



BERYL
OIL AND GAS

“Horizontal Drilling in the Permian Basin, a Look at How We Got Here”



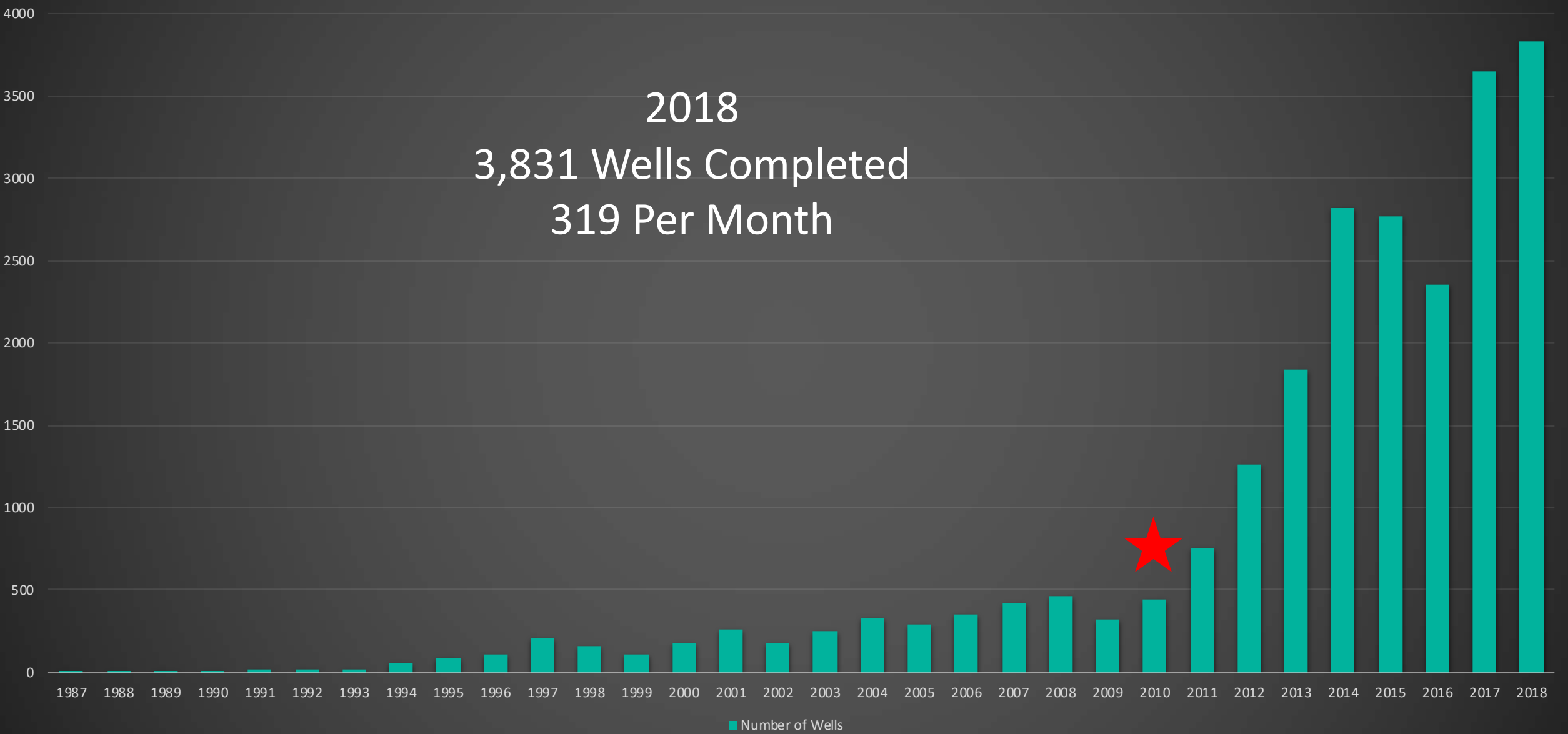
"Where oil is first found, in the final analysis, is in the minds of men" (Pratt, 1952).

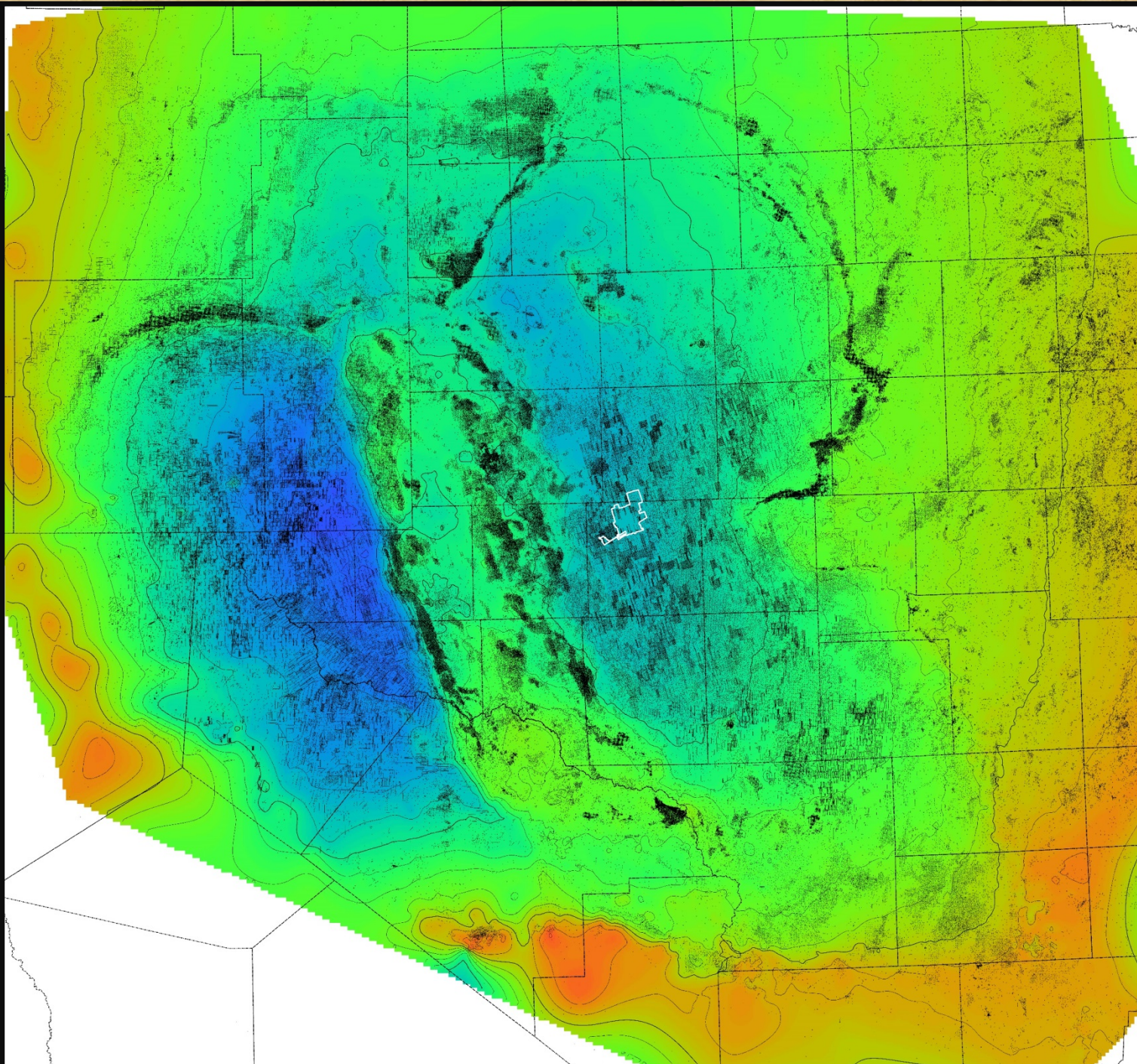
Wallace E. Pratt, these are the astute words of a man that most oil and gas industry professionals would consider one of the forefathers of petroleum geology.

“If you’re not a risk taker, you should get the hell out of business.” - [Ray Kroc](#), founder of McDonald’s.

“You shouldn’t focus on why you can’t do something, which is what most people do. You should focus on why perhaps you can, and be one of the exceptions.” - Steve Case, co-founder of AOL.

Number of Horizontal Wells Completed





WOLFCAMP STRUCTURE MAP

1) FIELD DEVELOPMENT

Producers and Water Injectors
Skim Oil

2) FACIES CONTROLLED

Drilling small zones/Perm issues or
tying multiple zone together

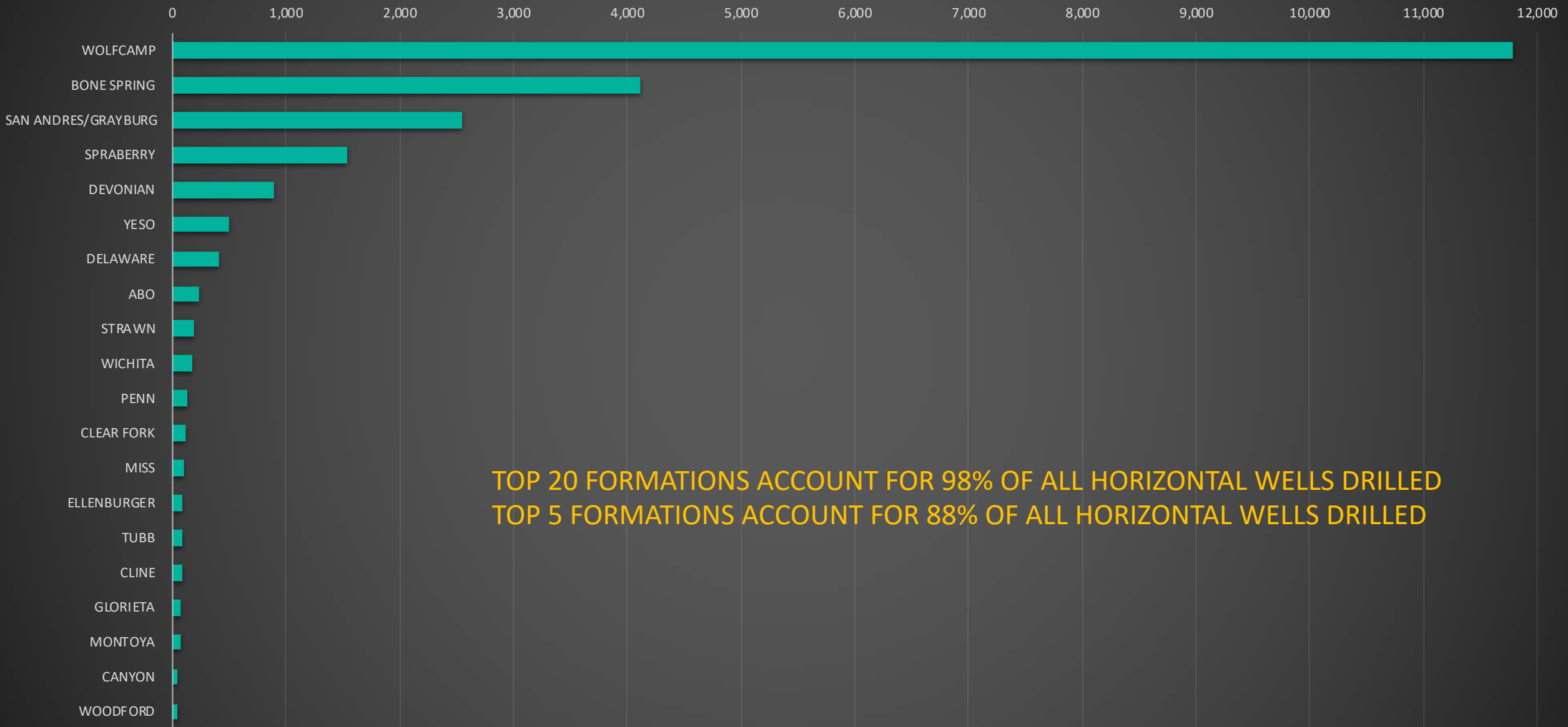
3) RESOURCE PLAY

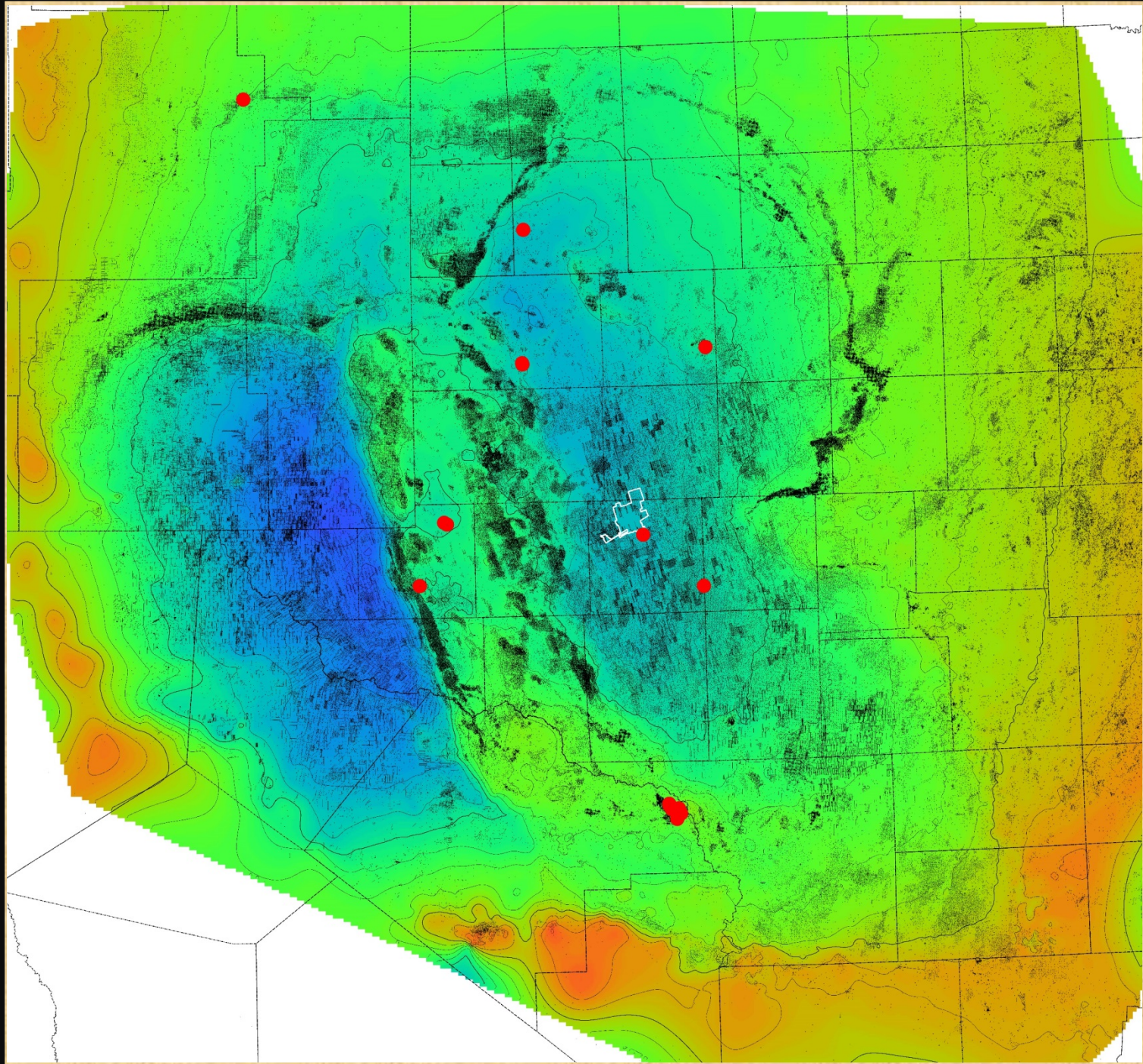
Maturity issues, Petrophysical
Properties

4) HYBRID

Data from IHS

Top 20 Producing Formations (Horizontal Wells)

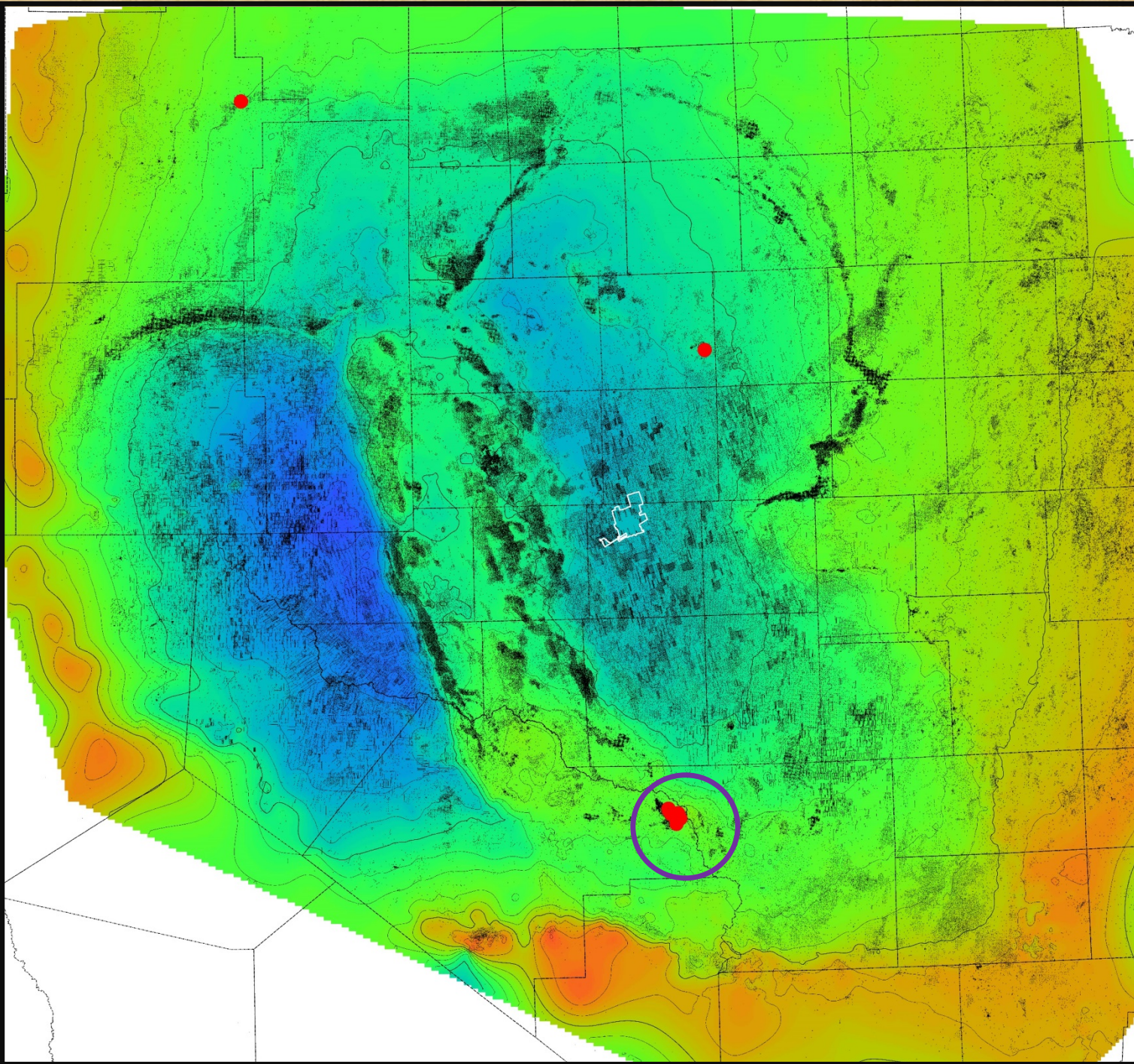




WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1986 to 12/31/1990

FIRST HORIZONTAL 1987
DEAN?

