

Table 5.--Analyses of rhyolite lavas intercalated with Pah Canyon and Yucca Mountain Members of Paintbrush Tuff and Rainier Mesa Member of Timber Mountain Tuff

[Major oxide analyses 1-11, 14 and 15 by rapid methods by P. L. D. Elmore, S. D. Botts, G. W. Chloe, Lowell Artis, and H. Smith; analysis 12 by C. L. Parker, analyses 13 and 16 by D. F. Powers. Minor element analyses by semiquantitative spectrographic methods by J. C. Hamilton. Leaders, ---, no analyses made or constituent was absent.]

Sample localities (figure 2)	Pre-Pah Canyon rhyolite lava		Rhyolite lavas between Pah Canyon and Yucca Mountain Members					Post-Tiva Canyon rhyolite lavas				Pre-Rainier Mesa rhyolite lavas				
	Devitrified (silicified?)	Pyroxene-bearing rhyolite lavas		Hornblende rhyolite lava (north side)			Biotite rhyolite lava (north side)				Quartz-bearing rhyolite lava (north side)		Lower rhyolite		Upper high-silica rhyolite	
		Devitrified	(south side)	(north side)	Upper vitrophyre	Basal vitrophyre	Vitrophyre spine	Vitrophyre	Basal vitrophyre	Upper vitrophyre	Middle devitrified zone	Middle devitrified zone	Middle devitrified zone	Vitrophyre	Middle devitrified zone	Middle devitrified zone
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Field no.-----	67FB-3C	67FB-4B	DC-6	Tr2vu	Tr2vb	TM7490	TM6693	TM6893	TM6794	UE20c-1930	UE20c-1353	U20a-2-1504	XR-6	67FB-15B	67FB-17A	MC-170c
Chemical laboratory no.---	W169673	W169676	160678	161149	161148	160680	161145	161147	161146	163054	163070		I4188	W169677	W169684	
Spectrographic laboratory no. /	4680	4680	303628	D110389W	D110388W	303630	D110385W	D110387W	D110386W	D700951W	D700979W	D700847	I4188	4680	4680	
A. Major oxides (weight percent), recalculated without H ₂ O, F, Cl, and CO ₂ as CaCO ₃ to 100 percent																
SiO ₂ -----	77.3	73.3	74.3	75.4	75.9	74.3	74.6	74.7	75.4	75.7	75.8	75.3	74.80	75.7	76.6	77.5
Al ₂ O ₃ -----	12.0	14.1	14.1	14.1	13.9	14.0	14.3	14.1	13.6	13.3	13.3	13.3	13.53	13.4	12.8	12.5
Fe ₂ O ₃ -----	1.12	1.4	.78	.66	.64	.82	.95	.81	.82	1.11	.79	1.13	.89	1.2	.5	.5
Sum as FeO-----	.12	.04	.43	.26	.33	.37	.26	.38	.38	.00	.28	.11	.35	.04	.1	.13
MgO-----	.17	.28	.28	.16	.04	.28	.25	.27	.18	.10	.10	.20	.25	.32	.31	.20
CaO-----	.55	.99	.53	.31	.46	.63	.60	.58	.60	.54	.59	.54	.92	.44	.86	.43
Na ₂ O-----	2.13	4.3	3.7	3.6	3.6	4.0	3.7	3.9	3.6	3.8	3.9	4.2	3.84	3.84	3.15	3.7
K ₂ O-----	6.3	5.1	5.5	5.3	5.0	5.2	5.2	5.0	5.2	5.0	4.9	4.9	5.10	4.75	5.38	4.9
TiO ₂ -----	.25	.28	.24	.04	.04	.25	.15	.15	.17	.15	.19	.20	.21	.18	.09	.09
