Table 3. Representive major and trace element geochemical data for Santa Rosa-Calico units.

Sample	MB02-77	MB01-46A	MB01-46B	MB01-1	MB01-2	MB02-5	MB03-51	MB01-24	MB01-12	MB01-6A	MB01-33	MB01-25
Pet. Unit	Kg	Kg	Kg	Tarc	Tarc	Tarc	Tarc	Tb	Tb	Tba	Tba	Tba
Map Unit	Kg	Kg	Kg	Tarc	Tarc	Tarc	Tarc	Thc	Thc	Thc	Tcm	Tmi
SiO_2	57.39	67.98	76.66	49.21	54.67	63.33	61.50	47.20	48.12	54.56	55.66	49.34
TiO_2	0.92	0.38	0.05	2.18	1.09	0.69	0.89	1.29	1.37	1.65	1.05	1.98
Al_2O3	16.99	16.24	13.69	14.98	16.39	16.37	16.15	17.02	16.81	15.57	14.32	14.70
Fe_2O_3	6.90	2.65	0.35	11.31	7.58	5.08	6.02	11.51	12.12	10.32	8.47	13.83
MnO	0.11	0.07	0.01	0.17	0.12	0.09	0.10	0.17	0.18	0.16	0.13	0.22
MgO	4.65	1.18	0.03	8.03	4.46	2.19	2.91	8.65	8.74	5.53	6.31	5.43
CaO	5.95	2.97	0.78	7.44	6.79	4.03	4.74	10.14	9.99	7.55	7.50	8.70
Na_2O	3.66	4.59	4.37	2.95	3.60	4.14	3.97	2.68	2.66	2.82	2.54	3.20
K_2O	2.53	2.45	4.15	1.83	2.50	3.59	3.23	0.32	0.33	1.82	2.16	1.33
P_2O_5	0.33	0.16	0.02	0.78	0.45	0.31	0.47	0.14	0.14	0.24	0.29	0.50
LOI	0.75	1.02	0.44	2.24	3.19	0.29	0.02	0.50	0.65	0.52	0.70	0.26
TOTAL	100.18	99.68	100.53	101.12	100.85	100.10	99.99	99.61	101.11	100.74	99.13	99.50
Ni	50	5	<1	59	64	22	30	157	150	75	155	21
Cr	146	6	<1	233	108	45	66	97	102	66	326	81
Sc	18	6	1.7	20	17	9	13	25	26	20	23	32
V	168	40	<1	226	162	88	108	244	261	197	193	347
Ba	1826	1072	61	770	943	1391	1220	135	166	425	439	443
Rb	84	67	120	36	76	100	93	2.0	3.7	51	60	25
Sr	1036	459	43	885	699	557	595	422	410	350	311	437
Zr	204	126	40	185	195	253	263	71	73	165	129	141
Y	18	11	6	24	19	17	19	21	27	27	23	35
Nb	8.00	5.40	8.50	22	13	13	15	3.70	3.20	11	8.40	7.50
Ga	20	20	19	20	18	19	18	19	19	20	18	22
Cu	56	9	4	34	51	39	22	127	135	80	77	59
Co	19	5	2	37	24	12	16	53	54	39	36	44
Zn	90	62	17	116	79	102	102	80	82	95	86	120
Pb	14	17	40	5.8	9.0	15	14	4.1	1.0	6.2	10	4.9
U	2.0	3.0	1.1	2.8	1.4	1.7	3.1	2.1	<1	1.5	2.3	<1
Th	10	4.6	13	4.4	7.0	10	9.1	<2	<2	4.4	5.7	2.5
Cs	---	---	---	---	---	---	---	---	0.30	1.47	2.75	0.69
Hf	---	---	---	---	---	---	---	---	1.96	4.04	3.48	3.50
Ta	---	---	---	---	---	---	---	---	0.27	0.73	0.70	0.48
La	25.6	13.1	1.40	33.4	31.3	41.5	40.0	4.00	6.25	17.7	18.4	18.6
Ce	54.7	37.1	19.9	65.2	57.7	76.7	92.0	24.4	14.8	36.2	35.7	39.4
Pr	---	---	---	---	---	---	---	---	2.16	4.47	4.35	5.19
Nd	---	---	---	---	---	---	---	---	11.2	19.8	18.6	24.2
Sm	---	---	---	---	---	---	---	---	3.52	5.32	4.84	6.49
Eu	---	---	---	---	---	---	---	---	1.31	1.66	1.27	2.06
Gd	---	---	---	---	---	---	---	---	4.07	5.37	4.73	6.76
Tb	---	---	---	---	---	---	---	---	0.69	0.88	0.77	1.1
Dy	---	---	---	---	---	---	---	---	4.26	5.25	4.56	6.83
Ho	---	---	---	---	---	---	---	---	0.87	1.04	0.93	1.37
Er	---	---	---	---	---	---	---	---	2.29	2.72	2.38	3.71
Tm	---	---	---	---	---	---	---	---	0.32	0.39	0.34	0.52