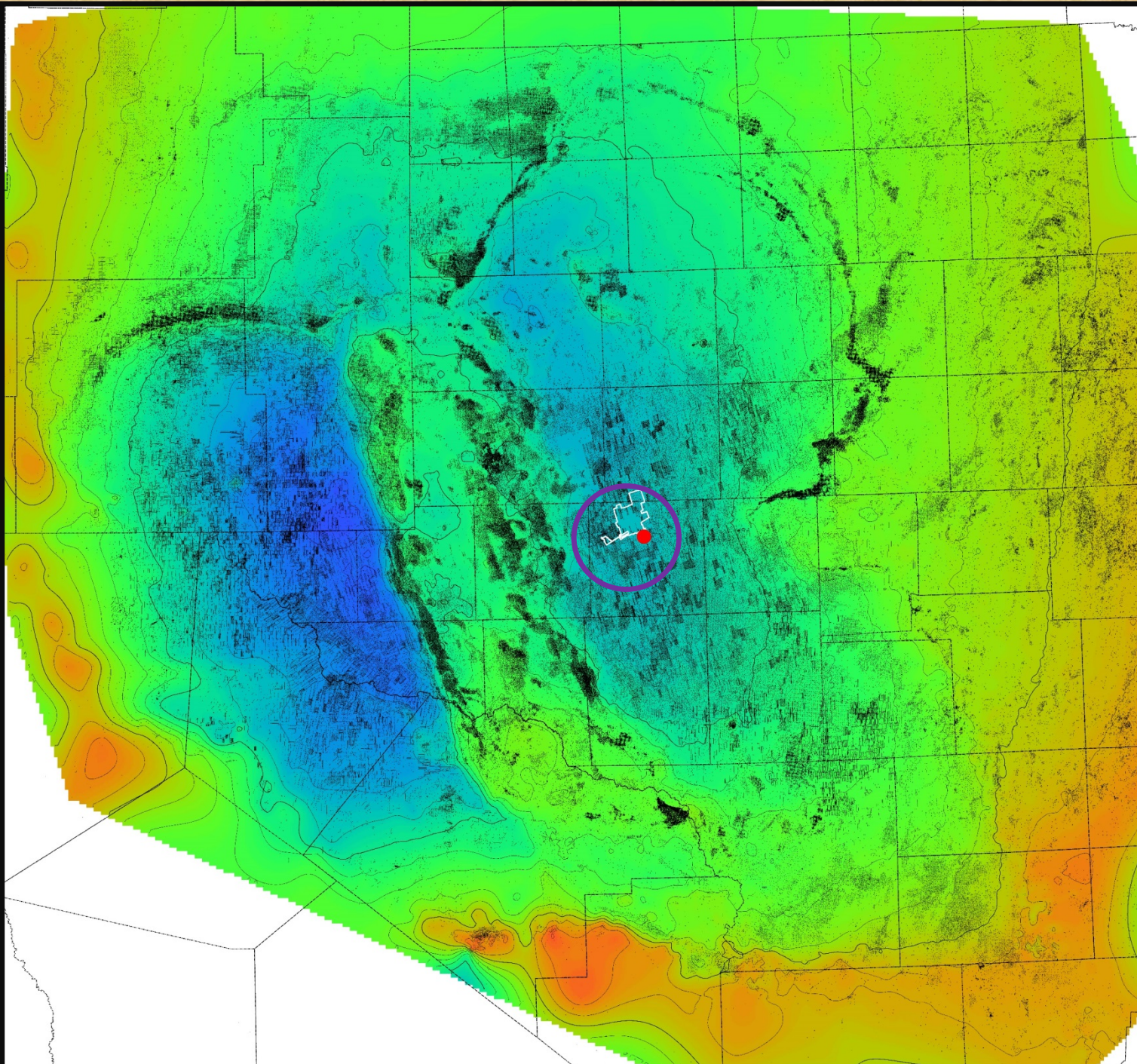
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1986 to 12/31/1990

FIRST SAN ANDRES WELLS AT
YATES FIELD 1987

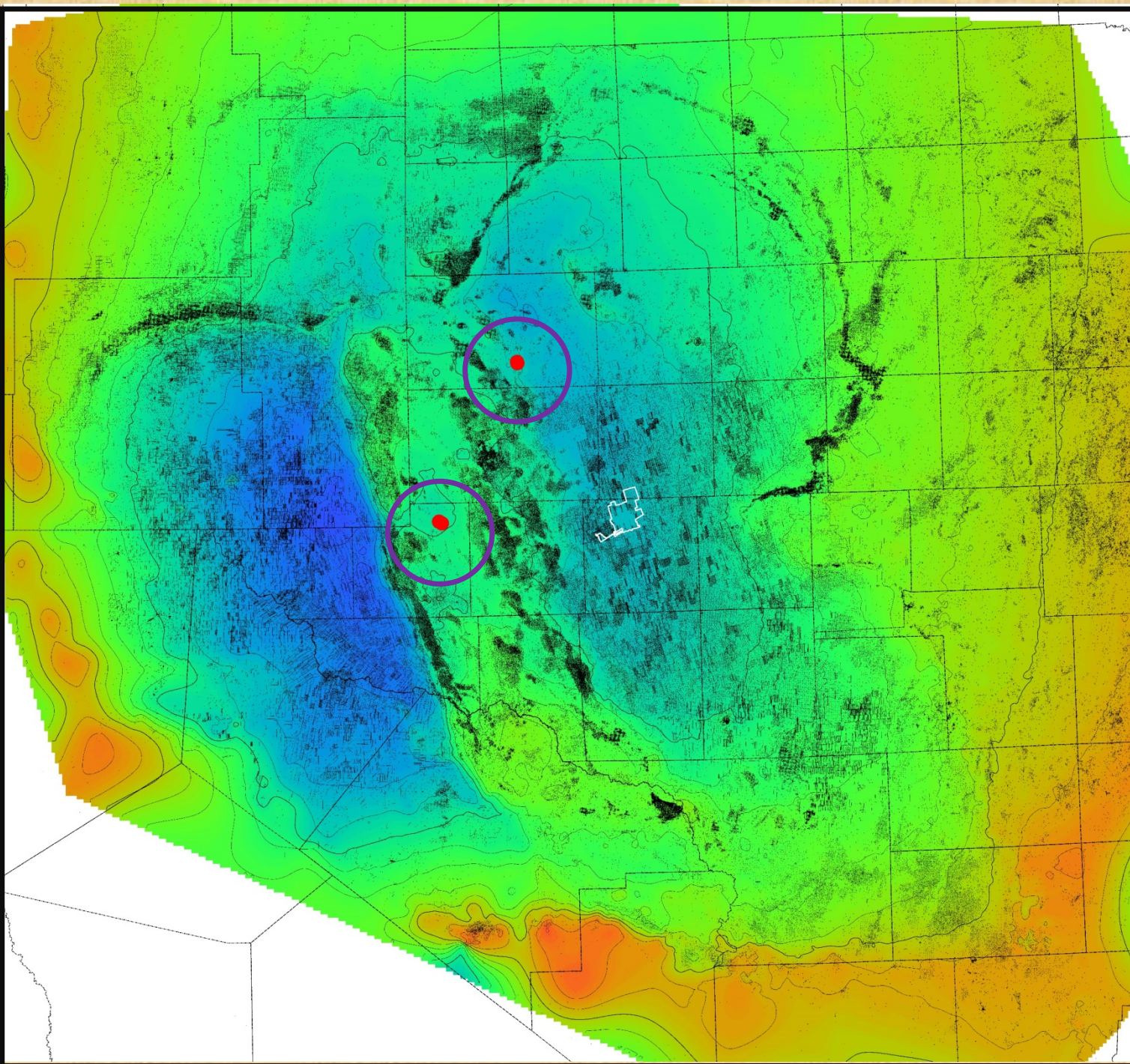
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1986 to 12/31/1990

FIRST SPRABERRY WELLS BY
PARKER AND PARSLEY IN
MIDLAND COUNTY 1988
IP FOR 30 BOPD
@1000' LATERAL

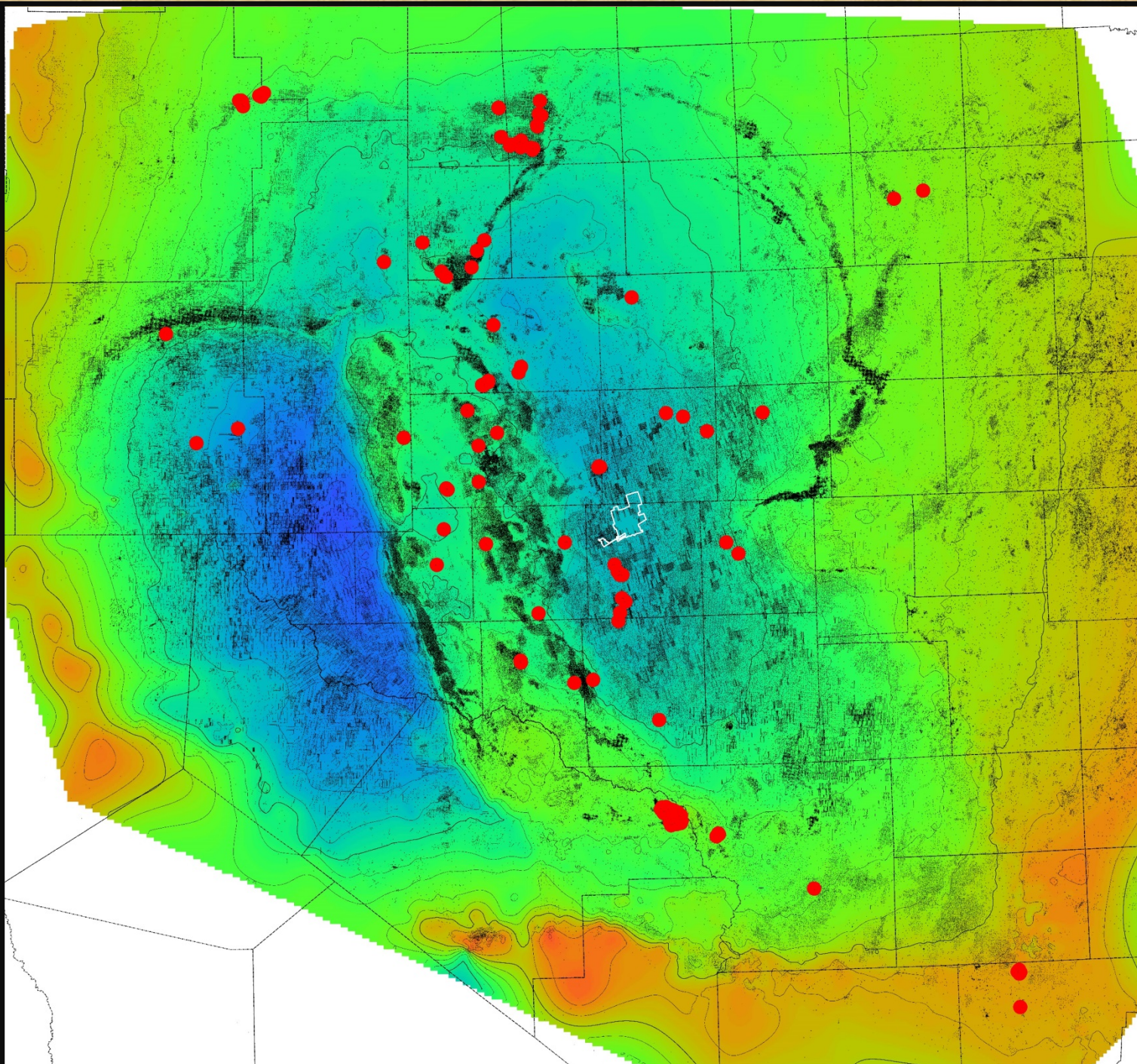
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1986 to 12/31/1990

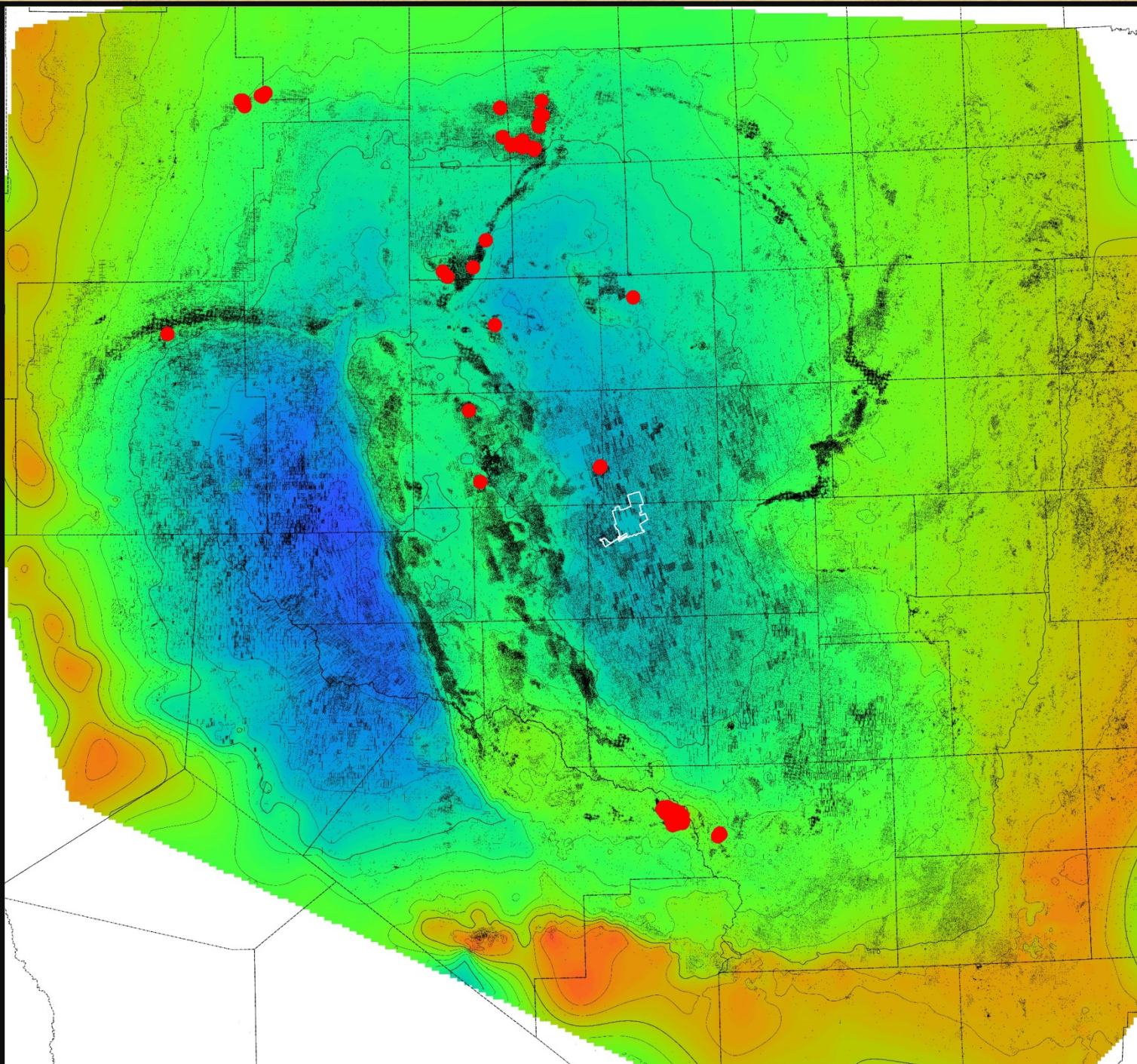
FIRST WOLFCAMP WELL
1988

Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1991 to 12/31/1995

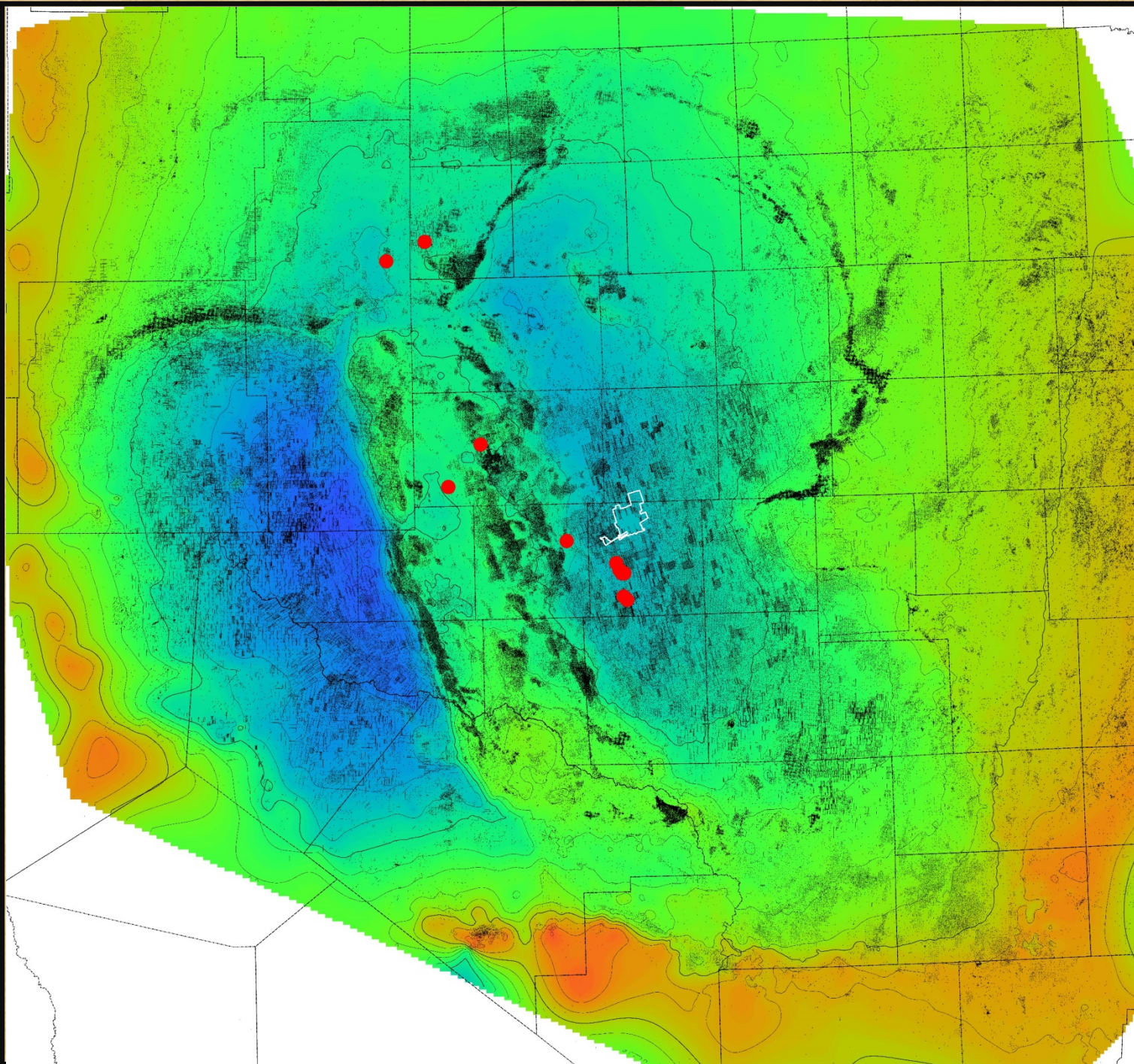
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1991 to 12/31/1995

