.44	0.04	123	< 0.2	<5	535	<50	5.2	19	<10	28	<5	59	<10	105	6990	1.5	<5	2.1	1620	<20
4C	0.68	0.07	170	< 0.2	<5	496	<50	<5	27	<10	30	<5	132	<10	263	2570	2.5	<5	1.9	5900	<20
4C	0.03	< 0.005	236	< 0.2	<5	<20	<50	<5	82	<10	85	<5	385	<10	63	<20	6.5	<5	5.2	22000	<20
4C	< 0.1	< 0.05	155	< 2	<50	<200	<500	<50	29	<100	25	<50	160	<100	<100	1480	1.7	<50	2.6	6160	<200
4E	0.02	< 0.005	42.3	< 0.2	<5	<20	<50	<5	11	<10	27	<5	<10	<10	16	<20	2.3	<5	1.8	<10	<20
4E	0.08	0.007	42.6	< 0.2	<5	97	<50	<5	11	<10	29	<5	<10	<10	24	158	2.4	<5	1.9	10	<20
4E	0.5	0.05	46	< 0.2	<5	220	<50	<5	13	<10	36	<5	<10	<10	90	2360	3.1	<5	2.1	42	<20
4E	0.03	< 0.005	48.7	< 0.2	<5	<20	<50	<5	39	<10	78	<5	30	<10	56	<20	6.2	<5	4.8	7640	<20
4E	< 0.1	< 0.05	46	< 2	<50	<200	<500	<50	15	<100	25	<50	<100	<100	<100	<200	2.1	<50	2.4	1230	<200
4F	0.02	< 0.005	72.9	< 0.2	<5	<20	<50	8.9	49	<10	79	<5	128	<10	23	<20	7.4	<5	4.3	7730	<20
5A	0.02	< 0.005	1.2	< 0.2	<5	<20	<50	<5	21	<10	45	<5	<10	<10	<10	<20	3.2	<5	2.2	<10	<20
5A	0.03	< 0.005	<0.5	< 0.2	<5	<20	<50	<5	23	<10	48	<5	<10	<10	<10	24	3.4	<5	2.4	12	<20
5A	0.39	0.03	3.9	< 0.2	<5	277	<50	<5	40	<10	64	<5	<10	<10	<10	783	5	<5	2.8	73	<20
5A	0.08	0.006	2.1	< 0.2	<5	43	<50	<5	121	<10	96	<5	<10	<10	<10	<20	7	<5	5.1	11000	21
5A	< 0.1	< 0.05	<5	< 2	<50	<200	<500	<50	39	<100	39	<50	<100	<100	<100	<200	2.2	<50	2.5	4760	<200
5	0.03	< 0.005	11.9	< 0.2	<5	<20	<50	<5	34	<10	39	<5	12	<10	<10	322	2	<5	2.1	2830	<20
5	0.05	0.005	12.8	< 0.2	<5	39	<50	<5	36	<10	39	<5	12	<10	<10	387	2	<5	2.1	2890	<20
5	0.07	0.006	8.2	< 0.2	<5	<20	<50	<5	28	<10	51	<5	<10	<10	<10	94	3.3	<5	2.3	<10	<20
5	0.12	0.01	9.4	< 0.2	<5	<20	<50	<5	86	<10	106	<5	15	<10	12	<20	5.2	<5	5.2	16000	<20
5	< 0.1	< 0.05	27	< 2	<50	<200	<500	<50	20	<100	26	<50	<100	<100	<100	<200	1.5	<50	2.9	1400	<200
6	0.02	< 0.005	20.8	< 0.2	<5	<20	<50	<5	13	<10	31	<5	<10	<10	<10	<20	2.4	<5	1.8	15	<20
6	0.03	< 0.005	21.4	< 0.2	<5	<20	<50	<5	14	<10	32	<5	<10	<10	<10	41	2.5	<5	1.9	20	<20
6	0.34	0.03	28.6	< 0.2	<5	164	<50	<5	18	<10	41	<5	<10	<10	37	1250	3.2	<5	2.2	49	<20
6	0.04	< 0.005	20.8	< 0.2	<5	<20	<50	<5	52	<10	99	<5	17	<10	20	<20	5.6	<5	5.4	17000	<20
6	< 0.1	< 0.05	16	< 2	<50	<200	<500	<50	15	<100	32	<50	<100	<100	<100	<200	1.7	<50	4.2	3290	<200
10A	< 0.01	< 0.005	1.3	< 0.2	<5	<20	<50	<5	26	<10	38	<5	<10	<10	<10	<20	2.1	<5	1.6	<10	<20
10A	0.01	< 0.005	0.6	< 0.2	<5	<20	<50	<5	25	<10	37	<5	<10	<10	<10	<20	2.1	<5	1.7	<10	<20
10A	0.55	0.05	4.5	< 0.2	<5	284	<50	<5	39	<10	53	<5	<10	<10	<10	389	2.9	<5	2.2	73	<20
10A	0.11	0.009	2.8	< 0.2	<5	<20	<50	<5	219	<10	195	<5	<10	<10	<10	21	7.6	<5	8.1	11000	<20
10A	0.21	< 0.05	6.20	< 2	<50	299.9	<500	<50	69.3	<100	38.3	<50	<100	<100	<100	217.1	3.0	<50	3.1	3040	<200
10B	0.02	< 0.005	47.6	< 0.2	<5	<20	<50	<5	22	<10	39	<5	<10	<10	<10	<20	1.9	<5	2.5	<10	<20
10B	0.16	0.02	56	< 0.2	<5	179	<50	<5	22	<10	39	<5	<10	<10	22	90	2	<5	2.7	22	<20
10B	0.06	0.005	43.5	< 0.2	<5	<20	<50	<5	31	<10	51	<5	<10	<10	25	<20	2.8	<5	3	270	<20
10B	0.29	0.02	35.6	< 0.2	<5	<20	<50	<5	207	<10	207	<5	33	<10	24	50	8.7	<5	12	25000	<20

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Ni (µg/L) ICP-AES	P (mg/L) ICP-AES	Pb (µg/L) ICP-AES	Sb (µg/L) ICP-AES	Se (µg/L) ICP-AES	SiO2 (mg/L) ICP-AES	SO4 (mg/L) ICP-AES	Sr (µg/L) ICP-AES	Ti (µg/L) ICP-AES	V (µg/L) ICP-AES	Zn (µg/L) ICP-AES	Job No. IC	Lab No. IC	Sample ID IC	Cl (mg/L) IC	F (mg/L) IC	NO3 (mg/L) IC	SO4 (mg/L) IC
1	60	5.2	<50	<50	< 200	40	525	267	<50	<10	4350	-	-	-	-	-	-	-
1	18	<0.5	250	<50	< 200	60	4970	753	<50	212	7060	MRP-08519	C-305974	PKSite1-D FU	39.6	<.08	<.08	6001
1	<100	<5	<500	<500	< 2000	33	1120	280	<500	<100	<200	-	-	-	-	-	-	-
4A	<10	<0.5	<50	<50	< 200	8.1	44	137	<50	<10	50	MRP-08488	C-305456	PHB4A-B FU	2.6	<.08	0.7	43.6
4A	<10	<0.5	<50	<50	< 200	8.4	43	136	<50	<10	58	-	-	-	-	-	-	-
4A	<10	2.4	<50	<50	< 200	41	22	111	166	<10	<20	-	-	-	-	-	-	-
4A	12	<0.5	<50	<50	< 200	19	34	809	<50	<10	113	MRP-08519	C-305976	PKSite4A-D FU	4.6	<.08	6	30.3
4A	<100	<5	<500	<500	< 2000	9.9	20	210	<500	<100	<200	-	-	-	-	-	-	-
4	<10	<0.5	<50	<50	< 200	7.9	53	134	<50	<10	30	MRP-08488	C-305457	PHB4-B FU	2.3	<.08	0.7	54
4	<10	<0.5	<50	<50	< 200	11	55	142	325	<10	60	-	-	-	-	-	-	-
4	<10	<0.5	<50	<50	< 200	8.8	54	188	<50	<10	23	-	-	-	-	-	-	-
4	<10	<0.5	<50	<50	< 200	14	82	698	<50	<10	23	MRP-08519	C-305975	PKSite4-D FU	5.1	<.08	5.9	79
4	<100	<5	<500	<500	< 2000	5.6	18	190	<500	<100	<200	-	-	-	-	-	-	-
4C	<10	<0.5	<50	<50	< 200	8.4	22	100	<50	<10	88	MRP-08488	C-305440	PHB4C-B FU	2.7	0.14	<.08	24.6
4C	<10	<0.5	<50	<50	< 200	11	25	116	191	<10	128	-	-	-	-	-	-	-
4C	<10	1.2	<50	<50	< 200	9.4	28	125	<50	<10	170	-	-	-	-	-	-	-
4C	<10	<0.5	<50	<50	< 200	20	19	360	<50	<10	237	MRP-08519	C-305977	PKSite4C-D FU	3.6	<.08	<.08	17.8
4C	<100	<5	<500	<500	< 2000	9.1	<10	120	<500	<100	<200	-	-	-	-	-	-	-
4E	<10	<0.5	<50	<50	< 200	5.9	20	101	<50	<10	40	MRP-08488	C-305438	PHB4E-B FU	4.5	<.08	0.6	21.3
4E	<10	<0.5	<50	<50	< 200	6.3	21	107	<50	<10	44	-	-	-	-	-	-	-
4E	<10	<0.5	<50	<50	< 200	7.9	25	138	<50	<10	45	-	-	-	-	-	-	-
4E	<10	<0.5	<50	<50	< 200	9.6	37	318	<50	<10	44	MRP-08519	C-305978	PKSite4E-D FU	6.7	<.08	3.6	33
4E	<100	<5	<500	<500	< 2000	5	10	110	<500	<100	<200	-	-	-	-	-	-	-
4F	<10	<0.5	<50	<50	< 200	16	24	379	<50	<10	66	MRP-08519	C-305979	PKSite4F-D FU	3	<.08	<.08	22.9
5A	<10	<0.5	<50	<50	< 200	8.1	8.5	202	<50	<10	<20	MRP-08489	C-305464	PHB5A-B FU	19.4	<.08	2.2	10.3
5A	<10	<0.5	<50	<50	< 200	8.8	9	215	<50	<10	<20	-	-	-	-	-	-	-
5A	<10	1.2	<50	<50	< 200	11	11	333	116	<10	<20	-	-	-	-	-	-	-
5A	<10	0.51	<50	<50	< 200	8.7	5.2	555	<50	<10	<20	MRP-08519	C-305982	PKSite5A-D FU	30.1	<.08	6	7.5
5A	<100	<5	<500	<500	< 2000	3.8	<10	210	<500	<100	<200	-	-	-	-	-	-	-
5	<10	<0.5	<50	<50	< 200	6.5	11	147	<50	<10	<20	MRP-08489	C-305461	PHB5-B FU	4.8	<.08	0.7	9.8
5	<10	<0.5	<50	<50	< 200	6.6	11	150	<50	<10	<20	-	-	-	-	-	-	-
5	<10	<0.5	<50	<50	< 200	8.5	19	223	<50	<10	<20	-	-	-	-	-	-	-
5	<10	<0.5	<50	<50	< 200	9.7	2.1	462	<50	<10	<20	MRP-08519	C-305980	PKSite5-D FU	8.7	<.08	<.08	5.8
5	<100	<5	<500	<500	< 2000	3.8	<10	120	<500	<100	<200	-	-	-	-	-	-	-
6	<10	<0.5	<50	<50	< 200	6.4	12	125	<50	<10	23	MRP-08488	C-305448	PHB6-B FU	7.3	<.08	0.7	13.5
6	<10	<0.5	<50	<50	< 200	6.6	13	128	<50	<10	24	-	-	-	-	-	-	-
6	<10	<0.5	<50	<50	< 200	7.3	19	178	<50	<10	28	-	-	-	-	-	-	-
6	<10	<0.5	<50	<50	< 200	7.5	3.5	426	<50	<10	<20	MRP-08519	C-305983	PKSite6-D FU	10.5	0.6	<.08	6.2
6	<100	<5	<500	<500	< 2000	3.9	11	140	<500	<100	<200	-	-	-	-	-	-	-
10A	<10	<0.5	<50	<50	< 200	5.4	8.7	123	<50	<10	<20	MRP-08488	C-305449	PHB10A-B FU	1.6	<.08	<.08	9.8
10A	<10	<0.5	<50	<50	< 200	5.4	8.5	121	<50	<10	<20	-	-	-	-	-	-	-
10A	<10	1.4	<50	<50	< 200	6.5	12	182	54	<10	<20	-	-	-	-	-	-	-
10A	<10	<0.5	<50	<50	< 200	13	< 1	694	<50	<10	<20	MRP-08519	C-305985	PKSite10A-D FU	3.7	<.08	6.3	<.08
10A	<100	<5	<500	<500	< 2000	5.48	<10	155.10	<500	<100	<200	-	-	-	-	-	-	-
10B	<10	<0.5	<50	<50	< 200	8.9	29	133	<50	<10	54	MRP-08488	C-305454	PHB10B-B FU	1.6	<.08	1	29.5
10B	<10	<0.5	<50	<50	< 200	9.5	30	136	<50	<10	62	-	-	-	-	-	-	-
10B	<10	<0.5	<50	<50	< 200	10	33	192	<50	<10	40	-	-	-	-	-	-	-
10B	<10	<0.5	<50	<50	< 200	13	1.1	802	<50	<10	33	MRP-08519	C-305986	PKSite10B-D FU	4.4	1	6.4	<.08

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Lab No.	Field No.	Hg (ng/L)	NWQL Lab ID	N (total) (mg/L)	P (total) (mg/L)	P (total) (mg/L)	Alkalinity (mg $CaCO_3$/L)	Ammonia as N (dissolved) (mg/L)	Ammonia as N (dissolved) Dilution	N (dissolved) (mg/L)	N (dissolved) (mg/L)
	CVAF	CVAF	CV-AAS		AKP01	AKP01	CL021	TT040	48		CL048	CL048
1	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-
4A	C-305792	PHB4A-B FA	<5	20072960069	-	-	-	69	0.023	1	-	0.061
4A	C-305793	PHB4A-B RA	<5	20072960069	E0.04	-	0.011	-	-	-	-	-
4A	-	-	-	-	-	-	-	-	-	-	-	-
4A	-	-	-	-	-	-	-	-	-	-	-	-
4A	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	20072960069		-	-	69	0.023	1	-	0.061
4	C-305789	PHB4-B RA	7	20072960069	E0.04	-	0.011	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
4C	C-305796	PHB4C-B FA	<5	20072960130		-	-	61	0.198	1	-	<0.04
4C	C-305797	PHB4C-B RA	7	20072960130	0.27	-	0.035	-	-	-	-	-
4C	-	-	-	-	-	-	-	-	-	-	-	-
4C	-	-	-	-	-	-	-	-	-	-	-	-
4C	-	-	-	-	-	-	-	-	-	-	-	-
4E	C-305802	PHB4E-B FA	<5	20072960129	-	-	-	64	0.023	1	-	E0.030
4E	C-305803	PHB4E-B RA	<5	20072960129	E0.03	-	E0.004	-	-	-	-	-
4E	-	-	-	-	-	-	-	-	-	-	-	-
4E	-	-	-	-	-	-	-	-	-	-	-	-
4E	-	-	-	-	-	-	-	-	-	-	-	-
4F	-	-	-	-	-	-	-	-	-	-	-	-
5A	C-305810	PHB5A-B FA	<5	20072960075	-	-	-	128	0.02	1	-	0.316
5A	C-305811	PHB5A-B RA	<5	20072960075	0.34	-	<0.008	-	-	-	-	-
5A	-	-	-	-	-	-	-	-	-	-	-	-
5A	-	-	-	-	-	-	-	-	-	-	-	-
5A	-	-	-	-	-	-	-	-	-	-	-	-
5	C-305806	PHB5-B FA	<5	20072960071	-	-	-	108	0.355	1	-	0.051
5	C-305807	PHB5-B RA	<5	20072960071	0.43	-	E0.006	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
6	C-305815	PHB6-B FA	<5	20072960128	-	-	-	80	E0.015	1	-	0.047
6	C-305816	PHB6-B RA	<5	20072960128	0.07	-	<0.008	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-
10A	-	-	-	20072960081	-	-	-	100	E0.016	1	-	<0.04
10A	C-305821	PHB10A-B RA	<5	20072960081	<0.06	-	<0.008	-	-	-	-	-
10A	-	-	-	-	-	-	-	-	-	-	-	-
10A	-	-	-	-	-	-	-	-	-	-	-	-
10A	-	-	-	-	-	-	-	-	-	-	-	-
10B	-	-	-	20072960065	-	-	-	84	E0.020	1	-	0.115
10B	C-305824	PHB10B-B RA	<5	20072960065	0.1	-	<0.008	-	-	-	-	-
10B	-	-	-	-	-	-	-	-	-	-	-	-
10B	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Orthophosphate as P (dissolved) (mg/L) 48	Orthophosphate as P (dissolved) Dilution	DOC (mg/L) OX006	DOC from CERC
1	-	-	-	2.49
1	-	-	-	-
1	-	-	-	-
4A	E0.003	1	1.3	-
4A	-	-	-	-
4A	-	-	-	31.6
4A	-	-	-	-
4A	-	-	-	-
4	E0.003	1	1.3	-
4	-	-	-	-
4	-	-	-	3.29
4	-	-	-	-
4	-	-	-	-
4C	<0.006	1	2.3	-
4C	-	-	-	-
4C	-	-	-	7.31
4C	-	-	-	-
4C	-	-	-	-
4E	<0.006	1	2.3	-
4E	-	-	-	-
4E	-	-	-	4.83
4E	-	-	-	-
4E	-	-	-	-
4F	-	-	-	-
5A	E0.003	1	2.6	-
5A	-	-	-	-
5A	-	-	-	4.82
5A	-	-	-	-
5A	-	-	-	-
5	E0.003	1	3	-
5	-	-	-	-
5	-	-	-	3.56
5	-	-	-	-
5	-	-	-	-
6	<0.006	1	2.6	-
6	-	-	-	-
6	-	-	-	3.50
6	-	-	-	-
6	-	-	-	-
10A	<0.006	1	0.9	-
10A	-	-	-	-
10A	-	-	-	2.85
10A	-	-	-	-
10A	-	-	-	-
10B	E0.003	1	0.6	-
10B	-	-	-	-
10B	-	-	-	3.68
10B	-	-	-	-

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Sample ID	Date Collected	Time Collected	Media	Drainage (mi^2)	Discharge (ft^3/s)	Discharge (SE%)	Pump Rate (mL/s)	Flow (cfs)	Flow error (%)	Dilution factor[a]	SC (field) (µS/cm)	SC (lab) (µS/cm)
10B	PKSite10B-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
10C	PHB10C-B FA	10/16/2007	11:15	in situ pore water	0.70	-	-	4.00	-	-	-	281	256
10C	PHB10C-B RA	10/16/2007	11:15	in situ pore water	0.70	-	-	4.00	-	-	-	281	256
10C	PKSite10C-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	*300*
10C	PKSite10C-D FA	11/13/07	12:13	equilibrated pore water	-	-	-	-	-	-	-	-	536
10C	PKSite10C-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
10D	PHB10D-B FA	10/16/2007	17:15	in situ pore water	3.29	-	-	4.17	-	-	-	255	220
10D	PHB10D-B RA	10/16/2007	17:15	in situ pore water	3.29	-	-	4.17	-	-	-	255	220
10D	PKSite10D-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	261
10D	PKSite10D-D FA	11/13/07	12:15	equilibrated pore water	-	-	-	-	-	-	-	-	654
10D	PKSite10D-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
10	PHB10-B FA	10/16/2007	9:45	in situ pore water	0.41	-	-	2.19	-	-	-	263	242
10	PHB10-B RA	10/16/2007	9:45	in situ pore water	0.41	-	-	2.19	-	-	-	263	242
10	PKSite10-C	10/24/2007	-	centrifuge pore water	-	-	-	-	-	-	-	-	302
10	PKSite10-D FA	11/13/07	11:45	equilibrated pore water	-	-	-	-	-	-	-	-	726
10	PKSite10-P	11/14/2007	-	peeper pore water	-	-	-	-	-	-	10	-	-
11	PKSite11-D FA	11/13/07	12:17	equilibrated pore water	-	-	-	-	-	-	-	-	738
12	PKSite12-D FA	11/13/07	12:19	equilibrated pore water	-	-	-	-	-	-	-	-	635
3-1	wetland 3-1B FA	8/21/2007	13:15	in situ pore water	-	-	-	10.17	-	-	-	224	198
3-1	wetland 3-1B RA	8/21/2007	13:15	in situ pore water	-	-	-	10.17	-	-	-	224	198
3-1	wetland 3-1C FA	8/21/2007	13:30	in situ pore water	-	-	-	9.01	-	-	-	262	228
3-1	wetland 3-1C RA	8/21/2007	13:30	in situ pore water	-	-	-	9.01	-	-	-	262	228
3-2	wetland 3-2B FA	8/21/2007	10:15	in situ pore water	-	-	-	3.3	-	-	-	455	368
3-2	wetland 3-2B RA	8/21/2007	10:15	in situ pore water	-	-	-	3.3	-	-	-	455	368
3-2	wetland 3-2C FA	8/21/2007	10:30	in situ pore water	-	-	-	1.15	-	-	-	424	380
3-2	wetland 3-2C RA	8/21/2007	10:30	in situ pore water	-	-	-	1.15	-	-	-	424	380
3-3	wetland 3-3B FA	8/20/2007	14:30	in situ pore water	-	-	-	7.94	-	-	-	467	388
3-3	wetland 3-3B RA	8/20/2007	14:30	in situ pore water	-	-	-	7.94	-	-	-	467	388
3-3	wetland 3-3C FA	8/20/2007	14:45	in situ pore water	-	-	-	-	-	-	-	321	306
3-3	wetland 3-3C RA	8/20/2007	14:45	in situ pore water	-	-	-	-	-	-	-	321	306
3-4	wetland 3-4B FA	8/20/2007	11:00	in situ pore water	-	-	-	8.33	-	-	-	327	305
3-4	wetland 3-4B RA	8/20/2007	11:00	in situ pore water	-	-	-	8.33	-	-	-	327	305
3-4	wetland 3-4C FA	8/20/2007	11:15	in situ pore water	-	-	-	6.91	-	-	-	437	409
3-4	wetland 3-4C RA	8/20/2007	11:15	in situ pore water	-	-	-	6.91	-	-	-	437	409
3-5	wetland 3-5B FA	8/21/2007	8:00	in situ pore water	-	-	-	7.14	-	-	-	238	227
3-5	wetland 3-5B RA	8/21/2007	8:00	in situ pore water	-	-	-	7.14	-	-	-	238	227
3-5	wetland 3-5C FA	8/21/2007	8:15	in situ pore water	-	-	-	3.08	-	-	-	393	358
3-5	wetland 3-5C RA	8/21/2007	8:15	in situ pore water	-	-	-	3.08	-	-	-	393	358

