

SINCLAIR REFINING COMPANY

1759

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Oberhausen - Holten
August 14, 1939

Changes in the Quality of the last Kieselgur #120

Shipments

We have carefully examined the recent 120-kieselgur shipments in regard to their structure and have reached the following findings

1. Microscopic examination.

The microscopic picture shows clearly, which different constituents are contained in a kieselgur. It is, however, very difficult to assess the quantities in regard to their proportions by means of this procedure. Since in the present case no substantially different constituents were contained in the material examined, but changes in the quantitative proportions were prevailing, the microscopic findings failed to clarify the facts.

2. Fractionating suspension analysis.

10 g. of kieselgur each are subject to the suspension analysis in the Schulze-Harkurt apparatus (diameter of the opening 1.5 mm). In intervals of 10 minutes the individual fractions were removed and their quantities determined. The following table shows the results:

Fractionated suspension analysis

Sample		1. fract.	2. fract.	3. fract.	residue
1175/59	1-18-39	66.5	13.5	4.5	13.8
1175/74	2-13-39	61.0	15.3	3.7	20.0
1175/89	3-16-39	59.0	13.8	8.0	18.7
1175/76	8-4-39	72.5	11.5	3.0	12.3
1175/83	8-10-39	71.2	13.5	3.0	12.2
1175/62	7-19-39	75.5	12.0	2.0	9.5

Thus, the suspension analysis demonstrated that the kieselgurs supplied from January to March contained a lesser portion of fine parts and a larger portion of heavier parts than those delivered in July and August.

3. Filterability

Samples of the lots received in the course of this year were examined in regard to their filterability, in accordance with the Strumpf process.

Filter - Number according to Strumpf

<u>Shipment No.</u>	<u>Date</u>	<u>Filter Number</u>
		Minimum about 650 Maximum " 1200
1175/54	1-18-39	1030
74	2-13-39	685
81	2-27-39	780
89	3-16-39	690
99	3-29-39	890
3	4-3-39	1020
19	5-15-39	1710
38	6-15-39	1980
62	7-14-39	2280
63	7-17-39	1380
76	8-4-39	3615
80	8-7-39	2220
82	8-9-39	3570
83	8-10-39	3540

The filter numbers have risen surprisingly. In 1937 and 1938 they averaged less than 1000. Up to April, 1939, they remained about the same. Then, we were confronted by a sudden jump and they keep rising, reaching in August filter numbers of more than 3600!

4. Structural changes

Both the suspension analysis and the filter numbers show that since April, 1939, the kieselgur structures have undergone changes in that direction that the lighter portions containing the finest particles have increased out of proportion. In this relation there is a clear connection between the filter numbers and the suspension analysis results.

(Rest not translated)

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