Field Appraisal Phase

Upstream | Field Appraisal Phase

[ww-shortcode-divider style=”thin”]The exploration phase of the petroleum field life cycle closely links with the next stage which is known as the appraisal phase.

Once an exploration well has found hydrocarbons, considerable effort will still be required to accurately assess the potential of the discovery and the role of appraisal is to provide cost-effective information that will be used for subsequent decisions (development).

During appraisal, more wells are drilled to collect information and samples from the reservoir and other seismic survey might also be acquired in order to better delineate the reservoir.

This phase of the E& P process aims to

- reduce the range of uncertainty in the volumes of hydrocarbons in place
- define the size and configuration of the reservoir
- collect data for the prediction of the performance of the reservoir during the forecasted production life

Goals of the appraisal phase

Having defined and gathered data adequate for an initial reserves estimation, the next step is to look at the various options to develop the field.

During the appraisal phase, reservoir engineering increases its contribute in reaching the technical and economic targets.

Reservoir Engineering is a branch of petroleum engineering that applies scientific principles to the exploitation of oil

and gas reservoir to obtain a high economic recovery

Reservoir Engineering analyzes the production potential of the reservoir and determine the technical ways and means that should be used to optimize oil or gas recovery.

Reservoir engineers makes description of the reservoir from the available data and refine these data by applying the laws of physics to forecast reservoir behavior during production and depletion.

A reservoir model and wells locations

Reservoir engineers work out development scenarios along with precise recommendations for the number and positioning of the wells, the drilling schedule, the production profile, etc.

Activities of the appraisal phase include:

- planning and execution of a data acquisition program (seismic)
- reprocessing existing seismic data
- drilling of appraisal wells
- evaluation of the results obtained from the seismic and drilling activities
- use of the data update reservoir models
- carry out initial development planning and an environmental impact assessment (EIA) study

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- Treccani – Encyclopaedia of hydrocarbons
- Elsevier – Development In Petroleum Science : Hydrocarbon Exploration & Production 2003