

Table 1. K-Ar age compilation for rocks collected in southern California

Sample No.	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location (lat, long)	Quadrangle	Rock description
P1-3	--	--	--	--	--	--	Lakeview 7.5'	Lakeview Mountains pluton. Mafic segregations in outer margin. Not dated.
P2-3	Biotite	87.8	8.29	81	Unpublished	117° 04' 57" 33° 47' 05"	Cadiz 15'	Lakeview Mountains pluton. Representative of main tonalite rock type.
P3-3	--	--	--	--	--	--	--	Mylonite at mouth of Palm Canyon. Not dated.
P4-3	Biotite	59.9	9.58	92	Unpublished	116° 29' 20" 33° 47' 28"	Cathedral City 7.5'	Cataclasized granitic rock. 1.5 miles north of Cathedral Canyon Drive on California Highway 111.
P5-3	--	---	--	--	--	--	--	Sam Sims pluton. Intersection of Pinyon Crest Road and Pines-to-Palms Highway.
P6-3	--	--	--	--	--	--	--	Sam Sims pluton. 1.0 miles east of Pinyon Flat turnoff. Not dated.
P7-3	Whole rock	70.2	3.83	97	Unpublished	116° 28' 42" 33° 34' 43"	Toro Peak 7.5'	Ultramylonite. 1.4 miles west of Pinyon Flat.
P8-3	--	--	--	--	--	--	Toro Peak 7.5'	Mylonite. 1.4 miles west of Pinyon Flat. Sample for whole-rock age. Not dated.
P9-3	--	--	--	--	--	--	--	Plutonic rock west of main mylonite on Pines-to-Palms Highway. Not dated.
P10-3	--	--	--	--	--	--	--	Thomas Sill. East side of the San Jacinto Fault. Not dated.
P11-3	--	--	--	--	--	--	--	Thomas Sill. West side of the San Jacinto Fault. Not dated.
P1-5	Biotite	100	8.98	93	Published	117° 31' 34" 33° 55' 53"	Corona North 7.5'	Biotite-hornblende tonalite-quartz diorite; unnamed pluton.
P2-5	Biotite	97.3	9.17	95	Published	117° 29' 55" 34° 1' 51"	Fontana 7.5'	Biotite- hornblende tonalite; unnamed pluton.
P3-5	Biotite	103	9.45	95	Published	117° 24' 56" 34° 1' 8"	Fontana 7.5'	Biotite- hornblende tonalite; unnamed pluton.
P4-5	Biotite	86.7	9.53	89	Published	117° 7' 57" 33° 54' 32"	Sunnymead 7.5'	Biotite- hornblende granodiorite; unnamed pluton; foliated, part of generic biotite- hornblende granodiorite unit.
P5-5R	Biotite	89.7	9.42	93	Published	117° 12' 25" 33° 51' 58"	Perris 7.5'	Biotite- hornblende tonalite; unnamed pluton; part of generic biotite- hornblende tonalite unit.
P6-5	Biotite	85.4	9.01	89	Published	117° 2' 17" 33° 47' 47"	Lakeview 7.5'	Biotite- hornblende granodiorite; unnamed pluton; part of generic biotite- hornblende granodiorite unit.
P7-5	Biotite	96.4	9.22	94	Published	117° 9' 38" 33° 43' 15"	Romoland 7.5'	Biotite- hornblende tonalite; Domenigoni Valley pluton; isotropic texture.
P8-5	Biotite	95.9	9.28	94	Published	117° 12' 19" 33° 40' 31"	Romoland 7.5'	Biotite- hornblende tonalite; Domenigoni Valley pluton; isotropic texture.
P9-5	Biotite	109	8.72	89	Published	117° 16' 59" 33° 38' 53"	Elsinore 7.5'	Biotite granodiorite; Paloma Valley Ring Complex.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
P10-5	Biotite	109	8.79	90	Published	117° 20' 55" 33° 44' 22"	Elsinore 7.5'	Biotite granodiorite; Arroyo del Toro pluton.
P11-5	Biotite	99.7	9.39	93	Published	117° 18' 37" 33° 47' 0"	Steele Peak 7.5'	Biotite- hornblende -hypersthene monzogranite; Gavilan Ring Complex.
P12-5	Biotite	94.7	9.44	91	Published	117° 15' 52" 33° 49' 38"	Steele Peak 7.5'	Biotite- hornblende tonalite; Val Verde pluton.
P13-5	Biotite	86.8	8.85	91	Published	117° 2' 34" 33° 52' 12"	Lakeview 7.5'	Biotite- hornblende tonalite; crudely foliated and somewhat migmatitic appearing; unnamed pluton.
P14-5	Biotite	87.9	9.06	93	Published	116° 58' 28" 33° 49' 29"	San Jacinto 7.5'	Biotite- hornblende tonalite; crudely foliated; unnamed pluton.
P15-5	Biotite	89.8	9.25	90	Published	116° 55' 25" 33° 43' 54"	Hemet 7.5'	Biotite- hornblende granodiorite; common large sphene crystals; Hemet pluton.
P16-5	Biotite	91.3	9.15	93	Published	116° 58' 11" 33° 40' 16"	Hemet 7.5'	Biotite- hornblende granodiorite; interleaved with metasedimentary rocks of Meniffee Valley.
P17-5	Biotite	89.6	9.47	90	Published	117° 5' 47" 33° 34' 35"	Bachelor Mtn 7.5'	Biotite granodiorite; isotropic texture; unnamed pluton.
P18-5	Biotite	91.1	8.72	77	Published	117° 4' 58" 33° 38' 23"	Winchester 7.5'	Biotite- hornblende tonalite; isotropic texture; Domenigoni Valley pluton.
P19-5	Biotite	92.9	9.35	94	Published	117° 22' 15" 33° 54' 28"	Riverside East 7.5'	Biotite- hornblende tonalite; crudely foliated; Val Verde pluton.
P20-5	Biotite	104	9.22	95	Published	117° 27' 27" 33° 51' 4"	Lake Mathews 7.5'	Biotite monzogranite; isotropic; relatively fine grained; Cajalco pluton.
P21-5	Biotite	102	9.24	86	Published	117° 26' 44" 33° 58' 57"	Riverside West 7.5'	Biotite- hornblende tonalite-quartz diorite; unnamed pluton.
P22-5	Biotite	108	8.46	93	Published	117° 30' 51" 33° 50' 23"	Corona South 7.5'	Biotite granodiorite; isotropic; unnamed pluton.
P23-5	Biotite	89.5	9.35	95	Published	117° 20' 38" 34° 3' 50"	San Bernardino South 7.5'	Biotite- hornblende tonalite; near contact with marble, Slover Mountain; unnamed pluton.
P24-5	Biotite	82.2	8.96	82	Published	117° 13' 29" 33° 59' 14"	Sunnymead 7.5'	Biotite granodiorite; crudely foliated; Box Springs Mountains plutonic complex.
P25-5	Biotite	92.4	9.26	90	Published	117° 18' 15" 33° 57' 22"	Riverside East 7.5'	Biotite- hornblende tonalite; crudely foliated; unnamed pluton.
P26-5	Biotite	95.1	8.98	93	Published	117° 23' 17" 33° 59' 4"	Riverside West 7.5'	Biotite- hornblende -hypersthene-fayalite granite; isotropic; granite of Mount Rubidoux.
P27-5	Biotite	86.3	9.29	90	Published	116° 59' 8" 33° 53' 58"	Beaumont 7.5'	Biotite- hornblende tonalite; sphene bearing; tonalite of Lamb Canyon.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
P28-5	Biotite	86.1	9.39	95	Published	116° 54' 10" 33° 53' 47"	Beaumont 7.5'	Biotite- hornblende tonalite; sphene bearing; unnamed pluton.
P29-5	Biotite	81.1	9.33	92	Published	116° 51' 49" 33° 54' 22"	Cabazon 7.5'	Biotite- hornblende tonalite; sphene bearing; unnamed pluton.
P30-5	Biotite	85.5	9.37	93	Published	116° 49' 12" 33° 51' 11"	Lake Fulmor 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P31-5	Biotite	83.0	9.02	94	Published	116° 46' 46" 33° 48' 5"	Lake Fulmor 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P32-5	Biotite	86.3	9.59	97	Published	116° 44' 7" 33° 44' 59"	San Jacinto Peak 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P33-5	Biotite	86.9	9.59	97	Published	116° 45' 59" 33° 42' 12"	Blackburn Canyon 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P34-5	Biotite	78.6	9.57	88	Published	116° 43' 32" 33° 51' 42"	San Jacinto Peak 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P35-5	Biotite	72.8	9.26	85	Published	116° 41' 56" 33° 54' 11"	Whitewater 7.5'	Biotite- hornblende tonalite; sphene bearing; unnamed pluton.
P36-5	Biotite	70.7	8.69	92	Published	116° 38' 33" 33° 52' 51"	Whitewater 7.5'	Biotite- hornblende tonalite; sphene bearing; unnamed pluton.
P37-5	Biotite	71.2	9.09	92	Published	116° 38' 24" 33° 48' 32"	San Jacinto Peak 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P38-5	Biotite	68.0	9.29	90	Published	116° 34' 35" 33° 48' 44"	Palm Springs 7.5'	Biotite- hornblende tonalite; foliated; unnamed pluton.
P39-5	Biotite	73.0	9.12	94	Published	116° 35' 31" 33° 46' 8"	Palm Springs 7.5'	Biotite- hornblende tonalite; foliated; unnamed pluton.
P40-5	Biotite	88.0	9.45	96	Published	116° 48' 19" 33° 45' 27"	Lake Fulmor 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P41-5	Biotite	86.2	9.43	89	Published	116° 51' 39" 33° 47' 56"	Lake Fulmor 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P42-5	Biotite	87.7	9.57	95	Published	116° 55' 18" 33° 51' 4"	San Jacinto 7.5'	Biotite- hornblende tonalite; sphene bearing; San Jacinto pluton.
P43-5	Biotite Biotite Biotite	82.2 80.9 80.0	9.40 9.40 9.40	92 77 94	Unpublished	116° 47' 51" 33° 53' 16"	Cabazon 7.5'	Not used in this report because of a possible sample mix-up with sample P48-5, although quite certain of identification. Shown on sample locality map.
P44-5	Biotite	101	9.22	94	Published	117° 17' 49" 33° 35' 58"	Wildomar 7.5'	Biotite granodiorite; isotropic; unnamed pluton.
P45-5	Biotite	103	9.27	90	Published	117° 16' 29" 33° 32' 13"	Wildomar 7.5'	Tonalite of Slaughterhouse Canyon.
P46-5	Biotite Biotite	109 107	8.85 8.85	91 92	Published	117° 21' 32" 33° 30' 17"	Wildomar 7.5'	Biotite granodiorite; isotropic; unnamed pluton.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
P47-5	Biotite Biotite	114 115	8.97 8.97	93 94	Published	117° 25' 55" 33° 30' 1"	Sitton Peak 7.5'	Biotite granodiorite; isotropic; unnamed pluton; Woodson Mountain granodiorite type.
P48-5	Biotite	128	8.11	98	Unpublished	117° 30' 26" 33° 35' 31"	Cañada Gobernadora 7.5'	Biotite granodiorite; isotropic; unnamed pluton; Woodson Mountain granodiorite type. Not used in report because of a possible sample mix-up with sample P43-5, although quite certain of identification.
P49-5	Biotite	114	8.07	94	Published	117° 26' 32" 33° 36' 58"	Sitton Peak 7.5'	Biotite granodiorite; isotropic; unnamed pluton.
P50-5	Biotite	109	9.06	79	Published	117° 23' 16" 33° 39' 19"	Alberhill 7.5'	Biotite granodiorite; isotropic; unnamed pluton.
P51-5	Biotite	116	9.02	96	Published	117° 31' 9" 33° 42' 54"	Santiago Peak 7.5'	Biotite granodiorite; isotropic; unnamed pluton; Woodson Mountain granodiorite type.
P52-5	Biotite	110	8.76	93	Published	117° 28' 19" 33° 43' 16"	Alberhill 7.5'	Biotite granodiorite; isotropic; unnamed pluton; Woodson Mountain granodiorite type.
P1-6	Biotite	63.4	9.40	87	Published	116° 17' 52" 33° 42' 54"	La Quinta 7.5'	Biotite- hornblende tonalite; crudely foliated; sphene bearing; common epidote; allochthonous part of the batholith; unnamed pluton; easternmost site in the northern Peninsular Ranges batholith at Point Happy.
P2-6	Biotite	65.6	9.25	91	Published	116° 22' 55" 33° 40' 6"	Rancho Mirage 7.5'	Biotite- hornblende tonalite; crudely foliated; sphene bearing; common epidote; allochthonous part of the batholith; unnamed pluton.
P3-6	Biotite	61.3	9.56	90	Published	116° 28' 27" 33° 43' 26"	Rancho Mirage 7.5'	
P4-6	Biotite	66.9	9.48	76	Published	116° 27' 12" 33° 37' 41"	Toro Peak 7.5'	Biotite- hornblende tonalite; foliated; common large euhedral sphene; allochthonous part of the batholith; tonalite of Asbestos Mountain.
P5-6	Biotite	80.0	9.53	91	Published	116° 35' 15" 33° 33' 49"	Butterfly Peak 7.5'	Biotite quartz monzonite; foliated; unnamed pluton.
P6-6	Biotite	84.4	9.21	92	Published	116° 37' 43" 33° 33' 27"	Anza 7.5'	Biotite- hornblende tonalite; crudely foliated; Coahuila Valley pluton.
P7-6	Biotite	83.5	9.05	91	Published	116° 36' 52" 33° 39' 42"	Palm View Peak 7.5'	Biotite- hornblende tonalite; crudely foliated; unnamed pluton.
P8-6	Biotite	84.8	9.21	91	Published	116° 42' 19" 33° 37' 58"	Idyllwild 7.5'	Biotite- hornblende tonalite; large euhedral sphene; Thomas Mountain pluton.
P9-6	Biotite	81.4	8.93	83	Published	116° 42' 25" 33° 29' 16"	Beauty Mtn 7.5'	Biotite- hornblende tonalite; crudely foliated; Coahuila Valley pluton.
P10-6	Biotite	84.7	9.41	90	Published	116° 49' 19" 33° 34' 36"	Cahuilla Mtn 7.5'	Biotite- hornblende tonalite; crudely foliated; Coahuila Valley pluton.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
P11-6	Biotite	91.5	9.31	90	Published	116° 57' 47" 33° 32' 37"	Sage 7.5'	Biotite- hornblende tonalite; Tucalota Valley pluton.
P12-6	Biotite	90.1	9.19	95	Published	116° 47' 48" 33° 24' 48"	Aguanga 7.5'	Biotite- hornblende tonalite; Coahuila Valley pluton.
P13-6	Biotite	89.4	9.35	94	Published	116° 54' 38" 33° 21' 5"	Boucher Hill 7.5'	Biotite- hornblende tonalite; unnamed pluton.
P14-6	Biotite	88.0	8.81	82	Published	116° 55' 18" 33° 28' 4"	Vail Lake 7.5'	Biotite- hornblende tonalite; unnamed pluton.
P15-6	Biotite	94.8	8.91	92	Published	117° 5' 42" 33° 24' 51"	Pechanga 7.5'	Biotite granodiorite; Woodson Mountain type granodiorite; unnamed pluton.
P16-6	Biotite	98.4	9.31	87	Published	117° 3' 19" 33° 16' 56"	Pala 7.5'	Biotite granodiorite; unnamed pluton.
P17-6	Biotite	105	9.19	93	Published	117° 9' 35" 33° 13' 4"	San Marcos 7.5'	Biotite- hornblende tonalite; unnamed pluton.
