COURSE OVERVIEW DE0114
Subsurface Evaluator: Reservoir Surveillance & Monitoring Strategies

Course Title
Subsurface Evaluator: Reservoir Surveillance & Monitoring Strategies

Course Date/Venue
January 04-08, 2026/TBA Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE

Course Reference
DE0114

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 Subsurface Evaluator: Reservoir Surveillance & Monitoring Strategies. It covers the reservoir surveillance, reservoir characterization essentials and reservoir fluids and flow dynamics; the objectives of surveillance programs and data sources for reservoir monitoring; the surveillance planning and strategy, production data analysis (PDA) and well testing and pressure transient analysis (PTA); the permanent downhole monitoring systems, surveillance using tracers and 4D seismic monitoring; the advanced logging techniques and data management; and the quality control, integrated reservoir surveillance and reservoir simulation for surveillance.

During this interactive course, participants will learn the material balance and surveillance linkage, surveillance in waterflooded reservoirs and uncertainty and risk in surveillance; the smart wells and intelligent completions, enhanced oil recovery (EOR) surveillance and artificial lift surveillance; the machine learning in surveillance, integrated asset management and regulatory and economic aspects; the field development and surveillance link, digital oilfield and IoT applications and emerging technologies; the workflow for surveillance planning and key performance indicators (KPIs); and the surveillance plan templates and post-implementation review.

Course Objectives

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

- Get certified as a "*Certified Subsurface Evaluator*"
- Discuss reservoir surveillance, reservoir characterization essentials and reservoir fluids and flow dynamics
- Explain the objectives of surveillance programs and data sources for reservoir monitoring
- Carryout surveillance planning and strategy, production data analysis (PDA) and well testing and pressure transient analysis (PTA)
- Recognize permanent downhole monitoring systems and apply surveillance using tracers, 4D seismic monitoring and advanced logging techniques
- Employ data management and quality control, integrated reservoir surveillance and reservoir simulation for surveillance
- Discuss material balance and surveillance linkage, surveillance in waterflooded reservoirs and uncertainty and risk in surveillance
- Apply smart wells and intelligent completions, enhanced oil recovery (EOR) surveillance and artificial lift surveillance
- Carryout machine learning in surveillance, integrated asset management and regulatory and economic aspects
- Describe field development and surveillance link, digital oilfield and IoT applications and emerging technologies
- Illustrate workflow for surveillance planning, key performance indicators (KPIs), surveillance plan templates and post-implementation review

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 reservoir surveillance and monitoring strategies for reservoir evaluators, reservoir engineers, petroleum engineers, geoscientists, production engineers, field engineers and operations staff, technical project managers in oil and gas, graduate engineers in reservoir management, asset managers in oil and gas, geologists and petrophysicists, data managers and IT professionals in oil and gas, geoscience technicians and other technical staff.

Course Fee

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.

