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Deligne, N.I., Conrey, R.M., Cashman, K.V., Champion, D.E., and Amidon, W.H., 2016, Holocene volcanism of the upper McKenzie River catchment, central Oregon Cascades, USA: GSA Bulletin, doi:10.1130/B31405.1.

Supplementary file for Deligne et al. (2016) ***Holocene volcanism of the upper McKenzie River catchment, central Oregon Cascades, USA***

Detailed Method: Quantitative dating

We used three quantitative dating techniques to date single units of the SMVF: existing ^{14}C ages of both charred material found at the base of lava units and drowned Douglas-fir trees submerged in Clear Lake (Table 1), analysis of paleomagnetic secular variation, and cosmogenic ^{3}He surface exposure dating of single lava units.

Paleomagnetic analyses measure the orientation and strength of magnetic grains that aligned with the ambient magnetic field when the lava flows cooled. As the geomagnetic field varies with time, it is sometimes possible to determine whether different lava units were emplaced at similar times; when used in conjunction with absolute age dating methods (e.g., ^{14}C or surface age exposure dating), it is sometimes possible to attribute a given secular variation to a specific time period. Paleomagnetic samples were collected, processed, and interpreted using the methods described in McElhinny (1973). We cored selected lava units over the course of four field seasons (1973, 1974, 2002, 2011); we sampled sites with no evidence of post-emplacement slumps, fractures, or other post-emplacement movement. We also collected samples for XRF analysis at or within 100 m of each site to confirm eruptive unit assignment. Samples were taken in the field using a hand-held, gasoline-powered, 2.5-cm coring drill and oriented using a sun compass. Eight to twelve, 10-cm-long samples were taken at each site. We measured the 2.5-cm-long specimens using a manual and then an automated cryogenic magnetometer and subjected them to alternating-field (AF) demagnetization to remove secondary components of magnetization; this work was done at the US Geological Survey Menlo Park Volcano Science Center. These very young mafic volcanic rocks were sometimes found to be free of secondary

magnetizations, such that we could use the natural remanent magnetic values (NRM). The characteristic direction of remanent magnetization for each site was calculated using Fisher statistics on data from NRM measurements, a blanket level of AF treatment, and from line fits of data on vector component diagrams.

Cosmogenic ^{3}He surface exposure dating measures the ^{3}He concentration within olivine grains collected within < 4 cm of the surface; the longer the grain has been exposed to cosmogenic radiation, the greater the abundance of cosmogenically produced ^{3}He (Cerling 1990). Given a ^{3}He production rate and a scaling factor accounting for elevation and latitude, it is possible to determine the length of time that olivine grains have been exposed to energetic atmospheric neutrons. We collected samples for cosmogenic ^{3}He surface exposure dating of olivine grains during the 2009 field season. We sampled only exposed sites with no evidence of post-emplacement erosion or coverage by soil or loose material; we also collected samples at each site to confirm eruptive unit assignment using XRF analysis. Olivine grains from the top 4 cm of the samples were processed for ^{3}He dating. Olivine grains were prepared at the University of Oregon and analyses were conducted at the California Institute of Technology following the procedure in Amidon et al. (2011). In-vacuo crushing analyses were not performed. Instead, samples were crushed and sieved through a 25 μm sieve prior to analysis in an effort to reduce the concentration of trapped magmatic gases. The very small amount of ^{4}He released during analysis confirmed that magmatic contributions were negligible. Uncertainty on ^{3}He concentrations ranges from 1.5 – 4%, whereas uncertainty on ^{4}He concentrations ranges from 5 – 10% due to large blank corrections. To determine lava age based on obtained ^{3}He concentration, we use Licciardi et al.'s (1999) calibrated production rate for the SMVF (114 g^{-1} yr^{-1}) scaled for each site using the method of Desilets et al. (2006). We do not correct for topographic shielding

and cover from vegetation and/or snow, as we expect these to be minimal. The error associated with our ages ranges from 6 – 10%.

Quantitative dating method references

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Licciardi, J.M., Kurz, M.D., Clark, P.U., and Brook, E.J., 1999, Calibration of cosmogenic ^{3}He production rates from Holocene lava flows in Oregon, USA, and effects of the Earth's magnetic field: Earth and Planetary Science Letters, v. 172, p. 261–271.

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TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RCEWEB1-1	RCNSH-5	RCSM-1	RCBKP-6	SHE95-TFJ23	SHE95-TFJ24	SHE95-TFJ25	SHE95-TFJ26	RC95-01	RC95-02	RC95-03	RC95-04
Unnormalized major elements (weight %)												
SiO2	52.40	49.37	51.62	50.77	50.60	50.44	50.78	52.62	51.47	53.63	51.21	53.64
TiO2	1.336	1.382	1.249	1.346	1.307	1.318	1.297	1.281	1.463	1.330	1.449	1.296
Al2O3	17.25	16.32	16.97	16.90	17.15	17.22	17.23	17.19	17.00	18.13	17.10	18.05
FeO*	8.05	8.39	7.43	8.42	8.54	8.47	8.94	7.80	8.74	8.21	8.86	7.94
MnO	0.144	0.149	0.129	0.148	0.158	0.158	0.157	0.137	0.155	0.141	0.155	0.137
MgO	6.61	8.28	5.78	8.01	7.73	7.60	7.54	6.41	8.59	5.87	8.52	5.85
CaO	9.46	8.90	8.73	8.51	8.98	9.02	8.98	9.01	9.10	8.62	9.42	8.62
Na2O	3.45	3.31	3.63	3.55	3.31	3.24	3.14	3.52	3.46	3.97	3.39	3.93
K2O	0.97	0.81	0.81	0.70	0.58	0.58	0.56	0.85	0.79	0.83	0.67	0.81
P2O5	0.384	0.337	0.365	0.302	0.290	0.290	0.274	0.377	0.357	0.403	0.329	0.385
Sum	100.05	97.25	96.71	98.66	98.65	98.34	98.90	99.20	101.13	101.13	101.10	100.66
Normalized major elements (weight %)												
SiO2	52.37	50.77	53.37	51.46	51.30	51.29	51.35	53.05	50.90	53.03	50.65	53.29
TiO2	1.335	1.421	1.291	1.364	1.325	1.340	1.311	1.291	1.447	1.315	1.433	1.288
Al2O3	17.24	16.78	17.55	17.13	17.39	17.51	17.42	17.33	16.81	17.93	16.91	17.93
FeO*	8.05	8.63	7.68	8.53	8.66	8.61	9.04	7.86	8.64	8.12	8.76	7.89
MnO	0.144	0.153	0.133	0.150	0.160	0.161	0.159	0.138	0.153	0.139	0.153	0.136
MgO	6.61	8.51	5.98	8.12	7.84	7.73	7.62	6.46	8.49	5.80	8.43	5.81
CaO	9.45	9.15	9.03	8.63	9.10	9.17	9.08	9.08	9.00	8.52	9.32	8.56
Na2O	3.45	3.40	3.75	3.60	3.36	3.29	3.17	3.55	3.42	3.93	3.35	3.90
K2O	0.97	0.83	0.84	0.71	0.59	0.59	0.57	0.86	0.78	0.82	0.66	0.80
P2O5	0.384	0.347	0.377	0.306	0.294	0.295	0.277	0.380	0.353	0.398	0.325	0.382
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)												
Ni	83	170	81	169	141	142	136	87	182	116	167	104
Cr	177	332	129	284	257	253	247	161	346	111	321	117
Sc	26	25	21	24	30	28	28	23	27	22	28	21
V	187	197	168	174	205	201	202	174	198	178	203	179
Ba	409	317	332	206	247	244	239	366	292	357	249	346
Rb	9	9	8	11	7	8	6	9	9	9	8	8
Sr	1029	689	1034	472	448	456	450	1054	651	788	620	852
Zr	151	131	151	129	109	113	106	151	141	165	138	156
Y	23	21	20	24	22	21	21	21	24	24	23	22
Nb	11.0	10.7	10.8	14.9	9.1	8.3	8.2	9.9	11.5	10.8	9.9	11.0
Ga	19	17	20	17	18	21	21	19	19	22	17	21
Cu	57	61	58	76	54	55	51	60	64	58	64	59
Zn	83	78	80	77	76	80	80	86	82	91	79	89
Pb	7	4	5	2	1	0	1	7	4	6	4	6
La	20	13	19	23	0	0	14	18	15	19	13	17
Ce	42	31	44	31	16	34	25	46	39	46	34	48
Th	1	0	1	1	1	1	0	1	1	0	0	0
Nd	25	20	22					24	22	26	3	27
U												

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC95-05	RC95-06	RC95-07	RC95-08	RC95-09	RC95-10	RC95-11	RC95-12	RC95-13	RC95-14	RC95-15	RC95-16	RC95-17	RC95-18	RC95-19
Unnormalized major elements (weight %)															
SiO2	50.84	53.62	57.19	51.68	51.45	56.29	53.65	52.91	53.36	52.87	53.54	52.16	52.52	52.72	53.47
TiO2	1.478	1.325	1.098	1.472	1.464	1.043	1.298	1.304	1.291	1.309	1.308	1.356	1.318	1.328	1.305
Al2O3	16.86	18.00	18.80	17.02	16.93	19.60	17.58	17.20	18.00	17.91	17.66	17.06	17.31	17.42	17.71
FeO*	8.95	8.23	6.79	8.60	8.58	6.67	7.73	8.02	7.74	7.98	7.54	7.81	7.75	7.76	7.48
MnO	0.157	0.143	0.117	0.150	0.150	0.115	0.136	0.143	0.137	0.140	0.137	0.144	0.141	0.142	0.135
MgO	8.84	6.05	4.01	7.95	7.93	4.37	6.20	6.90	5.79	5.85	5.93	6.88	6.26	6.37	5.94
CaO	9.41	8.49	7.69	9.45	9.45	7.79	9.15	9.19	8.55	8.46	9.24	9.52	9.37	9.43	9.10
Na2O	3.32	3.89	4.22	3.40	3.42	4.10	3.74	3.51	3.92	3.91	3.70	3.40	3.53	3.55	3.75
K2O	0.90	0.83	0.75	0.75	0.76	0.68	0.87	0.93	0.82	0.83	0.93	1.00	0.96	0.96	0.84
P2O5	0.353	0.405	0.300	0.345	0.343	0.209	0.384	0.385	0.385	0.399	0.389	0.370	0.381	0.385	0.383
Sum	101.11	100.98	100.97	100.82	100.48	100.87	100.74	100.49	99.99	99.66	100.37	99.70	99.54	100.07	100.11
Normalized major elements (weight %)															
SiO2	50.28	53.10	56.64	51.26	51.21	55.81	53.26	52.65	53.36	53.05	53.34	52.32	52.76	52.69	53.41
TiO2	1.462	1.312	1.088	1.460	1.457	1.034	1.288	1.298	1.291	1.313	1.303	1.360	1.324	1.327	1.304
Al2O3	16.68	17.82	18.62	16.88	16.85	19.43	17.45	17.12	18.00	17.97	17.59	17.11	17.39	17.41	17.69
FeO*	8.85	8.15	6.73	8.53	8.54	6.61	7.67	7.98	7.74	8.01	7.51	7.83	7.79	7.75	7.47
MnO	0.155	0.142	0.116	0.149	0.149	0.114	0.135	0.142	0.137	0.140	0.136	0.144	0.142	0.142	0.135
MgO	8.74	5.99	3.97	7.89	7.89	4.33	6.15	6.87	5.79	5.87	5.91	6.90	6.29	6.37	5.93
CaO	9.31	8.41	7.62	9.37	9.41	7.72	9.08	9.15	8.55	8.49	9.21	9.55	9.41	9.42	9.09
Na2O	3.28	3.85	4.18	3.37	3.40	4.06	3.71	3.49	3.92	3.92	3.69	3.41	3.55	3.55	3.75
K2O	0.89	0.82	0.74	0.74	0.76	0.67	0.86	0.93	0.82	0.83	0.93	1.00	0.96	0.96	0.84
P2O5	0.349	0.401	0.297	0.342	0.341	0.207	0.381	0.383	0.385	0.400	0.388	0.371	0.383	0.385	0.383
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	183	128	31	137	137	54	82	101	108	125	72	94	79	80	80
Cr	369	124	43	289	283	37	153	203	111	111	132	193	151	158	130
Sc	27	21	16	26	27	18	24	25	21	20	23	27	26	26	23
V	210	181	135	199	198	158	178	184	180	180	181	197	188	193	179
Ba	363	356	333	278	275	253	356	405	351	352	384	400	404	406	345
Rb	9	9	7	8	9	5	9	9	9	10	9	9	9	9	7
Sr	695	764	1015	744	743	928	1089	1025	841	763	1069	1023	1031	1036	1084
Zr	139	163	146	145	144	102	154	152	157	162	155	146	151	152	155
Y	23	23	19	23	22	15	22	22	22	22	22	22	23	22	21
Nb	11.3	11.2	8.5	10.8	10.4	4.5	10.4	11.0	10.3	11.4	10.3	11.6	10.7	10.2	10.4
Ga	16	20	20	18	17	21	21	20	20	21	20	20	21	18	20
Cu	68	58	19	63	64	45	62	66	60	55	65	66	63	54	60
Zn	81	94	75	80	82	71	82	82	90	91	81	80	82	82	86
Pb	5	5	4	4	6	4	6	6	5	5	6	6	6	5	7
La	15	20	17	16	14	14	18	23	17	20	23	21	22	18	23
Ce	35	44	43	37	43	27	49	50	41	41	48	49	46	47	49
Th	1	1	1	0	1	1	1	0	0	2	1	2	1	2	1
Nd	21	27	24	20	22	16	28	27	26	21	28	28	26	25	28
U						3									

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC95-20	RC95-21	RC95-26	RC00-55	RC00-56	RC00-57	RC00-58	RC01-80	RC01-81	RC02-17	RC02-18	RC02-19	RC02-20	RC02-21	RC02-22
Unnormalized major elements (weight %)															
SiO2	51.65	51.44	57.13	49.98	50.31	51.00	53.24	53.05	51.34	53.56	52.74	52.64	52.90	50.47	53.22
TiO2	1.646	1.623	1.048	1.438	1.447	1.471	1.250	1.362	1.474	1.326	1.281	1.330	1.290	1.450	1.330
Al2O3	16.84	16.96	18.94	16.59	16.60	16.87	17.79	16.85	16.35	17.92	17.38	17.27	17.85	16.76	17.86
FeO*	8.41	8.29	5.95	8.88	8.37	8.48	7.66	8.23	8.80	8.48	7.63	7.94	8.04	8.93	8.42
MnO	0.149	0.148	0.114	0.153	0.154	0.156	0.130	0.148	0.158	0.144	0.133	0.143	0.136	0.155	0.144
MgO	7.67	7.55	4.00	8.62	8.39	8.50	5.64	6.41	7.25	6.05	5.98	6.54	5.79	8.47	6.06
CaO	9.55	9.81	7.52	9.24	8.92	9.05	8.61	8.64	8.74	8.44	8.94	9.43	8.48	9.18	8.43
Na2O	3.50	3.45	4.38	3.23	3.41	3.45	3.87	3.50	3.43	3.83	3.61	3.48	3.85	3.27	3.84
K2O	0.85	0.86	0.82	0.83	0.77	0.78	0.79	1.00	1.13	0.83	0.83	0.97	0.81	0.68	0.82
P2O5	0.376	0.367	0.312	0.343	0.348	0.354	0.358	0.336	0.573	0.411	0.376	0.384	0.383	0.328	0.403
Sum	100.64	100.50	100.21	99.30	98.72	100.11	99.34	99.53	99.25	100.99	98.90	100.13	99.53	99.69	100.53
Normalized major elements (weight %)															
SiO2	51.32	51.19	57.01	50.33	50.96	50.94	53.59	53.30	51.73	53.03	53.33	52.57	53.15	50.63	52.94
TiO2	1.636	1.615	1.046	1.448	1.466	1.469	1.258	1.368	1.485	1.313	1.295	1.328	1.296	1.454	1.323
Al2O3	16.73	16.88	18.90	16.71	16.82	16.85	17.91	16.93	16.47	17.74	17.57	17.25	17.93	16.81	17.77
FeO*	8.36	8.25	5.94	8.94	8.48	8.47	7.71	8.27	8.87	8.40	7.71	7.93	8.08	8.96	8.38
MnO	0.148	0.147	0.114	0.154	0.156	0.156	0.131	0.149	0.159	0.143	0.134	0.143	0.137	0.155	0.143
MgO	7.62	7.51	3.99	8.68	8.50	8.49	5.68	6.44	7.31	5.99	6.05	6.53	5.82	8.50	6.03
CaO	9.49	9.76	7.50	9.30	9.04	9.04	8.67	8.68	8.81	8.36	9.04	9.42	8.52	9.21	8.39
Na2O	3.48	3.43	4.37	3.25	3.45	3.45	3.90	3.52	3.46	3.79	3.65	3.48	3.87	3.28	3.82
K2O	0.84	0.86	0.82	0.84	0.78	0.78	0.80	1.00	1.14	0.82	0.84	0.97	0.81	0.68	0.82
P2O5	0.374	0.365	0.311	0.345	0.353	0.354	0.360	0.338	0.577	0.407	0.380	0.384	0.385	0.329	0.401
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	132	119	30	177	177	176	91	113	145	134	83	88	111	175	136
Cr	251	236	41	350	324	322	109	169	242	123	138	165	116	323	125
Sc	26	28	15	26	27	27	22	25	22	20	23	25	21	26	21
V	208	202	133	203	200	204	177	211	189	179	173	192	176	198	180
Ba	292	302	320	347	293	301	342	360	603	357	350	406	342	254	355
Rb	10	10	10	10	10	9	7	20	13	10	8	9	9	9	9
Sr	822	897	969	677	619	628	929	477	795	758	1058	1025	836	601	754
Zr	156	149	172	134	140	141	148	142	204	164	152	152	157	138	165
Y	22	22	19	23	23	23	20	29	27	23	21	23	21	23	23
Nb	14.4	13.8	11.0	10.9	11.9	11.7	9.5	11.2	14.1	12.4	11.5	12.1	11.3	11.0	13.2
Ga	19	19	20	16	19	18	20	20	19	20	21	19	20	17	20
Cu	60	65	39	64	61	63	62	65	66	56	56	50	53	58	62
Zn	83	79	77	80	81	82	88	84	93	93	86	83	87	77	93
Pb	5	5	2	7	7	6	7	4	4	7	6	6	4	5	7
La	19	21	20	12	12	16	19	0	24	20	22	21	16	13	18
Ce	47	48	46	36	39	44	42	35	60	39	43	50	36	30	40
Th	2	1	4	1	2	1	1	5	2	0	0	1	0	1	0
Nd	25	26		3	23	3	22			24	24	28	27	19	24
U															

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC02-23	RC02-24	RC02-25	RC02-26	RC02-27A	RC02-27B	RC02-28	RC02-29	RC02-30	RC02-31	RC02-32	RC02-33	RC02-34	RC02-35	RC02-36
Unnormalized major elements (weight %)															
SiO2	53.02	50.59	50.48	52.16	53.19	53.17	53.46	52.69	51.33	51.28	53.00	52.90	53.25	53.20	51.18
TiO2	1.311	1.405	1.430	1.280	1.309	1.310	1.256	1.280	1.592	1.372	1.293	1.284	1.289	1.291	1.466
Al2O3	17.83	16.77	16.55	17.63	17.44	17.55	17.88	17.33	16.85	16.81	17.44	17.55	17.62	17.47	17.13
FeO*	8.34	8.90	8.35	7.99	7.77	7.80	7.62	7.59	8.65	8.09	7.64	7.43	7.50	7.63	8.02
MnO	0.142	0.154	0.146	0.136	0.137	0.138	0.131	0.133	0.149	0.143	0.133	0.131	0.132	0.134	0.144
MgO	5.95	8.82	7.70	5.75	6.00	6.06	5.64	5.96	7.90	6.98	5.85	5.63	5.70	6.17	6.46
CaO	8.39	9.24	9.19	8.37	9.20	9.23	8.65	8.98	9.61	9.53	9.02	9.01	9.03	9.08	9.82
Na2O	3.86	3.34	3.34	3.82	3.59	3.62	3.91	3.70	3.44	3.38	3.75	3.72	3.80	3.72	3.33
K2O	0.82	0.89	0.73	0.81	0.91	0.90	0.81	0.86	0.81	1.00	0.85	0.84	0.85	0.87	1.00
P2O5	0.399	0.346	0.334	0.387	0.383	0.383	0.361	0.378	0.356	0.359	0.379	0.375	0.378	0.378	0.372
Sum	100.06	100.46	98.25	98.33	99.93	100.16	99.72	98.90	100.69	98.94	99.36	98.87	99.55	99.94	98.92
Normalized major elements (weight %)															
SiO2	52.99	50.36	51.38	53.04	53.23	53.08	53.61	53.28	50.98	51.83	53.34	53.50	53.49	53.23	51.74
TiO2	1.310	1.399	1.455	1.302	1.310	1.308	1.260	1.294	1.581	1.387	1.301	1.299	1.295	1.292	1.482
Al2O3	17.82	16.69	16.84	17.93	17.45	17.52	17.93	17.52	16.74	16.99	17.55	17.75	17.70	17.48	17.32
FeO*	8.33	8.86	8.50	8.13	7.78	7.79	7.64	7.67	8.59	8.18	7.69	7.51	7.53	7.63	8.11
MnO	0.142	0.153	0.149	0.138	0.137	0.138	0.131	0.134	0.148	0.145	0.134	0.132	0.133	0.134	0.146
MgO	5.95	8.78	7.84	5.85	6.00	6.05	5.66	6.03	7.85	7.05	5.89	5.69	5.73	6.17	6.53
CaO	8.38	9.20	9.35	8.51	9.21	9.22	8.67	9.08	9.54	9.63	9.08	9.11	9.07	9.09	9.93
Na2O	3.86	3.32	3.40	3.88	3.59	3.61	3.92	3.74	3.42	3.42	3.77	3.76	3.82	3.72	3.37
K2O	0.82	0.89	0.74	0.82	0.91	0.90	0.81	0.87	0.80	1.01	0.86	0.85	0.85	0.87	1.01
P2O5	0.399	0.344	0.340	0.394	0.383	0.382	0.362	0.382	0.354	0.363	0.381	0.379	0.380	0.378	0.376
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	129	197	137	117	75	77	99	79	137	96	78	74	77	85	76
Cr	121	360	277	111	139	137	110	136	263	203	127	115	120	148	162
Sc	20	27	25	20	24	24	20	22	25	27	22	21	23	23	26
V	179	182	191	175	178	182	177	174	202	184	176	173	174	179	204
Ba	353	364	269	347	386	386	343	360	281	390	352	343	341	362	398
Rb	9	10	9	9	9	8	8	9	10	9	9	8	9	9	8
Sr	756	724	723	796	1053	1063	926	1068	824	1001	1072	1069	1069	1075	1001
Zr	162	134	141	158	156	156	150	153	149	145	156	155	155	152	147
Y	23	22	21	22	22	22	21	21	21	22	21	21	21	21	23
Nb	12.0	12.2	11.2	11.9	12.4	11.9	10.3	11.3	14.9	12.9	11.2	11.7	11.6	11.2	14.7
Ga	20	17	18	20	21	18	20	19	20	18	21	20	20	22	19
Cu	60	78	58	58	63	60	63	61	66	65	61	62	61	57	61
Zn	90	81	79	89	81	84	85	84	82	77	84	85	80	86	79
Pb	5	3	3	6	5	5	5	5	5	5	5	5	6	6	5
La	21	13	15	20	21	24	20	20	18	20	20	21	19	20	18
Ce	41	37	28	44	43	50	36	47	41	40	41	43	42	45	44
Th	0	1	0	1	2	0	1	1	2	1	1	1	1	0	0
Nd	26	22	19	23	25	30	23	26	25	23	24	25	25	25	24
U															

