

Appendix 1. Summary Statistics for Chemical Analyses of Soil Samples from the North-South Transect of Alaska

Table 1.1. Upper and lower detection limits for elements determined by inductively coupled plasma–mass spectrometry (ICP-MS) or inductively coupled plasma–atomic emission spectrometry (ICP-AES) following multi-acid or sinter digestion.

[wt. %, weight percent; mg/kg, milligrams per kilogram; na, not analyzed by the method]

Element	Detection limits for the sinter digestion method		Instrument	Detection limits for the multi-acid digestion method	
	Lower detection limit	Upper detection limit		Lower detection limit	Upper detection limit
Aluminum, Al	0.01 %	25 wt. %	ICP-AES	0.01 wt. %	15 wt. %
Antimony, Sb	0.1 mg/kg	500 mg/kg	ICP-MS	0.05 mg/kg	1 wt. %
Arsenic, As	30 mg/kg	10 wt. %	ICP-MS	1 mg/kg	1 wt. %
Barium, Ba	0.5 mg/kg	1 wt. %	ICP-AES	5 mg/kg	1 wt. %
Beryllium, Be	5 mg/kg	0.25 wt. %	ICP-AES	0.1 mg/kg	2,500 mg/kg
Bismuth, Bi	0.1 mg/kg	0.1 wt. %	ICP-MS	0.04 mg/kg	1 wt. %
Cadmium, Cd	0.2 mg/kg	1 wt. %	ICP-MS	0.1 mg/kg	1 wt. %
Calcium, Ca	0.05 wt. %	40 wt. %	ICP-AES	0.01 wt. %	40 wt. %
Cerium, Ce	0.1 mg/kg	1 wt. %	ICP-MS	0.05 mg/kg	0.1 wt. %
Cesium, Cs	0.1 mg/kg	1 wt. %	ICP-MS	5 mg/kg	0.1 wt. %
Chromium, Cr	10 mg/kg	10 wt. %	ICP-AES	1 mg/kg	1 wt. %
Cobalt, Co	0.5 mg/kg	1 wt. %	ICP-MS	0.1 mg/kg	0.1 wt. %
Copper, Cu	5 mg/kg	5 wt. %	ICP-AES	0.5 mg/kg	5 wt. %
Dysprosium, Dy	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Erbium, Er	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Europium, Eu	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Gadolinium, Gd	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Gallium, Ga	1 mg/kg	0.1 wt. %	ICP-MS	0.05 mg/kg	500 mg/kg
Germanium, Ge	1 mg/kg	0.1 wt. %	ICP-MS	na	na
Hafnium, Hf	1 mg/kg	1 wt. %	ICP-MS	na	na
Holmium, Ho	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Indium, In	0.2 mg/kg	0.1 wt. %	ICP-MS	0.02 mg/kg	0.05 wt. %
Iron, Fe	0.01 wt. %	50 wt. %	ICP-AES	0.01 wt. %	50 wt. %
Lanthanum, La	0.1 mg/kg	1 wt. %	ICP-MS	0.5 mg/kg	0.1 wt.wt. %
Lead, Pb	5 mg/kg	5 wt. %	ICP-MS	0.5 mg/kg	5 wt. %
Lithium, Li	10 mg/kg	5 wt. %	ICP-AES	1 mg/kg	5 wt. %
Lutetium, Lu	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Magnesium, Mg	0.01 wt. %	30 wt. %	ICP-AES	0.01 wt. %	15 wt. %
Manganese, Mn	10 mg/kg	10 wt. %	ICP-AES	5 mg/kg	5 wt. %
Molybdenum, Mo	2 mg/kg	1 wt. %	ICP-MS	0.05 mg/kg	1 wt. %
Neodymium, Nd	0.1 mg/kg	1 wt. %	ICP-MS	na	na
Nickel, Ni	5 mg/kg	1 wt. %	ICP-AES	0.5 mg/kg	1 wt. %
Niobium, Nb	1 mg/kg	1 wt. %	ICP-MS	0.1 mg/kg	0.1 wt. %
Phosphorous, P	0.01 wt. %	1 wt. %	ICP-AES	50 mg/kg	1 wt. %
Potassium, K	0.05 wt. %	25 wt. %	ICP-AES	0.01 wt. %	15 wt. %
Praesodymium, Pr	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Rubidium, Rb	0.2 mg/kg	1 wt. %	ICP-MS	0.2 mg/kg	1 wt. %
Samarium, Sm	0.1 mg/kg	0.1 wt. %	ICP-MS	na	na
Scandium, Sc	5 mg/kg	5 wt. %	1	0.5 mg/kg	0.1 wt. %
Silver, Ag	1 mg/kg	1 wt. %	ICP-MS	1 mg/kg	1 wt. %
Sodium, Na	na	na	ICP-AES	0.01 wt. %	15 wt. %
Strontium, Sr	0.1 mg/kg	1 wt. %	ICP-AES	0.5 mg/kg	1 wt. %
Sulfur, S	na	na	ICP-AES	0.01 wt. %	5 wt. %
Tantalum, Ta	0.5 mg/kg	1 wt. %	ICP-MS	na	na
Tellurium, Te	na	na	ICP-MS	0.05 mg/kg	0.1 wt. %
Thallium, Tl	0.5 mg/kg	0.1 wt. %	ICP-MS	0.1 mg/kg	1 wt. %
Thorium, Th	0.1 mg/kg	0.1 wt. %	ICP-MS	0.2 mg/kg	1 wt. %

Table 1.1.—Continued

Element	Detection limits for the sinter digestion method		Instrument	Detection limits for the multi-acid digestion method	
	Lower detection limit	Upper detection limit		Lower detection limit	Upper detection limit
Thulium, Tm	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Tin, Sn	1 mg/kg	1 wt. %	ICP-MS	0.1 mg/kg	1 wt. %
Titanium, Ti	0.01 wt. %	25 wt. %	ICP-AES	0.01 wt. %	15 wt. %
Tungsten, W	1 mg/kg	1 wt. %	ICP-MS	0.1 mg/kg	1 wt. %
Terbium, Tb	0.05 mg/kg	0.1 wt. %	ICP-MS	na	na
Uranium, U	0.05 mg/kg	0.1 wt. %	ICP-MS	0.1 mg/kg	1 wt. %
Vanadium, V	5 mg/kg	1 wt. %	ICP-AES	1 mg/kg	1 wt. %
Ytterbium, Yb	0.1 mg/kg	0.1 wt. %	ICP-MS	na	na
Yttrium, Y	0.5 mg/kg	1 wt. %	ICP-MS	0.1 mg/kg	1 wt. %
Zinc, Zn	5 mg/kg	5 wt. %	ICP-AES	1 mg/kg	5 wt. %
Zirconium, Zr	0.5 mg/kg	1 wt. %	ICP-MS	na	na

¹ICP-AES for sinter method and ICP-MS for multi-acid method.

Table 1.2. Statistical summary from mineralogical analysis of soil samples collected along the north to south transect of Alaska.

[N, number of samples; Min, minimum content measured; Max, maximum content measured; Q1, first quartile; Q3, third quartile; IRQ, interquartile range]

Mineral or mineral group	Soil horizon ¹	N ²	Min	Max	Q1	Median	Q3	IQR
Quartz, wt. %	A and OA	116	1.1	52.0	15.7	24.3	30.7	15.1
Quartz, wt. %	B, B1, and B2	195	0.0	65.6	28.3	36.7	45.4	17.1
Quartz, wt. %	C	19	23.2	65.6	39.3	44.6	49.2	10.0
Potassium feldspar, wt. %	A and OA	116	0.0	14.9	1.5	2.7	3.9	2.4
Potassium feldspar, wt. %	B, B1, and B2	195	0.0	13.5	2.0	3.5	4.9	2.9
Potassium feldspar, wt. %	C	19	0.1	19.6	1.3	1.9	3.7	2.4
Plagioclase, wt. %	A and OA	116	0.0	35.0	5.3	15.1	21.0	15.7
Plagioclase, wt. %	B, B1, and B2	195	0.0	39.4	5.8	15.8	23.6	17.8
Plagioclase, wt. %	C	19	0.0	23.6	1.8	2.6	16.4	14.6
Calcite + aragonite, wt. %	A and OA	116	0.0	56.8	0.8	1.2	1.6	0.8
Calcite + aragonite, wt. %	B, B1, and B2	195	0.0	55.8	0.9	1.3	1.9	1.0
Calcite + aragonite, wt. %	C	19	0.8	24.7	2.4	10.4	22.4	20.0
Dolomite, wt. %	A and OA	116	0.0	3.9	0.1	0.3	0.6	0.5
Dolomite, wt. %	B, B1, and B2	195	0.0	6.2	0.1	0.3	0.9	0.8
Dolomite, wt. %	C	19	0.0	4.0	0.2	1.8	2.5	2.4
Amphibole, wt. %	A and OA	116	0.0	7.8	0.0	0.8	1.7	1.7
Amphibole, wt. %	B, B1, and B2	195	0.0	9.1	0.0	0.8	1.6	1.6
Amphibole, wt. %	C	19	0.0	1.3	0.0	0.0	0.2	0.2
Pyroxene, wt. %	A and OA	116	0.0	2.8	0.0	0.3	0.9	0.9
Pyroxene, wt. %	B, B1, and B2	195	0.0	3.2	0.0	0.2	0.9	0.9
Pyroxene, wt. %	C	19	0.0	1.9	0.0	0.1	0.7	0.7
Hematite + goethite, wt. %	A and OA	116	0.0	4.1	0.2	0.4	0.6	0.4
Hematite + goethite, wt. %	B, B1, and B2	195	0.0	2.3	0.3	0.6	0.8	0.5
Hematite + goethite, wt. %	C	19	0.2	1.6	0.4	0.6	0.9	0.5
Maghemite, wt. %	A and OA	116	0.0	9.4	0.5	1.5	2.4	1.9
Maghemite, wt. %	B, B1, and B2	195	0.0	8.5	0.0	0.4	1.3	1.3
Maghemite, wt. %	C	19	0.0	1.5	0.0	0.2	1.0	1.0
Disordered kaolinite, wt. %	A and OA	116	0.0	4.8	0.0	0.4	1.4	1.4
Disordered kaolinite, wt. %	B, B1, and B2	195	0.0	8.1	0.0	0.7	1.5	1.5
Disordered kaolinite, wt. %	C	19	0.0	9.2	0.0	0.2	0.4	0.4
Smectite + illite, wt. %	A and OA	116	0.0	35.5	6.5	8.6	13.0	6.5
Smectite + illite, wt. %	B, B1, and B2	195	0.2	38.2	7.2	9.8	13.4	6.2
Smectite + illite, wt. %	C	19	4.7	31.7	6.3	8.9	11.8	5.5
Muscovite, wt. %	A and OA	116	0.0	30.1	4.8	7.4	12.0	7.2
Muscovite, wt. %	B, B1, and B2	195	0.0	32.9	5.3	7.4	11.7	6.5
Muscovite, wt. %	C	19	3.1	13.9	4.4	6.2	7.4	3.0
Trioctahedral mica (biotite), wt. %	A and OA	116	0.0	6.1	0.5	1.0	1.9	1.4
Trioctahedral mica (biotite), wt. %	B, B1, and B2	195	0.0	7.2	0.6	1.3	2.2	1.6
Trioctahedral mica (biotite), wt. %	C	19	0.7	3.9	1.3	1.7	2.2	0.9
Chlorite, wt. %	A and OA	116	1.2	14.6	3.9	6.3	8.3	4.3
Chlorite, wt. %	B, B1, and B2	195	1.2	21.8	5.3	7.3	10.2	4.8
Chlorite, wt. %	C	19	0.0	11.9	4.0	5.3	6.9	2.9
Peat, wt. %	A and OA	116	0.0	85.0	11.4	18.6	35.1	23.7
Peat, wt. %	B, B1, and B2	195	0.0	67.2	2.2	5.3	9.5	7.2
Peat, wt. %	C	19	0.0	8.7	0.4	3.4	5.0	4.6

¹Statistical summaries were determined by pooling the data from samples with the horizon designations listed.²Site duplicates were not included when calculating the summary statistics.

Table 1.3. Statistical summary for the chemical analysis determined by the multi-acid digestion method and mercury, selenium, total, carbonate, organic carbon, and organic-sample ash weight analysis for soil samples collected along the north to south transect of Alaska.

