Future Growth from Gas

PNG Mining & Petroleum Investment Conference
Sydney December 1, 2008
Oil Search
- long history in PNG - since 1929

Oil & Gas Industry
- Decades of sporadic exploration – oil focus, seeking “elephants”, on & offshore, large & small companies
- Kutubu Oil Project start-up in early 1990s
- Hides Gas-to-Electricity start-up in early 1990s
- Additional oil development at Gobe mid 1990s
- Additional oil development at Moran 2000s
- Focus on Gas Pipeline to Australia 1996-2006
- PNG LNG Project genesis in rising gas market since 2007

Outcomes?
- An established oil business, run by Oil Search
- Material gas discovered whilst looking for oil
- Focussed gas commercialisation efforts - international energy markets have embraced PNG and “valued” its gas
- Cornerstone gas development project & potential for more
... the Gas Resource Base

~1/3rd of PNG gas resources are held in the Hides field
PNG LNG Project accounts for approximately half of PNG’s discovered gas resource
OSH has ~1.6 tcf net of discovered 2C gas plus associated liquids not dedicated to PNG LNG
<table>
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<th>Jointly Marketed</th>
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<tr>
<td>9.3 TCF 2C</td>
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<td>resource, with</td>
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<td>upside</td>
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<td>Deliveries 2013/14</td>
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- Integrated LNG Project
- 6.3 MMTPA
- Strong JV Alignment
- Gas Agreement Signed
- Now In FEED
- Bi-partisan government support
- ExxonMobil Operated
- OSH In Country Expertise
- Joint Debt Finance
- Regional Buyer interest
- Deliveries 2013/14
Oil Search Vision for LNG Expansion

3.5 – 4.0 tcf additional gas volumes required to underpin construction of each additional train

PNG LNG fields comprise Hides, Juha Main, Angore, Kutubu, Agogo, Moran and Gobe Main

Other Highlands JV partner resources (OSH best estimates) include P'Nyang and Juha North

Forelands & Offshore resources include Barikewa, SE Gobe, Pandora & Uramu

Considerable exploration upside
PNG’s 3 C discovered resource exceeds 32 Tcf; potential likely higher

- More LNG holds high value
  - PNG LNG Project Gas
  - Non-Project OSH gas
    - Discovered gas in the highlands, forelands, & offshore
    - Prospective onshore & offshore areas

- Gas owned by third parties
- Most fields require further appraisal
- Potential for multiple trains in next 10 years
- Other options provide additional opportunities
### OSH Established Non Project Gas

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<thead>
<tr>
<th>Field (tcf)</th>
<th>2C</th>
<th>3C</th>
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<tbody>
<tr>
<td><strong>Highlands:</strong></td>
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<tr>
<td>P'Nyang &amp; Juha North</td>
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<td>4.7</td>
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<td>Forelands and Offshore:</td>
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<td>Kimu, Barikewa, SE Gobe, Uramu, Pandora</td>
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<td>3.7</td>
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<tr>
<td><strong>Total OSH Share</strong></td>
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Based on OSH best estimates - OSH Fields Only
## Project Opportunities

<table>
<thead>
<tr>
<th>Typical Project Type</th>
<th>Resource (tcf)</th>
<th>Plant Capex (US$bn)*</th>
<th>Typical IRR (%)*</th>
<th>Potential Gas Sources</th>
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<tbody>
<tr>
<td><strong>Large Scale</strong></td>
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<tr>
<td>LNG</td>
<td>~3.5</td>
<td>2 - 3.5</td>
<td>Brownfields - highest</td>
<td>Forelands, Northern, Offshore &amp; Western Corridor ?</td>
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<tr>
<td>GTL</td>
<td>~2.5</td>
<td>2 – 2.5</td>
<td>High at high oil prices</td>
<td>Western Corridor, Other Aggregations ?</td>
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<tr>
<td><strong>Medium Scale</strong></td>
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<tr>
<td>Petrochemicals - Methanol</td>
<td>~1.2</td>
<td>0.8 – 1.2</td>
<td>Acceptable</td>
<td>Forelands ?</td>
</tr>
</tbody>
</table>

- Gas options will be progressed as resource is proven up & aggregated, with choices made in 2010/11
- * Full chain economics depend on sector investment, resources size, geography, capex and market pricing assumptions

1+ tcf approx equal to 1 mmtpa LNG for 20 years
1 tcf approx equal to 15,000 b/d GTL for 20 years
1 tcf approx equal to 1.5 mmtpa methanol for 20 years (1 mmtpa DME)
Domestic Gas MOU

- Aligns Oil Search and PNG Government on gas growth
- Recognizes priority of PNG LNG Project
- Important step in next wave gas development
  - For additional LNG and other developments
- Allows state-industry gas planning throughout
  - Infrastructure
  - Gas Aggregation
  - End uses
- Contains core initiatives:
  - Offshore and Forelands hubs progression
  - Western Corridor resources development
  - Petrochemicals
  - Power in regional applications
“Core Initiatives” Update

