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Hydraulic Fracturing in Tight Gas Onshore Romania – Last Experience and Lessons Learned

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Abstract

The presentation aims to present the experience and lessons learned in hydraulic stimulation on west of Romania tight gas reservoirs. It is presented a possible more realistic model that reflect fractures propagation in the tight gas naturally fractured reservoir and also the best practice for a successful campaign after 10 years of experience. Last campaign is revealing that tight gas reservoirs are continuously challenging reservoirs and successful jobs depends by right onsite decision done in real time.

Since 2004, in OMV Petrom Romania, many trials have been done to increase the productivity of tight gas onshore wells. Every reservoir was different than others and for each one of them from the first trial to routine operation was a long learning curve. The biggest challenge in hydraulic stimulation of tight gas reservoirs is to place the proppant and avoid early screenout. This is sometimes an impossible mission when fracture is not wide enough to accept proppant. Since the first trials, many technologies have been tested. After many successfully pumped jobs, we still have no routine operations on these reservoirs – every new job is a new challenge.

Over the years one more challenge proved to be even more difficult to overcome than technical challenges. This new challenge was “changing provider” after a new tender. All previous lessons learned must be implemented with the new provider. Best practices is presented related to perforation for hydraulic stimulation, proppant selection, interpretation of diagnose tests and pumping schedule.

The hydraulic campaign performed in 2022 is also presented with production results and lessons learned.

Biography

From 1996 to 2005, Mr. Dragomir Alexandru has worked as researcher in Institute for Research and Technology (I.C.P.T.) Campina – Prahova Romania. In this period he led different teams for several research or non-research projects including Frac-Pack Completion implementation (1998 – 2000).

Mr. Alexandru Dragomir has a significant contribution in perfecting Step Down Test procedure and results interpretations prior to propped stimulation job executions and the implementation of multistage stimulation completion technologies in Romania and



Europe. Starting 2011, he is the Sand Control & Stimulation Manager and since 2015 the Head of Center of Excellence in Stimulation for OMV.

He is owner of the New Technology Program and coordinator of Eco-Innovation Project in OMV Petrom. The first project have as scope to test and apply new technologies and the second to find cleaner and more efficient solutions for running oil and gas business.

During his professional development, Alexandru Dragomir published as the main author and co-author several SPE papers, on different topics:

- Formation Damage Induced by Brine Workover Fluid on Burcioaia Reservoir (Romania) and Research on Damage Removal Methods;
- Stimulation Tuning: a Technique For Shortening The Learning Curve of Developing Source Rock Reservoirs”;
- Multiple Stage Hydraulic Fracturing of Horizontal Wellbores: Evolving the Process in the Lebada Field, Black Sea;
- Case History of a Successful Hydraulic Restimulation Pilot: The Story from Pilot Candidate Selection to Post-job Evaluation and Rollout etc.