

COURSE OVERVIEW DE0382
Cased Hole Logging & Formation Evaluation

Course Title

Cased Hole Logging & Formation Evaluation

Course Date/Venue

November 23-27, 2025/Al Buraimi Meeting Room, Sheraton Oman Hotel, Muscat, Oman

Course Reference

DE0382

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



Course Description



This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of Cased Hole Logging & Formation Evaluation. It covers the different tools used for cased hole logging; the basic concepts and applications in cased holes; the principles of gamma ray logging; the cased hole formation evaluation, data acquisition and quality control in cased hole logging; the safety aspects in cased hole operations, pulse neutron logging and carbon/oxygen logging for saturation monitoring; and the spectral gamma ray logging, cement bond logging (CBL) and evaluation as well as radial bond logging (RBL) techniques.



During this interactive course, participants will learn the production logging tools, temperature and pressure logging; the techniques for measuring and interpreting flow rate; the spinner flowmeter data in production logging; the different types of production fluids; the reservoir pressure monitoring, waterflood and EOR monitoring and pulse neutron capture analysis (PNCA); integrating cased hole data with openhole logs to enhance formation evaluation; the time-lapse logging for reservoir management; the latest development in cased hole logging tools; the quantitative interpretation of cased hole logs and addressing the challenges in high-angle and horizontal wells; and the unconventional reservoir evaluation and integrating cased hole data with geological and reservoir models.



Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on cased hole logging and formation evaluation
- Discuss the importance and applications of cased hole logging including the different tools used for cased hole logging
- Recognize the basic concepts and applications in cased holes as well as the principles of gamma ray logging
- Carryout cased hole formation evaluation, data acquisition and quality control in cased hole logging
- Discuss the safety aspects in cased hole operations, pulse neutron logging and carbon/oxygen logging for saturation monitoring
- Illustrate spectral gamma ray logging, cement bond logging (CBL) and evaluation as well as radial bond logging (RBL) techniques
- Identify the production logging tools, temperature and pressure logging and the techniques for measuring and interpreting flow rates
- Explain the spinner flowmeter data in production logging and distinguish different types of production fluids
- Employ reservoir pressure monitoring, waterflood and EOR monitoring and pulse neutron capture analysis (PNCA)
- Integrate cased hole data with openhole logs to enhance formation evaluation
- Recognize time-lapse logging for reservoir management and the latest development in cased hole logging tools
- Carryout quantitative interpretation of cased hole logs and address the challenges in high-angle and horizontal wells
- Apply unconventional reservoir evaluation and integrate cased hole data with geological and reservoir models

Exclusive Smart Training Kit - H-STK®



*Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend


This course provides an overview of all significant aspects and considerations of cased hole logging and formation evaluation for petroleum engineers, geoscientists, logging engineers, reservoir engineers, petrophysicists, drilling and completion engineers, field technicians, managers and decision-makers and other technical staff.

Course Certificate(s)


Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Fees

US\$ 8,000 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Dr. Steve Ehrenberg (Stephen Neville Ehrenberg), PhD, MSc, BSc, is a **Senior Geologist & Reservoir Engineer** with **45 years** of extensive experience within the **Oil & Gas, Petrochemical and Refinery** industries. His wide experience covers in the areas of **Core & Log Integration, Water Saturation, Coring & Core Analysis, Special Core Analysis, Log Interpretation, Cased-Hole Logging, Core Calibration, Core Analysis, Core-to-Log Data Integration (SCAL), Wireline Logging, Mud Logging, Cased Hole Logging, Production Logging, Well Logging, Reservoir Management, Reservoir Appraisal & Development, Carbonate Reservoir Management, Fractured Reservoirs Evaluation & Management, Naturally Fractured Reservoir, Integrated Carbonate Reservoir Characterization, Geological Modelling, Reservoir Characterization, Geomodelling, Development Geology, Petroleum Geology, Exploration Production, Structural Geology, Wellsite Geology, Analytic Modelling Methods, Sedimentary Geology, Geophysics, Geophysical Exploration, Reservoir Engineering, Reservoir Engineering Applications, Reservoir Engineering & Stimulation, Reservoir Characterization, Clastic Reservoir, Carbonate Reservoir Petrology, Subsurface Facies Analysis, Borehole Images, Geophysical Methods, Oil & Gas Exploration, Marine & Petroleum Geology, Reservoir Performance Using Classical Methods, Fractured Reservoir Evaluation & Management, Reservoir Surveillance & Management, Reservoir Monitoring, , Reservoir Volumetrics, Water Drive Reservoir, Reservoir Evaluation, Well Surveillance, Well Testing, Well Testing & Oil Well Performance, Well Log Interpretation (WLI), Rock Physics & Seismic Data, Formation Evaluation, Well Testing & Data Interpretation, Pore Pressure Prediction and Oil & Gas Reserves Estimations, Well Workover Supervision, Description and Prediction of Reservoir Quality, Sequence Stratigraphy of Carbonate Systems and Introductory Geology.**

