

Table 7.—Analyses of extracaldera specimens of Ammonia Tanks Member of Timber Mountain Tuff
[Analyses 1-4, 7-9, 14, and 19-21 by P. L. D. Elmore, S. D. Botts, G. W. Chloé, Lowell Aris, and H. Smith; 10-13, 15-18, and 20 by P. L. D. Elmore, S. D. Botts, Ivan Barlow, and G. W. Chloé; 5, 22, and 23 by C. L. Parker; 6 by D. F. Powers. Minor element analyses by J. C. Hamilton. Leaders, —, no analyses made or constituent was absent.]

Sample localities (figure 2)	Ammonia Tanks Member, upper part										Ammonia Tanks Member, lower part												
	Vitrophyse				Densely welded crystallized tuff				Partially welded crystallized tuff		Densely welded crystallized tuff		Partially welded crystallized tuff				Densely welded crystallized tuff		Partially welded crystallized tuff				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Field no.	62-ENH-11	RK-62-12	RK-62-3	RK-63-146S	631-61C	SC-6H	RK-63-102S	RK-62-1	SI-62-10	E-24-B	60ENH3	62L-613	E-23F	RK62-11	RC-7	60ENH3	PLD861g	PG-1351-4	RK-63-140S	DMS88c	RK-63-141S	631-41A	631-41B
Chemical laboratory no.	160317	160317A	160317B	161732	D100212	I4070	161726	160316	160321	157429	158083	162831	157427	160318	162357	158084	158595	160078	161730	162356	161731	D100210	D100211
Spectrographic laboratory no.				D111308W	D100212	I4070	D111299W			285789	289349	D112932W	285787		D112365W	289350	292449	298862	D11306W	D112364W	D111307W	D100210	D100211
A. Major oxides (weight percent), recalculated without H ₂ O, F, Cl, and CO ₂ as CaCO ₃																							
SiO ₂	65.9	67.4	67.8	68.8	68.83	69.37	67.5	69.9	71.3	72.1	72.1	73.6	73.1	74.2	74.4	74.6	75.5	76.0	76.7	77.2	77.3	75.24	75.41
Al ₂ O ₃	18.3	17.5	16.6	16.1	15.84	15.99	16.7	16.3	15.6	14.8	14.7	13.6	14.4	14.1	14.0	13.5	13.0	12.8	12.1	12.8	12.3	13.17	13.18
Fe ₂ O ₃	1.9	1.7	2.6	2.0	1.93	2.03	1.8	2.0	1.5	1.6	1.3	1.3	1.1	1.2	1.2	1.1	.82	1.0	.92	.91	1.02	1.29	1.04
FeO	>2.6	>2.2	>2.7	>2.4	>2.21	>2.02	>2.4	>1.97	>1.7	>1.5	>1.5	>1.2	>1.2	>1.2	>1.2	>1.0	>.86	>.96	>.85	>.94	>.96	>1.16	>.94
MgO	.86	.55	.81	.75	.64	.45	.88	.56	.44	.35	.21	.61	.56	.38	.60	.31	.28	.44	.50	.38	.19	.57	.17
CaO	2.2	2.1	1.9	1.6	1.63	1.22	2.0	1.2	1.1	1.2	1.1	1.1	.65	.58	.54	.60	.57	.74	.89	.24	.32	.57	.53
Na ₂ O	4.3	4.4	4.3	4.1	4.68	4.50	4.2	4.2	4.1	4.2	4.3	4.0	4.2	4.1	4.0	4.3	3.8	4.0	3.9	3.8	3.6	3.59	4.03
K ₂ O	4.7	4.9	4.7	5.3	5.24	5.55	5.3	5.1	5.0	5.1	5.4	5.3	5.4	5.0	4.8	5.1	5.6	4.6	4.7	4.3	4.3	5.21	5.34
TiO ₂	.55	.46	.56	.47	.49	.47	.50	.40	.31	.34	.35	.25	.25	.25	.21	.22	.14	.21	.14	.14	.18	.24	.19
