Case study

El Mediouni field

Project details

Start date	2015
End date	2015
Location	Tunisia
Client	Circle Oil

Overview

Circle Oil is the sole holder of the Mahdia Permit, offshore Tunisia, which contains the El Mediouni field. The field comprises of three reservoir compartments (East, Central, West), each of which has a number of potential oil bearing zones.

An exploration well, EMD-1 was drilled in the field in 2014, and although hydrocarbons were encountered, issues when drilling to deeper formations resulted in a loss of logging equipment. This means that there is a large amount of uncertainty surrounding the reserves, well productivity and fluid composition of the field.

The Mahdia Permit also contains a number of similar prospects which the Company look forward to exploring in further detail.

Circle Oil is assessing the potential for development of the area, with a view to farm out part of their interest in the permit.

ADIL's Approach

ADIL were tasked with providing support in the review of potential development options for the El Mediouni field. More specifically, ADIL was given two key objectives:

1. **Identify a suitable strategy that would be effective for a base case and readily adapted to an upside case**

2. **Build cost estimates for the base and upside cases, and assess the potential impact on cost of the key uncertainties**

The team provided valuable insights into the portfolio upsides: cost and schedule reductions and operating efficiency improvements.

A third objective was to comment on how the current market climate in the oil and gas industry might affect the development strategy.

The scope had three key elements:

1. **Generate appropriate development options for the field**

   Initial inputs regarding the field were discussed and agreed with the client, including basic subsurface parameters. These were used to build a general picture of the scale of the development, and to generate potential production profiles using Enersight.

   Following this, a framing session was then held, identifying suitable development options. This enabled constraints and opportunities to be identified, and enabled a preferred option to be defined. The project team then generated outline schedules for the base and upside development options.

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2. Range of outline costs for the preferred scenario and key uncertainties involved

Once the development concepts were defined, they were recreated in the OGM software package, which was used to generate the basis of cost estimates for the development

- The cost estimates encapsulated the costs of drilling, subsea equipment, FPSO lease rates and OPEX costs, including an estimate of an FPSO lease rate. Sensitivities to these scenarios were also developed

- **3. Suggested way forward in the current market**

- ADIL identified the key next steps required to progress the development, and provided a view on how the short-to-medium term market conditions could be used to Circle Oil's benefit, particularly with regards to drilling and subsea equipment

Deliverables

The study was completed over a period of five weeks. The final deliverables for this study included:

- Outputs from an ADIL framing session
- DRILLEX, OPEX and CAPEX estimates for three development scenarios, including FPSO lease costs
- A schedule of activities to first production
- Production profiles for upper and base case scenarios, generated in Enersight
- A final report, summarising the work carried out, commenting on the feasibility of the development, and identifying risks, opportunities, and next steps

The feedback from the client was positive and stated that:

- All of the study objectives had been achieved
- Study costs were in line with expectation
- The quality of work was excellent

The study demonstrated the viability of the development, with a proposed concept that is aligned with Circle Oil's value drivers of:

- Low CAPEX
- Early production