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC02-37	RC02-38	RC02-39	RC02-40	RC02-41	RC02-42	RC02-43	RC02-44	RC02-45	RC03-13	RC03-14	RC03-15	RC03-16	RC03-17	RC03-18
Unnormalized major elements (weight %)															
SiO2	51.13	52.80	53.72	53.11	50.66	50.12	50.60	48.42	52.95	52.61	53.47	50.35	52.43	53.04	49.94
TiO2	1.547	1.307	1.237	1.275	1.551	1.420	1.447	1.402	1.299	1.307	1.238	1.460	1.300	1.314	1.462
Al2O3	17.69	17.75	17.89	17.89	16.59	16.83	16.86	16.01	17.47	17.73	18.02	16.74	17.60	17.82	16.61
FeO*	8.93	8.13	7.39	7.60	8.41	8.77	8.83	8.30	7.51	8.32	7.56	8.64	8.17	8.27	8.71
MnO	0.166	0.142	0.127	0.132	0.147	0.154	0.154	0.150	0.134	0.140	0.130	0.154	0.141	0.140	0.155
MgO	6.27	5.98	5.62	5.59	7.68	8.56	8.43	8.20	5.79	5.94	5.61	8.37	6.00	5.87	8.56
CaO	9.20	8.36	8.72	8.57	9.44	9.18	9.25	8.66	9.17	8.49	8.74	9.10	8.44	8.37	9.36
Na2O	3.62	3.83	3.92	3.84	3.40	3.32	3.34	3.22	3.69	3.72	3.84	3.31	3.75	3.75	3.17
K2O	0.84	0.81	0.82	0.80	0.81	0.66	0.68	0.72	0.91	0.81	0.78	0.73	0.80	0.82	0.90
P2O5	0.591	0.398	0.352	0.367	0.352	0.323	0.329	0.329	0.385	0.396	0.354	0.348	0.397	0.403	0.349
Sum	99.98	99.51	99.80	99.17	99.04	99.34	99.92	95.41	99.31	99.46	99.74	99.20	99.03	99.80	99.22
Normalized major elements (weight %)															
SiO2	51.14	53.06	53.83	53.55	51.15	50.45	50.64	50.75	53.32	52.89	53.61	50.76	52.94	53.15	50.33
TiO2	1.547	1.313	1.240	1.286	1.566	1.429	1.448	1.469	1.308	1.314	1.241	1.472	1.313	1.317	1.474
Al2O3	17.69	17.84	17.93	18.04	16.75	16.94	16.87	16.78	17.59	17.83	18.07	16.87	17.77	17.86	16.74
FeO*	8.93	8.17	7.41	7.66	8.49	8.83	8.84	8.70	7.56	8.36	7.58	8.71	8.25	8.29	8.78
MnO	0.166	0.143	0.127	0.133	0.148	0.155	0.154	0.157	0.135	0.141	0.130	0.155	0.142	0.140	0.156
MgO	6.27	6.01	5.63	5.64	7.75	8.62	8.44	8.59	5.83	5.97	5.62	8.44	6.06	5.88	8.63
CaO	9.20	8.40	8.74	8.64	9.53	9.24	9.26	9.08	9.23	8.54	8.76	9.17	8.52	8.39	9.43
Na2O	3.62	3.85	3.93	3.87	3.43	3.34	3.34	3.37	3.72	3.74	3.85	3.34	3.79	3.76	3.20
K2O	0.84	0.81	0.82	0.81	0.82	0.66	0.68	0.75	0.92	0.81	0.78	0.74	0.81	0.82	0.91
P2O5	0.591	0.400	0.353	0.370	0.355	0.325	0.329	0.345	0.388	0.398	0.355	0.351	0.401	0.404	0.352
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	89	132	85	89	134	178	172	175	68	132	93	182	139	129	186
Cr	137	125	105	107	258	330	322	311	127	124	108	327	131	121	363
Sc	27	21	21	21	25	27	27	24	23	21	21	26	21	21	28
V	199	179	177	177	198	200	201	190	182	175	174	202	174	175	206
Ba	451	354	333	338	275	245	256	267	383	360	332	286	354	354	374
Rb	9	8	9	8	9	9	8	9	9	9	8	9	9	10	10
Sr	585	752	1014	898	787	595	595	572	1064	743	931	611	736	744	686
Zr	207	161	148	150	148	135	136	134	154	165	149	143	163	166	140
Y	30	22	19	20	22	23	23	22	21	25	22	25	24	25	25
Nb	17.2	12.6	10.1	11.3	14.5	11.0	11.5	13.0	11.6	10.8	8.6	11.1	11.2	11.2	10.5
Ga	19	19	21	20	21	18	19	17	21	19	20	18	19	20	18
Cu	62	59	60	57	64	64	63	61	66	57	60	65	60	57	66
Zn	98	92	82	86	78	79	78	77	87	92	84	81	92	91	80
Pb	6	5	6	5	5	3	3	3	5	4	4	3	4	4	4
La	26	18	18	16	19	17	14	14	21	19	17	13	18	21	18
Ce	50	43	38	38	40	28	37	34	48	45	42	38	42	43	39
Th	1	0	0	0	1	0	0	0	0	1	1	1	1	2	1
Nd	28	24	21	23	24	20	23	19	28	25	25	21	25	25	24
U															

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC03-19	RC03-20	RC03-21	RC03-22	RC03-23	RC03-24R	RC03-25	RC03-26	RC03-27	RC03-28	RC03-29	RC03-30	RC03-31	RC03-32	RC03-33
Unnormalized major elements (weight %)															
SiO2	50.75	51.80	52.09	50.66	51.70	52.26	51.76	52.13	50.76	51.69	50.55	52.31	52.77	50.27	50.65
TiO2	1.551	1.360	1.392	1.610	1.393	1.399	1.399	1.403	1.585	1.380	1.560	1.276	1.290	1.377	1.568
Al2O3	16.79	17.03	17.28	16.68	17.25	17.41	17.29	17.37	16.65	16.97	16.69	17.16	17.39	16.67	16.51
FeO*	8.44	7.83	7.91	8.37	7.76	7.66	7.68	7.85	8.35	8.06	8.44	7.49	7.58	8.35	8.58
MnO	0.147	0.143	0.142	0.145	0.142	0.141	0.142	0.142	0.144	0.142	0.147	0.134	0.132	0.153	0.146
MgO	7.12	6.62	6.23	7.25	6.09	5.86	5.87	5.98	7.39	6.44	7.15	6.08	5.75	7.77	7.53
CaO	9.86	9.69	9.79	9.79	9.80	9.87	9.78	9.84	9.58	9.65	9.86	9.04	9.06	9.13	9.50
Na2O	3.22	3.29	3.34	3.29	3.29	3.40	3.37	3.33	3.34	3.34	3.21	3.54	3.64	3.23	3.34
K2O	0.93	0.99	1.01	0.85	0.98	1.02	1.00	1.02	0.83	1.02	0.91	0.85	0.85	0.81	0.82
P2O5	0.374	0.362	0.369	0.365	0.372	0.375	0.374	0.377	0.358	0.368	0.371	0.374	0.378	0.357	0.356
Sum	99.18	99.12	99.55	99.01	98.78	99.40	98.67	99.44	98.99	99.06	98.89	98.25	98.84	98.12	99.00
Normalized major elements (weight %)															
SiO2	51.17	52.26	52.32	51.17	52.34	52.58	52.46	52.42	51.28	52.18	51.12	53.24	53.39	51.23	51.16
TiO2	1.564	1.372	1.398	1.626	1.410	1.408	1.418	1.411	1.601	1.393	1.578	1.299	1.305	1.403	1.584
Al2O3	16.93	17.18	17.36	16.85	17.46	17.52	17.52	17.47	16.82	17.13	16.88	17.46	17.59	16.99	16.68
FeO*	8.51	7.90	7.95	8.45	7.86	7.71	7.78	7.89	8.44	8.14	8.53	7.62	7.67	8.51	8.67
MnO	0.148	0.144	0.143	0.146	0.144	0.142	0.144	0.143	0.145	0.143	0.149	0.136	0.134	0.156	0.147
MgO	7.18	6.68	6.26	7.32	6.17	5.90	5.95	6.01	7.47	6.50	7.23	6.19	5.82	7.92	7.61
CaO	9.94	9.78	9.83	9.89	9.92	9.93	9.91	9.90	9.68	9.74	9.97	9.20	9.17	9.31	9.60
Na2O	3.25	3.32	3.35	3.32	3.33	3.42	3.42	3.35	3.37	3.37	3.25	3.60	3.68	3.29	3.37
K2O	0.94	1.00	1.01	0.86	0.99	1.03	1.01	1.03	0.84	1.03	0.92	0.87	0.86	0.83	0.83
P2O5	0.377	0.365	0.371	0.369	0.377	0.377	0.379	0.379	0.362	0.371	0.375	0.381	0.382	0.364	0.360
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	108	85	71	115	66	57	59	61	125	79	108	85	75	151	132
Cr	221	176	155	228	146	129	129	135	245	168	219	153	131	288	256
Sc	28	29	28	27	28	27	28	27	26	27	28	23	23	27	27
V	202	195	196	201	196	198	197	200	199	192	202	175	174	193	198
Ba	344	408	405	319	410	409	418	407	283	404	339	370	353	328	284
Rb	10	10	9	10	10	10	10	10	11	10	10	9	8	9	10
Sr	905	1016	1024	891	1032	1032	1029	1030	835	1011	906	1056	1066	692	802
Zr	151	148	151	153	153	153	153	154	152	149	152	155	159	143	153
Y	25	24	25	24	25	25	25	25	25	24	26	24	23	26	24
Nb	13.5	10.2	10.4	13.7	11.3	10.8	10.8	11.5	13.5	11.4	13.7	9.5	9.8	9.4	13.7
Ga	18	20	19	21	17	19	18	19	18	17	18	19	19	16	18
Cu	66	50	68	62	64	66	64	66	63	61	66	60	62	60	63
Zn	78	78	77	81	80	79	78	79	78	78	79	84	83	84	81
Pb	5	4	6	5	5	5	7	4	3	4	4	5	6	3	5
La	19	17	21	20	18	23	20	21	15	22	22	21	22	15	17
Ce	47	42	44	44	48	44	52	46	43	51	44	48	51	39	42
Th	1	2	1	1	1	1	2	1	2	2	1	1	2	0	2
Nd	28	26	26	25	30	26	29	26	26	26	23	26	28	25	26
U															

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC03-34	RC03-35	RC03-36	RC03-37	RC03-38	RC03-41	RC03-42	RC03-43	RC03-44	RC03-45	RC03-46	RC03-47	RC03-48	RC03-49	RC03-50
Unnormalized major elements (weight %)															
SiO2	50.18	50.46	50.92	51.10	50.58	54.50	50.43	55.63	50.29	52.65	52.41	51.80	52.66	51.14	51.18
TiO2	1.567	1.559	1.371	1.379	1.536	1.038	1.441	1.035	1.416	1.283	1.299	1.275	1.297	1.535	1.552
Al2O3	16.37	16.50	16.63	16.78	16.54	18.25	16.46	19.39	16.39	17.28	17.48	16.80	17.33	17.17	17.10
FeO*	8.54	8.25	8.14	7.86	8.44	6.96	8.32	6.59	8.41	7.49	7.45	7.93	7.62	8.00	8.09
MnO	0.147	0.149	0.143	0.143	0.149	0.122	0.147	0.114	0.148	0.135	0.136	0.140	0.135	0.143	0.143
MgO	7.51	7.43	6.86	6.85	7.59	4.94	7.60	4.34	8.04	6.05	5.64	6.77	5.71	6.00	6.13
CaO	9.47	9.50	9.49	9.63	9.48	8.02	9.32	7.75	9.17	9.17	9.21	9.04	9.18	9.88	9.96
Na2O	3.22	3.26	3.17	3.23	3.27	3.78	3.30	3.98	3.24	3.53	3.55	3.30	3.57	3.19	3.21
K2O	0.81	0.83	0.99	0.99	0.80	0.75	0.75	0.65	0.72	0.87	0.87	0.91	0.91	0.94	0.99
P2O5	0.349	0.353	0.364	0.362	0.352	0.218	0.335	0.201	0.330	0.377	0.381	0.377	0.385	0.382	0.373
Sum	98.16	98.29	98.08	98.32	98.74	98.58	98.10	99.68	98.15	98.84	98.43	98.34	98.80	98.38	98.73
Normalized major elements (weight %)															
SiO2	51.12	51.34	51.92	51.97	51.23	55.29	51.41	55.81	51.24	53.27	53.25	52.67	53.30	51.98	51.84
TiO2	1.596	1.586	1.398	1.403	1.556	1.053	1.469	1.038	1.443	1.298	1.320	1.296	1.313	1.560	1.572
Al2O3	16.68	16.79	16.96	17.07	16.75	18.51	16.78	19.45	16.70	17.48	17.76	17.08	17.54	17.45	17.32
FeO*	8.70	8.39	8.30	7.99	8.55	7.06	8.48	6.61	8.57	7.58	7.57	8.06	7.71	8.13	8.19
MnO	0.150	0.152	0.146	0.145	0.151	0.124	0.150	0.114	0.151	0.137	0.138	0.142	0.137	0.145	0.145
MgO	7.65	7.56	6.99	6.97	7.69	5.01	7.75	4.35	8.19	6.12	5.73	6.88	5.78	6.10	6.21
CaO	9.65	9.67	9.68	9.79	9.60	8.14	9.50	7.77	9.34	9.28	9.36	9.19	9.29	10.04	10.09
Na2O	3.28	3.32	3.23	3.29	3.31	3.83	3.36	3.99	3.30	3.57	3.61	3.36	3.61	3.24	3.25
K2O	0.83	0.84	1.01	1.01	0.81	0.76	0.76	0.65	0.73	0.88	0.88	0.93	0.92	0.96	1.00
P2O5	0.356	0.359	0.371	0.368	0.357	0.221	0.341	0.202	0.336	0.381	0.387	0.383	0.390	0.388	0.378
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	131	130	98	93	137	68	138	58	162	78	64	107	68	63	70
Cr	256	251	201	196	264	83	274	41	310	139	121	208	126	139	154
Sc	27	26	27	28	26	20	26	18	26	23	23	25	24	28	29
V	195	198	191	197	196	164	195	152	189	177	179	178	178	201	205
Ba	282	281	395	400	279	267	269	256	271	394	411	396	380	394	378
Rb	10	10	9	10	9	8	9	5	9	10	9	10	9	11	11
Sr	810	807	997	1005	776	605	730	922	720	1047	1063	1004	1046	969	918
Zr	151	151	148	149	150	114	146	100	143	155	158	154	158	156	156
Y	25	24	24	26	25	17	25	15	24	24	24	25	25	26	26
Nb	13.1	12.3	11.1	11.2	12.2	6.5	10.8	4.1	10.2	9.7	9.0	9.3	9.8	13.6	13.9
Ga	19	18	17	19	17	19	19	20	17	18	20	18	18	17	20
Cu	59	58	62	63	52	36	59	59	58	48	64	24	52	26	64
Zn	82	80	84	80	79	76	80	71	81	81	87	83	82	83	81
Pb	4	4	5	4	3	4	4	3	3	5	5	5	6	4	31
La	21	18	20	21	15	8	17	9	13	22	23	23	21	22	21
Ce	41	46	45	45	40	29	38	26	38	49	48	54	50	48	51
Th	1	1	2	0	1	0	2	1	1	2	2	1	1	2	2
Nd	24	26	26	29	21	15	19	17	21	24	26	28	29	26	27
U															

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC03-51A	RC03-51B	RC03-52	RC03-53	RC03-54	RC03-55	RC03-56	RC03-57	RC03-58	RC03-59	RC03-60	RC04-25	RC04-26	RC04-27	RC04-28
Unnormalized major elements (weight %)															
SiO2	48.81	49.41	49.83	49.57	50.65	52.79	52.46	50.18	49.71	49.84	51.23	50.91	50.62	56.54	50.10
TiO2	1.417	1.427	1.442	1.443	1.438	1.240	1.283	1.503	1.412	1.395	1.387	1.534	1.473	1.116	1.423
Al2O3	16.22	16.42	16.52	16.41	16.68	17.61	17.69	16.13	16.43	16.53	16.79	17.04	16.50	18.52	16.51
FeO*	8.76	8.59	8.68	8.80	8.71	7.44	7.78	9.04	8.66	8.70	7.92	8.18	8.44	6.94	8.89
MnO	0.150	0.153	0.154	0.152	0.158	0.125	0.135	0.154	0.151	0.150	0.143	0.143	0.144	0.117	0.152
MgO	8.31	8.35	8.11	8.35	8.23	5.39	5.61	7.97	8.47	8.33	6.73	6.14	7.73	3.73	8.29
CaO	8.94	9.18	9.23	9.22	9.22	8.58	8.50	8.70	9.24	9.09	9.61	9.82	9.36	7.39	9.03
Na2O	3.13	3.14	3.17	3.16	3.21	3.82	3.77	3.43	3.25	3.22	3.26	3.28	3.29	4.11	3.32
K2O	0.88	0.88	0.92	0.88	0.91	0.81	0.81	1.02	0.81	0.68	1.00	0.98	0.75	0.76	0.70
P2O5	0.340	0.349	0.354	0.336	0.357	0.355	0.381	0.473	0.332	0.327	0.365	0.376	0.334	0.284	0.328
Sum	96.96	97.90	98.41	98.32	99.56	98.16	98.42	98.60	98.47	98.26	98.44	98.40	98.64	99.51	98.74
Normalized major elements (weight %)															
SiO2	50.34	50.47	50.64	50.42	50.87	53.78	53.30	50.89	50.48	50.72	52.04	51.74	51.32	56.82	50.74
TiO2	1.461	1.458	1.465	1.468	1.444	1.263	1.304	1.524	1.434	1.420	1.409	1.559	1.493	1.122	1.441
Al2O3	16.73	16.77	16.79	16.69	16.75	17.94	17.97	16.36	16.69	16.82	17.06	17.32	16.73	18.61	16.72
FeO*	9.03	8.77	8.82	8.95	8.75	7.58	7.90	9.17	8.80	8.85	8.05	8.31	8.56	6.97	9.00
MnO	0.155	0.156	0.156	0.155	0.159	0.127	0.137	0.156	0.153	0.153	0.145	0.145	0.146	0.118	0.154
MgO	8.57	8.53	8.24	8.49	8.27	5.49	5.70	8.08	8.60	8.48	6.84	6.24	7.84	3.75	8.40
CaO	9.22	9.38	9.38	9.38	9.26	8.74	8.64	8.82	9.38	9.25	9.76	9.98	9.49	7.43	9.14
Na2O	3.23	3.21	3.22	3.21	3.22	3.89	3.83	3.48	3.30	3.28	3.31	3.33	3.34	4.13	3.36
K2O	0.91	0.90	0.93	0.90	0.91	0.83	0.82	1.03	0.82	0.69	1.02	1.00	0.76	0.76	0.71
P2O5	0.351	0.356	0.360	0.342	0.359	0.362	0.387	0.480	0.337	0.333	0.371	0.382	0.339	0.285	0.332
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	171	183	170	179	175	86	106	185	183	182	89	70	150	34	182
Cr	335	341	323	356	331	93	107	313	356	332	192	154	278	44	327
Sc	26	26	26	28	27	21	21	25	28	27	28	28	27	17	26
V	197	200	198	201	200	171	176	157	203	188	194	205	196	134	195
Ba	364	383	381	358	383	340	349	499	341	259	398	379	264	357	261
Rb	9	10	10	10	10	9	9	10	10	9	10	10	10	9	9
Sr	697	713	720	671	724	1002	824	884	676	601	1004	888	718	900	570
Zr	137	140	141	138	140	156	160	168	133	137	149	145	135	120	129
Y	22	25	26	25	25	22	24	28	25	25	25	23	21	17	23
Nb	10.0	10.7	10.8	10.5	10.6	9.2	9.8	10.3	10.2	10.6	10.8	13.6	11.5	6.4	10.1
Ga	16	17	17	17	17	19	21	18	16	17	18	18	17	20	17
Cu	60	67	67	70	59	50	56	47	43	52	63	63	60	39	61
Zn	77	81	80	80	84	83	89	89	78	80	80	76	78	81	79
Pb	3	4	4	4	12	4	4	5	3	3	6	5	5	4	4
La	13	16	17	16	14	20	21	21	15	18	20	21	15	12	16
Ce	35	41	41	38	36	47	48	50	37	33	43	46	41	32	33
Th	2	1	2	1	2	2	1	3	0	2	2	2	2	3	2
Nd	22	23	26	22	21	26	25	27	20	21	27	27	24	19	21
U															