P18-6	--	--	--	--	--	--	--	Sample discarded
P19-6	Biotite	107	8.44	91	Published	117° 17' 35" 33° 16' 3"	Morro Hill 7.5'	Biotite- hornblende tonalite; unnamed pluton.
P25-6	Biotite	108	8.28	89	Unpublished	117° 5' 17" 33° 3' 29"	Escondido 7.5'	Biotite- hornblende tonalite; unnamed pluton.
P1-7	Biotite	94.2	Data lost	Data lost	Published	117° 10' 13" 33° 37' 25"	Murrieta 7.5'	Hornblende -biotite granodiorite. Medium- to fine-grained. Nonfoliate, nonlineate. Color index ~15.
P2-7	Biotite	104	8.78	81	Published	117° 10' 2" 33° 19' 23"	Bonsall 7.5'	Granodiorite. Medium- to fine-grained. Foliate. Color index ~10.
P3-7	Biotite	106	8.58	90	Published	117° 16' 2" 33° 15' 33"	Morro Hill 7.5'	Hornblende -biotite granodiorite. Medium-grained. Numerous inclusions, some in sample.
P1-8	Biotite Hbld	104 102	?? 0.922	?? 68	Unpublished	117° 33' 3" 33° 55' 9"	Corona North 7.5'	Hornblende -biotite quartz diorite. Medium-grained, seriate. Slightly lineate. Hornblende much more abundant than biotite.
P2-8	Biotite	84.2	8.61	79	Unpublished	117° 30' 38" 33° 57' 10"	Corona North 7.5'	Biotite monzogranite, coarse-grained. Structureless, isotropic or massive. Deeply weathered. This may be a bad age, because of weathering of rock. Not plotted on either map.
P3-8	Biotite Hbld	93.6 93.1	9.31 1.089	88 73	Unpublished	117° 23' 3" 34° 1' 11"	Fontana 7.5'	Hornblende -biotite quartz diorite. Medium-grained, slightly foliate.
PA-6	Biotite	96.5	8.59	95	Published	117° 46' 16" 34° 2' 37"	San Dimas 7.5'	Biotite- hornblende tonalite; unnamed pluton. Elephant Hill in Pomona area.
LKV Std.	Biotite	92.4	9.27	83	Published	117° 6' 57" 33° 45' 25"	Lakeview 7.5'	Lakeview Mountains pluton.
Ncl-Mc#1	Biotite Hbld	108 103	8.55 0.428	88 64	Published	117° 36' 46" 33° 55' 53"	Corona North 7.5'	Biotite- hornblende tonalite; subsurface core sample.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
T1-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T2-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T3-3	Biotite	12.4	8.56	30	Unpublished	117° 33' 59" 34° 16' 1"	Telegraph Peak 7.5'	Biotite granodiorite. Medium- to coarse-grained. Equigranular, nonporphyritic. Sphene bearing. Part of Oligocene Telegraph Peak pluton Lytle Creek area(?).
T4-3	Biotite Hbld	71.0 69.0	9.16 1.070	93 81	Published	117° 29' 44" 34° 12' 13"	Devore 7.5'	Biotite- hornblende tonalite; unnamed pluton. Above Devore 1 (see unnumbered samples near end of this list).
T5-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T6-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T7-3	Biotite	14.4	8.94	74	Published	117° 32' 0" 34° 15' 18"	Telegraph Peak 7.5'	Biotite granodiorite. Medium- to coarse-grained. Equigranular, nonporphyritic. Sphene bearing. Part of Oligocene Telegraph Peak pluton.
T8-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T9-3	Hbld	56.3	1.399	81	Unpublished	Data lost	Data lost	Data lost
T10-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T11-3	Biotite	14.9	8.78	56	Published	Data lost	Data lost	Biotite granodiorite. Medium- to coarse-grained. Equigranular, nonporphyritic. Sphene bearing. Part of Telegraph Peak pluton.
T12-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T13-3	Whole rock	69.5	1.763	84	Unpublished	117° 36' 50" 34° 12' 14"	Cucamonga Peak 7.5'	Mylonite from "Black Belt" mylonite zone in southern San Gabriel Mts.
T14-3	Whole rock	69.9	2.102	86	Unpublished	117° 37' 24" 34° 11' 6"	Cucamonga Peak 7.5'	Mylonite from "Black Belt mylonite zone in southern San Gabriel Mts.
T15-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T16-3	Hbld	3.16	1.084	17	Unpublished	117° 36' 2" 34° 15' 36"	Telegraph Peak 7.5'	Dike cutting Oligocene Telegraph Peak pluton (young age is not a typo).
T17-3	--	--	--	--	--	--	--	Sample discarded or information lost.
T18-3	Biotite	19.0	8.52	81	Published	117° 36' 8" 34° 15' 25"	Telegraph Peak 7.5'	Biotite granodiorite. Medium- to fine-grained. Equigranular, nonporphyritic. Sphene bearing. Chilled border of Telegraph Peak pluton.
T19-3	Biotite Hbld	71.4 67.1	9.43 1.810	94 77	Published	117° 34' 58" 34° 16' 19"	Telegraph Peak 7.5'	Deformed rock from upper plate, just above Vincent Thrust.
T20-3	Biotite	14.4	8.88	45	Published	117° 33' 5" 34° 16' 16"	Telegraph Peak 7.5'	Biotite granodiorite. Medium- to coarse-grained. Equigranular, nonporphyritic. Sphene bearing. Part of Telegraph Peak pluton.
T21-3	Biotite	81.3	9.33	90	Published	117° 7' 38" 34° 23' 26"	Apple Valley South 7.5'	Biotite monzogranite. Porphyritic. Part of Rattlesnake Pluton.
T1-4	Biotite Hbld Hbld	70.0 66.5 65.4	9.11 0.883 0.883	85 73 74	Published	117° 27' 9" 34° 17' 57"	Cajon 7.5'	Hornblende -biotite granodiorite; abundant sphene. Subtle to prominent foliation; appears to be primary. Segregations of more leucocratic rock common. Porphyritic locally. Unit mostly deeply weathered, but is relatively unweathered at collection site.

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T2-4	Biotite Biotite	70.5 70.7	8.05 8.05	94 93	Published	117° 20' 44" 34° 18' 32"	Silverwood Lake 7.5'	Hornblende -biotite granodiorite; porphyritic; abundant sphene. Dark gray rock, medium-grained, phenocrysts moderately rounded. Similar to rock at T1-4, but uniformly porphyritic here.
T3-4	Biotite	69.3	8.41	92	Published	117° 16' 33" 34° 18' 40"	Silverwood Lake 7.5'	Leucocratic biotite monzogranite. Medium-grained; non-foliate. Slightly porphyritic; phenocrysts less than 3 cm and very sparse. No Hbld. Trace of muscovite, but small and probably secondary. Most of unit is deeply weathered, but sample here, less so.
T4-4	--	--	--	--	--	--	Big Bear City 7.5'	Garnet-bearing muscovite alaskite. Very fresh, unweathered. Dike-form body intruding monzogranite of Cactus Flat. Not dated.
T5-4	Biotite Musco vite	68.5 72.7	9.48 ??	92 ??	Published	116° 49' 43" 34° 19' 52"	Big Bear City 7.5'	Biotite monzogranite. Medium grained, moderately foliate. Has slightly ragged looking fabric suggesting some cataclasis and grain-size-reduction. No hornblende, sphene, or muscovite seen in hand specimen. Probable monzogranite of Cactus Flat.
T6-4	--	--	--	--	--	--	Moonridge 7.5'	Baldwin Gneiss. Paragneiss; thoroughly recrystallized. Sample taken from biotite-rich layer. Not dated.
T7-4	--	--	--	--	--	--	--	Biotite monzogranite. Medium- to fine-grained, essentially non-foliate and non-porphyritic, isotropic and equigranular. Unit is very uniform in appearance, and presumably composition. Not dated.
T8-4	Biotite	71.6	9.62	96	Published	116° 43' 21" 34° 11' 52"	Onyx Peak 7.5'	Probably same unit as T-7, but is slightly foliate. Freshest sample of this rock seen. Rock has saccharoidal texture, but some minerals (e.g., biotite) are in clumps.
T9-4	Biotite Hbld	72.1 73.6	9.07 1.066	93 85	Published	116° 46' 12" 34° 10' 8"	Moonridge 7.5'	Hornblende -biotite granodiorite (quartz diorite of Dibblee). Fresh sample. Sphene-bearing, high color index.
T10-4	Biotite Hbld	72.2 71.1	9.15 0.960	96 76	Published	116° 56' 37" 34° 10' 0"	Big Bear Lake 7.5'	Hornblende -biotite granodiorite. Unit typically very weathered, but minerals look very fresh; sample collected is fresh, unweathered. Isotropic and equigranular, non-foliate, medium-grained, non-porphyritic.
T11-4	Biotite Hbld	69.7 74.9	9.16 1.209	85 89	Published	117° 58' 40" 34° 6' 46"	Forest Falls 7.5'	Hornblende -biotite granodiorite. Porphyritic, phenocrysts to 4 cm in length. Rock is highly injected by pegmatite and aplite, and contains abundant inclusions of all sizes.
T12-4	Biotite	66.1	8.62	86	Published	117° 8' 43" 34° 11' 5"	Harrison Mtn 7.5'	Biotite monzogranite, may contain some muscovite. Deeply weathered, pink feldspar give rock an overall pink color. Medium-grained, slightly porphyritic, slightly foliate.
T13-4	Biotite	70.5	8.73	96	Published	117° 4' 29" 34° 12' 57"	Keller Peak 7.5'	Biotite monzogranite. Medium-grained, uniform over several acres. Similar in appearance to Cactus Flat body, but shows no deformation. Good fresh sample.
T14-4	Biotite Musco vite	73.9 72.7	9.24 10.64	90 89	Published	117° 1' 13" 34° 14' 58"	Keller Peak 7.5'	Biotite monzogranite. Appears to be same granitic unit as T13-4. Sample very fresh here.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
T15-4	Biotite Biotite Hbld	69.6 69.4 73.4	9.25 9.25 0.984	94 88 87	Published	117° 7' 35" 34° 12' 54"	Harrison Mtn 7.5'	Hornblende -biotite granodiorite. Coarse-grained, non-foliate, non-porphyritic, and equigranular. Notes indicate this rock is fundamentally different than most of the plutonic rocks east of Running Springs
T16-4	Biotite	69.5	8.88	90	Published	117° 9' 8" 34° 15' 34"	Lake Arrowhead 7.5'	Biotite- hornblende granodiorite. Similar to T15-4. Mixed with abundant pegmatite and K-spar-rich rocks. Hooks Creek sample.
T17-4	--	--	--	--	--	--	Harrison Mtn 7.5'	Biotite monzogranite. Porphyritic, fine-grained. (Probably from fine-grained unit on highway west of Rimforest). Not dated.
T18-4	Biotite	66.6	9.50	88	Published	117° 14' 41" 34° 13' 41"	Harrison Mtn 7.5'	Hornblende -biotite granodiorite. Fine-grained, fresh rock.
T19-4	Biotite Musco vite	68.1 71.2	9.10 10.82	90 95	Published	116° 28' 44" 34° 8' 51"	Yucca Valley North 7.5'	Two-mica monzogranite. Medium-grained, non-foliate, non-porphyritic, isotropic and equigranular.
T20-4	--	--	--	--	--	--	--	Biotite monzogranite. Very K-spar-rich. Non-foliate, non-porphyritic, isotropic and equigranular. Not dated. Locality records discarded with sample
T21-4	--	--	--	--	--	--	--	Hornblende -biotite granodiorite. Very large, well-formed k-feldspar phenocrysts. Groundmass grains may show some milling. Not dated. Locality records discarded with sample
T22-4 to T29-4	--	--	--	--	--	--	--	Sample numbers skipped; no samples for these numbers
T30-4	Biotite Musco vite	70.7 69.5	9.77 10.64	92 93	Published	116° 50' 24" 34° 19' 23"	Big Bear City 7.5'	Baldwin Gneiss. Coarse-grained augen gneiss. Very fresh. Contains abundant biotite and about 1 percent muscovite. Fairly mafic. Coarsely foliate. Has fine grained pod- shaped layers of same mineral composition as rest of rock.
T31-4	--	--	--	--	--	--	Fawnskin 7.5'	Fawnskin monzonite. Suppe-Armstrong 194 Ma hornblende locality. Rock looks unweathered, but hornblende may be chloritized. Biotite in large clots giving rock a pock marked appearance. Not dated
T31A-4	Biotite Hbld Hbld	82 126 197	9.16 0.644 0.550	90 82 55	Published	116° 59' 22" 34° 18' 14"	Fawnskin 7.5'	Same rock as T31-4; collected about 100m northwest of T31-4. Contains some biotite. Possible float; hornblende here also looks chloritized. First (126 Ma) hornblende separate contains 11 percent pyroxene contaminate; second (197 Ma) hornblende separate contains 15 percent pyroxene contaminate.
T32-4	Biotite Hbld	71.5 70.5	9.42 0.763	89 64	Published	116° 57' 0" 34° 16' 25"	Fawnskin 7.5'	Hornblende -biotite monzogranite or granodiorite. Sphene-bearing. Contains small, pink K-feldspar phenocrysts. Hornblende may be chloritized.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
T33-4	Hbld	65.0	1.284	87	Published	118° 10' 7" 34° 16' 8"	Condor Peak 7.5'	Mt Lowe Granodiorite. Hornblende is only obvious mafic mineral.
T34-4	Biotite	65.1	9.09	93	Published	118° 7' 27" 34° 15' 51"	Chilao Flat 7.5'	Biotite granodiorite. Sphene-bearing. Appears to be no hornblende. Slightly foliate. Probably part of biotite-only Mt Lowe unit.
T35-4	Hbld	113	1.361	87	Published	117° 59' 55" 34° 16' 54"	Waterman Mtn 7.5'	Hornblende monzogranite or monzonite. No biotite apparent. Part of Mt Lowe unit. Lineate and foliate. Looks fresh.
T36-4	Biotite	65.3	9.31	80	Published	117° 59' 4" 34° 20' 33"	Waterman Mtn 7.5'	Biotite monzogranite. Slightly porphyritic; non-foliate.
T37-4	Biotite	58.5	9.02	92	Published	117° 50' 59" 34° 20' 51"	Crystal Lake 7.5'	Biotite monzogranite. Not sure about feldspars; could be granodiorite or even quartz diorite. Foliate. Mixed with fine and coarse grained granitic rocks, pegmatite, and gneiss.
T38-4	Biotite Muscovite	79.1 85.5	9.37 10.31	92 92	Published	118° 1' 56" 34° 22' 46"	Pacifico Mtn 7.5'	Muscovite-biotite granodiorite. Color index about 10. Medium grained; porphyritic. Phenocrysts to 6 cm long. Foliate. Part of Mt Lowe unit.
T39-4	--	--	--	--	--	--	Pacifico Mtn 7.5'	Muscovite-biotite granodiorite. Color index about 10. Medium grained; porphyritic. Foliate. Part of Mt Lowe unit. Not dated
T40-4	--	--	--	--	--	--	Pacifico Mtn 7.5'	Biotite monzogranite. Not dated.
T41-4	Biotite Hbld	59.8 63.1	8.87 1.655	89 86	Published	117° 49' 58" 34° 18' 0"	Crystal Lake 7.5'	Biotite- hornblende granodiorite. Fine-grained. Color index ~5. Collected from large mafic segregation contained in a relatively leucocratic granitic rock.
T42-4	--	--	--	--	--	--	--	No record in notes. May have inadvertently skipped this number.
