2. DRILLING

2.1. Drilling Summary

Friday, 11/05/2012: Started drilling from 0 m to 8.59 m.
Saturday, 12/05/2012: Continue drilling from 8.59 m to 17.41 m.
Sunday, 13/05/2012: Continue drilling from 17.41 m to 111.42 m.
Monday, 14/05/2012: Continue drilling from 111.42 m to 161.56 m.
Tuesday, 15/05/2012: Continue drilling from 161.56 m to 240 m.
Wednesday, 16/05/2012: Running surface casing, cementing and installing well head. No meters drilled.
Thursday, 17/05/2012: Continue to nipple up BOP and running pressure test. No meters drilled.
Friday, 18/05/2012: Repairs to iron roughneck, jaw problems. No meters drilled.
Saturday, 19/05/2012: Pressure testing and drilling cement plug. No new meters drilled.
Sunday, 20/05/2012: Continue drilling from 240 m to 326 m.
Monday, 21/05/2012: Continue drilling from 326 m to 449 m.
Tuesday, 22/05/2012: Continue drilling from 449 m to 546.69 m.
Wednesday, 23/05/2012: Continue drilling from 546.69 m to 584.74 m.
Thursday, 24/05/2012: Continue drilling from 584.74 m to 586.27 m, cored from 586.27 m to 589 m.
Friday, 25/05/2012: Continue drilling from 589 m to 661 m.
Saturday, 26/05/2012: Continue drilling from 661 m to 752 m.
Sunday, 27/05/2012: Drilled from 752 m to 753.12 m, cored from 753.12 m to 761.50 m, drill ahead from 761.5 m to 763.8 m.
Monday, 28/05/2012: Continue drilling from 763.8 m to 835 m.
Tuesday, 29/05/2012: Continue drilling from 835 m to 900 m and pulled out of hole to replace bit at 900 m.
Wednesday, 30/05/2012: Continue drilling from 900.05 m to 921 m with a bit change at 921 m.
Thursday, 31/05/2012: Continue drilling from 921 m to 1030 m.
Friday, 1/06/2012: Continue drilling from 1030 m to 1196 m.
Saturday, 2/06/2012: Continue drilling from 1196 m to 1293.27 m - TD. Pull out of hole in preparation for logging.

Sunday 3/06/2012: Continue logging. Set up for Seismic.

Monday 4/06/2012: Complete logging and seismic - prepare to run back in to extend to 1800 m max.

Tuesday 5/06/2012: Pressure test, run back in. Continue drilling from 1293.27 m to 1305.84 m.

Wednesday 6/06/2012: Continue drilling from 1305.84 m to 1353.34 m. Water flow test, POOH & set up for coring.

Thursday 7/06/2012: Run into hole, drill 2.66 m to test core bit penetration rate. Pull up for core run – RUN 3: 1356 m to 1357.24 m.

Friday 8/06/2012: Attempt to drill ahead with drilling insert, very slow ROP. Attempt to core for 45 mins, no improvements. POOH to change out coring assembly and install hammer assembly.

Saturday 9/06/2012: Drill ahead to 1378.19 m with air hammer, wait for chromatograph installation, POOH to shoe & fix draw-works.

Sunday 10/06/2012: Run into hole and drill ahead. Hard ground. Set chromatograph into operation. Slow cuttings, clearance from hole reducing therefore ROP reducing.

Monday 11/06/2012: Continue to drill ahead to 1553.45 m with very slow ROP, POOH to assess bit.

Tuesday 12/06/2012: Remove stabilizer on surface and run back in hole - flares at 852 m & 947 m (reported) and 1048 m (witnessed - duration ~50 sec, 1-2 m yellow flame), drill ahead to 1569 m, take survey (failed - DTG gas witnessed when unloading well after survey attempt), drill ahead to 1598 m, take survey - 1.0 deg (DTG - 0.94% Pason, no flare). Drill ahead to 1619.40 m.

