From: Wulf, Gary T

Sent: Fri May 07 15:24:26 2010

To: Kirton, Bill

Subject: Junk Shot Peer Assist

Importance: Normal

Attachments: 06 May 2010 Peer Assist Executive Summaryv2.ppt

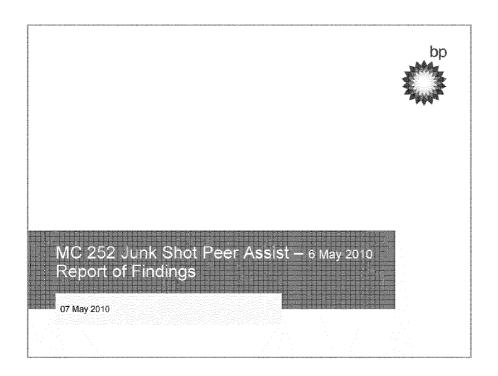
Bill,

As requested.

The summary page was tightened up a bit. If you want the old version let me know. We completed the report and will get copies made. Gary

<<...>>
Gary Wulf
D&C Project Leader
Tubular Bells / Kodiak
Phone: 281-366-4742
West Lake 4, 751-B

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Executive Summary



- Assess potential regrets with the Junk Shot or kill operation.
 - Blow riser top remove restriction/increase flow
 - Lose containment through casing
 - Under ground flow compromise relief well
- More diagnostic work is needed
 - · Oil Flow path Pump Styrofoam, dye
 - Choke points pressures in the stack/riser
- Consider methods to optimize junk shot
 - Better, More and Faster (subsea reloading, more barrels, targeted shot)

MC 252 Junk Shot Peer Assist – 6 May 2010 Report of Findings – Executive Summary



Top Ten Findings

- These Key findings are nearly unanimous messages delivered from the three groups of the Peer Assist Team.
- * The findings are illustrated by the sub bullets from examples in the breakout reports.

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Top Ten Findings

- 1. While no technical "show stoppers" were identified, significant risk is present and more diagnostic work and consequence assessmen: is needed before pulling the trigger on the junk shot option.

 Need to understand the restrictions and flow paths (is casing across rams?)

 Pressure measurements (injectify test, hot tap etc.)

 Dye/Styrotam and speed of visibility

 Opericlose boftom rams and check operating pressure (may indicate well pressure)

 2. Develop a comprehensive understanding of the knock on risk of successfully plugging the well (engineering analysis required)

 potential broach burst disks, shallow sand, shoe integrify etc.

 loss of rises integrify

 3. Junk and the restriction of the subsea reloading

 Add more barrels in the existing manifold

 Devisies a method for subsea reloading

 Add more barrels in the existing manifold

 Consider organizal junk short method in existing the restriction of the pressure and temperature considerations, shelf life, encapsulating method, Cameron Stiff packing etc.)

 4. Consider how to best utilize CAK lines

 Sequential vs simultaneous injection

 Consider what to do! full ke host is successful, but also plugs off seal assembly while killing the well

 Need plan to address this non well kill scenario

 Product restrictions.

- Consider pumping fluid specifications
 Hydrate inhibition
 Erosion tax
 Compatibility issues with oil

 Develop a decision tree for a number of approaches and outcomes for the junk shot
 Hydrate plug, junk shot plugs pipe etc.
 Consider advantages of dual conduit approach for access to ECP
 Colled Tubing
 Flow back through Cholee and Kill lines
 Coffer dam or surface lacility

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- 10. Participants believe they can provide additional support, but are looking for more data for engineering analysis.

MC 252 Junk Shot Peer Assist – 6 May 2010 Report of Findings



Table of Contents

These Findings are summarized by categories of inquiry developed by the three working groups of the Peer Assist Team and as reported by these groups at the conclusion of the working sessions

- 1. What is missing from the plan? Identify gaps.
- 2. Identify risks and potential mitigations.
- 3. Identify opportunities and potential alternatives.
- 4. What other suggestions does the group have?
- 5. Identify recommendations for discipline experts

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Identify opportunities and potential alternatives



- Develop a spool manifold
- Pump discharge plan
- Develop encapsulating method to contain the junk shot material facilitate
- Dual conduit strap coiled tubing to the 6-5/8" riser to pump some type of reactive material into BOP stack or give another route to pump in
- Specially designed epoxy
- Use choke & kill lines as a flow path flow to facilities? If both lines are used for JS and no route for pressure relief, there could be an issue.
- May want to modify the manifold to incorporate more junk shot (4 loads rather than 2)
- Add extra valve on C&K lines
- Relief on injection lines do we need a relief valve

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