

Torchlight Energy Resources, Inc.

Geoscience Report

Cactus A35 #1H

Penn Pay Cycle 4 Lateral wellbore

Technical Presentation

Michael Zebrowski Consulting LLC



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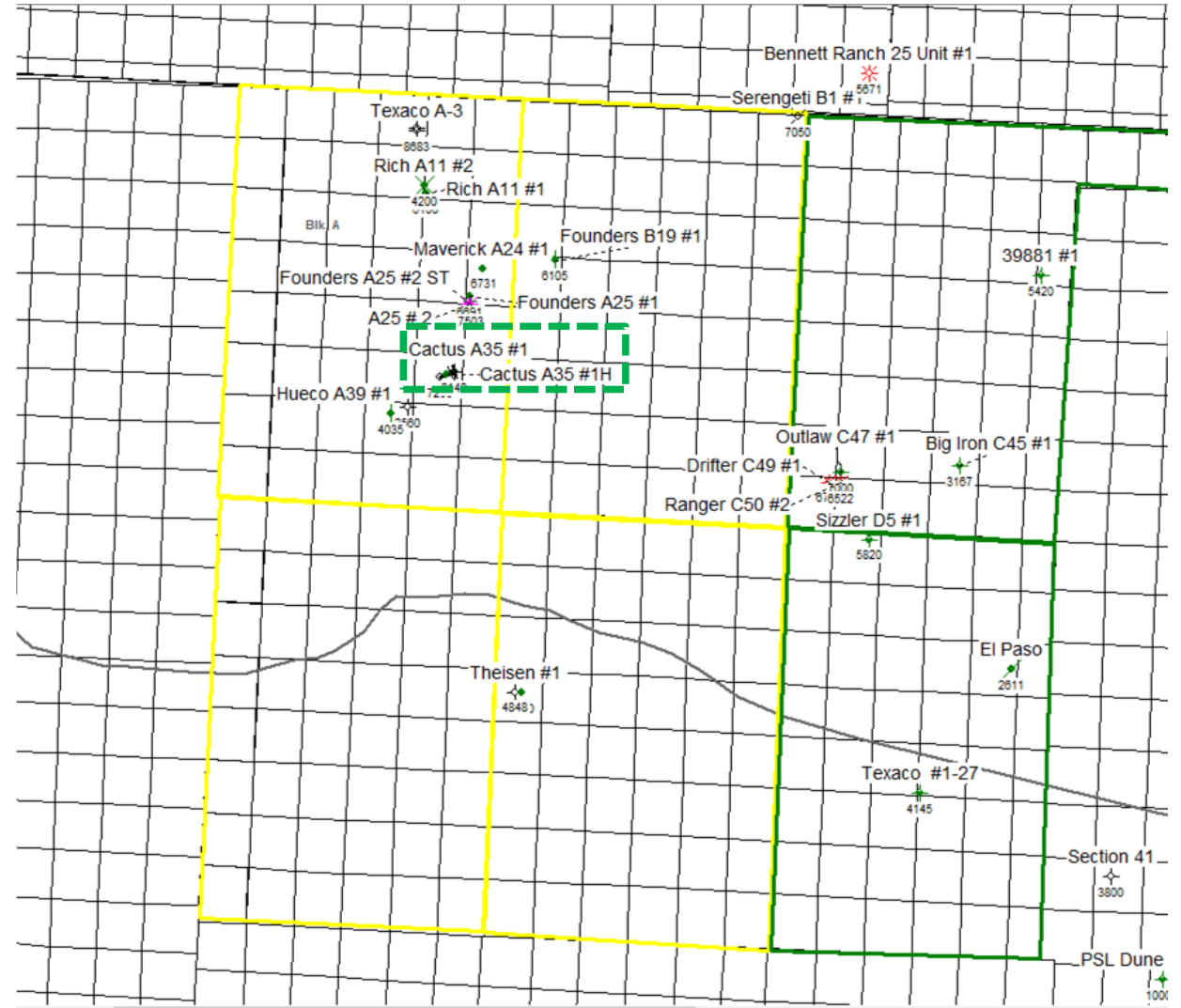
Orogrande Project – ***NEW BASIN DISCOVERY***

Asset Overview

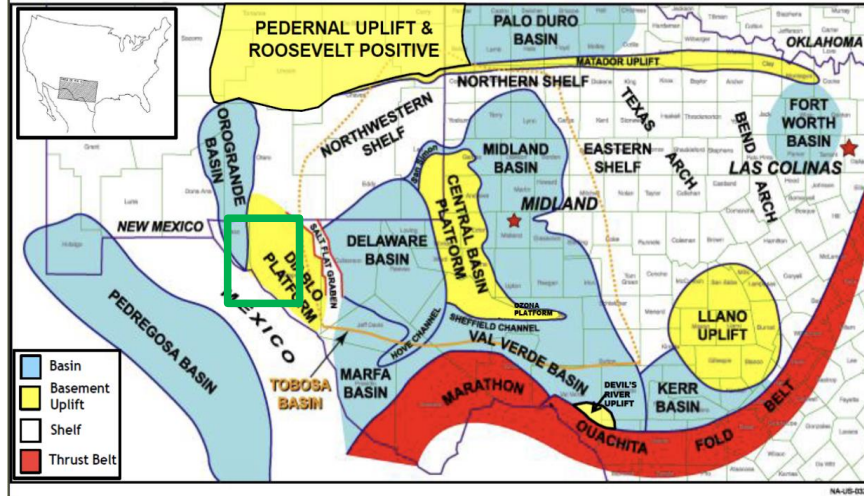
- 134,000 acres all under University Lands D&D Unit
- TRCH has 72.5 % working interest, remaining WI owners will tag along with sale
- 6 vertical test wells and 2 horizontal wells successfully drilled to date
 - First 2018 horizontal well drilled A 25 # 1H completed, shut in (Initial tests positive with 2.2 MMCFPD rate, sustained rate of 1.2MMCFPD)
 - Second horizontal 2019 A 35 # 1H drilled and completed in 2019. Successfully tested Oil and Gas from single frac stage
 - Optimizing Production Test Design - Oil and Gas
 - Deep Exploration Barnett/Woodford ; Drilled A 25 #2 in 2020 through the Woodford, cased hole, well is awaiting testing of several zones

Target Bench Characteristics

- Oil and Gas expected – API 41 degrees ,GOR approximately 1100
- Potential from Shallow Wolfcamp, Confirmed Penn Silt Package of over 600'
- Pay zone depths – 3000' to 8000' with primary Unconventional Penn pay at 5300' to 5900'



