

# € TRAINING

Oil and Gas Laboratory Operations  
Management





# Oil and Gas Laboratory Operations Management

## Introduction:

This training program equips participants with comprehensive knowledge and skills essential for efficient management of laboratory operations within the oil and gas industry. By focusing on key areas such as process optimization, metering systems, and chemical utilization, this program enables participants to proficiently manage oil and gas laboratory operations and produce accurate results crucial for the industry's success.

## Program Objectives:

At the end of this program, participants will be able to:

- Understand the function, importance, and operation of oil and gas laboratories.
- Comprehend how to optimize the day-to-day operation of oil and gas laboratories.
- Gain insight into the importance of Quality Management within oil and gas laboratories.
- Recognize how laboratory results can enhance the operation of processing systems and contribute to the integrity of plant and equipment.
- Understand the function of process chemicals and how to utilize them effectively.
- Learn how metering systems operate and how laboratory data contributes to accurate metering and tanker loading custody transfer.
- Acquire skills in efficiently managing such laboratories and demonstrate the ability to produce accurate and reliable results.
- Calculate chemical injection rates effectively.

## Targeted Audience:

- Managers.
- Technicians.
- Chemists.
- Professionals who have a good understanding of the abilities and limitations of a field laboratory.

## Program Outlines:

### Unit 1:

## Role of the Laboratory Chemist in Oil and Gas Laboratories:

- Quality Assurance and Control.
- Control of Chemicals.
- Health, Safety and Environmental Considerations.
- Adherence to Legislation.

## Unit 2:

### Laboratory Management:

- Laboratory Quality Management.
- Equipment Maintenance.
- Housekeeping.
- Calibrations.
- Stock Management.
- Chemical Segregation and Storage.

## Unit 3:

### Sampling of Process Fluids:

- The importance of representative sampling.
- Health and Safety considerations.
- Pressurized Sampling oil and gas.
- Atmospheric Sampling.
- Water Sampling.

## Unit 4:

### Laboratory Analysis:

- Base Sediment & Water.
- Water in Oil by Karl Fischer.
- Oil in Water Testing, Density Measurement.

- Determination of Reid Vapour pressure.
- General Produced Water Testing, Potable Water Testing.
- Utilities Analysis.
- Microbiological Analysis.

## Unit 5:

### Plant and Equipment:

- Separation Systems.
- Oilfield Chemicals.
- Enhanced Oil Recovery.
- Metering.
- Summary.