[N, number of samples; N < LLD, number of samples that had elemental concentrations below the lower limit of determination; Min, minimum concentration measured in soil samples; Q1, first quartile; Q3, third quartile; Max, maximum concentration measured in soil samples; MAD, mean absolute deviation; Stdev, standard deviation; wt. %, dry weight percent; mg/kg, milligrams per kilogram; <, less than; >, greater than; na, not analyzed; nd, not determined; C_tot, total carbon; C_car, carbonate carbon; C_org, organic carbon]

Element, units	Soil horizon ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Ag,mg/kg	O	81	77	<1	nd	nd	nd	nd	2	nd	nd
Ag,mg/kg	A and OA	49	48	<1	nd	nd	nd	nd	1	nd	nd
Ag,mg/kg	B, B1, and B2	80	79	<1	nd	nd	nd	nd	3	nd	nd
Ag,mg/kg	C	2	2	<1	nd	nd	nd	nd	<1	nd	nd
Al, wt. %	O	150	0	0.29	1.37	2.50	2.61	3.72	6.33	1.80	1.48
Al, wt. %	A and OA	110	0	1.39	4.68	5.71	5.41	6.57	8.23	1.36	1.56
Al, wt. %	B, B1, and B2	182	0	1.85	5.14	6.05	5.91	6.88	9.11	1.28	1.46
Al, wt. %	C	17	0	1.48	2.96	3.95	4.40	5.78	8.10	1.72	1.88
As, mg/kg	O	150	0	0.7	2.4	4.2	5.9	6.8	50	2.8	6.3
As, mg/kg	A and OA	110	0	2.0	7.0	9.5	13	13	155	5.2	16
As, mg/kg	B, B1, and B2	182	0	3.0	8.0	11	18	15	706	4.4	55
As, mg/kg	C	17	0	2.0	5.0	7.0	7.3	8.0	19	3.0	4.0
Ash, wt. %	O	151	0	5.6	23.5	38.3	39.1	54.3	83.3	22.4	19.2
Ash, wt. %	A and OA	na	na	na	na	na	na	na	na	na	na
Ash, wt. %	B, B1, and B2	na	na	na	na	na	na	na	na	na	na
Ash, wt. %	C	na	na	na	na	na	na	na	na	na	na
Ba, mg/kg	O	150	0	21	223	353	398	527	1109	210	215
Ba, mg/kg	A and OA	110	0	168	424	598	599	737	1210	236	221
Ba, mg/kg	B, B1, and B2	182	0	178	437	584	610	745	1370	231	223
Ba, mg/kg	C	17	0	276	342	385	635	756	3070	117	666
Be, mg/kg	O	150	0	0.1	0.4	0.6	0.7	0.9	2.7	0.4	0.4
Be, mg/kg	A and OA	110	0	0.3	1.0	1.2	1.3	1.5	2.7	0.4	0.4
Be, mg/kg	B, B1, and B2	180	0	0.6	1.1	1.4	1.4	1.6	3.6	0.4	0.5
Be, mg/kg	C	17	0	0.6	1.0	1.3	1.3	1.4	2.4	0.3	0.4
Bi, mg/kg	O	150	1	<0.03	0.05	0.08	0.10	0.12	0.68	nd	0.08
Bi, mg/kg	A and OA	110	2	<0.04	0.12	0.17	0.17	0.21	0.59	nd	0.07
Bi, mg/kg	B, B1, and B2	180	5	<0.04	0.11	0.17	0.17	0.22	0.42	nd	0.07
Bi, mg/kg	C	17	0	0.1	0.12	0.15	0.30	0.23	2.41	0.06	0.55
C_tot, wt. %	O	151	0	8.06	22.4	31.5	30.5	38.6	45.7	7.0	0.37
C_tot, wt. %	A and OA	110	0	0.83	4.16	8.45	10.4	15.3	32.0	7.32	7.00
C_tot, wt. %	B, B1, and B2	182	0	0.01	0.98	2.03	3.26	3.95	40.4	1.93	4.12
C_tot, wt. %	C	17	0	0.15	0.54	3.64	3.19	4.93	7.3	3.25	2.36
C_car, wt. %	O	150	2	<0.003	0.02	0.02	0.09	0.04	3.0	nd	0.37
C_car, wt. %	A and OA	110	1	<0.003	0.023	0.040	0.253	0.070	6.99	nd	0.855
C_car, wt. %	B, B1, and B2	181	21	<0.003	0.01	0.02	0.31	0.04	7.31	nd	0.90
C_car, wt. %	C	17	1	<0.003	0.01	2.24	1.70	2.81	3.38	nd	1.36
C_org, wt. %	O	151	0	7.09	22.4	31.4	30.4	38.6	45.7	12.1	9.87
C_org, wt. %	A and OA	110	0	0.83	3.99	8.19	10.1	15.2	31.9	6.92	7.13
C_org, wt. %	B, B1, and B2	182	0	0.15	1.00	1.89	2.99	3.52	40.4	1.62	3.96
C_org, wt. %	C	17	0	0.15	0.43	0.97	1.49	1.82	5.1	1.02	1.48
Ca, wt. %	O	150	0	0.14	0.83	1.57	1.79	2.38	9.46	1.13	1.37
Ca, wt. %	A and OA	110	0	0.20	0.91	1.50	2.15	2.61	21.1	1.05	2.58
Ca, wt. %	B, B1, and B2	182	0	0.10	0.75	1.33	2.02	2.40	22.0	1.08	2.54
Ca, wt. %	C	17	0	0.05	0.92	6.53	5.47	9.15	10.8	4.21	3.94
Cd, mg/kg	O	150	1	<0.07	0.31	0.52	0.76	0.92	6.3	nd	0.77
Cd, mg/kg	A and OA	110	6	<0.1	0.17	0.30	0.37	0.50	1.40	nd	0.28
Cd, mg/kg	B, B1, and B2	182	37	<0.1	0.10	0.20	0.23	0.30	0.7	nd	0.14
Cd, mg/kg	C	17	2	<0.1	0.20	0.37	0.33	0.40	0.5	0.15	0.13
Ce, mg/kg	O	150	0	1.79	11.0	19.9	21.7	28.3	65.2	12.9	13.6
Ce, mg/kg	A and OA	110	0	12.1	28.6	43.5	41.8	52.4	84.9	19.3	15.5
Ce, mg/kg	B, B1, and B2	182	0	10.6	35.5	46.3	48.5	60.8	109.0	19.2	16.9
Ce, mg/kg	C	17	0	16.1	30.2	36.2	39.6	51.0	63.9	16.3	13.9

Table 1.3.—Continued

Element, units	Soil horizon ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Co, mg/kg	O	150	0	0.8	5.7	8.3	16.9	12.1	745	4.9	62.7
Co, mg/kg	A and OA	110	0	3.1	9.5	12.9	19.0	17.0	463	5.6	43.9
Co, mg/kg	B, B1, and B2	182	0	2.7	10.2	14.6	14.7	18.5	32.4	6.5	6.0
Co, mg/kg	C	17	0	1.3	6.8	9.4	10.0	11.0	21.6	3.9	5.0
Cr, mg/kg	O	150	0	2	13	23	26	38	83	16	16
Cr, mg/kg	A and OA	110	0	12	49	63	63	74	234	17	27
Cr, mg/kg	B, B1, and B2	180	0	21	56	69	77	87	382	24	42
Cr, mg/kg	C	17	0	21	36	44	43	47	69	12	14
Cs, mg/kg	O	150	94	<4	nd	nd	nd	nd	13	nd	nd
Cs, mg/kg	A and OA	110	91	<5	nd	nd	nd	nd	15	nd	nd
Cs, mg/kg	B, B1, and B2	182	148	<5	nd	nd	nd	nd	18	nd	nd
Cs, mg/kg	C	17	15	<5	nd	nd	nd	nd	12	nd	nd
Cu, mg/kg	O	150	0	4.8	13.8	18.2	20.3	24.9	91.5	7.8	11.5
Cu, mg/kg	A and OA	110	0	3.3	17.9	24.9	28.6	36.9	75.3	13.3	13.3
Cu, mg/kg	B, B1, and B2	182	0	3.1	20.0	27.6	31.6	35.1	194	11.3	21.3
Cu, mg/kg	C	17	0	3.7	14.0	17.7	22.8	21.2	82.9	5.5	17.9
Fe, wt. %	O	150	0	0.16	1.08	1.69	1.86	2.38	10.4	0.98	1.30
Fe, wt. %	A and OA	110	0	1.13	2.58	3.36	3.40	3.79	17.0	0.85	1.67
Fe, wt. %	B, B1, and B2	182	0	1.08	3.01	3.68	3.63	4.27	6.10	0.95	1.03
Fe, wt. %	C	17	0	0.61	1.86	2.33	2.42	2.78	4.18	0.70	0.99
Ga, mg/kg	O	150	0	0.4	3.0	5.7	6.1	8.8	15.3	4.4	3.6
Ga, mg/kg	A and OA	110	0	2.8	10.3	12.7	12.1	14.8	20.0	3.4	3.7
Ga, mg/kg	B, B1, and B2	182	0	3.8	11.7	14.0	13.6	15.6	22.3	3.0	3.6
Ga, mg/kg	C	17	0	3.7	7.4	9.0	10.0	12.4	20.0	3.3	4.0
Hg, mg/kg	O	151	0	0.02	0.08	0.10	0.10	0.13	0.26	0.04	0.04
Hg, mg/kg	A and OA	110	0	0.01	0.03	0.05	0.06	0.08	0.21	0.03	0.04
Hg, mg/kg	B, B1, and B2	182	3	<0.01	0.02	0.04	0.05	0.06	0.31	nd	0.04
Hg, mg/kg	C	17	1	<0.01	0.02	0.04	0.03	0.05	0.06	nd	0.02
In, mg/kg	O	150	1	<0.01	0.01	0.02	0.03	0.03	0.07	nd	0.01
In, mg/kg	A and OA	110	3	<0.02	0.04	0.05	0.05	0.05	0.09	nd	0.01
In, mg/kg	B, B1, and B2	182	1	<0.02	0.05	0.05	0.05	0.06	0.10	nd	0.00
In, mg/kg	C	17	1	<0.02	0.03	0.04	0.04	0.04	0.05	nd	0.00
K, wt. %	O	150	0	0.08	0.32	0.53	0.57	0.73	1.61	0.31	0.00
K, wt. %	A and OA	110	0	0.23	0.84	1.13	1.16	1.43	2.41	0.44	0.01
K, wt. %	B, B1, and B2	182	0	0.33	0.92	1.22	1.25	1.51	2.70	0.44	0.45
K, wt. %	C	17	0	0.39	0.74	0.99	1.23	1.34	3.44	0.44	0.81
La, mg/kg	O	150	0	1.18	5.61	10.4	11.2	14.5	32.5	6.78	7.05
La, mg/kg	A and OA	110	0	6.30	14.5	21.5	20.8	25.4	47.4	8.67	7.62
La, mg/kg	B, B1, and B2	180	0	5.30	17.3	23.1	24.0	29.4	50.4	8.82	8.11
La, mg/kg	C	17	0	9.80	16.7	19.0	21.3	25.1	37.2	7.56	7.26
Li, mg/kg	O	150	0	0.8	4.8	7.3	9.4	12	46	5.0	7.0
Li, mg/kg	A and OA	110	0	3.0	16	19	21	24	60	5.9	8.9
Li, mg/kg	B, B1, and B2	182	0	8.0	21	26	28	34	67	8.9	9.9
Li, mg/kg	C	17	0	16	23	27	29	35	52	8.9	10
Mg, wt. %	O	150	0	0.03	0.27	0.47	0.52	0.78	1.83	0.36	0.33
Mg, wt. %	A and OA	110	0	0.12	0.57	0.80	0.88	1.16	2.05	0.39	0.41
Mg, wt. %	B, B1, and B2	182	0	0.11	0.72	0.94	1.06	1.30	3.30	0.39	0.50
Mg, wt. %	C	17	0	0.12	0.64	0.72	0.74	0.91	1.21	0.25	0.27
Mn, mg/kg	O	150	0	15	291	570	905	863	8349	421	1259
Mn, mg/kg	A and OA	110	0	100	339	560	1032	827	14300	343	1837
Mn, mg/kg	B, B1, and B2	182	0	36	370	518	569	708	3010	243	337
Mn, mg/kg	C	17	0	256	233	256	461	453	2270	150	515