Geologic Provinces of the Permian Basin



Source : Pioneer Natural Resources

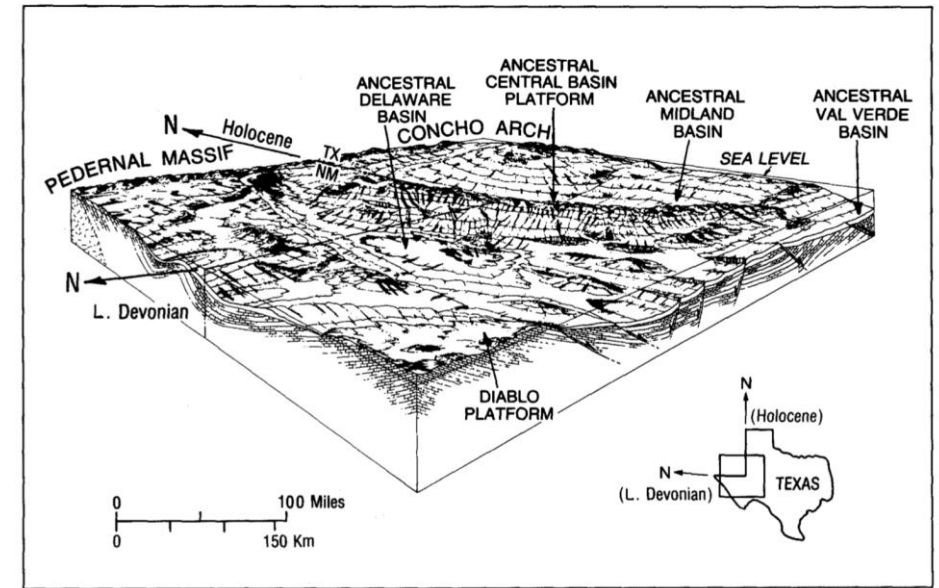
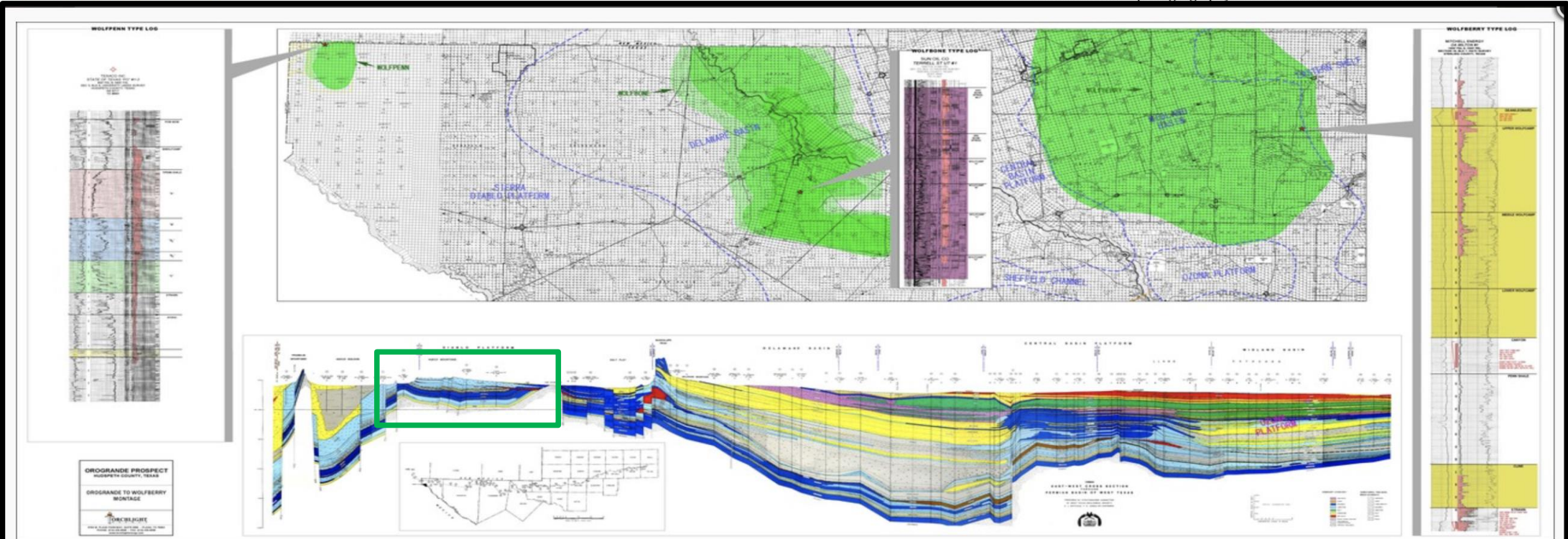


FIGURE 10. Late Devonian paleogeography of West Texas and southeastern New Mexico.



Orogrande Project – Potential Formations

Potential Unconventional & Conventional Zones

- Wolfcamp Unconventional
- **Penn Unconventional**
 - Two Laterals: A 25 #1H, A 35 #1H
- Strawn
- Atoka
- Mississippian Lime
- Devonian
- Barnett /Woodford Unconventional
- Fusselman
- Montoya
- Bliss

Drill Depths

3000' - 3600''

4900-6000

4000 to 6000'

4000 to 6500'

4000 to 7000'

4500 to 8500'

4500 to 8500'

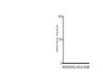
4500 to 8500'

5000 to 9000'

AGE		STRATIGRAPHIC UNIT			
PERIOD	SYSTEM	SERIES			
		DELAWARE BASIN	CENTRAL BASIN PLATFORM	MIDLAND BASIN	EASTERN SHELF
CRETACEOUS	Tertiary	Alluvium	Alluvium	Alluvium	Alluvium
		Ogallala	Ogallala	Ogallala	Ogallala
		Fredericksburg	Fredericksburg	Fredericksburg	Fredericksburg
		Trinity Ss.	Trinity Ss.	Trinity Ss.	Trinity Ss.
PERMIAN	Upper Permian	Fredericksburg	Fredericksburg	Fredericksburg	Fredericksburg
		Trinity Ss.	Trinity Ss.	Trinity Ss.	Trinity Ss.
		Washita	Washita	Washita	Washita
		Trinity Ss.	Trinity Ss.	Trinity Ss.	Trinity Ss.
	Middle Permian	Dockum	Dockum	Dockum	Dockum
		Dewey Lake	Dewey Lake	Dewey Lake	Dewey Lake
		Rustler	Rustler	Rustler	Rustler
		Salado	Salado	Salado	Salado
	Lower Permian	Castile	Castile	Castile	Castile
		Yates	Yates	Yates	Yates
		Seven Rivers	Seven Rivers	Seven Rivers	Seven Rivers
		Queen	Queen	Queen	Queen
PENNSYLVANIAN	Upper Pennsylvanian	Grayburg	Grayburg	Grayburg	Grayburg
		San Andres	San Andres	San Andres	San Andres
		Brushy Canyon	Brushy Canyon	Brushy Canyon	Brushy Canyon
		Cherry Canyon	Cherry Canyon	Cherry Canyon	Cherry Canyon
	Middle Pennsylvanian	Bell Canyon	Bell Canyon	Bell Canyon	Bell Canyon
		Wichita	Wichita	Wichita	Wichita
		Wolfcamp	Wolfcamp	Wolfcamp	Wolfcamp
		Cisco	Cisco	Cisco	Cisco
	Lower Pennsylvanian	Strawn	Strawn	Strawn	Strawn
		Atoka	Atoka	Atoka	Atoka
		Morrow	Morrow	Morrow	Morrow
MISSISSIPPIAN	Upper Mississippian	Mississippian	Mississippian	Mississippian	Mississippian
		Woodford Shale	Woodford Shale	Woodford Shale	Woodford Shale
		Devonian	Devonian	Devonian	Devonian
		Upper Silurian Sh.	Upper Silurian Sh.	Upper Silurian Sh.	Upper Silurian Sh.
	Middle Mississippian	Fusselman	Fusselman	Fusselman	Fusselman
		Montoya	Montoya	Montoya	Montoya
		Simpson Group	Simpson Group	Simpson Group	Simpson Group
		Ellenburger	Ellenburger	Ellenburger	Ellenburger
	Lower Mississippian	Wilberns	Wilberns	Wilberns	Wilberns
		Hickory	Hickory	Hickory	Hickory
		Bliss	Bliss	Bliss	Bliss
		Atoka	Atoka	Atoka	Atoka