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	pH	Water Temp (^{0}C)	ORP (mV)	DO (mg/L)	Alkalinity (mg/L as $CaCO_3$)	Hardness- calculated (mg/L as $CaCO_3$)	Hardness- measured (mg/L as $CaCO_3$)	Ammonia (mg/L as N)	Job No.	Lab No.	Sample ID	Ag (µg/L)	Al (µg/L)	As (µg/L)	Ba (µg/L)	Be (µg/L)
									ICP-MS & ICP-AE²-MS & ICP-A		ICP-MS & ICP-AES	ICP-MS	ICP-MS	ICP-MS	ICP-MS	ICP-MS
10B	-	-	-	-	-	127	-	-	MRP-08521	C-306031	PKSite10B-P	<10	59	<10	51	<0.5
10C	7.2	9.3	329	2.85	-	123	-	-	MRP-08492	C-305568	PHB10C-B FA	<1	2.1	<1	31.2	<0.05
10C	7.2	9.3	329	2.85	-	-	-	-	MRP-08492	C-305569	PHB10C-B RA	<1	9.3	<1	31	<0.05
10C	*7.8*				-	172	-	-	MRP-08521	C-306053	PKSite10C-C	<1	73.1	<1	38.9	<0.05
10C	8.0	21.79	357	6.64	208	257	-	-	MRP-08521	C-306064	PKSite10C-D FA	<1	26.1	2	423	<0.05
10C	-	-	-	-	-	115	-	-	MRP-08521	C-306032	PKSite10C-P	<10	45	<10	20.5	<0.5
10D	7.3	8.8	259	2	-	102	-	-	MRP-08492	C-305562	PHB10D-B FA	<1	21	<1	9.46	<0.05
10D	7.3	8.8	259	2	-	-	-	-	MRP-08492	C-305563	PHB10D-B RA	<1	47.3	<1	12	<0.05
10D	8.0	18.4	-	-	-	121	-	0.17	MRP-08521	C-306048	PKSite10D-C	<1	54.8	<1	13.5	<0.05
10D	7.7	21.76	374.6	5.56	363.6	375	-	-	MRP-08521	C-306068	PKSite10D-D FA	<1	15	1	48.4	<0.05
10D	-	-	-	-	-	94	-	-	MRP-08521	C-306033	PKSite10D-P	<10	<20	<10	14.5	<0.5
10	7.1	8.8	211	0.79	-	114	-	-	MRP-08492	C-305564	PHB10-B FA	<1	6.3	<1	12.4	<0.05
10	7.1	8.8	211	0.79	-	-	-	-	MRP-08492	C-305565	PHB10-B RA	<1	36.9	<1	20.1	<0.05
10	7.8	17.9	-	-	130	138	142	0.21	MRP-08521	C-306054	PKSite10-C	<1	40.8	<1	28.4	<0.05
10	7.6	21.62	361.7	6.35	340	423	-	-	MRP-08521	C-306071	PKSite10-D FA	<1	24.9	<1	130	<0.05
10	-	-	-	-	-	99	-	-	MRP-08521	C-306034	PKSite10-P	<10	30	<10	26.5	<0.5
11	7.8	21.82	378.4	7.19	422.8	434	-	-	MRP-08521	C-306072	PKSite11-D FA	<1	52.9	1	125	<0.05
12	7.7	21.68	392.6	5.95	339.2	346	-	-	MRP-08521	C-306067	PKSite12-D FA	<1	38.1	1	73	<0.05
3-1	7.0	18.1	319	<1	-	-	-	-	MRP-08433	C-304588	wetland 3-1B FA	<1	<2	<1	15.5	<0.05
3-1	7.0	18.1	319	<1	-	-	-	-	MRP-08433	C-304589	wetland 3-1B RA	<1	30.7	<1	15.8	<0.05
3-1	6.6	18.3	59	0.0	-	-	-	-	MRP-08433	C-304598	wetland 3-1C FA	<1	9.6	<1	41.4	<0.05
3-1	6.6	18.3	59	0.0	-	-	-	-	MRP-08433	C-304599	wetland 3-1C RA	<1	364	<1	44.9	<0.05
3-2	6.7	17.2	87	0.0	-	-	-	-	MRP-08433	C-304610	wetland 3-2B FA	<1	<2	<1	114	<0.05
3-2	6.7	17.2	87	0.0	-	-	-	-	MRP-08433	C-304611	wetland 3-2B RA	<1	437	<1	133	<0.05
3-2	6.8	17.8	110	0.0	-	-	-	-	MRP-08433	C-304612	wetland 3-2C FA	<1	<2	<1	40.1	<0.05
3-2	6.8	17.8	110	0.0	-	-	-	-	MRP-08433	C-304613	wetland 3-2C RA	<1	10500	3.4	66.3	0.5
3-3	6.7	14.4	320	-	-	-	-	-	MRP-08433	C-304614	wetland 3-3B FA	<1	<2	<1	51.6	<0.05
3-3	6.7	14.4	320	-	-	-	-	-	MRP-08433	C-304615	wetland 3-3B RA	<1	567	<1	56	0.06
3-3	6.6	13.4	160	0.0	-	-	-	-	MRP-08433	C-304606	wetland 3-3C FA	<1	8.3	<1	26	<0.05
3-3	6.6	13.4	160	0.0	-	-	-	-	MRP-08433	C-304607	wetland 3-3C RA	<1	147	<1	27	<0.05
3-4	6.7	15.8	104	0.0	-	-	-	-	MRP-08433	C-304604	wetland 3-4B FA	<1	8.5	<1	26.8	<0.05
3-4	6.7	15.8	104	0.0	-	-	-	-	MRP-08433	C-304605	wetland 3-4B RA	<1	54.7	<1	27.3	<0.05
3-4	6.7	15.0	112	0.0	-	-	-	-	MRP-08433	C-304618	wetland 3-4C FA	<1	7.4	<1	94	<0.05
3-4	6.7	15.0	112	0.0	-	-	-	-	MRP-08433	C-304619	wetland 3-4C RA	<1	100	<1	98.4	<0.05
3-5	6.6	13.3	136	0.0	-	-	-	-	MRP-08433	C-304596	wetland 3-5B FA	<1	23.6	<1	22.7	0.09
3-5	6.6	13.3	136	0.0	-	-	-	-	MRP-08433	C-304597	wetland 3-5B RA	<1	28.4	<1	23.4	0.1
3-5	7.4	13.0	105	0.0	-	-	-	-	MRP-08433	C-304608	wetland 3-5C FA	<1	10.5	<1	37.1	<0.05
3-5	7.4	13.0	105	0.0	-	-	-	-	MRP-08433	C-304609	wetland 3-5C RA	<1	3610	<1	47.2	0.2

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

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Station ID	Bi (µg/L) ICP-MS	Ca (mg/L) ICP-MS	Cd (µg/L) ICP-MS	Ce (µg/L) ICP-MS	Co (µg/L) ICP-MS	Cr (µg/L) ICP-MS	Cs (µg/L) ICP-MS	Cu (µg/L) ICP-MS	Dy (µg/L) ICP-MS	Er (µg/L) ICP-MS	Eu (µg/L) ICP-MS	Fe (µg/L) ICP-MS	Ga (µg/L) ICP-MS	Gd (µg/L) ICP-MS	Ge (µg/L) ICP-MS	Ho (µg/L) ICP-MS	K (mg/L) ICP-MS	La (µg/L) ICP-MS	Li (µg/L) ICP-MS	Lu (µg/L) ICP-MS	Mg (mg/L) ICP-MS	Mn (µg/L) ICP-MS	Mo (µg/L) ICP-MS
10B	< 2	44.2	1.3	1	22.9	<10	1.3	8.3	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	3	0.1	14	< 1	4.1	4870	< 20
10C	< 0.2	46.2	<0.02	0.01	<0.02	<1	0.17	0.69	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	2.48	< 0.01	< 0.1	< 0.1	1.86	41.6	< 2
10C	< 0.2	45.9	<0.02	0.03	<0.02	<1	0.18	0.69	0.005	0.006	< 0.005	<50	< 0.05	0.008	< 0.05	< 0.005	2.46	0.02	< 0.1	< 0.1	1.86	43	< 2
10C	< 0.2	64.4	0.03	0.18	0.07	<1	0.5	1.8	0.01	0.007	0.008	86	< 0.05	0.02	< 0.05	< 0.005	3.66	0.09	1.9	< 0.1	2.6	92.6	< 2
10C	< 0.2	95.1	<0.02	0.07	1.28	<1	0.46	3.6	0.01	0.007	0.051	276	0.2	0.01	< 0.05	< 0.005	6.74	0.03	2.2	< 0.1	4.58	13300	6.2
10C	< 2	32.2	<0.2	0.9	<0.2	<10	0.3	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	1	< 0.1	21	< 1	8.5	129	< 20
10D	< 0.2	38.9	<0.02	0.05	0.13	<1	0.18	3.4	0.005	0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.27	0.04	< 0.1	< 0.1	1.08	793	< 2
10D	< 0.2	41.3	1.36	0.16	12.4	<1	0.19	11.9	0.01	0.009	< 0.005	<50	< 0.05	0.01	< 0.05	< 0.005	1.75	0.12	< 0.1	< 0.1	1.76	33.6	< 2
10D	< 0.2	46.2	<0.02	0.27	0.02	<1	0.35	0.84	0.02	0.009	0.005	<50	< 0.05	0.02	< 0.05	< 0.005	1.65	0.16	1.2	< 0.1	1.29	4.1	< 2
10D	< 0.2	142	0.02	0.14	0.88	<1	1.56	1.2	0.01	0.009	0.009	<50	0.2	0.02	< 0.05	< 0.005	4.09	0.08	3.4	< 0.1	4.77	8170	2
10D	< 2	34	<0.2	0.9	<0.2	<10	0.7	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	2	< 0.1	16	< 1	2.2	1350	< 20
10	< 0.2	42.5	1.36	0.05	12.5	<1	0.2	8	0.006	< 0.005	< 0.005	<50	< 0.05	0.005	< 0.05	< 0.005	1.78	0.04	0.2	< 0.1	1.78	33.7	< 2
10	< 0.2	42	<0.02	0.14	0.16	<1	0.2	<0.5	0.02	0.009	< 0.005	<50	< 0.05	0.02	< 0.05	< 0.005	1.37	0.08	< 0.1	< 0.1	1.17	868	< 2
10	< 0.2	51.7	0.42	0.22	2.4	<1	0.46	18.8	0.01	0.01	0.007	<50	< 0.05	0.02	< 0.05	< 0.005	2.41	0.15	0.8	< 0.1	2.16	282	< 2
10	< 0.2	157	0.53	0.08	27.3	<1	2.25	25.7	0.01	0.01	0.02	<50	0.23	0.01	< 0.05	< 0.005	5.97	0.06	4.3	< 0.1	7.54	13700	< 2
10	< 2	35	0.5	0.9	3.7	<10	0.9	<5	< 0.05	< 0.05	< 0.05	<500	< 0.5	< 0.05	< 0.5	< 0.05	2	< 0.1	18	< 1	2.7	1220	< 20
11	< 0.2	158	2.05	0.28	31.9	<1	4.2	72.3	0.02	0.02	0.02	<50	0.21	0.02	< 0.05	< 0.005	7.81	0.19	5.5	< 0.1	9.55	12600	< 2
12	< 0.2	128	0.82	0.14	4.61	<1	2.78	22.5	0.01	0.009	0.01	<50	0.1	0.02	< 0.05	< 0.005	5.95	0.08	3	< 0.1	6.38	5460	2.6
3-1	< 0.2	27.7	2.53	< 0.01	21.1	<1	0.11	23.4	< 0.005	< 0.005	< 0.005	<50	< 0.05	< 0.005	< 0.05	< 0.005	1.68	< 0.01	1	< 0.1	1.46	1690	< 2
3-1	< 0.2	27.6	2.55	0.14	21.8	<1	0.12	43.5	0.008	0.008	0.005	239	< 0.05	0.009	< 0.05	< 0.005	1.7	0.09	0.8	< 0.1	1.46	1700	< 2
3-1	< 0.2	30.8	<0.02	0.35	0.55	<1	0.1	4.9	0.03	0.01	0.007	13700	< 0.05	0.03	< 0.05	0.006	2.33	0.18	< 0.1	< 0.1	1.89	458	< 2
3-1	< 0.2	31.6	0.28	1.73	7.72	<1	0.13	98.6	0.12	0.067	0.03	15300	0.08	0.13	0.05	0.02	2.41	0.89	0.6	< 0.1	1.94	545	< 2
3-2	< 0.2	42.3	<0.02	< 0.01	3.99	<1	0.05	2.1	< 0.005	< 0.005	0.01	35600	0.1	< 0.005	< 0.05	< 0.005	2.15	< 0.01	1.1	< 0.1	2.29	8340	< 2
3-2	< 0.2	45.1	0.28	1.61	7.18	<1	0.08	156	0.12	0.069	0.04	46400	0.25	0.13	< 0.05	0.02	2.3	0.87	1.7	< 0.1	2.46	8920	< 2
3-2	< 0.2	64.7	<0.02	< 0.01	0.93	<1	0.05	3.1	< 0.005	< 0.005	< 0.005	12300	< 0.05	< 0.005	< 0.05	< 0.005	2.76	< 0.01	1.1	< 0.1	2.43	1390	< 2
3-2	1.38	78.8	30.9	49.1	448	19	1.96	865	2.01	0.96	0.58	171000	4.8	3	0.29	0.34	6.58	23.4	13.2	0.1	7.65	2950	< 2
3-3	< 0.2	42	<0.02	0.06	30	<1	0.04	4.1	< 0.005	< 0.005	0.006	60900	0.05	0.01	0.05	< 0.005	1.74	0.03	0.2	< 0.1	2.48	1970	< 2
3-3	< 0.2	43.8	0.27	2.21	33.6	1.1	0.12	122	0.14	0.074	0.04	66000	0.2	0.17	0.06	0.03	1.88	1.22	1.4	< 0.1	2.75	2050	< 2
3-3	< 0.2	42.5	<0.02	1.05	0.32	<1	0.14	<0.5	0.12	0.09	0.02	17500	< 0.05	0.12	< 0.05	0.03	2.48	0.54	< 0.1	< 0.1	2.61	1980	< 2
3-3	< 0.2	43.8	0.05	1.41	0.94	<1	0.14	9	0.15	0.1	0.02	18300	0.09	0.14	< 0.05	0.04	2.52	0.71	< 0.1	< 0.1	2.64	2060	< 2
3-4	< 0.2	46.6	<0.02	0.03	2.32	<1	0.07	1.4	< 0.005	< 0.005	< 0.005	8090	< 0.05	< 0.005	< 0.05	< 0.005	2.66	0.02	0.7	< 0.1	2.94	1020	< 2
3-4	< 0.2	48.7	0.04	0.26	2.64	<1	0.08	15.7	0.01	0.007	0.005	8930	< 0.05	0.02	< 0.05	< 0.005	2.81	0.14	1	< 0.1	3.05	1070	< 2
3-4	< 0.2	47.8	<0.02	0.06	3.34	<1	0.06	5.5	0.01	0.01	0.008	46400	< 0.05	0.01	< 0.05	< 0.005	2.59	0.05	0.6	< 0.1	2.25	1370	< 2
3-4	< 0.2	47.4	0.3	1.18	6.29	<1	0.08	17	0.065	0.04	0.02	49000	0.07	0.083	< 0.05	0.02	2.65	0.79	0.4	< 0.1	2.29	1420	< 2
3-5	< 0.2	28.6	<0.02	2.69	0.05	<1	0.51	0.72	0.2	0.14	0.04	9580	< 0.05	0.23	< 0.05	0.05	2.17	1.37	4.2	< 0.1	2.42	1810	< 2
3-5	< 0.2	27.9	0.02	2.96	0.59	<1	0.51	4.4	0.22	0.14	0.04	10000	0.06	0.23	< 0.05	0.05	2.12	1.48	3.6	< 0.1	2.41	1820	< 2
3-5	< 0.2	58	<0.02	0.08	0.29	<1	0.11	2.9	< 0.005	0.006	< 0.005	8010	0.05	< 0.005	< 0.05	< 0.005	2.31	0.05	< 0.1	< 0.1	3.31	2180	< 2
3-5	0.42	63.4	8.52	11.9	104	6.2	0.52	395	0.49	0.22	0.14	40200	1.4	0.7	0.1	0.08	3.38	5.6	4	< 0.1	5.08	2700	< 2

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Na (mg/L) ICP-MS	Nb (µg/L) ICP-MS	Nd (µg/L) ICP-MS	Ni (µg/L) ICP-MS	P (mg/L) ICP-MS	Pb (µg/L) ICP-MS	Pr (µg/L) ICP-MS	Rb (µg/L) ICP-MS	Sb (µg/L) ICP-MS	Sc (µg/L) ICP-MS	Se (µg/L) ICP-MS	SiO2 (mg/L) ICP-MS	Sm (µg/L) ICP-MS	SO4 (mg/L) ICP-MS	Sr (µg/L) ICP-MS	Ta (µg/L) ICP-MS	Tb (µg/L) ICP-MS	Th (µg/L) ICP-MS	Ti (µg/L) ICP-MS	Tl (µg/L) ICP-MS	Tm (µg/L) ICP-MS	U (µg/L) ICP-MS	V (µg/L) ICP-MS
10B	6	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	17.2	<3	< 6	< 10	7	< 0.1	30	158	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
10C	0.75	< 0.2	< 0.01	0.6	< 0.01	<0.05	< 0.01	10.4	<0.3	0.8	< 1	5.8	< 0.01	6	151	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.12	<0.5
10C	0.75	< 0.2	0.01	0.5	< 0.01	<0.05	< 0.01	10.4	<0.3	0.8	< 1	5.8	< 0.01	6	151	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.13	<0.5
10C	1.2	< 0.2	0.09	0.5	0.02	0.1	0.02	18.2	<0.3	0.7	< 1	6.6	0.02	24	217	< 0.02	< 0.005	< 0.2	3	<0.1	< 0.005	0.16	<0.5
10C	1.58	< 0.2	0.04	5.6	0.02	0.09	< 0.01	20.8	0.49	1.9	2.3	13.5	< 0.01	< 2	481	0.04	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.49	0.6
10C	10.5	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	4.6	<3	< 6	< 10	4	< 0.1	40	126	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
10D	0.85	< 0.2	0.02	0.6	< 0.01	0.2	< 0.01	5.58	<0.3	0.7	< 1	4.6	< 0.01	3	178	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.36	<0.5
10D	0.64	< 0.2	0.07	1.9	< 0.01	<0.05	0.02	7.6	<0.3	0.7	< 1	5.4	< 0.01	13	140	< 0.02	< 0.005	< 0.2	1.4	<0.1	< 0.005	0.29	<0.5
10D	1.16	< 0.2	0.12	<0.4	< 0.01	0.1	0.04	8.63	<0.3	0.6	< 1	5.5	0.03	7	227	< 0.02	< 0.005	< 0.2	1.4	<0.1	< 0.005	0.41	<0.5
10D	2.5	< 0.2	0.05	1.9	< 0.01	<0.05	< 0.01	26.1	<0.3	1.4	< 1	10.4	0.01	11	646	< 0.02	< 0.005	< 0.2	< 0.5	0.1	< 0.005	2.56	0.6
10D	6.3	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	11.4	<3	< 6	< 10	4	< 0.1	40	158	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
10	0.65	< 0.2	0.02	1.7	< 0.01	<0.05	< 0.01	7.8	<0.3	0.7	< 1	5.5	< 0.01	14	141	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	0.3	<0.5
10	0.93	< 0.2	0.07	0.7	< 0.01	<0.05	0.02	5.94	<0.3	0.7	< 1	5.2	0.02	3	189	< 0.02	< 0.005	< 0.2	1.3	<0.1	< 0.005	0.38	<0.5
10	0.99	< 0.2	0.09	1.2	0.01	0.06	0.02	14.8	<0.3	0.8	< 1	6.3	0.02	14	193	0.06	< 0.005	< 0.2	0.5	<0.1	< 0.005	0.42	0.5
10	2	< 0.2	0.03	3.7	< 0.01	0.06	< 0.01	38.1	0.3	1.8	1.6	12.9	< 0.01	3	536	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	1.38	0.6
10	5.1	<2	< 0.1	<4	< 0.1	<0.5	< 0.1	15.2	<3	< 6	< 10	5	< 0.1	30	123	< 0.2	< 0.05	< 2	< 5	<1	< 0.05	< 1	<5
11	2.38	< 0.2	0.11	5.4	0.01	0.05	0.03	52	<0.3	1.6	3.6	11.5	0.02	13	542	< 0.02	< 0.005	< 0.2	< 0.5	0.3	< 0.005	0.71	0.7
12	1.92	< 0.2	0.05	2.2	< 0.01	0.3	< 0.01	43.1	<0.3	1.3	3	9.6	< 0.01	13	447	< 0.02	< 0.005	< 0.2	< 0.5	0.2	< 0.005	0.71	0.6
3-1	4.82	< 0.2	< 0.01	2.7	< 0.01	0.07	< 0.01	5.04	<0.3	0.6	< 1	4.9	< 0.01	8	117	0.05	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-1	4.82	< 0.2	0.08	2.6	< 0.01	<0.05	0.02	5.09	<0.3	0.7	< 1	5	< 0.01	8	117	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-1	4.35	< 0.2	0.13	0.8	< 0.01	0.3	0.04	9.69	<0.3	1.3	< 1	9.5	0.02	< 2	119	0.03	0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-1	4.37	< 0.2	0.75	0.7	< 0.01	0.4	0.2	9.92	<0.3	1.5	< 1	10.1	0.15	< 2	122	0.02	0.02	< 0.2	6.1	<0.1	0.009	< 0.1	<0.5
3-2	1.68	< 0.2	< 0.01	0.8	< 0.01	0.1	< 0.01	11.1	<0.3	1.5	< 1	10.1	< 0.01	< 2	170	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-2	1.76	< 0.2	0.74	1.2	< 0.01	0.65	0.21	12.1	<0.3	1.7	< 1	11.6	0.13	< 2	183	< 0.02	0.02	< 0.2	7.1	<0.1	0.01	0.11	<0.5
3-2	1.89	< 0.2	< 0.01	0.7	< 0.01	0.2	< 0.01	20.9	<0.3	1.3	< 1	8.8	< 0.01	< 2	175	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-2	2.46	< 0.2	19.1	38.8	0.2	45.5	5.3	50.3	<0.3	7.4	1.7	36.3	3.39	23	198	< 0.02	0.41	5.03	413	0.71	0.12	1.73	26.2
3-3	1.58	< 0.2	0.04	0.5	< 0.01	0.1	< 0.01	7.23	<0.3	1.7	< 1	12	< 0.01	< 2	133	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-3	1.61	< 0.2	0.96	1.2	< 0.01	0.85	0.27	8	<0.3	2.1	< 1	13.6	0.19	< 2	136	< 0.02	0.03	< 0.2	19.8	<0.1	0.01	0.13	0.8
3-3	1.51	< 0.2	0.47	<0.4	< 0.01	<0.05	0.12	8.3	<0.3	1.9	< 1	12.7	0.08	< 2	114	< 0.02	0.02	< 0.2	< 0.5	<0.1	0.02	< 0.1	<0.5
3-3	1.51	< 0.2	0.63	<0.4	< 0.01	0.4	0.16	8.35	<0.3	1.9	< 1	12.9	0.12	< 2	116	< 0.02	0.02	< 0.2	1	<0.1	0.02	< 0.1	<0.5
3-4	1.8	< 0.2	0.02	<0.4	< 0.01	0.07	< 0.01	11.2	<0.3	1.3	< 1	9.2	< 0.01	< 2	185	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-4	1.85	< 0.2	0.11	<0.4	< 0.01	0.08	0.03	11.6	<0.3	1.4	< 1	9.6	0.02	< 2	190	< 0.02	< 0.005	< 0.2	1	<0.1	< 0.005	0.1	<0.5
3-4	1.81	< 0.2	0.03	<0.4	< 0.01	0.3	< 0.01	11.9	<0.3	1.9	< 1	13	< 0.01	< 2	147	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-4	1.81	< 0.2	0.47	0.5	< 0.01	0.2	0.13	12.3	<0.3	2	< 1	13.4	0.07	< 2	152	< 0.02	0.01	< 0.2	3.2	<0.1	0.008	< 0.1	<0.5
3-5	1.61	< 0.2	1.09	<0.4	< 0.01	<0.05	0.32	19.2	<0.3	2.3	< 1	17.5	0.15	44	74.3	0.06	0.03	< 0.2	0.5	<0.1	0.02	< 0.1	<0.5
3-5	1.58	< 0.2	1.26	<0.4	< 0.01	0.09	0.34	19.4	<0.3	2.3	< 1	17.7	0.19	44	75.5	0.04	0.04	< 0.2	1.1	<0.1	0.02	< 0.1	<0.5
3-5	1.76	< 0.2	0.04	0.4	< 0.01	0.2	< 0.01	27.4	<0.3	2.2	< 1	15.9	< 0.01	< 2	117	< 0.02	< 0.005	< 0.2	< 0.5	<0.1	< 0.005	< 0.1	<0.5
3-5	1.98	< 0.2	4.5	9.4	0.05	15.8	1.26	35.7	<0.3	4.3	< 1	26.2	0.75	11	128	< 0.02	0.096	1.07	126	0.2	0.03	0.4	7.2

