

tial analysis of the insoluble residue showed it to be a feldspar allied to those of the preceding trachytes: the quantities of potash and soda were however nearly in the ratio of four to three.

A large dyke of trachyte in the limestone quarries at the Mile End, near Montreal, is remarkable for the amount of carbonates which it contains. It is grayish-white, with dark grey spots, granular, sub-vitreous in lustre, and holds a few crystals of hornblende.. By ignition it loses 11.0 per cent. of its weight. In powder it effervesces freely with nitric acid, disengaging carbonic acid, and when heat is applied, red fumes from the peroxydation of the iron. 100 parts of the rock yielded in this way the soluble matters given under XII A. The composition of the residue, from which the soluble silica was not removed, is given under XII.

	IX.	X.	XI.	XII.
Silica,.....	63.25	62.90	58.50	61.62
Alumina,.....	22.12	23.10	24.90	21.00
Lime.....	.56	.45	.45	2.69
Potash,.....	5.92	2.43	....	4.66
Soda.....	6.29	8.69	....	5.35
Volatile.....	.93	1.40	2.10	2.37
	<hr/> 99.07	<hr/> 98.97	<hr/>	<hr/> 97.69

A second determination of the alkalis in a portion of the trachyte IX, which had not previously been treated by acid, gave potash 5.40 and soda 6.49. A second analysis of X gave potash 2.28, and soda 7.95.

	IX A.	X A.	XI A.	B.	XII A.
Silica,	1.43	....	....	5.00	....
Alumina.....	2.43	....	1.37	1.32	4.84
Peroxyd of iron	2.40	2.84	1.47	2.51	2.63
Lime .....	.60	1.86	4.14	3.50	6.49
Magnesia.....	....	....	1.34	1.35	1.70
Potash, .....	.40	.25	undet.	undet.	undet
Soda.....	.98	.21	"	"	"
Red oxyd of manganese,....	1.31	.87	....	....	....
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

Of the matters soluble in nitric acid in the last-described trachyte, XII, the lime in the form of carbonate would equal not less than 11.60 per cent, the magnesia 3.58, and the iron 3.82 per cent of carbonates, in which condition by far the greater part of these bases are probably present.