Yb	---	---	---	---	---	---	---	---	1.91	2.31	2.08	3.18
Lu	---	---	---	---	---	---	---	---	0.30	0.36	0.33	0.50
$^{87}Sr/^{86}Sr_m$	---	---	---	---	---	---	---	---	0.703791	---	0.704139	---
$^{87}Sr/^{86}Sr_i$	---	---	---	---	---	---	---	---	0.703784	---	0.704012	---
$^{143}Nd/^{144}Nd_m$	---	---	---	---	---	---	---	---	0.512897	---	0.512649	---
$^{143}Nd/^{144}Nd_i$	---	---	---	---	---	---	---	---	0.512876	---	0.512746	---
epsilon Nd_i	---	---	---	---	---	---	---	---	5.1	---	2.6	---
$^{206}Pb/^{204}Pb$	---	---	---	---	---	---	---	---	18.941	---	19.044	---
$^{207}Pb/^{204}Pb$	---	---	---	---	---	---	---	---	15.580	---	15.623	---
$^{208}Pb/^{204}Pb$	---	---	---	---	---	---	---	---	38.541	---	38.762	---
	---	---	---	---	---	---	---	---		---		---

Notes: Major element concentrations are reported as weight percent oxides and expressed as raw data; trace element concentrations are reported in ppm. Major element analyses were analyzed by DCP-AES (Direct Current Argon Plasma Atomic Emission Spectrometry) at Miami Univeristy. All trace elements were analyzed by XRF (X-ray fluorescence) at Franklin and Marshall College with the following exceptions: 1) For those samples with Hf, Ta, and Cs data, the reported Hf, Ta, Cs, Rb, Pb, U, Th, La, and Ce values are inductively coupled plasma mass spectrometry (ICP-MS) data run at Washington State University; 2) the trace element data reported for MB01-54B and all Tp_2 samples are DCP-AES values run at Miami University; 3) Rb and Sr concentrations in bold are isotope dilution results. All isotopic data was obtained by TIMS (thermal ionization mass spectrometry) at Miami University. Initial $^{87}Sr/^{86}Sr$ values are not listed for certain high Rb/Sr samples due to post-solidification modification of this ratio due to hydrothermal alteration. Unit abbreviations are the same as in the text (e.g. Pet. unit; petrologic unit).

Table 3. Representive major and trace element geochemical data for Santa Rosa-Calico units (continued).

Sample	MB01-78	MB01-85	MB02-9B	MB02-53	MB02-43	MB00-1	MB00-17	MB00-16	MB01-65	MB00-44	MB02-33	MB01-63
Pet. Unit	Ta	Ta	Ta	Ta	Tad1	Tad1	Tad1	Tad1	Tad2	Tad2	Tad2	Tad2
Map Unit	Tcm	Tgl	Thc	Tgl	Thc	Thc	Thc	Thc	Twsc	Twsc	Twsc	Twsc
SiO_2	58.08	58.44	56.30	57.63	62.83	60.65	62.62	59.57	62.18	60.57	64.81	61.83
TiO_2	1.22	1.69	1.72	1.64	0.86	0.95	0.90	1.13	1.04	1.20	0.74	1.00
Al_2O3	14.87	14.58	15.84	14.21	14.17	14.57	14.63	14.68	15.20	15.15	15.02	15.10
Fe_2O_3	9.09	9.85	10.03	9.96	6.53	7.49	6.83	8.51	8.16	8.62	6.84	7.88
MnO	0.14	0.18	0.15	0.17	0.12	0.14	0.11	0.16	0.15	0.15	0.11	0.14
MgO	4.05	2.76	2.52	2.68	2.27	3.06	2.35	3.53	1.25	1.14	0.68	1.12
CaO	6.57	5.87	5.65	5.62	4.33	5.47	4.41	6.09	3.77	3.88	2.51	3.75
Na_2O	3.16	3.51	3.59	3.55	3.36	3.10	3.32	3.08	3.63	4.14	4.13	3.70
