

# COURSE OVERVIEW DE0382 Cased Hole Logging & Formation Evaluation

### Course Title

Cased Hole Logging & Formation Evaluation

### Course Date/Venue

- Session 1:April 13-17, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar
- Session 2: September 07-11, 2025/Meeting Plus 8, City Centre Rotana Doha Hotel, Doha, Qatar

PDHS)

# Course Reference

DE0382

### Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

### Course Date/Venue

#### Course Description







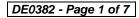
#### This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

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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<sup>®</sup>



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.



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## 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: -

• IACET

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.

BAC

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.

## Course Fees

**US\$ 8,500** per Delegate. This rate includes H-STK<sup>®</sup> (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.



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## **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, 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

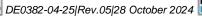
Reservoir Management, Fractured Reservoirs Evaluation & Management, Naturally Fractured Reservoir, Integrated Carbonate Reservoir Characterization, Geological Modelling, Reservoir Characterization, Geomodelling, Development Geology, Petroleum Geology, Exploration Production, Structural Geology, Wellsite 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 Using Classical Methods, Fractured Reservoir Evaluation & Performance 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.



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#### 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

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

Day 2

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



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Day 3	
0730 - 0830	<b>Overview of Production Logging Tools</b> : Introduction to Tools Used in Production Logging
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0830 - 0930	Temperature & Pressure Logging: Applications in Understanding Well
	Performance
0930 - 0945	Break
0945 - 1100	Flow Rate Measurement & Analysis: Techniques for Measuring &
	Interpreting Flow Rates.
1100 – 1215	Spinner Flowmeter Logging: Spinner Flowmeter Data in Production
	Logging
1215 - 1230	Break
1230 - 1330	Fluid Identification & Analysis in Production Logs: Distinguishing
	Different Types of Production Fluids
1330 – 1420	<b>Practical Exercise</b> : Interpreting Production Logs from Cased Hole Wells
1420 - 1430	Recap
1430	Lunch & End of Day Three

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Day 4	Propursoin Duppound Monitoring Techniques for Dressure Magazinement &
0730 - 0830	<b>Reservoir Pressure Monitoring</b> : Techniques for Pressure Measurement &
	Interpretation
0830 - 0930	Waterflood & EOR Monitoring: Using Cased Hole Logs for Enhanced Oil
	Recovery Projects
0930 - 0945	Break
0945 - 1100	Pulse Neutron Capture Analysis (PNCA): Advanced Applications in
	Reservoir Monitoring
1100 – 1215	Integrating Cased Hole Data with Openhole Logs: Enhancing Formation
	Evaluation
1215 – 1230	Break
1230 - 1330	Time-Lapse Logging for Reservoir Management: Changes in Reservoir
	Properties Over Time
1330 - 1420	Group Discussion: Challenges & Solutions in Cased Hole Reservoir
	Monitoring
1420 – 1430	Recap
1430	Lunch & End of Day Four

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



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<u>Practical Sessions</u> This practical and highly-interactive course includes real-life case studies and exercises: -



<u>Course Coordinator</u> Reem Dergham, Tel: +974 4423 1327, Email: <u>reem@haward.org</u>



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