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Информация о владельце:

ФИО: Верисокин Александр Евгеньевич

Должность: И.о. декана факультета нефтегазовой инженерии

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Discipline abstract

Namediscipline	
Физика нефтяного и газового пласта / Oil and Gas Formation Physics	
Summary	Physical properties of rocks. Grading. Porosity of rocks. Types of porosity of rocks. Permeability of rocks. Linear filtration of oil and gas in a porous medium. Radial filtration of oil and gas in a porous medium. Estimation of reservoir permeability. Classification of permeable rocks. Dependence of permeability on rock porosity. Types of permeability of a porous medium. Thermal and mechanical properties of rocks. Thermal properties of rocks. Composition and physical properties of gas, oil and formation water. Solubility of gas in oil and water. Composition and physical and chemical properties of formation water. Composition and physical and chemical properties of oils. Phase state of hydrocarbon systems. Scheme of phase transformations of one-component systems. Phase transitions in oil, water and gas. Surface-molecular properties of the reservoir-water system. Physical foundations for the displacement of oil, condensate and gas from a porous medium. Forces acting in the deposit. Surface phenomena during filtration of formation fluids. General scheme of oil displacement by water from the formation. Oil Recovery of the Reservoir under Different Conditions of Drainage of the Deposit. The role of capillary processes in the displacement of oil by water from a porous medium. Dependence of oil recovery on the rate of oil displacement by water. Oil Recovery of Formations under Different Conditions of Drainage of the Deposit. Oil recovery factor. Micro- and macro-heterogeneous structure of reservoirs. Reservoir The role of capillary processes in the displacement of oil by water from a porous medium. Dependence of oil recovery on the rate of oil displacement by water. Oil Recovery of Formations under Different Conditions of Drainage of the Deposit. Oil recovery factor. Micro- and macro-heterogeneous structure of reservoirs. Reservoir The role of capillary processes in the displacement of oil by water from a porous medium. Dependence of oil recovery on the rate of oil displacement by water. Oil Recovery of Formations under Different Conditions of Drainage of the Deposit. Oil recovery factor. Micro- and macro-heterogeneous structure of reservoirs. Reservoir forms of residual oil.
resultsdevelopment disciplines (module)	Knows methods of modeling physical, chemical and technological processes. Selects appropriate methods for technological processes. Has the ability to analyze and select appropriate methods of modeling technological processes.
labor input,cu	4
Forms reporting	Exam, 4 semestr
Educational, methodological and information support of the discipline	
Main literature	1. Textbook (course of lectures) on the discipline "Reservoir Physics": for students of the specialty 21.05.06 "Oil and gas equipment and technologies"; Focus (profile) "Development and operation of oil and gas fields"). - Stavropol, 2018. - 96 p. 2. Konovalova, L. N. Reservoir physics: textbook (lecture course) / L. N. Konovalova, A. O. Shesteren. - Reservoir physics, - Stavropol: North-Caucasian Federal University, 2018. - 148 p.

Additional literature	1. Mikhailov, N. N. Physics of the oil and gas reservoir: (physics of oil and gas reservoir systems): textbook. allowance for students. universities / N. N. Mikhailov; [Russian State University of Oil and Gas. I. M. Gubkin], T. 1. - M. : MAKS Press, 2008. - 446 p.: ill. - (Priority innovation projects). - Bibliography. at the end of sect. - ISBN 978-5-317-02615-8 2. Gimatudinov, Sh. K. Physics of the oil and gas reservoir: a textbook for universities / Sh. K. Gimatudinov, A. I. Shirkovsky. - Ed. 4th, sr. - M. : Alliance, 2005. - 311 p. - Bibliography: p. 308. - ISBN 5-98535-011-8 3. Mirzajanzade, A. Kh. Physics of the oil and gas reservoir: a textbook for universities / A. Kh. Mirzajanzade, I. M. Ametov, A. G. Kovalev. - M. : Nedra, 1992. - 270 p. : ill. - Bibliography. With. 268. - ISBN 5-247-01805-2
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