



# *Step Changes in Permian Basin Directional Drilling*

# **CIMAREX**

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# Forward-looking Statements

This presentation contains projections and other forward-looking statements within the meaning of Section 27A of the U.S. Securities Act of 1933 and Section 21E of the U.S. Securities Exchange Act of 1934. These projections and statements reflect the Company's current views with respect to future events and financial performance. No assurances can be given, however, that these events will occur or that these projections will be achieved, and actual results could differ materially from those projected as a result of certain factors. A discussion of these factors is included in the Company's periodic reports filed with the U.S. Securities and Exchange Commission.



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# Outline

- ▲ Quote
- ▲ Cimarex Strategy
- ▲ Permian Basin Overview
- ▲ Curves – Hybrid Bits
- ▲ Curves – High Dogleg RSS
- ▲ Laterals – RSS Application



# Quote

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I have not failed. I've just found 10,000 ways that won't work

- Thomas Edison

# Corporate Profile

Shares outstanding.....	86.6 MM	Proved reserves <sup>3</sup> .....	2.3 Tcfe
Market cap <sup>1</sup> .....	\$8.4 B	% Natural gas.....	55%
Long-term debt <sup>2</sup> .....	\$0.9 B	% Proved developed.....	80%
Enterprise value.....	\$9.3 B	R/P Ratio.....	9.9x
Stockholders' equity <sup>2</sup> .....	\$3.8 B	Production <sup>4</sup> .....	717 MMcfe/d
Debt/Cap <sup>2</sup> .....	19%		

Quarterly dividend of \$0.14/share

<sup>1</sup> Share price as of February 4, 2014

<sup>2</sup> As of September 30, 2013

<sup>3</sup> As of December 31, 2012

<sup>4</sup> Third quarter 2013

# Cimarex Strategy

## ▲ Grow through the drill-bit

- Generate our own drilling inventory

## ▲ Portfolio approach

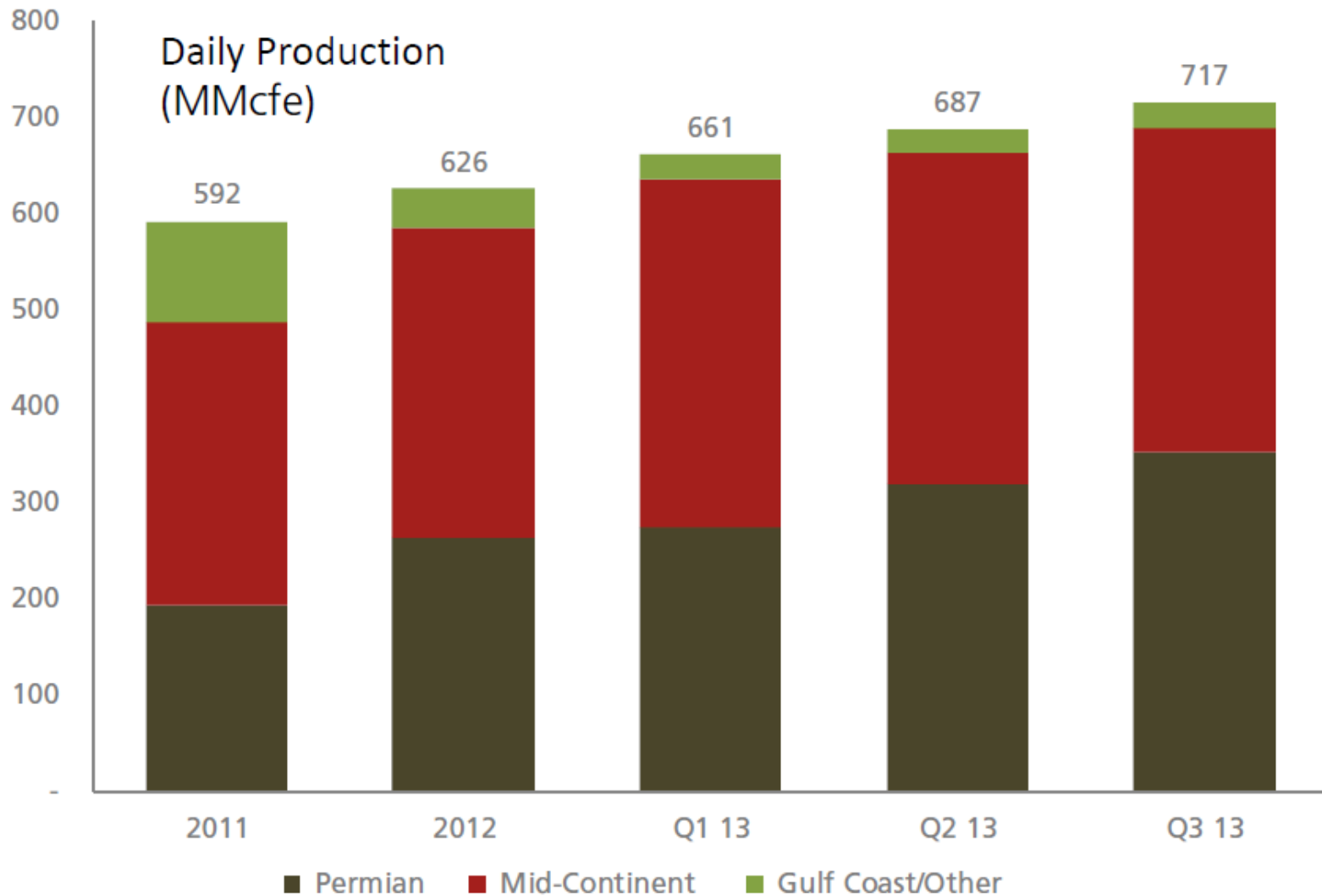
- Keep a mix of opportunities...gas/oil; low-medium-higher risk projects; seek geologic and geographic diversity

