

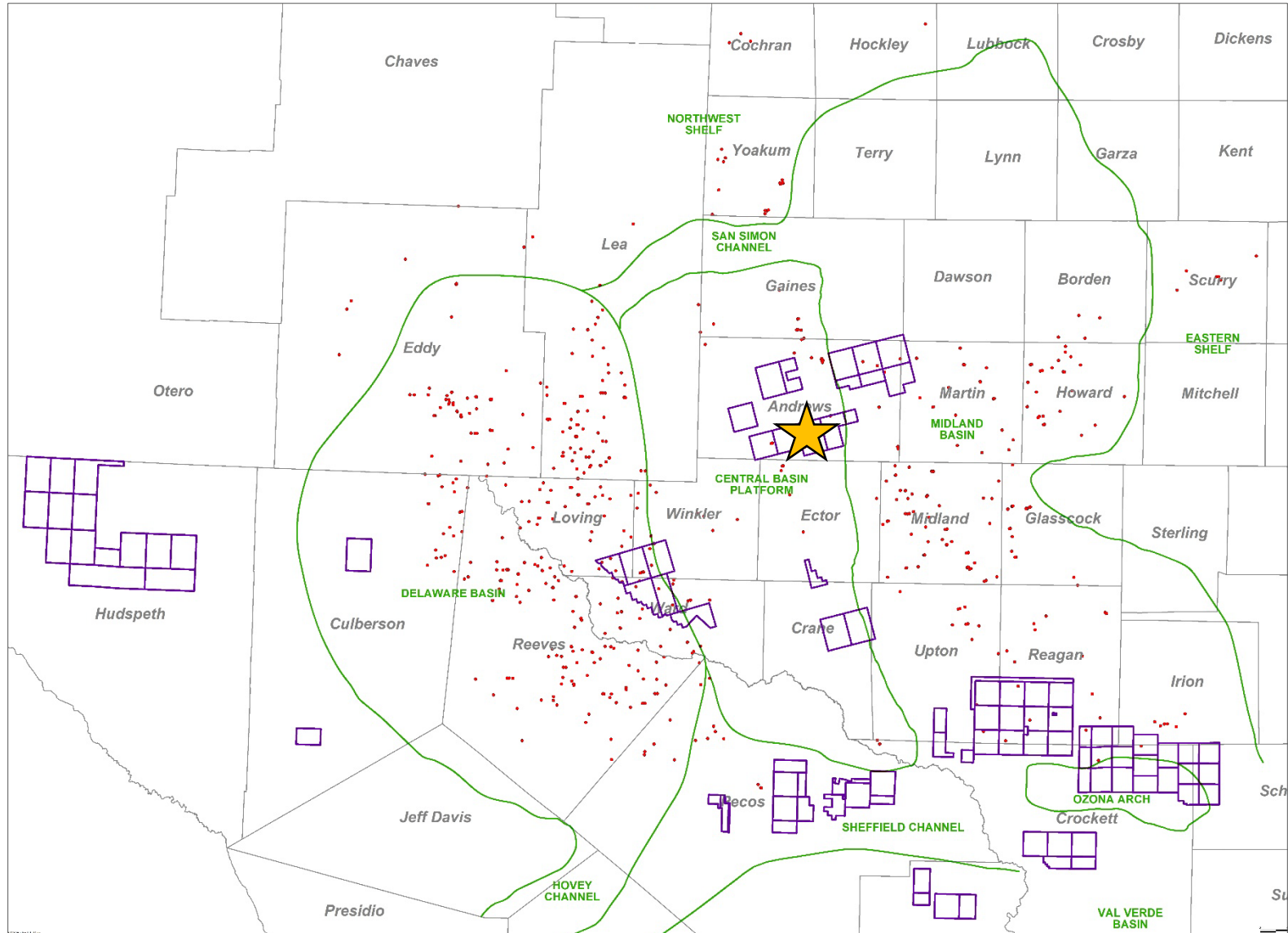
# Elevation's Barnett Oil Play: Its Genesis and Why it Works

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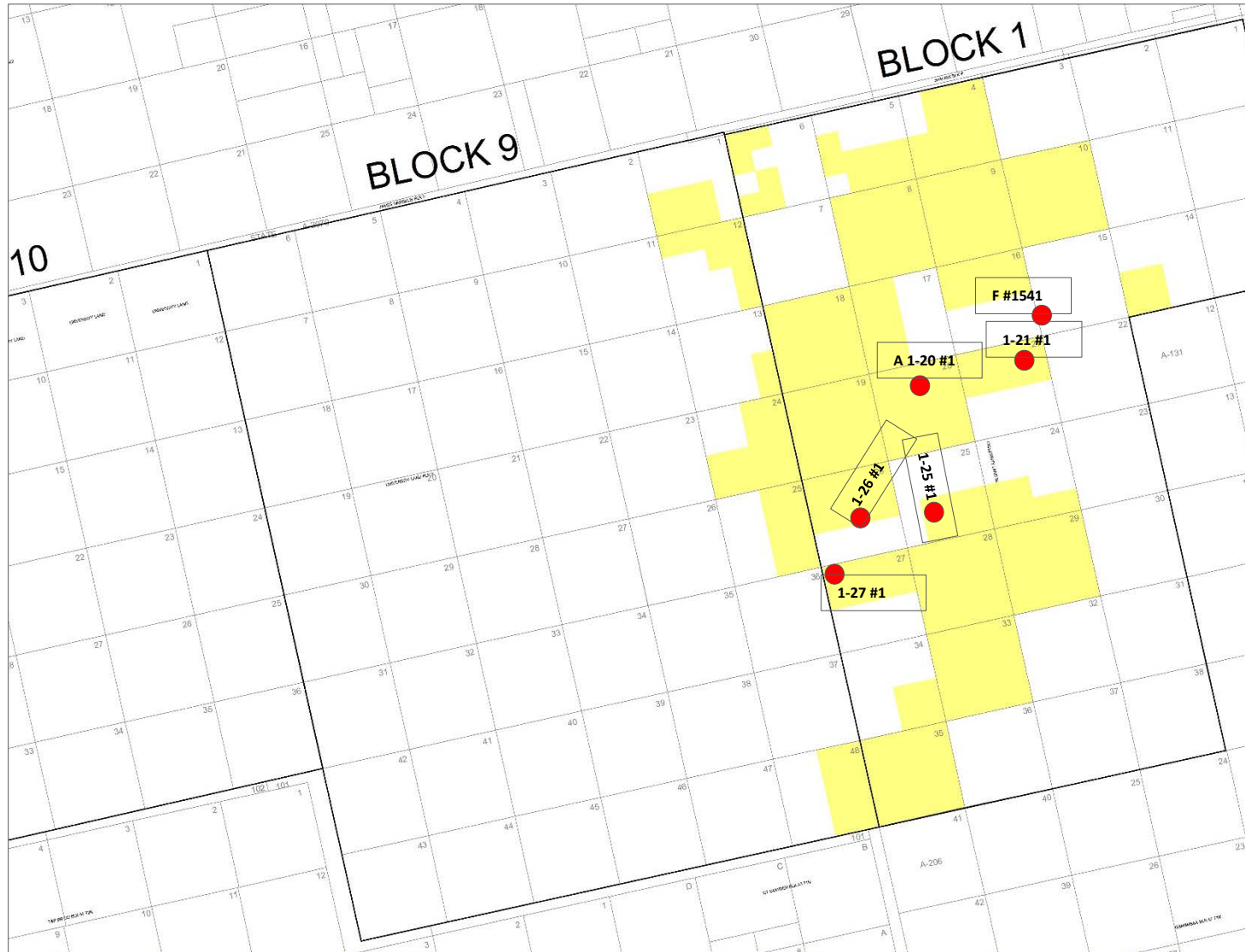
April 25, 2018