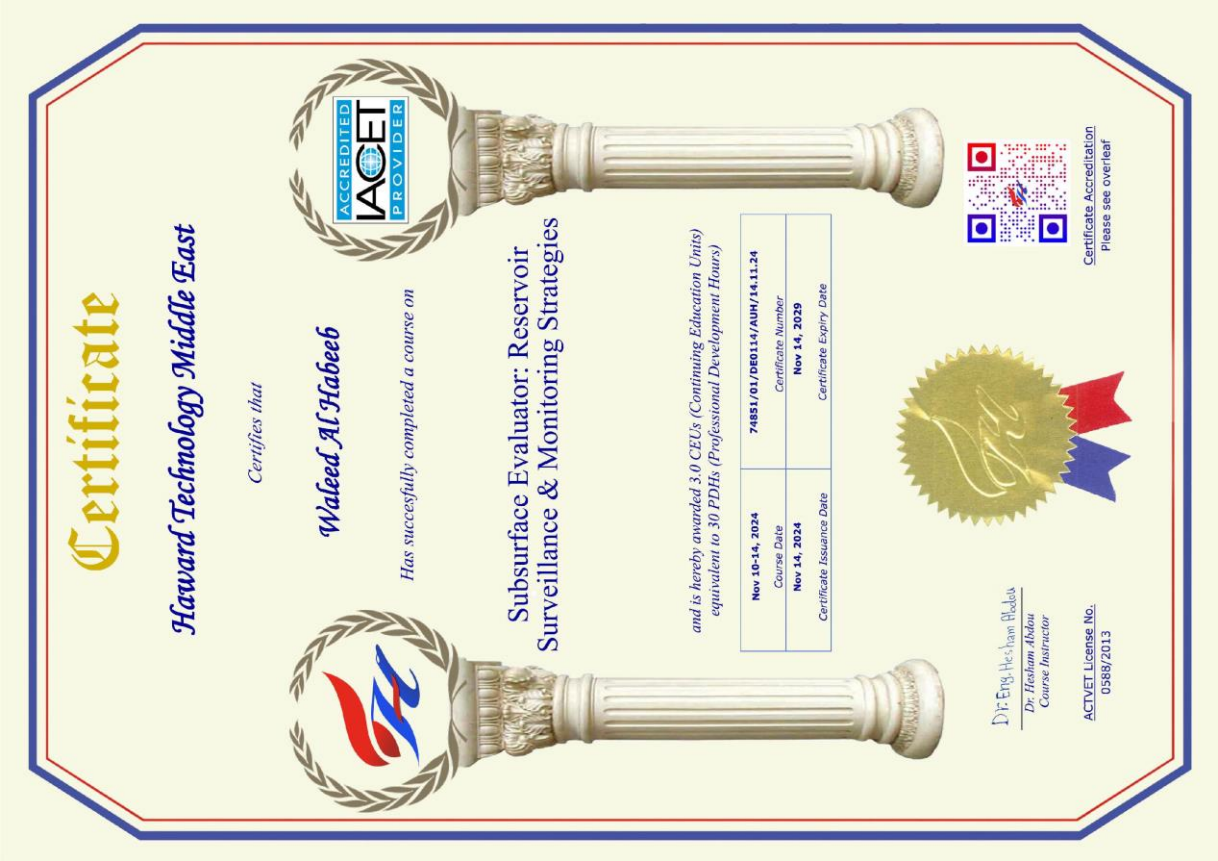
Course Certificate(s)

(1) Internationally recognized Competency Certificates and Plastic Wallet Cards will be issued to participants who completed a minimum of 80% of the total tuition hours and successfully passed the exam at the end of the course. Successful candidate will be certified as a "*Certified Subsurface Evaluator*". Certificates are valid for 5 years.

Recertification is FOC for a Lifetime.

Sample of Certificates

The following are samples of the certificates that will be awarded to course participants: -



(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.

Haward Technology Middle East

Continuing Professional Development (HTME-CPD)

CEU Official Transcript of Records

TOR Issuance Date: 14-Nov-24

HTME No. 74851

Participant Name: Waleed Al Habeeb

Program Ref.	Program Title	Program Date	No. of Contact Hours	CEU's
DE0114	Subsurface Evaluator: Reservoir Surveillance & Monitoring Strategies	Nov 10-14, 2024	30	3.0

Total No. of CEU's Earned as of TOR Issuance Date **3.0**

TRUE COPY

Jaryl Castillo
Academic Director

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

P.O. Box 26070, Abu Dhabi, United Arab Emirates | Tel.: +971 2 3091 714 | E-mail: info@haward.org | Website: www.haward.org

Certificate Accreditations

Haward's certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). 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.

- 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.

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:

Mr. Konstantin Zorbalas, MSc, BSc, is a **Senior Petroleum Engineer & Well Completions Specialist** with over **25 years** of **offshore** and **onshore** experience in the **Oil** & **Gas**, **Refinery** & **Petrochemical** industries. His wide expertise includes **Workovers & Completions**, **Petroleum Risk & Decision Analysis**, Electrical Submersible Pumps Application, **ESP** Assembly & Disassembly Techniques, **ESP** Modeling & Design, **ESP** Construction & Operational Monitoring, **ESP** Troubleshooting & Maintenance, **Acidizing Application** in **Sandstone** & **Carbonate**, **Well Testing Analysis**, **Stimulation Operations**, **Reserves Evaluation**, **Reservoir Fluid Properties**, **Reservoir Engineering & Simulation Studies**, **Reservoir Monitoring**, **Artificial Lift Design**, **Gas Operations**, **Workover/Remedial Operations** & **Heavy Oil Technology**, **Applied Water Technology**, **Oil & Gas Production**, **X-mas Tree** & **Wellhead Operations** & **Testing**, **Artificial Lift Systems** (**Gas Lift**, **ESP**, and **Rod Pumping**), **Well Cementing**, **Production Optimization**, **Well Completion Design**, **Sand Control**, **PLT Correlation**, **Slickline Operations**, **Acid Stimulation**, **Well testing**, **Production Logging**, **Project Evaluation** & **Economic Analysis**. Further, he is actively involved in **Project Management** with special emphasis in production technology and field optimization, performing conceptual studies, economic analysis with risk assessment and field development planning. He is currently the **Senior Petroleum Engineer & Consultant** of **National Oil Company** wherein he is involved in the mega-mature fields in the Arabian Gulf, predominantly carbonate reservoirs; designing the acid stimulation treatments with post-drilling rigless operations; utilizing CT with tractors and DTS systems; and he is responsible for gas production and preparing for reservoir engineering and simulation studies, well testing activities, field and reservoir monitoring, production logging and optimization and well completion design.

