DRILL to PROFIT
EXTENDED REACH DRILLING

Merlin ERD
Engineering Success in Extended Reach Drilling

www.MerlinERD.com
Todays Talk

- Introductions
- Definition & Achievements
- Case Study
- To ERD or not to ERD
- Common Pitfalls
High Angle & ERD Definitions

High Angle = inclination > 30°

Traditional ERD
Ratio stepout to tvd = 2:1

BP’s Definition
- Define ERD locally for each field development
- Compare for difficulty in that area
  - Conditions
  - Experience
  - Industry Achievements
ERD Drainage Capabilities

- 10 KM
- 15 KM
CASE STUDY

Opportunity

- Discovery at 1600m tvd
- Core Production Area
- 300,000 bbls oil
- 9m oil above mobile aquifer
- Infrastructure 6km (20k ft)
- Low Tech Drilling
CASE STUDY

- 6870m mdbrt
- 300k bbl at 1620m tvdrt
- 6000m of 85° 12¼” Hole
- 6500m of floated 9½” Casing
- Rig Reach 3.5km!

Initially Deemed Impossible!!
ERD – Types

TVD

HORIZONTAL THROW

SHALLOW

COMPLEX

ULTRA LONG
WHAT WE WANT

Challenge Identified
• Planned
• Practiced/Trained
• De-Risked
KNOW YOUR LIMITS
WHY ERD?

Early Production

Increased Recovery

Defer Abandonment

*If we always do, what we’ve always done we’ll only get, what we’ve always had*
WHY NOT ERD?

Expensive / Risky

My Rig isn’t big enough!

Previous Problems – instability?

Perceived Rig Limitations – Costly Upgrades
CONSEQUENCE

Costs

• Simple well: P50 budget $2 MM, P90 ≈ $3 MM
• Complex well: P50 = $5 MM, P90 ≈ $12 MM
Todays Talk

• ERD What’s Possible
• Case Study
• Opportunities through ERD
• Making Risk Manageable
QUESTIONS?