

**E-535**

▲ Who should attend?

Laboratory personnel, operational staff and any other person who needs to know the **techniques and limitations** of the different laboratory analysis for Oil & Gas applications.

▲ Duration

**5 days**

▲ Sessions in English

**July 05-09, 2010**  
Pau (South-West)

**French sessions: F-535**

▲ Registration

Fees: € 2,120

Contact :  
exp.rueil@ifptraining.com  
Fax : +33 (1) 47 52 74 27

▲ Course Coordinator

**Jacques PARPANT**

Ref. **PROD / LABOGB**

At request, this course may be organized for a single company, and tailored to its specific requirements.

# LABORATORY ANALYSIS TECHNIQUES FOR OIL & GAS APPLICATIONS

## OBJECTIVES

To improve the participants' capabilities in understanding and conducting laboratory analyses.

Upon completion of the training, participants:

- know the physical & chemical principles of the different analysis,
- are aware of the specific points of vigilance for the different analysis,
- are capable of doing a quality control of the analyses results and can decide to redo the measurements when necessary,
- know the main rules relative to Occupational Health and Safety in the laboratory activities.

## COURSE CONTENT

### ROLE AND RESPONSIBILITIES OF LABORATORY STAFF 0.50 day

Member of Production Staff  
Equipment yields controls/monitoring  
Final product quality controls/monitoring  
Recommendations to improve treatments

### ANALYSIS SPECIFIC TO CRUDE OIL 1 day

Specific gravity or Density  
Vapor Pressure (Reid VP)  
**Water content :**  
Basic Sediment & Water (BSW)  
Dean Stark distillation  
**Salt content :**  
Chlorides content  
Conductimetry  
**Acid components content :**  
H<sub>2</sub>S content (Methylene Blue)  
H<sub>2</sub>S & Mercaptans by Potentiometry  
Total Acid Number (TAN) of liquid Hydrocarbons  
**Fluid rheology :**  
Pour point  
Kinematic viscosity  
Wax content

### ANALYSIS SPECIFIC TO GAS 0.50 day

**Gas characterization analysis :**  
Dew Point (HC & Water)  
Gas composition by Gas Phase Chromatography (GPC)  
Gas Specific Gravity estimate from composition  
**Acid components content :**  
H<sub>2</sub>S content (Dräger), H<sub>2</sub>S & Mercaptans content (Potentiometry, Iodometry)  
CO<sub>2</sub> content (Dräger & Acidimetry)

### ANALYSIS FOR THE FOLLOW-UP OF EFFLUENT TREATMENT OPERATIONS 1 day

**Demulsifiers** evaluation & selection (Bottle Tests, Field Tests)  
Quality controls/monitoring of poor and rich **Triethyleneglycol** (TEG)  
Water content, pH  
Hydrocarbon content  
Follow-up of **equipment performances**  
Water content  
Residual emulsion

### LABORATORY VISIT 1 day

Equipment visualisation  
Discussions on practices, difficulties...

### ANALYSIS DONE TO OPTIMIZE ANTI-CORROSION TREATMENTS 0.50 day

Deposits and scale analyses  
Chemical corrosion and bacterial corrosion appraisal  
Recommendations for chemical additives and treatments

### HSE IN LABORATORY ACTIVITIES 0.50 day

Laboratory facilities design and implementation  
Chemicals management (storage, use...)  
Occupational Health and Safety behaviour