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Y (µg/L) ICP-MS	Yb (µg/L) ICP-MS	Zn (µg/L) ICP-MS	Zr (µg/L) ICP-MS	Ag (µg/L) ICP-AES	Al (µg/L) ICP-AES	As (µg/L) ICP-AES	B (µg/L) ICP-AES	Ba (µg/L) ICP-AES	Be (µg/L) ICP-AES	Ca (mg/L) ICP-AES	Cd (µg/L) ICP-AES	Co (µg/L) ICP-AES	Cr (µg/L) ICP-AES	Cu (µg/L) ICP-AES	Fe (µg/L) ICP-AES	K (mg/L) ICP-AES	Li (µg/L) ICP-AES	Mg (mg/L) ICP-AES	Mn (µg/L) ICP-AES	Mo (µg/L) ICP-AES
10B	< 0.1	< 0.05	50	< 2	<50	<200	<500	<50	51	<100	47	<50	<100	<100	<100	<200	2.7	<50	4	5610	<200
10C	0.02	< 0.005	2.8	< 0.2	<5	<20	<50	<5	34	<10	48	<5	<10	<10	<10	<20	2.6	<5	2	41	<20
10C	0.03	< 0.005	2.2	< 0.2	<5	<20	<50	<5	35	<10	48	<5	<10	<10	<10	<20	2.7	<5	2	43	<20
10C	0.08	0.007	3.7	< 0.2	<5	80	<50	<5	38	<10	68	<5	<10	<10	<10	149	4	<5	2.7	106	<20
10C	0.13	0.009	3.4	< 0.2	<5	<20	<50	<5	385	<10	92	<5	<10	<10	<10	333	6.5	<5	4.3	13000	<20
10C	< 0.1	< 0.05	<5	< 2	<50	<200	<500	70	22	<100	33	<50	<100	<100	<100	<200	1.2	<50	7.7	160	<200
10D	0.03	< 0.005	3.1	< 0.2	<5	<20	<50	<5	11	<10	40	<5	<10	<10	<10	<20	1.4	<5	1.2	847	<20
10D	0.1	0.01	118	< 0.2	<5	42	<50	<5	14	<10	45	<5	14	<10	12	52	1.9	<5	2	36	<20
10D	0.1	0.007	0.7	< 0.2	<5	59	<50	<5	13	<10	50	<5	<10	<10	<10	105	1.8	<5	1.4	<10	<20
10D	0.12	0.01	1.8	< 0.2	<5	<20	<50	<5	43	<10	129	<5	<10	<10	<10	<20	3.7	<5	3.9	8110	<20
10D	< 0.1	< 0.05	8	< 2	<50	<200	<500	<50	14	<100	33	<50	<100	<100	<100	<200	1.5	<50	2	1450	<200
10	0.04	< 0.005	118	< 0.2	<5	<20	<50	<5	14	<10	45	<5	14	<10	<10	26	1.9	<5	2	35	<20
10	0.08	0.009	0.9	< 0.2	<5	29	<50	<5	22	<10	42	<5	<10	<10	<10	34	1.4	<5	1.2	876	<20
10	0.13	0.008	27.3	< 0.2	<5	32	<50	<5	27	<10	53	<5	<10	<10	18	<20	2.6	<5	2.2	299	<20
10	0.16	0.006	53.7	< 0.2	<5	<20	<50	<5	114	<10	139	<5	26	<10	24	<20	5.1	<5	5.5	13000	<20
10	< 0.1	< 0.05	34	< 2	<50	<200	<500	<50	26	<100	35	<50	<100	<100	<100	<200	2.1	<50	2.4	1340	<200
11	0.23	0.01	86.4	< 0.2	<5	20	<50	<5	109	<10	137	<5	31	<10	67	<20	6.6	<5	6.9	12000	<20
12	0.11	0.006	17.1	< 0.2	<5	<20	<50	<5	67	<10	119	<5	<10	<10	22	<20	5.5	<5	5.3	5480	<20
3-1	0.02	< 0.005	132	< 0.2	<5	<20	<50	<5	16	<10	31	<5	22	<10	24	30	1.7	<5	1.8	1910	<20
3-1	0.06	0.005	138	< 0.2	<5	46	<50	<5	17	<10	34	<5	25	<10	45	323	2	<5	2	2050	<20
3-1	0.17	0.02	17.5	< 0.2	<5	92	<50	23	44	<10	34	<5	<10	<10	<10	15000	2.5	<5	2.2	512	<20
3-1	0.63	0.06	29.4	< 0.2	<5	491	<50	26	49	<10	35	<5	<10	<10	101	17000	2.6	<5	2.3	611	<20
3-2	< 0.01	0.005	4.8	< 0.2	<5	280	<50	55	126	<10	47	<5	<10	<10	<10	39000	2.2	<5	2.7	9120	<20
3-2	0.63	0.06	36	< 0.2	<5	758	<50	69	140	<10	49	<5	<10	<10	155	49000	2.4	<5	2.9	9510	<20
3-2	0.02	< 0.005	5.4	< 0.2	<5	66	<50	19	43	<10	68	<5	<10	<10	<10	13000	2.7	<5	2.7	1420	<20
3-2	9.46	0.82	4470	0.3	<5	12000	<50	233	69	<10	85	46	384	19	339	175900	6.6	12	8.8	3080	<20
3-3	0.07	0.005	5.9	< 0.2	<5	484	<50	87	57	<10	47	6	32	<10	<10	66000	1.8	<5	3	2160	<20
3-3	0.8	0.08	42.3	< 0.2	<5	1020	<50	96	63	<10	49	6.4	37	<10	121	72000	1.8	<5	3.3	2240	<20
3-3	1.03	0.12	1.1	< 0.2	<5	119	<50	26	29	<10	48	<5	<10	<10	<10	19000	2.6	<5	3	2210	<20
3-3	1.22	0.12	10.2	< 0.2	<5	258	<50	33	29	<10	48	<5	<10	<10	<10	20000	2.6	<5	3.1	2220	<20
3-4	0.02	< 0.005	4.2	< 0.2	<5	51	<50	14	28	<10	52	<5	<10	<10	<10	8930	2.8	<5	3.5	1140	<20
3-4	0.09	0.01	6.5	< 0.2	<5	99	<50	15	29	<10	52	<5	<10	<10	14	9600	2.9	<5	3.5	1140	<20
3-4	0.2	0.02	6	< 0.2	<5	393	<50	67	101	<10	50	<5	<10	<10	<10	48000	2.6	<5	2.7	1450	<20
3-4	0.65	0.06	43.7	< 0.2	<5	428	<50	73	109	<10	53	5	<10	<10	12	54000	2.7	<5	2.8	1520	<20
3-5	1.5	0.14	2.1	< 0.2	<5	74	<50	16	24	<10	31	<5	<10	<10	<10	11000	2.2	<5	2.8	2020	<20
3-5	1.61	0.14	4.8	< 0.2	<5	78	<50	16	24	<10	31	<5	<10	<10	<10	11000	2.2	<5	2.8	2000	<20
3-5	0.08	0.02	2.8	< 0.2	<5	50	<50	14	41	<10	65	<5	<10	<10	<10	9060	2.5	<5	3.9	2480	<20
3-5	2.32	0.2	1180	< 0.2	<5	4320	<50	60	50	<10	70	12	113	<10	352	43000	3.7	5.5	6.1	2900	<20

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Ni (µg/L) ICP-AES	P (mg/L) ICP-AES	Pb (µg/L) ICP-AES	Sb (µg/L) ICP-AES	Se (µg/L) ICP-AES	SiO2 (mg/L) ICP-AES	SO4 (mg/L) ICP-AES	Sr (µg/L) ICP-AES	Ti (µg/L) ICP-AES	V (µg/L) ICP-AES	Zn (µg/L) ICP-AES	Job No. IC	Lab No. IC	Sample ID IC	Cl (mg/L) IC	F (mg/L) IC	NO3 (mg/L) IC	SO4 (mg/L) IC
10B	<100	<5	<500	<500	< 2000	7.6	<10	200	<500	<100	<200	-	-	-	-	-	-	-
10C	<10	<0.5	<50	<50	< 200	6.2	8	165	<50	<10	<20	MRP-08489	C-305462	PHB10C-B FU	1.7	<.08	<.08	6.5
10C	<10	<0.5	<50	<50	< 200	6.3	8.1	167	<50	<10	<20	-	-	-	-	-	-	-
10C	<10	<0.5	<50	<50	< 200	7.4	20	248	<50	<10	<20	-	-	-	-	-	-	-
10C	<10	<0.5	<50	<50	< 200	13	1.9	492	<50	<10	<20	MRP-08519	C-305987	PKSite10C-D FU	3.6	<.08	3.7	<.08
10C	<100	<5	<500	<500	< 2000	4.3	18	150	<500	<100	<200	-	-	-	-	-	-	-
10D	<10	<0.5	<50	<50	< 200	5.1	5.3	188	<50	<10	<20	MRP-08488	C-305459	PHB10D-B FU	2.1	<.08	0.6	5.7
10D	<10	<0.5	<50	<50	< 200	6.1	16	155	<50	<10	132	-	-	-	-	-	-	-
10D	<10	<0.5	<50	<50	< 200	6.4	7.7	264	<50	<10	<20	-	-	-	-	-	-	-
10D	<10	<0.5	<50	<50	< 200	8.7	9.4	672	<50	<10	<20	MRP-08519	C-305988	PKSite10D-D FU	2.6	1	<.08	10.6
10D	<100	<5	<500	<500	< 2000	3.8	11	180	<500	<100	<200	-	-	-	-	-	-	-
10	<10	<0.5	<50	<50	< 200	6	16	157	<50	<10	128	MRP-08488	C-305460	PHB10-B FU	1.7	<.08	0.6	15.2
10	<10	<0.5	<50	<50	< 200	5.3	5.5	197	<50	<10	<20	-	-	-	-	-	-	-
10	<10	<0.5	<50	<50	< 200	7	18	203	<50	<10	27	-	-	-	-	-	-	-
10	<10	<0.5	<50	<50	< 200	10	1.2	551	<50	<10	49	MRP-08519	C-305984	PKSite10-D FU	3.6	0.7	6	5.1
10	<100	<5	<500	<500	< 2000	4.9	<10	150	<500	<100	<200	-	-	-	-	-	-	-
11	<10	<0.5	<50	<50	< 200	8.7	9.4	559	<50	<10	77	MRP-08519	C-305989	PKSite11-D FU	3.8	<.08	6.2	13.1
12	<10	<0.5	<50	<50	< 200	8.4	13	465	<50	<10	<20	MRP-08519	C-305990	PKSite12-D FU	3.5	<.08	6.1	16.4
3-1	<10	<0.5	<50	<50	< 200	6.2	9.1	118	<50	<10	140	MRP-08434	C-304626	wetland 3-1B FU	7.8	<.08	<.08	8.7
3-1	<10	<0.5	<50	<50	< 200	6.7	9.6	126	<50	<10	155	-	-	-	-	-	-	-
3-1	<10	<0.5	<50	<50	< 200	11	< 1	127	<50	<10	<20	MRP-08434	C-304627	wetland 3-1C FU	6.2	<.08	<.08	2
3-1	<10	<0.5	<50	<50	< 200	12	< 1	129	<50	<10	31	-	-	-	-	-	-	-
3-2	<10	<0.5	<50	<50	< 200	12	1.4	175	<50	<10	<20	MRP-08434	C-304629	wetland 3-2B FU	2.7	<.08	<.08	2.4
3-2	<10	<0.5	<50	<50	< 200	13	1.5	182	53	<10	34	-	-	-	-	-	-	-
3-2	<10	<0.5	<50	<50	< 200	9.6	< 1	170	<50	<10	<20	MRP-08434	C-304630	wetland 3-2C FU	2.4	<.08	<.08	<.08
3-2	26	<0.5	<50	<50	< 200	40	24	195	3840	<10	4400	-	-	-	-	-	-	-
3-3	<10	<0.5	<50	<50	< 200	14	< 1	141	<50	<10	<20	MRP-08434	C-304631	wetland 3-3B FU	2.3	<.08	<.08	1.6
3-3	<10	<0.5	<50	<50	< 200	16	< 1	146	189	<10	45	-	-	-	-	-	-	-
3-3	<10	<0.5	<50	<50	< 200	15	< 1	122	<50	<10	<20	MRP-08434	C-304634	wetland 3-3C FU	2.3	<.08	<.08	<.08
3-3	<10	<0.5	<50	<50	< 200	15	< 1	122	<50	<10	<20	-	-	-	-	-	-	-
3-4	<10	<0.5	<50	<50	< 200	11	1.9	188	<50	<10	<20	MRP-08434	C-304635	wetland 3-4B FU	1.6	<.08	<.08	2.6
3-4	<10	<0.5	<50	<50	< 200	11	1.9	190	<50	<10	<20	-	-	-	-	-	-	-
3-4	<10	<0.5	<50	<50	< 200	15	< 1	155	<50	<10	<20	MRP-08434	C-304636	wetland 3-4C FU	2.3	0.09	<.08	<.08
3-4	<10	<0.5	<50	<50	< 200	16	< 1	163	<50	<10	44	-	-	-	-	-	-	-
3-5	<10	<0.5	<50	<50	< 200	20	49	78	<50	<10	<20	MRP-08434	C-304638	wetland 3-5B FU	2.1	0.11	<.08	49
3-5	<10	<0.5	<50	<50	< 200	20	49	77	<50	<10	<20	-	-	-	-	-	-	-
3-5	<10	<0.5	<50	<50	< 200	19	2.2	125	<50	<10	<20	MRP-08434	C-304639	wetland 3-5C FU	2.7	0.09	<.08	3
3-5	<10	<0.5	<50	<50	< 200	31	15	134	1330	<10	1280	-	-	-	-	-	-	-

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Lab No.	Field No.	Hg (ng/L) CV-AAS	NWQL Lab ID	N (total) (mg/L) AKP01	P (total) (mg/L) AKP01	P (total) (mg/L) CL021	Alkalinity (mg $CaCO_3$/L) TT040	Ammonia as N (dissolved) (mg/L) 48	Ammonia as N (dissolved) Dilution	N (dissolved) (mg/L) CL048	N (dissolved) (mg/L) CL048
	CVAF	CVAF										
10B	-	-	-	-	-	-	-	-	-	-	-	-
10C	-	-	-	20072960076	-	-	-	128	0.024	1	-	<0.04
10C	C-305826	PHB10C-B RA	<5	20072960076	E0.04	-	<0.008	-	-	-	-	-
10C	-	-	-	-	-	-	-	-	-	-	-	-
10C	-	-	-	-	-	-	-	-	-	-	-	-
10C	-	-	-	-	-	-	-	-	-	-	-	-
10D	-	-	-	20072960077	-	-	-	110	0.042	1	-	E0.022
10D	C-305828	PHB10D-B RA	<5	20072960077	E0.04	-	E0.005	-	-	-	-	-
10D	-	-	-	-	-	-	-	-	-	-	-	-
10D	-	-	-	-	-	-	-	-	-	-	-	-
10D	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	20072960070	-	-	-	110	0.041	1	-	0.041
10	C-305822	PHB10-B RA	<5	20072960070	<0.06	-	<0.008	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-
3-1	-	-	-	-	-	-	-	102	0.067	1	<0.060	-
3-1	-	-	-	-	0.28	-	0.027	-	-	-	-	-
3-1	-	-	-	-	-	-	-	87	0.053	1	<0.060	-
3-1	-	-	-	-	0.14	-	<0.008	-	-	-	-	-
3-2	-	-	-	-	-	-	-	204	0.311	1	<0.060	-
3-2	-	-	-	-	0.54	-	0.313	-	-	-	-	-
3-2	-	-	-	-	-	-	-	155	0.028	1	<0.060	-
3-2	-	-	-	-	0.31	-	0.023	-	-	-	-	-
3-3	-	-	-	-	-	-	-	142	0.029	1	<0.060	-
3-3	-	-	-	-	0.37	-	0.035	-	-	-	-	-
3-3	-	-	-	-	-	-	-	141	E0.057	3	<0.060	-
3-3	-	-	-	-	0.37	-	0.038	-	-	-	-	-
3-4	-	-	-	-	-	-	-	154	0.025	1	<0.060	-
3-4	-	-	-	-	0.15	-	E0.006	-	-	-	-	-
3-4	-	-	-	-	-	-	-	151	E0.018	1	<0.060	-
3-4	-	-	-	-	0.16	-	E0.007	-	-	-	-	-
3-5	-	-	-	-	-	-	-	49	0.369	1	<0.060	-
3-5	-	-	-	-	0.45	-	<0.008	-	-	-	-	-
3-5	-	-	-	-	-	-	-	190	0.773	5	<0.060	-
3-5	-	-	-	-	1.01	-	0.076	-	-	-	-	-

Appendix 5. Constituents in surface and pore waters collected from stream and wetland areas in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mi^2, square miles; ft^3/s, cubic feet per second; SE%, standard error percent; mL/s, milliliters per second; S.C., specific conductance; DOC, dissolved organic carbon; µS/cm, microsiemens per centimeter; mg/L, milligrams per liter; L/s, liters per second; µg/L, micrograms per liter; ng/l, nanograms per liter; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; IC, ion chromatography; CVAF, cold-vapor atomic fluorescence; -, not determined; <, analyte not detected at the reporting level; CV-AAS, cold vapor atomic absorption spectrometry; NWQL, National Wate Quality Laboratory (USGS); E, estimated value is less than the reporting level but greater than the long-term-method-detection level; CERC, Columbia Environmental Research Center (USGS)]

Station ID	Orthophosphate as P (dissolved) (mg/L) 48	Orthophosphate as P (dissolved) Dilution	DOC (mg/L) OX006	DOC from CERC
10B	-	-	-	-
10C	<0.006	1	2.5	-
10C	-	-	-	-
10C	-	-	-	-
10C	-	-	-	-
10C	-	-	-	-
10D	E0.003	1	2.5	-
10D	-	-	-	-
10D	-	-	-	6.18
10D	-	-	-	-
10D	-	-	-	-
10	<0.006	1	0.8	-
10	-	-	-	-
10	-	-	-	1.81
10	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
3-1	E0.004	1	3.5	-
3-1	-	-	-	-
3-1	E0.004	1	2.1	-
3-1	-	-	-	-
3-2	<0.006	1	2.3	-
3-2	-	-	-	-
3-2	<0.030	5	2.5	-
3-2	-	-	-	-
3-3	<0.030	5	5.2	-
3-3	-	-	-	-
3-3	<0.030	5	5.1	-
3-3	-	-	-	-
3-4	<0.018	3	2.5	-
3-4	-	-	-	-
3-4	<0.006	1	3	-
3-4	-	-	-	-
3-5	<0.006	1	2.1	-
3-5	-	-	-	-
3-5	<0.030	5	2.8	-
3-5	-	-	-	-

[a] Concentrations in table were corrected for the dilution factor.

[b] Laboratory mislabeled bottles for ICP-MS and ICP-AES analyses. C-305542 is PHB10B-A FA and C-305538 is PHB10A-B FA.

Appendix 6. Chemistry and mineralogy results for stream sediments collected in October 2007 from the Pike Hill copper mine study area, Corinth, Vermont.

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; X, present; ±, likely present]
EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry;
CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectometry]

Station ID	Sample	Date Collected	Time Collected	Composite or grab	Weight of >2mm (g)	Weight of <2mm (g)	Fraction of <2mm (wt. %)	Chemistry Job No.	Chemsitry Lab No.	Total C (wt. % as C) EA	CO_2 (wt. % as C) EA	Carbonate C (wt. % as C) CT	Organic C (wt. % as C) calculated	Al (wt. %) AES_MS
1	PKSite1	10/18/07	10:15	composite	283	1268	82	MRP-08540	C-306648	0.37	0.03	0.01	0.36	2.23
4	PKSite4	10/18/07	9:00	composite	275	1397	84	MRP-08540	C-306649	0.46	0.05	0.01	0.45	3.95
4A	PKSite4A	10/17/07	16:30	composite	107	1284	92	MRP-08540	C-306650	0.55	0.06	0.02	0.53	4.15
4C	PKSite4C	10/17/07	14:00	composite	154	980	86	MRP-08540	C-306651	1.49	0.09	0.02	1.47	4.38
4E	PKSite4E	10/17/07	15:00	composite	404	1133	74	MRP-08540	C-306652	0.44	0.04	0.01	0.43	4.14
4F	PKSite4F	10/18/07	9:30	composite	29	1168	98	MRP-08540	C-306653	1.24	0.1	0.03	1.21	4.16
5	PKSite5	10/17/07	8:25	composite	33	1479	98	MRP-08540	C-306654	0.32	0.07	0.02	0.3	3.85
5X	PKSite5X	10/17/07	8:30	composite	32	1459	98	MRP-08540	C-306655	0.4	0.09	0.02	0.38	4.23
5A	PKSite5A	10/17/07	9:30	composite	106	1372	93	MRP-08540	C-306656	0.54	0.08	0.02	0.52	4.49
6	PKSite6	10/17/07	11:00	composite	357	1275	78	MRP-08540	C-306657	0.29	0.04	0.01	0.28	4.02
10	PKSite10	10/16/07	10:15	composite	229	1068	82	MRP-08540	C-306658	1.06	0.21	0.06	1	3.87
10A	PKSite10A	10/16/07	14:30	composite	129	1142	90	MRP-08540	C-306659	0.91	0.06	0.02	0.89	3.37
10B	PKSite10B	10/16/07	13:20	composite	97	800	89	MRP-08540	C-306660	2.01	0.1	0.03	1.98	3.87
10C	PKSite10C	10/16/07	11:45	composite	477	1110	70	MRP-08540	C-306661	1	1.13	0.31	0.69	2.81
10D	PKSite10D	10/16/07	17:30	composite	246	1416	85	MRP-08540	C-306662	0.43	0.21	0.06	0.37	4.28
11	PKSite11	10/16/07	16:25	composite	300	920	75	MRP-08540	C-306663	1.35	0.13	0.04	1.31	3.81
12	PKSite12	10/16/07	15:40	composite	179	1228	87	MRP-08540	C-306664	0.79	0.81	0.22	0.57	3.74
1	PKSite1 jar	10/18/07	10:15	grab	-	-	-	MRP-08511	C-305882	-	-	-	-	3.22

Appendix 6. Chemistry and mineralogy results for stream sediments collected in October 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; X, present; ±, likely present]
EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry;
CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectometry]

Station ID	Ca	Fe	K	Mg	Na	S	Ti	Ag	As	Ba	Be	Bi	Cd	Ce	Co	Cr	Cs	Cu	Eu	Ga	Hg
	(wt. %) AES_MS	(wt. %) AES_MS	(wt. %) AES_MS	(wt. %) AES_MS	(wt. %) AES_MS	(wt. %) AES_MS	(wt. %) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) CVAF
1	0.53	14.8	0.79	0.48	0.38	2.23	0.12	5	8	150	0.8	2.76	10.2	9.49	49.2	24	<5	11400	-	7.13	0.09
4	1.29	1.15	1.31	0.66	1.16	0.01	0.1	<1	1	232	3	0.13	0.4	16.6	10.1	21	<5	89	-	9.18	0.01
4A	1.3	2.5	1.29	0.69	1.16	0.07	0.18	<1	2	214	2.9	0.22	2.6	20.5	62.7	30	<5	757	-	9.84	0.02
4C	1.55	3.57	1.12	0.91	1.08	0.09	0.27	<1	2	212	2.9	0.33	3.1	27.9	102	38	<5	1470	-	10.5	0.02
4E	1.51	2.76	1.2	0.79	1.06	0.1	0.29	<1	2	206	2.9	0.23	2	17.8	47.8	36	<5	1010	-	9.79	0.02
4F	1.35	5.9	0.97	1.01	0.83	0.19	0.17	<1	4	218	2.5	0.62	3.9	30.6	102	35	<5	2540	-	9.69	0.03
5	0.98	0.96	1.32	0.46	1.17	<0.01	0.08	<1	1	243	2.6	0.09	0.3	14.7	11.9	20	<5	36.6	-	8.79	0.01
5X	1.1	1.08	1.49	0.52	1.22	<0.01	0.1	<1	2	275	2.7	0.09	0.4	16.8	13.9	24	<5	43.7	-	9.34	0.01
5A	1.06	1.3	1.51	0.55	1.11	<0.01	0.13	<1	1	322	2.3	0.15	<0.1	22.4	5	34	<5	6	-	10.8	0.01
6	1.21	1.07	1.43	0.51	1.22	0.02	0.16	<1	<1	245	3	0.09	0.6	12.7	20.7	22	<5	43.7	-	9.28	0.01
10	1.61	1.52	0.89	1.06	0.6	0.02	0.17	<1	<1	238	1.8	0.1	1.4	28.1	30.8	33	<5	324	-	9	0.02
10A	1.0	1.42	0.63	1.26	0.41	0.01	0.12	<1	1	237	1	0.06	0.2	20.4	5.8	34	<5	31.5	-	8.57	0.01
10B	1.27	1.76	0.61	1.46	0.52	0.03	0.15	<1	2	208	1.7	0.13	2.1	37.6	59.3	40	<5	798	-	9.44	0.03
10C	2.18	1.11	0.69	0.74	0.55	0.02	0.14	<1	2	197	1.6	0.08	0.1	18.3	3.9	24	<5	9.4	-	7	0.01
10D	1.35	1.73	1.18	0.75	0.95	<0.01	0.19	<1	2	295	2	0.15	<0.1	22.6	5.6	36	<5	5.9	-	10.1	<0.01
11	1.26	1.53	0.78	1.17	0.46	0.02	0.15	<1	1	253	1.5	0.08	4.6	41.3	94.4	34	<5	1020	-	8.9	0.02
12	1.99	1.58	0.88	1.11	0.55	<0.01	0.17	<1	2	244	1.7	0.1	1.6	28.6	31.1	35	<5	270	-	9.35	0.01
1	0.532	32.5	1.5	0.895	0.429	-	0.231	7.13	34.5	253	<1	-	<2	17.4	55.9	43.3	-	4800	1.09	-	-