- Forelands and Offshore Hub development
  - Engaged with other key stakeholders in the regions
    - Operators and major interest holders
  - Assessing opportunity to move forward, focussed on LNG
    - Opportunities to optimise portfolio interests
    - Need to drive the pace of commercialisation
    - Coordinated developments key to aggregate gas
  - Potential for 1 or 2 additional train developments at Ptn 152?
    - Subject to drilling & appraisal outcomes 2009-11
    - Limited reliance on PNG LNG interface
      - potential synergies
“Core Initiatives” Update

- Petrochemicals
  - Focus remains on methanol/DME
  - Tripartite MOU between ITC/MGC, OSH and the State signed in November 2008
    - Updates Feasibility Study work
  - ITC/MGC executives visited PNG recently
  - Parties remain keen but relative commerciality needs progressive review as resource base becomes better defined and markets develop
    - Takes circa 1-1.5 + Tcf of gas
    - Understand impacts before commitment
    - Derivative industries could follow
  - Methanol market being watched closely; DME market progressing
    - Japan DME’s Niagata demonstration plant opened
Chinese demand will be the growth driver for methanol over the next 5 years
Chinese CAGR was expected to exceed 13% p.a. pre downturn
Strong Indian growth off a much smaller base will also boost demand
Asian Spot Methanol Prices 1999 -2008

Methanol long term price average US$250 per ton

* Source: CMAIGlobal
Western Province gas development

- Discussions continuing amongst various parties re potential for gas pipelines

- Ongoing discussions with other operators regarding aggregation, consolidation and/or alternates
  - Some have preferences
  - Others have multiple, smaller concepts in mind
  - All viable options require aggregation

- Exploration activity likely to continue in 2009-11 by various operators
  - Likely to see consolidations and other commercial activity on rigs and commitments
Regional Power

Southern Highlands Regional Energy Study
- Potential for power and micro gas use in Southern Highlands is being assessed
- Study framed and under discussion for finalisation
- Identifying appropriate expertise and availability
- Identifying work to date by others on regional applications and national power initiatives

Progressing discussions on Hides GTE extension for Porgera
Gas Growth Opportunities

- LNG is the main focus for gas growth – value, scale, return, synergies
  - Potential for trains from Offshore, Forelands, Highlands
  - Project and non-Project owned/controlled
- Other gas commercialisation opportunities may offer attractive returns, diversification and timely delivery.
- These range from export oriented projects to domestic micro projects including:
  - Methanol and other derivatives
  - Gas to liquids (GtL)
  - Compressed Natural Gas (CNG)
  - Gas for use in mine operations eg extending mine life at Porgera
  - Power generation and other smaller projects catering to the needs of local communities & industry
- Size and timing of resource dedication is important in defining commercial option
  - choices must be made carefully
Pursue additional PNG LNG Project trains vigorously
- Hides, Juha and proximate gas
- Timing driven by Project Owners
Aggregate gas for large scale projects
- Potential for earlier “next train” development?
Achieve multiple additional LNG trains @ circa 30%+ Oil Search
Take a regional approach, with up to 4 potential geographic aggregations:
- Highlands (drilling in 2011-13)
- Offshore (2009-11)
- Forelands (2009-10)
- Western Corridor (2009-11)
De-risk & drill key gas wells
Review farm-ins and acquisitions to optimise Oil Search positioning in its gas portfolio
Determine & implement Gas Plan with Government
Progress complementary opportunities when appropriate
Gas – the Future of PNG...
PNG Fold Belt

Production and Exploration

Ian Longley
GM Exploration
Outline of Talk

- Introduction
- Development Summary
- Recent Exploration
- Future = Move to Gas
  - PNG LNG Development
- Future Exploration
- Summary
The Road

Fold Belt

Highlands
Highway
Cumulative Discovery History Curve Papuan Basin

Oil Search Internal Estimates

- Mean Field Volumes not 2P/P50’s

8tcf Undev.

10tcf PNG LNG

500+mmb
Exploration Concepts

- Exploration concepts changing as technology evolves and knowledge increases

Foldbelt - geological integration of outcrop, Sr isotope, SAR, DEM's etc
- Subsurface prediction of offset anticlinal crests
- Frontal Thrust Oil Focus

Surface geology drilling crests of surface anticlines

Subthrust Plays New Plays Gas Focus

Interior Thrust Structures Oil Focus

8tcf Undev.
10tcf PNG LNG
500+mmb

Oil
Gas

(MMboe)
Regional fold belt cross-section

- Mosa
- Agogo
- Kaipu
- Moran
- Puaa

Scale: 0 - 5 km
Outline of Talk

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Usano Development and Usano East Appraisal

