Unlocking and Developing the Potential of Exciting Core Plays

Manu Wope
South and East Africa
Tullow’s Footprint in South and East Africa

Overview
- Largest exposure to fledging East African Rift exploration
- Well placed to capture opportunities arising in the area

Uganda
- Mputa/Waraga discoveries and early signs from Kingfisher are encouraging
- Nzizi-1 well to spud in November
- Proven Hydrocarbon system

Madagascar
- Resurgent region for exploration
- Significant footprint gained with additional New Ventures opportunities

Hardman Acquisition
- Operational synergies in Uganda
- Operatorship of Block 2
- Exposure to Rovuma Basin in Tanzania which Tullow would operate
- Albert Graben (Uganda) & Cambay Basin (India) to Morondava (Madagascar)
- Mboundi (Congo) to Stratigraphic Play (Albert Graben)
- Rio Muni (EG) to Kudu
### Current South and East Africa Opportunity Funnel

<table>
<thead>
<tr>
<th>Screen</th>
<th>Evaluate/Validate</th>
<th>Deliver</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rift Basin Onshore</strong></td>
<td>Uganda Block 2: Butiaba</td>
<td>Ngambua</td>
</tr>
<tr>
<td></td>
<td>Congo (DRC) Blocks I &amp; II</td>
<td>Kaiso – Tonya Leads</td>
</tr>
<tr>
<td></td>
<td>Madagascar 3109 &amp; 3111</td>
<td>Mputa</td>
</tr>
<tr>
<td></td>
<td>Uganda Block 1</td>
<td>Waraga</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nzizi</td>
</tr>
<tr>
<td><strong>Rift Basin Offshore</strong></td>
<td>Congo (DRC) &amp; Tanzania Lake Albert</td>
<td>Pelican, Ngassa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Butiaba Leads</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kingfisher</td>
</tr>
<tr>
<td><strong>Stratigraphic Trap</strong></td>
<td>Basal Sand Albert Graben</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lindi/Mtwara Blocks (Rovuma Basin, Tanzania)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kudu upside</td>
</tr>
</tbody>
</table>
Leading Position: >50% of the Albertine Rift Basin

**Basin-wide Strategy**
- Leverage knowledge and influence
- Quickly discover basin potential
- Appraise in parallel
- Scaled development options

**Hardman Deal**
- Increases influence and materiality
- 100% and Operatorship of Block

**Latest News**
- Tullow to operate Block I & II in Congo (DRC)
- Encouraging results from Kingfisher
- Heightened HC potential of Lake Albert

**Forward Plan**
- Kingfisher well test and sidetrack
- Accelerated exploration and appraisal of the Albert Graben
- Evaluation of Blocks I & II in Congo (DRC)
Albertine Rift Basin Physical Setting

Lake Albert
140km SW-NE and 40 km wide
Max water depth 60 metres
Kaiso-Tonya Area

Appraisal of Discoveries
- Mputa & Waraga well testing
- Kaiso-Tonya 3D seismic planning
- Mputa appraisal wells 2007

Further Exploration Drilling
- Nzizi (Nov-Dec 2006)
- Ngambwa (using 3D seismic)

Development Concepts
- Studies launched
- Regional and basin-wide / modular
Butiaba-Paara Area

**Exploration surveys**
- Gravity and magnetic surveys 2006
- 2D seismic planning

**Exploration wells**
- Preparing drill-worthy prospects
- Rig options study
Lake Albert

**Exploration surveys**
- 2D seismic planning
  - Congo (DRC) Blocks I & II
- Metocean and ESIA studies

**Exploration drilling**
- Bugoma (Kingfisher & Pelican)
- Lake operations (Ngassa plans)
Kingfisher-1 has Encountered Hydrocarbons

- Drilled through fault into basement (TD 2125m) - on prognosis

- Oil shows, log and pressure data indicate occurrence of oil in upper section secondary objectives

- Four potential pay zones intersected that will now be production tested

- Operator indicates 37m of net pay
  - Two firm tests (two of 10m)
  - Two contingent tests

- Results so far indicate regional seal works, sands are developed and a trap is charged with oil
Ngassa-Mputa-Nzizi Schematic

→ Analogous to Kingfisher
Kingfisher-1 Testing and Sidetrack

- **Why test now?**
  - Well needs to be sidetracked to reach primary targets at 3,000m – 4,000m
  - Opportunity to test these sands at this location

- **Production test will establish**
  - Flow potential of accumulations
  - If section is a viable future target
  - Fluid properties through sampling
  - Other important reservoir properties

- **Sidetracking required to move outboard from the basement fault**

- **Timetable**
  - Set up test facilities – 1 month
  - Test Programme – 3 weeks
  - Sidetrack to primary targets ~ 60 days
Uganda: Early Results are Very Encouraging

