Wireline and LWD Log Quality Control Training Course

OGT-1089 · 5 days · 15 CPD hours · English

OVERVIEW

Accurate and reliable well logging data is essential for understanding subsurface formations, evaluating reservoir properties and making informed decisions throughout oil and gas exploration and production operations. However, the quality of logging data can be affected by several factors, including tool performance, borehole conditions, operational procedures, depth inconsistencies, environmental effects and data acquisition errors. Identifying and correcting these issues is critical to ensuring that well log measurements are dependable and suitable for technical interpretation.

The **Wireline and LWD Log Quality Control Training Course** by Oil & Gas Training Institute is designed to develop the technical knowledge and practical skills required to assess, validate and improve the quality of wireline and Logging While Drilling (LWD) data. The programme explores essential log quality control principles, measurement reliability, acquisition practices, depth matching, log normalisation, and data validation techniques used in modern well logging operations.

As part of the **Well Log Analysis for Oil & Gas** category, this course provides a structured understanding of the quality assurance processes involved in acquiring, processing and interpreting well logging measurements. Participants will examine the differences between wireline logging and logging while drilling, understand the sources of measurement uncertainty and learn how to identify abnormal log responses, inconsistent readings and potential data acquisition problems.

The training also addresses practical quality control procedures for evaluating gamma ray, resistivity, density, neutron and sonic logs. Participants will explore how environmental corrections, borehole conditions, tool calibration, sensor response and operational parameters influence measurement quality. Particular attention is given to depth matching between different logging runs, identifying discrepancies between LWD and wireline measurements, and applying log normalisation methods to improve data consistency across multiple wells.

Through technical discussions, practical exercises and industry-related case studies, participants will develop the ability to evaluate logging datasets, identify quality issues and recommend appropriate corrective actions. They will also understand how effective data validation supports reservoir characterisation, formation evaluation, petrophysical interpretation and overall subsurface decision-making.

Oil & Gas Training Institute delivers this programme with a practical, industry-oriented approach, helping professionals strengthen their ability to manage logging data quality and support reliable technical outcomes in exploration, drilling and production environments.

OBJECTIVES

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

1. Explain the fundamental principles of wireline logging and Logging While Drilling (LWD), including their respective measurement systems, operational characteristics and applications.

2. Identify common sources of logging data errors, measurement uncertainty and quality deterioration during acquisition and processing operations.

3. Evaluate the quality and reliability of gamma ray, resistivity, neutron, density and sonic log measurements using appropriate quality control criteria.

4. Apply systematic log quality control procedures to identify abnormal readings, inconsistent measurements, tool-related problems and environmental influences.

5. Assess depth discrepancies between wireline and LWD datasets and apply appropriate depth matching techniques to improve log correlation.

6. Analyse borehole conditions, tool calibration records and environmental correction requirements to determine their effects on logging data reliability.

7. Apply log normalisation techniques to improve consistency between logging runs, tools and datasets from different wells.

8. Perform data validation checks to identify missing values, outliers, measurement inconsistencies and unreliable logging intervals.

9. Interpret quality control findings and prepare technical reports documenting identified problems, corrective actions and data limitations.

10. Develop practical quality assurance strategies to improve logging data integrity, operational efficiency and confidence in formation evaluation.

TRAINING METHODOLOGY

The Wireline and LWD Log Quality Control Training Course uses a structured, practical and technically focused learning methodology. It combines instructor-led sessions with analytical exercises and realistic logging scenarios to help participants understand the principles of quality control and apply them to actual well logging challenges.

The training methodology includes the following approaches:

Interactive Presentations and Technical Discussions

Participants explore the fundamental concepts of wireline and LWD measurements, logging tool responses, data acquisition procedures and quality assurance requirements. Instructor-led discussions provide opportunities to

examine industry practices, technical challenges and common sources of logging errors.

Practical Log Evaluation Exercises

Participants work with representative logging datasets to assess the quality of gamma ray, resistivity, density, neutron and sonic measurements. These exercises help them recognise unusual responses, identify questionable intervals and distinguish between genuine geological variations and possible measurement problems.

