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ESTIMATION OF SEDIMENTARY ROCKS DENSITY USING THE ACOUSTIC LOGGING DATA AND EMPIRIC EQUATION: A CASE STUDY FOR SAKHALIN ISLAND

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The paper describes investigation of terrigenous sediments density in the northern and southern parts of Sakhalin Island using the acoustic logging data and empirical equations as a case study for the Polyarninsky oil and Anivsky gas fields. The paper shows that the used methods for determination of terrigenous rocks density in the northern and southern parts of Sakhalin Island are applicable when traditional data sources on sediments density are missed or unavailable. Significant density deviations are not related to lithological and/or stratigraphic variations, but mostly depend on oil and gas saturation. The obtained data may be used for computations of overburden pressure and estimation of anomalies in pore pressure (high and low).

Keywords: density, logging, sedimentary rocks, Sakhalin Island.