## ▲ Rate of return based decisions

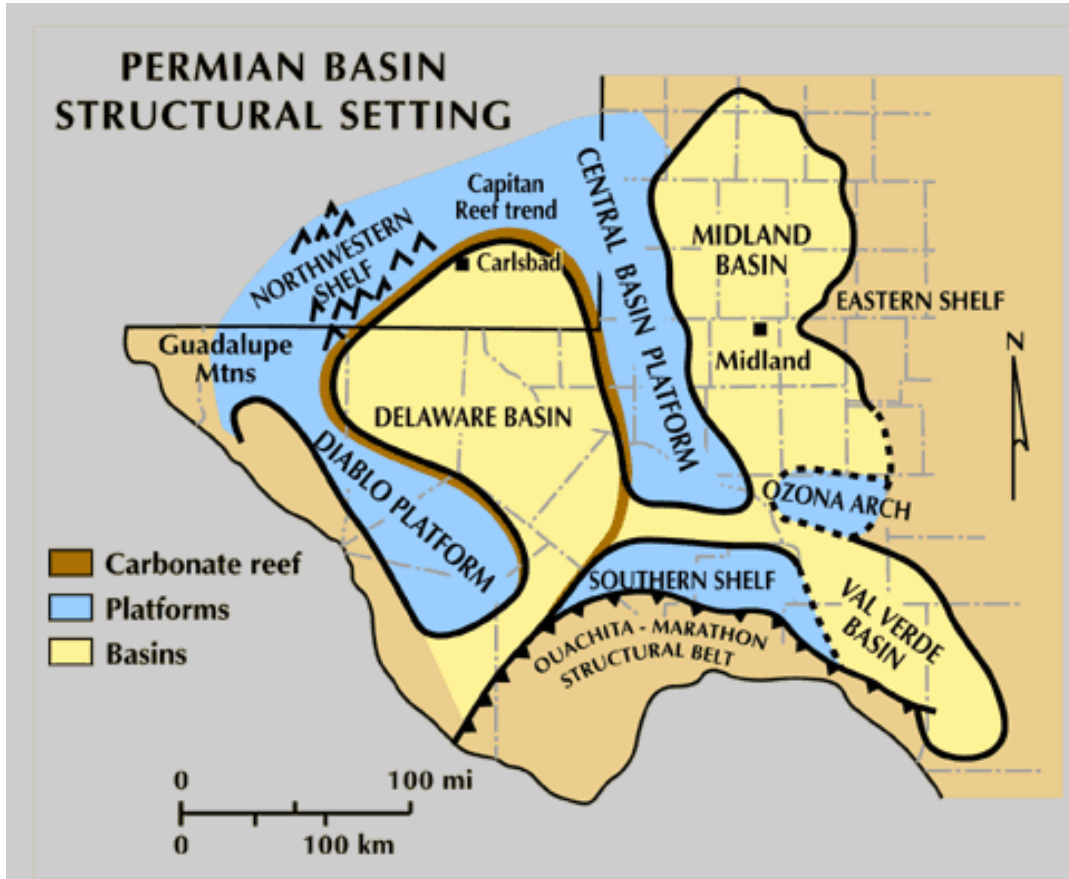
- Strong relative oil prices have resulted in capital shift
- Expanding Permian Basin operations and focus on liquids rich shale projects
- Growing oil and NGL proved reserves