Appendix 6. Chemistry and mineralogy results for stream sediments collected in October 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; X, present; ±, likely present]
EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry;
CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectometry]

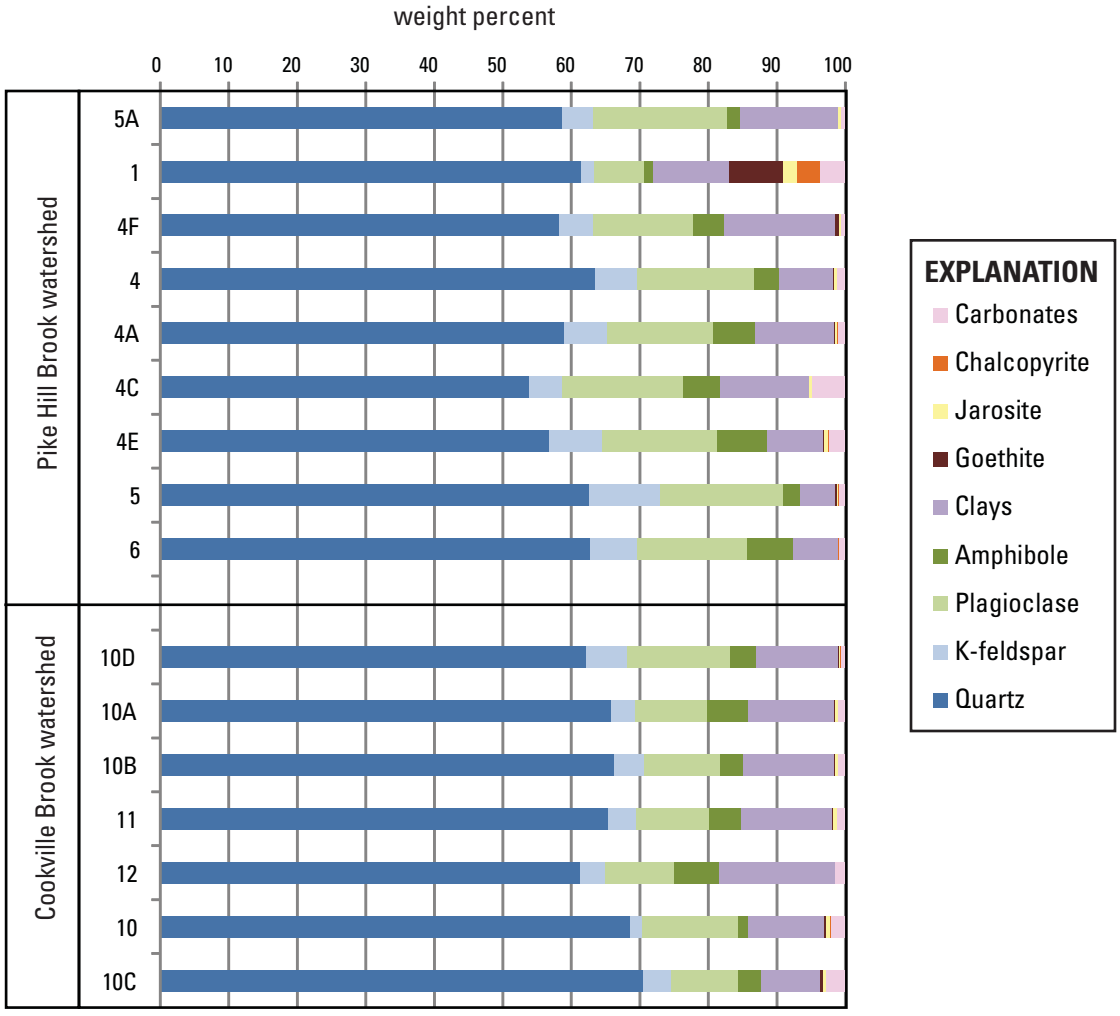
Station ID	In	La	Li	Mn	Mo	Nb	Nd	Ni	P	Pb	Rb	Sb	Sc	Se	Sn	Sr	Te	Th	Tl	U	V
	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) HG-AAS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS
1	0.64	4.5	9	263	11.1	3.1	-	12	230	50.5	32.7	0.8	4.2	35.2	4.1	57.2	0.4	2.4	0.5	0.8	48
4	0.02	8	32	511	0.25	2.6	-	10.9	270	18.9	75.9	0.06	4.3	0.2	1.1	190	<0.1	2.6	0.4	1.3	30
4A	0.05	10	34	686	0.84	3.5	-	13.9	310	20.4	74.5	0.09	5.9	1.2	1.3	185	<0.1	3.2	0.4	1.4	43
4C	0.08	14.3	40	865	1.14	5.4	-	18.6	400	20.8	68	0.14	7.8	2.2	1.7	195	<0.1	3.3	0.4	2	56
4E	0.07	8.8	34	904	1.42	4.6	-	12.6	280	17.5	68.5	0.08	8	0.9	1.4	178	<0.1	2.4	0.4	1.2	56
4F	0.15	15.5	39	757	2.49	4.3	-	16.9	400	24.2	55.1	0.27	6.8	6.8	2.1	204	<0.1	3.4	0.4	2	47
5	<0.02	7.5	25	435	0.13	2.2	-	7.6	200	17.9	74.4	<0.05	3.6	<0.2	0.8	180	<0.1	2.3	0.4	0.9	26
5X	<0.02	8.5	28	530	0.18	2.7	-	8.9	250	19.2	81.6	0.05	4.2	<0.2	1	203	<0.1	2.6	0.4	1.2	29
5A	0.02	10.9	30	937	0.25	3.4	-	10.9	250	17.7	87.5	0.05	5.7	<0.2	1.1	214	<0.1	3.6	0.4	1.1	40
6	<0.02	6.2	31	815	0.17	3.1	-	7.7	250	18.2	81.2	<0.05	4.7	<0.2	0.9	180	<0.1	1.9	0.4	1.6	32
10	0.02	16	30	984	0.34	3.6	-	19.3	350	10.3	47.6	0.05	6.4	<0.2	1.1	243	<0.1	3.6	0.3	1.1	46
10A	0.03	11.2	23	532	0.31	2.7	-	11.1	320	7.6	28.6	<0.05	6.6	0.2	1.1	207	<0.1	3.2	0.2	0.8	44
10B	0.03	21.2	32	1120	0.34	3.7	-	23.9	380	11.1	32.7	0.08	7	0.3	1.2	224	<0.1	3.5	0.2	1.3	48
10C	<0.02	9.3	24	1020	0.16	4.4	-	9.6	270	8.5	41	0.06	5.5	<0.2	1	231	<0.1	2.9	0.2	0.9	30
10D	0.03	11	33	534	0.16	4.7	-	13.6	320	14.2	55.7	0.08	7.6	<0.2	1.2	245	<0.1	3.8	0.3	0.9	44
11	0.03	21.7	28	2110	0.31	3.3	-	36.9	360	9.2	39.1	<0.05	6.8	<0.2	1	239	<0.1	3.9	0.3	1.1	47
12	0.03	14.5	29	1240	0.29	4.3	-	20	310	9.7	47.9	0.05	7.4	<0.2	1.5	255	<0.1	3.9	0.3	1	47
1	-	14	18.2	334	11.8	-	22.3	10.6	635	134	-	-	6.33	59	-	84.8	-	7.49	-	-	90.5

Appendix 6. Chemistry and mineralogy results for stream sediments collected in October 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[g, gram; mm, millimeter; wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; X, present; ±, likely present]
EA, elemental analyzer; CT, coulometric titration; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; CVAF, cold vapor-atomic absorption fluorescence; HG-AAS, hydride generation atomic absorption spectometry]

Station ID	W	Y	Yb	Zn	Mineralogy										
	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	Quartz XRD	K-feldspar XRD	Plagioclase XRD	Amphibole XRD	Goethite XRD	Jarosite XRD	Chalcopyrite XRD	Calcite XRD	Chlorite XRD	Mica XRD	Misc. clays[a] XRD
1	0.4	4.6	-	1680	X	±	X	±	X	X	X	X	X	X	±
4	0.3	6.5	-	73	X	X	X	X	-	-	-	-	X	X	±
4A	0.3	9.5	-	448	X	X	X	X	-	-	-	-	X	X	±
4C	0.4	13.9	-	575	X	X	X	X	-	-	-	-	X	X	±
4E	0.4	12	-	372	X	X	X	X	-	-	-	-	X	X	±
4F	0.4	13.8	-	778	X	X	X	±	-	-	-	-	X	X	±
5	0.3	5.6	-	81	X	X	X	±	-	-	-	-	X	X	±
5X	0.3	6.6	-	92	X	X	X	±	-	-	-	-	X	X	-
5A	0.4	6.7	-	26	X	X	X	±	-	-	-	-	X	X	±
6	0.3	8.3	-	113	X	X	X	X	-	-	-	-	X	X	-
10	0.3	12.7	-	475	X	±	X	X	-	-	-	-	X	X	±
10A	0.2	7.2	-	74	X	X	X	X	-	-	-	-	X	X	±
10B	0.3	15.1	-	543	X	X	X	X	-	-	-	-	X	X	±
10C	0.3	9.1	-	55	X	±	X	X	-	-	-	X	X	X	±
10D	0.5	10.1	-	33	X	X	X	X	-	-	-	-	X	X	-
11	0.3	16.3	-	1120	X	X	X	X	-	-	-	-	X	X	±
12	0.3	12.2	-	397	X	±	X	X	-	-	-	X	X	X	±
1	-	7.3	3.13	777	X	-	-	-	X	X	-	-	X	X	±

[a] Misc. clay minerals may include kaolinte, montmorillonite, sepiolite, or vermiculite.



Appendix 7. Bar chart of relative weight percentages of minerals in stream sediments collected in the Pike Hill copper mine study area, Vermont, in October 2007. Estimates are based on Rietveld refinements of x-ray diffraction patterns. Analysis does not include an estimate of the amorphous content. K-feldspar includes microcline and orthoclase; plagioclase includes albite and anorthite; amphibole includes hornblende and riebeckite; clays include chlorite, mica, kaolin, sepiolite, and vermiculite; and carbonates include calcite and dolomite. Sample PKSite1 jar (not included in chart) is composed of quartz, goethite, jarosite, and clay minerals.

Appendix 8. Fish community assessment conducted in September 2007 in the Pike Hill copper mine study area, Corinth, Vermont.

[(Ref), reference sampling location; IBI, index of biotic integrity based on best professional judgment (Richard Langdon, VTDEC, written commun. 2011); -, species not found at site]

	Pike Hill Brook watershed					Cookville Brook watershed		
	4A	4C	4E	5	6	10	10C	10D (Ref)
Time	12:00	11:00	10:30	9:30	8:00	13:30	15:30	14:00
Date	09/11/07	09/11/07	09/11/07	09/11/07	09/11/07	09/11/07	09/10/07	09/10/07
Run time	22	20	27	20	33	25	35	24
SALMONIDS								
Brook trout	-	-	-	1	-	47	-	44
Rainbow trout	-	-	-	-	-	-	-	-
Atlantic salmon	-	-	-	-	-	-	-	-
MINNOWS								
Creek chub	22	35	23	63	-	-	31	58
Blacknose dace	5	17	41	49	39	-	34	40
Longnose dace	-	-	-	-	1	-	-	-
Common shiner	-	-	-	-		-	1	-
SUCKER								
White sucker	-	-	-	-	1	-	-	-
Longnose sucker	-	-	-	-		-	-	-
PIKE								
Chain pickerel	-	-	-	-	1	-	-	-
TOTAL	27	52	64	113	42	47	66	142
IBI	19 (Poor)	No IBI[a]	No IBI[a]	19 (Poor)	27 (Fair)	No IBI[b]	No IBI[b]	27[c]

[a] No index calculated because low gradient stream.

[b] No index calculated because stream too small.

[c] No index calculated. High blacknose Dace and Creek Chub due to natural temperature increase from wetlands.

Appendix 9. Fish tissue chemistry results in wet weight for fish collected in September 2007 in the Pike Hill copper mine study area, Corinth, Vermont.

[BND, blacknose dace; BT, brook trout; g, grams; wt. %, weight percent; µg/g, micrograms per gram; < analyte not detected at reporting limit; latitude and longitude are given in degrees, minutes, and seconds]

GD Sample ID	Location	Latitude	Longitude	Date	Time	Type	Species	Number of fish	Wet Weight (g)	Concentration factor	Al (µg/g)	Ba (µg/g)	Ca (wt. %)	Cd (µg/g)	Ce (µg/g)	Co (µg/g)	Cr (µg/g)	Cs (µg/g)
PKSite-4A-1-F1	4A	44° 03' 15"	72° 16' 23"	9/11/2007	1230	composite	BND	5	16.2	3.67	<10	2.7	0.75	0.16	<0.02	0.25	0.60	0.07
PKSite-4C-1-F1	4C	44° 03' 05"	72° 16' 01"	9/11/2007	1130	composite	BND	17	17.5	5.39	20	1.5	0.88	0.12	0.05	0.35	0.41	0.04
PKSite-4E-1-F1	4E	44° 03' 10"	72° 15' 48"	9/11/2007	1030	composite	BND	20	24.7	4.60	<10	2.5	1.00	0.13	<0.02	0.17	0.67	0.08
PKSite-4E-2-F1	4E	44° 03' 10"	72° 15' 48"	9/11/2007	1031	composite	BND	21	24.9	4.47	<10	2.9	1.18	0.15	<0.02	0.29	0.51	0.11
PKSite-5-1-F1	5	44° 03' 12"	72° 15' 12"	9/11/2007	0930	composite	BND	18	21.0	4.31	<10	2.2	1.08	0.18	<0.02	0.25	0.56	0.07
PKSite-5-2-F1	5	44° 03' 12"	72° 15' 12"	9/11/2007	0931	composite	BND	15	19.6	4.22	11	2.6	1.11	0.24	0.03	0.31	0.66	0.05
PKSite-5-3-F1	5	44° 03' 12"	72° 15' 12"	9/11/2007	0932	composite	BND	16	11.7	4.23	<10	2.2	1.04	0.19	<0.02	0.28	0.52	0.04
PKSite-5-4-F1	5	44° 03' 12"	72° 15' 12"	9/11/2007	0945	single	BT	1	22.0	4.44	11	0.5	0.71	0.25	0.03	0.63	0.50	0.04
PKSite-6-1-F1	6	44° 03' 19"	72° 14' 45"	9/11/2007	0830	composite	BND	8	20.3	3.76	<10	2.3	0.91	0.11	0.03	0.45	0.53	0.10
PKSite-6-2-F1	6	44° 03' 19"	72° 14' 45"	9/11/2007	0831	composite	BND	8	24.2	3.97	<10	2.1	0.94	0.14	<0.02	0.30	0.55	0.07
PKSite-6-3-F1	6	44° 03' 19"	72° 14' 45"	9/11/2007	0832	composite	BND	21	28.3	4.30	<10	1.7	0.87	0.12	0.02	0.37	0.47	0.08
PKSite-10-1-F1	10	44° 02' 43"	72° 17' 56"	9/11/2007	1330	single	BT	1 of 5	composite of 5 is 147	4.01	<10	0.3	0.52	0.06	<0.02	0.10	0.37	0.06
PKSite-10-1-F2	10	44° 02' 43"	72° 17' 56"	9/11/2007	1330	single	BT	2 of 5	composite of 5 is 147	4.60	<10	0.3	0.46	0.05	<0.02	0.12	0.33	0.05
PKSite-10-1-F3	10	44° 02' 43"	72° 17' 56"	9/11/2007	1330	single	BT	3 of 5	composite of 5 is 147	3.84	<10	0.4	0.53	0.04	<0.02	0.11	0.39	0.07
PKSite-10-1-F4	10	44° 02' 43"	72° 17' 56"	9/11/2007	1330	single	BT	4 of 5	composite of 5 is 147	4.45	<10	0.3	0.48	0.03	<0.02	0.10	0.36	0.05
PKSite-10-1-F5	10	44° 02' 43"	72° 17' 56"	9/11/2007	1330	single	BT	5 of 5	composite of 5 is 147	4.02	<10	0.2	0.36	0.03	0.03	0.09	0.45	0.03
PKSite10C-1-F1	10C	44° 02' 08"	72° 17' 59"	9/10/2007	1530	Composite	BND	10	20.5	4.67	<10	1.7	0.97	0.03	<0.02	0.01	0.56	0.05
PKSite10C-2-F1	10C	44° 02' 08"	72° 17' 59"	9/10/2007	1531	Composite	BND	8	19.2	4.23	<10	1.9	0.88	0.04	<0.02	0.01	0.47	0.10
PKSite10C-3-F1	10C	44° 02' 08"	72° 17' 59"	9/10/2007	1532	Composite	BND	12	18.5	4.05	<10	1.6	0.85	0.03	<0.02	0.01	0.59	0.12
PKSite10D-1-F1	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1400	Composite	BND	5	20.5	4.51	<10	1.3	1.01	0.05	<0.02	0.01	0.44	0.19
PKSite10D-2-F1	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1401	Composite	BND	9	21.1	4.43	13	1.3	0.95	0.07	0.03	0.02	0.38	0.20
PKSite10D-3-F1	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1402	Composite	BND	10	21.0	5.34	19	1.2	0.92	0.04	0.05	0.02	0.34	0.17
PKSite10D-4-F1	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1415	single	BT	1 of 5	composite of 5 is 158.5	3.97	<10	0.1	0.51	0.02	<0.02	0.02	0.35	0.11
PKSite10D-4-F2	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1415	single	BT	2 of 5	composite of 5 is 158.5	4.76	27	0.4	0.79	0.02	0.05	0.05	0.29	0.23
PKSite10D-4-F3	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1415	single	BT	3 of 5	composite of 5 is 158.5	5.39	38	0.5	0.72	0.04	0.09	0.05	0.35	0.11
PKSite10D-4-F4	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1415	single	BT	4 of 5	composite of 5 is 158.5	4.31	<10	0.2	0.64	0.03	<0.02	0.02	0.28	0.13
PKSite10D-4-F5	10D	44° 02' 43"	72° 21' 55"	9/10/2007	1415	single	BT	5 of 5	composite of 5 is 158.5	4.09	<10	0.2	0.47	0.03	<0.02	0.02	0.42	0.11

Appendix 9. Fish tissue chemistry results in wet weight for fish collected in September 2007 in the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[BND, blacknose dace; BT, brook trout; g, grams; wt. %, weight percent; µg/g, micrograms per gram; < analyte not detected at reporting limit; latitude and longitude are given in degrees, minutes, and seconds]

GD Sample ID	Cu (µg/g)	Fe (µg/g)	Ga (µg/g)	K (wt. %)	La (µg/g)	Li (µg/g)	Mg (µg/g)	Mn (µg/g)	Mo (µg/g)	Na (wt. %)	Ni (µg/g)	P (wt. %)	Rb (µg/g)	Se (µg/g)	Sr (µg/g)	Ta (µg/g)	U (µg/g)	V (µg/g)	Y (µg/g)	Zn (µg/g)
PKSite-4A-1-F1	4.4	14	0.02	0.26	<0.01	0.16	319	6.1	<0.01	0.065	<0.05	0.62	4.7	0.38	9.1	0.01	<0.005	0.16	<0.01	55
PKSite-4C-1-F1	7.1	60	0.04	0.22	0.03	0.17	332	8.7	0.01	0.062	0.056	0.68	4.0	0.45	11.2	0.07	0.009	0.17	0.02	54
PKSite-4E-1-F1	5.0	48	0.02	0.28	<0.01	0.09	359	12	0.02	0.088	<0.05	0.76	4.4	0.41	12.8	0.02	<0.005	0.15	<0.01	65
PKSite-4E-2-F1	6.0	86	0.04	0.31	<0.01	0.07	412	16	0.02	0.100	<0.05	0.89	5.3	0.49	15.4	0.09	<0.005	0.13	<0.01	72
PKSite-5-1-F1	2.7	25	0.05	0.31	0.01	0.12	378	22	0.02	0.089	0.093	0.82	3.6	0.49	14.4	0.02	0.005	0.12	0.01	67
PKSite-5-2-F1	5.4	32	0.02	0.31	0.02	0.09	410	23	0.02	0.092	0.095	0.85	4.4	0.47	15.1	0.02	0.007	0.19	0.01	70
PKSite-5-3-F1	3.4	26	0.02	0.32	0.01	0.14	383	21	0.02	0.090	0.095	0.80	4.1	0.40	14.1	0.08	0.005	0.19	<0.01	66
PKSite-5-4-F1	1.7	26	0.02	0.36	0.02	0.14	365	11	0.01	0.103	0.068	0.65	7.2	0.43	7.8	0.18	0.009	0.18	0.01	28
PKSite-6-1-F1	2.6	42	0.03	0.29	0.02	0.11	359	51	0.02	0.084	<0.05	0.71	5.4	0.48	11.6	0.07	0.008	0.24	0.02	54
PKSite-6-2-F1	2.5	21	0.03	0.26	<0.01	0.08	360	28	0.03	0.074	<0.05	0.72	4.3	0.48	11.8	0.02	0.005	0.23	<0.01	54
PKSite-6-3-F1	2.7	24	0.02	0.27	0.01	0.14	344	35	0.02	0.072	<0.05	0.67	4.4	0.44	10.9	0.02	0.005	0.19	<0.01	50
PKSite-10-1-F1	1.6	<10	0.02	0.34	<0.01	<0.03	284	3.0	<0.01	0.087	<0.05	0.53	9.0	0.40	5.3	<0.01	<0.005	0.10	<0.01	24
PKSite-10-1-F2	1.7	15	0.02	0.34	0.01	<0.03	261	2.6	<0.01	0.091	<0.05	0.50	9.4	0.48	4.6	0.01	<0.005	0.09	<0.01	22
PKSite-10-1-F3	1.6	<10	0.02	0.34	<0.01	<0.03	367	3.8	<0.01	0.082	<0.05	0.56	9.2	0.52	6.4	0.02	<0.005	0.13	<0.01	25
PKSite-10-1-F4	1.3	<10	0.02	0.25	<0.01	0.07	303	2.7	<0.01	0.066	<0.05	0.49	7.5	0.45	5.3	0.02	<0.005	0.11	<0.01	25
PKSite-10-1-F5	1.8	16	0.02	0.31	0.02	0.10	251	2.1	<0.01	0.073	<0.05	0.43	6.9	0.42	4.3	0.00	<0.005	0.15	0.02	17
PKSite10C-1-F1	0.7	<10	0.02	0.24	<0.01	<0.03	334	12	0.01	0.068	<0.05	0.71	4.2	0.45	13.4	0.02	<0.005	0.13	<0.01	50
PKSite10C-2-F1	0.9	14	0.02	0.28	<0.01	0.09	338	12	0.01	0.080	<0.05	0.70	6.2	0.52	12.1	0.02	<0.005	0.14	<0.01	51
PKSite10C-3-F1	0.8	14	0.02	0.30	<0.01	0.07	331	14	0.02	0.078	<0.05	0.69	7.0	0.35	12.0	0.02	<0.005	0.17	<0.01	49
PKSite10D-1-F1	0.6	12	0.02	0.20	<0.01	<0.03	326	7.2	<0.01	0.057	<0.05	0.71	6.2	0.58	15.9	0.01	<0.005	0.13	<0.01	50
PKSite10D-2-F1	0.9	22	0.02	0.26	0.02	<0.03	305	7.5	0.01	0.072	<0.05	0.70	8.2	0.61	16.3	0.01	0.005	0.16	0.01	52
PKSite10D-3-F1	0.6	25	0.04	0.18	0.04	0.13	320	9.2	<0.01	0.049	<0.05	0.66	6.6	0.51	16.0	0.02	0.006	0.13	0.03	44
PKSite10D-4-F1	1.3	<10	0.02	0.29	<0.01	0.10	310	2.9	0.05	0.081	<0.05	0.53	6.7	0.73	6.3	0.01	<0.005	0.13	<0.01	31
PKSite10D-4-F2	1.3	75	0.04	0.25	0.03	0.13	336	13	<0.01	0.081	<0.05	0.65	10.4	0.78	11.3	<0.01	0.004	0.15	0.02	28
PKSite10D-4-F3	0.6	54	0.04	0.22	0.06	0.19	278	13	<0.01	0.048	0.093	0.54	6.1	0.48	10.8	0.01	0.009	0.15	0.04	24
PKSite10D-4-F4	1.5	19	0.02	0.27	<0.01	<0.03	306	4.6	<0.01	0.084	<0.05	0.58	8.7	0.70	7.2	0.01	<0.005	0.09	<0.01	30
PKSite10D-4-F5	1.1	18	0.02	0.28	0.01	<0.03	332	3.3	<0.01	0.083	<0.05	0.52	6.9	0.71	6.2	0.07	<0.005	0.15	<0.01	24

Appendix 10. Sample identification, depth, depth category, concentrations of Cu, Pb, Zn, and Fe, source of data, and geographic coordinates of samples analyzed in the field with x-ray fluorescence spectrometry at Pike Hill copper mine study area, Corinth, Vermont.

