



Calgary, Alberta, Canada

The Schlumberger Reservoir Laboratory in Calgary, Canada, is an integrated laboratory providing a variety of services, including innovative geochemical and fluid property analysis; differentiating core analysis and petrophysical interpretation; and customized heavy oil phase behavior studies. Using state-of-the-art analytical equipment supported by leading experts, the Schlumberger Reservoir Laboratory in Calgary supports a wide range of rock and fluid property measurements tailored to the heterogeneities of conventional and unconventional reservoirs.

The Calgary laboratory is home to Plunger* heavy oil and bitumen recovery system and ProxVisc* geochemical oil viscosity assessment. All quantitative analyses are conducted with strict QA/QC processes to deliver representative, accurate, and reliable laboratory data at every stage of operations—from proprietary solvent extraction to unique biomarker analysis. Mobile laboratory analysis and core retrieval in remote Canadian locations expedites important time-sensitive testing and chain-of-custody sample management. We focus on the design and implementation of customized studies for the industry's most challenging projects. Together with our US locations, the Calgary laboratory provides unparalleled analytical capabilities in rock and fluids analysis to our customers in North America and beyond.

Each of the Schlumberger Reservoir Laboratory locations around the world maintains a focus on operational reliability and accuracy without compromising security, safety, or quality. The Calgary laboratory is an essential contributor in this worldwide integration.



The Schlumberger Reservoir Laboratory in Calgary houses a suite of sophisticated instruments deployed by geochemical and fluids experts to provide innovative solutions that assist reservoir evaluation.

ROCK ANALYSIS SERVICES

- Wellsite services and core handling
 - Mobile core processing and desorption laboratories for remote locations
 - Core and plug preservation, sample plugging, and transportation
- Routine core analysis
 - Total and spectral gamma ray logging
 - Core photography
 - Core slabbing, plugging, and splitting
 - Grain density
 - Boyle's law porosity
 - Isothermal adsorption and desorption
 - Total organic carbon (TOC) measurements
 - Dual-energy computed-tomography (CT) whole-core or plug scanning
- Geomechanics
 - Scratch strength, Brinell hardness evaluation, and thermal profiling
 - Unconfined compression and single- or multistage triaxial compression testing for determining anisotropic shear strength envelopes
 - Brazilian or direct pull testing
- Special core analysis
 - TerraTek TRA* tight rock analysis service
 - Retort extraction

- Rock-fluid interaction
 - Capillary suction time testing
 - Fracture conductivity and proppant embedment
 - TerraTek HRA* heterogeneous rock analysis service
 - Reservoir and completion quality logs
 - Rock mineralogy logs
 - Regional multiwell modeling
 - Project data delivery using Techlog* wellbore software platform

RESERVOIR FLUIDS SERVICES

- Phase behavior studies
 - Standard hydrocarbon fluid studies including flash, constant composition expansion, differential liberation, constant-volume depletion, and separator testing
 - Heavy and ultraheavy oil studies using customized workflow
 - Formation water PVT studies
 - Data interpretation and equation-of-state examination
- Compositional analyses
 - Standard C₁₂₊ gas and C₃₆₊ liquid compositions
 - Sulfur compounds speciation using gas-chromatography (GC) sulfur chemiluminescence detector
 - Paraffin and wax analysis using high-temperature gas-chromatography flame-ionization detector (GC-FID)

- Flow assurance and rheology
 - Live oil wax and asphaltene studies using near-infrared (NIR), high-pressure microscopy (HPM) and particle-size analysis technology
 - Advanced studies of wax and asphaltenes from live reservoir fluids under realistic production and transportation conditions using RealView* live-fluid organic solids deposition studies
 - Live and stock-tank liquid oil rheology for non-Newtonian fluids
 - Live oil emulsion stability and inversion testing
 - Hydrate testing
 - Aquathermolysis for heavy oil
 - Gel strength measurement with model pipeline test
- Physical fluid analyses
 - Live and stock-tank liquid oil viscosity measurement using electromagnetic and capillary viscometers
 - Proprietary ultraheavy oil extraction
 - Stock-tank fluid property analysis related to organic solids behavior (e.g., saturates, aromatics, resins, and asphaltenes [SARA], cloud point, pour point, and wax content)
- Enhanced oil recovery (EOR) measurements
 - Live oil swelling
 - Forward and backward multicontact studies
 - Determination of minimum miscibility conditions using a slim-tube apparatus

GEOCHEMICAL SERVICES

- Preparation and extraction
 - Sample handling and validation using unique workflows
 - Proprietary ultraheavy oil extraction of core and cuttings using the Plunger system without the use of solvent or centrifuge
- Petroleum geochemistry
 - Geochemical fingerprinting using a high-resolution GC-FID to support compartmentalization and gradient studies
 - Production allocation in vertical and horizontal wells
 - Reservoir and casing leakage identification
 - Oil and source-rock characterization using gas chromatography–mass spectrometry (GC-MS) and tandem mass spectrometry (MS-MS)
 - Quantitative GC-MS for heavy oils and concentrations for total hydrocarbon; carbazoles; saturated and aromatic hydrocarbon fractions; phenols; and benzene, toluene, ethylbenzene, and xylenes (BTEX)
 - Evaluation using Malcom* interactive fluid characterization software
- Source rock evaluation
 - Standard source rock quality evaluation
 - Advanced extraction using pyrolysis gas chromatography and GC-FID or GC-MS
- FIS* fluid inclusion stratigraphy analysis in conjunction with our fluid inclusion technology laboratory in the US

INTERPRETATION AND CONSULTING

- Exploration and appraisal
 - Source rock evaluation
 - Reservoir continuity and compartmentalization
 - Tight oil and gas unconventional reservoir assessments
 - In-reservoir process assessment (biodegradation, thermogenic sulfate reduction, and tar mats)
 - Compositional graded fluid column assessments
 - Caprock assessment
- Development and production
 - Production allocation
 - Lateral and vertical fluid gradient evaluation
 - Origin and behavior of organic solids (wax, asphaltenes) and tar mats
- Proprietary predictions
 - GVisc* solvent-recovered oil viscosity assessment
 - ProxVisc geochemical oil viscosity assessment



By continually expanding our service offerings to align with industry needs, Schlumberger improves chain-of-custody and enhances reservoir characterization solutions.



Schlumberger globally standardized procedures, supported by proprietary QA/QC processes, ensure that laboratory staff deliver the highest quality data.

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