

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	14-18 April 2025	\$6,000	Kuala Lumpur, Malaysia
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In any of the 4 or 5 star hotel. Exact venue will be informed soon.

Training Fees

- \$6,000 per participant for Public Training including Course Materials/Handouts, Tea/Coffee, Refreshments & 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. This data is also used by engineering personnel in planning refinery upgrades.

OBJECTIVE

The objective of crude oil sampling, testing, evaluation, and equipment is to ensure accurate characterization and assessment of crude oil properties essential for refining and commercial purposes. This process involves:

1. Sampling: Properly collecting representative samples from crude oil streams to reflect its overall composition and properties.
2. Testing: Conducting comprehensive laboratory tests to analyze various parameters such as density, viscosity, sulfur content, API gravity, and composition (e.g., paraffins, aromatics, resins, asphaltenes).
3. Evaluation: Interpreting test results to understand the crude oil's quality, suitability for refining, and potential economic value.

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4. Equipment: Utilizing specialized equipment such as sample containers, analyzers, centrifuges, and distillation units designed for accurate measurement and analysis of crude oil properties.

By executing these steps meticulously, stakeholders in the petroleum industry can make informed decisions regarding crude oil purchase, refining processes, product specifications, and compliance with regulatory standards, ensuring efficient and profitable operations.

WHO SHOULD ATTEND?

- Laboratory technicians and chemists responsible for the analysis of crude oil samples for quantity and quality purposes
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- 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 are involved in the sale, purchase, or exchange 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.

- 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

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- 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
- Theory
- Stabilization
- Destabilization
- De-emulsifier

Day 5

Oil treatment basics

- Dehydration
- Desalting
- Stokes 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. www.definettraining.com

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

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