SAN ANDRES DRILLING
SPREADING

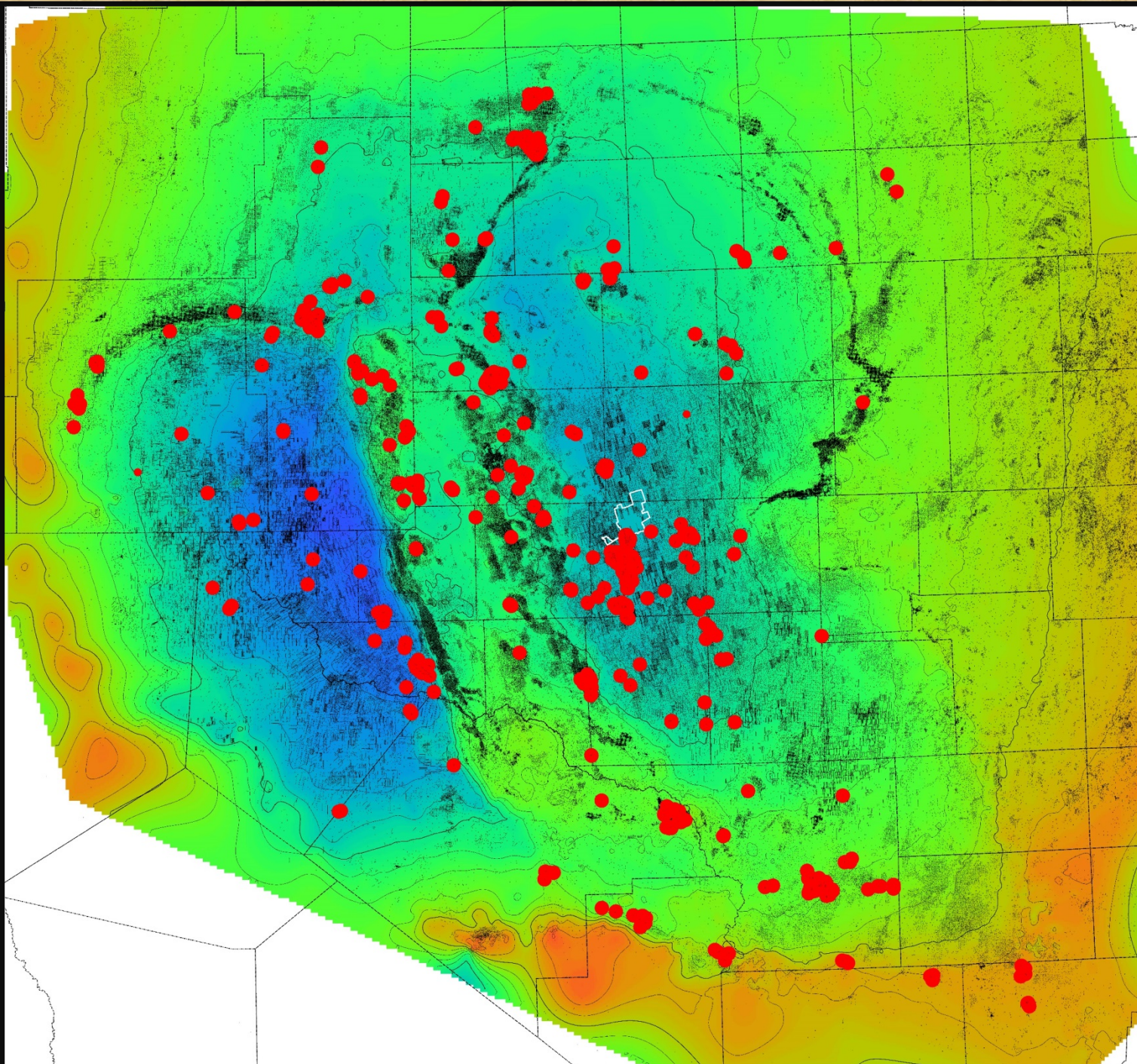
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1991 to 12/31/1995

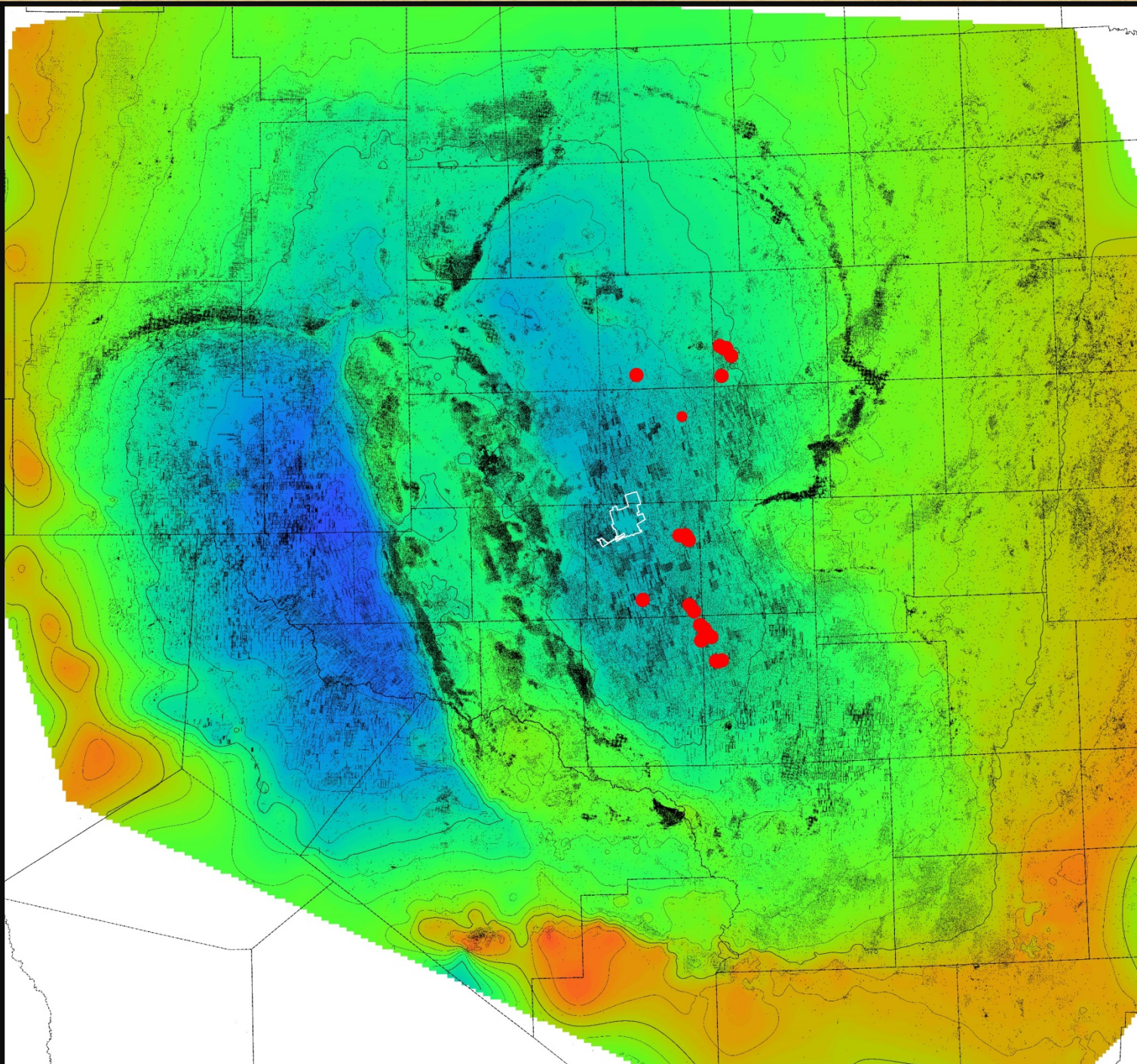
FIRST DEVONIAN WELL 1994

Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1996 to 12/31/2000

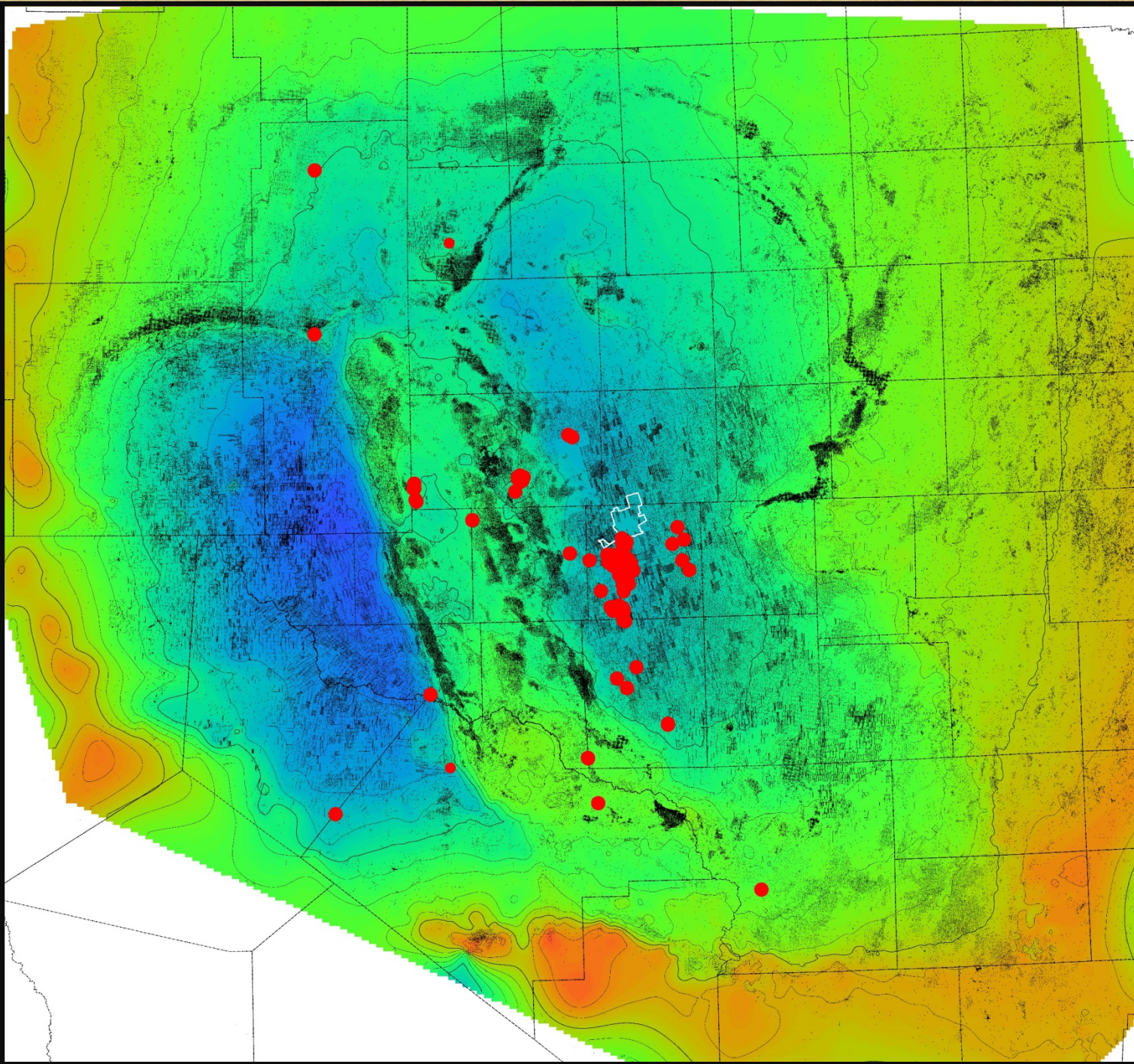
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1996 to 12/31/2000

SPRABERRY DRILLING BY
PARKER & PARSLEY/PIONEER
IN MIDLAND AND REAGAN
COUNTY

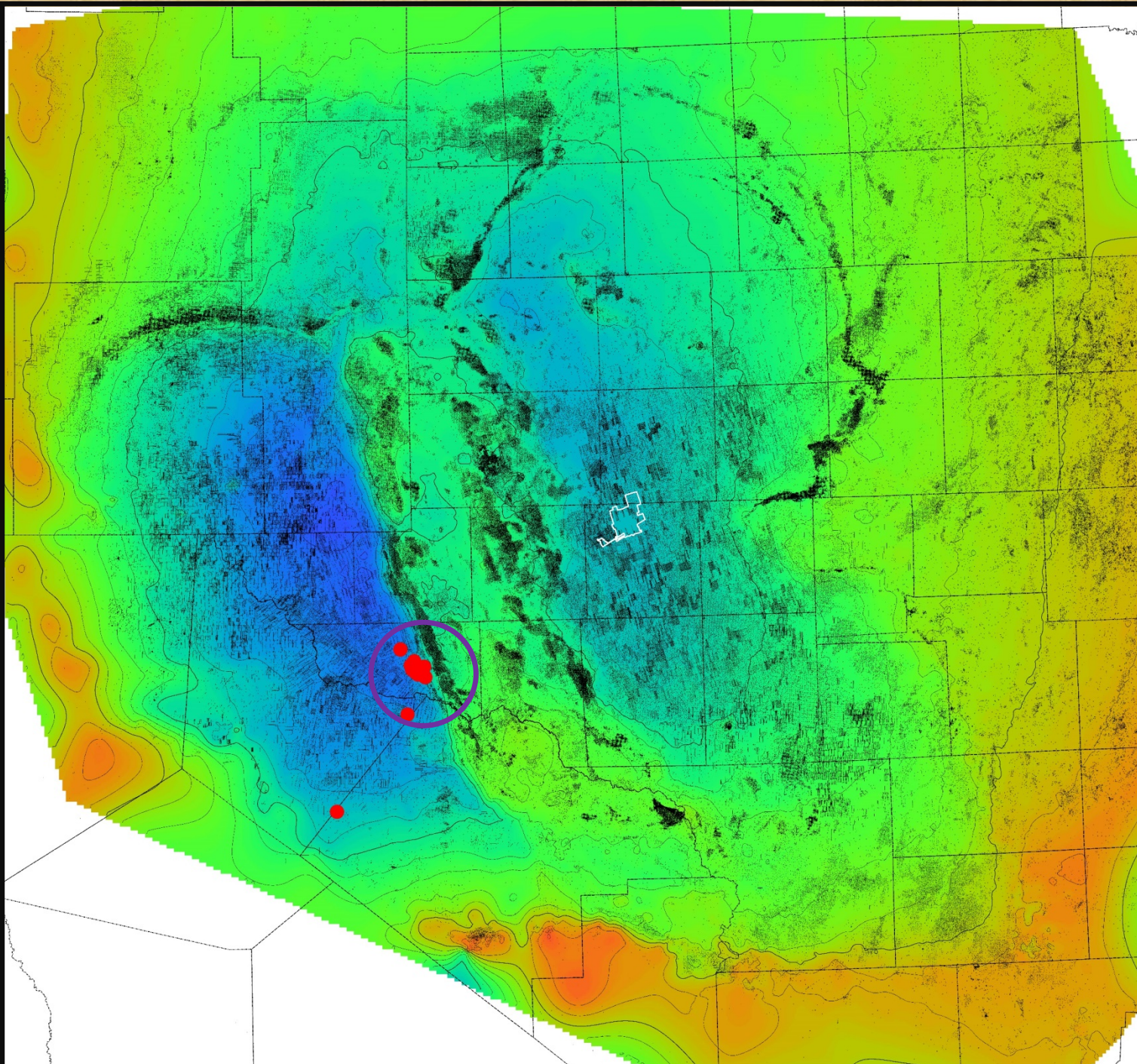
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1996 to 12/31/2000

DEVONIAN HORIZONTALS

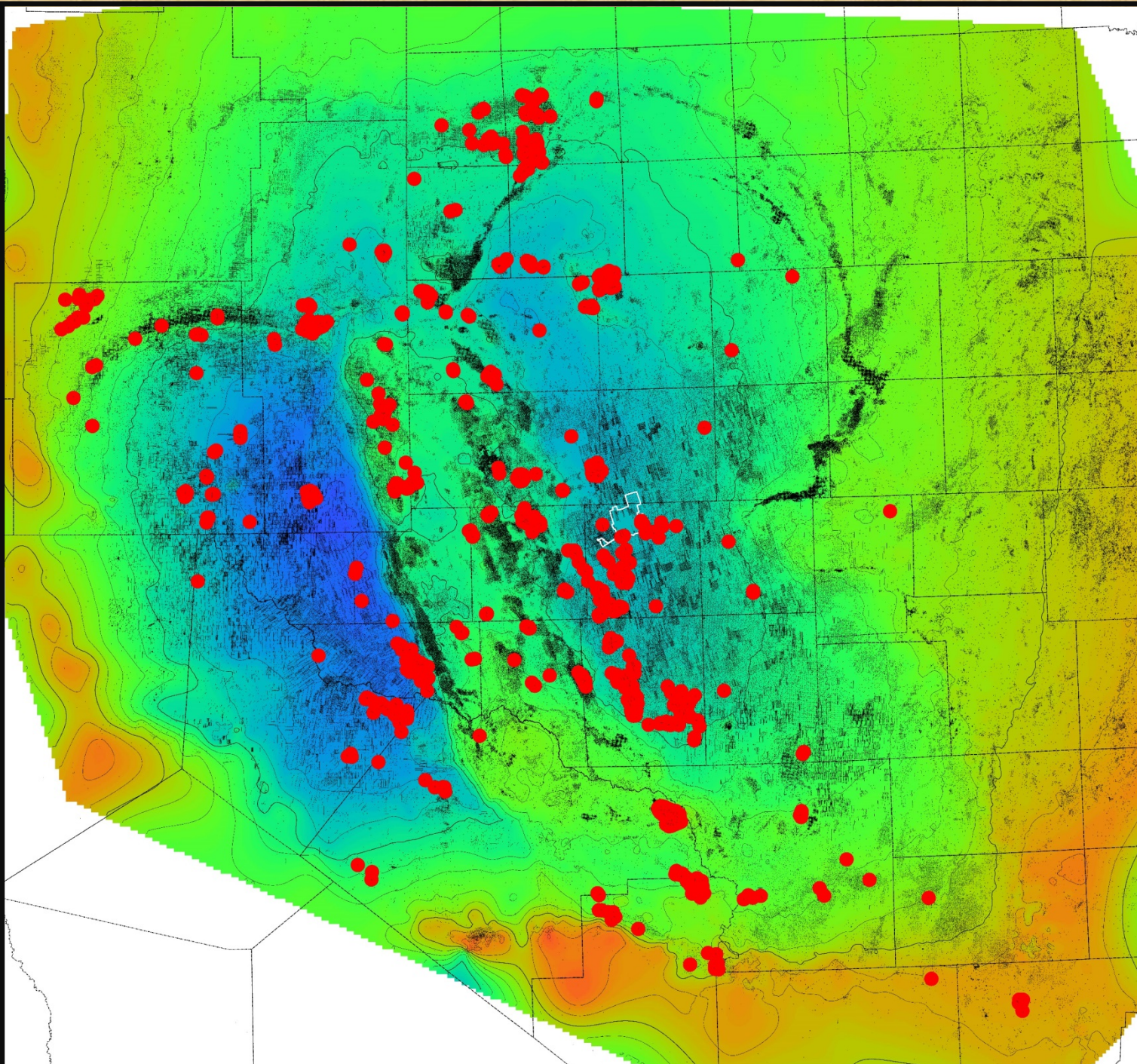
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/1996 to 12/31/2000

