Stretching Dollars: Bakken Township Development

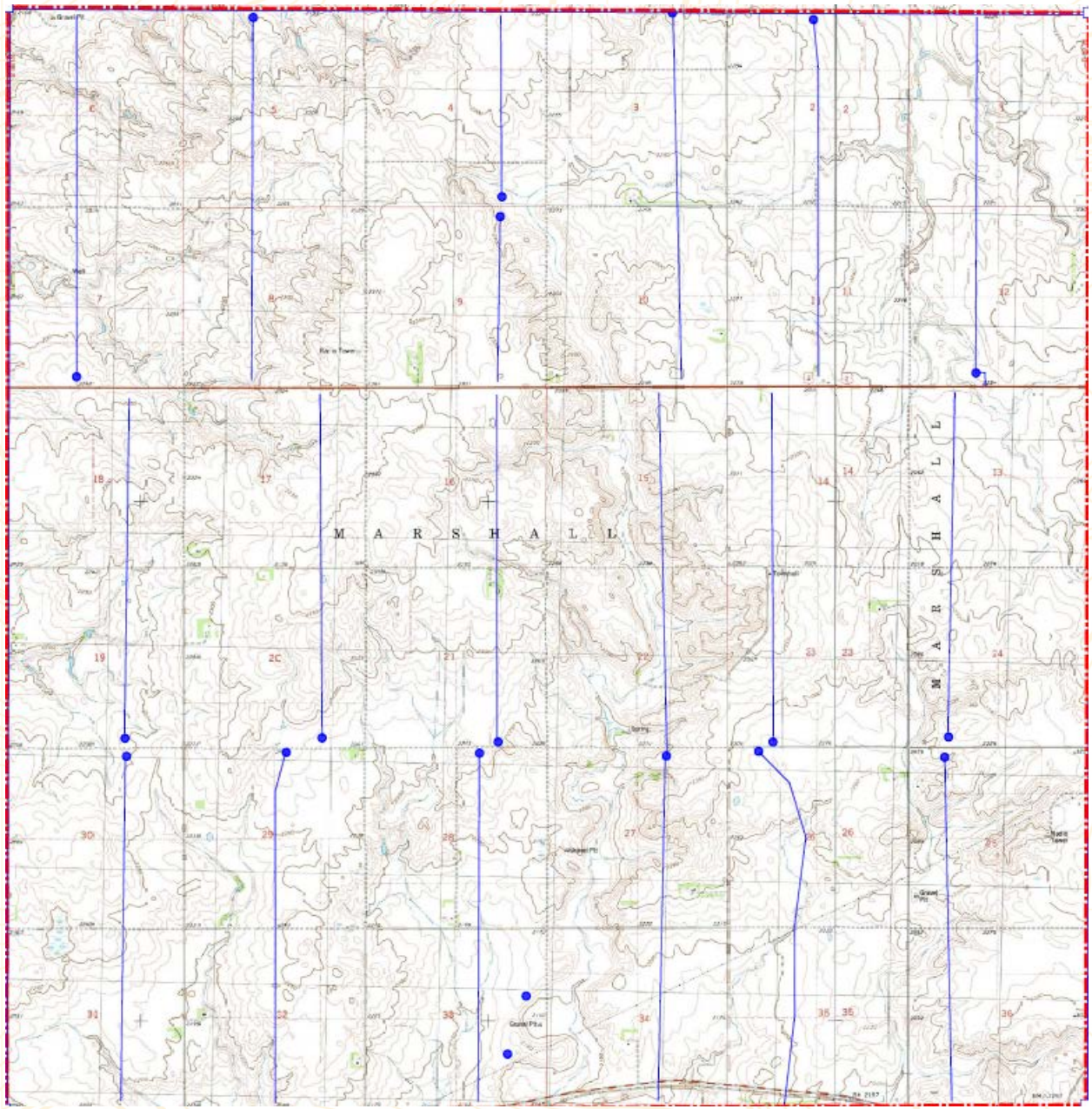
Bryan George

2/19/2014

