Oil Search MENA
Oil Search MENA Licences
Oil Search in the MENA Region

- OSH commenced programme of measured diversification into the Middle East/North African region in 2000
- Focus is on proven petroleum systems with:
  - Existing infrastructure
  - Low finding & development costs
  - Low well costs to complement PNG activity
  - Production & deliverability reliability, rapid first oil
- OSH has established key strategic relationships
  - Specific National Oil Companies
    - Manage regional risk issues
    - Solid Opportunity flow
    - Joint Operating arrangements
  - Strong cultural & political relations
  - Excellent databases
  - Existing long term relationships
- Balance of Operated & Non-Operated areas
  - Low cost entry
- Seeking to build material positions
Why MENA?

- Oil Search commenced programme of measured international diversification in 2000
- Middle East/North Africa (MENA) selected as focus area
- Rapidly built a material exploration portfolio in areas with proven petroleum systems
- Oil Search Production Sharing Agreements (PSAs) have attractive fiscal terms
- MENA has multiple near term drilling opportunities
  - Cost of typical onshore exploration well ~US$2–6 million
  - Target sizes range from 5–100mmbbls
  - Low capital and opex (typically <US$3/bbl and US$4/bbl respectively) with short payback periods
- Complements PNG high cost, higher reward prospects
- Access to producing infrastructure in key basins
- Moderate/high security risk, but manageable
In past 12 months, OSH has initiated:

- 2 drilling rig campaigns in Yemen – onshore and offshore
- 4 rigs in Egypt – 2 drilling and 2 workover
- Further production operations with our quality HSES program embedded
- Achieved significant drilling performance improvements in each campaign
- Resolved challenging cultural issues in new areas
Technical challenges

- We haven’t satisfied our exploration objectives

- Score
  - 2 / 11 dry holes in Yemen
  - 5 / 5 in Egypt, ERQ & 2nd’y targets in Egypt Area A
  - 1 / 1 in Kurdistan

- Higher risk end of the portfolio has been drilled in Yemen

- So far
  - frontier areas – B15, B35, Bina Bawi
  - Moderate risk basinal plays with 3D data – B43, B49, ERQ
  - Mature plays in structurally complex areas with limited ability to de-risk in Area A

- Performance over a three year period will be the better judge, cannot achieve portfolio evaluation within calendar year
Portfolio Build in Progress

Portfolio Management

- Programme de-risking occurred prior to much of 2007 program
  - 3D seismic available to technically de-risk many prospects – B15, B43, B49, ERQ
  - Block 3 acquiring 3D, farmed down to 40%
  - US$22m exposures reduced
    - B3, B15 and B35 farmed down for carries
- Farmed in to B49
  - Acquired 42% from CCC in 2007
  - Farmed out 26% in north area to Virgin for full carry on 2 wells
  - Retained 42% in southern area with option to increase
- Technical de-risking still ongoing
  - Production testing as an effective appraisal tool
  - 2D/3D seismic being acquired
- Area A farm-out ongoing
Portfolio Build in Progress

- Portfolio is the envy of numerous competitors
  - Balance of higher/lower risk with high/lower reward
  - Operational skills are highly valued
    - Creates opportunities that OSH can capitalise on
  - Materiality still not there
    - Lacks a solid production element
      - Existing fields immaterial
      - Discovery & rapid development required
      - Acquisitions are still being reviewed
- Further portfolio optimisation will continue
- ... lack of production is causing significant P&L pressures due negative impact of higher effective tax rate
Oil Search earns production above specified base production level
Since August, have been in ‘earning’ territory
- 2 month delay to the start of the development drilling programme, due to the unavailability of a suitable drilling rig
- Ongoing workovers/recompletions required in mature fields
- Additional development candidates under evaluation
  - Not in forecast
- No reserves booked for Area A to date
- Estimated 2008 net production of +150mstbo (after 30% farmout)
Early production from new discoveries awaits approval from EGPC and inauguration of new OpCo - Petroshard
Critical reservoir deliverability information required to assist with further appraisal and development plans
Shahd-1 production will commence as early as Dec 2007 via trucking operation
Ghard-1 and Rana-1 production to follow soon after, also to be trucked
Field reserves to be certified by NSA
Estimated 2008 net production of 185mstbo
- Nabrajah gross production currently 6,650 bopd
- Nabrajah-15 well has proven a new terrace/compartment within the field
- Currently drilling Nabrajah-16
- Simulation model being finalised to assess viability of future candidates
- Estimated 2008 net production of 268 mstbo
**Egypt Exploration**

- **East Ras Qattara, Western Desert**
  - 49.5% equity; PSA
  - Operator SiPetrol
  - Ongoing exploration programme in ERQ