- Exploration results so far are excellent in the Albert Graben
  - Mputa & Waraga oil discoveries
  - Encouraging results from Kingfisher-1 drilling that enhance Lake Albert potential

- Very aggressive exploration programme for the remainder of 2006 / 2007
  - 2D seismic at Butiaba and on the DRC side of Lake Albert
  - 3D onshore and transition seismic at Kaiso-Tonya and Bugoma
  - Onshore wells drilling (Nzizi-1, Kaiso Tonya & Butiaba)
  - Gear up to drilling offshore wells in Uganda.
  - Mputa-Waraga early development scheme
  - Kudu-8 and Kudu-9 exploration wells in Namibia
Four discoveries out of four exploration wells drilled this year in Uganda

Basin-wide activities at all stages of exploration running in parallel in 2006 to 2008
- Seismic (2D & 3D)
- Drilling onshore and offshore (exploration and appraisal)
- Early Development Scheme

Tullow was awarded a 50% interest and operator of Block 3109 (Mandabe) onshore Madagascar

Tullow has applied for 100% of Block 3111 (Berenty) adjacent to Block 3109

→ Tullow’s strategy of basin-wide participation in the Albert Graben is proving successful
→ We are leveraging our expertise and experience to step out of Uganda into the Morondava Basin of Madagascar and explore the Karoo Rift Basin
Madagascar Blocks 3109 & 3111

- Proven HC system in Morondava Karoo Rift
- Blocks 3109 & 3111 (20,000 km²)
  - On trend with Tsimiroro Heavy Oil
  - On trend with Bemolanga Tar Sands
- Utilise Ugandan and Indian Experience to unlock the potential
Focus is on structures within the Mid-Sakamena Formation

Jurassic & Cretaceous to the West are secondary plays
- Karoo Rift – key challenge is finding reservoir with good preserved quality
- Jurassic/Cretaceous – key risk is seal
- Evidence of a working hydrocarbon system
  - Bemolanga tar sands and Tsimiroro Heavy Oil deposits (+23 BnBO)
  - Light oil (41 deg API) recovered from the Manandaza-1 well North of Block 3109
- Madagascar acreage is still very early in the exploration cycle
  - Planned seismic surveys
Kudu Stratigraphic Traps

Gas field extension and exploration upside

Proprietary Geological Insights

- Fully integrated geosciences data
- Two gas plays proven

Prospect Testing: Two Wells (Q1/Q2 2007)

- Kudu East – potential multi-tcf play
Proposed Kudu-8 Well Designed to firm-up Kudu East Potential

Kudu-5 tested at 19.2 MMscf/d
Kudu East
- Stratigraphic trap & shore line facies
- K1 reservoir laterally extensive
- K1 reservoir of poorer quality
- To be tested by Kudu-8 & 9 wells

Kudu Main Field (KMF)
- Better reservoir quality in sand dunes
## South and East African Exploration

### Exploration Drilling/Seismic activity

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
</tr>
<tr>
<td><strong>Congo (DRC)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blocks I &amp; II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Madagascar</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 3109</td>
<td>2D</td>
<td>2D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 3111</td>
<td>Mag/Gravity</td>
<td>2D</td>
<td>2D</td>
<td></td>
</tr>
<tr>
<td><strong>Namibia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kudu (expl only)</td>
<td></td>
<td>Kudu-8</td>
<td>Kudu-9</td>
<td></td>
</tr>
<tr>
<td><strong>Uganda</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 1</td>
<td>2D</td>
<td></td>
<td>2D</td>
<td></td>
</tr>
<tr>
<td>Block 2</td>
<td>Mputa-1</td>
<td>Mputa-2</td>
<td>Mputa 3D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waraga-1</td>
<td>Nizizi-1</td>
<td>Butiaba 2D</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ngassa 3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block 3A</td>
<td>3D</td>
<td>3D</td>
<td>3D</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kingfisher-1</td>
<td>Kingfisher-2</td>
<td>Kingfisher-2</td>
<td></td>
</tr>
<tr>
<td><strong>Tanzania (Hardman)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mtwara</td>
<td>2D</td>
<td></td>
<td>2D</td>
<td></td>
</tr>
<tr>
<td>Lindi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Drilled well**
- **Currently drilling**
- **Planned well**
- **Probable well**
- **Possible well**
- **Seismic acq.**
- **Seismic proc./reproc.**
- **Possible seismic acq.**
- **End of current period**
- **End of licence**
Unlocking the Potential of Kudu and the East African Rift System

Uganda

- Leveraging our unique position in the Albertine Graben to fully understand the potential of the basin

Madagascar

- Benefiting from our expertise and experience in Uganda to step out into the Morondava Basin and explore the Karoo Rift Play

Namibia

- Working to establish the resource base necessary for an export project at Kudu