Table 1.3.—Continued

Element, units	Soil horizon ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Mo, mg/kg	O	150	0	0.27	0.74	1.01	1.26	1.57	5.60	0.56	0.84
Mo, mg/kg	A and OA	110	0	0.34	0.80	1.04	1.18	1.26	4.58	0.36	0.73
Mo, mg/kg	B, B1, and B2	182	0	0.21	0.58	0.81	0.84	1.07	2.67	0.36	0.38
Mo, mg/kg	C	17	0	0.27	0.60	0.81	0.86	0.95	1.92	0.28	0.41
Na, wt. %	O	150	0	0.01	0.15	0.39	0.48	0.71	1.87	0.39	0.38
Na, wt. %	A and OA	110	0	0.09	0.46	1.05	0.98	1.33	2.01	0.60	0.55
Na, wt. %	B, B1, and B2	182	0	0.09	0.59	1.10	1.08	1.46	2.30	0.60	0.55
Na, wt. %	C	17	0	0.13	0.23	0.31	0.59	0.81	2.07	0.16	0.57
Nb, mg/kg	O	150	0	0.12	1.05	2.13	2.46	3.37	7.71	1.80	1.77
Nb, mg/kg	A and OA	110	0	0.50	4.43	6.20	5.97	7.70	13.2	2.52	2.34
Nb, mg/kg	B, B1, and B2	182	0	0.60	4.68	6.60	6.47	8.30	18.3	2.74	2.63
Nb, mg/kg	C	17	0	1.30	2.70	3.70	4.58	4.90	10.9	1.78	2.89
Ni, mg/kg	O	150	0	4.26	11.6	16.6	19.9	23.1	244	8.0	21.7
Ni, mg/kg	A and OA	110	0	4.60	22.8	29.2	32.9	37.4	190	10.2	21.7
Ni, mg/kg	B, B1, and B2	182	0	7.70	27.7	34.8	40.2	41.8	282	10.5	29.9
Ni, mg/kg	C	17	0	5.80	21.9	29.6	26.5	31.2	38.5	7.6	8.8
P, mg/kg	O	150	0	225	816	1,012	1,047	1,160	2,568	267	337
P, mg/kg	A and OA	110	0	160	663	785	845	978	1,940	237	320
P, mg/kg	B, B1, and B2	182	0	120	500	650	639	783	1,190	208	201
P, mg/kg	C	17	0	80	410	650	582	730	1,010	133	251
Pb, mg/kg	O	150	0	1.0	4.5	8.0	10.5	13.2	99.6	6.0	11.1
Pb, mg/kg	A and OA	110	0	2.6	8.2	12.9	12.4	15.2	24.2	5.3	4.8
Pb, mg/kg	B, B1, and B2	180	0	4.9	10.0	13.4	13.7	16.5	29.9	5.0	4.7
Pb, mg/kg	C	17	0	5.5	8.3	10.6	11.7	12.5	26.8	3.4	6.0
Rb, mg/kg	O	150	0	2.8	13.6	26.2	30.7	40.3	125.9	19.5	20.9
Rb, mg/kg	A and OA	110	0	7.8	37.4	57.2	59.9	76.4	142.0	29.3	27.1
Rb, mg/kg	B, B1, and B2	182	0	15.0	47.7	62.3	68.1	82.9	174.0	26.2	28.3
Rb, mg/kg	C	17	0	22.4	46.4	56.9	71.6	60.4	221.0	15.6	50.5
S, wt. wt. %	O	150	0	0.01	0.06	0.08	0.09	0.11	0.32	0.04	0.05
S, wt. %	A and OA	110	2	<0.01	0.03	0.05	0.06	0.09	0.24	nd	0.05
S, wt. %	B, B1, and B2	182	49	<0.01	<0.01	0.20	0.03	0.03	0.26	nd	0.03
S, wt. %	C	17	4	<0.01	0.01	0.02	0.03	0.03	0.05	nd	0.01
Sb, mg/kg	O	150	0	0.12	0.34	0.53	0.69	0.82	6.87	0.33	0.72
Sb, mg/kg	A and OA	110	0	0.24	0.58	0.81	1.16	1.13	26	0.39	2.46
Sb, mg/kg	B, B1, and B2	182	0	0.23	0.59	0.86	1.47	1.26	44	0.43	4.37
Sb, mg/kg	C	17	0	0.26	0.35	0.44	0.65	0.58	1.97	0.18	0.49
Sc, mg/kg	O	150	0	0.8	4.0	5.7	6.5	9.0	20.7	3.8	3.7
Sc, mg/kg	A and OA	110	0	3.5	10.3	12.6	12.2	14.7	23.7	3.2	3.7
Sc, mg/kg	B, B1, and B2	182	0	3.8	11.1	14.4	14.3	16.8	28.9	4.0	4.5
Sc, mg/kg	C	17	0	3.5	6.5	7.9	8.5	9.3	14.5	2.1	3.0
Se, mg/kg	O	151	37	<0.2	0.2	0.3	0.3	0.4	1.0	nd	0.2
Se, mg/kg	A and OA	110	17	<0.2	0.2	0.3	0.4	0.5	1.1	nd	0.2
Se, mg/kg	B, B1, and B2	182	50	<0.2	<0.2	0.3	0.4	0.5	1.3	nd	0.2
Se, mg/kg	C	15	3	<0.2	0.3	0.3	0.4	0.4	0.6	nd	0.1
Sn, mg/kg	O	150	0	0.1	0.4	0.6	0.7	1.0	3.6	0.5	0.5
Sn, mg/kg	A and OA	110	0	0.2	1.0	1.4	1.4	1.8	4.3	0.6	0.6
Sn, mg/kg	B, B1, and B2	182	0	0.5	1.2	1.5	1.6	1.9	5.6	0.4	0.7
Sn, mg/kg	C	17	0	0.9	1.2	1.3	1.6	1.7	3.5	0.6	0.7
Sr, mg/kg	O	150	0	9	62	100	113	158	314	63	67
Sr, mg/kg	A and OA	110	0	21	112	163	171	211	369	75	85
Sr, mg/kg	B, B1, and B2	182	0	21	94	163	168	220	375	93	84
Sr, mg/kg	C	17	0	44	125	176	166	196	312	64	68
Te, mg/kg	O	150	18	<0.08	0.006	0.007	0.013	0.017	0.06	nd	0.02
Te, mg/kg	A and OA	110	105	<0.10	nd	nd	nd	nd	0.10	nd	nd
Te, mg/kg	B, B1, and B2	182	175	<0.10	nd	nd	nd	nd	0.10	nd	nd
Te, mg/kg	C	15	15	<0.10	nd	nd	nd	nd	0.10	nd	nd

Table 1.3.—Continued

Element, units	Soil horizon ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Th, mg/kg	O	150	0	0.4	1.4	2.4	3.0	4.0	10.4	1.7	2.1
Th, mg/kg	A and OA	110	0	1.1	4.1	6.4	6.4	8.1	18.5	2.9	2.8
Th, mg/kg	B, B1, and B2	182	0	1.8	4.7	7.0	7.3	9.2	22.0	3.3	3.2
Th, mg/kg	C	17	0	2.4	4.7	5.7	6.8	7.9	15.6	2.2	3.5
Ti, wt. %	O	150	0	0.01	0.05	0.12	0.12	0.17	0.41	0.10	0.08
Ti, wt. %	A and OA	110	0	0.03	0.19	0.27	0.25	0.33	0.48	0.10	0.10
Ti, wt. %	B, B1, and B2	182	0	0.04	0.20	0.29	0.28	0.35	0.60	0.10	0.10
Ti, wt. %	C	17	0	0.05	0.12	0.13	0.16	0.20	0.29	0.03	0.07
Tl, mg/kg	O	150	0	0.02	0.11	0.20	0.23	0.30	0.94	0.13	0.16
Tl, mg/kg	A and OA	110	1	<0.10	0.3	0.4	0.43	0.6	0.9	nd	0.18
Tl, mg/kg	B, B1, and B2	182	0	0.10	0.30	0.40	0.45	0.60	1.00	0.15	0.17
Tl, mg/kg	C	17	0	0.40	0.30	0.40	0.48	0.50	1.60	0.15	0.35
U, mg/kg	O	150	0	0.2	0.5	0.9	1.0	1.3	4.2	0.6	0.7
U, mg/kg	A and OA	110	0	0.8	1.5	1.8	1.9	2.0	7.9	0.4	0.9
U, mg/kg	B, B1, or B2	182	0	0.7	1.5	1.9	1.9	2.2	6.5	0.6	0.7
U, mg/kg	C	17	0	1.2	1.7	2.1	2.0	2.3	3.1	0.4	0.5
V, mg/kg	O	150	0	4	27	52	52	72	158	33	30
V, mg/kg	A and OA	110	0	28	87	108	105	128	185	30	32
V, mg/kg	B, B1, and B2	182	0	37	99	120	121	143	201	32	33
V, mg/kg	C	17	0	39	64	79	76	84	115	22	22
W, mg/kg	O	150	0	0.0	0.2	0.3	0.6	0.6	23	0.3	1.9
W, mg/kg	A and OA	110	0	0.2	0.5	0.8	0.9	1.0	11	0.4	1.1
W, mg/kg	B, B1, and B2	182	0	0.1	0.5	0.7	0.9	1.0	27	0.4	2.0
W, mg/kg	C	17	0	0.4	0.3	0.4	0.7	0.8	2.4	0.3	0.7
Y, mg/kg	O	150	0	1.7	4.7	6.5	7.2	8.8	24.0	2.9	3.8
Y, mg/kg	A and OA	110	0	4.4	9.8	12.3	12.6	14.4	27.1	3.4	3.9
Y, mg/kg	B, B1, and B2	180	0	4.0	12.2	14.1	14.4	16.4	32.3	3.3	3.8
Y, mg/kg	C	17	0	6.1	10.6	12.5	12.7	13.9	26.2	2.8	4.5
Zn, mg/kg	O	150	0	9	36	55	68	86	241	34	45
Zn, mg/kg	A and OA	110	0	16	58	72	74	89	153	21	26
Zn, mg/kg	B, B1, and B2	182	0	17	63	77	77	88	133	19	21
Zn, mg/kg	C	17	0	26	60	74	67	80	96	10	19

¹Statistical summaries were determined by pooling the data from samples with the horizon designations listed. Organic horizon samples were ashed prior to analysis. The elemental concentration of the organic samples was converted from ash weight to dry weight concentration. Because of this conversion, the dry weight concentration in the organic horizon samples may appear to be reported at values below the lower limit of detection for the element.

²Site and laboratory duplicates were not included.

Table 1.4. Statistical summary for chemical analysis by the sinter digestion method of soil samples collected along the north to south transect of Alaska.

[N, number of samples; N < LLD, number of samples that had elemental concentrations below the lower limit of determination; Min, minimum concentration measured in soil samples; Q1, first quartile; Q3, third quartile; Max, maximum concentration measured in soil samples; MAD, mean absolute deviation; Stdev, standard deviation; wt. %, dry weight percent; mg/kg, milligrams per kilogram; <, less than; >, greater than; nd, not determined]

