Occidental Petroleum: Technology Update

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Innovation in the Oil Field
Creating shareholder value over the long-term

- Culture of innovative technology and process
  - Subsurface characterization
  - Integrated development planning
  - Oxy Drilling Dynamics
  - Innovative facility designs
  - Long-term base management
  - Enhanced reservoir recovery

- Early adoption of external trends
  - Big data, analytics, and mobile workforce
  - Multi-lateral wells (SL2)
  - Crude export facility

- Innovative cost efficiency strategies
  - Logistic and Maintenance hubs
  - OBO portfolio and investments
Focused Businesses

OxyChem
High free cash flow, moderate growth business

Midstream
Integrated infrastructure and marketing business to maximize realizations

Oil and Gas Core Areas

United States
- Leading position in the Permian
- Permian Resources is a growth driver

Latin America
- Highest margin operations in Colombia
- Opportunities for moderate growth with partners

Middle East
- Focus areas – Oman, Qatar, and UAE
- Opportunities for growth with partner countries
Occidental in the Permian Basin

- Largest operated position in the Permian
- Exceptional subsurface characterization
- Proven value-based development approach
- Improving through unique technology advancements
- 68% 4Q16 oil production

Occidental Permian Business Overview

<table>
<thead>
<tr>
<th>Resources – Unconventional Areas</th>
<th>Net Acres</th>
<th>Operated Wells*</th>
<th>2016 Net Production Mboed</th>
</tr>
</thead>
<tbody>
<tr>
<td>•</td>
<td>1.4</td>
<td>5,150</td>
<td>124</td>
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<tr>
<td>• Enhanced Oil Recovery Areas</td>
<td>1.1</td>
<td>19,310</td>
<td>145</td>
</tr>
<tr>
<td>Occidental Permian Total</td>
<td>2.5MM</td>
<td>24,460</td>
<td>269</td>
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Permian Basin Industry Production

- 10,000 mi² 3D seismic
- 130,000 mi² 2D seismic
- ~10,000 gross OBO wells
- 250 OBO wells since 2015
Permian Resources
• Growth-oriented unconventional opportunities with approximately 1.4 million net acres
• Fastest-growing asset with over 11,650 drilling locations in its horizontal drilling inventory focused in Midland and Delaware basins; average lateral length increased 20% to approximately 7,100 feet
• Production averaged 124,000 BOE per day, a 13% increase from 2015
• Reserve replacement rate of approximately 290%; finding and development costs at historic low of $9.00 per BOE

Permian EOR
• Utilizes enhanced oil recovery techniques such as CO$_2$ floods and waterfloods with approximately 1.1 million net acres
• Production averaged 145,000 BOE per day
• Nearly three-quarters of production comes from fields that actively employ CO$_2$ flooding
• Injects approximately 2.0 billion cubic feet of CO$_2$ per day into oil reservoirs, making Occidental the largest CO$_2$ injector in the Permian Basin and among the largest globally
Technology as a Competitive Advantage
Occidental – World Leader in CO₂ EOR

- Inject >2.0 billion cubic feet a day
- Operate 31 CO₂ EOR projects
- Largest handler of CO₂ in Permian

Source: Oil & Gas Journal 2014 Biennial EOR Survey
Permian EOR

Proven Leader in Maximizing Recovery Across the Permian

2 BBOE of identified net resource potential

870 net MMBOE at < $6.00 Future Development Cost

Permian EOR Acreage

*Note: TZ/ROZ – Transition Zone and Residual Oil Zone
South Hobbs Unit Production and CO\textsubscript{2} Forecast

Gross BOPD

Phase 1 CO\textsubscript{2} Flood

Waterflood

- SOUTH HOBBBS
- TARGETS
- 5 per. Mov. Avg. (SOUTH HOBBBS)
Permian Resources

- Contiguous Acreage
- Multi-bench
- Capable Infrastructure
- Valuable Growth

Greater Sand Dunes – 2,000+ Locations
Greater Barilla Draw – 5,000+

NM Delaware Basin
Central Basin Platform
Texas Delaware Basin
New Mexico NW Shelf
Midland Basin

Permian Resources Acreage
Permian EOR Acreage
Role of Technology

- Cost structure dramatically driven lower since 2014
- Value Drivers:
  > Subsurface Characterization
  > Stimulation Design
  > Customized Technology
  > Development Planning
  > Infrastructure
  > Oxy Drilling Dynamics
  > Integrated Planning
  > Base Management

