

Table 10.--Analyses of rhyolite lavas of Fortymile Canyon and feeder dikes

[Major oxide analyses 1-7 and 11-18 by P. L. D. Elmore, S. D. Botts, G. W. Chloe, Lowell Artis, and H. Smith; 8-10 by C. L. Parker. Minor element analyses 1-17 by J. C. Hamilton; No. 18 by W. B. Crandell. Leaders, ---, no analyses made or constituent was absent.]

	Rhyolite of Vent Pass				Rhyolite of Delirium Canyon	Rhyolite of Buried Canyon		Rhyolite of Waterpipe Butte		Rhyolite of Comb Peak				Rhyolite of Pinnacles Ridge				Rhyolite V	
	Crystalline				Crystalline	Vitrophyre	Crystalline	Vitrophyre	Crystalline	Vitrophyre		Crystalline		Vitrophyre	Crystalline	Vitrophyre dike	Crystalline dike	Crystalline	
Sample localities (figure 2)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Field No.	11-112-7	11-112-7a	11-112-8	58 Apy-300	0-918	To-193C	To-193D	To-193A	To-193B	To-193E	0-923	0-836	0-834	63L-15A	63L-15B	63L-14A	63L-14B	67PB-16A	
Chemical Laboratory No.	160417	160419	160418	154030	160435	160794	160795	I4184	I4185	I4186	160439	160431	160430	161303	161304	161301	161302	W169683	
Spectrographic Laboratory No.	301238	301240	301239		301256	304466	304467	I4184	I4185	I4186	301260	301252	301251	D110791W	D110792W	D110789W	D110790W	W169683	
<b>A. Major oxides (weight percent), recalculated without H<sub>2</sub>O, F, Cl, and CO<sub>2</sub> as CaCO<sub>3</sub></b>																			
SiO <sub>2</sub>	72.21	73.22	72.39	74.87	74.49	74.14	74.83	72.88	73.74	76.71	76.30	77.14	77.22	77.11	77.55	77.87	78.20	77.22	
Al <sub>2</sub> O <sub>3</sub>	15.36	15.37	15.04	13.43	14.17	14.19	13.91	14.31	13.80	12.64	13.29	12.89	12.83	12.48	12.64	12.04	11.95	11.90	
Fe <sub>2</sub> O <sub>3</sub>	1.43	.15	1.51	1.32	1.11	1.04	1.32	1.30	1.36	.75	.77	.84	.81	.60	.73	.52	.70	.51	
<i>Sum as FeO</i>	1.28				1.06				1.49		0.86		0.87		0.81		0.79		0.54
FeO	.000	.02	.03	.11	.06	.34	.07	.32	.18	.19	.18	.05	.10	.35	.14	.35	.16	.08	
MgO	.14	.31	.17	.49	.15	.31	.37	.41	.30	.15	.58	.14	.15	.16	.27	.24	.25	.32	
CaO	.49	.41	.44	.93	.47	.81	.73	1.37	.98	.56	.65	.37	.31	.57	.46	.43	.51	1.41	
Na <sub>2</sub> O	4.27	4.26	4.24	3.76	4.12	3.42	3.35	3.58	3.79	3.91	2.72	3.55	3.49	3.07	3.01	2.88	3.01	3.33	
K <sub>2</sub> O	5.70	5.82	5.65	4.68	5.13	5.38	5.18	5.42	5.44	4.78	5.23	4.77	4.83	5.42	5.02	5.45	5.02	5.04	
TiO <sub>2</sub>	.29	.30	.35	.26	.21	.28	.25	.26	.25	.15	.20	.16	.17	.18	.14	.14	.14	.09	
P <sub>2</sub> O <sub>5</sub>	.02	.06	.02	.05	.01	.06	.05	.06	.07	.08	.00	.00	.01	.02	.02	.03	.02	.00	