# Growth Driven by Permian

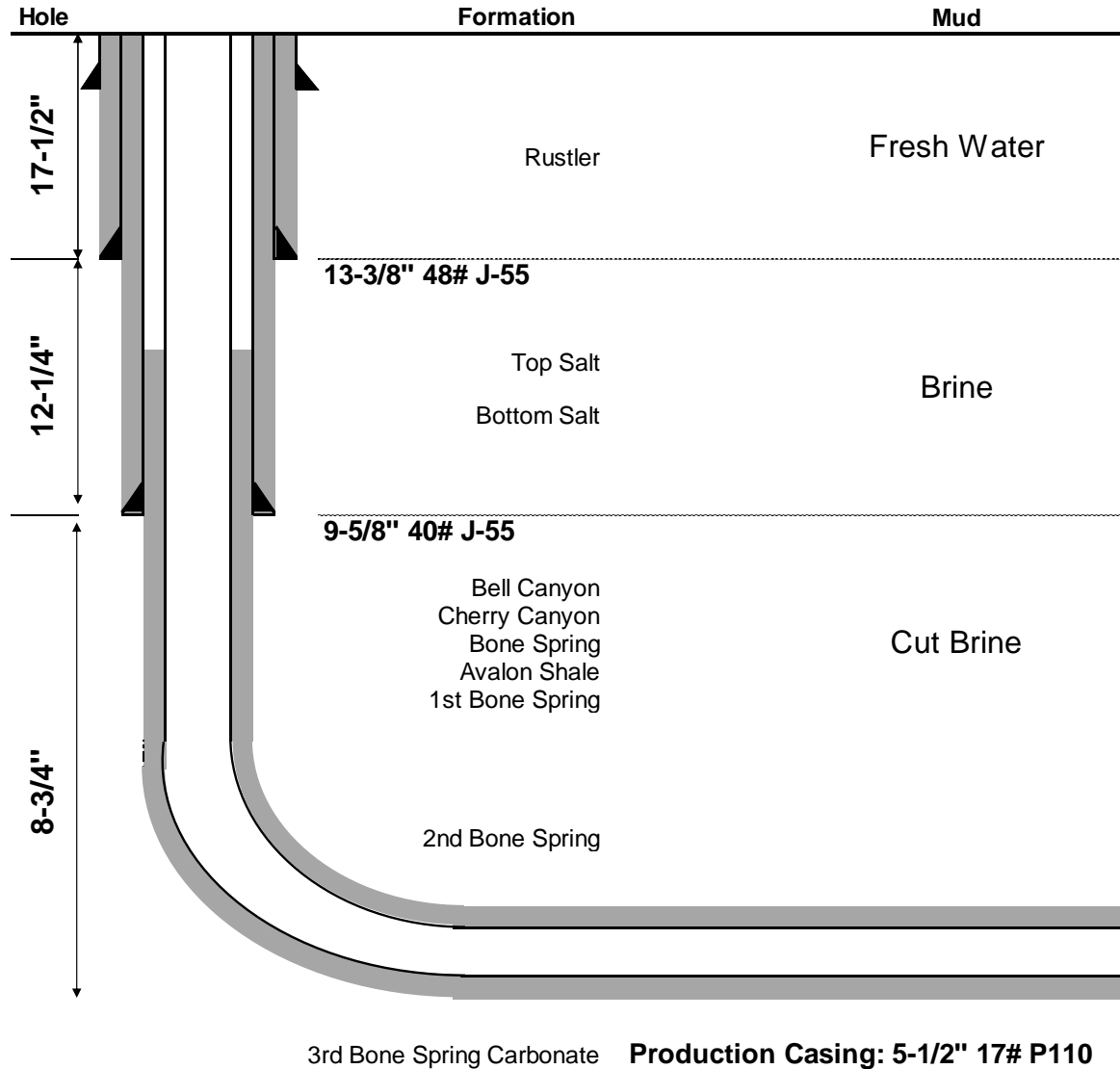


# Permian Basin

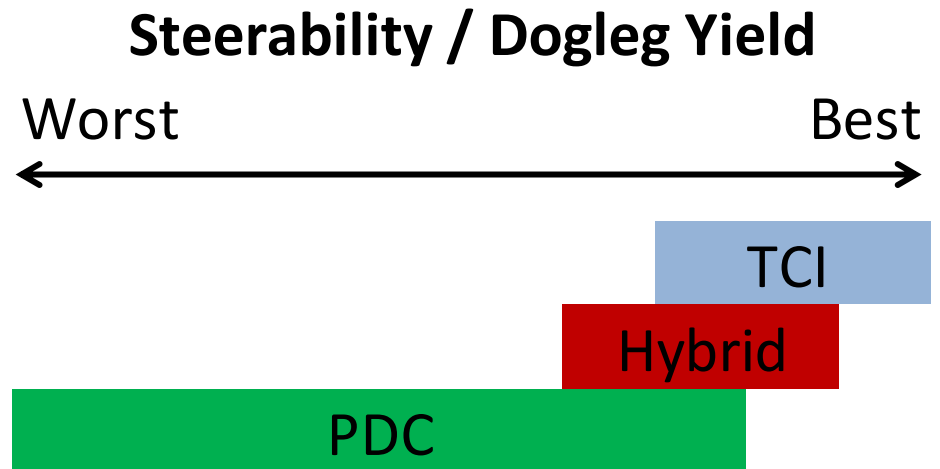
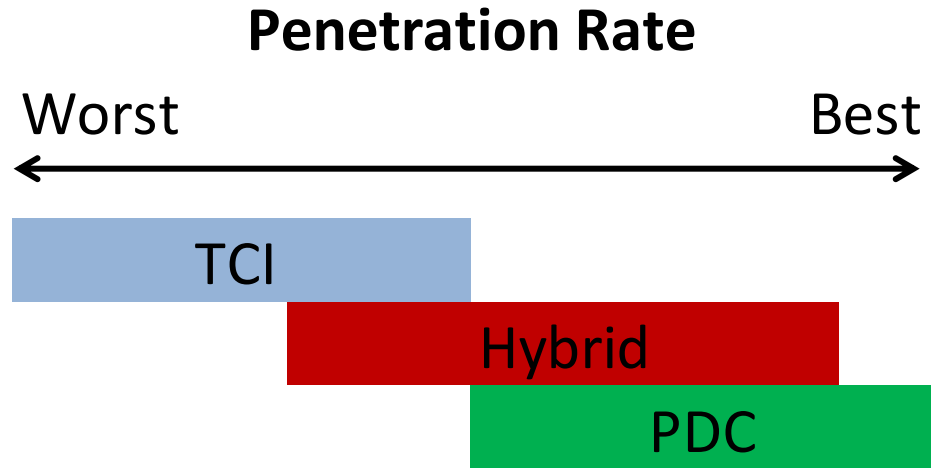
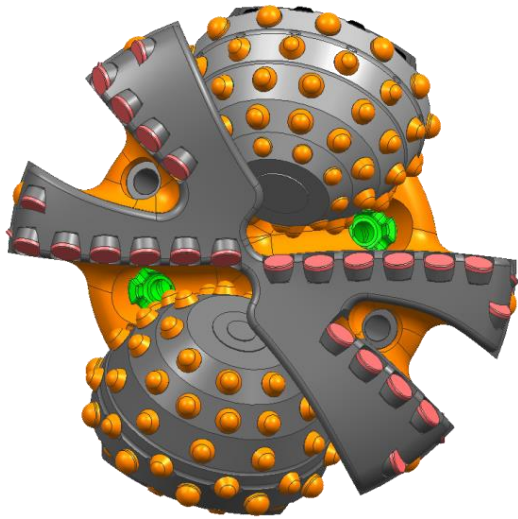


Del. Mtn.	Brushy Canyon
Bone Spring	1 <sup>st</sup> Carbonate/Avalon Shale
	1 <sup>st</sup> Sand
	2 <sup>nd</sup> Carbonate
	2 <sup>nd</sup> Sand
	3 <sup>rd</sup> Carbonate
	3 <sup>rd</sup> Sand
	Wolfcamp

# Wellbore Design – Big Hole



# Curve Drilling – Hybrid Bits



# Curve Drilling

## ▲ Evaluate Geologic Horizon and Area

## ▲ Decision Tree

- Try PDC bits first
- If PDC durability is an issue → Hybrid
- If build rates cannot be risked → Insert

