



AL040: Water and Crude Oil Quality Control Management

Training Description:

What does it mean to be a scientist or technician in a laboratory? Why do laboratory staff ask questions such as what is that substance and why does it react that way?

Since the beginning of time, man has been seen as an inquirer. We are always trying to discover new things, classify everything and to understand the behavior of things. The ability to enquire is one of the most important assets a person in a laboratory can have. You need to be able to act in the role of an inquirer when working in a laboratory environment.

The idea of this course is to give an introduction to working in a laboratory. It is hoped that people become aware of their role and function in a laboratory environment. Whatever the function of the laboratory, the most important asset is the staff and how those staff perform. This course presents people with the basics to become an integral part of the laboratory and assist the facility to generate data that are of high quality and scientifically reliable.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Provide laboratory staff with knowledge and skills of methods on laboratory through overview of laboratory procedure, quality control, technology, analysis and best practices
- ✓ Exercise total quality management in producing reliable, consistent and independent results and on-time to their customers
- ✓ Emphasize on equipment calibration and maintenance as part of the quality assurance and quality control procedures
- ✓ Prepare and handle sample for different analytical instrumentations
- ✓ Understand, use, maintain and troubleshoot of key laboratory equipment
- ✓ Understand the various techniques of analytical measurements
- ✓ Develop effective communication and interpersonal skills among lab personnel
- ✓ Exercise gas and sulfur composition
- ✓ Study the scale and sludge schema
- ✓ Develop the interpretation of troubleshooting analysis

Training Designed for:

This course is intended for all laboratory staff including Chemists, Analysts, QA/QC and Lab Technicians, R&D, Scientists and other Lab Technical Staff.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- ❖ Introduction of Laboratory Training
- ❖ Laboratory Quality Management (ISO 17025)
 - Laboratory Structure to ensure Integrity and Competence
 - LQM – Laboratory Quality Management Systems as a Framework for Business Process
 - Laboratory Facilities, Services and Supplies
 - Ensuring Competence: Equipment, Personal, Tenders, Contracts and Requests
 - Ensuring competence – Test and Calibration Methods
- ❖ Overview of Laboratory Procedure
 - General Product Specifications and Analytic Items
 - Handling of Samples and Items from Customers for Calibration and Test
 - Documentation and Documentation Control Process
 - Laboratory Safety
- ❖ Quality Control of Gasoline and Naphtha
 - Specification for Gasoline and Naphtha
 - Octane Number
 - Copper Strip
 - Oxygenate Cpds
 - Gum Content

DAY TWO:

- ❖ Quality Control of Diesel, Kerosene, Aviation Fuel
 - Specification for Diesel, Kerosene and Aviation Fuel
 - CFPP, Cloud and Pour Point
 - Cetane Number, Cetane Index & Lubricity
 - Total Aromatic Cpds (Mono-Di-Tri-Poly) on Aviation
 - Samples
- ❖ Quality Control of Fuel Oil & Base Oil, Asphalt & Sulfur
 - Distillation
 - HT Simulated Distillation Test for Heavy Oil Samples
 - API
 - Viscosity and Viscosity Index
 - Color Test
 - Total Sediment by IP Method
 - Sediments on Fuel and Oil Samples

DAY THREE:

- ❖ Crude Oil Assessment
 - Hydrocarbons Laboratory
 - Sampling of Petroleum and Petroleum Products
 - Crude oil and Hydrocarbon Products analysis (ASTM-IP)
 - Carbon Residue, Asphaltene Content
 - Density (Specific Gravity)
 - Distillation

- Sulfur Content
- Viscosity and Pour Point
- Water and Sediment
- Wax Content
- The Evaluation of Results and Methods
- Quality Control and Quality Assurance
- ❖ **Quality Control of Water and Environmental Test**
 - Amine Content
 - Ion Chromatograph
 - TOC
 - Oil in water

DAY FOUR:

- ❖ **Quality Control of Gas (Propane, Butane etc.)**
 - Gas Composition
 - Calorific Value
 - Mole Fraction
 - Gas report interpretation
 - Gas Chromatogram
 - Sulfur Content
 - Sulfur Composition

- ❖ **Practical Session/Lab Visit**

DAY FIVE:

- ❖ **Miscellaneous Issue in Quality Control**
 - Scale and Sludge Schema using AAS or ICP
- ❖ **Laboratory Hand Blend**
 - Preparation
 - Result Evaluation
- ❖ **NTR Technology and Application**
 - General Principle and schema
- ❖ **Special analysis and troubleshooting**
 - Evaluation of Results and Methods
 - Study Cases
- ❖ **Course Conclusion**
- ❖ **POST-ASSESSMENT and EVALUATION**

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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