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC04-29	RC04-30	RC04-31	RC04-32	RC04-33	RC04-34	RC04-35	RC04-36	RC04-66	RC04-67	RC04-68	RC04-69	RC04-70	RC04-71	RC04-72
Unnormalized major elements (weight %)															
SiO2	50.04	49.97	50.08	49.47	48.90	49.86	52.51	52.72	52.95	50.27	50.88	50.98	51.74	50.73	50.58
TiO2	1.398	1.435	1.424	1.395	1.308	1.506	1.291	1.278	1.273	1.548	1.537	1.533	1.414	1.535	1.545
Al2O3	16.46	16.56	16.62	16.43	16.22	15.54	17.72	17.80	17.33	16.91	16.71	17.05	17.20	16.68	16.81
FeO*	8.89	8.84	8.89	8.85	8.79	8.49	8.21	8.03	7.67	8.48	8.34	8.10	7.88	8.32	8.33
MnO	0.149	0.151	0.150	0.151	0.151	0.143	0.137	0.134	0.132	0.146	0.145	0.143	0.139	0.145	0.143
MgO	8.06	8.22	8.35	8.53	8.80	8.32	5.76	5.62	6.03	6.99	6.94	6.39	6.03	7.10	6.30
CaO	8.63	9.23	9.23	9.13	9.28	9.25	8.40	8.47	8.99	9.81	9.76	9.93	9.80	9.70	9.83
Na2O	3.03	3.21	3.25	3.13	3.10	3.25	3.78	3.79	3.56	3.19	3.27	3.29	3.30	3.21	3.27
K2O	0.81	0.82	0.79	0.76	0.70	1.39	0.81	0.79	0.83	0.83	0.91	0.91	0.96	0.90	0.90
P2O5	0.348	0.344	0.335	0.318	0.327	0.608	0.396	0.385	0.379	0.371	0.374	0.374	0.371	0.373	0.373
Sum	97.82	98.78	99.12	98.16	97.58	98.36	99.01	99.02	99.14	98.55	98.87	98.70	98.83	98.69	98.08
Normalized major elements (weight %)															
SiO2	51.16	50.59	50.53	50.40	50.11	50.69	53.03	53.24	53.41	51.01	51.46	51.65	52.35	51.40	51.57
TiO2	1.429	1.453	1.437	1.421	1.340	1.531	1.304	1.291	1.284	1.571	1.555	1.553	1.431	1.555	1.575
Al2O3	16.83	16.76	16.77	16.74	16.62	15.80	17.90	17.98	17.48	17.16	16.90	17.27	17.40	16.90	17.14
FeO*	9.09	8.95	8.97	9.02	9.01	8.63	8.29	8.11	7.74	8.61	8.44	8.21	7.97	8.43	8.49
MnO	0.152	0.153	0.151	0.154	0.155	0.145	0.138	0.135	0.133	0.148	0.147	0.145	0.141	0.147	0.146
MgO	8.24	8.32	8.42	8.69	9.02	8.46	5.82	5.68	6.08	7.09	7.02	6.47	6.10	7.19	6.42
CaO	8.82	9.34	9.31	9.30	9.51	9.40	8.48	8.55	9.07	9.95	9.87	10.06	9.92	9.83	10.02
Na2O	3.10	3.25	3.28	3.19	3.18	3.30	3.82	3.83	3.59	3.24	3.31	3.33	3.34	3.25	3.33
K2O	0.83	0.83	0.80	0.77	0.72	1.41	0.82	0.80	0.84	0.84	0.92	0.92	0.97	0.91	0.92
P2O5	0.356	0.348	0.338	0.324	0.335	0.618	0.400	0.389	0.382	0.376	0.378	0.379	0.375	0.378	0.380
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	184	174	180	194	205	201	127	112	84	103	102	78	63	106	76
Cr	328	338	348	361	389	352	110	108	148	211	206	167	138	213	168
Sc	27	27	27	27	28	24	21	20	23	27	28	28	28	28	28
V	181	203	201	201	197	191	173	168	173	182	201	204	197	202	202
Ba	354	338	334	318	340	1081	365	348	361	349	342	346	401	338	351
Rb	9	9	9	9	8	18	9	8	8	9	10	10	10	10	10
Sr	676	650	657	626	666	1343	733	781	1018	882	867	880	980	867	878
Zr	129	129	127	121	119	193	156	151	147	143	141	143	142	141	145
Y	22	23	22	22	22	22	23	22	20	22	23	23	22	23	24
Nb	10.2	9.9	9.6	9.3	7.0	7.9	9.1	10.3	9.2	12.6	12.2	12.8	11.2	13.1	12.3
Ga	16	15	18	17	16	19	19	19	20	17	17	19	19	17	18
Cu	52	59	60	62	63	67	52	58	61	60	58	62	63	80	43
Zn	77	78	78	76	79	91	88	87	81	79	78	77	76	186	77
Pb	2	5	6	5	3	6	5	7	5	5	5	5	5	154	4
La	14	16	16	13	14	37	19	18	22	18	20	17	18	18	17
Ce	36	34	26	29	35	84	39	44	46	45	44	44	40	53	44
Th	2	2	1	2	2	4	2	1	2	1	2	2	3	0	2
Nd	22	22	20	2	3	49	22	26	27	28	23	26	25	29	26
U															

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC09-33	RC09-34	RC09-35	RC09-36	RC09-37	RC09-38	RC09-39	RC09-40	RC09-41	RC09-42	RC09-43	RC09-44	RC09-45	RC09-46	RC09-47
Unnormalized major elements (weight %)															
SiO2	52.37	53.36	51.86	50.93	53.43	51.01	50.54	51.00	50.94	51.14	53.40	51.03	51.32	51.78	50.47
TiO2	1.324	1.306	1.325	1.367	1.293	1.606	1.546	1.581	1.392	1.390	1.296	1.570	1.551	1.391	1.570
Al2O3	17.07	17.51	16.87	17.05	17.62	16.75	16.77	16.62	17.09	17.00	17.67	16.80	16.82	17.06	16.72
FeO*	8.03	7.98	8.04	8.71	7.64	8.47	9.08	8.68	8.62	8.57	7.66	8.62	8.67	8.24	8.62
MnO	0.144	0.145	0.142	0.152	0.132	0.146	0.156	0.146	0.149	0.149	0.131	0.147	0.147	0.143	0.147
MgO	6.99	5.27	6.96	7.81	5.88	7.44	7.61	7.77	7.84	7.85	5.71	7.76	7.75	6.92	7.61
CaO	9.40	8.50	9.34	9.16	9.05	9.80	8.80	9.49	9.16	9.17	9.04	9.53	9.51	9.65	9.47
Na2O	3.41	3.40	3.35	3.35	3.73	3.34	3.41	3.36	3.33	3.35	3.78	3.37	3.38	3.35	3.27
K2O	0.98	1.16	0.97	0.70	0.85	0.89	1.08	0.81	0.81	0.83	0.86	0.79	0.80	1.01	0.80
P2O5	0.375	0.349	0.379	0.358	0.383	0.373	0.593	0.360	0.372	0.357	0.384	0.358	0.357	0.372	0.363
Sum	100.09	98.98	99.24	99.59	100.01	99.83	99.59	99.82	99.70	99.81	99.93	99.98	100.31	99.92	99.04
Normalized major elements (weight %)															
SiO2	52.32	53.91	52.26	51.14	53.43	51.10	50.75	51.09	51.09	51.24	53.44	51.04	51.16	51.82	50.96
TiO2	1.323	1.319	1.335	1.373	1.293	1.609	1.552	1.584	1.396	1.393	1.297	1.570	1.546	1.392	1.585
Al2O3	17.05	17.69	17.00	17.12	17.62	16.78	16.84	16.65	17.14	17.03	17.68	16.80	16.77	17.07	16.88
FeO*	8.02	8.06	8.10	8.75	7.64	8.48	9.12	8.70	8.65	8.59	7.67	8.62	8.64	8.25	8.70
MnO	0.144	0.146	0.143	0.153	0.132	0.146	0.157	0.146	0.149	0.149	0.131	0.147	0.147	0.143	0.148
MgO	6.98	5.32	7.01	7.84	5.88	7.45	7.64	7.78	7.86	7.87	5.71	7.76	7.73	6.93	7.68
CaO	9.39	8.59	9.41	9.20	9.05	9.82	8.84	9.51	9.19	9.19	9.05	9.53	9.48	9.66	9.56
Na2O	3.41	3.44	3.38	3.36	3.73	3.35	3.42	3.37	3.34	3.36	3.78	3.37	3.37	3.35	3.30
K2O	0.98	1.17	0.98	0.70	0.85	0.89	1.08	0.81	0.81	0.83	0.86	0.79	0.80	1.01	0.81
P2O5	0.375	0.353	0.382	0.359	0.383	0.374	0.595	0.361	0.373	0.358	0.384	0.358	0.356	0.372	0.367
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	101	72	101	145	82	121	174	140	147	148	76	140	142	92	131
Cr	195	112	195	276	123	234	279	256	279	276	116	258	263	191	249
Sc	26	25	27	27	23	26	26	27	26	27	23	26	27	28	26
V	189	194	190	189	178	205	195	200	198	202	176	195	199	198	197
Ba	394	377	398	283	347	316	792	282	316	324	341	275	269	395	274
Rb	12	22	10	8	10	11	13	11	10	10	10	10	10	10	10
Sr	1021	519	1016	754	1084	917	771	826	708	713	1079	813	785	1034	821
Zr	148	149	148	134	155	150	208	149	143	142	158	150	149	148	150
Y	24	32	24	25	23	24	28	24	25	25	23	24	24	25	24
Nb	13.0	10.9	12.7	8.9	10.7	16.2	14.5	14.5	11.4	11.1	12.2	14.9	15.0	13.6	14.9
Ga	19	18	18	17	20	18	18	19	17	18	20	19	19	18	19
Cu	58	62	61	44	61	63	63	63	50	61	59	65	62	64	55
Zn	84	83	81	81	84	78	95	80	81	81	83	79	84	81	80
Pb	4	6	4	3	4	3	5	3	3	3	3	2	4	5	4
La	18	21	22	13	23	19	27	17	15	16	19	17	17	22	19
Ce	45	42	48	36	48	50	68	43	33	40	49	39	42	41	41
Th	2	2	2	1	2	1	3	2	2	3	2	2	2	1	3
Nd	26	25	27	23	28	26	38	24	22	23	25	22	23	25	22
U	2	1	1	0	1	3	3	1	2	0	1	1	0	2	3

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC09-47R	RC09-48	RC09-49	RC09-50	RC09-51	RC09-52	RC09-53	RC09-54	RC09-55	RC09-56	RC09-57	RC09-58	RC09-59	RC09-60	RC09-61
Unnormalized major elements (weight %)															
SiO2	50.79	51.31	51.82	51.04	51.69	51.92	51.09	51.64	51.18	51.38	51.06	51.05	50.21	51.16	50.83
TiO2	1.577	1.576	1.384	1.579	1.378	1.397	1.560	1.382	1.621	1.630	1.616	1.618	1.623	1.582	1.594
Al2O3	16.70	16.84	17.12	16.87	16.92	17.10	16.71	17.00	16.75	16.82	16.78	16.76	16.53	16.79	16.73
FeO*	8.67	8.60	8.02	8.64	8.20	8.26	8.66	8.08	8.65	8.65	8.63	8.66	8.53	8.61	8.60
MnO	0.148	0.147	0.141	0.147	0.143	0.144	0.146	0.143	0.147	0.146	0.146	0.146	0.146	0.146	0.145
MgO	7.68	7.40	6.35	7.46	6.98	6.95	7.69	6.59	7.57	7.44	7.46	7.45	7.43	7.69	7.49
CaO	9.50	9.91	9.66	9.80	9.62	9.68	9.48	9.58	9.73	9.79	9.73	9.74	9.56	9.60	9.58
Na2O	3.29	3.37	3.40	3.29	3.34	3.37	3.37	3.33	3.40	3.40	3.38	3.40	3.33	3.39	3.36
K2O	0.79	0.92	1.01	0.90	1.00	1.00	0.80	0.99	0.87	0.87	0.85	0.86	0.84	0.83	0.82
P2O5	0.365	0.381	0.374	0.384	0.368	0.376	0.357	0.374	0.372	0.372	0.368	0.373	0.372	0.361	0.364
Sum	99.50	100.45	99.28	100.11	99.64	100.20	99.86	99.11	100.29	100.50	100.02	100.06	98.57	100.16	99.51
Normalized major elements (weight %)															
SiO2	51.04	51.08	52.20	50.98	51.88	51.82	51.16	52.10	51.03	51.13	51.05	51.02	50.94	51.08	51.08
TiO2	1.585	1.569	1.394	1.577	1.383	1.394	1.562	1.394	1.616	1.622	1.616	1.617	1.647	1.579	1.602
Al2O3	16.79	16.76	17.24	16.85	16.98	17.07	16.73	17.15	16.70	16.74	16.78	16.75	16.77	16.76	16.81
FeO*	8.71	8.56	8.08	8.63	8.23	8.24	8.67	8.15	8.62	8.61	8.63	8.66	8.65	8.60	8.64
MnO	0.148	0.146	0.142	0.147	0.144	0.144	0.146	0.144	0.147	0.145	0.146	0.146	0.148	0.146	0.146
MgO	7.72	7.37	6.40	7.45	7.01	6.94	7.70	6.65	7.55	7.40	7.46	7.45	7.54	7.68	7.53
CaO	9.54	9.87	9.73	9.79	9.65	9.66	9.49	9.67	9.70	9.74	9.73	9.73	9.70	9.58	9.63
Na2O	3.30	3.35	3.42	3.29	3.35	3.36	3.37	3.36	3.39	3.38	3.38	3.40	3.38	3.38	3.38
K2O	0.79	0.92	1.02	0.90	1.00	1.00	0.80	1.00	0.87	0.87	0.85	0.86	0.85	0.83	0.82
P2O5	0.367	0.379	0.377	0.384	0.369	0.375	0.357	0.377	0.371	0.370	0.368	0.373	0.377	0.360	0.366
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	135	116	75	117	96	94	138	83	123	119	121	120	123	132	126
Cr	251	225	157	228	196	190	255	168	237	228	233	228	228	244	236
Sc	26	28	28	28	27	28	28	28	27	27	27	28	27	27	27
V	199	207	196	204	195	199	199	199	202	203	206	204	206	198	201
Ba	275	336	402	337	395	395	275	399	294	299	295	299	301	282	282
Rb	10	12	11	11	11	11	11	10	11	11	11	11	11	12	11
Sr	823	932	1043	920	1030	1036	807	1032	904	914	907	910	888	852	849
Zr	150	150	148	151	145	147	151	148	152	153	152	152	153	150	152
Y	24	24	24	25	24	24	24	24	25	24	24	24	24	24	24
Nb	15.6	16.2	13.1	15.9	13.9	13.3	15.1	13.1	16.0	15.7	15.9	15.8	16.3	15.0	15.4
Ga	17	19	19	20	19	19	19	18	19	20	19	18	17	18	17
Cu	56	65	63	58	64	61	63	64	61	64	62	63	54	62	62
Zn	80	82	78	84	80	82	78	79	81	81	81	80	79	83	81
Pb	3	4	5	3	4	3	3	6	4	4	3	3	3	4	2
La	19	19	19	18	16	20	18	19	16	19	16	20	20	18	18
Ce	42	44	51	48	48	43	43	46	39	43	45	45	43	39	42
Th	2	2	2	2	2	2	1	2	3	2	2	2	1	2	2
Nd	24	24	28	27	26	25	23	24	24	23	23	23	26	25	26
U	2	1	3	3	0	1	2	2	1	2	2	2	0	1	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	NID09-01	NID09-02	NID09-02R	NID09-03	NID09-04	NID09-05	NID09-07	NID09-08	NID09-09	NID09-10	NID09-11	NID09-12	NID09-13	NID09-13R
Unnormalized major elements (weight %)														
SiO2	51.00	51.02	51.11	51.19	50.96	50.82	49.98	50.94	50.65	50.21	49.97	52.03	51.34	51.73
TiO2	1.572	1.557	1.568	1.590	1.595	1.561	1.603	1.565	1.556	1.489	1.521	1.400	1.393	1.401
Al2O3	16.76	16.70	16.78	16.89	16.79	16.67	16.55	16.71	16.65	17.07	17.04	17.03	16.85	17.04
FeO*	8.51	8.56	8.60	8.62	8.66	8.66	8.51	8.43	8.62	9.04	9.30	8.27	8.20	8.25
MnO	0.149	0.150	0.148	0.150	0.149	0.147	0.143	0.148	0.149	0.158	0.163	0.146	0.145	0.144
MgO	7.62	7.74	7.82	7.54	7.64	7.73	7.15	7.66	7.59	8.05	8.08	6.98	7.02	7.05
CaO	9.44	9.40	9.49	9.59	9.50	9.45	9.58	9.46	9.40	9.49	9.42	9.68	9.54	9.59
Na2O	3.20	3.34	3.34	3.33	3.29	3.32	3.17	3.30	3.23	3.19	3.21	3.29	3.25	3.28
K2O	0.84	0.84	0.80	0.83	0.80	0.81	0.83	0.81	0.79	0.67	0.65	1.01	0.99	1.00
P2O5	0.366	0.371	0.373	0.367	0.372	0.359	0.373	0.367	0.367	0.324	0.346	0.374	0.370	0.373
Sum	99.46	99.68	100.03	100.10	99.76	99.53	97.89	99.39	99.00	99.69	99.70	100.21	99.10	99.85
Normalized major elements (weight %)														
SiO2	51.28	51.18	51.10	51.14	51.08	51.06	51.06	51.25	51.16	50.37	50.12	51.92	51.81	51.81
TiO2	1.581	1.562	1.568	1.588	1.599	1.568	1.638	1.575	1.572	1.494	1.526	1.397	1.406	1.404
Al2O3	16.85	16.75	16.77	16.87	16.83	16.75	16.91	16.81	16.82	17.12	17.09	16.99	17.00	17.07
FeO*	8.56	8.59	8.60	8.61	8.68	8.70	8.69	8.48	8.71	9.07	9.33	8.25	8.27	8.26
MnO	0.150	0.150	0.148	0.150	0.149	0.148	0.146	0.149	0.151	0.158	0.163	0.146	0.146	0.144
MgO	7.66	7.77	7.82	7.53	7.66	7.77	7.30	7.71	7.67	8.07	8.10	6.97	7.08	7.06
CaO	9.49	9.43	9.49	9.58	9.52	9.49	9.79	9.52	9.49	9.52	9.45	9.66	9.63	9.60
Na2O	3.22	3.35	3.34	3.33	3.30	3.34	3.24	3.32	3.26	3.20	3.22	3.28	3.28	3.28
K2O	0.84	0.84	0.80	0.83	0.80	0.81	0.85	0.81	0.80	0.67	0.65	1.01	1.00	1.00
P2O5	0.368	0.372	0.373	0.367	0.373	0.361	0.381	0.369	0.371	0.325	0.347	0.373	0.373	0.373
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)														
Ni	139	139	141	129	133	142	117	139	136	151	151	97	98	99
Cr	261	255	259	235	252	262	225	258	254	287	287	196	194	195
Sc	26	27	27	26	27	27	27	27	26	28	29	28	27	28
V	200	196	199	200	195	200	199	199	198	217	223	197	196	199
Ba	282	287	284	277	280	272	298	276	272	210	211	395	392	391
Rb	12	12	11	11	11	10	11	10	11	10	10	11	12	11
Sr	796	815	824	835	826	803	884	797	795	451	440	1033	1012	1019
Zr	152	149	149	151	152	149	150	149	148	126	130	149	146	147
Y	24	24	23	24	25	24	24	24	23	24	25	25	23	23
Nb	15.1	15.1	15.5	16.2	15.0	15.2	16.2	15.3	14.9	14.8	14.6	14.0	13.3	13.7
Ga	18	19	18	18	19	18	16	18	18	17	19	19	18	18
Cu	59	58	59	60	48	57	58	57	53	59	57	62	59	62
Zn	82	82	81	81	84	79	80	79	82	79	80	85	80	80
Pb	3	3	2	2	3	4	3	2	4	1	3	4	5	4
La	17	18	18	21	19	18	17	16	16	14	13	19	18	21
Ce	45	45	41	45	40	43	45	43	39	29	25	47	46	48
Th	2	2	1	3	2	2	2	2	2	2	2	1	1	1
Nd	23	23	25	23	21	23	24	24	22	17	15	25	25	27
U	1	2	0	1	2	1	2	1	1	1	2	0	2	2

