

Course Code

GP04

Course Title

Structural Interpretation of Seismic Data

Instructor

Atila Sefünc



Professional Career

Atila Sefünc is a Geophysical Interpretation System Manager of Merty Energy. He has been deeply involved in hydrocarbon exploration for approximately twenty nine years. Having graduated with a BS degree in Geophysics from Istanbul University, he attended the geological master lectures of the University of Ankara and Hacettepe in Turkey. He has experiences in three distinct phases of seismic data acquisition, processing and interpretation. He gained his main experience while he was working for TPAO between 1980 and 2005 in various locations in Turkey (South Eastern Anatolia, Eastern Anatolia, Sivas Basin and Black Sea), TPAO-AMOCO joint ventures Project in Egypt (Western Qarun, West Bahariya, Gebel El Zeit), TPAO joint ventures Project Azerbaijan (Pre-Caspian basin), TPAO-ARCO Joint ventures Project (Western Black-Sea). He also worked as a Senior Geophysicist in Arabian Gulf Oil Company - AGOCO project 2D Structural and Stratigraphic seismic interpretation of the concession NC8-HAMADA Oil Field in Ghademes Basin Libya and Senior geophysicist in Zueitna Oil Company, 3D Structural and stratigraphic seismic interpretation of Initisar Oil Fields in Sirte Basin. Libya.. Mr. Sefünc has twenty eight years experiences in exploration geophysics, in onshore and offshore 2-D and 3-D seismic interpretation. He has also “proven oil and gas finder” and “generator of quality offshore & onshore prospects”. Also skilled in complex structural - stratigraphic interpretation, attribute analyses and poor seismic quality data areas (the foothills and over layer high velocities, basalts, limestones and allochthonous regions) experience with all phases of seismic data acquisition. He has experiences in three distinct phases of seismic data acquisition, processing and interpretation. He has authored 7 archival referred articles, wrote 45 technical reports. He is a fellow of the Society of Exploration Geophysics-SEG, Earth Science Society of Libya, Turkish Association of Petroleum Geologist-TAPG and UCTEA Chamber of Geophysical Engineers.

Course Objective and Description

The course objectives are as follows: 2-D and 3-D seismic data acquisition and processing, 2-D and 3-D interpretation techniques, Well tie, Seismic interpretation of different structural styles: extensional, compressional, strike-slip, inverted. Sequence stratigraphy and seismic facies analysis. Seismic attributes. DHI, AVO.

This five-day course will assist geologists and geophysicists in acquiring the practical methods and skills that will improve the quality of their structural interpretation of seismic data. The course emphasizes pragmatic rules, the limitations of data, structural and geophysical practices, and interpretation pitfalls.



Who Should Attend

Geologist, geophysicist who want to use seismic data for petroleum exploration

Prerequisite

BS in geology and geophysics

Learning Level

Foundation

Duration

5 days

Course Material

A file of Power Point Presentation and handouts

Course Outline

Day One

- Geophysical principles
 - o Seismic wave propagation
 - o Seismic wavelets
 - o 2-D seismic acquisition and processing
 - o 3-D seismic acquisition and processing
 - o Acoustic impedance

Day Two

- Introduction to seismic interpretation
 - o Seismic section
 - o Well tie (Synthetic, Check-shot, VSP)
 - o Seismic interpretation
 - o The geophysical interpretation
 - o The geological interpretation
 - o Depth conversion-concepts
 - o Summary, conclusions, and discussion

Day Three

- Structural Interpretation-I
 - o Fault pattern (Strike-Slip, Inversion, Wrench Faults)
 - o Thrust belts
 - o Pitfalls
 - o Case study
 - o Summary, conclusions, and discussion

Day Four

- Structural Interpretation-II
 - o Seismic interpretation tools, techniques and tricks
 - o Interpretation pitfalls
 - o Problem solving
 - o Summary, conclusions, and discussion

Day Five

- Advanced Methods
 - o Seismic attributes
 - o Direct hydrocarbon indication (DHI)
 - o Amplitude variation with offset (AVO)
 - o Time-lapse (“4-D”) seismic
 - o Summary, conclusion and discussion

Antalya, Turkey
31 May - 4 Jun
US\$ 2,950

Istanbul, Turkey
29 Nov - 3 Dec
US\$ 2,950