Element, units	Field horizon designation ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Ag, mg/kg	O	81	77	<1	nd	nd	nd	nd	2	nd	nd
Ag, mg/kg	A and OA	49	48	<1	nd	nd	nd	nd	1	nd	nd
Ag, mg/kg	B, B1, and B2	80	79	<1	nd	nd	nd	nd	3	nd	nd
Ag, mg/kg	C	2	2	<1	nd	nd	nd	nd	<1	nd	nd
Al, wt. %	O	81	0	0.28	1.2	2.4	2.5	3.6	6.9	1.8	1.49
Al, wt. %	A and OA	49	0	1.7	5.1	6.1	5.8	6.7	8.1	1.2	1.48
Al, wt. %	B, B1, and B2	80	0	1.8	5.7	6.7	6.4	7.5	8.5	1.4	1.47
Al, wt. %	C	2	0	3.2	nd	nd	nd	nd	5.7	nd	nd
As, mg/kg	O	81	80	<30	nd	nd	nd	nd	50	nd	nd
As, mg/kg	A and OA	49	47	<30	nd	nd	nd	nd	160	nd	nd
As, mg/kg	B, B1, and B2	80	75	<30	nd	nd	nd	nd	270	nd	nd
As, mg/kg	C	2	2	<30	nd	nd	nd	nd	<30	nd	nd
Ba, mg/kg	O	81	0	27.1	222	360	392	515	1100	218	217
Ba, mg/kg	A and OA	49	0	275	495	608	639	804	1160	234	208
Ba, mg/kg	B, B1, and B2	80	0	202	509	663	676	828	1280	239	219
Ba, mg/kg	C	2	0	454	nd	nd	nd	nd	1150	nd	nd
Be, mg/kg	O	81	81	<5	nd	nd	nd	nd	<5	nd	nd
Be, mg/kg	A and OA	49	49	<5	nd	nd	nd	nd	<5	nd	nd
Be, mg/kg	B, B1, and B2	80	80	<5	nd	nd	nd	nd	<5	nd	nd
Be, mg/kg	C	2	2	<6	nd	nd	nd	nd	<6	nd	nd
Bi, mg/kg	O	81	33	<0.1	0.1	0.1	0.1	nd	0.7	nd	0.08
Bi, mg/kg	A and OA	49	9	<0.1	0.1	0.2	0.2	0.2	0.4	nd	0.08
Bi, mg/kg	B, B1, and B2	80	2	<0.1	0.3	0.2	0.2	0.2	0.4	nd	0.09
Bi, mg/kg	C	2	0	0.2	nd	nd	nd	nd	0.2	nd	nd
Ca, wt. %	O	81	0	0.3	0.8	1.5	1.9	2.4	10.6	1.2	1.7
Ca, wt. %	A and OA	49	0	0.3	1.0	1.6	1.9	2.4	106.0	1.0	1.5
Ca, wt. %	B, B1, and B2	80	1	<0.1	0.8	1.3	1.9	2.7	13.0	nd	2.1
Ca, wt. %	C	2	0	3.80	nd	nd	nd	nd	9.50	nd	nd
Cd, mg/kg	O	81	3	<0.2	0.4	0.6	0.8	0.9	4.1	nd	0.60
Cd, mg/kg	A and OA	49	15	<0.2	<0.2	0.3	0.4	0.5	1.4	nd	0.26
Cd, mg/kg	B, B1, and B2	80	54	<0.3	0.3	nd	nd	nd	0.7	nd	nd
Cd, mg/kg	C	2	2	0.3	nd	nd	nd	nd	0.4	nd	nd
Ce, mg/kg	O	81	0	3.3	11.7	22.6	24.9	33.3	78.9	16.2	15.9
Ce, mg/kg	A and OA	49	0	21.1	34.0	47.0	49.3	63.3	85.1	19.7	17.9
Ce, mg/kg	B, B1, and B2	80	0	12.6	39.9	53.5	54.9	65.4	114.0	19.5	19.2
Ce, mg/kg	C	2	0	51.6	nd	nd	nd	nd	54.5	nd	nd
Co, mg/kg	O	81	0	0.9	5.4	8.4	20.2	13.0	746.0	5.6	82.6
Co, mg/kg	A and OA	49	0	2.7	9.3	13.0	26.4	18.1	536.0	6.7	75.1
Co, mg/kg	B, B1, and B2	80	0	2.9	11.9	15.4	16.0	20.4	38.6	6.8	7.0
Co, mg/kg	C	2	0	8.9	nd	nd	nd	nd	12.1	nd	nd
Cr, mg/kg	O	81	3	<10	20	30	37	50	200	nd	32
Cr, mg/kg	A and OA	49	0	10	60	80	89	90	500	15	80
Cr, mg/kg	B, B1, and B2	80	0	30	80	90	111	110	830	30	104
Cr, mg/kg	C	2	0	50	nd	nd	nd	nd	90	nd	nd
Cs, mg/kg	O	81	0	0.2	0.7	1.3	1.6	2.4	10.3	1.0	1.4
Cs, mg/kg	A and OA	49	0	1.3	1.8	2.5	3.7	3.6	15.2	1.3	3.1
Cs, mg/kg	B, B1, and B2	80	0	1.3	2.3	3.2	3.9	4.3	17.5	1.4	2.7
Cs, mg/kg	C	2	2	2.1	nd	nd	nd	nd	2.1	nd	nd
Cu, mg/kg	O	81	1	<5	15	19	21	25	83	nd	11
Cu, mg/kg	A and OA	48	1	<5	22	25	30	39	66	nd	13
Cu, mg/kg	B, B1, and B2	79	1	<5	19	24	28	31	109	nd	16
Cu, mg/kg	C	2	2	15.0	nd	nd	nd	nd	28	nd	nd

Table 1.4.—Continued

Element, units	Field horizon designation ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Dy, mg/kg	O	81	0	0.5	1.2	1.9	2.0	2.5	5.5	1.0	1.0
Dy, mg/kg	A and OA	49	0	1.7	3.1	3.8	3.8	4.3	6.8	0.9	1.0
Dy, mg/kg	B, B1, and B2	80	0	1.1	3.5	4.3	4.2	4.9	11.1	1.0	1.2
Dy, mg/kg	C	2	0	3.19	nd	nd	nd	nd	4.24	nd	nd
Er, mg/kg	O	81	0	0.3	0.63	1.03	1.10	1.44	2.72	0.59	0.55
Er, mg/kg	A and OA	49	0	0.89	1.69	2.09	2.10	2.46	3.32	0.59	0.51
Er, mg/kg	B, B1, and B2	80	0	1.06	2.03	2.48	2.47	2.81	6.56	0.59	0.70
Er, mg/kg	C	2	0	1.67	nd	nd	nd	nd	2.49	nd	nd
Eu, mg/kg	O	81	0	0.30	0.29	0.47	0.52	0.66	1.30	0.28	0.30
Eu, mg/kg	A and OA	49	0	0.43	0.86	1.01	1.02	1.16	2.28	0.22	0.28
Eu, mg/kg	B, B1, and B2	80	0	0.19	1.00	1.15	1.13	1.23	2.10	0.20	0.27
Eu, mg/kg	C	2	0	1.17	nd	nd	nd	nd	1.25	nd	nd
Fe, wt. %	O	81	0	0.15	0.84	1.60	1.78	2.26	10.4	1.08	1.36
Fe, wt. %	A and OA	49	0	1.16	2.71	3.30	3.66	3.70	21.4	0.83	2.82
Fe, wt. %	B, B1, and B2	80	0	0.96	3.06	3.73	3.67	4.36	6.11	0.98	1.05
Fe, wt. %	C	2	0	2.33	nd	nd	nd	nd	3.38	nd	nd
Ga, mg/kg	O	81	4	<1	3	6	6	9	17	nd	4
Ga, mg/kg	A and OA	49	0	4	13	15	15	17	22	3	4
Ga, mg/kg	B, B1, and B2	80	0	5	15	17	17	19	26	3	4
Ga, mg/kg	C	2	0	7.0	nd	nd	nd	nd	12	nd	nd
Ge, mg/kg	O	81	63	<1	nd	nd	nd	nd	2	nd	nd
Ge, mg/kg	A and OA	49	15	<1	<1	1	1	1	2	nd	0.4
Ge, mg/kg	B, B1, and B2	80	1	<1	2	2	2	2	3	nd	0.3
Ge, mg/kg	C	2	0	1.0	nd	nd	nd	nd	2	nd	nd
Gd, mg/kg	O	81	0	0.56	1.35	2.14	2.30	2.79	8.32	1.05	1.32
Gd, mg/kg	A and OA	49	0	1.79	3.39	4.01	4.23	5.01	9.31	1.42	1.29
Gd, mg/kg	B, B1, and B2	80	0	0.97	3.94	4.85	4.73	5.35	10.30	1.21	1.30
Gd, mg/kg	C	2	0	4.7	nd	nd	nd	nd	4.72	nd	nd
Hf, mg/kg	O	81	25	<1	<1	1.0	2.1	3.0	7.0	nd	1.3
Hf, mg/kg	A and OA	49	0	1	3.0	4.0	4.5	6.0	8.0	1.5	1.8
Hf, mg/kg	B, B1, and B2	80	1	<1	4.0	5.0	5.5	7.0	9.0	nd	1.9
Hf, mg/kg	C	2	0	4.0	nd	nd	nd	nd	6.0	nd	nd
Ho, mg/kg	O	81	0	0.10	0.23	0.38	0.39	0.50	0.96	0.21	0.20
Ho, mg/kg	A and OA	49	0	0.32	0.59	0.74	0.73	0.84	1.19	0.16	0.18
Ho, mg/kg	B, B1, and B2	80	0	0.28	0.72	0.86	0.87	0.99	2.38	0.21	0.26
Ho, mg/kg	C	2	0	0.60	nd	nd	nd	nd	0.90	nd	nd
In, mg/kg	O	81	81	<0.2	nd	nd	nd	nd	<0.2	nd	nd
In, mg/kg	A and OA	49	31	<0.2	nd	nd	nd	nd	0.40	nd	nd
In, mg/kg	B, B1, and B2	80	79	<0.2	nd	nd	nd	nd	0.30	nd	nd
In, mg/kg	C	2	0	<0.2	nd	nd	nd	nd	<0.2	nd	nd
K, wt. %	O	81	0	0.1	0.30	0.60	0.60	0.80	1.80	0.30	0.37
K, wt. %	A and OA	49	0	0.30	0.90	1.20	1.26	1.50	2.50	0.44	0.45
K, wt. %	B, B1, and B2	80	0	0.4	1.00	1.30	1.37	1.63	2.50	0.44	0.45
K, wt. %	C	2	0	0.80	nd	nd	nd	nd	1.30	nd	nd
La, mg/kg	O	81	0	2.0	6.0	10.8	12.5	16.6	40.8	8.0	7.9
La, mg/kg	A and OA	49	0	9.7	17.4	24.2	23.6	28.9	43.3	9.3	8.4
La, mg/kg	B, B1, and B2	80	0	6.5	20.2	28.8	29.2	35.4	60.1	11.9	10.4
La, mg/kg	C	2	0	20	nd	nd	nd	nd	30.0	nd	nd
Li, mg/kg	O	81	54	<10	nd	nd	nd	nd	40	nd	nd
Li, mg/kg	A and OA	49	2	<10	20	20	21	20	50	nd	8.2
Li, mg/kg	B, B1, and B2	80	1	<10	20	30	29	30	60	nd	10.0
Li, mg/kg	C	2	0	20	nd	nd	nd	nd	30	nd	nd