P ₂ O ₅	.34	.23	.24	.21	.16	.12	.21	.15	.09	.15	.11	.11	.06	.03	.09	.04	.09	.09	.07	.02	.07	.05	.04
MnO	.10	.10	.10	.10	.10	.11	.10	.11	.07	.10	.10	.09	.08	.07	.08	.08	.08	.06	.06	.09	.08	.07	.08
Total	100.0	100.0	100.0	100.0	100.01	100.0	100.0	100.00	99.88	100.0	100.0	100.0	100.0	100.01	100.0	99.90	100.0	100.00	100.00	100.00	100.00	100.00	100.01
B. Minor elements (weight percent)																							
B			0.002	<0.002	<0.002	<0.002	<0.002			a	<0.002	<0.002	a		<0.0002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002
Be			.003	.2	.15	.3				0.15	.15	.1	.07		.2	.03	.03	.015	.003	.007	.02	.03	.03
Be			.0003	.00015	.0002	.00015				.0003	.0015	.0003	.0003		.0003	.0003	.0005	.0005	.0003	.0007	.0003	.0002	.0002
Ce			<.02	.02	.02	.03				.03	.015	<.05	a		.02	<.02	.015	<.02	<.02	<.02	<.02	<.02	<.02
Co			<.0005	<.0005	<.0005	<.0005	<.0005			<.0005	<.0005	<.0005	<.0005		<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005
Cr			<.0001	<.0001	.0002	<.0001	.00015			a	<.0001	.00015	a		.00015	<.0001	.00015	<.001	<.0001	.00015	<.0001	.0002	<.0001
Cu			.001	.0007	.0005	.0005	.0005			.0003	.0003	.0007	.0003		.0003	.003	.001	.0005	.0003	.0003	.0005	.0003	.00015
Ga			.003	.003	.002	.002	.003			.003	.0015	.003	.0015		.003	.0015	.003	.002	.003	.003	.002	.002	.002
La			.003	.01	.015	.01	.015			.015	.007	.007	.007		.01	.003	.007	.003	<.002	.003	.005	.007	.007
Mo			.0007	<.0005	<.0005	<.0005	<.0005			<.0005	<.0005	<.0005	<.0005		<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005
Nb			.0015	.002	.0015	.002	.001			.003	.0015	.002	.003		.002	.0015	.005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005
Nd			<.01	.015	.015	.015	.01			.015	.015	<.01	<.01		.015	<.01	<.01	.002	.002	.003	.002	.002	.003
Ni			<.0003	<.0003	<.0003	<.0003	<.0003			<.0003	<.0003	<.0003	<.0003		<.0003	<.0003	<.0003	<.001	<.001	<.001	<.001	<.001	<.001
Pb			.003	.005	.0015	.002	.0015			.007	.07	.003	.007		.003	.015	.005	.003	.003	.003	.002	.0015	<.001
Sc			<.0005	.0007	.0007	.0005	.0007			.0007	<.0005	<.0005	<.0005		.0007	<.0005	<.0005	.0007	<.0005	.0007	<.0005	<.0005	<.0005
Sr			.003	.05	.05	.07	.07			.07	.03	.03	.03		.05	.015	.007	.01	.015	.002	.005	.02	.01
V			<.001	.003	.003	.002	.003			.007	.003	.002	.003		.003	.0015	.002	.0015	<.001	<.001	<.001	.0015	.001
Y			.002	.002	.002	.002	.002			.003	.003	.0003	.003		.003	.003	.005	.002	.002	.005	.005	.003	.003
Yb			.0002	.0003		.0003	.0003			.0003	.0003	.0005	.0003		.0003	.0003	.0007	.0003	.0003	.0005	.0005	.0003	.0003