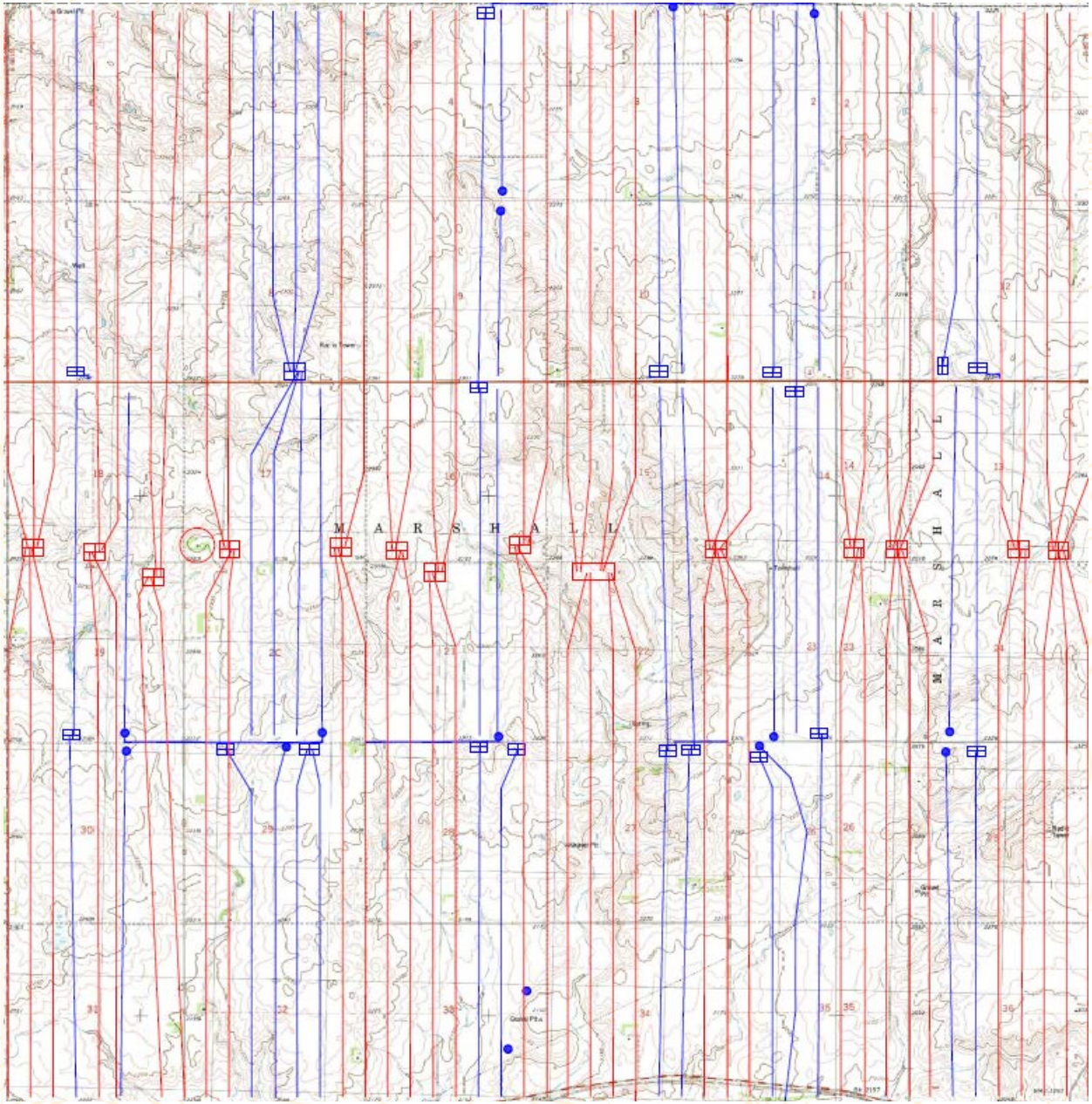
INDEPENDENT MEANS

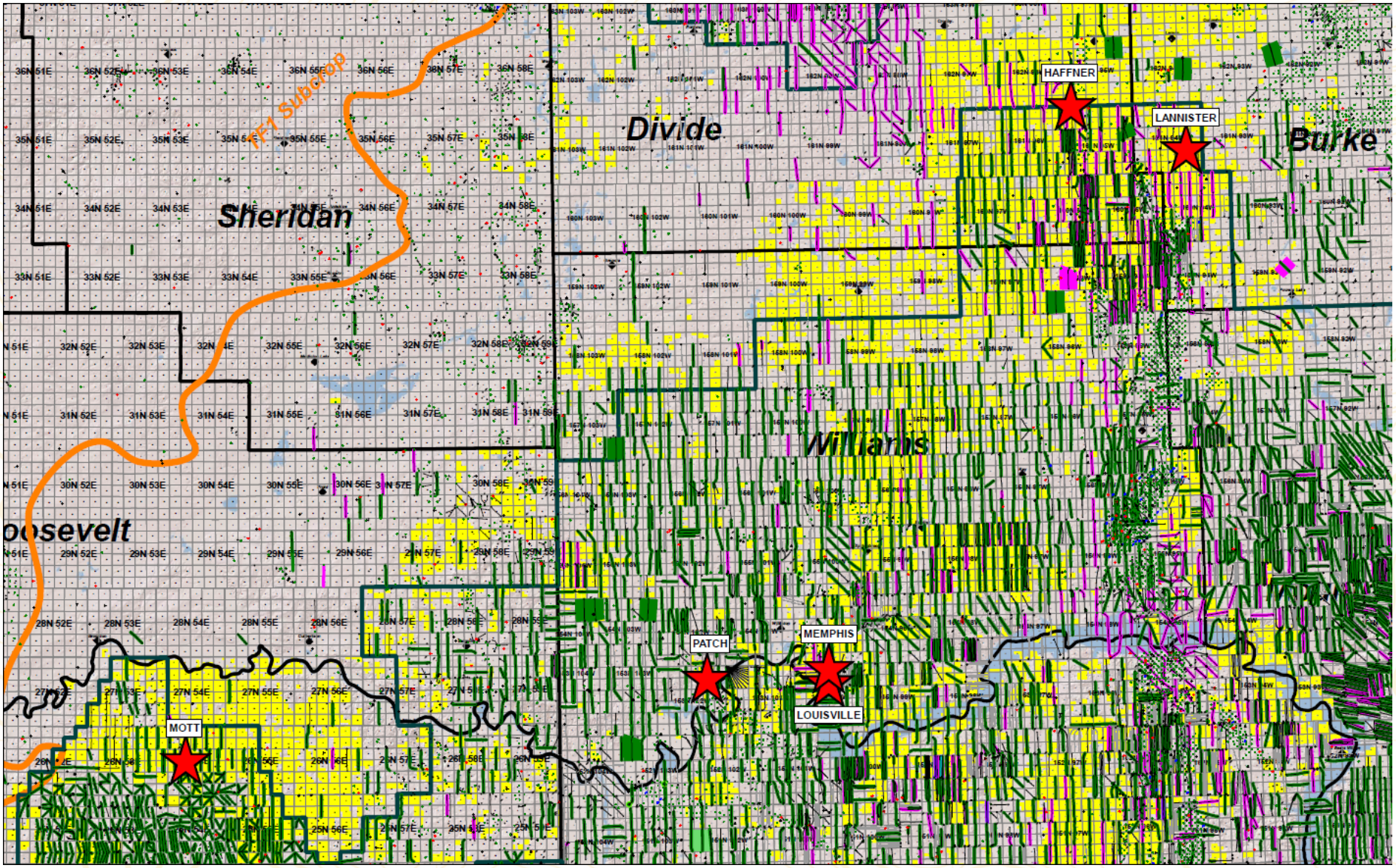
Continental RESOURCES