T43-4	Biotite	79.9	9.25	93	Published	117° 5' 30" 34° 21' 50"	Butler Peak 7.5'	Biotite monzogranite or granodiorite. Porphyritic. Fresh rock. Northern part of the Rattlesnake pluton.
T44-4	Biotite	72.4	9.40	92	Published	117° 3' 13" 34° 23' 38"	Butler Peak 7.5'	Biotite monzogranite or granodiorite. Porphyritic. Moderately weathered rock. Part of the Rattlesnake pluton.
T45-4	Biotite Hbld	70.1 72.9	8.96 0.927	92 48	Published	116° 41' 25" 34° 20' 9"	Rattlesnake Canyon 7.5'	Hornblende -biotite granodiorite. Color index ~25. Shows some mineral segregation into layers.
T46-4	Biotite	70.8	8.78	95	Published	117° 54' 22" 34° 9' 53"	Azusa 7.5'	Hornblende -biotite granodiorite or tonalite. Color index ~25. Coarse-grained, foliate, slightly segregated into layers. Cataclasized.
T47-4	Biotite Hbld	71.7 73.3	8.68 1.259	93 65	Published	117° 59' 27" 34° 10' 21"	Azusa 7.5'	Hornblende -biotite granodiorite or tonalite. Color index ~30. Coarse-grained, slightly cataclasized.
T48-4	Biotite	60.8	8.66	90	Published	118° 1' 9" 34° 11' 35"	Mt. Wilson 7.5'	Hornblende -biotite granodiorite or tonalite. Color index ~22. Medium-grained, equigranular.
T49-4	Biotite Hbld	71.4 70.5	8.76 0.695	93 53	Published	118° 10' 37" 34° 11' 36"	Pasadena 7.5'	Hornblende -biotite granodiorite or tonalite.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
T50-4	Biotite	70.3	8.69	92	Published	118° 11' 2" 34° 13' 43"	Pasadena 7.5'	Hornblende -biotite granodiorite or tonalite. Coarse-grained, equigranular.
T51-4	Biotite	70.0	9.29	94	Published	116° 34' 40" 34° 9' 51"	Rimrock 7.5'	Biotite monzogranite, nonporphyritic, nonfoliate. Medium- to fine-grained.
T52-4	Biotite	69.2	9.12	84	Published	116° 39' 19" 34° 10' 45"	Onyx Peak 7.5'	Muscovite-biotite monzogranite, nonporphyritic, nonfoliate. Medium- to fine-grained.
T53-4	Biotite	70.1	9.25	94	Published	117° 17' 16" 34° 16' 6"	Silverwood Lake 7.5'	Hornblende -biotite granodiorite. Porphyritic.
T54-4	Biotite	71.1	9.08	88	Published	117° 4' 17" 34° 16' 8"	Butler Peak 7.5'	Biotite monzogranite, Medium-grained, slightly porphyritic.
T55-4	Biotite	70.0	9.35	94	Published	116° 56' 57" 34° 12' 0"	Big Bear Lake 7.5'	Biotite monzogranite, equigranular. Same pluton as sample T54-4. Location in Prof Paper 1152 listed as T. 2 N.; is actually T. 1 N.
T56-4	Biotite	72.6	8.95	92	Published	116° 35' 54" 34° 19' 24"	Bighorn Canyon 7.5'	Biotite monzogranite, sparsely porphyritic. Medium-grained. Color index ~10.
T57-4	Biotite	70.5	9.19	94	Published	116° 36' 15" 34° 20' 55"	Bighorn Canyon 7.5'	Biotite granodiorite. Medium-grained, equigranular. Has granoblastic looking texture; could be metamorphosed granitic rock. Color index ~15.
T58-4	Biotite	70.1	9.06	89	Published	116° 33' 22" 34° 16' 2"	Bighorn Canyon 7.5'	Biotite granodiorite. Fine-grained, equigranular. Color index ~15. Location in Prof Paper 1152 omits Township and Range, which are T. 2 N.; R. 4 E.
T59-4	Biotite	69.7	9.15	89	Published	116° 35' 39" 34° 12' 18"	Rimrock 7.5'	Hornblende -biotite granodiorite. Medium-grained, slightly foliate. Color index ~15.
T60-4	Biotite	68.0	9.45	54	Published	116° 43' 28" 34° 8' 57"	Onyx Peak 7.5'	Biotite monzogranite, equigranular. Contains segregations of mafic minerals from partially resorbed inclusions.
T61-4	Biotite	65.0	9.12	85	Published	116° 45' 42" 34° 17' 12"	Big Bear City 7.5'	Muscovite-biotite monzogranite, highly lineate. Medium-grained. Color index ~12.
T62-4	Biotite Hbld	69.5 71.0	8.99 10.62	94 89	Published	116° 42' 4" 34° 15' 37"	Rattlesnake Canyon 7.5'	Muscovite-biotite monzogranite, garnet-bearing. Medium- to coarse-grained. Color index ~7.
T63-4	Biotite	66.2	9.87	90	Published	116° 44' 8" 34° 15' 19"	Rattlesnake Canyon 7.5'	Baldwin Gneiss. Contains muscovite and biotite. Well-developed lineation and foliation. Medium- to fine-grained.
T64-4	Biotite	68.4	9.20	87	Published	116° 52' 5" 34° 15' 31"	Big Bear City 7.5'	Biotite monzogranite, fine-grained, equigranular. Probably part of Stanfield Cutoff body.
T65-4	Biotite	69.4	9.16	86	Published	117° 11' 59" 34° 19' 25"	Lake Arrowhead 7.5'	Biotite monzogranite, equigranular. Fine-grained. Color index ~8.
T66-4	Biotite Hbld	67.2 73.9	9.05 1.222	90 78	Published	117° 8' 28" 34° 10' 1"	Harrison Mtn 7.5'	Hornblende -biotite granodiorite. Medium-grained, slightly foliate. Color index ~20.
T67-4	Biotite	56.6	7.76	77	Published	117° 58' 36" 34° 13' 54"	Azusa 7.5'	Biotite monzogranite, medium-grained, leucocratic. Slightly foliate. Color index ~4.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
T68-4	Biotite	64.2	8.33	88	Published	117° 54' 26" 34° 14' 38"	Azusa 7.5'	Hornblende -biotite bearing granitic gneiss. Medium-grained. Incipient segregation of minerals into layers. Color index ~25.
T69-4	--	--	--	--	--	--	--	Mt Lowe Granodiorite and hybrid rock; former is garnet-hornblende, latter is biotite-hornblende. Not dated.
T70-4	Biotite Hbld	62.3 65.6	8.29 1.250	87 79	Published	117° 46' 31" 34° 13' 38"	Glendora 7.5'	Hornblende -biotite diorite. Fine-grained, equigranular, but has a subtle lineation overprint.
T71-4	Biotite	60.0	9.18	87	Published	117° 43' 36" 34° 13' 23"	Mt. Baldy 7.5'	Hornblende -biotite quartz diorite. Medium- to fine-grained, slightly foliate. Color index ~30.
T72-4	Biotite	72.8	8.25	93	Published	117° 38' 31" 34° 14' 36"	Mt. Baldy 7.5'	Hornblende -biotite quartz diorite. Coarse-grained, equigranular. Slightly cataclasized.
T73-4	Biotite	68.3	8.18	88	Published	117° 40' 28" 34° 10' 48"	Mt. Baldy 7.5'	Cataclastic hornblende -biotite diorite. Almost a mylonite. Foliate and lineate. Color index ~40. Location in Prof Paper 1152 listed as R. 7 W.; is actually R .8 W.
T74-4	Biotite	70.5	9.14	87	Published	117° 37' 41" 34° 10' 57"	Mt. Baldy 7.5'	Cataclastic hornblende -biotite diorite. Coarser grained than T73-4. Foliate and lineate. Color index ~30.
T75-4	Biotite	74.5	9.13	93	Published	117° 33' 39" 34° 12' 9"	Cucamonga Peak 7.5'	Hornblende -biotite diorite. Cataclasized. Medium-grained, slightly foliate. Color index ~25.
T76-4	Biotite	71.0	8.92	91	Published	118° 17' 12" 34° 17' 28"	Sunland 7.5'	Biotite quartz diorite. Medium- to fine-grained. Granoblastic-looking texture. Color index ~18.
T77-4	Biotite	68.0	8.97	93	Published	118° 12' 23" 34° 17' 0"	Condor Peak 7.5'	Hornblende -biotite granodiorite. Medium-grained, equigranular. Color index ~18.
T78-4	Biotite	64.7	9.13	92	Published	118° 3' 17" 34° 13' 29"	Mt. Wilson 7.5'	Hornblende -biotite granodiorite. Medium-grained, equigranular. Color index ~20.
T79-4	Biotite	64.6	6.82	89	Published	118° 5' 28" 34° 14' 37"	Mt. Wilson 7.5'	Hornblende -biotite diorite. Medium- to fine-grained, poorly developed foliation. Color index 25 to 30.
T80-4	Biotite Hbld	66.4 74.8	9.03 1.053	90 70	Published	118° 8' 24" 34° 18' 34"	Condor Peak 7.5'	Hornblende -biotite granodiorite. Medium- to fine-grained, equigranular. Color index ~20.
T81-4	--	--	--	--	--	--	--	Sample discarded.
T82-4	Biotite	66.6	9.17	84	Published	117° 58' 25" 34° 25' 4"	Juniper Hills 7.5'	Biotite monzogranite. Coarse-grained, foliate. Slightly cataclasized. Color index ~12.
T83-4	Biotite	64.6	9.11	83	Published	117° 58' 35" 34° 23' 14"	Juniper Hills 7.5'	Biotite monzogranite. Coarse-grained. Slightly porphyritic. Very leucocratic. Color index ~5.
T84-4	Biotite	63.0	9.19	88	Published	117° 47' 35" 34° 21' 35"	Crystal Lake 7.5'	Hornblende -biotite diorite. Fine-grained, equigranular. Color index ~60.
T85-4	Biotite	71.1	9.06	91	Published	117° 26' 57" 34° 14' 5"	Devore 7.5'	Hornblende -biotite bearing cataclasite. Coarse-grained, slightly foliate.
T86-4	Biotite	69.9	9.05	85	Published	117° 32' 39" 34° 15' 4"	Telegraph Peak 7.5'	Hornblende -biotite bearing cataclasite. Medium-grained, slightly foliate and distinctly lineate.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
T87-4	Hbld	73.6	1.156	73	Published	116° 49' 48" 34° 20' 1"	Big Bear City 7.5'	Hornblende -biotite quartz diorite. Medium-grained, equigranular. Color index ~30.
T88-4	--	--	--	--	--	--	--	Sample discarded
T89-4	Biotite	71.0	9.26	92	Published	116° 54' 5" 34° 22' 48"	Lucerne Valley 7.5'	Muscovite-biotite monzogranite. Medium- to fine-grained, but micas are finer grained than quartz and felsic minerals. Color index ~8.
T90-4	Biotite	87.3	9.20	92	Published	117° 3' 43" 34° 34' 35"	Fairview Valley 7.5'	Biotite monzogranite. Coarse-grained, equigranular. Very abundant sphene. Color index ~6.
T91-4	Biotite Hbld	106 186	9.37 0.704	92 77	Published	117° 4' 51" 34° 41' 1"	Stoddard Well 7.5'	Hornblende -biotite granodiorite. Medium-grained, equigranular. Color index ~15.
T92-4	Biotite	75.0	8.89	79	Published	117° 3' 24" 34° 39' 14"	Stoddard Well 7.5'	Biotite monzogranite. Medium-grained, equigranular. Heterogeneous mix of rocks at sample site. Sample may be a hybrid.
T93-4	Biotite	77.7	9.25	78	Published	116° 57' 56" 34° 40' 21"	West Ord Mtn. 7.5'	Biotite monzogranite. Coarse-grained, equigranular. Rock slightly altered, but dated biotite separate showed no signs of alteration. Color index ~5.
T94-4	Hbld	96.1	1.162	78	Published	116° 56' 38" 34° 38' 11"	West Ord Mtn. 7.5'	Banded gneiss. Layers range from 1 to 30 mm thick. Hornblende is only mafic mineral.
T95-4	Biotite	74.0	9.14	86	Published	116° 57' 34" 34° 32' 12"	White Horse Mtn 7.5'	Hornblende -biotite granodiorite. Fine-grained, slightly foliate. Hornblende has pyroxene cores. Color index ~20.
T96-4	Biotite	70.8	8.64	88	Published	116° 55' 38" 34° 21' 34"	Fawnskin 7.5'	Hornblende -biotite granodiorite. Medium-grained, equigranular. Abundant sphene. Color index ~20.
T97-4	Biotite Hbld	70.2 72.2	99.51 1.089	91 64	Published	116° 52' 54" 34° 27' 47"	Lucerne Valley 7.5'	Hornblende -biotite quartz diorite. Medium-grained, lineate. Color index ~12.
T98-4	Biotite	69.6	9.56	92	Published	117° 36' 27" 34° 22' 28"	Telegraph Peak 7.5'	Hornblende -biotite granodiorite. Coarse -grained, slightly foliate. Color index ~25. See hornblende age T5-6 recollected at same site
T99-4	Biotite	70.8	9.14	90	Published	117° 40' 24" 34° 24' 21"	Mescal Creek 7.5'	Hornblende -biotite quartz diorite. Medium- and fine-grained, bimodal grain size. Nonfoliate. Color index ~45.
T100-4	Biotite	69.4	9.06	80	Published	117° 45' 2" 34° 26' 6"	Valyermo 7.5'	Biotite monzogranite. Leucocratic, segregated mineral layers. Fine-grained, nonporphyritic. Color index ~4.
T101-4	Biotite	71.8	9.07	92	Published	117° 45' 55" 34° 25' 29"	Valyermo 7.5'	Layered gneiss. Biotite is only mafic mineral; no muscovite. Layers average about 5mm thick.
T102-4	Biotite Hbld	73.3 70.6	9.11 1.276	94 70	Published	117° 51' 50" 34° 27' 51"	Valyermo 7.5'	Hornblende -biotite granodiorite. Slightly foliate. Slightly cataclasized. Color index ~12.
T103-4	Biotite	73.0	9.10	89	Published	117° 39' 33" 34° 10' 49"	Mt Baldy 7.5'	Biotite monzogranite.
T104-4	Biotite	75.3	9.22	92	Published	117° 39' 35" 34° 12' 2"	Mt Baldy 7.5'	Cataclastic hornblende -biotite quartz diorite. Coarse-grained, faintly layered. Color index ~25. For hornblende age see T3-6; recollected at same site

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
T105-4	Biotite Hbld	71.8 118	8.22 0.288	93 43	Published	117° 48' 51" 34° 10' 1"	Glendora 7.5'	Hornblende -biotite diorite or amphibolite. Fine-grained, slightly foliate. Color index ~50.
T106-4	Hbld Hbld	66.7 66.3	?? 1.490	?? 75	Published	117° 38' 42" 34° 17' 20"	Mt San Antonio 7.5'	Hornblende -biotite quartz diorite. Medium-grained, foliate. All biotite chloritized. Color index ~25.
T1-5	Biotite	71.1	9.05	75	Published	118° 13' 51" 34° 9' 50"	Pasadena 7.5'	Hornblende -biotite quartz diorite. Medium- to fine-grained. Slight cataclastic foliation. Color index ~60.
