Sample No. †*	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■
Field or Compilation No.	T-410	T-346	T-317	T-322	T-320	T-347	§13	4	T-271	T-276B	T-339	T-364A	T-224	T-341	T-365	T-344	T-401	T-345	23	T-52	T-5	10	70	23	17	21	3
Laboratory No.	W-166664									W-166663		W-166662			W-166661		W-166660										
Stratigraphic unit✓ and rock type	pЄfu wt	pЄm wt	pG 1 lava	pG 1 lava	pG 1 bt	pЄsa bt	pЄsa wt	pЄsb wt		pЄsc wt		pЄsd wt			pЄt wt					pЄr intrusive rhyolite			pЄgp gp	®	#	+	**
CHEMICAL ANALYSES																											
SiO_2	68.8	73.8	60.9	59.4	70.9	76.2	76.35	70.50	–	73.5	70.1	81.6	73.3	75.0	76.9	78.3	76.5	75.8	76.45	–	–	76.26	70.71	76.0	72.0	69.5	69.5
Al_2O_3	15.4	13.2	15.5	16.0	12.9	10.8	11.63	13.89	–	14.2	14.5	9.5	12.7	12.3	12.2	11.4	12.1	11.9	11.85	–	–	11.53	14.12	11.5	13.0	14.5	11.5
Fe_2O_3	4.0	1.5	7.5	7.6	4.7	& 1.5	1.24	3.77	–	2.2	2.8	1.6	2.4	.96	2.3	1.9	2.1	.96	2.02	–	–	2.22	1.26	2.3	2.6	2.2	4.0
as FeO	3.8	2.1	9.8	9.5	5.1	2.4	2.39	4.55	–	2.1	3.3	1.5	3.1	& .8	2.2	2.3	2.0	1.64	2.09	–	–	2.31	3.3	2.3	2.8	3.3	4.8
FeO	.16	.73	3.0	2.6	.87	1.1	1.27	1.15	–	.16	.75	.08	.92	.01	.16	.60	.08	.78	.27	–	–	.31	2.19	.2	.5	1.3	1.2
MgO	.52	.07	1.5	2.7	1.5	.65	.12	.19	–	.03	.18	.00	.14	.11	.00	.11	.03	.18	.06	–	–	.03	.30	.1	.4	.1	.3
CaO	1.1	.32	2.8	2.3	2.0	.18	.39	.62	–	.35	.51	.12	.42	.40	.19	.14	.14	.51	.19	–	–	.00	.96	.2	1.0	.8	.5
Na_2O	7.7	7.5	7.3	7.6	.75	1.1	3.53	5.03	4.3	4.8	5.4	2.0	3.4	2.7	1.9	3.6	2.3	3.1	3.17	2.1	2.3	.13	3.84	4.2	4.4	5.2	5.2
K_2O	.38	3.2	2.8	.72	6.0	6.1	4.50	3.39	4.8	3.9	5.1	3.6	5.6	6.2	5.0	5.4	5.0	5.9	5.30	6.2	8.0	8.52	5.11	4.5	5.0	5.2	4.8
H_2O-	.04	–	–	–	–	–	.04	.08	–	.00	–	.03	–	–	.04	–	.02	–	.09	–	–	.03	.09	–	–	–	–
H_2O+	.72	–	–	–	–	–	.35	.42	–	.38	–	.53	–	–	.48	–	.79	–	.18	–	–	.46	.54	.3	.9	.2	.6
TiO_2	.47	–	–	–	–	–	.16	.56	–	.20	–	.11	–	–	.15	–	.17	–	.17	–	–	.13	.41	.16	.35	.30	.3
P_2O_5	.13	–	–	–	–	–	.00	.08	–	.02	–	.00	–	–	.00	–	.00	–	.00	–	–	.01	.06	.02	.10	.03	.07
MnO	.04	–	–	–	–	–	.08	.28	–	.03	–	.02	–	–	.04	–	.05	–	.03	–	–	.03	.10	.11	.15	.20	.16
CO_2	.19	–	–	–	–	–	–	–	–	<.05	–	<.05	–	–	<.05	–	<.05	–	–	–	–	–	–	.05	.5	.1	.05
F	–	–	–	–	–	–	.10	–	–	–	–	–	–	–	–	–	–	–	.02	–	–	.02	.08	–	–	–	–
S	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ZrO_2	–	–	–	–	–	–	–	.01	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BaO_2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
less O for F or S	–	–	–	–	–	–	– .04	–	–	–	–	–	–	–	–	–	–	–	–.01	–	–	–.01	–.03	–	–	–	–
Total	99.8	100.3	101.3	98.9	99.6	97.6	99.72	99.97	–	99.8	99.3	99.2	98.9	97.7	99.4	101.5	99.3	99.1	99.79	–	–	99.67	99.74				
CIPW NORMS (weight percent) BASED ON ANALYSES RECALCULATED TO 100 PERCENT MINUS ($H_2O + CO_2$)																											
Quartz	20.1	22.6	2.0	4.5	–	–	37.3	27.0	–	30.1	18.2	56.7	31.3	35.4	46.9	36.6	44.3	34.1	37.4	–	–	–	25.6	34.5	26.0	18.2	22.4
Corundum	.64	–	–	–	–	–	.25	1.0	–	1.5	–	2.1	.29	.48	3.4	–	2.7	–	.56	–	–	–	.68	–	–	–	–
Orthoclase	2.3	18.7	16.6	4.3	–	–	26.8	20.1	–	23.2	30.3	21.6	33.4	37.3	29.9	31.2	30.0	35.4	31.5	–	–	–	30.5	26.7	29.3	30.8	28.9
Albite	66.0	50.2	61.2	64.7	–	–	30.1	42.8	–	40.9	46.3	17.2	29.2	23.5	16.7	28.2	19.8	26.4	27.0	–	–	–	32.8	34.2	37.0	44.2	33.0
Anorthite	4.7		1.2	7.8	–	–	1.9	2.6	–	1.6	.11	.6	2.1	2.0	.95	–	.7	1.0	.95	–	–	–	4.4	–	.95	.87	–
Acmite	–	4.4	–	–	–	–	–	–	–	–	–	–	–	–	–	1.6	–	–	–	–	–	–	–	1.3	–	–	10.4
Sodium metasilicate	–	2.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wollastonite	–	.66	5.3	1.6	–	–	–	–	–	–	1.0	–	–	–	–	.29	–	.64	–	–	–	–	–	.23	.08	.95	.73
Enstatite	1.3	1.7	3.7	6.9	–	–	.30	.48	–	.08	.45	–	.35	.28	–	.27	.08	.45	.15	–	–	–	.75	.25	.99	.25	.76
Ferrosilite	–	1.3	–	–	–	–	1.2	–	–	–	–	–	–	–	–	.01	–	.65	–	–	–	–	2.5	–	–	.45	1.6
Magnetite	–	–	8.6	8.4	–	–	1.8	3.01	–	.03	2.4	–	3.0	.03	.21	1.9	–	1.4	.48	–	–	–	1.8	.54	1.1	3.2	.70
Hematite	4.1	–	1.5	1.9	–	–	–	1.71	–	2.2	1.1	1.6	.38	.96	2.2	–	2.1	–	1.7	–	–	–	–	1.5	1.8	–	–
Ilmenite	.43	–	–	–	–	–	.31	1.17	–	.38	–	.21	–	–	.29	–	.3	–	.32	–	–	–	.79	.30	.66	.57	.58
Rutile	.25	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	.03	–	–	–	–	–	–	–	–	–	–
Apatite	.31	–	–	–	–	–	–	.19	–	.05	–	–	–	–	–	–	–	–	–	–	–	–	–	.05	.24	.07	.17
Total	100.	100.	100.	100.	–	–	100.	100.	–	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	–	–	–	100.	99.57	98.12	99.56	99.24
$\frac{CaO, Na_2O, K_2O}{Al_2O_3}$!	0.98	1.24	1.30	1.09	0.87	0.80	0.98	0.95		0.90	1.06	0.78	0.97	0.96	0.78	1.01	0.78	1.05	0.93			0.83		1.04	1.11	1.08	1.27