## ▲ Evolving bit technology

# Curve Drilling – Hybrid Bits

## ▲ Insert Bits

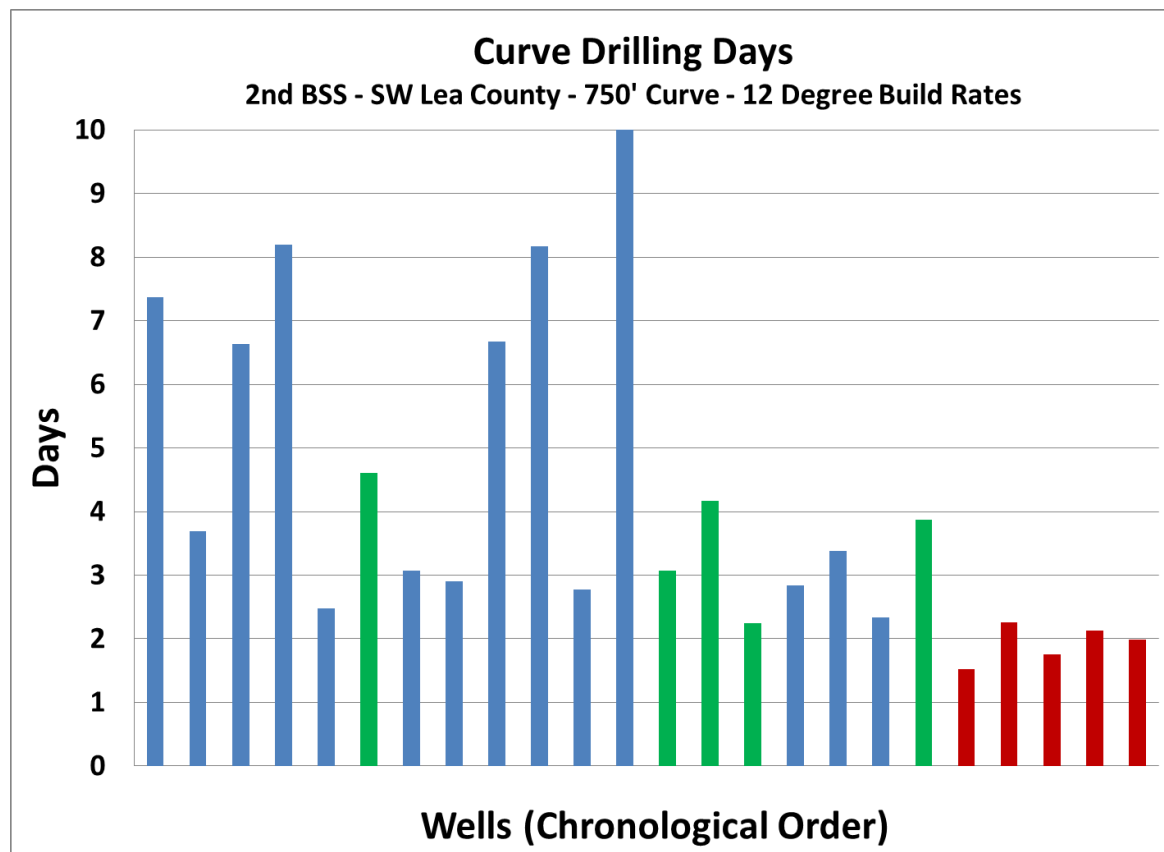
- 3.70 Days

## ▲ PDC Bits

- 3.87 Days

## ▲ Hybrid Bits

- 1.99 Days



2012

2014

Blue = Insert

Green = PDC

Red = Hybrid

# Curve Drilling – Hybrid Bits

## ▲ Insert Bits

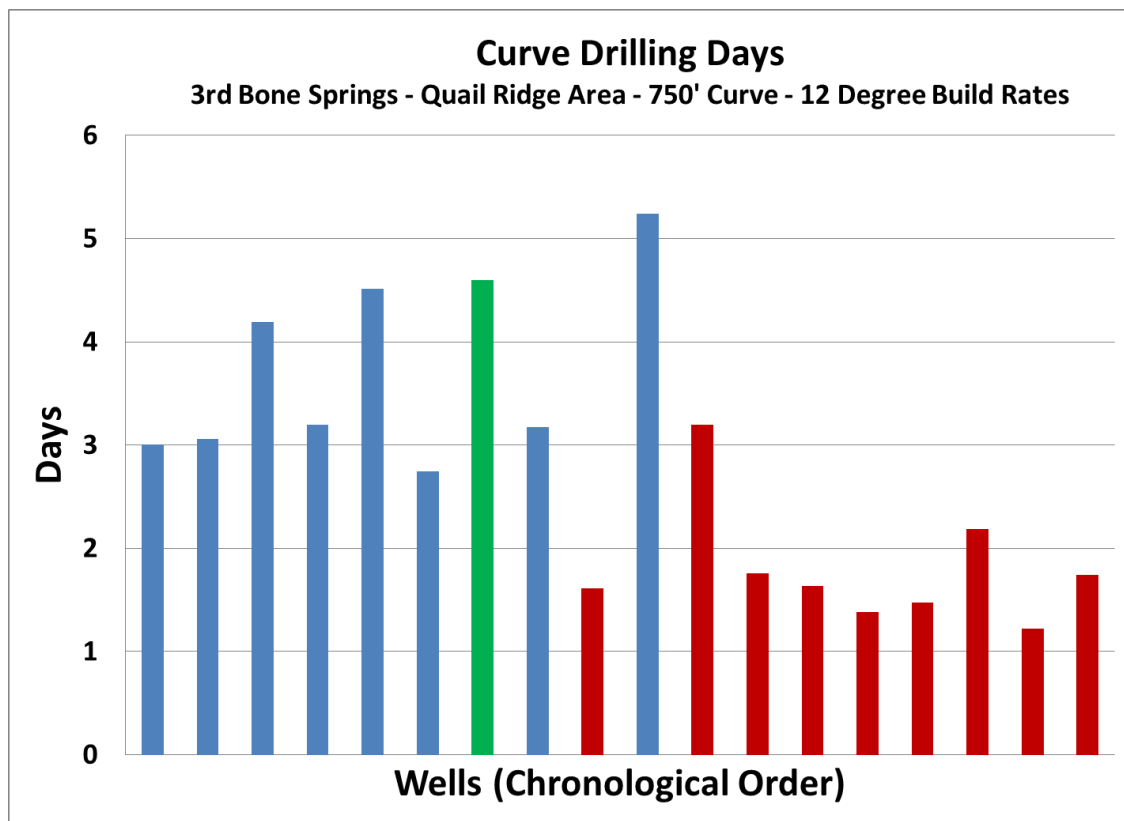
- 3.18 Days

## ▲ PDC Bits

- 4.59 Days

## ▲ Hybrid Bits

- 1.63 Days



2011

2014

Blue = Insert

Green = PDC

Red = Hybrid

