

SINCLAIR REFINING COMPANY

1727

May 5, 1947

S-68

Reel 42
Bag 3439-24
Page 481-3

Ruhrbenzin, A.G.
Munster (Lager) June 1, 1939

Dear Dr. Roelen,

I am acknowledging receipt of the letter dated March 25, 1939, addressed to V.D.K. I am enclosing further results of our analysis:

1. A pile-charring gur from the mine of the Gebr. Reye in Neu-Ohe. This gur was charred in piles, immediately after being got out from the mine. The sample is very good, and the result corresponds to the Reye-samples RGH 62 + 63.
2. A summary concerning the actual experiments about the correlation between the ignition losses and various roasting temperatures. Up to this date, these experiments were only made at temperatures of 620° and 720°C. Before the installation of chromium steel arms in the roasting furnaces, we shall not operate at temperatures of 800° or above. These tests will be carried out later.

Correlation of ignition losses and acid solubility with various roasting temperatures.

Sample: A Buscherhot raw-gur, moist as it came from the mine.
Acid solubility

Roasting Temp.	Ignition Loss	At roasting Temps.				After Igniting			
		% Fe	% Al	% Ca	% SO ₄	% Fe	% Al	% Ca	% SO ₄
1. 620°	1.35	0.97	0.10	0.06	0.13	0.89	0.07	0.06	0.05
2. 720°	1.07	1.05	0.09	0.10	0.10	1.01	0.07	0.09	0.06

800°C and more experiment will be made later.

I had found out already several times that, in general, roasted gur contains more SO₄ than an ignited sample, and I think that this phenomenon indicates that the (organic) sulfur contained in the raw gur is converted into SO₃ at the roasting temperature, but that the roasting temperature does not suffice for completing the elimination of SO₃ from the gur. SO₃ adheres to the porous gur and on cleaning the roasted gur by boiling it in diluted nitric acid it is converted at an ignition temperature into a somewhat more acid-soluble silicate. The higher iron contents of test 2 (720°) are caused by the difference in soluble iron contents of the raw gur. The soluble contents Ca are not influenced by the temperature; but the soluble aluminum content is dependent on the temperature to a high degree. (Rest not translated)

M. Beth