

# DRILLING PROJECT MANAGEMENT CASE STUDY

Daewoo International - Block 6-1S

Offshore Busan, South Korea

## AWT DISCIPLINES

Project Management  
Drilling Engineering & Well Testing  
Logistics Planning, HSE  
Management & Equipment QA/QC  
Wellsite Supervision & Operations  
Geology



## PROJECT BACKGROUND

Gorae D-1 was a vertical exploration gas well drilled in the Block 6-1S offshore South Korea. It was drilled using the KNOC Doo Sung semi-submersible mobile offshore drilling unit (MODU). The supply base was located in a non-oilfield area in Busan, Korea.

The Gorae D-1 was drilled to penetrate the target Upper and Lower formation sands in a normal pressure and temperature environment.

The objectives of the well were to:

- Obtain sufficient data to assess the hydrocarbon potential and quality of the target reservoirs.
- Obtain formation evaluation data as per the Formation Evaluation Plan.
- Obtain sufficient data for accurate assessment of target formation permeability and porosity.
- Establish fluid contact level and characterize the reservoir fluids.
- Perform required wireline and LWD operations to obtain logs.
- Characterize reservoir properties by coring the Upper formation sands.
- Perform a DST for the Upper formation sands.

For more information contact:

Tel: (+603) 2162 3127 or visit our website at: [www.awtinternational.com](http://www.awtinternational.com)

## AWT WORKSCOPE

As Project Managers and in accordance with the AWT generated Project Execution Plan, the team was responsible for:

- Basis for Design, Drilling and Well Testing
- Detailed Well Design, Drilling Program, Well Testing Program and Work Procedures
- Well Cost Estimates, AFE and Cost Monitoring
- Technical and Commercial Specifications for Tender Documents
- Evaluation and Award Recommendation of Tender Submissions
- Contract Creation and Execution
- Emergency Response Plans and HSE Bridging Documents
- Logistics Planning and Execution
- Risk Identification and Mitigations
- Day to Day Management and Supervision of Drilling Operations
- Project Close Out and Reporting

## AWT ADDED VALUE

The Gorae D-1 well was suspended successfully following well suspension and abandonment guidelines on 26th January 2015, 57 days from spud.

Highlights of the well include:

- Basis for Design, Drilling and Well Testing
- No Lost Time Accidents
- No Environmental Incidents
- 27m Core Obtained – 100% Recovery
- No Lost Returns and No Fluid Lost to Objective Sands
- Successfully logged and sampled 8 ½" hole over 4 days with 4 successful runs:
- Cased hole multi rate testing operations conducted trouble free
- Gorae D-1 suspended pending future production facility hook-up

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In summary achieved the stated objective of delivering a wellbore that could be fully evaluated providing all necessary data for go / no go development decision. This well was the first successful attempt from 3 previous attempts to drill and evaluate the target formation.

Further to the achievements, the following were performed to achieve the well objectives:

- Detailed engineering and critical review to optimise the well design - slim hole well architecture, eliminating one casing size from conventional well design, casing while drilling to mitigate wellbore stability issues, rotary steerable systems to keep wellbore trajectory as vertical as possible and near bit gamma for picking casing points effectively. Coupled with an engineered high performance water based mud system, the well was drilled safely and efficiently and achieved the well objectives stated in the drilling program.
- The implementation of a detailed and efficient logistics plan enabled the movement of equipment and materials into Korea efficient. With the absence of an oilfield friendly location in the whole of Korea, the shore base had to be set up from scratch requiring detailed planning and execution.
- Pre job quality assurance efforts (QA/QC) minimized downtime with critical tools and services.

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