

CHEMICAL ANALYSES, CIPW NORMATIVE MINERALS, AND VARIOUS PARAMETERS- PRECAMBRIAN IGNEOUS ROCKS, TONTO BASIN, GILA COUNTY, ARIZONA

Analysis Number	GIBSON COMPLEX				PAYSON GRANITE		HYPABYSSAL BASALT	WINTER CAMP FORM.					HAIGLER GROUP UNDIVIDED				OXBOW RHYO.		HELL'S GATE RHYO.			HOG CANY.	KING RIDGE	GREEN VALLEY GRANOPHYRE				ALASKITE			YOUNG GRANITE			
	gabbro	diorite	leucogrdte	hbl gphr	alkali granite	granite		FLY. W	BOARD CABIN	FLY. W	WINTER CAMP FORM.				extrusive		alkali		rhyolite		hypabyssal	alkali	rhyolite		alkali granophyre		alkali granite							
	1	2	3	4	5	6	7	basalt	andes.	extrusive	alkali	rhyodacite	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32			
	Sample Number	10-1-2154	9-3-2084A	6-3-1431	10-1-2157	3-1-677	2-1-327A	Gastil 1617A	7-1-1600	Ar-Gi-W rhy #1A	Gastil, 1958, V	7-1-1611	7-1-1604A	8-1-1850A	8-1-1819	6-3-1531	5-1-1252	8-1-1976	Gastil, 1958, III	5-1-1212	1-1-94	2-1-418A	8-1-1912	2-1-435A	3-2-701	5-1-1299	9-3-2104	1-0-32	2-1-383	5-1-1290	9-3-2012A	Ar-Gi-Young gr #1A		
Location ^a	K-3	M-2	O-6	O-7	G-6	F-11	Table 5	P-17	O-16	Q-16	Table 3	N-16	N-17	L-15	K-16	J-17	F-18	I-21	Table 3	I-16	H-14	H-13	H-20	F-15	E-16	H-18	P-7	O-19	E-14	G-17	G-6	Q-21		
SiO ₂	48.47	55.51	70.17	73.36	70.73	72.67	49.8	59.06	53.87	72.62	71.04	66.85	69.19	74.32	74.76	76.90	76.99	76.69	77.44	73.76	76.79	75.50	74.81	74.95	75.86	75.28	76.14	75.79	76.56	73.60	75.71	73.45	73.45	
TiO ₂	0.69	0.45	0.06	0.28	0.29	0.17	2.56	1.96	1.11	0.17	0.26	0.78	0.41	0.14	0.14	0.14	0.14	0.09	0.12	0.22	0.14	0.16	0.04	0.14	0.03	0.10	0.13	0.00	0.00	0.15	0.12	0.15	0.15	
Al ₂ O ₃	17.41	17.97	15.70	13.52	14.11	13.78	15.7	15.35	17.84	13.50	14.63	15.47	14.01	12.44	13.06	12.50	12.50	12.23	12.62	12.10	12.20	12.27	14.19	12.22	12.29	12.38	12.27	12.43	12.20	13.16	12.90	13.62	13.62	
Fe ₂ O ₃					1.03	1.26	10.65		6.34	3.63	2.72	3.92	1.46	1.82	0.92		1.22	0.45	1.22	1.22	1.45	0.64	0.86	1.65	1.85	1.40	0.93	1.14				1.11		
FeO ^c	10.09	8.43	3.15	2.15	1.86	0.68	3.58	12.75	3.32	0.10	2.05	5.52	1.27	0.93	0.14	0.48	2.06	0.17	1.19	1.10	1.63	0.52	0.27	1.12	0.16	0.19	1.50	0.48	0.23	0.67	1.43	0.08	0.08	
MnO					0.03	0.01	0.24		0.08	0.03	0.13	0.11	0.05	0.01	0.01	0.01	0.01	0.01	0.02	0.04	0.02	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	
MgO	7.24	4.05	0.70	0.42	0.46	0.35	4.28	0.79	2.48	0.22	0.14	0.70	0.30	0.02	0.01	0.04	0.14	0.05	0.21	0.08	0.06	0.02	0.01	0.03	0.05	0.09	0.04	0.02	0.05	0.49	0.15	0.25	0.25	
CaO	13.70	8.98	2.44	1.46	1.58	1.06	5.12	3.79	6.81	0.83	0.81	1.83	1.82	0.97	0.32	0.26	0.07	0.64	0.13	0.99	0.69	0.61	0.44	0.66	0.46	0.62	0.67	0.66	0.61	0.58	0.74	0.18	0.18	
Na ₂ O	2.04	3.31	4.22	4.19	4.13	3.64	4.96	4.38	2.96	4.40	4.48	4.82	3.44	4.78	2.48	0.27	3.34	2.21	3.62	3.46	3.85	4.46	3.43	3.93	3.92	4.01	3.58	3.29	3.56	3.81	0.39	0.39		
K ₂ O	0.21	0.95	3.39	4.57	5.11	5.07	0.29	1.35	2.35	3.19	3.74	4.16	3.36	4.61	3.72	4.87	7.81	4.41	4.42	5.08	5.03	4.65	3.94	5.22	5.37	5.43	5.20	4.77	5.01	5.55	5.11	9.88		
H ₂ O(+)					0.60	0.77	2.72		2.40	0.51	0.09	0.36	0.38	0.48	0.89		0.41	1.08	0.34	0.40	0.50	0.36	0.40	0.00	0.00	0.39	0.36	0.78				0.65		
H ₂ O(-)					0.25	0.37	0.24		0.39	0.23	0.06		0.28	0.25	0.26	0.35		0.32	.23	0.27		0.16	0.35	0.39	0.26	0.32	0.27	0.38	0.35			0.39		
