Geophysics for Geoscientists and Engineers – An introduction to geophysical fundamentals with case histories

Pre-Meeting Course – Virtual Course 2 Days
Sessions: Tuesday, June 14th – Wednesday, June 15th, 2021

Instructor: John L. J. Duhault, P.Geo., President of Starbird Enterprises

This two-day course illustrates the business value, through case histories, of integrated geophysical apps used to solve operational problems and increase profitability in the oil and gas and the energy transition industries.

Course Format:

"What specific geophysical tools can improve my company's profitability?
"Is there any VOI, Value of Information" in acquiring this geophysical data"
"What is 3D seismic?"
"What is a seismic inversion?
What are DAS and DTS?
Why do geophysicists think the way they do?

This two-day, virtual, 15-hour short course will answer those questions.

After an introduction to some Geophysical Fundamentals, the course follows the life cycle of an oil or gas property, from concept to booking reserves from the engineering discipline point of view. Case histories illustrate the geophysical tools applied to solve an oil field development problem. Lessons learned in oil and gas that apply to CCUS and Helium projects will be shown.

Case histories identify specific operational problems and provide an integrated geophysical tool to help solve that problem. The course will address issues such as:

- **Mis-located** leases, preliminary site verification
- **Drill hazards**, including wells with lost circulation, staying in-zone or getting stuck
- **Visualizing**, planning, and encountering optimal reservoir zones
- How **efficient** are your completed wells? How many perf clusters/stages are contributing to the production?
- Sustaining the **profitability** of **legacy oil** fields.
- Getting **additional reserves** booked for your company

The case histories clearly illustrate where **integrated** geological, geophysical, and engineering data are critical to the project's success.
The case histories will consist of unconventional and conventional production settings and will identify the geophysical apps that crossover into the energy transition industries

Who Should Attend:

The course is ideal for oil and gas geologists and petroleum engineers, geothermal geoscientists and engineers, and CCUS planning professionals who want to understand basic applied geophysics concepts and learn about the latest geophysical technologies. The case histories give the learner a qualitative learning experience without the fear of having to understand the mathematical details.

Course Outline:

Introduction: Life Cycle of an Oil and Gas Property
A brief introduction to Geophysical Fundamentals
- What is Geophysics?
- Basic Acquisition 2D and 3D
- The Geophysical Gamble
- Statistics, Cross-Correlation
- Interpretation, Resolution
- Attributes, Inversion
- Critical Thinking and Decision Analysis
- Reliability and Relevance

Integrated Geophysical Apps used in the Drilling and early Facilities Planning Stage
- Datum, LiDAR, Drill Hazards, Directional Drilling in Sask., Near Surface Geophysics

Integrated Geophysical Apps used in the Completion and Stimulation Stage
- Microseismic, Tiltmeter, Induced Seismicity

Integrated Geophysical Apps used in the Development and Production Stage
- Inversion, DAS, DTS, Legacy Oil Pool Interpretation

Integrated Geophysical Apps used in the Booking Reserves and Resource Stage
- Inversion, SPEE-COGE Reserves Definition

Summary: Value Proposition and Team collaboration

Maximum Registration: TBD

Registration Rates: *(Rates do not include GST)*

- Early-bird CSEG-CSPG Member rate: $600
- Early-bird non-member rates: $800

Early Bird Ends: June 1st, 2022

After June 1st, 2022

- CSEG-CSPG Member rate: $800
- Non-member rates: $1000

Registration Close: June 9th, 2022

APEGA PDH: 15 Hours

Registration includes: Downloadable PDF copy of course notes

Time: 8:00am – 5:00pm

Location: Online through Zoom

About the Instructor:

John L.J. Duhault, PGeo.

Mr. Duhault is an “Advisor Risk-Mitigator Explorer” geoscientist with over 40 years of industry experience, including over 50,000 hours as a geoscience interpreter in Canada and internationally. He is passionate about teaching the business value of integrated geophysics through the “storytelling” of case histories and has presented papers in North America, Europe, and New Zealand. He has found significant oil and gas reserves for senior exploration companies and numerous junior independents. He founded and led two private junior oil and gas companies. Mr. Duhault is currently the Principal Consultant for Starbird Enterprises, where he specializes in conventional exploration and unconventional resource-play seismic interpretation. Mr. Duhault is a Past President of the Canadian Society of Exploration Geophysicists (CSEG) and is currently the Vice-Chair for the Society of Exploration Geophysicists (SEG)

CSEG Course Cancellation Policy

CSEG reserves the right to cancel any course due to low registration.

If the CSEG cancels a course, registrants will be able to receive a full refund

If the student cancels, refunds up to June 1st, 2022, will be subject to a 10% handling charge, with no refunds after June 1st, 2022.