P ₂ O ₅ -----	.03	.03	.03	.00	.00	.03	.00	.00	.00	.07	.00	.02	.03	.02	.02	.02
MnO-----	.05	.08	.09	.08	.08	.07	.08	.08	.07	.09	.11	.09	.09	.10	.1	.07
Total-----	100.02	99.90	99.98	99.91	99.99	99.95	100.09	99.97	100.02	99.86	99.96	99.99	100.01	99.99	99.91	100.04
B. Minor elements (weight percent)																
B-----	0.03	0	0.007	0.003	0.003	0.002	0.003	0.003	0.003	<0.002	<0.002	<0.002	0.003	0	0.007	0.0024
Ba-----	.2	.15	.05	.07	.07	.03	.03	.03	.03	.015	.01	.03	.05	.03	.002	.0014
Be-----	.0005	.0003	.0003	.0003	.0003	.0002	.0003	.0005	.0003	.0005	.0003	.0005	.0003	.0005	.0007	.0006
Ce-----	.02	.02	<.02	<.02	<.02	<.02	.02	.02	<.02	<.02	<.02	.03	.02	.01	0	0
Co-----	0	0	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0	0	0
Cr-----	0	0	<.0001	<.0001	<.0001	<.0001	.00015	.00015	.0001	<.0001	<.0001	<.0001	.0002	0	0	0
Cu-----	.0002	.00005	.001	.001	.002	.007	.005	.0007	.0005	.00015	.0001	.001	.0007	.002	.0002	.00017
Ga-----	.0015	.002	.003	.003	.005	.003	.003	.003	.003	.003	.003	.003	.003	.002	.002	.0017
La-----	.015	.015	.007	.005	.003	.007	.007	.007	.007	.005	.003	.015	.007	.007	0	0
Mo-----	0	0	.0005	.0007	.0007	.0007	.0007	.0007	.0007	<.0005	<.0005	<.0005	.0007	.0005	.0005	.0003
Nb-----	.0015	.0015	.002	.002	.002	.002	.0015	.002	.002	.002	.002	.003	.003	.002	.003	.0033
Nd-----	.015	.015	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	.007	<.01	0	---	---
Ni-----	0	0	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	0	0	0
Pb-----	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.0035
Sc-----	.0005	.0007	.0005	<.0005	<.0005	.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	.0003	.0007	.0004
Sr-----	.02	.01	.007	.01	.01	.01	.01	.01	.01	.02	.02	.01	.02	.007	.002	.0007
Y-----	.0005	.0005	<.001	<.001	<.001	<.001	.0015	.0015	.0015	<.001	<.001	.0015	.0015	.0007	0	0
Zr-----	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.003	.005	.0055
Yb-----	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0005	.00055
Zr-----	.02	.02	.01	.01	.01	.015	.01	.015	.01	.015	.03	.015	.015	.015	.007	.0077
C. Norms (weight percent), from recalculated analyses																
Quartz-----	39.4	26.4	30.1	33.4	34.6	39.5	31.7	31.0	33.0	33.0	32.7	31.3	30.8	33.8	35.5	35.8
Orthoclase-----	37.7	29.8	39.5	31.6	29.4	30.8	30.4	29.8	30.6	29.8	29.1	28.9	30.1	28.1	31.8	28.6
Albite-----	18	36.8	31.6	30.1	30.7	33.8	31.3	33.1	30.7	32.4	33.2	35.1	32.4	32.5	26.6	31.2
Anorthite-----	2.5	4.2	7.4	1.6	2.3	7.9	3.0	7.9	3.0	2.2	2.9	1.9	4.3	2.1	4.1	2.2