- UDT 7 online March 2007;
- UDT 8 (UDT G) online 6th June 2008;
- UDT 9 (UDT B) online 12 August 2008;
- UDT 10 (UDT J) online 30th October 2008;
- UDT 11 (UDT D) currently drilling
PNG Gross Oil Production Base plus Budgeted spend

2003 – 2007
Dev capex = $6.94/bbl,
Opex =$7.62/bbl

Pre-OSH Decline

Natural Decline

Note: Forecasts under review
Field Development Drilling Activity

Usano:
- 2007-8: 4 wells
- 2009: 1 wells

Kutubu:
- 2009: 3 wells

Agogo:
- 2009: 2 wells

Moran:
- 2008: 1-2 wells
- 2009: 1-2 wells

Usano:
- 2007-8: 4 wells
- 2009: 1 wells
Since Oil Search took over operatorship of PNG oil fields in 2003, fields have produced ~45 mmbbl in excess of previous operator’s expectations and field life extended.

Aim is to optimise PNG oil cash generation over the next 5 years to support PNG LNG Project funding requirements.

Existing oilfields are mature (decline rate of 15-20%) but with appropriate investment, expect to mitigate decline curve for 2-3 more years.
Outline of Talk

- Introduction
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- Future Exploration
- Summary
Field Geology PNG Style..
<table>
<thead>
<tr>
<th>Well</th>
<th>Well Type</th>
<th>Spud Date</th>
<th>Days Spud to Rig Release</th>
<th>Trap Type</th>
<th>Result</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Arakubi-1a</td>
<td>Exploration</td>
<td>30/8/2007</td>
<td>41</td>
<td>HW Anticline</td>
<td>Shows</td>
<td>Seismically defined structure not present</td>
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<tr>
<td>Korobosea-1</td>
<td>Exploration</td>
<td>22/10/2007</td>
<td>36</td>
<td>Tilted Fault Block</td>
<td>Dry</td>
<td>?No Charge</td>
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<tr>
<td>NW Paua-1</td>
<td>Exploration</td>
<td>10/12/2007</td>
<td>73</td>
<td>HW Anticline</td>
<td>Shows</td>
<td>?Breached/Overpressured</td>
</tr>
<tr>
<td>Cobra-1/1a</td>
<td>Exploration</td>
<td>25/1/2008</td>
<td>159</td>
<td>Footwall Trap</td>
<td>Gas Disc</td>
<td>Play test proven</td>
</tr>
</tbody>
</table>
Kutubu 2 – Pre Drill Top Toro Depth Structure
Well intersected strong shows was highly overpressured
Arakubi-Pre-drill, top Toro map

Possible splay identified on seismic Line PN04-411

Arakubi target box

Usano 2x block

UDT4 block

1km
Usano UDT-10 and Arakubi
Post-drill top Toro map, Usano-East upside potential

- Usano-East Lead
- Kube-Kabe Lead
- No updip closure to west
- Lagifuago SEALING Cross-fault
- Iagifu
- PN04-411
- PN99-406
- Hedinia Fault
- Usano-Main
- Usano-East Lead
Korobosea 1 tested prospect along trend from Kimu gas discovery
Prospect defined by seismic (9 lines of good quality)
Reservoir known to be effective
Expected most likely phase to be gas but also chance of a late oil charge – evidence in Kimu, Koko, Bujon
Gas resources 0.4-0.5 tcf (mean) in Alene reservoir

Reserves: 0.4-0.5 tcf (Alene Sst only, possible upside in Toro)
COS: 20%

<table>
<thead>
<tr>
<th>PPL240</th>
<th>WI %</th>
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<tbody>
<tr>
<td>Oil Search</td>
<td>90%</td>
</tr>
<tr>
<td>Gedd</td>
<td>10%</td>
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</tbody>
</table>
- Korobosea tilted fault block covers 20+km
- Korobosea-1 spudded 22\textsuperscript{nd} October
- Well intersected water-wet Alene and Toro reservoirs
Never underestimate the weather factor!

Korobosea rig site

Kuri Airstrip under water
Highly prospective structure adjacent to Moran

Stacked Toro and Digimu reservoirs

Mean pre-drill reserves 30 - 90 mmstb with upside potential of >100 mmstb

Constrained by Paua 1X well (1996) and seismic acquired in 2005

Oil Search operating on behalf of Esso

Good oil shows and high gas recorded in overpressured reservoir section

Digimu reservoir thinner than hoped

Potential reservoir pay interpreted in the Toro

No recoveries of oil on RFT

Well P&A'ed
NW Paua - Petrel Model

Line PN96-304
Depth migration

NW Paua Target Box
Cobra 1A

- Seismically defined footwall anticline (‘Sub-thrust Play’) adjacent to SE Gobe oil field
- Primary Iagifu objective was water wet, but Hedinia Sand was thicker than predicted pre-drill
  - Recovered gas on test – well completed pending technical evaluation
  - Potential play-opener with significant follow-up
  - De-risks many along strike - large structural features already identified in portfolio
Cobra 1A ST3 – venting gas from closed chamber DST
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PNG LNG Project