K_2O	2.36	2.75	2.81	2.71	3.16	3.06	3.10	2.79	4.01	3.31	3.86	3.88
P_2O_5	0.27	0.70	0.50	0.63	0.19	0.18	0.20	0.24	0.43	0.52	0.27	0.33
LOI	0.75	0.24	0.34	0.34	0.84	0.69	0.90	0.61	0.87	0.33	0.55	1.23
TOTAL	100.56	100.56	99.44	99.14	98.66	99.37	99.38	100.39	100.68	99.00	99.52	99.96
Ni	38	15	9	14	11	17	11	20	3	4	3	3
Cr	66	6	10	7	17	20	19	18	<1	9	<1	<1
Sc	20.5	22.2	19.5	21.4	19.1	23.9	21.6	26.1	14.9	16.3	13.7	15.8
V	192	196	194	180	160	194	165	225	43	122	22	41
Ba	1023	1724	1070	1499	1042	1099	979	1168	1210	1204	1341	1262
Rb	66	67	71	71	94	82	93	72	103	96	111	104
Sr	354	377	375	349	264	264	259	275	347	444	292	346
Zr	226	248	253	247	180	166	180	184	262	285	276	264
Y	35	43	43	44	33	35	34	35	45	40	40	44
Nb	13	12	15	12	11	10	11	8.9	17	23	17	17
Ga	20	20	23	20	19	20	19	20	21	22	21	21
Cu	46	29	33	28	26	49	26	44	14	12	11	13
Co	28	20	23	22	19	26	19	29	11	14	6	10
Zn	107	123	110	113	89	94	90	100	117	122	106	122
Pb	12	13	16	14	17	35	18	15	17	16	19	17
U	2.2	2.5	1.8	1.5	4.2	<1	<1	1.2	<1	<1	<1	3.6
Th	7.4	8.2	7.7	10	12	12	12	8.4	8.8	11	11	10
Cs	2.22	1.44	---	---	2.53	---	---	---	---	---	---	4.34
Hf	5.90	6.22	---	---	4.97	---	---	---	---	---	---	6.87
Ta	0.79	0.69	---	---	0.78	---	---	---	---	---	---	1.04
La	29.2	32.7	31.8	34.2	30.6	25.6	30.8	27.2	38.4	44.4	42.6	39.4
Ce	57.4	65.2	62.8	63.9	57.3	56.2	56.9	54.8	70.2	80.2	70.4	77.2
Pr	6.93	7.99	---	---	6.53	---	---	---	---	---	---	9.31
Nd	29.4	34.7	---	---	26.0	---	---	---	---	---	---	39.1
Sm	7.34	8.74	---	---	6.25	---	---	---	---	---	---	9.39
Eu	1.89	2.39	---	---	1.35	---	---	---	---	---	---	2.36
Gd	7.07	8.43	---	---	5.96	---	---	---	---	---	---	8.85
Tb	1.12	1.36	---	---	1.00	---	---	---	---	---	---	1.42
Dy	6.73	8.19	---	---	6.16	---	---	---	---	---	---	8.60
Ho	1.34	1.65	---	---	1.28	---	---	---	---	---	---	1.74
Er	3.57	4.48	---	---	3.51	---	---	---	---	---	---	4.72
Tm	0.50	0.64	---	---	0.52	---	---	---	---	---	---	0.69
Yb	3.07	3.96	---	---	3.29	---	---	---	---	---	---	4.28
Lu	0.49	0.62	---	---	0.52	---	---	---	---	---	---	0.69
$^{87}Sr/^{86}Sr_m$	0.704515	0.705068	0.704624	---	---	---	---	---	---	---	---	0.705020
$^{87}Sr/^{86}Sr_i$	0.704397	0.704963	0.704501	---	---	---	---	---	---	---	---	0.704839
$^{143}Nd/^{144}Nd_m$	0.512722	0.512702	0.512719	---	---	---	---	---	---	---	---	0.512701
$^{143}Nd/^{144}Nd_i$	0.512705	0.512687	0.512729	---	---	---	---	---	---	---	---	0.512686
epsilon Nd_i	1.8	1.4	2.2	---	---	---	---	---	---	---	---	1.4
$^{206}Pb/^{204}Pb$	19.010	19.146	19.072	---	---	---	---	---	---	---	---	19.10
$^{207}Pb/^{204}Pb$	15.633	15.642	15.637	---	---	---	---	---	---	---	---	15.64
$^{208}Pb/^{204}Pb$	38.776	38.846	38.745	---	---	---	---	---	---	---	---	38.79

Table 3. Representive major and trace element geochemical data for Santa Rosa-Calico units (continued).

