



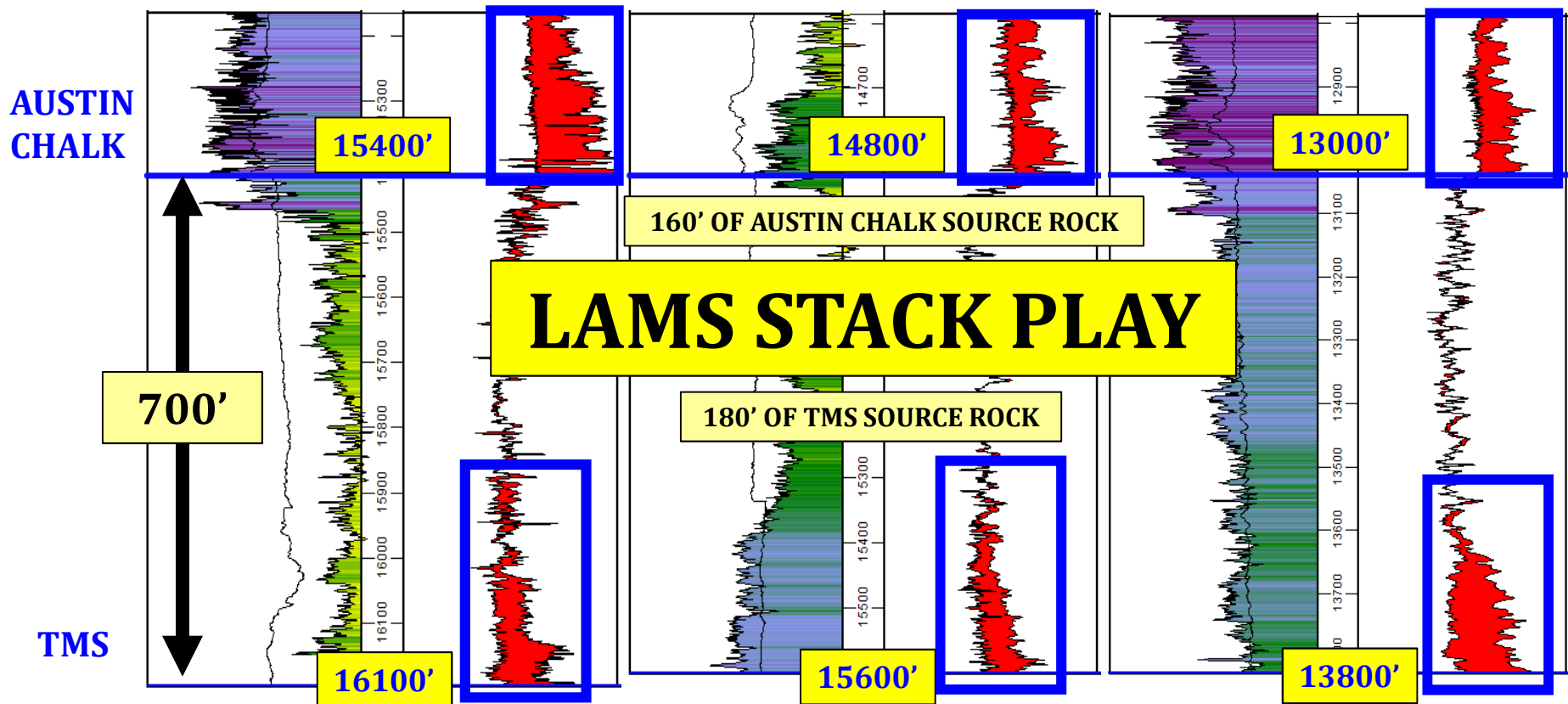
Austin Chalk & LAMS Stack Play

PLANO Luncheon
Mandeville, Louisiana

May, 2019

Louisiana-Mississippi Stack Play (LAMS)

PASSEY LOG DISPLAY



9 billion barrel recoverable resource



BACKGROUND



Kirk Barrell – Career Summary

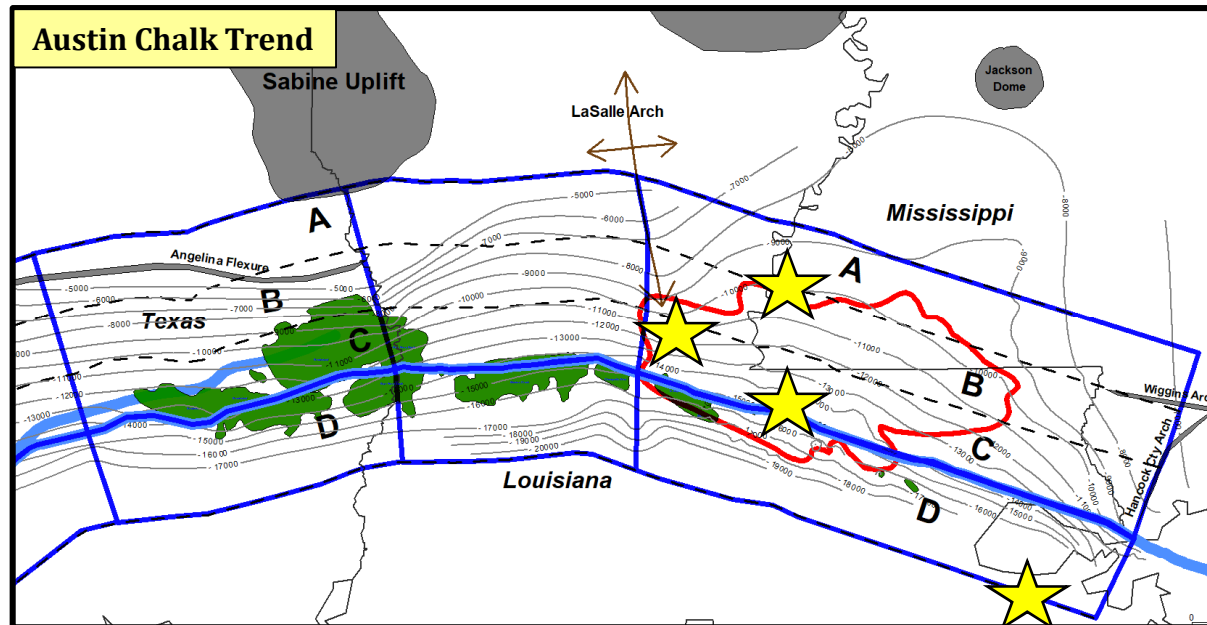
- 34 years of petroleum industry experience
- 29 years of interpretation and transactions in the Tuscaloosa Trend
- B.S. Geology: Louisiana State University
- M.S. Geology: Texas A&M University
- Amoco Production Company (1988-95)
- Geodynamic Solutions Inc.: Founder & CEO (1995-2004)
- Barrell Energy Inc.: Founder & President (1997-Present)
- Wave Exploration LLC: Co-Founder & Co-Manager (2005-2012)
- Amelia Resources LLC: Founder & President (2003-Present)





Amelia Resources, LLC

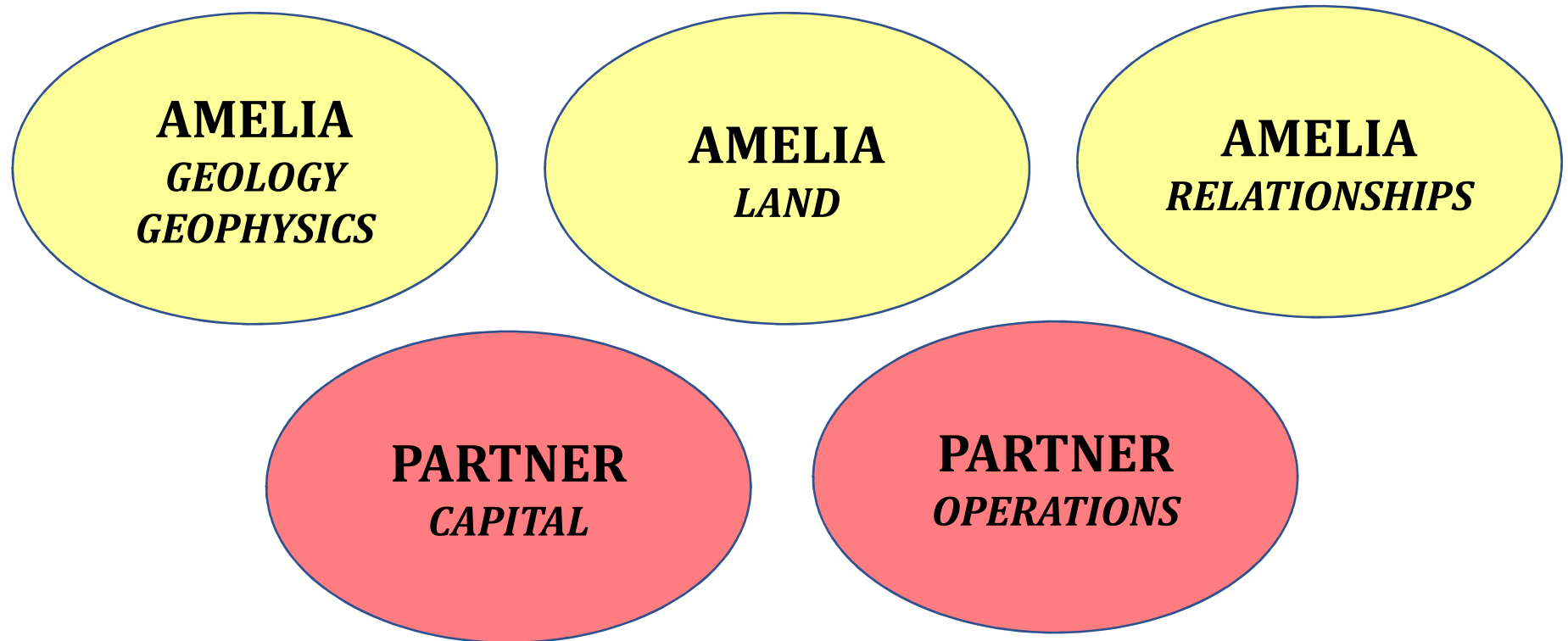
- Founded 2003
- Generate drilling prospects in the onshore Gulf Coast
- Offices across the LA Austin Chalk Trend



