MENSA FIELD (MC 768)

WELLBORE ABANDONMENT CHALLENGES & OPERATIONS


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Completions and Well Intervention Engineer
DEFINITIONS & CAUTIONARY NOTE

Reserves: Our use of the term “reserves” in this presentation means SEC proved oil and gas reserves.

Resources: Our use of the term “resources” in this presentation includes quantities of oil and gas not yet classified as SEC proved oil and gas reserves. Resources are consistent with the Society of Petroleum Engineers 2P and 2C definitions.

Organic: Our use of the term Organic includes SEC proved oil and gas reserves excluding changes resulting from acquisitions, divestments and year-average pricing impact.

Shales: Our use of the term ‘shales’ refers to tight, shale and coal bed methane oil and gas acreage.

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Multi-Discipline Team
SURF
Wells
G&G and Petrophysics (Barrier Location)
Regulatory
Surveillance
SHELL GOM WELL ABANDONMENT

Lower Abandonment

Q-4000 Semi
No drilling BOP. IRS system.
Multi tasking (OW crane, 2 ROVs)
Rapid RU (MPT, Moonpool System, etc.)

Upper Abandonment

MODU

DP/Moored MODU
Drilling BOP
Single Tasking (all thru rotary, 1 ROV)
Slower RU (derrick, under rotary RU)
IRS HOP & THS RECOVERY

Execute all Lower Abandonments with a single IRS deployment

Considerations:

- In Field Transit
- Capability to interface with different trees
- BSEE permitting
- Issues with TRT transition
- Extended scope on single deployment
### Mensa Lower Abandonment Q4000 Campaign

<table>
<thead>
<tr>
<th>IRS in water</th>
<th>Prepare to Splash IRS</th>
<th>IRS in Water</th>
<th>Open Water Work</th>
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<td>A2</td>
<td>Mobilize Q 4000, transit to Mensa Field</td>
<td>Through Tubing Work</td>
<td>Open Water Work</td>
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<tr>
<td>A5</td>
<td>Through Tubing Work</td>
<td>Open Water Work</td>
<td>Open Water Work</td>
</tr>
<tr>
<td>A6</td>
<td>Through Tubing Work</td>
<td>Open Water Work</td>
<td>Open Water Work</td>
</tr>
</tbody>
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### A-1 and A-3

- Assist with decommission of subsea infrastructure
- “Like” activities batched together
- Prepare wells for upper abandonment activities
Mensa Field Casing Depths
New Activity Opportunity for the Atwood Condor

Regulatory Approval to Hop SSBOP

Deep Mensa – Several long casing pulls and additional cement plugs

A1 - BOP issues

“Like” wellhead systems combined
WORKING AROUND COMPLEXITY

Different Systems
Multiple Control Systems
THS and Hydrates
Sand Control

Loop Currents
BOP Issues
Shallow Riserless Section
Sub Mudline Hanger
KEY TAKEAWAYS

Multi Discipline team – Planning
Early BSEE Engagement
Wet Verification Approvals
Campaign Activity Mode
Reaction to Unknowns
Learning Curve
Q & A