♦ By H. Smith, D. Taylor, G. Chloe, S. Botts, J. Glenn, and L. Artis, U.S. Geological Survey, Washington, D.C., by methods described by Shapiro and Brannock (1962).

★ By R. E. Anderson, rock analysis laboratory, Washington University, by methods described by Riley (1958) except for CaO and MgO which were determined spectrographically.□

● Done at GSA rock analysis laboratory by L.C. Peck, chemist, University of Minnesota (taken from Hayes, 1959).

‡ By R. T. Rolufs, Missouri Division of Geol. Survey and Water Resources Laboratory, 1932 (taken from Hayes, 1959).

■ From E. B. Ekren, R. E. Anderson, C. L. Rogers, and D. C. Noble (unpub. data).

TABLE I Chemical analyses, partial chemical analyses, and norms of Precambrian rocks from Missouri (examples 1-23) and some average compositions of Tertiary rocks from Nevada (examples 24-27).

□ An analysis of error was not made on these data; they are to be considered approximate.

† This is the number referred to in text and used to show sample locations on the geologic map (pl. 1)

* Numbers increase with decreasing age (either known or inferred) for rocks from Missouri.

§ From 2.5 miles E-SE of Ironton, NE of bridge across Stouts Creek at the W end of Stouts Creek Shut-in, Sec. 2, T. 33 N., R. 4 E.

✓ Stratigraphic unit shown by symbol used on geologic map; wt = welded tuff, bt = bedded tuff, gp = granite porphyry.

® Rhyolite of Quartet Dome.

Grouse Canyon Member of Belted Range Tuff (comendite).

+ Trachytic soda rhyolite of Saucer Mesa.

** Gold Flat Member of Thirsty Canyon Tuff (pantellerite)

% Abundant secondary hematite in thin section suggests that this value is too low.

& Low value probably due to error in analysis of Fe_2O_3 and FeO.

! Molecular ratio.