T2-5	Biotite Hbld Hbld	98.6 105 103	8.69 0.893 0.893	92 69 72	Published	117° 48' 51" 34° 10' 1"	Hollywood 7.5'	Hornblende -biotite quartz diorite. Medium- to fine-grained. Slight cataclastic foliation. Color index ~60. Second (103 Ma) hornblende extraction done with SiO ₂ flux
T1-6	Biotite Biotite Hbld	64.9 65.0 147	8.23 8.24 0.357	92 79 79	Published	117° 48' 51" 34° 10' 1"	Glendora 7.5'	Hornblendite, biotite bearing. Medium-grained, slightly foliate. Color index ~80. Heterogeneous here. Collected within 100m of T105-4.
T2-6	Biotite	57.8	8.93	86	Published	117° 58' 36" 34° 13' 54"	Azusa 7.5'	Recollection of T67-4. Biotite monzogranite, medium-grained, leucocratic. Slightly foliate. Color index ~4.
T3-6	Hbld	74.2	1.267	68	Unpublished	117° 39' 35" 34° 12' 2"	Mt Baldy 7.5'	Recollection of T104-4. Cataclastic hornblende -biotite quartz diorite. Coarse-grained, faintly layered. Color index ~25. Plotted on sample map as part of T-104 locality.
T4-6	--	--	--	--	--	117° 49' 58" 34° 18' 0"	Crystal Lake 7.5'	Recollection of T41-4. Biotite- hornblende granodiorite. Fine-grained. Color index ~5. Not dated.
T5-6	Hbld	62.9	1.542	72	Unpublished	117° 36' 27" 34° 22' 28"	Telegraph Peak 7.5'	Recollection of T98-4. Hornblende -biotite granodiorite. Coarse -grained, slightly foliate. Color index ~25.
T6-6	Hbld	13.2	0.156	21	Unpublished	117° 18' 39" 34° 9' 20"	San Bernardino North 7.5'	Hornblende granodiorite. Even-grained. May contain pyroxene. Contains pegmatitic segregations. Intrudes Pelona Schist.
T1-7	Biotite Hbld	100 105	8.80 0.857	86 68	Unpublished	118° 21' 37" 34° 6' 30"	Hollywood 7.5'	Recollection of T2-5. Hornblende -biotite quartz diorite or granodiorite. Medium- to coarse-grained. Cataclastic foliation. Sphene-bearing. Color index ~25.
M1-3	Hbld	140	1.436	81	Published	117° 4' 0" 34° 27' 14"	Fifteenmile Valley 7.5'	Biotite- Hbld monzonite. Medium- to coarse-grained. Abundant sphene. Color index ~15. Granite Mountains; Fifteenmile Point
M1-4	Biotite	71.5	9.50	92	Published	117° 16' 52" 34° 32' 10"	Victorville 7.5'	Biotite monzogranite. Leucocratic, fine-grained, nonporphyritic. Uneven distribution of biotite in rock; much occurs as clots.
M2-4	Biotite	73.8	9.51	92	Published	117° 07' 37" 34° 28' 33"	Apple Valley South 7.5'	Hornblende -biotite granodiorite. Medium-grained, equigranular. Abundant sphene.
M3-4	Biotite	68.4	9.27	89	Published	116° 47' 58" 34° 27' 40"	Cougar Buttes 7.5'	Biotite monzogranite. Leucocratic, medium- to fine-grained, nonporphyritic. Contains trace muscovite.
M4-4	Biotite	71.5	9.74	87	Published	116° 31' 33" 34° 22' 3"	Big Horn Canyon 7.5'	Biotite monzogranite. Biotite occurs as very fine grained clusters. Porphyritic.
M5-4	Biotite Hbld	68.2 73.1	9.26 0.905	82 77	Published	116° 29' 21" 34° 16' 17"	Landers 7.5'	Hornblende -biotite granodiorite. Medium-grained, slightly foliate. Equigranular, nonporphyritic.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M6-4	Biotite	73.7	8.74	92	Published	117° 5' 14" 34° 32' 42"	Fairview Valley 7.5'	Biotite monzogranite. Leucocratic. Fine-grained, containing 7mm long phenocrysts of microcline.
M7-4	Biotite	86.0	8.92	90	Published	117° 10' 55" 34° 35' 45"	Apple Valley North 7.5'	Hornblende -biotite monzogranite. Medium-grained, sparsely porphyritic.
M8-4	Biotite Hbld	83.4 169	8.71 0.521	88 68	Published	117° 13' 38" 34° 33' 13"	Apple Valley North 7.5'	Hornblende -biotite granodiorite. Medium-grained, nonfoliate. Equigranular, nonporphyritic. Color index ~18. Hbld age is from sample M2-6, which is a recollection of site listed here.
M9-4	Biotite	72.4	8.95	94	Published	117° 19' 16" 34° 34' 24"	Victorville 7.5'	Hornblende -biotite granodiorite. Medium-grained, nonfoliate. Equigranular, nonporphyritic. Color index ~10.
M10-4	Biotite	68.3	8.75	90	Published	116° 49' 29" 34° 29' 42"	Cougar Buttes 7.5'	Biotite monzogranite. Leucocratic, medium- to fine-grained, nonporphyritic, nonfoliate. Contains subordinate muscovite.
M11-4	Biotite	68.9	9.21	91	Published	116° 44' 9" 34° 26' 29"	Old Woman Springs 7.5'	Biotite monzogranite. Leucocratic, medium- to fine-grained, nonporphyritic, nonfoliate. Contains subordinate muscovite. Same pluton as sample M10-4.
M12-4	Biotite Hbld	67.6 69.2	8.87 1.065	89 69	Published	116° 42' 50" 34° 24' 4"	Old Woman Springs 7.5'	Hornblende -biotite monzogranite. Medium-grained, slightly foliate. Color index ~12.
M13-4	Biotite	70.0	9.20	89	Published	116° 54' 15" 34° 33' 23"	White Horse Mtn 7.5'	Biotite monzogranite. This is probably a hybrid rock contaminated by metamorphic rocks.
M14-4	Biotite	72.2	8.85	80	Published	117° 13' 6" 34° 31' 28"	Apple Valley North 7.5'	Biotite monzogranite. Fine-grained, slightly foliate. May be a hybrid rock.
M15-4	Biotite Hbld	69.9 72.4	8.82 0.725	94 20	Published	116° 37' 42" 34° 27' 44"	Old Woman Springs 7.5'	Hornblende -biotite monzogranite. Medium-grained, slightly porphyritic. Color index ~12.
M16-4	Biotite	67.7	9.05	86	Published	116° 33' 6" 34° 27' 20"	Melville Lake 7.5'	Biotite monzogranite. Leucocratic, fine-grained, nonporphyritic. Contains trace muscovite.
M17-4	Biotite	80.7	9.10	90	Published	116° 29' 11" 34° 28' 16"	Emerson Lake 15'	Hornblende -biotite monzogranite. Porphyritic; high concentration of phenocrysts. Color index ~15.
M18-4	Biotite	71.5	9.37	91	Published	116° 29' 8" 34° 30' 37"	Galway Lake 7.5'	Biotite monzogranite. Pale-gray, nonporphyritic. Has abundant myrmikitic intergrowths. Color index ~5.
M19-4	Biotite	75.0	9.35	91	Published	116° 34' 43" 34° 32' 53"	Iron Ridge 7.5'	Hornblende -biotite monzogranite. Porphyritic; high concentration of phenocrysts. Color index ~15. Same pluton as M17-4, but here mixed with other granitic rocks.
M20-4	Biotite Hbld	78.5 109	9.38 0.996	94 74	Published	116° 23' 46" 34° 18' 55"	Landers 7.5'	Hornblende -biotite quartz diorite. Collected from small mafic-mineral-rich body within monzogranite pluton. Color index ~25.
M21-4	Biotite	122	8.79	96	Published	116° 17' 7" 34° 13' 1"	Joshua Tree North 7.5'	Biotite monzogranite. Slightly porphyritic. Color index ~20. Contains abundant allanite. Rock has subtle greenish cast.
M22-4	Biotite	94.6	9.36	96	Published	116° 18' 35" 34° 9' 17"	Joshua Tree North 7.5'	Biotite monzogranite. Essentially nonfoliate, but minor grain-size reduction gives rock a planar fabric too subtle to measure.
M23-4	--	--	--	--	--	--	Joshua Tree North 7.5'	Sample discarded.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M24-4	Biotite	74.0	9.38	94	Published	116° 20' 55" 34° 14' 10"	Joshua Tree North 7.5'	Gneissic biotite monzonite. Slightly porphyroblastic. Biotite unaltered. Color index ~20.
M25-4	Biotite Hbld	71.0 71.5	9.36 0.704	94 71	Published	116° 26' 41" 34° 12' 49"	Yucca Valley North 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained, nonfoliate. Color index ~15.
M26-4	Biotite	74.7	8.42	92	Published	117° 42' 33" 34° 31' 57"	El Mirage 7.5'	Hornblende -biotite granodiorite. Medium-grained, foliated. Color index ~30. Dated rock is a septum in a large mass of leucocratic monzogranite and pegmatite.
M27-4	Biotite	74.3	9.49	85	Published	117° 48' 35" 34° 36' 11"	Lovejoy Buttes 7.5'	Biotite monzogranite. Porphyritic. Medium-grained, but contains quartz grains larger than other groundmass minerals. Color index ~12.
M28-4	Biotite Hbld	82.2 84.3	9.47 0.635	81 70	Published	117° 37' 38" 34° 37' 18"	El Mirage 7.5'	Hornblende -biotite granodiorite or monzogranite. Medium-grained. Color index ~10. Very fresh. Hornblende age is from sample M1-6, which is a recollection of site listed here.
M29-4	Biotite	83.2	8.62	91	Published	117° 30' 8" 34° 40' 26"	Shadow Mtns 7.5'	Biotite monzogranite. Leucocratic. Equigranular. Medium- to fine-grained. Color index ~7.
M30-4	Biotite	74.9	9.35	92	Published	117° 45' 37" 34° 37' 1"	Lovejoy Buttes 7.5'	Hornblende -biotite monzogranite. Metamorphic-looking; slightly porphyroblastic, medium-grained. Color index ~15.
M31-4	Biotite	67.2	9.27	85	Published	117° 51' 34" 34° 38' 29"	Hi Vista 7.5'	Muscovite-biotite monzogranite. Medium-grained. Rock is deeply weathered, but both micas appear to be fresh and unaltered.
M32-4	Biotite	77.5	9.43	93	Published	117° 49' 15" 34° 41' 55"	Hi Vista 7.5'	Hornblende -biotite monzogranite. Equigranular. Medium- to coarse-grained. Color index ~15.
M33-4	Biotite Hbld	78.3 75.2	9.50 0.579	79 58	Published	117° 47' 26" 34° 44' 4"	Hi Vista 7.5'	Hornblende -biotite monzogranite. Equigranular. Medium- to coarse-grained. Color index ~15. Probably same pluton as M32-4.
M34-4	Biotite	76.2	9.25	88	Published	117° 41' 2" 34° 42' 22"	Adobe Mtn. 7.5'	Biotite monzogranite. Leucocratic. Medium- to fine-grained. Equigranular, except for biotite which is finer grained than other minerals. Color index ~5.
M35-4	Biotite	74.1	8.55	72	Published	117° 35' 40" 34° 42' 50"	Shadow Mtns 7.5'	Alaskite, garnet-bearing. Fine-grained. Equigranular. Contains about 1 percent biotite.
M36-4	Biotite	74.3	9.40	88	Published	116° 50' 8" 34° 34' 16"	Grand View Mine 7.5'	Hornblende -biotite granodiorite. Medium-grained. Porphyritic. Color index ~20.
M37-4	--	--	--	--	--	--	--	Sample discarded.
M38-4	Biotite	149	9.34	97	Published	116° 41' 55" 34° 40' 0"	Camp Rock Mine 7.5'	Hornblende -biotite monzogranite. Fine-grained. Porphyritic. Medium- to dark-gray feldspar. Color index ~12.
M39-4	Biotite Hbld	76.4 73.6	8.87 0.568	94 59	Published	116° 38' 29" 34° 35' 32"	Fry Mts 7.5'	Hornblende -biotite granodiorite or monzogranite. Sparsely porphyritic. Color index ~15. Very fresh. Hornblende age is from sample M4-6, a recollection of site listed here.
M40-4	Biotite	80.0	9.31	93	Published	116° 42' 5" 34° 32' 51"	Fry Mts 7.5'	Hornblende -biotite monzogranite. Medium-grained. Porphyritic. Slightly foliate. Color index ~14. Probably same pluton as M39-4.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M41-4	Biotite	74.2	9.17	87	Published	116° 34' 4" 34° 35' 36"	Iron Ridge 7.5'	Hornblende -biotite monzogranite. Medium-grained. Small, sparse phenocrysts. Color index ~10.
M42-4	Biotite Hbld	74.4 131	9.22 0.769	77 72	Published	116° 25' 57" 34° 12' 3"	Yucca Valley North 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained. Equigranular. Color index ~18.
M43-4	Biotite	72.3	9.28	93	Published	116° 28' 18" 34° 13' 11"	Yucca Valley North 7.5'	Biotite monzogranite. Medium-grained. Porphyritic, phenocrysts to 2.5 cm in length. Color index ~12.
M44-4	Biotite	109	8.99	85	Published	116° 21' 22" 34° 17' 33"	Goat Mtn 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained. Equigranular. Color index ~25. Rock composition and texture fairly heterogeneous at sample site.
M45-4	Biotite Hbld	162 163	8.70 0.635	68	Published	116° 1' 43" 34° 12' 47"	Twentynine Palms 7.5'	Hornblende -biotite monzogranite. Medium- to dark- purple-gray feldspar. Porphyritic. Probably same pluton as M14-7.
M46-4	--	--	--	--	--	--	Deadman Lake 7.5'	Sample discarded.
M47-4	Biotite	154	9.36	95	Published	116° 14' 26" 34° 12' 37"	Sunfair 7.5'	Hornblende -biotite monzogranite. Porphyritic. Medium- to dark-gray feldspar. Probably same pluton as M14-7.
M1-5	--	--	--	--	--	--	Rodman Mts 15'	Sample discarded.
M2-5	Biotite	96.0	9.66	82	Unpublished	--	Rodman Mts 15'	Biotite monzogranite, foliated, sparsely porphyritic. Exact location unrecoverable. Not plotted on figure 1.
M1-6	Hbld	84.3	0.635	70	Unpublished	117° 37' 38" 34° 37' 18"	El Mirage 7.5'	Recollection of M28-4. Hornblende -biotite granodiorite or monzogranite. Medium-grained. Color index ~10. Very fresh.
M2-6	Hbld	169	0.521	68	Unpublished	117° 13' 38" 34° 33' 13"	Apple Valley North 7.5'	Recollection of M8-4. Exact same location. Hornblende -biotite granodiorite. Medium-grained, nonfoliate. Equigranular, nonporphyritic. Color index ~18
M3-6	Biotite	76.1	9.19	88	Published	117° 12' 18" 34° 41' 56"	Turtle Valley 7.5'	Hornblende -biotite granodiorite. Nonporphyritic, equigranular. Medium-grained. Color index 12 to 15. Very fresh.
M4-6	Hbld	73.6	0.568	59	Unpublished	116° 38' 29" 34° 35' 32"	Fry Mts 7.5'	Recollection of M39-4. Hornblende -biotite granodiorite or monzogranite. Slightly porphyritic. Color index ~10. Very fresh.
M5-6	--	--	--	--	--	116° 29' 11" 34° 28' 16"	Emerson Lake 15'	Recollection of M17-4. Hornblende -biotite monzogranite. Porphyritic, having high concentration of phenocrysts. Color index ~15. Sample discarded.
M1-7	Biotite Hbld	69.4 74.8	8.86 0.632	88 49	Published	117° 13' 59" 34° 38' 6"	Turtle Valley 7.5'	Hornblende -biotite granodiorite; hornblende sparse. Medium-grained. Equigranular. May be same pluton as M3-6. Abundant sphene.
