Determination of Salt in Petroleum

Editor of the Journal of Industrial and Engineering Chemistry:

In the January number of THIS JOURNAL, 14 (1922), 80, Mr. George T. Dougherty calls attention to a method which was published under my name in an earlier number [13 (1921), 325], for the determination of salt present in oil. He outlines a method used by the American Steel Foundries in Chicago for the same purpose, and, in going over it, I find we used about the same method when we first started our efforts toward determination of the amount of salt in oil.

It did not seem that we found all the salt present, however, owing to the difficulty of getting a proper extraction of the salt from the charred material left after burning the oil. Also, if the oil contained much salt water there was some loss due to spattering, which could not be prevented.

This led to the development of the method using acetone for extraction, which has the advantage of working on a larger quantity of oil; while it takes a little longer, it apparently extracts the salt water more thoroughly, as indicated by the following results, which are expressed in grams of salt per liter of oil:

DETERMINATION OF SALT IN CRUDE OIL SAMPLE			
Method.....	Acetone	Burning	
Test 1.....	0.70	0.51	
Test 2.....	0.73	0.57	
DETERMINATION OF SALT IN FUEL OIL SAMPLE			
Test 1.....	0.95	0.81	
Test 2.....	0.93	0.75	

RALPH R. MATTHEWS

ROXANA PETROLEUM CORPORATION
WOOD RIVER, ILL.
March 24, 1922

Chilean Nitrate

Editor of the Journal of Industrial and Engineering Chemistry:

The savants and pseudo-savants who attended the meeting of the British Association at Bristol in 1898 were hoodwinked by Louis de Rougemont's story of fictitious adventure in north-western Australia and startled by the Crookes' warning, equally absurd, as to the early exhaustion of the nitrate beds in Chile. The repetition of the Crookes' prophecy, omitting dates of course, will serve doubtless as an inspiration to authors of chemical treatises for many years to come; during the intervening time the public will still be told that our supply of iodine comes from seaweed.

Recently, however, another phase of the subject has developed, and technical journals and the daily press have been making direct reference to the nitrate deposits in the extreme north of Chile, thus complicating the Tacna-Arica controversy between Chile and Peru. On page 218 of your March issue you refer to the "potentially valuable nitrate beds" there; and, later, to the fact that "government experts" maintain that the district contains "valuable nitrate beds." Statements such as these smack so strongly of propaganda against Chile that they should be examined carefully before publication. The commercial nitrate deposits are far to the south. There is no more reason to assume that "valuable nitrate beds" occur in Tacna and Arica than that similar resources will be developed in every other arid region in the world.

A. W. ALLEN

BERKELEY, CAL.
March 15, 1922

In spite of a convincing demonstration last year that the by-product coking of bituminous coal could maintain itself better than could the beehive method in a period of industrial depression, and that by-product coking is continuing to supersede the older method, production of coke by-products during 1921 averaged in the neighborhood of one-third less than the 1920 output.

The Flow of Fluids through Commercial Pipe Lines—Correction

In the article under the above title [THIS JOURNAL, 14 (1922), 105] the following errors should be noted:

Page 112, 1st col., 3rd line in next to last paragraph, correct "Fig. 9" to read "Fig. 10."

Page 115, 2nd col., Section 4, the second equation should be

$$p = \frac{0.0538 f l s Q^2}{D^5}$$

Page 119, 1st col., 1st line, the sentence should read "From Fig. 17, $s = 0.00118$, etc." instead of " $z = 0.00118$, etc."

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE, MASS.
March 20, 1922

R. E. WILSON
W. H. MCADAMS
M. SELTZER

Solid Sodium Hydroxide as an Absorbent for Carbon Dioxide in Steel Analysis

Editor of the Journal of Industrial and Engineering Chemistry:

The paper of the above title by Messrs. G. L. Kelly and E. W. Evers in the November issue of THIS JOURNAL treats a subject which is of supreme importance to the steel works chemist.

We feel it would interest other workers to know that independent investigators in Britain and America have established by their separate experience the practical advantages to be gained by the use of solid sodium hydroxide as an absorbent for carbon dioxide in the estimation of carbon.

It has been the standard practice since 1906 in the laboratories of Messrs. William Beardmore & Co., Ltd., Glasgow, to use solid sodium hydroxide as an absorbent in all carbon estimations. In this period a total approaching half a million estimations has been made and on this experience we can corroborate all the claims the authors put forward for the solid absorbent.

We have examined experimentally from time to time the proposals and claims made on behalf of apparatus and reagents both for liquid absorption and gaseous measurement and have found no sufficient reason to depart from our standard practice. This consists of the absorption of the carbon dioxide by the solid sodium hydroxide which is loosely packed in U-tubes with stoppers and side limbs.

The application of the use of soda asbestos noted in the authors' earlier paper [THIS JOURNAL, 8 (1916), 1038] was most opportune for us as it aided us in overcoming a war-time difficulty, and at the time the very real difficulty, of replacing impure and mechanically imperfect soda lye. Unfortunately we had the moisture difficulties noted by Messrs. Kelly and Evers. We have tried the absorption apparatus sketched therein and have found it admirably suited for the work.

JAS. MACWHIRTER, F.I.C.
Chief Chemist

LABORATORIES OF
MESSRS. WILLIAM BEARDMORE & CO. LTD.
ORDNANCE & STEEL WORKS
GLASGOW, SCOTLAND
January 26, 1922

Platinum Theft

On April 1 the laboratory of the Agricultural Experiment Station of the University of Florida lost by theft seven platinum evaporating dishes, average weight 18 to 21 grams, numbered as follows; 1, 2, 3, 11, 6, 7, 9.

R. M. RUPRECHT