- **Area ‘A’, Gulf of Suez**
  - 4 development and 2 exploration concessions
  - OSH operator, 100% equity: PSA & ESA
  - Exploration scheduled to recommence in Area A in 4Q07

- **Mesaha Block 6**
  - 30% equity
  - Operator Melrose

- 2007 OSH Egypt spend around US$40m
3 wells drilled to date
- 3 discoveries at 4 stratigraphic levels
- Development plans submitted for Shahd and Ghard. Production in 1Q 08
- No reserve additions booked to date
- Further 3D seismic acquired in 2007 and planned in 2008
- Rana:
  - Flowed 850 bbl/d from Kharita on small choke
  - Test on 3 Bahariya zones to resume with w/o rig
- Extensive prospect inventory
  - Next wells:
    - Raheek ~ 8-12 mmbbl (COS = 35%)
    - Salma ~ 100 mmbbl (COS = 15%)

East Ras Qattara, Western Desert
- 49.5% equity; PSA
- Operator SiPetrol

East Ras Qattara, “String of Pearls”
25+ prospects now defined by seismic
Probability of success >40% - first three wells are discoveries (100% success)
2 new 3D surveys planned – commencing in December 07
Mean field size 5-10mmbo with 4 prospects/leads >50mmbo
Rig availability is challenging – 2 to 3 rigs required through 2008 and into 2009
Currently developing a full potential development plan for ERQ
- Potential peak gross production of 150-200 kboepd
- Potential gross reserves 300 mmboe+
- “String of pearls” exploration program – 15-20 wells
- Full potential development concept
  - Cluster development with central production facility
  - Tied in to existing infrastructure north of the block
  - 180-200+ development wells
  - Gross development cost of US$1b+
Three well exploration drilling program to commence in 4Q 2007
- West Zeit-3
- South Garib-1
- Shukheir Bay Onshore-1

In the event of a discovery, rapid tie-in to nearby facilities
Participation in 11 exploration wells
2 successes (Nab 13 & 15) & 9 dry holes to date
(3xB49, 2xB15, 2xB35, 3xB43)
- B49 – large residual columns
- B15 – downgrade deeper areas
- B43 - disappointing
- B35 – proved working hydrocarbon system in block
4 successful wells: Block 43
- 2 on production
- 2 completed
2 wells tested
- 1 flowed 0.065 mmscfpd: Block 35
- 1 water: Block 49
**Yemen Block 43**

- **OSH 28.33%, non-Op (DNO)**
- Interpretation of 3D dataset has identified multitude of in-fill and exploration targets on-trend with Nabrajah Oil Field
- Integrated study of the Nabrajah Naifa & Basement reservoirs ongoing
- JV considering plans to drill 2-3 exploration wells in Block 43 in 2008
Yemen Block 49

OSH 31.75% Non-Op (CCC, OSH Drilling Op)
- 2 additional Exploration wells planned for 4Q 2007 (OSH being fully carried)
- Ghobata-1 & Kasad-1 wells have residual oil column
- Significant oil & gas shows prove oil charge across the northeast margin of Block
- A number of large untested structures still flank the Shabwah Basin in Block 49
Yemen Block 35

- OSH 32.5%, Operator
- Al Magrabah-1 flowed small quantity of gas & recovered 34 API oil
- Proves working petroleum system
- Prospectivity established, requires further review, analysis, and de-risking
OSH 35.0%, Operator

- 6 Month licence extension granted, additional 12 month extensions requested
- Well results to be integrated into review of remaining prospectivity
- Sharmah-Ras Ghashwah discovery to be re-evaluated during licence extension
- Deeper Jurassic / Basement targets under evaluation

Yemen Block 15

- Shuhayr-1 Prospect 165MMbbls
- Hami-1X heavy oil & bitumen
- Ras Ghashwah-1X Recovered 38° API oil from fractured Eocene limestone
- Sharmah-1X Recovered 304bopd 43° API oil from fractured Eocene limestone
- Sarar-1X Recovered 1700 litres 45° API oil from Cretaceous sands

Sarar-1X
- Heavy oil & bitumen
- Produced 354bopd 43° API oil from fractured Eocene limestone

Sharmah-Ras Ghashwah
discovery to be re-evaluated during licence
extension

Deeper Jurassic / Basement targets under evaluation
OSH 40%, Operator  
- PSA Ratified 7 June 2006  
- OMV’s recent Habban-1 Basement discovery in Block S2 and YICOM’s West Ayad fields are on-trend to untested basement structures identified in Block 3  
- Potential mean reserves range 20 - >100 mmbbls  
- 500 sqkm 3D seismic starting late 2007  
- Subject to rig availability, OSH will seek to drill 1 well in Block 3 in 4Q 2008
OSH 34%, Operator