M2-7	Biotite	99.2	8.88	82	Published	117° 9' 34" 34° 39' 10"	Turtle Valley 7.5'	Biotite monzogranite. Medium- to coarse-grained, nonporphyritic, nonfoliate, equigranular, isotropic, or massive. Deeply weathered.
M3-7	Biotite Hbld	111 996	9.22 0.459	55 71	Published	117° 8' 21" 34° 37' 21"	Apple Valley North 7.5'	Mafic granodiorite or diorite. Contact with metavolcanic rocks about 5 m from sample site.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M4-7	--	--	--	--	--	--	Stoddard Well 7.5'	Biotite granodiorite or monzogranite. Mafic minerals very chloritized. Medium- to fine-grained, nonfoliate, equigranular, isotropic, and massive. Sample discarded.
M5-7	Biotite Hbld	145 170	9.34 0.430	94 47	Published	116° 56' 21" 34° 42' 49"	West Ord Mtn. 7.5'	Hornblende -biotite granodiorite or monzogranite. Nonporphyritic, isotropic or massive, equigranular. Sphene-bearing, sparse mafic inclusions. Color index ~15. Fresh, but some hornblende may be chloritized.
M6-7	Biotite	134	9.11	95	Published	116° 54' 41" 34° 41' 10"	West Ord Mtn. 7.5'	Hornblende (?) -biotite granodiorite or monzogranite. Nonporphyritic, isotropic or massive, equigranular. Similar to M5-7, but slightly weathered.
M7-7	Biotite Hbld	99.6 167	9.00 0.855	39 87	Published	116° 53' 17" 34° 41' 32"	West Ord Mtn. 7.5'	Biotite- hornblende quartz diorite. Nonporphyritic, isotropic or massive, equigranular. Medium-grained. Both mafic minerals very fresh. Hornblende much more abundant than biotite. Color index ~50.
M8-7	--	--	--	--	--	--	Ord Mts. 15'	Sample discarded.
M9-7	--	--	--	--	--	--	Ord Mts. 15'	Sample discarded.
M10-7	Biotite Hbld	78.0 185	9.21 0.898	85 87	Published	116° 50' 2" 34° 38' 38"	Ord Mtn. 7.5'	Hornblende -biotite granodiorite. Porphyritic. Very slight foliation. Sphene-bearing. K-feldspar is purple-gray. Latite porphyry dikes nearby. Color index ~20. Pluton characteristics same as M14-7.
M11-7	Biotite	71.2	9.19	57	Published	116° 48' 56" 34° 37' 23"	Ord Mtn. 7.5'	Biotite monzogranite. Leucocratic. Feldspar is pink. Nonfoliate. Weathered. Color index ~8.
M12-7	Biotite Hbld	126 166	9.26 0.649	95 62	Published	116° 20' 50" 34° 18' 30"	Goat Mtn. 7.5'	Hornblende -biotite granodiorite. Porphyritic, but has very irregular phenocryst distribution. Sphene-bearing. Potassium feldspar is purple-gray. Color index ~25. Hornblende and biotite about equal amounts.
M13-7	Biotite Hbld	116 178	9.08 0.564	85 63	Published	116° 24' 21" 34° 25' 34"	Emerson Lake 7.5'	Hornblende -biotite granodiorite. Nonporphyritic, but probably part of same plutonic type as M12-7. Sphene-bearing. Potassium feldspar is purple-gray. Color index ~25.
M14-7	Biotite Hbld	154 168	9.37 0.517	86 38	Published	116° 22' 53" 34° 27' 33"	Emerson Lake 7.5'	Hornblende -biotite granodiorite. Porphyritic. Probably part of same plutonic type as M12-7. Sphene-bearing. Potassium feldspar is purple-gray.
M15-7	Biotite	70.1	9.15	91	Published	*116° 34' 6" 34° 1' 42"	Morongo Valley 7.5'	Gneiss. Prominently layered, but overall, fairly leucocratic. Sample taken from relatively darker layer containing more biotite.
M16-7	Biotite	64.8	8.57	52	Unpublished	117° 21' 8" 34° 13' 37"	San Bernardino North 7.5'	Layered gneiss. Highly folded and contorted, compositionally heterogeneous. Contains hornblende and biotite.
M17-7	Biotite	66.4	8.31	87	Published	117° 11' 0" 34° 9' 3"	Harrison Mtn. 7.5'	Layered gneiss. Highly folded and contorted, compositionally heterogeneous. Contains hornblende and biotite. Similar to M16-7.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M18-7	Biotite	9.30	8.56	17	Unpublished	117° 4' 3" 34° 4' 29"	Yucaipa 7.5'	Biotite monzogranite or granodiorite. Small pluton in Crafton Hills area. Relatively leucocratic compared to presumably related Oligocene Telegraph Peak pluton rocks. Heterogeneous texture and composition at sample site.
M19-7	--	--	--	--	--	117° 57' 8" 34° 6' 47"	Forest Falls 7.5'	Schist layer in gneiss. Color index ~70. Numerous granitic dikes and pods injected into schist nearby. Not dated.
M20-7	Biotite	74.9	9.04	74	Published	117° 7' 4" 34° 36' 46"	Fairview Valley 7.5'	Biotite monzogranite. Seriate. Slightly foliate; some grain-size reduction. Biotite grains look disaggregated.
M21-7	--	--	--	--	--	--	Apple Valley North 7.5'	Hornblende -biotite monzogranite. Contains large quartz grains or grain aggregates. Sphene-bearing. Mafic minerals generally smaller than felsic minerals. Not dated.
M22-7	Biotite Hbld	80.4 163	9.48 1.061	90 60	Published	116° 44' 48" 34° 33' 31"	Fry Mountains 7.5'	Hornblende -biotite granodiorite. Porphyritic. Probably part of same plutonic type as M12-7. Sphene-bearing. Potassium feldspar is purple-gray. Color index ~25.
M23-7	Biotite	68.4	9.25	79	Unpublished	118° 19' 13" 34° 47' 32"	Little Buttes 7.5'	Biotite monzogranite. Weathered. Many pegmatites in area. Sample may contain some pegmatitic material.
M24-7	Biotite	62.7	9.17	41	Unpublished	118° 0' 16" 35° 2' 18"	Mojave 15'	Biotite monzogranite. Medium- to coarse-grained. Sphene-bearing. Homogeneous. May contain minor hornblende.
M25-7	Biotite Hbld	73.1 74.8	9.46 1.184	85 67	Unpublished	*117° 52' 31" 35° 1' 29"	California City South 7.5'	Hornblende -biotite monzogranite. Medium- to coarse-grained. Foliate. Sphene-bearing. Minor epidote surrounding some hornblende.
M26-7	Biotite	73.7	9.59	86	Unpublished	*117° 46' 2" 35° 4' 5"	Galileo Hill 7.5'	Biotite monzogranite or granodiorite. Some iron oxide staining, but biotite looks fresh. Feldspar is medium-gray.
M27-7	Biotite	59.7	8.53	76	Unpublished	*117° 38' 3" 35° 1' 4"	Boron 7.5'	Hornblende -biotite granodiorite or quartz diorite. Medium- to coarse-grained. Foliate and (or) lineate. Hornblende looks chloritized.
M28-7	Biotite Muscovite	70.0 74.6	9.34 10.78	85 90	Unpublished	*117° 34' 41" 35° 4' 18"	Saddleback Mtn 7.5'	Muscovite-biotite monzogranite. Weathered. Medium-grained. Equigranular. Some iron oxide staining, but biotite looks fresh.
M29-7	Biotite	73.5	9.42	83	Unpublished	*117° 40' 24" 35° 8' 4"	Boron NW 7.5'	Biotite monzogranite. Sample is slightly weathered, but most rock at sample site is deeply weathered. Sample may be a hybrid with nearby, relatively unweathered aplite dikes.
M30-7	Biotite Hbld	78.9 79.4	9.28 10.69	85 77	Unpublished	*117° 39' 38" 35° 14' 50"	Boron NW 7.5'	Muscovite-biotite monzogranite. Garnet-bearing. Medium- to coarse-grained. Color index ~5. Muscovite and biotite in about equal amounts.
M31-7	Biotite Hbld	79.2 85.5	8.80 1.032	80 51	Unpublished	*117° 44' 57" 35° 2' 36"	Boron NW 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained. Color index ~25. Potassium feldspar is purple-gray.
M32-7	Biotite	72.5	9.25	74	Unpublished	*117° 46' 0" 35° 11' 11"	Galileo Hill 7.5'	Biotite monzogranite. Leucocratic. Deeply weathered. Medium-grained. Equigranular. Color index ~4.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M33-7	Biotite	73.9	9.25	84	Unpublished	*117° 50' 30" 35° 8' 40"	Galileo Hill 7.5'	Biotite monzogranite. Leucocratic. Sample relatively fresh, but surrounding rock is deeply weathered. Medium-grained. Equigranular. Color index ~2.
M33A-7	Biotite	78.1	9.16	88	Unpublished	*117° 50' 29" 35° 9' 25"	Galileo Hill 7.5'	Rock description lost. Based on location, may be the same plutonic unit as M34-7 and M34A-7
M34-7	--	--	--	--	--	--	Castle Butte 15'	Biotite monzogranite or granodiorite. Garnet-bearing. Medium-grained. Seriate and foliate. Biotite grains look disaggregated. Not dated or information lost.
M34A-7	Biotite	80.6	9.51	87	Unpublished	*117° 49' 0" 35° 13' 9"	Galileo Hill 7.5'	Biotite monzogranite. Garnet-bearing. Very coarse-grained. Color index ~4.
M35-7	Biotite	76.5	9.32	84	Unpublished	117° 46' 58" 35° 17' 27"	Saltdale SE 7.5'	Hornblende-biotite granodiorite or monzogranite. Medium-grained. Equigranular to sparsely porphyritic; phenocrysts small. Color index ~15.
M36-7	Biotite	18.8	9.07	46	Unpublished	117° 23' 44" 35° 3' 10"	Fremont Peak 15'	Biotite monzogranite or granodiorite. Medium-grained. Very sparse phenocrysts. Slightly foliate. Sphene-bearing.
M37-7	Biotite Biotite Hbld	32.4 32.8 79.0	9.18 9.18 1.581	78 64 56	Unpublished	117° 22' 0" 35° 8' 8"	Fremont Peak 15'	Gneissic granodiorite or quartz diorite. Foliate and slightly lineate. Color index ~25. Dibblee mapped unit as Precambrian.
M38-7	Biotite	26.1	8.90	53	Unpublished	117° 26' 16" 35° 12' 21"	Fremont Peak 15'	Gneissic granodiorite or quartz diorite. Foliate and slightly lineate. Color index ~25. Dibblee mapped unit as Precambrian.
M39-7	Biotite Hbld	77.5 78.3	9.15 1.093	69	Unpublished	117° 18' 21" 35° 14' 5"	Fremont Peak 15'	Hornblende -biotite granodiorite or quartz diorite. Seriate. Very subtle, poorly developed foliation. Color index ~25.
M40-7	Biotite Hbld	80.0 78.7	9.23 0.954	89 43	Unpublished	117° 19' 10" 35° 20' 41"	Cuddeback Lake 15'	Biotite- hornblende granodiorite or quartz diorite. Medium-grained. Seriate. Poorly developed lineation. Color index ~25.
M41-7	Biotite	80.2	8.46	81	Unpublished	117° 19' 10" 35° 20' 41"	Cuddeback Lake 15'	Biotite monzogranite. Leucocratic. Medium-grained, equigranular to seriate. Weathered, but minerals look unaltered.
M42-7	Biotite Hbld	70.0 101	8.17 0.871	77 60	Unpublished	117° 3' 8" 34° 46' 56"	Barstow 15'	Hornblende-biotite granodiorite or quartz diorite. Medium-grained. Equigranular to weak foliation. Sphene-bearing. Color index ~18. Note: FKM, in 1978, noted that this sample could possibly be mixed up with M43-7. Basis for this note not known. Relative to nearby cooling ages, there probably was no mix-up.
M43-7	Biotite	140	8.17	78	Unpublished	*116° 55' 5" 34° 47' 53"	Daggett 7.5'	Hornblende -biotite granodiorite or monzogranite. Medium-grained; no directional fabric. Locally porphyritic (rapikivi). Hard, unweathered rock. Color index ~10.
M44-7	Biotite	71.8	8.90	78	Unpublished	*116° 48' 37" 34° 46' 31"	Minneola 7.5'	Hornblende -biotite granodiorite or monzogranite. Medium-grained; no directional fabric. Locally porphyritic (rapikivi).
M45-7	Biotite	84.3	9.09	81	Unpublished	*116° 45' 56" 34° 59' 9"	Yermo 7.5'	Hornblende -biotite granodiorite or monzogranite. Medium-grained; equigranular, isotropic, and massive. Sphene-bearing. Color index ~12.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M46-7	Biotite	72.4	8.95	73	Unpublished	117° 12' 11" 34° 46' 24"	Barstow 15'	Biotite- hornblende granodiorite or monzogranite. Medium-grained, but somewhat seriate. Grain-size reduction; some minerals look disaggregated. Color index ~15.
M47-7	Biotite Hbld	19.1 20.6	8.75 0.377	56 3	Unpublished	117° 13' 54" 34° 58' 59"	Barstow 15'	Hornblende -biotite monzogranite. Medium-grained; equigranular, isotropic, and massive. Color index ~10.
M48-7	Hbld Hbld	105 304	0.166 0.166	13 40	Unpublished	117° 15' 46" 34° 50' 23"	Hawes 15'	Pegmatite in pyroxene gabbro. Contains hornblende, but no biotite. On 105 Ma run (late 1977) no notes on mineral separate. On 304 Ma run (early 1980) notes indicate pyroxene cores in hornblende. Both extractions probably from same mineral separate.
M49-7	Biotite	83.2	8.88	90	Unpublished	117° 21' 9" 34° 51' 38"	Hawes 15'	Biotite monzogranite. Leucocratic, almost an alaskite. Medium- to fine-grained, equigranular. Color index ~2.
M50-7	Biotite	69.3	9.51	84	Unpublished	117° 53' 49" 34° 57' 15"	Edwards 7.5'	Biotite- hornblende (?) monzogranite. Porphyritic. Rock is heterogeneous at sample site. Sphene-bearing. Slightly foliate. Color index ~12.
M51-7	Biotite Hbld	69.4 68.0	8.83 1.271	83 62	Unpublished	117° 58' 36" 34° 52' 45"	Edwards 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained. Foliate, possibly lineate. Color index ~20. Hornblende may be slightly altered.
M52-7	Biotite Hbld	77.2 75.4	8.76 0.590	86 61	Unpublished	117° 51' 43" 34° 46' 41"	Rogers Lake South 7.5'	Biotite- hornblende granodiorite or monzogranite. Medium-grained. Slightly porphyritic; small phenocrysts. Color index ~15. Compositionally uniform at sample site.
M53-7	Biotite	78.6	8.81	85	Unpublished	*117° 33' 1" 34° 47' 50"	Red Buttes 7.5'	Biotite monzogranite. Leucocratic. Medium-grained, equigranular. Color index ~2. Sampled rock is a dike intruding hornblende - biotite granodiorite that is very deeply weathered.
M53A-7	Biotite Hbld	68.9 86.1	9.01 0.634	91 31	Unpublished	*117° 33' 41" 34° 47' 50"	Red Buttes 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained. Equigranular. Color index ~12. This is the host rock to M53-7. Collected from rounded knocker. Neither mafic mineral is altered.
