GEOLOGY POSTER 31

REPRESENTATIVE FLUID SAMPLES FOR RESERVOIR FLUID EVALUATION AND FLOW ASSURANCE ANALYSES: SOUTH EAST ASIA FIELD

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Representative fluid samples are essential to achieving high quality PVT and flow assurance lab analyses. This is especially important when downhole samples are acquired in an oil base mud (OBM) environment. These high quality samples are also needed to better understand reservoir and fluid behavior throughout the field life.

This work presents a case study of an offshore field in East Asia that required high quality reservoir oil fluid samples for detailed PVT and flow assurance analyses. An oil bearing sand was discovered during the development drilling phase of a predominantly gas bearing reservoir environment. It was required to take low contamination samples from this zone during the development drilling phase without compromising the primary well objective of completion as a gas producer. As such, samples had to be taken on wireline in an oil based mud (OBM) environment. Accordingly a carefully planned methodology and technology was planned and used to achieve the goal of obtaining reservoir fluid samples.

Samples acquired from a previous well in the field using traditional openhole wireline formation testing technology and methods resulted in relatively high contamination levels. High levels of OBM filtrate contamination typically have detrimental effects on the PVT analyses quality for both gas and oil samples. Rig time, cost and sticking risk also limited the time allowed for the wireline formation tester to stay stationary at a sampling depth. As a result, a decision was made to utilize a new sampling technology that allows the obtaining of low level contamination while minimizing sampling station and rig time. To achieve this goal, the job was carefully designed and monitored by operating company and service company experts in real time to ensure the required results. The sampling technology, method and field and laboratory results are presented in this work.

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