



September 19, 2007

George Coltrin,
BP America
Houston

Re: Deep Water BOP Risk Assessment – Cortez Bank (WWCI proposal # 71-P-2007)

Wild Well Control Inc. (WWCI) is pleased to have an opportunity to present this proposal for well control engineering service to BP for the subject project. Per our recent discussion:

- **Risk Assessment workshop** – This is planned for October 1, 13:00 to 16:30 hours hrs, at BP's office, 2nd floor, West Lake IV building. WWCI plans to provide up to two Well Control Engineers / Specialists for the session. It is understood that total participants will be limited to about 12 persons.
- **Final report** – This will be completed before October 15.

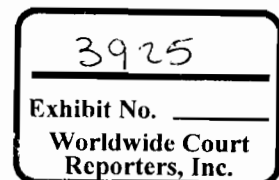
If you have any questions, please feel free to contact us. We look forward to working with you and your colleagues on this important project.

Regards,

Fred Ng

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PROPOSAL FOR
DEEP WATER BOP RISK ASSESSMENT
CORTEZ BANK



BP AMERICA

WWCI proposal #71-P-2007



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Transocean Deepwater Horizon BOP Stack Space Out Measurements

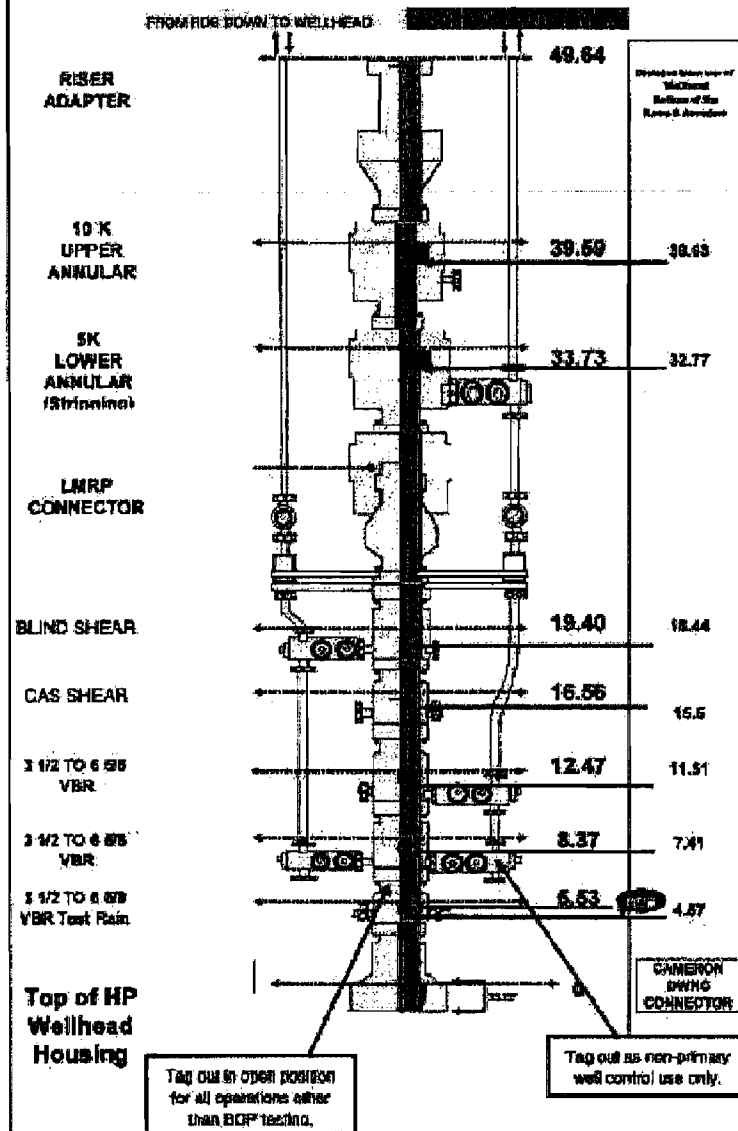


Figure 1 – Transocean Deep Water Horizon BOP stack

Deep Water BOP Risk Assessment – Cortez Bank

Scope of Work

Background

The Transocean Deep Water Horizon, a late generation drilling vessel, is equipped with a five-ram dual annular BOP stack, out of which only two sets of rams are currently installed with pipe rams (VBR) that can close on the drill string. (See attached Figure 1). There had been occasions where one of the VBR's failed its pressure test, which is a condition that does not meet current MMS minimum requirement for two sets of pipe rams that are sized for the drill string. In deep water operations, it can take up to a week of rig time to trip and repair the rams, at a cost of over \$500,000. Two categories of options are being considered to solve this problem and mitigate the costs involved:

