

Table 1. -- Modal analyses (volume percent) of dioritic and noritic rocks from West Warren area, Massachusetts

Sample number	Quartz	K-feldspar	Plagioclase	Anorthite content (approximate)	Biotite	Hornblende	Hypersthene	Clinopyroxene	Opaque (Magnetite, ilmenite?)	Apatite	Sericite (Muscovite)	Garnet	Other minerals ^{1/}	Color index (approximate) ^{2/}	Lithology
Quartz diorite and quartz meladiorite ^{3/}															
1967 ^{7/}	11.4	---	53.4	34	34.0	---	---	---	0.4	0.4	0.4	---	---	35	bio. qtz. diorite
952	12.5	---	57.5	42	10.7	1.7	14.0	0.3	2.5	0.7	---	---	0.1	29	hyp.-bio. qtz. diorite
1999	13.8	---	45.0	36	14.2	6.7	6.5	---	6.9	3.9	0.8	2.0	0.2	37	bio. qtz. diorite
228	15.6	---	40.8	46	25.9	4.5	10.5	---	1.0	1.7	---	---	---	42	bio. qtz. meladiorite
757	15.7	---	60.1	36	8.5	---	4.7	---	2.0	1.0	---	7.8	0.2	23	bio. gar. qtz. ^{leucodiorite}
134	15.8	2.2	37.7	40	28.6	10.2	0.6	---	2.6	1.1	---	0.9	0.3	43	bio.-hbl. qtz. ^{meladiorite}
746	16.2	---	33.7	6/	40.6	0.7	5.1	1.6	0.7	1.4	---	---	---	49	bio. qtz. meladiorite
219	18.0	6.0	42.9	37	24.3	2.0	0.5	---	2.7	3.6	---	---	---	30	bio. qtz. diorite
Diorite and meladiorite ^{3/}															
14A	---	---	44.8	49	2.4	43.6 ^{4/}	3.4	0.7	1.0	0.8	3.3	---	---	51	hbl. meladiorite
285	---	---	64.0	48	1.9	26.3 ^{5/}	5.6	---	1.2	1.0	---	---	---	35	hbl. diorite
527	0.2	---	55.3	49	19.0	12.1	11.7	---	1.1	0.5	---	---	0.1	44	bio.-hbl.-hyp. ^{meladiorite}
348	0.4	---	55.9	49	2.3	21.1	16.1	0.5	3.5	0.2	---	---	---	44	hbl.-hyp. meladiorite
91 (H ₄)	0.6	---	24.1	42	9.1	63.4	---	0.8	0.4	0.6	1.0	---	---	74	hbl. meladiorite
286	1.0	---	66.1	49	2.9	11.8	12.7	2.4	3.1	---	---	---	---	33	hyp.-hbl. diorite
2172	1.1	---	64.1	46	5.8	12.2	12.0	---	3.4	1.2	0.2	---	---	33	hbl.-hyp. diorite
326	1.6	---	48.4	46	1.2	44.4	---	---	4.4	---	---	---	---	50	hbl. meladiorite
289	1.7	---	37.1	44	7.9	37.5	7.9	2.1	5.2	0.6	---	---	---	61	hbl. meladiorite
315	2.4	---	43.7	38	11.3	26.9	11.2	1.8	2.0	0.7	---	---	---	53	hbl. meladiorite
122	2.6	---	53.1	48	10.2	14.2	12.2	5.2	1.6	0.9	---	---	---	44	pyr.-hbl.-bio. ^{meladiorite}
15	2.8	---	34.1	44	5.1	56.6	---	---	0.2	0.2	1.0	---	---	62	hbl. meladiorite
335	3.6	---	64.1	40	1.5	15.3	9.2	---	3.8	2.5	---	---	---	30	hbl.-hyp. diorite
2737 (H ₅)	3.7	---	75.2	38	4.5	0.6	13.3	0.7	0.7	1.3	---	---	---	20	hyp. leucodiorite
114	3.9	---	53.9	48	7.9	32.0	---	---	1.5	0.8	---	---	---	41	hbl. meladiorite
252 (H ₁)	4.2	---	59.4	43	10.0	5.9	15.8	1.4	2.7	0.6	---	---	---	36	hyp. diorite
249	4.8	---	74.7	40	11.0	1.4	5.7	---	1.2	1.1	---	---	0.1	19	bio. leucodiorite
802	5.2	---	61.6	48	29.0	---	3.3	---	0.7	0.2	---	---	---	33	bio. diorite
769	5.6	---	62.3	35	9.7	2.2	9.4	---	4.8	2.0	---	3.9	0.1	30	hyp.-bio. diorite
2742 (H ₆)	5.9	---	59.9	39	21.8	1.3	7.3	---	1.4	0.2	---	2.2	---	34	bio. diorite
979	7.0	---	62.7	40	21.7	---	6.6	---	0.9	1.1	---	---	---	29	bio. diorite
319	7.0	---	67.9	46	4.3	2.9	14.3	---	2.5	1.0	---	---	0.1	24	hyp. leucodiorite
2818	7.0	4.3	59.6	35	5.6	4.1	14.7	---	2.7	1.2	0.2	---	0.6	27	hyp. diorite
135 (H ₂)	7.2	---	49.3	42	3.9	37.5	1.1	0.6	0.2	0.2	---	---	---	43	hbl. meladiorite
855 ^{7/}	7.3	---	60.4	46	13.7	6.4	10.4	---	0.8	0.6	---	---	0.4	31	bio.-hyp. diorite
197	9.1	---	32.3	38	30.3	10.2	14.0	---	1.1	3.0	---	---	---	56	bio. meladiorite
Norite															
1053	0.9	---	59.1	54	1.6	5.6	21.4	1.1	4.7	5.6	---	---	---	34	leuconorite
836	2.0	---	50.0	50	7.2	18.5	17.9	0.6	2.4	1.3	---	---	0.1	47	hbl. norite
2619a (H ₇)	2.3	---	40.9	52	0.7	12.9	29.2	3.1	8.1	2.6	---	---	0.2	54	norite
765	2.5	---	49.4	52	0.2	19.7	17.4	0.9	6.4	3.5	---	---	---	45	hbl. norite
2619b	2.5	---	54.0	51	4.4	4.3	25.9	---	5.8	2.7	---	---	0.4	41	norite
298	2.8	---	38.9	50	2.2	25.4	16.6	6.3	6.3	1.3	---	---	0.2	57	hbl. norite
1994	2.9	---	38.9	54	0.2	33.0	12.8	1.7	8.1	0.8	---	---	1.6	56	hbl. norite
2796	4.8	---	46.8	56	6.1	0.2	18.6	2.1	6.3	1.3	---	12.8	1.0	47	norite
Average of 42 modes	5.6	0.3	52.0	45	11.0	15.1	10.0	0.8	2.9	1.3	0.2	0.7	0.1	41	hbl. meladiorite

^{1/} Other minerals include zircon, sphene, calcite, allanite, chlorite.

^{2/} Color index is defined as the total percent of dark minerals (biotite, amphibole, pyroxene, garnet, opaque oxides) in a ^{rock}

^{3/} Meladiorite - color index > 40; leucodiorite - color index < 25; leuconorite - color index < 40;

hbl. - hornblende; bio. - biotite; hyp. - hypersthene; pyr. - pyroxene; gar. - garnet.

^{4/} Includes 0.5 percent colorless amphibole.

^{5/} Predominantly brown hornblende.

^{6/} Not determined.

^{7/} Sample from dike possibly related to diorite pluton.

NOTE: Between 500 and 600 points were counted on each thin section.