



Rig Name: John Shaw

Rig Type: semi-submersible

Owner name: [Transocean Ltd.](http://www.transocean.com)

Classification Society: [DNV](http://www.dnv.com)

Code design: ASD

(WSD method)

Click below to see model 3D!

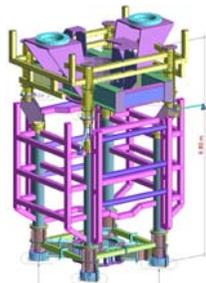


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To view 3D documents



Project description: Rig Engineering (RE) was tasked by Transocean Inc. (TOI) to perform structural verification of the BOP frames to assess the adequacy of the frames to support the entire stacked up weight via 4 off elephant feet instead of centrally on the test stump via wellhead connector. This assessment includes various load cases as well as splitting BOP package which in turn disrupt the load path and load sharing between the upper and lower frames. Where applicable, engineer the strengthening members to allow this operation to take place.

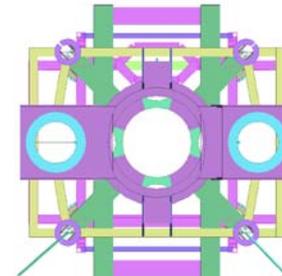
FEA Model and pictures of Existing BOP Frame



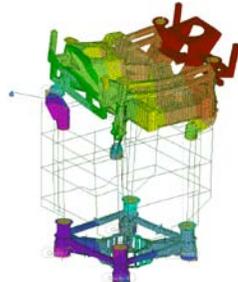
3D Model of Frame



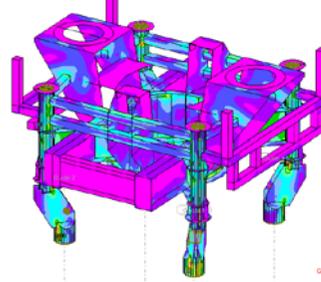
Picture of Existing Frame



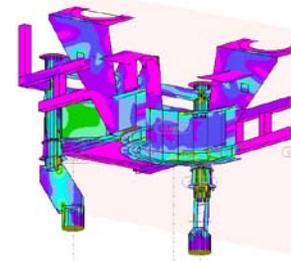
Plan View at the Top of Frame



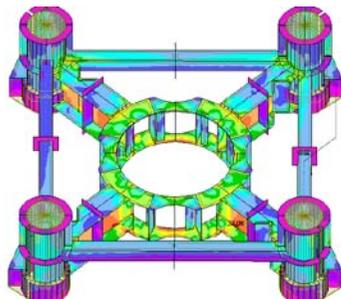
Deformation Plot



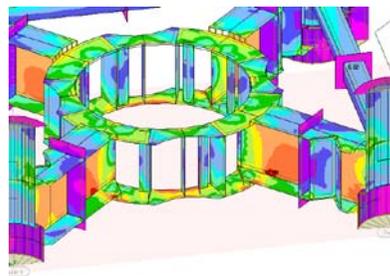
Stress Plot of Lower Annular Spider



Stress Plot of Lower Annular Spider



Stress Plot of Wellhead Spider Frame



Stress Plot of Wellhead Spider Frame



Picture of Existing Wellhead Spider Frame

R.E. scope of work

Rig Engineering constructs FEA model of the frame from 2D CAD drawings and prepare the model for submitting successive loadings and load case combinations as follows:

- Verification against normal operating condition.
- Verification against damaged stability and ocean tow condition.
- Unequal load sharing between the annular and wellhead buckets.
- Report on reactions to deck to allow TOI to check adequacy of hull scantlings in way of elephant feet.

Engagement Condition

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

1. As-built drawings to create 3D model for FEA purpose (of BOP frame)
2. Weight and centre of gravity of BOP components.