[mg/kg, milligram per kilogram; wt. %, weight percent; cm, centimeter; USEPA, U.S. Environmental Protection Agency; ACOE, U.S. Army Corps of Engineers; -, no data; latitude and longitude are given in decimal degrees]

Sample ID	Depth (cm)	Depth Category	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Fe (mg/kg)	Fe (wt. %)	Source	Longitude	Latitude
4B-LB1-1	0 - 15.2	surface	711	14	281	20000	2.0	USEPA	-72.26966	44.05249
4B-LB1-1a	15.2 - 30.5	depth	1010	17	403	27000	2.7	USEPA	-72.26966	44.05249
4B-LB1-2	0 - 15.2	surface	1170	-	411	33000	3.3	USEPA	-72.26963	44.05254
4B-LB1-2a	15.2 - 30.5	depth	281	14	147	18000	1.8	USEPA	-72.26963	44.05254
4B-LB2-1	0 - 15.2	surface	1190	27	472	27000	2.7	USEPA	-72.26942	44.05236
4B-LB2-1a	15.2 - 30.5	depth	1720	22	668	31000	3.1	USEPA	-72.26942	44.05236
4B-LB2-2	0 - 15.2	surface	1510	16	483	40000	4.0	USEPA	-72.26936	44.05243
4B-LB2-2a	15.2 - 30.5	depth	88	14	92	19000	1.9	USEPA	-72.26936	44.05243
4B-LB3-1	0 - 15.2	surface	1700	22	534	35000	3.5	USEPA	-72.26924	44.05234
4B-LB3-1a	15.2 - 30.5	depth	356	16	217	25000	2.5	USEPA	-72.26924	44.05234
4B-LB4-1	0 - 15.2	surface	739	27	506	16000	1.6	USEPA	-72.26912	44.05227
4B-LB4-1a	15.2 - 30.5	depth	60	23	47	13000	1.3	USEPA	-72.26912	44.05227
4B-RB1-1	0 - 15.2	surface	1330	20	518	29000	2.9	USEPA	-72.26979	44.05247
4B-RB1-1a	15.2 - 30.5	depth	1450	24	424	34000	3.4	USEPA	-72.26979	44.05247
4B-RB1-2	0 - 15.2	surface	1550	33	542	39000	3.9	USEPA	-72.26979	44.05243
4B-RB1-2a	15.2 - 30.5	depth	1930	25	481	46000	4.6	USEPA	-72.26979	44.05243
4B-RB1-3	0 - 15.2	surface	360	28	114	22000	2.2	USEPA	-72.26985	44.05241
4B-RB1-3a	0 - 2.54	surface	146	20	100	21000	2.1	USEPA	-72.26985	44.05241
4B-RB2-1	0 - 15.2	surface	716	12	256	20000	2.0	USEPA	-72.26954	44.05239
4B-RB2-1a	15.2 - 30.5	depth	1090	14	511	21000	2.1	USEPA	-72.26954	44.05239
4B-RB2-2	0 - 15.2	surface	1610	22	552	30000	3.0	USEPA	-72.26961	44.05231
4B-RB2-2a	15.2 - 30.5	depth	2170	25	661	36000	3.6	USEPA	-72.26961	44.05231
4B-RB2-3	0 - 15.2	surface	1570	22	539	49000	4.9	USEPA	-72.26973	44.05225
4B-RB2-3a	15.2 - 30.5	depth	769	17	301	45000	4.5	USEPA	-72.26973	44.05225
4B-RB2-4	0 - 15.2	surface	52	21	36	-	-	USEPA	-72.26978	44.05221
4B-RB2-4a	15.2 - 30.5	depth	89	23	81	20000	2.0	USEPA	-72.26978	44.05221
4B-RB3-1	0 - 15.2	surface	501	16	236	16000	1.6	USEPA	-72.26931	44.05227
4B-RB3-1a	15.2 - 30.5	depth	1170	20	502	27000	2.7	USEPA	-72.26931	44.05227
4B-RB3-2	0 - 15.2	surface	2540	22	884	33000	3.3	USEPA	-72.26939	44.05220
4B-RB3-2a	15.2 - 30.5	depth	466	18	247	21000	2.1	USEPA	-72.26939	44.05220
4B-RB3-3	0 - 15.2	surface	1910	24	563	40000	4.0	USEPA	-72.26942	44.05214
4B-RB3-3a	15.2 - 30.5	depth	3180	22	1140	44000	4.4	USEPA	-72.26942	44.05214
4B-RB3-4	0 - 15.2	surface	1820	21	798	37000	3.7	USEPA	-72.26944	44.05201
4B-RB3-4a	15.2 - 30.5	depth	2840	28	1110	45000	4.5	USEPA	-72.26944	44.05201
4B-RB3-5	0 - 15.2	surface	2830	18	1060	34000	3.4	USEPA	-72.26957	44.05193
4B-RB3-5a	15.2 - 30.5	depth	2210	31	1480	34000	3.4	USEPA	-72.26957	44.05193
4B-RB4-1	0 - 15.2	surface	1100	19	429	27000	2.7	USEPA	-72.26917	44.05226
4B-RB4-1a	15.2 - 30.5	depth	947	19	495	25000	2.5	USEPA	-72.26917	44.05226
4B-RB5-1	0 - 15.2	surface	4180	17	910	41000	4.1	USEPA	-72.26909	44.05220
4B-RB5-1a	15.2 - 30.5	depth	2400	27	633	52000	5.2	USEPA	-72.26909	44.05220
4B-RB5-2	0 - 15.2	surface	3010	37	1370	45000	4.5	USEPA	-72.26911	44.05209
4B-RB5-2a	15.2 - 30.5	depth	336	13	130	19000	1.9	USEPA	-72.26911	44.05209
4B-RB5-3	0 - 15.2	surface	4500	16	1260	76000	7.6	USEPA	-72.26917	44.05200
4B-RB5-3a	15.2 - 30.5	depth	120	16	105	22000	2.2	USEPA	-72.26917	44.05200
4B-RB5-4	0 - 15.2	surface	3460	50	1060	76000	7.6	USEPA	-72.26920	44.05187
4B-RB5-4a	15.2 - 30.5	depth	2410	18	782	41000	4.1	USEPA	-72.26920	44.05187
4B-Sand	0 - 15.2	surface	512	13	294	16000	1.6	USEPA	-72.26970	44.05245
4B-Sand-2	15.2 - 30.5	depth	611	13	226	20000	2.0	USEPA	-72.26970	44.05245
4D-Ditch-	0 - 15.2	surface	6510	20	2390	192000	19.2	USEPA	-72.26390	44.05179
4D-Ditch-	15.2 - 30.5	depth	2170	14	790	70000	7.0	USEPA	-72.26390	44.05179
4D-LB1-0	0 - 7.6	surface	2700	12	906	33000	3.3	ACOE	-72.26562	44.05100
4D-LB1-0	7.6 - 17.8	depth	3050	20	907	44000	4.4	ACOE	-72.26562	44.05100
4D-LB1-1	0 - 7.6	surface	3990	14	1200	54000	5.4	ACOE	-72.26560	44.05107
4D-LB1-2	0 - 7.6	surface	2080	42	594	49000	4.9	ACOE	-72.26561	44.05114

Appendix 10. Sample identification, depth, depth category, concentrations of Cu, Pb, Zn, and Fe, source of data, and geographic coordinates of samples analyzed in the field with x-ray fluorescence spectrometry at Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mg/kg, milligram per kilogram; wt. %, weight percent; cm, centimeter; USEPA, U.S. Environmental Protection Agency; ACOE, U.S. Army Corps of Engineers; -, no data; latitude and longitude are given in decimal degrees]

Sample ID	Depth (cm)	Depth Category	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Fe (mg/kg)	Fe (wt. %)	Source	Longitude	Latitude
4D-LB1-2	7.6 - 22.9	depth	3010	28	1090	109000	10.9	ACOE	-72.26561	44.05114
4D-LB1-3	0 - 7.6	surface	3520	<14	338	67000	6.7	ACOE	-72.26557	44.05131
4D-LB1-3	7.6 - 15.2	depth	10500	55	4620	144000	14.4	ACOE	-72.26557	44.05131
4D-LB1-4	0 - 15.2	surface	6300	46	1030	75000	7.5	ACOE	-72.26555	44.05133
4D-LB1-4	15.2 - 30.5	depth	3080	20	547	44000	4.4	ACOE	-72.26555	44.05133
4D-LB1-5	0 - 15.2	surface	2370	36	523	74000	7.4	ACOE	-72.26565	44.05149
4D-LB1-5	15.2 - 25.4	depth	1730	31	420	95000	9.5	ACOE	-72.26565	44.05149
4D-LB2-0	0 - 7.6	surface	2380	<23	784	37000	3.7	ACOE	-72.26578	44.05095
4D-LB2-0	7.6 - 15.2	depth	2130	14	594	36000	3.6	ACOE	-72.26578	44.05095
4D-LB2-1	0 - 7.6	surface	3270	23	704	61000	6.1	ACOE	-72.26573	44.05101
4D-LB2-1	7.6 - 30.5	depth	3830	18	936	118000	11.8	ACOE	-72.26573	44.05101
4D-LB2-2	0 - 7.6	surface	2610	15	716	56000	5.6	ACOE	-72.26578	44.05108
4D-LB2-2	7.6 - 30.5	depth	2790	32	914	71000	7.1	ACOE	-72.26578	44.05108
4D-LB2-3	0 - 15.2	surface	2700	37	555	67000	6.7	ACOE	-72.26578	44.05124
4D-LB2-3	15.2 - 22.9	depth	1690	26	408	70000	7.0	ACOE	-72.26578	44.05124
4D-LB2-4	0 - 20.3	surface	2680	45	799	87000	8.7	ACOE	-72.26565	44.05155
4D-LB2-4	20.3 - 27.9	depth	2220	46	644	62000	6.2	ACOE	-72.26565	44.05155
4D-LB2-Sed	0 - 7.6	surface	1400	17	488	35000	3.5	ACOE	-72.26582	44.05092
4D-LB3-0	0 - 7.6	surface	1550	27	480	32000	3.2	ACOE	-72.26595	44.05098
4D-LB3-0	7.6 - 15.2	depth	1240	<15	519	29000	2.9	ACOE	-72.26595	44.05098
4D-LB3-1	0 - 7.6	surface	1750	38	571	51000	5.1	ACOE	-72.26592	44.05101
4D-LB3-1	7.6 - 22.9	depth	2540	30	785	59000	5.9	ACOE	-72.26592	44.05101
4D-LB3-2	0 - 7.6	surface	1570	24	524	44000	4.4	ACOE	-72.26590	44.05113
4D-LB3-2	7.6 - 15.2	depth	1670	30	537	41000	4.1	ACOE	-72.26590	44.05113
4D-LB3-3	0 - 7.6	surface	1790	21	562	47000	4.7	ACOE	-72.26596	44.05119
4D-LB3-3	7.6 - 17.8	depth	2160	22	759	67000	6.7	ACOE	-72.26596	44.05119
4D-LB3-4	0 - 15.2	surface	1020	33	305	58000	5.8	ACOE	-72.26600	44.05145
4D-LB3-Sed	0 - 7.6	surface	941	16	331	25000	2.5	ACOE	-72.26595	44.05096
4D-LB4-0	0 - 7.6	surface	2250	18	682	47000	4.7	ACOE	-72.26611	44.05105
4D-LB4-0	7.62 - 12.7	depth	3130	<21	954	76000	7.6	ACOE	-72.26611	44.05105
4D-LB4-1	0 - 7.6	surface	2270	<19	813	69000	6.9	ACOE	-72.26614	44.05110
4D-LB4-1	7.6 - 17.8	depth	1590	18	480	38000	3.8	ACOE	-72.26614	44.05110
4D-LB4-2	0 - 7.6	surface	1900	<15	487	36000	3.6	ACOE	-72.26613	44.05118
4D-LB4-2	7.6 - 15.2	depth	1780	<16	607	42000	4.2	ACOE	-72.26613	44.05118
4D-LB4-3	0 - 7.6	surface	1780	16	544	37000	3.7	ACOE	-72.26613	44.05126
4D-LB4-3	7.6 - 15.2	depth	1670	23	622	44000	4.4	ACOE	-72.26613	44.05126
4D-LB4-4	0 - 22.9	surface	2410	42	763	70000	7.0	ACOE	-72.26623	44.05135
4D-LB4-4	22.8 - 35.6	depth	2080	28	604	64000	6.4	ACOE	-72.26623	44.05135
4D-LB4-Sed	0 - 7.6	surface	905	<15	374	28000	2.8	ACOE	-72.26611	44.05103
4D-LB5-0	0 - 12.7	surface	2410	33	920	58000	5.8	ACOE	-72.26487	44.05108
4D-LB5-0	12.7 - 27.9	depth	2400	24	989	52000	5.2	ACOE	-72.26487	44.05108
4D-LB5-1	0 - 12.7	surface	6420	37	1570	95000	9.5	ACOE	-72.26531	44.05123
4D-LB5-1	12.7 - 22.9	depth	10900	57	3540	256000	25.6	ACOE	-72.26531	44.05123
4D-LB5-2	0 - 22.9	surface	5600	20	1370	95000	9.5	ACOE	-72.26538	44.05135
4D-LB5-2	22.9 - 33.0	depth	6040	41	1530	106000	10.6	ACOE	-72.26538	44.05135
4D-LB5-3	0 - 20.3	surface	774	20	122	60000	6.0	ACOE	-72.26542	44.05148
4D-LB5-3	20.3 - 30.5	depth	1410	44	274	87000	8.7	ACOE	-72.26542	44.05148
4D-LB5-4	0 - 12.7	surface	2680	38	375	147000	14.7	ACOE	-72.26543	44.05156
4D-LB5-4	12.7 - 27.9	depth	3240	44	706	56000	5.6	ACOE	-72.26543	44.05156
4D-LB6-0	0 - 7.6	surface	6390	36	1420	90000	9.0	ACOE	-72.26496	44.05118
4D-LB6-0	7.6 - 25.4	depth	3130	26	952	62000	6.2	ACOE	-72.26496	44.05118
4D-LB6-1	0 - 7.6	surface	6230	50	1280	102000	10.2	ACOE	-72.26496	44.05133
4D-LB6-1	7.6 - 20.3	depth	11000	33	2890	261000	26.1	ACOE	-72.26496	44.05133
4D-LB6-2	0 - 7.6	surface	6300	47	1910	120000	12.0	ACOE	-72.26507	44.05148

Appendix 10. Sample identification, depth, depth category, concentrations of Cu, Pb, Zn, and Fe, source of data, and geographic coordinates of samples analyzed in the field with x-ray fluorescence spectrometry at Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mg/kg, milligram per kilogram; wt. %, weight percent; cm, centimeter; USEPA, U.S. Environmental Protection Agency; ACOE, U.S. Army Corps of Engineers; -, no data; latitude and longitude are given in decimal degrees]

Sample ID	Depth (cm)	Depth Category	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Fe (mg/kg)	Fe (wt. %)	Source	Longitude	Latitude
4D-LB6-2	7.6 - 30.5	depth	2380	30	958	55000	5.5	ACOE	-72.26507	44.05148
4D-LB6-3	0 - 7.6	surface	2200	45	528	87000	8.7	ACOE	-72.26514	44.05163
4D-LB6-3	7.6 - 30.5	depth	923	20	230	43000	4.3	ACOE	-72.26514	44.05163
4D-LB6-Offset-a	0 - 7.6	surface	10700	61	1790	-	-	-	-72.26504	44.05125
4D-LB6-Offset-b	7.6 - 30.5	depth	4670	23	1240	101000	10.1	ACOE	-72.26504	44.05125
4D-LB7-0	0 - 7.6	surface	2500	<14	874	38000	3.8	ACOE	-72.26456	44.05129
4D-LB7-0	7.6 - 17.8	depth	4000	34	1350	73000	7.3	ACOE	-72.26456	44.05129
4D-LB7-1	0 - 7.6	surface	11300	59	2270	211000	21.1	ACOE	-72.26459	44.05148
4D-LB7-1	7.62 - 12.7	depth	5700	19	1360	142000	14.2	ACOE	-72.26459	44.05148
4D-LB7-2-a	0 - 7.6	surface	12600	81	3640	292000	29.2	ACOE	-72.26461	44.05151
4D-LB7-2-b	7.6 - 30.5	depth	4270	38	1610	58000	5.8	ACOE	-72.26461	44.05151
4D-LB7-3	0 - 7.6	surface	5180	<26	2100	341000	34.1	ACOE	-72.26464	44.05173
4D-LB7-3	7.6 - 30.5	depth	6980	52	1760	127000	12.7	ACOE	-72.26464	44.05173
4D-LB7-4	0 - 7.6	surface	6680	38	1990	157000	15.7	ACOE	-72.26464	44.05182
4D-LB7-4	7.6 - 27.9	depth	797	28	394	215000	21.5	ACOE	-72.26464	44.05182
4D-LB7-5	0 - 15.2	surface	1840	15	629	122000	12.2	ACOE	-72.26467	44.05197
4D-LB8-1	0 - 15.2	surface	5530	27	1300	84000	8.4	USEPA	-72.26422	44.05143
4D-LB8-1a	15.2 - 30.5	depth	2320	20	1150	54000	5.4	USEPA	-72.26422	44.05143
4D-LB8-2	0 - 15.2	surface	7480	21	1170	116000	11.6	USEPA	-72.26419	44.05160
4D-LB8-2a	15.2 - 30.5	depth	4070	18	1050	116000	11.6	USEPA	-72.26419	44.05160
4D-LB8-3	0 - 15.2	surface	12300	40	3040	483000	48.3	USEPA	-72.26418	44.05171
4D-LB8-3a	15.2 - 30.5	depth	6360	30	1990	197000	19.7	USEPA	-72.26418	44.05171
4D-LB8-4	0 - 15.2	surface	6810	31	1990	130000	13.0	USEPA	-72.26416	44.05186
4D-LB8-4a	15.2 - 30.5	depth	8360	26	2680	84000	8.4	USEPA	-72.26416	44.05186
4D-LB8-5	0 - 15.2	surface	7420	42	3020	120000	12.0	USEPA	-72.26417	44.05199
4D-LB8-5a	15.2 - 30.5	depth	4480	34	2130	92000	9.2	USEPA	-72.26417	44.05199
4D-LB8-6	0 - 15.2	surface	3700	34	1630	89000	8.9	USEPA	-72.26419	44.05212
4D-LB8-6a	15.2 - 30.5	depth	3550	16	1920	91000	9.1	USEPA	-72.26419	44.05212
4D-LB8-7	0 - 15.2	surface	2790	14	2530	100000	10.0	USEPA	-72.26416	44.05228
4D-LB8-8	0 - 15.2	surface	1850	17	1460	63000	6.3	USEPA	-72.26418	44.05242
4D-LB9-1	0 - 15.2	surface	16500	46	5650	255000	25.5	USEPA	-72.26404	44.05190
4D-LB9-1a	15.2 - 30.5	depth	6920	20	2920	114000	11.4	USEPA	-72.26404	44.05190
4D-RB1-1a	15.2 - 30.5	depth	1770	27	796	41000	4.1	USEPA	-72.26557	44.05097
4D-RB1-2	0 - 15.2	surface	5800	35	1620	126000	12.6	USEPA	-72.26554	44.05090
4D-RB1-2a	15.2 - 30.5	depth	2120	32	676	49000	4.9	USEPA	-72.26554	44.05090
4D-RB1-3	0 - 15.2	surface	4890	38	1270	77000	7.7	USEPA	-72.26553	44.05084
4D-RB1-3a	15.2 - 30.5	depth	1490	19	618	37000	3.7	USEPA	-72.26553	44.05084
4D-RB1-4	0 - 15.2	surface	4580	36	1300	71000	7.1	USEPA	-72.26544	44.05074
4D-RB1-4	0 - 15.2	surface	2900	26	842	58000	5.8	USEPA	-72.26557	44.05097
4D-RB1-4a	15.2 - 30.5	depth	2200	22	855	47000	4.7	USEPA	-72.26544	44.05074
4D-RB1-5	0 - 15.2	surface	4060	26	1130	65000	6.5	USEPA	-72.26533	44.05056
4D-RB1-5a	15.2 - 30.5	depth	3650	29	1330	79000	7.9	USEPA	-72.26533	44.05056
4D-RB1-6	0 - 15.2	surface	3160	33	916	60000	6.0	USEPA	-72.26520	44.05041
4D-RB1-6a	15.2 - 30.5	depth	6600	34	2900	73000	7.3	USEPA	-72.26520	44.05041
4D-RB2-1	0 - 15.2	surface	5510	35	1280	91000	9.1	USEPA	-72.26522	44.05101
4D-RB2-1a	15.2 - 30.5	depth	2420	26	830	49000	4.9	USEPA	-72.26522	44.05101
4D-RB2-2	0 - 15.2	surface	3850	31	1580	71000	7.1	USEPA	-72.26514	44.05088
4D-RB2-2a	15.2 - 30.5	depth	2150	16	898	44000	4.4	USEPA	-72.26514	44.05088
4D-RB2-3	0 - 15.2	surface	4170	35	1240	80000	8.0	USEPA	-72.26506	44.05077
4D-RB2-3a	15.2 - 30.5	depth	3150	31	914	95000	9.5	USEPA	-72.26506	44.05077
4D-RB2-4	0 - 15.2	surface	9790	46	3520	195000	19.5	USEPA	-72.26491	44.05053
4D-RB3-1	0 - 15.2	surface	4640	24	1130	54000	5.4	USEPA	-72.26489	44.05116
4D-RB3-1a	15.2 - 30.5	depth	2280	26	1000	56000	5.6	USEPA	-72.26489	44.05116
4D-RB3-2	0 - 15.2	surface	2700	32	660	62000	6.2	USEPA	-72.26481	44.05101

Appendix 10. Sample identification, depth, depth category, concentrations of Cu, Pb, Zn, and Fe, source of data, and geographic coordinates of samples analyzed in the field with x-ray fluorescence spectrometry at Pike Hill copper mine study area, Corinth, Vermont.--Continued

[mg/kg, milligram per kilogram; wt. %, weight percent; cm, centimeter; USEPA, U.S. Environmental Protection Agency; ACOE, U.S. Army Corps of Engineers; -, no data; latitude and longitude are given in decimal degrees]

Sample ID	Depth (cm)	Depth Category	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Fe (mg/kg)	Fe (wt. %)	Source	Longitude	Latitude
4D-RB4-1	0 - 33.02	surface	4670	30	1230	118000	11.8	ACOE	-72.26397	44.05126
4D-RB4-2	0 - 27.94	surface	2660	21	866	51000	5.1	ACOE	-72.26388	44.05140
4D-RB4-3	0 - 27.94	surface	7700	44	1960	164000	16.4	ACOE	-72.26390	44.05155
4D-RB4-4	0 - 25.4	surface	2320	18	1020	42000	4.2	ACOE	-72.26386	44.05171
4D-RB4-5	0 - 15.2	surface	7840	22	2950	106000	10.6	USEPA	-72.26396	44.05190
4D-RB4-5a	15.2 - 30.5	depth	5850	25	2380	88000	8.8	USEPA	-72.26396	44.05190
4D-RB4-6	0 - 15.2	surface	11100	25	3490	116000	11.6	USEPA	-72.26385	44.05218
4D-RB4-6a	15.2 - 30.5	depth	9130	26	3570	121000	12.1	USEPA	-72.26385	44.05218
4D-RB4-7	0 - 15.2	surface	19300	69	6840	269000	26.9	USEPA	-72.26366	44.05242
4D-RB4-7a	15.2 - 30.5	depth	14100	34	4370	155000	15.5	USEPA	-72.26366	44.05242
floc.a	0 - 15.2	surface	1450	50	594	87000	8.7	USEPA	-72.26617	44.05179
floc.a	15.2 - 30.5	depth	1200	30	498	66000	6.6	USEPA	-72.26617	44.05179
floc.b	0 - 15.2	surface	1390	27	919	68000	6.8	USEPA	-72.26608	44.05206
floc.b	15.2 - 30.5	depth	3730	36	1850	109000	10.9	USEPA	-72.26608	44.05206
floc.c	0 - 15.2	surface	1980	29	1150	261000	26.1	USEPA	-72.26584	44.05208
floc.c	15.2 - 30.5	depth	4220	37	4550	174000	17.4	USEPA	-72.26584	44.05208
floc.d	0 - 15.2	surface	2030	27	1190	99000	9.9	USEPA	-72.26546	44.05220
floc.d	15.2 - 30.5	depth	7370	94	7740	317000	31.7	USEPA	-72.26546	44.05220
floc.e	0 - 15.2	surface	646	35	581	99000	9.9	USEPA	-72.26535	44.05238
floc.e	15.2 - 30.5	depth	9780	86	9660	365000	36.5	USEPA	-72.26535	44.05238
floc.f	0 - 15.2	surface	696	16	541	20000	2.0	USEPA	-72.26492	44.05231
floc.f	15.2 - 30.5	depth	3780	42	2410	249000	24.9	USEPA	-72.26492	44.05231
floc.g	0 - 15.2	surface	2410	50	3730	384000	38.4	USEPA	-72.26466	44.05219
floc.g	15.2 - 30.5	depth	2260	31	2350	67000	6.7	USEPA	-72.26466	44.05219
floc1	0 - 7.6	surface	3200	46	960	99000	9.9	USEPA	-72.26639	44.05151
floc1	30.5 - 45.7	depth	1400	33	827	108000	10.8	USEPA	-72.26639	44.05151
floc2	15.2 - 30.5	depth	9730	86	12200	403000	40.3	USEPA	-72.26608	44.05171
floc3	15.2 - 30.5	depth	3410	42	3700	175000	17.5	USEPA	-72.26583	44.05182
floc4	15.2 - 30.5	depth	6380	62	6150	213000	21.3	USEPA	-72.26552	44.05196
floc5	15.2 - 30.5	depth	875	13	453	33000	3.3	USEPA	-72.26527	44.05200
floc6	15.2 - 30.5	depth	2130	35	1980	45000	4.5	USEPA	-72.26501	44.05196
pike.sed4	0 - 15.2	surface	638	11	317	26000	2.6	USEPA	-72.26363	44.05258
pike.sed5	0 - 15.2	surface	954	12	429	27000	2.7	USEPA	-72.26361	44.05257
sed10	0 - 15.2	surface	1540	14	508	36000	3.6	USEPA	-72.26398	44.05145

Appendix 11. Chemistry results for wetland sediment samples collected in July 2007 from the Pike Hill copper mine study area, Corinth, Vermont. These samples were selected for detailed chemical analysis from samples analyzed by x-ray fluorescence (XRF) in the field.

