ucts. Determination of sulfur content by method of energy dispersive X-ray fluorescence spectrometry» [3] is 30 ppm.

Determination of the condensate fractional composition was carried out in accordance with USS 2177-99 «Petroleum products. Methods for determination of distillation characteristics» [4], the results are presented in Table 1.

Chromatographic analysis was performed to determine the hydrocarbon composition of the condensate. Group composition of condensate is presented in Table 2.

According to the data presented in Tables 1–2, the condensate has properties similar to straight-run gasoline.

Thus, based on the results of the research, it can be concluded that the stable gas condensate can be used as the feedstock of the zeoforming process.

References

1. *USS 32513-2013 «Automotive fuels. Unleaded petrol. Specifications».*
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STUDY OF THE MECHANISM OF COKE FORMATION FROM OIL RESIDUE AND COAL PITCH

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Aim

To find out how temperature and residence time affects the yield and characteristics of coke formed from FCC, tar and coal pitch at standard conditions.

Introduction

The yield and characteristics of petroleum coke depends on the feedstock characteristics and also the operating parameters of the process. This article compares the yield and characteristics of coke obtained from FCC, tar and coal pitch at various temperatures and residence time.

Three experiments were conducted using each feedstock (FCC, tar, coal pitch) for a period of 5 hours for each. To find out the effect of residence time on the coking three sets of experiments for each feedstock were performed by first heating the samples for 4 hours to the set temperature and maintaining this temperature for another 5 hours (9 hours in total). Below is a table showing the results.

Table 1. 5 hours heating

HEATING FOR 5 HOURS			
TEMPERATURE (Degrees Celcius)	450	480	510
TAR			
Percentage of distillate (%)	61.458%	72.956%	75.919%
Percentage of Coke (%)	27.882%	17.357%	7.777%
FCC			
Percentage of distillate (%)	71.705%	88.567%	88.909%
Percentage of Coke (%)	20.681%	7.706%	6.55%
COAL PITCH			
Percentage of distillate (%)	46.4%	46,706%	43.856%
Percentage of coke (%)	43.7%	42.116%	43.556%

Table 2. (9 hours). 4 hours heating up, 5 hours holding

HEATING FOR 5 HOURS			
TEMPERATURE (Degrees Celcius)	450	480	510
TAR			
Percentage of distillate (%)	69.833%	71.807%	68.938%
Percentage of Coke (%)	16.755%	15.276%	15.078%
FCC			
Percentage of distillate (%)	76.683%	81.547%	84.049%
Percentage of Coke (%)	10.721%	9.825%	9.165%
COAL PITCH			
Percentage of distillate (%)	32.974%	35.18%	37.344%
Percentage of coke (%)	47.46%	46.244%	44.4%

Equipment

Furnace, beam balance, desiccator cabinet.

Observation

Percentage of coke by weight decreased for all three samples when the operating temperature was increased. Percentage of distillate by weight also increased as temperature was increased. Coal pitch gave the highest yield of coke in both experiments. Comparison between the two experiments shows a much linear relationship for temperature and decrease in coke yield of the 9 hours of heating than the 5 hours of heating.

Conclusion

High temperatures favor cracking and this leads to the production of

- More distillate liquids
- Lower yields of coke and hydrocarbon gas

Hence coke formation is indirectly proportional to temperature at standard conditions.

Coal pitch gives higher percentage of coke than FCC and tar at similar conditions of temperature and pressure.

Coal pitch formed a coke with metallic appearance and strongly defined lines (needle coke).

References

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DEVELOPING OF ACYL ARYL GLYCOSIDES SYNTHESIS

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Aryl glycosides are common constituents of different plants that have biological activity and are often utilized as part of treatment in traditional medicine. Lots of useful properties of such plants are due to aryl glycosides of different structures, including their acyl derivatives in carbohydrate part of their molecules – acyl aryl glycosides.

Biological activity of these substances varies to some extent. A lot of them are known to be antioxidants [1], others have antibacterial activity [2], cytolytic, cytostatic, anticancer activities [3], etc. In addition, they are of a low toxicity [4]. Thus, acyl aryl glycosides can be implemented as medications, and to do so examination of their structure, activity, and side effects must be carried out.

The most common way to obtain these substances is extraction. There are a lot of different acyl glycosides known as extracted from raw material [5]. However, it is not very efficient, and tends to be expensive as the extraction requires kilograms of plant parts to give milligrams of product. To obtain the pure product from extract it should be separated