Comparison Well Log in Wolfcamp from Delaware Basin



OROGRADE PROSPE
HUGSBETH COUNTY, TEXAS

WEST-EAST
STRATIGRAPHIC CROSS SECTION

 **ORCHLIGHT**

10701 W. PLANO PARKWAY, SUITE 200 • PLANO, TEXAS
PHONE: (214) 435-8800 • FAX: (214) 435-8801
www.orchlight.com

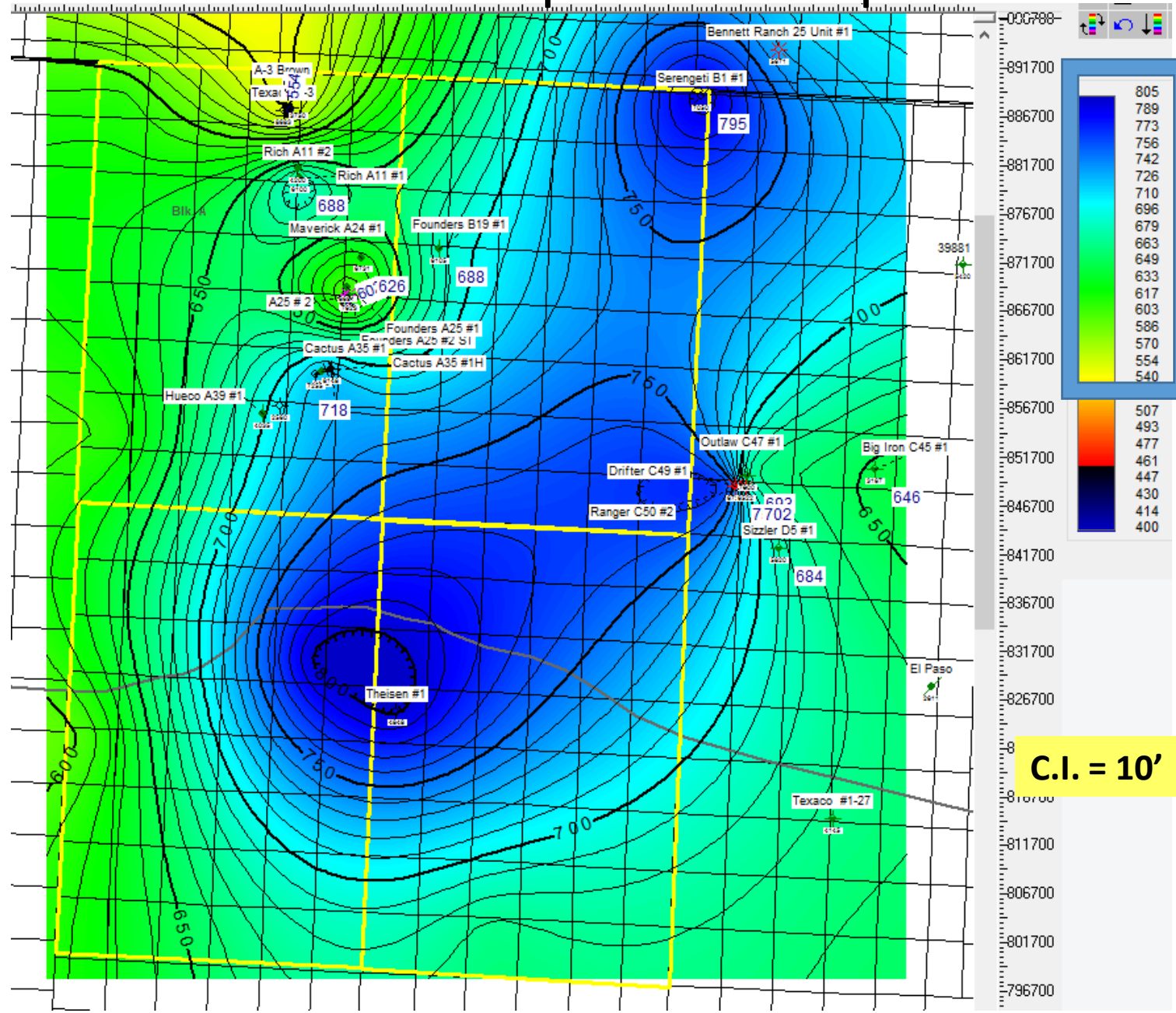
Penn Isopach Map

This map integrating all the data shows the thickness of the Penn Interval on the Torchlight Energy Resources Acreage

Blue Colors Thickest Zones

Within this overall interval are 4-6 individual prospective zones for drilling Horizontal Wells

The Overall Interval Thickness ranges from 600-800 ft over most of the Acreage



Orogrande Checklist (Univ. Rich A11)



#	Items	Present ?	Description	Midland Comparison *
1	Huge Contiguous Acreage Block	✓	134,000 acres	
2	Low Initial Costs	✓	Deal Structure	
3	Shallow Depth	✓	< 6200 ft.	7800' to 9000'
4	Thickness of Reservoir	✓	~ 700 ft.	300' to 700'
5	Mud Log Chromotagraph Shows	✓	200 to 700 GU w/C4	50 to 600 CU w/C4
6	Sample Oil Cuts	✓	fair to good flash white	fair to good bwh flash
7	Porosity	✓	4.5% to 9%	3.5% to 8%
8	Permeability	✓	.001 to .05 md	.0001 to .05 md
9	High Resistivities / Invasion Profile	✓	35 to 160 ohms RT	25 to 200+ RT (in silt)
10	Brittleness	✓	No Ductile shale	Scattered Ductile high clay units
11	Low Clay	✓	12% to 27%	15 to 46%
12	Silica Rich	✓	35% to 55%	30% to 55%
13	Thin Carbonates	✓	Scattered Throughout Silt	Scattered Throughout Silt
14	Calcite Cement	✓	calcite and dolomite	calcite
15	TOC	✓	1.8-3.08	.4 to 6
16	Thermal Maturity - Ro	✓	.81-.90 Oil Window	.8 to 1.1
17	Matrix Permeability	✓	850-1700 nanodarcies	400 to 1300 nanodarcies
18	Pore Throat Sizes	✓	10 to 350 nanometers	
19	Hi / Oi	✓	Type II Kerogen	Type II / III
20	Si / TOC	✓	55-61 oil mature	
21	S2 / TOC	✓	2 to 2.8	2.05 to 2.5
22	Gas Filled Porosity	✓	2.65	2.08