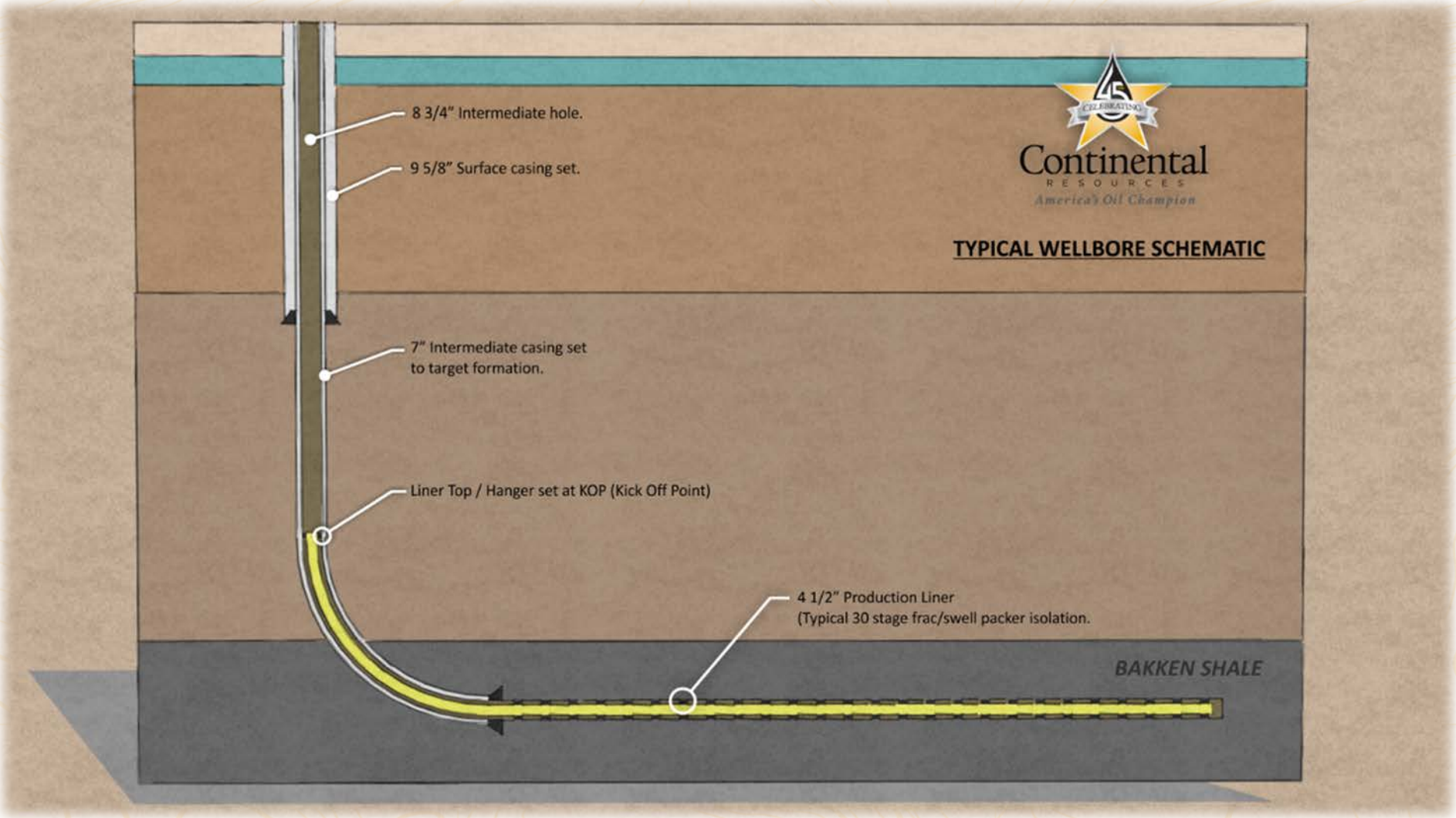
“How….”



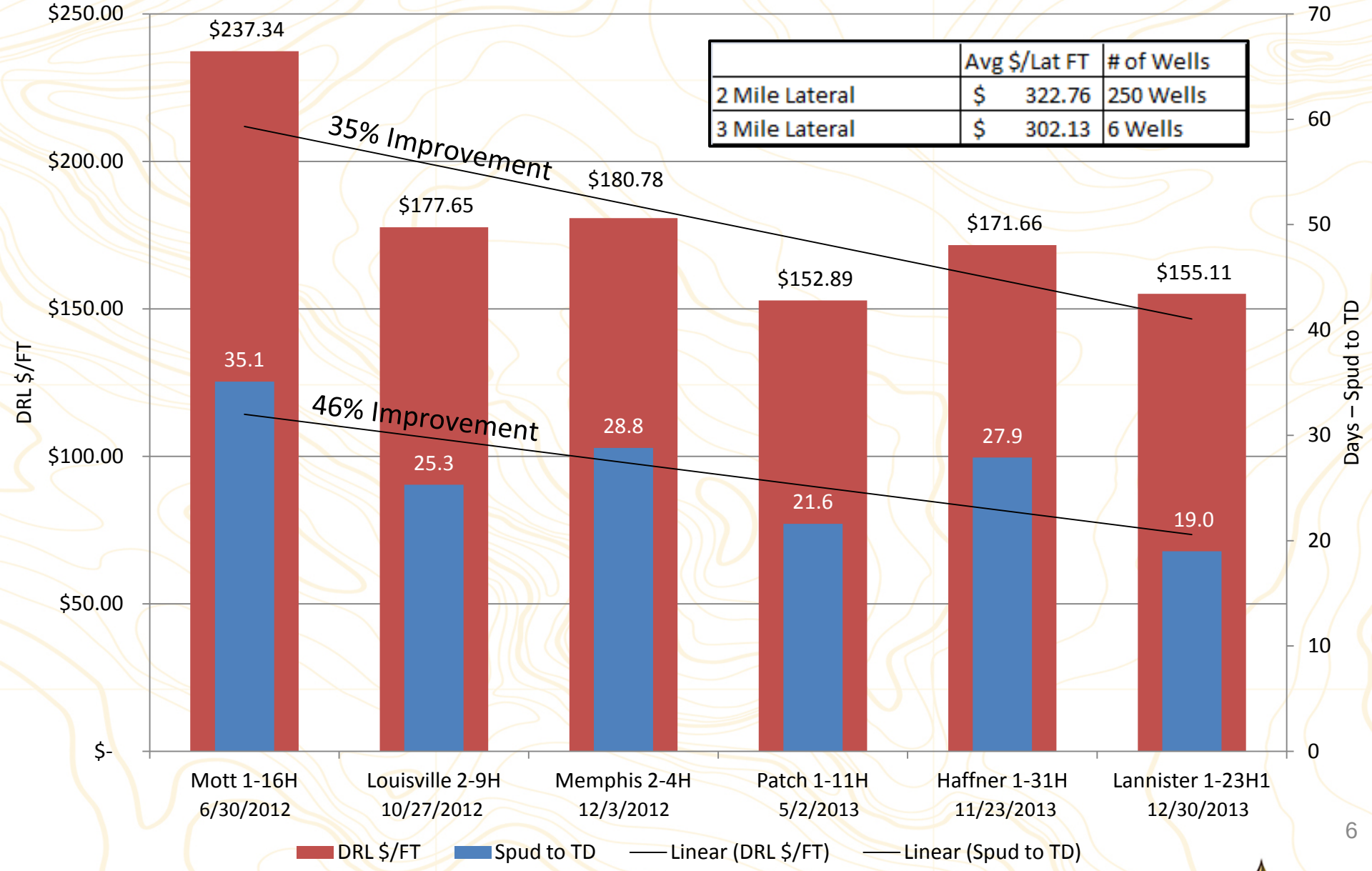
“What if….”





