

LEARNING

**Laboratory Analysis for Oil and Gas
Production**

10 – 14 / 02 / 2025

**Radisson Blu Hotel Madrid Prado
Madrid, Spain**



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Hawalli - Block 11 - Street 172 - Parcel 013521 - Amar Complex - Floor 1 - Flat 1 - PACI Unit No. 18121758

Abar Solutions Petroleum Consultancy Invite Your Employee To Participate With Us In Special Training Course As Under Details:

Course Name		Laboratory Analysis for Oil and Gas Production			
Code	Period	Start	End	Location	Fees
LAP 55	5 Days	10/02/2025	14/02/2025	Radisson Blu Hotel Madrid Prado Madrid, Spain	1950 KD
** The Fees Includes: Lecturer, Training Material, Training Room With One Coffee Break & Lunch Open Buffet Daily, Certificate Of Attendance In Last Day Training Course **					

Why Choose this Training Course?

This Laboratory Analysis for Oil and Gas Production training course will introduce how a field laboratory is vital for the operation and production of oil and gas. Oil and gas production requires many steps before they can be brought to market. An Oil and Gas production laboratory is therefore vital in maintaining control of field operations. Managers; technicians; production engineers: chemists and others will gain a good understanding of the capabilities and boundaries of a laboratory so that they can control and optimize production.

This Laboratory Analysis for Oil and Gas Production training course will highlight:

- The role of Oil and Gas Laboratory Chemists
- Laboratory sampling and analysis in oil and gas production
- Laboratory Management on how to efficiently run an Oil and Gas Production laboratory.
- Crude oil Assay
- Produced fluid analysis.

What are the Goals?

At the end of this 5-day intensive Laboratory Analysis for Oil and Gas Production training course, you will learn to:

- Understand the function, importance, and operation of oil and gas laboratories.
- Understand how to optimize the day-to-day operation of the oil and gas laboratory
- Gain an insight into how Quality Management is important within and Oil and Gas Laboratory



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- Understand how the results obtained from the laboratory can enhance the operation of the processing system and contribute to the integrity of plant and equipment
- Understand how process chemicals function and how to utilize them effectively
- Understand how metering systems operate and how laboratory data contributes to accurate metering and tanker loading (custody transfer)
- Learn how to efficiently run an Oil and Gas Production laboratory
- Produce and report accurate and reliable results
- Provides early warning of potential plant problems
- Determination of product quality and fiscal measurements
- Laboratory Quality Management

How will this Training Course be Presented?

This Laboratory Analysis for Oil and Gas Production training course will be conducted along workshop principles with formal lectures and interactive presentations, as well as case studies that will result in the active participation of all delegates in discussions and teamwork.

- Interactive presentations and tutorials
- Team and individual workshop exercises
- Onscreen worked examples
- Videos and posters
- Debates and discussions

Organisational Impact:

This Laboratory Analysis for Oil and Gas Production training course will enable the organizations laboratory to provide accurate results and hence improve their competitiveness in the market:

- This course will emphasize the chemistry of crude oil and oilfield chemicals.
- Many aspects of crude oil production operations and management can be improved including, production, monitoring, and safety.
- This course will guide the participants to develop key concepts and techniques for the upstream processes and crude oil laboratory technologies.
- Grasp key concepts that can be utilized to make operating decisions that hence improve the overall performance.
- Apply effective lab management techniques and improve their knowledge of quality assurance and uncertainty of measurements and test results



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Personal Impact:

This Laboratory Analysis for Oil and Gas Production training course will enhance participants skills as follows:

- Understand crude oil and production fluid chemistry
- Improve participants resource management and analytical skills
- Apply useful criteria for the selection of instrument and supplies
- Increase understanding in safety as well as how to sample in different environments, pressurized, ultra-low temperature and ambient conditions
- Improve On-Time performance while reducing operational expenses
- Develop an awareness of the importance of representative sampling

Daily Agenda:

