COURSE OVERVIEW DE0001
Advanced Petroleum Geophysics and Methods

Course Title
Advanced Petroleum Geophysics and Methods

Course Date/Venue
Session 1: May 12-16, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: November 02-06, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
DE0001

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of Advanced Petroleum Geophysics and Methods. It covers the petroleum geophysics and its applications; the basics of seismic imaging and interpretation; the well logging and its applications; the seismic inversion and imaging techniques and its principles; and the rock physics and its applications in petroleum geophysics and its principles of modelling and limitations.

During this interactive course participants will learn the reservoir geophysics and the principles of reservoir characterization using geophysical methods; the electromagnetic methods; the principles of electromagnetic wave propagation and its limitations; the gravity and magnetic methods and their applications in petroleum geophysics; and the principles of gravity and magnetic data acquisition and interpretation.

Course Objectives

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

- Apply and gain an advanced knowledge on petroleum geophysics and methods
- Discuss petroleum geophysics and its applications, the basics of seismic imaging and interpretation and well logging and its applications
- Carryout seismic inversion and imaging techniques and discuss its principles
- Recognize rock physics and its applications in petroleum geophysics including its principles of modelling and limitations
- Explain the objectives of reservoir geophysics and the principles of reservoir characterization using geophysical methods
- Apply electromagnetic methods and discuss the principles of electromagnetic wave propagation and its limitations
- Carryout gravity and magnetic methods and identify their applications in petroleum geophysics
- Explain the principles of gravity and magnetic data acquisition and interpretation

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 advance petroleum geophysics and methods for geophysicists, petroleum engineers, exploration geologists and those who work in the oil and gas industry.

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 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)

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: -

- 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.

- 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.

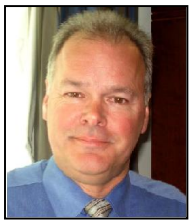
Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation 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. Brendon Billings, MSc, BSc, is a **Senior Petroleum Engineer** and **Well Service Consultant** with over **30 years** of international experience in **Drilling/Reservoir/Petroleum Engineering** and **Well Service Operations**. He is a **recognized authority** in "**Hands On**" **Service** and **Drilling Operations**, **Well Completions** (**Riggless Operations**), **Product Optimization**, **Wellhead Operations**, **Wellbore Interventions**, **High Volume Lift Project Management**, **Reservoir Optimization**, **Well Testing**, **Wire/Slickilne Equipment** and **Operations**, **Coil Tubing**, **Water Flooding**, **Electric Submersible Pumps** (**ESPs**), **Gas Lifts & Steam Assist Gravity Drain** (**SAGD**) **Applications**, **Facility Inspection**, **Root Cause Failure Management** and **Power Factor Management.** Currently, he is the **President** of a large specialized engineering services provider to the **North-American Sedimentary Basin Production** and other international clients. Moreover, he occupies a **consultant position** and remains to offer his expertise in many areas of the **drilling discipline** and is well **recognized & respected** for his process, procedural expertise, modus operandi as well as ongoing participation, interest and experience in continuing to promote technology to producers around the world.

Throughout his long career life, Mr. Billings has worked for many international companies and has spent several years **managing** technically **complex wellbore interventions** in both **drilling** & **servicing**. He is a **well regarded** for his **process, procedural expertise** and **modus operandi**. Further, he was the **Projects Manager** at **Sherrit Petreola** where he was fully responsible for all **Reservoir Development** activities. He has spent **more** than **2000 days** total on **Rig Floors** for **Drilling** (**onshore/offshore**) and **Well Servicing Operations** jobs. Mr. Billings was the Senior **Applications Expert** for **Schlumberger Canada** (**REDA Services**) where he was greatly involved in high volume lift and reservoir optimization projects including specialty endeavours like **SAGD and Gas Lift**. He lead special projects for alternative technology applications and was referred to as the '**technical specialist**' for severe services on ESP applications and had provided in-house & client instruction for ESP application schooling. Previously, he was the **Artificial Lift Services Developer** for **Weatherford**, a leading provider of oilfield services equipment for drilling, evaluation, completion, production and intervention areas. Herein, he was tasked to introduce new ESP technology and lead a project team for ESP facility development & design. Much earlier in his career, he has held positions such as **Operations Supervisor**, **Rig Consultant**, **Project Manager**, **Regional Manager**, **Engineering Representative**, **International Engineering Support Technician**, **Facility Services Manager** and **Power Plant Engineer**.

Mr. Billings has **Master** and **Bachelor** degrees in **Petroleum Engineering** and **Power Engineering**. He is a **licensed Professional Engineer**, a **Certified Instructor/Trainer** and a well respected member of the **Society of Petroleum Engineers** (**SPE**). Further, he has conducted **numerous industry short courses** and **SPE workshops**.