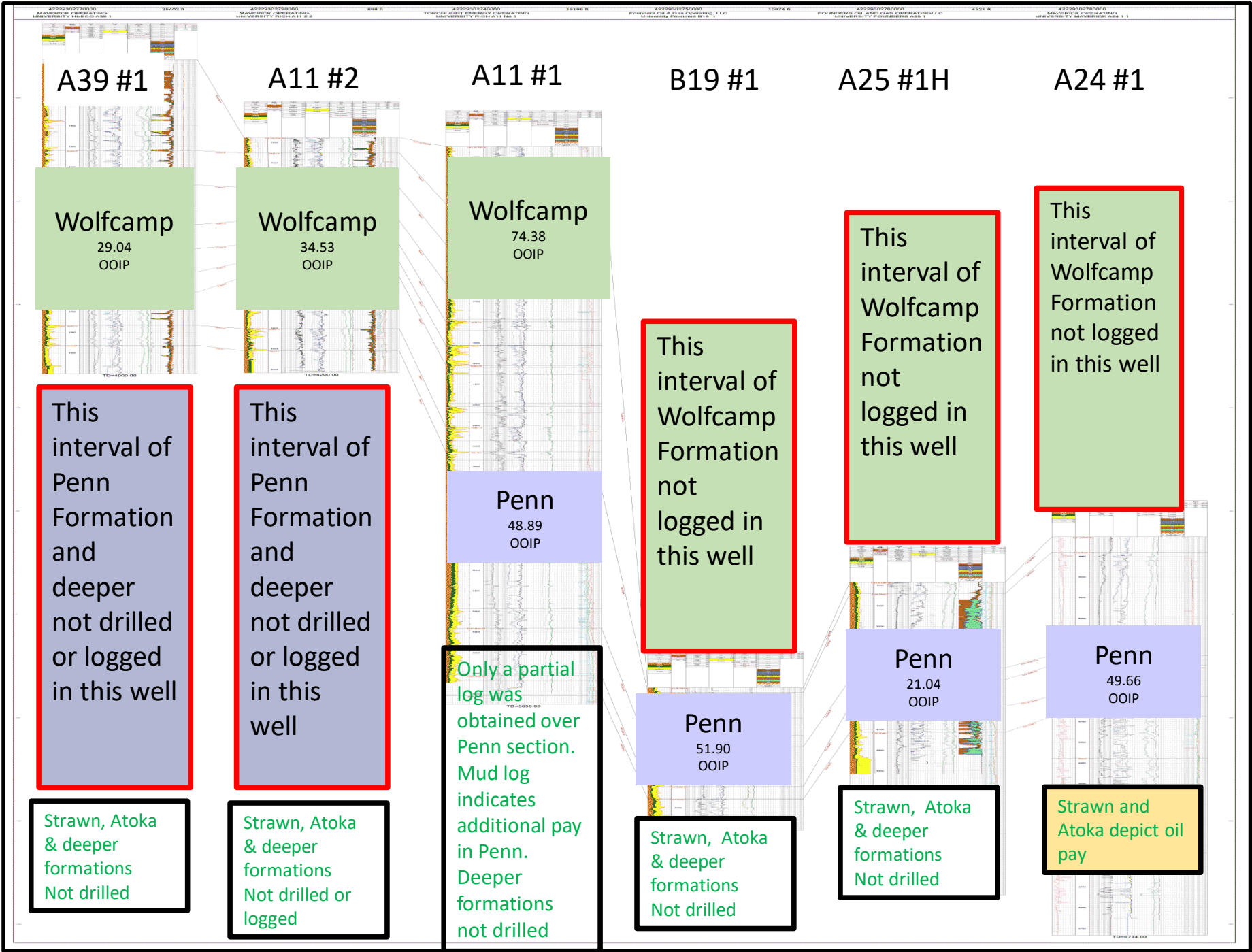
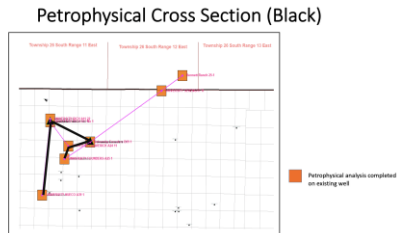
* Published core data from Wolfcamp wells in Reagan and Upton Counties, Midland Basin

