

Table 1. Water Chemistry for samples collected in the central Aleutian Islands, August 11–20, 2015.

[Concentrations of aluminum (Al), arsenic (As), boron (B), barium (Ba), bromide (Br), calcium (Ca), cadmium (Cd), chlorine; chloride (Cl), cobalt (Co), chromium (Cr), copper (Cu), fluorine (F), iron (Fe), bicarbonate (HCO₃), potassium (K), lithium (Li), manganese (Mn), molybdenum (Mo), sodium (Na), ammonia (NH₃), nickel (Ni), nitrate (NO₃), phosphate (PO₄), rubidium (Rb), selenium (Se), silica (SiO₂), sulfate (SO₄), strontium (Sr), zinc (Zn) listed in milligrams per liter. Type refers to type of hydrothermal feature sampled; hot spring (HS), fumarole (F), mud posts (MP). Temperature is listed in degrees Celsius. Total dissolved solids (TDS); delta deuterium (δD); ¹⁸O/¹⁶O in sample compared to that of standard mean ocean water (δ¹⁸O); per mil, parts per million]

Sample	Location Note	Date	Type	Temp	pH (L)	Al	As	B	Ba	Br	Ca	Cd	Cl	Co	Cr	Cu	F	Fe	HCO ₃	K	Li	Mg	Mn	Mo	Na	NH ₃	Ni	NO ₃	PO ₄	Rb	Se	SiO ₂	SO ₄	Sr	Zn	TDS	Cation	Anion	Balance, in percent	δD (per mil)	δ ¹⁸ O (per mil)
Akutan Volcano																																									
AK-02	Lower area	8/17/15	HS	100	7.93	<0.011	1.61	25.1	0.038	3.79	72.7	<0.011	1130	<0.011	<0.011	<0.011	0.67	0.06	41.3	49.1	1.7	2.1	0.15	<0.011	635	na	<0.011	<0.01	<0.01	0.269	<0.055	169	56	1.080	<0.022	2190	33.0	33.8	−2.7	−65.87	−8.12
AK-03	Lower area- group B	8/17/15	HS	76.3	6.51	<0.011	1.05	15.9	0.022	2.28	44.5	<0.011	706	<0.011	<0.011	<0.011	0.52	0.86	120	37.9	1.3	4.0	0.25	<0.011	425	na	<0.011	<0.01	0.040	0.173	<0.055	141	30	0.554	<0.022	1530	22.0	22.6	−1.5	−67.53	−9.01
AK-04	Lower area- group A	8/17/15	HS	89.4	6.71	<0.011	1.54	24.5	0.039	3.17	44.7	<0.011	985	<0.011	<0.011	<0.011	0.64	0.08	113	50.8	1.9	3.6	0.22	<0.011	607	na	<0.011	<0.01	0.010	0.261	<0.055	173	39	0.638	<0.022	2050	30.0	30.5	−0.2	−67.51	−8.48
AK-05	Lower area- group A	8/17/15	HS	67	6.77	<0.005	0.78	15.1	0.037	1.95	44.5	<0.005	615	<0.005	<0.005	<0.005	0.31	0.99	111	32.8	1.1	6.5	0.27	<0.005	360	na	<0.005	<0.01	0.020	0.158	<0.025	118	24	0.444	<0.01	1330	19.0	19.7	−1.1	−67.78	−9.16
AK-09	Upper area	8/21/15	spring	26	2.49	17.6	<0.005	0.2	0.034	<0.01	85.6	<0.005	4.0	<0.005	<0.05	<0.005	0.11	97.10		8.0	0.0	30.6	2.67	<0.005	52	28.3	<0.005	<0.01	0.080	<0.05	<0.025	300	1000	0.298	0.120	1640	21.0	21.1	0.9	−39.34	−2.64