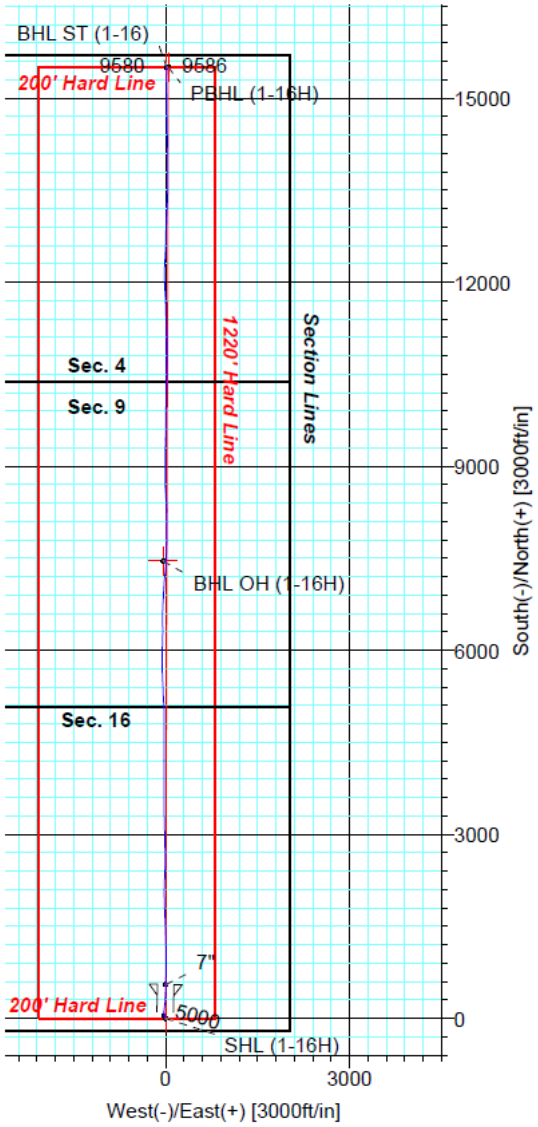

8 3/4" Intermediate hole.
9 5/8" Surface casing set.
Continental
RESOURCES
America's Oil Champion
TYPICAL WELLBORE SCHEMATIC
7" Intermediate casing set
to target formation.
Liner Top / Hanger set at KOP (Kick Off Point)
4 1/2" Production Liner
(Typical 30 stage frac/swell packer isolation.
BAKKEN SHALE

3 Mile Lateral Wells - Cost and Performance



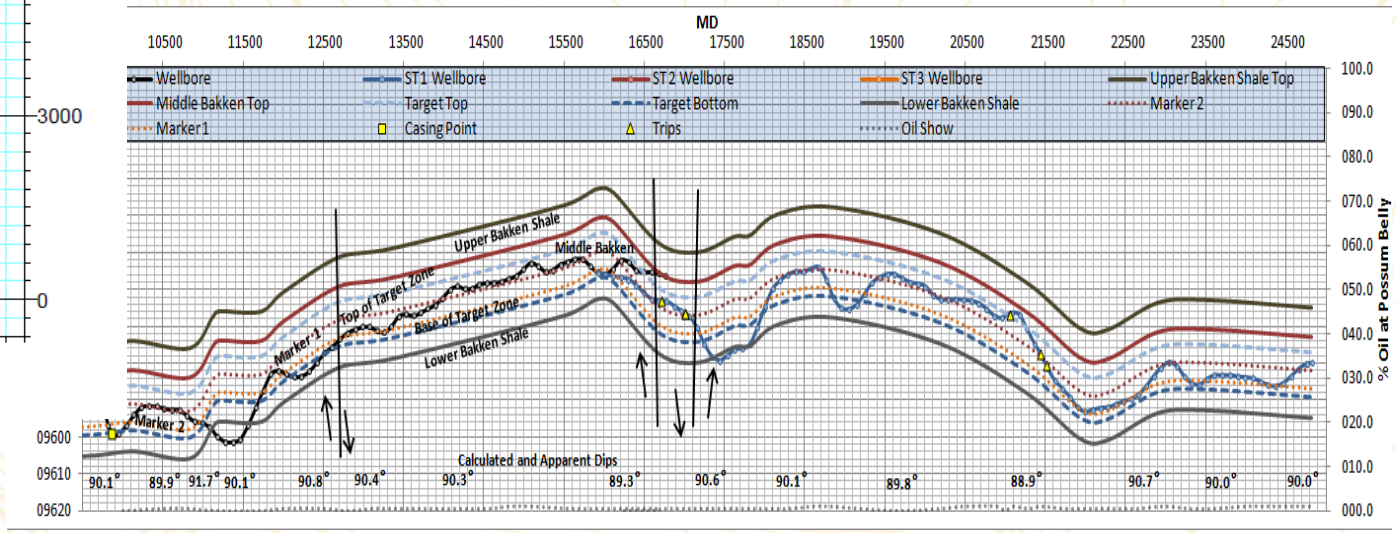
	Avg $/Lat FT	# of Wells
2 Mile Lateral	$ 322.76	250 Wells
3 Mile Lateral	$ 302.13	6 Wells

Mott 1-16H

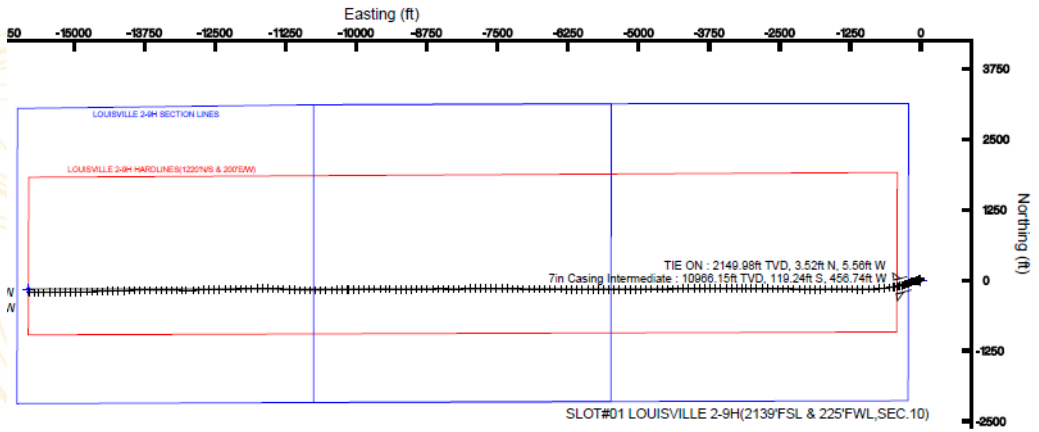


Lessons Learned

- Loaded for Bear
  - XT39 Drill Pipe
  - RS on the Hook
  - Hydril 563 Liner
- **IT CAN BE DONE**