Regional Petrophysical Cross-Section

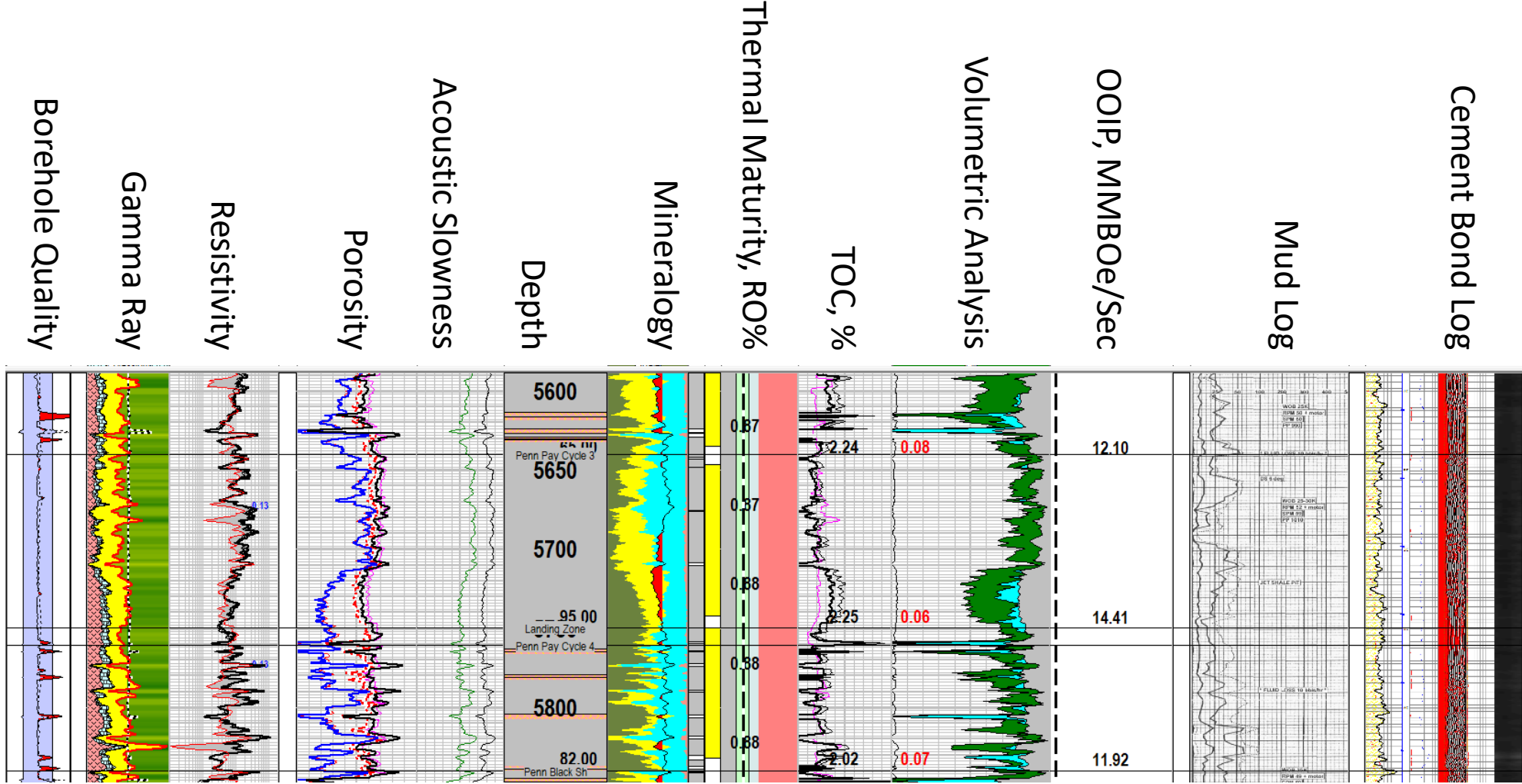
Method of Resource Estimates

Illustration of variable depths of wells and Well Log Coverage in project area

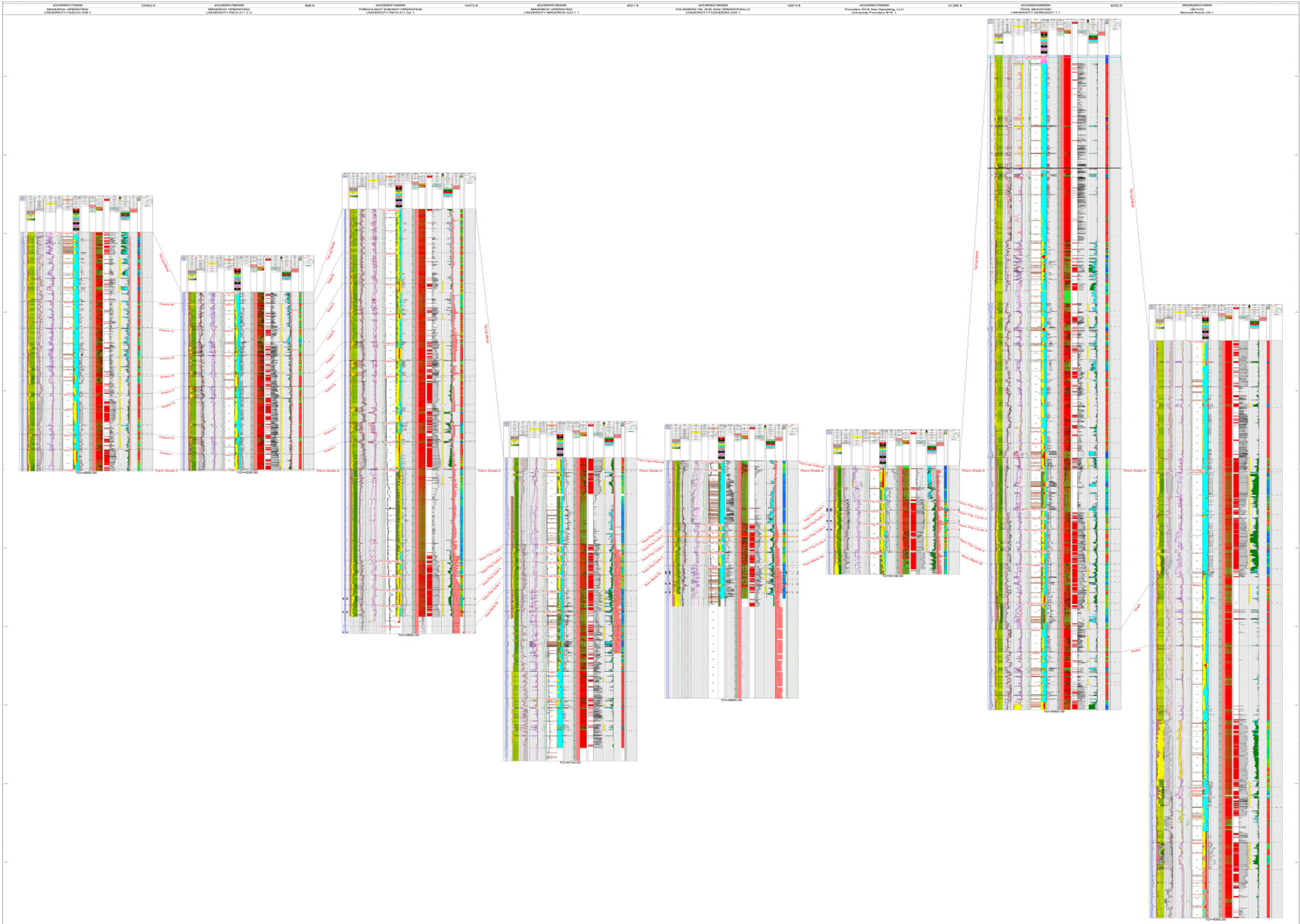
Log Calculations by Mike Mullen of Stimulation Petrophysics are combined with the geologic & geophysical mapping of the geological zones across the area to estimate hydrocarbon resources



University Cactus A35 #1 Pilot



Regional
Petrophysical Cross Section
Flattened on Penn A Shale



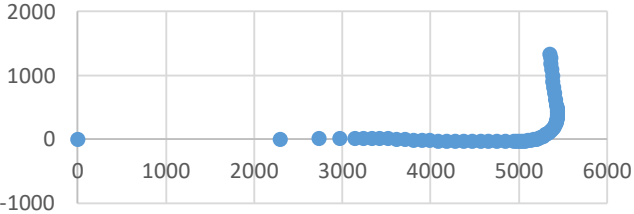
Torchlight Acreage Resource Evaluation

- Stimulation Petrophysics completed the initial independent Resource Estimation and Geomechanics work to identify landing zones for horizontal wells. While still ongoing, initial reserve calculations indicate extremely favorable resource numbers as follows:
- Potential Recoverable Reserves
 - **Low Side estimated reserves: 2.3 Billion Barrels recoverable reserves**
 - **Mid Case estimated reserves: 3.7 Billion Barrels recoverable reserves**
 - **High Side estimated reserves: 5.0 Billion Barrels recoverable reserves**
 - **Multi Billion Barrel Project – Near Refinery and access to LNG**
- First, there was Wolfberry. Then came Wolfbone. Introducing...WOLFPENN!!!
 - Potential Landing Zones of 4-6+ in Wolfcamp Section
 - Potential Landing Zones similarly 4-6+ in Penn Section
 - Working on Barnett and Woodford Landing Zones
- Additional conventional oil potential in Atoka and deeper formations are currently under evaluation

