



Drilling in PNG Safety Challenges

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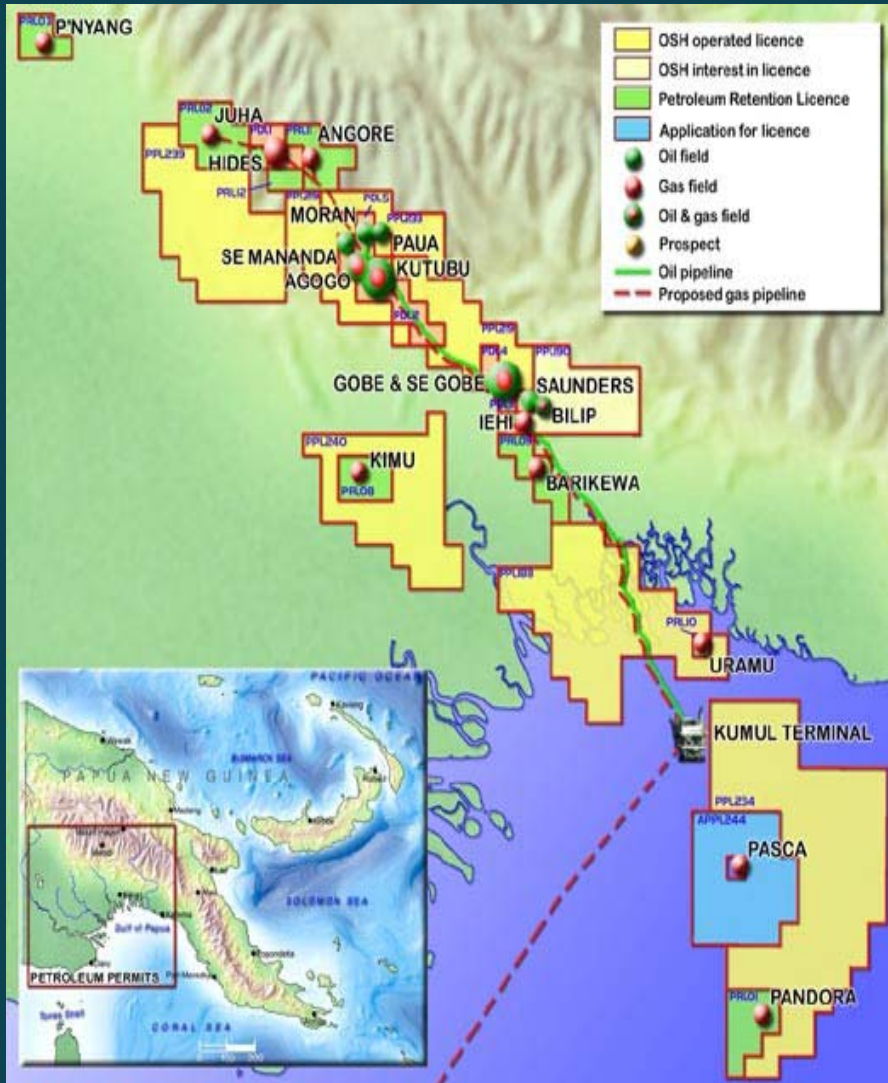


Outline

- **Context of OSL in PNG**
- **The Chokes**
- **The Challenges**
- **The Oil Search approach**
- **Current initiatives**
- **Summary**



OSL in PNG



- Active in PNG since 1929
- OSL has grown from 40 to ~800 employees in last two years with market capitalisation ~A\$2billion.
- Owns approximately 70% of PNG's oil reserves and >50% of gas reserves
- Took over Operatorship of Kutubu assets from ChevronTexaco in October 2003
- Continuous drilling programme, due to increase to two strings this month and with three or four active strings by mid-2005



Existing Infrastructure





Site Construction





Site Construction





Road Supported Drilling





SIMOPs IDT 4/5



- Sidetrack to new oil
- Workover one well then *skid* 10m and sidetrack
- Constricted site
- Infrastructure – oil producer, refinery, potable water well, main road to CPF, warehousing
- Environment – water source for Ridge Camp



Supplying Water





What – no water?



Chinook delivering water to rig site after water line parted

- **Time-cost pressures**
- **One off operation**
- **Sink hole used – community issues**



Chokes

- **Tough terrain: new and existing well pads**
- **Elevation ranges from near sea level to 2000m [and higher]**
- **Many sites originally fly locations subsequently threaded together with roads. These are tight, adjacent to production wells and other facilities**
- **Remoteness: two days travel for Perth based personnel and more for airfreight**
- **Work force from non-industrial clan based society**
- **Technically challenging wells with corporate cost reduction focus**



Challenges

- **Maintaining Safety performance of previous Operator**
- **Expanding activity set: drilling, seismic, NW Moran and SE Mananda developments, HGP**
- **Recognising hazards: near miss reporting and investigation, hazard assessment**
- **Controlling identified hazards**
- **Procedural controls versus hands-on coaching**
- **Safety incentives and recognition**



Cultural Challenges



- Casual and inexperienced labour with enforced turnover [Landowners]
- Numerous languages [placetalk] and clan affiliations
- Coordination of work of different contractors, different backgrounds
- Communication and supervision on site
- Literacy blocks advancement



Our Approach

- **Planning: key to IFO and cost control**
- **Operations: continuous drilling to achieve learning and cost efficiency**
- **Organization: separation of technical and operational management (Sydney) from operational support (PNG) for continuity**
- **Support: HSES, M&L, CA, Liaison, Emergency**
- **Culture: blame-free, honest, open reporting of incidents and especially near misses - Aiming for Just culture.**
- **Risk Assessment: identify hazards pre-job [HAZIDs] and develop mitigations and contingencies**



Current Initiatives

- Developed generic 'Bridging Document' then Site Specific HSES Plans for each well – ramped up procedural controls
- High level of pre-job planning, JHA including service companies' contributions
- Procedural / paperwork controls to level of supervisors; verbal, supervision to next level
- Monitoring / auditing against the SS Plans looking for effective implementation
- Selective safety incentives – process not outcome



Current Initiatives

- Project approach to infield wells e.g. IDT-4
- Risk assessments e.g. *CA-Security-Environment*
- Working closely with drilling contractor (Parker) on common training, reporting and investigation processes for 3-4 rigs
- Resolving the root causes, not blaming the people; how to avoid investigation overload?
- Adding to Support Team HSE resources
- Streamlining HSE admin processes
- Delegated responsibilities for delivering Drilling HSE Plan



Summary

- **New Operator with inherited legacy**
- **Difficult physical drilling environment - surface and subsurface**
- **Non-industrial culture and language barriers**
- **Encouraging safety activities, discouraging hiding of accidents**
- **Using HAZIDs and risk assessments to identify the hazards**
- **Infill targets offer *easy* production growth *and* require significant project planning**
- **Additional HSE resources needed for additional rig activities**