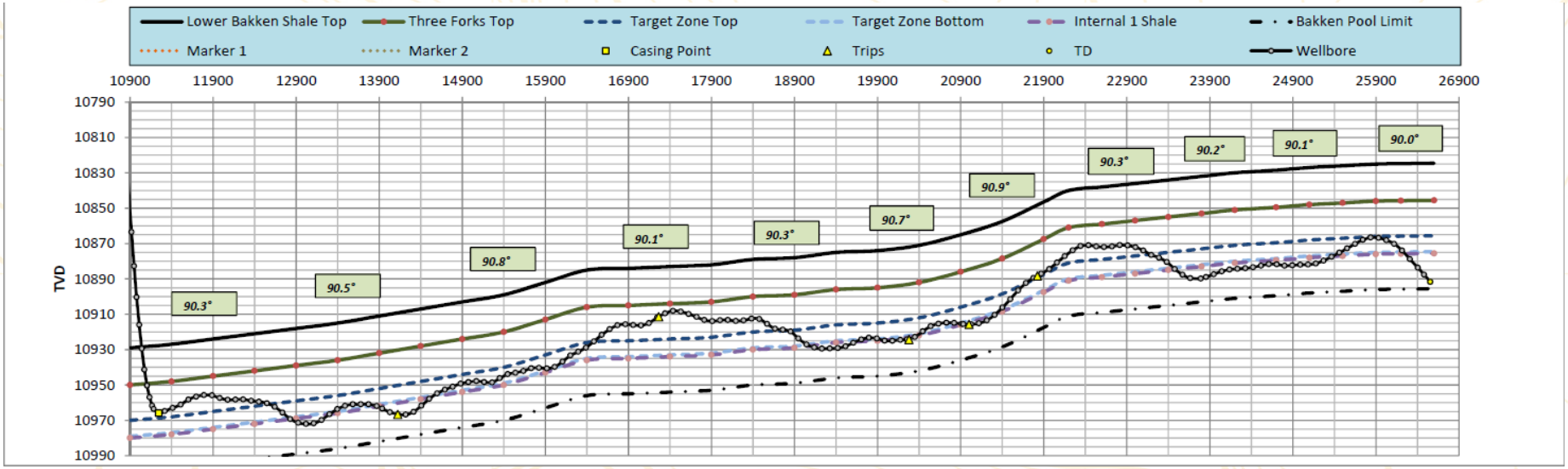


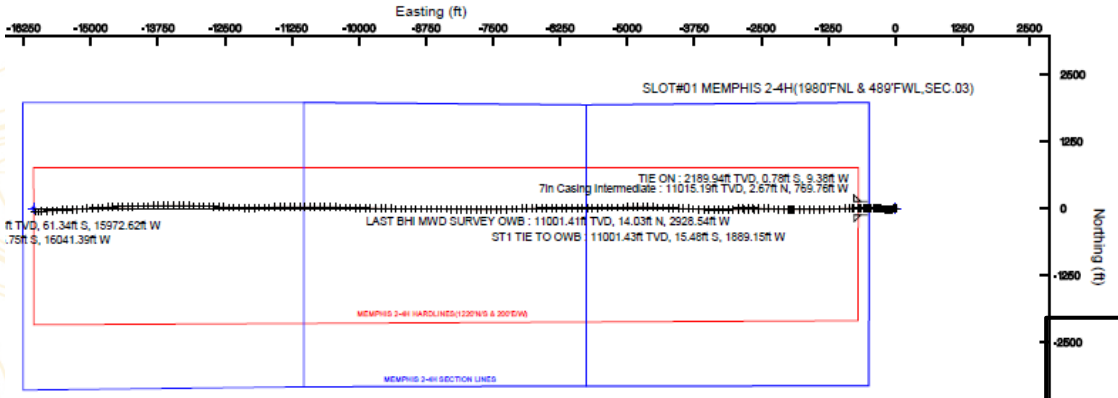
Louisville 2-9H



Lessons Learned

- DS38 Drill Pipe
- Drilled Well E/W vs N/S
- Knowledge Sharing

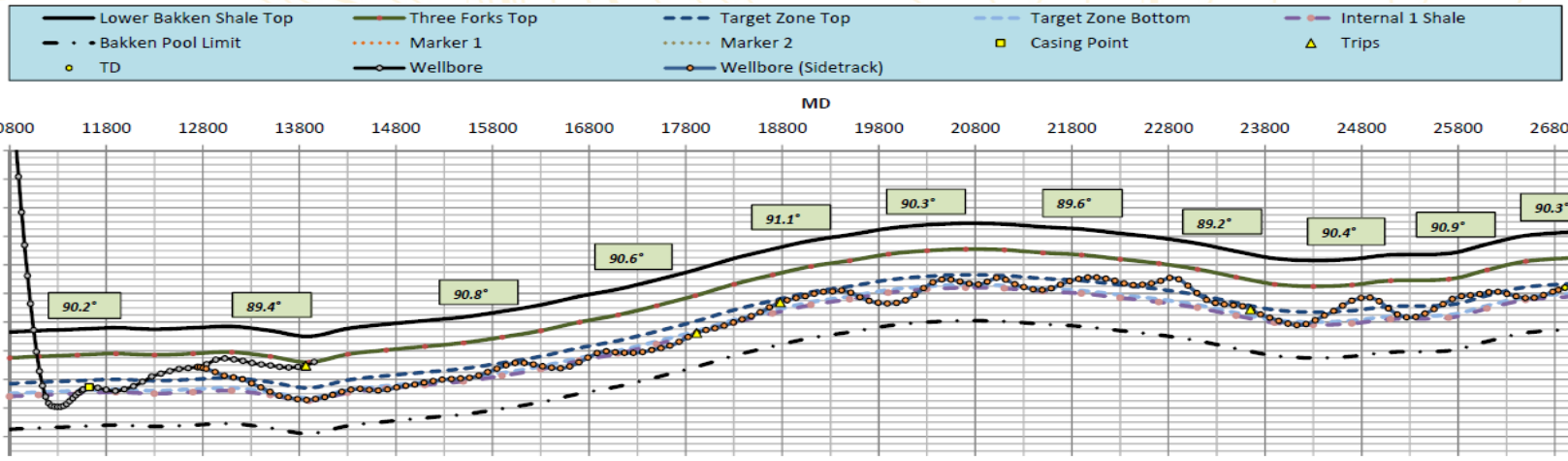




Memphis 2-4H

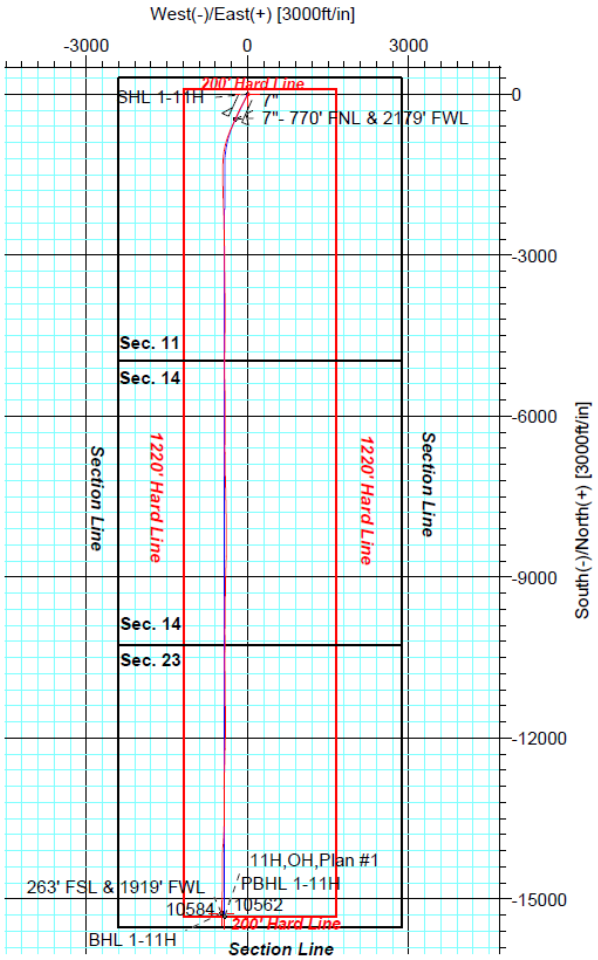
Lessons Learned

- Torque & Drag Issues
- >8% Lube Does Not Work