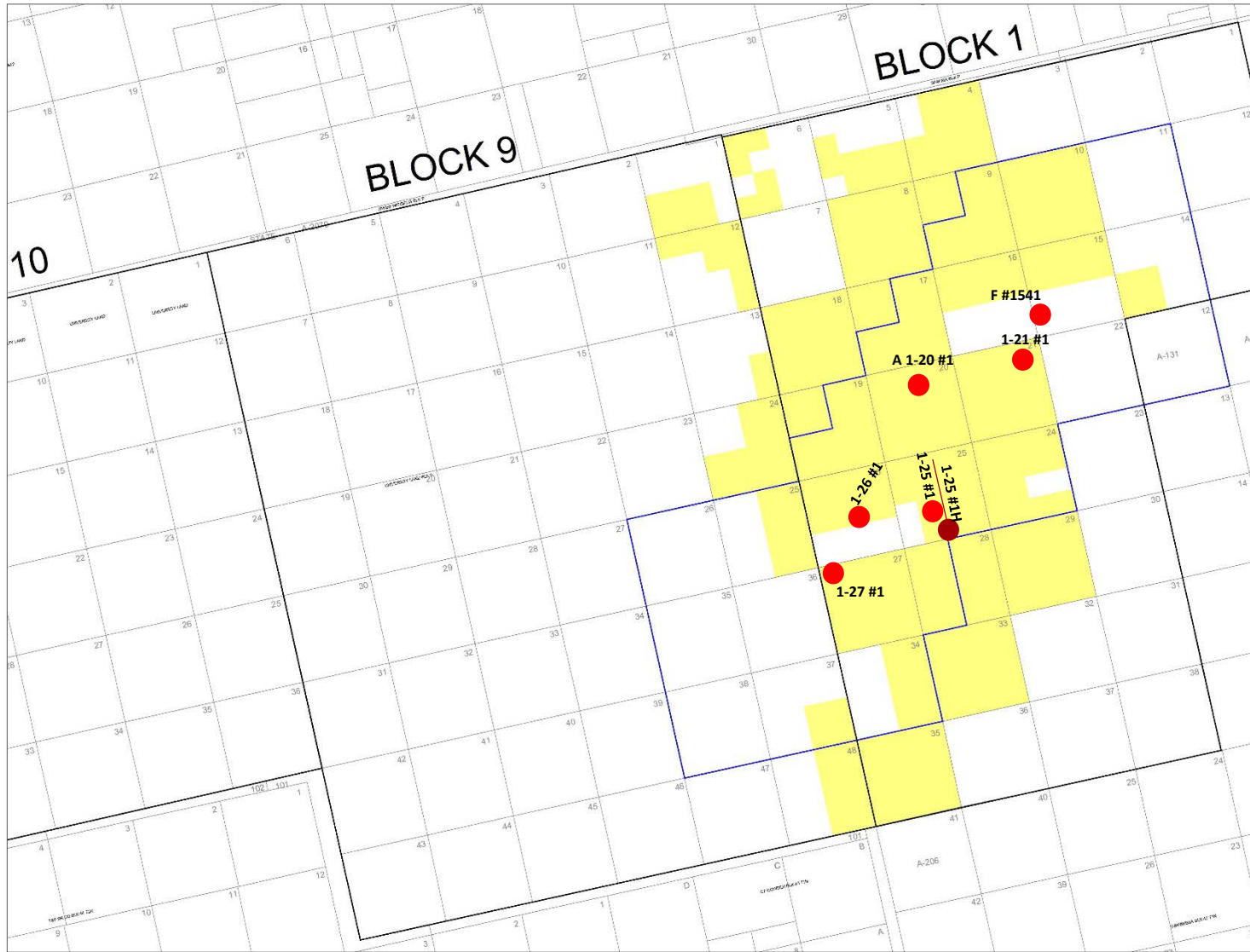


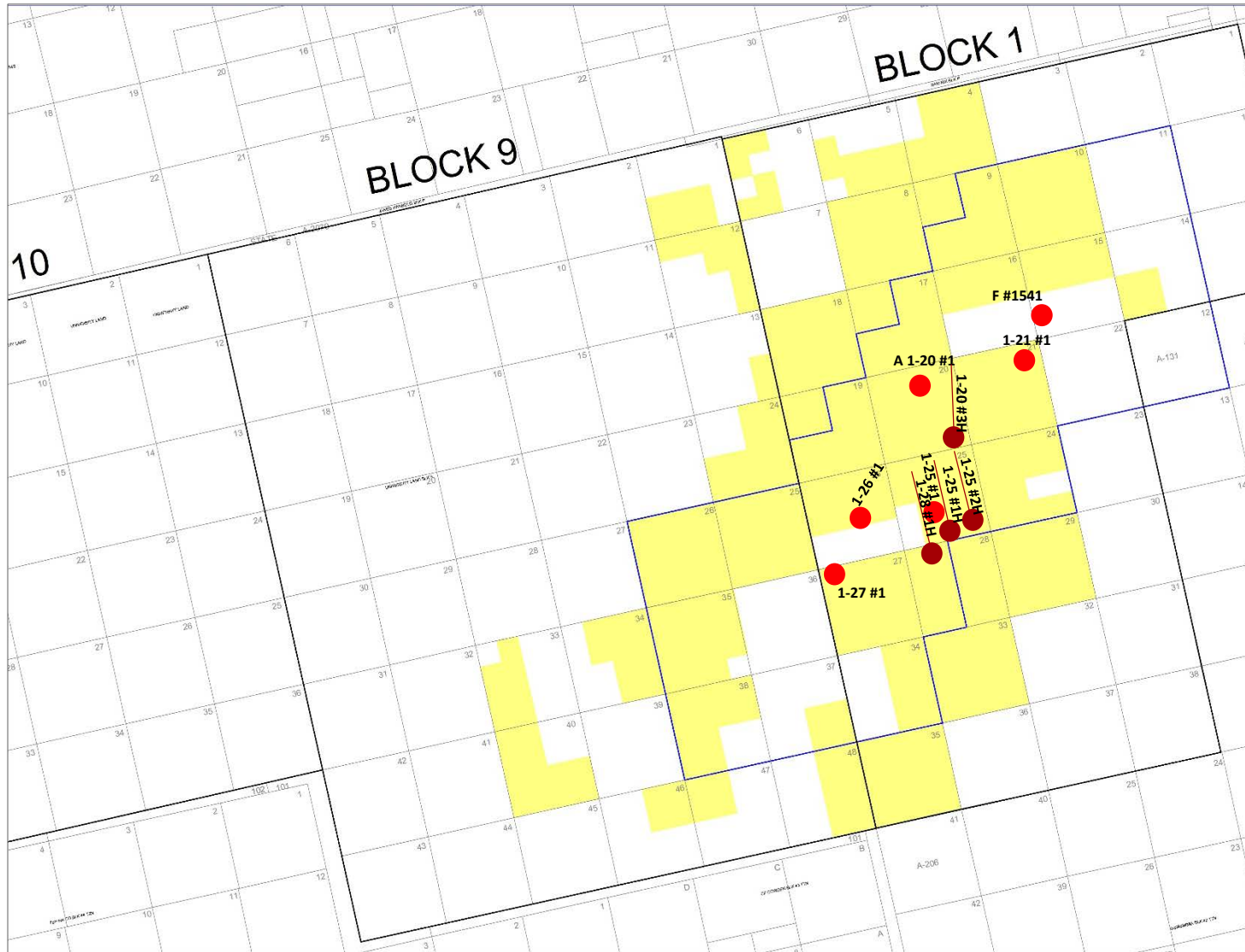
# UL Permian Basin Position



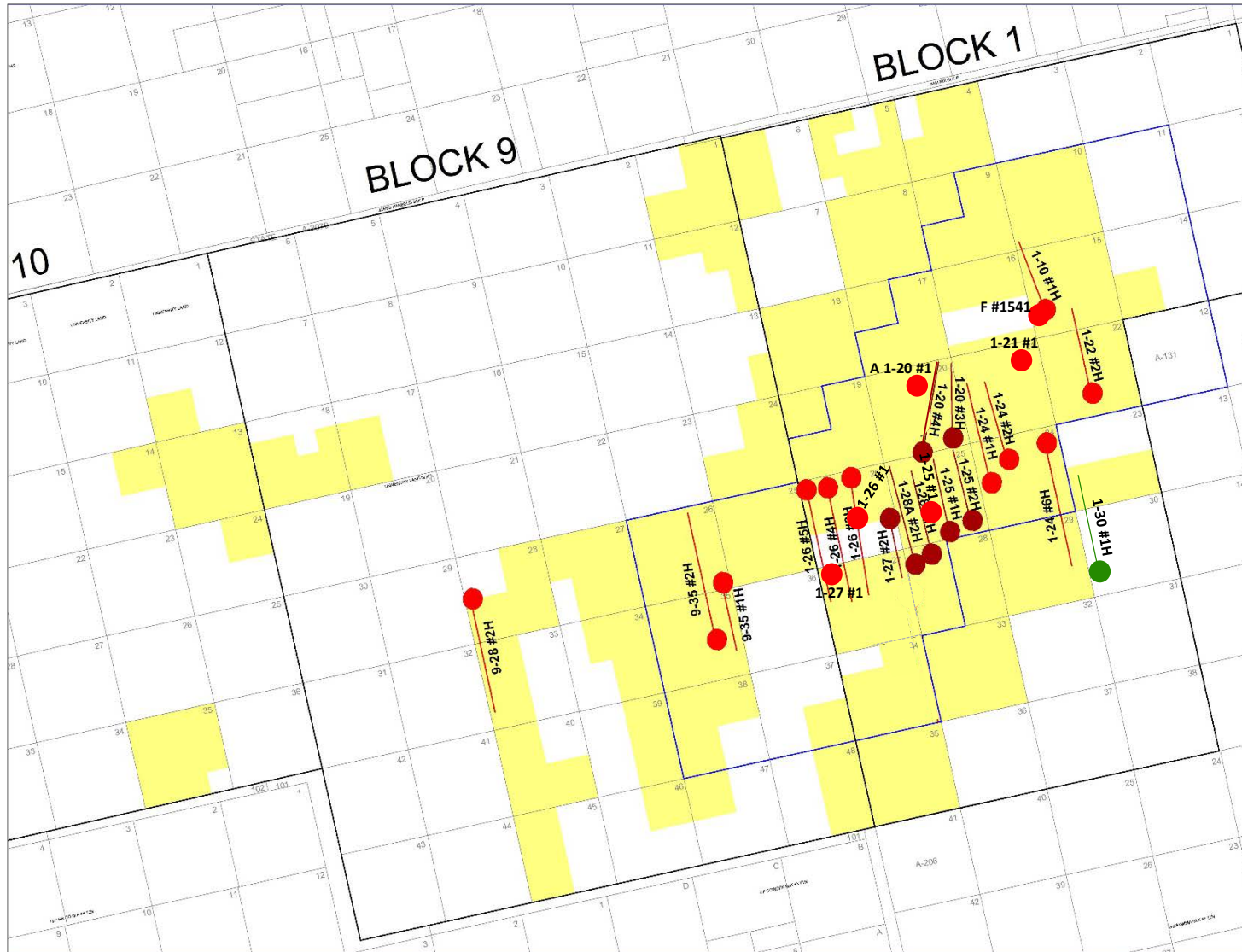
• Posted: 2018 Horizontal Spuds (IHS Energy)



