

TABLE 1.—Chemical composition, normative values, CIPW nomenclature, Rittmann classification, and name used in this report for Unalaska Island rocks

[All analyses by U.S. Geological Survey]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
CHEMICAL ANALYSES FOR MAJOR CONSTITUENTS																																				
[In weight percent. Standard rock analyses: specimens 1, 5, 7-10, 20, 23, 26, 33, 35. Rapid rock analyses: specimens 2-4, 6, 11, 12, 14-19, 21, 22, 24, 25, 27-32, 34, by methods described in Shapiro and Brannock, 1956; specimen 35, from Clarke and Hillebrand, 1897, p. 237. Analysts: specimens 1, 5, 7-10, 20, 23, 26—J. L. Theobald, February-July 1955; specimens 2-4, 6, 11-19, 21, 22, 24, 25, 27-32, 34—H. F. Phillips, P. L. Einore, and K. E. White, February-April 1955; specimen 35—W. F. Hillebrand, prior to or during 1897.]																																				
SiO ₂	46.21	47.7	49.5	49.6	50.33	50.8	51.13	51.30	52.90	53.53	53.8	55.5	55.5	56.1	56.2	56.6	59.4	61.4	62.06	63.0	63.4	67.77	71.2	54.6	57.09	57.3	59.6	60.4	61.1	63.4	66.4	66.58	74.9	58.63		
Al ₂ O ₃	19.32	17.2	17.8	16.5	17.96	18.3	18.22	18.09	19.88	19.10	18.3	17.2	16.7	17.9	18.1	16.7	18.9	16.4	14.39	15.4	16.7	15.21	13.7	18.5	18.00	16.1	17.0	17.0	15.8	16.4	15.9	16.11	13.1	16.23		
FeO	1.99	3.2	6.7	3.2	2.89	3.2	3.30	3.07	3.01	3.19	3.3	2.8	3.0	3.0	2.8	3.0	3.0	2.0	1.71	2.0	2.5	2.0	2.6	2.0	2.0	1.5	2.0	2.0	2.0	1.7	1.9	2.2	1.91			
CaO	6.53	6.9	3.6	6.2	6.35	6.9	6.02	6.06	6.64	5.03	5.3	5.9	4.0	4.0	4.8	5.6	4.0	3.2	1.80	3.6	5.4	4.8	4.8	4.8	4.8	3.5	3.5	3.7	3.0	3.9	2.10	3.64	4.28			
MgO	4.29	4.9	6.4	7.8	7.24	9.8	5.94	5.75	3.64	3.92	3.8	4.0	3.2	3.2	2.8	3.0	3.2	1.06	1.06	1.9	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1		
CaO	10.88	10.9	11.2	11.6	10.44	10.9	9.46	10.15	9.14	9.26	8.3	8.1	7.1	7.5	7.0	7.6	8.3	5.1	4.08	4.7	5.8	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Na ₂ O	2.69	2.4	2.4	2.5	2.67	2.1	2.1	2.61	2.96	3.33	3.8	3.5	4.3	3.6	3.7	3.7	3.7	4.0	3.83	4.9	4.9	6.2	4.2	4.6	4.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2		
K ₂ O	.78	.72	.76	.72	.86	.89	.87	.73	1.43	1.37	.97	.07	.10	.06	.04	.06	.12	.12	3.87	.04	.05	.07	.08	.08	.08	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	
H ₂ O	.29	.14	.46	.43	.46	.46	.43	.43	1.52	1.07	1.1	1.5	.27	1.1	.53	.21	1.7	4.51	.70	.14	.11	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	
H ₂ O	.96	1.1	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86	.86
CO ₂	2.93	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	<.05	
SiO ₂	.19	.23	.20	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	
Cl	.00	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
F	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
MnO	.16	.14	.20	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18
BaO	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
Sum	100.05				99.93		99.85	100.00	99.78	99.79		99.85	100.00	99.78	99.79		99.85	100.00	99.78	99.79		99.85	100.00	99.78	99.79		99.85	100.00	99.78	99.79		99.85	100.00	99.78	99.79	
Less O	0.02				0.01		0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01		0.01	0.01	0.01		
Total	100.03				99.92		99.84	99.99	99.77	99.78		99.84	99.99	99.77	99.78		99.84	99.99	99.77	99.78		99.84	99.99	99.77	99.78		99.84	99.99	99.77	99.78		99.84	99.99	99.77	99.78	

SPECTROCHEMICAL ANALYSES FOR MINOR CONSTITUENTS

[In percent. Looked for but not found: specimens 26 and 33—Ag, As, Be, Bi, Cd, Ge, In, La, Nb, Pd, Pt, Rh, Ru, Sb, Sn, Ta, Te, Th, Ti, U, V, Zn. Analysts: specimens 26, 33—P. R. Barnett, December 1954, December 1955; all others—Harry Bastron, July 1955]

B		0.005	0.004	0.002	0						0.003	0.005		0.002	0.003	0.005	0.005	0.009		0.008	0.002	0.002		0.002		0.003	0.005	0.003	0.008	0	0.08					
Ca		0.006	0.004	0.004	0.005						0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004		
Co		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004		
Cr		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	
Cu		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	
Fe		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	
Ge		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	
La		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Nb		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Pb		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Sn		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Sr		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Ta		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Ti		0.002	0.002	0.002	0.002						0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002		0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
U		0.002	0.002	0.002	0.002																															