

Falls outlier, and hence younger. But he has so far met with no instance of gabbro cutting the syenite masses in the north, nor of cutting the distinctly later granites, though many cases are known in which granitic gneisses of uncertain age are cut. This, together with the fact that there is no evidence to show that the syenite at Little Falls is of the same age as that to the north, causes hesitation in regard to the relative ages of the syenite and gabbro there. It is thought to be highly probable however that the gabbro is the youngest rock, and that the order of appearance of the great intrusions was, first anorthosite, followed in order by syenite, granite and gabbro.

Chemical analyses. A sufficient number of chemical analyses of the rocks of the great intrusions have been made to give a very fair idea of their range in composition, and to show their close relationship to one another. To date, analyses of the later granites wholly fail so far as the writer is aware, and hence the more acid members of the group are lacking. But their mineralogy indicates a close relationship to, and gradation into the others through the medium of the acid syenites, and it may be confidently stated that their analyses will fall regularly into the series, and show a regular gradation from the acid syenites through ordinary granite to the very acid Morris granite.

	1	2	3	4	5	6	7
SiO ₂	44.77	47.42	51.62	54.47	54.62	54.38	57
Al ₂ O ₃	12.46	17.34	24.45	26.45	26.5	20.53	16.01
Fe ₂ O ₃	4.63	4.91	1.65	1.3	.75	2.78	} 10.3
FeO	12.99	10.22	5.3	.66	.56	5.5	
MgO	5.34	5.21	1.21	.69	.74	1.99	1.62
CaO	10.2	8.09	9.97	10.8	9.88	5.39	6.2
Na ₂ O	2.47	3.48	3.49	4.37	4.5	5.2	4.35
K ₂ O .....	.95	1.89	1.27	.92	1.23	3.4	3.53
H ₂ O .....	.6	1.13	.72	.53	.91	.5	.15
CO ₂ .....	.37	.....	.....	.....	.....	.....	.....
TiO ₂	5.26	3.6	.....	.....	.....	.09	.....
P ₂ O ₅ .....	.28	.06	.01	.....	.....	.15	.....
Cl .....	.....	.21	.....	.....	.....	.03	.....
F .....	.....	.....	.....	.....	.....	.03	.....
S .....	.26	.....	.....	.....	.....	.....	.....
MnO .....	.17	.06	.1	.....	.....	.01	.....
BaO	trace	.04	.....	.....	.....	.16	.....
Total	100.75	100.01	99.79	100.19	99.7	100.03	99.16
Sp. gr.	3.09		2.798	2.72	2.7	2.7	