M54-7	Biotite	74.9	9.40	80	Unpublished	*117° 43' 33" 34° 48' 15"	Jackrabbit Hill 7.5'	Biotite- hornblende monzogranite. Medium-grained. Nonporphyritic, equigranular. Color index ~12. Slightly weathered, but both mafic minerals are unaltered.
M55-7	Biotite	68.5	9.16	86	Unpublished	*116° 23' 22" 35° 04' 50"	Dunn 7.5'	Biotite monzogranite. Porphyritic,; phenocrysts to 3 cm are irregularly distributed. No directional fabric. Color index ~8. Looks like one of the late Cretaceous plutons.
M56-7	Biotite	64.2	8.84	69	Unpublished	*116° 15' 3" 35° 5' 55"	Cave Mtn 7.5'	Biotite monzogranite. Leucocratic. Coarse-grained, equigranular. Has abundant sphene. May have trace garnet. Color index ~6. Biotite grains are disaggregated and show some alteration. Need very clean mineral separate. This could be a Precambrian rock.
M57-7	Biotite	67.4	8.85	84	Unpublished	*116° 16' 3" 35° 5' 43"	Cave Mtn 7.5'	Biotite monzogranite. Porphyritic,; phenocrysts to 3 cm are irregularly distributed and have a reddish-brown color. Sphene-bearing; quartz may be less than 20 percent. Color index ~20. Could be a Precambrian rock.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M58-7	Biotite Hbld	83.1 139	9.34 1.049	73 84	Unpublished	116° 37' 26" 35° 3' 22"	Alvord Mtn 15'	Hornblende -biotite granodiorite. Medium-grained. Poorly developed, inconsistently oriented foliation; probably primary. Abundant sphene. Hornblende:biotite~1:1. Color index ~25.
M59-7	Biotite Hbld	74.9 95.6	9.30 0.987	83 59	Unpublished	116° 48' 20" 35° 7' 11"	Coyote Lake 7.5'	Hornblende -biotite granodiorite. Medium-grained. Medium-grained. Poorly developed, inconsistently oriented foliation; probably primary. Moderately well-developed lineation. Very abundant inclusions. Abundant sphene. Hornblende:biotite~1:1. Color index ~18. Probably same pluton as M58-7.
M60-7	Biotite Hbld	81.0 128	9.52 1.130	73 72	Unpublished	116° 43' 36" 35° 13' 22"	Langford Well 7.5'	Hornblende -biotite granodiorite or quartz diorite. Moderately well-developed foliation. Sphene-bearing, some epidote. Uniform at sample site. Color index ~30.
M61-7	Biotite	69.7	9.27	89	Unpublished	116° 36' 36" 35° 19' 17"	Tiefort Mtn 15'	Biotite monzogranite. Coarse-grained. Has interstitial look caused by disaggregated biotite. Large quartz and pink K-spar look like clumped mineral aggregates. Rock may be recrystallized.
M62-7	Biotite	71.4	9.44	90	Unpublished	116° 45' 46" 35° 9' 41"	Paradise Range 7.5'	Biotite monzogranite. Moderately leucocratic. Medium-grained, equigranular. Color index ~30. Has appearance of Late Cretaceous plutons of Mojave area.
M63-7	Biotite	75.3	8.94	85	Unpublished	116° 58' 55" 35° 3' 17"	Lane Mtn 15'	Hornblende -biotite granodiorite or monzogranite. Medium-grained. Equigranular, nonporphyritic. Color index ~12. Biotite:hornblende ~2:1. Some hornblende may be chloritized.
M64-7	Biotite	77.0	9.36	91	Unpublished	*117° 3' 42" 35° 5' 52"	Mud Hills 7.5'	Hornblende -biotite granodiorite. Medium- to fine-grained. Equigranular, nonporphyritic. Color index ~15.
M65-7	Hbld	123	0.824	56	Unpublished	*117° 1' 10" 35° 9' 14"	Superior Lake 7.5'	Biotite-hornblende granodiorite. Medium- to coarse-grained. Seriate. Hornblende averages 0.5 cm, some to 2 cm. May be partially chloritized. Biotite in very fine-grained clusters. Color index ~10. Biotite: hornblende ~1:10.
M66-7	Biotite	132	9.07	91	Unpublished	116° 20' 07" 34° 49' 25"	Cady Mtn 15'	Biotite monzogranite. Medium- to coarse-grained. Seriate; porphyritic; biotite finer than felsic grains. K-spar phenocrysts to 2.5 cm, sparse, irregularly distributed. Sphene pseudomorphs. Color index ~7.
M67-7	Biotite Hbld	126 140	8.95 0.979	93 78	Unpublished	116° 13' 25" 34° 53' 25"	Broadwell Lake 15'	Hornblende -biotite granitic gneiss. Irregularly intermixed with porphyroblastic biotite granitic gneiss. Color index ~35.
M68-7	Biotite Hbld	72.1 152	8.96 0.890	83 84	Unpublished	--	Rodman Mtns 15'	Hornblende -biotite granodiorite or monzogranite. Mapped as bqm by Dibblee. Slightly foliate here. Contact Robert Powell, USGS, for location.
M69-7	Biotite	67.7	8.56	84	Unpublished	*116° 15' 16" 34° 4' 59"	Joshua Tree South 7.5'	Biotite monzogranite. Medium- to fine-grained. Equigranular, nonporphyritic. Color index ~7.
M70-7	Biotite	67.3	9.43	81	Unpublished	*116° 18' 6" 34° 1' 38"	Joshua Tree South 7.5'	Biotite monzogranite. Medium- to fine-grained. K-spar phenocrysts are sparse and irregularly distributed. Biotite occurs as aggregates along subtle to distinct foliation planes. Color index ~10.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M71-7	Hbld	77.5	1.170	43	Unpublished	116° 8' 6" 34° 5' 24"	Indian Cove 7.5'	Hornblende granodiorite. Rock Dibblee mapped as monzonite porphyry. Phenocrysts of K-spar up to 10 cm. Color index ~10.
M72-7	Biotite Hbld	93.3 227	8.84 0.788	84 22	Unpublished	116° 2' 7" 34° 4' 21"	Queen Mtn 7.5'	Biotite- hornblende diorite. Medium- to fine-grained. Nonfoliate and nonlineate. Color index ~35.
M73-7	Biotite	81.5	8.74	84	Unpublished	116° 4' 16" 34° 1' 25"	Queen Mtn 7.5'	Biotite- hornblende granodiorite. Medium-grained. Sparsely porphyritic. Color index ~5. Collected near Desert Queen Mine.
M74-7	Biotite Hbld	68.9 78.7	9.42 1.026	86 64	Unpublished	116° 10' 16" 33° 55' 39"	Keys View 7.5'	Hornblende -biotite granodiorite. Medium-grained. Nonporphyritic. Irregular lineation. Color index ~10.
M75-7	--	--	--	--	--	--	Malapai Hill 7.5'	Sample discarded, sample not dated, or information lost.
M76-7	Biotite	67.6	8.44	47	Unpublished	115° 57' 54" 33° 41' 3"	Cottonwood Springs 15'	Biotite monzogranite. Fine-grained. Nonfoliate and nonlineate, isotropic or massive. Sparsely porphyritic. Color index ~12.
M77-7	Biotite	79.8	9.48	87	Unpublished	115° 48' 37" 33° 37' 56"	Cottonwood Springs 15'	Biotite monzogranite or granodiorite. Medium-grained. Porphyritic. Nonfoliate and nonlineate, isotropic or massive. Rock is brecciated, and some biotite shows alteration; should be a clean mineral separate though.
M78-7	Biotite	75.0	9.00	92	Unpublished	115° 40' 16" 33° 39' 43"	Hayfield 15'	Biotite monzogranite. May have some hornblende. Medium- to coarse-grained. Nonfoliate and nonlineate, isotropic or massive. Porphyritic. Probably same pluton as M77-7.
M79-7	Biotite	144	8.42	90	Unpublished	*115° 26'20" 33° 48' 37"	Victory Pass 7.5'	Biotite- hornblende granodiorite. Medium-grained. Porphyritic; phenocrysts to 3 cm long. Abundant flattened inclusions define a fabric, but monzogranite at this same site is near-equigranular. Rock is fractured, but minerals look fresh. Color index ~20.
M80-7	Biotite	145	9.34	95	Unpublished	*115° 26'20" 33° 48' 37"	Victory Pass 7.5'	Biotite monzogranite. Fine-grained. Nonfoliate and nonlineate, isotropic or massive, near-equigranular. Rock is fractured, but minerals look fresh. Color index ~8.
M81-7	Biotite	107	9.46	88	Unpublished	115° 29' 0" 34° 44' 35"	Chuckwalla Mts 15'	Biotite monzogranite. Medium-grained. Nonfoliate and nonlineate, isotropic or massive. Similar to White Tank pluton. Very uniform. Color index ~7.
M82-7	Biotite	72.2	8.99	90	Unpublished	115° 48' 13" 33° 41' 58"	Cottonwood Springs 15'	Biotite monzogranite. Medium-grained. Nonfoliate and nonlineate, isotropic or massive. Similar to White Tank pluton. Very uniform. Color index ~7.
M83-7	Biotite	69.1	9.03	86	Unpublished	115° 47' 50" 33° 53' 4"	Porcupine Wash 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained. Sparsely porphyritic. Nonfoliate and nonlineate, isotropic or massive. Color index ~12. May be same pluton as M82-7.
M84-7	Biotite Hbld	69.5 67.6	9.42 0.717	81 59	Unpublished	115° 45' 58" 33° 47' 4"	Porcupine Wash 7.5'	Hornblende -biotite granodiorite. Medium-grained. Nonporphyritic. Nonfoliate and nonlineate, isotropic or massive. Sphene-bearing. Color index ~18. Rock very uniform at sample site.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M85-7	Biotite Hbld	72.2 73.4	9.28 0.708	90 44	Unpublished	115° 49' 15" 33° 53' 4"	Pinto Mtn 7.5'	Hornblende -biotite granodiorite. Medium-grained. Nonporphyritic. Nonfoliate and nonlineate, isotropic or massive. Sphene-bearing. Color index ~18. Rock very uniform at sample site. Probably same pluton as M84-7.
M86-7	Hbld	57.4	1.168	60	Unpublished	*117° 36' 7" 35° 19' 26"	Red Mtn 7.5'	Biotite- hornblende granodiorite. Fine- to medium-grained. Nonfoliate and nonlineate, isotropic or massive. Equigranular. Color index ~35. Biotite looks chloritized; contains some epidote. Collected near M87-7.
M87-7	Biotite	62.8	9.26	77	Unpublished	*117° 36' 0" 35° 19' 20"	Red Mtn 7.5'	Hornblende -biotite granodiorite. Medium-grained. Nonporphyritic. Nonfoliate and nonlineate, isotropic or massive. Contains epidote. Color index ~10.
M88-7	Biotite	18.0	8.92	48	Unpublished	117° 38' 26" 35° 21' 16"	Johannesburg 7.5'	Biotite- hornblende granodiorite. Slightly foliate and lineate. Biotite is reddish-brown. Contains rusty prismatic patches that could be pyroxene or hornblende.
M89-7	Biotite Hbld	19.6 18.8	9.26 0.888	71 16	Unpublished	117° 38' 38" 35° 21' 29"	Johannesburg 7.5'	Biotite- hornblende granodiorite. Slightly foliate and lineate. Biotite is reddish-brown. Same rock as M88-7, but hornblende:biotite ratio is much higher. Contains less rusty patches.
M90-7	Biotite Hbld	18.4 18.8	8.76 1.005	53 32	Unpublished	117° 39' 16" 35° 21' 38"	Johannesburg 7.5'	Biotite- hornblende granodiorite. Slightly foliate and lineate. Biotite is reddish-brown. Same rock as M88-7, but lithologically more like M89-7. This sample collected within a few meters of schist host rock.
M91-7	Biotite	137	9.13	94	Unpublished	117° 34' 53" 35° 32' 3"	Spangler Hills West 7.5'	Biotite monzogranite. Minor hornblende; looks chloritized. Fine-grained. Nonfoliate and nonlineate. Color index ~10. Rock uniform at sample site. Hornblende was run, but instrument failure ruined results; did not rerun.
M92-7	Biotite Hbld	70.4 68.8	9.57 1.272	82 72	Unpublished	117° 42' 17" 35° 17' 41"	Johannesburg 7.5'	Hornblende -biotite granodiorite. Medium- to coarse-grained. Foliate and lineate. Sphene-bearing. Both mafic minerals larger than felsic minerals. Color index ~18.
M93-7	Muscovite	71.5	9.08	91	Unpublished	117° 42' 52" 35° 18' 59"	Johannesburg 7.5'	Muscovite-quartz-albite schist. Highly foliated. Rand Schist. Collected about 150 meters below thrust fault.
M94-7	--	--	--	--	--	--	Palen Mts 15'	Sample discarded, sample not dated, or information lost.
M95-7	Biotite Biotite	62.5 61.0	9.67 9.67	80 80	Unpublished	114° 51' 44" 33° 48' 56"	Midland 15'	Biotite granodiorite or monzogranite. Highly foliate and lineate, almost gneissic. Biotite is disaggregated and streaked out. Phenocrysts or porphyroblasts are milled and many have plagioclase rims. Sphene-bearing.
M96-7	Biotite Hbld	148 179	8.78 0.472	83 56	Published	116° 1' 23" 34° 11' 33"	Twentynine Palms 7.5'	Hornblende -biotite granodiorite. Porphyritic. Abundant 3 cm-long lavender-gray phenocrysts. Sphene-bearing. Hornblende age differs from 183 Ma published age due to recalculation of analytical data.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M97-7	Biotite Hbld	154 159	8.66 0.516	81 73	Unpublished	115° 54' 53" 34° 11' 27"	Valley Mtn 15'	Hornblende -biotite granodiorite. Porphyritic. Abundant 3 cm-long lavender-gray phenocrysts. Sphene-bearing. Same pluton as M96-7.
M98-7	Biotite	67.7	9.02	80	Unpublished	115° 43' 21" 34° 12' 0"	Dale Lake 15'	Biotite monzogranite. Porphyritic. Mafic minerals (may include hornblende) are disaggregated, but do not define an oriented fabric. Phenocrysts are grayish-pink to pink. Plagioclase contains small, evenly distributed biotite or magnetite. Nonfoliate and nonlineate. Rock looks like it might be metamorphosed. Color index ~10.
M99-7	Biotite	65.9	9.48	91	Unpublished	115° 43' 8" 34° 15' 18"	Bristol Lake 15'	Biotite monzogranite. Porphyritic. Small 1.5 cm-long phenocrysts. Medium-grained. Feldspars are white and pink.. Biotite forms discrete, well developed crystals. Color index ~15.
M100-7	Biotite Hbld	70.1 88.8	8.08 0.839	91 61	Unpublished	115° 44' 54" 34° 25' 52"	Bristol Lake 15'	Biotite- hornblende diorite or gabbro. Medium-grained. Biotite may be slightly chloritized, but should be able to get clean mineral separate. Slightly lineate and foliate. Color index ~50.
M101-7	Biotite	137	9.44	90	Unpublished	115° 39' 59" 34° 33' 39"	Cadiz 15'	Biotite monzogranite. Very coarse-grained. Irregularly porphyritic. Nonfoliate and nonlineate, isotropic or massive. Biotite appears disaggregated, but is in clumps.
M102-7	--	--	--	--	--	--	Cadiz 15'	Sample discarded, sample not dated, or information lost.
M102A-7	Biotite Hbld	158 160	7.74 0.630	93 76	Unpublished	115° 33' 0" 34° 36' 32"	Cadiz 15'	Hornblende -biotite granodiorite. Medium-grained. Nonporphyritic. Nonfoliate and nonlineate, isotropic or massive. Sphene-bearing. Feldspars are gray and pinkish-gray. Color index ~18.