During his career life, Dr. Ehrenberg held significant positions and dedication as **Consultant, Professor, Senior Reservoir Geologist, Senior Geologist, Research Geologist, Associate Professor, Assistant Professor** and **Senior Instructor/Trainer** from various international companies and universities such as the Badley Ashton & Associates Ltd., Khalifa University of Science and Technology, Sultan Qaboos University, PanTerra Geoconsultants B.V, UAE University, Statoil, Stavanger, Shell Development Company and Northern Illinois University.

Dr. Ehrenberg has a **PhD, Master's and Bachelor's** degree in **Geology** from the **University of California, USA** and **Occidental College, USA**, respectively. Further, he is a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management (ILM)**, a **Certified Instructor/Trainer** and has delivered numerous trainings, workshops, courses, seminars and conferences internationally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1: Sunday, 23rd of November 2025

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	<i>Introduction to Cased Hole Logging: Overview of its Importance & Applications</i>
0930 – 0945	Break
0945 – 1030	<i>Cased Hole Logging Tools & Technologies: Different Tools Used for Cased Hole Logging</i>
1030 – 1130	<i>Principles of Gamma Ray Logging: Basic Concepts & Applications in Cased Holes</i>
1130 – 1215	<i>Cased Hole Formation Evaluation: Techniques & Challenges in Evaluating Formations through Casing</i>
1215 – 1230	Break
1230 – 1330	<i>Data Acquisition & Quality Control in Cased Hole Logging: Ensuring Accurate & Reliable Data Collection</i>
1330 – 1420	<i>Safety Aspects in Cased Hole Operations: Key Safety Practices During Cased Hole Logging</i>
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 24th of November 2025

0730 – 0830	<i>Pulse Neutron Logging: Principles & Applications in Reservoir Surveillance</i>
0830 – 0930	<i>Carbon/Oxygen Logging for Saturation Monitoring: Techniques for Monitoring Hydrocarbon Saturation</i>
0930 – 0945	Break
0945 – 1100	<i>Spectral Gamma Ray Logging: Advanced Applications & Interpretation</i>
1100 – 1215	<i>Cement Bond Logging (CBL) & Evaluation: Assessing Cement Integrity & Zonal Isolation</i>
1215 – 1230	Break
1230 – 1330	<i>Radial Bond Logging (RBL) Techniques: Further Insights into Cement Bond Evaluation</i>
1330 – 1420	<i>Case Studies: Analysis of Cased Hole Log Data from Various Wells</i>
1420 – 1430	Recap
1430	Lunch & End of Day Two



Day 3: Tuesday, 25th of November 2025

0730 – 0830	<i>Overview of Production Logging Tools: Introduction to Tools Used in Production Logging</i>
0830 – 0930	<i>Temperature & Pressure Logging: Applications in Understanding Well Performance</i>
0930 – 0945	Break
0945 – 1100	<i>Flow Rate Measurement & Analysis: Techniques for Measuring & Interpreting Flow Rates.</i>
1100 – 1215	<i>Spinner Flowmeter Logging: Spinner Flowmeter Data in Production Logging</i>
1215 – 1230	Break
1230 – 1330	<i>Fluid Identification & Analysis in Production Logs: Distinguishing Different Types of Production Fluids</i>
1330 – 1420	<i>Practical Exercise: Interpreting Production Logs from Cased Hole Wells</i>
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 26th of November 2025