Course Program

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

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Petroleum Geophysics & Its Applications***
0930 – 0945	*Break*
0945 – 1030	***The Basics of Seismic Imaging & Interpretation***
1030 – 1130	***Well Logging & Its Applications***
1130 – 1215	***Well Logging & Its Applications (cont'd)***
1215 – 1230	*Break*
1230 – 1330	***Inversion & Imaging***
1330 – 1420	***Inversion & Imaging (cont'd)***
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

0730 – 0830	***Seismic Inversion & Imaging Techniques***
0830 – 0930	***The Principles of Seismic Inversion & Imaging***
0930 – 0945	*Break*
0945 – 1100	***Modern Inversion & Imaging Techniques & Software Tools***
1100 – 1215	***Modern Inversion & Imaging Techniques & Software Tools (cont'd)***
1215 – 1230	*Break*
1230 – 1330	***Rock Physics & Its Applications in Petroleum Geophysics***
1330 – 1420	***Rock Physics & Its Applications in Petroleum Geophysics (cont'd)***
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

0730 – 0830	***The Principles of Rock Physics Modeling & Its Limitations***
0830 – 0930	***Modern Rock Physics Models & Software Tools***
0930 – 0945	*Break*
0945 – 1100	***Reservoir Geophysics & Its Objectives***
1100 – 1215	***Reservoir Geophysics & Its Objectives (cont'd)***
1215 – 1230	*Break*
1230 – 1330	***The Principles of Reservoir Characterization Using Geophysical Methods***

1330 – 1420	***The Principles of Reservoir Characterization Using Geophysical Methods (cont'd)***
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the* *were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

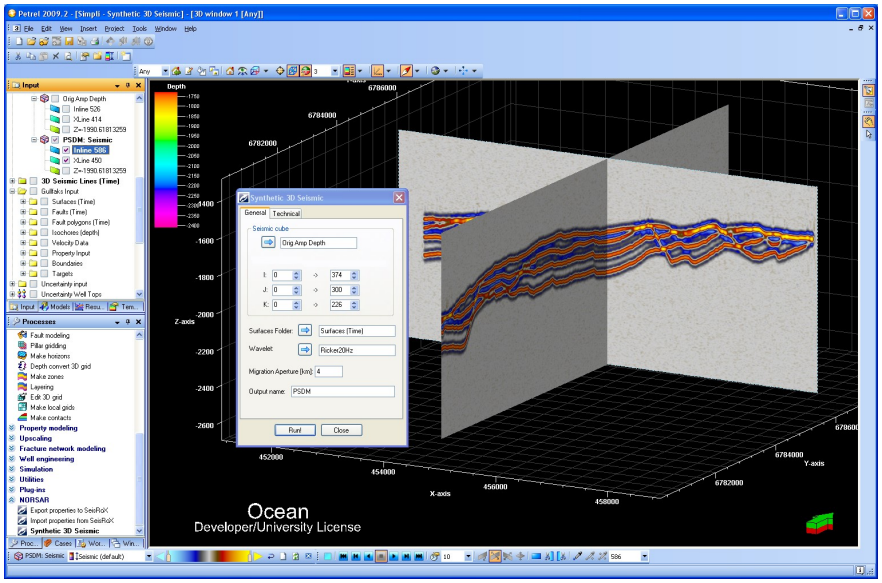
0730 – 0830	***Modern Reservoir Geophysics Techniques & Software Tools***
0830 – 0930	***Electromagnetic Methods & Their Applications in Petroleum Geophysics***
0930 – 0945	*Break*
0945 – 1100	***The Principles of Electromagnetic Wave Propagation & Its Limitations***
1100 – 1215	***The Principles of Electromagnetic Wave Propagation & Its Limitations (cont'd)***
1215 – 1230	*Break*
1230 – 1330	***Modern Electromagnetic Techniques & Software Tools***
1330 – 1420	***Modern Electromagnetic Techniques & Software Tools (cont'd)***
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the* *were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0830	***Gravity & Magnetic Methods & Their Applications in Petroleum Geophysics***
0830 – 0930	***The Principles of Gravity & Magnetic Data Acquisition & Interpretation***
0930 – 0945	*Break*
0945 – 1100	***Modern Gravity & Magnetic Techniques & Software Tools***
1100 – 1230	***Modern Gravity & Magnetic Techniques & Software Tools (cont'd)***
1230 – 1245	*Break*
1245 – 1345	***Integration & Case Studies*** *The Importance of Integrating Different Geophysical Methods for Accurate Reservoir Characterization ● Real-World Case Studies & Their Applications in Petroleum Exploration & Production ● Modern Software Tools for Integrated Reservoir Characterization*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the "Petrel" software.



Petrel Software

Course Coordinator

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