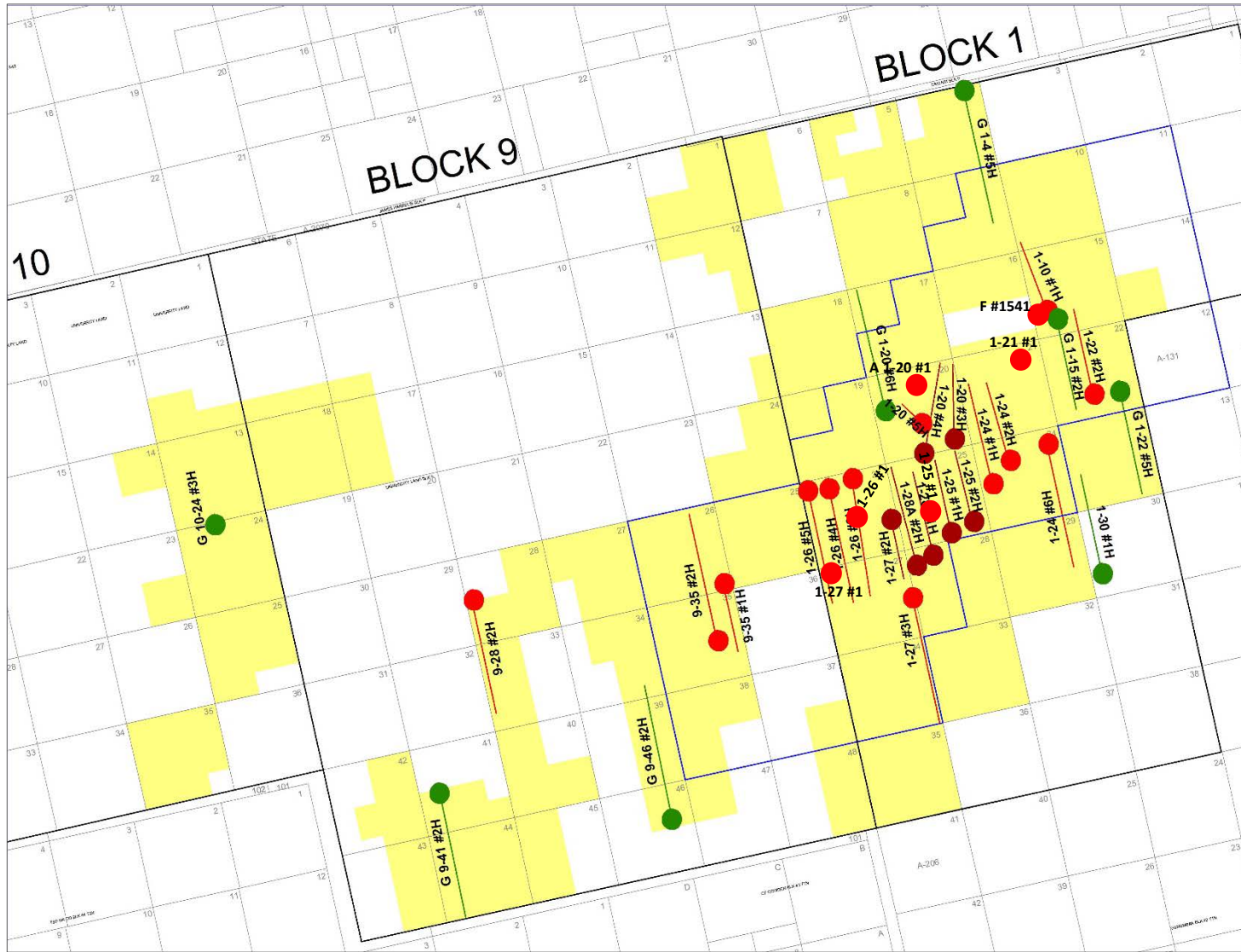






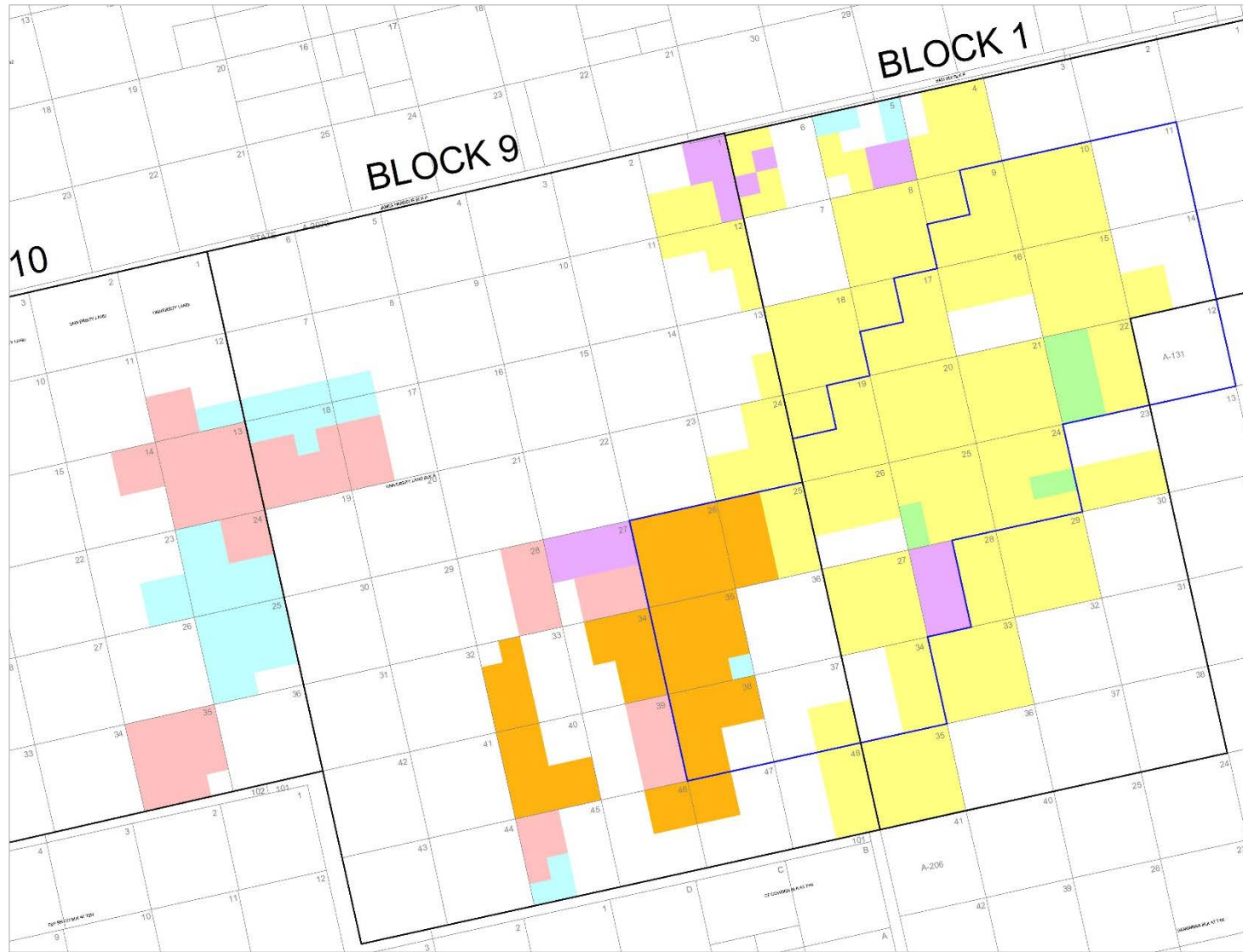




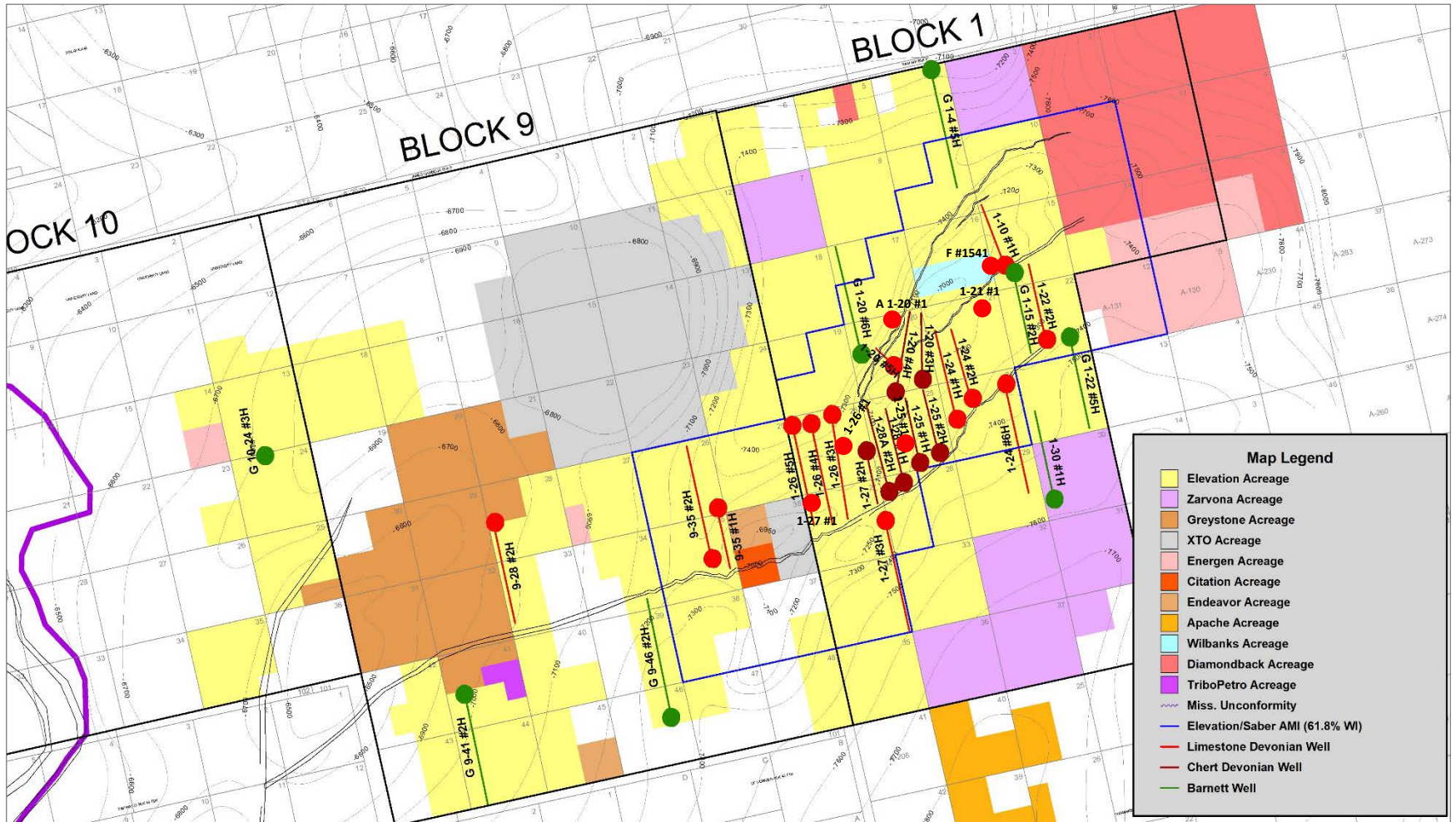




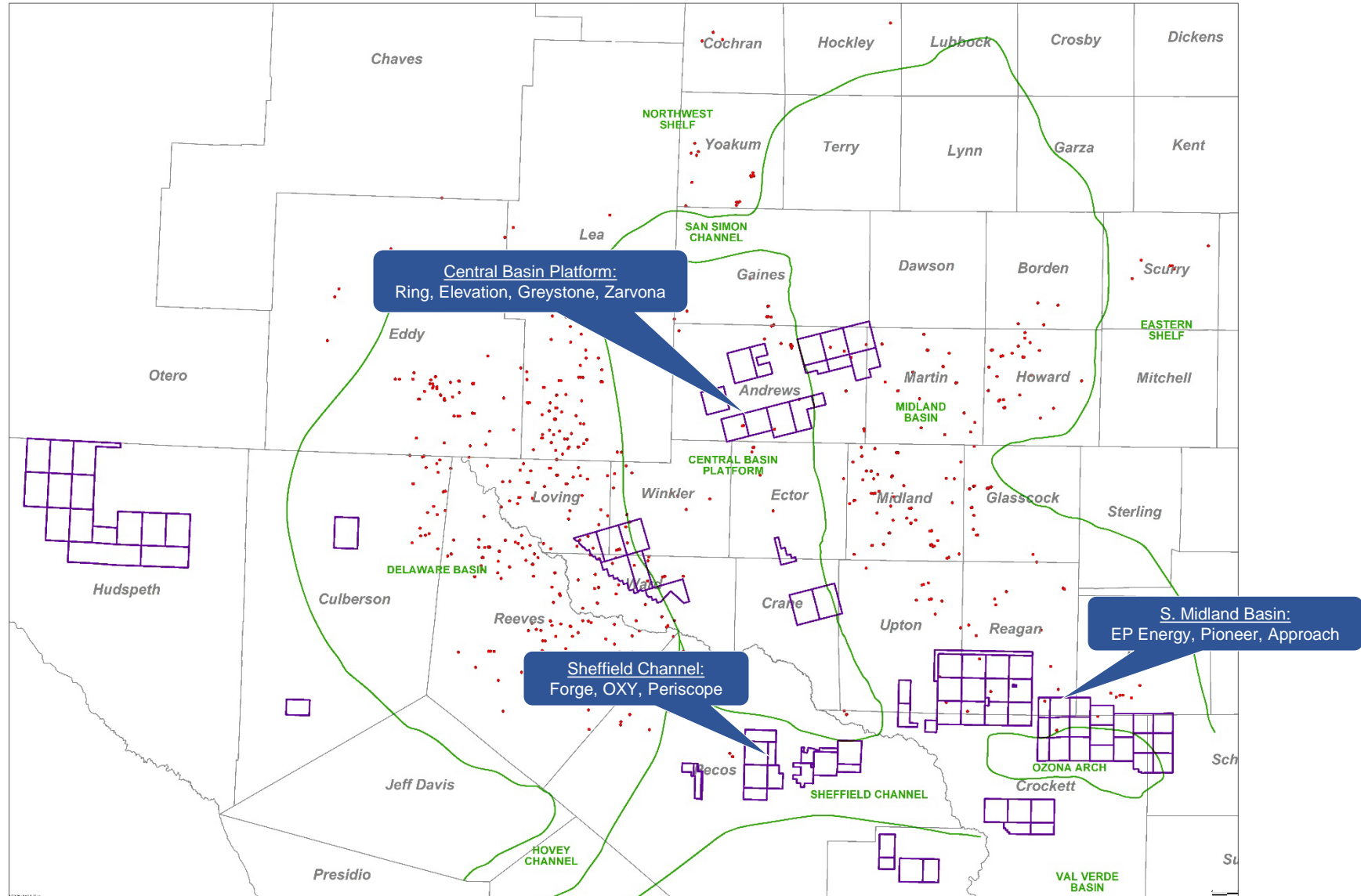
# Elevation CDDA – DUA Summary



# Current Elevation Base Map



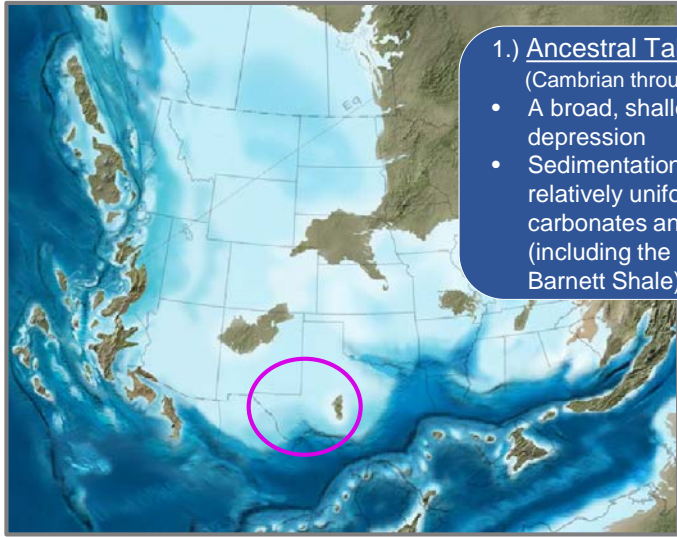
# UL's Permian Basin Position, Emerging and Established Plays



• Posted: 2018 