Depth Matching Workshops

Practical workshops demonstrate how to compare LWD and wireline measurements, identify depth shifts and establish consistent depth references. Participants examine correlation markers, depth discrepancies and the effects of incorrect depth alignment on formation evaluation.

Case Study-Based Learning

Industry-related case studies demonstrate logging quality problems associated with borehole enlargement, washouts, tool malfunction, sensor limitations, drilling conditions and environmental effects. Participants assess the available evidence and recommend suitable corrective actions.

Log Normalization and Data Validation Activities

Participants explore methods for comparing logging measurements across different wells and acquisition runs. Exercises focus on identifying systematic differences, evaluating data consistency and applying suitable normalization and validation procedures.

Scenario-Based Problem-Solving

Realistic operational scenarios challenge participants to investigate logging inconsistencies, assess measurement reliability and prioritise quality control actions. These activities strengthen technical judgement and practical problem-solving capabilities.

Collaborative Learning and Experience Sharing

Group discussions encourage participants to share their professional experiences, compare logging practices and explore approaches to improving data quality throughout the well logging workflow.

ORGANISATIONAL IMPACT

Implementing effective log quality control practices can significantly improve the reliability of subsurface data and strengthen technical decision-making across oil and gas operations. Organisations that invest in developing their workforce's wireline and LWD quality assurance capabilities can achieve several operational and technical benefits.

Improved Logging Data Reliability

The course strengthens organisational capabilities in identifying measurement errors, evaluating tool performance and validating logging datasets. Improved data reliability supports more consistent formation evaluation and reduces the likelihood of technical decisions being based on questionable measurements.

Better Reservoir Evaluation and Characterisation

Reliable logging measurements are essential for estimating formation properties, identifying reservoir intervals and evaluating fluid distribution. Improved quality control helps organisations maintain confidence in the datasets used for petrophysical analysis and reservoir characterisation.

Reduced Operational and Interpretation Risks

Undetected depth mismatches, abnormal log responses and measurement inconsistencies can create significant interpretation uncertainties. The training helps organisations establish systematic procedures for identifying these issues before they influence important technical decisions.

Greater Consistency Across Multiple Wells

Log normalization and standardised validation procedures improve the comparability of datasets acquired from different wells, tools and logging campaigns. This supports more consistent formation evaluation across fields and development areas.

Improved Collaboration Between Technical Teams

The course promotes a common understanding of logging quality requirements among drilling engineers, wireline specialists, LWD personnel, petrophysicists and subsurface teams. This improves communication and coordination throughout the data acquisition and interpretation process.

More Efficient Technical Workflows

Early identification of logging quality problems can reduce unnecessary reprocessing, repeated analysis and delays associated with investigating unreliable measurements. Standardised quality control practices also help improve data handover between operational and interpretation teams.

Stronger Quality Assurance Processes

Participants learn how to document quality control findings, assess data limitations and recommend corrective measures. These capabilities support more effective internal quality assurance procedures and improve the traceability of technical decisions.

Better Support for Strategic Decisions

High-quality logging data provides a stronger technical foundation for drilling evaluation, reservoir development planning and production-related decisions. Improved data integrity can therefore contribute to more informed operational and investment decisions.

PERSONAL IMPACT

The Wireline and LWD Log Quality Control Training Course helps participants develop specialised technical capabilities that are directly relevant to their professional responsibilities in oil and gas operations.

Enhanced Technical Expertise

Participants gain a deeper understanding of wireline and LWD measurement principles, logging tool performance, environmental influences and data quality requirements. This strengthens their technical knowledge of well logging operations.

Improved Analytical Capabilities

The course develops the ability to investigate abnormal log responses, recognise inconsistencies and distinguish between measurement errors and genuine formation characteristics. Participants become better equipped to assess the reliability of technical datasets.

Greater Confidence in Depth Matching

Participants improve their understanding of depth discrepancies between different logging runs and learn how depth matching supports accurate log correlation and formation evaluation.

Practical Data Validation Skills

Through hands-on exercises, participants develop the ability to assess data completeness, identify outliers, evaluate measurement consistency and document potential quality issues.