# Curve Drilling – High Dogleg RSS

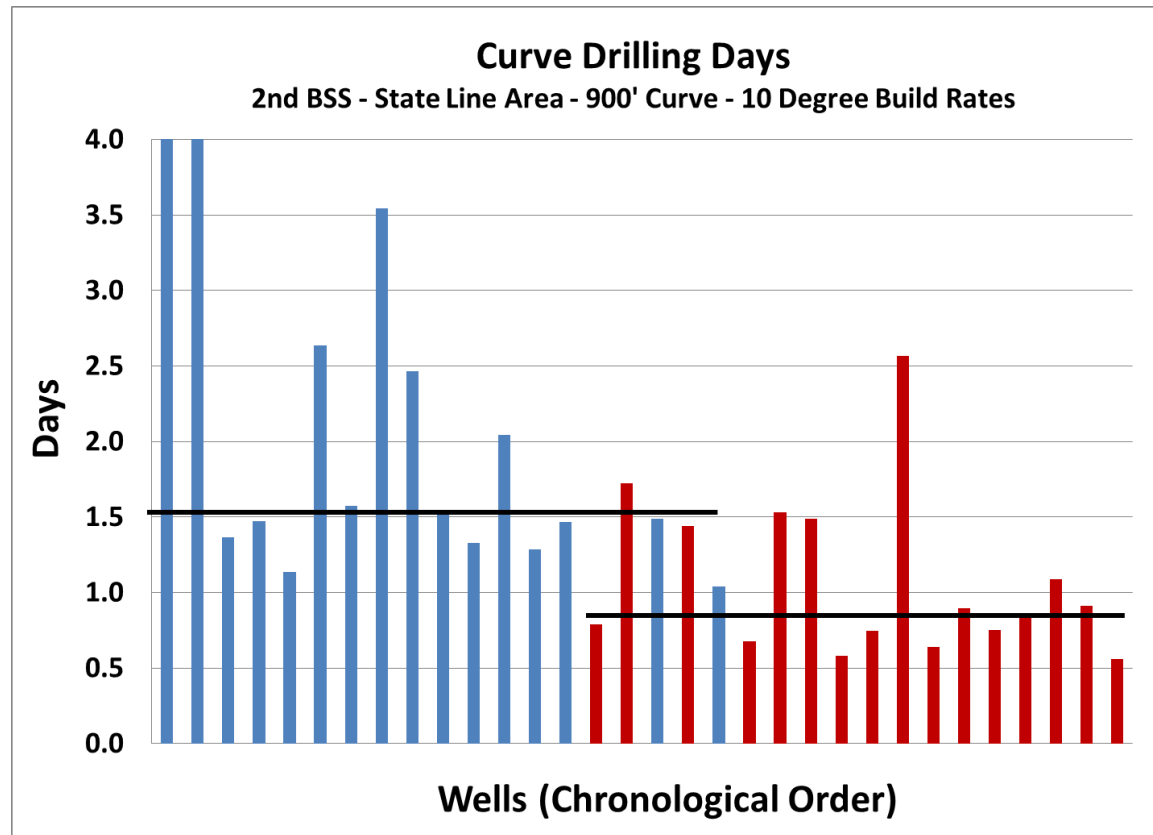
## ▲ PDC Bits Only

## ▲ Bent Motors

- 1.51 Days

## ▲ Curve RSS

- 0.88 Days



2012

Blue = Bent Motors  
Red = Curve RSS

2014

# ***Curve Drilling – Pilot Holes***

## **Pilot Hole Kickoff Options**

- 1. Cement Plug → Time Drill with Bent Motor**
  - 2. Open Hole Whipstocks**
  - 3. Cement Plug → Kickoff with Curve RSS**
- Successfully kicked off 7 cement plugs with high dogleg RSS**