Sample	MB01-45	MB01-47	MB03-34	MB01-41	MB00-18	MB03-54	MB00-15A	MB02-19	MB02-44	MB02-61	MB02-71	MB01-31
Pet. Unit	Tad3	Tad3	Tad3	Tad3	Tpr	Tpr	Tpr	Tpr	Tpr	Tbr	Tbr	Tcm
Map Unit	Tcm	Tcm	Tcm	Tcm	Tpr	Tsi	Tsi	Tpr	Tpr	Tsi	Tpr	Tcm
SiO_2	60.47	62.89	59.89	63.59	69.96	71.97	74.13	75.89	74.80	75.61	75.99	66.3
TiO_2	1.41	1.17	1.45	1.21	0.53	0.3	0.16	0.1	0.30	0.08	0.08	0.79
Al_2O3	14.70	15.44	14.64	14.98	13.9	13.06	11.75	12.03	13.27	12.61	12.3	13.76
Fe_2O_3	8.31	7.81	8.89	6.35	3.33	2	1.52	1.08	2.12	1.22	1.28	5.85
MnO	0.13	0.14	0.13	0.13	0.06	0.04	0.03	0.01	0.03	0.02	0.02	0.07
MgO	1.57	1.24	1.98	1.36	0.72	0.37	0.29	0.1	0.24	0.13	0.1	1.88
CaO	4.15	3.64	4.68	3.78	2.11	1.5	0.95	0.67	1.48	0.46	0.64	3.72
Na_2O	3.88	4.14	3.45	3.53	3.34	3.07	2.72	3.16	3.34	3.22	3.81	3.39
K_2O	3.15	3.52	3.00	3.95	4.51	4.66	5.03	5	4.42	4.92	4.81	3.7
P_2O_5	0.53	0.46	0.48	0.40	0.18	0.07	0.04	0.15	0.11	0.03	0.04	0.28
LOI	1.07	0.54	1.10	1.78	1.55	2.75	2.53	2.19	0.41	0.52	0.56	0.63
TOTAL	99.36	101.01	99.70	101.05	100.19	99.8	99.14	100.4	100.51	98.82	99.62	100.38
Ni	5	4	8	3	4	3	2	<1	2	<1	2	24
Cr	9	<1	4	2	3	2	7	2	2	<1	<1	51
Sc	17	11	20	15	7.7	5.0	3.3	2.7	4.3	4.4	3.5	14
V	114.19	71.38	165	74.9	43	24	10.2	<1	17.3	<1	<1	83.5
Ba	1136	1179	925	1302	1278	645	236	83	669	24	19	497
Rb	90	102	97	108	154	179	229	**295**	194	364	**355**	126
Sr	435	427	381	423	196	116	30	**14**	130	5	**12**	181
Zr	278	309	231	288	217	154	126	110	155	83	149	200
Y	38	40	37	39	30	26	50	64	22	76	73	37
Nb	21.8	23.4	13.4	22.2	13.2	11.5	12.8	14.9	11.2	16.4	24.2	16.3
Ga	22.3	22.4	21.5	22.1	17.4	15.5	19.8	21.5	17.5	23.1	25.9	19.3
Cu	14	13	115	11	8	22	9	6	9	11	8	21
Co	13	10	18	11	4	3	4	3	3	3	3	15
Zn	119	120	115	122	63	49	53	55	47	62	87	89
Pb	16	18	15	17	24	27	27	31	27	29	37	19
U	3.1	3.5	2.3	<1	6.3	9.4	<1	11	<1	<1	10	<1
Th	9.4	10	9.5	12	17	24	24	31	28	19	30	15
Cs	2.87	2.78	---	---	4.34	---	---	13.7	---	---	9.14	---
Hf	7.17	7.91	---	---	6.27	---	---	4.68	---	---	7.01	---
Ta	1.33	1.41	---	---	1.01	---	---	1.59	---	---	2.05	---
La	43.3	46.0	32.0	44.8	37.0	36.0	42.0	54.6	39.9	21.1	23.2	40.7
Ce	84.7	90.7	70.0	83.9	66.5	82.0	78.7	108.0	70.1	46.1	49.2	72.9
Pr	10.5	11.0	---	---	7.67	---	---	12.4	---	---	6.96	---
Nd	44	45	---	---	30	---	---	47	---	---	30	---
Sm	10.3	10.5	---	---	6.76	---	---	11.3	---	---	10.2	---
Eu	2.67	2.63	---	---	1.23	---	---	0.12	---	---	0.03	---
Gd	9.30	9.36	---	---	6.12	---	---	10.2	---	---	10.6	---
Tb	1.38	1.40	---	---	0.98	---	---	1.78	---	---	2.01	---
Dy	7.92	8.05	---	---	5.98	---	---	11.1	---	---	12.7	---
Ho	1.54	1.58	---	---	1.22	---	---	2.29	---	---	2.59	---
Er	3.92	4.11	---	---	3.35	---	---	6.36	---	---	7.22	---
Tm	0.54	0.58	---	---	0.51	---	---	0.96	---	---	1.11	---
Yb	3.24	3.55	---	---	3.18	---	---	5.98	---	---	7.12	---
Lu	0.50	0.56	---	---	0.53	---	---	0.90	---	---	1.08	---
$^{87}Sr/^{86}Sr_m$	0.705074	0.704876	---	---	---	---	---	0.706386	---	---	0.706973	---
$^{87}Sr/^{86}Sr_i$	0.704943	0.704724	---	---	---	---	---	*see notes	---	---	*see notes	---
$^{143}Nd/^{144}Nd_m$	0.512668	0.512672	---	---	---	---	---	0.512579	---	---	0.512609	---
$^{143}Nd/^{144}Nd_i$	0.512652	0.512657	---	---	---	---	---	0.512563	---	---	0.512587	---
epsilon Nd_i	0.7	0.8	---	---	---	---	---	-1.0	---	---	-0.6	---
$^{206}Pb/^{204}Pb$	19.01	19.02	---	---	---	---	---	19.13	---	---	19.14	---
$^{207}Pb/^{204}Pb$	15.61	15.63	---	---	---	---	---	15.63	---	---	15.65	---
$^{208}Pb/^{204}Pb$	38.71	38.77	---	---	---	---	---	38.82	---	---	38.85	---

Table 3. Representive major and trace element geochemical data for Santa Rosa-Calico units (continued).