AK-11	Upper area	8/21/15	MP	69	2.70	10.1	<0.005	0.1	0.047	<0.01	60.0	<0.005	1.6	<0.005	<0.05	<0.005	0.18	29.60		4.0	0.0	21.3	2.17	<0.005	17.0	80	<0.005	0.010	0.170	<0.05	<0.025	205	720	0.300	0.100	1150	15.0	15.0	−1.4	−25.63	1.94
AK-12	Upper area	8/21/15	spring	18.6	6.48	<0.001	<0.001	0.0	0.008	0.01	6.9	<0.001	6.2	<0.001	<0.001	<0.001	0.07	0.00	26.4	0.7	<0.001	1.9	<0.001	<0.001	5.5	0.200	<0.001	<0.01	<0.01	<0.01	<0.005	23	11	0.041	<0.002	82	0.8	0.8	−7.8	−68.12	−9.78
Fisher Caldera																																									
FI-03	Hot spring valley	8/19/15	HS	48.3	6.43	<0.005	0.21	2.1	0.053	0.85	70.2	<0.005	239	<0.005	<0.005	<0.005	0.50	3.17	645	27.2	0.2	108.0	0.06	<0.005	261	na	<0.005	<0.01	<0.01	0.057	<0.025	195	340	0.331	<0.01	1890	25.0	24.3	1.1	−61.14	−8.22
FI-04	Hot spring valley	8/19/15	HS	46	6.43	<0.005	0.17	2.0	0.044	0.76	69.4	<0.005	217	<0.005	<0.005	<0.005	0.54	3.50	572	25.9	0.2	90.1	0.09	<0.005	243	na	0.006	<0.01	0.020	0.051	<0.025	182	330	0.318	<0.01	1740	22.0	22.4	−0.3	−63.37	−8.27
FI-05	Hot spring valley	8/19/15	stream	24	7.07	<0.002	0.05	1.3	0.021	0.34	42.7	<0.002	106	<0.002	<0.002	0.003	0.73	0.29	403	10.4	0.1	62.0	0.18	0.002	120	na	0.003	<0.01	0.010	0.020	<0.01	79	150	0.167	0.004	972	13.0	12.6	0.9	−67.2	−9.16
FI-06	Turquoise (Acid) lake	8/20/15	lake	14.4	1.73	10.0	0.58	3.0	0.067	2.47	85.9	<0.011	890	<0.011	<0.02	<0.011	0.69	9.26		101.0	0.9	3.9	2.82	<0.011	436	0.200	<0.011	<0.01	<0.01	0.390	<0.055	188	1100	0.886	0.077	2800	47.0	47.1	−1.2	−54.15	−6.6
FI-07	West Metrogoon lake	8/20/15	lake	12.7	6.85	<0.001	<0.001	0.0	<0.001	0.02	1.3	<0.001	7.1	<0.001	<0.001	0.002	0.03	<0.003	13	0.5	<0.001	0.9	<0.001	<0.001	5.4	na	<0.001	<0.01	0.030	<0.01	<0.005	2	2	0.005	0.003	33	0.382	0.46	−18.4	−61.19	−8.44
Geyser Bight																																									
GB-02	Upper area-high	8/16/15	HS	47	3.01	3.0	<0.002	<0.01	0.126	<0.01	21.4	<0.002	2.6	0.021	<0.002	0.057	0.08	0.22		2.1	0.0	14.3	1.03	<0.002	7.5	0.900	0.011	<0.01	<0.01	<0.02	<0.01	78	200	0.178	0.104	334	4.0	4.3	−6.2	−53.87	−1.17
GB-05	Upper area - lower	8/16/15	HS	94	5.26	0.02	0.01	0.0	0.033	<0.01	7.4	<0.002	3.2	0.004	<0.002	0.003	0.03	0.43	2.9	1.8	<0.002	4.4	0.30	<0.002	7.7	0.900	<0.002	0.010	<0.01	<0.02	<0.01	64	53	0.048	0.006	146	1.2	1.2	−3.4	−59.78	−3.51
