



Hunt Oil Company

West Texas Drilling Performance



Prepared for AADE - May 2018

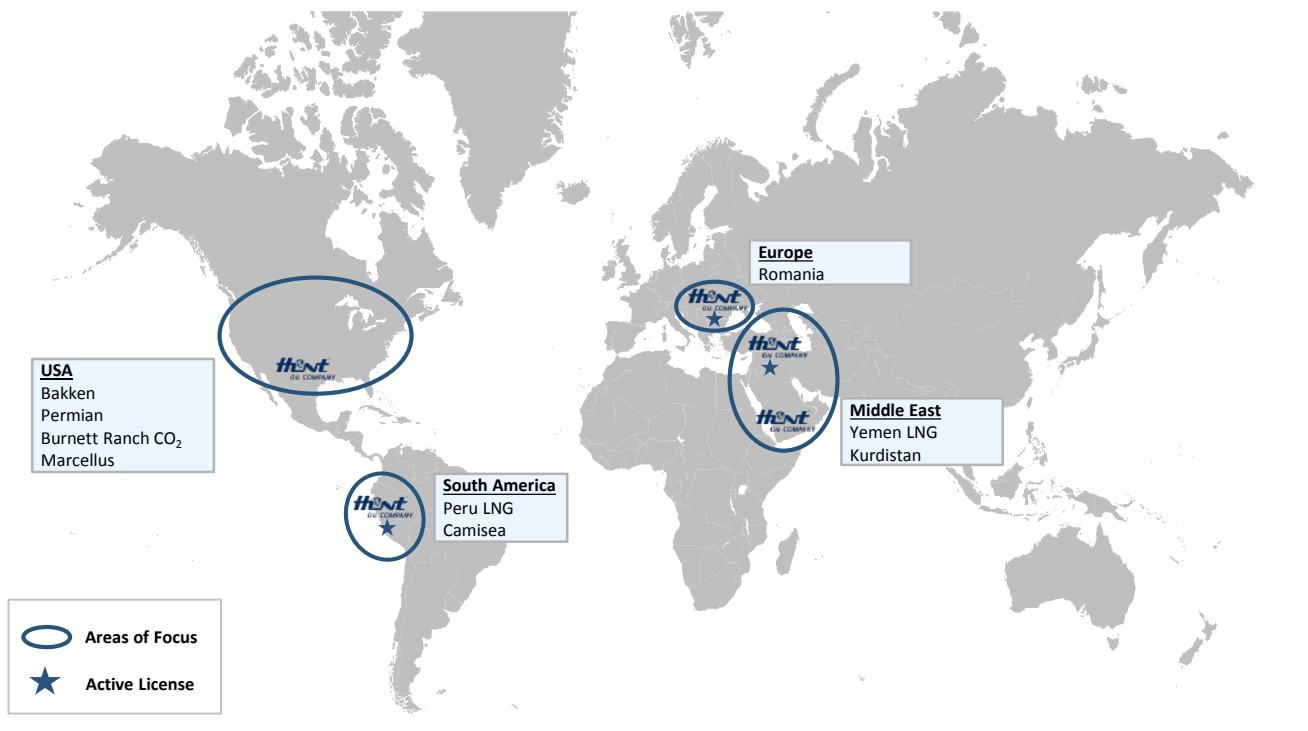


HOC Worldwide Operations Overview

Key Points

- Hunt was founded in 1934 and is one of the largest privately-owned independent oil companies in the world
- Current operations on four continents:
 - Exploration & Upstream Development
 - Midstream / Downstream
 - Onshore
 - Enhanced Oil Recovery
- Peru: One of South America's largest natural gas resources, Camisea (100 MBbls/D; 14 TCF gas)
- Yemen: Exported over 1 Billion Bbls of oil and Recycled over 12 TCF gas
- LNG: Significant investments in LNG infrastructure projects in Yemen and Peru, firsts in both countries
- Kurdistan: First production from Simrit oil discovery in 2016
- Romania: First commercial gas discovery production in 2016
- United States: Operating in four of the premier unconventional resource plays;

Overview



Core Values

*Respect for the Individual • Humility • Community-Centric • Creativity • Commitment to Excellence
Teamwork • Honesty • Integrity*

Mission Statement

The mission of Hunt Oil Company is to be a growth-oriented industry leader respected throughout the world for the quality and competency of its people, the efficiency and scope of its operations and its rich heritage of honesty and integrity.





