**OVERVIEW OF SWIBER GROUP BUSINESS**

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<th>Offshore Construction Services (OCS)</th>
<th>Offshore Drilling Services (ODS)</th>
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<td>Provision of diving support vessels</td>
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</tbody>
</table>

**Timeline:**
- 1996
- 2002
- 2007
Building a World Class Drilling Company

**Deepwater – The Next Growth Frontier**

- **Expand Swiber’s Competitive Advantage**
  - Moving up the oil and gas value chain

- **Leverage on the Drilling Team’s Capabilities**

**Execution Strategy**

- **Build a strong team:**
  - Upper management team
  - Drilling team
  - Core operation team
  - Recruitment programme

- **Build strategic assets:**
  - Cost-effective newbuilds – Example, ED1
  - Target market fundamentals

- **Build markets**
  - Leverage on Swiber’s existing client base
  - Target appropriate deepwater markets

- **Secure Contract at Premium Dayrates**

- **Maintain Safe and Efficient Operations**
A Top Notch Drilling Team

- One of the most productive drilling team in the world
- Drilled more than 140 deepwater wells and water depths approaching 7,800ft
- Significant experience working on a full range of drilling vessels, water depths & weather conditions
- Track record in drilling new basins, and commercial execution
- Track record in technical innovation in drilling

Glen Olivera
> 35 years of drilling experience
- shelf operations in West Africa & Trinidad; ERD wells in the Netherlands & California; HPHT wells in Madura Straits & Mobile Bay; and the rocky mountain regions of USA

Choo Ee Li
> 14 years of drilling experience
- Has worked for major drilling contractors and operators - Schlumberger, Unocal, Santos and Hess
- Expertise in designing and executing deepwater exploration wells

Bryan Archibald
> 32 years of drilling experience
- Has worked for major drilling contractors and operators - Santos, Pearl, Nippon Oil, Daewoo Int'l, IPSAA, Lapindo Indonesia, Unocal, Transocean, Sedco-Forex, Sedco

Graham Pomstra
> 28 years of drilling experience
- Has worked for major drilling contractors - Transocean, Schlumberger, Sedco-Forex, Sedco, Sedneth

Rick Dupin
>20 years of offshore oil & gas engineering and construction experience
- shallow & deepwater experience in the design, installation of offshore facilities & mooring system
- Managed project teams
Equatorial Team’s Drilling Track Record

- Over 140 wells in the last 7 years, or an average of 20 wells per year
- Highly efficient drilling, with virtually all well drilled within US$10 million per well
- Efficient drilling attributable to:
  - Excellent planning, coordination and logistics skills
  - Extensive well construction and drilling knowledge
  - Extensive drilling experience

Drilling Costs

Water Depth

Well Details

- Well cost
- Well water depth
- Well drilled using subsea BOP
- Well cost includes test cost
Case Study – The West Seno Project

7.5 Chevron’s West Seno Project (Asia Pacific)

Background

The West Seno field is located in WD 953m in the Makassar Strait off East Kalimantan, Indonesia. Chevron (formerly Unocal) operates the Makassar Strait PSC with 90% and Pertamina holding 10%. The field was discovered in August 1998 and holds an estimated 270 mmbbl oil and 1 Tcf gas, plus a small amount (30 mmbbl) of condensate. Unocal’s performance on the drilling front has been impressive, with average exploration/extension well costs of around $1.5 million a piece being reported.141

West Seno is the first deepwater project to be attempted off Indonesia and, in common with many other projects in deepwater, it has followed a slower timetable than originally envisaged. Unocal had hoped to start production in 1Q 2001, but this slipped to August 2002.

Early in 2002, Unocal secured financing of up to $150 million for the West Seno field development from the Overseas Private Investment Corporation (OPIC).142 $300 million was provided for the first phase of West Seno, with an additional $50 million to help fund the second phase.