Wednesday 13/06/2012: Continue to drill ahead, TD 1804 m. Slow ROP due to slow cuttings clearance.

Thursday 14/06/2012: Commence logging hole.

Friday 15/06/2012: Logging hole, pulling out of hole started casing.

Saturday 16/06/2012: Casing, cementing hole and rig up.

Sunday 17/06/2012: Well completed.
2.2. Equipment Installed in or on the Well

Conductor Hole
- Drilled 17-1/2" hole
- Set 14" casing at 9 m

Surface Hole
- Drill 12-1/4" hole to 232.0 m
- Survey at 50 m then every 50 m
- Maximum deviation: 2.0 degrees
- Mud drilled

Surface Casing
- Casing size: 9-5/8"
- Grade: J-55
- Tread: BTC set at 231.3 m or 238.56 m
- Cement: 10 bbls good cement return

Main Hole
- Drill 8-1/2" hole to 1805.0 m
- Mud: Drilled with air hammer

Fluid
- Air rate: 1800 cfm
- Mist rate: 20 gpm
- Frequency of rotation: 45 RPM
- Pressure: 380 psi

Production Casing
- Casing size: 7"
- Grade: J-55
- Thread: BTC set at 1805.0 m, run to surface

2.3. Casing and Equipment Installed in or on the Well

<table>
<thead>
<tr>
<th>Casing Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conductor Casing:</td>
<td>14” conductor casing cemented from 9 m to surface</td>
</tr>
<tr>
<td>Surface Casing:</td>
<td>238.56 m</td>
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<tr>
<td>Intermediate Casing:</td>
<td>NA</td>
</tr>
<tr>
<td>Production Casing:</td>
<td>1804 m</td>
</tr>
</tbody>
</table>
2.4. Wellbore schematics

Figure 1: Wellbore schematic for Cow Lagoon 1.
2.5. Deviation Survey

Table 1: Deviation Survey for Cow Lagoon 1, EP176.

<table>
<thead>
<tr>
<th>Depth [m]:</th>
<th>Deviation [°]</th>
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<tbody>
<tr>
<td>27</td>
<td>0.5</td>
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<tr>
<td>55</td>
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<tr>
<td>119</td>
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<tr>
<td>231</td>
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<td>900.05</td>
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<tr>
<td>1293.2</td>
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<td>1585</td>
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<tr>
<td>1804.9</td>
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</table>

2.6. Cementing Operation

Cellar
- 6’ by 3.2’ cellar ring installed and cemented in place.

Conductor Pipe 14” Casing
- 14” Conductor casing cemented from 9 m to surface.

Surface Casing Cement 9-5/8” Casing
- 9-5/8” casing ran from 231.3 m back to surface.
- 9-5/8” casing cemented from 231.3 m back to surface.

Production Casing Cement 7” Casing
- 7” casing cemented from TD back to surface.
- Cement started to set-up, treating press to 3600 psi.
- 20 bbl annulus top up job done - Cement at surface.
- 3600 psi pressure held on casing for 15 min.
- Tail cement estimated at 1602 m.
- Lead cement came to 2 m from surface.
2.7. Bit Record

<table>
<thead>
<tr>
<th>Bit Number</th>
<th>Size [inch]</th>
<th>Type</th>
<th>In [m]</th>
<th>Out [m]</th>
<th>Meters drilled [m]</th>
<th>Hours [h]</th>
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<tr>
<td>1</td>
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<td>Tricone</td>
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<td>10</td>
<td>8.5</td>
<td>Hammer</td>
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<td>1804</td>
<td>445.2</td>
<td>446.24</td>
</tr>
</tbody>
</table>

2.8. Drilling Fluids

Hole was drilled on air/mist and during coring and wireline logging operations the hole was loaded with KCl water. Average loaded-hole fluid properties were:

- Density $\rho$: 1.02 g/c3
- Viscosity: 31 sec/qt

Air drilling properties:

- 1800 cfm air
- 20-30 gpm misting
- 0.05 % foam