MnO	.09	.09	.14	.10	.08	.03	.04	.09	.08	.07	.08	.08	.07	.03	.02	.04	.03	.10	
<b>Total</b>	<b>100.00</b>	<b>100.01</b>	<b>99.98</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.10</b>	<b>100.00</b>	<b>99.99</b>	<b>99.99</b>	<b>100.00</b>	<b>99.99</b>	<b>99.99</b>	<b>99.99</b>	<b>100.00</b>	<b>99.99</b>	<b>99.99</b>	<b>100.00</b>	
<b>B. Minor elements (weight percent)</b>																			
Ag	<.001	<.001	<.001	--	<.001	0.003	<.001	0.0003	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
B	<.002	<.002	<.002	--	<.002	<.002	<.002	<.0003	.003	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
Ba	.02	.02	.03	--	.015	.1	.1	.1	.1	.07	.01	.01	.01	.02	.01	.01	.01	.02	
Be	.0002	.0002	.0002	--	.0003	.00015	.0005	.0003	.0003	.0003	.0003	.0005	.0005	.00015	.0002	.00015	.0002	.0007	
Ce	.02	.02	.02	--	<.02	<.02	<.02	.02	.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	
Co	<.0005	<.0005	<.0005	--	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	
Cr	<.0001	<.0001	<.0001	--	<.0001	<.0001	<.0001	.0005	.0005	.0002	.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0001	
Cu	.001	.0007	.0015	--	.001	.002	.0007	.0002	.0015	.0003	.0015	.0007	.0005	.0007	.0015	.0003	.0005	.0001	
Ga	.003	.003	.003	--	.003	.003	.003	.003	.003	.003	.003	.003	.003	.002	.002	.002	.002	.002	
La	.01	.01	.01	--	.007	.005	.007	.007	.007	.005	.005	.005	.005	.007	.007	.005	.005	.005	
Mo	<.0005	<.0005	<.0005	--	<.0005	.001	.001	<.0005	<.0005	.0007	.0007	.0007	.0007	<.0005	<.0005	<.0005	<.0005	.0007	
Nb	.003	.003	.003	--	.003	.0015	.003	.003	.003	.003	.003	.003	.003	.001	.002	.0015	.0015	.005	
Md	.015	.015	.015	--	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	
Mi	<.0003	<.0003	<.0003	--	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	<.0003	
Ni	.003	.003	.003	--	.003	.003	.003	.007	.003	.005	.003	.003	.003	.002	.002	.003	.002	.003	
Pb	.0007	.0005	.0007	--	<.0005	<.0005	.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	.0005	
Sc	.005	.007	.007	--	.005	.02	.015	.05	.03	.005	.007	.003	.005	.007	.005	.003	.005	.001	
Sr	.001	<.001	.0015	--	<.001	.002	.0015	.0015	.003	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	
V	.005	.005	.005	--	.005	.003	.003	.003	.003	.002	.003	.003	.003	.0015	.002	.0015	.002	.005	
Y	.0005	.0005	.0005	--	.0005	.0003	.0003	.0003	.0005	.0003	.0005	.0003	.0003	.00015	.0002	.00015	.0002	.0005	
Zr	.03	.03	.05	--	.015	.01	.015	.015	.02	.007	.007	.01	.015	.01	.01	.007	.007	.01	