Staff

- Centralized Drilling Group / Integrated in Asset Teams
 - International and North America Operations
 - 6 Rigs Currently (7th Startup in June)
 - 6 in WTX / 1 in Bakken
- Rig Team
 - Lead Foreman and Night Foreman
 - Rig Administrator (Previously known as Rig Clerk)
 - Consulting Foreman as necessary
- Drilling Engineers - responsible for day to day rig operations
- Drilling Manager North America responsible for overall performance



Operational Goals

- Target Zero EHS Plan
 - No LTA's / No Spills
- Personnel Training and Development
 - Onsite rig experience
 - Selective Training based on need.
- Top Tier Performer (EHS + Operations)
 - **Benchmark Your Performance** because if you do not someone else will.
- Deliver wells on time and on budget.
 - Cost Accounting is key for proper resource allocation.
 - Field Cost within 5% of actual cost.



Best Practices

General

- Communicate (Rigs /Asset Team / Operators / Servcos)
 - More Verbal / Digital when necessary and much better than none
- Rig Inspections
 - Fit for Purpose Final Product
 - Must have's are Load Path + Well Control
- Plan / Implement / Evaluate / Assess / Improve
 - Spend more Engineering time analyzing operations and solving your own problems and less time analyzing how well others are doing.
 - Share data and experience with Offset Operators and Service Companies (learn)
 - Keep a backup Drilling Location Prepared
- Drill wells now. Future wells will be more difficult and costly due to pressure depletion / SWD zones over pressured.
- Strategically assign and rotate personnel
 - Fresh ideas and perspectives
 - Avoid the same daily routine as much as possible.



Best Practices – cont'd

General

- Design Basis Document
 - Simply document why we do what we do.
- Contingency Plans (examples)
 - o Contingency casing design
 - o Be prepared with contingency materials /equipment
 - o Cold Weather and Hot Weather Plan
- Consistency in Engineering and Operations
 - o Is Mother Nature inconsistent or are operations inconsistent ?
 - o Develop Best Practices
- Make timely decisions.
 - o Do not spend excess time fighting problem hole conditions. Proceed with contingency plan.
- Execution is Key – Ensure personnel (Rig + Office) are prepared, empowered and accountable
- **Career Best Practice**
 - o Keep Talley Book (old fashioned or digital). Document 1st Time Experiences - “that’s the 1st time it’s ever happened”



Continuous Improvement Cycle





Best Practices

12-1/4" Hole

- o Drill with losses (full to none to partial). LCM pills (tried just about all) have not worked. Fill backside during connections / trips / downtime.
- o Flow check after drilling into/below San Andreas. If stable, displace with premixed 8.4 – 8.6 ppg gel mud. If well flows displace to original mud weight, run 9-5/8" casing & implement contingency well design.
- o Perform 2nd displacement about 200' below top of Clearfork.
- o BTC thread primary but have 9-5/8" and 7-5/8" contingency strings with rotatable connections.
- o Run ECP below San Andres and DV Tool above.
- o Run composite drill out shoe (testing composite DV Tool).
- o Dedicated drill out / FIT run and displace to Oil Base Mud used to preserve opportunity for single bit run in 8-1/2" production hole.
- o Minimize backreaming.
- o Set max overpull limits on trips.
- o Try to minimize deviation. Max. to date 12 – 15 degrees.