Exploration, Appraisal and Development Drilling

In its exploration and appraisal activity in the West Seno area to date, Unocal has taken full advantage of the benign metocean environment to notch up some very impressive cost reductions. In conditions described by one insider as “like drilling in a bathtub,” the operator has adopted the saturation (SX) drilling technique using a high-pressure riser with a surface blow-out preventor (BOP) suspended in the rig’s moonpool with the assistance of moderate heave compensation. This technique – employed successfully in depths as great as WD 2,053m – enables cheaper lower specification rigs to work in deepwater and eliminates the need for a subsea BOP and large-diameter marine riser. Unocal is said to have drilled more than 130 wells in this manner and reports average costs of $4.6 million per well compared to $25-30 million for similar conventionally drilled wells.143

For development drilling purposes, Unocal contracted the Seadrill (formerly Smedvig) West Alliance self-erecting semi-tender rig (SETR). The assignment was originally planned to run for three years beginning in January 2003, and the contract value was estimated at approximately $73 million, including upgrading costs. This is the first deepwater drilling contract awarded to a SETR. The plan was for the rig to be shifted between the two TLPS’s as required. The SETR package measures 32’ x 48’ and weighs 1,700t; a dedicated platform rig of similar capacity would result in a unit four times the size and weight. Compared to using a mobile offshore drilling unit (MODU), Unocal estimated that the SETR would yield Capex savings of 55%, and also reductions in workover and re-completion costs.144 Since the contract was awarded and the first phase was completed, Unocal cancelled the second phase drilling, in light of the recently announced delays to the project. Up to 24 development wells were to have been drilled for the second phase.145

Development Scheme

The original development plan for West Seno involved two phases; the first of these features a mini-TLP supported by a spread-moored floating production barge located around 200km away.

The production from both phases, if TLP-B goes ahead, is estimated at 60,000 b/d crude and 150 mmcf/d of gas. ABB carried out front-end engineering design focused on the mini-TLP, while Mustang undertook engineering studies for the floating production barge.

This initial phase of development features a total of 28 surface completions on the West Seno mini-TLP-A. A second mini-TLP with a further 24 surface completions was due to follow in the second phase of the project which was originally scheduled to start production in 2004. Sea Engineering of Houston was contracted to undertake the detailed structural engineering for the second phase TLP (TLP-B). The topsides engineering was subcontracted to Houston-based Alliance Engineering. In addition to the surface wells on these facilities, a number of subsea tiebacks were also planned.146 In October 2004 the development plans for TLP-B were put on hold.

Production and Export Facilities

In September 2001, the award of long-awaited contracts for the project was announced. A consortium of Hyundai Heavy Industries, Cough Engineering and Petrosea was granted a $344 million EPCI deal for the initial development phase. Hyundai’s share of this – for the fabrication of the 6,000-tonne mini-TLP and the 12,000-tonne floating production barge – is
Case Study – The West Seno Project (cont’d)

7.5 Chevron’s West Seno Project (Asia Pacific)

reckoned at $265 million. Perusahaan Angkutan Laut, a government-owned shipyard located in Surabaya, East Java, built the hull of the production barge. The vessel is linked to the West Seno A TLP by means of flexible pipelines.\(^{147}\)

Clough’s contract, worth a reported $70 million, was an EPC for the two 62km export lines to onshore facilities. (These lines were installed by the Lorient lay vessel belonging to the Swiss-based company Allseas.\(^{148}\) Clough’s workscope also included the installation of the barge moorings and the piles and tendon legs for the mini-TLP. Clough’s local subsidiary, PT Petrosea, secured a $10 million contract for modifications at the Santan onshore terminal. The company also provided logistical and administrational support for the project.

Oil is exported from the barge by pipeline to the existing onshore Santan terminal, approximately 80km west of the field. Gas is exported by pipeline for processing at Pertamina’s Bontang LNG facility.

**Further Developments**

The TLP-B was expected to weigh about 8,000 tonnes and its tendons 4,000 tonnes. The contract, which included fabrication and marine transportation of the platform's hull, topsides and tendons, was reckoned to be worth around $200 million.\(^{149}\) Unocal went back to the drawing board on this phase of the project in late 2004 and may not now use a TLP as originally planned. Alternative solutions have not been disclosed. The cause of the change in plans could be in response to the high global steel price, resulting in fabrication bid prices escalating. Four contractors were bidding, but tender prices were apparently, ‘unacceptably high’.