[g, gram; mm, millimeter; wt. %, weight percentage; mg/kg, milligram per kilogram; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; XRF, x-ray fluorescence; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	>2 mm size-fraction (g)	<2 mm size-fraction (g)	Job No.	Lab No.	C (wt. % as C) EA	CO_2 (wt. % as C) EA	Carbonate (wt. % as C) CT	Total Organic C (wt. % as C) calculated	Al_2O_3 (wt. %) XRF	CaO (wt. %) XRF	Cr_2O_3 (wt. %) XRF	Fe_2O_3 (wt. %) XRF	K_2O (wt. %) XRF	LOI (wt. %) XRF	MgO (wt. %) XRF
4B-RB1-3	5	86	MRP-08118	C-299869	6	0.37	0.1	5.9	11.2	2.73	<0.01	9.61	1.35	20.8	2.13
4B-RB2-2a	7	47	MRP-08118	C-299870	9.05	0.33	0.09	8.96	11.4	2.77	0.01	7.23	1.3	25.5	2.13
4B-RB3-1	27	363	MRP-08118	C-299871	0.53	0.03	0.01	0.52	8.78	2.17	<0.01	3.84	1.41	2.72	1.6
4B-RB5-1a	9	80	MRP-08118	C-299872	6.89	0.37	0.1	6.79	11.2	2.75	<0.01	8.01	1.22	21	2.17
4B-RB5-4	3	79	MRP-08118	C-299873	12.2	0.28	0.08	12.12	9.49	2.24	<0.01	8.25	1.06	41.7	1.73
4D-LB1-3	58	288	MRP-08118	C-299874	3.21	0.12	0.03	3.18	8.25	1.83	0.01	15.6	1.33	13.6	1.55
4D-LB1-4-a	7	112	MRP-08118	C-299875	2.29	0.11	0.03	2.26	8.44	1.74	<0.01	9.71	1.57	8.51	1.43
4D-LB1-4-b	26	200	MRP-08118	C-299876	1.3	0.06	0.02	1.28	8.46	1.42	<0.01	7.8	1.7	5.68	1.67
4D-LB1-Sed	298	395	MRP-08118	C-299877	1.08	0.07	0.02	1.06	9.05	2.52	<0.01	5.22	1.32	4.37	1.58
4D-LB5-1	27	48	MRP-08118	C-299878	9.33	0.81	0.22	9.11	11.3	2.22	0.01	15.8	1.11	33.8	1.65
4D-LB6-Offset-a	11	78	MRP-08118	C-299879	5.52	1.2	0.33	5.19	5.99	1.18	<0.01	43	0.59	28.1	0.95
4D-LB6-Offset-b	97	133	MRP-08118	C-299880	10	0.7	0.19	9.81	10.7	1.93	0.01	20.1	0.9	34.1	1.5
4D-LB7-2-a	22	59	MRP-08118	C-299881	12.6	0.65	0.18	12.42	9.91	1.77	<0.01	17.3	0.95	41	1.43
4D-LB7-2-b	19	46	MRP-08118	C-299882	8.26	0.2	0.05	8.21	13.2	2.09	0.01	10.5	1.3	27.1	2.05
4D-LB9-1a	101	285	MRP-08118	C-299883	3.75	0.4	0.11	3.64	11.5	2.18	0.01	11.3	1.24	16.8	2.01
4D-RB1-3	22	44	MRP-08118	C-299884	3.36	0.16	0.04	3.32	12.4	2.82	<0.01	5.07	1.37	11.2	2.69
4D-RB1-4a	2	63	MRP-08118	C-299885	5.22	0.1	0.03	5.19	12.1	2.72	0.01	7.89	1.36	17.1	2.41
4D-RB2-1	33	60	MRP-08118	C-299886	7.03	0.37	0.1	6.93	11.4	2.53	0.01	10.4	1.36	24.1	2.01
4D-RB4-3	2	17	MRP-08118	C-299887	10.8	0.67	0.18	10.62	11.6	1.41	<0.01	20.5	0.82	38.8	1.21
4D-RB4-4	7	54	MRP-08118	C-299888	4.14	0.09	0.02	4.12	10.6	2.48	<0.01	7.75	1.2	13.5	2.09
4D-RB4-6a	14	48	MRP-08118	C-299889	10.7	0.98	0.27	10.43	11.3	2.2	<0.01	16.4	1.07	38.3	1.5
floc2	5	139	MRP-08118	C-299890	0.89	0.5	0.14	0.75	6.42	1.62	<0.01	29.9	1.37	8.6	1.78
pike.sed4	70	204	MRP-08118	C-299891	0.22	0.03	0.01	0.21	8.24	2.22	<0.01	3.08	1.37	1.15	1.24

Appendix 11. Chemistry results for wetland sediment samples collected in July 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued
These samples were selected for detailed chemical analysis from samples analyzed by x-ray fluorescence (XRF) in the field.

[g, gram; mm, millimeter; wt. %, weight percentage; mg/kg, milligram per kilogram; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; XRF, x-ray fluorescence; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	MnO (wt. %) XRF	Na_2O (wt. %) XRF	P_2O_5 (wt. %) XRF	SiO_2 (wt. %) XRF	TiO_2 (wt. %) XRF	Al (wt. %) AES_MS	Ca (wt. %) AES_MS	Fe (wt. %) AES_MS	K (wt. %) AES_MS	Mg (wt. %) AES_MS	Na (wt. %) AES_MS	S (wt. %) AES_MS	Ti (wt. %) AES_MS	Ag (mg/kg) AES_MS	As (mg/kg) AES_MS	Ba (mg/kg) AES_MS	Be (mg/kg) AES_MS	Bi (mg/kg) AES_MS
4B-RB1-3	0.27	1.45	0.21	48.6	0.56	5.42	1.91	7.17	1.05	1.16	1.04	0.24	0.23	1	3	270	3.7	0.87
4B-RB2-2a	0.41	1.6	0.26	47.8	0.57	5.73	2.01	5.72	1.09	1.21	1.07	0.28	0.26	<1	4	314	4.1	0.72
4B-RB3-1	0.08	1.82	0.09	78.4	0.44	4.29	1.55	2.79	1.12	0.9	1.15	0.07	0.21	<1	<1	214	3.9	0.28
4B-RB5-1a	0.29	1.58	0.22	51.6	0.61	5.67	1.97	6.17	1.01	1.27	1.09	0.16	0.27	<1	3	253	3.6	0.64
4B-RB5-4	0.51	1.02	0.27	32.3	0.47	5.35	1.7	5.17	0.98	1.12	0.82	0.28	0.23	1	3	354	3.6	0.93
4D-LB1-3	0.09	1.27	0.12	54.7	0.56	4.19	1.35	12.2	1.07	0.88	0.94	3.09	0.24	1	4	226	2.6	1.55
4D-LB1-4-a	0.06	1.41	0.08	67.7	0.61	4.14	1.26	7.4	1.25	0.8	1.03	1.58	0.23	2	6	245	3.7	1.99
4D-LB1-4-b	0.07	1.33	0.04	71.7	0.6	4.16	1.02	5.84	1.49	1.03	0.9	1.82	0.21	2	4	241	2	1.09
4D-LB1-Sed	0.13	1.53	0.1	73.5	0.69	4.3	1.72	3.56	1	0.85	1.09	0.13	0.32	<1	<1	186	3.7	0.28
4D-LB5-1	1.07	0.87	0.28	30.2	0.41	5.64	1.58	11.8	0.92	0.92	0.65	0.42	0.19	2	4	333	3.8	1.32
4D-LB6-Offset-a	0.14	0.38	0.14	18.9	0.21	2.9	0.84	36.3	0.46	0.46	0.32	0.37	0.09	1	4	201	1.7	0.89
4D-LB6-Offset-b	0.11	0.83	0.26	28.1	0.37	5.32	1.41	16	0.74	0.86	0.62	1.76	0.17	1	4	229	3.4	0.94
4D-LB7-2-a	0.49	0.67	0.25	24.9	0.33	4.93	1.29	13.3	0.76	0.76	0.52	0.48	0.15	2	5	352	3.1	1.26
4D-LB7-2-b	0.15	1.2	0.26	40.4	0.49	6.54	1.51	7.69	1.07	1.21	0.87	0.9	0.23	1	5	316	4.3	1.14
4D-LB9-1a	0.83	1.36	0.18	50.6	0.49	5.8	1.61	8.76	0.98	1.19	0.94	0.53	0.23	<1	3	278	4	0.74
4D-RB1-3	0.16	2.07	0.21	62.2	0.72	6.28	2.01	3.62	1.11	1.59	1.38	0.05	0.34	<1	3	270	4.3	0.5
4D-RB1-4a	0.09	1.66	0.23	54.1	0.65	5.96	1.95	5.55	1.07	1.35	1.2	0.51	0.3	<1	3	262	4.1	0.75
4D-RB2-1	0.31	1.44	0.23	45.2	0.53	5.76	1.83	7.8	1.11	1.19	1.02	0.3	0.24	1	3	308	4.3	1.1
4D-RB4-3	0.24	0.57	0.26	23.1	0.28	5.73	1.01	16	0.66	0.68	0.44	0.58	0.14	1	4	257	3.2	1.19
4D-RB4-4	0.07	1.54	0.18	59.6	0.58	5.4	1.86	5.93	0.98	1.19	1.15	0.3	0.27	<1	3	232	3.8	0.54
4D-RB4-6a	1.37	0.76	0.24	24.5	0.31	5.67	1.59	12.4	0.85	0.82	0.5	0.37	0.15	1	6	308	3.5	1.33
floc2	0.12	0.86	0.09	46.2	0.44	3.37	1.28	29.6	1.12	0.91	0.59	11.2	0.17	2	5	142	1.9	1.86
pike.sed4	0.11	1.5	0.07	79.6	0.58	3.88	1.5	2.11	1.1	0.71	1.05	0.15	0.29	<1	<1	187	3.6	0.2

Appendix 11. Chemistry results for wetland sediment samples collected in July 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued
These samples were selected for detailed chemical analysis from samples analyzed by x-ray fluorescence (XRF) in the field.

[g, gram; mm, millimeter; wt. %, weight percentage; mg/kg, milligram per kilogram; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; XRF, x-ray fluorescence; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	Cd (mg/kg) AES_MS	Ce (mg/kg) AES_MS	Co (mg/kg) AES_MS	Cr (mg/kg) AES_MS	Cs (mg/kg) AES_MS	Cu (mg/kg) AES_MS	Ga (mg/kg) AES_MS	In (mg/kg) AES_MS	La (mg/kg) AES_MS	Li (mg/kg) AES_MS	Mn (mg/kg) AES_MS	Mo (mg/kg) AES_MS	Nb (mg/kg) AES_MS	Ni (mg/kg) AES_MS	P (mg/kg) AES_MS	Pb (mg/kg) AES_MS	Rb (mg/kg) AES_MS
4B-RB1-3	9.8	62.6	209	54	<5	5080	12.2	0.23	31.7	56	1900	2.81	6	34.2	1000	28.9	57.1
4B-RB2-2a	8.4	69.7	201	62	5	3440	14	0.16	35.6	66	3170	2.23	7.1	35.9	1310	31.6	62.1
4B-RB3-1	2.1	20.9	64.4	36	<5	878	10.4	0.06	10.3	37	618	1.15	4.4	15.9	440	17	61.3
4B-RB5-1a	4.8	67.5	111	57	<5	3290	12.9	0.18	36.8	57	2220	5.35	6.5	33.3	1130	35.9	58.4
4B-RB5-4	10.4	79.2	240	70	6	4060	14.1	0.18	39.7	69	3790	3.02	6.4	41.8	1620	37.1	61.8
4D-LB1-3	29.3	26.5	283	47	<5	8250	12.4	0.56	11.5	27	702	6.58	6	30.3	590	39.1	51.3
4D-LB1-4-a	7.7	13.1	75.5	41	<5	4750	12.1	0.29	5.5	20	415	9.16	6.6	8.3	390	38.3	58.3
4D-LB1-4-b	12.3	9.89	137	42	<5	5210	12.1	0.28	4.3	23	477	9.56	5.7	13	250	22.1	67.3
4D-LB1-Sed	3.2	25.1	84	43	<5	1640	10.1	0.08	12.5	33	873	1.29	5.6	18.5	530	17.4	56.1
4D-LB5-1	21.4	103	390	63	6	8050	12.9	0.38	50.5	61	7530	4.6	5.3	51.4	1410	40.9	56.6
4D-LB6-Offset-a	10.2	55.2	68.1	34	<5	5730	6.57	0.25	26.6	31	1080	2.81	2.8	11.9	700	25	28.7
4D-LB6-Offset-b	14.9	98.8	151	56	<5	6990	10.6	0.32	49.5	52	883	3.17	4.6	31.7	1230	37.7	46.3
4D-LB7-2-a	20.9	89.3	267	50	<5	8500	10.3	0.4	43.6	50	3480	3.76	4.2	44.6	1190	41.2	46.9
4D-LB7-2-b	12.7	106	156	66	6	7250	13.8	0.38	55.9	70	1120	2.96	5.9	48.3	1280	45.8	65.4
4D-LB9-1a	19.7	88.6	581	56	<5	6940	12.4	0.23	49.4	56	6440	2.14	5.4	58.1	910	29.5	57.8
4D-RB1-3	0.9	46	37.5	67	<5	478	16.3	0.08	23.1	65	1150	1.08	7.6	26.9	1000	30.3	65.9
4D-RB1-4a	6.3	66.3	150	62	<5	3290	13.9	0.19	34.8	60	664	2.85	6.9	33.9	1120	33.6	62.1
4D-RB2-1	12.6	78.8	235	60	5	5930	13.9	0.29	39.6	61	2250	4.27	6.9	37.4	1150	37.1	67.3
4D-RB4-3	19.4	127	363	52	<5	10900	9.67	0.44	63.1	47	1710	3.37	3.9	42.4	1250	44.3	44
4D-RB4-4	4.7	54.1	143	54	<5	3070	11.9	0.15	29	51	544	1.54	5.8	29	950	25.3	55
4D-RB4-6a	34.9	129	1580	51	5	13300	11.5	0.44	63.1	56	9650	3.72	4.2	97.6	1150	42.9	55.2
floc2	63.7	26.5	693	36	<5	10400	10.1	1.03	11.8	18	826	9.72	3.9	57.4	650	44.3	51.6
pike.sed4	1.1	14.3	19.8	34	<5	634	9.54	0.04	7.2	29	574	0.62	4.2	9.1	370	14.2	63.4

Appendix 11. Chemistry results for wetland sediment samples collected in July 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued
These samples were selected for detailed chemical analysis from samples analyzed by x-ray fluorescence (XRF) in the field.

[g, gram; mm, millimeter; wt. %, weight percentage; mg/kg, milligram per kilogram; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; XRF, x-ray fluorescence; AES_MS, combination of inductively coupled plasma-atomic emission spectroscopy and inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	S	Sb	Sc	Se	Sn	Sr	Te	Th	Tl	U	V	W	Y	Zn
	(wt. %) EA	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) HG-AAS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS	(mg/kg) AES_MS
4B-RB1-3	0.21	0.44	9.4	8.7	2.7	246	0.1	6	0.4	4.7	62	0.7	26	1250
4B-RB2-2a	0.24	0.36	10.9	5.8	2.7	247	0.1	7.1	0.5	6.7	73	0.7	29.6	1070
4B-RB3-1	0.06	0.08	6.7	1.6	1.1	199	<0.1	2.6	0.4	1.4	48	0.4	11.3	427
4B-RB5-1a	0.12	0.37	10	5.5	2.8	249	<0.1	5.7	0.4	4.5	71	0.8	30	900
4B-RB5-4	0.22	0.44	11.2	7.9	3.1	203	0.1	8.6	0.6	9.7	80	0.9	32.6	1200
4D-LB1-3	3.43	0.4	9.5	24.7	3.1	169	0.3	7.2	0.8	3.7	62	0.7	14.3	2300
4D-LB1-4-a	1.5	0.41	10	35.9	2.8	164	0.3	9.9	0.9	1.7	56	0.5	10.4	693
4D-LB1-4-b	1.83	0.19	8.9	33.4	2.4	115	0.3	4.4	1.3	1.2	65	0.5	8.9	1210
4D-LB1-Sed	0.09	0.1	8.1	1.9	2.1	192	<0.1	2.8	0.3	1.8	57	0.4	16.6	595
4D-LB5-1	0.3	0.67	10.6	9.7	3.2	178	0.2	8.6	0.5	8.8	68	0.7	40.2	2490
4D-LB6-Offset-a	0.26	0.43	5.7	9.4	1.8	81.9	<0.1	5	0.3	4.2	31	0.5	21	1270
4D-LB6-Offset-b	1.49	0.51	8.9	8	2.7	151	<0.1	7.3	0.4	7	60	0.7	39.3	2080
4D-LB7-2-a	0.38	0.55	9	10.6	2.6	139	0.1	7.4	0.5	6.7	53	0.6	34.7	2310
4D-LB7-2-b	0.74	0.63	11.9	7.9	3.6	197	0.1	9.3	0.5	6.5	80	0.7	47	2230
4D-LB9-1a	0.46	0.32	9.5	6.6	2.3	208	<0.1	6.6	0.5	5.3	67	0.6	40	2820
4D-RB1-3	<0.05	0.34	11.5	1.6	2.3	300	<0.1	5.8	0.5	2.6	84	0.7	21.9	197
4D-RB1-4a	0.43	0.35	9.9	7.8	2.7	268	0.1	5.8	0.5	4.6	76	0.6	29.9	1050
4D-RB2-1	0.23	0.51	10.5	8.9	3.7	242	0.2	7.6	0.5	6	71	0.9	31.4	1440
4D-RB4-3	0.45	0.56	9.2	8.7	3	118	0.1	8.1	0.4	8.3	52	0.6	50.5	2610
4D-RB4-4	0.26	0.22	8.9	4.9	1.8	245	0.2	4.5	0.3	3.9	65	0.6	26.3	1140
4D-RB4-6a	0.3	0.55	9.7	9.3	4	151	0.1	9.2	0.6	8	58	0.7	48.1	4840
floc2	11.8	0.28	6.4	40.2	1.7	71.8	0.3	6.1	0.9	1.5	48	0.3	14.7	7160
pike.sed4	0.07	<0.05	6.6	0.7	0.8	175	<0.1	2.2	0.4	1	48	0.3	10.2	207

Appendix 12. Chemistry of wetland core sediments collected in August 2007 from the Pike Hill copper mine study area, Corinth, Vermont.

