The Who Dat Development

Evolution of a Project from Lease Sale to First Production

Rick Fowler – LLOG Exploration

January 16, 2012
Five Star Award

Who Dat Awarded Prestigious Five Star Award by Offshore Magazine

- Awarded annually
- Top 5 offshore projects in the world
- Selection Criteria
  - Innovation of production methods
  - Application of technology
  - Resolution of Challenges
  - Safety
  - Environmental Protection
  - Project Execution
Project Summary

- New FPS in 3100’ water
- Twelve wells, 100-300 MMBOE reserves
- 60 MBOPD, 150 MMCFD
- $2B total project cost

Project Firsts
- GOM FPS post-Macondo
- Opti-Ex FPS Design
- FPS built on spec
- Concept selection to installation in < one year
- Privately Owned FPS
Identifying the Prospect

- Bright amplitudes
- Conformance to structure
- Previous wells thin/poor quality
Addressing Lease Issues
Results of First Well

- 76’ Gas
- 34% PHI
- 15% Swi
- 45 BPM Yield
Drilling Deeper

Deeper zone had different seismic response

Full Stack Time Data

Far Stack Time Data

Images courtesy TGS NOPEC
Post #1 Well Depletion Plan
Current Depletion Plan

- 10 Productive Horizons
- Mostly oil
- 12 Wells
- 3 Future Sidetracks
- Smart Selective Completions
- 28 Completions
Host Options

Development Scenarios/Desired Capacity

- Nearest host 20 miles
  - Most had limited capacity
- Pre #1 – Existing host
  - 1 MBOPD, 40 MMCFD
- Post #1 – New shelf platform
  - 25 MBOPD, 100 MMCFD
- Post #3 – New FPS
  - 35 MBOPD, 100 MMCFD
- Post Optimization
  - 60 MBOPD, 150 MMCFD
Riser Adaptor
Coffer Dam/Riser Adaptor
Regulatory Approval

OPTI-Ex
- USCG normally reviews project during construction
- ABS hired “as if” CVA
- USCG worklist of 102 items

Wells
- Macondo drilling moratorium prevented further drilling
- Field unexpectedly suddenly moved into completion mode
Schedule Impact

Typical Proven Concept FPS
- Delineate Discovery
- FEED
- BID
- Construct
- Install
- IP

Who Dat Field
- Delineate Discovery
- Select and Negotiate
- Field Specific Equipment
- Install
- IP
Reservoir Simulation
Expected Reserves

- More zones
- More oil
- Thicker sands
- Area outside of amplitudes
- Simulation
  - Cr
  - Fluid work
Conclusions

- Reserves increase completely changed the development plan
- Equipment inventory facilitated early completions
- Opti-Ex is a flexible FPS design
- Spec built facility greatly accelerated production
- Creative deal structure greatly reduced cost to startup
- Single installation vendor eased vessel access
Contact information

- Rick Fowler
- LLOG Exploration
- rickf@llog.com
- 985-801-4323