- Hole Cleaning Issues



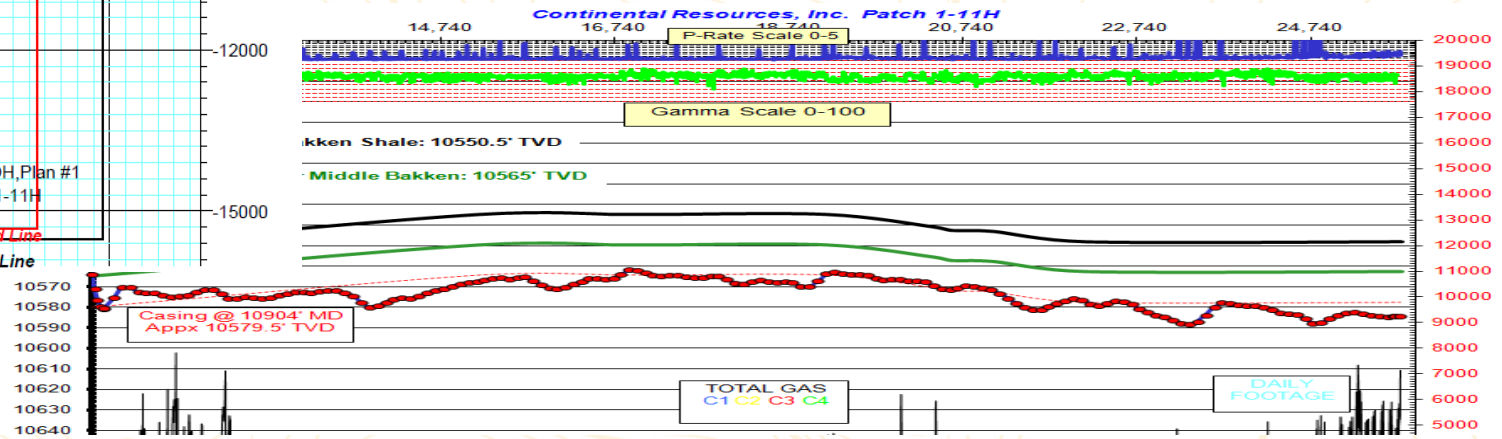
Western Hemisphere Land Record for Deepest Horizontal Well

Patch 1-11H



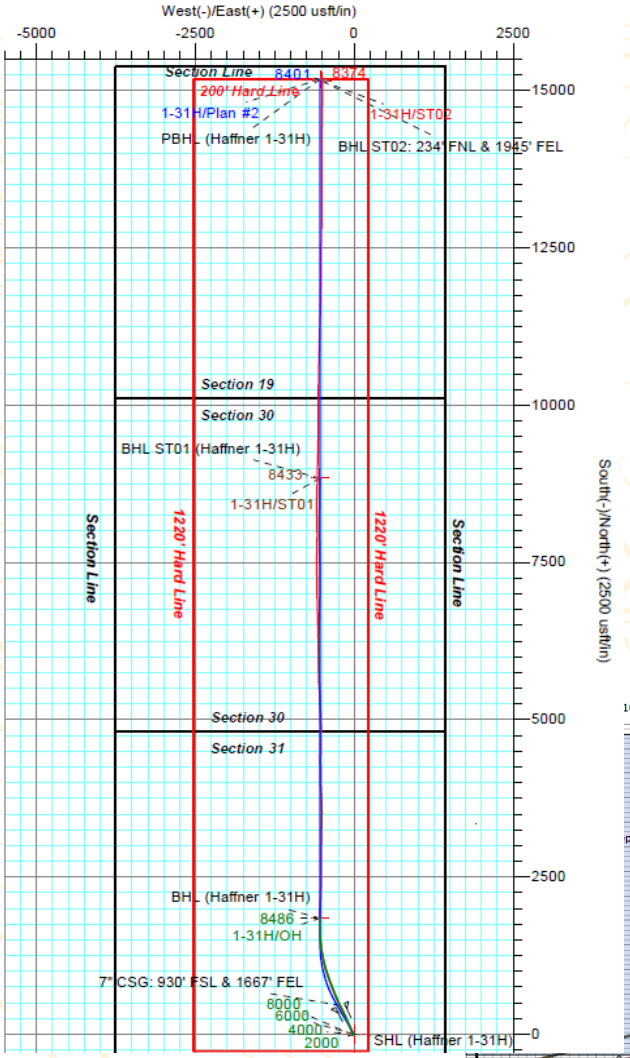
Lessons Learned

- Drilled with Compound Mechanical Rig
- 1st Well to Run TXP Connections
- No Hole Cleaning Issues and Smoother Wellbore
- Single Lateral BHA from DO to TD



