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Survey failure point of Sarvak formation reservoir rock in one of the wells located in the Jofeir oil field

S. Zenolabedini*[1], S. H. Tabatabaei Raeisi[2], L. Fazli[3] & H. Bagheri[1]

1) M.Sc Student, Damavand Branch, Islamic Azad University, Damavand, Iran, s.zeinolabedini@yahoo.com, hbagheri1364@yahoo.com

2) Associate Prof., Exploration Directorate, National Iranian Company, Tehran, Iran, dr_tabatabaee@yahoo.com

3) Assistant Prof., Damavand Branch, Islamic Azad University, Damavand, Iran, fazli52@yahoo.com

*) Correspondence Author

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Abstract

Sarvak formation is belong to Bangestan group that after the Asmari formation, is The second largest important oil reservoir in Zagros Basin. Lithology of this formation is limestone, and small amounts of shale and marl. In this study, the compressive strength of rock Sarvak formation were determined by doing experiments of triaxial compressive strength on three core samples in the tensions lateral of the 5, 10 and 15 (Mpa). Shear strength parameters (C and Φ) this samples also calculated and was obtained rock failure point in three the surface tension mentioned. using the drilling depth and measuring of the upper layers (overburden) in the depth, Horizontal or lateral pressure (б3) was calculated In the drilling depth of Sarvak formation. After the modeling of this amount lateral pressure with laboratory results, vertical pressure (б1) required to break rock formations (that the same threshold of broke the rocks of this formation is at the depth under lateral pressure) was calculated for the beginning and the end. Vertical pressure (б1) at the beginning Sarvak formation was calculated in the depth of 3288 meters, with amount of lateral pressure 27/7 (Mpa) , 217/58 (Mpa) and at the end of this formation at the depth of 3720 meters with lateral pressure 31/3 (Mpa) , 238/79 (Mpa). The results of this study, is useful the Future drilling in Jofeir oil field.

Key words: Sarvak formation, triaxial compressive strength, shear strength, lateral stress, vertical stress.