The usage of velocity deviation log (VDL) in order to recognize porosity types and trends in permeability of the Asmari and Jahrum reservoirs units in the KHESHT oil field (Kazeroon)

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Porosity value is one of the most important factors which determine the oil volume and also basis of economical or uneconomical calculation of a distinct oil field. By combining the logs, nowadays, very detailed and precise issues could be recognized, for instance we could point examining of porosity types and trends in permeability by using the velocity deviation log (VDL). Velocity devotion log which is calculated by combination sonic log with the Norton porosity or density log provides tool to obtain down hole information on the predominate pore type in carbonates the log can be use to trace the down hole distribution of digenetic processes and to estimate trends in permeability. Generally speaking, porosity and velocity have inverted relationship; nevertheless the type of porosity changes this relationship. In order to establish the velocity deviation log at first; by using the Wyllie equation, porosity log was exchanged to synthetic velocity log, acquired real velocity difference from sonic log and the acquired synthetic velocity from the porosity log is expressed as velocity deviation log. With log being deviated to left and right, the type of porosity would be identified .this method is applied for the Asmari and Jahrum reservoirs units of the Khesht oil field in Kazeroon (Fars),And in one of the wells. This log approves the boundary of Formations which is along with unconformities and even zoning whether is based on porosity value or change of lithology, and also the results which are gotten from the log have close similarities with the results of thin section studies in terms of porosity. Drawing of log and calculation of petrophysic parameters are done by Geolog software.