Sample	MB01-40	MB00-32B	MB01-76	MB03-33	MB01-54A	MB01-54B	MB01-60A	MB03-45	MB01-56	MB03-46	MB03-10B	MB00-33
Pet. Unit	Tcm	Tcm	Tcm	Tcm	Tct	Tct	Tct	Tct	Tct	Tct	Tom	Tom
Map Unit	Tcm	Tcm	Tcm	Tcm	Tct	Tct	Tct	Tct	Tct	Tct	Tom	Tom
SiO_2	67.96	71.42	75.37	73.98	71.97	70.91	69.85	73.94	74.42	71.92	75.17	76.27
TiO_2	0.65	0.27	0.26	0.27	0.20	0.39	0.61	0.13	0.2	0.35	0.11	0.16
Al_2O3	13.9	12.87	13.36	13.81	12.99	13.76	14.37	13.26	13.25	13.89	12.15	11.84
Fe_2O_3	4.5	2.95	1.01	0.83	1.45	2.21	3.52	1.49	1.6	2.08	1.64	2.04
MnO	0.03	0.05	0.01	0.01	0.06	0.08	0.06	0.05	0.04	0.08	0.02	0.02
MgO	0.34	0.18	0.05	0.03	0.16	0.31	0.43	0.05	0.12	0.27	0.03	0.02
CaO	1.8	1.08	0.78	0.87	0.74	1.20	1.99	0.74	0.87	1.14	0.41	0.11
Na_2O	3.98	3.32	3.68	3.84	3.51	3.64	4.19	3.59	3.78	4.08	3.75	3.76
K_2O	4.33	5.15	5.19	5.17	5.32	5.02	4.2	5.03	5.22	4.65	4.90	4.82
P_2O_5	0.13	0.06	0.07	0.06	0.06	0.09	0.18	0.02	0.06	0.08	0.02	0.05
LOI	1.51	2.63	0.31	0.38	---	3.21	0.54	0.45	0.6	0.24	0.93	0.52
TOTAL	99.15	99.99	100.07	99.25	96.46	100.82	99.94	98.75	100.14	98.78	99.14	99.62
Ni	4	2	3	3	<1	1	3	3	2	3	3	2
Cr	<1	2	<1	<1		2	2	<1	<1	<1	<1	<1
Sc	7.7	3.7	5.2	7.0	5.4	7.6	8.0	6.0	4.8	7.0	2.0	<1
V	27	6	4	11	<1	2	21	9	2	12	5	14
Ba	1339	1663	1419	1535	1601	1660	1486	585	1357	1575	65	49
Rb	142	**162**	177	161	157	149	122	170	172	144	**237**	**241**
Sr	249	**88**	84	91	58	124	208	46	60	11	**8**	**6**
Zr	337	342	343	360	244	412	364	178	255	409	274	404
Y	38	35	36	38	47	42	43	31	46	44	56	53
Nb	23	18	18	17	9.1	19	18	15	19	18	33	49
Ga	21	20	22	19	---	18	19	16	18	17	22	25
Cu	13	9	6	137	---	6	7	<2	6	<2	<2	18
Co	6	2	3	2	---	2	2	<1	2	2	2	1
Zn	89	70	49	50	93	70	89	53	61	77	93	100
Pb	21	26	26	26	---	25	22	25	25	25	47	21
U	<1	5.6	<1	5.3	---	6.8	<1	5.2	<1	6.7	9.3	7.3
Th	17	17	18	17	---	18	17	19	20	18	29	26
Cs	---	5.36	---	---	---	3.94	---	3.86	---	2.74	6.95	6.28
Hf	---	9.48	---	---	---	10.4	---	5.95	---	9.94	10.2	12.9
Ta	---	1.22	---	---	---	1.25	---	1.16	---	1.27	2.96	2.88
La	49.0	46.1	59.5	43.0	---	42.1	38.8	52.7	41.3	42.4	66.5	66.5
Ce	88.2	86.6	86.9	93.0	---	79.5	69.7	82.6	73.8	78.7	129.4	137.0
Pr	---	9.92	---	---	---	9.07	---	11.1	---	9.10	14.2	14.8
Nd	---	39.0	---	---	---	35.9	---	41.7	---	35.7	54.0	56.1
Sm	---	8.85	---	---	---	8.31	---	8.44	---	8.21	11.9	12.0
Eu	---	1.28	---	---	---	1.57	---	1.02	---	1.59	0.20	0.25
Gd	---	7.75	---	---	---	7.73	---	6.51	---	7.5	9.93	9.82