During his career life, Mr. Zorbalas worked as a **Senior Production Engineer**, **Well Completion Specialist**, **Production Manager**, **Project Manager**, **Technical Manager**, **Technical Supervisor** & **Contracts Manager**, **Production Engineer**, **Production Supervisor**, **Production Technologist**, **Technical Specialist**, **Business Development Analyst**, **Field Production Engineer** and **Field Engineer**. He worked for many **world-class oil/gas companies** such as **ZADCO**, **ADMA-OPCO**, **Oilfield International Ltd**, **Burlington Resources** (later acquired by **Conoco Phillips**), **MOBIL E&P**, **Saudi Aramco**, **Pluspetrol E&P SA**, **Wintershall**, **Taylor Energy**, **Schlumberger**, **Rowan Drilling** and **Yukos EP** where he was in-charge of the **design and technical analysis** of a gas plant with capacity **1.8 billion m3/yr gas**. His achievements include **boosting oil production 17.2% per year** since 1999 using **ESP** and **Gas Lift systems**.

Mr. Zorbalas has **Master** and **Bachelor** degrees in **Petroleum Engineering** from the **Mississippi State University**, **USA**. Further, he is an **SPE Certified Petroleum Engineer**, **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), an active member of the Society of Petroleum Engineers (**SPE**) and has numerous scientific and technical publications and delivered innumerable training courses, seminars and workshops worldwide.

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, 04th of January 2026***
0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Reservoir Surveillance*** *Importance in Hydrocarbon Recovery • Role in Production Optimization • Key Challenges & Limitations • Reservoir Life Cycle Perspective*
0930 – 0945	*Break*
0945 – 1030	***Reservoir Characterization Essentials*** *Geological Framework & Heterogeneity • Petrophysical Data Integration • Static versus Dynamic Reservoir Properties • Core Log & Seismic Data Roles*
1030 – 1130	***Reservoir Fluids & Flow Dynamics*** *Fluid Types & PVT Properties • Multiphase Flow Behavior • Relative Permeability & Capillary Pressure • Impact on Surveillance Strategy*
1130 – 1215	***Objectives of Surveillance Programs*** *Maximizing Recovery Factors • Identifying Bypassed Hydrocarbons • Monitoring Sweep Efficiency • Supporting Field Development Plans*
1215 – 1230	*Break*
1230 – 1330	***Data Sources for Reservoir Monitoring*** *Production Data • Pressure & Temperature Data • Well Logs & Surveys • Seismic & Geophysical Inputs*
1330 – 1420	***Surveillance Planning & Strategy*** *Establishing Surveillance Objectives • Short-term versus Long-term Monitoring Goals • Surveillance Frequency & Scale • Risk-based Prioritization*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2: Monday, 05th of January 2026

0730 – 0830	***Production Data Analysis (PDA)*** *Decline Curve Analysis (DCA) • Material Balance Concepts • Production Allocation Techniques • Application to Reservoir Performance*
0830 – 0930	***Well Testing & Pressure Transient Analysis (PTA)*** *Types of Well Tests (Drawdown, Buildup, Interference) • Principles of PTA • Diagnostic Plots & Interpretation • Linking to Reservoir Properties*
0930 – 0945	*Break*
0945 – 1100	***Permanent Downhole Monitoring Systems*** *Fiber Optic & Gauge Technologies • Data Transmission & Storage • Real-time Surveillance Benefits • Case Studies of PDMS Applications*
1100 – 1215	***Surveillance Using Tracers*** *Chemical Tracers in Injectors/Producers • Radioactive Tracers • Application in Interwell Connectivity • Limitations & Challenges*
1215 – 1230	*Break*
1230 – 1330	***4D Seismic Monitoring*** *Time-lapse Seismic Principles • Detecting Fluid Movement • Data Acquisition & Processing • Integration with Simulation Models*
1330 – 1420	***Advanced Logging Techniques*** *Pulsed Neutron Logging • Production Logging Tools (PLTs) • Resistivity & Saturation Monitoring • Limitations in High Water Cut Wells*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3: Tuesday, 06th of January 2026

