

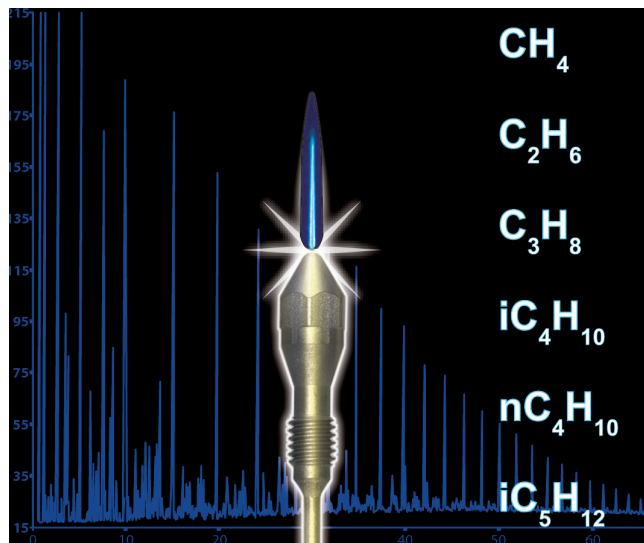
Reservoir and Process Fluid Characterisation

Accurate compositional analysis of produced fluid is key to the proper characterisation of hydrocarbon reservoirs and the prime factor for the design of their processing facilities. Analyses can be tailored to the exacting needs of a project and performed at our Fluid Analysis Centre in the UK or at remote sites utilising Expro's proprietary GOLD (Global Onsite Laboratory Data) system.

Expro's reservoir and process fluid analyses utilise state of the art equipment for characterising the entire range of fluids produced by hydrocarbon reservoirs.

Gas chromatographs (GC's), high pressure liquid chromatographs, (HPLC's) spectrosopes, cryoscopes and distillation equipment with various specifications are all used to measure gas and liquid compositional properties to exacting published methods.

All equipment is maintained to the highest tolerances, calibrated against standards traceable to National Standards, and backed by Expro's ISO 9001-2015 accreditation.



Applications:

- Compositional analysis of reservoir fluids
- Compositional analysis of process fluids
- Quantification of contaminants and regression to provide true composition
- Monitoring of processed fluid compositions
- Identification of contaminants and hazardous components in hydrocarbon fluids
- Monitoring of tracer levels
- Compositional comparison of fluids for source determination

Features:

- Fully traceable QA system using certified oil and gas standards
- Complete range of fluid types can be analysed
- Multiple/Duplicate instruments available
- Integrated with PVT and Production Chemistry
- On-site analysis of gas and liquids available
- On-site water analysis

Benefits:

- Confidence in characterisation provided
- Tailored analysis packages can be provided
- Turn around time reduced
- Provides complete physical and chemical characterisation
- Same day results with no sample shipping issues
- Same day results with no deterioration of sample quality

Reservoir and Process Fluid Characterisation

Technical Specification:

Services Provided	Methodology
Reservoir Fluid Characterisation	
Compositional analysis to C ₃₆₊	Flash / cryogenic distillation + temperature program GC
Compositional analysis to C ₁₀₀₊	Flash / cryogenic distillation + temperature program GC
TBP Distillation to C ₂₀₊	Atmospheric pressure & vacuum distillation
Identification of major isomers	GC / HPLC
Structural type (PNA, SARA etc)	GC / HPLC
Molecular weight	Cryoscopy/Ebulliometry
Wax content & analysis	Modified UOP 146 etc.
Asphaltenes	IP 143/Spectrometry
Crude Assay	Various API, UOP, IP methods
Geochemistry compositional workup	GC - tabular and/or graphic data output
Crude Comparisons	GC with radial plots of relative component ratios
Contaminant Identification and Quantification	
Drilling mud / filtrate content	GC
Tracer content and concentration	GC
Non Hydrocarbon Components	
Sulphur compounds (H ₂ S, mercaptans, COS)	UOP 212
Hydrogen / helium	GC
Argon	GC
Oxygen	GC
Methanol, glycols etc.	Trapping + GC
Water chemistry & analysis	Karl Fischer, distillation, various API, UOP, IP methods

Whole Oil Fingerprint – by Capillary Gas Chromatography

