Project description: Rig Engineering (RE) has been tasked to reassess operating limit review of existing Mud Gas Separator (MGS) located on semi-submersible drilling rig. Design reference code was ASME Boiler and Pressure Vessel, Section VIII Division I. To assist with code requirements screening the vessel was rerated using Compress software. In addition, due to vessel legs location on bottom dome end, which is not covered by the code, an additional finite element analysis (FEA) was carried out in order to assess capacity of bottom dome end when submitted to contents (solids and liquids) inside the tank.

R.E. scope of work
Job assignment was to reassess capacity of existing Mud Gas Separator and redefine its safety working conditions i.e. Maximum Allowable Working Pressure (MAWP), maximum mud density for its maximum level inside the vessel and maximum mud level for mud density of 20 ppg. The analysis was also conducted for test conditions with test pressure of 1.5 times MAWP and wind of 50 knots as well as for survival storm condition for empty vessel and wind of 100 knots.

Engagement Condition
Upload your problem to us and give us relevant input to allow us to resolve your problem. We will need:

1. Vessel Geometry
2. Design working conditions i.e. working pressure, maximum working temperature, mud density range and its level
3. As-gauged thickness of vessel components: main chamber, nozzles and legs
4. Wind pressure both for operating and storm conditions
5. DAF factor of the rig

Key word: Rig Engineering, Mud Gas Separator (MGS), ASME Boiler and Pressure Vessel Code Section VIII Division I, Corroded Vessel, Maximum Allowable Working Pressure (MAWP), Compress, Autodesk Robot Structural Analysis Professional