Zr			.005	.05	.05	.02	.07			.07	.03	.02	.03		.03	.015	.02	.01	.007	.01	.01	.015	.01
C. Norms (weight percent), from recalculated analyses																							
Quartz	18.2	18.4	19.8	20.6	17.7	19.0	18.0	22.8	25.3	25.3	24.0	27.4	26.0	29.5	31.3	28.4	30.5	33.0	34.2	37.3	37.0	32.5	30.4
Orthoclase	27.6	29.0	28.1	31.1	31.0	32.8	31.3	30.3	29.8	30.0	32.0	31.3	31.7	29.6	28.3	30.2	32.9	27.4	27.8	25.6	28.6	31.0	31.5
Albite	36.1	37.2	36.8	34.9	34.9	35.1	36.4	34.9	35.5	36.1	34.4	33.6	35.8	34.6	33.6	36.3	32.5	34.0	32.9	32.4	30.7	30.4	34.0
Anorthite	8.6	8.6	7.7	6.8	6.8	5.3	8.8	5.1	4.9	4.8	4.7	3.6	2.8	2.8	2.0	2.5	1.9	3.0	1.6	1.0	1.0	2.5	2.1
Corundum	3.1	1.8	1.5	1.1	1.6	.6	.9	2.0	1.6	.6	.0	.6	.6	.9	1.6	.0	.0	.1	1.4	.7	.7	.7	.0
Enstatite	2.2	1.4	2.0	1.9	1.6	1.1	2.2	1.4	1.1	.8	.5	1.5	1.4	1.0	1.4	.8	.7	1.1	1.2	.9	.5	1.4	.4
Ferrosilite	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Magnetite	1.6	1.1	.0	.8	.4	2.0	.7	1.9	1.2	1.6	1.0	1.3	1.0	1.2	1.2	1.1	.6	.9	.7	1.0	1.3	1.0	
Hemite	.8	.9	2.6	1.4	1.6	.9	.9	.4	.6	.3	.6	.3	.5	.4	.3	.3	.3	.3	.2	.3	.3	.2	.2
Ilmenite	1.1	.9	1.0	.9	.9	.6	.9	.4	.6	.3	.6	.3	.5	.4	.3	.3	.3	.3	.2	.3	.3	.2	.2
Rutile	.0	.0	.0	.0	.0	.1	.0	.2	.0	.1	.0	.0	.0	.1	.0	.0	.0	.1	.0	.0	.03	.2	.03
Apatite	.8	.6	.6	.5	.4	.3	.5	.4	.2	.4	.3	.3	.1	.1	.2	.1	.2	.2	.2	.05	.2	.1	.1
Total	100.1	99.9	100.1	100.0	99.9 _b	99.9	99.9	100.0	100.1	100.0	99.9	99.3 _c	100.1	100.2	99.9	99.7 _d	99.8 _e	100.2	99.0 _f	99.95	100.03	100.3	99.7 _g
D. Minerals (volume percent)																							
Quartz	1.6	2.0	1.2		2.5	2.3		4.1	1.8	2.6		4.2	2.6	4.5		2.6				6.1		7.2	0.8
Alkali feldspar	9.3	10.1	10.0		18.4	11.8		12.5	8.6	8.1		19.8	12.9	9.9		9.3				8.9		13.3	3.8
Plagioclase	10.6	14.0	14.6		12.8	5.5		8.0	2.7	4.8		6.9	4.8	3.2		1.2				.5		1.7	1.0
Biotite	2.7	2.9	2.3		2.2	1.7		1.1	.3	.7		.9	.2	.7		.2				tr.		.3	.2
Clinopyroxene	1.0	1.2	.6		.8	.2		.1	.2	.4		.3	.1	.1		.1							
Hornblende																							
Sphene		.1	.1		tr.	.1		tr.	.1	.2		tr.	.1	tr.		tr.							tr.
Opaque	.4	1.5	1.3		.9	.4		.6	.6	.4		.3	.7	.4		.4				.1		.3	.3
Groundmass	74.4	68.2	69.9		62.4	78.0		73.6	85.7	82.8		67.6	78.6	81.2		86.6				84.4		77.2	93.9
Modal points counted	986	1261	1294		2145	1547		1140	1838	1364		1181	1875	1450		2917				3103		3020	1859
E. Major oxides (weight percent), original analyses																							
SiO ₂	63.4	65.8	65.8	66.7	68.01	64.74	65.0	68.2	70.8	71.0	72.0	66.6	70.8	72.6	73.1	72.9	74.6	73.8	74.9	76.5	76.6	72.74	72.50
Al ₂ O ₃	17.6	17.1	16.8	15.6																			