First oil from West Seno was seen in August 2003 and started at approximately 14,000 bpd with a ramp up to 40,000 by the end of 2004. The field was shut in September 2005 for maintenance but restarted after a month.
Executing the Nucoastal Drilling Project in the Gulf of Thailand

- Nucoastal is the licensed offshore concession block of G3/43
- Equatorial has been awarded a 1+1 year drilling contract
- Operation to commence within the next few months
- There is limited entry opportunities
- A great stepping stone for Equatorial

Nucoastal’s Forward Plan
A Dedicated Supervision Team for the Equatorial Driller

- A team with common past experience
- A team with vertical knowledge & experience from basic design to drilling operation.
- A team with horizontal knowledge & experience (naval architecture, electricity, drilling, structure, etc.)
- A team with background on various type of offshore drilling rigs: semi-sub, jack-up, tender, etc…
- Track record in construction from basic design to completion of vessel in Singapore

Nicolas Genton
> 13 years of experience in design and construction of offshore drilling rigs.
- Has worked for Schlumberger, Transocean, PT Apexindo.
- Involved in design and construction of semi-sub, barges and jack-up rig

Paul Antunano
> 34 years of experience in drilling and construction of drilling rigs.
- Has worked for Schlumberger and Transocean
- Involved in drilling operations, maintenance and repair of about 50 offshore rigs worldwide

Olivier Chapuis
> 13 years of experience in engineering and design of drilling rigs.
- Has worked for Schlumberger, Transocean, PT Apexindo.
- Involved in design and construction of semi-sub, barges and jack-up rig

Roberto Lopez
> 32 years of drilling experience
- Has worked for Schlumberger and Transocean
- Involved in drilling operations, design, repair and construction of about 50 offshore rigs worldwide

Patrick Courte
> 32 years of experience in engineering and construction of drilling rigs.
- Has worked for Schlumberger and Transocean
- Involved in construction and repair of about 50 offshore rigs worldwide
The Equatorial Driller

**TECHNICAL**

**ARRANGEMENT**

- Large Pipe rack
- Drill Floor
- Riser Storage

**General Outside**

- Accommodation Block
**Main Characteristics**

- **Designer**: Moonpool Consultants Pte Ltd
- **Builder**: TBD
- **Drilling Depth**: 9,144m (30,000 ft)
- **Water Depth**:
  - From 50 m (165 ft)
  - Up to 1,830m (7,000 ft) w/ subsea BOP stack
  - Up to 2,600m (8,500 ft) w/ surface BOP stack
- **Classification**: Bureau Veritas
- **Flag**: TBD
- **Accommodation**: 136 Pax in single or double berth cabins

**Special Features**
- Deep water drilling capabilities using well proven and easy-to-handle drilling equipment
- Capable of operations with surface BOP or subsea BOP in equatorial environment
- Large Variable Load capacity, large deck space
- Low maintenance and operating cost
- Zero-discharge capability integrated from the early design stage of the vessel
- Large BOP storage platform allowing safe maintenance and improved handling operations. Include facilities for handling wellheads and Shut In Device (SID)
- Fully integrated and ergonomic system for driller’s control and instrumentation
- High standard accommodations

**Main Dimensions**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Mature</th>
<th>US Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hull Length</td>
<td>161 m</td>
<td>528 ft</td>
</tr>
<tr>
<td>Hull Breadth</td>
<td>31 m</td>
<td>102 ft</td>
</tr>
<tr>
<td>Hull Breadth at water line</td>
<td>27 m</td>
<td>89 ft</td>
</tr>
<tr>
<td>Hull Depth</td>
<td>10 m</td>
<td>33 ft</td>
</tr>
<tr>
<td>Normal Operating Draft</td>
<td>4.75 m</td>
<td></td>
</tr>
<tr>
<td>Max Transit Draft (M.E.)</td>
<td>5.50 m</td>
<td></td>
</tr>
<tr>
<td>Maximum Load Line Draft</td>
<td>6.50 m</td>
<td></td>
</tr>
<tr>
<td>Moonpool Width</td>
<td>9.0 m</td>
<td></td>
</tr>
<tr>
<td>Moonpool Length</td>
<td>20.0 m</td>
<td>(excluding beach)</td>
</tr>
</tbody>
</table>
Operating Areas for Equatorial Driller