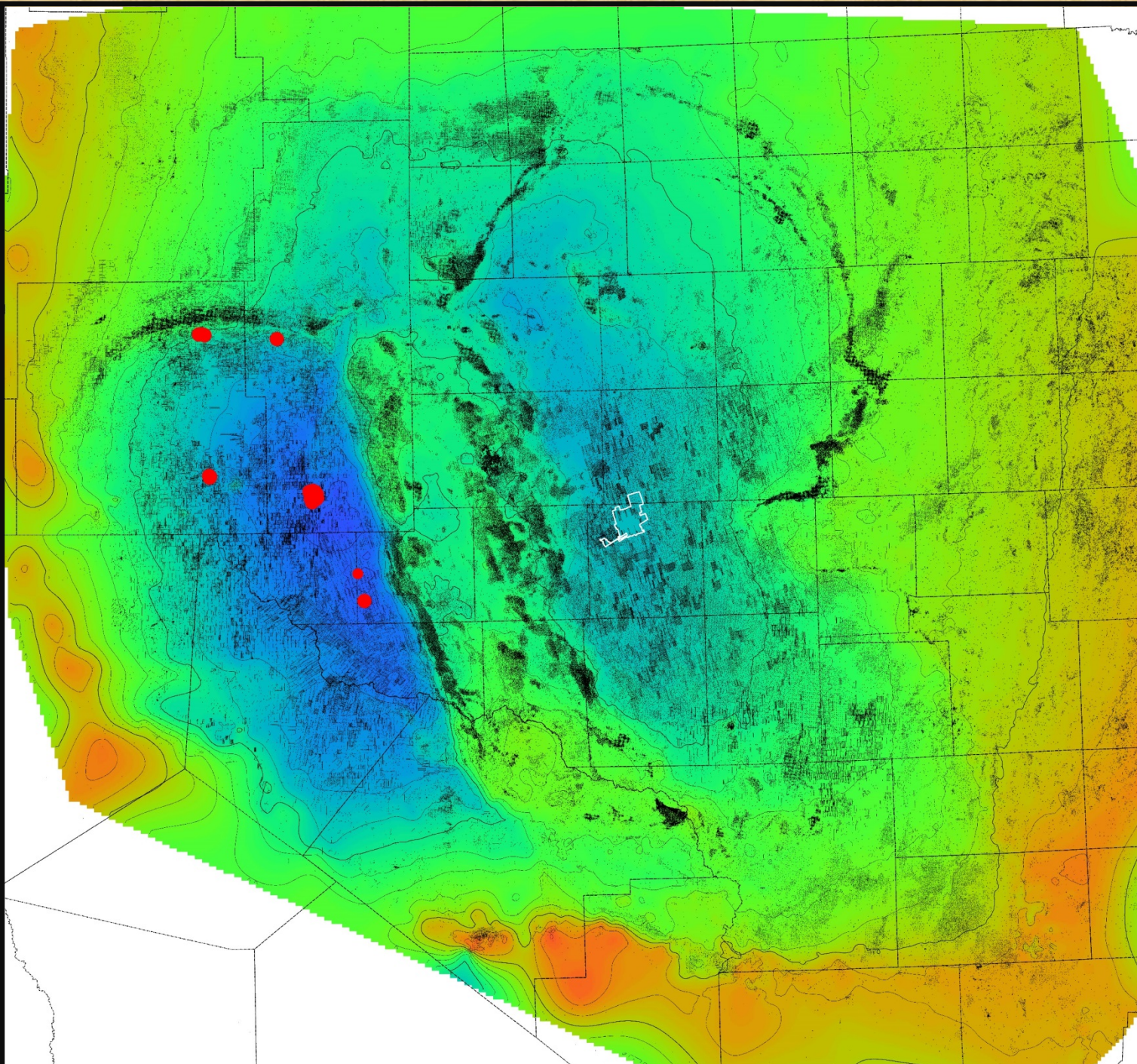
FIRST MONTOYA
HORIZONTALS 1998 AT WAHA
1999 BLOCK 16

Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2001 to 12/31/2005

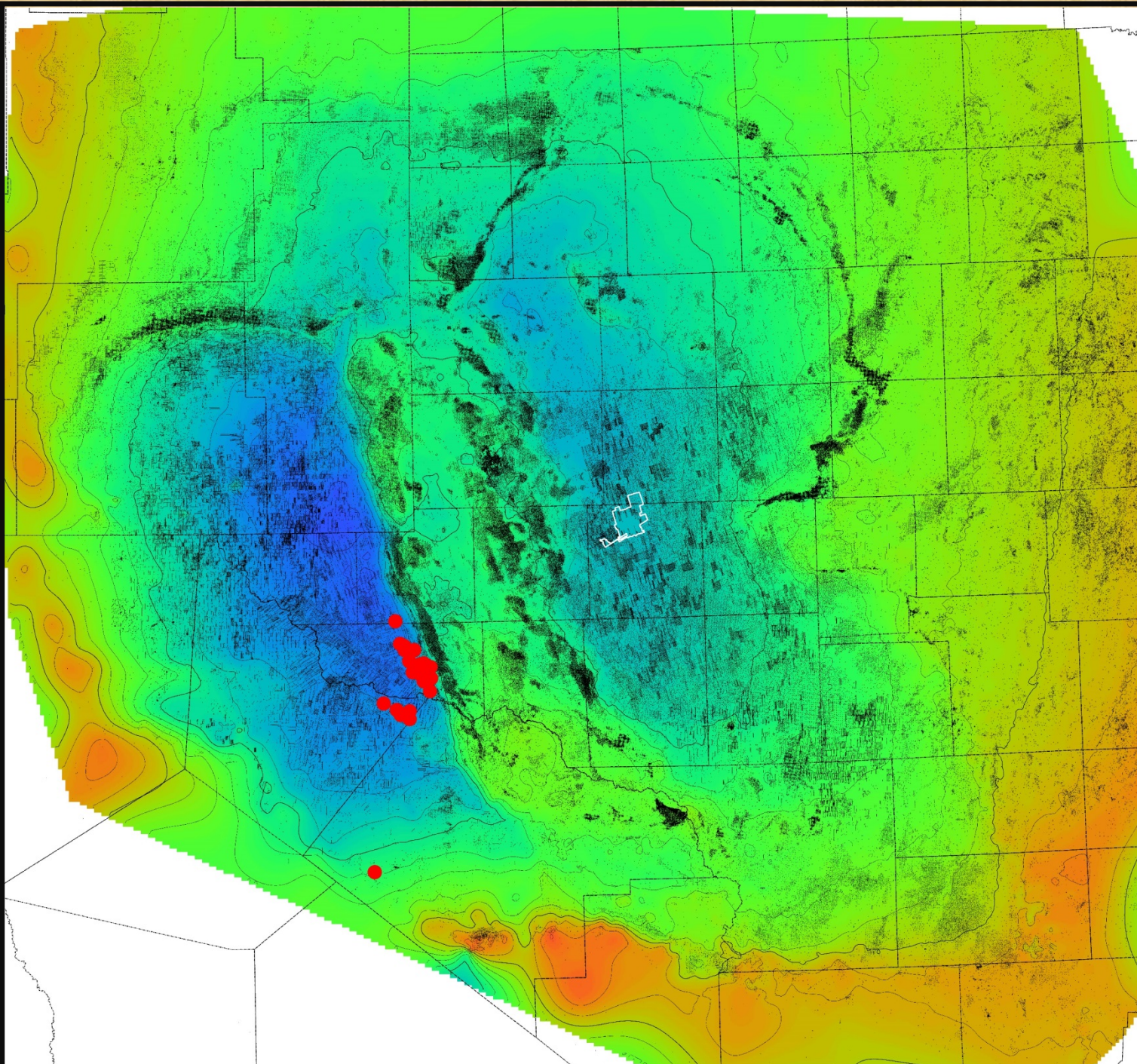
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2001 to 12/31/2005

BONE SPRING HORIZONTALS
DRILLED LEA COUNTY 2001

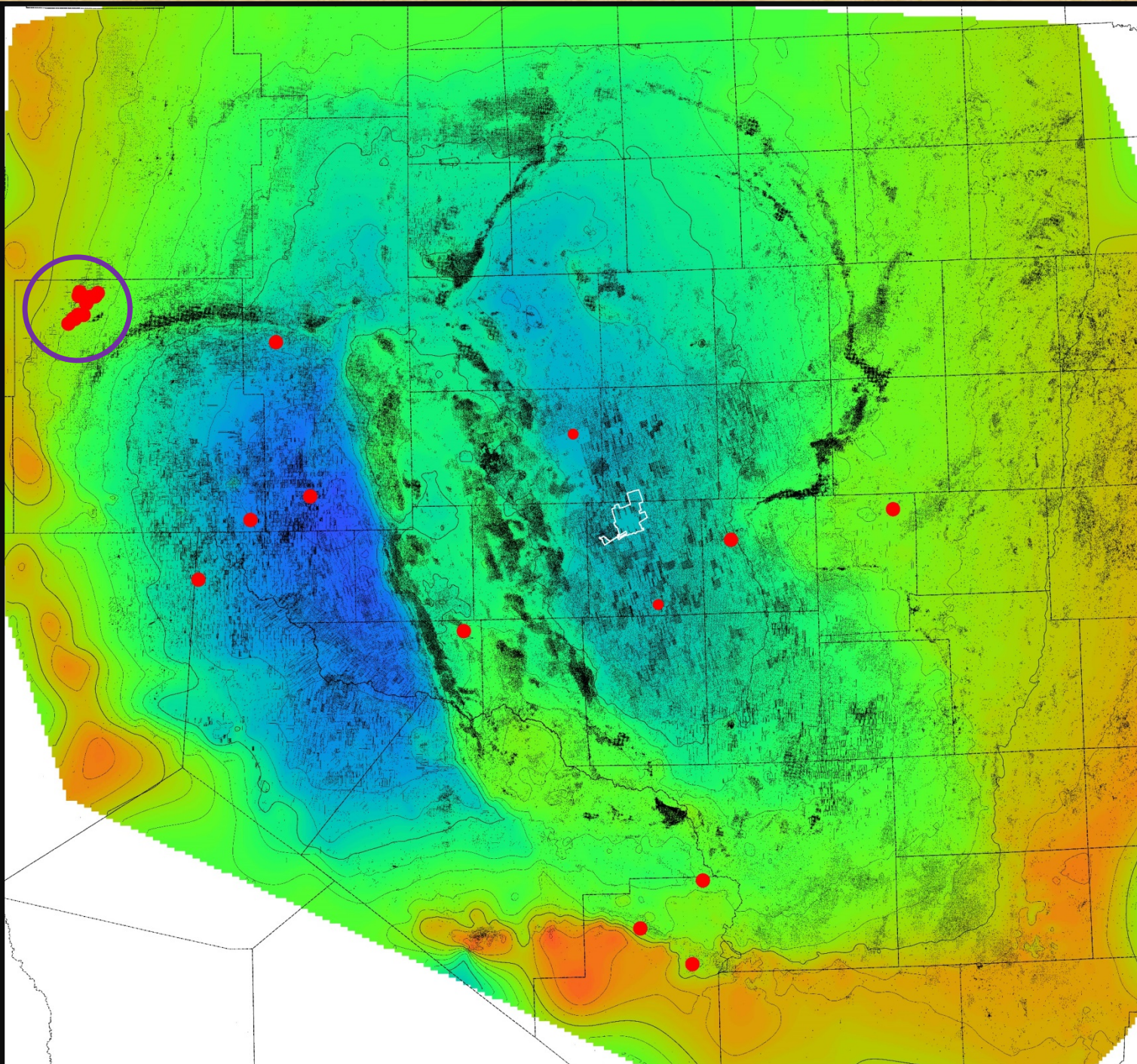
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2001 to 12/31/2005

MONTOYA HORIZONTALS

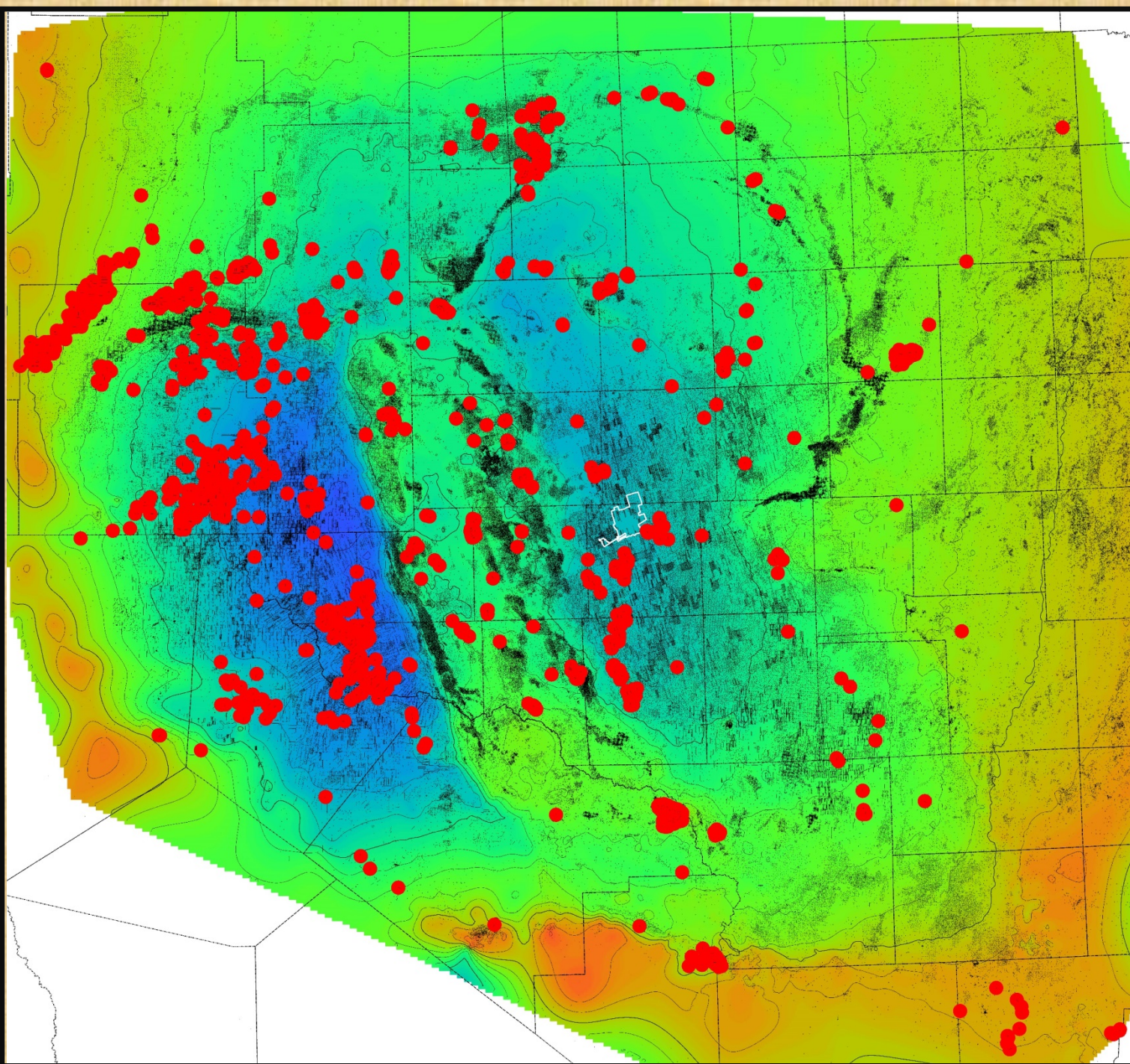
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2001 to 12/31/2005

