Next-Generation Facilities Enhance Environmental Protection in Colorado

John Tuckwiller, Sr Field Facilities Engineer

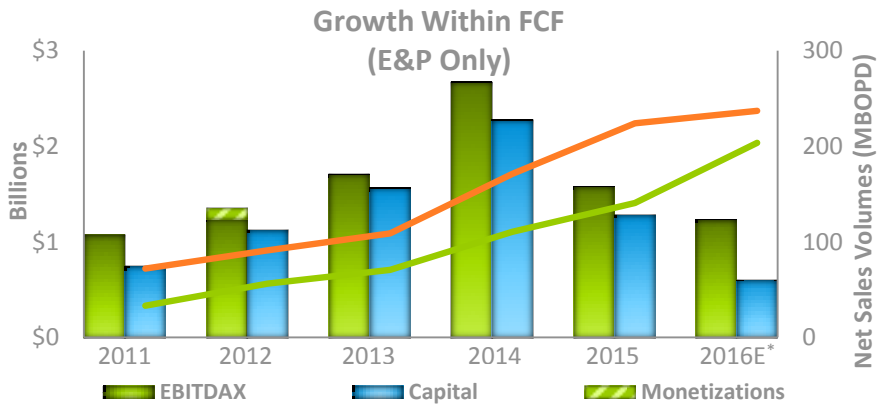
10-4-2016

Outline

- **Anadarko DJ Basin Field Overview**
- **Obstacles**
- **Solutions**
  - ***Past – Oil Pipeline and 101 Loadout***
  - ***Present – Tankless***
  - ***Future – Central Oil Stabilization Facility (COSF)***
- **Integrated Operation Command (IOC)**
- **Social License**
- **Conclusion**

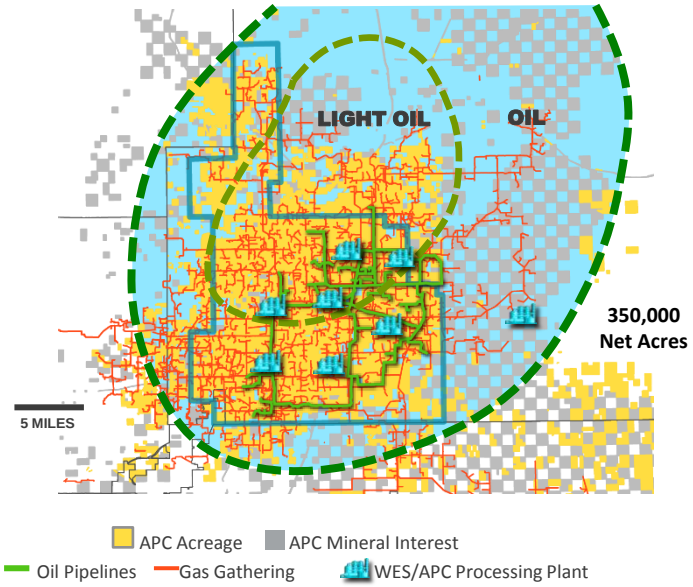
DJ Basin: Integrated Approach Enables Continued Growth

- **Approaching 400,000 BOE/d by 2021**
- **1.5+ BBOE Net Resources**
  - *~4,000 Identified Drilling Locations*
- **Enhancing Margins and Returns**
  - *Driving Well Costs to <$2.4 Million per SLE*
  - *Break-Even BTAX PV-10 <$30/Bbl**
  - *Legacy Acreage Position*
- **Leveraging Competitive Advantages**
  - *Minerals-Interest Ownership*
  - *Infrastructure in Place*



Note: EBITDAX excludes corporate G&A; see Appendix for non-GAAP definitions
Based on strip prices as of 9/9/2016

CONSOLIDATED CORE ACREAGE WITH MINERALS-INTEREST UPLIFT



YEAR-END 2015 INFRASTRUCTURE	
GAS GATHERING PIPELINES	**3,100+ Miles**
OIL GATHERING PIPELINES	**~250 Miles**
PROCESSING CAPACITY	**1,175 MMcf/d**
COMPRESSION	**270,000+ HP**

** New Drill, BTAX PV-10, assuming $2.30/Mcf*

Obstacles

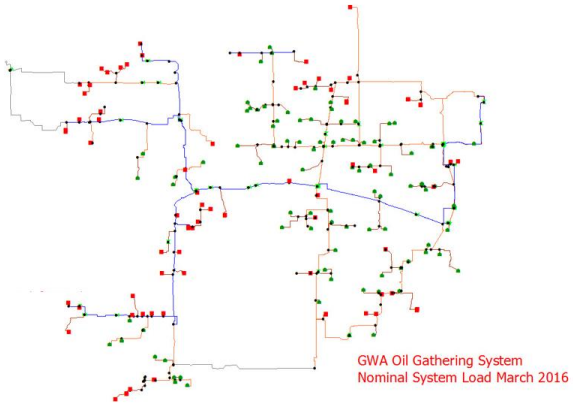
- Currently one of fastest growing states in the U.S. (Front Range)
- Growing oil field
- Urban development over existing locations

Solutions - Past

- **Oil Pipeline**
  - ***Move from tank storage and trucking***
- **Lease Automatic Custody Transfer (LACT)**
  - ***Per central processing facility (CPF) to pipeline***
- **Pipeline Constraints (third party sales)**
  - ***101 Oil Loadout Facility***