AsiaPac’s next LNG development
PNG LNG: The Premier AsiaPac LNG Project

- World Class and World Scale LNG Project
  - 2C resources of 9.3 tcf
  - 6.3 mmtpa, 2 train LNG project
  - Clean, liquids-rich gas
  - No technology issues or concerns
  - Well positioned for the Asia market
  - Rapidly advancing in optimal timeframe to satisfy regional demand in 2013/2014 period

- Joint Venture is strongly aligned with supportive Government

- Strong Operator
  - ExxonMobil is the Project operator – excellent record of project delivery on time and on budget, assisted by comprehensive pre-FEED process
  - Oil Search providing PNG experience
  - Strong Project team

- Real Expansion Capacity
  - New infrastructure will stimulate additional gas development
  - Substantial existing 2C and 3C resources
PNG LNG Project

- Integrated development of Hides, Angore and Juha gas fields plus associated gas from the Kutubu, Agogo, Gobe and Moran oil fields
- Upstream infrastructure including production wells, processing facilities and pipeline network linking to the export pipeline
- Gas export pipeline from PNG Highlands to LNG plant near Port Moresby
- Liquefaction plant, export loading and support facilities located in Portion 152, 20 km from Port Moresby

See schematic above for detail
PNG LNG Project Fields

- Juha Main
- Hides
- Angore
- Moran
- Agogo
- Kutubu
- Gobe Main
Methodology agreed for Project Interest determination

Initial Project Interests will be established at FID, taking into account FEED cost estimates and LNG sales contract outcomes

Periodic re-determination and equalisation processes established

Government has the right to back-in (22.5%) to Hides, Angore and Juha licences

Resulting State participation in PNG LNG Project post back of ~19%

<table>
<thead>
<tr>
<th>JV Partners</th>
<th>Share of FEED costs</th>
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<tbody>
<tr>
<td>ExxonMobil</td>
<td>41.5%</td>
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<tr>
<td>Oil Search</td>
<td>34.0%</td>
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<td>Santos</td>
<td>17.7%</td>
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<tr>
<td>AGL</td>
<td>3.6%</td>
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<tr>
<td>Nippon</td>
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<tr>
<td>MRDC / State</td>
<td>1.4%</td>
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Oil Search PNG LNG Interest

OSH expected post Government back-in final project interest
## LNG Project Schedule

<table>
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<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<th>2013</th>
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</tbody>
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*Schedule is Indicative only*
3.5 – 4.0 tcf additional gas volumes required to underpin construction of additional train

PNG LNG fields comprise Hides, Juha Main, Angore, Kutubu, Agogo, Moran and Gobe Main

Other Highlands JV partner resources (OSH best estimates) include P’nyang and Juha North

Forelands & Offshore resources include Barikewa, SE Gobe, Pandora & Uramu

Considerable exploration upside. 3 year programme targeting >9 tcf gross resource
Location of Gas Resources: PNG LNG Project Fields

- Sufficient 3C upside in existing PNG LNG Project fields to underwrite a third 3.15 mmtpa train
- Appraisal drilling planned for 2010/11 on Hides

**Field** | **2C** | **3C**
--- | --- | ---
Hides | 5.3 | 9.9
Juha, Angore, Kutubu, Moran, Gobe Main | 4.0 | 5.1
Total | 9.3 | 15.0
Location of Gas Resources: Other field resources

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<td>4.7</td>
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<tr>
<td>Juha North</td>
<td></td>
<td></td>
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<tr>
<td>Forelands and</td>
<td></td>
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<tr>
<td>Kimu, Barikewa,</td>
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<tr>
<td>SE Gobe, Uramu,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandora</td>
<td>2.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Total</td>
<td>4.8</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Based on OSH best estimates

Appraisal drilling at Barikewa in 2009 and Pandora in 2010
Location of Gas Resources: Exploration

- 2009 – 2011 exploration programme will test over 9 tcf mean resource (gross), with average POS of ~15%
- Testing off-shore prospectivity (Flinders, Bigpela, PPL 234, APPL 293) to commence in 2010
- Huria well expected to be drilled prior to the Hides development wells
- Considering a range of farm-ins/judicious farm-downs with strategic partners
Outline of Talk

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Wasuma

- **2009 Oil Drilling Candidate**
- Near field exploration opportunity adjacent to the SE Gobe oil field
- Iagifu sandstone primary objective - proven reservoir at Gobe
- Seismically defined structure - one of the last un-drilled ‘simple’ Hangingwall anticlines within the main Foldbelt trend
- May also have deeper target Footwall
- Mean recoverable reserves 35 mmbbl with upside potential to 100 mmbbl
- Chance of success 1 in 5
- Well site construction commenced