Curve Section

- o Sprayberry - ± 12 degree/100' Wolfcamp - ± 10 degree/100'

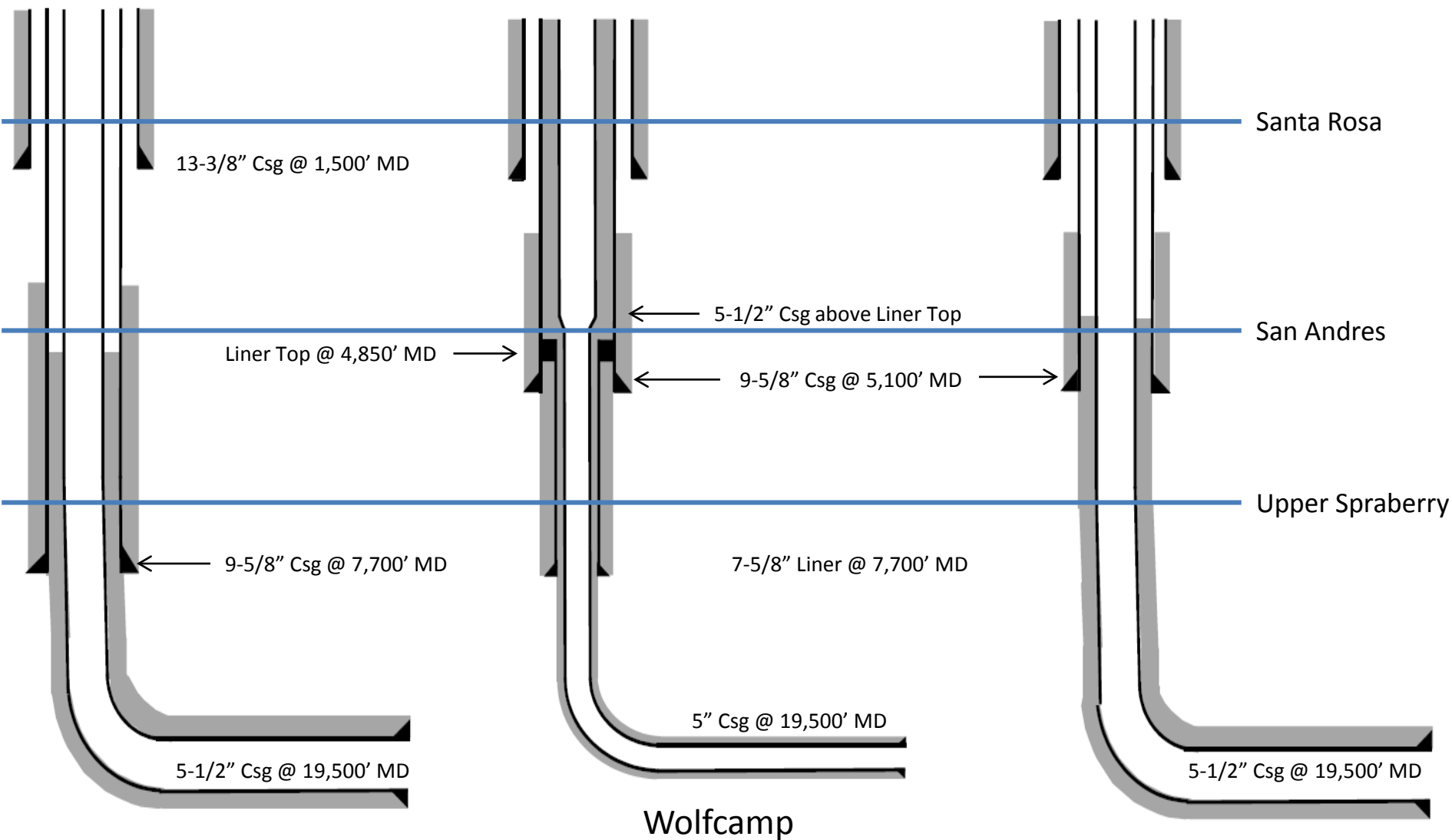


Key Concerns

- **12-1/4" Hole Section is the Key to performance**
- **Service Companies Capabilities Stretched**
- **Broad shortages in experience / personnel**
- **Tool Reliability**
- **Maintain Safety Performance (Walking the Ridgepole on a steep roof)**