M103-7	Biotite	77.0	9.25	88	Unpublished	118° 35' 2" 34° 43' 30"	Burnt Peak 15'	Biotite- hornblende granodiorite or monzogranite. Medium-grained. Nonporphyritic. Nonfoliate and nonlineate, isotropic or massive. Sphene-bearing. Pink potassium feldspar. Hbld:biotite~2:1. Color index ~15.
M104-7	Biotite	68.8	9.13	90	Unpublished	118° 23' 34" 34° 40' 43"	Bouquet Reservoir 7.5'	Hornblende -biotite granodiorite. Medium-grained. Sparsely porphyritic. Poorly developed foliation. Sphene-bearing. Pink potassium feldspar. Color index ~18. Hornblende:biotite~1:2.
M105-7	Biotite	74.8	8.83	89	Unpublished	118° 26' 10" 34° 43' 2"	Bouquet Reservoir 7.5'	Biotite monzogranite. Medium-grained. Irregularly porphyritic. Nonfoliate and nonlineate, isotropic or massive. Very homogeneous. Color index ~13.
M106-7	--	--	--	--	--	--	Cuddy Valley 7.5'	Sample discarded, sample not dated.
M107-7	Biotite	79.6	8.71	90	Unpublished	118° 58' 28" 34° 49' 20"	Frazier Mtn 7.5'	Hornblende -biotite granodiorite. Medium-grained. Nonporphyritic, equigranular. Foliate. Sphene-bearing (very pale). Hbld may be chloritized. Hornblende:biotite~1:3. Color index ~15.
M108-7	Biotite Hbld	230 239	8.21 0.446	92 75	Published	117° 55' 16" 35° 23' 39"	Saltdale NW 7.5'	Hornblende -biotite granodiorite. Foliate. El Paso Mts. Triassic sample for Brett Cox. Sample labeled E59-3 in MI-2389.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M1-8	Biotite Hbld	18.6 17.5	8.82 0.380	63 18	Unpublished	117° 14' 0" 34° 59' 8"	Barstow 15'	Hornblende -biotite monzogranite. Medium-grained. Nonporphyritic. Color index ~15. This a recollection of approximate M47-7 locality to confirm an apparent Tertiary age.
M2-8	Biotite Hbld	69.1 71.2	9.31 1.353	85 74	Unpublished	117° 15' 24" 35° 13' 15"	Boron 15'	Hornblende -biotite monzogranite or granodiorite. Coarse-grained. Sphene-bearing. Slightly foliate. Nonporphyritic, isotropic or massive. Color index ~15.
M3-8	--	--	--	--	--	--	Fremont Peak 15'	Sample discarded, sample not dated, or information lost.
M4-8	--	--	--	--	--	117° 13' 59" 34° 39' 10"	Turtle Valley 7.5'	Recollect of M1-7 for chemical analysis.
M5-8	Hbld	291	0.589	83	Unpublished	115° 48' 7" 34° 4' 40"	Valley Mtn 15'	Biotite- hornblende granodiorite. Porphyritic. Nonfoliate and nonlineate, isotropic or massive. Sphene-bearing. Phenocrysts up to 4 cm long are pinkish-gray. Color index ~20. Probably a bad age; problem with connection between computer and spectrometer. This is probably a Jurassic rock. Not plotted on either map.
M6-8	--	--	--	--	--	--	Valley Mtn 15'	Sample discarded, sample not dated, or information lost.
M7-8	Biotite	146	8.69	93	Unpublished	115° 42' 21" 34° 0' 10"	Dale Lake 15'	Biotite- hornblende granodiorite. Nonporphyritic, isotropic or massive. Medium-grained. Mafic minerals define an irregular foliation. Minor chloritization. Sphene-bearing. Color index ~25.
M8-8	Biotite	67.6	9.25	88	Unpublished	115° 34' 3" 34° 4' 31"	Dale Lake 15'	Biotite- hornblende granodiorite or diorite. Slightly porphyritic. Small phenocrysts. Medium-grained. Subtle foliation. Sphene-bearing. Color index ~20.
M9-8	Biotite	65.1	9.00	85	Unpublished	115° 31' 34" 34° 6' 48"	Dale Lake 15'	Biotite monzogranite or granodiorite. Porphyritic. Phenocrysts up to 3 cm long. Medium-grained. Foliation defined by biotite. Color index ~5.
M10-8	--	--	--	--	--	--	Cadiz Valley 15'	Sample discarded, sample not dated, or information lost.
M11-8	Hbld	70.3	0.878	64	Unpublished	115° 23' 21" 34° 22' 48"	Cadiz Lake 15'	Hornblende granodiorite or diorite. Nonporphyritic. Medium-grained. Nonfoliate and nonlineate, isotropic or massive. Color index ~30.
M12-8	Hbld	83.9	0.752	62	Unpublished	118° 21' 47" 35° 4' 49"	Monolith 7.5'	Hornblende diorite. Nonporphyritic. Medium- to fine-grained. Nonfoliate and nonlineate, isotropic or massive. Color index ~35.
M13-8	Biotite	78.6	8.08	92	Unpublished	118° 13' 45" 35° 8' 39"	Mojave 15'	Biotite monzogranite. Medium-grained. Nonporphyritic. Equigranular. Nonfoliate and nonlineate, isotropic or massive. Color index ~3.
M14-8	Biotite	76.0	7.11	82	Unpublished	118° 6' 16" 35° 13' 58"	Mojave 15'	Biotite monzogranite. May contain some hornblende. Medium-grained. Porphyritic. Phenocrysts up to 3 cm long. Nonfoliate and nonlineate, isotropic or massive. Color index ~10.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M15-8	Biotite	73.6	9.38	81	Unpublished	--	Rodman Mts 15'	Biotite monzogranite. May contain some hornblende. Mafic mineral(s) are in fine-grained clots. Medium-grained. Porphyritic. Phenocrysts 1 to 2 cm long. Nonfoliate and nonlineate. Color index ~5. Contact Robert Powell, USGS, for location.
M16-8	Biotite Muscovite	62.7 66.5	8.98 10.51	82 50	Unpublished	115° 10' 33" 34° 35' 54"	Essex 15'	Muscovite-biotite monzogranite. Medium-grained. Contains very sparse, irregularly distributed phenocrysts 1 to 2 cm long. Aligned biotite defines poorly developed foliation. Color index ~5.
M17-8	Biotite Muscovite	68.4 66.1	8.86 10.56	84 89	Unpublished	115° 07' 41" 34° 31' 45"	Essex 15'	Muscovite-biotite monzogranite. Medium-grained. Contains very sparse, irregularly distributed phenocrysts 1 to 2 cm long. Nonfoliate and nonlineate, isotropic or massive. Probably same pluton as M16-8. Color index ~5.
M18-8	Biotite Muscovite	70.2 60.6	8.33 10.36	86 91	Unpublished	115° 6' 23" 34° 43' 7"	Essex 15'	Muscovite-biotite monzogranite. Medium-grained. Contains very sparse, irregularly distributed phenocrysts 1 to 2 cm long. Nonfoliate and nonlineate, isotropic or massive. Probably same pluton as M16-8. Color index ~5.
M19-8	Biotite	66.1	9.51	86	Unpublished	115° 13' 10" 34° 29' 6"	Milligan 15'	Hornblende -biotite granodiorite. Very little hornblende. Medium-grained. Sparsely porphyritic. Some phenocrysts up to 3 cm long. Foliate. Color index ~20.
M20-8	Biotite Muscovite	67.5 71.0	8.71 10.60	85 71	Unpublished	--	?? probably Essex 15' quad	No M20-8 listed in field notes; location unknown, but probably same body as M16-8 to M18-8.
M21-8	Biotite Muscovite	65.5 70.7	8.21 10.44	82 90	Unpublished	--	?? probably Essex 15' quad	No M21-8 listed in field notes; location unknown, but probably same body as M16-8 to M18-8.
M22A-8	Biotite	67.8	8.54	84	Unpublished	--	?? probably Essex 15' quad	No M22A-8 listed in field notes; location unknown, but probably same body as M16-8 to M18-8.
M1-9	Hbld	224	1.009	88	Unpublished	117° 51' 4" 35° 25' 13"	Garlock 7.5'	Gneissic quartz monzonite of Christensen. Contains abundant epidote. Color index ~15. Collected 1000 feet from contact with Christensen's quartz and microcline bearing diorite. El Paso Mts. Triassic sample.
M2-9	Biotite Hbld	157 238	8.96 0.902	93 76	Unpublished	117° 51' 59" 35° 24' 37"	Garlock 7.5'	Christensen's quartz and microcline bearing diorite. Contains biotite. Some hornblende streaked with epidote. Color index ~25. El Paso Mts. Triassic sample.
M3-9	--	--	--	--	--	--	Saltdale NW 7.5'	Sample discarded, sample not dated, or information lost.
M4-9	Biotite Hbld	146 229	9.06 0.605	91 73	Unpublished	117° 53' 55" 35° 25' 39"	Saltdale NW 7.5'	Christensen's adamellite. Contains biotite. Some hornblende streaked with epidote. Color index ~15. El Paso Mts. Triassic sample.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M5-9	Hbld Hbld (⁴⁰ Ar/ ³⁹ Ar)	246 255	0.930	89	Unpublished	117° 50' 55" 35° 26' 0"	Garlock 7.5'	Gneissic quartz monzonite of Christensen. Contains abundant epidote. Color index ~15. Same unit as M1-9. Collected east of M1-9. El Paso Mts. Triassic sample.
TS-P-1	Whole rock	7.15	1.01	33	Unpublished	116° 28' 28" 34° 12' 56"	Yucca Valley North 7.5'	Pioneertown basalt.
TS-OW-1	Whole rock	4.86	2.18	26	Unpublished	116° 43' 12" 34° 24' 08"	Old Woman Springs 7.5'	Old Woman Springs basalt.
TS-SB-1	Whole rock	7.95	0.401	32	Unpublished	116° 39' 02" 33° 59' 43"	White Water 7.5'	Cabazon ES basalt.
TS-B-1	Whole rock	6.70	1.02	43	Unpublished	--	--	Locality information lost. Collected from limited exposures of basalt in Santa Ana Canyon, San Bernardino Mountains.
8M104	Whole rock	7.30	0.941	63	Unpublished	116° 48' 1" 34° 10' 42"	Moonridge 7.5'	Santa Ana Canyon (due south of Sugarloaf Mtn.) basalt; middle flow of 3 flows.
8M115	Whole rock	8.26	0.978	64	Unpublished	116° 43' 03" 34° 10' 25"	Onyx Peak 7.5'	QTb of Dibblee as mapped on Morongo Valley 15'.
8M116	Whole rock	6.88	0.448	36	Unpublished	--	Cabazon 7.5'	Cabazon area basalt. Contact Jonathan Matti, USGS, for exact location.
8M117	Whole rock	7.8	0.226	17	Unpublished	--	Cabazon 7.5'	Cabazon area basalt. Considered an unreliable age due to instrument problems. Same unit as 8M116, which is considered a better K-Ar age. Contact Jonathan Matti, USGS, for exact location.
8M118	Whole rock	7.68	0.362	30	Unpublished	--	Cabazon 7.5'	Basalt at base of Painted Hills Fm. Probable Lion Canyon area. HF and HNO ₃ treated. Contact Jonathan Matti, USGS, for exact location.
DG-1a	Whole rock	6.04	1.127	60	Unpublished	--	Desert Hot Springs 7.5'	Imperial Fm or Painted Hills Fm. basalt. Contact Jonathan Matti, USGS, for exact location.
DG-1b	Whole rock	5.94	1.091	66	Unpublished	--	Desert Hot Springs 7.5'	Imperial Fm or Painted Hills Fm. basalt. Contact Jonathan Matti, USGS, for exact location.
CF-2	Whole rock	14.7	1.355	56	Unpublished	--	Whitewater 7.5'	Basalt flow in Coachella Fm. Contact Jonathan Matti, USGS, for exact location.
CF-3a	Plagio clase	15.7	0.812	84	Unpublished	--	Whitewater 7.5'	Contact Jonathan Matti, USGS, for exact location. Approximate location 116° 38.5' — 34° 59'
CF-3b	--	--	--	--	--	--	Whitewater 7.5'	Instrument problems; no age. See JD-19-5 below
7M002	Whole rock	7.77	0.997	29	Unpublished	116° 27' 33" 34° 10' 47"	Yucca Valley North 7.5'	QTb of Dibblee on Joshua Tree 15'.
7M041	Whole rock	6.86	1.186	19	Unpublished	116° 27' 30" 34° 10' 43"	Yucca Valley North 7.5'	QTb of Dibblee on Joshua Tree 15'. Sample collected above sample 7M002; highest flow sampled in this area.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
JD-19-5	Whole rock	12.0	0.230	36	Unpublished	--	Whitewater 7.5'	This is a resample of CF-3b. Contact Jonathan Matti, USGS, for exact location. Approximate location 116° 38.5' — 34° 59'
V1-8	--	--	--	--	--	--	Devore 7.5'	Gabbro from SE side of I-15. Very weathered, mafic minerals look chloritized. Not suitable for dating.
V2-8	Plagio clase	19.3	0.735	54	Unpublished	116° 18' 40" 34° 43' 32"	Lavic Lake 7.5'	Basalt, black, aphanitic, vesicular. Contains some plagioclase phenocrysts.
V3-8	Whole rock	5.25	0.873	14	Unpublished	115° 4' 3" 34° 42' 3"	Ludlow 7.5'	Basalt, fine-grained to aphanitic, highly vesicular in places. Contains abundant olivine phenocrysts. Collected from dike. Basalt of Ash Hill.
V4-8	Whole rock	12.7	0.975	54	Unpublished	117° 16' 52" 34° 32' 10"	Malapai Hill 7.5'	Basalt, massive, aphanitic. Contains abundant olivine phenocrysts. Intrusive Basalt of Malapai Hill.
V5-8	Whole rock	6.94	1.652	49	Unpublished	117° 0' 4" 33° 30' 9"	Bachelor Mtn 7.5'	Basalt, black, massive, fine-grained. Contains olivine and some plagioclase phenocrysts. Basalt of Vail Mtn.
V6-8	--	--	--	--	--	--	Mt Wilson 7.5'	Dark gray dike rock. Fine-grained, weathered. Not suitable for dating.
V7-8	Hbld Hbld	96.9 107	0.662 0.662	47 79	Unpublished	--	Tustin 7.5'	Collected as a Td dike. Initial Tertiary call apparently is wrong. Location information was lost.
V8-8	--	--	--	--	--	--	Lane Mtn 15'	Sample discarded, sample not dated, or information lost.
V9-8	--	--	--	--	--	--	Lane Mtn 15'	Sample discarded, sample not dated, or information lost.
V10-8	--	--	--	--	--	--	Lane Mtn 15'	Sample discarded, sample not dated, or information lost.
V11-8	Hbld	18.1	0.477	27	Published	116° 53' 16" 35° 1' 48"	Lane Mtn 7.5'	Hornblende -biotite andesite from Jackhammer Fm. Rock shows alteration.
V12-8	Plagio clase	18.1	0.597	72	Published	116° 53' 11" 35° 1' 53"	Lane Mtn 7.5'	Biotite andesite unconformably overlying Jackhammer Fm. Unaltered sample.
V13-8	Whole rock	21.5	2.672	52	Unpublished	--	Minneola 7.5'	Basalt (Tbh of Dibblee); very fine-grained. Looks more like an andesite. Appears to have some biotite. Has red surface alteration. Location information was lost.