<b>C. Norms (weight percent), from recalculated analyses</b>																			
Quartz	24.4	25.1	25.0	32.5	29.7	31.7	33.6	28.0	28.5	34.5	38.2	37.2	37.6	37.1	39.5	39.1	40.1	36.0	
Orthoclase	33.7	34.4	33.4	27.6	30.3	31.8	30.6	32.0	32.2	28.2	30.9	28.2	28.5	32.0	29.6	32.2	29.7	29.8	
Albite	36.1	36.0	35.9	31.8	34.9	28.9	28.3	30.3	32.1	33.1	23.0	30.0	29.5	25.9	25.5	24.4	25.5	28.2	
Anorthite	2.3	1.6	2.1	4.3	2.3	3.6	3.3	6.4	4.4	2.2	3.2	1.8	1.5	2.7	2.2	1.9	2.4	1.6	
Corundum	1.3	1.5	1.2	.6	1.0	1.4	1.6	.2	.1	.2	2.0	1.2	1.3	.6	1.5	.7	.7	1.6	
Enstatite	.4	.8	.4	1.2	.4	.8	.9	1.0	.8	.4	1.4	.4	.4	.4	.7	.6	.6	.8	
Ferrosilite	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.05	.0	.0	
Magnetite	.0	.0	.0	.0	.0	.4	.0	.6	.1	.4	.3	.0	.1	.7	.1	.8	.2	.3	
Hematite	1.4	.1	1.5	1.3	1.1	.8	1.2	.9	1.3	.5	.6	.8	.8	.1	.7	.0	.6	.3	
Ilmenite	.2	.2	.4	.5	.3	.5	.2	.5	.5	.3	.4	.3	.3	.4	.3	.3	.3	.2	
Rutile	.2	.2	.2	.03	.1	.0	.1	.0	.0	.0	.0	.01	.0	.0	.0	.0	.0	.0	
Apatite	.05	.1	.05	.1	.02	.1	.2	.1	.2	.2	.0	.0	.02	.05	.05	.1	.05	.0	
<b>Total</b>	<b>100.05</b>	<b>100.0</b>	<b>100.15</b>	<b>99.93</b>	<b>100.12</b>	<b>100.0</b>	<b>100.0</b>	<b>100.3</b>	<b>100.2</b>	<b>100.0</b>	<b>100.0</b>	<b>99.9</b>	<b>100.0</b>	<b>99.9</b>	<b>100.1</b>	<b>100.1</b>	<b>100.1</b>	<b>100.0</b>	
<b>D. Minerals (volume percent)</b>																			
Quartz	--	--	--	--	--	.1	--	2.7	2.6	1.4	0.4	0.2	0.2	4.6	6.4	5.3	7.4	2.5	
Alkali feldspar	15.4	--	13.8	--	5.8	3.1	2.6	13.1	12.7	5.4	4.6	3.5	3.2	10.0	7.0	6.9	6.3	1.9	
Plagioclase	2.0	--	1.1	--	2.1	5.5	2.8	19.3	11.6	4.2	1.3	2.3	2.1	3.8	3.0	1.2	2.2	1.0	
Biotite	.2	--	.3	--	.1	.7	.2	1.1	.4	.05	.1	.1	.1	.0	.1	.3	.3	.1	
Clinopyroxene	--	--	--	--	--	--	--	.6	.2	.15	--	--	--	--	--	--	--	--	
Hornblende	--	--	--	--	--	--	--	.1	tr	--	--	--	--	--	--	--	--	--	
Sphene	tr	--	--	--	tr	--	--	.1	tr	.05	tr	tr	tr	--	--	--	--	--	
Opques	.3	--	.5	--	.4	.4	.2	.7	.3	.05	.1	.5	.3	.1	--	--	.1	tr	
Groundmass	82.1	--	84.3	--	91.6	90.1	94.2	62.4	72.2	88.7	93.5	93.1	94.1	81.4	83.5	86.3	83.7	94.4	
Points counted	3329	--	1928	--	4791	2024	3069	1957	2880	2400	6052	5900	5045	1825	1881	1956	2001	7000	
<b>E. Major oxides (weight percent), original analyses</b>																			
SiO <sub>2</sub>	71.0	70.5	71.7	73.6	74.1	71.6	73.7	70.09	73.29	74.48	72.9	76.0	75.2	75.4	77.3	75.7	77.9	76.6	
Al <sub>2</sub> O <sub>3</sub>	15.1	14.8	14.9	13.2	14.1	13.7	13.7	13.76	13.72	12.27	12.7	12.7	12.5	12.2	12.6	11.7	11.9	11.8	
Fe <sub>2</sub> O <sub>3</sub>	1.4	1.4	1.5	1.3	1.1	1.0	1.2	1.25	1.35	.73	.74	.							