Day One: ISO 17025 in Oil and Gas Laboratories

- Laboratory Management System ISO 17025
- Laboratory Quality Control Assurance
- Laboratory Quality Management
- Laboratory Organisation
- Management Requirements
- Health and Safety considerations

Day Two: Laboratory Organisation, Sampling & Quality Control

- Method Validation
- Tests and Calibrations
- Reporting- Accuracy & Precision
- The importance of representative sampling
- Sampling in different environments and Conditions
 - Pressurized Sampling (oil and gas)
 - Ultra-low temperature sampling
 - Atmospheric Sampling
- Storage of Chemical and samples



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Day Three: Crude oil Assaying I

- Analysis and Specifications
- Crude oil Assaying
- Base Sediment & Water
- Water in Oil by Karl Fischer
- Oil in Water Testing
- Density (Specific Gravity)

Day Four: Crude oil Assaying II

- Distillation ASTM D 2892 (TBP, True Boiling Point)
- Light Hydrocarbons
- Sulfur Content
- Determination of Reid Vapour pressure
- Carbon Residue, Asphaltene Content
- Viscosity and Pour Point
- Metallic Constituents
- Wax Content

Day Five: Natural Gas Analysis

- Natural Gas Analyses
 - Composition Analysis
 - Hydrocarbon determination
 - Calorific Content
 - Wobbe Index
 - Non hydrocarbon/ impurities determination (Total Sulfur / H₂S - CO₂ – Nitrogen - Mercury and other trace metals - Other Tests)
- Produced Water Testing
- Microbiological Analysis
- Oilfield Chemicals



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Course Agenda:

Laboratory Analysis for Oil and Gas Production

Madrid, Spain – From 10/02/2025 To 14/02/2025

Day	9.00AM To 11.30 PM	30 Minute	12.0 PM To 02.0 PM
MONDAY	<p>ISO 17025 in Oil and Gas Laboratories</p> <ul style="list-style-type: none"> Laboratory Management System ISO 17025 Laboratory Quality Control Assurance Laboratory Quality Management 	Light Break	<p>ISO 17025 in Oil and Gas Laboratories</p> <ul style="list-style-type: none"> Laboratory Organisation Management Requirements Health and Safety considerations
TUESDAY	<p>Laboratory Organisation, Sampling & Quality Control</p> <ul style="list-style-type: none"> Method Validation Tests and Calibrations Reporting- Accuracy & Precision The importance of representative sampling 		<p>Laboratory Organisation, Sampling & Quality Control</p> <ul style="list-style-type: none"> Sampling in different environments and Conditions <ul style="list-style-type: none"> Pressurized Sampling (oil and gas) Ultra-low temperature sampling Atmospheric Sampling Storage of Chemical and samples
WEDNESDAY	<p>Crude oil Assaying I</p> <ul style="list-style-type: none"> Analysis and Specifications Crude oil Assaying Base Sediment & Water 		<p>Crude oil Assaying I</p> <ul style="list-style-type: none"> Water in Oil by Karl Fischer Oil in Water Testing Density (Specific Gravity)
THURSDAY	<p>Crude oil Assaying II</p> <ul style="list-style-type: none"> Distillation ASTM D 2892 (TBP, True Boiling Point) Light Hydrocarbons Sulfur Content Determination of Reid Vapour pressure 		<p>Crude oil Assaying II</p> <ul style="list-style-type: none"> Carbon Residue, Asphaltene Content Viscosity and Pour Point Metallic Constituents Wax Content
FRIDAY	<p>Natural Gas Analysis</p> <ul style="list-style-type: none"> Natural Gas Analyses <ul style="list-style-type: none"> Composition Analysis Hydrocarbon determination Calorific Content Wobbe Index Non hydrocarbon/ impurities determination (Total Sulfur / H₂S - CO₂ – Nitrogen - Mercury and other trace metals - Other Tests) 		<p>Natural Gas Analysis</p> <ul style="list-style-type: none"> Produced Water Testing Microbiological Analysis Oilfield Chemicals



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