★ Amelia Offices

New Orleans – St. Francisville - Natchez – Marksville

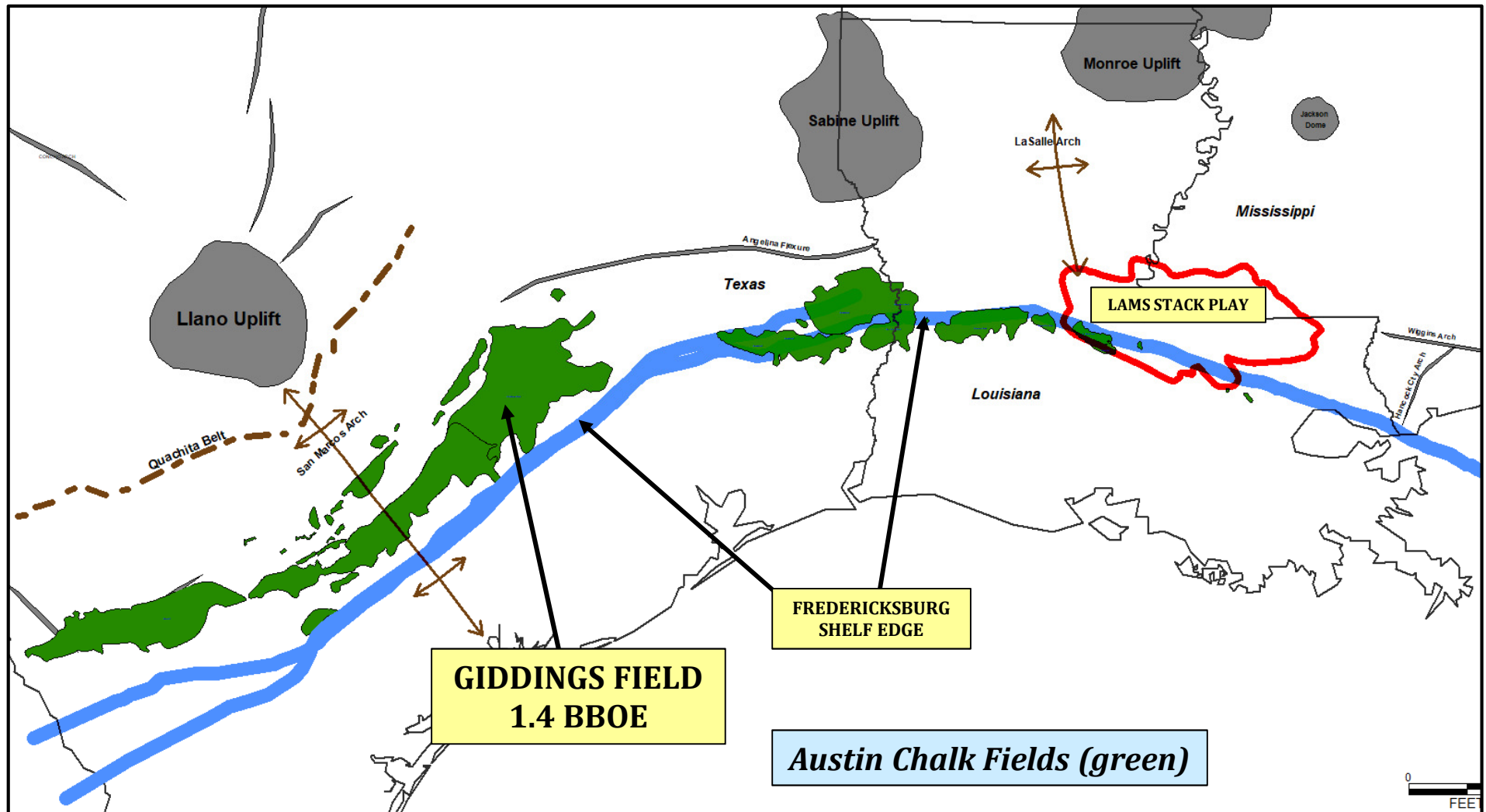
Amelia Joint Venture Model



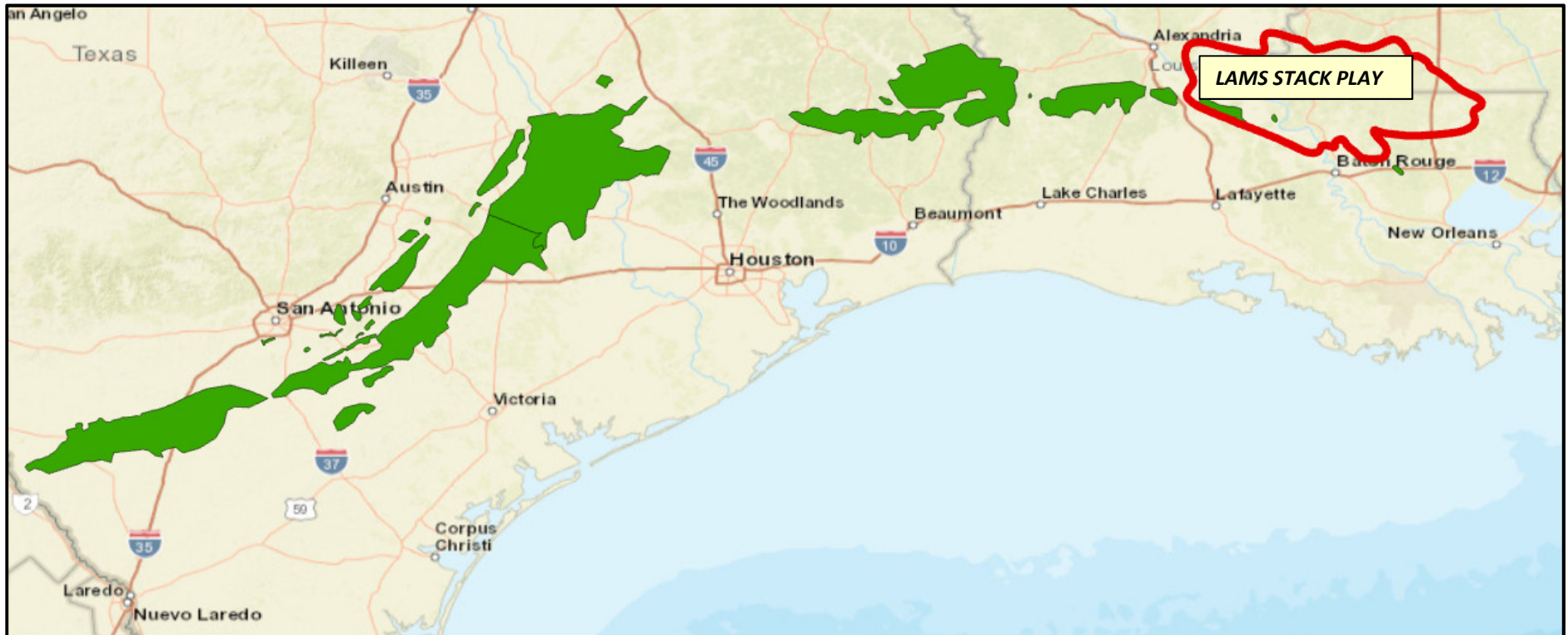


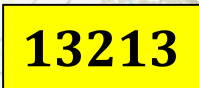
AUSTIN CHALK HISTORY

Austin Chalk Trend

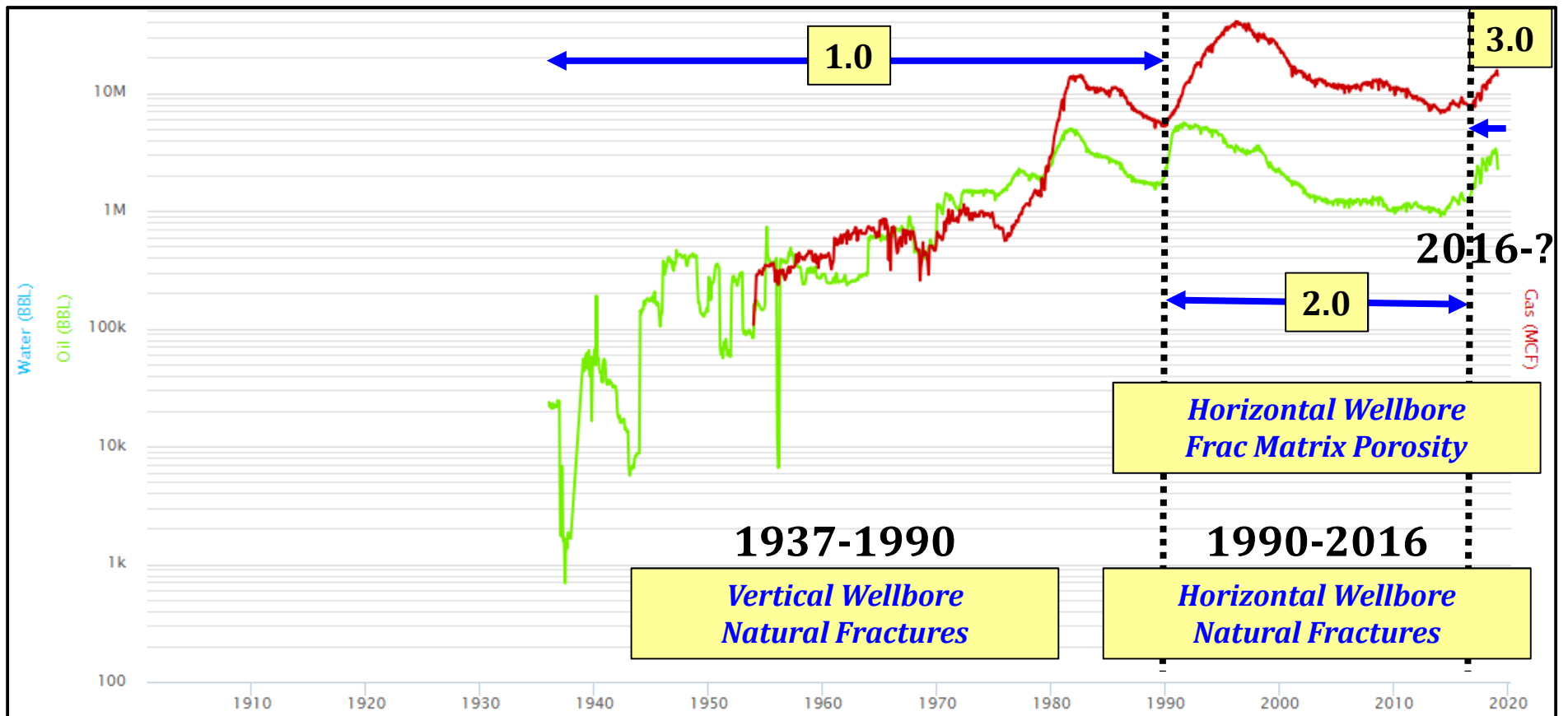


Austin Chalk Trend

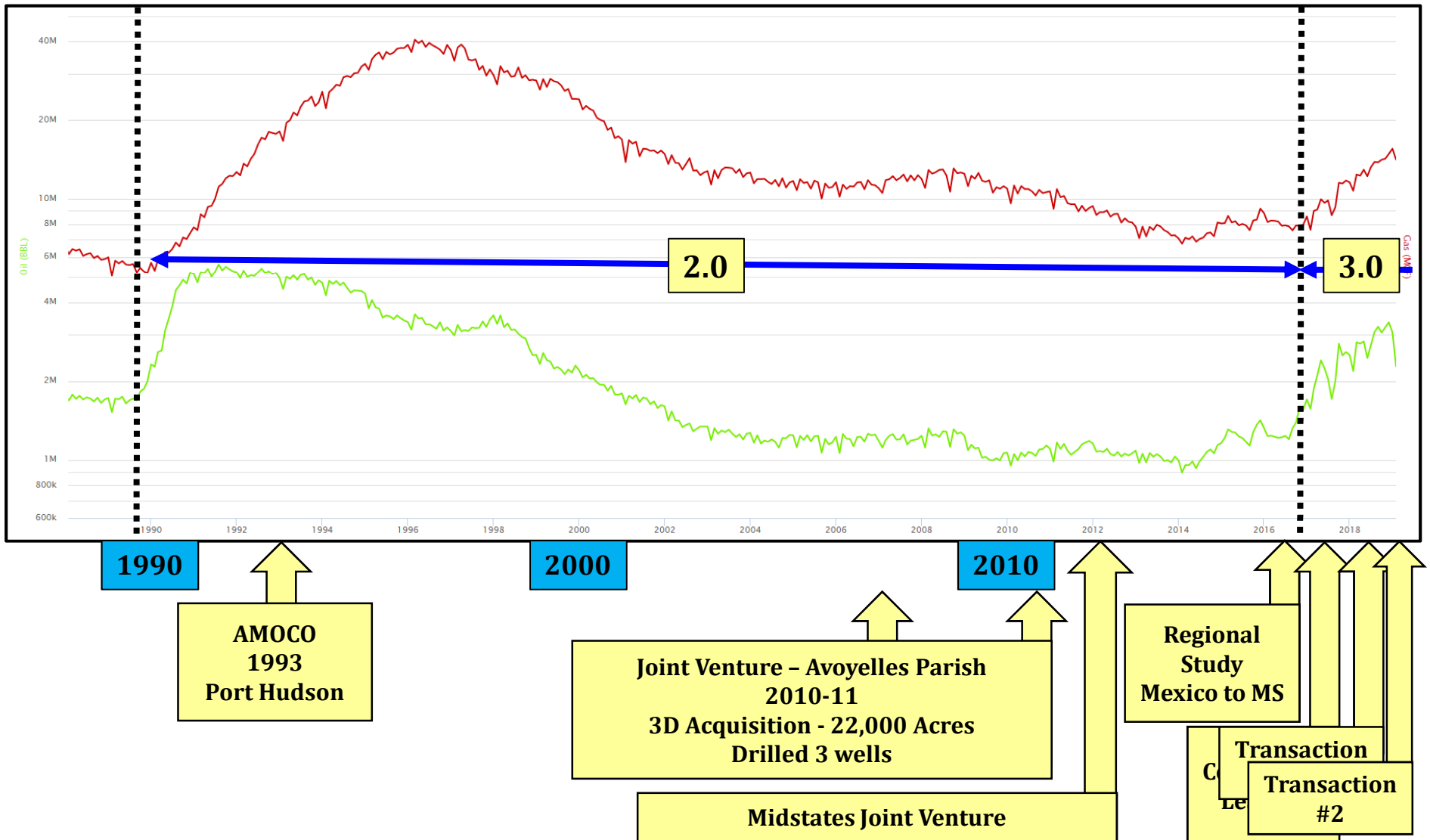




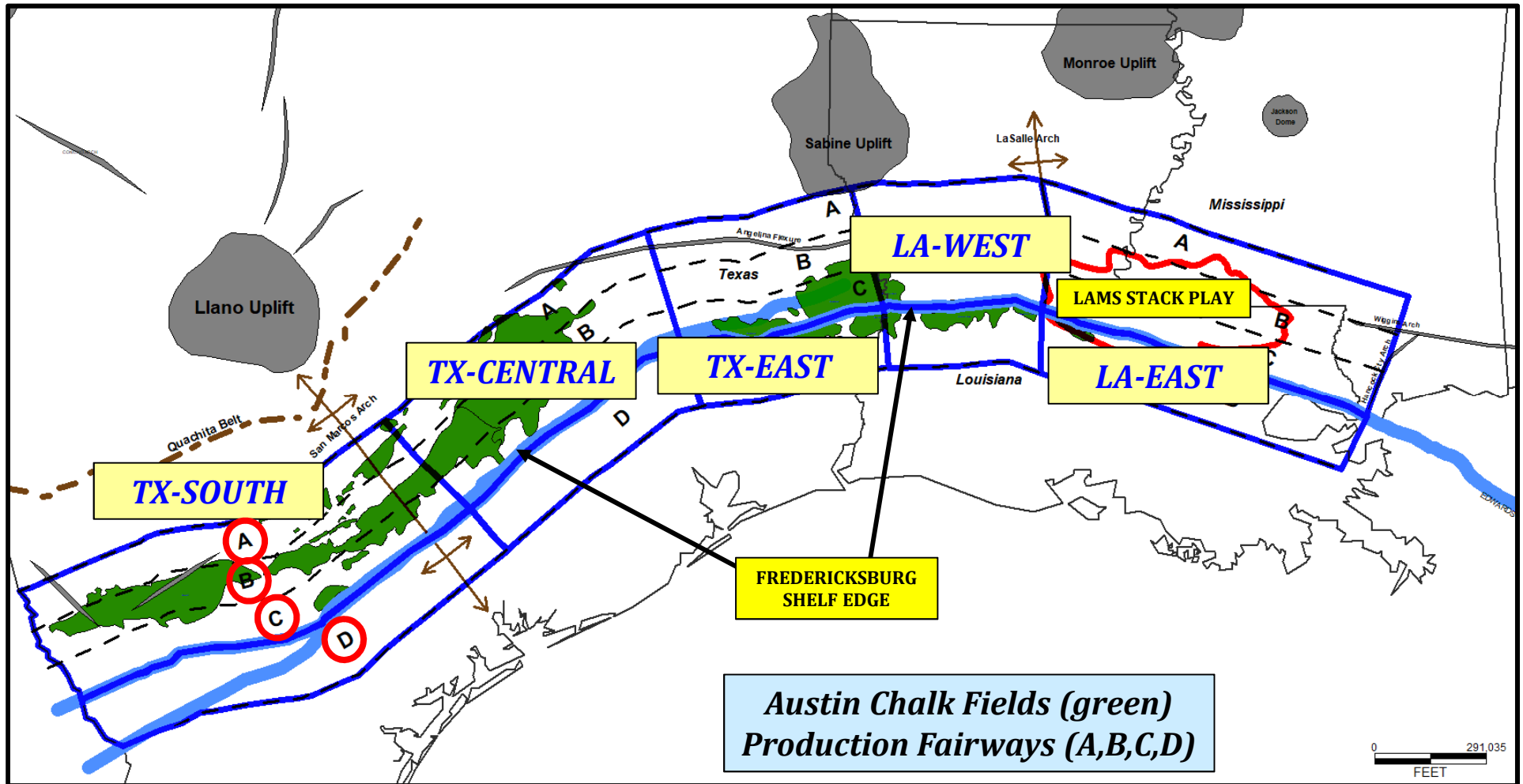
Austin Chalk Activity Cycles



Austin Chalk: Barrell/Wave/Amelia



Austin Chalk Geographic Regions





AUSTIN CHALK 3.0



Austin Chalk Play Concepts

AUSTIN CHALK 1.0 – “Feast or Famine”

Drill vertical wells near naturally occurring fractures.

