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Road bitumen's based on the vacuum residue of heavy oil and natural asphaltite: Part I–chemical composition

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Abstract

© 2017 Taylor & Francis Group, LLC. This work is devoted to studying the possibility of producing bitumen for road construction by using vacuum residue > 420°C of heavy oil of the Ashal'chinskoe field in and natural asphaltite Spiridonovskoe field from Permian deposits in Tatarstan. The effect of natural asphaltite as a solid disperse phase element on the structural and group composition of the residual heavy oil product and its malacometrical qualities (penetration, extensibility, softening point, resistance to aging and adhesion) is revealed. The production of samples of compounded bitumen production was carried out by introducing the required amount of the shredded asphaltite to deasphaltizat vacuum residue of heavy oil and heating their mixture to 220°C with vigorous stirring. Changes in the composition and physical and chemical properties of deasphalting the residual heavy oil product, associated with the amount of injected asphaltite, showed the possibility of production of modified bitumen with better adhesion properties that correspond to road bitumen.

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Keywords

compounded bitumen, deasphalting, heavy crude oil, natural asphaltite, physical properties, residual heavy oil product

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