

Minette.

By decrease of plagioclase and increase of orthoclase, kersantites pass into minettes. These may have hornblende or angite or may lack these minerals. Dykes of this type are also found. A specimen taken from the *Tramway* dyke on the 400-foot level of the *Josie* consists of biotite, pyroxene, apatite, and a little plagioclase set in a ground-mass of orthoclase. The pyroxene is nearly as abundant as the biotite. The "black" dyke on the same level has the same mineralogical composition. A mica dyke associated with the vogesite described from the *Iron Mask* tunnel is a minette carrying only small quantities of angite.

EFFUSIVE TYPES.

Angite Latite.

A hand specimen of a rock from near the summit of Mount Roberts which is believed to be a Mesozoic effusive shows a few black phenocrysts in a dark-grey to bluish-grey ground-mass. Some blebs of lighter green occur which suggest amygdnales. In thin section it is porphyritic with trachytic structure. The primary minerals are orthoclase, plagioclase, hornblende, magnetite, and biotite. The usual secondary products are present, and probably much of the hornblende is secondary after pyroxene. The ground-mass is a felt of altered feldspar needles with pyroxene and much epidote. Some of the feldspar is still recognizable as orthoclase. The cavities are apparently true amygdnales filled with quartz and epidote. This rock is no doubt similar to the angite biotite latite reported by Daly on Record Mountain ridge west of Rossland. An analysis of that rock is given.

	MONZONITE.		GRANODIORITE.				PULASKITE.			
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.
SiO ₂	55.25	51.49	65.10	66.46	62.08	50.81	59.06	77.00	61.86	62.59
TiO ₂	0.60	0.70	0.54	0.27	0.73	0.80	1.08	0.05	0.15	0.54
Al ₂ O ₃	16.53	16.51	15.82	15.34	16.61	17.00	16.24	13.04	19.07	17.23
Fe ₂ O ₃	3.03	2.78	1.64	1.68	1.53	0.97	0.43	0.82	2.65	1.51
FeO	4.37	5.20	2.66	1.83	3.72	7.60	4.88	0.26	1.49	2.02
MnO	0.15	0.10	0.05	...	0.11	0.14	0.20	Trace.	0.01	Trace.
MgO	4.20	3.55	2.17	1.31	2.44	5.41	3.51	0.12	0.55	1.30
CaO	7.19	7.06	4.66	3.43	5.20	9.82	5.59	0.63	1.47	1.99
Na ₂ O	3.48	3.50	3.82	4.86	3.18	3.35	2.84	3.11	6.45	5.50
K ₂ O	0.11	4.36	2.29	4.58	3.29	1.31	3.95	4.50	5.75	6.74
H ₂ O	0.66	1.18	1.09	0.29	1.00	1.14	0.19	0.07	0.47	0.30
P ₂ O ₅	0.43	0.20	0.16	0.08	0.30	0.19	0.21	0.10	0.08	0.11
S	...	0.23	...	...	...	0.43	...	...	...	Trace.
CO ₂	...	0.10	...	...	...	...	...	...	...	...
SiO ₂	...	...	...	...	0.03	0.28	0.12	...	...	Trace.
SiO ₂	...	...	...	...	0.09	...	0.11	...	...	...
BaO	...	...	...	...	0.16	0.06	0.21	0.03	...	...
H ₂ O	...	...	...	...	...	...	...	...	...	...
	100.00	99.96	100.00	99.93	100.47	99.39	98.62	99.82	100.00	99.83

NOTE. Analyses I, III, IX, from Igneous Rocks and their Origin, Daly. Other analyses from Reports of Analyses of the Department of Mines, Canada.

- I.—Daly. Igneous Rocks and their Origin, page 23. Average Monzonite.
- II.—Monzonite, Rossland, 700 feet, *Le Roi* mine.
- III.—Average granodiorite, Daly, page 25.
- IV.—Nelson granodiorite.
- V.—Nelson granodiorite, two miles south of Trail.
- VI.—Angite porphyry, *Josie* drift, *War Eagle* mine.
- VII.—Angite biotite latite (extrusive equivalent of monzonite), Record Mountain ridge west of Rossland.
- VIII.—Sheppard granite, south-east of Rossland, four miles east of Lake Mountain.