<table>
<thead>
<tr>
<th></th>
<th>PPL 219</th>
<th>WI %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Search</td>
<td></td>
<td>91.25</td>
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<tr>
<td>Merlin Petroleum</td>
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<td>8.75</td>
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<table>
<thead>
<tr>
<th>WASUMA</th>
<th>NE</th>
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</thead>
<tbody>
<tr>
<td>SE Gobe</td>
<td>Wasuma</td>
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<tr>
<td>PDL4</td>
<td></td>
</tr>
<tr>
<td>PPL190</td>
<td></td>
</tr>
<tr>
<td>PPL219</td>
<td></td>
</tr>
<tr>
<td>Top Iagifu</td>
<td></td>
</tr>
<tr>
<td>Top Toro</td>
<td></td>
</tr>
</tbody>
</table>

10km

1 diagram
Prospective hangingwall (shallow) and footwall (deep) targets.
Near field exploration 2009 oil and gas opportunity located along trend of Usano oil field and adjacent to SE Hedinia gas field

Toro sandstone primary objective

Additional upside in Hedinia sandstone (flowed oil when DST’d in SE Hedinia 1x) & Iagifu sandstone

Two alternative models

- Oil exploration prospect separated by fault from SE Hedinia gas field:
  - Mean recoverable reserves (Toro) 30 mmbbl with upside potential to 60 mmbbl
  - Chance of success 1 in 6

- Gas appraisal along trend of SE Hedinia (no fault compartmentalisation):
  - Mean recoverable reserves (Toro) 150 bcf with upside potential to 250 bcf
  - Chance of success 1 in 2
Country: Papua New Guinea
Licence: PDL4, PPL21950mmbbl
Name: Gobe Main Footwall
Classification: Prospect
OSL Equity: PDL4 = 10%, PPL219 = 72.517%
Commitment Status: Discretionary
Trap: Foot-wall anticline
Targets: Iagifu Sandstone
Key Risks: Structure – lack of seismic constraint to closure along strike
Well TD: Proposed TD @ 2700mBRT
Surface Elevation: 880masl

- Seismically defined footwall anticline (‘Sub-thrust Play’) adjacent to SE Gobe oil field
- Follow-up to Cobra success
- 30-50 mmbbl oil and 350-700 bcf gas potential
- 2009 seismic planned to mature for drilling in ?2010
Hedinia FW

Seismically defined footwall anticline (‘Sub-thrust Play’) adjacent to Hedinia oil field
- 400-550 mmbbl oil and 1300-1800 bcf gas potential
- 2009 structural modelling to mature for drilling in ?2010
- Ideal location for rapid commercialisation

<table>
<thead>
<tr>
<th>PDL 2</th>
<th>WI%</th>
</tr>
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<tbody>
<tr>
<td>Oil Search</td>
<td>60.05</td>
</tr>
<tr>
<td>ExxonMobil</td>
<td>14.52</td>
</tr>
<tr>
<td>Merlin Petroleum</td>
<td>6.78</td>
</tr>
<tr>
<td>PRK</td>
<td>6.75</td>
</tr>
<tr>
<td>AGL (PNG)</td>
<td>11.90</td>
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</tbody>
</table>
Country: Papua New Guinea
Licence: PDL1, PRL12
Name: Hides Footwall
Classification: Lead
OSL Equity: PDL1 = 21.5%, PRL12 = 52.5%
Commitment Status: Discretionary
Trap: Foot-wall anticline
Targets: Toro & Digimu Sandstone
Key Risks: Structure and effectiveness of fault seal
Well TD: Proposed TD @ 4700mBRT
Surface Elevation: 2150masl

- Seismically defined footwall anticline (‘Sub-thrust Play’) adjacent to Hides Field
- 2-5 tcf gas potential
Pass Miocene Build-up

Aure Fold-belt

Pliocene Untested Carbonate Play

Pliocene Deltaic Wedge

Darai Platform edge

Pasca

Flinders
Flinders

- Amplitude supported Pliocene clastic turbidite play
- 1.3-2.2 tcf potential
- Untested play
- Key test to define offshore gas prospectivity
- Positive result would calibrate seismic response of gas-filled sands and prove reservoir and charge in area

**Country:** Papua New Guinea

**Licence:** PPL244

**Name:** Flinders

**Classification:** Prospect

**OSL Equity:** 40%

**Commitment Status:** Commitment

**Trap:** Extensional rollover/ compactional drape

**Targets:** Late Pliocene basin-floor fan sandstone

**Key Risks:** Reservoir presence and quality

**Well TD:** Proposed TD @ 3248mss

**Water Depth:** 100m
Country: Papua New Guinea
Licence: PPL234
Name: Lead-7
Classification: Lead (pending infill seismic)
OSL Equity: 100%
Commitment Status: Commitment
Trap: Compressional anticline/rollover
Targets: Pliocene fan sands
Key Risks: Presence of effective reservoir, Structural closure
Well TD: Proposed TD @ 3822mss
Water Depth: 80m