- **Equipment modification** – This includes upgrading the test VBR's to bi-directional rams that can hold pressure in both directions, thus in effect adding one set of back up pipe rams. Another option is to add another ram cavity to the BOP, making it a six ram stack. Both of these are long term solutions, and are over a year away if they are implemented.
- **Criteria modification** – One option is to continue well operations as long as the top annular preventer and one set of VBR is tested to required pressure (e.g. 9900 psi in the current well). This provides two BOP's for shutting in against the drill string, and is a solution that can be implemented immediately either on a long term basis or as an interim solution, if and while the above equipment changes are being design and manufactured.

Risk Assessment

The main objective of this project is to conduct a Risk Assessment (RA) of the option for criteria modification described above. The results will be taken into consideration in making a decision to adopt this or other options. Main elements of this RA project are as follows:

Background research and preparations

- Identify the operations and issues that can be expected with such a BOP in place
 - Normal well operations – Drilling, tripping, logging, BOP tests, running casing, well testing, completion, squeezing, P&A.
 - Conventional well control operations – Shut in, weight up, circulate kick out.
 - Non conventional well control operations – Lube and bleed, bull heading, stripping, hang off.
 - Contingency operations – Planned disconnect, hang off, emergency disconnect, accidental drive off.
- Pressure – How much pressure is the BOP expected to handle in these operations?

- BOP characteristics and elements – What design or operational features need to be taken into account when evaluating risks? For example: seal type, temperature rating,
- RA set up – Set up and distribute risk tables, ranking matrix, agenda and other relevant material to workshop participants for preview prior to session.

Risk Assessment Workshop (October 1)

- Participant self introduction
- Background briefing
- Brief overview of Risk Assessment process
- Assign discussion Team Leaders
- Risk Assessment Process
 - Risk Identification – Guided brainstorming session focused on identifying potential risks, use “yellow sticky” session. Use Risk Tables as wall charts. (Group)
 - Risk Grouping – Group risks into the appropriate categories, seek clarification if needed. (Team leaders)
 - Risk Ranking – Rank risks based on probability of occurrence and severity of incident. Use wall chart sized print of ranking matrix. (Group)
 - Mitigations and contingencies – Develop mitigations to reduce probability or severity of risks, and develop contingency provisions for same. “Yellow sticky” session can also be used for this part of the process. Assign ownership of follow up actions if needed. (Team)
 - Re-rank – Team Leaders present mitigations and contingencies to Group, conduct re-ranking of risks. (Group)
- Workshop Wrap-up – Closing review and comments

Report and present results (October 15)

This should be available within two weeks after the RA session.

Cost

Estimated costs for this project are as follows:

- **Research and preparation** – 3 man-days.
- **RA Workshop** – WCII plans to provide up to two engineers / specialists, 2 man-days.
- **Report and presentation** – 2 man-days.

Total estimated cost for project at \$3,000 per man day is \$21,000.

Terms and Conditions

- Additional work, beyond the scope of that which is identified in this proposal, will be conducted by mutual agreement, in advance, and will be billed at WWCI's published rates less any negotiated discount. This proposal specifically does not include Presentations, meetings, dills, Specific Relief Well Drilling Plans, Gas Dispersion Modeling or Dynamic Kill Modeling and Analysis.
- The validity of this proposal is ninety (90) days from the date of issue.
- This proposal is provided to your company on a confidential basis. The contents of this proposal must not be made available to any third party without the express written permission from Wild Well Control, Inc.

All material contained in this report are believed to be true and accurate but is presented on an "as is" basis. Wild Well Control, Inc. cannot and does not guarantee, warrant or represent the accuracy of or accept any responsibility for the use of any information contained herein. All services have been provided on a "best efforts" basis and are believed to have successfully met the desired goals and objectives of the client