# ***Lateral Drilling***

## **▲ New Mexico Bone Spring**

- Avalon/Leonard Shale
- 1<sup>st</sup> Bone Spring Sand
- 2<sup>nd</sup> Bone Spring Sand
- 3<sup>rd</sup> Bone Spring Sand

## **▲ Big Hole Well Design**

## **▲ Play dominated by Bent Motors**

## **▲ Could Rotary Steerables be economic?**

# *Lateral Drilling*

## **Rotary Steerable Systems (RSS)**

### ▲ **Advantages**

- Increased ROP
- Smoother Wellbore
- Longer Reach for Extended Laterals

### ▲ **Disadvantages**

- Increased Directional Day Rate
- More Complex / More Moving Parts

# Lateral Drilling – RSS Performance

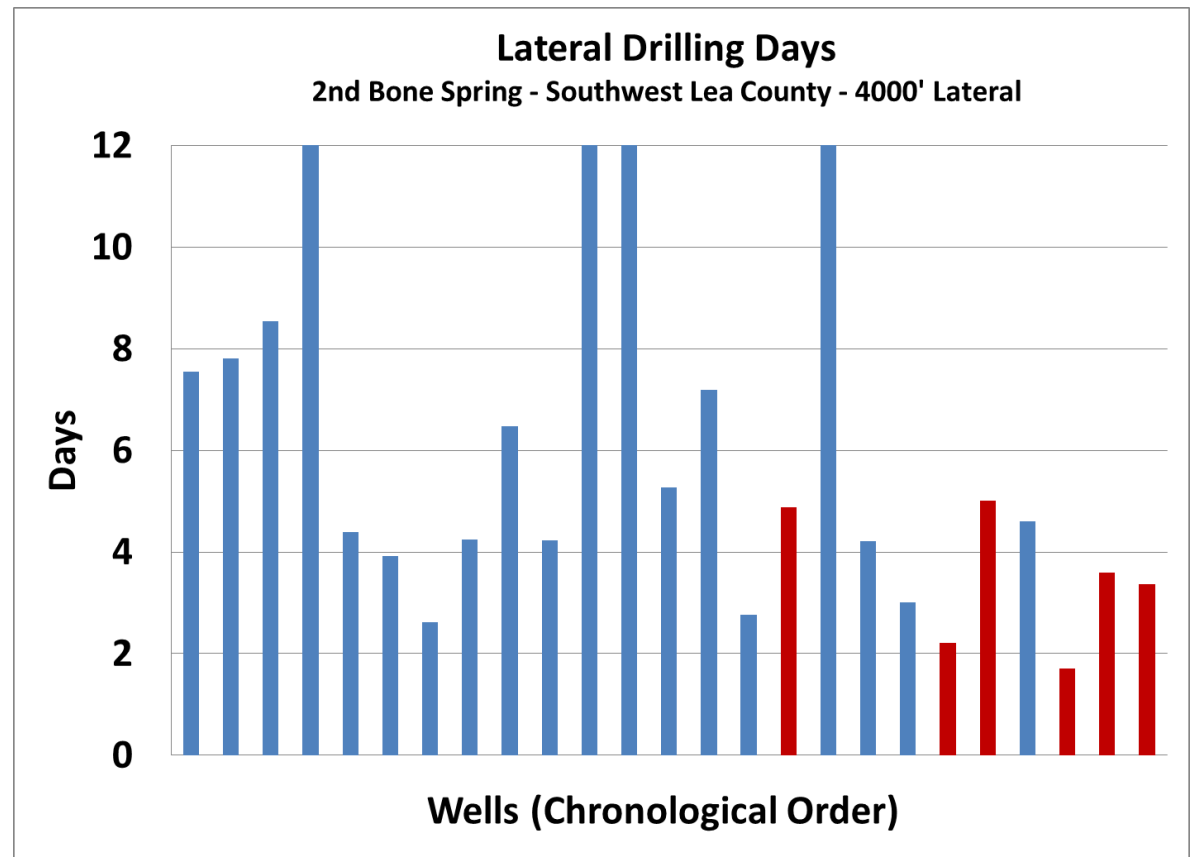
## ▲ Bent Motor

- 5.87 Days

## ▲ RSS

- 3.00 Days

## ▲ 2.87 Days Saved



2012

2014

Blue = Bent Motor

Red = RSS

# Lateral Drilling – RSS Performance

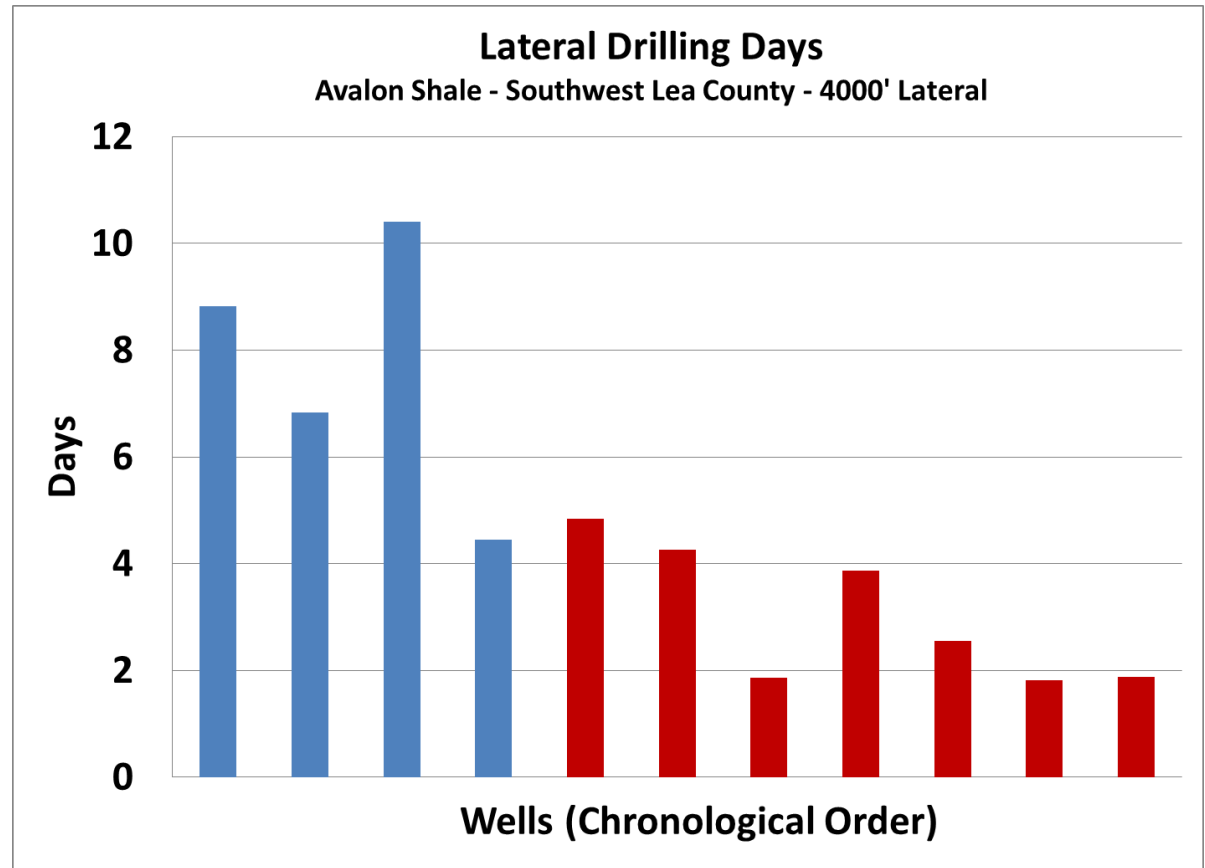
## ▲ Bent Motor

- 7.83 Days

## ▲ RSS

- 2.55 Days

## ▲ 5.28 Days Saved



2012

2014

Blue = Bent Motor

Red = RSS

