Project description: Rig Engineering (RE) has been tasked by Transocean Inc. (TOI) to check the capacity of the existing mouse hole. The analysis approach is generally in accordance with the requirement of the DNV-OS-C201 Structural Design of Offshore Units (WSD Method), October 2008. Load criteria used for calculations and screening have been defined based on information supplied by the client.

Existing Mouse hole in use

FE Model and stress state visualization

Loads applied to the bottom of mouse hole

Deformation Plot (Accidental Condition with full Dynamic Amplification Factor DAF)

Stress Plot

Key word: Mouse hole, Transocean, Rig Engineering, Drill collar, Case study.

R.E. scope of work

Step by step actions were done to establish the load carrying capacity of the existing mouse hole in current use. These are:

A) From rig supplied photo, generate questionnaires to allow geometry and thickness of the construction to be drawn up.

B) Build FEA structural model of the mouse hole based on the rig supplied information.

C) Load the structural FEA model with various combinations of tubular inside with particular emphasis placed on the concentric loading at the bottom of the disc at the mouse hole’s end.

D) Arrive and report at various loading limit.

E) Provide recommended means to improve on the performance of the existing construction and issue fabrication drawings for offshore implementation.

Engagement Condition

Upload your problem to us and give us relevant input to allow us to resolve your problem, we will need:

1. Dimensions of mouse hole and deck hole.
2. Drill collar number and length.