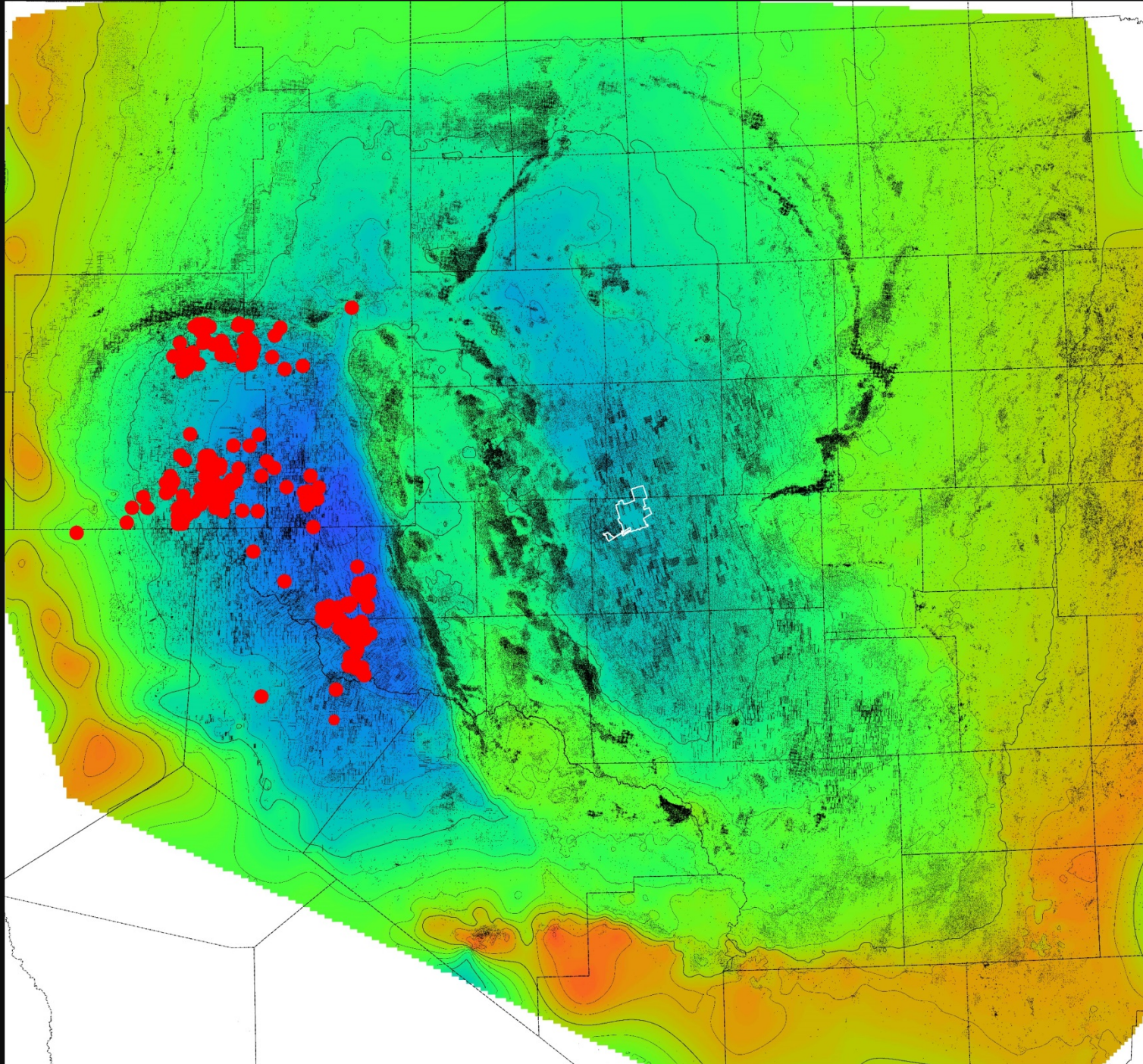
WOLFCAMP HORIZONTALS

Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2006 to 12/31/2010

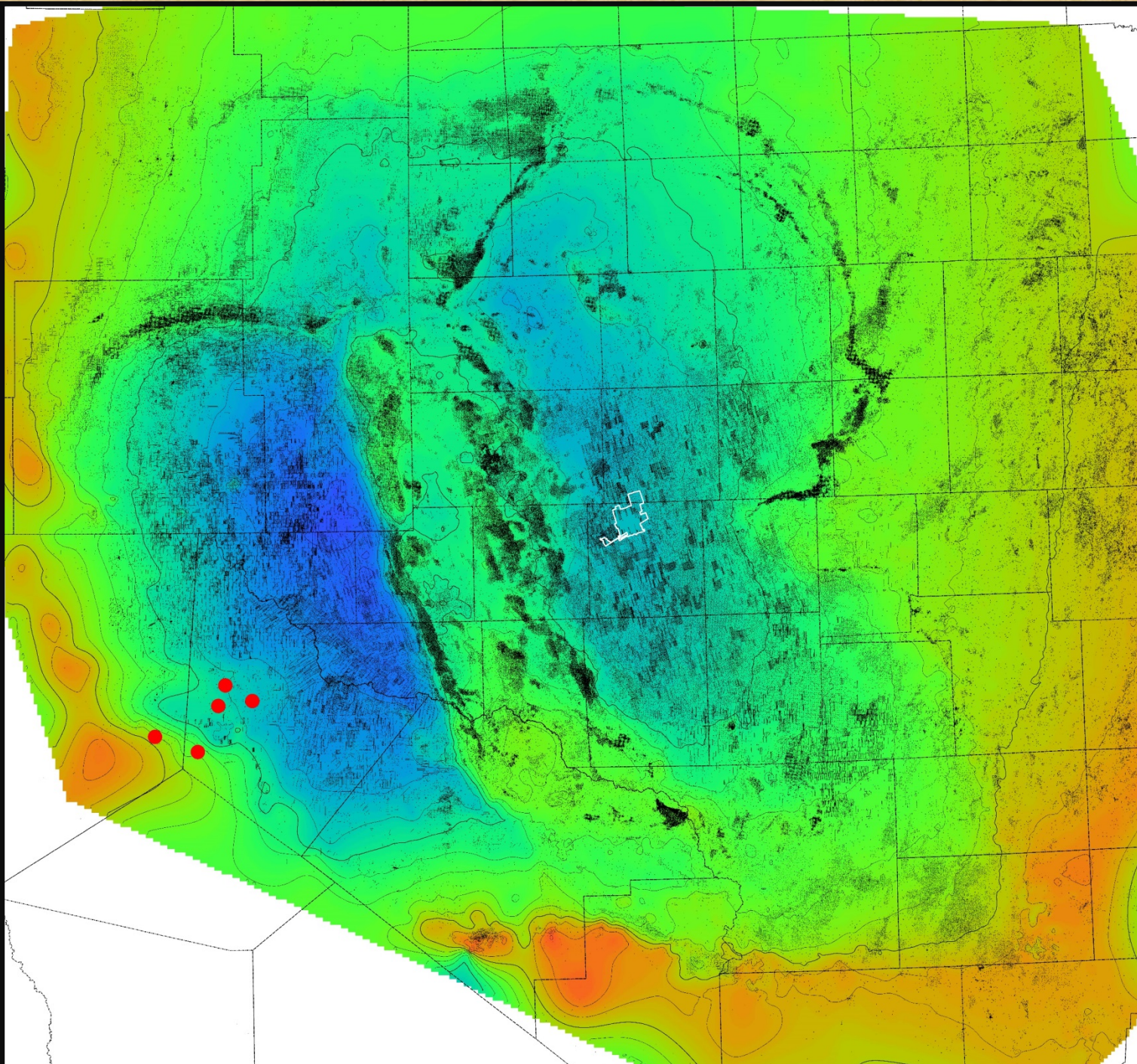
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2006 to 12/31/2010

BONE SPRING SPREADING
TWO GEORGE

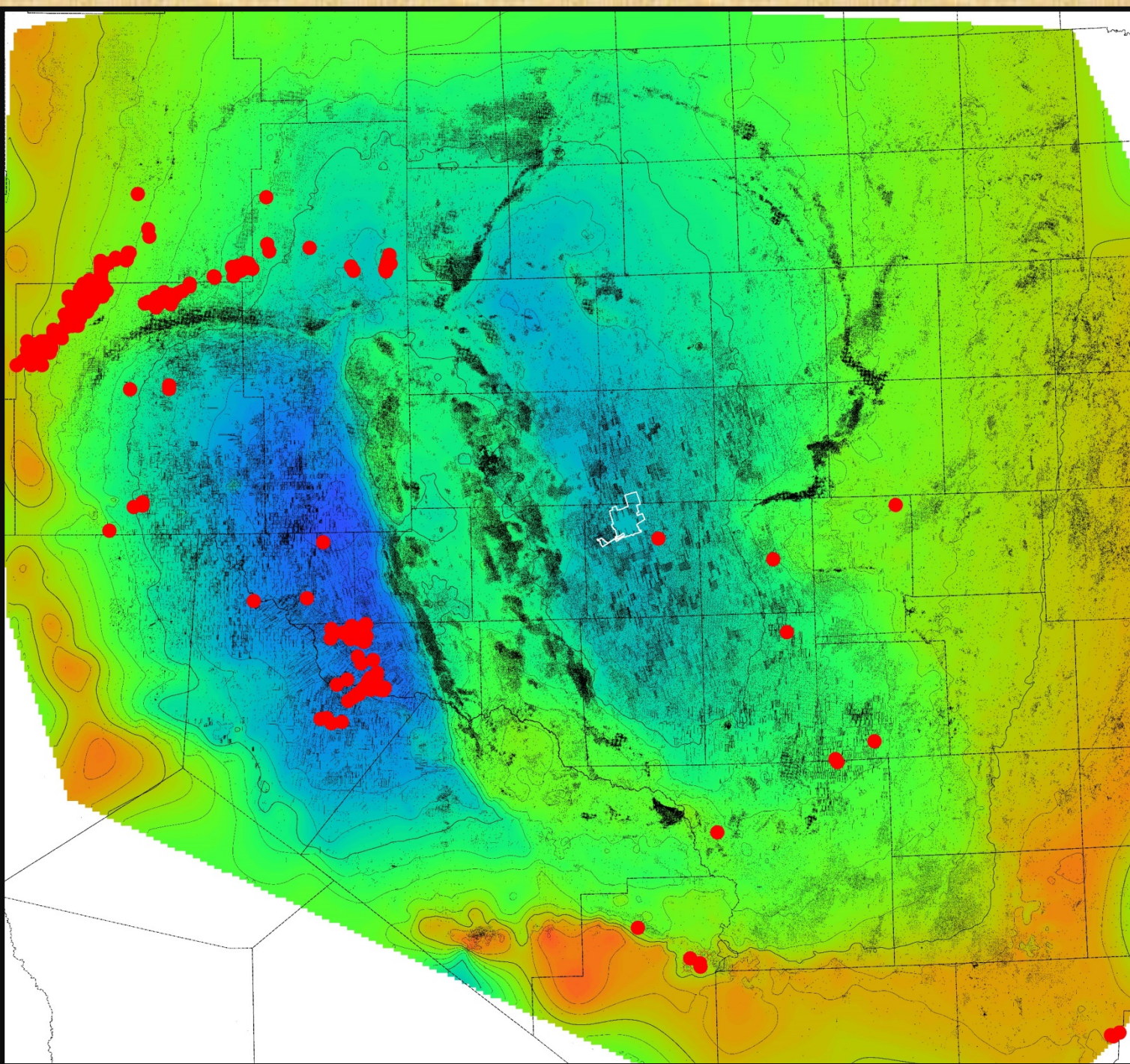
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2006 to 12/31/2010

BARNETT HORIZONTALS

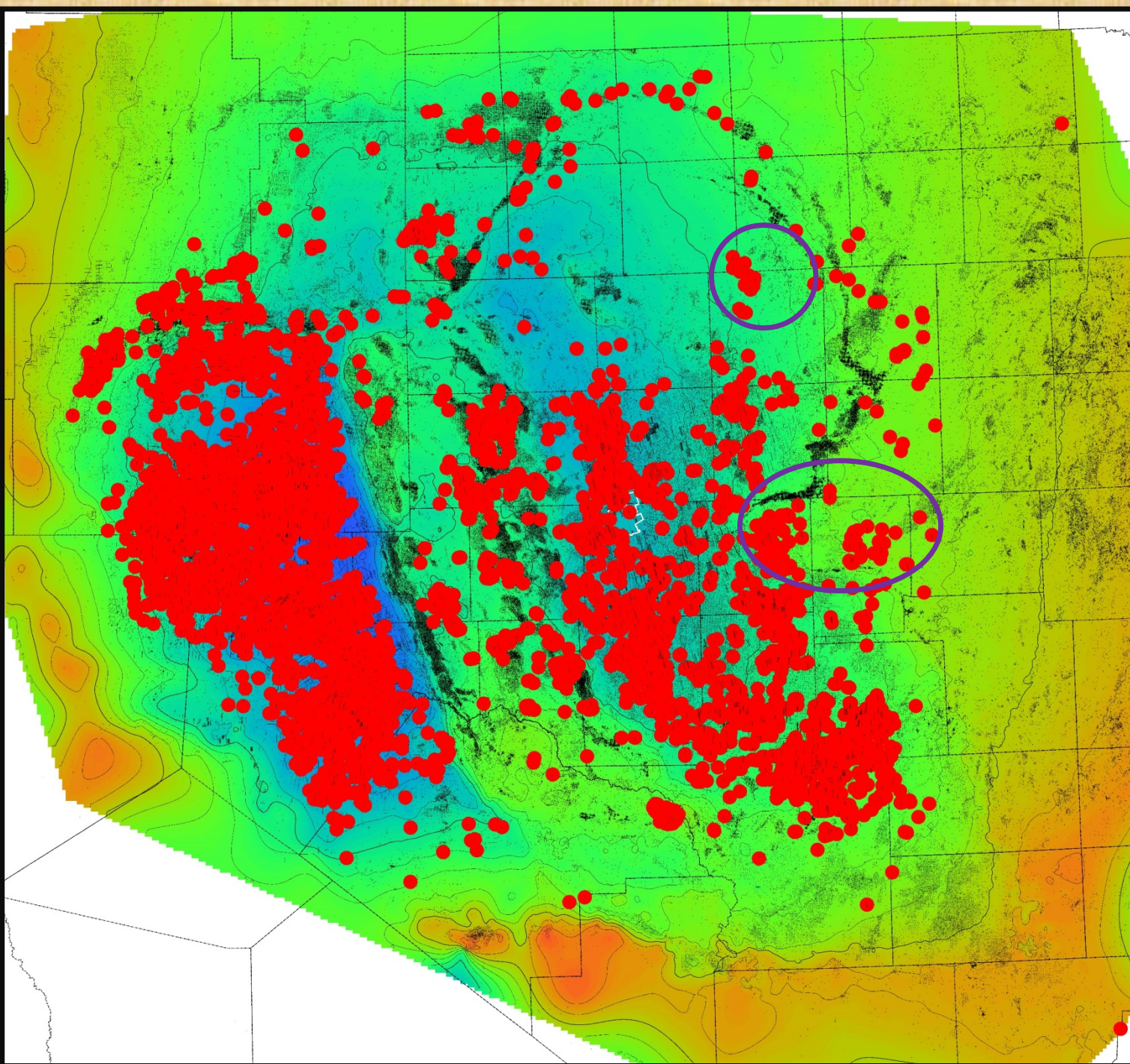
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2006 to 12/31/2010

WOLFCAMP HORIZONTALS

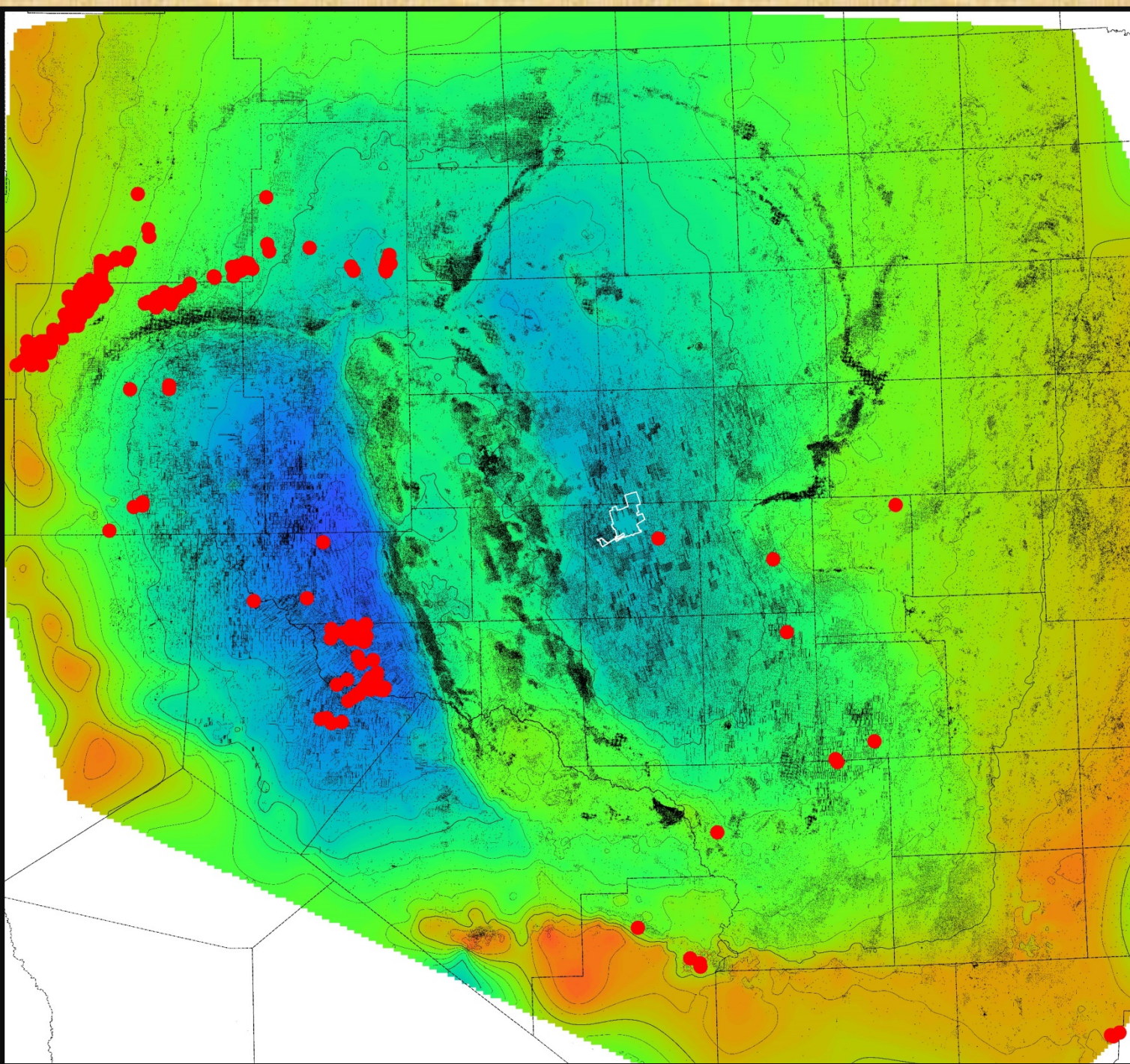
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2011 to 12/31/2015

BONE SPRING AND
WOLFCAMP TAKE OFF
CLINE HORIZONTALS START
DRILLING IN 2011
MISS HORIZONTALS

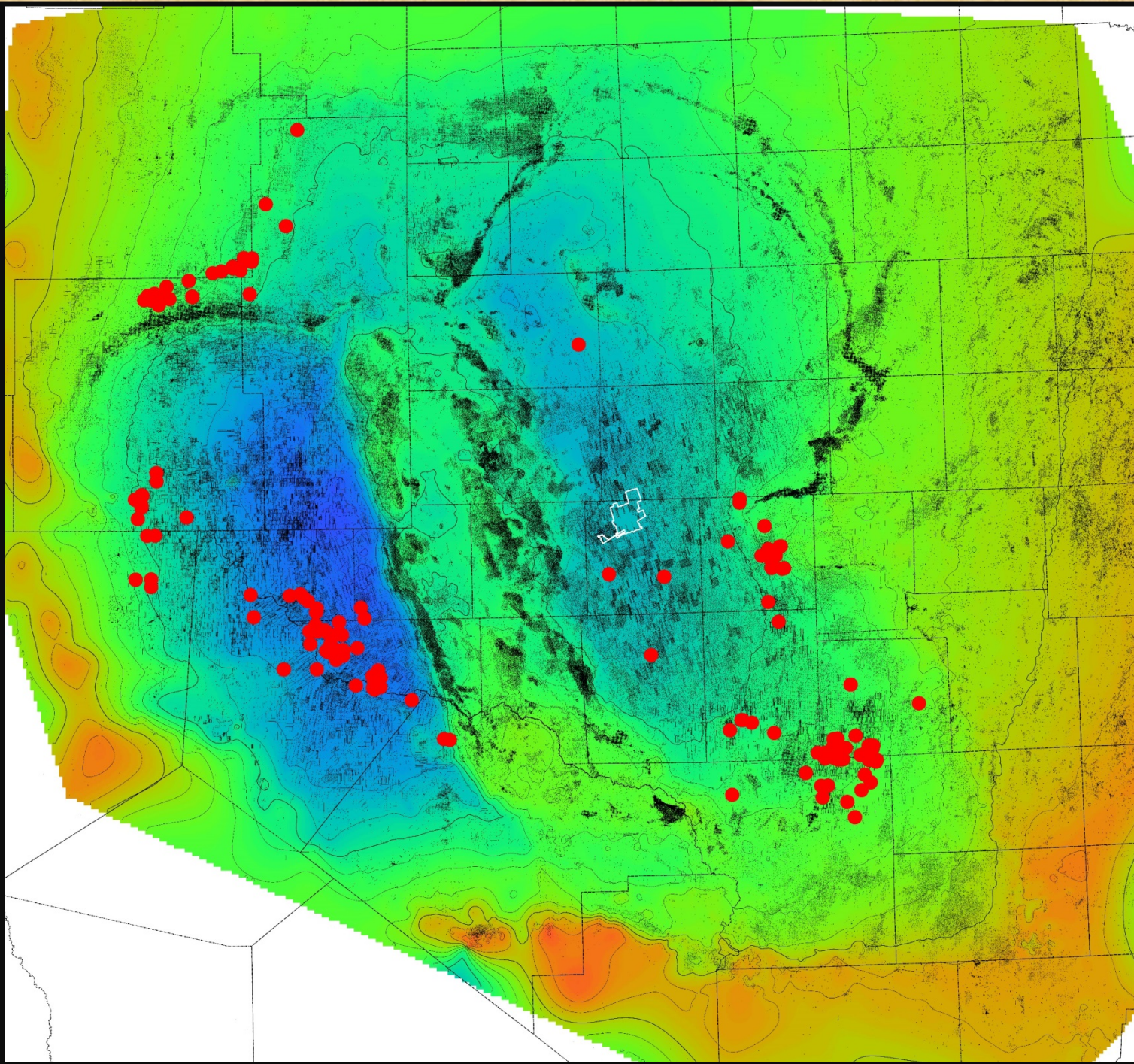
Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2006 to 12/31/2010