Horizontal Spuds (IHS Energy), callouts: horizontal spuds, 2016 to present



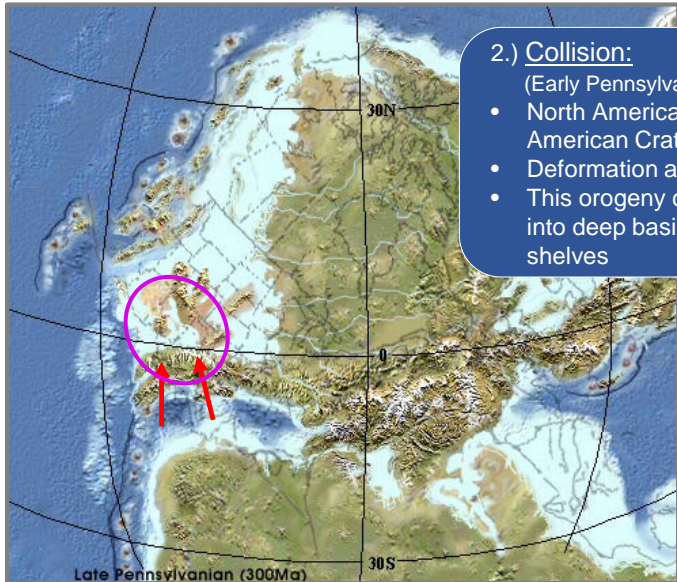
# Permian Basin's 3 Stage Tectonic History



## 1.) Ancestral Tabosa Basin

(Cambrian through Mississippian)

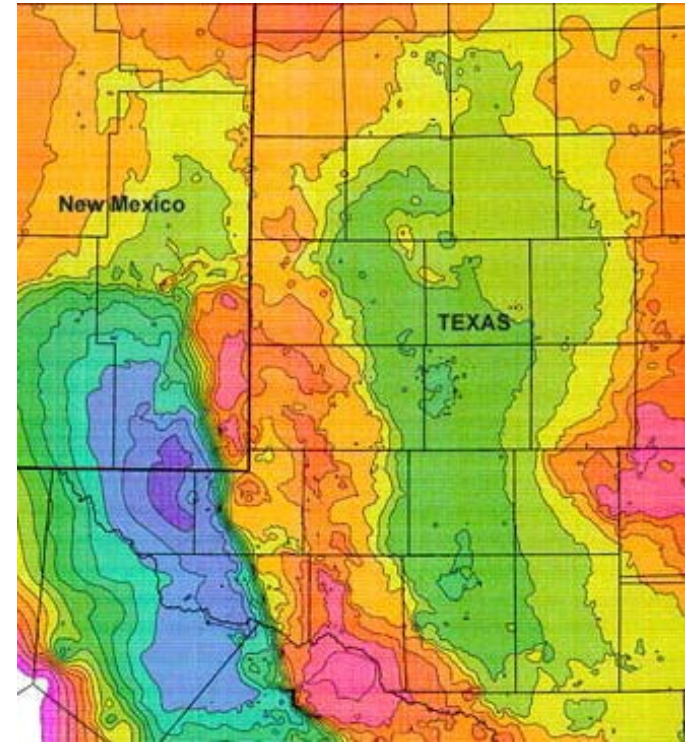
- A broad, shallow, gently dipping depression
- Sedimentation consisted mainly of relatively uniform and widespread shelf carbonates and thin basal shales (including the Mississippian age Barnett Shale)



## 2.) Collision:

(Early Pennsylvanian through Early Permian)

- North American Craton collided with the South American Craton
- Deformation and uplift (erosion)
- This orogeny caused the basin differentiation into deep basins surrounded by shallow shelves