Rated Water Depth: 50 to 8,500ft

Targeted Countries:
- Asia - Malaysia, Indonesia, Thailand, parts of India, parts of Vietnam and parts of Myanmar
- West Africa – Angola, Nigeria, Liberia, Togo, Benin, Equatorial Guinea

Targeted Clients:
- Key NOCs: PETRONAS, Pertamina, PetroVietnam, ONGC
- Key IOCs: XOM, BP, Chevron, Hess, COP, TOTAL, Murphy, Shell
- Key Asian players: Reliance, SK, Santos
Equatorial Driller – “The right rig for the right job”

Why are deepwater dayrates so high?
• Tight deepwater rig markets
• High capex for newbuilds - >US$700 million for new deepwater rigs
  – Rig contractors must get high dayrates to cover high costs

New deepwater rigs are built for severe drilling environment of Gulf of Mexico, North Sea, etc
  • Severe met ocean conditions
  • Water depth > 10,000ft
  • Drilling depth >30,000ft

Many areas targeted by Equatorial Driller have benign met drilling environment, where new deepwater rigs are over-spec and over-sized
  • Benign met ocean conditions
  • Water depth <8,000ft
  • Drilling depth <20,000ft
Equatorial Driller – Significant cost savings for oil companies

- Significant savings through:
  - a purpose built rig, like the Equatorial Driller
  - drilling wells using surface stack BOP

Conventional Subsea Mode

Surface BOP Mode

21” Marine Riser With buoyancy

18-3/4” Subsea BOP

Surface BOP (Jack up type)

High Pressure Riser

Shut In Device controlled by acoustic signal
Why Barge-Shaped instead of Semi-Submersible or drillship

- Faster to build
- Cost effective
- Can be built by many yards
- Larger deck space for same amount of steel
- Larger loading capacity for same amount of steel
- Model test proves operability is very good in the targeted environment
WHY Moored Instead Of Dynamic Positioning?

- BETTER reliability for positioning lead to SAFER operations (well testing, well control, drilling with HP riser)
- Environmental Friendly (less emissions)
- Lower OPEX (fuel, maintenance, crew)
- 40 years of field practice
- Stability Analysis performed using Moses. Approved by Bureau Veritas.

- Hydrodynamic analysis performed with Diodore. Checked motions, accelerations and validated hull size.

- Model Test in various sea states. Simulation of target environment (85 runs, wave & current).

The rig can drill in head seas of 3.8m high which cover the 10 year return period of the region.
Global Strength Analysis of the Hull and superstructure using NASTRAN ®

Structural Drawings are completed and approved by Bureau Veritas
Main Scantling Has Been Approved By Bureau Veritas

Moonpool Consultants Pte Ltd
190 Middle Road, #19-05, Fortune Centre
Singapore 188979.

Attn: Mr. Nicolas GENTON

ATTESTATION
For Main Scantlings Approval

Ship Name : ED 168
Ship Type : Offshore Drilling /Accommodation Barge
Designer : Moonpool Consultants Pte Ltd
BV Reg No : 120438
Subject : Main Scantling Approval

On request of Moonpool Consultants Pte Ltd, Bureau Veritas has carried out review of drawings and documents for “ED 168” class, for its compliance to the requirements of Bureau Veritas Rules for Classification of Offshore units (BV NR 445.A1 DT R01 E – May 2006 edition).

The main scantlings have been found to comply with the above mentioned requirements for drilling operations in Tropical Zone and in Unrestricted Navigation for Ocean tow.

Accordingly, a unit built to this design, will be considered suitable for operations in benign environment, in areas such as the territorial waters of Indonesia, Malaysia, West Africa etc.

Yours faithfully

[Signature]
K. Unnikrishnan
Manager, Plan Approval Office
Bureau Veritas, Singapore
We have the Right People
- A strong management team
- The best drilling and operation team
- An abundance of drilling experience

We have the Right Equipment
- ED is a unique targeted solution
- Purpose built and market driven demand

We have the Right Focus
- A clear vision
- A dedicated drilling management team to spearhead development

We have Adequate Resources
- Strong commitment from Swiber group
- The next engine of growth for Swiber