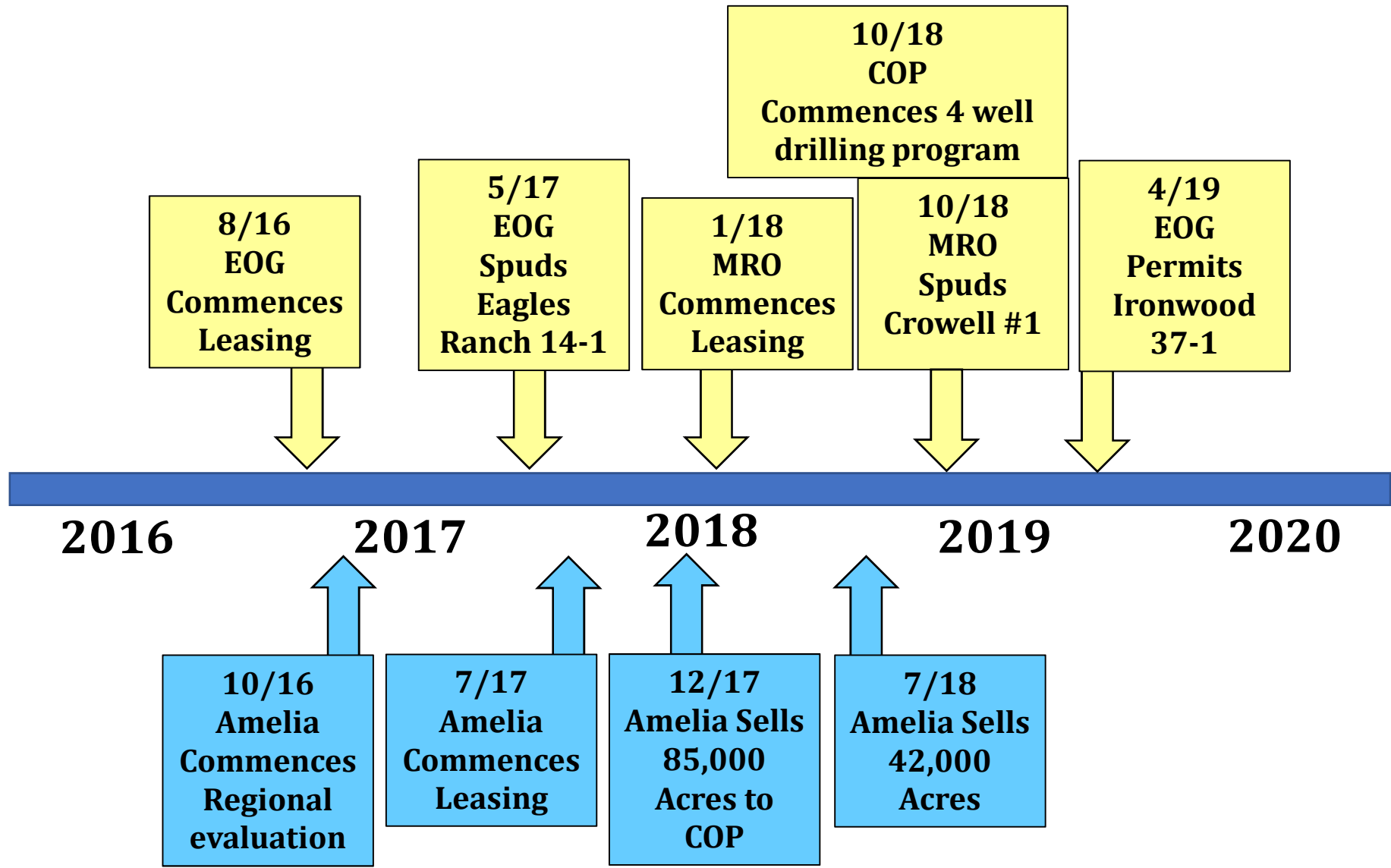
AUSTIN CHALK 2.0 – “Focus where you find them”

Drill horizontal wells across naturally occurring fractures.

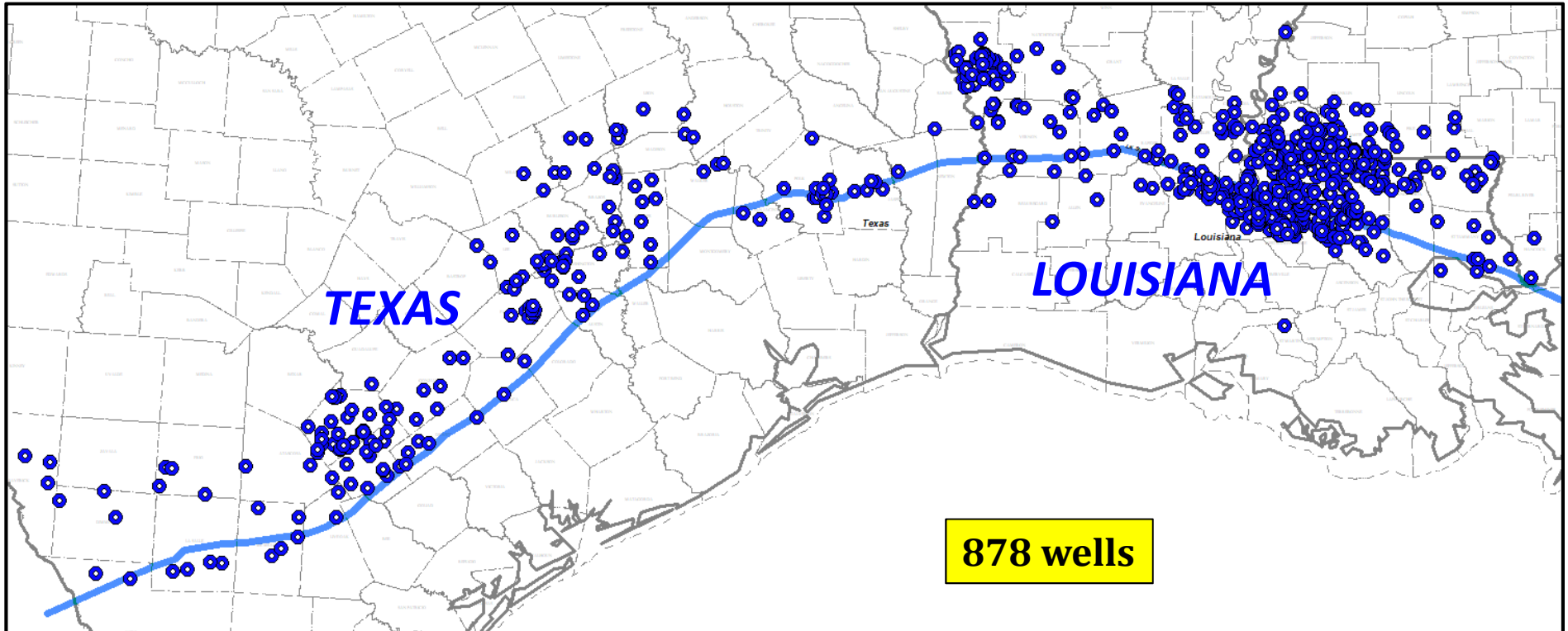
AUSTIN CHALK 3.0 – “Thick Saturated Porosity”

Utilize very high proppant hydraulic fracturing methods where higher matrix porosity and hydrocarbon saturation exists.

Louisiana Austin Chalk 3.0 Timeline

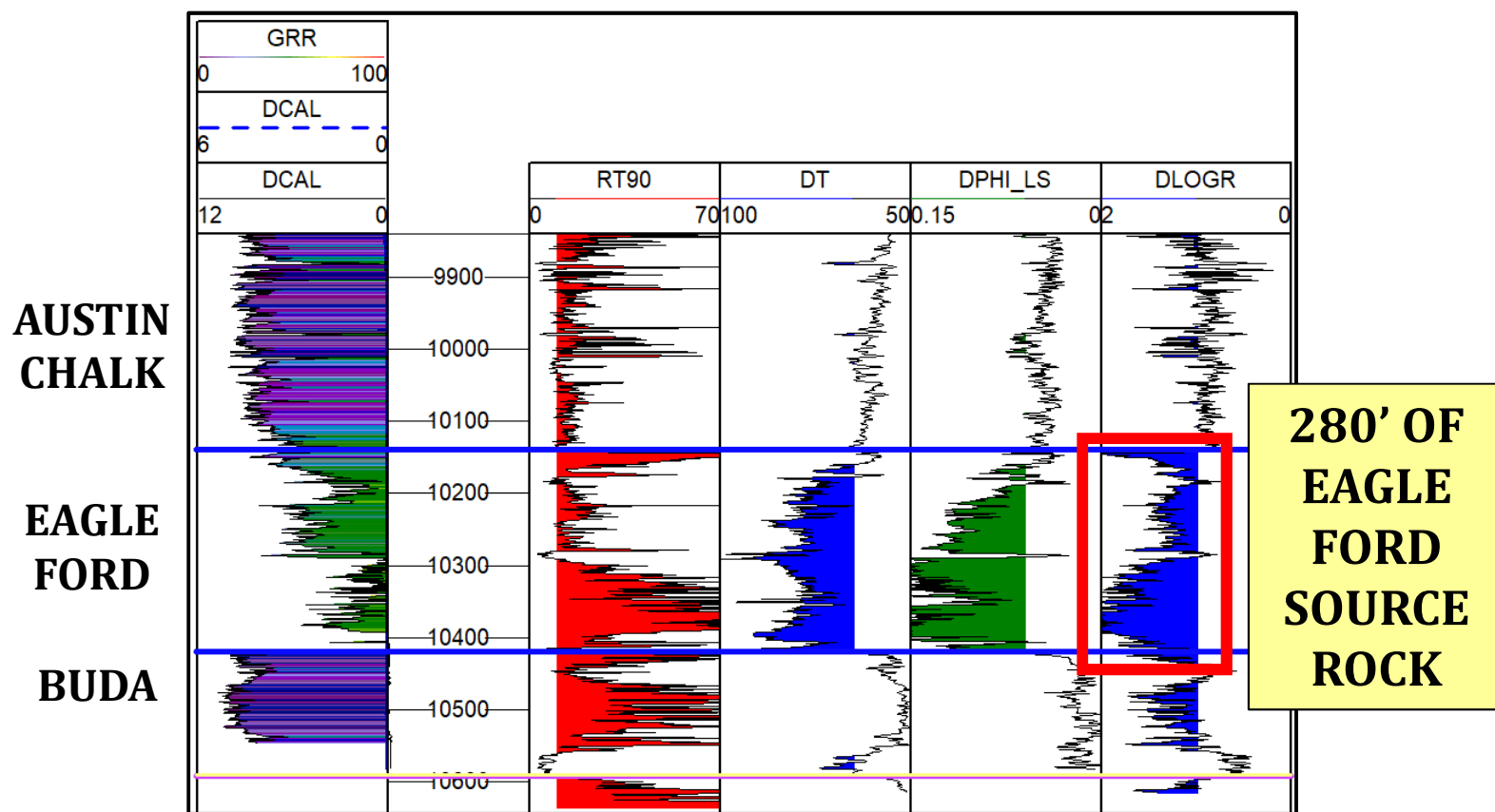


Amelia Dataset: Digital Well Logs



- Conducted regional Austin Chalk log analysis evaluation from Mexico to Mississippi (878 wells)