0730 – 0830	<i>Reservoir Pressure Monitoring: Techniques for Pressure Measurement & Interpretation</i>
0830 – 0930	<i>Waterflood & EOR Monitoring: Using Cased Hole Logs for Enhanced Oil Recovery Projects</i>
0930 – 0945	Break
0945 – 1100	<i>Pulse Neutron Capture Analysis (PNCA): Advanced Applications in Reservoir Monitoring</i>
1100 – 1215	<i>Integrating Cased Hole Data with Openhole Logs: Enhancing Formation Evaluation</i>
1215 – 1230	Break
1230 – 1330	<i>Time-Lapse Logging for Reservoir Management: Changes in Reservoir Properties Over Time</i>
1330 – 1420	<i>Group Discussion: Challenges & Solutions in Cased Hole Reservoir Monitoring</i>
1420 – 1430	Recap
1430	Lunch & End of Day Four

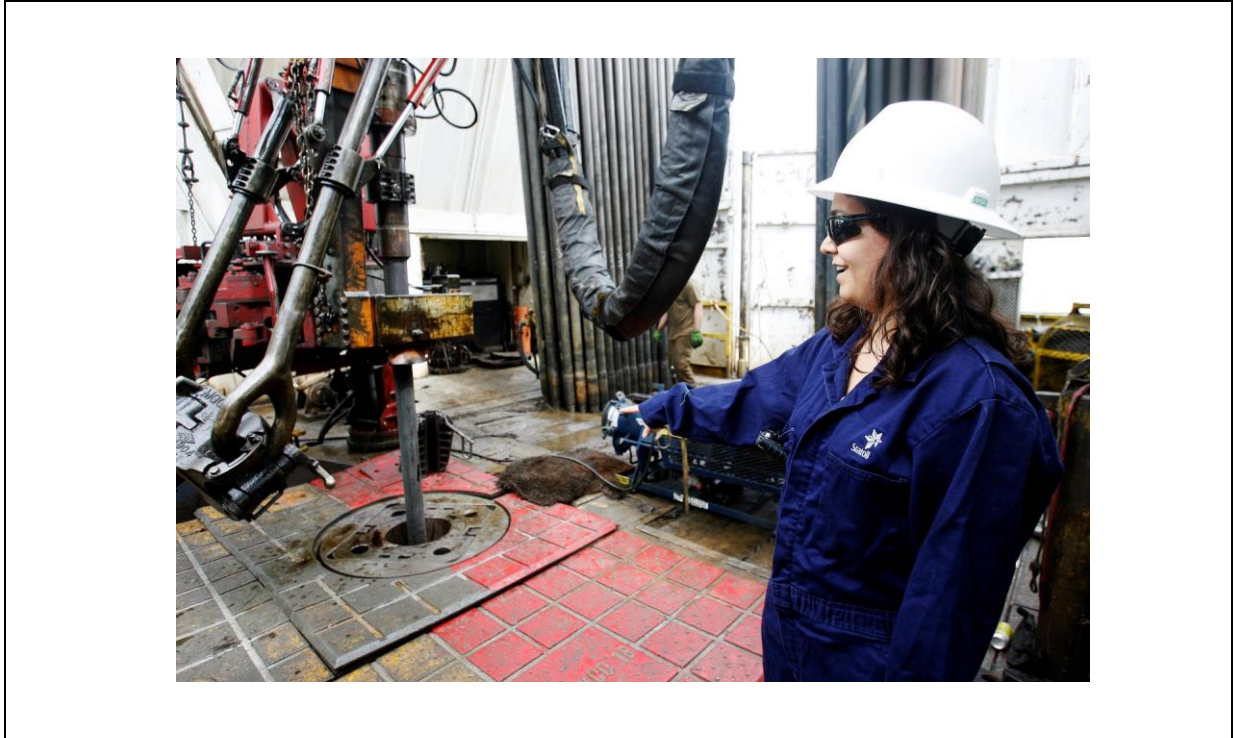
Day 5: Thursday, 27th of November 2025

0730 – 0830	<i>Latest Developments in Cased Hole Logging Tools: Reviewing New & Emerging Technologies</i>
0830 – 0930	<i>Quantitative Interpretation of Cased Hole Logs: Advanced Techniques for Quantitative Analysis</i>
0930 – 0945	Break
0945 – 1100	<i>Challenges in High-Angle & Horizontal Wells: Addressing Unique Aspects of Non-Vertical Wells</i>
1100 – 1230	<i>Unconventional Reservoir Evaluation: Specific Considerations for Shale, Tight Gas & Other Plays</i>
1230 – 1245	Break
1245 – 1345	<i>Integrating Cased Hole Data with Geological & Reservoir Models: Building Comprehensive Subsurface Models</i>
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course



Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises: -



Course Coordinator

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