Well Designs





Best of Best Well Performance

<u>WTX Best of Best (BoB) Summary - 10,000' Laterals</u>			
PHASE	Best Composite Well		Best Individual Well
	<u>BoB Pad Move</u>	<u>BoB Walk</u>	<u>Days</u>
	<u>Days</u>	<u>Days</u>	
01RGUP (Pad to Pad Move)	2.46		2.69
01RGUP (Walk Well to Well)		0.35	
07SHVD (Drill Surface Hole)	0.29	0.29	0.29
09SHC (Surface Hole Casing)	1.08	1.08	1.1
10IHVD (Drill Intermed. Hole)	1.88	1.88	1.98
12IHC (Intermed. Hole Casing)	2.15	2.15	2.38
22PHCD (Drill Curve)	0.73	0.73	0.75
23PHLD (Drill Lateral)	3.5	3.5	5.21
24PHC (Run Prod. Csg to Rig Rel)	2.27	2.27	2.71
Total BoB Total Days	14.36	12.25	17.11
Total BoB Spud - RR Days	11.9	11.9	14.42



2018 WTX Drilling Monthly Report

April

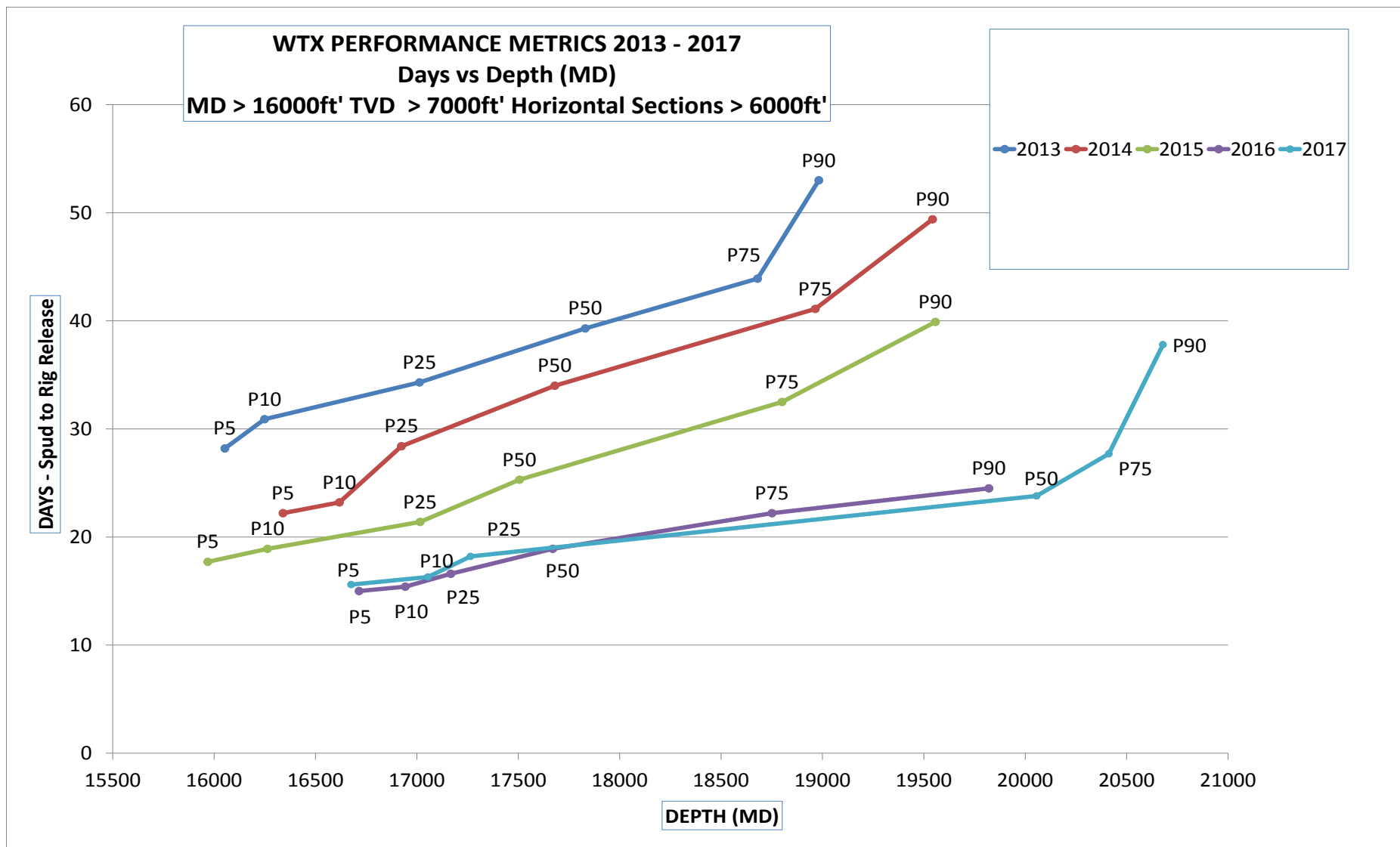
Average Days per Well YTD	20.71
Total Feet Drilled This Month	156,286
Total Feet Drilled YTD	461,423
Total Lateral Feet Drilled YTD	246,615
Total Rig Days YTD	494
Total NPT YTD (days)*	49.0
Percent NPT YTD(%)*	9.9