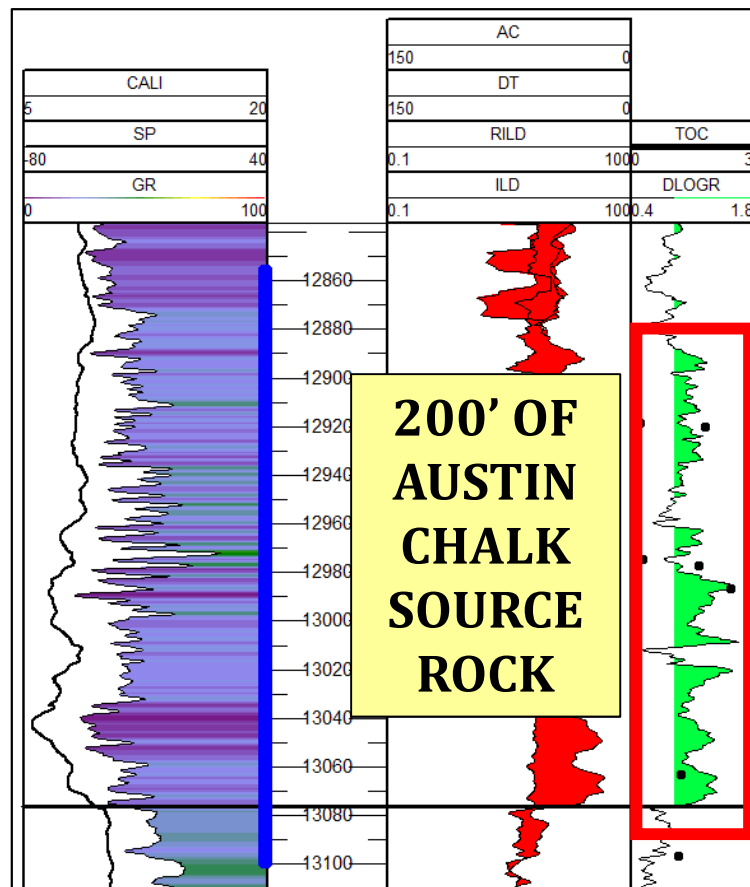
Source Rock – South Texas



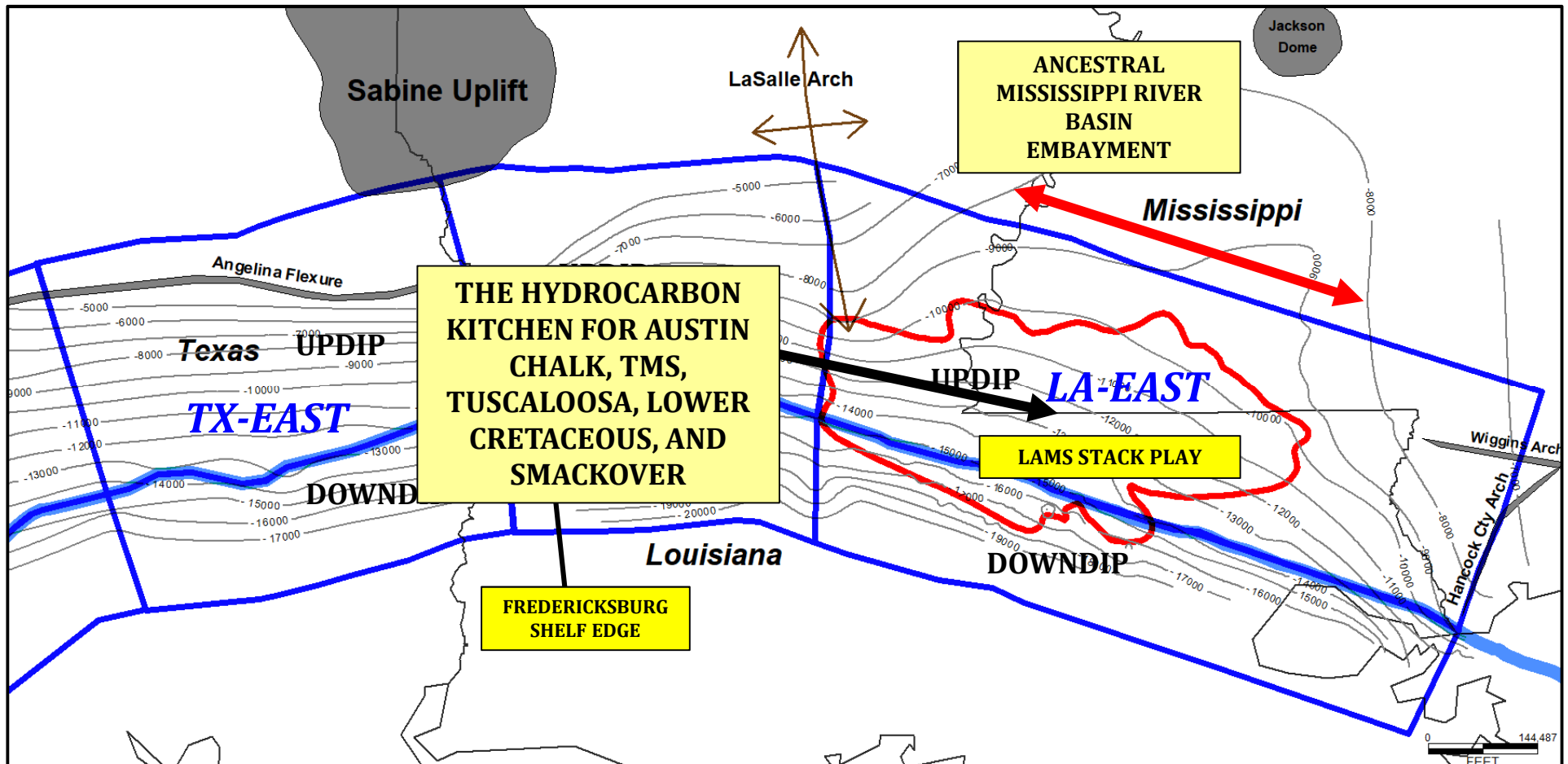
Source Rock – LA-EAST

**The Austin Chalk in the
Tuscaloosa Trend of Louisiana
is a high TOC source rock**
Amoco Production Research, 1992

**Log analysis in the eastern
portion of the Louisiana Austin
Chalk requires a different
approach.**

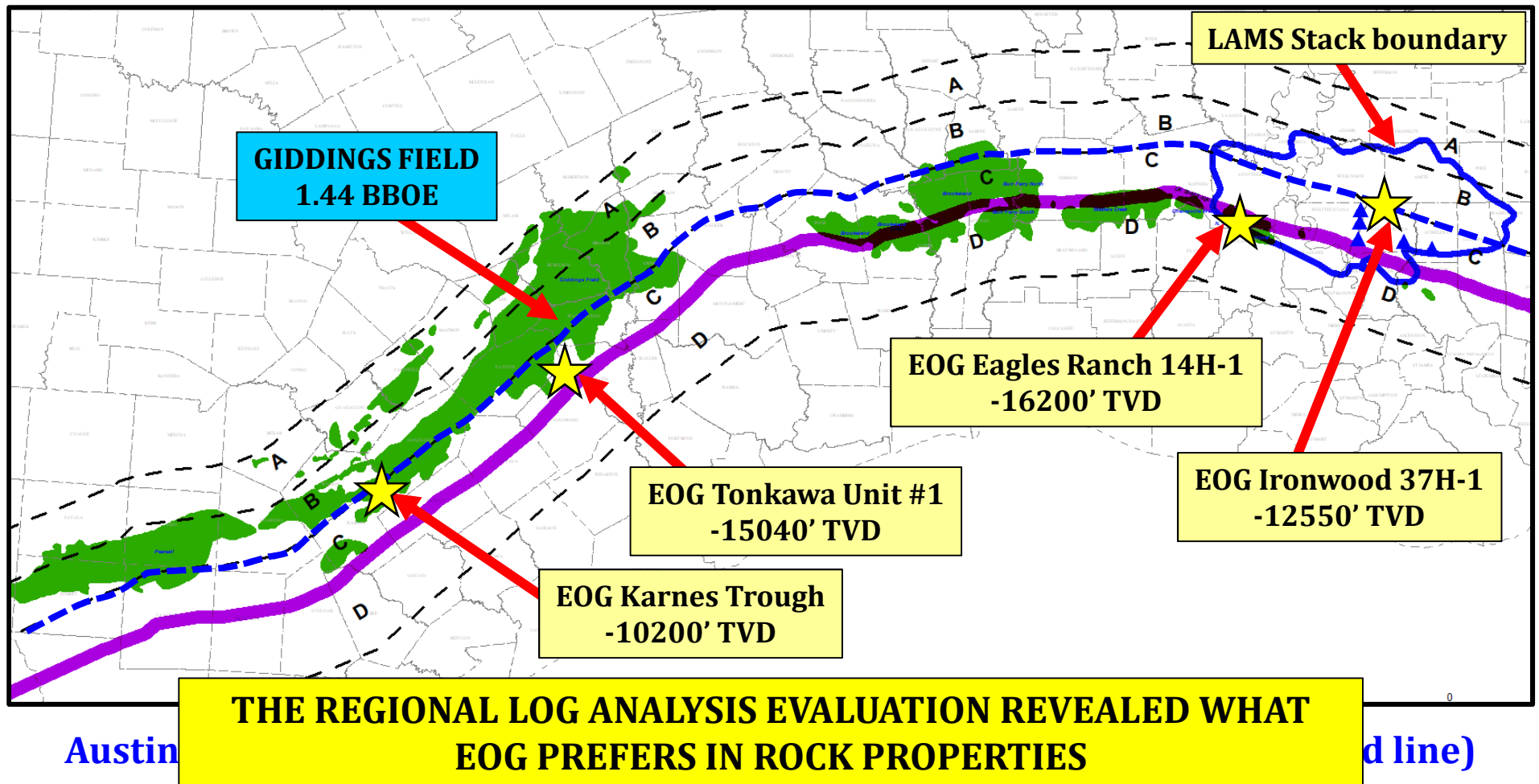


The Hydrocarbon Kitchen



Austin Chalk Trend

EOG Project Areas



Passey Method: TX/LA

VALUES

DLogR: Feet > 1.0

DlogR: Mean

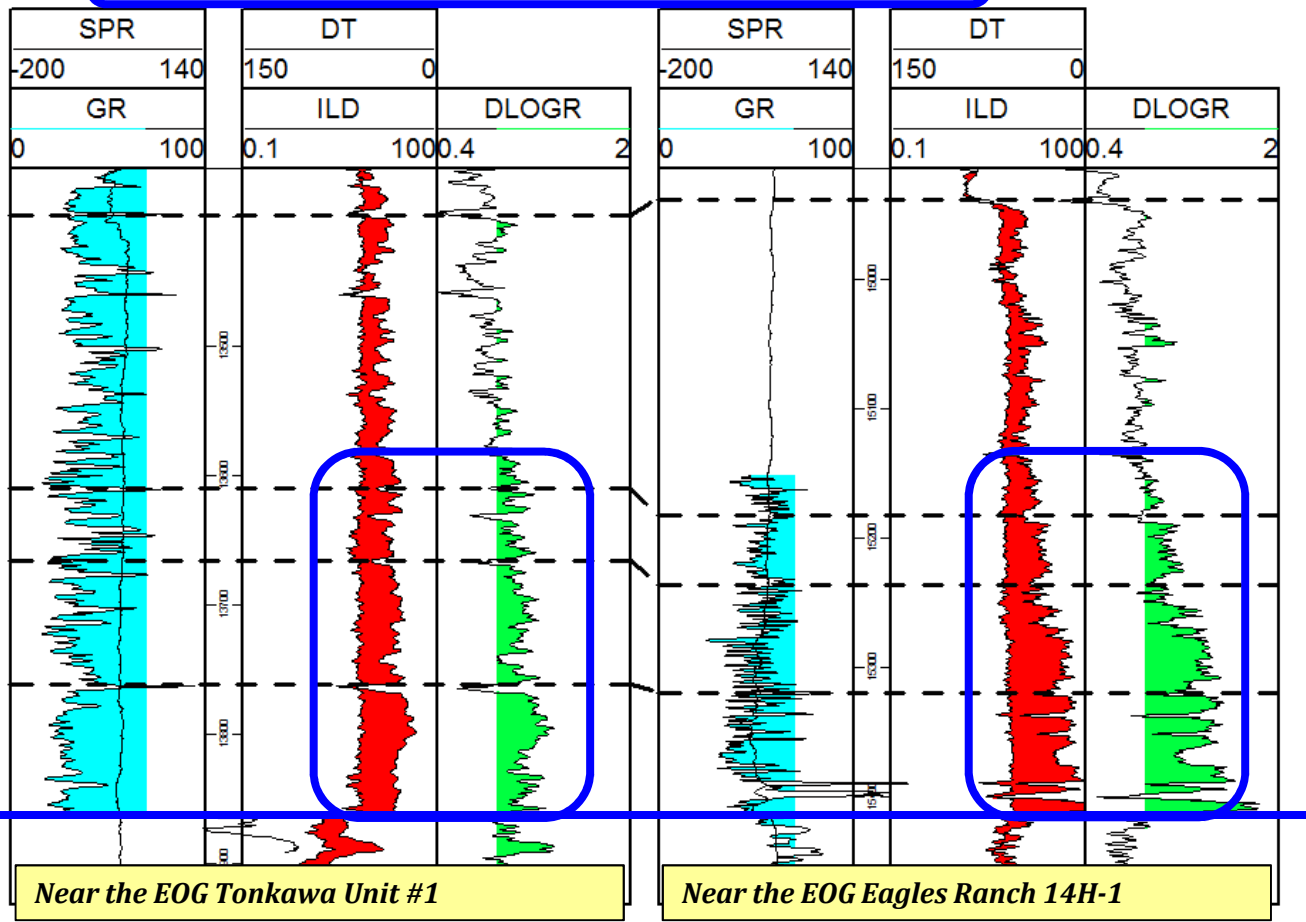
FAYETTE

174
1.1

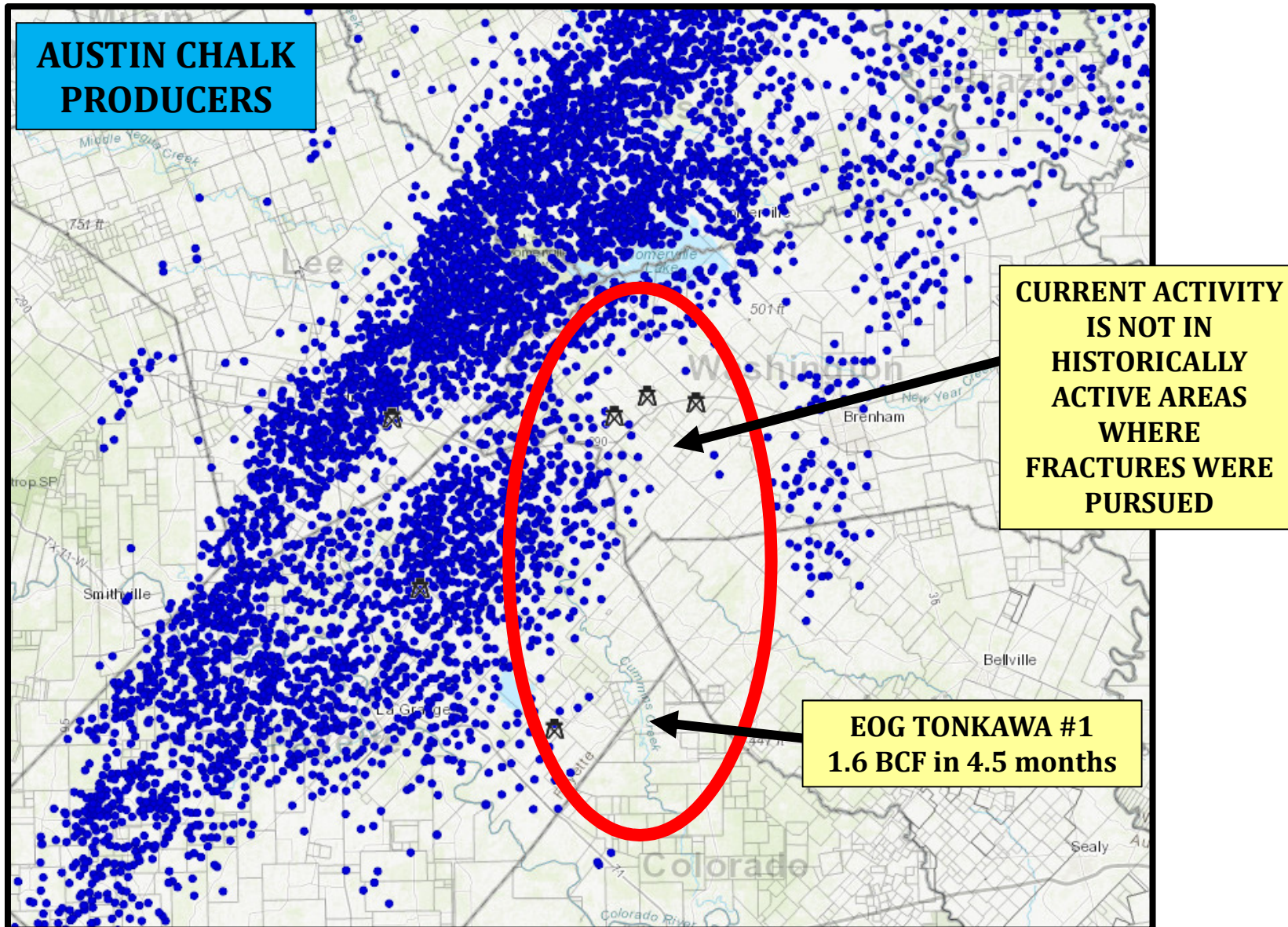
AVOYELLES

180
1.26

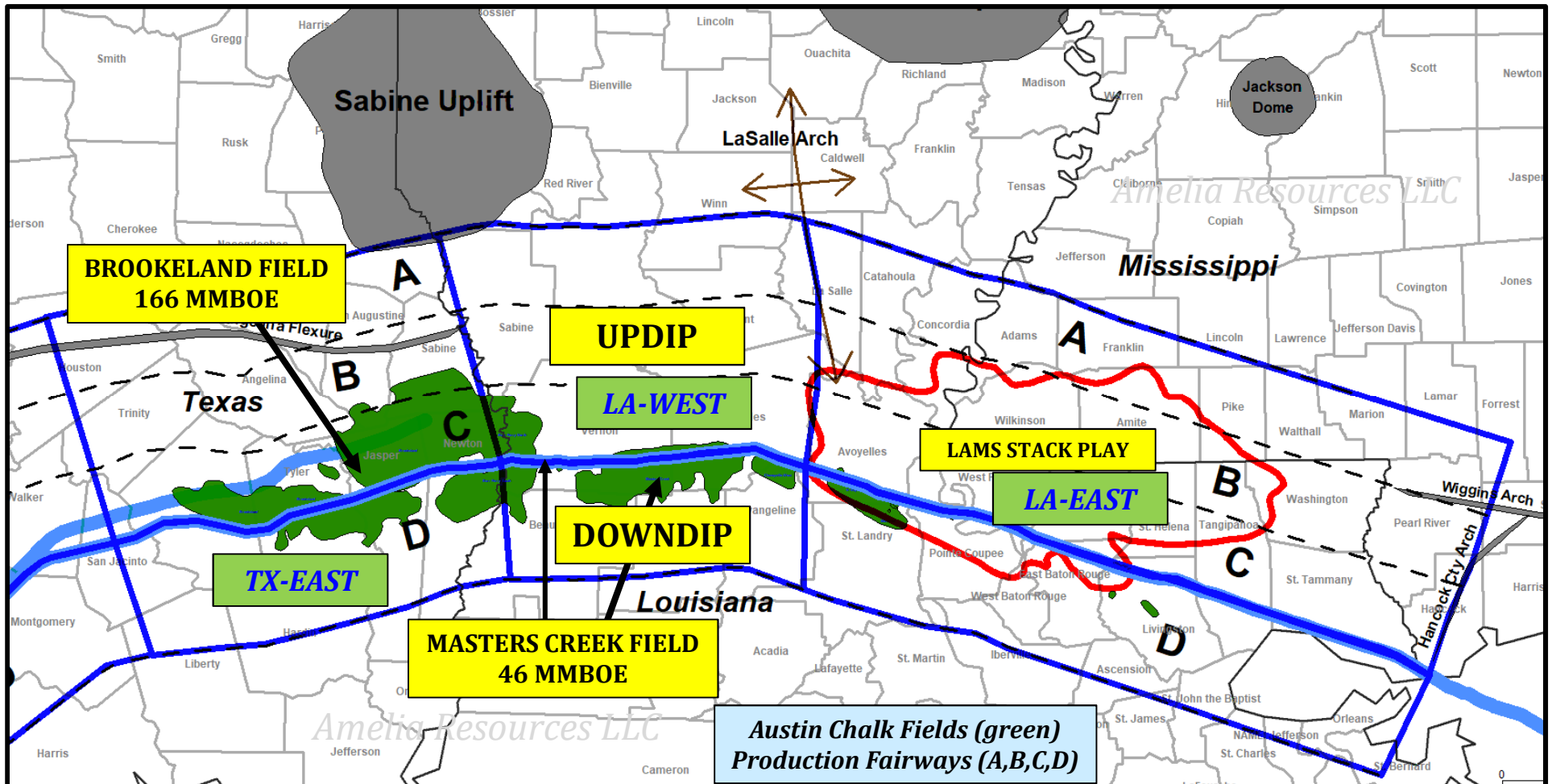
**Austin
Chalk**



Giddings Field – Current Focus Area



Austin Chalk Fields



Louisiana Region Parameters

		LA-WEST	LA-WEST	LA-EAST	LA-EAST
		UPDIP	DOWNDIP	UPDIP	DOWNDIP
	DEPTHS	2000'-14800'	13,000-22,000	5000'-15200'	10,000-23,000
GEOLOGY	GEOLOGIC STRUCTURE	MONOCLINAL DIP; MINIMAL FAULTS	COMPLEX GEOLOGY; LARGE FAULTS; 3-WAY AND 4-WAY CLOSURES; SALT TECTONICS	MONOCLINAL DIP; MINIMAL FAULTS	COMPLEX GEOLOGY; LARGE FAULTS; 3-WAY AND 4-WAY CLOSURES; SALT TECTONICS
	LITHOLOGY	CHALK/SOME MARL	CHALK/SOME MARL	CHALK/MARL	CHALK/MARL
	PRESSURE	NORMAL TO SLIGHTLY OVERPRESSURED	OVERPRESSURED	NORMAL TO SLIGHTLY OVERPRESSURED	OVERPRESSURED
	NATURAL FRACTURES	SOME	ABUNDANT	SOME	ABUNDANT
	POTENTIAL LATERAL LENGTHS	UNRESTRICTED BY GEOLOGY	POTENTIALLY RESTRICTED BY FAULT SPACING	UNRESTRICTED BY GEOLOGY	POTENTIALLY RESTRICTED BY FAULT SPACING
	GEOSTEERING/STAYING IN ZONE	SIMPLE	CHALLENGING	SIMPLE	CHALLENGING
	VERTICAL WELL PENETRATIONS	323	326	711	407
HYDROCARBONS	PRODUCTION	MOSTLY OIL	GAS AND OIL	MOSTLY OIL	GAS AND OIL
	OIL GRAVITY - Range	38-55	43-54	Unknown	36-47
	GAS OIL RATIO - Range	1,669-16,849	2,389-12,739	Unknown	248-11,052