Table 1.4.—Continued

Element, units	Field horizon designation ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Lu, mg/kg	O	81	4	<0.05	0.08	0.14	0.15	0.21	0.38	nd	0.08
Lu, mg/kg	A and OA	49	0	0.12	0.28	0.32	0.32	0.38	0.44	0.12	0.00
Lu, mg/kg	B, B1, and B2	80	0	0.16	0.31	0.38	0.38	0.43	0.83	0.10	0.01
Lu, mg/kg	C	2	0	0	nd	nd	nd	nd	0.35	nd	nd
Mg, wt. %	O	81	0	0.04	0.21	0.40	0.49	0.76	1.34	0.31	0.33
Mg, wt. %	A and OA	49	0	0.13	0.54	0.88	0.89	1.16	1.89	0.44	0.43
Mg, wt. %	B, B1, and B2	80	0	0.09	0.72	1.01	1.09	1.34	2.93	0.47	0.53
Mg, wt. %	C	2	0	0.69	nd	nd	nd	nd	1.20	nd	nd
Mn, mg/kg	O	81	0	0.01	0.03	0.06	0.12	0.08	2.56	0.04	0.30
Mn, mg/kg	A and OA	49	0	0.02	0.04	0.06	0.12	0.08	1	0.03	0.19
Mn, mg/kg	B, B1, and B2	80	4	<0.01	0.04	0.06	0.06	0.08	0.08	nd	0.04
Mn, mg/kg	C	2	0	0.05	nd	nd	nd	nd	0.06	nd	nd
Mo, mg/kg	O	81	54	<2	nd	nd	nd	nd	7	nd	nd
Mo, mg/kg	A and OA	49	36	<2	nd	nd	nd	nd	5	nd	nd
Mo, mg/kg	B, B1, and B2	80	69	<2	nd	nd	nd	nd	3	nd	nd
Mo, mg/kg	C	2	0	<2	nd	nd	nd	nd	<2	nd	nd
Nb, mg/kg	O	81	6	<1	2	3	3	6	13	nd	3
Nb, mg/kg	A and OA	49	0	3	7	10	10	12	16	3	3
Nb, mg/kg	B, B1, and B2	80	0	3	8	12	12	15	25	5	4
Nb, mg/kg	C	2	0	6.00	nd	nd	nd	nd	11	nd	nd
Nd, mg/kg	O	81	0	2.10	5.8	10.4	11.6	15.4	33.7	7.0	6.8
Nd, mg/kg	A and OA	49	0	9.9	16.2	21.8	22.3	28.8	35.8	8.5	7.0
Nd, mg/kg	B, B1, and B2	80	0	5.3	19.2	25.4	25.5	30.4	52.6	8.5	8.3
Nd, mg/kg	C	2	0	25.90	nd	nd	nd	nd	30.2	nd	nd
Ni, mg/kg	O	81	0	5	15	22	24	28	91	10	13
Ni, mg/kg	A and OA	49	0	10	25	33	36	37	214	9	28
Ni, mg/kg	B, B1, and B2	80	0	16	36	42	48	48	297	9	34
Ni, mg/kg	C	2	0	25.6	nd	nd	nd	nd	30	nd	nd
P, mg/kg	O	81	0	0.05	0.08	0.10	0.10	0.11	0.19	0.03	0.03
P, mg/kg	A and OA	49	0	0.03	0.08	0.09	0.10	0.12	0.21	0.04	0.04
P, mg/kg	B, B1, and B2	80	0	0.03	0.05	0.07	0.07	0.08	0.10	0.01	0.02
P, mg/kg	C	2	0	0.08	nd	nd	nd	nd	0.10	nd	nd
Pb, mg/kg	O	81	23	<5	<5	8	1	13	63	nd	1
Pb, mg/kg	A and OA	49	1	<5	8	11	11	14	18	nd	4
Pb, mg/kg	B, B1, and B2	80	0	7	11	15	15	19	26	6	5
Pb, mg/kg	C	2	0	8.0	nd	nd	nd	nd	13	nd	nd
Pr, mg/kg	O	81	0	0.5	1.50	2.69	3.03	4.05	9.21	1.93	1.84
Pr, mg/kg	A and OA	49	0	2.73	4.30	5.76	5.93	8.12	9.92	2.51	1.99
Pr, mg/kg	B, B1, and B2	80	0	1.38	5.01	6.85	6.99	8.25	14.40	2.56	2.42
Pr, mg/kg	C	2	0	6.8	nd	nd	nd	nd	7.61	nd	nd
Rb, mg/kg	O	81	0	3.3	13.1	25.6	30.7	42.8	88.0	21.2	20.5
Rb, mg/kg	A and OA	49	0	19.6	39.7	56.7	59.9	73.9	136.0	25.5	27.5
Rb, mg/kg	B, B1, and B2	80	0	22.5	54.4	69.0	75.1	88.0	179.0	24.4	29.7
Rb, mg/kg	C	2	0	45.4	nd	nd	nd	nd	56.3	nd	nd
Sb, mg/kg	O	81	0	0.20	0.4	0.6	0.8	0.9	7.1	0.3	0.8
Sb, mg/kg	A and OA	49	0	0.3	0.6	0.8	1.5	1.1	33.7	0.3	4.7
Sb, mg/kg	B, B1, and B2	80	0	0.5	0.9	1.1	1.7	1.5	46.7	0.4	5.1
Sb, mg/kg	C	2	0	0.60	nd	nd	nd	nd	1.2	nd	nd
Sc, mg/kg	O	81	43	<5	nd	nd	nd	nd	15	nd	nd
Sc, mg/kg	A and OA	49	5	<5	11	13	12	14	16	nd	4
Sc, mg/kg	B, B1, and B2	80	1	<5	11	13	13	15	24	nd	4
Sc, mg/kg	C	2	0	6.0	nd	nd	nd	nd	11	nd	nd

Table 1.4.—Continued

Element, units	Field horizon designation ¹	N ²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Sm, mg/kg	O	81	0	0.6	1.2	2.2	2.4	3.0	6.2	1.3	1.3
Sm, mg/kg	A and OA	49	0	1.8	3.4	4.3	4.5	5.6	8.4	1.5	1.3
Sm, mg/kg	B, B1, and B2	80	0	1	3.9	5.1	5.0	5.8	9.5	1.6	1.5
Sm, mg/kg	C	2	0	5.0	nd	nd	nd	nd	5.5	nd	nd
Sn, mg/kg	O	81	51	<1	nd	nd	nd	nd	3	nd	nd
Sn, mg/kg	A and OA	49	6	<1	1	2	2	2	5	nd	1
Sn, mg/kg	B, B1, and B2	80	4	<1	1	2	2	2	6	nd	0
Sn, mg/kg	C	2	0	1.0	nd	nd	nd	nd	1	nd	nd
Sr, mg/kg	O	81	0	18	58.3	98.9	115.4	169.0	335.0	68.6	68.7
Sr, mg/kg	A and OA	49	0	9	13.0	96.4	128.1	203.0	374.0	125.1	117.9
Sr, mg/kg	B, B1, and B2	80	0	27.2	95.0	176.0	177.8	228.3	386.0	106.7	91.8
Sr, mg/kg	C	2	0	200	nd	nd	nd	nd	291.0	nd	nd
Ta, mg/kg	O	81	73	<0.5	nd	nd	nd	nd	0.8	nd	nd
Ta, mg/kg	A and OA	49	15	<0.5	<0.5	0.7	0.7	0.9	1.2	nd	0.2
Ta, mg/kg	B, B1, and B2	80	19	<0.5	0.5	0.8	0.8	1.0	2.2	nd	0.3
Ta, mg/kg	C	2	1	<0.5	nd	nd	nd	nd	1	nd	nd
Tb, mg/kg	O	81	0	0.09	0.20	0.32	0.34	0.42	1.08	0.16	0.19
Tb, mg/kg	A and OA	49	0	0.25	0.53	0.61	0.63	0.72	1.28	0.15	0.18
Tb, mg/kg	B, B1, and B2	80	0	0.17	0.60	0.74	0.73	0.83	1.78	0.19	0.20
Tb, mg/kg	C	2	0	0.70	nd	nd	nd	nd	0.61	nd	nd
Th, mg/kg	O	81	0	0.4	1.4	2.7	3.3	4.4	15.0	2.1	2.4
Th, mg/kg	A and OA	49	0	2.7	4.3	7.1	7.0	9.4	12.7	3.7	2.6
Th, mg/kg	B, B1, and B2	80	0	2.5	5.6	8.9	9.2	11.6	30.5	4.4	4.5
Th, mg/kg	C	2	0	5.9	nd	nd	nd	nd	8.2	nd	nd
Ti, wt. %	O	81	0	0.01	0.08	0.18	0.18	0.25	0.48	0.13	0.11
Ti, wt. %	A and OA	49	0	0.11	0.37	0.43	0.41	0.51	0.61	0.10	0.12
Ti, wt. %	B, B1, and B2	80	0	0.12	0.41	0.48	0.46	0.53	0.67	0.07	0.10
Ti, wt. %	C	2	0	0.23	nd	nd	nd	nd	0.42	nd	nd
Tl, mg/kg	O	81	80	<0.5	nd	nd	nd	nd		nd	nd
Tl, mg/kg	A and OA	49	29	<0.5	nd	nd	nd	nd	0.9	nd	nd
Tl, mg/kg	B, B1, and B2	80	41	<0.5	nd	nd	nd	nd	1.1	nd	nd
Tl, mg/kg	C	2	2	<0.5	nd	nd	nd	nd	<0.5	nd	nd
Tm, mg/kg	O	81	4	<0.05	0.09	0.15	0.16	0.21	0.41	nd	0.08
Tm, mg/kg	A and OA	49	0	0.37	0.25	0.33	0.32	0.37	0.49	0.09	0.09
Tm, mg/kg	B, B1, and B2	80	0	0.17	0.31	0.37	0.38	0.43	1.00	0.09	0.11
Tm, mg/kg	C	2	0	0.26	nd	nd	nd	nd	0.38	nd	nd
U, mg/kg	O	81	0	0.2	0.61	1.13	1.34	1.68	4.65	0.80	0.95
U, mg/kg	A and OA	49	0	1.05	1.76	2.35	2.29	2.80	3.74	0.87	0.63
U, mg/kg	B, B1, and B2	80	0	1.5	2.19	2.80	2.88	3.55	5.96	1.04	0.91
U, mg/kg	C	2	0	2.36	nd	nd	nd	nd	2.79	nd	nd
V, mg/kg	O	81	2	<5	22	49	46	63	122	nd	28
V, mg/kg	A and OA	49	0	29	98	112	113	136	187	30	31
V, mg/kg	B, B1, and B2	80	0	36	104	120	121	144	203	31	31
V, mg/kg	C	2	0	77	nd	nd	nd	nd	110	nd	nd
W, mg/kg	O	81	69	<1	nd	nd	nd	nd	3.0	nd	nd
W, mg/kg	A and OA	49	23	<1	<1	1.0	1.4	2.0	8.0	nd	1.1
W, mg/kg	B, B1, and B2	80	14	<1c	1.0	1.0	1.6	2.0	12.0	nd	1.3
W, mg/kg	C	2	0	<1	nd	nd	nd	nd	1.0	nd	nd
Y, mg/kg	O	81	0	2.9	6.9	10.8	11.3	14.8	28.6	5.9	5.7
Y, mg/kg	A and OA	49	0	8.8	16.7	20.5	20.7	23.5	34.4	5.5	5.1
Y, mg/kg	B, B1, and B2	80	0	8.1	19.7	23.2	23.6	26.7	65.3	5.3	6.8
Y, mg/kg	C	2	0	17.7	nd	nd	nd	nd	23.4	nd	nd

Table 1.4.—Continued

Element, units	Field horizon designation¹	N²	N < LLD	Min	Q1	Median	Mean	Q3	Max	MAD	Stdev
Yb, mg/kg	O	81	0	0.3	0.6	1.0	1.0	1.3	2.5	0.6	0.5
Yb, mg/kg	A and OA	49	0	0.9	1.7	2.2	2.0	2.4	2.8	0.4	0.5
Yb, mg/kg	B, B1, and B2	80	0	1.1	2.1	2.4	2.4	2.8	6.0	0.6	0.7
Yb, mg/kg	C	2	0	1.5	nd	nd	nd	nd	2.4	nd	nd
Zn, mg/kg	O	81	0	12	39	58	70	83	246	33	47
Zn, mg/kg	A and OA	49	0	26	52	72	75	89	140	30	28
Zn, mg/kg	B, B1, and B2	80	0	18	59	69	71	82	117	16	19
Zn, mg/kg	C	2	0	63	nd	nd	nd	nd	64	nd	nd
Zr, mg/kg	O	81	0	5.5	31.3	55.5	71.6	101.0	249.0	41.8	50.9
Zr, mg/kg	A and OA	49	0	49	128.0	146.0	165.7	208.0	420.0	72.6	69.9
Zr, mg/kg	B, B1, and B2	80	0	49.3	146.8	180.5	202.4	255.0	337.0	77.1	64.3
Zr, mg/kg	C	2	0	133	nd	nd	nd	nd	224.0	nd	nd

¹Statistical summaries were determined by pooling the data from samples with the horizon designations listed. Organic horizon samples were ashed prior to analysis. The elemental concentration of the organic samples was converted from ash weight to dry weight concentration. Because of this conversion, the dry weight concentration in the organic horizon samples may appear to be reported at values below the lower limit of detection for the element.

²Site and laboratory duplicates were not included.

Table 1.5. Statistical summary for chemical analysis for standard reference materials GSP-QC, SoNE and SRM-2709 by the multi-acid technique.

