Exploring the Technical Limits of Batch Drilling

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DRILLING

- No harm to people or the environment
- No wrecks
- Enhance the value added
- Reduce cost without jeopardizing the above
BATCH DRILLING

ADVANTAGES
• Smaller footprint & environmental impact
• Mob/Demob, pad costs are spread
• WOC is offset with skids
• Drilling fluids are recycled
• Crews dig it

DISADVANTAGES
• Higher initial capital cost commitment
ROI: $50 BBL

Return on Investment
1 mile lateral, 3 years production, $22 netback, 400bopd, 70% decline
DRILL FASTER.
DRILL FURTHER.
DRILL WITH LESS.
DRILL MORE.
**DRILL FASTER.**

Batch Drilling Efficiencies

1 Mile Multi-Well Pad (11.1 Days, 267.25 Hrs)

1 Mile Batched Pad (7.1 Days, 170 hrs)

![Pie Chart]

*Misc includes: Safety meetings, liner hanger ops, wellhead ops, etc.*
DRILL FURTHER.
Reservoir Contact

- 7 inch intermediate casing
- 8 degree curve
- 4.5 inch production casing
- 3.95 miles Drilled and cased with standard DP & casing
- 4.85 miles Drilled and cased with premium DP & casing
- 7,000 ft TVD
Drilled and cased with standard DP & casing

2 miles

Drilled and cased with Premium DP & Casing

3 miles

Drilled with Aluminum Drill Pipe

6.64 miles

7,000 ft TVD

8 degree curve

7-7/8" OH
5.5 inch casing

Monobores

DRILL WITH LESS.
DRILL MORE.

Anticollision

- Reducing Error of Uncertainty
  - HDGM
  - Infield Referencing - IFR
  - Gyro offset wells
  - SAG and Multistation Analysis

With Diligence Spacing can be reduced to
- 330’ in 3 milers
- 450’ in 4 milers
- 600’ in 5 milers
DRILL MORE.
Increase Contact

- 4.85 mi
- 4.69 mi
- 4.54 mi
- 4.39 mi
- 4.25 mi
- 4.10 mi

330 ft. lateral spacing
ROI: $50 BBL

Return on Investment vs Design
3 Years Production

Pad, conventional drilled 1 miler base.
Work Safe
Build Safe
Bring in the Harvest

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