	GAS OIL RATIO - Average	5111	4796	Unknown	1157
	YIELD (bbl/mmcf) - Range	157-599	148-395	Unknown	12-4,033
	YIELD (bbl/mmcf) - Average	196	208	Unknown	865
	WATER/BOE RATIO	0.48	6.29	Unknown	1.29
DRILLING		LOWER RISK	CHALLENGING DUE TO DEPTH, PRESSURE, FRACTURES, AND FAULTING	LOWER RISK	CHALLENGING DUE TO DEPTH, PRESSURE, FRACTURES, AND FAULTING
LOG ANALYSIS (BAC minus 250')	MEAN GAMMA RAY (api units)	18-70	18-58	33-69	21-56
	MEAN DEEP INDUCTION (ohmm)	1.8-14.8	2.9-10.0	3.4-48.5	1.8-44.2
	MEAN SONIC (ms/ft)	64-80	68-74	67-83	65-73
					0-15.2
					0-8.8
					1-1.45
					1-246
	FEET				249
					225
	Phi-H (Sonic Calculated Porosity)	20-37	37-44	22-56	19-42

**IT'S VERY LIKELY THAT THE LOUISIANA AUSTIN
CHALK PLAY WILL HAVE VARYING RESULTS
ACROSS THE FOUR REGIONS**



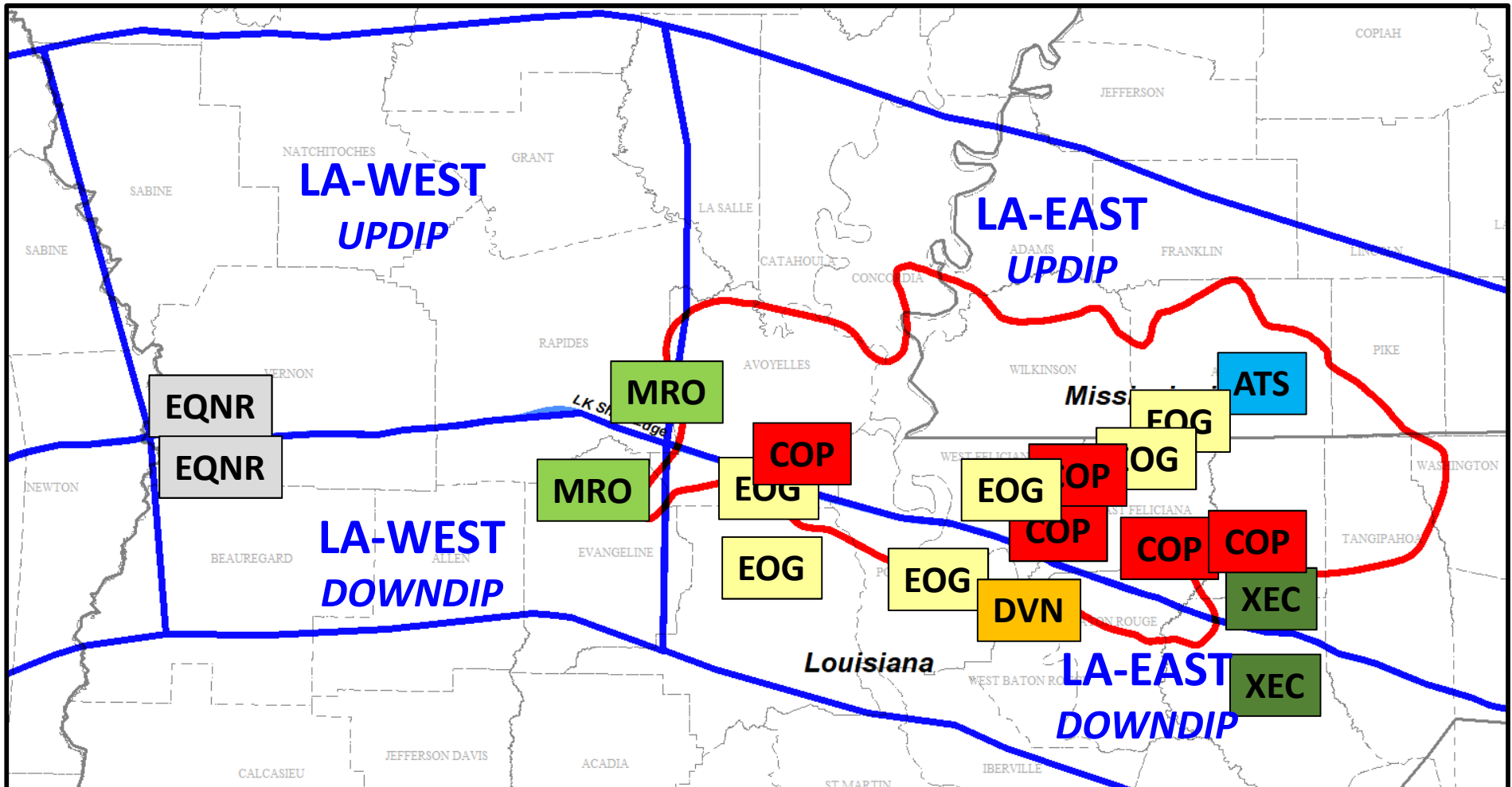
LEASING



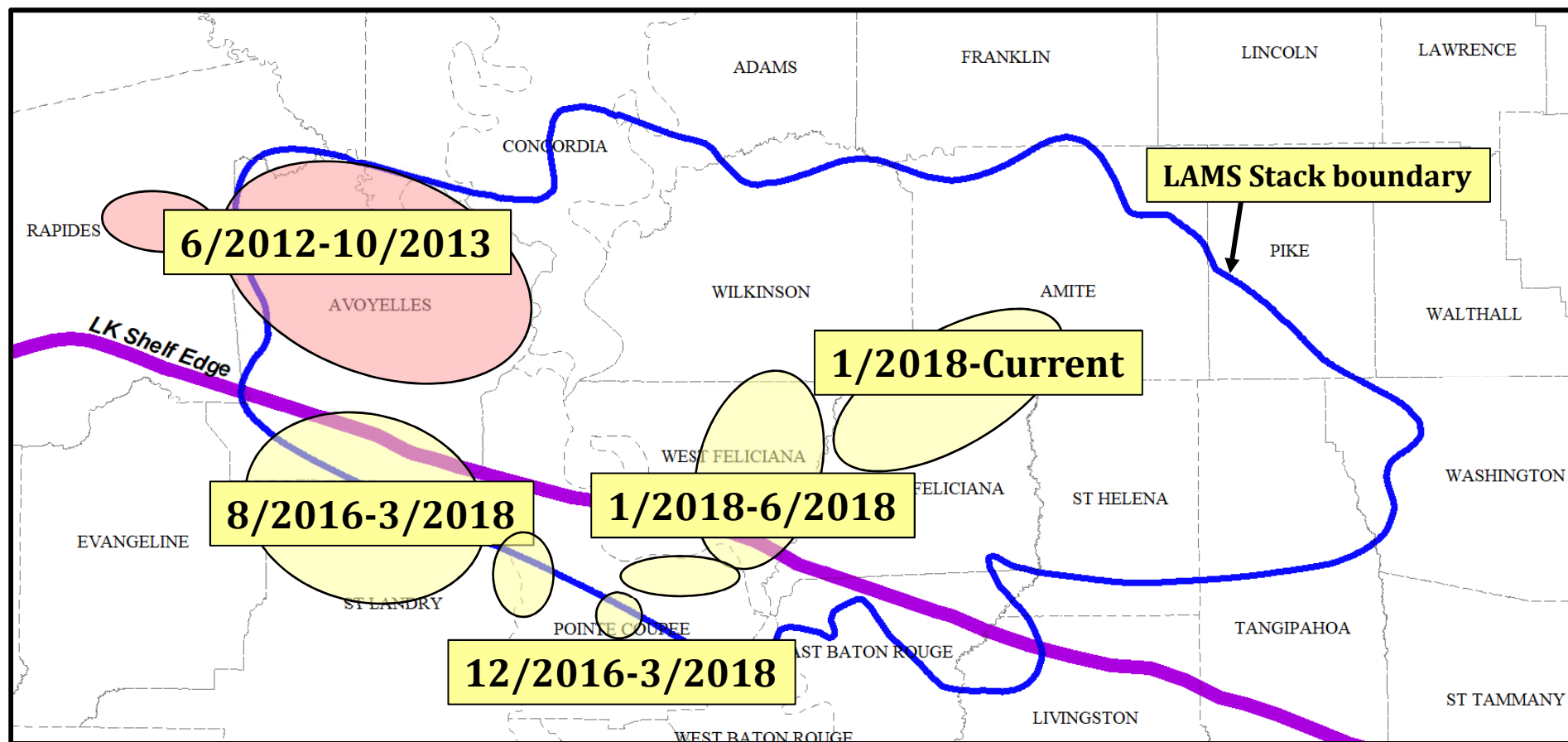
Net Acres Leased

- 1.4M** {
- **EOG Resources: ~350,000**
 - **ConocoPhillips: ~245,000**
 - **Marathon Oil: ~220,000**
 - **Cimarex: ~130,000**
 - **Less than 100,000 acres: Devon, BlackBrush, Petroquest, State Line Exploration, Torrent, Prime Rock, and Panther Energy.**
 - **Amelia Resources:**
 - **565,000 secured**
 - **127,000 sold**
 - **438,000 being marketed**

Leases - Large Operators



EOG – TMS & Austin Chalk Leasing



EOG IS NOW BALANCED BETWEEN UPDIP AND DOWNDIP



Amelia Resources Leasing Strategy

- **Target geologically superior locations based on petrophysics, structure, and stratigraphy**
- **Leverage reputation, track record, and relationships to secure premium acreage (TMS Part II)**
- **Focus on large tracts first (15k, 33k, 10k)**
- **Leasing across 10 parishes/counties**
- **LA-East, LA-West**
- **Updip and downdip**
- **Preference towards the “stack”**
- **\$2.6 million invested to date (37 landmen)**