V14-8	--	--	--	--	--	--	Newberry Springs 15'	Biotite andesite (Ta of Dibblee). Rock shows alteration. Not suitable for dating.
V15-8	Whole rock	15.8	1.181	14	Unpublished	116° 34' 1" 35° 4' 14"	Alvord Mtn 15'	Basalt, fine-grained, black, weathers red to brown on surface. Alvord Peak basalt of Beyers (1960).
V16-8	Whole rock Whole rock	10.0 9.87	1.022 1.022	23 27	Unpublished	116° 34' 11" 35° 4' 5"	Alvord Mtn 15'	Olivine basalt. Flow rock. Some alteration, but olivine looks fresh. Spanish Canyon Fm. of Beyers (1960).

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
V1-9	Whole rock	20.8	??	??	Unpublished	--	--	Red Buttes quartz basalt of Dibblee. Location information and spectrometer chart was lost.
V2-9	--	--	--	--	--	--	Saltdale NW 7.5'	Basalt from lower part of Ricardo Fm. Sample discarded, sample not dated, or information lost.
V3-9	--	--	--	--	--	--	Saltdale NW 7.5'	Jackhammer Fm. Sample discarded, sample not dated. K ₂ O content too low.
V4-9	--	--	--	--	--	--	Cabazon 7.5'	For chemistry only, not dated. Basalt of Painted Hills Fm.
V5-9	--	--	--	--	--	--	Cabazon 7.5'	For chemistry only. Basalt at base of Painted Hills Fm. Same sample as 8M118
Devore 1	Whole rock Whole rock Hbld	64.9 63.9 71.6	2.18 2.18 1.085	92 92 75	Unpublished	117° 28' 16" 34° 11' 44"	Devore 7.5'	Mylonite.
S22-92-3	Biotite	77.2	8.99	90	Unpublished	116° 24' 39" 33° 13' 41"	Tubb Canyon 7.5'	Montezuma-Borrego Highway, mylonitic tonalite or granodiorite.
S22-87-3	Biotite	81.3	9.07	89	Unpublished	116° 26' 32" 33° 12' 39"	Tubb Canyon 7.5'	Montezuma-Borrego Highway, mylonite.
S22-84-3	Biotite Hbld	84.5 82.8	8.99 1.113	86 83	Unpublished	116° 29' 41" 33° 12' 38"	Tubb Canyon 7.5'	Montezuma-Borrego Highway, mylonite.
WT-2	Biotite Hbld	87.8 93.4	9.63 0.947	89 78	Unpublished	118° 17' 16" 34° 9' 11"	Burbank 7.5'	Hornblende -biotite granodiorite. Medium-grained. Sphene-bearing. Color index ~15.
TA-6	Biotite	59.1	8.92	94	Unpublished	116° 47' 37" 34° 2' 11"	San Gorgonio Mtn. 7.5'	Hornblende -biotite granodiorite or quartz diorite. Equigranular. Medium-grained.
TC-6	Biotite	90.4	9.01	18	Unpublished	116° 45' 38" 34° 4' 33"	San Gorgonio Mtn. 7.5'	Hornblende -biotite granodiorite.
416	Hbld	65.3	1.312	70	Unpublished	117° 19' 54" 34° 14' 56"	San Bernardino North 7.5'	Biotite- hornblende quartz monzonite. Sphene-bearing. Medium-grained, nonporphyritic. Color index ~20. This rock may be one of the Triassic plutons.
SR-24	Biotite	13.4	8.13	50	Unpublished	--	--	No SR-24 in field notes; location unknown. May be service work for unknown worker.
DMG	Biotite Hbld	70.5 73.8	8.69 0.874	62 51	Unpublished	--	--	No DMG in field notes; location unknown. May be service work for unknown worker.
RH2001 1772	Hbld	74.1	0.393	56	Unpublished	--	--	No RH20011772 in field notes; location unknown. May be service work for unknown worker. Spectrometer run on 1/12/78
DES701 3	Sanidine	17.9	??	??	Published	116° 18' 2" 34° 58' 28"	Hidden Valley E 7.5'	Peach Spring Tuff. Collected by S. Miller; Dated by Savage and Curtiss. Miller (1980).

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
DES7014	Plagio clase	22.9	??	??	Published	116° 18' 50" 34° 59' 04"	Hidden Valley E 7.5'	Airfall tuff. Collected by S. Miller; Dated by Savage and Curtiss. Miller (1980).
CMG1-34	Biotite Biotite	22.6 22.5	8.51 8.47	70 69	Unpublished	--	Mt. Barrow 7.5'	Chocolate Mts. sample dated for Bruce Crowe. Biotite granodiorite. Mt Barrow pluton. Exact locality unrecoverable.
CMG1-35	Biotite	22.8	7.95	60	Unpublished	--	Mt. Barrow 7.5'	Chocolate Mts. sample dated for Bruce Crowe. Biotite granodiorite. Mt Barrow pluton. Exact locality unrecoverable.
CMG1-36	Biotite	23.6	8.79	78	Unpublished	--	Mt. Barrow 7.5'	Chocolate Mts. sample dated for Bruce Crowe. Biotite granodiorite. Mt Barrow pluton. Exact locality unrecoverable.
CMG1-68	Biotite	24.5	8.47	88	Unpublished	--	Mt. Barrow 7.5'	Chocolate Mts. sample dated for Bruce Crowe. Biotite granodiorite. Mt Barrow pluton. Exact locality unrecoverable.
BH82BR-28	Plagio clase	16.2	0.55	12	Published	115° 51' 52" 34° 43' 37"	East of Siberia 7.5'	Flow-banded rhyodacite. Dark-gray, porphyritic rock containing plagioclase and hornblende.
BH82BR-39	Sanidine	16.7	9.16	68	Published	115° 57' 39" 34° 44' 55"	Siberia 7.5'	Peach Spring Tuff(?). Pink, pumice-rich welded tuff containing sanidine and biotite.
BH82N Y-99B	Biotite	69.0	9.58	77	Published	115° 19' 33" 35° 15' 32"	Ivanpah 7.5'	Mid Hills Adamellite. Porphyritic biotite monzogranite containing sparse K-feldspar phenocrysts.
BH82SP-58	Biotite	74.5	8.72	64	Published	115° 36' 03" 34° 50' 30"	Van Winkle Springs 7.5'	Arrowweed granite. Fine-grained biotite monzogranite.
M80BR-79	Biotite	114	8.60	81	Published	115° 46' 58" 34° 40' 04"	East of Siberia 7.5'	Fine-grained granite. Leucocratic biotite monzogranite.
M80BR-85	Biotite Sanidine	20.1 19.6	8.66 9.10	74 57	Published	115° 44' 50" 34° 35' 29"	Amboy 7.5'	Peach Spring Tuff. Red rhyolite tuff, welded, bearing sanidine, biotite, and quartz.
M81BR-41	Sanidine	18.0	3.50	82	Published	115° 49' 59" 34° 45' 38"	Budweiser Wash 7.5'	Peach Spring Tuff. Light-gray rhyolite tuff, unwelded, bearing sanidine, biotite, and plagioclase. Dated mineral separate probably contained quartz.
M81LH-14	Biotite	130	9.34	82	Published	115° 49' 45" 34° 37' 26"	Amboy Crater 7.5'	Porphyritic granite. Porphyritic biotite quartz syenite to syenogranite; K-feldspar phenocrysts are purple.
M81LH-16	Biotite	116	8.47	89	Published	115° 49' 46" 34° 38' 03"	East of Siberia 7.5'	Felsic dike. Fine-grained, light gray biotite quartz syenite containing rare phenocrysts of pink-rimmed light gray K-feldspar.
M81LH-58	Whole rock	22.1	1.58	58	Published	115° 56' 36" 34° 40' 27"	Siberia 7.5'	Black Ridge basalt. Olivine basalt having a plagioclase lath matrix.
M82BR-03	Biotite	74.3	7.80	73	Published	115° 50' 30" 34° 41' 45"	East of Siberia 7.5'	Gray granite. Pale-gray, medium-grained, subequigranular hornblende-biotite monzogranite containing pink K-feldspar.
M82BR-103	Whole rock	17.0	1.60	40	Published	115° 48' 30" 34° 41' 19"	East of Siberia 7.5'	Dacite. Gray dacite lava flow, possibly altered. Feldspar phenocrysts.
M82BR-21	Whole rock	17.4	2.20	54	Published	115° 54' 06" 34° 42' 58"	Siberia 7.5'	Basalt. Black olivine basalt containing iddingsite alteration.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
M82BR-27	Biotite	22.4	8.38	72	Published	115° 55' 34" 34° 39' 31"	Siberia 7.5'	Dacite. Medium gray feldspar-quartz- hornblende -biotite dacite lava flow.
M82CO-138	Biotite	146	7.50	76	Published	115° 24' 17" 34° 56' 37"	Colton Wells 7.5'	Dacite dike. Independence dike(?). Plagioclase- hornblende -biotite dacite.
M82SP-75	Biotite	157	8.15	82	Published	115° 33' 56" 34° 55' 24"	Fountain Peak 7.5'	Goldstone quartz monzonite. Gray, medium- to coarse-grained biotite quartz syenite. Biotite clots to 10 mm diameter.
M83WH-130	Sanidine	16.8	6.75	51	Published	115° 25' 00" 35° 01' 24"	Columbia Mtn 7.5'	Wild Horse Mesa Tuff. Upper unit. Pink, moderately welded tuff containing blue sanidine and biotite.
M84LH-106	Biotite	22.1	8.38	68	Published	115° 57' 35" 34° 38' 38"	Siberia 7.5'	Dacite. Polka-dot texture, flow-banded dacite in a volcanic breccia. Contains biotite and possible hornblende.
M84MH-51	Hbl Sanidine	30.2 20.5	0.96 9.36	24 83	Published	115° 22' 07" 35° 10' 20"	Pinto Valley 7.5'	Peach Spring Tuff. Buff colored, columnar jointed welded tuff containing abundant blue sanidine plus quartz, hornblende, biotite, and plagioclase.
M84MH-59	Sericite	69.0	9.64	85	Published	115° 27' 09" 35° 04' 29"	Columbia Mtn 7.5'	Sericitized dike. K-feldspar-plagioclase in gray-brown matrix that is 30% sericite.
M84MH-95	Biotite Sanidine	18.8 20.0	8.95 8.80	51 76	Published	115° 25' 39" 35° 03' 19"	Columbia Mtn 7.5'	Peach Spring Tuff. Sanidine-biotite- hornblende -plagioclase-quartz rhyolite, moderately welded.
M84NP-121	Sericite	82.2	10.65	90	Published	115° 30' 05" 35° 02' 59"	Hayden 7.5'	Sericitized dike. Quartz-eye porphyry dike. Feldspar-sericite, quartz.
M85MH-44	Hbl	78.4	0.86	75	Published	115° 27' 10" 35° 05' 25"	Columbia Mtn 7.5'	Dacite dike.
M85NY-14	Biotite Sanidine	15.8 14.2	8.80 11.05	48 12	Published	115° 16' 52" 35° 19' 18"	Ivanpah 7.5'	Rhyolite dike. Gray to pinkish-gray rhyolite dike in Mid Hills adamellite pluton; bears sanidine, hornblende, biotite in a matrix that has vugs and flattened fiamme.
M86NY-12	Sanidine	120	5.76	71	Published	115° 06' 37" 35° 27' 19"	Hopps Well 7.5'	Rhyolite tuff. White tuffaceous sandstone, biotite-bearing. Mineral separate probably contained quartz.
M88NY-40	Biotite Plagioclase	18.8 15.6	8.1 1.36	52 79	Published	115° 05' 12" 35° 27' 56"	Hopps Well 7.5'	Andesite. Gray dacite or andesite lahar containing biotite, feldspar, and possible hornblende.
M89NY-10	Biotite	94.4	8.74	87	Published	115° 10' 43" 35° 28' 47"	Crescent Peak 7.5'	Hypabyssal biotite monzogranite. Medium-gray, coarsely porphyritic, quartz and K-feldspar phenocrysts.
M90NY-16	Plagioclase	17.6	1.66	70	Published	115° 11' 10" 35° 26' 31"	Crescent Peak 7.5'	Andesite or dacite flow-breccia containing hornblende, biotite, and quartz.
M91NY-33	Muscovite	198 1	10.43	99	Published	115° 07' 47" 35° 29' 18"	Hopps Well 7.5'	White pegmatite dike containing quartz, feldspar, and muscovite. Intrudes granulite gneisses.
M91NY-57	Muscovite	100	10.55	92	Published	115° 07' 40" 35° 28' 20"	Hopps Well 7.5'	Intrusion breccia. Sericitized leucocratic gneiss, silicified in places.

Sample No	Mineral	Age (Ma)	K ₂ O (percent)	Ar ^{rad} (percent)	Published or Unpublished	Location	Quadrangle	Rock description
P81LH-47	Biotite	73.0	7.75	84	Published	115° 50' 51" 34° 39' 35"	East of Siberia 7.5'	Leucogranite. Light-colored biotite granite.
MARB-522-26	Biotite	20.2	8.56	65	Published	115° 38' 46" 34° 40' 40"	Brown Buttes 7.5'	Dacite
MARB-522-19C	Sanidine	15.9	8.65	52	Published	115° 38' 22" 34° 41' 28"	Brown Buttes 7.5'	Peach Spring Tuff.
MH-4	Biotite Hbld	95.2 168	7.82 0.855	49 76	Published	115° 18' 58" 35° 10' 02"	Pinto Valley 7.5'	Rock Spring Monzodiorite. Dark gray hornblende -biotite quartz monzodiorite, inclusion rich. (Beckerman et al., 1982)
MH-7	Hbld	57.9	1.515	78	Published	115° 20' 32" 35° 09' 13"	Pinto Valley 7.5'	Rock Spring Monzodiorite. Dark gray hornblende -biotite quartz monzodiorite, inclusion rich. (Beckerman et al., 1982)
MH-172	Biotite Hbld	53.9 87.6	5.94 1.325	58 62	Published	115° 21' 34" 35° 07' 44"	Pinto Valley 7.5'	Rock Spring Monzodiorite. Dark gray hornblende -biotite quartz monzodiorite, inclusion rich. (Beckerman et al., 1982)
MH-100	Hbld	107	0.665	72	Published	115° 20' 32" 35° 09' 13"	Columbia Mountain 7.5'	Black Canyon Gabbro. Dark brown hornblende -pyroxene-plagioclase gabbro containing prismatic hornblende needles. (Beckerman et al., 1982)
MH-9	Biotite Hbld	88.7 104	6.78 3.00	50 30	Published	115° 24' 12" 35° 08' 22"	Mid Hills 7.5'	Mid Hills Adamellite. Coarse grained biotite monzogranite. Light gray containing abundant sphene, rare hornblende (Beckerman et al., 1982)
MH-27	Biotite	83.5	6.64	58	Published	115° 26' 58" 35° 07' 32"	Mid Hills 7.5'	Mid Hills Adamellite. Coarse grained biotite monzogranite. Light gray containing abundant sphene, rare hornblende (Beckerman et al., 1982)
MH-75	Biotite	73.4	2.50	71	Published	115° 21' 27" 35° 13' 48"	Pinto Valley 7.5'	Mid Hills Adamellite. Coarse grained biotite monzogranite. Light gray containing abundant sphene, rare hornblende. Low K ₂ O suggests very impure sample. (Beckerman et al., 1982)
I-6d	Biotite	79.9	7.41	61	Published	115° 17' 10" 35° 16' 18"	Ivanpah 7.5'	Mid Hills Adamellite. Coarse grained biotite monzogranite. Light gray containing abundant sphene, rare hornblende (Beckerman et al., 1982)