FORMATION STATISTICS

Formation	Monthly Data							Average Year to Date Numbers						
	Wells	Spud to TD	Total Time	Spud-RR	NPT	Total Depth	Lateral Length	Spud to TD	Total Time	Spud-RR	NPT	Total Depth	Lateral Length	YTD
Middle Spraberry														
Lower Spraberry Shale								15.2	20.4	18.2	2.6	18,292	9,879	4
Wolfcamp A	3	12.8	15.9	15.4	0.5	19,187	10,409	13.9	17.1	16.4	1.5	18,842	10,010	6
Wolfcamp B	4	17.0	21.1	19.9	2.4	19,675	10,624	16.9	21.3	19.8	1.9	19,440	10,377	10
Wolfcamp B3	1	16.8	20.0	19.6	2.1	20,023	10,643	18.6	23.4	21.6	3.2	20,129	10,855	3
Wolfcamp C								22.2	29.4	24.9	1.6	20,415	10,707	1
Total	8	15.5	19.0	18.3	1.7	19629	10559	16.3	20.7	19.1	2.0	19226	10276	24

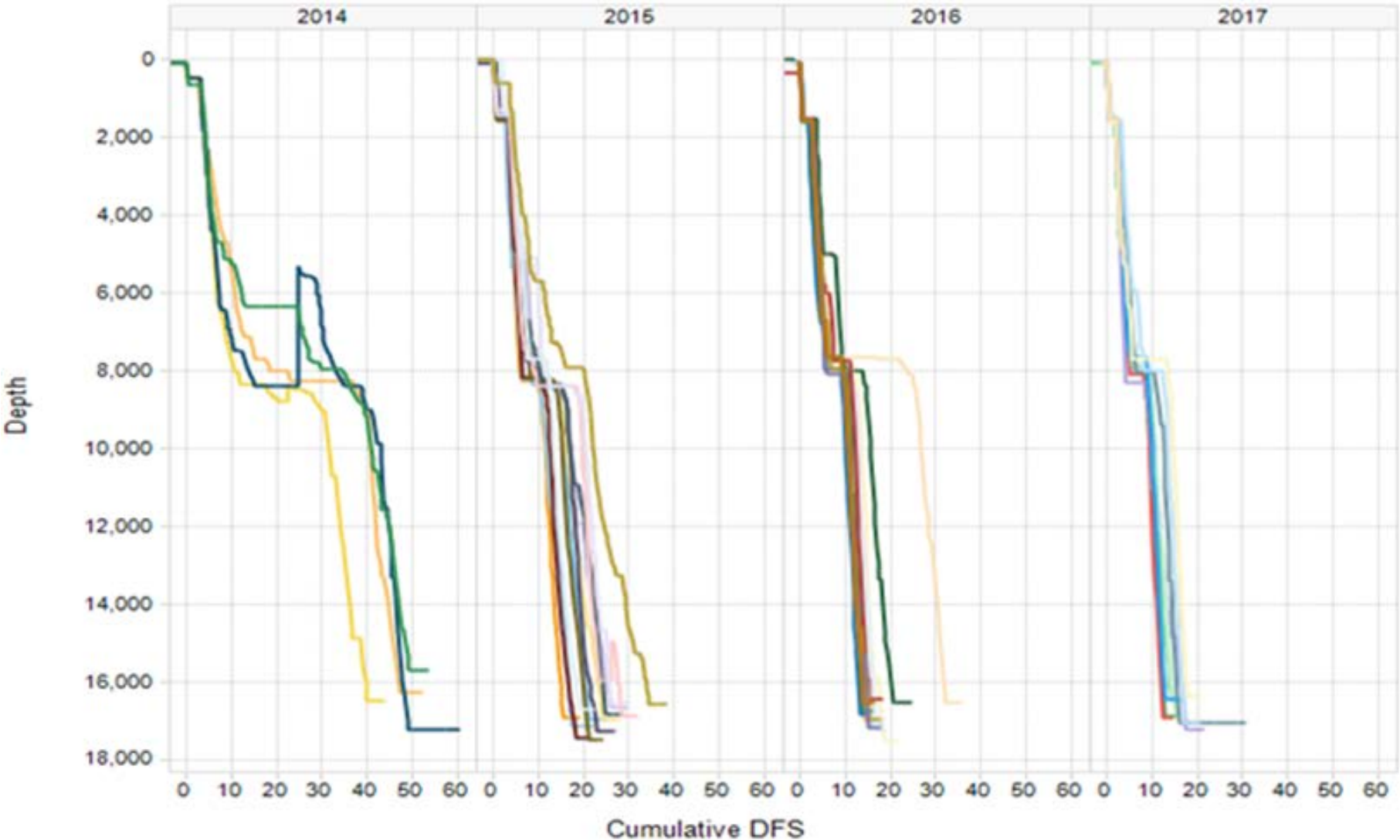


General Industry Improvement Trend 2013 - 2017





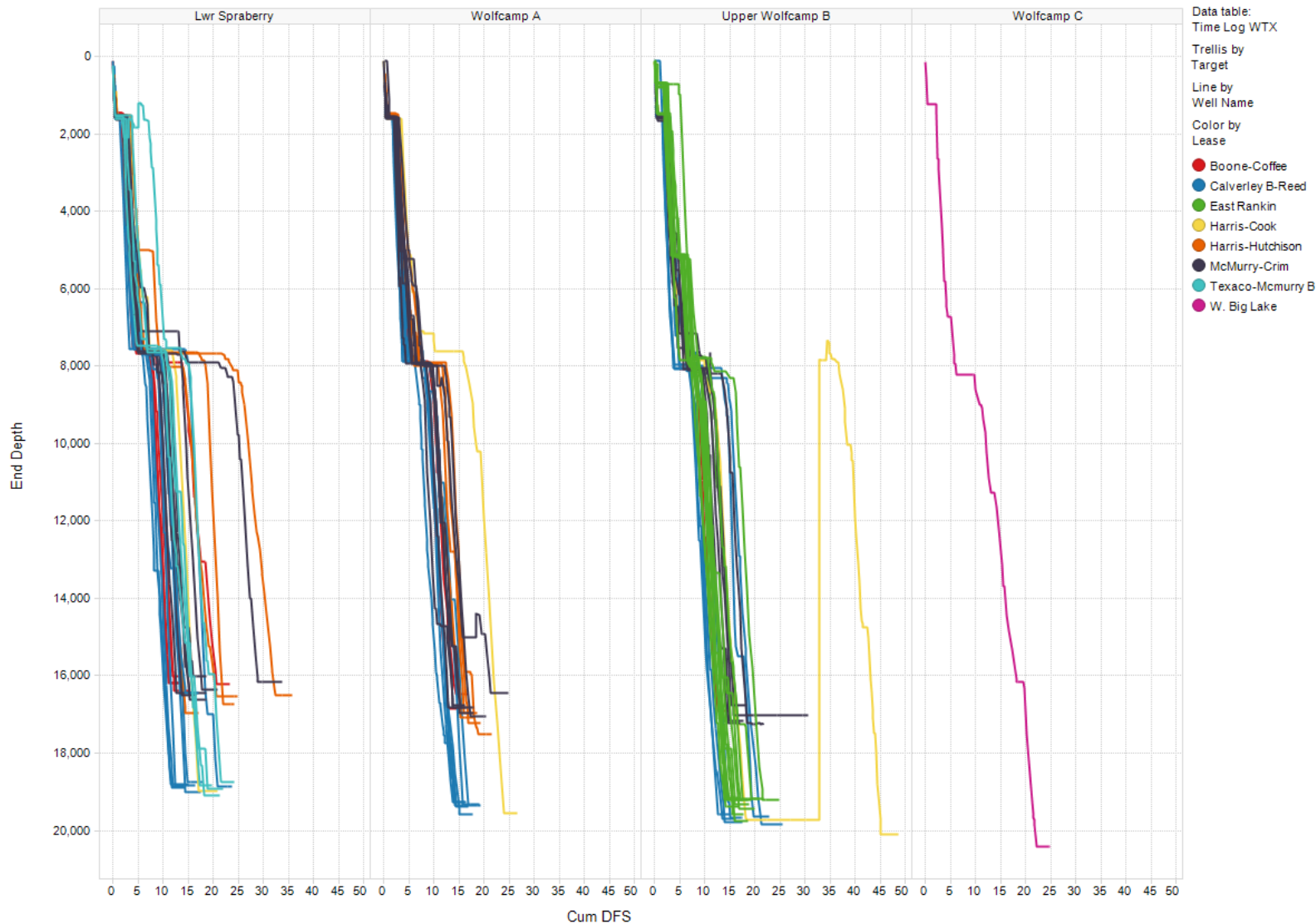
Days from Spud vs. Depth for HOC Drilled Wells





Days from Spud vs. Depth for HOC Drilled Wells

End Depth – Cum DFS





Operational Initiatives

- ISO 14001 Well Delivery Process
- Real Time Data Analytics Initiatives (Evaluation Phase)
 - Real Time Operations (24 hour operational monitoring).
 - Develop applications to minimize problems / downtime (bit wear, tool failures, degrading hole conditions).
- Composite Float Equipment and DV Tools
 - 1 bit drill out and ahead to TD.
- DWOP Exercise with Key Team Members (Rig + Office + Service Reps)