A25 #1H

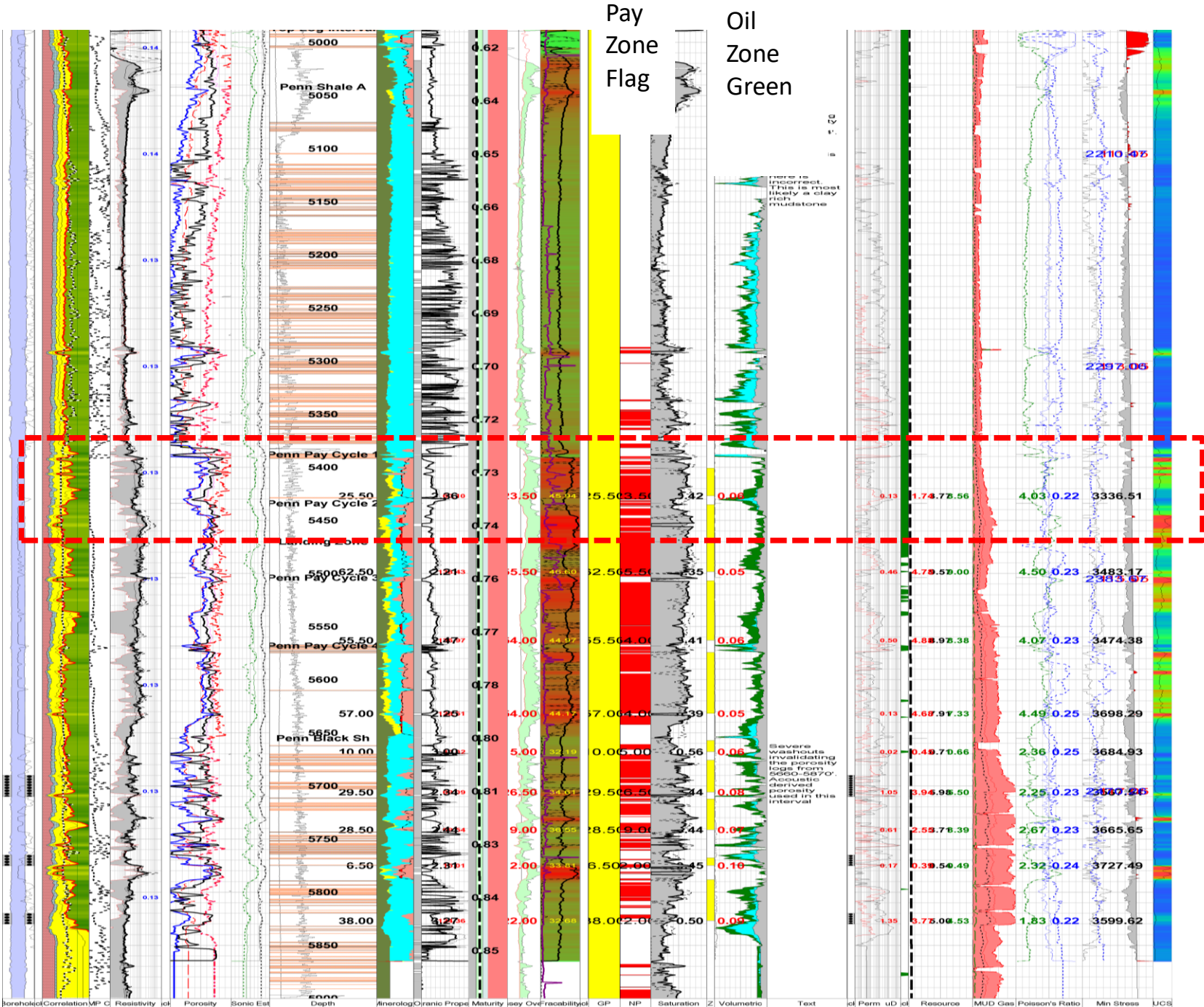
Initial Short Horizontal Test

Chart Title



Production Test A25 #1H Daily Totals

	A	B	C	D	E	F	G
1	Date	Tubing PSI	Casing PSI	Oil Total	Water Total	Gas Total MCF	
2	10/10/18	1450	20	0	0	830	
3	10/11/18	700	20	0	32	2200	
4	10/12/18	550	20	0	27	1918	
5	10/13/18	450	20	0	22	1564	
6	10/14/18	450	20	0	28	1411	
7	10/15/18	450	20	0	26	1396	
8	10/16/18	450	20	0	27	1275	
9	10/17/18	440	20	0	25	1268	
10	10/18/18	430	20	0	24	1240	
11	10/19/18	420	20	0	23	1226	
12	10/20/18	420	20	0	25	1218	
13	10/21/18	420	20	0	26	1232	
14	10/22/18	420	20	0	24	1221	
15	10/23/18	420	20	0	18	1207	
16	10/24/18	420	20	0	17	1201	
17	10/25/18	420	20	0	18	1230	
18	10/26/18	420	20	0	21	1222	
19	10/27/18	420	20	0	21	1201	
20	10/28/18	420	20	0	25	1228	
21	10/29/18	420	20	0	25	1231	
22	10/30/18	420	20	0	18	1231	
23	10/31/18	420	20	0	17	1230	
24	11/1/18	420	20	0	15	1230	



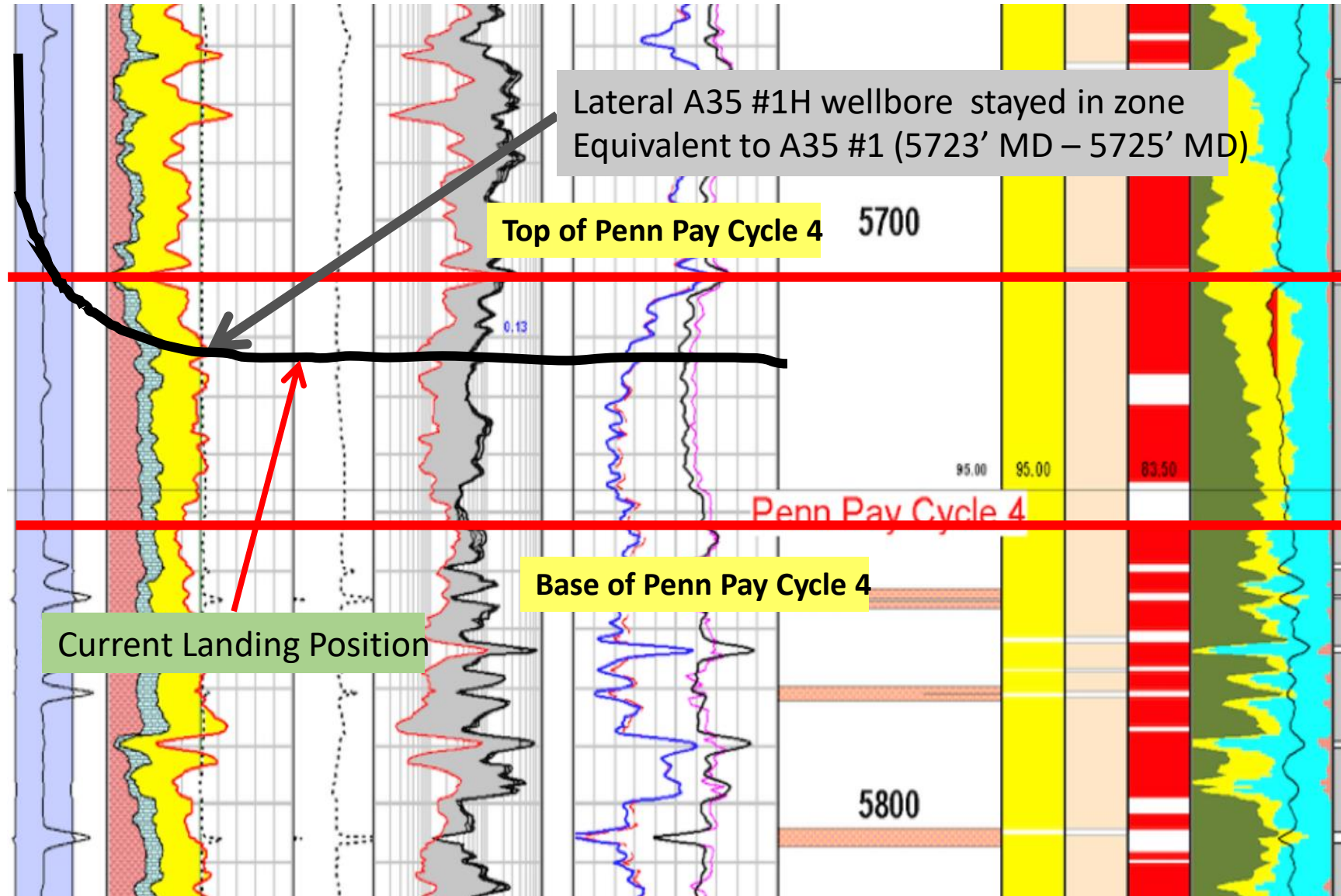
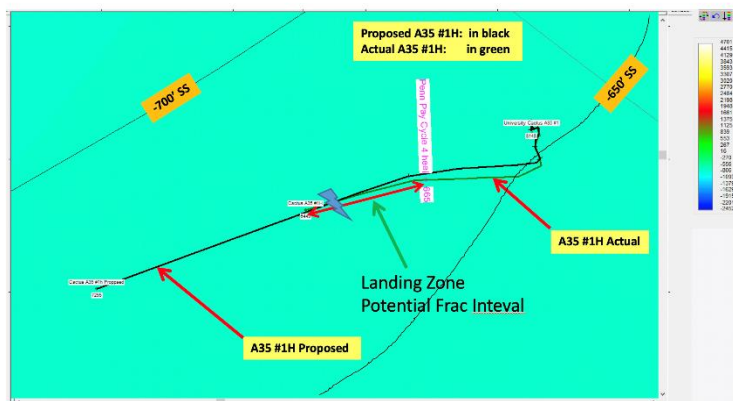
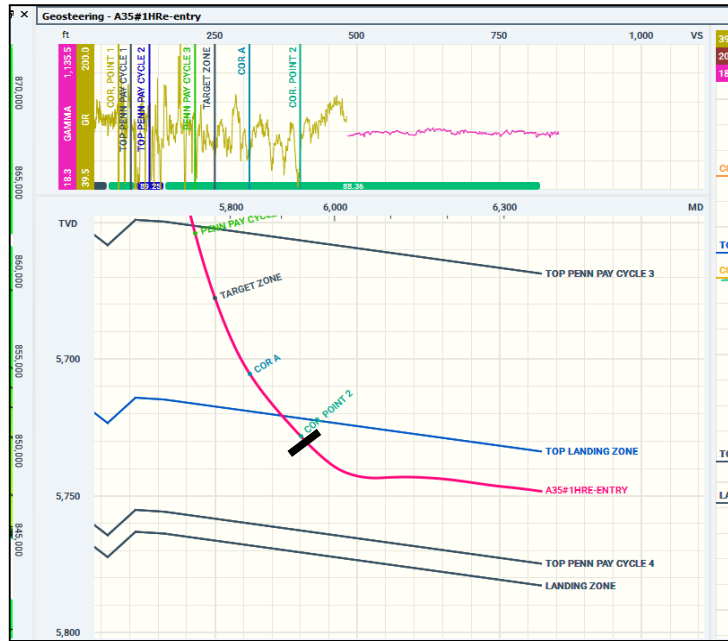
Cactus A 35 # 1H - Oil and Gas Rates