- PSA signed by Minister 15 April, awaiting ratification
- OMV’s recent Habban-1 Basement discovery in Block S2 and YICOM’s West Ayad fields are on-trend to untested Basement structures identified in Block 7
- Potential mean reserves range 20 - >100 mmbbls
- The block is close to infrastructure
- 4 firm wells commencing 2009
Blocks 3 & 7
Multiple Plays & Analogues

Block S2 Habban
Basement Field ~ 350 mmbbl
Historical Focus = No Success

Block 10 Kharir
Basement Field ~ 1 Billion mmbbl

Tilted Block
Strat. Traps

Series
Stage
Group
Formation
Lithology
Defined
Top
wellbore(m)

CRETACEOUS
JURASSIC

Aptian Albian
Berriasian

Tawilah Group
Shabwa Group
Qi'shn Fm
Nayfa Fm
Safir Mb
Alfi Mb
Lam Mb
Sabatayn Fm or Post-Rift Group
Madbi Fm or Syn-Rift Group

Amran Group
Shuqra (Saba) Fm
Kuhlani Fm

CRETACEOUS

Cenomanian Turonian
Fartaq Fm
Mukalla Fm
Arwa Mb
Oxfordian Seen Mb
Oxfordian Yah Mb

Pre-Cambrian
Valanginian
Hauterivian
Barremian
Yemen Block 74

OSH 34% Operator
- PSA signed by Minister 15 April 2007, awaiting ratification
- Block lightly explored with potential for Basement and conventional Qishn/Saar/Kholan plays
- Potential mean reserves range 20 - +50 mmbbls
- The block is close to infrastructure
- 3 firm wells commencing 2009

Block 14 Fields >1.2 billion bbls reserves

Nabrajah

Quzah West Laed

Lead A

Lead B

Quzah Basement Lead

Block 74 OSH 34%
Yemen: Remaining 2007 Activity

- 2 Exploration Wells in B49 testing total ~130mmbbl, OSH fully carried
- 1 B43 Exploration & 1 Nabrajah Appraisal
- 500+sqkm 3D in Blocks 3, continuing into Block 7 in 2008

Remaining 2007 Activity

- North Ghobata-1 (10mmsstbo, COS=20%)
- West Ghobata-1 (20mmsstbo, COS=23%)
- Dahgah-1 6mmsstbo, COS = 30%
- Shir Terminal
- 500sqkm 3D in BLOCK 35
- Nabrajah-16
Libya Area 18

5 Year Exploration Period (ends May 2010)

Commitments:

- 2000 km 2D seismic (completed)
- 500 sqkm 3D seismic (completed)
- 1 Exploration well (to be drilled 4Q 2008)

10000 km²

Petrobras 70%

Oil Search 30%
Libya Area 18
Prospects and Leads

- 1 Prospect and 3 Leads identified in the block
- 1664km 2D and 830 sqkm 3D Seismic acquisition completed in 2007
- 1 exploration well scheduled 4Q08

Reserves
Range 100 – 450MMbbls
Tunisia

- **Tajerouine 100%, operator (to be ratified)**
  - Obligation 1st 4 year period
    - 2D seismic and 1 well
  - Forward Program
    - Signing at the end of October and licence effective 1Q 2008
    - Strong interest from strategic partners to participate
    - Studies & reprocessing in 2008
    - Seismic in 2009

- **Le Kef 50% & control on operations (to be ratified)**
  - Obligation 1st 4 year period
    - 2D seismic and 1 well
  - Forward Program
    - Signing by end of 2007 and licence effective 1Q 2008
    - Studies & reprocessing in 2008
    - Seismic in 2009
Strategy
- 20% equity in A&T Petroleum, option to convert to 10% direct EPSA interest
- Low cost, medium-long term positioning strategy
  - Establish a position in the prolific Zagros
  - Strategic position in future Western European energy markets
  - Exposure to large, low risk potential reserves >500 mmbbls - ~2.0 bnbbls
- Reasonable and secure EPSA Contract:
  - 20yr term
  - Royalty/production sharing

DNO Tawke-1well
Flowed oil 7,000bopd from zone at 350m

Bina Bawi EPSA

Taq Taq Field
15,000bopd
Addax/G-Energi

Bushyhr Project Iran
KEPS/OSH/Kufpec

Kirkuk Field
17 billion bbls
Kurdistan
Bina Bawi Potential

Proven Petroleum System

- Large surface anticline: 350 sqkm; 800m closure For comparison: Kutubu 40 sqkm
- Bina Bawi-1 and Bina Bawi-2 wells completed
  - Gas tested at 6 mmscfd
  - Other zones not yet tested
  - Mechanical issues, further appraisal / testing required
- Currently acquiring 250km 2D seismic program
New Business Summary