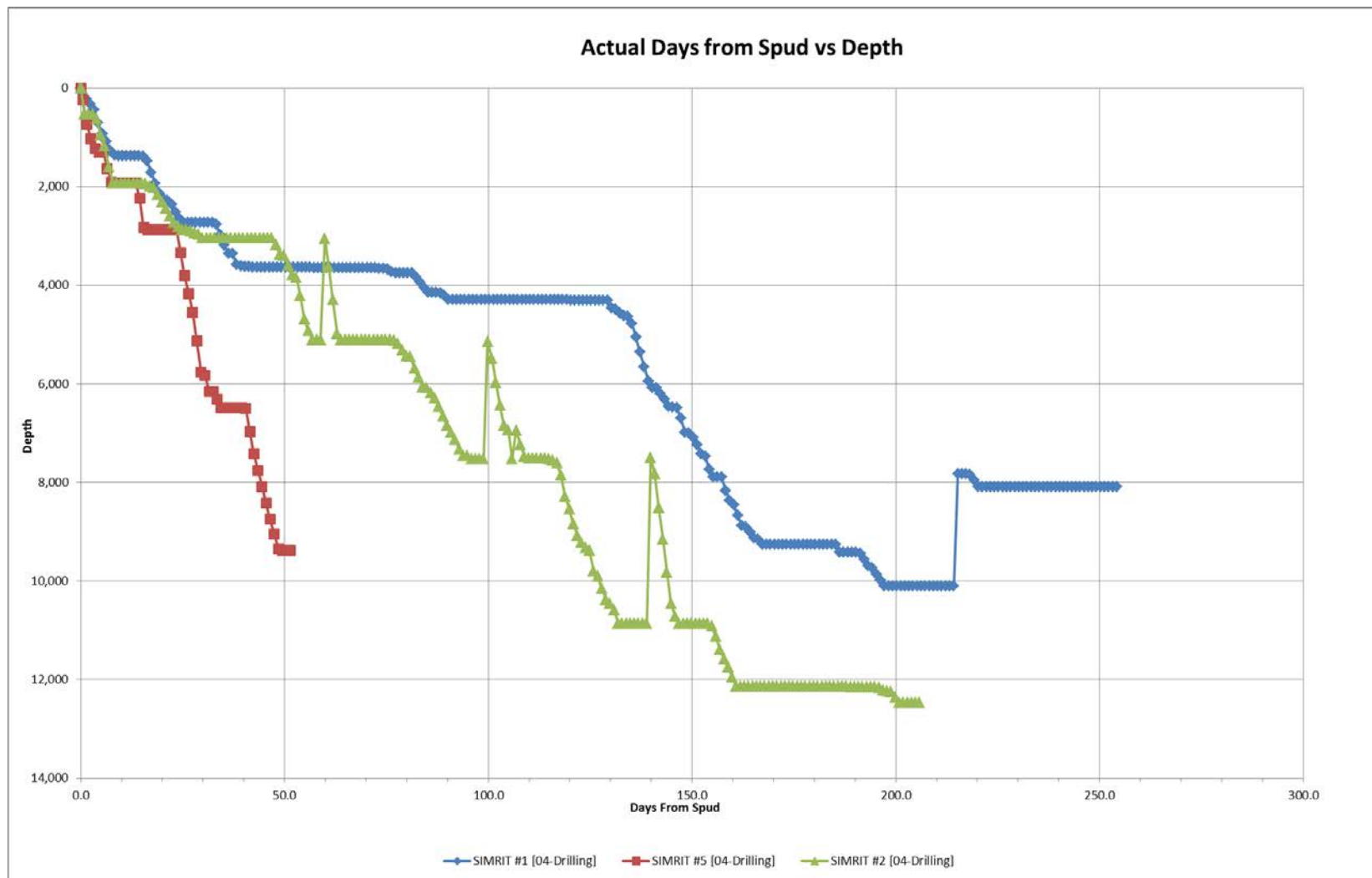
Simrit #1 Exploratory Well - Problems Encountered



4.25 Days Downtime Due to Electrical Failure in Top Drive



International Improvement - Simrit Days vs. Depth





Problems Encountered – Kolosh Shale



Cavings from 1111m on 1/19/2010



Problems Encountered



Cavings from 1111m on 1/20/2010



Simrit #2 Development Well





LEADERSHIP & EXCELLENCE



*CONFIDENCE TO STAND ALONE.
THE COURAGE TO MAKE TOUGH DECISIONS.
LISTEN TO THE NEEDS OF OTHERS.
SEE OBSTACLES AS OPPORTUNITIES
DISCIPLINED PLANNING & SKILLFUL EXECUTION*