P ₂ O ₅	0.14	0.35	0.17	0.04	0.03	0.02	0.61	0.58	0.42	0.04		0.21	0.04	0.00	0.00	0.00	0.01	0.00	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.02	0.02		
CO ₂					0.10	0.03			0.14	0.01			0.02	0.62	0.14	0.04		0.03		0.42	0.00	0.00	0.09	0.09	0.09	0.00	0.06	0.15				0.00		
S					0.01	0.02														0.01	0.01	0.02	0.01	0.02	0.01	0.00	0.00	0.01					0.05	
F					0.06	0.13			0.08	0.34			0.12	0.16	0.01	0.06		0.31	0.13		0.12	0.28	0.21	0.18	0.14		0.11	0.21	0.07				0.05	
TOTAL	99.99	100.00	100.00	99.99	100.38	100.03	100.75	100.01	100.59	99.82	100.15	100.01	100.03	99.79	99.65	99.94	99.99	99.92	100.12	99.41	100.01	99.73	99.96	99.71	100.76	100.43	99.99	100.04	99.89	100.28	100.01	100.22	100.22	
analyst ^b	C	C	C	C	I	I	H	C	A	A	H	C	A	A	A	C	A	H	I	C	A	A	I	I	I	I	C	A	I	I	C	A	A	
FeO/(FeO+Fe ₂ O ₃) ^c	.77	.77	.65	.65	.64	.35	.25	.25	.34	.03	.43	.40	.25	.39	.07	.34	.30	.12	.73	.47	.50	.26	.30	.57	.09	.09	.30	.26	.20	.37	.30	.07	.07	
A/(A+F+M)	.12	.25	.66	.77	.74	.80	.23	.30	.32	.68	.64	.58	.62	.780	.826	.845	.79	.855	.79	.79	.834	.822	.908	.818	.846	.828	.857	.826	.881	.806	.850	.89	.89	
F/(A+F+M)	.52	.50	.28	.19	.22	.17	.58	.66	.54	.30	.35	.37	.36	.218	.173	.150	.20	.140	.19	.20	.160	.176	.091	.179	.150	.164	.140	.172	.113	.150	.136	.09	.09	
Al/(K+Na+2Ca)	.61	.79	1.04	.93	.93	1.03	.88	.99	.90	1.11	1.14	1.02	.94	1.00	1.05	1.27	1.39	1.07	1.46	.91	.99	.98	1.14	.98	.94	.92	.91	1.02	1.02	1.02	.98	1.17	1.17	
Al/(K+Na)	4.86	2.78	1.48	1.14	1.15	1.20	1.85	1.77	2.41	1.26	1.28	1.30	1.21	1.17	1.10	1.34	1.41	1.19	1.50	1.06	1.10	1.08	1.22	1.08	1.001	1.005	1.004	1.13	1.13	1.11	1.09	1.20	1.20	
CIPW																																		
Q		6.20	25.53	27.65	23.02	30.13	4.67	20.53	11.44	34.26	28.12	20.31	24.87	35.44	32.46	44.01	45.13	40.31	46.89	32.16	35.65	34.66	34.06	34.13	32.18	31.10	32.09	35.86	37.91	30.22	32.35	33.10	33.10	
Or	1.24	5.60	20.01	26.99	30.38	30.33	1.75	7.89	14.22	19.06	22.11	24.50	20.00	27.67	22.26	29.18	46.09	26.32	26.44	30.54	29.70	27.73	23.53	31.23	31.76	32.11	30.70	28.38	29.91	33.15	30.17	58.88	58.88	
Ab	17.21	27.94	35.65	35.42	35.15	31.16	42.88	36.65	25.63	37.62	37.90	37.84	41.05	29.55	40.94	21.27	2.28	28.53	18.92	31.14	29.24	32.86	38.11	29.37	33.27	33.17	33.89	30.49	28.11	30.43	32.19	3.33	3.33	
An	37.65	31.31	10.98	4.59	4.91	4.24	20.16	14.85	29.14	1.41	4.02	7.68	6.72	3.70	1.53	.86	.28	.91	.65	1.80	2.91	2.17	.13	1.76	.04	.15	.13	2.49	1.50	2.33	3.01	.41	.41	
C			1.06			.78		1.17		2.33	1.74	.76		.47	.63	2.88	3.50	1.65	4.01			.12	2.57	.30				.48	.83	.46			2.15	
Wo																									.24	.53	1.19							
Di	23.85	8.98		2.00	1.99		1.34		1.81				.97							1.76	.39				.27	.48	.22				.31			
Hy	7.31	15.41	4.59	1.59	2.28	.88	10.27	1.95	5.49	.55	1.68	1.85	.30	.42	.03	.10	.35	.13	2.20	.01	.58	.05	.03	1.22			.05	.13	1.27	.23	.63			
Ol	7.66																																	
Mgt	3.44	2.87	1.66	1.13	1.50	1.68	5.01	5.36	7.93		3.95	5.09	3.29	2.15	.08	1.19	1.73	.32	.66	1.80	1.29	.86	1.26	.39	.32	1.12	1.21	.75	1.67	1.14				
Hem						.12	7.43	6.52	1.02	3.67		1.68		1.79	.11	.35	1.01					.57	.05		1.38	1.63	.35	.57	.42		.29	1.12	1.12	
Ilm	1.31	.85	.11	.53	.55	.33	4.97	3.68</																										