GB-06	Upper area - lower	8/16/15	HS	89	4.98	<0.002	0.01	<0.01	0.040	<0.01	10.9	<0.002	3.5	<0.002	<0.002	<0.002	0.04	<0.006	2	2.1	<0.002	4.7	0.15	<0.002	9.6	na	<0.002	0.040	0.040	<0.02	<0.01	74	61	0.071	<0.004	168	1.406	1.41	−0.1	−64.62	−6.49
GB-08	Lower area	8/16/15	HS/F	99.6	8.39	0.04	6.10	51.7	<0.005	2.28	20.9	0.016	580	<0.005	<0.005	<0.005	1.96	<0.015	61.3	28.4	3.1	0.1	<0.005	0.036	428	na	<0.005	<0.01	0.030	0.349	<0.025	228	160	0.144	<0.01	1570	21.0	21.1	−1.1	−67.65	−8.71
GB-09	Lower area	8/16/15	HS	69	7.70	0.01	1.31	18.4	0.011	0.78	25.2	0.004	206	<0.002	<0.002	0.002	0.46	<0.006	62.3	6.9	0.9	2.4	0.00	0.003	144	na	<0.002	0.040	0.030	0.079	<0.01	104	56	0.204	<0.004	629	8.0	8.1	−0.7	−68.61	−9.3
GB-10	Lower area	8/16/15	HS	98	8.66	0.20	5.96	51.1	<0.005	2.28	21.3	0.016	573	<0.005	<0.005	<0.005	2.03	<0.015	71.5	31.6	2.8	0.0	<0.005	0.032	432	na	<0.005	<0.01	0.020	0.374	<0.025	335	160	0.133	<0.01	1690	21.0	21.0	0.2	−68.12	−8.99
Makushin Volcano																																									
MK-01	Upper Glacier valley	8/11/15	HS	99	8.06	0.04	<0.002	1.8	0.022	<0.01	15.3	<0.002	5.8	<0.002	<0.002	<0.002	0.09	<0.006	65.5	1.3	<0.002	5.1	0.04	<0.002	10.0	na	<0.002	<0.01	0.020	<0.02	<0.01	43	19	0.063	<0.004	167	1.7	1.6	1.0	−72.93	−9.65
MK-02	Upper Glacier valley	8/11/15	HS	93.6	6.94	0.00	<0.002	0.8	0.057	<0.01	26.7	<0.002	5.4	<0.002	<0.002	<0.002	0.05	0.12	115	2.0	<0.002	7.5	0.20	<0.002	13.9	na	<0.002	<0.01	0.020	<0.02	<0.01	59	27	0.144	<0.004	258	2.6	2.6	0.4	−81	−11.02
MK-05	Makushin Valley	8/9/15	pool	16	7.03	0.02	0.00	0.0	0.002	0.01	15.8	<0.001	3.9	0.001	<0.005	0.003	0.04	0.86	80.1	1.7	0.0	3.6	0.29	<0.001	11.6	na	<0.001	<0.01	<0.01	<0.01	<0.005	18	0.4	0.104	0.004	136	1.7	1.4	16.2	−60.76	−5.12
Tana volcano																																									
Tana-1	Tana north side	8/12/15	HS	95.8	6.89	0.14	<0.002	0.0	0.061	<0.01	84.3	<0.002	6.3	<0.002	<0.002	<0.002	0.16	<0.006	56.6	10.9	0.0	23.6	0.91	<0.002	33.3	0.300	<0.002	<0.01	0.020	0.035	<0.01	216	320	0.297	0.005	757	7.9	7.9	1.3	−62.2	−9
Tana-2	Tana east side	8/14/15	HS/F	95.5	3.34	2.2	<0.002	0.0	0.109	0.42	9.6	<0.002	117	0.003	0.002	0.010	0.04	1.64		10.3	<0.002	7.4	0.25	<0.002	65.9	1.400	<0.002	0.110	0.020	0.025	<0.01	77	84	0.055	0.058	377	4.6	5.1	−8.4	−51.61	−7.18