

## AZLAB: SERVICES FOR AZERBAIJAN PSA'S AND CASPIAN REGION

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In today's economic climate, evaluation of reservoirs with complex lithology presents a major challenge to reservoir engineers, geologists, and log analysts. An understanding of reservoir rock and the behaviour of pressure–volume–temperature (PVT) and other physical and chemical properties of hydrocarbon fluids encountered in oil and gas fields is a vital part of petroleum engineering. All these petro-physical and physico-chemical properties can be obtained from a qualified laboratory work conducted on the reservoir rock and fluids. A laboratory, Azlab is currently conducting these tests as a service company for Production Sharing Agreement (PSA) to overcome the requirements of oil companies in Azerbaijan and Caspian Region.

Azlab was established in April 1996 as the first commercial organisation for Azerbaijan PSA and Caspian Region to operate on the basis of core laboratory. In the 31st of October 1997, PVT laboratory was opened with the participation of SOCAR and Norway State Oil Company of Statoil. After that, Analytical laboratory was put into operation. In the 12th of March 1999, ODS (Offshore Department of SOCAR), Schlumberger and TPIC (Turkish Petroleum International Company of TPAO) were agreed to establish a closed-type Joint Stock Company, Azlab JSC to provide laboratory services to the oil and gas industry in Azerbaijan and Caspian Region.

Today, Azlab JSC is composed of four integrated departments: Reservoir Fluid Analysis (PVT), Analytical Laboratory, Conventional Core Analysis, and Special Core Analysis Laboratory (SCAL). In near future, Special Core Analysis, Biostratigraphy, Palynology and other laboratories will be ready for servicing in the study and evaluation of core and reservoir fluid samples for the development of Azerbaijan oil industry. Conventional Core Analysis Laboratory is capable of running core spectral gamma, CT scanning, photography (white and UV light), core preservation, sample extraction, oil, water and gas saturations, porosity and permeability tests. Analytical/geochemical group is conducting tests, such as; gas and oil chromatography, TOC, rock-eval pyrolysis, soxtec extraction, API gravity, sulphur, nickel, vanadium, wax and asphaltene contents, pour point. PVT Laboratory works on the reservoir fluid analyses of oil and gas condensate samples can be listed as; quality check, control and assessment, PV relations, bubble and dew points, differential liberation, single and multistage flash, swelling tests, viscosity and constant volume depletion tests. Special Core Analysis Laboratory, SCAL is going to conduct the following tests, such as; mercury injection capillary pressure, pore size distribution, electrical resistivity properties, cementation and saturation factors, relative permeability to gas, oil and water, and reservoir condition flow tests.

It can be announced that Azlab won in all the tenders held in Azerbaijan. For this reason, AIOC delegated all the core analyses of Chirag field to Azlab. It is a great honour for Azlab that the prediction of extracting 2000 ton of oil from one well per day is the result of successful analysis. Azlab's main goal is to become a scientific center, which is very important for the development of oil industry, and also to receive orders from the members of CIS.