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	NID09-14	NID09-15	NID09-16	NID09-17	NID09-18	NID09-19	NID09-20	NID09-21	NID09-22	NID09-23	NID09-24	NID09-24R	NID09-25	NID09-26
Unnormalized major elements (weight %)														
SiO2	50.76	51.55	51.87	50.44	51.00	50.55	51.58	50.41	49.22	55.10	52.91	53.42	53.68	51.28
TiO2	1.567	1.398	1.393	1.560	1.365	1.589	1.386	1.541	1.523	1.203	1.289	1.301	1.307	1.394
Al2O3	16.77	17.03	17.00	16.49	16.85	16.66	16.99	16.50	16.79	17.94	17.38	17.61	17.75	17.09
FeO*	8.60	8.03	8.09	8.65	8.50	8.51	8.09	8.36	9.18	8.02	7.82	7.72	7.86	8.74
MnO	0.151	0.143	0.143	0.149	0.148	0.150	0.144	0.146	0.159	0.135	0.132	0.132	0.133	0.153
MgO	7.54	6.75	7.01	7.72	7.94	7.55	6.93	7.60	8.40	4.33	5.81	5.87	5.76	7.89
CaO	9.41	9.64	9.55	9.33	9.08	9.45	9.56	9.34	9.43	8.04	8.99	9.05	9.10	9.22
Na2O	3.27	3.31	3.27	3.16	3.33	3.28	3.30	3.25	3.11	3.73	3.68	3.73	3.77	3.34
K2O	0.80	1.01	1.00	0.80	0.81	0.83	0.99	0.80	0.65	0.90	0.84	0.85	0.85	0.82
P2O5	0.363	0.371	0.370	0.364	0.350	0.389	0.373	0.351	0.341	0.393	0.383	0.387	0.387	0.361
Sum	99.23	99.23	99.70	98.66	99.37	98.96	99.34	98.30	98.80	99.79	99.23	100.06	100.60	100.29
Normalized major elements (weight %)														
SiO2	51.15	51.95	52.03	51.12	51.32	51.08	51.92	51.28	49.82	55.22	53.32	53.38	53.36	51.13
TiO2	1.579	1.409	1.397	1.581	1.374	1.606	1.395	1.568	1.541	1.206	1.299	1.300	1.299	1.390
Al2O3	16.90	17.16	17.05	16.71	16.96	16.84	17.10	16.79	16.99	17.98	17.51	17.60	17.64	17.04
FeO*	8.67	8.09	8.11	8.77	8.55	8.60	8.14	8.50	9.29	8.04	7.88	7.71	7.81	8.71
MnO	0.152	0.144	0.143	0.151	0.149	0.152	0.145	0.149	0.161	0.135	0.133	0.132	0.132	0.153
MgO	7.60	6.80	7.03	7.82	7.99	7.63	6.98	7.73	8.50	4.34	5.85	5.87	5.73	7.87
CaO	9.48	9.71	9.58	9.46	9.14	9.55	9.62	9.50	9.54	8.06	9.06	9.04	9.05	9.19
Na2O	3.30	3.34	3.28	3.20	3.35	3.31	3.32	3.31	3.15	3.74	3.71	3.72	3.75	3.33
K2O	0.81	1.02	1.00	0.81	0.82	0.84	1.00	0.81	0.66	0.90	0.85	0.85	0.84	0.82
P2O5	0.366	0.374	0.371	0.369	0.352	0.393	0.375	0.357	0.345	0.394	0.386	0.387	0.385	0.360
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)														
Ni	134	89	98	143	159	130	95	137	164	37	78	78	76	145
Cr	251	187	200	254	284	243	196	252	310	59	126	125	120	276
Sc	26	29	28	28	26	27	28	27	30	22	24	22	22	28
V	202	198	199	195	194	202	198	199	220	168	171	177	175	196
Ba	281	399	391	273	311	281	393	275	199	390	348	349	348	319
Rb	11	10	10	10	9	11	10	10	10	10	10	9	10	10
Sr	805	1035	1024	815	761	847	1025	795	437	694	1078	1082	1085	713
Zr	151	147	147	149	141	151	147	147	130	160	161	160	161	144
Y	24	24	25	24	24	24	24	23	24	28	23	24	23	25
Nb	15.9	13.6	13.3	15.1	10.9	15.4	13.6	13.8	15.7	11.4	11.6	11.5	11.2	11.0
Ga	19	18	19	19	17	18	18	18	18	19	20	19	20	18
Cu	58	62	61	61	63	51	59	60	52	58	58	60	58	61
Zn	81	79	81	80	81	80	81	82	79	97	86	85	84	79
Pb	3	5	4	3	4	3	4	4	2	3	4	4	3	3
La	20	21	21	20	16	20	20	16	10	19	23	21	20	14
Ce	39	46	44	47	38	44	45	39	27	45	51	53	49	38
Th	1	2	2	2	2	3	2	2	2	2	1	2	2	2
Nd	21	26	24	26	21	24	26	24	18	23	26	26	28	22
U	1	0	0	1	0	2	1	1	2	1	1	0	3	3

