UNIQUE CHARACTERISTICS OF DRILLING IN THAILAND

What We Do and How We Do It
Chevron’s contribution to The Kingdom of Thailand

Natural gas from Chevron assets generates approximately one-third of the country’s electricity
# What we do

## Drilling - Jan through Sept 2009

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Footage drilled</td>
<td>2,419,991 ft (38.8%)</td>
</tr>
<tr>
<td>Feet of Casing &amp; tubing Ran</td>
<td>3,750,000 ft</td>
</tr>
<tr>
<td>Number of wells drilled</td>
<td>270 Wells</td>
</tr>
<tr>
<td>Total Rig Days</td>
<td>1,768 Rig Days</td>
</tr>
<tr>
<td>Average TVD (Slim Hole)</td>
<td>9,304 ft</td>
</tr>
<tr>
<td>Average MD (Slim Hole)</td>
<td>12,430 ft</td>
</tr>
<tr>
<td>Average Days per well Devl.</td>
<td>6.6 Days</td>
</tr>
<tr>
<td>Average number of rigs</td>
<td>6.5</td>
</tr>
<tr>
<td>ESPs &amp; P&amp;As</td>
<td>16 &amp; 35</td>
</tr>
<tr>
<td>Offline cementing</td>
<td>Standard for most casing</td>
</tr>
<tr>
<td>UTRF Logging</td>
<td>36</td>
</tr>
</tbody>
</table>
What we do
Drilling - Jan through Sept 2009

On a footage basis:

On average, 1 rig in the Gulf of Thailand drills 12.5 rigs worth of footage for the average Chevron operation or drills 12.5 years worth of footage.
What we do
Well Services - Jan through Sept 2009

Length of hole perforated 20,171 ft

Wells Intervened
Production Logging 181 Wells
Wire Line 2,549 Wells
Coil Tubing 45 Wells
Efficiency of the operation: How do we do it?

- Planning
- Rigs
- People
- Execution of the plan

• ? What is missing
Efficiency of the operation: How do we do it?

- **Safety** – Working safely *is* working efficiently

  - Last Days away from work 1 July 2008 (4,724,000 Man hours)
  - JSA held per well: 50 to 110 (Estimated by contractor)
  - No automated pipe handling equipment, only hydraulically operated slips and Hawk Jaw on some rigs
  - BBS Cards: Unsafe condition, Unsafe Acts
  - Culture of reporting minor injuries and incidents before they become first aid and near misses
How Do We Do It: Tenet of Operation - ALWAYS

1. Operate within design or environmental limits
2. Operate in a safe and controlled condition
3. Ensure safety devices are in place and functioning
4. Follow safe work practices and procedures
5. Meet or exceed customer’s requirements
6. Maintain integrity of dedicated systems
7. Comply with all applicable rules and regulations
8. Address abnormal conditions
9. Follow written procedures for high risk or unusual situations
10. Involve the right people in decisions that affect procedure and equipment
Where does WellCap fit in?

- Estimate 40 kicks per year
  Requires shutting in the well

- Almost all kicks when making a connection or tripping due to loss of ECD

- Kicks confused with Ballooning
Where does WellCap fit in?

• WellCap allows Chevron to add to the school for special operations
  • Geothermal / Steam floods
  • Ballooning / slim hole
  • Mud cap drilling
  • Special monitoring, equipment and procedures for URFL