- To date, Torchlight's peak 24-hour production rates are 15 BOPD and 110 MCFPD (33 BOEPD).
- This was from a single Stage Frac – 100-foot interval
- Equating this to a 10,000-foot lateral, the Cactus well can be extrapolated to make 1500 BOPD and 11 MMCFPD potentially, or combined 3,300 BOEPD.
- This type of well production has potential to be significantly better than most Midland Basin wells from a moderate depth of only 5700 feet.
- Further production designs underway to further improve production rates

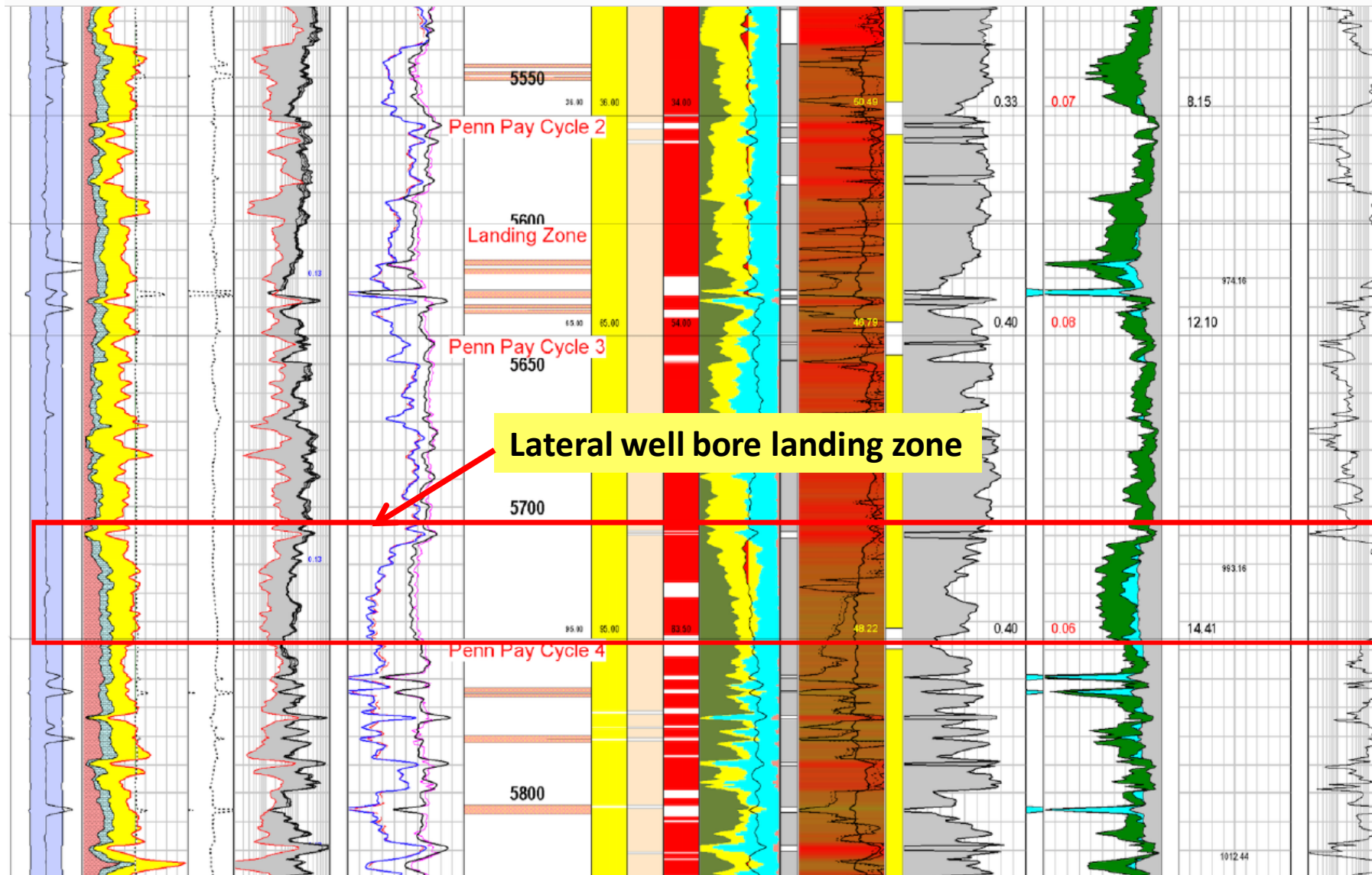
A 35 Flare and Oil Sample – 37 to 41 gravity