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	NID09-27	NID09-28	NID09-29	NID09-30	NID09-31	NID09-32	NID09-33	RC10-18	RC10-19	RC10-19R	RC10-20	RC10-21	RC10-22	RC10-23	RC10-24
Unnormalized major elements (weight %)															
SiO2	51.37	52.19	50.76	51.03	51.03	51.20	52.10	51.37	51.66	51.66	51.47	50.57	51.69	51.47	53.16
TiO2	1.398	1.389	1.586	1.611	1.366	1.626	1.354	1.439	1.395	1.395	1.389	1.558	1.383	1.382	1.292
Al2O3	17.14	17.39	16.70	16.85	16.76	16.85	16.85	16.84	17.01	17.02	17.05	16.56	17.17	17.21	17.58
FeO*	8.67	7.86	8.41	8.42	8.00	8.49	8.70	8.23	8.21	8.12	8.25	8.45	8.02	7.82	7.54
MnO	0.158	0.142	0.147	0.146	0.142	0.147	0.148	0.145	0.144	0.144	0.143	0.147	0.140	0.141	0.130
MgO	7.93	6.11	7.70	7.52	6.97	7.51	7.90	6.72	6.94	6.91	6.57	7.36	6.14	6.03	5.58
CaO	9.20	9.73	9.50	9.64	9.38	9.75	8.63	9.62	9.62	9.64	9.58	9.73	9.73	9.69	9.01
Na2O	3.34	3.36	3.34	3.40	3.25	3.38	3.51	3.40	3.38	3.40	3.36	3.37	3.44	3.43	3.82
K2O	0.83	1.01	0.79	0.82	0.98	0.85	0.77	1.02	1.00	1.01	1.01	0.93	1.02	1.01	0.84
P2O5	0.377	0.377	0.368	0.366	0.371	0.375	0.310	0.376	0.373	0.372	0.376	0.380	0.374	0.377	0.384
Sum	100.41	99.56	99.30	99.80	98.25	100.18	100.27	99.16	99.74	99.67	99.19	99.07	99.11	98.56	99.34
Normalized major elements (weight %)															
SiO2	51.16	52.42	51.12	51.13	51.94	51.11	51.96	51.81	51.80	51.83	51.89	51.05	52.16	52.22	53.52
TiO2	1.392	1.395	1.597	1.614	1.390	1.623	1.350	1.452	1.399	1.399	1.400	1.572	1.395	1.402	1.301
Al2O3	17.07	17.47	16.82	16.88	17.06	16.82	16.80	16.98	17.06	17.08	17.19	16.71	17.33	17.46	17.70
FeO*	8.63	7.89	8.47	8.44	8.14	8.47	8.68	8.30	8.23	8.15	8.32	8.53	8.09	7.93	7.59
MnO	0.157	0.143	0.148	0.146	0.145	0.147	0.148	0.146	0.144	0.144	0.144	0.148	0.141	0.143	0.131
MgO	7.90	6.14	7.75	7.53	7.09	7.50	7.88	6.78	6.96	6.93	6.62	7.43	6.19	6.12	5.61
CaO	9.16	9.77	9.57	9.66	9.55	9.73	8.61	9.70	9.65	9.68	9.66	9.82	9.82	9.83	9.07
Na2O	3.33	3.37	3.36	3.41	3.31	3.37	3.50	3.43	3.39	3.41	3.39	3.41	3.47	3.48	3.85
K2O	0.83	1.01	0.80	0.82	1.00	0.85	0.77	1.03	1.01	1.01	1.02	0.94	1.03	1.02	0.85
P2O5	0.375	0.379	0.371	0.367	0.378	0.374	0.309	0.380	0.374	0.373	0.379	0.383	0.377	0.382	0.386
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	148	62	133	123	96	121	176	87	92	92	82	115	67	63	71
Cr	279	136	251	234	197	230	295	179	189	190	173	225	145	135	112
Sc	28	27	26	27	26	26	25	28	28	28	28	28	27	28	23
V	194	193	197	201	192	204	192	207	201	199	198	205	195	200	171
Ba	324	401	276	282	385	303	259	396	401	402	403	341	408	400	347
Rb	10	11	11	10	10	10	12	12	10	11	12	11	11	10	10
Sr	710	1036	825	854	991	900	470	1018	1030	1032	1029	917	1048	1040	1073
Zr	145	150	152	152	145	154	135	156	154	155	157	156	157	156	165
Y	26	25	24	25	24	25	25	24	24	25	24	24	24	24	23
Nb	12.0	13.0	15.2	15.1	13.3	16.1	12.9	14.5	13.2	13.2	13.0	15.9	13.7	12.9	11.2
Ga	16	18	19	19	17	19	17	18	18	19	18	18	19	18	20
Cu	59	59	59	63	61	62	65	63	64	64	64	63	62	60	59
Zn	82	78	80	80	78	80	82	82	80	80	78	80	80	79	83
Pb	2	4	3	3	5	4	3	5	3	4	4	3	3	5	4
La	15	19	16	19	15	20	15	20	20	19	20	22	24	20	22
Ce	36	48	40	41	43	47	29	46	46	44	47	46	45	47	50
Th	2	2	2	2	2	2	2	2	2	1	1	2	0	1	1
Nd	24	27	24	24	24	26	17	26	24	25	26	26	24	24	24
U	2	2	3	2	1	1	1	2	0	2	2	0	1	2	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC10-25	RC10-26	RC10-27	RC10-28	RC10-29	RC10-30	RC10-31R	RC10-32R	RC10-33	RC10-34	RC10-35	RC10-36	RC10-37	RC10-38	NID10-01MK
Unnormalized major elements (weight %)															
SiO2	51.98	53.16	51.47	51.31	51.49	49.40	51.36	50.58	50.59	50.49	51.59	52.17	52.98	50.69	51.39
TiO2	1.389	1.290	1.386	1.360	1.339	1.478	1.371	1.523	1.555	1.606	1.312	1.303	1.289	1.380	1.372
Al2O3	17.25	17.58	17.26	16.94	16.72	17.02	16.88	16.41	16.62	16.59	16.98	17.07	17.46	16.83	17.08
FeO*	7.83	7.58	7.88	8.78	8.62	9.14	8.82	8.69	8.41	8.38	8.08	8.03	7.66	8.84	8.77
MnO	0.142	0.131	0.142	0.150	0.148	0.158	0.150	0.147	0.147	0.145	0.141	0.141	0.130	0.151	0.150
MgO	6.13	5.67	6.09	8.23	8.07	7.97	8.03	7.92	7.67	7.46	6.82	6.68	5.63	8.08	8.13
CaO	9.69	9.03	9.66	8.65	8.57	9.45	8.61	9.36	9.48	9.67	9.28	9.31	8.99	9.04	8.58
Na2O	3.45	3.78	3.35	3.55	3.51	3.32	3.50	3.30	3.40	3.38	3.37	3.49	3.80	3.35	3.49
K2O	1.01	0.82	0.99	0.69	0.75	0.61	0.71	0.80	0.80	0.84	0.95	0.93	0.85	0.82	0.70
P2O5	0.381	0.385	0.406	0.306	0.306	0.324	0.306	0.347	0.357	0.369	0.383	0.382	0.383	0.361	0.320
Sum	99.26	99.43	98.64	99.98	99.52	98.87	99.73	99.08	99.01	98.93	98.90	99.51	99.17	99.53	99.98
Normalized major elements (weight %)															
SiO2	52.36	53.47	52.18	51.33	51.74	49.96	51.50	51.05	51.09	51.04	52.17	52.43	53.42	50.93	51.40
TiO2	1.400	1.297	1.405	1.360	1.346	1.495	1.375	1.537	1.570	1.623	1.327	1.310	1.299	1.387	1.372
Al2O3	17.38	17.68	17.50	16.94	16.80	17.21	16.93	16.56	16.78	16.77	17.17	17.16	17.61	16.91	17.08
FeO*	7.89	7.63	7.99	8.79	8.66	9.25	8.84	8.77	8.49	8.47	8.17	8.07	7.73	8.88	8.77
MnO	0.143	0.131	0.144	0.150	0.149	0.160	0.151	0.149	0.148	0.147	0.142	0.141	0.131	0.152	0.150
MgO	6.18	5.70	6.17	8.23	8.11	8.06	8.05	7.99	7.74	7.54	6.89	6.71	5.67	8.12	8.13
CaO	9.76	9.08	9.79	8.65	8.61	9.55	8.63	9.45	9.57	9.78	9.38	9.36	9.07	9.08	8.58
Na2O	3.48	3.80	3.40	3.55	3.52	3.36	3.51	3.34	3.43	3.42	3.40	3.50	3.84	3.36	3.49
K2O	1.02	0.83	1.00	0.69	0.76	0.62	0.71	0.80	0.81	0.85	0.96	0.93	0.85	0.82	0.70
P2O5	0.383	0.387	0.411	0.306	0.307	0.328	0.307	0.350	0.360	0.373	0.387	0.383	0.386	0.362	0.320
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)															
Ni	65	76	64	190	183	144	182	150	134	121	94	89	75	157	186
Cr	138	116	136	313	307	278	307	280	255	230	193	177	117	287	308
Sc	28	22	28	24	26	29	26	27	26	27	26	27	23	27	25
V	202	178	197	193	195	223	191	198	202	206	189	189	174	194	193
Ba	404	347	405	243	262	211	255	276	279	298	405	401	345	315	254
Rb	11	10	10	11	12	9	10	10	11	10	9	10	10	9	10
Sr	1043	1075	1042	503	469	444	501	775	806	899	1025	1030	1079	707	498
Zr	157	164	157	133	137	130	133	150	157	159	157	157	166	149	136
Y	24	23	24	24	25	24	24	23	23	24	24	24	23	25	25
Nb	12.3	11.2	13.1	12.7	12.6	13.4	13.0	13.6	15.1	15.8	13.1	12.0	11.9	10.9	13.4
Ga	20	19	19	17	17	17	18	17	17	20	18	19	20	19	17
Cu	63	60	57	67	67	63	70	62	64	64	60	61	60	62	64
Zn	78	86	79	82	81	81	84	81	82	79	82	82	85	83	83
Pb	4	4	4	3	3	4	4	3	4	4	5	4	5	4	3
La	23	20	20	9	13	12	13	14	19	19	18	19	21	17	14
Ce	47	49	45	32	36	32	31	37	37	51	42	50	45	35	32
Th	1	1	2	1	1	1	1	2	1	2	0	1	2	0	1
Nd	27	25	27	16	18	16	17	21	21	27	25	26	24	23	20
U	2	2	0	1	2	1	0	0	3	0	1	1	0	1	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	NID10-02MK	NID10-02MKR	NID10-03MK	NID10-04MK	NID10-05MK	NID10-06MK	NID10-07MK	NID10-08MK	NID10-09MK	NID10-10MK	NID10-11MK
Unnormalized major elements (weight %)											
SiO2	50.14	50.02	51.48	50.48	50.07	52.90	53.13	53.38	53.07	52.42	52.21
TiO2	1.510	1.505	1.372	1.463	1.497	1.283	1.287	1.286	1.288	1.318	1.313
Al2O3	17.26	17.19	17.05	17.16	17.13	17.54	17.68	17.68	17.54	17.31	17.10
FeO*	9.34	9.46	8.88	9.25	9.41	7.74	7.71	7.69	7.77	8.06	8.06
MnO	0.163	0.163	0.151	0.158	0.163	0.131	0.130	0.131	0.131	0.145	0.145
MgO	7.97	7.94	8.07	8.08	7.99	5.80	5.64	5.63	5.83	6.50	6.59
CaO	9.45	9.41	8.59	9.43	9.31	8.97	8.93	8.98	8.98	9.31	9.22
Na2O	3.28	3.28	3.53	3.28	3.29	3.74	3.77	3.76	3.74	3.47	3.48
K2O	0.64	0.64	0.69	0.66	0.65	0.84	0.82	0.85	0.83	0.97	0.96
P2O5	0.342	0.340	0.315	0.325	0.361	0.386	0.388	0.387	0.385	0.393	0.410
Sum	100.10	99.94	100.13	100.29	99.87	99.33	99.49	99.77	99.56	99.90	99.49
Normalized major elements (weight %)											
SiO2	50.09	50.05	51.41	50.34	50.13	53.26	53.41	53.50	53.30	52.47	52.48
TiO2	1.509	1.506	1.370	1.459	1.499	1.292	1.294	1.289	1.294	1.319	1.320
Al2O3	17.24	17.20	17.03	17.11	17.15	17.66	17.77	17.72	17.62	17.33	17.19
FeO*	9.33	9.46	8.87	9.22	9.42	7.79	7.75	7.71	7.80	8.07	8.10
MnO	0.163	0.163	0.151	0.158	0.163	0.132	0.131	0.131	0.132	0.145	0.146
MgO	7.96	7.95	8.06	8.06	8.00	5.84	5.67	5.64	5.86	6.51	6.62
CaO	9.44	9.42	8.58	9.40	9.32	9.03	8.98	9.00	9.02	9.32	9.27
Na2O	3.28	3.28	3.53	3.27	3.29	3.77	3.79	3.77	3.76	3.47	3.50
K2O	0.64	0.64	0.69	0.66	0.65	0.85	0.82	0.85	0.83	0.97	0.96
P2O5	0.342	0.341	0.315	0.324	0.361	0.389	0.390	0.388	0.387	0.393	0.412
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)											
Ni	141	144	182	147	145	78	74	72	79	84	89
Cr	285	285	301	288	291	124	114	113	128	171	177
Sc	31	29	26	28	30	23	23	22	24	26	25
V	229	226	196	222	226	177	176	176	176	195	191
Ba	213	210	251	213	219	355	351	356	354	410	410
Rb	10	9	11	9	10	10	10	10	10	10	11
Sr	449	450	502	453	446	1087	1082	1083	1093	1040	1028
Zr	136	135	136	132	137	167	168	168	166	162	162
Y	25	25	24	24	25	23	23	23	23	24	24
Nb	14.9	14.9	12.9	14.9	15.0	12.4	12.1	11.8	11.8	12.9	13.1
Ga	20	17	19	18	19	20	21	20	20	20	19
Cu	64	63	68	59	55	61	60	59	62	62	72
Zn	83	81	83	81	85	84	85	83	86	85	82
Pb	4	2	4	3	2	5	5	4	5	4	5
La	13	15	15	15	17	25	23	21	21	21	18
Ce	31	32	29	29	32	49	54	54	48	51	47
Th	1	1	1	1	1	3	1	0	1	1	2
Nd	20	18	17	17	18	27	29	30	27	27	27
U	1	0	1	0	1	1	1	0	2	0	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	NID10-12MK	NID10-13MK	NID10-14MK	NID10-15MK	NID10-18MK	NID10-19MK 2012	NID10-19MK 2012R	NID10-20MK	NID10-21MK	NID10-22MK
Unnormalized major elements (weight %)										
SiO2	52.35	51.88	52.17	52.03	51.92	51.37	51.44	51.34	53.39	53.04
TiO2	1.322	1.334	1.326	1.325	1.400	1.380	1.384	1.360	1.293	1.288
Al2O3	17.29	16.95	17.12	17.03	17.00	16.91	16.94	16.82	17.39	17.36
FeO*	8.11	8.09	8.16	8.18	8.12	8.88	8.95	8.79	7.91	7.87
MnO	0.143	0.152	0.146	0.143	0.150	0.151	0.150	0.150	0.132	0.134
MgO	6.33	6.86	6.84	6.87	7.03	8.01	8.01	7.80	6.03	6.11
CaO	9.29	9.24	9.33	9.29	9.64	8.67	8.68	8.52	9.05	9.04
Na2O	3.48	3.32	3.39	3.37	3.39	3.49	3.49	3.41	3.71	3.70
K2O	0.97	0.97	0.97	0.96	1.01	0.70	0.71	0.76	0.87	0.87
P2O5	0.403	0.413	0.397	0.383	0.370	0.309	0.310	0.330	0.386	0.387
Sum	99.69	99.21	99.85	99.58	100.03	99.88	100.07	99.28	100.16	99.79
Normalized major elements (weight %)										
SiO2	52.51	52.29	52.25	52.25	51.91	51.43	51.41	51.71	53.31	53.15
TiO2	1.326	1.345	1.328	1.331	1.400	1.382	1.383	1.370	1.291	1.291
Al2O3	17.34	17.09	17.15	17.10	16.99	16.93	16.93	16.94	17.36	17.40
FeO*	8.14	8.15	8.17	8.21	8.12	8.89	8.94	8.85	7.90	7.89
MnO	0.143	0.153	0.146	0.144	0.150	0.151	0.150	0.151	0.132	0.135
MgO	6.35	6.91	6.85	6.90	7.03	8.02	8.00	7.86	6.02	6.12
CaO	9.32	9.31	9.34	9.33	9.64	8.68	8.68	8.58	9.03	9.06
Na2O	3.49	3.35	3.40	3.38	3.39	3.50	3.49	3.43	3.70	3.70
K2O	0.97	0.98	0.97	0.96	1.01	0.70	0.70	0.77	0.87	0.87
P2O5	0.404	0.416	0.398	0.385	0.370	0.310	0.310	0.332	0.385	0.387
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)										
Ni	79	95	95	95	102	178	178	173	83	84
Cr	159	197	193	194	198	292	293	301	144	146
Sc	27	27	27	27	26	26	24	25	24	23
V	192	194	194	193	201	194	191	194	177	173
Ba	411	406	407	410	406	247	244	262	361	361
Rb	11	11	12	10	10	10	10	13	10	10
Sr	1040	1015	1032	1026	1025	503	503	464	1086	1085
Zr	163	159	160	159	155	132	132	139	160	159
Y	24	23	24	24	23	25	25	25	23	23
Nb	12.4	12.7	12.5	12.9	13.0	12.8	12.1	12.0	11.3	11.2
Ga	20	20	19	20	19	18	18	18	20	19
Cu	63	56	61	59	65	68	69	62	50	60
Zn	83	85	82	83	83	83	82	83	85	86
Pb	5	5	6	5	4	4	2	3	5	4
La	19	23	20	22	18	11	13	15	22	20
Ce	48	47	45	48	44	28	31	28	48	48
Th	1	1	1	1	1	2	1	1	0	1
Nd	27	27	26	26	22	17	19	17	23	25
U	1	1	1	1	2	1	1	0	1	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	NID10-22MKR	NID10-23MK	NID10-24MK	NID10-25MK	NID10-26MK	NID10-27MK	NID10-28MK	NID10-29MK	NID10-30MK	NID10-31MK	NID10-32MK
Unnormalized major elements (weight %)											
SiO2	53.12	52.88	53.11	53.04	54.45	50.61	51.67	50.93	51.43	50.77	53.06
TiO2	1.285	1.280	1.290	1.286	1.103	1.628	1.365	1.581	1.384	1.621	1.294
Al2O3	17.32	17.30	17.37	17.35	16.67	17.52	16.90	17.60	16.89	16.69	17.35
FeO*	7.96	7.84	7.91	7.70	7.90	9.34	8.72	9.13	8.78	8.71	7.96
MnO	0.135	0.135	0.135	0.134	0.134	0.165	0.149	0.160	0.150	0.148	0.136
MgO	6.15	6.01	6.05	5.95	6.78	6.61	7.76	6.54	7.98	7.50	6.10
CaO	9.04	9.02	9.02	9.05	7.63	9.46	8.45	9.47	8.71	9.63	9.10
Na2O	3.71	3.69	3.65	3.72	3.63	3.59	3.57	3.55	3.51	3.34	3.68
K2O	0.86	0.86	0.86	0.87	1.02	0.70	0.75	0.69	0.72	0.86	0.89
P2O5	0.386	0.383	0.391	0.386	0.279	0.394	0.322	0.379	0.312	0.372	0.389
Sum	99.97	99.40	99.80	99.47	99.60	100.01	99.65	100.02	99.86	99.64	99.95
Normalized major elements (weight %)											
SiO2	53.13	53.20	53.22	53.32	54.67	50.61	51.85	50.92	51.50	50.95	53.09
TiO2	1.285	1.288	1.293	1.292	1.108	1.628	1.370	1.581	1.386	1.627	1.294
Al2O3	17.32	17.41	17.41	17.44	16.74	17.52	16.96	17.59	16.91	16.75	17.36
FeO*	7.96	7.89	7.93	7.74	7.93	9.34	8.75	9.12	8.80	8.74	7.96
MnO	0.135	0.135	0.135	0.135	0.135	0.165	0.150	0.160	0.150	0.149	0.136
MgO	6.15	6.04	6.07	5.98	6.81	6.61	7.79	6.54	7.99	7.53	6.10
CaO	9.04	9.07	9.03	9.09	7.66	9.46	8.48	9.47	8.72	9.67	9.10
Na2O	3.72	3.71	3.66	3.74	3.65	3.59	3.58	3.55	3.51	3.35	3.68
K2O	0.86	0.87	0.86	0.87	1.03	0.70	0.75	0.69	0.72	0.86	0.89
P2O5	0.386	0.385	0.392	0.388	0.280	0.394	0.323	0.379	0.313	0.373	0.389
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)											
Ni	86	81	81	79	155	90	176	88	176	123	78
Cr	145	139	144	138	253	164	292	170	295	235	142
Sc	22	24	24	22	21	29	25	29	25	26	24
V	178	176	177	176	161	229	191	222	191	203	178
Ba	358	362	362	359	332	268	270	246	247	293	374
Rb	11	10	10	10	20	10	12	9	11	11	10
Sr	1086	1083	1079	1083	474	495	507	499	494	890	1075
Zr	158	159	159	158	138	154	139	149	133	156	158
Y	23	23	23	23	23	27	24	27	24	24	23
Nb	11.2	12.0	12.2	12.1	11.2	13.8	12.5	14.1	13.1	15.7	11.2
Ga	20	19	20	20	18	19	18	19	19	19	21
Cu	59	58	57	59	59	62	67	58	66	58	62
Zn	84	84	84	83	79	84	83	83	83	80	84
Pb	6	4	5	5	5	3	3	2	4	2	4
La	20	19	24	18	16	14	18	13	17	20	17
Ce	48	49	49	50	33	33	33	34	29	46	46
Th	2	1	2	1	3	2	1	1	2	1	1
Nd	24	27	26	28	17	20	18	19	19	26	26
U	1	0	2	2	0	1	2	1	1	0	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	NID10-33MK	NID10-34MK	NID10-35MK	NID10-36MK	NID10-37MK	RC11-01	RC11-02	RC11-03	RC11-04	RC11-05	RC11-06	RC11-07	RC11-08A	RC11-08B
Unnormalized major elements (weight %)														
SiO2	50.73	51.70	52.02	53.00	50.95	51.65	49.86	51.28	51.46	49.74	51.38	51.46	53.08	53.37
TiO2	1.610	1.310	1.319	1.293	1.368	1.388	1.488	1.377	1.379	1.503	1.382	1.384	1.261	1.262
Al2O3	16.71	16.94	17.00	17.51	17.04	16.95	17.09	16.83	17.00	17.09	16.90	17.00	17.88	17.99
FeO*	8.71	7.97	8.08	7.88	8.70	8.98	9.34	8.91	8.90	9.37	8.91	8.90	7.73	7.72
MnO	0.145	0.140	0.141	0.133	0.155	0.152	0.160	0.149	0.150	0.160	0.150	0.150	0.136	0.128
MgO	7.30	6.34	6.45	5.78	7.73	8.07	8.25	8.07	8.01	8.26	8.04	7.97	5.53	5.35
CaO	9.80	9.25	9.30	9.02	9.20	8.71	9.53	8.65	8.70	9.58	8.67	8.72	8.53	8.60
Na2O	3.38	3.45	3.46	3.76	3.42	3.49	3.23	3.47	3.52	3.13	3.49	3.52	3.61	3.87
K2O	0.86	0.96	0.95	0.85	0.71	0.72	0.68	0.70	0.70	0.64	0.71	0.70	0.81	0.81
P2O5	0.369	0.384	0.386	0.384	0.369	0.319	0.329	0.309	0.308	0.331	0.311	0.308	0.391	0.368
Sum	99.60	98.43	99.10	99.60	99.65	100.43	99.96	99.75	100.13	99.80	99.94	100.11	98.96	99.47
Normalized major elements (weight %)														
SiO2	50.93	52.52	52.49	53.21	51.13	51.43	49.88	51.41	51.39	49.84	51.41	51.40	53.64	53.66
TiO2	1.616	1.331	1.331	1.298	1.373	1.382	1.489	1.381	1.377	1.506	1.383	1.382	1.274	1.269
Al2O3	16.78	17.21	17.15	17.58	17.10	16.88	17.10	16.87	16.98	17.12	16.91	16.98	18.07	18.09
FeO*	8.74	8.09	8.15	7.91	8.73	8.94	9.34	8.93	8.89	9.39	8.92	8.89	7.81	7.76
MnO	0.146	0.142	0.143	0.133	0.156	0.151	0.160	0.149	0.150	0.160	0.150	0.150	0.137	0.129
MgO	7.33	6.44	6.51	5.80	7.76	8.04	8.25	8.09	8.00	8.28	8.04	7.96	5.59	5.38
CaO	9.84	9.40	9.38	9.06	9.24	8.67	9.53	8.67	8.69	9.60	8.67	8.71	8.62	8.65
Na2O	3.39	3.51	3.49	3.77	3.43	3.48	3.23	3.48	3.52	3.14	3.49	3.52	3.65	3.89
K2O	0.86	0.97	0.96	0.85	0.72	0.72	0.68	0.70	0.70	0.64	0.71	0.70	0.82	0.81
P2O5	0.370	0.390	0.389	0.386	0.371	0.318	0.329	0.310	0.308	0.332	0.311	0.308	0.395	0.370
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)														
Ni	112	79	85	77	139	179	152	179	177	153	180	174	86	77
Cr	218	162	167	124	269	300	296	301	295	293	300	295	95	80
Sc	27	26	26	21	26	25	28	25	25	28	25	25	19	20
V	203	188	191	175	188	195	218	192	188	211	192	195	169	169
Ba	306	404	404	348	283	244	212	247	244	205	242	249	330	340
Rb	11	10	10	10	8	10	10	10	11	10	11	10	9	9
Sr	918	1018	1027	1086	755	502	453	498	502	452	499	503	1004	1031
Zr	153	153	155	161	139	131	127	130	130	128	131	131	153	156
Y	24	25	24	23	25	25	23	24	24	24	24	24	21	21
Nb	15.9	12.1	12.0	11.2	9.1	12.6	14.6	12.8	12.0	15.1	12.0	12.4	11.4	10.4
Ga	19	19	20	21	20	18	17	17	18	17	17	19	21	21
Cu	64	62	64	59	53	59	59	69	68	60	59	69	46	58
Zn	80	80	81	84	80	84	79	83	81	79	83	81	86	85
Pb	3	6	4	4	3	3	2	3	1	2	2	2	5	5
La	19	18	18	24	18	13	15	12	13	11	14	13	18	16
Ce	45	48	42	50	36	29	29	30	31	28	29	29	37	43
Th	1	1	1	1	0	0	2	2	2	2	1	1	2	3
Nd	24	26	23	24	22	18	16	18	18	17	16	18	21	24
U	2	0	0	1	1	1	2	1	1	2	1	1	1	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC11-09	RC11-10	RC11-11	RC11-12	RC11-13	RC11-14	RC11-15	RC11-16	RC11-17	RC11-18	RC11-19A	RC11-19B	RC11-19C	RC11-19D	RC11-20	RC11-21
Unnormalized major elements (weight %)																
SiO2	53.33	53.49	50.33	52.42	52.71	52.71	50.05	50.84	52.88	51.48	53.09	53.00	52.95	53.19	51.61	53.24
TiO2	1.238	1.240	1.506	1.319	1.308	1.309	1.351	1.485	1.288	1.380	1.295	1.286	1.293	1.286	1.343	1.293
Al2O3	17.81	17.75	16.11	17.75	17.61	17.72	16.55	16.70	17.79	17.03	17.60	17.45	17.51	17.38	17.23	17.44
FeO*	7.58	7.69	9.30	8.54	8.54	8.46	9.08	8.62	8.15	8.68	7.89	7.85	7.89	7.92	8.15	7.87
MnO	0.127	0.130	0.155	0.142	0.142	0.141	0.153	0.148	0.135	0.149	0.137	0.133	0.135	0.134	0.139	0.134
MgO	5.57	5.58	8.13	5.90	6.27	5.95	9.19	7.94	5.79	7.79	5.94	5.97	5.96	6.09	5.99	5.99
CaO	8.70	8.64	8.68	8.25	8.41	8.39	9.47	9.47	8.51	9.31	8.98	9.03	8.94	9.03	9.52	9.06
Na2O	3.81	3.91	3.43	3.69	3.78	3.82	3.23	3.29	3.84	3.47	3.56	3.62	3.54	3.65	3.15	3.69
K2O	0.79	0.82	1.04	0.79	0.80	0.82	0.74	0.76	0.81	0.72	0.84	0.84	0.83	0.84	0.93	0.85
P2O5	0.354	0.360	0.479	0.407	0.404	0.405	0.329	0.343	0.386	0.344	0.379	0.379	0.377	0.377	0.382	0.382
Sum	99.31	99.61	99.16	99.21	99.97	99.73	100.14	99.60	99.58	100.35	99.71	99.56	99.43	99.90	98.44	99.95
Normalized major elements (weight %)																
SiO2	53.70	53.70	50.76	52.84	52.72	52.86	49.98	51.05	53.10	51.30	53.24	53.24	53.26	53.24	52.43	53.27
TiO2	1.247	1.245	1.519	1.330	1.308	1.313	1.349	1.491	1.293	1.375	1.299	1.292	1.300	1.287	1.364	1.294
Al2O3	17.93	17.82	16.25	17.89	17.61	17.77	16.53	16.77	17.87	16.97	17.65	17.53	17.61	17.40	17.50	17.45
FeO*	7.63	7.72	9.38	8.61	8.54	8.48	9.07	8.65	8.18	8.65	7.91	7.88	7.94	7.93	8.28	7.87
MnO	0.128	0.131	0.156	0.143	0.142	0.141	0.153	0.149	0.136	0.148	0.137	0.134	0.136	0.134	0.141	0.134
MgO	5.61	5.60	8.20	5.95	6.27	5.97	9.18	7.97	5.81	7.76	5.96	6.00	5.99	6.10	6.08	5.99
CaO	8.76	8.67	8.75	8.32	8.41	8.41	9.46	9.51	8.55	9.28	9.01	9.07	8.99	9.04	9.67	9.06
Na2O	3.84	3.93	3.46	3.72	3.78	3.83	3.23	3.30	3.86	3.46	3.57	3.64	3.56	3.65	3.20	3.69
K2O	0.80	0.83	1.05	0.80	0.80	0.82	0.74	0.76	0.81	0.72	0.84	0.84	0.83	0.84	0.94	0.85
P2O5	0.356	0.361	0.483	0.410	0.404	0.406	0.329	0.344	0.388	0.343	0.380	0.381	0.379	0.377	0.388	0.382
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Unnormalized trace elements (ppm)																
Ni	86	86	187	127	148	128	201	146	108	139	80	82	78	85	73	81
Cr	96	111	308	117	130	116	394	281	109	272	133	137	133	141	149	131
Sc	20	21	24	21	20	21	27	27	20	27	22	23	22	22	27	23
V	171	165	183	175	175	178	201	195	178	195	168	172	172	170	185	176
Ba	331	335	509	356	354	355	339	279	349	286	340	353	350	358	403	351
Rb	8	9	11	10	10	10	9	10	10	8	10	10	10	9	10	9
Sr	1019	1012	925	752	748	762	714	763	843	765	1080	1083	1078	1085	1041	1088
Zr	149	151	169	167	165	165	125	146	159	136	155	154	156	155	150	156
Y	21	21	26	24	24	24	23	22	23	24	23	23	23	23	25	23
Nb	11.0	10.2	12.4	12.8	12.9	12.1	9.2	13.0	11.6	9.2	11.0	10.5	11.0	11.4	12.8	11.0
Ga	19	20	17	20	19	19	17	17	20	17	20	20	20	19	18	20
Cu	61	65	59	55	60	59	65	61	54	64	58	35	58	60	81	64
Zn	83	84	93	94	94	90	79	79	89	82	84	84	84	84	81	84
Pb	4	5	4	5	4	4	2	4	4	3	5	6	4	4	4	4
La	19	20	20	19	17	19	16	18	18	16	19	22	22	20	20	19
Ce	40	41	47	41	45	45	32	35	42	34	52	44	53	49	45	44
Th	2	2	2	1	2	2	2	2	1	2	3	2	2	2	2	3
Nd	24	24	28	25	24	26	21	19	25	20	26	26	26	26	25	27
U	1	1	1	1	1	2	0	2	2	1	1	0	3	2	0	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC11-22	RC11-23	RC11-24	RC11-25	RC11-26	RC11-27	RC11-28	NID11-04MK	NID11-05MK	RC12-01	RC12-02	RC12-03	RC12-04	RC12-05	RC12-06
Unnormalized major elements (weight %)															
SiO2	53.38	52.75	51.52	53.55	50.69	50.30	50.70	49.53	50.84	53.35	53.52	50.06	49.9	51.23	50.04
TiO2	1.301	1.289	1.477	1.250	1.460	1.431	1.478	1.492	1.391	1.233	1.225	1.436	1.419	1.442	1.538
Al2O3	17.62	17.47	17.21	17.89	16.74	16.76	16.78	16.94	16.87	17.72	17.69	16.55	16.65	16.85	15.72
FeO*	7.70	7.94	8.10	7.76	9.06	9.06	9.07	9.38	8.92	7.46	7.45	8.85	8.94	8.54	8.78
MnO	0.132	0.134	0.143	0.130	0.150	0.153	0.156	0.159	0.151	0.126	0.126	0.152	0.153	0.148	0.147
MgO	5.77	5.89	6.33	5.63	8.51	8.57	8.48	8.23	7.90	5.56	5.7	8.63	8.6	7.87	8.55
CaO	9.03	8.98	9.98	8.67	9.07	9.22	9.15	9.59	9.16	8.65	8.67	9.23	9.23	9.37	9.31
Na2O	3.66	3.61	3.30	3.90	3.33	3.28	3.37	3.18	3.34	3.93	3.91	3.37	3.3	3.43	3.37
K2O	0.84	0.84	1.03	0.81	0.74	0.68	0.74	0.68	0.81	0.8	0.8	0.84	0.81	0.74	1.36
P2O5	0.385	0.383	0.378	0.360	0.360	0.326	0.350	0.324	0.349	0.357	0.348	0.346	0.345	0.343	0.628
Sum	99.82	99.29	99.47	99.95	100.11	99.78	100.27	99.50	99.74	99.19	99.44	99.45	99.34	99.96	99.45
Normalized major elements (weight %)															
SiO2	53.48	53.13	51.80	53.58	50.63	50.41	50.56	49.77	50.97	53.79	53.82	50.33	50.23	51.25	50.32
TiO2	1.303	1.298	1.485	1.251	1.458	1.434	1.474	1.500	1.394	1.243	1.232	1.444	1.428	1.442	1.547
Al2O3	17.65	17.60	17.30	17.90	16.72	16.80	16.73	17.02	16.92	17.87	17.79	16.64	16.76	16.85	15.81
FeO*	7.71	8.00	8.14	7.77	9.05	9.08	9.05	9.43	8.94	7.52	7.49	8.9	9	8.54	8.83
MnO	0.132	0.135	0.144	0.130	0.150	0.153	0.156	0.159	0.151	0.127	0.127	0.153	0.154	0.148	0.148
MgO	5.78	5.93	6.36	5.63	8.50	8.59	8.46	8.27	7.92	5.6	5.73	8.68	8.66	7.88	8.6
CaO	9.05	9.04	10.03	8.67	9.06	9.24	9.12	9.64	9.19	8.72	8.72	9.28	9.29	9.37	9.36
Na2O	3.67	3.64	3.32	3.90	3.33	3.29	3.36	3.19	3.35	3.96	3.93	3.39	3.32	3.43	3.38
K2O	0.84	0.85	1.04	0.81	0.74	0.68	0.74	0.68	0.81	0.81	0.81	0.84	0.82	0.74	1.37
P2O5	0.386	0.386	0.380	0.360	0.360	0.327	0.349	0.326	0.350	0.36	0.35	0.348	0.347	0.343	0.632
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100	100	100	100	100	100
Unnormalized trace elements (ppm)															
Ni	78	79	69	90	182	180	176	153	147	84	92	181	177	139	193
Cr	118	126	144	106	320	332	320	293	278	96	107	346	347	278	345
Sc	22	22	29	21	27	28	26	28	27	21	21	26	26	26	25
V	172	170	201	175	201	196	201	215	190	174	174	204	199	198	197
Ba	349	351	403	341	266	243	271	201	324	333	326	341	332	273	1036
Rb	10	10	10	9	10	9	10	10	9	9	8	10	10	9	18
Sr	1071	1077	1030	939	611	602	612	450	716	1014	989	689	683	750	1422
Zr	157	155	149	150	144	137	144	130	144	155	150	139	136	148	211
Y	23	22	23	21	25	24	25	23	25	21	21	24	23	24	25
Nb	11.3	11.3	13.4	11.0	12.1	11.6	12.7	15.2	10.1	10.6	10	11.2	10.8	10.6	11.6
Ga	20	20	19	19	17	18	17	18	18	19	20	19	18	18	20
Cu	58	60	61	60	58	58	64	58	63	56	61	66	63	60	59
Zn	87	85	77	85	80	79	82	76	81	85	83	81	79	80	95
Pb	5	4	4	3	4	3	2	1	3	4	4	2	3	4	7
La	21	21	19	17	16	17	16	16	18	19	21	15	14	16	34
Ce	48	50	46	42	34	35	37	30	41	44	40	37	36	39	87
Th	3	2	2	2	2	2	2	1	2	3	3	1	2	1	4
Nd	28	26	26	23	19	20	22	18	23	23	22	22	22	22	46
U	1	2	1	2	1	1	2	0	0	0	0	0	1	0	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC12-07	RC12-08	RC12-09	RC12-10	RC12-11	RC12-12	RC12-13	RC12-14	RC12-15	RC12-16	RC12-17	RC12-18	RC12-19	RC12-20	RC12-21	RC12-22
Unnormalized major elements (weight %)																
SiO2	54.99	51.01	50.26	50.17	50.67	53.04	52.94	53.15	50.62	52.62	52.84	50.94	50.27	50.6	50.55	50.28
TiO2	1.054	1.505	1.468	1.47	1.409	1.276	1.279	1.299	1.423	1.3	1.307	1.472	1.448	1.447	1.449	1.457
Al2O3	18.5	16.29	16.7	16.65	16.67	17.96	17.87	17.99	16.84	17.64	17.78	16.81	16.62	16.64	16.71	16.59
FeO*	7.25	9	9.04	8.94	8.65	8	7.97	8.13	8.81	8.24	8.25	9.06	8.95	9.1	9.05	9.07
MnO	0.123	0.155	0.156	0.155	0.15	0.136	0.136	0.138	0.153	0.14	0.141	0.158	0.153	0.155	0.154	0.155
MgO	5.11	8.36	8.84	8.68	8.43	5.78	5.75	5.79	8.65	5.93	5.97	8.5	8.46	8.69	8.63	8.62
CaO	8.03	8.77	9.33	9.3	9.06	8.54	8.53	8.48	9.22	8.32	8.36	9.01	9.1	9.15	9.19	9.2
Na2O	3.9	3.55	3.3	3.31	3.42	3.91	3.87	3.9	3.39	3.84	3.86	3.42	3.33	3.39	3.37	3.3
K2O	0.76	1.09	0.88	0.92	0.83	0.81	0.82	0.83	0.7	0.83	0.82	0.78	0.74	0.7	0.78	0.88
P2O5	0.224	0.482	0.35	0.356	0.349	0.387	0.386	0.398	0.332	0.406	0.406	0.366	0.341	0.334	0.344	0.356
Sum	99.93	100.21	100.33	99.95	99.63	99.84	99.55	100.09	100.13	99.26	99.73	100.51	99.42	100.22	100.22	99.89
Normalized major elements (weight %)																
SiO2	55.03	50.9	50.09	50.2	50.86	53.12	53.18	53.1	50.55	53.01	52.98	50.68	50.57	50.49	50.44	50.33
TiO2	1.054	1.501	1.463	1.471	1.414	1.278	1.285	1.298	1.422	1.31	1.311	1.464	1.456	1.443	1.446	1.459
Al2O3	18.51	16.26	16.64	16.65	16.73	17.99	17.95	17.97	16.81	17.77	17.83	16.72	16.71	16.6	16.67	16.61
FeO*	7.25	8.98	9.01	8.94	8.68	8.01	8.01	8.12	8.8	8.3	8.27	9.02	9.01	9.08	9.03	9.08
MnO	0.123	0.155	0.156	0.155	0.151	0.136	0.137	0.138	0.153	0.141	0.141	0.157	0.154	0.155	0.153	0.155
MgO	5.11	8.34	8.82	8.68	8.46	5.79	5.78	5.78	8.64	5.97	5.99	8.46	8.51	8.68	8.61	8.63
CaO	8.03	8.75	9.3	9.31	9.09	8.56	8.57	8.47	9.2	8.38	8.38	8.97	9.15	9.13	9.17	9.21
Na2O	3.9	3.54	3.29	3.32	3.43	3.92	3.89	3.89	3.39	3.87	3.87	3.4	3.35	3.38	3.36	3.3
K2O	0.76	1.09	0.88	0.92	0.83	0.81	0.83	0.82	0.7	0.83	0.82	0.77	0.75	0.7	0.78	0.88
P2O5	0.224	0.481	0.349	0.357	0.35	0.387	0.387	0.397	0.331	0.409	0.407	0.364	0.343	0.333	0.343	0.357
Sum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Unnormalized trace elements (ppm)																
Ni	68	195	186	180	178	106	106	108	181	129	130	182	179	186	182	183
Cr	82	316	355	347	324	106	107	107	329	120	118	317	323	330	335	338
Sc	21	24	27	27	25	21	22	21	27	20	20	26	27	27	27	26
V	168	197	211	210	202	175	175	176	201	178	174	202	199	201	204	204
Ba	269	525	367	372	319	343	346	351	260	353	353	285	274	250	296	357
Rb	7	11	10	10	11	10	10	11	9	10	10	10	9	9	9	11
Sr	612	944	689	684	710	844	843	822	620	753	759	627	619	600	648	696
Zr	117	172	143	145	138	162	162	165	142	170	169	148	145	143	144	145
Y	17	27	24	26	23	23	22	23	25	24	24	25	25	25	25	25
Nb	8.1	11.8	11.7	12.1	11.2	11.5	12.1	11.8	11.9	12.8	12.4	11.6	11.9	11.8	11.2	12.4
Ga	20	18	17	17	18	20	20	18	18	19	20	17	17	16	17	18
Cu	25	59	66	66	60	58	57	64	62	56	58	48	63	64	63	66
Zn	76	93	82	83	81	89	92	92	80	93	95	82	82	79	82	80
Pb	3	3	3	3	5	3	5	4	2	4	5	3	3	2	3	3
La	9	18	16	15	12	20	18	17	13	21	17	14	17	16	16	16
Ce	27	49	35	34	34	43	44	43	36	43	47	37	30	35	33	38
Th	1	3	2	2	2	3	1	2	1	1	2	2	2	1	1	3
Nd	13	28	21	23	21	25	23	25	22	26	24	22	20	21	22	24
U	1	1	0	1	1	0	1	1	0	0	0	2	0	1	1	2