0730 – 0830	***Data Management & Quality Control*** *Data Validation Procedures • Real-time Data Handling • Error Sources & Correction • Importance of Metadata*
0830 – 0930	***Integrated Reservoir Surveillance*** *Linking Geology, Geophysics & Engineering • Cross-disciplinary Workflows • Digital Oilfield Applications • Case Examples*
0930 – 0945	*Break*
0945 – 1100	***Reservoir Simulation for Surveillance*** *Role of Simulation in Monitoring • History Matching Concepts • Updating Models with New Data • Predictive Analysis*
1100 – 1215	***Material Balance & Surveillance Linkage*** *Static versus Dynamic MB Calculations • Estimating OOIP/OGIP • Role of Pressure-volume Relationships • Linking MB to Surveillance Data*
1215 – 1230	*Break*
1230 – 1330	***Surveillance in Waterflooded Reservoirs*** *Monitoring Injection Efficiency • Water Breakthrough Prediction • Pattern Balancing • Sweep Efficiency Analysis*

1330 – 1420	***Uncertainty & Risk in Surveillance*** *Sources of Uncertainty • Probabilistic versus Deterministic Approaches • Sensitivity Analysis • Risk-informed Decisions*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4: Wednesday, 07th of January 2026

0730 – 0830	***Smart Wells & Intelligent Completions*** *Downhole Flow Control Devices • Interval Control Valves (ICVs) • Multilateral Well Surveillance • Data-driven Optimization*
0830 – 0930	***Enhanced Oil Recovery (EOR) Surveillance*** *Surveillance in Polymer Floods • CO_2 Injection Monitoring • Thermal EOR Strategies • Challenges in Miscible Floods*
0930 – 0945	*Break*
0945 – 1100	***Artificial Lift Surveillance*** *ESP Monitoring Techniques • Gas Lift Optimization • Rod Pump Diagnostics • Impact on Reservoir Surveillance*
1100 – 1215	***Machine Learning in Surveillance*** *Data-driven Predictive Models • Pattern Recognition in Production Data • AI in Well Test Interpretation • Limitations & Reliability*
1215 – 1230	*Break*
1230 – 1330	***Integrated Asset Management*** *Linking Surface & Subsurface Surveillance • Production System Modeling • Facility Constraints on Surveillance Strategy • Case Examples*
1330 – 1420	***Regulatory & Economic Aspects*** *Surveillance Requirements by Regulators • Cost-benefit Analysis • Surveillance-driven Investment Decisions • Reporting & Compliance*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5: Thursday, 08th of January 2026

0730 – 0830	***Case Studies in Reservoir Surveillance*** *Mature Field Surveillance • Surveillance in Tight Gas/Oil Reservoirs • Offshore versus Onshore Differences • Lessons Learned*
0830 – 0930	***Field Development & Surveillance Link*** *Role in Full Field Development Planning • Surveillance-driven Infill Drilling • Redevelopment of Mature Reservoirs • Monitoring Unconventional Reservoirs*
0930 – 0945	*Break*
0945 – 1100	***Digital Oilfield & IoT Applications*** *Smart Sensors & Real-time Monitoring • Digital Twins for Reservoirs • Cloud-based Data Integration • Future-ready Surveillance*
1100 – 1215	***Emerging Technologies*** *Nanotechnology for Surveillance • Wireless Sensor Networks • Reservoir Surveillance Drones/Robots • Autonomous Monitoring Systems*

1215 – 1230	*Break*
1230 – 1300	***Designing Surveillance Programs*** *Workflow for Surveillance Planning • Key Performance Indicators (KPIs) • Surveillance Plan Templates • Post-implementation Review*
1300 - 1315	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about t Topics that were Covered During the Course*
1315 – 1415	***COMPETENCY EXAM***
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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