

Study of natural bitumen of Nagornoye deposit, Troitskneft JSC (the Republic of Tatarstan, Russian Federation) aimed at processing options determination

Kemalov A., Kemalov R., Abdrafikova I., Gainullin V.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2014, Canadian Center of Science and Education. All Rights Reserved. The cost of natural bitumen production at present is very high and 3-5 times exceeds the cost of conventional oils production; the technology developers are facing the challenge of developing processes which allow producing high sale price products at a low cost. The present study was aimed at finding out the composition and properties of natural bitumen from Nagornoye deposit of the Republic of Tatarstan (JSC Troitskneft) to determine the possible ways for its processing as well as to definite the processing options. A conclusion made, that the production of residual bitumen of the high-viscosity oils and natural bitumen of Tatarstan Republic (as well as any other region having raw materials with similar composition) will contribute to increase in their production volume and quality by means of compounding of residual and air-blown bitumen, as in this particular case their advantages are combined. In addition, this will contribute to solution of the problem related to introduction of water-bitumen emulsions and bitumen-polymer binders into the road construction of Tatarstan Republic. The use of natural bitumen for production of various commercial bitumen marks and various bitumen products, makes its recovery economically feasible as its conventional recovery and transportation is noncompetitive against conventional oils. At the same time, profitability of a pure bitumen option can be increased by means of a bitumen-fuel option, provided that the diesel fraction is brought in full compliance with the GOST for S (summer), W (winter) and A (arctic) marks of diesel fuel.

<http://dx.doi.org/10.5539/ass.v11n3p296>

Keywords

Asphaltene-resin components, Composition, Construction bitumen, Diesel fuel, Natural bitumen, Processing, Properties, Residue, Road bitumen