Kickstarter Model

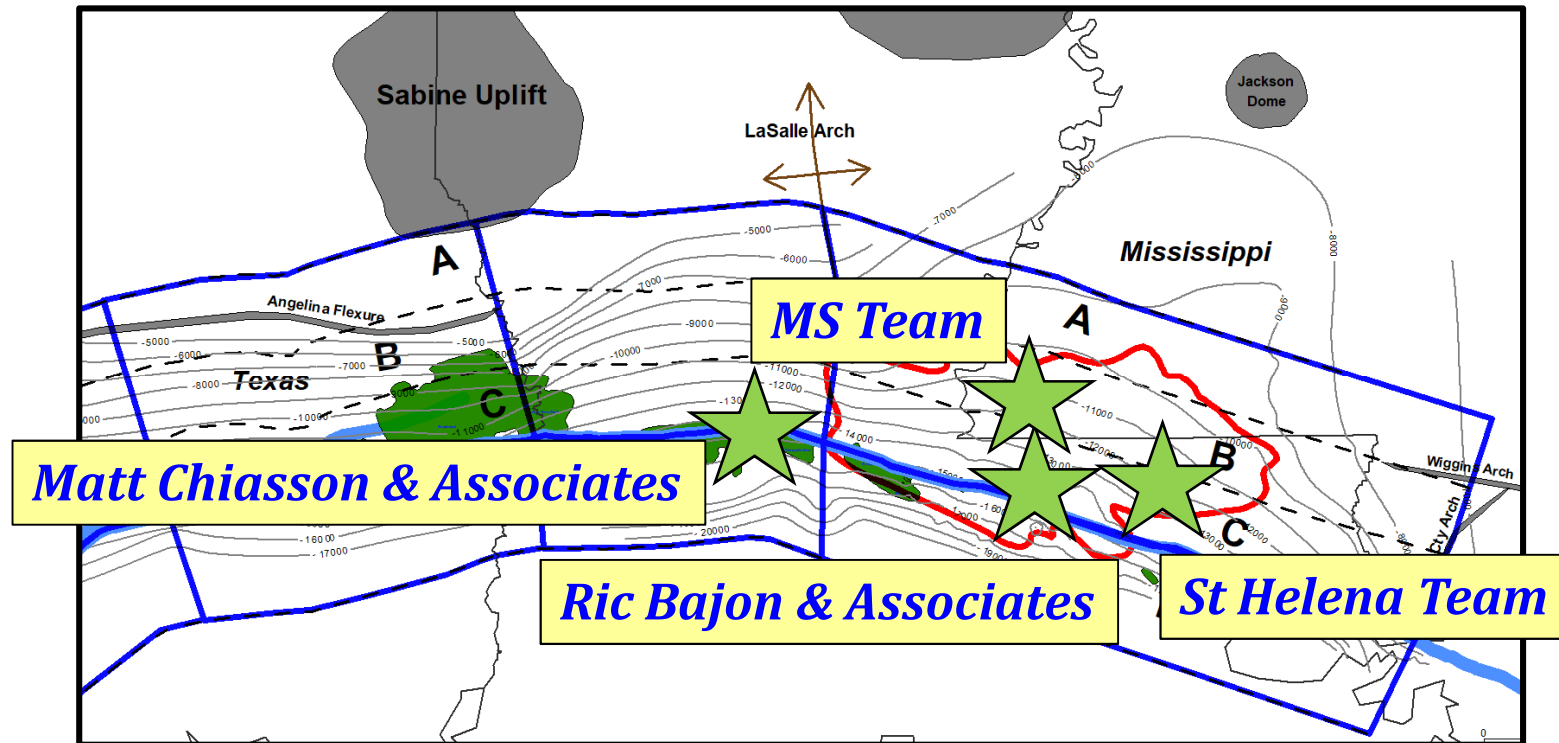
TMS

- Amelia Resources “kickstarted” Encana who ultimately became the largest leaseholder.
- Technical transfer
- 1st 60,000 acres

AUSTIN CHALK

- Amelia Resources “kickstarted” ConocoPhillips who is one of the largest leaseholders in the play.
- Technical transfer
- 1st 85,000 acres

Land Team



"If you don't have the leases, then you don't have a prospect!"
Wise Geologist

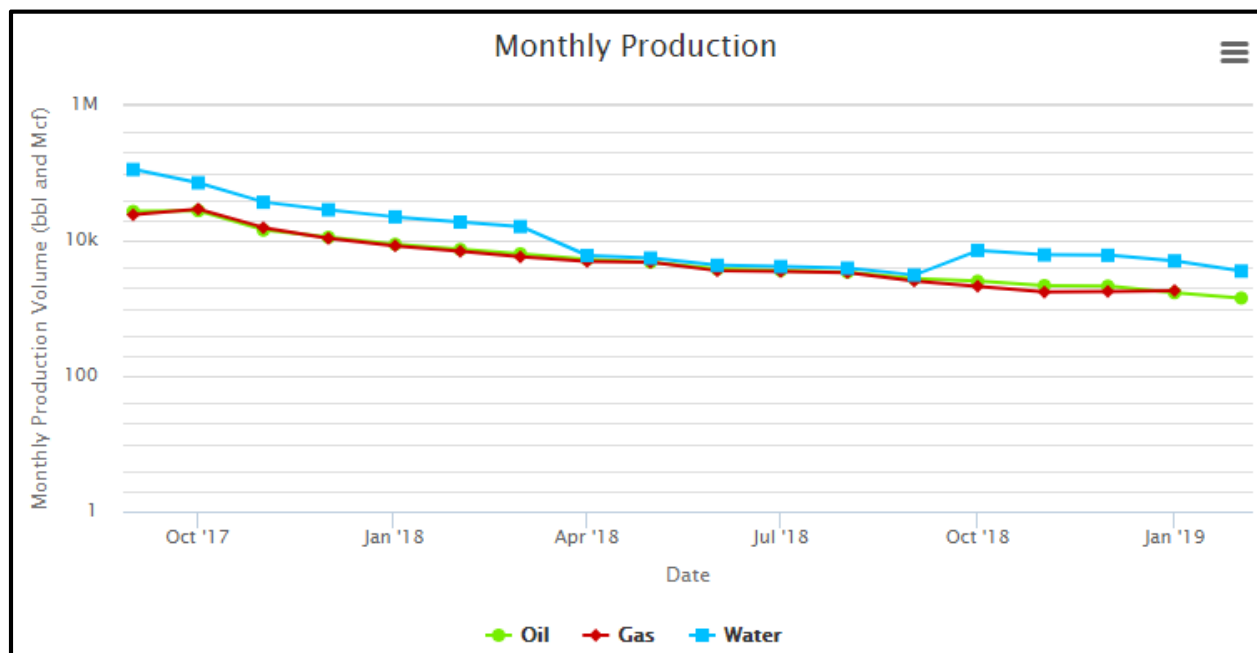


DRILLING



EOG Eagles Ranch 14H-1

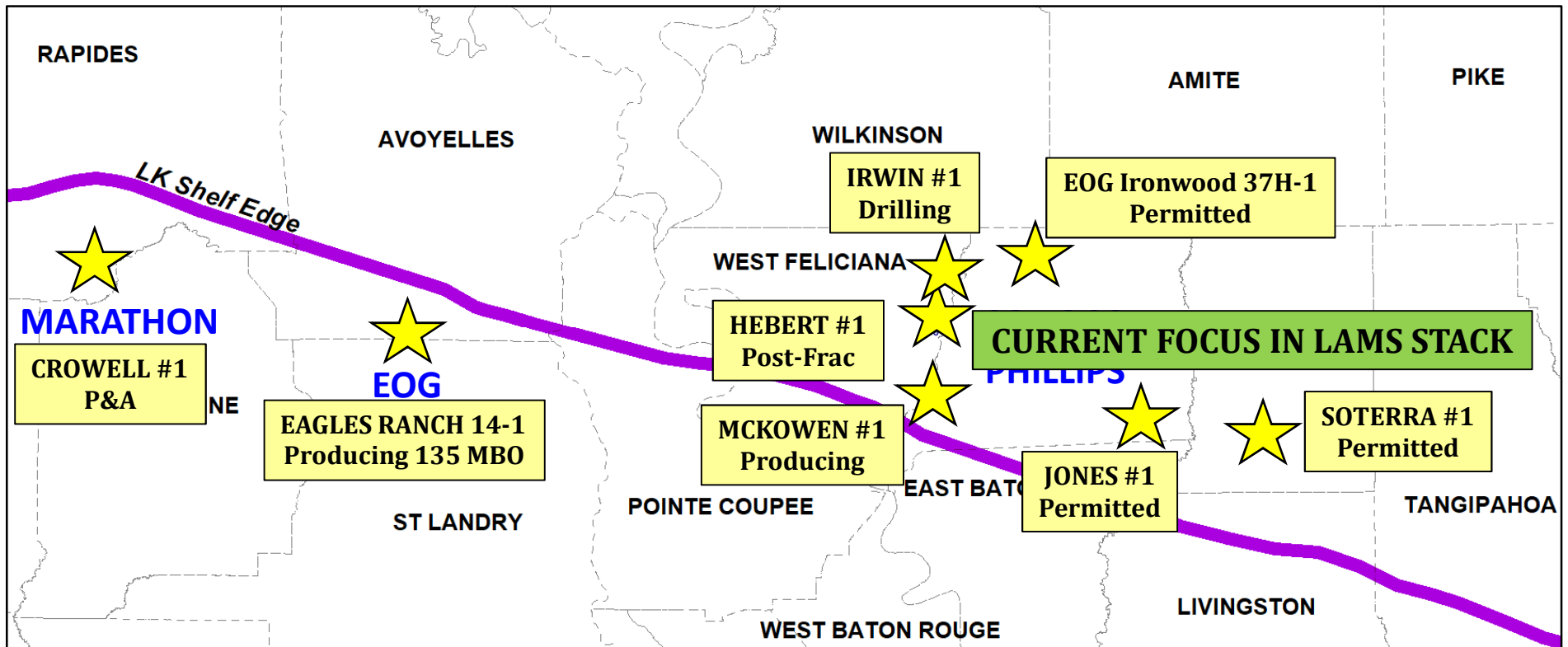
Cum Oil: 135,945
Cum Gas: 130,239
(18 months)



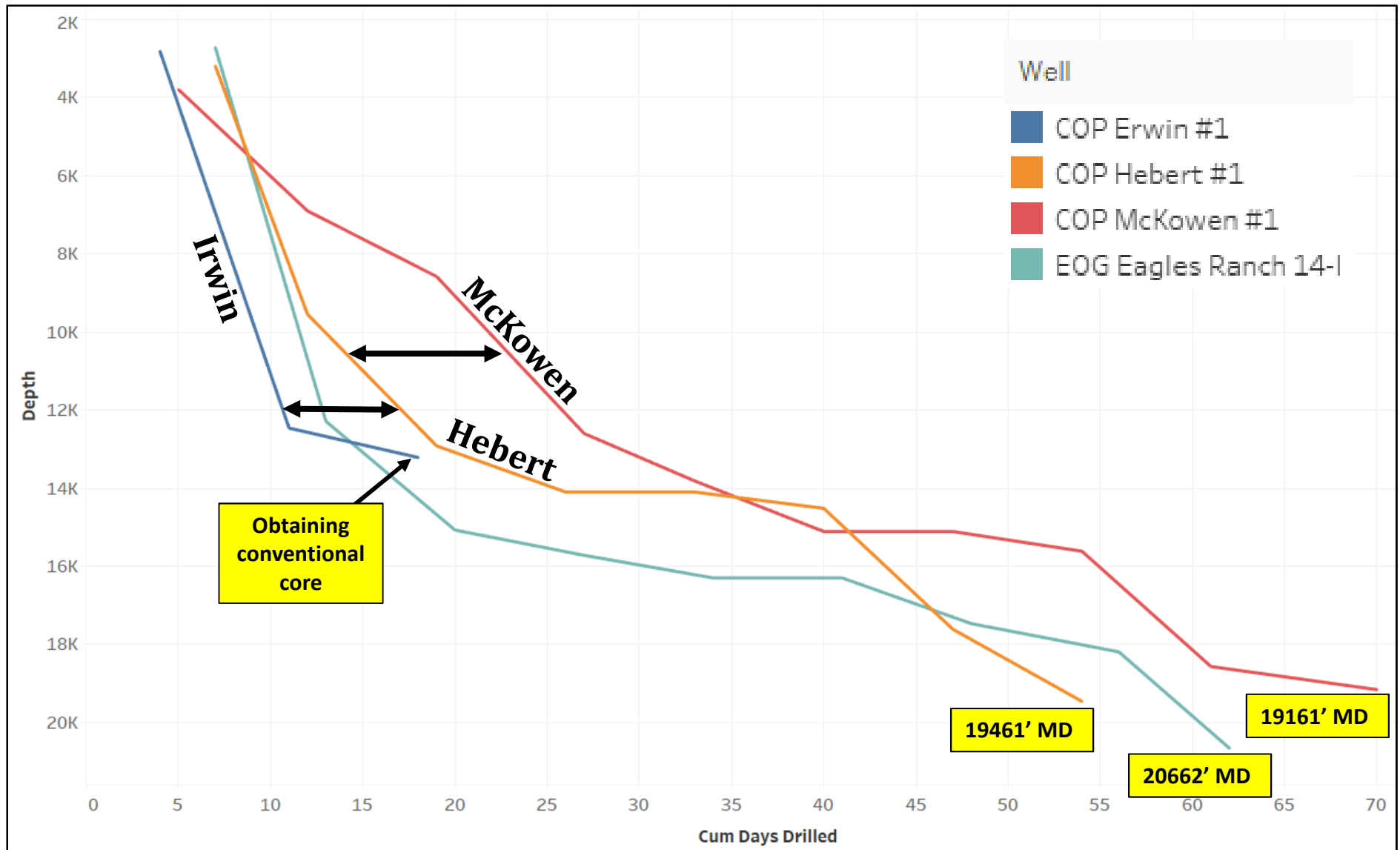
Giddings Field 3.0

CHRONOLOGICAL ORDER	First 12 Oil	First 12 Gas	First 12 BOE
30	58,670	3,799,198	691,870
22	12	4,015,188	669,210
25	358,065	1,546,772	615,860
19	147,727	2,249,434	522,633
24	141,968	1,954,393	467,700
14	34,706	2,540,499	458,122
23	44,725	2,473,902	457,042
18	132,788	1,765,299	427,005
5	66,470	1,064,246	243,844
7	68,587	697,241	184,794
EOG Eagles Ranch	123,316	120,283	143,363
29	73,776	329,400	128,676
3	81,999	156,462	108,076
1	52,801	314,315	105,187
21	70,972	204,683	105,086
17	57,789	260,270	101,167
16	63,303	180,747	93,427
20	55,449	184,837	86,255
4	35,480	282,910	82,632
2	67,598	20,493	71,014
8	61,599	19,349	64,824
11	36,992	121,160	57,185
6	44,379	13,792	46,678
12	17,518	12,774	19,647
13	3,599	15,422	6,169
26	8	10,637	1,781
28	145	4,526	899
15	14	3,858	657
27		1,889	315
10		1,184	197

