Rapid Analysis of Dolomitic Limestones

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By use of the following procedure suggested by V. N. Tananaev[1] it is possible to analyze limestone for CO_2, CaO, and MgO in one laboratory period.

A .2 g sample is moistened with water and heated in a reflux condenser with 25 ml of .2 N HCl until gas evolution ceases. The sample is cooled and titrated with .2 N NaOH. After adding two or three drops of 3% hydrogen peroxide solution to the neutral mixture and making slightly alkaline with 6 N ammonia, the solution is treated with 25 ml of .2 N ammonium oxalate solution. The calcium oxalate is filtered, dissolved and titrated with potassium permanganate. The per cent MgO is computed from the difference between the CO_2 and CaO equivalents.

As shown in Table I our results averaged .3% high for CO_2 while the calcium compared favorably with standard procedures.[2]

Sample	CO_2 (det)	CO_2 (given)	CaO (det)	CaO (given)
1	42.50	42.33	33.46	33.55
2	43.57	43.22	34.90	34.92
3	41 83	41.35	47.76	47.80
4	40.31	39.87	44.50	44.57
5	41.44	41.27	44.75	45.91

[1] V. N. TANANAEV. 1948. Zavodskaya Lab, **14**, 1131-2.

[2] I wish to thank Mr. W. R. Graves who checked the accuracy of this method.