WOLFCAMP HORIZONTALS

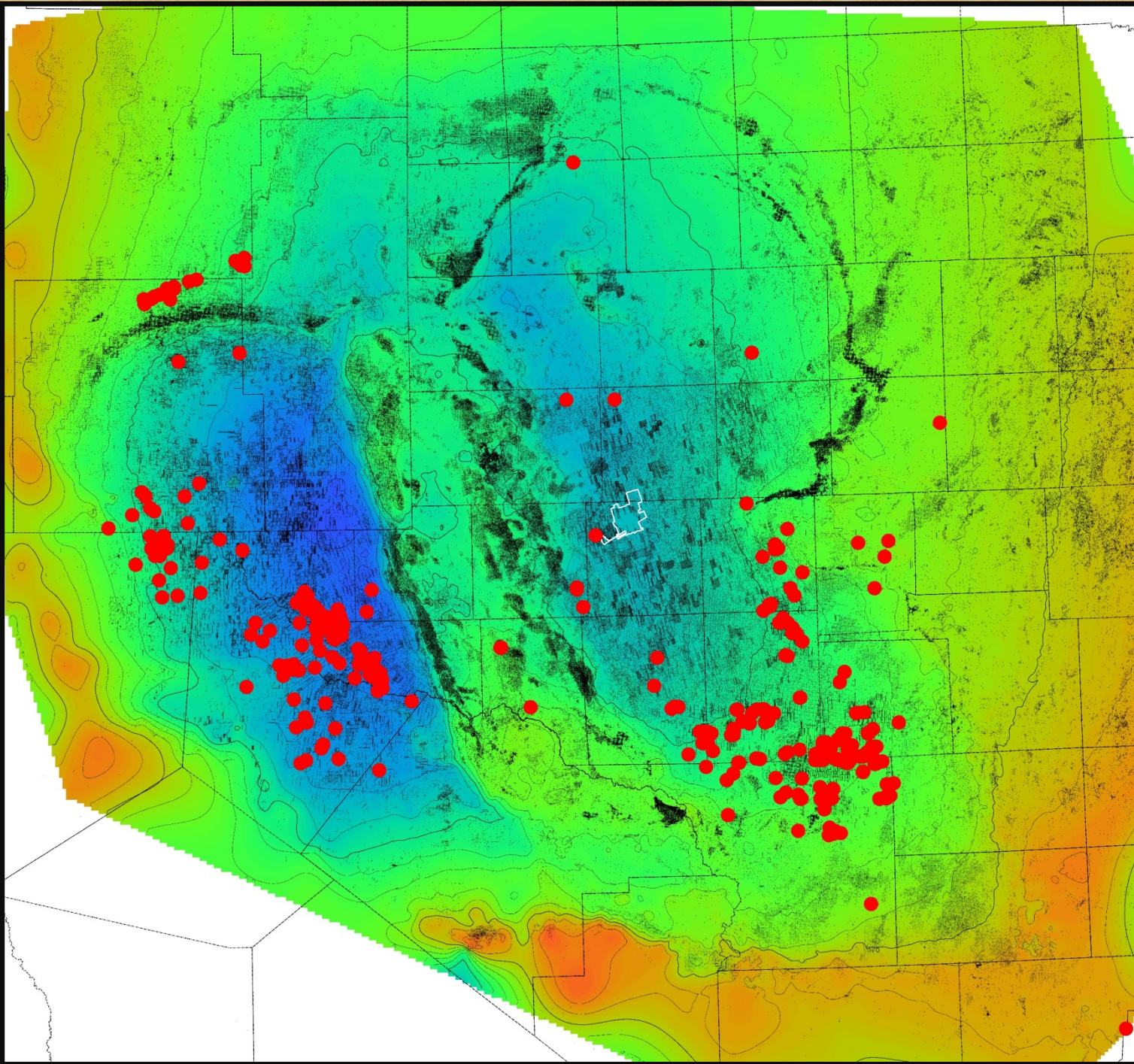
Data from IHS



WOLFCAMP STRUCTURE MAP

WOLFCAMP HORIZONTAL WELLS DRILLED 2011

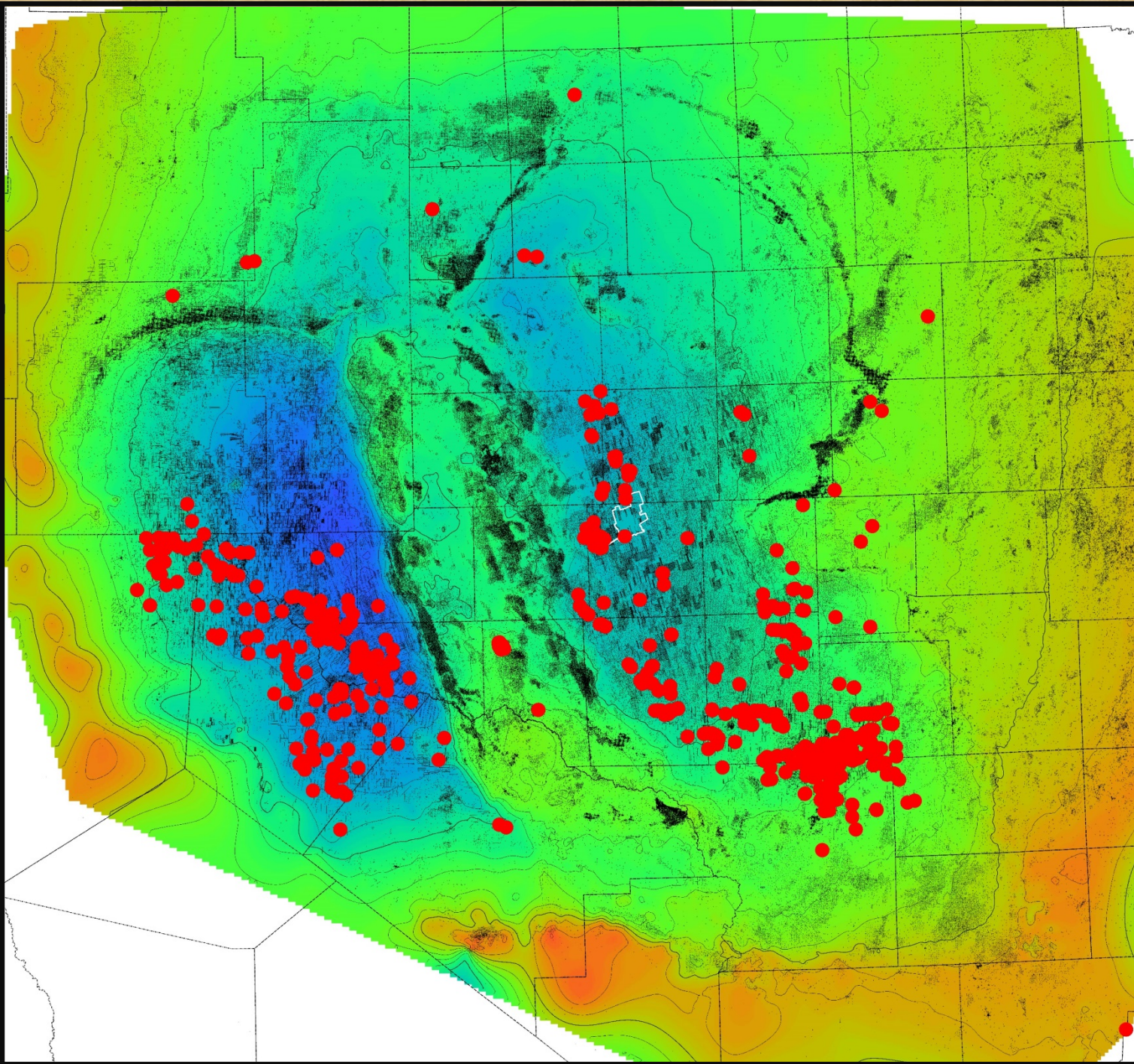
Data from IHS



WOLFCAMP STRUCTURE MAP

WOLFCAMP HORIZONTAL WELLS DRILLED 2012

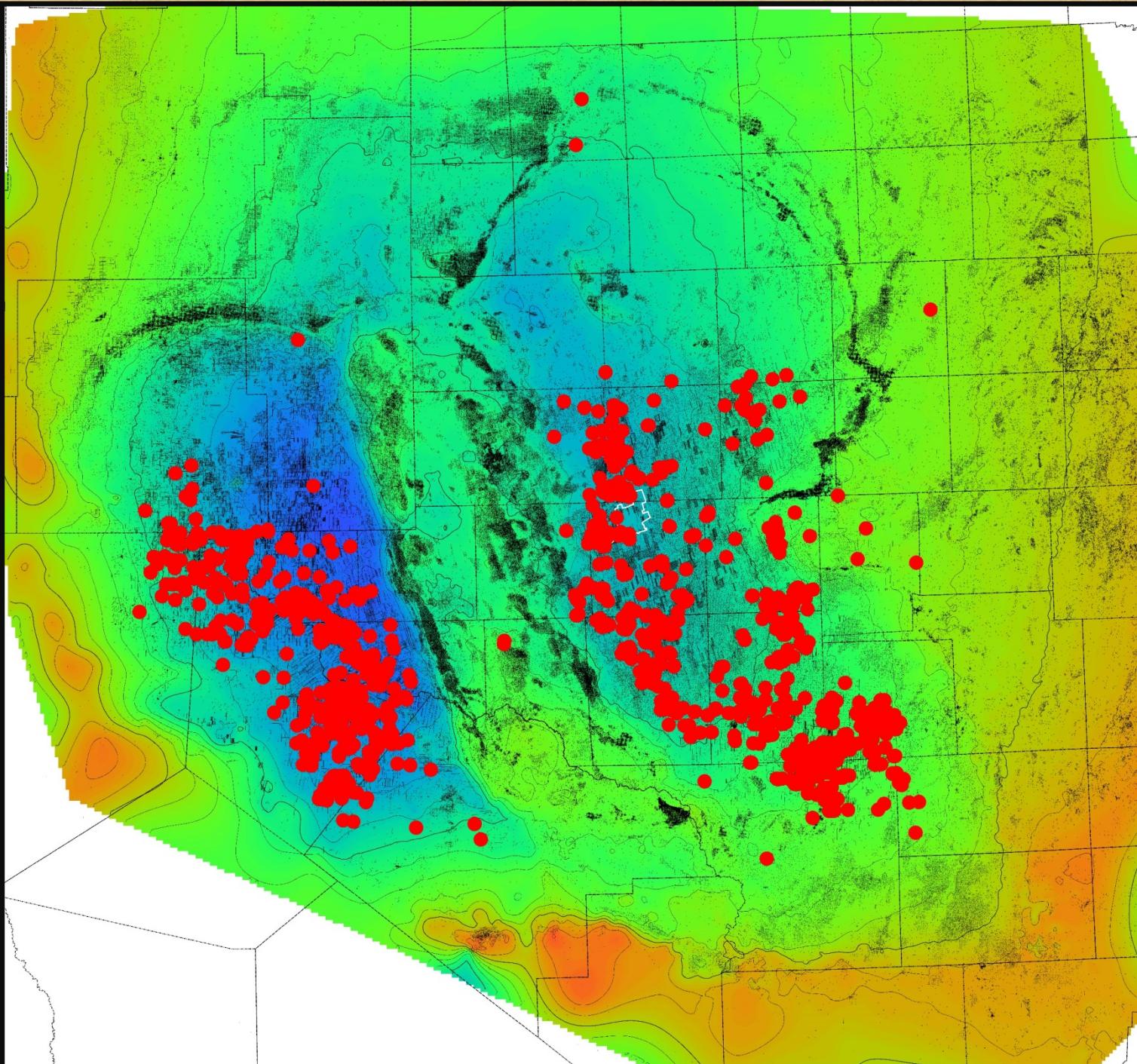
Data from IHS



WOLFCAMP STRUCTURE MAP

WOLFCAMP HORIZONTAL WELLS DRILLED 2013

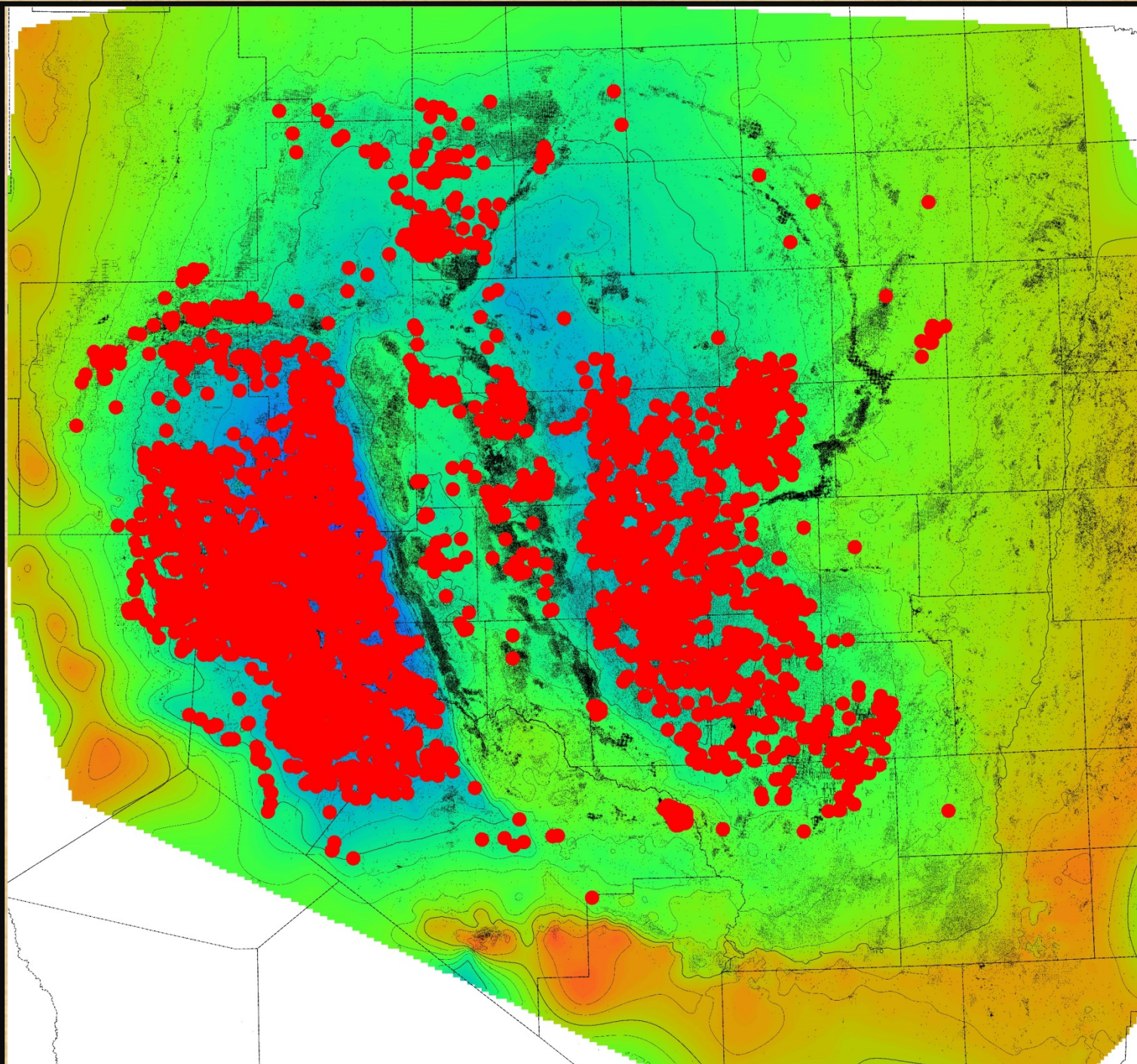
Data from IHS