Current Drilling



Austin Chalk - Drilling Times

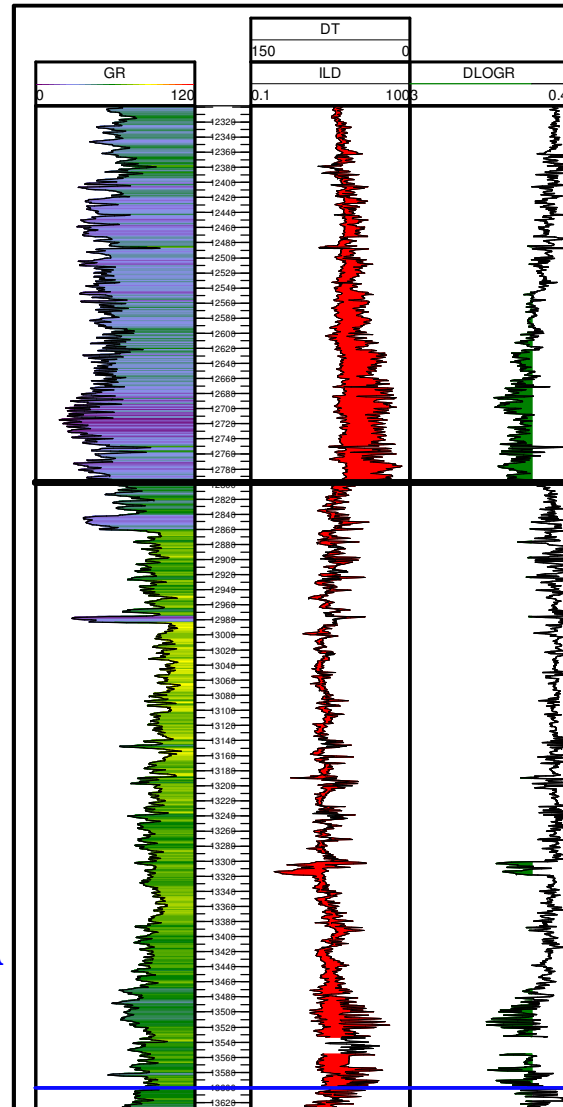


EOG Ironwood 37H-1 Offset Well

Passey
Log
Display

AUSTIN
CHALK

TUSCALOOSA
MARINE
SHALE



252' of high
TOC source
rock

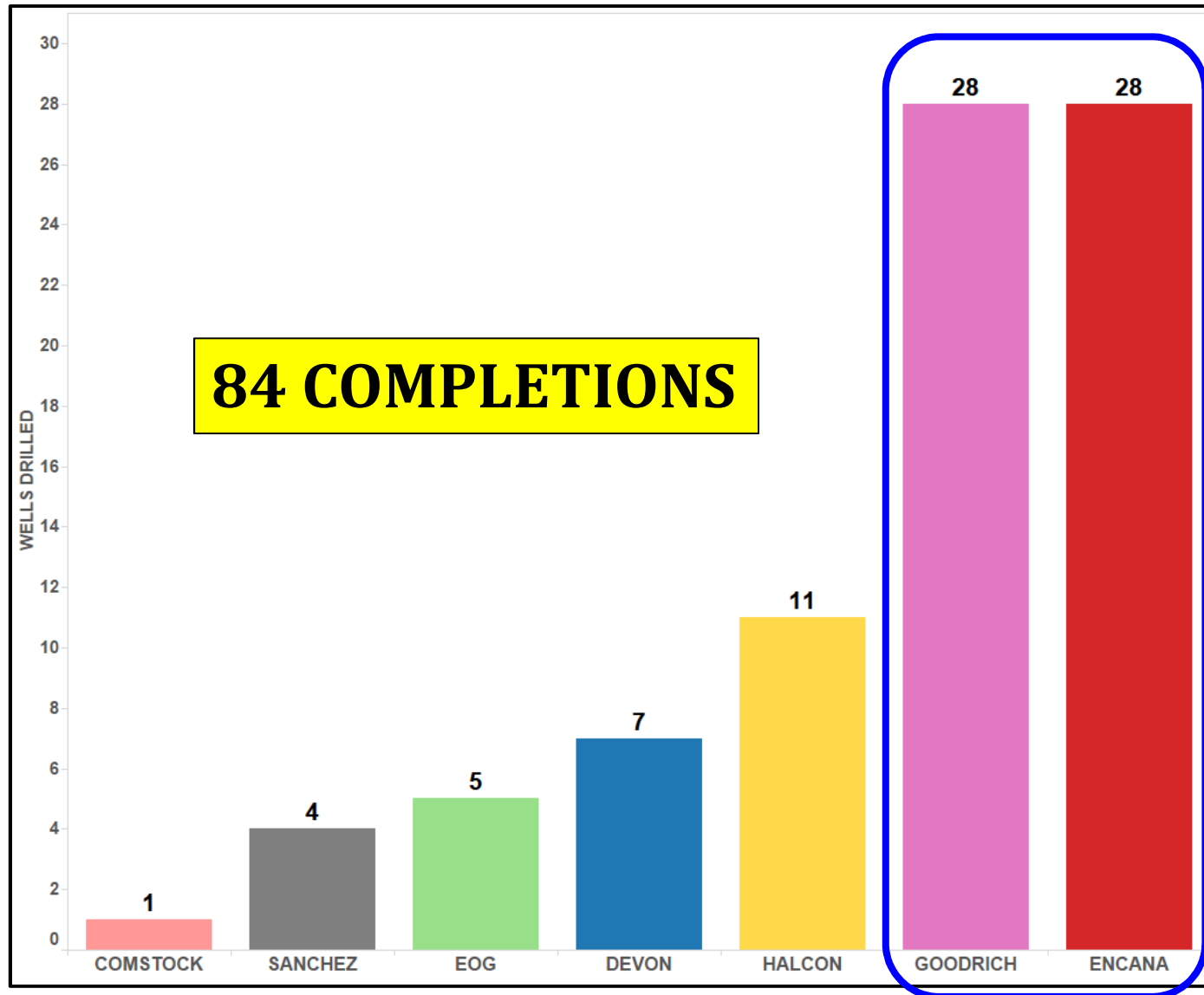
800'

130' of high
TOC source
rock



TUSCALOOSA MARINE SHALE

Wells Drilled (Thru 2018)

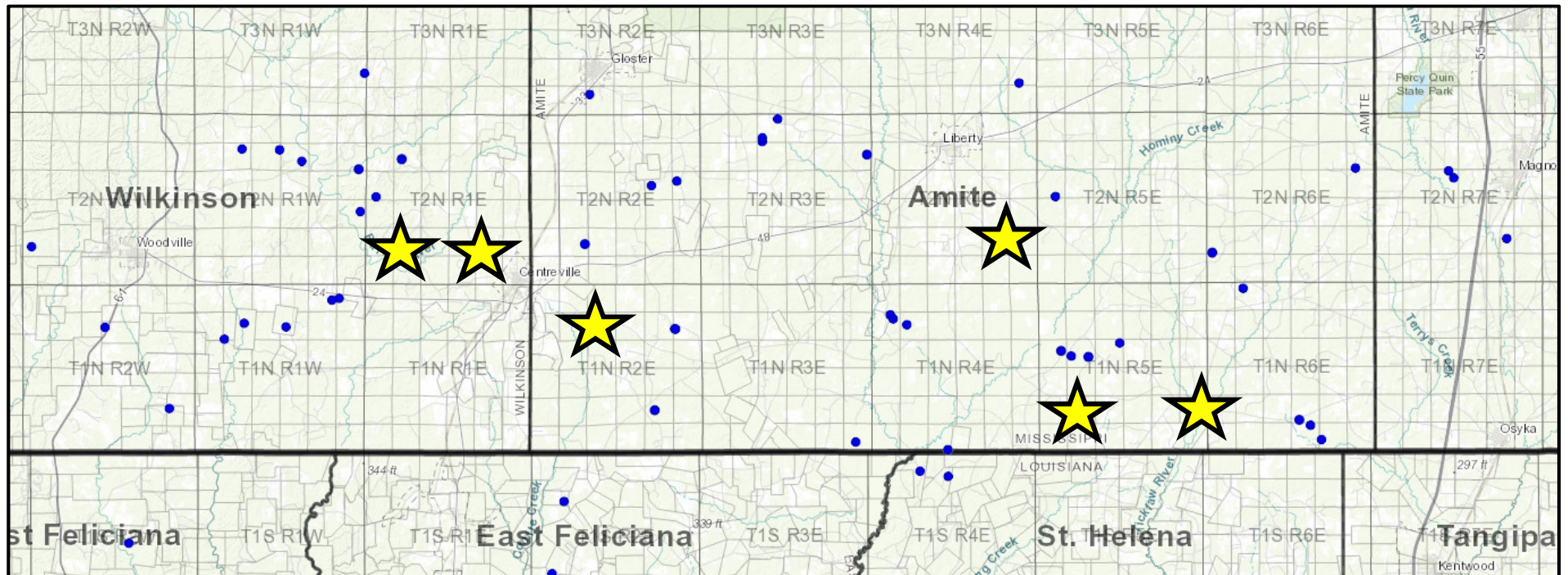


Cumulative Production

Operator Company Name (Beta)	Well/Lease Name	▼ Cum BOE
AUSTRALIS TMS INC.	LONGLEAF 29H 2	494219
AUSTRALIS TMS INC.	LAWSON 25-13H 1	428187
AUSTRALIS TMS INC.	ASH 13H 1	390670
GOODRICH PETROLEUM	CMR/FOSTER CREEK 31-22H 1	351408
AUSTRALIS TMS INC.	PINTARD 28H 2	344331
AUSTRALIS T		344157
AUSTRALIS T		332860
AUSTRALIS T		322758
AUSTRALIS T		314797
AUSTRALIS T		285719
GOODRICH P		283302
AUSTRALIS T		259096
GOODRICH P		255810
AUSTRALIS TMS INC.	LONGLEAF 29H 1	252065
AUSTRALIS TMS INC.	ASH 13H 2	249550
GOODRICH PETROLEUM	CMR FOSTER CREEK 24-13H 1	239468