[min, minimum concentration measured in standard reference material; max, maximum concentration measured in standard reference material; N, number of analyses, N < LLD; number less than the lower limit of detection (LLD); CV, cumulative variance: Stdev, standard deviation; wt. %, weight percent, mg/kg, milligrams per kilogram; <, less than; nd, not determined; C_car, carbonate carbon; C_tot, total carbon]

Element, units	Value for SRM ¹	N	N < LLD	Min	Max	Mean	Stdev	Average CV, wt. %	Average bias, wt. %
Results for GSP-QC									
C_car, wt. %	0.09	18	0	0.08	0.1	0.09	0.01	8.3	1.2
C_tot, wt. %	0.18	18	0	0.16	0.23	0.19	0.02	10.8	3.1
Hg, mg/kg	0.26	17	0	0.23	0.27	0.26	0.01	5.6	-0.9
Se, mg/kg	3.97	18	0	3.8	4.4	4.02	0.15	3.8	1.3
Al, wt. %	7.57	15	0	6.78	7.7	7.23	0.26	3.6	-4.4
Ca, wt. %	1.5	15	0	1.39	1.59	1.49	0.06	4.4	-0.9
Fe, wt. %	2.77	15	0	2.64	3.11	2.83	0.13	4.7	2.2
K, wt. %	4.25	15	0	3.78	4.92	4.13	0.35	8.4	-2.8
Mg, wt. %	0.615	15	0	0.57	0.63	0.60	0.02	3.2	-2.4
Na, wt. %	1.87	15	0	1.69	1.89	1.78	0.07	3.9	-5.0
S, wt. %	0.074	15	0	0.05	0.08	0.07	0.01	13.2	-5.4
Ti, wt. %	0.339	15	0	0.29	0.35	0.32	0.02	5.0	-6.0
Ag, mg/kg	3.07	15	0	3	4	3.33	0.49	14.6	8.6
As, mg/kg	31.4	15	0	29	39	32.67	2.82	8.6	4.0
Ba, mg/kg	1,310	15	0	1,200	1,380	1,307.30	58.00	4.4	-0.2
Be, mg/kg	1.17	15	0	1.2	1.4	1.28	0.07	5.3	9.4
Bi, mg/kg	4.28	15	0	3.76	4.92	4.38	0.31	7.0	2.3
Cd, mg/kg	0.227	15	0	0.2	0.3	0.22	0.04	18.8	-3.1
Ce, mg/kg	405	15	0	352	455	409.47	32.17	7.9	1.1
Co, mg/kg	6.36	15	0	6.5	8.2	6.95	0.47	6.7	9.3
Cr, mg/kg	16.6	15	0	17	70	24.00	13.36	55.7	44.6
Cs, mg/kg	1.99	15	15	<5	<5	nd	nd	nd	nd
Cu, mg/kg	31.3	15	0	27.5	46.6	31.01	5.06	16.3	-0.9
Ga, mg/kg	22.2	15	0	19.6	23.8	22.05	1.09	5.0	-0.7
In, mg/kg	0.04	15	0	0.04	0.05	0.05	0.00	9.7	18.3
La, mg/kg	173	15	0	149	193	173.80	13.36	7.7	0.5
Li, mg/kg	34	15	0	30	35	32.67	1.72	5.3	-3.9
Mn, mg/kg	381	15	0	248	314	267.60	16.29	6.1	-29.8
Mo, mg/kg	1.31	15	0	1.21	2.68	1.47	0.34	23.5	11.9
Nb, mg/kg	18.6	15	0	15.9	22.3	19.53	1.72	8.8	5.0
Ni, mg/kg	11.5	15	0	8.6	16.7	10.66	2.31	21.7	-7.3
P, mg/kg	1,230	15	0	1,150	1,380	1,226.70	59.00	4.8	-0.3
Pb, mg/kg	40.4	15	0	34.4	46.8	40.79	3.56	8.7	1.0
Rb, mg/kg	228	15	0	212	279	245.20	18.26	7.5	7.5
Sb, mg/kg	0.877	15	0	0.79	0.98	0.88	0.05	6.1	0.3
Sc, mg/kg	6.23	15	0	5.7	6.7	6.27	0.36	5.8	0.7
Sn, mg/kg	4.72	15	0	4.4	5.5	4.96	0.30	6.0	5.1
Sr, mg/kg	226	15	0	197	231	212.80	10.32	4.9	-5.8
Te, mg/kg	4.07	15	0	3.5	4.3	4.11	0.24	5.9	1.1
Th, mg/kg	104	15	0	87.6	109	100.15	6.03	6.0	-3.7
Tl, mg/kg	2.07	15	0	1.9	2.5	2.16	0.15	7.2	4.3
U, mg/kg	2.27	15	0	2	2.6	2.20	0.16	7.1	-3.1
V, mg/kg	73.3	15	0	69	83	73.87	3.40	4.6	0.8
W, mg/kg	6.65	15	0	5.8	7.6	6.81	0.50	7.4	2.4
Y, mg/kg	25.5	15	0	19.4	26.6	24.23	2.04	8.4	-5.0
Zn, mg/kg	117	15	0	107	130	117.20	6.34	5.4	0.2

Table 1.5.—Continued

Variable, units	Preferred value for SRM [†]	N	N < LLD	Min	Max	Mean	Stdev	Average CV, wt. %	Average bias, wt. %
Results for SoNE									
C, car, wt. %	0.01	19	6	<0.003	0.02	nd	nd	nd	nd
C, tot, wt. %	1.85	18	0	1.82	1.96	1.88	0.04	2.1	1.7
Hg, mg/kg	0.03	19	0	0.03	0.03	0.03	0.00	0.0	0.0
Se, mg/kg	0.53	18	0	0.4	0.6	0.48	0.05	10.6	-8.8
Al, wt. %	6.31	19	0	5.47	7.3	6.13	0.42	6.8	-2.9
Ca, wt. %	0.63	19	0	0.57	0.81	0.65	0.06	8.6	2.6
Fe, wt. %	2.85	19	0	2.64	3.52	2.96	0.22	7.3	3.9
K, wt. %	1.88	19	0	1.64	2.08	1.80	0.13	7.2	-4.4
Mg, wt. %	0.63	19	0	0.56	0.77	0.64	0.05	7.3	0.8
Na, wt. %	0.74	19	0	0.61	0.85	0.72	0.05	7.4	-3.3
S, wt. %	0.03	19	0	0.02	0.04	0.03	0.01	17.8	-1.8
Ti, wt. %	0.27	19	0	0.23	0.29	0.26	0.02	7.4	-4.9
Ag, mg/kg	<1	19	18	<1	<1	nd	nd	nd	nd
As, mg/kg	11.2	19	0	11	14	12.74	0.87	6.9	13.7
Ba, mg/kg	729	19	0	655	919	744.60	61.20	8.2	2.1
Be, mg/kg	1.65	19	0	1.5	2.3	1.75	0.18	10.5	5.9
Bi, mg/kg	0.29	19	0	0.18	0.37	0.27	0.04	16.0	-5.3
Cd, mg/kg	0.44	19	0	0.4	0.6	0.46	0.06	12.9	5.3
Ce, mg/kg	71.4	19	0	63.9	85.8	73.26	6.02	8.2	2.6
Co, mg/kg	11.6	19	0	11.1	14.7	12.55	0.86	6.8	8.2
Cr, mg/kg	50.8	19	0	49	61	52.53	2.93	5.6	3.4
Cs, mg/kg	4.65	19	11	<5	6	nd	nd	nd	nd
Cu, mg/kg	22.3	19	0	19.1	29.9	22.30	2.62	11.8	0.0
Ga, mg/kg	13.8	19	0	11.8	16.5	13.94	1.18	8.5	1.0
In, mg/kg	0.046	19	0	0.05	0.06	0.05	0.00	7.3	12.1
La, mg/kg	36.5	19	0	32	44.8	37.00	3.49	9.4	1.4
Li, mg/kg	27.4	19	0	24	31	27.21	1.96	7.2	-0.7
Mn, mg/kg	630	19	0	536	766	611.80	51.10	8.4	-2.9
Mo, mg/kg	1.17	19	0	1.14	1.48	1.28	0.10	7.6	9.1
Nb, mg/kg	9.67	19	0	9.7	12.4	10.72	0.74	6.9	10.8
Ni, mg/kg	30.7	19	0	25.6	41.9	29.58	3.75	12.7	-3.7
P, mg/kg	508	19	0	490	640	532.63	39.14	7.4	4.8
Pb, mg/kg	22.7	19	0	20	29	22.86	2.28	10.0	0.7
Rb, mg/kg	88.3	19	0	82.6	118	95.43	7.33	7.7	8.1
Sb, mg/kg	1.29	19	0	1.21	1.57	1.38	0.10	7.1	6.9
Sc, mg/kg	8.96	19	0	8	10.2	9.03	0.65	7.2	0.7
Sn, mg/kg	1.7	19	0	1.5	2.2	1.75	0.18	10.5	2.8
Sr, mg/kg	133	19	0	116	144	126.68	7.23	5.7	-4.8
Te, mg/kg	0.1	19	16	<0.1	0.1	nd	nd	nd	nd
Th, mg/kg	12	19	0	10.2	13.6	11.62	0.90	7.8	-3.2
Tl, mg/kg	0.68	19	0	0.6	0.9	0.74	0.07	9.3	8.4
U, mg/kg	2.85	19	0	2.5	3.4	2.90	0.24	8.2	1.8
V, mg/kg	106	19	0	94	130	105.74	8.44	8.0	-0.2
W, mg/kg	0.98	19	0	0.6	1.2	1.03	0.14	14.1	4.7
Y, mg/kg	19.9	19	0	19.4	23.8	20.71	1.16	5.6	4.0
Zn, mg/kg	83	19	0	77	95	84.58	4.86	5.7	1.9

Table 1.5.—Continued

Variable, units	Certified value for SRM	N	N < LLD	Min	Max	Mean	Stdev	Average CV, wt. %	Average bias, wt. %
Results for SRM-2709									
C _{car} , wt. %	0.26	11	0	0.25	0.26	0.26	0.00	1.8	-1.1
C _{tot} , wt. %	1.85	11	0	1.07	1.2	1.12	0.04	4.0	-39.4
Hg, mg/kg	1.4	11	0	1.22	1.4	1.33	0.06	4.5	-4.9
Se, mg/kg	1.57	11	0	1.3	1.5	1.40	0.06	4.5	-10.8
Al, wt. %	7.5	10	0	5.83	7.93	7.02	0.53	7.5	-6.4
Ca, wt. %	1.89	10	0	1.5	2.21	1.87	0.17	9.3	-1.2
Fe, wt. %	3.5	10	0	2.96	3.93	3.49	0.26	7.4	-0.4
K, wt. %	2.03	10	0	1.5	2.14	1.88	0.17	9.3	-7.5
Mg, wt. %	1.51	10	0	1.18	1.71	1.47	0.13	9.0	-2.6
Na, wt. %	1.16	10	0	0.93	1.23	1.10	0.08	7.5	-5.3
S, wt. %	0.089	10	0	0.07	0.1	0.09	0.01	10.5	1.1
Ti, wt. %	0.342	10	0	0.23	0.32	0.28	0.02	8.6	-18.7
Ag, mg/kg	0.41	10	10	<1	<1	nd	nd	nd	nd
As, mg/kg	17.7	10	0	16	22	19.60	1.71	8.7	10.7
Ba, mg/kg	968	10	0	712	1,050	907.70	86.10	9.5	-6.2
Be, mg/kg	2.99	10	0	2.7	4	3.45	0.41	11.9	15.4
Bi, mg/kg	0.29	10	0	0.18	0.35	0.28	0.04	15.6	-4.1
Cd, mg/kg	0.38	10	0	0.3	0.5	0.40	0.05	11.8	5.3
Ce, mg/kg	42	10	0	39.2	49.7	44.52	3.17	7.1	6.0
Co, mg/kg	13.4	10	0	10.9	15.8	13.62	1.24	9.1	1.6
Cr, mg/kg	96.38	10	0	69	105	94.40	10.95	11.6	-2.1
Cs, mg/kg	5.3	10	1	<5	6	nd	nd	nd	nd
Cu, mg/kg	34.6	10	0	29.4	35.2	32.56	2.02	6.2	-5.9
Ga, mg/kg	14	10	0	13.1	17.7	15.14	1.17	7.8	8.1
In, mg/kg	0.048	10	0	0.04	0.06	0.05	0.01	13.0	12.5
La, mg/kg	23	10	0	20.2	24.7	22.69	1.55	6.8	-1.3
Li, mg/kg	52.62	10	0	43	56	51.80	3.97	7.7	-1.6
Mn, mg/kg	538	10	0	408	621	520.20	51.60	9.9	-3.3
Mo, mg/kg	2	10	0	1.9	2.51	2.21	0.19	8.4	10.4
Nb, mg/kg	7.39	10	0	6.7	9.1	8.09	0.64	7.9	9.5
Ni, mg/kg	88	10	0	63.5	82.5	74.83	5.96	8.0	-15.0
P, mg/kg	620	10	0	510	720	627.00	58.10	9.3	1.1
Pb, mg/kg	18.9	10	0	14.6	22.9	18.57	2.24	12.1	-1.7
Rb, mg/kg	96	10	0	82.5	112	95.94	8.00	8.3	-0.1
Sb, mg/kg	7.9	10	0	5.37	8.68	6.79	0.84	12.4	-14.1
Sc, mg/kg	12	10	0	9.8	13.7	12.02	1.07	8.9	0.2
Sn, mg/kg	1.55	10	0	1.1	1.9	1.59	0.21	13.4	2.6
Sr, mg/kg	231	10	0	177	227	214.20	14.37	6.7	-7.3
Te, mg/kg	0.114	10	8	<0.1	0.1	nd	nd	nd	nd
Th, mg/kg	11	10	0	9	11.7	10.78	0.86	7.9	-2.0
Tl, mg/kg	0.74	10	0	0.5	0.7	0.65	0.07	10.9	-12.2
U, mg/kg	3	10	0	2.3	3.4	2.93	0.33	11.4	-2.3
V, mg/kg	112	10	0	90	129	110.10	9.54	8.7	-1.7
W, mg/kg	2	10	0	1.6	2.2	1.88	0.21	11.2	-6.0
Y, mg/kg	18	10	0	12.2	17.1	15.06	1.24	8.2	-16.3
Zn, mg/kg	106	10	0	83	111	102.40	7.97	7.8	-3.4

¹GSP-QC, SoNE are non-certified USGS in-house standards. The elemental concentrations of the house standards summited with the field samples are compared to the preferred value for the standard established by the contract lab based. The preferred values are based on the repeated measurement of the standard over time. SRM-2709 is a National Institute of Standards and Technology certified standard. The elemental concentrations of SRM-2709 standards summited with the field samples are compared to the certified value for the standard.

