

TABLE 3—DESCRIPTIONS OF ROCKS OF THE BOULDER BATHOLITH

Rock name	Map symbol	Typical grain size (mm)	Typical diagnostic megascopic features	Texture	Approximate mineral composition in percent					Specific gravity		Areal extent	Miscellaneous	
					Plagioclase 1	Alkali feldspar 2	Quartz	Biotite and hornblende	Accessory minerals 3	no. of def.	range			avg.
Early stage														
Porphyritic quartz monzonite	g	.5-2	Medium dark gray, fine- to medium-grained, common plagioclase phenocrysts (4mm). 4	Hypautomorphic, locally xenomorphic, porphyritic	30-40 (An ₃₅₋₄₅ *)	25-30	20-25	10-15 bi hb	a, c, e, m	3	2.67-2.68	2.68	Minor	Biotite disseminated and replacing hornblende; hornblende largely chloritized.
Main stage														
Porphyritic quartz monzonite	cl	2-3	Light gray to medium light gray, coarse-grained, plagioclase (4mm), and alkali feldspar (4mm) crystals common.	Hypautomorphic porphyritic	35 (An ₃₅₋₄₀ *)	25	25	10-15 bi hb	a, c, m, s, z	5	2.67-2.69	2.67	Major	Biotite in clusters of minute crystals associated with altered hornblende and in individual euhedral crystals.
Granodiorite (?) porphyry	clb	2-3	Light gray, coarse-grained, conspicuous ragged alkali feldspar crystals (1-2cm), abundant plagioclase phenocrysts (3-5mm); altered hornblende phenocrysts common.	Groundmass hypautomorphic granular	45-50 (groundmass - An ₂₅₋₃₀ , phenocrysts - An ₄₀₋₄₅ *)	15-20	20-25	10 bi hb	c, e, f, s, z	1		2.64	Minor	Alkali feldspar, probably microcline, in irregular masses partly replacing plagioclase, and masses contain common fragments of other minerals; hornblende only as phenocrysts altered to chlorite and epidote, biotite, the most abundant mafic mineral in groundmass, as chloritized anhedral crystals.
Quartz monzonite	mla	.5-2	Light gray or light brownish gray to grayish pink and pale red, medium-grained.	Hypautomorphic granular	35-45 (An ₃₀₋₃₅ *)	25-35	25-30	5 bi hb	c, e, m, s, z	6	2.59-2.68	2.63	Major	Plagioclase embayed by alkali feldspar and quartz; finely disseminated and to a lesser extent clustered in small crystals around altered hornblende; small hornblende needles present locally, mafics largely altered to chlorite, epidote.
Porphyritic quartz monzonite	mlb	.5-2	Light gray, medium-grained, contains sparse alkali feldspar crystals (2-5mm) and conspicuous irregular clots of altered hornblende (4-10mm diam.)	Hypautomorphic porphyritic	30-35 (An ₃₅₋₄₀ *)	25-30	20	10-15 bi hb	c, e, m, s, z	2	2.59-2.61	2.60	Minor	Hornblende as disseminated crystals and as the principal mineral in irregular mafic clots with associated biotite and chlorite; subordinate biotite also as minute disseminated flakes and as euhedral crystals.
Porphyritic quartz monzonite	mlc	.5-2	Light gray, medium-grained, plagioclase (4-6mm) and hornblende (2-3mm) phenocrysts common.	Xenomorphic, locally hypautomorphic, porphyritic	35 (An ₃₀₋₃₅)	35	20	10 bi hb	c, e, m, s, z	Not determined			Minor	About half of plagioclase as phenocrysts.
Quartz monzonite	m2	.5-2 locally to 4	Medium gray, medium-grained	Hypautomorphic, locally xenomorphic, granular, rarely porphyritic.	35-40 (An ₃₅₋₄₀ *)	25-30	25	10 bi hb	a, c, m, s, z	8	2.62-2.71	2.67	Major	Plagioclase deeply embayed by alkali feldspar and quartz; mafics commonly chloritized.
Quartz monzonite	m2b	.5-1.5	Medium gray tinted pink, fine- to medium-grained, rare alkali feldspar (2-4mm) crystals.	Xenomorphic, locally hypautomorphic granular, rarely porphyritic	35-40 (An ₃₀₋₄₅ *)	30	20-30	5-10 bi hb	a, c, m, s, z	5	2.57-2.66	2.66	Major	Biotite as disseminated grains, largely chloritized.