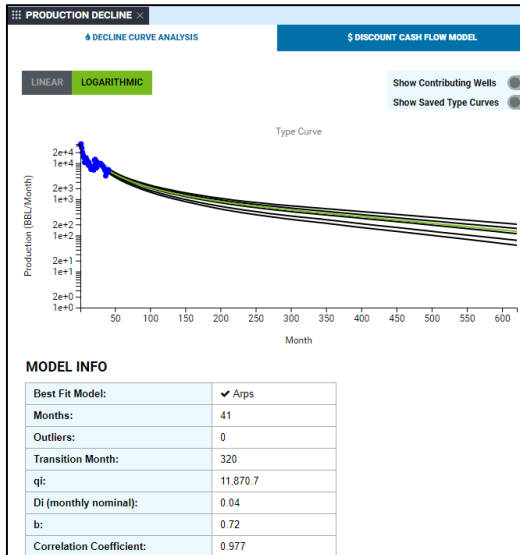
**BEST WELLS WERE
THE LAST
COMPLETED IN
2014 BEFORE THE
PRICE CRASH**

TMS: Top 6 – Cum BOE

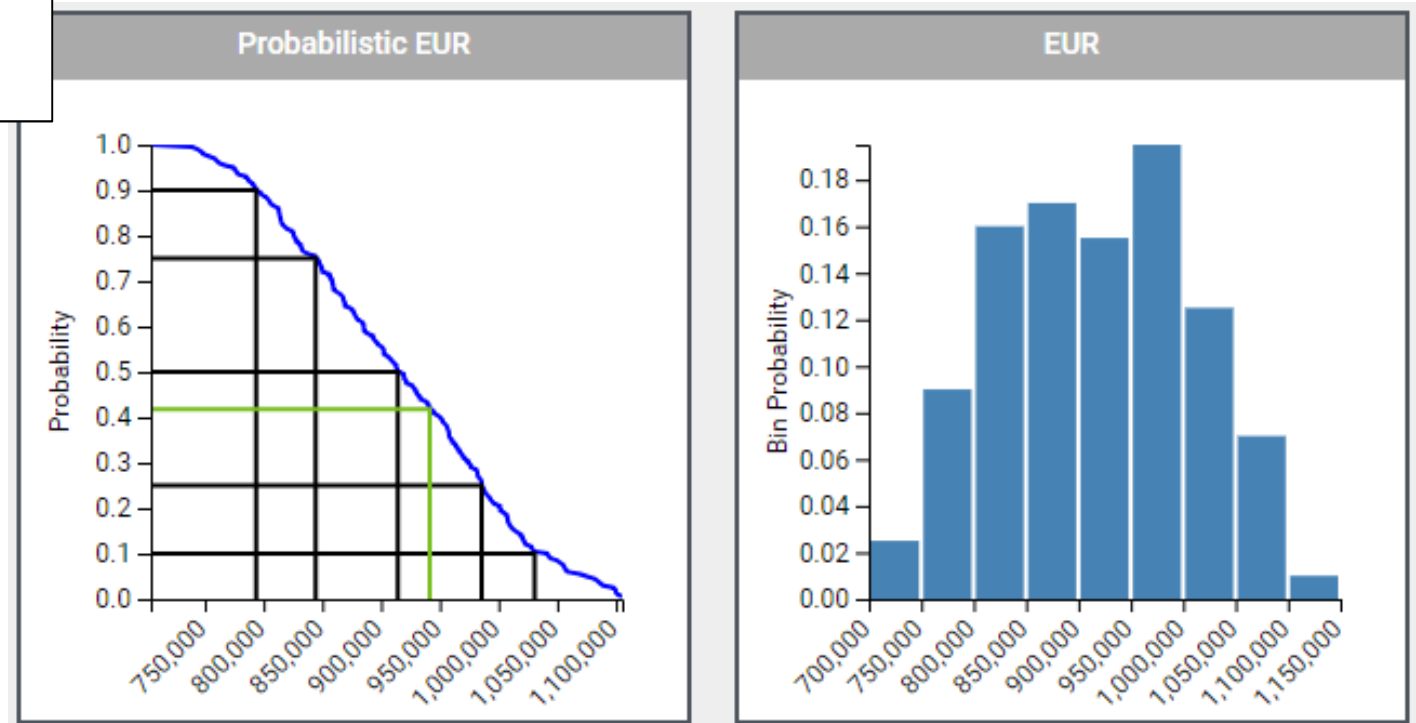


**THE HIGHER GOR & PRESSURE WINDOW
IN LOUISIANA IS BARELY EXPLORED**

Encana/Australis Longleaf 29H-2

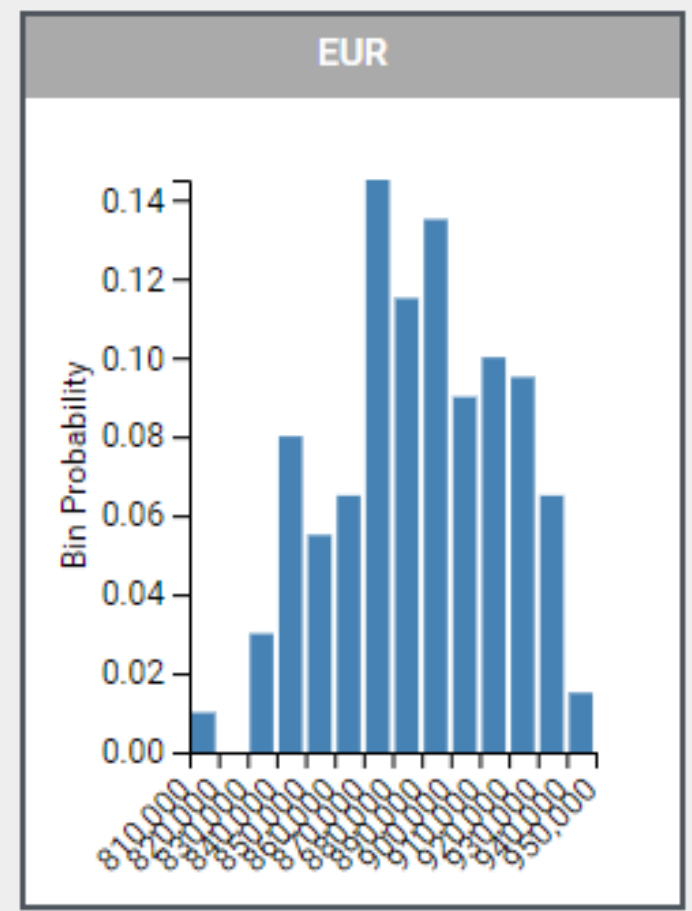
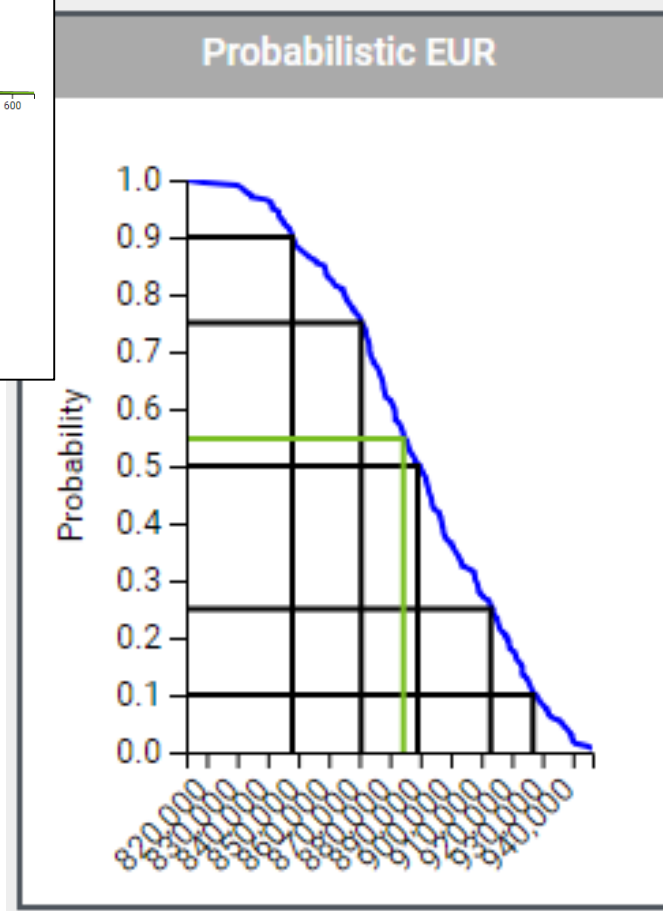
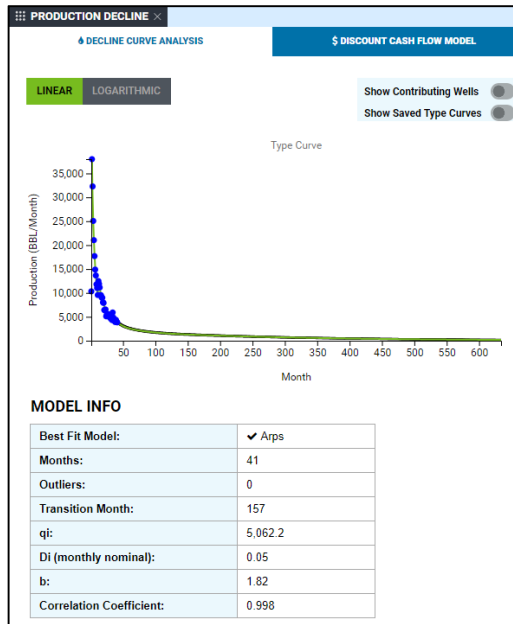


EUR: 945 MBO



Encana/Australis Lawson 25H-13

EUR: 885 MBO



Australis TMS Results

Initial Drilling Program – Status & Costs



All drilling and completion operations have been executed without any reportable safety or environmental incidents

Drilling Operations Summary

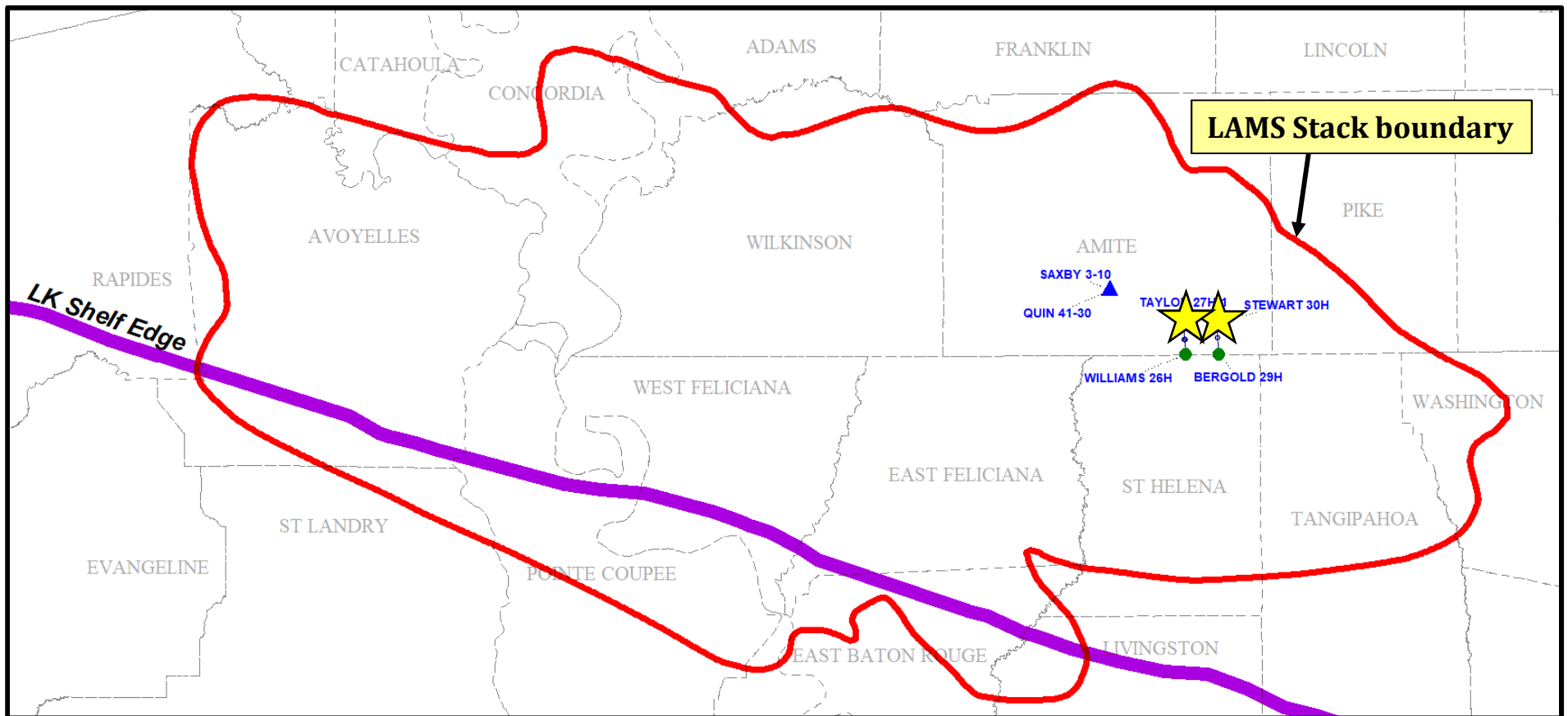
Well	Well Status ^A
Stewart 30H-1	<ul style="list-style-type: none"> Lateral length drilled of 6,900ft completed 20 stages 86,503 bbls produced after 91 days – 35% above the TMS Type Curve
Bergold 29H-2	<ul style="list-style-type: none"> Lateral length drilled of 2,000ft completed 5 stages. Operational decision to shorten well to preserve capital Not considered representative of the TMS play due to localised issues – remedies identified Continues to produce oil at modest rates through the production casing, tubing to be installed
Taylor 27H-1	<ul style="list-style-type: none"> Lateral length drilled of 6,798ft completed 20 stages Commenced flowback in early April and after 19 days following clean up has produced at an average rate of 1,105 bbl/d and a reported IP24 of 1,282 bbl/d (1,386 boe/d)
Williams 26H-2	<ul style="list-style-type: none"> Lateral length drilled of 2,878ft completed 9 stages Drilling issue resolution identified and successfully implemented on Quin 41-30 3H Commenced flowback in early April and after 20 days following clean up has produced at an average rate of 386 bbl/d and a reported IP24 of 507 bbl/d (527 boe/d) On a normalised basis the 20 day average rate equates to 1,083 bbl/d
Saxby 03-10 2H	<ul style="list-style-type: none"> Vertical surface hole drilled to 3,210 ft awaiting rig release from Quin well
Quin 41-30 3H	<ul style="list-style-type: none"> Drilling horizontal lateral, operations ongoing

IP 1458 boepd

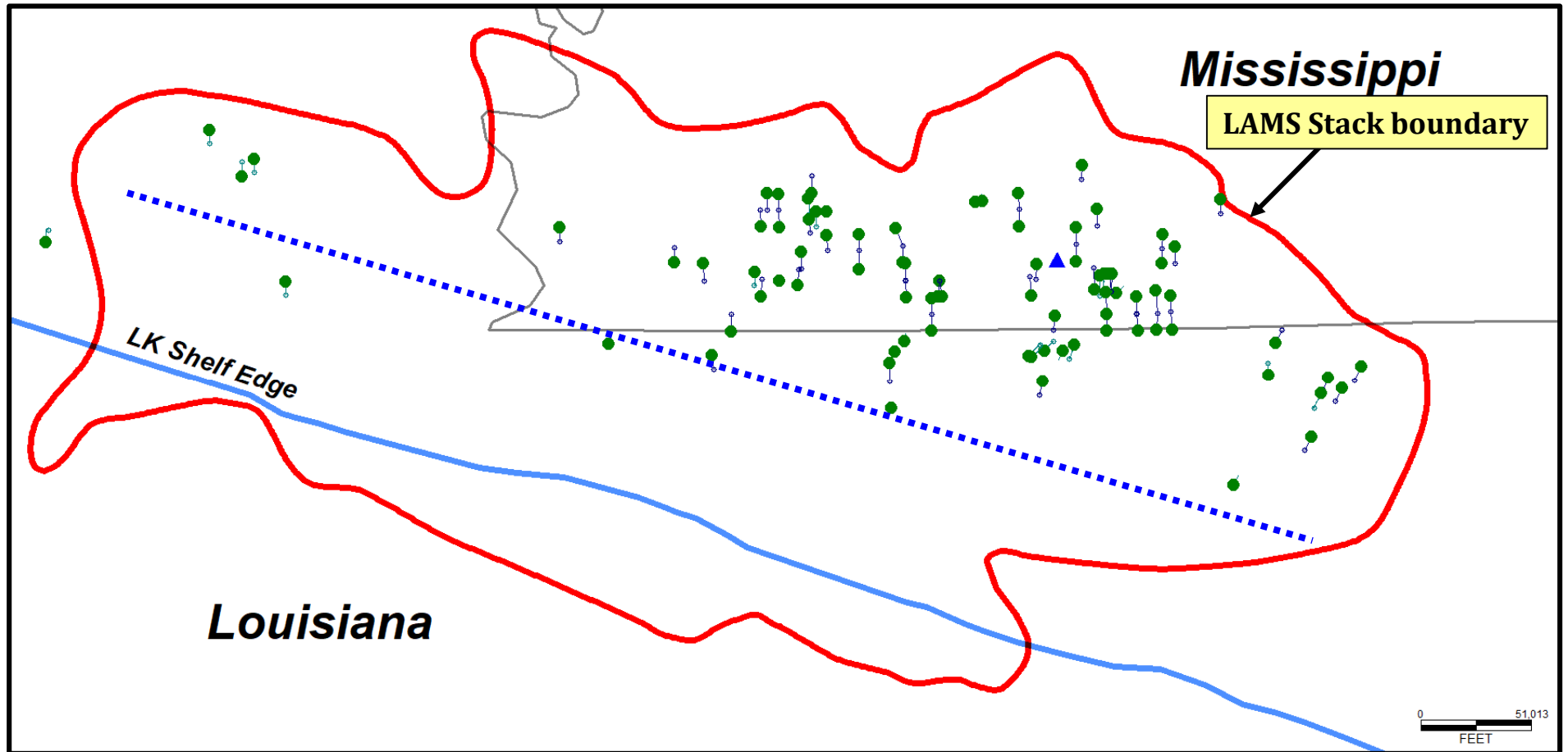
IP 1386 boepd

Source: www.australisoil.com

Recent TMS Results



TMS Producers



MUCH MORE TO BE EXPLORED

Conclusions

- **The Austin Chalk 3.0 play in Louisiana is in the very early stages of exploration (2 wells drilled)**
- **The potential to stack the TMS provides very attractive upside**
- **The industry has abundant capital to fund new plays**
- **Oil needs to stay above \$60 per barrel**
- **The play has a stellar group of operators leading the exploratory effort**
- **Stay tuned**



What To Look For In 2019

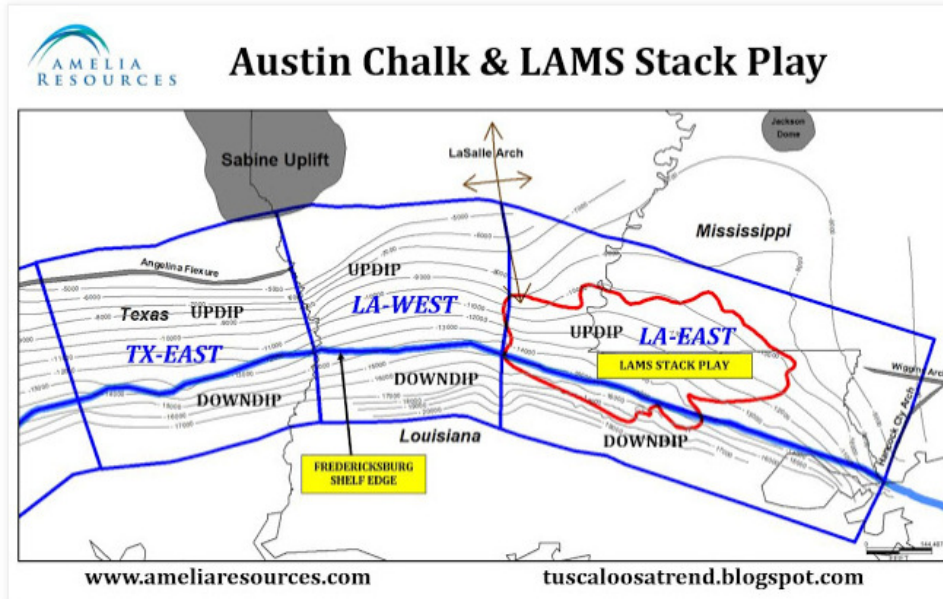
- **Oil prices**
- **Additional leasing**
- **New drilling units**
- **Drilling by ConocoPhillips, EOG, and Marathon**
- **Amelia Resources transaction(s)**
- **More TMS wells?**

Communicating to The Market

Thursday, March 28, 2019

Regions - Geological Comparison and Contrast

In my November 5, 2018 post, I presented detailed maps illustrating geographic regions across the Austin Chalk Trend. This allows for comparison and contrast across this vast trend.



The table below provides a comparison and contrast of the geographic regions of the Austin Chalk in Louisiana and Mississippi. Due to the fact that I've not evaluated the Texas Austin Chalk trend to the same extensive detail that I have in Louisiana, I'm only presenting the table for LA and MS.

Pageviews today	277
Pageviews yesterday	426
Pageviews last month	10,731
Pageviews all time history	1,485,497





QUESTIONS?