Table 1.6. Results of chemical analysis of standard reference materials (SRM) GSP-QC and SoNE by the sinter technique, compared to preferred values.

[SRM, standard reference material; Min, minimum concentration measured in standard reference material; Max, maximum concentration measured in standard reference material; N, number of analyses, N < LLD; number less than the lower limit of detection (LLD); CV, cumulative variance: Stdev, standard deviation; wt. %, weight percent, mg/kg, milligrams per kilogram; <, less than; nd, not determined]

Element, units	Preferred value for SRM ¹	N	N < LLD	Min	Max	Mean	Stdev	Average CV, wt. %	Average bias, wt. %
Results for GSP-QC									
Al, wt. %	7.4	10	0	7.33	7.69	7.50	0.12	1.6	1.3
Ca, wt. %	1.55	10	0	1.5	1.6	1.51	0.03	2.1	-2.6
Fe, wt. %	2.85	10	0	2.77	2.86	2.83	0.03	0.9	-0.8
K, wt. %	4.12	10	0	4.1	4.5	4.30	0.13	3.1	4.4
Mg, wt. %	0.599	10	0	0.57	0.59	0.58	0.01	1.6	-3.2
Mn, wt. %	0.027	10	0	0.03	0.03	0.03	0.00	0.0	11.1
P, wt. %	0.118	10	0	0.1	0.14	0.12	0.01	9.4	4.2
Ti, wt. %	0.376	10	0	0.38	0.42	0.39	0.01	3.8	4.5
Ag, mg/kg	2.75	10	0	3	4	3.60	0.52	14.3	30.9
As, mg/kg	<30	10	0	30	40	32.00	4.22	13.2	nd
Ba, mg/kg	1,320	10	0	1,320	1,400	1,351.00	22.30	1.7	2.3
Be, mg/kg	<5			<5	<5	nd	nd	nd	nd
Bi, mg/kg	4.3	10	0	4.2	5	4.52	0.27	6.0	5.1
Cd, mg/kg	0.262	10	4	<0.2	0.3	nd	nd	nd	nd
Ce, mg/kg	369	10	0	381	423	403.20	14.70	3.6	9.3
Co, mg/kg	6.37	10	0	6.3	7.6	6.99	0.38	5.5	9.7
Cr, mg/kg	22.1	10	0	20	20	20.00	0.00	0.0	-9.5
Cs, mg/kg	1.99	10	0	1.8	2.1	1.96	0.12	6.0	-1.5
Cu, mg/kg	31.1	10	0	25	32	28.30	2.41	8.5	-9.0
Dy, mg/kg	5.56	10	0	5.54	6.02	5.75	0.14	2.5	3.5
Er, mg/kg	2.4	10	0	2.12	2.35	2.29	0.09	3.9	-4.7
Eu, mg/kg	2.02	10	0	2.06	2.26	2.14	0.07	3.4	6.1
Ga, mg/kg	22	10	0	22	24	23.20	0.79	3.4	5.5
Gd, mg/kg	14.8	10	0	11.5	12.8	12.25	0.39	3.2	-17.2
Ge, mg/kg	1.62	10	0	2	2	2.00	0.00	0.0	23.5
Hf, mg/kg	9.69	10	0	15	18	16.40	0.84	5.1	69.2
Ho, mg/kg	0.924	10	0	0.93	0.99	0.97	0.02	2.1	5.0
In, mg/kg	<0.2	10	10	<0.2	<0.2	nd	nd	nd	nd
La, mg/kg	166	10	0	166	191	179.40	6.57	3.7	8.1
Li, mg/kg	33.6	10	0	30	30	30.00	0.00	0.0	-10.7
Lu, mg/kg	0.248	10	0	0.22	0.29	0.26	0.02	8.2	5.2
Mo, mg/kg	<2	10	5	<2	3	nd	nd	nd	nd
Nb, mg/kg	22.6	10	0	24	26	25.50	0.71	2.8	12.8
Nd, mg/kg	186	10	0	183	201	195.20	6.30	3.2	4.9
Ni, mg/kg	10.6	10	0	15	23	19.10	2.33	12.2	80.2
Pb, mg/kg	43.3	10	0	33	38	35.90	1.45	4.0	-17.1
Pr, mg/kg	47.7	10	0	50.6	56.1	53.88	1.50	2.8	13.0
Rb, mg/kg	240	10	0	246	261	255.20	5.18	2.0	6.3
Sb, mg/kg	0.87	10	0	0.8	1.1	0.90	0.08	9.1	3.4
Sc, mg/kg	5.75	10	0	5	5	5.00	0.00	0.0	-13.0
Sm, mg/kg	23.8	10	0	23.3	25.8	24.88	0.79	3.2	4.5
Sn, mg/kg	4.88	10	0	5	6	5.10	0.32	6.2	4.5
Sr, mg/kg	219	10	0	210	228	216.50	6.04	2.8	-1.1
Ta, mg/kg	7.99	10	0	7.7	8.5	8.11	0.29	3.6	1.5
Tb, mg/kg	1.68	10	0	1.23	1.5	1.32	0.08	6.4	-21.3
Th, mg/kg	99.9	10	0	101	116	108.30	5.85	5.4	8.4
Tl, mg/kg	2.11	10	0	2	2.4	2.22	0.12	5.5	5.2
Tm, mg/kg	0.271	10	0	0.26	0.32	0.30	0.02	6.2	9.2
U, mg/kg	2.56	10	0	2.42	2.93	2.67	0.14	5.3	4.2
V, mg/kg	72.8	10	0	66	69	68.00	0.94	1.4	-6.6

Table 1.6.—Continued

Element, units	Preferred value for SRM ¹	N	N < LLD	Min	Max	Mean	Stdev	Average CV, wt. %	Average bias, wt. %
Results for GSP-QC									
W, mg/kg	6.33	10	0	7	7	7.00	0.00	0.0	10.6
Y, mg/kg	25	10	0	25	27.3	26.09	0.91	3.5	4.4
Yb, mg/kg	1.71	10	0	1.6	1.8	1.74	0.07	4.0	1.8
Zn, mg/kg	115	10	0	101	113	107.40	4.03	3.8	-6.6
Zr, mg/kg	518	10	0	546	622	583.10	23.48	4.0	12.6

Element, units	Preferred value for SRM ¹	N	N < LLD	Min	Max	Mean	Stdev	Average CV, wt. %	Average bias, wt. %
Results for SoNE									
Al, wt. %	6.1	2	0	6.07	6.46	6.27	0.28	4.4	2.7
Ca, wt. %	0.682	2	0	0.70	0.70	0.70	0.00	0.0	2.6
Fe, wt. %	2.94	2	0	2.76	2.84	2.80	0.06	2.0	-4.8
K, wt. %	1.8	2	0	2.00	2.00	2.00	0.00	0.0	11.1
Mg, wt. %	0.617	2	0	0.58	0.61	0.60	0.02	3.6	-3.6
Mn, wt. %	0.06	2	0	0.06	0.06	0.06	0.00	0.0	0.0
P, wt. %	0.06	2	0	0.05	0.40	0.23	0.25	110.0	275.0
Ti, wt. %	0.385	2	0	0.40	0.41	0.41	0.01	1.8	5.2
Ag, mg/kg	<1	2	2	<1	<1	nd	nd	nd	nd
As, mg/kg	<30	2	2	<30	<30	nd	nd	nd	nd
Ba, mg/kg	699	2	0	726.00	733.00	729.50	4.95	0.7	4.4
Be, mg/kg	<5	2	2	<5	<5	nd	nd	nd	nd
Bi, mg/kg	0.27	2	0	0.20	0.40	0.30	0.14	47.1	11.1
Cd, mg/kg	0.44	2	0	0.40	0.60	0.50	0.14	28.3	13.6
Ce, mg/kg	73.8	2	0	75.40	88.00	81.70	8.91	10.9	10.7
Co, mg/kg	11.5	2	0	11.60	13.80	12.70	1.56	12.3	10.4
Cr, mg/kg	70	2	0	60.00	70.00	65.00	7.07	10.9	-7.1
Cs, mg/kg	4.2	2	0	4.80	5.10	4.95	0.21	4.3	17.9
Cu, mg/kg	23	2	0	21.00	25.00	23.00	2.83	12.3	0.0
Dy, mg/kg	5.26	2	0	5.45	5.92	5.69	0.33	5.9	8.1
Er, mg/kg	3.39	2	0	3.33	3.42	3.38	0.06	1.9	-0.4
Eu, mg/kg	1.26	2	0	1.21	1.37	1.29	0.11	8.8	2.4
Ga, mg/kg	13.9	2	0	15.00	15.00	15.00	0.00	0.0	7.9
Gd, mg/kg	5.87	2	0	5.83	5.92	5.88	0.06	1.1	0.1
Ge, mg/kg	2	2	0	1.00	2.00	1.50	0.71	47.1	-25.0
Hf, mg/kg	9	2	0	11.00	12.00	11.50	0.71	6.2	27.8
Ho, mg/kg	1.09	2	0	1.05	1.15	1.10	0.07	6.4	0.9
In, mg/kg	<2	2	1	<0.2	0.30	nd	nd	nd	nd
La, mg/kg	38.3	2	0	38.60	39.50	39.05	0.64	1.6	2.0
Li, mg/kg	26.8	2	0	30.00	30.00	30.00	0.00	0.0	11.9
Lu, mg/kg	0.49	2	0	0.51	0.57	0.54	0.04	7.9	10.2
Mo, mg/kg	<2	1	1	<2	2.00	nd	nd	nd	nd
Nb, mg/kg	14.4	2	0	15.00	16.00	15.50	0.71	4.6	7.6
Nd, mg/kg	32.8	2	0	33.10	34.40	33.75	0.92	2.7	2.9
Ni, mg/kg	30.6	2	0	31.00	33.00	32.00	1.41	4.4	4.6
Pb, mg/kg	24.1	2	0	20.00	22.00	21.00	1.41	6.7	-12.9
Pr, mg/kg	8.63	2	0	8.92	9.39	9.16	0.33	3.6	6.1
Rb, mg/kg	92.5	2	0	91.70	97.40	94.55	4.03	4.3	2.2
Sb, mg/kg	1.36	2	0	1.30	1.60	1.45	0.21	14.6	6.6
Sc, mg/kg	8.39	2	0	8.00	8.00	8.00	0.00	0.0	-4.6

Table 1.6.—Continued

Element, units	Preferred value for SRM ¹	N	N < LLD	Min	Max	Mean	Stdev	Average CV, wt. %	Average bias, wt. %
Results for SoNE									
Sm, mg/kg	6.32	2	0	6.10	6.60	6.35	0.35	5.6	0.5
Sn, mg/kg	1.9	2	0	2.00	2.00	2.00	0.00	0.0	5.3
Sr, mg/kg	125	2	0	134.00	136.00	135.00	1.41	1.1	8.0
Ta, mg/kg	0.967	2	0	1.00	1.10	1.05	0.07	6.7	8.6
Tb, mg/kg	0.931	2	0	0.89	0.91	0.90	0.01	1.6	-3.3
Th, mg/kg	11.64	2	0	12.00	12.50	12.25	0.35	2.9	5.2
Tl, mg/kg	0.7	2	0	0.70	0.80	0.75	0.07	9.4	7.1
Tm, mg/kg	0.479	2	0	0.52	0.54	0.53	0.01	2.7	10.6
U, mg/kg	3.55	2	0	3.37	3.66	3.52	0.21	5.8	-1.0
V, mg/kg	108	2	0	106.00	107.00	106.50	0.71	0.7	-1.4
W, mg/kg	1.9	2	0	1.00	2.00	1.50	0.71	47.1	-21.1
Y, mg/kg	30.6	2	0	31.10	32.70	31.90	1.13	3.6	4.2
Yb, mg/kg	3.27	2	0	3.30	3.70	3.50	0.28	8.1	7.0
Zn, mg/kg	81.4	2	0	73.00	97.00	85.00	17.00	20.0	4.4
Zr, mg/kg	400	2	0	374.00	420.00	397.00	32.50	8.2	-0.8

¹GSP-QC, SoNE are non-certified USGS in-house standards. The elemental concentrations of the house standards summited with the field samples are compared to the preferred value for the standard established by the contract lab based. The preferred values are based on the repeated measurement of the standard over time.

