Training Title:

CRUDE OIL SAMPLING, TESTING, EVALUATION & EQUIPMENT

Training Duration:

5 Days

Training Venue and Dates

REF LM040	**Crude Oil Sampling, Testing, Evaluation & Equipment**	**5**	**13-17 Jan. 2025**	**$5,500**	**Dubai, UAE**

In any of the 5-star hotel. Exact venue will be informed soon.

Training Fees

- $5,500 per participant for Public Training including Course Materials/Handouts, Tea/Coffee, Refreshments & International Buffet Lunch

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

Crude oil is the single largest traded commodity in the world. Proper sampling, analysis, and reporting of data according to established standards is of paramount importance, especially with the volatility in price, and the market proliferation of synthetic, high TAN, and extra heavy crude oils. Whether crude oil is refined in the near-term or stored for an extended period, it is fundamentally important that recognized procedures and standards be used in sampling and analysis. This is true from the time crude oil is produced, through transportation and interim storage, until it is ultimately refined. Analytical data must be accurate and reliable as they are the basis for decisions on whether a given crude oil can be effectively processed and yield the desired product slate. These data are also used by engineering personnel in planning refinery upgrades.

OBJECTIVES

The objective of crude oil sampling, testing, evaluation, and equipment is to ensure the quality, composition, and properties of crude oil are accurately assessed and monitored throughout the production, transportation, refining, and marketing processes. This involves:

1. **Sampling**: Collecting representative samples from various points in the crude oil production and transportation chain to ensure that the samples accurately reflect the overall quality and characteristics of the crude oil.

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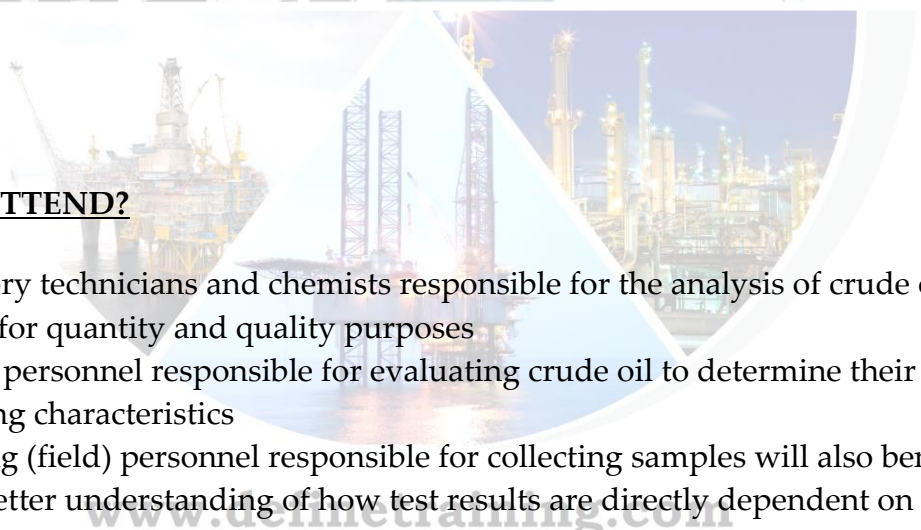
2. **Testing**: Conducting a variety of laboratory tests on the crude oil samples to determine key properties such as density, viscosity, sulfur content, API gravity, water content, and elemental composition. These tests help in assessing the suitability of the crude oil for refining and determining its market value.

3. **Evaluation**: Analyzing the test results to assess the quality, consistency, and marketability of the crude oil. This includes comparing the properties of the crude oil with industry standards and customer requirements.

4. **Equipment**: Utilizing appropriate equipment and instrumentation for sampling, testing, and analysis. This may include instruments such as spectrometers, chromatographs, viscometers, and titration equipment, as well as sampling devices designed for different stages of the oil production and transportation process.

By effectively carrying out these processes, the objective is to ensure that crude oil meets quality specifications, complies with regulatory requirements, and can be processed efficiently in refineries to produce high-quality petroleum products. This contributes to safe and efficient operations in the oil and gas industry, minimizes production and transportation risks, and helps in optimizing refinery operations and product quality.



WHO SHOULD ATTEND?

- Laboratory technicians and chemists responsible for the analysis of crude oil samples for quantity and quality purposes
- Refinery personnel responsible for evaluating crude oil to determine their processing characteristics
- Operating (field) personnel responsible for collecting samples will also benefit from a better understanding of how test results are directly dependent on proper sample collection and handling
- Traders and buyers involved in sale, purchase, or exchanges of crude oil.

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. The delegates will also be encouraged to raise their own questions and to share in the development of the right answers using their own analysis and experiences.

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- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos& General Discussions

COURSE OUTLINE

Day 1

- Crude Oil History; Supply and Trading Patterns
- Definitions and Terms
- Quality Variations and Their Causes
- The Complexities of Crude Oil Composition
- Sampling Protocols
- Sampling Containers and Sample Integrity

Day 2

- Composition and Classification
- Inspection Analyses (Cursory Assay)
- Comprehensive Analyses (Full Assay)
- Other Important Crude Oils and Fraction Properties
- Basics of Crude Oil Processing Evaluation

Day 3

- Bitumen and Extra Heavy Crude Oils
- Crude Oil Quality (Case Studies)
- ASTM Crude Oil Proficiency Testing Program
- Challenges Presented to the Analyst by Heavier, Higher Sulfur Feed stock and Opportunity Crude Oils
- Future Needs in Crude Oil Characterization and Analytical Test Method Requirements

Day 4

- Typical oilfield processing
- Production fluid treatment objectives
- Production fluid separation
- Emulsion

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- Theory
- Stabilization
- Destabilization
- De-emulsifier

Day 5

- Dehydration
- Oil treatment basics
- Desalting
- Stake's law of settling theory or gravity separation
- De-emulsifier requirements and selection
- Group discussion on the chemicals used.

Note:

Pre & Post Tests will be conducted

Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.

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