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC12-23	RC12-24	RC12-25	RC12-26	RC12-27	RC12-28A	RC12-28B	RC12-28C	RC13-04	RC13-05	RC13-06	RC13-07	RC13-08	RC13-09	RC13-10
Unnormalized major elements (weight %)															
SiO2	53.25	50.85	52.73	52.45	53.26	52.5	52.66	52.53	50.3	51.14	50.41	52.45	52.49	52.79	52.1
TiO2	1.236	1.409	1.288	1.282	1.253	1.294	1.298	1.294	1.438	1.473	1.444	1.321	1.343	1.315	1.313
Al2O3	17.76	16.87	17.05	17	17.85	17.56	17.61	17.56	16.65	16.83	16.76	17.84	17.49	17.47	17.74
FeO*	7.54	9.04	8.11	8.13	7.9	8.45	8.58	8.54	9.02	8.67	8.72	8.43	8.01	7.88	8.15
MnO	0.129	0.153	0.14	0.14	0.131	0.139	0.14	0.14	0.154	0.149	0.153	0.139	0.142	0.136	0.138
MgO	5.63	8.58	6.79	6.77	5.65	5.87	5.91	5.92	8.26	7.73	7.62	5.72	5.92	5.77	5.67
CaO	8.66	9.28	9.02	9.02	8.63	8.26	8.25	8.12	9.07	9.4	9.21	8.42	9.4	9.24	8.42
Na2O	3.89	3.3	3.51	3.53	3.82	3.75	3.8	3.47	3.29	3.36	3.28	3.78	3.54	3.65	3.79
K2O	0.79	0.67	0.92	0.92	0.8	0.78	0.8	0.8	0.86	0.75	0.72	0.82	0.97	0.91	0.82
P2O5	0.357	0.321	0.389	0.387	0.359	0.402	0.404	0.4	0.355	0.342	0.349	0.402	0.397	0.391	0.398
Sum	99.23	100.47	99.95	99.62	99.64	98.99	99.45	98.78	99.4	99.84	98.67	99.32	99.7	99.55	98.54
Normalized major elements (weight %)															
SiO2	53.66	50.61	52.76	52.65	53.45	53.03	52.95	53.18	50.61	51.22	51.09	52.81	52.65	53.03	52.87
TiO2	1.246	1.402	1.289	1.287	1.257	1.307	1.305	1.31	1.447	1.475	1.464	1.33	1.347	1.321	1.332
Al2O3	17.9	16.79	17.06	17.06	17.91	17.74	17.71	17.78	16.75	16.86	16.99	17.96	17.54	17.55	18
FeO*	7.6	9	8.12	8.16	7.92	8.53	8.63	8.64	9.07	8.68	8.84	8.49	8.03	7.92	8.27
MnO	0.13	0.152	0.141	0.14	0.132	0.141	0.141	0.142	0.155	0.149	0.155	0.14	0.142	0.137	0.14
MgO	5.67	8.54	6.79	6.79	5.67	5.93	5.94	5.99	8.31	7.74	7.72	5.76	5.94	5.8	5.75
CaO	8.73	9.23	9.03	9.05	8.66	8.34	8.3	8.22	9.13	9.41	9.33	8.48	9.43	9.28	8.54
Na2O	3.92	3.29	3.51	3.54	3.83	3.78	3.82	3.51	3.31	3.37	3.32	3.81	3.55	3.67	3.85
K2O	0.79	0.66	0.92	0.92	0.81	0.78	0.8	0.81	0.87	0.75	0.73	0.83	0.97	0.91	0.83
P2O5	0.36	0.32	0.39	0.388	0.361	0.407	0.406	0.405	0.357	0.343	0.354	0.405	0.398	0.393	0.404
Sum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Unnormalized trace elements (ppm)															
Ni	90	179	100	104	92	125	129	131	174	135	138	118	65	66	116
Cr	104	322	189	189	103	115	118	118	325	273	273	106	129	125	105
Sc	21	26	24	24	21	21	20	21	26	27	27	22	26	23	21
V	178	197	181	177	170	177	176	176	201	194	183	175	188	178	176
Ba	336	247	393	392	340	348	355	352	354	279	277	353	398	385	347
Rb	9	9	10	11	9	10	10	10	10	10	9	10	11	10	10
Sr	954	624	1025	1027	921	748	752	752	734	753	742	778	1043	1079	783
Zr	153	141	159	158	154	168	168	167	143	152	150	172	164	165	169
Y	22	24	24	22	21	24	24	23	24	24	24	24	24	24	24
Nb	10.4	10.9	11.4	11.2	10.8	12.4	12	12.1	12	12.1	11.9	13.1	12.3	11.7	12
Ga	21	17	19	19	20	20	20	20	17	18	18	20	20	19	20
Cu	58	62	62	63	53	53	47	38	65	62	56	50	56	63	52
Zn	86	80	86	85	86	96	93	92	83	80	82	91	83	83	93
Pb	4	3	3	5	4	3	2	5	4	4	3	4	5	4	3
La	19	15	20	20	19	15	18	16	18	18	17	22	23	22	15
Ce	42	35	50	49	45	50	39	43	34	40	42	44	53	46	43
Th	2	3	3	1	2	2	2	2	3	2	1	2	2	2	2
Nd	23	19	27	27	26	27	23	24	22	23	22	24	27	26	23
U	0	1	1	2	1	1	0	0	0	1	0	2	1	0	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC13-11	RC13-12	RC13-13	RC13-14	RC13-15	RC13-16	RC13-17	RC13-18	RC13-19	RC13-20	RC13-21	RC13-22	RC13-23	RC13-24	RC13-25	RC13-26
Unnormalized major elements (weight %)																
SiO2	52.4	52.67	52.17	53.32	52.96	53.22	52.95	52.49	52.25	52.51	52.75	52.81	53.21	53.27	53.3	52.97
TiO2	1.321	1.34	1.331	1.288	1.311	1.3	1.335	1.32	1.336	1.299	1.308	1.305	1.307	1.299	1.296	1.315
Al2O3	17.87	17.72	17.84	18.03	17.92	18.1	18.04	17.85	17.17	17.75	17.9	17.99	17.99	17.95	18.05	18.04
FeO*	8.34	8.4	8.46	7.85	8.29	8.15	8.33	8.37	8.2	8.28	8.27	8.2	8.21	8.15	8.17	8.35
MnO	0.14	0.138	0.14	0.133	0.139	0.137	0.14	0.14	0.143	0.138	0.138	0.135	0.136	0.136	0.136	0.139
MgO	5.7	5.63	5.73	5.65	5.82	5.76	5.77	5.76	6.57	5.7	5.66	5.67	5.7	5.69	5.72	5.72
CaO	8.51	8.45	8.42	8.66	8.52	8.63	8.56	8.49	9.44	8.49	8.54	8.52	8.61	8.65	8.63	8.56
Na2O	3.84	3.88	3.78	3.87	3.85	3.78	3.87	3.81	3.41	3.85	3.83	3.77	3.85	3.89	3.87	3.84
K2O	0.82	0.85	0.82	0.81	0.83	0.81	0.83	0.84	0.98	0.82	0.82	0.79	0.81	0.81	0.82	0.83
P2O5	0.406	0.41	0.406	0.379	0.394	0.386	0.409	0.403	0.382	0.392	0.393	0.389	0.389	0.385	0.384	0.399
Sum	99.35	99.49	99.1	99.99	100.03	100.27	100.23	99.47	99.88	99.23	99.61	99.58	100.21	100.23	100.38	100.16
Normalized major elements (weight %)																
SiO2	52.74	52.94	52.65	53.33	52.94	53.08	52.83	52.77	52.31	52.92	52.96	53.03	53.1	53.15	53.1	52.88
TiO2	1.33	1.347	1.343	1.288	1.311	1.296	1.332	1.327	1.338	1.309	1.313	1.311	1.304	1.296	1.291	1.313
Al2O3	17.99	17.81	18	18.03	17.91	18.05	18	17.94	17.19	17.89	17.97	18.07	17.95	17.91	17.98	18.01
FeO*	8.39	8.44	8.54	7.85	8.29	8.13	8.31	8.41	8.21	8.34	8.3	8.23	8.19	8.13	8.14	8.34
MnO	0.141	0.139	0.141	0.133	0.139	0.137	0.14	0.141	0.143	0.139	0.139	0.136	0.136	0.136	0.135	0.139
MgO	5.74	5.66	5.78	5.65	5.82	5.74	5.76	5.79	6.58	5.74	5.68	5.69	5.69	5.68	5.7	5.71
CaO	8.57	8.49	8.5	8.66	8.52	8.61	8.54	8.53	9.45	8.56	8.57	8.56	8.59	8.63	8.6	8.55
Na2O	3.87	3.9	3.81	3.87	3.85	3.77	3.86	3.83	3.41	3.88	3.85	3.79	3.84	3.88	3.86	3.83
K2O	0.83	0.85	0.83	0.81	0.83	0.81	0.83	0.84	0.98	0.83	0.82	0.79	0.81	0.81	0.82	0.83
P2O5	0.409	0.412	0.41	0.379	0.394	0.385	0.408	0.405	0.382	0.395	0.395	0.391	0.388	0.384	0.383	0.398
Sum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Unnormalized trace elements (ppm)																
Ni	117	110	120	93	114	106	119	121	87	113	108	104	104	102	104	113
Cr	106	101	108	107	108	110	105	111	177	104	104	107	108	111	110	106
Sc	21	21	21	21	21	21	21	20	27	20	20	20	21	21	20	20
V	178	178	174	178	177	176	181	178	191	177	175	177	178	177	178	176
Ba	355	359	348	346	349	352	353	353	404	352	350	346	353	355	351	362
Rb	10	10	10	9	11	9	10	10	10	10	10	11	9	9	10	11
Sr	780	791	772	905	828	870	781	775	1038	813	825	850	858	873	871	814
Zr	172	174	174	161	168	165	174	173	159	168	168	166	166	166	164	170
Y	25	25	24	23	23	23	25	24	24	24	24	23	24	24	24	24
Nb	12.6	12.2	12	11.7	12	12.1	12.1	12.5	11.4	12	11.9	12.7	11.9	12.3	11.7	11.9
Ga	19	20	18	20	21	20	21	19	18	19	20	20	20	20	19	20
Cu	55	58	49	57	51	55	56	55	64	55	56	57	59	57	56	54
Zn	93	92	92	89	91	88	95	93	82	92	90	91	89	91	91	92
Pb	4	5	4	4	3	4	4	4	4	4	4	4	3	4	5	4
La	15	17	20	18	16	15	21	17	23	18	18	20	19	20	19	19
Ce	48	44	43	43	47	43	47	43	44	45	40	43	43	46	42	45
Th	2	2	2	1	1	2	2	2	3	1	2	3	2	1	2	2
Nd	26	25	26	25	25	25	28	24	25	25	23	22	24	25	24	24
U	0	1	1	2	2	0	0	0	0	1	1	2	0	1	2	1

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR1. MAJOR AND MINOR ELEMENT CHEMISTRY FOR COLLECTED SAMPLES DETERMINED BY XRF

Sample ID	RC13-27	RC13-28	RC13-29	RC13-30	RC13-31	RC13-32	RC13-33	RC13-34	RC13-35	RC13-36	RC13-37	RC13-38	RC13-39	RC13-40	RC13-41	RC13-42
Unnormalized major elements (weight %)																
SiO2	52.82	53.1	52.84	53.15	50.86	52.87	53.45	53.07	53.4	53.74	53.11	52.78	52.81	53.46	53.19	53.03
TiO2	1.329	1.327	1.343	1.325	1.452	1.315	1.249	1.279	1.302	1.24	1.281	1.275	1.305	1.257	1.304	1.288
Al2O3	18.07	18.14	18.12	18.11	16.9	17.95	17.96	18.08	18.11	17.92	17.58	17.81	17.33	17.98	18.08	17.8
FeO*	8.37	8.4	8.54	8.4	9.02	8.2	7.75	7.93	8.16	7.69	7.78	7.77	8.18	7.78	8.22	8.17
MnO	0.139	0.139	0.142	0.14	0.154	0.138	0.129	0.135	0.137	0.128	0.129	0.133	0.141	0.13	0.137	0.136
MgO	5.71	5.66	5.77	5.79	8.29	5.67	5.6	5.76	5.72	5.61	5.49	5.56	6.57	5.59	5.71	5.73
CaO	8.55	8.51	8.48	8.57	9.15	8.56	8.73	8.63	8.66	8.76	8.63	8.65	9.08	8.7	8.62	8.57
Na2O	3.88	3.85	3.74	3.88	3.4	3.87	3.79	3.81	3.86	3.9	3.86	3.82	3.53	3.84	3.86	3.88
K2O	0.81	0.83	0.82	0.83	0.83	0.82	0.79	0.79	0.81	0.81	0.82	0.81	0.92	0.79	0.81	0.81
P2O5	0.401	0.404	0.414	0.404	0.354	0.396	0.353	0.378	0.386	0.352	0.36	0.373	0.395	0.358	0.389	0.383
Sum	100.08	100.36	100.21	100.6	100.41	99.79	99.8	99.86	100.55	100.15	99.04	98.98	100.26	99.89	100.32	99.8
Normalized major elements (weight %)																
SiO2	52.78	52.91	52.73	52.83	50.65	52.98	53.56	53.14	53.11	53.66	53.62	53.32	52.67	53.52	53.02	53.14
TiO2	1.328	1.322	1.34	1.317	1.446	1.318	1.251	1.281	1.295	1.238	1.293	1.288	1.302	1.258	1.3	1.291
Al2O3	18.06	18.07	18.08	18	16.83	17.99	18	18.1	18.01	17.89	17.75	17.99	17.28	18	18.02	17.84
FeO*	8.36	8.37	8.52	8.35	8.98	8.22	7.77	7.94	8.12	7.68	7.86	7.85	8.16	7.79	8.19	8.19
MnO	0.139	0.139	0.142	0.139	0.153	0.138	0.129	0.135	0.136	0.128	0.13	0.134	0.141	0.13	0.137	0.136
MgO	5.71	5.64	5.76	5.76	8.26	5.68	5.61	5.77	5.69	5.6	5.54	5.62	6.55	5.6	5.69	5.74
CaO	8.54	8.48	8.46	8.52	9.11	8.58	8.75	8.64	8.61	8.75	8.71	8.74	9.06	8.71	8.59	8.59
Na2O	3.88	3.84	3.73	3.86	3.39	3.88	3.8	3.82	3.84	3.89	3.9	3.86	3.52	3.84	3.85	3.89
K2O	0.81	0.83	0.82	0.83	0.83	0.82	0.79	0.79	0.81	0.81	0.83	0.82	0.92	0.79	0.81	0.81
P2O5	0.401	0.403	0.413	0.402	0.353	0.397	0.354	0.379	0.384	0.351	0.363	0.377	0.394	0.358	0.388	0.384
Sum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Unnormalized trace elements (ppm)																
Ni	112	110	119	118	176	109	91	106	103	90	86	94	97	90	104	108
Cr	104	106	106	107	318	103	104	110	112	104	99	106	179	106	105	110
Sc	21	21	21	20	26	21	21	20	21	21	21	21	24	22	21	20
V	177	180	179	178	194	177	175	175	181	175	182	176	181	173	179	176
Ba	353	357	352	358	316	352	332	342	352	334	336	343	386	330	353	349
Rb	10	10	11	10	11	10	9	10	10	9	8	10	11	9	10	10
Sr	813	811	777	800	698	823	986	867	875	992	980	898	1036	964	860	859
Zr	172	172	175	171	144	170	156	162	165	154	158	158	162	155	165	164
Y	24	24	24	24	25	24	21	22	23	22	21	22	24	21	23	23
Nb	12.6	12.4	12.8	11.7	11.9	12.6	10.9	11.1	11.4	10.5	10.9	11	11.7	10.7	11.6	11.9
Ga	19	20	21	20	17	19	20	20	20	19	21	19	20	20	19	20
Cu	58	54	47	59	65	56	57	57	62	60	62	59	55	59	60	58
Zn	91	94	93	93	83	92	86	89	88	84	85	88	84	85	90	90
Pb	5	4	5	4	3	3	4	4	4	5	4	4	5	4	4	3
La	18	21	18	22	18	19	19	14	14	20	18	16	20	15	21	20
Ce	46	40	43	44	40	45	45	47	45	42	40	40	48	45	40	42
Th	1	3	2	2	2	2	2	2	2	1	2	3	3	2	2	2
Nd	26	24	26	26	22	25	24	25	24	22	23	23	29	23	26	25
U	1	2	1	0	2	1	2	0	2	2	0	1	2	1	1	2

Note: Major elements are normalized on a volatile-free basis, with total Fe expressed as FeO. 'R' denotes a duplicate bead made from the same rock powder.