Corundum-----	.7	.7	1.1	1.9	1.7	1.7	1.6	1.7	.4	.7	.4	.5	.6	.8	.8	.5
Enstatite-----	.4	.7	.7	.4	.7	.7	.6	.7	.4	.3	.2	.5	.6	.8	.8	.5
Ferrosillite-----	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Magnetite-----	.0	.0	1.0	1.0	.9	.9	.7	1.0	1.0	.0	.7	.5	.8	.0	.0	.2
Hematite-----	1.1	1.4	.1	.0	.3	.3	.5	.1	.1	1.1	.3	.7	.3	1.2	.2	.4
Ilmenite-----	.4	.3	.5	.1	.1	.5	.3	.3	.3	.2	.4	.3	.4	.3	.2	.7
Rutile-----	.1	.0	.0	.0	.0	.0	.0	.0	.0	tr	.0	.0	.0	tr	.0	.0
Apatite-----	.1	.1	.1	.0	.0	.1	.0	.0	.0	.2	.0	.2	.1	tr	tr	tr
Total-----	99.90	99.7	100.1	100.1	100.0	100.0	100.1	100.1	100.0	99.9	99.9	99.9	99.9	99.9	99.6	99.9
D. Minerals (volume percent)																
Quartz-----	---	---	---	---	---	---	---	---	---	0.1	0.1	5.6	4.8	5.2	2.5	4.6
Alkali feldspar-----	3.8	6.5	5.7	4.5	3.6	4.9	4.8	4.7	6.0	6.7	8.1	12.0	7.2	9.6	2.7	1.4
Plagioclase-----	4.8	3.8	2.6	1.0	.8	5.2	6.5	6.0	3.6	3.9	2.8	8.2	7.9	6.7	1.3	1.5
Biotite-----	.9	.4	.4	tr	---	.6	.7	.7	.6	.2	.2	.4	1.1	.9	tr	.1
Clinopyroxene-----	.2	.2	tr	---	---	tr	tr	tr	tr	---	---	---	---	---	---	---
Hornblende-----	---	---	---	.1	.1	tr	tr	tr	tr	tr	tr	.1	---	---	---	---
Spinel-----	---	---	.1	tr	tr	.1	.1	.1	.1	.1	tr	.2	tr	.1	---	---
Opaque-----	.2	.3	.3	tr	.1	.3	.3	.3	.2	.2	.2	.2	.2	.3	.1	---
Groundmass and lithic inclusions	90.1	88.8	91.3	94.4	95.4	88.9	87.6	88.7	89.5	88.8	88.6	72.4	78.8	77.2	93.4	92.4
Modal points counted-----	2478	3600	5775	3439	3553	1780	1798	1993	3760	3002	3520	3600	2840	1810	3730	1000
E. Major oxides (weight percent), original analyses																
SiO ₂ -----	76.1	72.6	71.6	72.0	73.2	72.6	72.4	72.6	72.8	75.1	75.4	74.91	72.74	74.9	75.5	76.18
Al ₂ O ₃ -----	11.8	14.0	13.6	13.5	13.4	13.7	13.9	13.7	13.1	13.2	13.2	13.21	13.16	13.2	12.7	12.32
Fe ₂ O ₃ -----	1.1	1.4	.75	.63	.59	.80	.92	.79	.79	1.1	.79	1.12	.87	1.2	.49	.50
FeO-----	.17	.28	.27	.15	.04	.27	.24	.26	.17	.10	.10	.20	.24	.32	.31	.20
MgO-----	.54	.98	.51	.69	.44	.62	.58	.56	.58	.54	.59	.54	.90	.44	.85	.94
CaO-----	2.1	4.3	3.6	3.4	3.5	3.9	3.6	3.8	3.5	3.8	3.9	4.13	3.73	3.8	3.10	3.65
Na ₂ O-----	6.2	5.0	5.3	5.1	4.8	5.1	5.0	4.9	5.0	5.0	4.9	4.86	4.96	4.7	5.30	4.81
K ₂ O-----	.64	.28	.23	.04	.04	.24	.15	.15	.16	.15	.19	.20	.20	.18	.09	.09
H ₂ O-----	.14	.24	.27	.43	.43	.14	.18	.14	.15	.09	.16	.13	.13	.09	.07	.21
H ₂ O+-----	.25	.28	.23	.04	.04	.24	.15	.15	.16	.15	.19	.20	.20	.18	.09	.09
TiO ₂ -----	.03	.03	.03	.00	.00	.03	.00	.00	.00	.07	.00	.02	.03	.02	.07	.02
P ₂ O ₅ -----	.05	.08	.09	.08	.08	.07	.08	.08	.07	.09	.11	.09	.09	.10	.10	.07
MnO-----	.05	.08	.09	.08	.08	.07</										