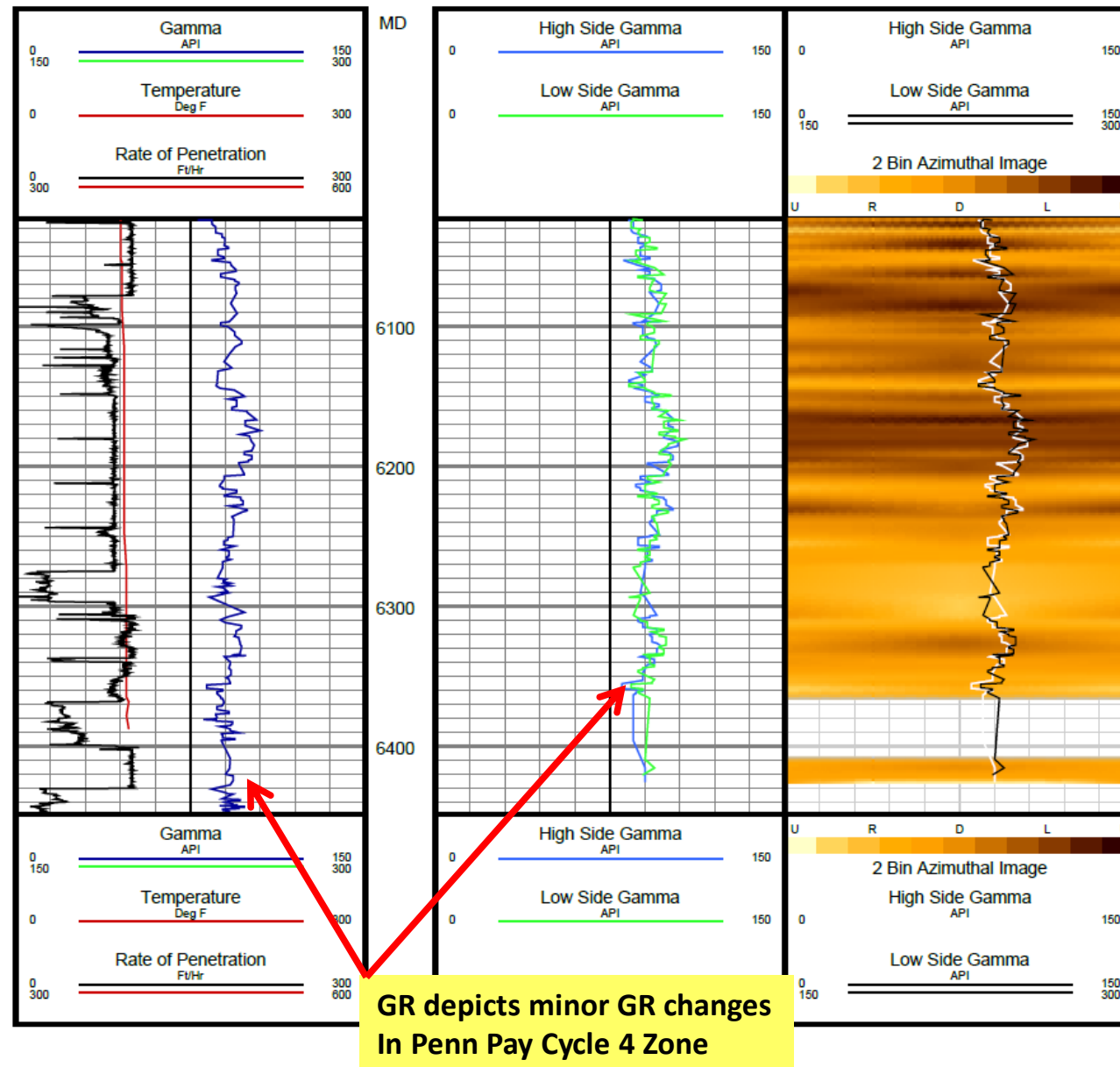
Cactus A35 #1 (Petrophysical Log)



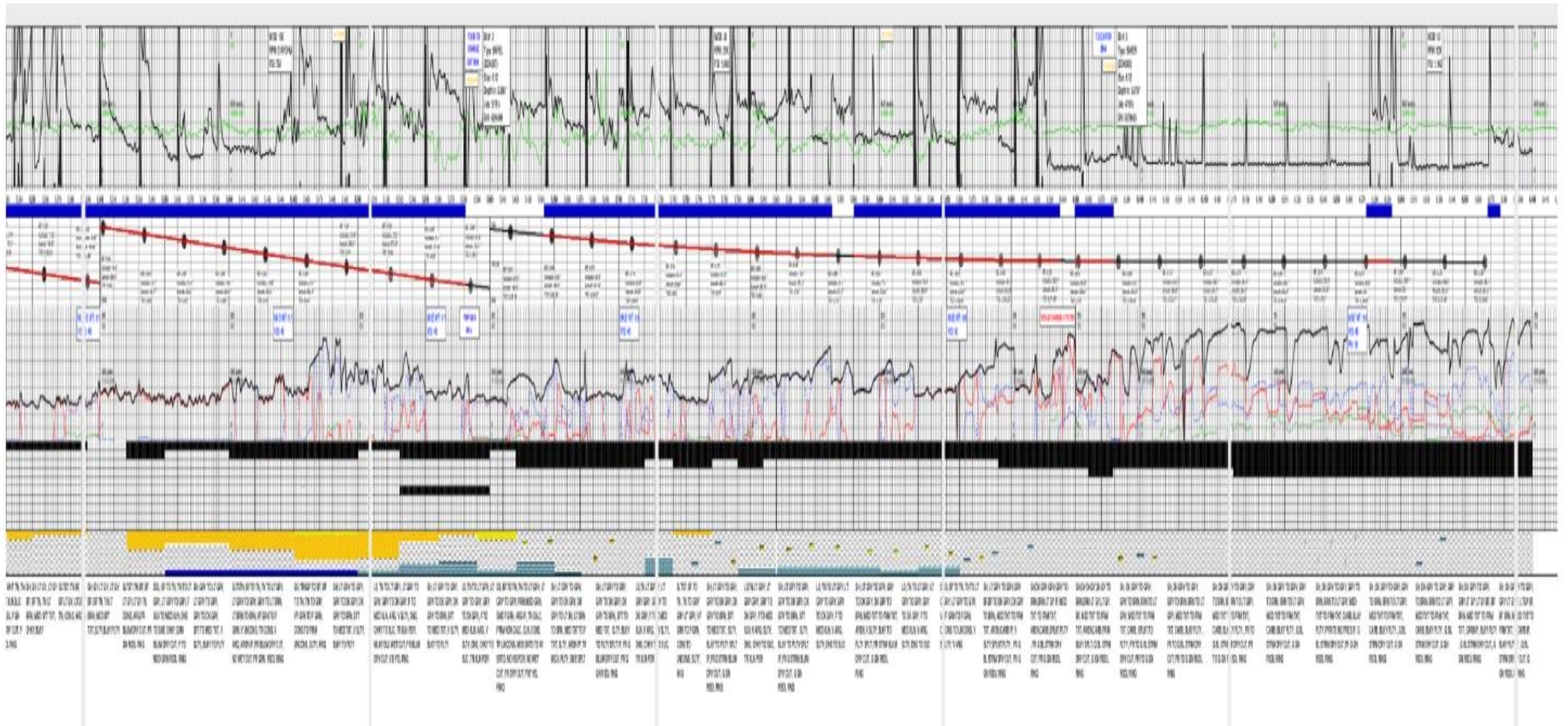
Cactus A35 #1 (Petrophysical Log)



Cactus A35 #1H (AZM MD Lateral Logs)



Cactus A35 #1H Reference Mud Log



Torchlight Energy Resources, Inc. - Project Overview

- Orogrande Basin - 134,000 Acres Under Lease
- Very Large Upside in Potential Hydrocarbon Resource (Recoverable)
 - **Low Side Case** **2.3 Billion Barrels**
 - **Median BTE Case of** **3.7 Billion Barrels**
 - **High Side Case** **5.0 Billion Barrels**
- 6 Pilot wells drilled for Technical Data Collection and 2 Short Horizontal Tests
- A25 #1H Well is Horizontal and Productive - produced at 2.2 MMCFPD initially
- A25 #2 Drilled to Woodford, cased and awaiting testing
- A35 #1H Horizontal Well - Established Oil and Gas Production (33 BOEPD)
- Unconventional and Conventional Reservoir Targets
- Independent Petrophysical Evaluation by Stimulation Petrophysics
- Independent Scoping Economics by Evolve Energy Services
- Interpretation Project – Digital Database, Workstations to Show Potential Buyers
- Scoping Economics depict each major zone makes significant NPV per well, which range from \$4.6MM - \$10.3MM (pre-tax)