[wt. %, weight percent; mg/kg, milligrams per kilogram; cm, centimeter; mm, millimeter; g, gram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Station ID	Core ID	Sample ID	Date Collected	Time Collected	Core or jar	Field comments (depths in feet)	Laboratory comments	Depth below surface of core (feet)	Depth below surface of sample (inches)
1-1	Wetland1-1A	Wetland1-1A	8/21/2007	12:00	jar	organics w/some clay/silt	-	0 - 0.5	0 -6
1-1	Wetland1-1B	Wetland1-1B-1 Wetland1-1B-2 Wetland1-1B-3 Wetland1-1B-4	8/21/2007	12:00	core	(0-.5 treat as rep), 0-.3 organics, .3-1.3 light gray clay/silt	0-4" is dark brown organic. 4-12" is dark gray with slightly more orange layer from 10-12". 12-16" is green-gray. Sample at 4-6" so we can recombine with 0-4" for replicate of sample in jar (4-1A).	0 - 1.3	0-4 4-6 6-12 12-16
2-1	Wetland2-1A	Wetland2-1A	8/21/2007	13:00	jar	organics w/silt, sand	-	0 - 0.5	0-6
2-1	Wetland2-1B	Wetland2-1B-1 Wetland2-1B-2 Wetland2-1B-3 Wetland2-1B-4	8/21/2007	13:00	core	0.5-0.8 brown silt/sand, 0.8-1.5 gray silt/sand, 1.5-2 brown organics/sand	gradation from brown at top to dark brown lower in core. Between 4-6" change from brown to dark brown so divide core at 5". 16-18" sandy.	0.5 - 2	0-5 5-8 8-16 16-18
3-1	Wetland3-1A	Wetland3-1A	8/22/2007	9:30	jar	brown organics w/sand	-	0 - 0.5	0-6
3-1	Wetland3-1B	Wetland3-1B-1	8/22/2007	9:30	core	1.3-1.5 loose brown organics, 1.5-2.5 gray silt/sand	top 3" of core (1.3-~1.5) light brown organic material. 1.5-2.5 brownish-gray.	1.3 - 2.5	15-18 18-30
3-2	Wetland3-2A	Wetland3-2A	8/21/2007	15:30	jar	brown organics	-	0 - 0.5	0-6
3-2	Wetland3-2B	Wetland3-2B-1 Wetland3-2B-2 Wetland3-2B-3	8/21/2007	15:30	core	1-1.5 loose brown organics (watery), 1.5-2 dark gray and black silt/sand	top 6" is brown, 6-11" is lighter brown and 11-15" is dark brown.	1 - 2	0-6 6-11 11-15
3-3	Wetland3-3A	Wetland3-3A	8/20/2007	14:30	jar	-	-	0 - 0.5	0-6
3-3	Wetland3-3B	Wetland3-3B	8/20/2007	14:45	jar	-	-	2 - 3	24-36
3-4	Wetland3-4A	Wetland3-4A	8/20/2007	11:00	jar	sandy organics	-	0 - 0.5	0-6
3-4	Wetland3-4B	Wetland3-4B	8/20/2007	11:00	jar	gray and brown silt/sand	-	2 - 3	24-36
3-5	Wetland3-5A	Wetland3-5A	8/22/2007	8:30	jar	organics/roots w/iron floc, brown/orange sand	-	0 - 0.5	0-6
3-5	Wetland3-5B	Wetland3-5B-1 Wetland3-5B-2 Wetland3-5B-3 Wetland3-5B-4 Wetland3-5B-5	8/22/2007	8:30	core	(0-.5 treat as rep) 0-0.2 organics/roots w/iron floc, 0.2-0.7 brown and orange sand, .7-1.8 gray silt/sand	0-4" is organic material-root mass with Fe dark brown w/ orange. 4-6" light brown fine-grained. 6-10" fine-grained dark brown-black. 10-16" sand-sized black-dark gray. 16-22" fine-grained black to dark gray. 0-4" and 4-6" composite chemistry to compare to 0-6" in jar.	0 - 1.8	0-4 4-6 6-10 10-16 16-22
3-6	Wetland3-6	Wetland3-6-1 Wetland3-6-2 Wetland3-6-3	8/20/2007	10:00	core	0-.5 is light brown sand, .5-1 is grey/dark brown silt/sand	Line lamination with tan and dark brown layers each few mm wide for top inch. 1-6" is orange-brown. 6-8" is dark brown. 8-10" olive green. 10-12" is dark brown and micaceous.	0 - 1	0-6 6-9.75 9.75-11.75
4-1	Wetland4-1A	Wetland4-1A	8/22/2007	10:30	jar	dark brown organics	-	0 - 0.5	0-6
4-1	Wetland4-1B	Wetland4-1B-1 Wetland4-1B-2	8/22/2007	10:30	core	dark brown organics	No apparent color variation	0.5 - 1.5	0-6 6-12
4-2	Wetland4-2A	Wetland4-2A	8/22/2007	11:00	jar	light brown organics w/fines (silt/sand)	Organic material throughout core.	0 - 0.5	0-6
4-2	Wetland4-2	Wetland4-2-1 Wetland4-2-2	8/22/2007	11:15	core	dark brown organics w/sand	Slight color variation with top 6" lighter than 6-12". Organic material throughout core. Treat 0-6" as replicate to 4-2A.	0 - 1	0-6 6-12

Appendix 12. Chemistry of wetland core sediments collected in August 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[wt. %, weight percent; mg/kg, milligrams per kilogram; cm, centimeter; mm, millimeter; g, gram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	Depth below surface of sample (cm)	total weight (g)	<2mm weight (g)	Total S (average wt. %) EA	Job No.	Lab No.	Total C (wt. % as C) EA	CO_2 (wt. % as C) EA	Carbonate C (wt. % as C) CT	Total Organic C (wt. % as C) calculated	Al (wt. %) ICP-AES	Ca (wt. %) ICP-AES	Fe (wt. %) ICP-AES	K (wt. %) ICP-AES	Mg (wt. %) ICP-AES	Na (wt. %) ICP-AES
Wetland1-1A	0-15	59	50	0.36	MRP-08614	C-307682	16.4	1.49	0.41	16	4.43	1.74	3.81	0.829	0.645	0.86
Wetland1-1B-1	0-10	49	40	0.17	MRP-08614	C-307683	10.1	0.59	0.16	9.9	4.86	1.63	1.92	1.17	0.68	1.19
Wetland1-1B-2	10-15	108	99	0.02	MRP-08614	C-307684	2.07	0.17	0.05	2.02	5.53	1.4	1.8	1.43	0.774	1.42
Wetland1-1B-3	15-31	374	327	0.01	MRP-08614	C-307685	1.03	0.16	0.04	0.99	6.05	1.44	2.02	1.63	0.823	1.5
Wetland1-1B-4	31-41	246	191	0.01	MRP-08614	C-307686	0.73	0.07	0.02	0.71	8.25	2.13	2.88	2.39	1.3	2.11
Wetland2-1A	0-15	103	92	0.25	MRP-08614	C-307687	11.1	2.12	0.58	10.6	6.66	1.42	10.2	0.934	0.968	0.776
Wetland2-1B-1	0-13	136	134	0.09	MRP-08614	C-307688	4.57	0.28	0.08	4.49	6.98	2.05	3.29	1.23	1.57	1.46
Wetland2-1B-2	13-20	144	142	0.03	MRP-08614	C-307689	1.41	0.05	0.01	1.4	5.25	1.83	2.32	1.12	1.2	1.44
Wetland2-1B-3	20-41	266	255	0.16	MRP-08614	C-307690	5.24	0.14	0.04	5.2	5.04	1.89	2.01	1.09	1.17	1.33
Wetland2-1B-4	41-46	138	114	0.08	MRP-08614	C-307691	1.19	0.04	0.01	1.18	4.45	1.67	1.87	1.35	0.785	1.33
Wetland3-1A	0-15	77	67	0.49	MRP-08614	C-307692	10.2	3.05	0.83	9.36	6.32	1.65	17.5	0.909	0.911	0.676
Wetland3-1B-1	38-46	21	20	0.50	MRP-08614	C-307693	9.4	2.22	0.61	8.8	6.13	1.71	10.9	1.08	1.19	0.847
	46-76	311	304	0.41	MRP-08614	C-307694	5.7	0.11	0.03	5.67	6.54	2.01	3.79	1.19	1.55	1.27
Wetland3-2A	0-15	104	96	1.02	MRP-08614	C-307695	10.3	2.97	0.81	9.5	6.7	1.22	21.8	0.867	0.877	0.593
Wetland3-2B-1	0-15	60	55	0.72	MRP-08614	C-307696	9.79	3.84	1.05	8.74	6.76	1.22	19.8	0.852	0.816	0.565
Wetland3-2B-2	15-28	48	45	0.66	MRP-08614	C-307697	8.07	4.32	1.18	6.89	8.36	1.35	19.8	0.846	0.851	0.602
Wetland3-2B-3	28-38	44	42	0.76	MRP-08614	C-307698	7.99	3.86	1.05	6.94	8.74	1.15	19.8	0.657	0.641	0.459
Wetland3-3A	0-15	136	128	0.40	MRP-08614	C-307699	10.9	2.27	0.62	10.3	6.04	1.3	19.8	1.05	0.978	0.753
Wetland3-3B	61-91	235	230	2.67	MRP-08614	C-307700	5.15	1.06	0.29	4.86	6.03	2.09	9.65	1.51	1.51	1.05
Wetland3-4A	0-15	138	127	0.47	MRP-08614	C-307701	10.8	2.48	0.68	10.1	6.32	1.73	18.5	1.04	1.01	0.774
Wetland3-4B	61-91	342	336	8.01	MRP-08614	C-307702	4.35	1.98	0.54	3.81	5.14	2.75	16.6	1.82	1.54	0.854
Wetland3-5A	0-15	134	119	3.37	MRP-08614	C-307703	7.99	1.95	0.53	7.46	3.37	0.869	19.8	0.814	0.696	0.608
Wetland3-5B-1	0-10	12	8	0.42	MRP-08614	C-307704	33.5	2.43	0.66	32.8	3	1.46	5.14	0.155	0.131	0.128
Wetland3-5B-2	10-15	47	43	2.40	MRP-08614	C-307705	8.12	2.08	0.57	7.56	3.65	0.841	19.8	0.743	0.738	0.568
Wetland3-5B-3	15-24	196	145	15.68	MRP-08614	C-307706	1.75	0.07	0.02	1.73	3.41	1.03	19.8	0.627	0.641	0.559
Wetland3-5B-4	24-41	435	278	5.58	MRP-08614	C-307707	0.5	0.04	0.01	0.49	3.76	1.31	10.6	0.981	0.795	0.793
Wetland3-5B-5	41-56	271	237	4.35	MRP-08614	C-307708	0.88	0.03	0.01	0.87	4.4	1.46	9.16	1.16	1.25	0.866
Wetland3-6-1	0-15	180	174	0.17	MRP-08614	C-307709	4.48	0.35	0.1	4.38	6.2	2.17	8.98	1.18	1.33	1.41
Wetland3-6-2	15-25	68	59	0.77	MRP-08614	C-307710	5.92	0.83	0.23	5.69	6.1	1.96	10.3	1.2	1.38	1.24
Wetland3-6-3	25-30	110	104	12.23	MRP-08614	C-307711	0.89	0.57	0.15	0.74	4.57	1.2	19.8	1.6	1.25	0.87
Wetland4-1A	0-15	129	115	0.34	MRP-08614	C-307712	10.6	0.49	0.13	10.5	6.68	2.44	6.05	1.14	1.48	1.25
Wetland4-1B-1	0-15	223	221	0.06	MRP-08614	C-307713	3.74	0.12	0.03	3.71	6.76	2.2	4.2	1.28	1.69	1.43
Wetland4-1B-2	15-31	244	240	0.05	MRP-08614	C-307714	3.18	0.05	0.01	3.16	6.9	2.29	3.2	1.3	1.58	1.57
Wetland4-2A	0-15	73	66	0.33	MRP-08614	C-307715	17.3	0.84	0.23	17.1	5.1	2.43	7.12	0.819	0.945	0.751
Wetland4-2-1	0-15	56	46	0.35	MRP-08614	C-307716	18.2	0.85	0.23	18	5.21	2.53	2.48	0.875	1.33	1.05
Wetland4-2-2	15-31	90	77	0.47	MRP-08614	C-307717	15.7	0.17	0.05	15.6	5.22	2.48	6.73	0.88	1.04	0.779

Appendix 12. Chemistry of wetland core sediments collected in August 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[wt. %, weight percent; mg/kg, milligrams per kilogram; cm, centimeter; mm, millimeter; g, gram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	P	Ti	Ag	As	Ba	Be	Cd	Ce	Co	Cr	Cu	Eu	La	Li	Mn	Mo	Nb	Nd	Ni	Pb
	(wt. %) ICP-AES	(wt. %) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES
Wetland1-1A	0.123	0.154	<2	<10	311	2.33	20.9	56.4	615	40.5	3210	-	20.5	56.4	5850	<2	<4	19.7	51.3	36.7
Wetland1-1B-1	0.047	0.195	<2	<10	317	2.72	4.76	27.4	78.6	38.2	630	-	10.3	69.4	1040	<2	<4	13.1	27.7	24.7
Wetland1-1B-2	0.0171	0.23	<2	<10	334	3.3	<2	22.3	12.2	43.7	36.9	-	6.31	78.6	511	<2	4.6	13.9	19.6	<20
Wetland1-1B-3	0.0244	0.237	<2	<10	372	3.74	<2	54.9	9.1	43	31.6	-	20.6	83.2	488	<2	4.77	27.5	24.1	<20
Wetland1-1B-4	0.0822	0.31	<2	<10	537	4.74	<2	67.4	13.5	61.6	59.1	-	26.9	97.2	755	<2	8.58	34.2	32.1	<20
Wetland2-1A	0.167	0.212	<2	<10	307	2.73	13.8	120	384	67.5	7960	-	52.4	66.1	3440	<2	<4	56.1	44.4	81.7
Wetland2-1B-1	0.151	0.368	<2	<10	385	3.24	<2	63.8	41.3	79.2	364	-	25.4	103	565	<2	6.91	34.9	29.5	22.9
Wetland2-1B-2	0.0616	0.267	<2	<10	286	2.83	<2	25.1	17.3	53.9	42.9	-	9.17	68.1	401	<2	<4	12.6	16.6	<20
Wetland2-1B-3	0.06	0.284	<2	<10	285	2.91	<2	29.1	19.7	56.5	30.9	-	11.1	65.8	506	<2	<4	15.7	18.3	<20
Wetland2-1B-4	0.0315	0.243	<2	<10	268	3.61	<2	15.3	4.72	51.6	11.5	-	6.67	46.6	409	<2	<4	8.18	10.4	<20
Wetland3-1A	0.127	0.186	<2	<10	330	2.75	27.5	132	1610	60.2	12300	-	56.7	62.2	11300	<2	<4	47.3	91.3	53.1
Wetland3-1B-1	0.127	0.235	<2	<10	324	2.65	13.6	101	672	68.1	6070	-	43.8	70.9	4180	<2	<4	46.7	61.1	43.2
	0.124	0.344	<2	<10	347	3.05	2.24	66.7	89.4	78	743	-	25.9	88	713	<2	5.19	34.6	37.8	<20
Wetland3-2A	0.151	0.181	<2	<10	309	2.99	17	141	313	66.6	11400	-	67.7	60	2250	<2	<4	72.7	49.2	58.8
Wetland3-2B-1	0.143	0.177	<2	10.4	332	2.71	17.6	139	392	64.9	14500	-	59.1	59.2	3070	<2	<4	70.4	46.6	61.7
Wetland3-2B-2	0.125	0.181	<2	<10	282	3.94	14.6	220	207	61.9	11300	-	112	57.8	1590	<2	<4	107	44	46.9
Wetland3-2B-3	0.117	0.141	<2	<10	252	3.72	15.8	223	238	57.9	15300	-	109	46.6	1590	<2	<4	110	38	47.9
Wetland3-3A	0.153	0.225	<2	<10	334	2.57	7.57	107	176	68.1	6530	-	43.6	72.6	982	<2	<4	56	37.4	56.6
Wetland3-3B	0.096	0.29	<2	<10	291	2.25	12.1	64	185	68.5	3410	-	27.7	61.2	1010	<2	<4	33.6	31.1	40
Wetland3-4A	0.152	0.226	<2	<10	386	2.66	20.1	107	504	69.7	8230	-	47.3	71.2	8980	<2	<4	43.5	58.1	51.8
Wetland3-4B	0.0643	0.225	<2	<10	256	1.42	21.4	51.4	361	58.2	3820	-	21.6	42.7	1550	<2	<4	27.3	34.7	59.8
Wetland3-5A	0.0928	0.205	<2	13.9	204	<1	18.1	39	274	49	6050	-	17	29.5	443	<2	<4	30.3	27.1	67.7
Wetland3-5B-1	0.0731	0.0248	<2	<10	68.8	<1	<2	126	57.1	14.5	2970	-	55.3	11.3	446	<2	<4	49.2	9.25	241
Wetland3-5B-2	0.101	0.218	<2	14.5	193	1.29	14.1	49.9	133	61	7340	-	22	37.9	424	<2	<4	42.1	20.8	78.1
Wetland3-5B-3	0.0496	0.238	<2	<10	126	<1	43.5	24.7	894	39.9	13200	-	11.7	25.9	731	<2	<4	28	73.9	55.7
Wetland3-5B-4	0.029	0.189	<2	<10	181	2.08	22.4	27.2	294	49.8	3570	-	10.9	29.3	627	<2	<4	18	31.2	39.5
Wetland3-5B-5	0.0382	0.243	<2	<10	238	1.86	13	29.9	281	49.2	2960	-	14	41.2	629	<2	<4	16.8	35.5	23.9
Wetland3-6-1	0.0943	0.334	<2	<10	303	2.78	<2	53.6	128	64.1	2550	-	23.4	61.9	1420	<2	<4	28.4	29.1	29.8
Wetland3-6-2	0.0927	0.313	<2	<10	284	2.62	5.95	63.9	185	65.4	3010	-	27.8	57.7	959	<2	<4	32.8	30.8	35.7
Wetland3-6-3	0.0643	0.206	<2	11.6	199	1.2	52.4	65.6	700	49.2	7460	-	30	26.3	915	<2	<4	35.5	54.6	63.1
Wetland4-1A	0.147	0.348	<2	<10	356	3.04	6.98	72.3	239	78.5	3200	-	30.5	80.6	2290	<2	4.33	36.2	43.9	32.3
Wetland4-1B-1	0.127	0.38	<2	<10	333	3.2	<2	59.9	59.6	78.9	699	-	22.1	81.6	1180	<2	6.35	32.6	33.2	24.6
Wetland4-1B-2	0.112	0.395	<2	<10	337	3.49	<2	50.5	18.8	78.2	85.4	-	20.3	86.8	1080	<2	4.99	25.3	29.4	<20
Wetland4-2A	0.185	0.211	<2	<10	378	2.26	16.5	78.8	504	63.6	5510	-	33.1	56.6	5600	<2	<4	35.7	56	45.3
Wetland4-2-1	0.127	0.273	<2	<10	390	2.18	<2	48.9	22	70	132	-	19.8	64.5	988	<2	<4	25.2	32.8	<20
Wetland4-2-2	0.186	0.229	<2	<10	403	2.25	12.5	78.5	400	71.9	4510	-	31.2	62.7	5780	<2	<4	30.8	54.5	42.1

Appendix 12. Chemistry of wetland core sediments collected in August 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[wt. %, weight percent; mg/kg, milligrams per kilogram; cm, centimeter; mm, millimeter; g, gram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	Sc	Sr	Th	V	Y	Yb	Zn	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Fe
	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-AES	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS
Wetland1-1A	6.37	196	6.07	39.1	28.1	1.96	2610	<1	46700	2.8	274	3	0.31	16800	24.3	59.6	574	41.9	3.7	3490	36900
Wetland1-1B-1	5.79	220	<4	36.8	13.2	<1	816	<1	52500	1.3	286	3.6	0.22	16200	6.9	26.4	69.2	41.2	4.7	675	19500
Wetland1-1B-2	6	240	<4	40	12.4	<1	139	<1	62000	1.2	316	4.5	0.19	14400	0.56	24.4	12.4	46.8	5.5	38.5	19400
Wetland1-1B-3	6.74	249	8.31	42.5	18.7	1.19	58.5	<1	67200	1.3	350	5	0.26	14700	0.1	35.8	9.8	53.5	6.1	14.2	21700
Wetland1-1B-4	10.1	367	9.65	68.4	30	2.08	80.9	<1	82200	2	470	5.8	0.43	19600	0.12	74.3	12.1	63.1	8.1	26.2	27900
Wetland2-1A	10.4	183	10.8	64.8	62.4	4.7	2770	<1	73100	5.5	278	3.5	0.84	14200	17.2	130	357	71.5	5	9070	89100
Wetland2-1B-1	11.9	307	9.49	85.1	34.6	2.39	445	<1	73300	1	348	4.3	0.4	19700	2.6	73.1	36.8	89.4	5.3	341	33100
Wetland2-1B-2	7.74	269	<4	57.1	15.9	1.09	217	<1	57800	<1	264	3.6	0.09	18300	0.81	35.9	17.1	59.1	3.4	41.8	24300
Wetland2-1B-3	7.87	266	<4	56.3	18.3	1.31	146	<1	57200	<1	276	3.6	0.1	19100	0.74	28.4	20	65.4	3.6	33.4	22600
Wetland2-1B-4	5.88	231	<4	39.5	11.4	<1	43.5	<1	46200	<1	229	3.5	< 0.06	15100	0.05	13.6	5	46.3	3.4	9.3	16900
Wetland3-1A	9.58	178	9.33	56.6	65	4.85	5100	1.4	65100	4.8	287	3.5	0.91	15500	31.7	140	1550	60.5	4.9	13800	115000
Wetland3-1B-1	10.5	206	12	71.8	51.5	3.94	2940	1.2	68400	4.4	304	3.5	1.03	16900	17.9	115	699	71.8	5.7	7210	98100
	11.9	282	9.2	88.4	35.1	2.67	545	<1	76200	1.8	349	4.4	0.47	21500	4.5	79.2	85.5	91.7	5.9	923	42200
Wetland3-2A	10.3	144	10.9	62.6	77.1	6.01	3500	2.3	71000	4.6	277	3.7	1.14	11800	21.3	155	294	66.4	5.2	12900	141000
Wetland3-2B-1	10.2	140	8.8	58.6	69.1	5.78	3360	3.1	72800	4.8	304	3.7	1.42	12100	20.1	152	390	70.7	5.4	16600	160000
Wetland3-2B-2	10.8	141	11	57.1	136	8.59	4080	1.6	89200	4.5	257	5	0.92	13500	18.2	240	173	68.4	5.1	13000	135000
Wetland3-2B-3	10.1	113	10.5	44.7	136	9.07	4720	1.6	89300	4.1	222	4.7	0.88	11000	19.6	246	234	60.8	4.1	16700	163000
Wetland3-3A	10.4	171	9.51	69.6	50.5	4.26	1810	3	68800	4.5	316	3.6	1.47	13400	10	121	154	77.3	6.5	7800	125000
Wetland3-3B	10.7	203	7.91	84.1	32.4	2.77	2360	1.5	62800	2.4	260	3	1.26	19700	14.6	72.9	158	72.8	4.3	3820	84400
Wetland3-4A	10.6	203	10.9	69	51.3	4.17	3250	2.4	63800	4.2	335	3.2	1.17	16200	22.5	117	465	70.6	5.7	8860	116000
Wetland3-4B	9.68	112	8.1	78.1	24.3	2.37	4110	1.8	51500	2.1	231	2.2	1.43	25300	24.6	61.2	344	60.8	4.3	4150	110000
Wetland3-5A	7.06	103	9.92	63.2	17.7	2.19	2930	3.7	34900	8.1	200	1.7	2.51	8210	22.8	40.3	274	53.2	3.7	6810	207000
Wetland3-5B-1	2.71	74.3	<4	3.6	64.9	3.99	361	<1	30200	2.6	72.2	1.3	0.41	13000	2.4	133	45.6	16.1	1.2	3270	46100
Wetland3-5B-2	8.78	109	15	69	20.5	3.04	2510	3.7	34300	6	177	1.7	2.34	7240	16.4	56.8	106	62.3	4.2	7600	234000
Wetland3-5B-3	5.59	104	5.09	37.8	18.7	2.81	5810	3.3	32800	3.1	125	1.6	1.19	9120	48.4	25	882	40.5	2	14200	218000
Wetland3-5B-4	5.92	153	<4	43.9	18.8	1.78	3330	1.3	39800	1	186	2.4	0.85	12100	25.5	28.6	267	50.4	2.5	4060	83200
Wetland3-5B-5	7.57	189	<4	58.4	19.5	1.63	3270	1.1	44000	1.3	231	2.6	0.68	13100	14.7	28.9	269	50.4	3	3010	76300
Wetland3-6-1	9.5	303	6.27	70.7	30.7	2.48	1040	<1	60800	2.7	284	3.7	0.66	19500	3.6	49.7	110	65.6	4.4	2890	77700
Wetland3-6-2	10.1	257	4.49	74.8	35.5	2.67	1460	1.4	61100	4.4	269	3.4	0.94	17600	7.6	72.3	162	69.5	4.3	3500	88200
Wetland3-6-3	7.39	84.6	8.71	67.2	34.1	2.78	8290	3.3	44700	9.9	197	2	3.11	10700	60.8	80.5	706	52	2.5	8760	192000
Wetland4-1A	11.6	295	8.06	84.9	39.1	3.1	1440	<1	60700	3.1	312	3.6	0.73	20000	8.5	76.4	192	75.9	5.4	3500	53300
Wetland4-1B-1	12.5	316	8.81	93.7	33.6	2.44	394	<1	70500	2.7	331	4.3	0.58	21000	1.3	71.1	54.1	87.2	6.2	705	43800
Wetland4-1B-2	11.7	315	5.55	87.2	28.9	2.13	164	<1	69100	1.4	328	4.4	0.39	21200	0.5	48.7	17.8	84.2	5.7	89.7	32500
Wetland4-2A	9.06	212	7.41	70.2	39	2.99	2770	1.1	54200	3.9	386	2.8	0.77	22500	13.8	88.6	378	72	5	5070	62600
Wetland4-2-1	9.49	282	6.85	74.6	25.7	1.89	184	1.2	53100	3.6	364	3	0.79	21800	18.2	90.7	482	66.8	4.6	6220	65600
Wetland4-2-2	9.63	224	8.48	70.9	37.9	3	2310	<1	53600	1.4	366	2.7	0.32	22800	0.9	43.8	19.5	72.7	4.2	133	24500

Appendix 12. Chemistry of wetland core sediments collected in August 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