Better Technical Decision-Making

An improved understanding of logging data limitations enables professionals to make more informed recommendations and communicate the reliability of available measurements with greater confidence.

Improved Cross-Functional Communication

Participants develop a stronger technical vocabulary for discussing logging quality issues with drilling teams, wireline engineers, LWD specialists and petrophysicists.

Professional Growth and Career Development

The specialised knowledge gained through the programme can strengthen professional capabilities in well logging, formation evaluation, petrophysics and subsurface data management. It also helps participants prepare for more technically demanding responsibilities within oil and gas organisations.

WHO SHOULD ATTEND

The Wireline and LWD Log Quality Control Training Course is suitable for professionals involved in well logging, drilling operations, formation evaluation, petrophysical analysis and subsurface data management.

The programme is particularly beneficial for:

- **Wireline Logging Engineers:** Professionals responsible for wireline acquisition operations who need to improve their understanding of measurement quality, tool performance and logging data validation.
- **LWD Engineers and Specialists:** Personnel involved in Logging While Drilling operations who want to strengthen their capabilities in evaluating real-time and recorded drilling-related logging measurements.

- **Petrophysicists:** Specialists who interpret well logs and require reliable, depth-matched and validated datasets for formation evaluation and reservoir characterisation.
- **Well Logging Analysts:** Professionals responsible for reviewing, processing and evaluating logging datasets who want to develop systematic quality control skills.
- **Drilling Engineers:** Engineers who need to understand how drilling conditions, borehole stability and operational parameters influence LWD measurements and logging data quality.
- **Formation Evaluation Engineers:** Specialists who use wireline and LWD measurements to evaluate lithology, porosity, fluid saturation and reservoir characteristics.
- **Geologists and Subsurface Geoscientists:** Professionals involved in geological correlation and formation analysis who require consistent and reliable logging information.
- **Wellsite Geologists:** Personnel who monitor drilling operations and evaluate logging information to support geological interpretation and operational decisions.
- **Logging Operations Supervisors:** Supervisors responsible for monitoring acquisition quality, reviewing logging deliverables and ensuring compliance with operational procedures.
- **Reservoir Engineers:** Professionals who use formation evaluation results and petrophysical datasets to support reservoir assessment and development planning.
- **Technical Managers and Quality Assurance Professionals:** Managers and specialists responsible for establishing data quality procedures, reviewing technical outputs and improving logging workflows.

The course is also suitable for experienced oil and gas professionals seeking to update their knowledge of modern logging quality assurance practices.

COURSE OUTLINE

Fundamentals of Wireline and LWD Logging Systems

Logging Data Quality Assessment and Measurement Validation

Depth Matching and Wireline-LWD Data Correlation

Log Normalization, Data Processing and Quality Improvement

Advanced Quality Assurance, Reporting and Industry Applications

SCHEDULED DATES

Dates	Venue	Format	Fee
04 - 08 Jan 2027	Abu Dhabi, United Arab Emirates	In person	$11,500
04 - 08 Jan 2027	Abuja, Nigeria	In person	$11,500
04 - 08 Jan 2027	Accra, Ghana	In person	$11,500
04 - 08 Jan 2027	Addis Ababa, Ethiopia	In person	$11,500
04 - 08 Jan 2027	Al Ain, United Arab Emirates	In person	$11,500
04 - 08 Jan 2027	Al Khobar, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Alberta, Canada	In person	$11,500
04 - 08 Jan 2027	AlUla, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Amman, Jordan	In person	$11,500
04 - 08 Jan 2027	Amsterdam, The Netherlands	In person	$11,500
04 - 08 Jan 2027	Athens, Greece	In person	$11,500
04 - 08 Jan 2027	Baku, Azerbaijan	In person	$11,500
04 - 08 Jan 2027	Barcelona, Spain	In person	$11,500
04 - 08 Jan 2027	Berlin, Germany	In person	$11,500
04 - 08 Jan 2027	Boston, USA	In person	$11,500
04 - 08 Jan 2027	Brussels, Belgium	In person	$11,500
04 - 08 Jan 2027	Budapest, Hungary	In person	$11,500
04 - 08 Jan 2027	Cairo, Egypt	In person	$11,500
04 - 08 Jan 2027	Cape Town, South Africa	In person	$11,500
04 - 08 Jan 2027	Casablanca, Morocco	In person	$11,500
04 - 08 Jan 2027	Dammam, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Dhahran, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Doha, Qatar	In person	$11,500
04 - 08 Jan 2027	Dubai, United Arab Emirates	In person	$11,500
04 - 08 Jan 2027	Edinburgh, United Kingdom	In person	$11,500