Permian Resources Development Costs Per BOE

Permian Resources Operating Costs Per BOE
Oxy Drilling Dynamics Adds Value

- **Problem**: Inefficient use of rig energy resulting in slow and higher cost drilling
  - Downhole tool failures
  - Wellbore quality
- **Solutions**: Oxy Drilling Dynamics
  - Proprietary Oxy MSE equation
  - Reduced drilling days
  - Fewer tool failures
  - Precision landing
- Maximize value through better time to market and precision landing

* BHA = bottom hole assembly

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**Step-changing Performance**

- **Identify**
- **Understand**
- **Engineer**
- **Implement**

**Real Time Monitoring from Anywhere**

**Drilling Days 7,500’ Lateral** (Rig Release to Rig Release)

- Q1’15 Avg: 31
  - 30%
- Q4’15 Avg: 22
  - 28%
- Q4’16 Avg: 16
  - 25%
- Best Well: 12

**Bit Vibration**

- **Weight Transfer**
- **Directional Control**

**Rate of Penetration (ft/hr)**

**Weight on Bit**

- Increase BHA* Stiffness
- Redesign Bit
- Alternative Drill Pipe
- Re-Engineer BHA*

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* BHA = bottom hole assembly
Single-location Sequenced Lateral (SL2) Lower Costs

SL2 Potentially Lowers Secondary Bench BE by $5:

> Lowers well cost by $0.5 - $1.0MM
> Reduces operating costs by over 50%
> Sequencing increases facilities utilization
> One artificial lift system saves $0.2MM per lateral

Project Timeline:

> Project chartered in 2015, design and lab test in 2016
> First installation completed in December 2016
> Barilla Draw - Betty Lou 1016H, WCA & 2nd BS
> 2017+ wells designed for future SL2 capability
Greater Sand Dunes

• Currently three play-leading benches under development
  > Modular development
  > Area appraisal continues to add new benches / flow-units

• Longer laterals

• Reducing secondary bench breakeven prices by ~$10
  > Facilities saves ~$800k per well
  > SL2 saves >$500k per well
  > OPEX reduction up to 50%

*Current represents wells online 3Q16 – 1Q17
Greater Barilla Draw

• Red Bull South active and improving
  > 2 rigs currently operating
  > 3 wells drilled and 3 wells online since acquisition date
  > Record Peak 24hr WC B 7,500ft at 1,954 boed
  > 23% lower completion costs
  > Updating plan from 7,500 ft to 10,000 ft laterals

• Currently 3 rigs in Greater Barilla Draw
  > 2 additional rigs in 2Q17

Value-based Development Increases Returns

Wolfcamp B Improvement = frac optimization to drive results

Efficient stimulation without sacrificing production

Prior Operator WC B 7,500ft Fracs
Oxy WC B 7,500ft Fracs

Cost Breakdown:
- $11.6
- $9.7
- $8.5

Prior Operator: $12
Oxy Current: $10
Oxy Potential: $8

$MM

Drilling Cost
Completion
Hookup
Midland Basin - Merchant

- Currently two play-leading benches under development
  - Landing point optimized flow units
  - Wolfcamp B performance +42%
  - Oil cut from 61% to 77%+
- 2017 lateral length ~ 8,700ft
- Two benches now < $40 BE
  - Pad D&C saves ~$900k per well

Value-based Development Increases Returns

- Wolfcamp B Improvement = two high return development benches

Continuous well cost improvement yielding high returns

- Wolfcamp A & B 7,500 ft Well Costs
Logistic & Maintenance Hub Underway

- Secures supply availability
- $500 – $750k savings per well
  > Below market cost of supply will offset potential service cost inflation
  > Reduces last mile logistics costs
- Mutually beneficial partnerships

**Strategically located in New Mexico**
- 244 acres
- 3 unit train loop
- 30,000 tons of sand storage
- Supports 10-12 rigs/year
- Operational in early 2018

**Value Chain Partnerships Lower Costs**

- **Service company yard**
  - Maintenance
  - Stimulation & Cement
  - Service directional tools

- **OCTG Laydown Yard**
  - ~20 railcar spots
  - Dedicated truck entry/exit
  - Staging, returns, reclamation

- **Sand Transload and Storage**
  - 6 Silos
  - 3 Unit train loops
  - Transload capacity

- **OxyChem Acid Facility**
  - Transload, storage, and dilution of HCI for fracs
  - ~20 rail transload capacity
Technology-leading Infrastructure
Full-cycle Value

- Unmatched acreage + infrastructure
- Resources – Dynamic Development
- EOR – Reservoir Management
- Subsurface excellence
- People, innovation & entrepreneurial culture

Shaping Competitive Advantage

- Reservoir Management
- Operational Efficiency & Speed
- Subsurface Technical Excellence
- Field Development Planning + Execution
- Enhanced Recovery
Protecting our License to Operate
Q&A
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