Tb	---	1.25	---	---	---	1.27	---	1.02	---	1.26	1.64	1.61
Dy	---	7.54	---	---	---	7.93	---	5.99	---	7.77	9.67	9.56
Ho	---	1.49	---	---	---	1.64	---	1.18	---	1.62	1.88	1.90
Er	---	4.05	---	---	---	4.69	---	3.30	---	4.55	5.08	5.24
Tm	---	0.59	---	---	---	0.71	---	0.50	---	0.71	0.76	0.77
Yb	---	3.72	---	---	---	4.56	---	3.23	---	4.57	4.72	4.85
Lu	---	0.58	---	---	---	0.75	---	0.50	---	0.74	0.71	0.76
$^{87}Sr/^{86}Sr_m$	---	0.705371	---	---	---	0.706043	---	---	---	---	0.705829	0.705939
$^{87}Sr/^{86}Sr_i$	---	*see notes	---	---	---	0.705327	---	---	---	---	*see notes	*see notes
$^{143}Nd/^{144}Nd_m$	---	0.512637	---	---	---	0.512686	---	---	---	---	0.512688	0.512677
$^{143}Nd/^{144}Nd_i$	---	0.512622	---	---	---	0.512670	---	---	---	---	0.512673	0.512663
epsilon Nd_i	---	0.1	---	---	---	1.1	---	---	---	---	1.1	0.9
$^{206}Pb/^{204}Pb$	---	19.06	---	---	---	19.21	---	---	---	---	19.02	19.03
$^{207}Pb/^{204}Pb$	---	15.62	---	---	---	15.66	---	---	---	---	15.62	15.62
$^{208}Pb/^{204}Pb$	---	38.76	---	---	---	38.91	---	---	---	---	38.73	38.77

Table 3. Representive major and trace element geochemical data for Santa Rosa-Calico units (continued).

Sample	MB01-27	MB02-41	MB01-73	MB02-31B	MB00-8	MB00-2	MB02-46	MB02-55	MB02-63B	MB03-26A	MB03-26F	MB03-36A
Pet. Unit	Tom	Tem	Tem	Tem	Thc	Thc	Thc	Tcst	Tcst	Tcst	Tcst	Tcst
Map Unit	Tom	Tem	Tem	Tem	Thc	Thc	Thc	Tgl	Tgl	Tgl	Tgl	Tgl
SiO_2	73.65	69.81	72.99	64.21	67.05	70.48	75.45	68.08	72.92	75.24	70.98	70.09
TiO_2	0.18	0.44	0.28	0.38	0.69	0.44	0.18	0.45	0.32	0.32	0.33	0.35
Al_2O3	11.90	15.62	14.87	14.36	14.16	13.83	12.56	13.32	12.23	12.47	12.06	12.53
Fe_2O_3	2.15	1.52	1.09	4.36	4.52	2.88	1.1	3.73	2.61	1.28	3.24	2.98
MnO	0.03	0.01	0.01	0.11	0.09	0.05	0.02	0.07	0.05	0.01	0.06	0.06
MgO	0.07	0.07	0.03	0.43	1.4	0.34	0.15	0.45	0.06	0.08	0.25	0.44
CaO	0.54	1.75	0.95	1.95	2.51	0.99	0.54	2.24	0.83	0.45	0.90	1.22
Na_2O	2.89	4.52	4.2	3.45	3.85	3.95	3.61	3.24	2.77	3.53	2.65	2.39
K_2O	5.94	4.74	5.27	4.51	4.29	5.17	5.19	5.35	6.08	5.51	5.66	5.73
P_2O_5	0.03	0.13	0.05	0.20	0.23	0.08	0.04	0.10	0.04	0.05	0.06	0.23
LOI	2.43	0.36	0.08	---	0.6	0.29	0.33	2.70	2.71	0.44	2.88	3.44
TOTAL	99.81	98.95	99.83	93.96	99.4	98.51	99.16	99.73	100.62	99.38	99.07	99.46
Ni	2	2	2	5	16	7	3	5	3	<1	3	4
Cr	5	<1	<1	<1	2	49	<1	5	<1	<1	<1	<1
Sc	<1	9.1	8.9	10	12	8.4	4.0	4.4	3.3	5.0	4.0	6.0
V	<1	8	4	13	49	16	<1	16	2	11	13	18