Dates	Venue	Format	Fee
04 - 08 Jan 2027	Edmonton, Canada	In person	$11,500
04 - 08 Jan 2027	Frankfurt, Germany	In person	$11,500
04 - 08 Jan 2027	Geneva, Switzerland	In person	$11,500
04 - 08 Jan 2027	Houston, USA	In person	$11,500
04 - 08 Jan 2027	Istanbul, Turkey	In person	$11,500
04 - 08 Jan 2027	Jakarta, Indonesia	In person	$11,500
04 - 08 Jan 2027	Jeddah, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Jubail, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Khamis Mushait, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Kigali, Rwanda	In person	$11,500
04 - 08 Jan 2027	Kuala Lumpur, Malaysia	In person	$11,500
04 - 08 Jan 2027	Lisbon, Portugal	In person	$11,500
04 - 08 Jan 2027	Liverpool, United Kingdom	In person	$11,500
04 - 08 Jan 2027	London, United Kingdom	In person	$11,500
04 - 08 Jan 2027	Los Angeles, USA	In person	$11,500
04 - 08 Jan 2027	Luanda, Angola	In person	$11,500
04 - 08 Jan 2027	Madrid, Spain	In person	$11,500
04 - 08 Jan 2027	Manama, Bahrain	In person	$11,500
04 - 08 Jan 2027	Marbella, Spain	In person	$11,500
04 - 08 Jan 2027	Marrakech, Morocco	In person	$11,500
04 - 08 Jan 2027	Miami, USA	In person	$11,500
04 - 08 Jan 2027	Milan, Italy	In person	$11,500
04 - 08 Jan 2027	Munich, Germany	In person	$11,500
04 - 08 Jan 2027	Muscat, Oman	In person	$11,500
04 - 08 Jan 2027	Nairobi, Kenya	In person	$11,500
04 - 08 Jan 2027	New York, USA	In person	$11,500

Dates	Venue	Format	Fee
04 - 08 Jan 2027	Nice, France	In person	$11,500
04 - 08 Jan 2027	Oslo, Norway	In person	$11,500
04 - 08 Jan 2027	Paris, France	In person	$11,500
04 - 08 Jan 2027	Port Louis, Mauritius	In person	$11,500
04 - 08 Jan 2027	Prague, Czech Republic	In person	$11,500
04 - 08 Jan 2027	Pretoria, South Africa	In person	$11,500
04 - 08 Jan 2027	Riyadh, Saudi Arabia	In person	$11,500
04 - 08 Jan 2027	Rome, Italy	In person	$11,500
04 - 08 Jan 2027	Sarajevo, Bosnia and Herzegovina	In person	$11,500
04 - 08 Jan 2027	Sharm El Sheikh, Egypt	In person	$11,500
04 - 08 Jan 2027	Singapore, Singapore	In person	$11,500
04 - 08 Jan 2027	Stockholm, Sweden	In person	$11,500
04 - 08 Jan 2027	Tokyo, Japan	In person	$11,500
04 - 08 Jan 2027	Toronto, Canada	In person	$11,500
04 - 08 Jan 2027	Tromso, Norway	In person	$11,500
04 - 08 Jan 2027	Vienna, Austria	In person	$11,500
04 - 08 Jan 2027	Zagreb, Croatia	In person	$11,500
04 - 08 Jan 2027	Zurich, Switzerland	In person	$11,500
04 - 08 Jan 2027	Online, Virtual	Online	$11,500

CERTIFICATE