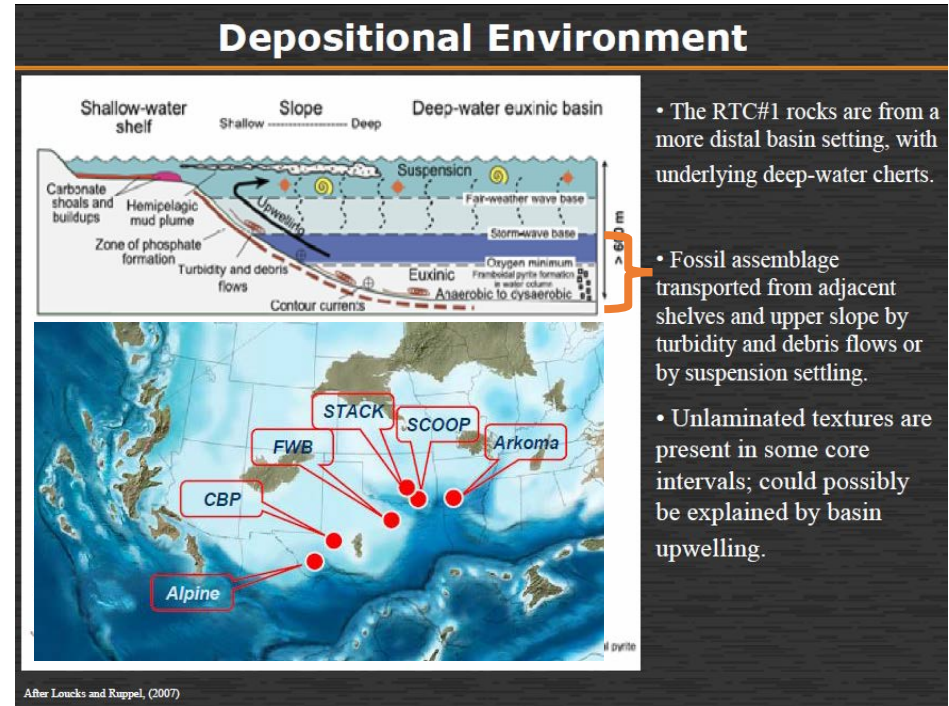
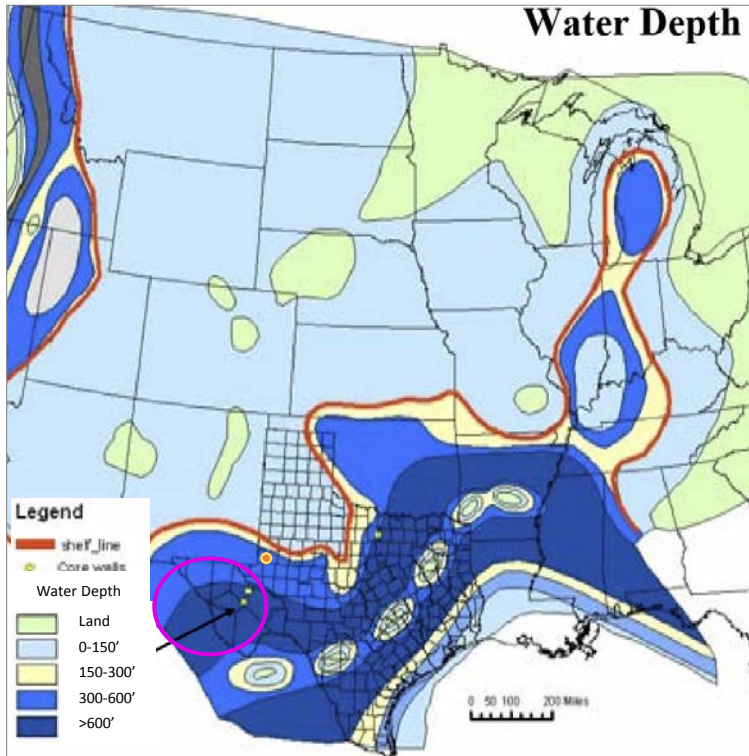
## 3.) Basin Development

(Permian through Cenozoic)

- Basin became structurally stable, depositing mainly clastics in the deep asymmetrical basins and carbonates on the shelves and CBP

Sources: <http://jan.ucc.nau.edu/rcb7/> (Ron Blakeley), Geological Data Services





- The RTC#1 rocks are from a more distal basin setting, with underlying deep-water cherts.
- Fossil assemblage transported from adjacent shelves and upper slope by turbidity and debris flows or by suspension settling.
- Unlaminated textures are present in some core intervals; could possibly be explained by basin upwelling.

- Pre-Pennsylvanian: Tabosa Basin was an east-west trending restricted basin (periods with little water recharge) and with little clastic influx during Barnett Shale deposition.
- Geochemical analysis of the Barnett indicates the basin was anoxic (without oxygen), which means the environment into which organic matter settled was too toxic for bottom feeding organisms, leaving much of the organic matter to be preserved for later maturation into hydrocarbons. The resulting deposit is uniquely high in kerogen content with massive storage for OOIP.
- Rock section analogous in many aspects to Anadarko Basin STACK & Scoop Plays

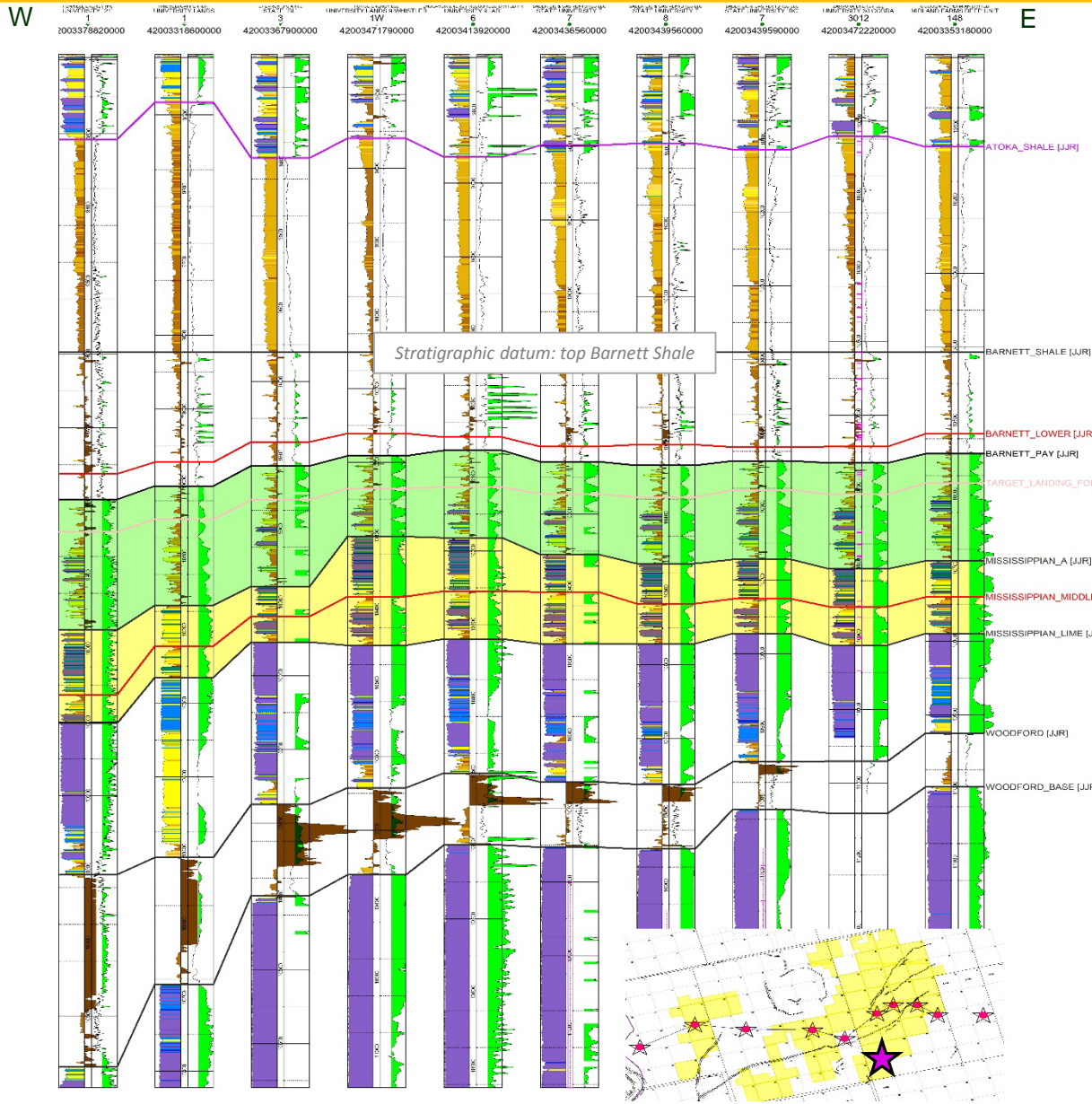
## Good Idea (GC)