TABLE DR2. XRF, PALEOMAGNETIC, AND ^{3}HE SAMPLE LOCATIONS

				Datum: WGS1984		Datum: NAD1927				
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	Co-located paleomagnetic or ^{3}He sample site
RCEWEB1-1	Great Spring	Lava		580236	4915598			Estimated from map		
RCNSH-5	Lost Lake	Lava		585280	4920675			Estimated from map		LsLO Site 1
RCSM-1	Clear Lake East	Lava		580700	4913015			Estimated from map		
RCBKP-6	Belknap	Lava		580069	4908414			Estimated from map		
SHE95-TFJ23	Inaccessible Cones	Lava		587237	4908215	587317	4908023	RC GPS; NAD1927		
SHE95-TFJ24	Inaccessible Cones	Lava		587349	4907753	587429	4907561	RC GPS; NAD1927		
SHE95-TFJ25	Inaccessible Cones	Lava		587364	4908624	587444	4908432	RC GPS; NAD1927		
SHE95-TFJ26	Clear Lake East	Lava		585257	4910364			Estimated from map		
RC95-01	Fish Lake	Lava		579380	4916806			Estimated from map		HkmO
RC95-02	Nash	Lava		579450	4916812	579530	4916620	RC GPS; NAD1927		221B2
RC95-03	Fish Lake	Lava		579443	4919084			Estimated from map		
RC95-04	Nash	Lava		579610	4919219			Estimated from map		
RC95-05	Lost Lake	Lava		581090	4919999			Estimated from map		
RC95-06	Little Nash	Lava		582248	4920472			Estimated from map		
RC95-07	Pleistocene	Lava		582828	4921133			Estimated from map		
RC95-08	Old Wagon Road	Lava		585702	4918769			Estimated from map		
RC95-09	Old Wagon Road	Lava		585683	4919026			Estimated from map		
RC95-10	Pleistocene	Lava		585492	4919763			Estimated from map		
RC95-11	Clear Lake East	Lava		586637	4915596			Estimated from map		
RC95-12	Great Spring	Lava		585080	4916650			Estimated from map		
RC95-13	Nash	Lava		583078	4919217	583158	4919025	RC GPS; NAD1927		178B2
RC95-14	Nash	Lava		583041	4918358			Estimated from map		
RC95-15	Great Spring	Lava		583213	4917443			Estimated from map		
RC95-16	Great Spring	Lava		583207	4916589	583287	4916397	RC GPS; NAD1927		194B2
RC95-17	Great Spring	Lava		582085	4915391	582165	4915199	RC GPS; NAD1927		186B2
RC95-18	Great Spring	Lava		580830	4915923			Estimated from map		
RC95-19	Clear Lake East	Lava		580685	4912923			Estimated from map		
RC95-20	Clear Lake South	Lava		580121	4911972	580201	4911780	RC GPS; NAD1927		CrLO 3+4
RC95-21	Clear Lake South	Lava		580171	4908644			Estimated from map		
RC95-26	Pleistocene	Lava		580491	4922337			Estimated from map		
RC00-55	Lost Lake	Lava	7/31/2000	586765	4920511			Estimated from map		
RC00-56	Fish Lake	Lava	7/31/2000	580021	4921338	580101	4921146	RC GPS; NAD1927		229B2
RC00-57	Fish Lake	Lava	7/31/2000	580214	4921359			Estimated from map		
RC00-58	Early Nash I	Lava	7/31/2000	580277	4921366			Estimated from map		
RC01-80	Pleistocene	Lava	7/8/2001	580022	4912501			Estimated from map		
RC01-81	Pleistocene	Lava	7/8/2001	580088	4910499			Estimated from map		
RC02-17	Little Nash	Bomb	6/16/2002	583010	4920779	583090	4920587	RC GPS; NAD1927		
RC02-18	Clear Lake East	Bomb	6/16/2002	585365	4915180	585445	4914988	RC GPS; NAD1927		
RC02-19	Great Spring	Cone	6/16/2002	585238	4915520	585318	4915328	RC GPS; NAD1927		
RC02-20	Nash	Lava	6/20/2002	579337	4918591	579417	4918399	RC GPS; NAD1927		FsLO 3+4
RC02-21	Fish Lake	Lava	6/20/2002	580899	4919898	580979	4919706	RC GPS; NAD1927		LvLO
RC02-22	Little Nash	Lava	6/20/2002	581996	4920412	582076	4920220	RC GPS; NAD1927		LNCO Site 1
RC02-23	Little Nash	Lava	6/20/2002	582370	4920457	582450	4920265	RC GPS; NAD1927		LNCO Sites 2, 3, 4
RC02-24	Lost Lake	Lava	6/20/2002	584407	4920931	584487	4920739	RC GPS; NAD1927		LSLO Site 2+3
RC02-25	Old Wagon Road	Lava	6/20/2002	585376	4918256	585456	4918064	RC GPS; NAD1927		137B2
RC02-26	Nash	Lava	6/20/2002	583118	4918544	583198	4918352	RC GPS; NAD1927		146B2
RC02-27A	Great Spring	Lava	6/20/2002	583187	4917496	583267	4917304	RC GPS; NAD1927		154B2
RC02-27B	Great Spring	Lava	6/20/2002	583187	4917496	583267	4917304	RC GPS; NAD1927		162B2
RC02-28	Early Nash I	Lava	6/21/2002	583909	4920167	583989	4919975	RC GPS; NAD1927		
RC02-29	Clear Lake East	Lava	6/21/2002	586450	4914648	586530	4914456	RC GPS; NAD1927		170B2

TABLE DR2. XRF, PALEOMAGNETIC, AND ^{3}HE SAMPLE LOCATIONS

				Datum: WGS1984		Datum: NAD1927				
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	Co-located paleomagnetic or ^{3}He sample site
RC02-30	Clear Lake South	Lava	6/22/2002	580072	4911367	580151	4911175	RC GPS; NAD1927		CrLO 1+2
RC02-31	Ice Cap	Lava	6/22/2002	579923	4910453	580003	4910261	RC GPS; NAD1927		202B2
RC02-32	Clear Lake East	Lava	6/22/2002	580399	4913382	580479	4913190	RC GPS; NAD1927		210B2
RC02-33	Clear Lake East	Lava	6/24/2002	584400	4914455	584480	4914263	RC GPS; NAD1927		
RC02-34	Clear Lake East	Lava	6/24/2002	584400	4914455	584480	4914263	RC GPS; NAD1927		
RC02-35	Clear Lake East	Lava	6/24/2002	585329	4914490	585409	4914298	RC GPS; NAD1927		
RC02-36	Ice Cap	Bomb	6/24/2002	585277	4914215	585357	4914023	RC GPS; NAD1927		
RC02-37	Pleistocene	Lava	6/24/2002	587254	4914202	587334	4914010	RC GPS; NAD1927		
RC02-38	Little Nash	Scoria	6/24/2002	582583	4921204	582663	4921012	RC GPS; NAD1927		
RC02-39	Early Nash II	Lava	6/24/2002	582792	4920117	582872	4919925	RC GPS; NAD1927		
RC02-40	Early Nash I	Lava	6/24/2002	583638	4919947	583718	4919755	RC GPS; NAD1927		
RC02-41	Clear Lake South	Lava	6/25/2002	579624	4910527	579704	4910335	RC GPS; NAD1927		
RC02-42	Fish Lake	Lava	6/25/2002	579249	4917058	579329	4916866	RC GPS; NAD1927		
RC02-43	Fish Lake	Lava	6/25/2002	579753	4917290	579833	4917098	RC GPS; NAD1927		
RC02-44	Fish Lake	Lava	6/25/2002	580380	4919623	580460	4919431	RC GPS; NAD1927		
RC02-45	Great Spring	Lava	6/25/2002	584933	4918023	585013	4917831	RC GPS; NAD1927		
RC03-13	Little Nash	Lava	7/15/2003	580417	4921769			Estimated from map		
RC03-14	Early Nash I	Lava	7/15/2003	580441	4921499			Estimated from map		
RC03-15	Fish Lake	Lava	7/15/2003	580532	4921311	580612	4921119	RC GPS; NAD1927		
RC03-16	Little Nash	Lava	7/15/2003	580755	4921068	580835	4920876	RC GPS; NAD1927		
RC03-17	Little Nash	Lava	7/15/2003	580597	4920815	580677	4920623	RC GPS; NAD1927		
RC03-18	Lost Lake	Lava	7/15/2003	580179	4920817	580259	4920625	RC GPS; NAD1927		
RC03-19	Clear Lake South	Bomb	7/16/2003	584976	4913554	585056	4913362	RC GPS; NAD1927		
RC03-20	Ice Cap	Bomb	7/16/2003	585068	4912969	585148	4912777	RC GPS; NAD1927		
RC03-21	Ice Cap	Lava	7/16/2003	584857	4912548	584937	4912356	RC GPS; NAD1927		
RC03-22	Clear Lake South	Bomb	7/16/2003	585042	4912104	585122	4911912	RC GPS; NAD1927		
RC03-23	Ice Cap	Lava	7/16/2003	584843	4912004	584923	4911812	RC GPS; NAD1927		
RC03-24R	Ice Cap	Lava	7/16/2003	584590	4912184	584670	4911992	RC GPS; NAD1927		
RC03-25	Ice Cap	Lava	7/16/2003	584514	4912319	584594	4912127	RC GPS; NAD1927		
RC03-26	Ice Cap	Lava	7/16/2003	584468	4912457	584548	4912265	RC GPS; NAD1927		
RC03-27	Clear Lake South	Lava	7/16/2003	584480	4912489	584560	4912297	RC GPS; NAD1927		
RC03-28	Ice Cap	Lava	7/16/2003	584371	4912706	584451	4912514	RC GPS; NAD1927		
RC03-29	Clear Lake South	Lava	7/16/2003	584371	4912962	584451	4912770	RC GPS; NAD1927		
RC03-30	Clear Lake East	Lava	7/16/2003	584352	4913218	584432	4913026	RC GPS; NAD1927		
RC03-31	Clear Lake East	Lava	7/16/2003	584810	4913712	584890	4913520	RC GPS; NAD1927		
RC03-32	Cold Water Cove	Lava	7/17/2003	580849	4912627	580929	4912435	RC GPS; NAD1927		
RC03-33	Clear Lake South	Lava	7/17/2003	581119	4912153	581199	4911961	RC GPS; NAD1927		
RC03-34	Clear Lake South	Lava	7/17/2003	581126	4911866	581206	4911674	RC GPS; NAD1927		
RC03-35	Clear Lake South	Lava	7/17/2003	581121	4911506	581201	4911314	RC GPS; NAD1927		
RC03-36	Ice Cap	Lava	7/17/2003	581178	4911313	581258	4911121	RC GPS; NAD1927		
RC03-37	Ice Cap	Lava	7/17/2003	581361	4910859	581441	4910667	RC GPS; NAD1927		
RC03-38	Clear Lake South	Lava	7/17/2003	581619	4910021	581699	4909829	RC GPS; NAD1927		
RC03-41	Pleistocene	Lava	7/19/2003	586655	4918082	586735	4917890	RC GPS; NAD1927		
RC03-42	Old Wagon Road	Lava	7/19/2003	585027	4919421	585107	4919229	RC GPS; NAD1927		
RC03-43	Pleistocene	Lava	7/19/2003	587261	4919079	587341	4918887	RC GPS; NAD1927		
RC03-44	Old Wagon Road	Bomb	7/20/2003	585752	4917220	585832	4917028	RC GPS; NAD1927		
RC03-45	Great Spring	Bomb	7/20/2003	585402	4917046	585482	4916854	RC GPS; NAD1927		
RC03-46	Great Spring	Bomb	7/20/2003	585127	4916866	585207	4916674	RC GPS; NAD1927		
RC03-47	Great Spring	Bomb	7/20/2003	585015	4917049	585095	4916857	RC GPS; NAD1927		
RC03-48	Great Spring	Lava	7/20/2003	584846	4917134	584926	4916942	RC GPS; NAD1927		

TABLE DR2. XRF, PALEOMAGNETIC, AND ^{3}HE SAMPLE LOCATIONS

				Datum: WGS1984		Datum: NAD1927				
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	Co-located paleomagnetic or ^{3}He sample site
RC03-49	Clear Lake South A	Bomb	7/20/2003	584599	4917522	584679	4917330	RC GPS; NAD1927		
RC03-50	Clear Lake South A	Bomb	7/20/2003	584743	4916917	584823	4916725	RC GPS; NAD1927		
RC03-51	Lost Lake	Lava	7/21/2003	584024	4920273	584104	4920081	RC GPS; NAD1927		
RC03-52	Lost Lake	Lava	7/21/2003	583977	4920418	584057	4920226	RC GPS; NAD1927		
RC03-53	Lost Lake	Lava	7/21/2003	584695	4920459	584775	4920267	RC GPS; NAD1927		
RC03-54	Lost Lake	Lava	7/21/2003	584215	4920351	584295	4920159	RC GPS; NAD1927		
RC03-55	Early Nash II	Bomb	7/21/2003	583807	4919761	583887	4919569	RC GPS; NAD1927		
RC03-56	Nash	Lava	7/21/2003	582765	4919803	582845	4919611	RC GPS; NAD1927		
RC03-57	SnoPark	Lava	7/22/2003	582857	4920411	582937	4920219	RC GPS; NAD1927		
RC03-58	Lost Lake	Lava	7/22/2003	581417	4919857	581497	4919665	RC GPS; NAD1927		
RC03-59	Fish Lake	Lava	7/22/2003	581379	4919852	581459	4919660	RC GPS; NAD1927		
RC03-60	Ice Cap	Lava	7/22/2003	580062	4910701	580142	4910509	RC GPS; NAD1927		
RC04-25	Clear Lake South A	Bomb	6/17/2004	584870	4916093	584950	4915901	RC GPS; NAD1927		
RC04-26	Old Wagon Road	Bomb	6/17/2004	585437	4916059	585517	4915867	RC GPS; NAD1927		
RC04-27	Pleistocene	Lava	6/19/2004	581876	4922078			Estimated from map		
RC04-28	Fish Lake	Bomb	6/19/2004	586057	4920506	586137	4920314	RC GPS; NAD1927		
RC04-29	Lost Lake	Bomb	6/19/2004	586029	4920816	586109	4920624	RC GPS; NAD1927		
RC04-30	Lost Lake	Lava	6/19/2004	586040	4921024	586120	4920832	RC GPS; NAD1927		
RC04-31	Lost Lake	Bomb	6/19/2004	586141	4921307	586221	4921115	RC GPS; NAD1927		
RC04-32	Lost Lake	Bomb	6/19/2004	585928	4921563			Estimated from map		
RC04-33	Lost Lake	Cone	6/19/2004	585724	4921701			Estimated from map		
RC04-34	Jack Pine	Cone	6/20/2004	586013	4918966	586093	4918774	RC GPS; NAD1927		
RC04-35	Nash	Bomb	6/20/2004	583815	4919030	583895	4918838	RC GPS; NAD1927		
RC04-36	Nash	Agglutinate	6/20/2004	583589	4918953	583669	4918761	RC GPS; NAD1927		
RC04-66	Clear Lake East	Lava	6/24/2004	586005	4913621	586085	4913429	RC GPS; NAD1927		
RC04-67	Clear Lake South	Lava	6/24/2004	585294	4912306			Estimated from map		
RC04-68	Clear Lake South	Lava	6/24/2004	584976	4911829	585056	4911637	RC GPS; NAD1927		
RC04-69	Clear Lake South	Lava	6/24/2004	585322	4911797	585402	4911605	RC GPS; NAD1927		
RC04-70	Ice Cap	Agglutinate	6/24/2004	585011	4913182	585091	4912990	RC GPS; NAD1927		
RC04-71	Clear Lake South	Bomb	6/24/2004	584672	4913278	584752	4913086	RC GPS; NAD1927		
RC04-72	Clear Lake South	Bomb	6/24/2004	585264	4913474	585344	4913282	RC GPS; NAD1927		
RC09-33	Great Spring	Lava	8/2/2009	579631	4914630			NID GPS; WGS1984		
RC09-34	Pleistocene	Lava	8/2/2009	579658	4914655	579538	4914463	RC GPS; NAD1927		
RC09-35	Great Spring	Lava	8/2/2009	579903	4914274			NID GPS; WGS1984		
RC09-36	Cold Water Cove	Lava	8/2/2009	579899	4914066			NID GPS; WGS1984		
RC09-37	Clear Lake East	Lava	8/2/2009	579929	4913893			NID GPS; WGS1984		
RC09-38	Clear Lake South	Lava	8/2/2009	580207	4913678			NID GPS; WGS1984		
RC09-39	Pleistocene	Lava	8/2/2009	580435	4913085	580514	4912893	RC GPS; NAD1927		
RC09-40	Clear Lake South	Lava	8/2/2009	580333	4912512			NID GPS; WGS1984		
RC09-41	Cold Water Cove	Lava	8/2/2009	580568	4912491			NID GPS; WGS1984		
RC09-42	Cold Water Cove	Lava	8/2/2009	580659	4912613			NID GPS; WGS1984		
RC09-43	Clear Lake East	Lava	8/2/2009	580699	4912823			NID GPS; WGS1984		
RC09-44	Clear Lake South	Lava	8/2/2009	579985	4910881			NID GPS; WGS1984		^{3}He site
RC09-45	Clear Lake South	Lava	8/3/2009	580897	4911137	580977	4910945	RC GPS; NAD1927		
RC09-46	Ice Cap	Lava	8/3/2009	581078	4911182	581158	4910990	RC GPS; NAD1927		
RC09-47	Clear Lake South	Lava	8/3/2009	581487	4911572	581567	4911380	RC GPS; NAD1927		
RC09-48	Clear Lake South	Lava	8/3/2009	581645	4911546	581725	4911354	RC GPS; NAD1927		
RC09-49	Ice Cap	Lava	8/3/2009	582218	4911751	582298	4911559	RC GPS; NAD1927		
RC09-50	Clear Lake South	Lava	8/3/2009	582236	4911503	582316	4911311	RC GPS; NAD1927		
RC09-51	Ice Cap	Lava	8/3/2009	582326	4911193	582406	4911001	RC GPS; NAD1927		