WOLFCAMP STRUCTURE MAP

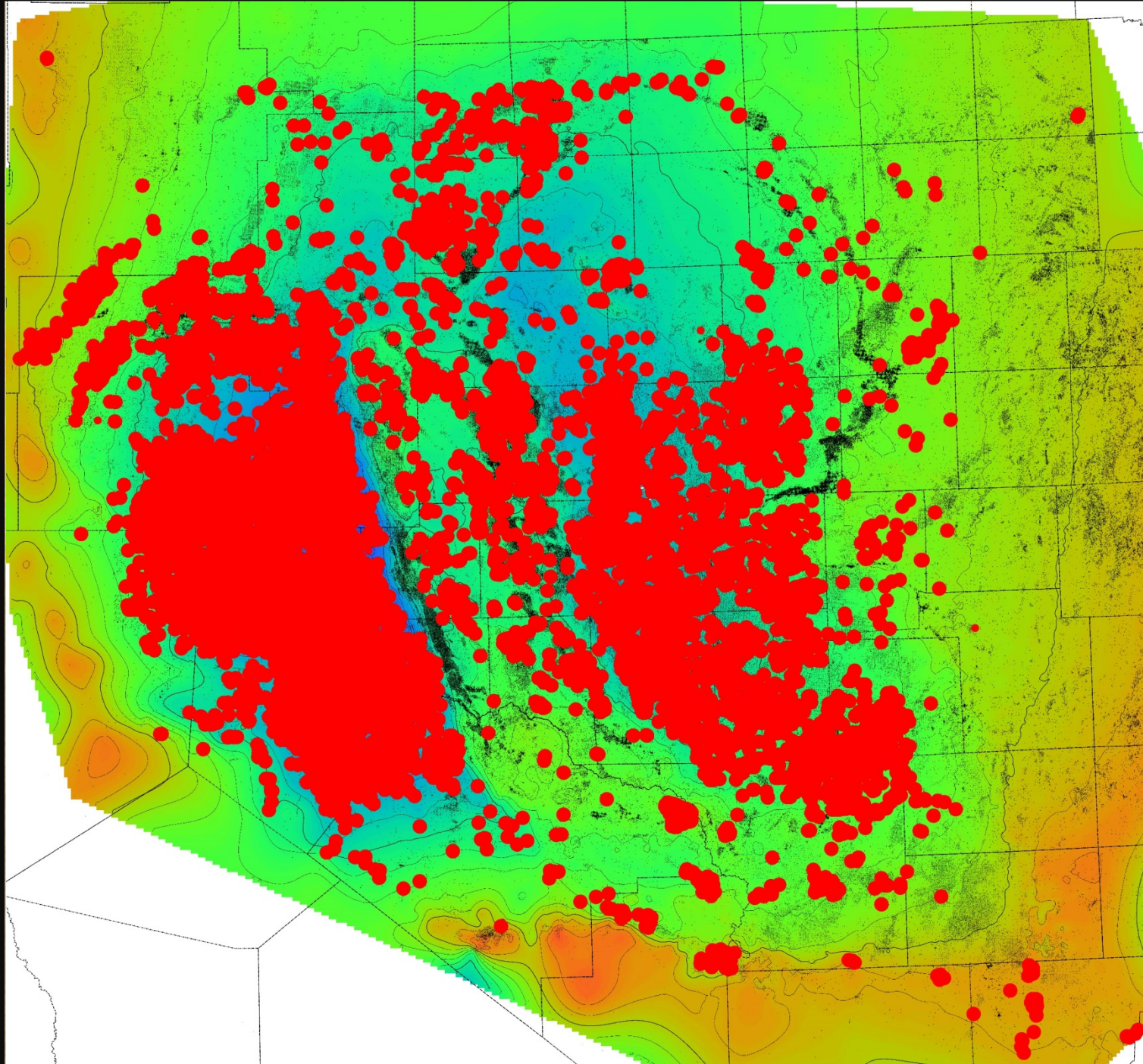
WOLFCAMP HORIZONTAL WELLS DRILLED 2014

Data from IHS



WOLFCAMP STRUCTURE MAP
HORIZONTAL WELLS
COMPLETED
01/01/2016 to PRESENT

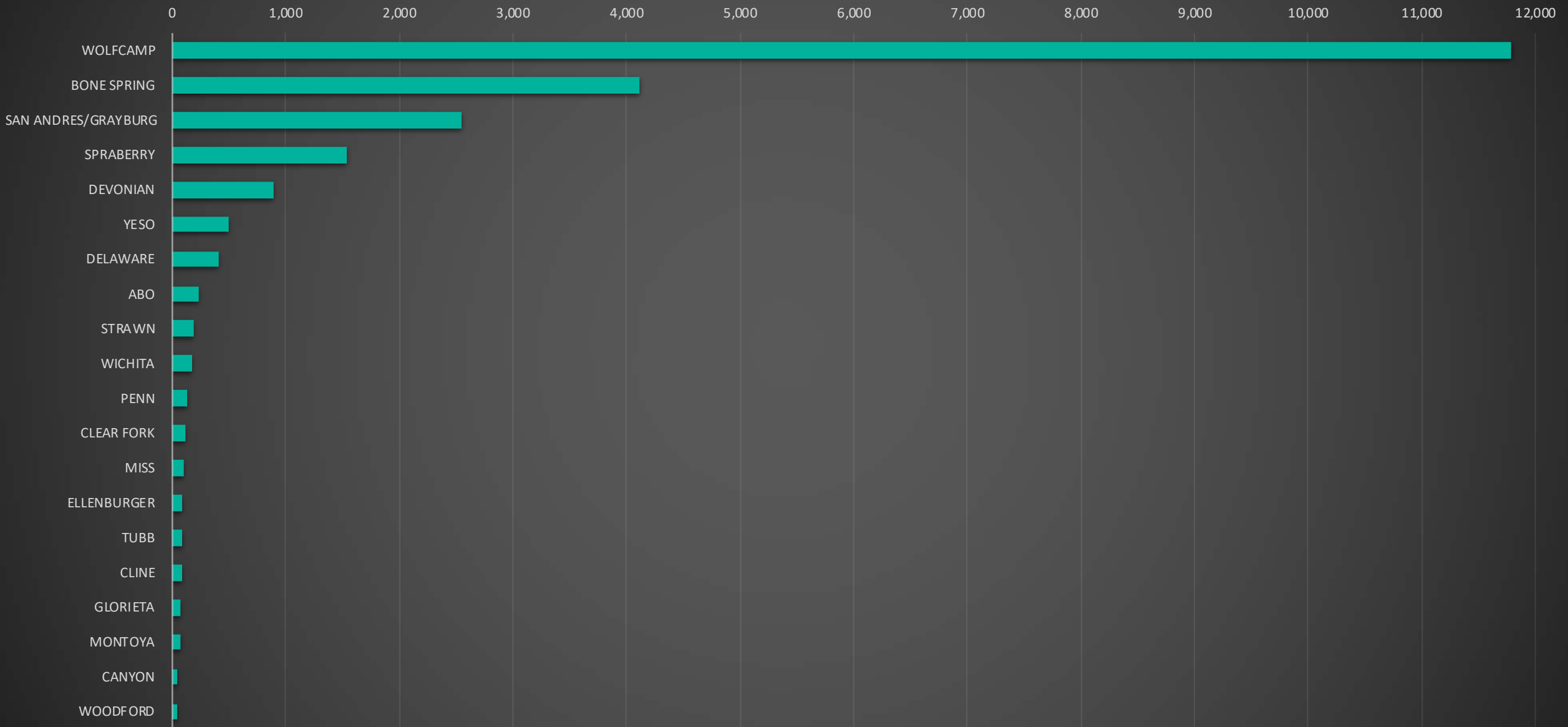
Data from IHS

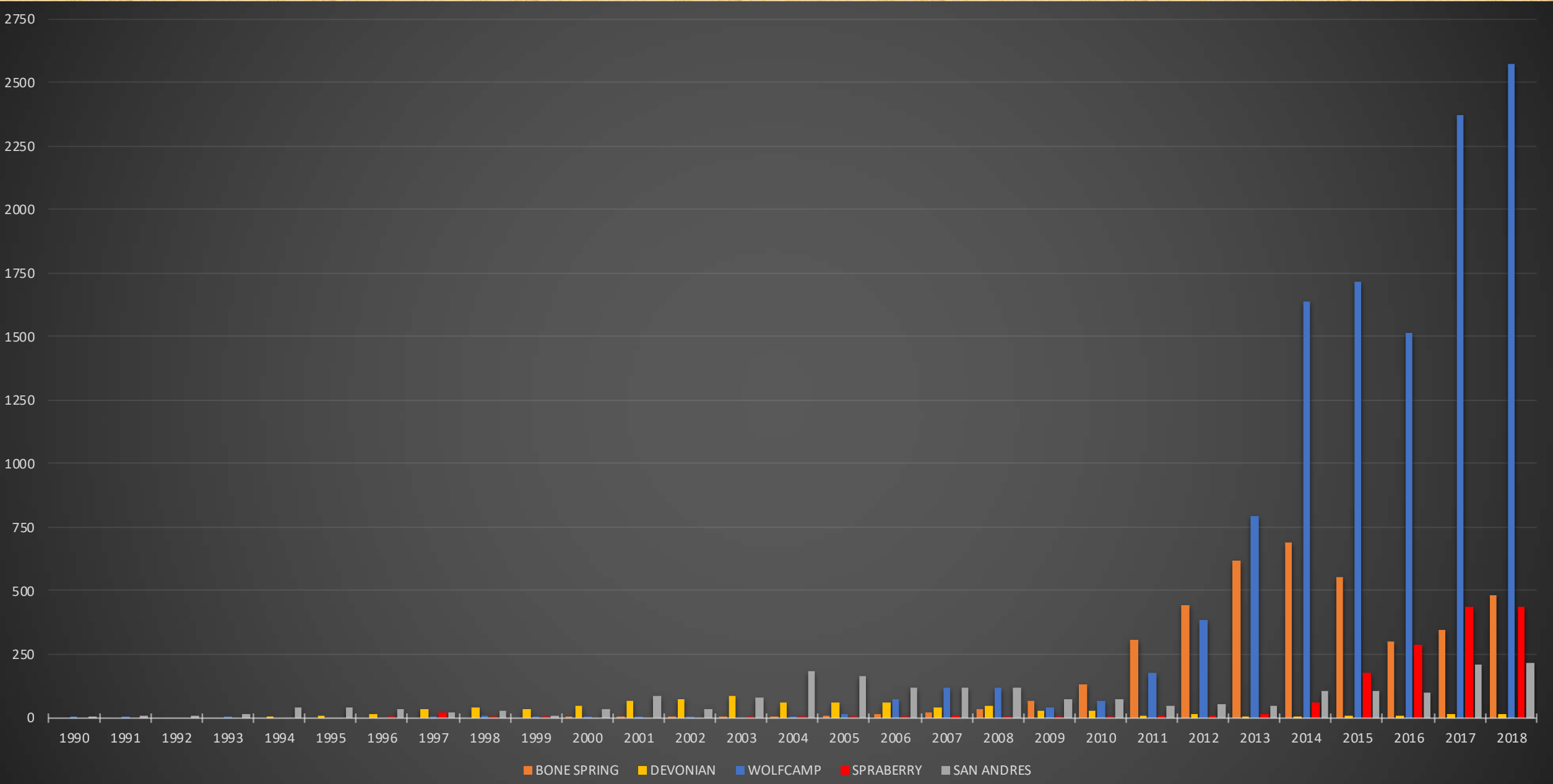


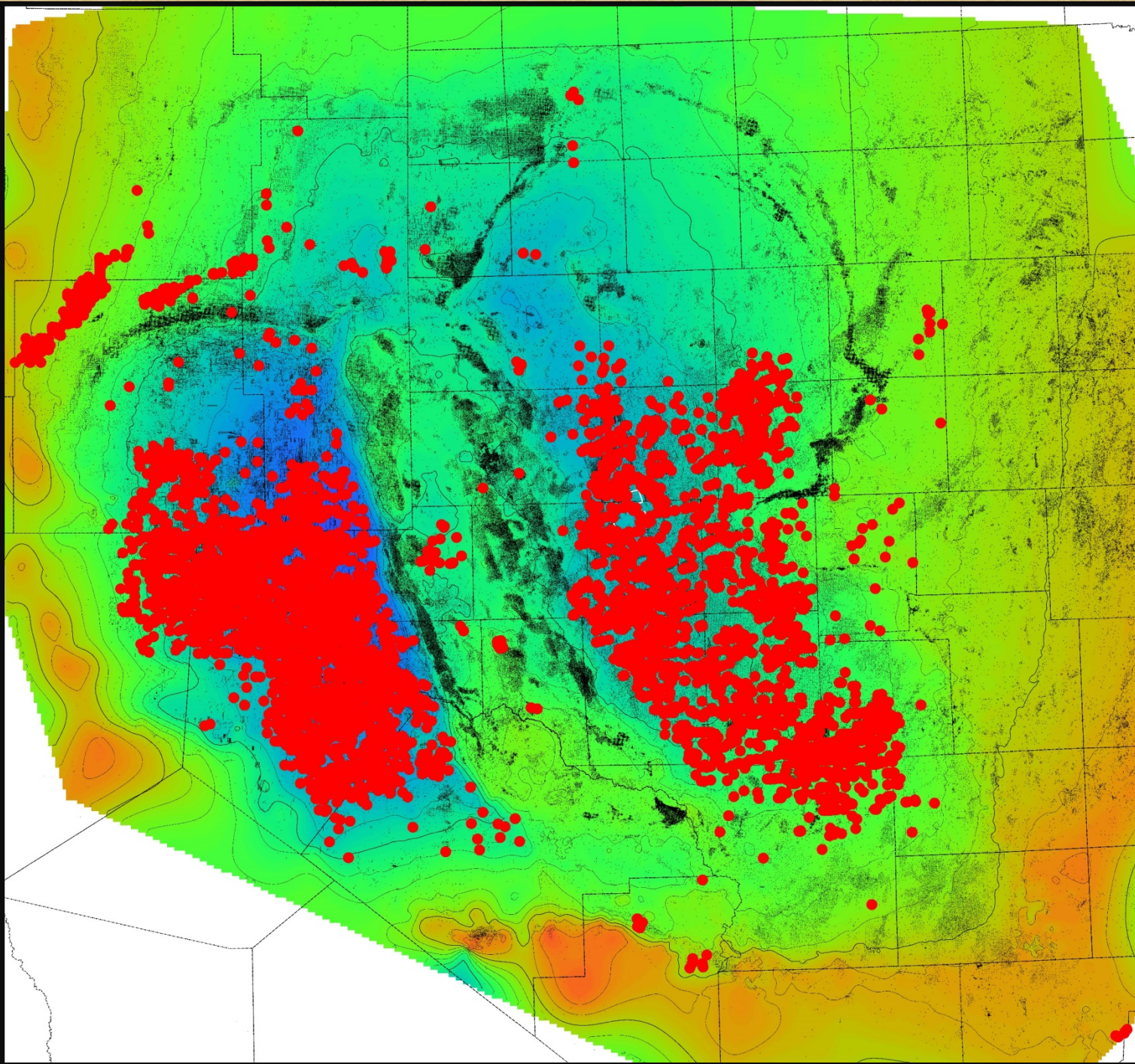
WOLFCAMP STRUCTURE MAP ALL HORIZONTAL WELLS COMPLETED

Data from IHS

Top 20 Producing Formations (Horizontal Wells)