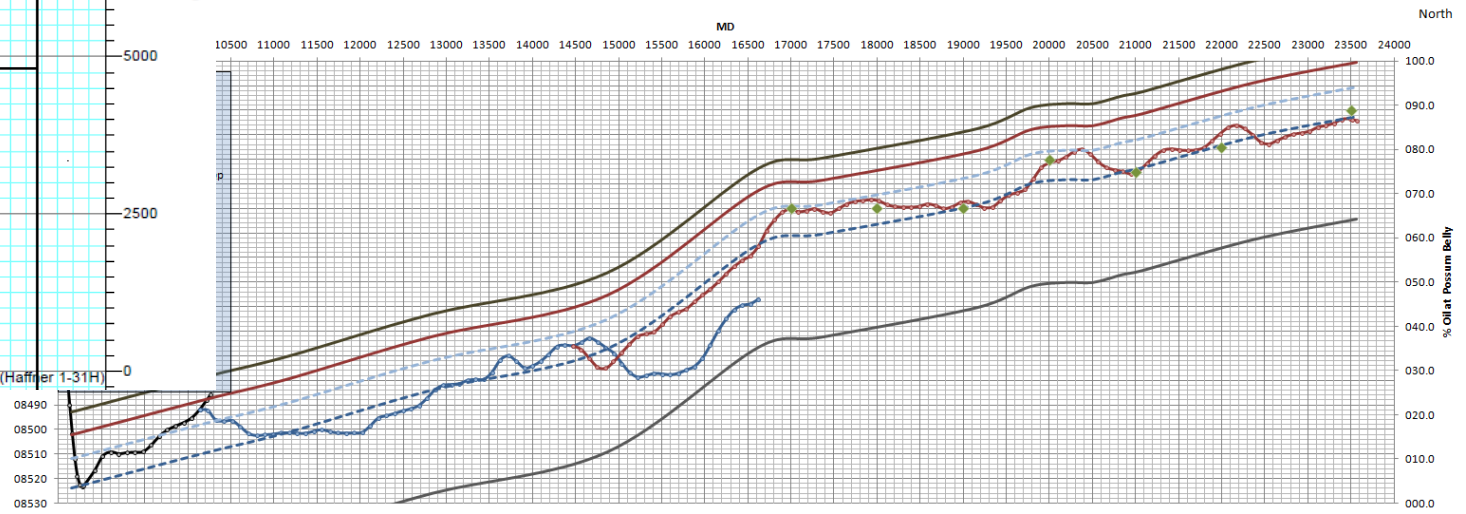
World Record for Consecutive Lateral Footage Drilled

Haffner 1-31H



Lessons Learned

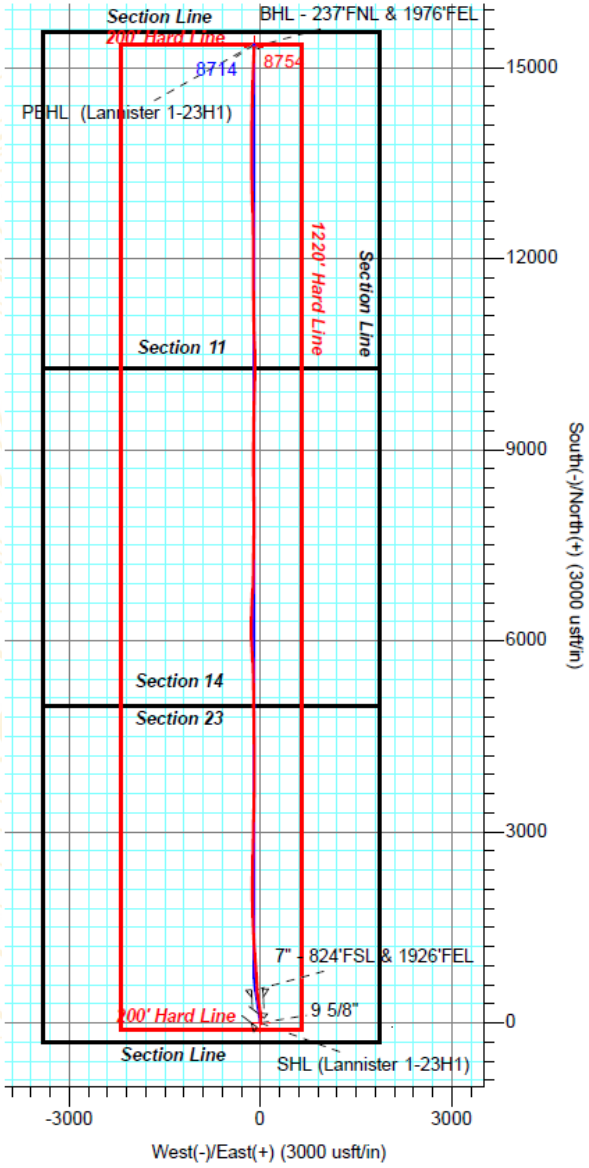
- Shallow TVD Can Be Done
- Complex Wellbore Geometry
- Turn in Lateral
- Successful Liner Run Despite Tq & Drag Models

