

Analyses of Hydromagnesite from Atlin, B.C.

SiO ₂	1.86	0.90	0.54	0.74	0.96
Al ₂ O ₃	0.67	0.10	0.17	0.35	0.23
Fe ₂ O ₃	0.15	0.09	0.11	0.15	0.12
FeO.....	0.60	0.45	0.64	0.66	0.53
CaO.....	2.04	0.82	0.68	0.32	0.16
MgO.....	41.13	42.35	42.19	42.85	43.04
CO ₂	35.98	36.10	36.17	36.35	36.21
H ₂ O +	18.02	18.95	19.05	19.10	19.26
Total.....	100.45	99.76	99.55	100.52	100.51
H ₂ O -	1.92	1.61	1.35	1.21	0.34

A number of hypotheses to account for the origin of the hydromagnesite have been proposed by those who have studied the deposits in the field. Gwillim suggested that the material has been deposited from springs, an hypothesis which seemed to be supported by the results of analyses of water from the springs of the district, since these were found to include considerable magnesia. Robertson¹, who examined the deposits in 1904, concluded, however, that the hydromagnesite was a product resulting from the weathering of magnesia-rich rocks directly underlying the deposits. Young², on the other hand, pointed out that the deposits have not the tuffaceous structure of spring deposits and do not rest on magnesia-rich rocks but on soil, and concluded, therefore, that there are valid objections to the hypotheses of Gwillim and Robertson, and suggested that the hydromagnesite represents material deposited on the bottoms of ponds which have disappeared since the deposition occurred.

It is estimated by Young that two groups of deposits occurring in the outskirts of the town of Atlin contain approximately 180,000 tons of hydromagnesite.

Recently C. W. Drysdale³ has discovered magnesite near the northwest end of Liza lake in Bridge River district, Lillooet mining division, British Columbia. The magnesite found in this locality is a buff yellow massive variety occurring as masses and veins in serpentized magnesian rocks and is thus similar in character and origin to the deposits of California.

¹ Robertson, W. F., Rept. of Minister of Mines, B.C., 1915, pp. 82-83.

² Geol. Surv., Can., Sum. Rept., 1915, pp. 55-61.

³ Geol. Surv., Can., Sum. Rept., 1915, p. 83, and 1916, p. 48.