# Lateral Drilling – RSS Economics

## Bent Motors

Rig Rate - Without Directional	\$	40,000
Directional Cost	\$	15,000
<hr/>		
Total Spread Rate	\$	55,000

Drilling Time	5.87	Days
Tripping Time	2.00	Days
<hr/>		
<b>Total</b>	<b>7.87</b>	<b>x \$55,000 = \$ 432,850</b>

## Rotary Steerable

Rig Rate - Without Directional	\$	40,000
Directional Cost	\$	30,000
<hr/>		
Total Spread Rate	\$	70,000

Drilling Time	3.00	Days
Tripping Time	2.00	Days
<hr/>		
<b>Total</b>	<b>5</b>	<b>x \$ 70,000 = \$ 350,000</b>

## Cost

- **-\$82,850**
- **-19%**

## Time

- **-2.87 Days**
- **-49%**

# ***Strategic Elements***

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- ▲ **In-House Directional Project Manager**
- ▲ **In-House Bit Engineer**
- ▲ **Standardized BHAs**
- ▲ **Consistent Personnel**
- ▲ **Teamwork at all levels**

# Questions?

## Recap:

- ▲ **Cimarex Strategy**
- ▲ **Permian Basin Overview**
- ▲ **Curves – Hybrid Bits**
- ▲ **Curves – High Dogleg RSS**
- ▲ **Laterals – RSS Application**