- Amplitude supported Pliocene clastic turbidite play
- 1-2 tcf potential
- Follow-up to Flinders success
- 2009 2D seismic being acquired to mature for potential 2010 drilling
Country: Papua New Guinea
Licence: PPL233
Name: Wage
Classification: Lead
OSL Equity: 52.5%
Commitment Status: Future Commitment
Trap: Hanging-wall anticline
Targets: Toro C Sandstone
Key Risks: Structure and reservoir development
Well TD: Proposed TD @ 3830mBRT
Surface Elevation: 2300 masl

- Distal Foldbelt play oil test
- 120–250 mmbbl potential
- Planned for 2011 drilling
- 2008 seismic acquired and being processed now
- 2009 infill seismic planned to define target
- Area with numerous seeps
Outline of Talk

Introduction
Development Summary
Recent Exploration
Future = Move to Gas
PNG LNG Development
Future Exploration
Summary
Summary

- Development focussed on oil production has been successful and continues through 2009/10
- Recent exploration has focussed on oil and has had mixed results
  - Our understanding of the geology and prospectivity has increased
- Significant oil potential still exists and new plays have been identified
- Gas now has value and material exploration opportunities have been identified and will be the focus for 2010+ exploration efforts
- The Papuan Basin is not mature and still has significant remaining prospectivity
Oil Search
Debt Financing History

US$M

- Kutubu PF 1991: 104
- Gobe 1996: 98
- BP Acquisition 1999: 245
- Refinancing 2001: 215
- Borrowing Base Loan and Revolver 2003: 300
- Borrowing Base RCF 2008: 435

Legend:
- No PRI
- PRI
2008 Financing: A Case Study

- 5 year amortising revolving credit facility
- US$435 million
- 16 bank syndicate
- Reserve base structure, secured against cashflows from Oil Search’s producing PNG oil fields

The Oil Search facility is the only multi-bank, term debt, natural resource financing to have closed in the Australasian market in the last five months.
New Facility – Key Features

- Self arranged: no underwriting or arranger fees paid
- Very strong syndicate of global banks, including the “big four” Australians
- Lower margin than its predecessor facility. Establishment fees very modest.
- PRI uncovered tranche introduced for over 40% of the facility commitment
- More flexible covenant package:
  - Parent guarantee dropped
  - Gearing covenant dropped
  - Accelerated release of cash from offshore escrow account
Seven Steps to a Successful Financing
Step One

Build your bank relationships, especially when you don’t need them

- Consistency of contact
- Education
- Ancillary business
- Trade-off between lowest price and preserving relationships
Step Two

Work within the existing constraints of the debt markets

- No underwriting – banks not willing to bear the sell-down risk
- Allow long lead times for credit decisions and documentation – the quick answer is the “no” answer
- Pricing set via competitive bidding process – best way to establish clearing price in a volatile market
- Non-PRI tranche optional
- Allow for smaller hold positions
Step Three

Maximise competitive tension

- Club-style deals work better when banks are rationing credit
- Lock in a term sheet up-front. Leave the bidding to focus on price and amount.
- Increase the direct interface with lenders – wavering/difficult banks can hide behind intermediaries
- Take a longer-term view on structuring of the syndicate
Step Four

Proactively address sovereign risk

☑️ Provide structural solutions
  ➢ Political risk insurance
  ➢ Offshore proceeds accounts

☑️ Conduct a proper risk assessment

☑️ Appropriately reward banks that assume the political risk exposure

☑️ Understand each bank’s capacity to take on sovereign risk

☑️ If possible, let the track record speak for itself (with a little help)
Despite some political uncertainty due to changes to Government in the early years, since the law on Integrity of Political Parties was passed in October 2003, the PNG political system has been much more stable.

National Alliance headed by Sir Michael Somare was returned with increased majority in August 2007.

The fiscal and legal regime for oil and gas has remained largely unchanged since 1992 when first oil production commenced. Any changes that have taken place have been positive.

Exchange controls largely removed in 2007
The PNG Government has never defaulted on a scheduled debt repayment.

Since oil production began in 1992, Oil Projects have never lost/missed a shipment due to landowner or government intervention.

Oil Projects have lost less than 5 days of oil production due to landowner disruption in 16 years of operations.

