

by S. L. Penfield and J. H. Pratt¹ in 1896, and E. T. Wherry² states that it occurs in considerable amount also at another quarry (Francisco Bros.) at Great Notch, 3 miles southwest of Paterson. More recently, W. T. Schaller³ has described thaumasite from a second locality in the United States, Beaver County, Utah.

SAPONITE FROM THE CANADIAN NORTHERN RAILWAY TUNNEL, MONTREAL

When first collected, this substance is somewhat translucent, soft, and quite plastic, with very much the consistency and appearance of candle grease. If kept immersed in water, the material retains its original character for some time. Gradually it becomes more opaque and rather harder. After long exposure to the air, also, it turns white and opaque, and ultimately crumbles to powder, apparently through loss of moisture. This dry material is soft, has a somewhat soapy feel when rubbed between the fingers, and does not adhere to the tongue. Moistened with water, it forms a clay-like paste.

Some of this material, which had been exposed to the atmosphere for about a year, was analysed, with the following result:—

Clarke's formula		C.N.R. Tunnel Montreal	Molecular ratio	
47.24	SiO ₂	46.45	774	1.00
	Al ₂ O ₃	3.32	132	
	Fe ₂ O ₃	42	35 × 3 = .105	
	FeO	72		.763 0.99
31.50	MgO	5.91	168	
14.17	H ₂ O-100	14.48	105	1.04
7.09	H ₂ O+100	8.13	8	0.58
100.00		99.43		

The water is, in part at least, very loosely held. After heating to 100° C, there was a loss in weight of 8.5 per cent, and thereafter there was a gradually increasing loss at higher temperatures, until at 100° it amounted to 14.48%. Above this temperature, the mineral still continued to lose weight at a fairly regular rate, as follows:—

Temperature.....	120°	140°	160°	180°	205°
Total loss %.....	15.03	15.46	16.07	16.53	16.89

¹*Am. Jour. Sci.*, 4th ser., vol. 1, 1896, p. 229.

²Quoted by Schaller, *op. cit.*

³Mineralogical Notes, Series 2, U.S. Geol. Survey, Bulletin 509, 1912, p. 110.