- + willing/supportive Financial Partners (Pine Brook)
- + good Science (whole core, basic P&P)
- + good Execution
- + adequate Rock (source, seal, maturity)
- = **New Play Discovery** (UL G 1-30 #1H discovery well)

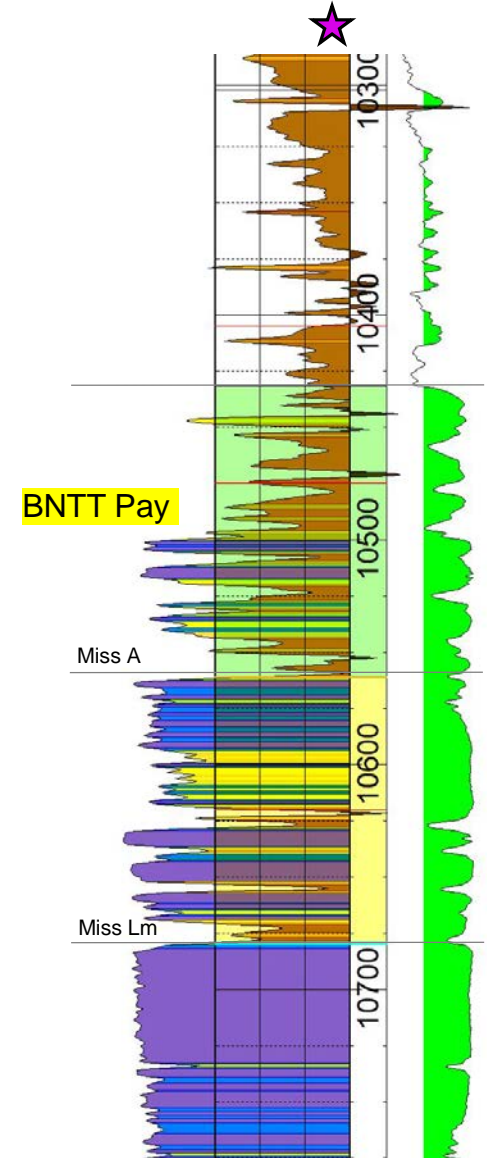
## New Play Discovery (UL G 1-30 #1H discovery well)

- + flexibility/willingness to “Tweak” (Elevation Management)
- + thorough Reservoir Evaluation (XRD, geochemistry, detailed petrophysics, PVP, Geomechanical/rock stress work)
- + operations Optimization (drilling, completions recipe)
- + Great Rock (Barnett Hybrid)
- = **World Class Asset** (Elevation Resources, Block 1, Andrews Co)