Ba	55	1173	1918	1875	3792	1376	240	2188	1148	1235	1185	1095
Rb	**219**	155	173	131	114	130	186	**156**	192	**185**	181	172
Sr	**5**	234	142	229	104	24	9	**119**	44	**45**	50	62
Zr	455	307	333	305	378	561	212	600	632	668	664	531
Y	60	32	33	43	44	45	42	70	98	93	95	74
Nb	31.6	17.7	17.7	16.4	16.5	19.2	20.7	40.6	62.3	51.3	48.5	41.7
Ga	24.1	20.9	21.2	18.4	16.8	18.2	17.8	21.0	23.3	22.4	21.3	20.0
Cu	7	8	5	<2	25	12	6	16	8	<2	<2	62
Co	2	3	2	3	7	3	1	4	2	2	2	3
Zn	107	63	107	93	87	97	57	87	117	97	116	84
Pb	32	24	23	20	19	23	26	24	28	30	29	29
U	8.1	<1	5.6	5.1	<1	<1	<1	4.6	<1	5.7	5.7	6.8
Th	22	15	15	14	16	16	23	19	25	24	23	24
Cs	7.33	---	3.86	5.21	---	---	---	3.41	---	2.83	---	---
Hf	12.5	---	8.61	7.86	---	---	---	16.6	---	18.4	---	---
Ta	2.17	---	1.15	1.09	---	---	---	2.28	---	3.38	---	---
La	62.6	48.0	48.9	44.5	42.9	41.8	55.2	70.9	100.0	100.7	89.0	86.0
Ce	120.6	67.9	88.8	79.3	76.6	57.3	80.2	133.7	149.5	178.0	191.0	182.0
Pr	13.8	---	10.4	9.81	---	---	---	15.0	---	21.8	---	---
Nd	54.1	---	41.5	38.9	---	---	---	58.5	---	85.1	---	---
Sm	12.2	---	9.50	8.99	---	---	---	13.1	---	19.3	---	---
Eu	0.28	---	1.71	1.79	---	---	---	2.57	---	1.9	---	---
Gd	10.8	---	8.53	8.24	---	---	---	12.1	---	17.7	---	---
Tb	1.75	---	1.37	1.34	---	---	---	2.02	---	3.00	---	---
Dy	10.6	---	7.95	8.22	---	---	---	12.6	---	18.5	---	---
Ho	2.13	---	1.53	1.66	---	---	---	2.55	---	3.71	---	---
Er	5.78	---	4.01	4.60	---	---	---	7.04	---	10.2	---	---
Tm	0.85	---	0.58	0.68	---	---	---	1.06	---	1.49	---	---
Yb	5.32	---	3.56	4.32	---	---	---	6.56	---	9.14	---	---
Lu	0.83	---	0.53	0.69	---	---	---	1.02	---	1.38	---	---
$^{87}Sr/^{86}Sr_m$	0.705110	---	0.705713	0.705685	---	---	---	0.706918	---	0.706424	---	---
$^{87}Sr/^{86}Sr_i$	*see notes	---	0.705009	0.705349	---	---	---	0.706080	---	*see notes	---	---
$^{143}Nd/^{144}Nd_m$	0.512764	---	0.512670	0.512682	---	---	---	0.512429	---	0.512476	---	---
$^{143}Nd/^{144}Nd_i$	0.512634	---	0.512655	0.512667	---	---	---	0.512415	---	0.512462	---	---
epsilon Nd_i	0.4	---	0.8	1.0	---	---	---	-3.9	---	-3.0	---	---
$^{206}Pb/^{204}Pb$	19.024	---	19.08	19.10	---	---	---	18.72	---	18.71	---	---
$^{207}Pb/^{204}Pb$	15.616	---	15.62	15.65	---	---	---	15.64	---	15.61	---	---
$^{208}Pb/^{204}Pb$	38.710	---	38.74	38.84	---	---	---	39.10	---	38.97	---	---

Table 3. Representive major and trace element geochemical data for Santa Rosa-Calico units (continued).