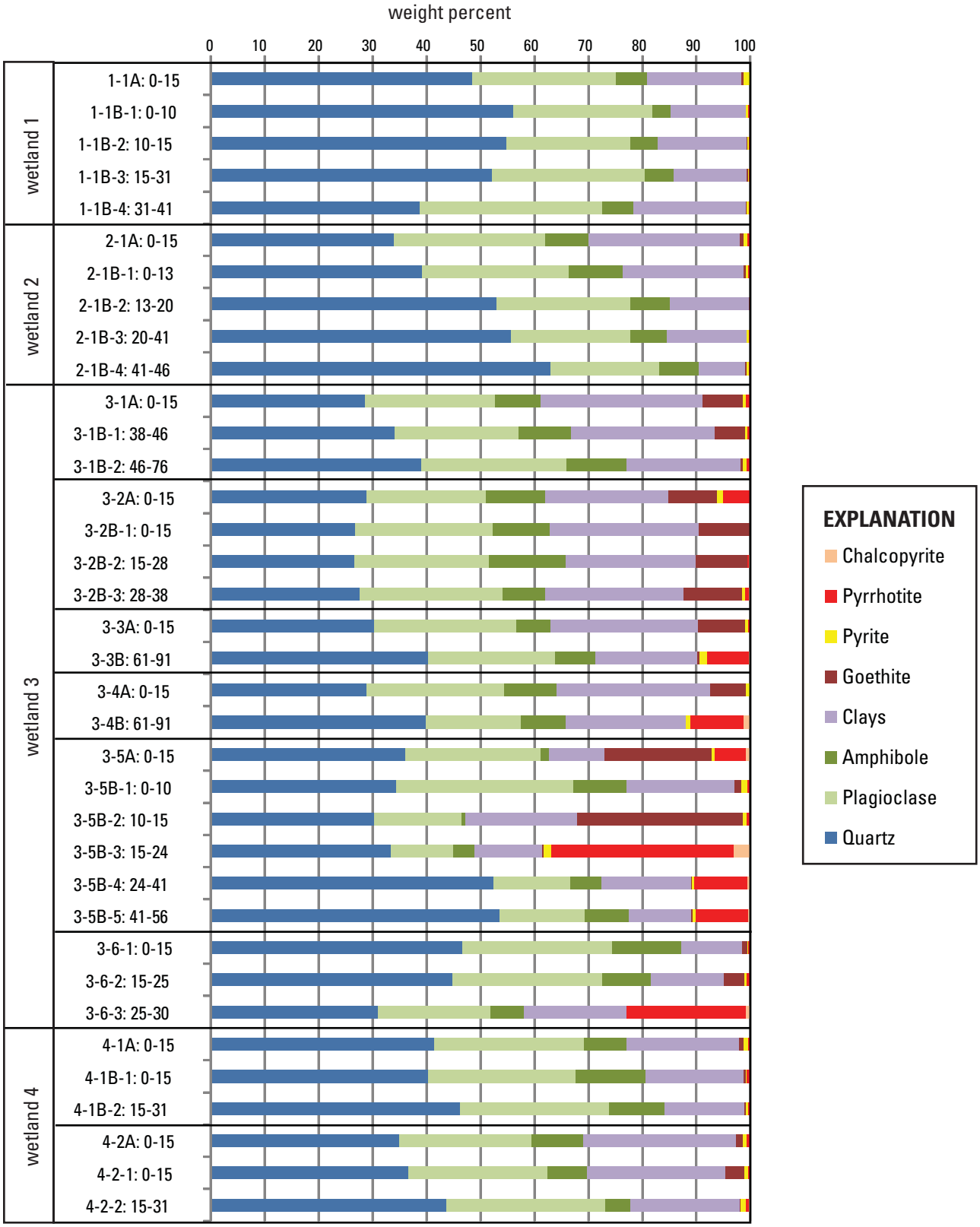
[wt. %, weight percent; mg/kg, milligrams per kilogram; cm, centimeter; mm, millimeter; g, gram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	Ga	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	Sb	Sc	Sr	Th	Ti	Tl	U	V	Y
	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS	(mg/kg) ICP-MS
Wetland1-1A	10	8400	30.7	54.3	7280	5280	1	8460	3	50	1110	32.5	41.3	0.28	7	191	5	1440	0.54	6.86	45.8	28.4
Wetland1-1B-1	12.1	12200	14.6	66.1	7750	994	0.42	12000	5.4	28.5	489	26	59.5	0.2	6.6	223	3.95	1900	0.5	3.19	43.7	14.2
Wetland1-1B-2	14.1	15700	13.2	79	9230	498	0.26	15000	7	21	258	20.3	74.2	<0.04	7.3	244	4.2	2140	0.52	2.36	48.1	13.6
Wetland1-1B-3	15.4	17700	20.7	84.7	9890	458	0.34	16200	7.8	26.4	324	21.1	85.3	<0.04	8.3	258	6.57	2200	0.61	2.6	52.5	18
Wetland1-1B-4	19.8	23900	37.3	92.3	14100	710	0.49	20600	13	31.4	823	24.1	138	<0.04	11.7	354	9.7	2950	0.91	2.28	74.8	28.7
Wetland2-1A	13.5	10200	78.3	62.1	11000	3120	2.4	8080	6.4	44.5	1480	68	49	0.43	12.1	183	9.66	1980	0.52	10.7	70.5	61.8
Wetland2-1B-1	17.3	13000	38.3	99.6	16900	521	0.43	14800	10	31.2	1530	26.8	58.8	0.05	13.6	308	8.98	3410	0.52	13.2	89.8	35.3
Wetland2-1B-2	13	12000	20.8	64.4	13300	364	0.25	14700	5.9	18.6	671	16.2	51.6	<0.04	8.8	274	4.14	2490	0.38	3.6	63.8	17.1
Wetland2-1B-3	12.8	11800	17.1	66.3	13300	460	0.41	13700	6.6	20.1	706	15.9	50.9	<0.04	9.4	276	3.98	2770	0.4	4.53	66.6	19.2
Wetland2-1B-4	10	14000	7.8	41.7	8130	355	0.32	13200	3.2	10	352	15.3	62	0.2	6.2	214	2.18	1880	0.44	1.4	42	11
Wetland3-1A	11.7	9390	82.5	56.2	9950	10600	3	6480	3.7	88.5	1020	37.2	48.2	0.42	10.5	174	8.18	1620	0.56	6.94	60.4	64.3
Wetland3-1B-1	14.2	11500	67.5	67.5	13400	4260	2.4	8680	5.9	62.3	1130	37	57.1	0.43	12.1	210	9.5	2140	0.63	6.73	77.1	52.8
	18.2	13800	38.9	91.5	18000	743	0.86	14500	12	42	1340	23.9	63.2	0.1	14.9	310	9.41	3730	0.62	7.03	101	37.9
Wetland3-2A	11.9	8980	94.3	55.5	9440	2120	3.5	6020	4.2	46.1	1140	43.4	49.2	0.56	11.8	143	9.32	1640	0.56	8.24	63.8	74
Wetland3-2B-1	12.2	9140	88.8	56.3	9470	2860	4.1	5780	4.4	48.3	1130	45.2	50.7	0.65	12	145	9.65	1740	0.57	8.62	63.9	68
Wetland3-2B-2	12.2	9100	170	53.5	9680	1530	2.2	6220	4.5	45.3	1030	36.1	48.6	0.41	12.5	145	10.5	1670	0.46	9.44	61.8	156
Wetland3-2B-3	10	7050	165	42.9	7410	1440	2.4	4460	2.4	38.6	883	35.4	38.5	0.45	11.4	112	10.6	1260	0.43	10.2	49.8	155
Wetland3-3A	14.2	11500	67.8	70.9	11300	940	4.4	8080	6.5	40	1440	45.9	61	0.64	12.5	182	9.73	2100	0.62	9.64	77.3	50.2
Wetland3-3B	15.2	15500	35.4	57.6	16200	959	3	10700	7.1	31	884	36	66.6	0.23	11.7	204	7.16	2510	0.93	4.59	85.4	31.9
Wetland3-4A	12.8	10500	64.7	63.6	10700	8240	3.8	7460	6	53.5	1250	41.1	54.7	0.51	11.2	196	8.43	1960	0.63	8.19	70.4	48.4
Wetland3-4B	14.6	18200	27.6	39.8	16000	1460	5.5	8330	4	34.2	628	55.3	76.6	0.09	10.4	115	7.09	1950	1.64	3.37	80	24.5
Wetland3-5A	11.5	7950	22.2	30.1	7450	433	7	5480	6.5	29.2	885	61.1	40.7	0.54	8.6	107	7.31	1800	0.92	3.4	67	17.9
Wetland3-5B-1	2.9	1950	89.3	11.4	1660	382	1	1220	0.32	9.7	671	260	11.4	3.8	2.7	62.5	1.88	314	0.16	3.99	13.4	60.2
Wetland3-5B-2	11.6	6840	24.3	35.6	7400	366	6.2	4700	6.8	21.5	906	65.4	38.1	0.92	10	105	10.3	1720	0.73	3.55	67	19.2
Wetland3-5B-3	7.5	6070	12.6	25.2	6910	715	7.8	4930	5	70.2	348	37	31.4	0.2	6.7	109	3.78	1840	0.6	2.84	41.5	19.8
Wetland3-5B-4	9.3	9900	16.8	29.3	8760	520	4	7150	4.8	29.6	338	31.5	47.9	0.08	6.9	156	3.34	1710	0.54	1.32	50.4	18.3
Wetland3-5B-5	11.1	11000	18.5	40.5	12200	524	5.8	7880	5.4	34.8	375	24.6	54.1	0.07	8.1	189	3.79	1950	0.57	1.49	61.4	18.6
Wetland3-6-1	14	11200	31.9	61	13500	1280	2.1	12500	10	29.7	884	31.3	58.6	0.32	10.3	295	5.42	2960	0.5	3.65	75	29
Wetland3-6-2	14	11500	38.8	57.7	13600	915	3.9	11300	9.7	30.7	849	36.8	58.1	0.32	10.8	256	6.38	2740	0.63	3.95	80	33.4
Wetland3-6-3	13.8	14100	43.4	25.9	11500	869	6.5	7230	7.1	57.2	615	63.2	64.6	0.2	8.4	92.6	7.4	1680	1.46	2.25	68.1	35.2
Wetland4-1A	14.7	10700	40.8	73.4	13500	1970	1.8	10400	10	41.2	1210	34.7	57.8	0.31	11.6	273	7.37	2670	0.65	7.22	83.1	33.7
Wetland4-1B-1	17.3	12900	36.5	80.9	17100	1160	1.3	13600	13	35.3	1210	29.8	66.6	0.26	13.5	325	8.65	3460	0.63	4.44	99.9	32.4
Wetland4-1B-2	16.9	13000	30.5	85.3	16000	1020	0.66	14700	12	30.2	1080	22.3	65.4	0.1	12.9	318	7.35	3540	0.52	5.06	94.4	29.3
Wetland4-2A	12.7	8960	45.6	60.4	10900	5250	2.6	7330	7.7	52.7	1610	39.4	48.2	0.35	10.6	226	8.42	2100	0.63	9.17	77.2	36.9
Wetland4-2-1	11.8	8340	46.6	55.2	9890	5100	2.7	6910	7	54.5	1510	41.5	45	0.42	9.8	215	7.51	1920	0.7	8.89	75.1	37.6
Wetland4-2-2	13	8520	27.7	60.2	13000	875	0.96	9430	7.7	31.7	1190	22	46	0.23	9.9	271	6.77	2350	0.61	6.75	75.6	24.2

Appendix 12. Chemistry of wetland core sediments collected in August 2007 from the Pike Hill copper mine study area, Corinth, Vermont.--Continued

[wt. %, weight percent; mg/kg, milligrams per kilogram; cm, centimeter; mm, millimeter; g, gram; -, not determined; <, analyte not detected at the reporting level; EA, elemental analyzer; CT, coulometric titration; ICP-AES, inductively coupled plasma-atomic emission spectroscopy; ICP-MS, inductively coupled plasma-mass spectrometry; HG-AAS, hydride generation atomic absorption spectrometry]

Sample ID	Zn (mg/kg) ICP-MS	Se (mg/kg) HG-AAS
Wetland1-1A	2690	2.1
Wetland1-1B-1	757	0.8
Wetland1-1B-2	138	0.2
Wetland1-1B-3	56.8	0.1
Wetland1-1B-4	71.4	0
Wetland2-1A	2880	7.9
Wetland2-1B-1	420	1.2
Wetland2-1B-2	207	0.3
Wetland2-1B-3	154	1.1
Wetland2-1B-4	37.3	0.2
Wetland3-1A	5300	10
Wetland3-1B-1	3230 550	11 2.2
Wetland3-2A	3960	14
Wetland3-2B-1	3530	16
Wetland3-2B-2	4430	11
Wetland3-2B-3	4780	11
Wetland3-3A	1930	17
Wetland3-3B	2380	14
Wetland3-4A	3140	14
Wetland3-4B	4080	26
Wetland3-5A	2990	43
Wetland3-5B-1	279	3.8
Wetland3-5B-2	2370	40
Wetland3-5B-3	5350	50
Wetland3-5B-4	3160	19
Wetland3-5B-5	3020	16
Wetland3-6-1	849	7.9
Wetland3-6-2	1150	13
Wetland3-6-3	8140	45
Wetland4-1A	1120	5.9
Wetland4-1B-1	324	2
Wetland4-1B-2	135	1
Wetland4-2A	2180	4.3
Wetland4-2-1	2600	3.9
Wetland4-2-2	144	2.1



Appendix 13. Bar chart of relative weight percentages of minerals in cores collected from wetlands in the Pike Hill Brook watershed in August 2007. Estimates are based on Rietveld refinements of XRD patterns. Analysis does not include an estimate of the amorphous content. Sphalerite was not included in the chart but was identified in trace amounts (<1 weight percent) in a few samples from wetland 3. Plagioclase includes albite and anorthite and clays include chlorite, mica, and vermiculite. The interval sampled in centimeters is given next to the sample ID after the colon.

Appendix 14. Identification and chemistry results for plant material collected in October 2007 from wetland areas at the Pike Hill copper mine study area, Corinth, Vermont. Chemistry results are in dry weight and calculated based on ash weight.

[wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; latitude and longitude are given in decimal degrees]

							Plant identification					
Station ID	Plant No.	Sample ID	Grab or composite	Plant part	Latitude	Longitude	Division	Class	Order	Family	Genus	Species
3-1	plant 1	wetland 3-1 p1	grab	leaves	44.05244	-72.26369	Magnoliophyta	Magnoliopsida	Ericales	Ericaceae	Vaccinium L.	-
3-1	plant 2	wetland 3-1 p2	composite	leaves	44.05244	-72.26369	Magnoliophyta	Magnoliopsida	Fagales	Betulaceae	Carpinus	caroliniana
3-1	plant 3	wetland 3-1 p3	composite	shoot	44.05244	-72.26369	Magnoliophyta	Liliopsida	Poales	Poaceae	-	-
3-2	plant 1	wetland 3-2 p1	composite	shoot	44.05144	-72.26458	Magnoliophyta	Liliopsida	Poales	Cyperaceae	-	-
3-5	plant 1	wetland 3-5 p1	composite	shoot	44.05197	-72.26561	Magnoliophyta	Liliopsida	Poales	Cyperaceae	-	-
3-5	plant 2	wetland 3-5 p2	composite	leaves	44.05197	-72.26561	Magnoliophyta	Magnoliopsida	Fagales	Betulaceae	Carpinus	caroliniana
3-5	plant 3	wetland 3-5 p3	composite	leaves	44.05197	-72.26561	Magnoliophyta	Magnoliopsida	Ericales	Ericaceae	Vaccinium L.	-
3-6	plant 1	wetland 3-6 p1	composite	shoot	44.05114	-72.26589	Magnoliophyta	Liliopsida	Poales	Poaceae	-	-
3-6	plant 2	wetland 3-6 p2	grab	leaves	44.05114	-72.26589	Magnoliophyta	Magnoliopsida	Fagales	Betulaceae	Carpinus	caroliniana
3-6	plant 3	wetland 3-6 p3	grab	leaves	44.05114	-72.26589	Magnoliophyta	Magnoliopsida	Malpighiales	Salicaceae	Salix L.	-
3-6	plant 4	wetland 3-6 p4	composite	leaves	44.05114	-72.26589	Magnoliophyta	Magnoliopsida	Malpighiales	Salicaceae	Populus	balsamifera L.
3-6	plant 5	wetland 3-6 p5	grab	leaves	44.05114	-72.26589	Magnoliophyta	Magnoliopsida	Fagales	Betulaceae	Betula	populifolia
4C	plant 1	PKSite 4C- p1	composite	shoot	44.05153	-72.26639	Magnoliophyta	Liliopsida	Poales	Poaceae	-	-
4C	plant 2	PKSite 4C- p2	composite	shoot	44.05142	-72.26650	Magnoliophyta	Liliopsida	Poales	Poaceae	-	-

Appendix 14. Identification and chemistry results for plant material collected in October 2007 from wetland areas at the Pike Hill copper mine study area, Corinth, Vermont. Chemistry results are in dry weight and calculated based on ash weight.--Continued

[wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; latitude and longitude are given in decimal degrees]

Station ID	Common names include	Ash (wt. %)	Ag (mg/kg)	Al (mg/kg)	As (mg/kg)	Ba (mg/kg)	Be (mg/kg)	Bi (mg/kg)	Ca (wt. %)	Cd (mg/kg)	Ce (mg/kg)	Co (mg/kg)	Cr (mg/kg)	Cs (mg/kg)	Cu (mg/kg)
3-1	cranberry, blueberry, bilberry, cowberry, huckleberry	8.39	<0.1	<4	<0.1	1.5	<0.003	< 0.006	0.258	1.21	<0.02	0.21	<0.1	0.002	2.0
3-1	american hornbean, bluebeech, ironwood	4.07	<0.1	<4	<0.1	0.5	<0.003	< 0.006	0.052	0.01	<0.02	0.04	<0.1	0.003	0.5
3-1	grass	6.21	<0.1	<4	<0.1	2.3	<0.003	< 0.006	0.044	0.03	<0.02	0.07	<0.1	0.003	1.1
3-2	sedge	4.91	<0.1	4	<0.1	1.2	<0.003	< 0.006	0.018	0.01	0.01	0.09	<0.1	0.001	1.7
3-5	sedge	10.4	<0.1	<4	<0.1	2.5	<0.003	< 0.006	0.045	0.02	<0.02	0.10	<0.1	0.005	1.0
3-5	american hornbean, bluebeech, ironwood	4.46	<0.1	<4	<0.1	0.3	<0.003	< 0.006	0.060	0.00	<0.02	0.06	<0.1	0.011	0.5
3-5	cranberry, blueberry, bilberry, cowberry, huckleberry	48.1	<0.1	538	<0.1	433	<0.003	< 0.006	4.85	0.32	0.47	2.31	0.6	1.68	48.5
3-6	grass	8.06	<0.1	<4	<0.1	4.8	<0.003	< 0.006	0.056	0.03	<0.02	0.03	<0.1	0.002	0.8
3-6	american hornbean, bluebeech, ironwood	4.82	<0.1	<4	<0.1	0.5	<0.003	< 0.006	0.064	0.00	<0.02	0.03	<0.1	0.003	0.4
3-6	willow	8.77	<0.1	<4	<0.1	1.6	<0.003	< 0.006	0.255	1.82	<0.02	0.39	<0.1	0.003	0.5
3-6	balsam poplar	7.27	<0.1	<4	<0.1	0.6	<0.003	< 0.006	0.147	1.17	<0.02	0.20	<0.1	0.004	0.4
3-6	gray birch	5.76	<0.1	<4	<0.1	3.0	<0.003	< 0.006	0.099	0.05	<0.02	0.15	<0.1	0.002	0.3
4C	grass	8.31	<0.1	<4	<0.1	2.3	<0.003	< 0.006	0.035	0.02	<0.02	0.05	<0.1	0.004	1.0
4C	grass	8.66	<0.1	10	<0.1	2.9	<0.003	< 0.006	0.052	0.02	0.02	0.10	<0.1	0.005	1.9

Appendix 14. Identification and chemistry results for plant material collected in October 2007 from wetland areas at the Pike Hill copper mine study area, Corinth, Vermont. Chemistry results are in dry weight and calculated based on ash weight.--Continued

[wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; latitude and longitude are given in decimal degrees]

Station ID	Fe (mg/kg)	Ga (mg/kg)	K (wt. %)	La (mg/kg)	Li (mg/kg)	Mg (mg/kg)	Mn (mg/kg)	Mo (mg/kg)	Na (mg/kg)	Nb (mg/kg)	Ni (mg/kg)	P (mg/kg)	Pb (mg/kg)	Rb (mg/kg)	Sb (mg/kg)	Sc (mg/kg)	Se (mg/kg)	Sr (mg/kg)	Th (mg/kg)	Ti (mg/kg)
3-1	<1	<0.001	>1	0.005	0.04	124	2	0.008	3	<0.05	0.08	77	<0.1	0.6	<0.01	<0.01	0.15	10	<0.01	<4
3-1	<1	0.001	>1	<0.005	0.02	40	18	0.004	3	<0.05	0.11	32	<0.1	0.4	<0.01	<0.01	<0.03	2	<0.01	<4
3-1	4	0.001	>1	<0.005	0.06	30	34	<0.005	8	<0.05	0.02	101	<0.1	0.4	<0.01	<0.01	0.06	2	<0.01	<4
3-2	22	0.001	>1	0.005	0.02	17	22	0.049	4	<0.05	<0.03	48	<0.1	0.3	<0.01	<0.01	0.04	1	<0.01	<4
3-5	92	0.003	>1	<0.005	0.15	64	90	0.021	10	<0.05	0.03	107	<0.1	0.6	<0.01	<0.01	0.09	2	<0.01	<4
3-5	2	0.001	>1	<0.005	0.02	65	17	0.002	4	<0.05	0.07	33	<0.1	1.9	<0.01	<0.01	0.03	1	<0.01	<4
3-5	2080	0.269	>1	0.29	6.8	10200	<1	0.096	257	0.11	5.4	3780	1.0	100	0.05	0.05	0.23	86	0.05	<4
3-6	5	0.002	>1	<0.005	0.05	37	94	0.027	3	<0.05	<0.03	96	<0.1	0.5	<0.01	<0.01	0.24	2	<0.01	<4
3-6	<1	0.001	>1	<0.005	0.02	38	18	<0.005	3	<0.05	0.12	41	<0.1	1.0	<0.01	<0.01	<0.03	2	<0.01	<4
3-6	<1	0.002	>1	<0.005	0.09	139	32	0.025	5	<0.05	0.05	93	<0.1	0.8	<0.01	<0.01	0.11	9	<0.01	<4
3-6	<1	0.001	>1	<0.005	0.09	103	21	<0.005	5	<0.05	0.04	63	<0.1	1.2	<0.01	<0.01	0.29	4	<0.01	<4
3-6	<1	0.001	>1	<0.005	0.06	96	41	<0.005	4	<0.05	0.09	60	<0.1	0.7	<0.01	<0.01	0.05	2	<0.01	<4
4C	19	0.002	>1	<0.005	0.11	56	32	0.005	3	<0.05	0.03	92	<0.1	0.3	<0.01	<0.01	0.65	2	<0.01	<4
4C	26	0.004	>1	0.010	0.10	49	61	0.009	4	<0.05	0.04	112	<0.1	0.4	<0.01	<0.01	0.29	2	<0.01	<4

Appendix 14. Identification and chemistry results for plant material collected in October 2007 from wetland areas at the Pike Hill copper mine study area, Corinth, Vermont. Chemistry results are in dry weight and calculated based on ash weight.--Continued

[wt. %, weight percent; mg/kg, milligrams per kilogram; -, not determined; <, analyte not detected at the reporting level; latitude and longitude are given in decimal degrees]

Station ID	Tl (mg/kg)	U (mg/kg)	V (mg/kg)	Y (mg/kg)	Zn (mg/kg)
3-1	<0.005	<0.005	<0.05	<0.005	69
3-1	<0.005	<0.005	<0.05	<0.005	3
3-1	<0.005	<0.005	<0.05	<0.005	5
3-2	<0.005	<0.005	<0.05	0.004	1
3-5	<0.005	<0.005	<0.05	<0.005	6
3-5	<0.005	<0.005	<0.05	<0.005	2
3-5	<0.005	0.024	0.58	0.23	101
3-6	<0.005	<0.005	<0.05	<0.005	4
3-6	<0.005	<0.005	<0.05	<0.005	3
3-6	<0.005	<0.005	<0.05	<0.005	61
3-6	<0.005	<0.005	<0.05	<0.005	96
3-6	<0.005	<0.005	<0.05	<0.005	41
4C	<0.005	<0.005	<0.05	<0.005	6
4C	<0.005	<0.005	0.02	0.008	10