TABLE DR2. XRF, PALEOMAGNETIC, AND ^{3}HE SAMPLE LOCATIONS

				Datum: WGS1984		Datum: NAD1927				
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	Co-located paleomagnetic or ^{3}He sample site
RC09-52	Ice Cap	Lava	8/3/2009	582375	4910585	582455	4910393	RC GPS; NAD1927		
RC09-53	Clear Lake South	Lava	8/3/2009	582406	4910518	582486	4910326	RC GPS; NAD1927		
RC09-54	Ice Cap	Lava	8/3/2009	582748	4910338	582828	4910146	RC GPS; NAD1927		
RC09-55	Clear Lake South	Lava	8/3/2009	582902	4910167	582982	4909975	RC GPS; NAD1927		
RC09-56	Clear Lake South	Lava	8/3/2009	583184	4910010	583264	4909818	RC GPS; NAD1927		
RC09-57	Clear Lake South	Lava	8/3/2009	583042	4909921	583122	4909729	RC GPS; NAD1927		
RC09-58	Clear Lake South	Lava	8/3/2009	582714	4909641	582794	4909449	RC GPS; NAD1927		
RC09-59	Clear Lake South	Lava	8/3/2009	582379	4909688	582459	4909496	RC GPS; NAD1927		
RC09-60	Clear Lake South	Lava	8/3/2009	582138	4909716	582218	4909524	RC GPS; NAD1927		
RC09-61	Clear Lake South	Lava	8/3/2009	581945	4909910	582025	4909718	RC GPS; NAD1927		
NID09-01	Clear Lake South	Lava	8/7/2009	579675	4910679			NID GPS; WGS1984	10	
NID09-02	Clear Lake South	Lava	8/7/2009	579975	4911134			NID GPS; WGS1984	6	
NID09-03	Clear Lake South	Lava	8/7/2009	579831	4911444			NID GPS; WGS1984	6	
NID09-04	Clear Lake South	Lava	8/7/2009	579846	4911162			NID GPS; WGS1984	6	
NID09-05	Clear Lake South	Lava	8/7/2009	579738	4910891			NID GPS; WGS1984	10	
NID09-07	Clear Lake South	Lava	8/7/2009	579907	4909129			NID GPS; WGS1984	4	
NID09-08	Clear Lake South	Lava	8/7/2009	579766	4908862			NID GPS; WGS1984	6	
NID09-09	Clear Lake South	Lava	8/7/2009	579608	4908548			NID GPS; WGS1984	6	
NID09-10	Tamolitch	Lava	8/7/2009	579506	4908543			NID GPS; WGS1984	6	
NID09-11	Tamolitch	Lava	8/7/2009	579800	4908288			NID GPS; WGS1984	7	
NID09-12	Ice Cap	Lava	9/21/2009	580105	4911175			NID GPS; WGS1984	5	
NID09-13	Ice Cap	Lava	9/21/2009	579975	4910998			NID GPS; WGS1984	4	
NID09-14	Clear Lake South	Lava	9/21/2009	579972	4910978			NID GPS; WGS1984	5	
NID09-15	Ice Cap	Lava	9/21/2009	580774	4911498			NID GPS; WGS1984	8	
NID09-16	Ice Cap	Lava	9/21/2009	580802	4911460			NID GPS; WGS1984	6	
NID09-17	Clear Lake South	Lava	9/21/2009	580753	4911718			NID GPS; WGS1984	6	
NID09-18	Cold Water Cove	Lava	9/21/2009	580649	4911738			NID GPS; WGS1984	7	
NID09-19	Clear Lake South	Lava	9/21/2009	580216	4911804			NID GPS; WGS1984	6	^{3}He site
NID09-20	Ice Cap	Lava	9/21/2009	579812	4910617			NID GPS; WGS1984	6	
NID09-21	Clear Lake South	Lava	9/21/2009	579817	4910666			NID GPS; WGS1984	5	
NID09-22	Tamolitch	Lava	9/21/2009	577193	4906060			NID GPS; WGS1984	5	
NID09-23	Pleistocene	Lava	10/22/2009	578514	4908612			Estimated from map		
NID09-24	Clear Lake East	Lava	11/1/2009	580626	4913341			NID GPS; WGS1984		^{3}He site
NID09-25	Clear Lake East	Lava	11/1/2009	580824	4912936			NID GPS; WGS1984		
NID09-26	Cold Water Cove	Lava	11/2/2009	580914	4912291			NID GPS; WGS1984	8	^{3}He site
NID09-27	Cold Water Cove	Lava	11/2/2009	580981	4912230			NID GPS; WGS1984	8	
NID09-28	Ice Cap	Lava	11/2/2009	581128	4912216			NID GPS; WGS1984	8	
NID09-29	Clear Lake South	Lava	11/2/2009	580370	4912354			NID GPS; WGS1984	4	^{3}He site
NID09-30	Clear Lake South	Lava	11/2/2009	580449	4912190			NID GPS; WGS1984	9	^{3}He site
NID09-31	Ice Cap	Lava	11/2/2009	580280	4911150			NID GPS; WGS1984	8	^{3}He site
NID09-32	Clear Lake South	Lava	11/2/2009	580431	4908651			NID GPS; WGS1984	6	
NID09-33	Belknap	Lava	11/2/2009	580457	4908866			NID GPS; WGS1984	4	
RC10-18	Ice Cap	Lava	8/27/2010	582460	4911515	582540	4911323	RC GPS; NAD1927		
RC10-19	Ice Cap	Lava	8/27/2010	582498	4911495	582578	4911303	RC GPS; NAD1927		
RC10-20	Ice Cap	Lava	8/27/2010	582882	4911663	582962	4911471	RC GPS; NAD1927		
RC10-21	Clear Lake South	Lava	8/27/2010	582987	4911907	583067	4911715	RC GPS; NAD1927		
RC10-22	Ice Cap	Lava	8/27/2010	583584	4912115	583664	4911923	RC GPS; NAD1927		
RC10-23	Ice Cap	Lava	8/27/2010	583387	4912214	583467	4912022	RC GPS; NAD1927		
RC10-24	Clear Lake East	Lava	8/27/2010	583478	4912307	583558	4912115	RC GPS; NAD1927		
RC10-25	Ice Cap	Lava	8/27/2010	583230	4912223	583310	4912031	RC GPS; NAD1927		

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				Datum: WGS1984		Datum: NAD1927				Co-located paleomagnetic or
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	^{3}He sample site
RC10-26	Clear Lake East	Lava	8/27/2010	582992	4912160	583072	4911968	RC GPS; NAD1927		
RC10-27	Ice Cap	Lava	8/27/2010	582928	4912172	583008	4911980	RC GPS; NAD1927		
RC10-28	Belknap	Lava	8/28/2010	580151	4908457			NID GPS; WGS1984	5	
RC10-29	Belknap	Lava	8/28/2010	580126	4908526			NID GPS; WGS1984	3	
RC10-30	Tamolitch	Lava	8/28/2010	581054	4908758			NID GPS; WGS1984	6	
RC10-31	Belknap	Lava	8/28/2010	581393	4908794			NID GPS; WGS1984	4	
RC10-32	Clear Lake South	Lava	8/29/2010	581001	4910995			NID GPS; WGS1984	6	
RC10-33	Clear Lake South	Lava	8/30/2010	580654	4909085			NID GPS; WGS1984	5	
RC10-34	Clear Lake South	Scoria	8/30/2010	580526	4908884			NID GPS; WGS1984	4	
RC10-35	Great Spring	Lava	8/30/2010	584888	4915373			NID GPS; WGS1984	4	
RC10-36	Great Spring	Lava	8/30/2010	584293	4915270			NID GPS; WGS1984	5	
RC10-37	Clear Lake East	Lava	8/31/2010	581248	4912366			NID GPS; WGS1984	6	
RC10-38	Cold Water Cove	Lava	8/31/2010	581192	4912538			NID GPS; WGS1984	4	
NID10-01MK	Belknap	Lava	7/16/2010	580557	4908431			NID GPS; WGS1984	4	
NID10-02MK	Tamolitch	Lava	7/16/2010	581202	4908239			NID GPS; WGS1984	7	
NID10-03MK	Belknap	Lava	7/16/2010	580865	4908057			NID GPS; WGS1984	4	
NID10-04MK	Tamolitch	Lava	7/16/2010	580408	4908312			NID GPS; WGS1984	5	
NID10-05MK	Tamolitch	Lava	7/16/2010	580129	4908280			NID GPS; WGS1984	5	
NID10-06MK	Clear Lake East	Lava	7/17/2010	582366	4913658			NID GPS; WGS1984	5	
NID10-07MK	Clear Lake East	Lava	7/17/2010	582366	4913505			NID GPS; WGS1984	5	
NID10-08MK	Clear Lake East	Lava	7/17/2010	581391	4914233			NID GPS; WGS1984	3	
NID10-09MK	Clear Lake East	Lava	7/17/2010	581319	4914664			NID GPS; WGS1984	6	
NID10-10MK	Great Spring	Lava	7/17/2010	581084	4914789			NID GPS; WGS1984	9	
NID10-11MK	Great Spring	Lava	7/17/2010	580640	4914620			NID GPS; WGS1984	5	
NID10-12MK	Great Spring	Lava	7/17/2010	580475	4915061			NID GPS; WGS1984	5	
NID10-13MK	Great Spring	Lava	7/17/2010	580245	4914891			NID GPS; WGS1984	6	
NID10-14MK	Great Spring	Lava	7/17/2010	579909	4914685			NID GPS; WGS1984	8	
NID10-15MK	Great Spring	Lava	7/17/2010	579925	4914370			NID GPS; WGS1984	5	
NID10-18MK	Ice Cap	Lava	9/21/2010	581341	4912593			NID GPS; WGS1984	6	
NID10-19MK	Belknap	Lava	9/22/2010	579524	4908663			NID GPS; WGS1984	5	
NID10-20MK	Belknap	Lava	9/22/2010	579927	4908741			NID GPS; WGS1984	5	
NID10-21MK	Clear Lake East	Lava	10/16/2010	585313	4914492			NID GPS; WGS1984	5	
NID10-22MK	Clear Lake East	Lava	10/16/2010	585313	4913908			NID GPS; WGS1984	6	
NID10-23MK	Clear Lake East	Lava	10/16/2010	585116	4913721			NID GPS; WGS1984	6	
NID10-24MK	Clear Lake East	Lava	10/16/2010	585209	4913667			NID GPS; WGS1984	3	
NID10-25MK	Clear Lake East	Lava	10/16/2010	585157	4913618			NID GPS; WGS1984	4	
NID10-26MK	Undifferentiated Belknap	Lava	10/18/2010	584558	4906055			NID GPS; WGS1984	4	
NID10-27MK	Undifferentiated Belknap	Lava	10/18/2010	584640	4906153			NID GPS; WGS1984	5	
NID10-28MK	Belknap	Lava	10/18/2010	585122	4906261			NID GPS; WGS1984	5	
NID10-29MK	Undifferentiated Belknap	Lava	10/18/2010	585357	4906315			NID GPS; WGS1984	4	
NID10-30MK	Belknap	Lava	10/18/2010	585305	4907024			NID GPS; WGS1984	4	
NID10-31MK	Clear Lake South	Lava	10/22/2010	583092	4909492			NID GPS; WGS1984	5	
NID10-32MK	Clear Lake East	Lava	10/22/2010	583892	4909870			NID GPS; WGS1984	3	
NID10-33MK	Clear Lake South	Lava	10/22/2010	583868	4909831			NID GPS; WGS1984	4	
NID10-34MK	Great Spring	Lava	11/12/2010	580412	4914393			NID GPS; WGS1984	6	
NID10-35MK	Great Spring	Lava	11/12/2010	580670	4914442			Adjusted based on LiDAR from UTM 10N WGS 1984 580670 4914437, error 5 m (NID GPS)		

TABLE DR2. XRF, PALEOMAGNETIC, AND ^{3}HE SAMPLE LOCATIONS

				Datum: WGS1984		Datum: NAD1927				Co-located paleomagnetic or
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	^{3}He sample site
NID10-36MK	Clear Lake East	Lava	11/12/2010	580700	4914427			Adjusted based on LiDAR from UTM 10N WGS 1983 580700 4914432, error 5 m (NID GPS)		
NID10-37MK	Cold Water Cove	Lava	11/17/2010	580504	4914430			NID GPS; WGS1984	6	
RC11-01	Belknap	Lava	8/27/2011	579548	4908738			NID GPS; WGS1984	4	
RC11-02	Tamolitch	Lava	8/27/2011	579550	4908762			NID GPS; WGS1984	4	
RC11-03	Belknap	Lava	8/27/2011	579494	4908699			NID GPS; WGS1984	3	
RC11-04	Belknap	Lava	8/27/2011	579416	4908843			NID GPS; WGS1984	5	
RC11-05	Tamolitch	Lava	8/27/2011	579321	4908689			NID GPS; WGS1984	6	
RC11-06	Belknap	Lava	8/27/2011	579545	4908577			NID GPS; WGS1984	5	
RC11-07	Belknap	Lava	8/27/2011	579701	4908620			NID GPS; WGS1984	6	
RC11-08	Early Nash II	Cinder	8/28/2011	583207	4920239			NID GPS; WGS1984	4	
RC11-09	Early Nash II	Lava	8/28/2011	582717	4920212			NID GPS; WGS1984	4	
RC11-10	Early Nash II	Lava	8/28/2011	582758	4920204			NID GPS; WGS1984	6	437 1B
RC11-11	SnoPark	Lava	8/28/2011	582884	4920368			NID GPS; WGS1984	7	
RC11-12	Little Nash	Lava	8/28/2011	582830	4921094			NID GPS; WGS1984	6	
RC11-13	Little Nash	Lava	8/28/2011	582862	4921239			NID GPS; WGS1984	6	
RC11-14	Little Nash	Lava	8/28/2011	582795	4921310			NID GPS; WGS1984	5	
RC11-15	Lost Lake	Lava	8/28/2011	583371	4920510			NID GPS; WGS1984	6	
RC11-16	Old Wagon Road	Lava	8/28/2011	579747	4915145			NID GPS; WGS1984	5	
RC11-17	Nash	Lava	8/28/2011	582172	4919870			NID GPS; WGS1984	4	
RC11-18	Cold Water Cove	Lava	8/29/2011	580108	4914319			NID GPS; WGS1984	8	
RC11-19	Clear Lake East	Bombs	8/30/2011	585342	4915194			NID GPS; WGS1984	5	
RC11-20	Great Spring	Lava	8/30/2011	584975	4915317			NID GPS; WGS1984	7	
RC11-21	Clear Lake East	Lava	8/30/2011	584630	4914636			NID GPS; WGS1984	4	
RC11-22	Clear Lake East	Lava	8/30/2011	583998	4914197			NID GPS; WGS1984	4	
RC11-23	Clear Lake East	Scoria	8/30/2011	584623	4914357			NID GPS; WGS1984	5	
RC11-24	Ice Cap	Bomb	8/30/2011	585091	4914146			NID GPS; WGS1984	5	
RC11-25	Early Nash I	Lava	8/31/2011	580310	4921442			NID GPS; WGS1984	5	
RC11-26	Fish Lake	Lava	8/31/2011	579308	4920029			NID GPS; WGS1984	4	
RC11-27	Fish Lake	Lava	8/31/2011	579349	4919998			NID GPS; WGS1984	7	
RC11-28	Fish Lake	Lava	8/31/2011	579828	4920585			NID GPS; WGS1984	4	
NID11-04MK	Tamolitch	Lava	9/13/2011	577241	4905989			NID GPS; WGS1984	9	421 1B
NID11-05MK	Cold Water Cove	Lava	9/13/2011	580599	4912552			NID GPS; WGS1984	6	429 1B
RC12-01	Early Nash II	Lava	8/14/2012	582367	4920237	582547	4920045	RC GPS; NAD1927		
RC12-02	Early Nash II	Lava	8/14/2012	582464	4920102	582544	4919910	RC GPS; NAD1927		
RC12-03	Lost Lake	Lava	8/14/2012	581965	4920064	582045	4919872	RC GPS; NAD1927		
RC12-04	Lost Lake	Lava	8/14/2012	581925	4920121	582005	4919929	RC GPS; NAD1927		
RC12-05	Old Wagon Road	Lava	8/15/2012	585886	4918829			NID GPS; WGS1984	6	
RC12-06	Jack Pine	Bomb	8/15/2012	586117	4918863			NID GPS; WGS1984	4	
RC12-07	Pleistocene	Lava	8/15/2012	586303	4918997			NID GPS; WGS1984	5	
RC12-08	SnoPark	Lava	8/15/2012	583434	4920468			NID GPS; WGS1984	4	
RC12-09	Lost Lake	Lava	8/15/2012	583481	4920349			NID GPS; WGS1984	9	
RC12-10	Lost Lake	Lava	8/15/2012	583496	4920373			NID GPS; WGS1984	4	
RC12-11	Lost Lake	Lava	8/15/2012	581536	4919686			NID GPS; WGS1984	6	
RC12-12	Nash	Lava	8/15/2012	581545	4919675			NID GPS; WGS1984	4	
RC12-13	Nash	Lava	8/15/2012	581749	4919648			NID GPS; WGS1984	6	
RC12-14	Nash	Lava	8/15/2012	581792	4919508			NID GPS; WGS1984	4	
RC12-15	Fish Lake	Lava	8/16/2012	580915	4920487			NID GPS; WGS1984	4	
RC12-16	Little Nash	Lava	8/16/2012	580699	4920748			NID GPS; WGS1984	6	

TABLE DR2. XRF, PALEOMAGNETIC, AND ^{3}HE SAMPLE LOCATIONS

				Datum: WGS1984		Datum: NAD1927				
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	Co-located paleomagnetic or ^{3}He sample site
RC12-17	Little Nash	Lava	8/16/2012	580674	4920834			NID GPS; WGS1984	6	
RC12-18	Fish Lake	Lava	8/16/2012	580609	4920903			NID GPS; WGS1984	5	
RC12-19	Fish Lake	Lava	8/16/2012	580576	4920720			NID GPS; WGS1984	5	
RC12-20	Fish Lake	Lava	8/16/2012	580550	4920638			NID GPS; WGS1984	6	
RC12-21	Fish Lake	Lava	8/16/2012	580577	4920603			NID GPS; WGS1984	3	
RC12-22	Lost Lake	Lava	8/17/2012	580374	4919771			NID GPS; WGS1984	5	
RC12-23	Early Nash I	Lava	8/17/2012	579879	4918504			NID GPS; WGS1984	5	
RC12-24	Fish Lake	Lava	8/17/2012	579883	4918379			NID GPS; WGS1984	5	
RC12-25	Great Spring	Lava	8/17/2012	580792	4918059			NID GPS; WGS1984	5	
RC12-26	Great Spring	Lava	8/17/2012	580868	4918144			NID GPS; WGS1984	5	
RC12-27	Early Nash I	Lava	8/17/2012	580851	4918060			NID GPS; WGS1984	3	
RC12-28A	Little Nash	Cinder	8/17/2012	583146	4920965			NID GPS; WGS1984	4	
RC12-28B	Little Nash	Cinder	8/17/2012	583143	4920976			NID GPS; WGS1984	5	
RC12-28C	Little Nash	Cinder	8/17/2012	583138	4920996			NID GPS; WGS1984	5	
RC13-04	Lost Lake	Lava		584744	4920156	584819	4919953	RC GPS; NAD1927		
RC13-05	Old Wagon Road	Lava		585035	4920015	585110	4919812	RC GPS; NAD1927		
RC13-06	Old Wagon Road	Lava		584548	4919816	584623	4919613	RC GPS; NAD1927		
RC13-07	Nash	Lava		583139	4917880	583214	4917677	RC GPS; NAD1927		
RC13-08	Great Spring	Lava		582866	4915814	582941	4915611	RC GPS; NAD1927		
RC13-09	Great Spring	Lava		582369	4916701	582444	4916498	RC GPS; NAD1927		
RC13-10	Nash	Lava		581449	4916860	581524	4916657	RC GPS; NAD1927		
RC13-11	Nash	Lava		581380	4916936	581455	4916733	RC GPS; NAD1927		
RC13-12	Nash	Lava		580689	4916590	580764	4916387	RC GPS; NAD1927		
RC13-13	Nash	Lava		580777	4917150	580852	4916947	RC GPS; NAD1927		
RC13-14	Early Nash I	Lava		580881	4917345	580956	4917142	RC GPS; NAD1927		
RC13-15	Nash	Lava		580930	4917646	581005	4917443	RC GPS; NAD1927		
RC13-16	Nash	Lava		580958	4917767	581033	4917564	RC GPS; NAD1927		
RC13-17	Nash	Lava		581550	4917430	581625	4917227	RC GPS; NAD1927		
RC13-18	Nash	Lava		581620	4917367	581695	4917164	RC GPS; NAD1927		
RC13-19	Great Spring	Lava		579987	4915698	580062	4915495	RC GPS; NAD1927		
RC13-20	Nash	Lava		582663	4919015	582738	4918812	RC GPS; NAD1927		
RC13-21	Nash	Lava		581879	4918921	581954	4918718	RC GPS; NAD1927		
RC13-22	Nash	Lava		581917	4918876	581992	4918673	RC GPS; NAD1927		
RC13-23	Nash	Lava		581940	4918723	582015	4918520	RC GPS; NAD1927		
RC13-24	Nash	Lava		581897	4918560	581972	4918357	RC GPS; NAD1927		
RC13-25	Nash	Lava		581902	4918474	581977	4918271	RC GPS; NAD1927		
RC13-26	Nash	Lava		581939	4918428	582014	4918225	RC GPS; NAD1927		
RC13-27	Nash	Lava		581870	4918342	581945	4918139	RC GPS; NAD1927		
RC13-28	Nash	Lava		581889	4918157	581964	4917954	RC GPS; NAD1927		
RC13-29	Nash	Lava		581943	4918084	582018	4917881	RC GPS; NAD1927		
RC13-30	Nash	Lava		582635	4918014	582710	4917811	RC GPS; NAD1927		
RC13-31	Fish Lake	Lava		580998	4919581	581073	4919378	RC GPS; NAD1927		
RC13-32	Nash	Lava		580964	4919456	581039	4919253	RC GPS; NAD1927		
RC13-33	Early Nash I	Lava		581108	4919029	581183	4918826	RC GPS; NAD1927		
RC13-34	Nash	Lava		581132	4918848	581207	4918645	RC GPS; NAD1927		
RC13-35	Nash	Lava		581099	4918699	581174	4918496	RC GPS; NAD1927		
RC13-36	Early Nash I	Lava		581064	4918585	581139	4918382	RC GPS; NAD1927		
RC13-37	Early Nash I	Lava		581062	4918431	581137	4918228	RC GPS; NAD1927		
RC13-38	Early Nash I	Lava		581056	4918306	581131	4918103	RC GPS; NAD1927		
RC13-39	Great Spring	Lava		580517	4918272	580592	4918069	RC GPS; NAD1927		
RC13-40	Early Nash I	Lava		580450	4918517	580525	4918314	RC GPS; NAD1927		

TABLE DR2. XRF, PALEOMAGNETIC, AND ^{3}HE SAMPLE LOCATIONS

				Datum: WGS1984		Datum: NAD1927				
Sample ID	Assigned Unit	Material	Collection Date	Easting	Northing	Easting	Northing	Location method	Error (m)	Co-located paleomagnetic or ^{3}He sample site
RC13-41	Nash	Lava		580567	4918829	580642	4918626	RC GPS; NAD1927		
RC13-42	Nash	Lava		580230	4919427	580305	4919224	RC GPS; NAD1927		