Table 1.7. Root mean square (RMS), scaled mean absolute difference (MAD), and the estimated overall bias for laboratory splits (analytical duplicate samples), for elements determined by the multi-acid technique for mineral (A, B, B1, B2, or C horizon designation) soils horizons (arranged by increasing RMS precision).

[N, number of duplicate pairs; N < LLD, number less than the lower limit of detection (LLD); Nused, number of duplicates pairs used in the statistical analysis; Min, minimum concentration measured among pooled duplicate pairs; Max, maximum concentration measured among pooled duplicate pairs; C_tot, total carbon; mg/kg, milligrams per kilogram; <, less than; RMS; root mean square of pooled duplicate pairs; scaled mean absolute difference of pooled duplicate pairs; nd, not determined]

Element	N	N < LLD	N used ¹	Min	Max	Mean of all duplicates	Standard deviation of all duplicates	RMS precision, in percent	MAD precision, in percent	Estimate of overall bias, in percent
Ba, mg/kg	20	0	20	169	1,160	673	244	2.9	1.0	-2.2
C_tot, wt. %	20	0	20	0.51	32	5.9	7.3	3.7	2.4	-0.6
Ca, wt. %	20	0	20	0.13	6.34	2.2	1.7	4.6	3.3	0.4
Na, wt. %	20	0	20	0.12	2.07	1.0	0.5	4.6	2.9	0.6
Al, wt. %	20	0	20	1.64	9.31	5.8	2.0	4.7	3.1	0.4
Li, mg/kg	20	0	20	3	60	28.5	15.3	5.3	3.1	1.4
Sr, mg/kg	20	0	20	18.7	312	168.3	68.2	5.5	4.0	2.6
Fe, wt. %	20	0	20	1.13	17.5	4.1	3.2	5.8	3.9	2.5
Mg, wt. %	20	0	20	0.12	1.77	1.0	0.4	5.8	3.3	0.9
Mn, mg/kg	20	0	20	157	5,980	799.3	1,199.7	6.8	3.8	0.5
Cr, mg/kg	20	0	20	17	113	68.3	22.2	7.0	5.1	-3.1
P, mg/kg	20	0	20	340	1060	666.5	184.0	7.1	3.3	0.9
V, mg/kg	20	0	20	33	220	118.3	42.4	7.3	5.3	-4.0
Mo, mg/kg	20	0	20	0.39	4.24	1.2	0.8	7.6	4.9	2.7
Zn, mg/kg	20	0	20	16	138	75.5	23.1	7.9	5.2	3.1
Ti, wt. %	20	0	20	0.05	0.64	0.3	0.1	8.0	6.0	-4.0
Ga, mg/kg	20	0	20	2.81	24.5	13.6	5.2	8.3	6.0	-1.4
K, wt. %	20	0	20	0.23	2.41	1.4	0.6	8.3	5.7	-2.9
Pb, mg/kg	20	0	20	2.6	26.8	13.7	6.1	8.7	5.5	2.9
Nb, mg/kg	20	0	20	1.3	13.9	6.3	3.4	9.0	6.7	1.1
Co, mg/kg	20	0	20	4.9	463	35.4	94.3	9.0	5.4	3.0
Cs, mg/kg	20	32	4	<5	15	11.6	2.6	9.0	5.6	4.5
Ni, mg/kg	20	0	20	14.3	48.7	30.1	8.2	9.5	7.0	5.4
La, mg/kg	20	0	20	5.7	40.3	22.1	9.6	9.7	6.1	4.0
Sb, mg/kg	20	0	20	0.32	2.22	0.9	0.5	9.8	6.9	3.3
Ce, mg/kg	20	0	20	10.7	83.4	44.5	19.1	10.0	6.6	4.6
Y, mg/kg	20	0	20	5.9	19.9	12.1	3.1	10.1	7.0	5.6
U, mg/kg	20	0	20	0.8	5.6	2.0	1.2	10.1	7.1	5.5
Cu, mg/kg	20	0	20	7	194	38.9	39.8	10.3	6.9	0.4
Sc, mg/kg	20	0	20	4.4	19.5	12.3	4.6	10.5	6.5	4.8
Tl, mg/kg	20	2	19	<0.1	0.9	0.5	0.2	10.7	5.6	-4.0
Rb, mg/kg	20	0	20	7.8	142	72.6	36.0	11.4	6.4	4.4
Th, mg/kg	20	0	20	1.1	16.3	7.3	3.6	11.4	7.7	5.6
S, wt. %	20	3	20	<0.01	0.21	0.0	0.0	12.5	5.2	4.1
Sn, mg/kg	20	0	20	0.2	4.3	1.7	1.0	12.6	9.1	5.6
As, mg/kg	20	0	20	2	56	13.1	12.8	13.7	8.4	6.7
Be, mg/kg	20	0	20	0.3	3	1.4	0.6	14.0	10.5	4.9
Hg, mg/kg	20	1	19	<0.01	0.09	0.0	0.0	14.2	7.3	-0.96
In, mg/kg	20	2	19	<0.02	0.1	0.1	0.0	15.3	8.7	6.9
Se, mg/kg	20	5	16	<0.2	1	0.4	0.2	15.8	9.5	4.1
Cd, mg/kg	20	3	18	<0.1	0.9	0.3	0.2	17.9	10.8	3.0
Bi, mg/kg	20	0	40	0.04	2.41	0.3	0.4	23.9	12.3	4.6
C_car, wt. %	20	0	40	0.01	1.91	0.3	0.6	31.4	19.9	-14.4
Ag, mg/kg	20	40	0	<1	<1	nd	nd	nd	nd	nd
Te, mg/kg	20	40	0	<0.1	<0.1	nd	nd	nd	nd	nd

¹Only duplicate pairs for which both determinations were above the lower limit of detection were used in the statistical calculations.

Table 1.8. Root mean square (RMS), scaled mean absolute difference (MAD), and the estimated overall bias for laboratory splits (analytical duplicates) for elements determined by the multi-acid technique for organic soils horizons (arranged by increasing RMS precision).

[N, number of duplicate pairs; N < LLD¹, number less than the lower limit of detection (LLD); N used, number of duplicates pairs used in the statistical analysis min, minimum concentration measured among pooled duplicate pairs; max, maximum concentration measured among pooled duplicate pairs; C_{tot}, total carbon; C_{car}, carbonate carbon; wt. %, weight percent, mg/kg, milligrams per kilogram; <, less than; nd, not determined]

Element, units	N	N < LLD ¹	N used ²	Min	Max	Mean of all duplicates	Standard deviation of all duplicates	RMS precision, wt. %	MAD precision, wt. %	Estimate of overall bias, wt. %
C _{tot} , wt. %	10	0	10	10.2	44.5	26.2	9.3	4.2	2.6	-1.1
Hg, mg/kg	10	0	10	0.04	0.13	0.1	0.0	4.7	2.2	0.6
Cs, mg/kg	10	14	3	< 5	17	2.8	8.9	6.8	2.4	-1.9
V, mg/kg	10	0	10	43	191	125.5	36.1	8.3	4.3	-2.7
K, wt. %	10	0	10	0.52	2.61	1.5	0.6	8.5	5.8	0.7
Al, wt. %	10	0	10	2.04	8.36	6.0	2.0	9.3	5.2	-4.0
P, mg/kg	10	0	10	830	4,330	2,394.0	1,024.1	9.4	6.0	-4.0
Ga, mg/kg	10	0	10	6.97	21.3	14.5	4.5	9.4	4.8	-1.9
Ba, mg/kg	10	0	10	462	2340	985.1	549.4	9.6	5.3	-4.0
Rb, mg/kg	10	0	10	17	160	83.2	39.6	9.6	5.2	-2.2
Tl, mg/kg	10	0	10	0.2	1.2	0.6	0.3	10.1	6.1	-4.9
Na, wt. %	10	0	10	0.13	2.34	1.0	0.6	10.1	5.4	-2.3
Y, mg/kg	10	0	10	6.4	27.6	14.7	5.1	10.2	5.7	-2.0
Zn, mg/kg	10	0	10	55	364	164.2	94.7	10.3	7.2	-5.2
Sr, mg/kg	10	0	10	76.7	607	273.0	0.5	10.5	6.3	-2.3
Cr, mg/kg	10	0	10	27	99	61.2	19.1	10.7	9.1	5.1
U, mg/kg	10	0	10	0.9	7.7	2.5	1.8	10.8	6.4	-3.6
Th, mg/kg	10	0	10	2.2	12.9	6.8	2.8	10.8	5.5	-2.9
Mg, wt. %	10	0	10	0.28	2.08	1.1	0.5	11.1	5.8	-4.2
Sb, mg/kg	10	0	10	0.59	3.02	1.4	0.8	11.3	6.1	-4.5
Li, mg/kg	10	0	10	7	58	27.2	17.0	11.5	6.0	-2.8
Fe, wt. %	10	1	9	2.27	> 15	4.8	5.1	11.6	5.8	-4.5
Cu, mg/kg	10	0	10	16.7	223	75.4	66.9	11.8	8.4	-1.5
Mo, mg/kg	10	0	10	0.68	19.3	5.2	5.2	12.0	6.9	-3.9
Mn, mg/kg	10	1	9	282	>10,000	4,655.9	13,749.4	12.2	7.6	-5.6
Co, mg/kg	10	0	10	8.6	2,570	244.1	702.6	12.3	7.2	-3.6
Ti, wt. %	10	0	10	0.05	0.48	0.2	0.1	12.4	8.5	-6.4
Sc, mg/kg	10	0	10	8.6	22.4	14.1	4.3	12.4	6.9	-2.2
Ca, wt. %	10	0	10	0.86	22.8	5.2	6.0	12.4	7.7	-4.8
Se, mg/kg	10	7	6	< 0.2	0.7	0.4	0.1	12.4	8.5	-1.2
Cd, mg/kg	10	0	10	0.1	4.7	1.9	1.2	12.4	7.2	-5.2
Sn, mg/kg	10	0	10	0.5	4.6	1.7	1.0	12.8	8.4	-4.9
S, wt. %	10	0	10	0.04	1.65	0.3	0.4	13.0	9.7	2.0
Ce, mg/kg	10	0	10	23	74.9	42.7	14.1	13.1	7.5	2.8
La, mg/kg	10	0	10	9.7	39.3	21.3	8.0	13.9	8.8	-6.5
Pb, mg/kg	10	0	10	6.9	31.9	17.6	7.2	14.1	10.1	-8.0
Ni, mg/kg	10	0	10	16.9	69	41.2	13.7	14.2	8.8	-7.1
As, mg/kg	10	0	10	4	51	12.9	10.5	14.8	8.2	-4.6
In, mg/kg	10	0	10	0.02	0.08	0.1	0.0	15.3	7.9	-6.3
Be, mg/kg	10	0	10	0.8	3.4	1.8	0.7	15.7	8.4	-2.7
W, mg/kg	10	0	10	0.3	3.9	1.0	0.9	16.8	11.9	-9.5
Bi, mg/kg	10	0	10	0.06	0.59	0.2	0.1	18.5	12.6	0.2
Nb, mg/kg	10	0	10	1.1	11.3	4.6	3.1	20.5	15.1	-5.9
C _{car} , wt. %	10	0	10	0.01	0.3	0.1	0.1	45.6	39.2	31.3
Ag, mg/kg	10	18	1	<1	2	nd	nd	nd	nd	nd
Te, mg/kg	10	17	0	<0.1	0.2	nd	nd	nd	nd	nd

¹Organic horizon samples were ashed prior to analysis. The elemental concentration of the organic samples was converted from ash weight to dry weight concentration. Because of this conversion, the dry weight concentration in the organic horizon samples may appear to be reported at values below the lower limit of detection for the element or greater than the upper limit of determination.

²Only duplicate pairs for which both determinations were above the lower limit of detection were used in the statistical calculations.