Highly proactive management of landowner relations via a large, field-based community affairs team.
Step Five

Take your corporate social responsibilities seriously..... the banks do

☑ Benchmark your operations against the Equator Principles and the IFC Performance Standards – even if your financing is outside the scope
☑ Document your achievements
Our Communities

- Operations cover 1,800 km² in the Southern Highlands and Gulf Provinces
- Population ~25,000 people
- Huli, Fasu, Foe, Sau and Gulf ethnic groups, 110 villages, 13 language groups and hundreds of clans
- 60% of work force comes from local area
- Over 90% of PNG work force are citizen employees
Cultural Diversity
The Health of our People and Communities

→ Major commitment to Health Care
  → Over 70 health professionals employed
  → 6 educators
  → 8 medical clinics
  → Over 50,000 patients treated each year

→ About the same as a major regional hospital in Australia and Royal Flying Doctor Service
Community Health Programmes

Major Areas

- Local Health Service - support and capacity building
- Primary and public health programmes
- Malaria control
- HIV Aids management and education
- Immunisations
- Maternal health
Local Economic Development

- Local landowner companies provide a significant proportion of goods & services utilised on site – contract values total A$68 million pa.

- Programme to support local entrepreneurial training

- Support for the WWF Kikori River Programme promotion of sustainable micro-enterprises: vanilla, orchids, insect & butterfly collection

- Cooperation with World Bank funded PNG Chamber of Mining & Petroleum ‘Women in Mining’ training initiative

Village shareholders receive dividends from local landowner companies
Education Enhancement

- Education sponsorship programme (A$450,000 pa) – tertiary studies, positive selection bias for female applicants and those studying health, education & trade subjects. More than 100 students sponsored a year.

- Local schools support – via community area planning projects, material donations and support of teacher in-service upgrade training

- Support for NGO (CDI Foundation) managed distance education programmes – at high school & university entrance levels – more than 700 students enrolled

Education support for local communities from primary to university
Environmental Management

- Key goal to minimise impact on environment
  - Systems aligned with ISO 14001 & Equator Principles
- Company is working towards ISO 14001 accreditation
- Major programmes include:
  - Fauna/Flora research partnership with WWF and establishment of protected areas
  - Greenhouse gas reporting
  - Rehabilitation and revegetation
- Support for research on flagship species – e.g. ANU study of the pig-nosed turtle in the Kikori River environs
- Support for WWF Kikori River Programme activities (A$750,000 pa):
  - Community environmental education
  - Bio-diversity surveys
  - Establishment & management of Wildlife Management Areas
“Oil Search’s policies of minimal forest destruction, placing rigs by helicopter and banning all hunting by employees showed how an extractive industry could be positively helpful to the environment.

As far as I’m concerned, what they’re doing is operating what in effect is the biggest and best-managed national park in PNG or in the whole Pacific basin.”

Jared Diamond, Director of WWF
Step Six

If possible, dangle a big carrot

☑️ Our carrot is the PNG LNG Project
PNG LNG Project represents PNG’s cornerstone gas development; will more than double country's GDP

“Affects economy of PNG and its balance of trade situation profoundly” (ACIL Tasman report, Feb 2008)

Will underpin Oil Search’s production and profits for 30+ years

Will commercialise ~550 mmboe of Oil Search’s 2C gas resources and add ~20 mmboe to annual net production, tripling current production

Will unlock value for OSH and stakeholders
PNG LNG Project is shaping to be the marquee regional financing in 2009.

- c.US$11 billion to be raised on a limited recourse project basis, targeting:
  - Export Credit Agencies
  - Banks
  - Bond investors

- Will be the largest project financing undertaken in a developing country and one of the five largest PF deals ever globally.

- Our new oil facility an attractive path for banks to get up to speed on PNG and the LNG Project.
Step Seven

Pray for a return to normality in world financial markets!

Thank you
Economic Sustainability in Papua New Guinea

A Business Fundamental In Papua New Guinea
A Challenging Operating Environment
The World Context

Resource Development in the World Context

Coming off an unprecedented boom, driven by sustained high prices

The Five Months that changed the World

The pain game now on:
- Immediate lower prices for commodities, with a lag to development and operating costs
- Diminishing cashflows and profits
- Tightening credit availability
- Equity markets difficult for capital raisings
- Greater expectations – governments, communities, lenders/financiers

Papua New Guinea is not immune
A Challenging Operating Environment
PNG has a growing reputation for delivering

- Improvements on the Past
  - Sustained Production – Continued Exploration,
  - New Perceptions – New Realities
  - Political Stability a major positive for investment
    - Policy settings encourage developments
- Bureaucratic Challenges
  - More work, greater complexity
  - Skills attrition to industry
- Landowner and Community Engagement
  - Greater experience, greater expectations
  - Much greater involvement
A Challenging Operating Environment
Challenge for the Future

- Uncertainty on a World Scale but PNG has some positives
  - Quality resources a key to being competitive
  - Attractive stable fiscal setting essential
  - Major project developments will help shield the impacts of world recession
A Challenging Operating Environment

Where the “Rubber Hits the Road”

- PNG is not a cheap operating area
- Ability to raise funds from equity markets severely impacted, especially for smaller companies
- Tightening credit from banks makes lending more challenging
- Even greater focus on Sustainability and Social Responsibilities by lending agencies