- **Exploration - Organic Growth**
  - Build materiality around existing core areas
  - Develop assets that have operational synergies
  - Focus on material step out opportunities
  - Build on established relationships with local partners and NOC’s
  - Establish reputation in focus areas as operator / partner of choice
    - Technical excellence and transparent operating style with partners and Governments
    - Focus on Health, Safety, Environment and Security and social development programs
    - Localisation program & commitment to training opportunities for staff and gov’t secondees

- Assessing material acquisitions
**MENA Focus, Activity and Results**

**Libya**
- Entry strategy
- 1 non-operated area (Petrobras operator)
- Acquired 1664km 2D seismic and 830sqkm 3D in 2007
- 1 prospect (250mmbbls+ potential) and 3 leads
- Drilling 1 well 4Q 2008

**Egypt**
- Building material exploration position
- 6 Operated & 2 Non-operated
- 4 of these are development licences with production
- ERQ
  - 3 successes (Ghard, Shahd and Rana 7-10mmbo each)
  - 25+ additional prospects requiring 2+ rigs
  - <2 years remaining on license
  - Require continuously active drilling program
- Area A Expln
  - 2 Nubia test have come in deep & wet
  - Incremental oil in shallower horizons
  - Next expl wells in 4Q 2007, seismic interp’n ongoing
- Block6
  - 1 well & seismic obligation, well in 2009/10

**Iraq (Kurdistan)**
- Medium-long term positioning strategy
- 10% indirect participation in Bina Bawi EPSA
- Bina Bawi drilling program completed
- Currently acquiring 250km 2D seismic data
- Evaluating other material opportunities

**Tunisia**
- Building material exploration position
- 2 blocks captured (1 operated) – to be ratified 1Q 2008
- Work program for each area includes 2D seismic and 1 well

**Yemen**
- Material exploration position, largest licence holder in country
- 5 operated & 2 non-operated area
- 1 of these is a development licence with production (Nabrajah)
- Prodn ahead of forecast but upside remains tantalising
- Exploration program – 2 successes (Nab 13 & 15) & 9 dry holes to date (3xB49, 2xB15, 2xB35, 2xB43)
  - B49 – large residual columns
  - B15 – downgrade deeper areas
  - B43 - disappointing
  - B35 – proved working hydrocarbon system in block
- Initial results disappointing but strong shows in B49 & B35 and proven oil in B15 attest to active petroleum systems
- Subsurface de-risking required in 2008 including 3D seismic in B3, B7 and potentially B49 (dependent on extension)
# MENA 2007/2008 Activity Schedule

## Onshore (OSH Operated)
- **YEMEN**
  - **3Q**: Block 35
  - **4Q**: Block 49
  
## Onshore (DNO Operated)
- **YEMEN**
  - **Q1**: Block 35
  - **Q2**: Block 49
  
## Offshore
- **Egypt**
  - **Q1**: Block 35
  - **Q2**: Block 49
- **Yemen**
  - **Q1**: Block 35
  - **Q2**: Block 49
- **Libya**
  - **Q1**: Block 35
  - **Q2**: Block 49

## Seismic
- **Egypt**
  - **Q1**: Block 35
  - **Q2**: Block 49
- **Yemen**
  - **Q1**: Block 35
  - **Q2**: Block 49
- **Libya**
  - **Q1**: Block 35
  - **Q2**: Block 49

## Onshore ERQ
- **Egypt**
  - **Q1**: Block 35
  - **Q2**: Block 49
- **Yemen**
  - **Q1**: Block 35
  - **Q2**: Block 49
- **Libya**
  - **Q1**: Block 35
  - **Q2**: Block 49

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**Legend**
- Wildcat exploration well
- Offshore well
- Development Well
- Seismic
- Commitment Well
MENA Specific Issues

- MENA licences are Production Sharing Agreements compared to PNG licences which are Tax/Royalty
  - Except Egypt Area ‘A’ which is a Revenue Sharing Service Agreement

- Production Sharing Agreements allow for Cost Recovery and Profit Sharing between the Contractor and the Government
  - Not subject to income tax
  - Costs (exploration, development and operating) are recoverable against any future production subject to a cost recovery limit
  - Remaining revenue after cost recovery is shared between the Contractor and the Government

- For Oil Search, MENA costs (including unsuccessful exploration expenses) are not tax deductible against PNG income because of PNG tax law
  - However, costs are recoverable against any future production
  - Exploration costs in Egypt Area ‘A’ are tax deductible (it is a Revenue Sharing Service Agreement)