Sample	MB00-23	MB03-23	MB00-27	MB00-21B	MB00-38D	MB02-17A	MB02-57A1	MB02-57B	MB02-58A	MB02-58B	MB02-58C	MB02-69
Pet. Unit	Tp1	Tp1	Tp1	Tp2	Tp2	Tp2	Tp2	Tp2	Tp2	Tp2	Tp2	Tp2
Map Unit	Tgl	Tgl	Tgl	Tgl	Tom	Tsed	Tsed	Tsed	Tsed	Tsed	Tsed	Tgl
SiO_2	75.16	73.67	75.27	70.90	67.73	72.07	68.08	70.58	69.59	69.07	67.20	69.95
TiO_2	0.31	0.32	0.36	0.29	0.48	0.23	0.33	0.20	0.19	0.33	0.34	0.35
Al_2O3	11.84	12.01	12.67	11.53	11.93	11.06	11.86	11.05	10.86	11.22	11.03	11.48
Fe_2O_3	2.95	2.70	2.04	2.83	4.37	1.95	3.10	2.37	2.36	3.57	3.91	3.39
MnO	0.02	0.03	0.02	0.05	0.06	0.10	0.06	0.04	0.04	0.07	0.08	0.06
MgO	0.14	0.19	0.04	0.05	0.24	0.09	0.21	0.01	0.01	0.14	0.11	0.09
CaO	0.30	0.26	0.17	0.76	1.55	0.26	1.18	0.45	0.45	1.04	1.16	1.01
Na_2O	4.14	4.11	4.32	2.96	2.58	1.87	2.08	2.73	2.78	2.73	2.93	2.71
K_2O	5.02	5.01	5.20	4.87	4.60	6.27	4.75	5.82	5.52	4.76	4.54	4.90
P_2O_5	0.06	0.03	0.04	0.03	0.08	0.15	0.01	0.02	0.04	0.08	0.01	0.20
LOI	0.82	1.12	0.44									
TOTAL	100.75	99.47	100.56	94.26	93.62	94.04	91.66	93.27	91.85	92.99	91.32	94.14
Ni	2	2	2	3	4	<1	3	3	29	2	6	<1
Cr	<1	<1	4	8	---	---	---	9	41	5	4	---
Sc	1.5	<1	1.7	5.3	7.3	5.6	7.4	<1	<1	6.8	7.6	6.3
V	6	11	15	---	12	<1	---	---	---	---	---	<1
Ba	256	370	263	1373	1204	107	1658	727	709	1350	1405	1283
Rb	185	199	185	145	150	217	133	104	126	140	136	148
Sr	14	6	9	55	135	5	120	8	8	83	90	81
Zr	418	491	398	396	376	445	373	581	564	422	484	318
Y	57	82	69	51	49	78	52	106	104	59	69	48
Nb	25	27	24	17	11	16	13	34	35	26	27	6.4
Ga	25	24	25	---	---	---	---	---	---	---	---	---
Cu	8	<2	7	---	---	---	---	---	---	---	---	---
Co	2	2	3	---	---	---	---	---	---	---	---	---
Zn	129	171	110	99	98	117	98	169	154	98	114	93
Pb	17	29	24	---	---	---	---	---	---	---	---	---
U	<1	9.0	<1	---	---	---	---	---	---	---	---	---
Th	19	19	18	---	---	---	---	---	---	---	---	---
Cs	---	---	---	---	---	---	---	---	---	---	---	---
Hf	---	---	---	---	---	---	---	---	---	---	---	---
Ta	---	---	---	---	---	---	---	---	---	---	---	---
La	45	56	53	---	---	---	---	---	---	---	---	---
Ce	71	114	73	---	---	---	---	---	---	---	---	---
Pr	---	---	---	---	---	---	---	---	---	---	---	---
Nd	---	---	---	---	---	---	---	---	---	---	---	---
Sm	---	---	---	---	---	---	---	---	---	---	---	---
Eu	---	---	---	---	---	---	---	---	---	---	---	---
Gd	---	---	---	---	---	---	---	---	---	---	---	---
Tb	---	---	---	---	---	---	---	---	---	---	---	---
Dy	---	---	---	---	---	---	---	---	---	---	---	---
Ho	---	---	---	---	---	---	---	---	---	---	---	---
Er	---	---	---	---	---	---	---	---	---	---	---	---
Tm	---	---	---	---	---	---	---	---	---	---	---	---
Yb	---	---	---	---	---	---	---	---	---	---	---	---
Lu	---	---	---	---	---	---	---	---	---	---	---	---
$^{87}Sr/^{86}Sr_m$	---	---	---	---	---	---	---	---	---	---	---	---
$^{87}Sr/^{86}Sr_i$	---	---	---	---	---	---	---	---	---	---	---	---
$^{143}Nd/^{144}Nd_m$	---	---	---	---	---	---	---	---	---	---	---	---
$^{143}Nd/^{144}Nd_i$	---	---	---	---	---	---	---	---	---	---	---	---
epsilon Nd_i	---	---	---	---	---	---	---	---	---	---	---	---
$^{206}Pb/^{204}Pb$	---	---	---	---	---	---	---	---	---	---	---	---
$^{207}Pb/^{204}Pb$	---	---	---	---	---	---	---	---	---	---	---	---
$^{208}Pb/^{204}Pb$	---	---	---	---	---	---	---	---	---	---	---	---