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### **The development of the methods for processing and using of oil sands as the alternative hydrocarbon feedstock**

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In this paper the oil sands (OS) of Beke (Mangistau region) and MunailyMola (Atirau region) deposits were chosen as the objects of study. The removing the organic part of OS was carried by two methods: thermal and extracting.

The yield of natural bitumen from OS using the extraction with benzene ranged from 91-97wt.%. The extracted bitumen characterized by following parameters:  $\rho = 1,112 \text{ g/cm}^3$ , congelation point - 18°C, coking ability- 30%, ash content-0.35wt.%, sulfur content- 1,5%; N -0, 58%, C-84.79%, H -11.68%, O -2,02-4,04%, softening temperature - 20°C, the penetration depth of the needle at 0°C - 17×0,1 mm.

Processing of OS by thermal method was carried on installation of periodic action at T=450-560°C. The yield of individual products and physico-chemical characteristics of liquid distillate obtained from OS by thermal processing were defined.

It can be seen that different methods for extracting of organic part from OS of Beke deposit provide the yield of products with different consistency. Using the cold extraction, the obtained organic mass has a resinous consistency with density of 1,112 g/cm<sup>3</sup>, but in the second case - synthetic oil with density of 0,850 g/cm<sup>3</sup>.

For comparison, these experiments were conducted with OS of Munaily Mola deposit. The organic part of OS of Munaily Mola deposit is heavier compared to organic part of OS of Beke deposit and it means that it is more acceptable for bitumen obtaining.

Thus, the results shows the possibility of using of OS not only as a raw material for road construction materials (bitumen, asphalt bituminous mixture), but also for production of light oil products.

#### **Biography**

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