Quartz monzonite porphyry	m2d	.5-1.5	Medium gray, fine- to medium-grained, plagioclase (2-3mm) and alkali feldspar (5-10mm, rarely 15mm) crystals common, abundant biotite and hornblende.	Hypautomorphic or xenomorphic porphyritic.	35 (An ₂₅₋₃₀ *)	20-25	20-25	15-20 bi hb	a, c, m, s, z	3	2.64-2.67	2.66	Minor	Alkali feldspar locally is in myrmekite-like intergrowth with quartz; mafic minerals commonly are partly chloritized; large euhedral hornblende phenocrysts locally abundant.
Quartz monzonite	fl	.2-1	Light gray, fine-grained, locally with plagioclase (3-4mm) and sparse hornblende (6-8mm) phenocrysts.	Hypautomorphic or xenomorphic granular locally porphyritic.	30-35 (An ₃₅₋₄₅ *)	30-35	30	5 bi hb	a, c, e, m, s, z	7	2.56-2.64	2.61	Minor	Alkali feldspar commonly is slightly more abundant than plagioclase; biotite as finely disseminated crystals and as clusters of crystals associated with altered hornblende.
Porphyritic Quartz monzonite	flb	.2-1	Light gray, tinted pink, fine grained, plagioclase (2-6mm) phenocrysts common.	Hypautomorphic or xenomorphic porphyritic	30 (An ₃₅₋₄₀ * in grams, An ₄₀₋₄₅ phenocrysts)	35	30	5 bi hb	a, c, m, s, z	6	2.55-2.62	2.58	Minor	Plagioclase phenocrysts embayed by alkali feldspar and quartz; biotite as disseminated ragged grains.
Quartz monzonite	flc	.5-1	Light brownish gray to grayish pink, fine-grained; local phenocrysts of plagioclase (1-4mm); abundant chlorite and epidote.	Hypautomorphic or xenomorphic granular, locally porphyritic.	35-45 (An ₃₅₋₄₀ * locally An ₄₅₋₅₀ *)	25-30	25-30	5-10 bi	a, c, e, m, s, z	4	2.62-2.67	2.65	Minor	Plagioclase deeply embayed by alkali feldspar and quartz and moderately to strongly saussuritized; biotite as finely disseminated grains; abundant chlorite probably derived from hornblende.
Quartz monzonite porphyry	fld	.05-1	Light gray, very fine-grained; abundant crystals of alkali feldspar (2-8cm), plagioclase (3-8mm), quartz (1-6mm), biotite (.5-4mm).	Xenomorphic porphyritic	45 5 (An ₃₅₋₄₀)	25 5	20 5	10 5 bi hb	c, s	2		2.64	Minor	Groundmass of rock is composed of nearly equal amounts of alkali feldspar and quartz, and comprises about 50 percent of the rock; alkali feldspar crystals clearly replace groundmass; quartz phenocrysts rounded, deeply embayed and corroded by groundmass minerals and locally appear granulated; biotite phenocrysts also deeply corroded by groundmass minerals; sparse hornblende needles rudely aligned; mafics largely chloritized.
Porphyritic quartz monzonite	f2	.2-1	Medium gray to medium dark gray, fine-grained, phenocrysts of plagioclase (1-4mm) common.	Xenomorphic porphyritic	25 (An ₃₅₋₄₅ *)	35	30	10 bi hb	c, m	3	2.67-2.69	2.67	Minor	Cores of plagioclase saussuritized; biotite finely disseminated; common chlorite and magnetite probably derived from hornblende.

- NOTES —
- 1 Average anorthite content shown thus: (An₃₅₋₄₅); plagioclase in most cases progressively zoned; * indicates plagioclase crystals, commonly andesine, enclosed by thin rim of oligoclase (An₂₅₋₃₀).
 - 2 Alkali feldspar is typically microcline microperthite.
 - 3 Apatite-a; chlorite-c; epidote-e; fluorite-f; magnetite-m; sphene-s; zircon-z.
 - 4 Size range of phenocrysts shown thus: (3-5mm).
 - 5 Percent of total phenocrysts, groundmass excluded.

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