# Local Stratigraphic Cross Section, Laterally Continuous Barnett



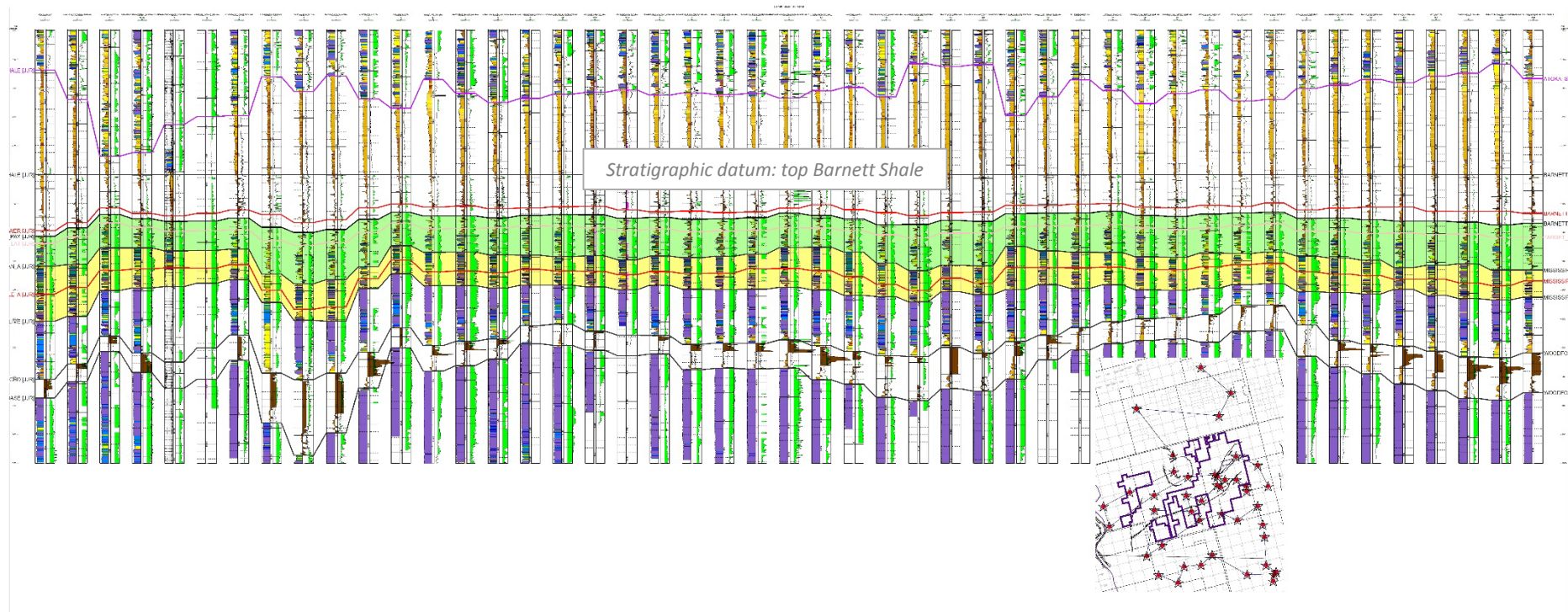
University 1-27 South Unit #3H





# Regional Stratigraphic Cross Section, Laterally Continuous Barnett

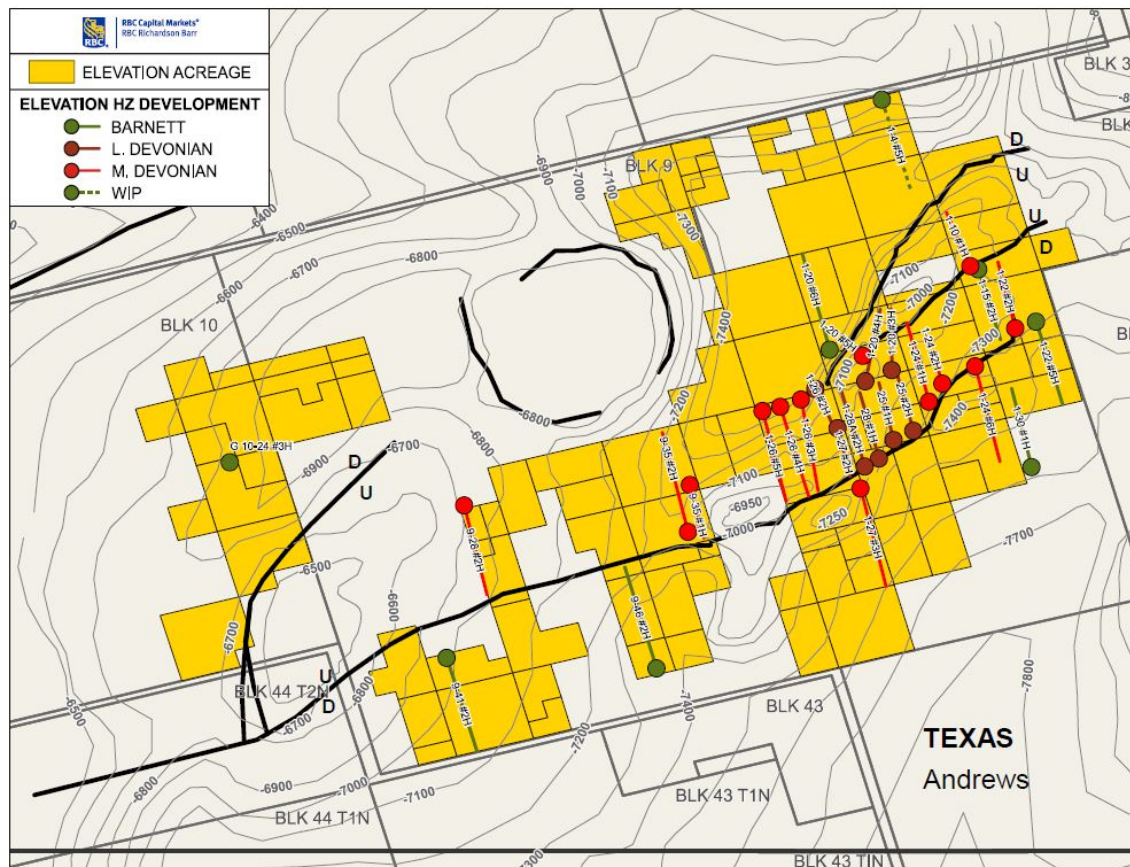
Detailed Petrophysics performed on >50 wells in the region with modern complete OH log suites





## Elevation Acreage positioned along flanks of prolific Block 9 field

### Lower Barnett Depth Structure (TVD)



### RBC Commentary

- Position is situated along the flanks of Block #9 field
- Acreage is configured to permit long lateral development within moderately dipping stratigraphy
- Extensive 3D seismic data acquired to target Devonian reservoirs on structure
- Vertical completion pilots in the Lower Barnett motivated the first horizontal test in the UL 1-30 #1H
- 5 Subsequent horizontal producers have delineated the lower Barnett resource across the majority of the position
- Abundant well control confirms the resource is thick and continuous across the asset position

- Property located in the Andrews Shear Zone (right lateral SS faulting)
- Significant natural fracturing & porosity enhancement

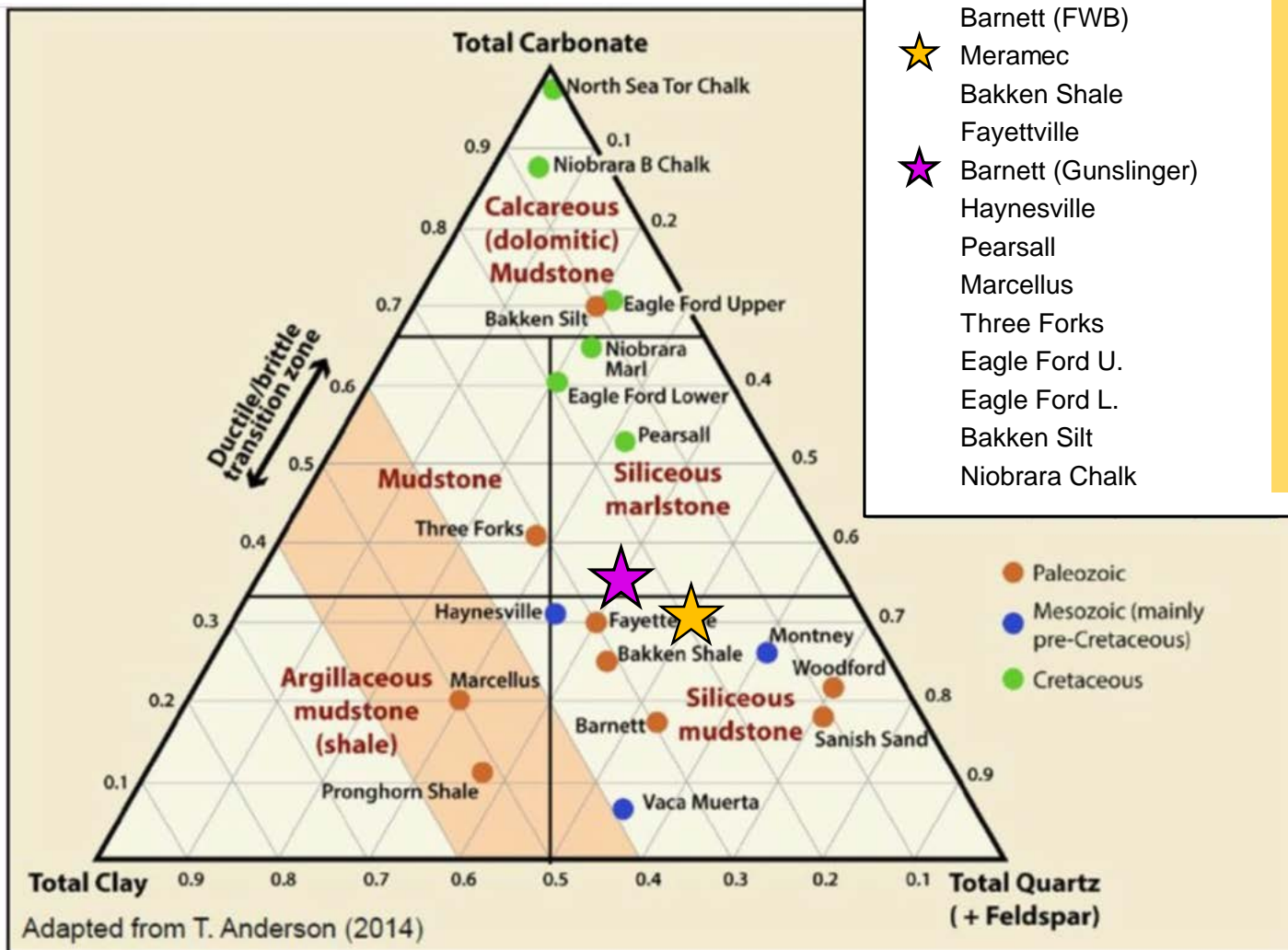




- Continuous, unbroken reflectors, little internal stratigraphic variation

# Resource Play Classification, Ternary Diagram

Both classified as mixed siliciclastic mudstone/marlstone, with near equal proportions of coarse grained, brittle components



Shale Formation	Proportion (wt %)		
	Qtz/Silica	CO3	Clay
Sanish	71.0	18.0	11.0
Woodford	70.0	22.0	8.0
Barnett (FWB)	53.0	17.4	29.6
★ Meramec	51.0	30.0	19.0
Bakken Shale	43.8	25.0	31.2
Fayetteville	40.0	30.0	30.0
★ Barnett (Gunslinger)	40.0	35.0	25.0
Haynesville	35.0	31.3	33.7
Pearsall	31.8	52.9	15.3
Marcellus	30.0	20.0	50.0
Three Forks	28.0	41.0	31.0
Eagle Ford U.	21.2	70.9	7.9
Eagle Ford L.	20.5	60.6	18.9
Bakken Silt	20.0	70.0	10.0
Niobrara Chalk	5.0	87.5	7.5