A Project Discriminator

- Confidence is fragile. Treat it with Care and Responsibility
From the Challenges comes Opportunity

- Comprehensive business model required for success in PNG
  - Technical and Commercial skills
  - Community involvement essential for project stability
  - *The importance of direct equity*
  - Sophisticated multi level approach to ensure continued operations
  - Delivery of sustainable operations, with good social outcomes now fundamental
  - PNG has made significant progress on these issues in the last 10 years
Oil Search Operations

Hides
Moran
Kutubu
Gobe
Oil Search Operations
Our Communities

- Operations cover 1800 km² in the Southern Highlands and Gulf Provinces
- Population ~25,000 people
- Huli, Fasu, Foe, Sau and Gulf ethnic groups, 110 villages, 13 language groups and hundreds of clans
- 60% of work force comes from local area
- Over 90% in PNG are citizen employees
Bench marking studies of our communities have taken place since 1998. Last major survey 2007

- Households are large (average 6.4 people), 38% under 15yrs, 4 over 55 yrs
- 45% of people 6 and above have never attended school. Significant improvement in last few years
- 70% of households recorded cash income, with most common being royalties, crops, compensation payments and dividends
- 12% males, 4% females are employed
- Main development priorities health, education and access (roads etc)

Database great platform to measure development progress
The Importance of Sustainability
How the World Measures Success

Key measures for sustainability now fundamental in the way financiers view major projects and countries

These include:
- Equator Principles
- Global Reporting Indices for sustainability
- UN Sponsored Millennium Development Goals

All key aspects impact financiers, Export Credit Agencies, Banks etc.

Need to get this right, with the right people

Bottom line:

*Want Finance? Work these Issues*
The Petroleum Business Models

- Developed without major reference to sustainability principles
- Developed as a pragmatic approach to maintaining operations and reliability
Essential Ingredients

- Community equity involvement in projects
- Business development and employment opportunities for communities
- Improved educational and health outcomes
- Environmental responsibilities
- Sustainable ongoing community based developments

Delivers improved social outcome and is great for business
Core Operations Embody the MDG’s
A Few Steps Along a Long Road

1. Eradicate extreme poverty
   - Direct Equity in major projects
   - Landowner Companies integral in Operations
   - Employment preferences
   - Sustainable industries, agriculture, eco-tourism, micro enterprises
   - Oil Search Academy

Agriculture training
Core Operations Embody the MDG’s
A Few Steps Along a Long Road

2. Achieve Universal Primary Education
   - Provision of schools/classroom expansion
   - Teacher training
   - Infrastructure improvement

Nipa Puril Technical School
Core Operations Embody the MDG’s
A Few Steps Along a Long Road

3. Promote Gender Equality and Empower Women
   - Employment opportunities
   - Support of village based women’s groups
   - Health education
   - Advise on nutrition
   - Support for “Women in Mining” training initiative

“Women in Mining”
Core Operations Embody the MDG’s
A Few Steps Along a Long Road

4. Reduce Child Mortality and
5. Improve Maternal Health
   - Provision of community based health services
   - Immunisation programmes
   - Child birth and post natal care
   - Nutrition and cooking advice
   - Provision of water and sanitisation through community based projects

Water sanitation

Maternal Health
Core Operations Embody the MDG’s
A Few Steps Along a Long Road

6. Combat HIV/Aids, Malaria and Other Diseases

- Major HIV/Aids management programme supported by ADB, AusAid
- Malaria eradication programme
- Immunisation programme
7. Ensure Environmental Sustainability

- ISO 14001 accreditation
- Partnership with WWF on Kikori River Programmes
- Sustainable community based industries
- Environmental Education
- Establish Wildlife Management Areas
Core Operations Embody the MDG’s
A Few Steps Along a Long Road

8. Develop Global Partnership
   - Partnership with other resource companies
   - PNG Government
   - NGO’s and Aid Organisation’s
Importance of Relationships

“Oil Search’s policies of minimal forest destruction, placing rigs by helicopter and banning all hunting by employees showed how an extractive industry could be positively helpful to the environment.

As far as I’m concerned, what they’re doing is operating what in effect is the biggest and best-managed national park in PNG or in the whole Pacific basin.”

Jared Diamond, Director of WWF
Corporate Social Responsibility
A Compelling Business Case

- Social Licence to Operate
- Long term legacy of improved sustainable opportunities for communities
- Reputation
- Compelling bottom line impact but much more to be done
Corporate Social Responsibility
A Compelling Business Case

- Focus of the world, especially financiers, is on these critical aspects of doing business in PNG
- Critical for success of major project developments
- Recognise you don’t always get it right
  - Be responsive and inclusive
- Rapidly changing social and operating environment
  - Need to understand, be flexible
Helping build PNG’s future