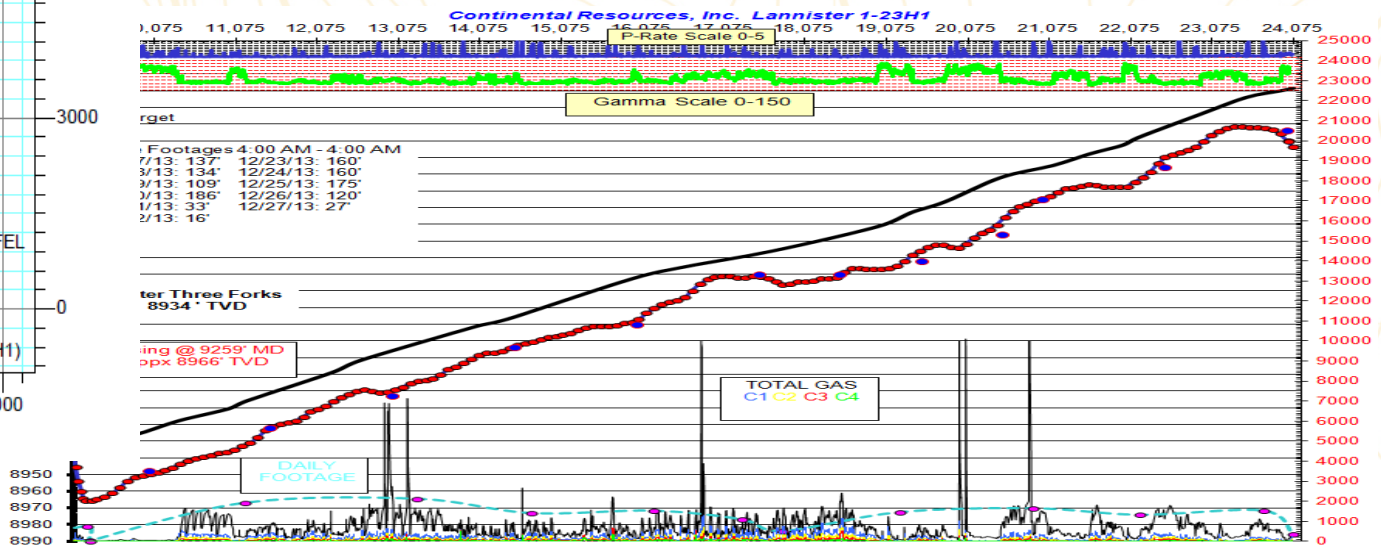


Lannister 1-23H

Lessons Learned

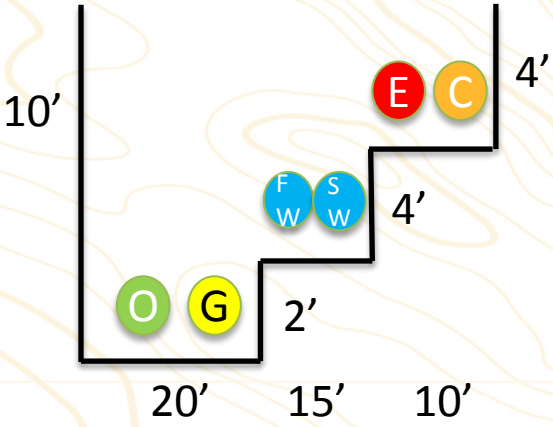
- Confidence is Building That We Can Successfully Drill and Case

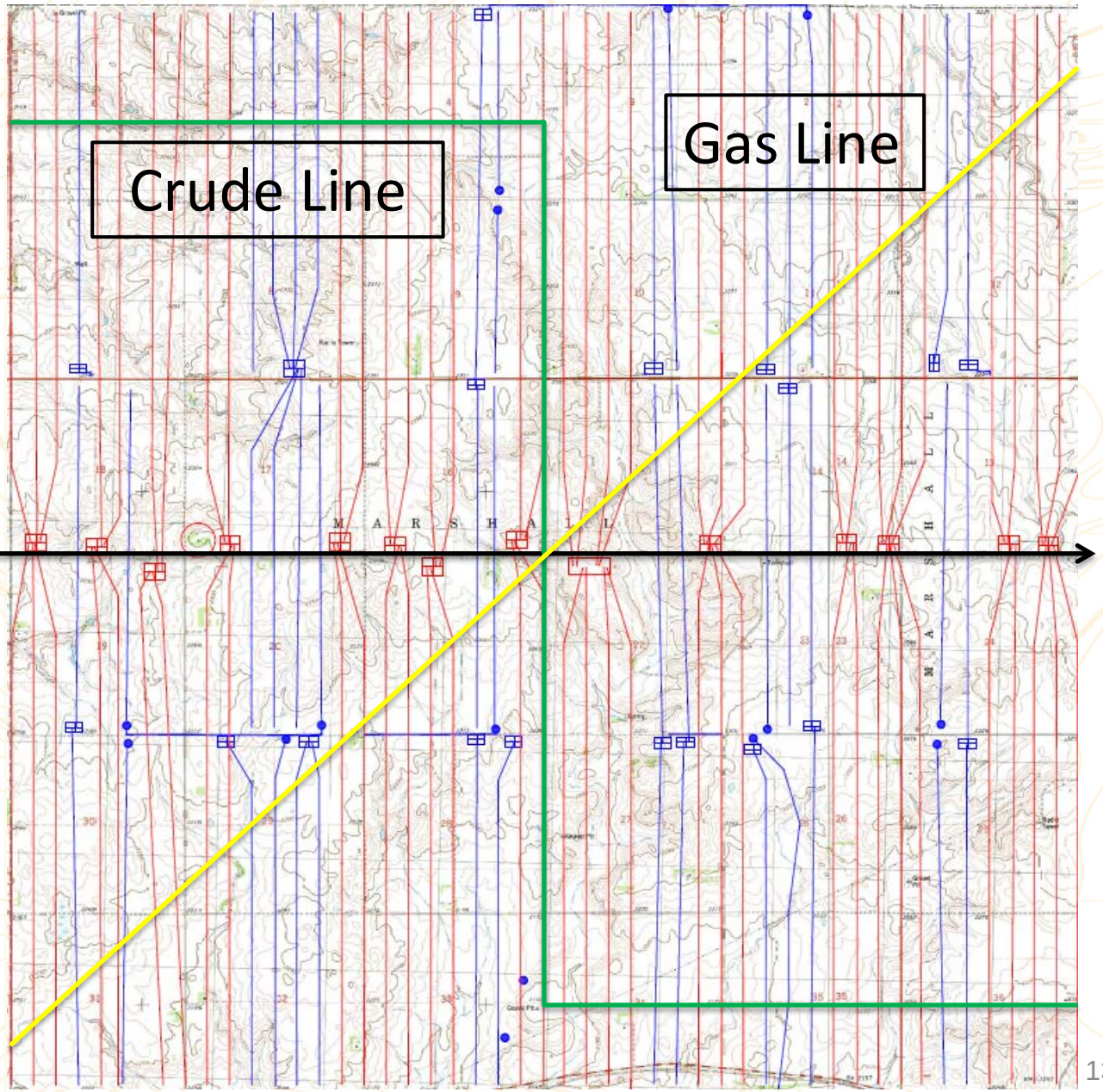




Energy Corridor

Remember This?





Stretching Dollars

Standard 2 Mile Development Pattern	=	141 Wells	=	$1,105.4
3 Mile Lateral Development	=	109 Wells	=	$998.9
Potential Savings	**=**	**32 Wells**	**=**	**$107 Million**

Standard 2 Mile Development Pattern	=	64 Locations =	280.3 Acres
3 Mile Lateral Development	=	46 Locations =	179.1 Acres
Potential Savings	**=**	**18 Locations =**	**101.2 Acres**
36% reduction in footprint			

2013 2-Mile Single - $9.3MM → 2014 3-Mile Single - $9.7MM

Additional Benefits

- Additional Lateral Footage
- Mobilization
- Waste Reduction
- Permits
- Completions
- Gathering Line / Battery Design

Future Challenges

- Drilling
  - Pad Drilling
  - Stacked Laterals
  - Casing Design
- Completions
  - Cleanout
  - Friction Pressure
  - Toe Stim Concerns
  - Tracer in Frac
- Reservoir
  - Lower Performance Areas

Questions?