Trucking

Oil Pipeline System



Evolution

Solutions – Past - 101 Loadout

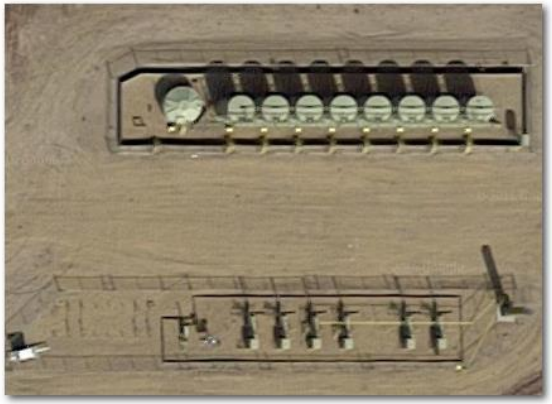
- **101 Loadout**
  - *Minimizes and almost eliminates emissions*
  - *Location*
  - *Increases company efficiency in preparing oil for transit*
  - *Fully Automated Facility*

Solutions - Present

Well Battery to Central Process Facility (CPF)

- **Evolution (as new sites are being built)**
  - *Single Well, Single Separator, Tanks, Trucking*
  - *Multiple Wells, Multiple Separators, Tanks, Trucking*
  - *Multiple Wells, Multiple Separators, VRU, LACT, Pipeline*
  - *Multiple Wells, Multiple Separators, LACT, Pipeline, COSF*

Efficiency



Solutions - Future

- **Smaller Sites**
  - ***No Tanks***
  - ***No Vapor Recovery Units (VRUs)***
  - ***Less Emission Control Devices (ECDs)***
    - Due to Less sources
- **Central Oil Stabilization Facility (COSF)**
  - ***All pipeline oil from the field goes through COSF for removal of gas for sales***

IOC

- **The Integrated Operations Center**
  - *Central communications center*
  - *Provide real-time remote monitoring capabilities*
  - *Live data streaming*
  - *Live video feeds from numerous field locations*
  - *Fully Automated Facilities (Non-Manned Facilities)*

Social License

Stakeholder Relations – 2016 Engagement by the Numbers

*Each handshake represents 25 hours

475

hours spent in the community YTD

4,125

Courtesy Notifications Sent (YTD)

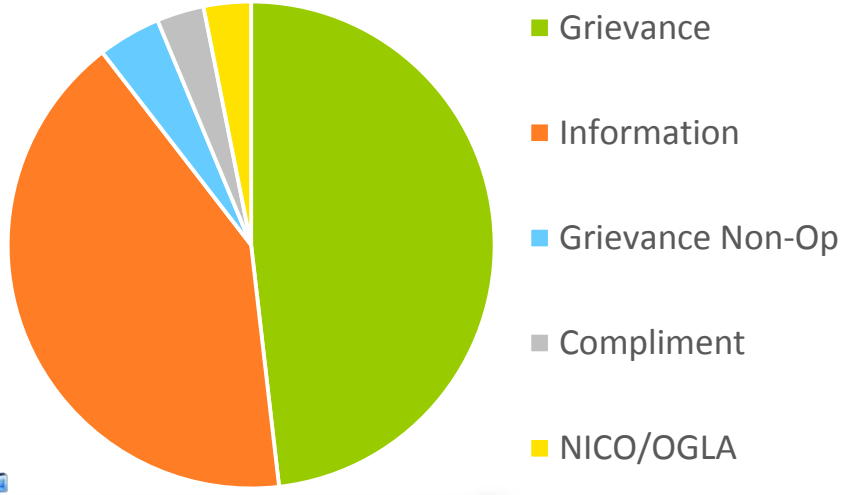
137

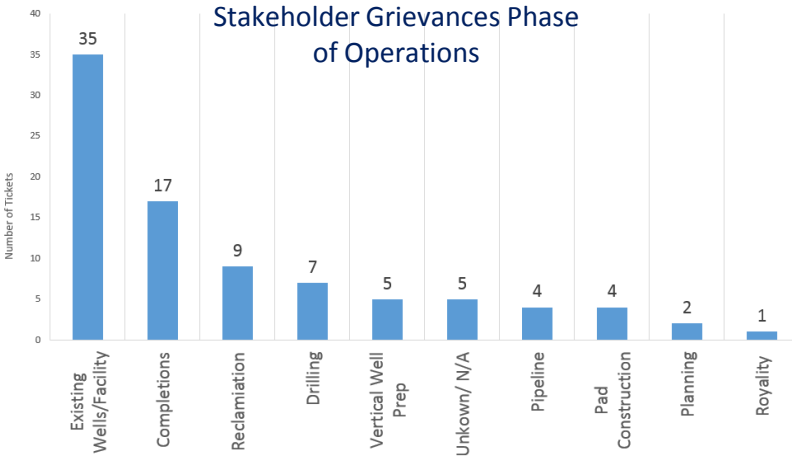
Stakeholders Served (YTD)

975

Doorbells rang (YTD)

Stakeholder Feedback Type





Conclusion

- **Environmental**
  - ***24/7 field monitoring***
  - ***Facility design***
- **Social License**
  - ***Working with the community***
  - ***Minimal impact***
- **Increased production / efficiencies**
  - ***More wells***
  - ***Longer wells***
  - ***Less site impacts***
- **DO MORE with LESS**
  - ***More wells, less overhead***
  - ***IOC***
    - Automation
    - Monitoring

Questions?