

## CERAMAH TEKNIK (TECHNICAL TALKS)

Elio Poggiagliolmi: An integrated approach to reservoir petrophysical parameters evaluation

### Laporan (Report)

Dr. Poggiagliolmi of Entec Energy Consultants Ltd., gave the above talk on the 25 January 1989 at the Geology Department, University of Malaya. It proved to be a very interesting and informative talk to the 20 odd members who were present.

### Abstrak (Abstract)

*Petrophysical parameters, such as porosity, mineralogy and type of pore fluid, required for reservoir characterisation, are normally derived from well logs, well test and core data. These measurements can be very accurate in the depth direction, but their lateral penetration is very shallow. Consequently, extrapolation away from the borehole presents considerable problems even under the assumption of lithostratigraphic continuity.*

*Surface seismic measurement (seismics) on the other hand have inherently low vertical resolution but are laterally continuous. Provided that seismics are properly integrated with well bore information, reservoir petrophysical parameters such as porosity and mineralogy can be mapped away from the well bore. Moreover, for certain lithological conditions, the fluid type in the pores and permeability of the reservoir rock can be inferred from calibrated seismics. This calibration must be statistically consistent and must take into account the errors inherent within both the borehole data and the seismics.*

*In this presentation the relationship between seismics and petrophysical properties will be addressed. Furthermore, it will be demonstrated how such relationships can be used to obtain quantitative volumetric information on the reservoir porosity and mineralogy.*

*A number of case histories showing the application of this approach to obtain volumetric maps, including net oil and gas-in-place, will be discussed.*



Elio Poggiagliolmi posing with members at tea.