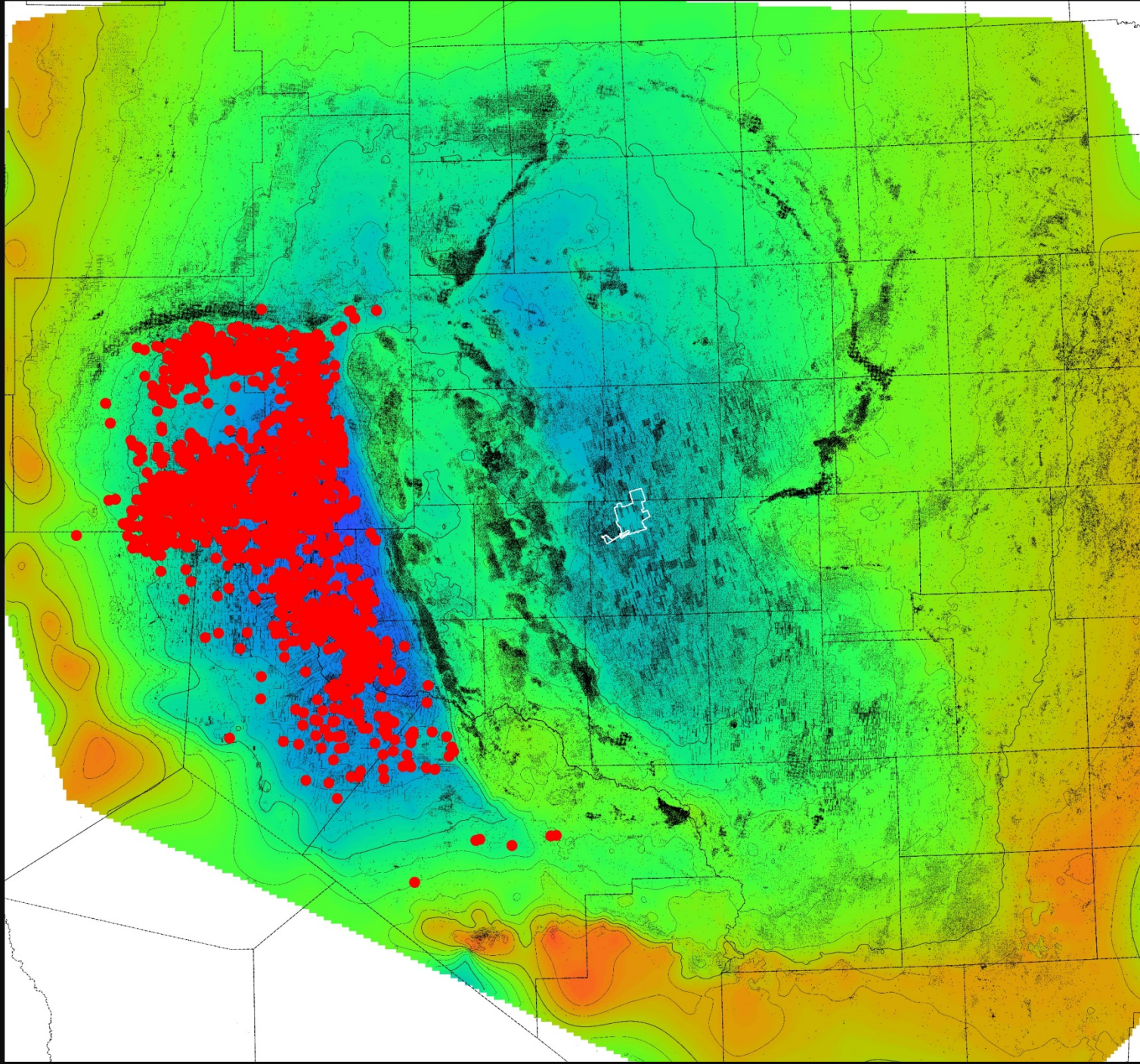






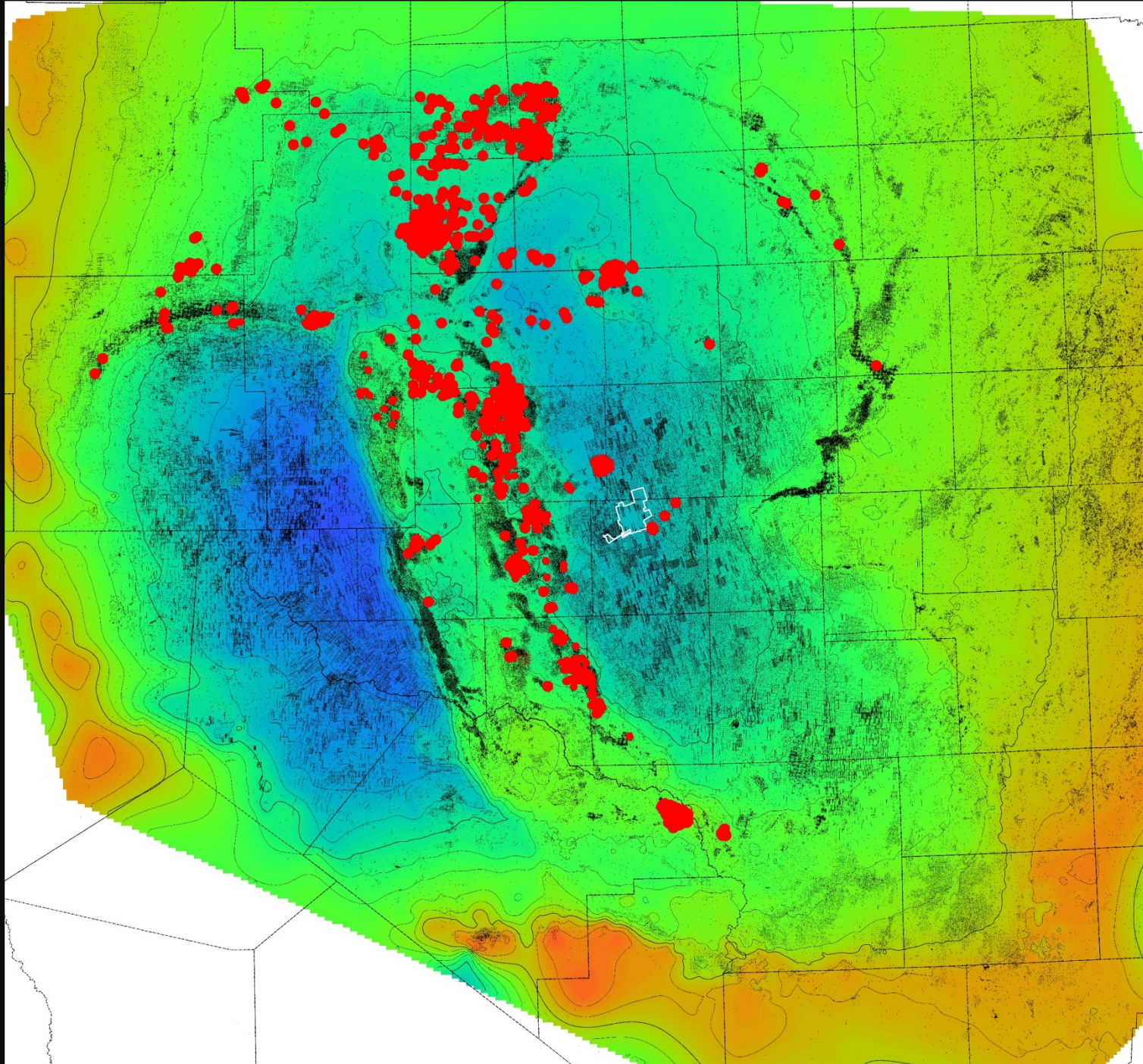
WOLFCAMP STRUCTURE MAP WOLFCAMP HORIZONTAL COMPLETED

Data from IHS



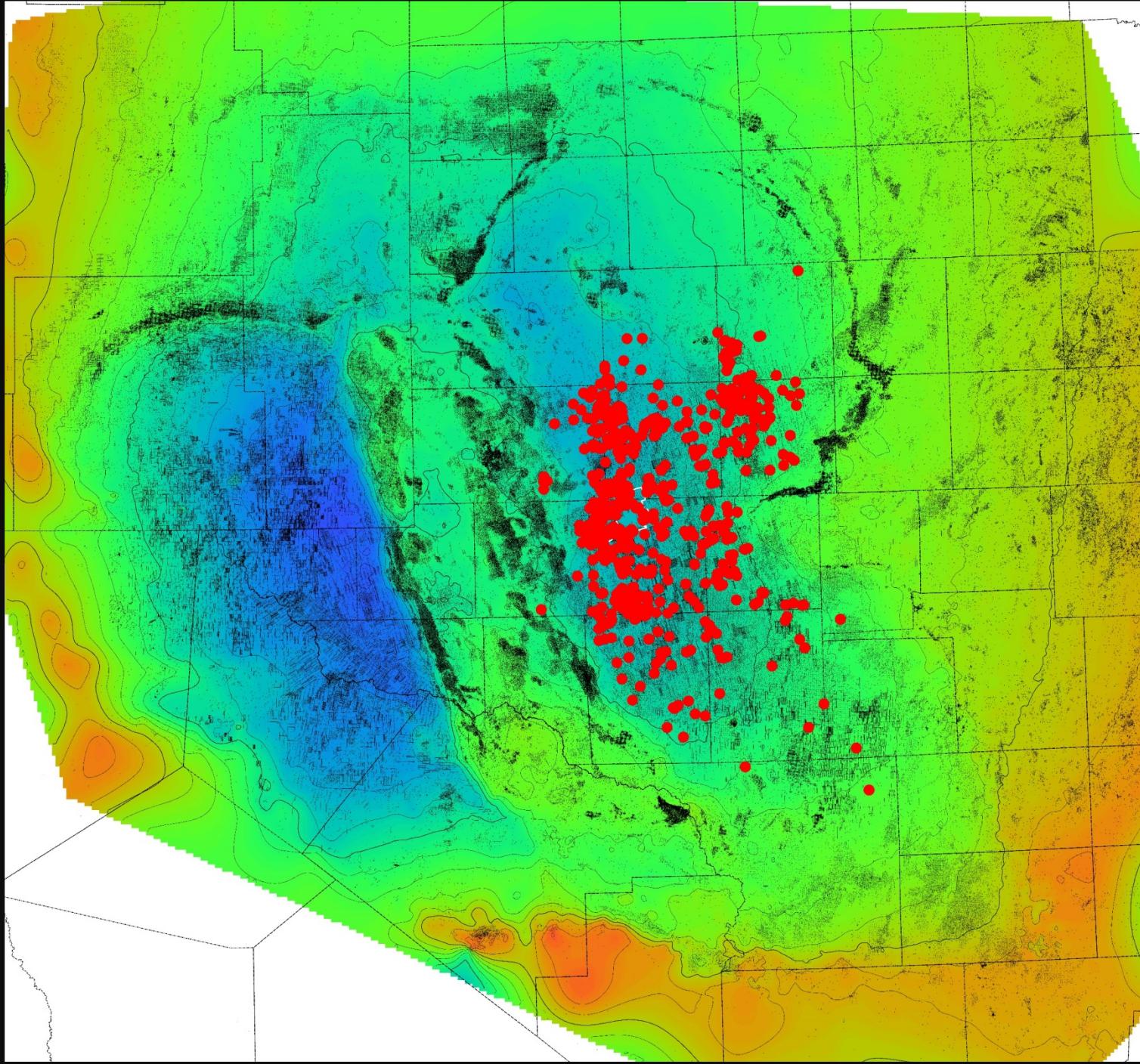
WOLFCAMP STRUCTURE MAP BONE SPRING HORIZONTAL COMPLETED

Data from IHS



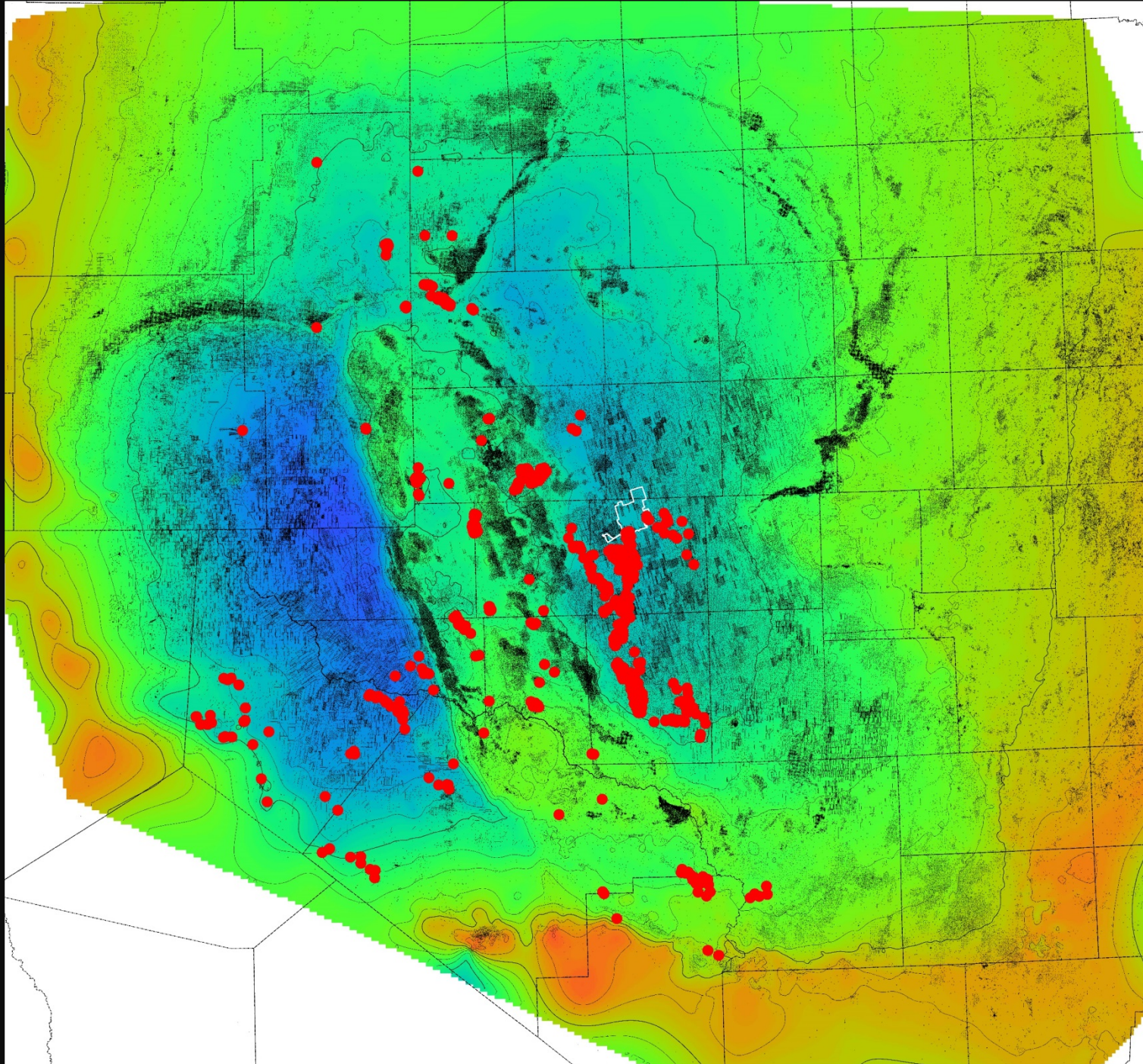
WOLFCAMP STRUCTURE MAP SAN ANDRES/GRAYBURG HORIZONTAL COMPLETED

Data from IHS



WOLFCAMP STRUCTURE MAP SPRABERRY HORIZONTAL COMPLETED

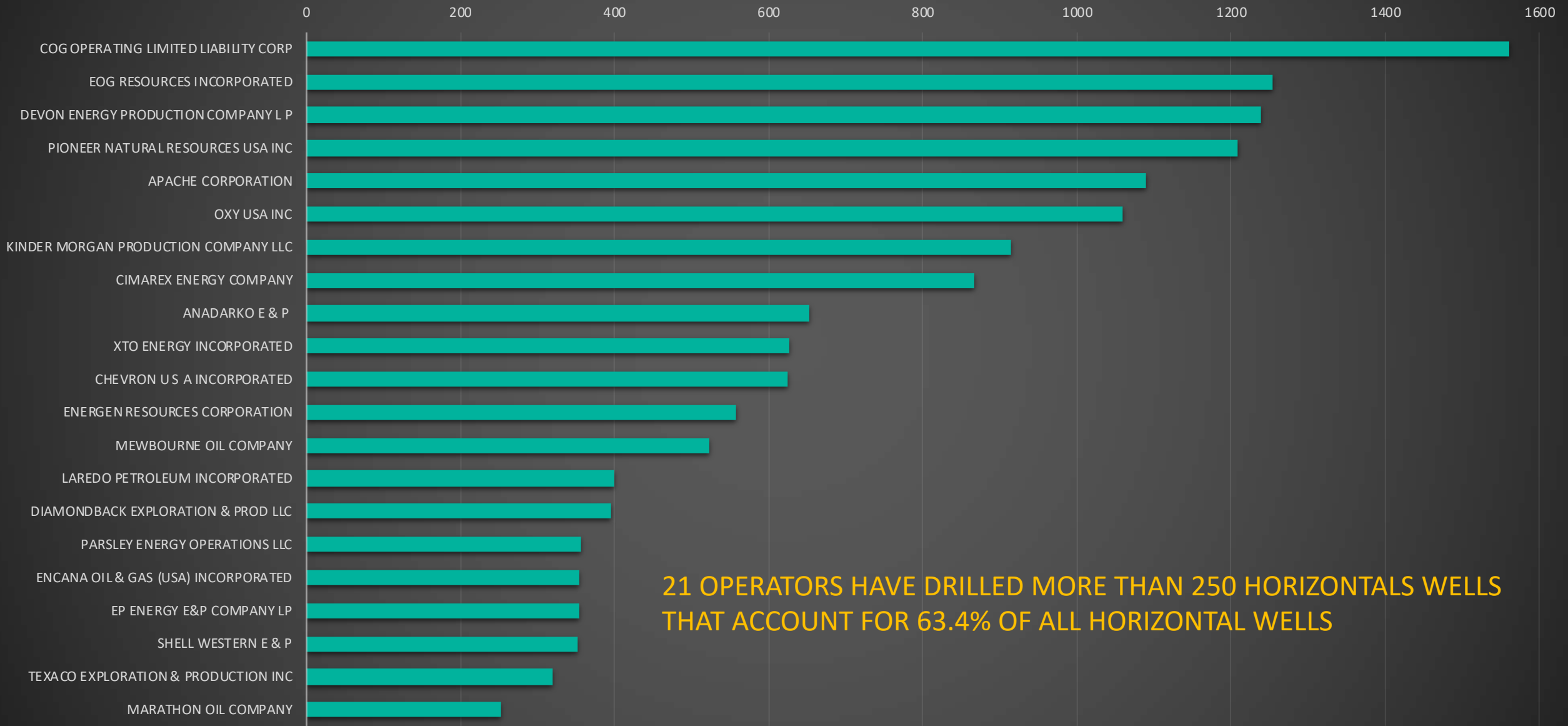
Data from IHS



WOLFCAMP STRUCTURE MAP DEVONIAN HORIZONTAL COMPLETED

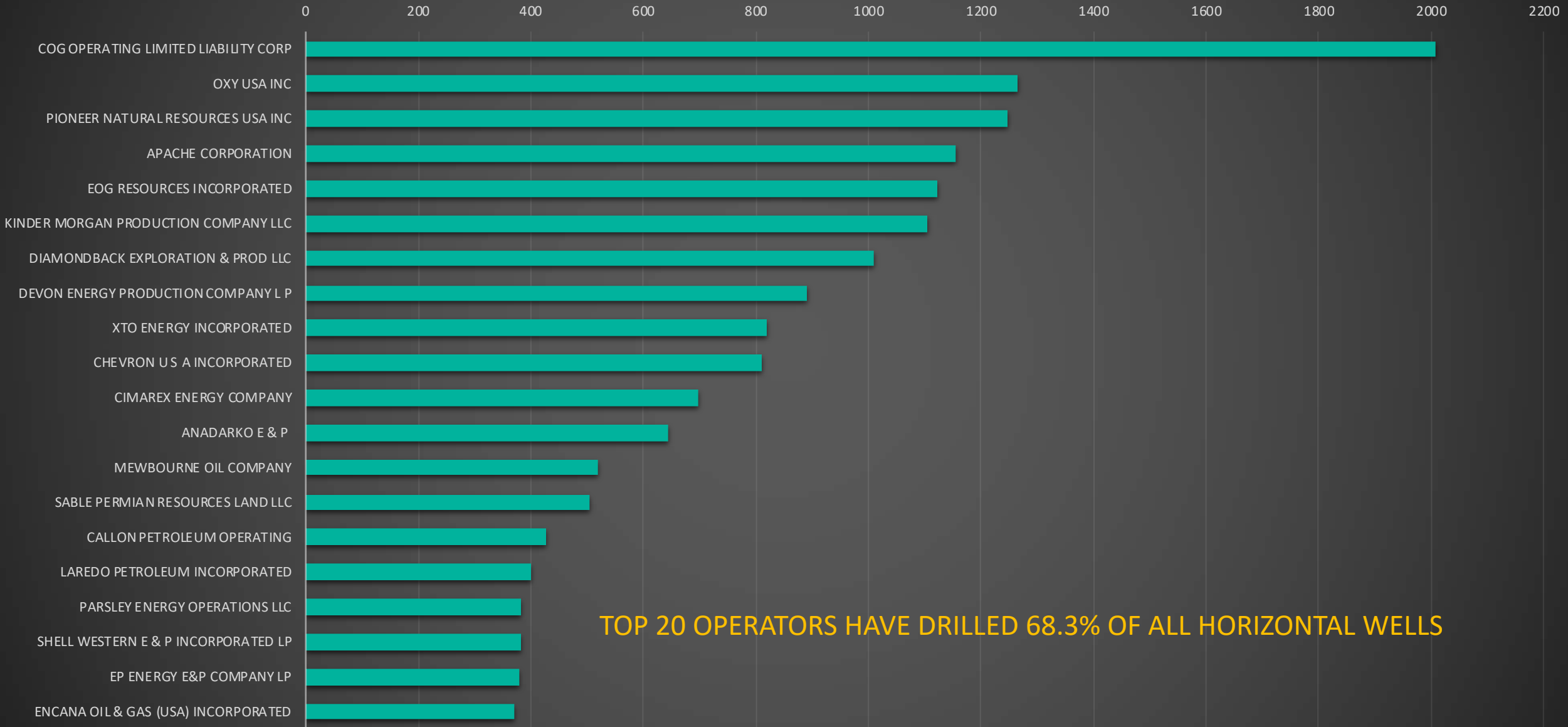
Data from IHS

Companies with 250 Drilled/Producers Horizontal Wells



21 OPERATORS HAVE DRILLED MORE THAN 250 HORIZONTALS WELLS
THAT ACCOUNT FOR 63.4% OF ALL HORIZONTAL WELLS

Top 20 Companies Operating (Horizontal Wells)



TOP 20 OPERATORS HAVE DRILLED 68.3% OF ALL HORIZONTAL WELLS

MID 2017

PERMITS 4,326

DRILLING 3,203

- STARTED 864
- AT TD 1,582
- TREATED 757

COMPLETED 18,553

MID 2018

PERMITS 5,125

DRILLING 4,976

- STARTED 1,318
- AT TD 2,162
- TREATED 1,496

COMPLETED 21,276

18% ↑

55% ↑

14% ↑

MID 2018

PERMITS 5,125

DRILLING 4,976

- STARTED 1,318
- AT TD 2,162
- TREATED 1,496

COMPLETED 21,276

END 2018

PERMITS 5,141

.3% ↑

DRILLING 5,154

3.6% ↑

- STARTED 1,268
- AT TD 2,208
- TREATED 1,678

COMPLETED 23,214

9.1% ↑

MID 2017-MID 2018

COMPLETED 228/M

MID 2018- END 2018

COMPLETED 323/M

END 2018

~~PERMITS 5,141~~

DRILLING 5,154

- STARTED 1,268

- AT TD 2,208

~~• TREATED 1,678~~

~~COMPLETED 23,214~~

POSSIBLE DUC

Possible Total 3,476

- Less Than 30 Days 512
- Less Than 60 Days 543
- Less Than 90 Days 483
- 90-180 Days 984
- 180 Days – 1 Year 626
- 1 Year – 2 Year 231
- 2 Year – 3 Year 26
- More Than 3 Years 70

POSSIBLE DUC

Possible Total **2,350**

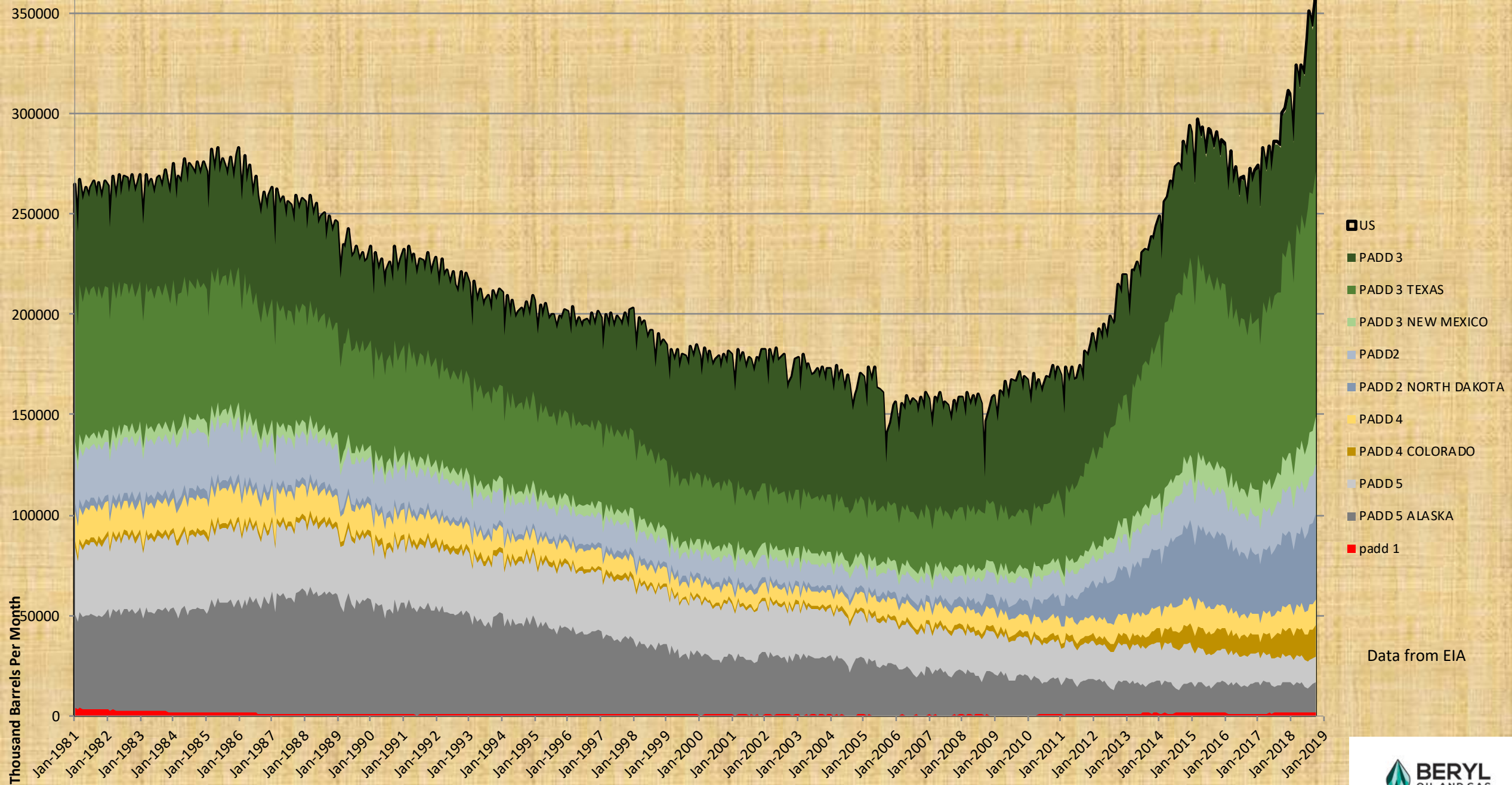
- ~~• Less Than 30 Days 512~~
- ~~• Less Than 60 Days 543~~
- Less Than 90 Days 483
- 90-180 Days 984
- 180 Days – 1 Year 626
- 1 Year – 2 Year 231
- 2 Year – 3 Year 26
- ~~• More Than 3 Years 70~~

POSSIBLE DUC

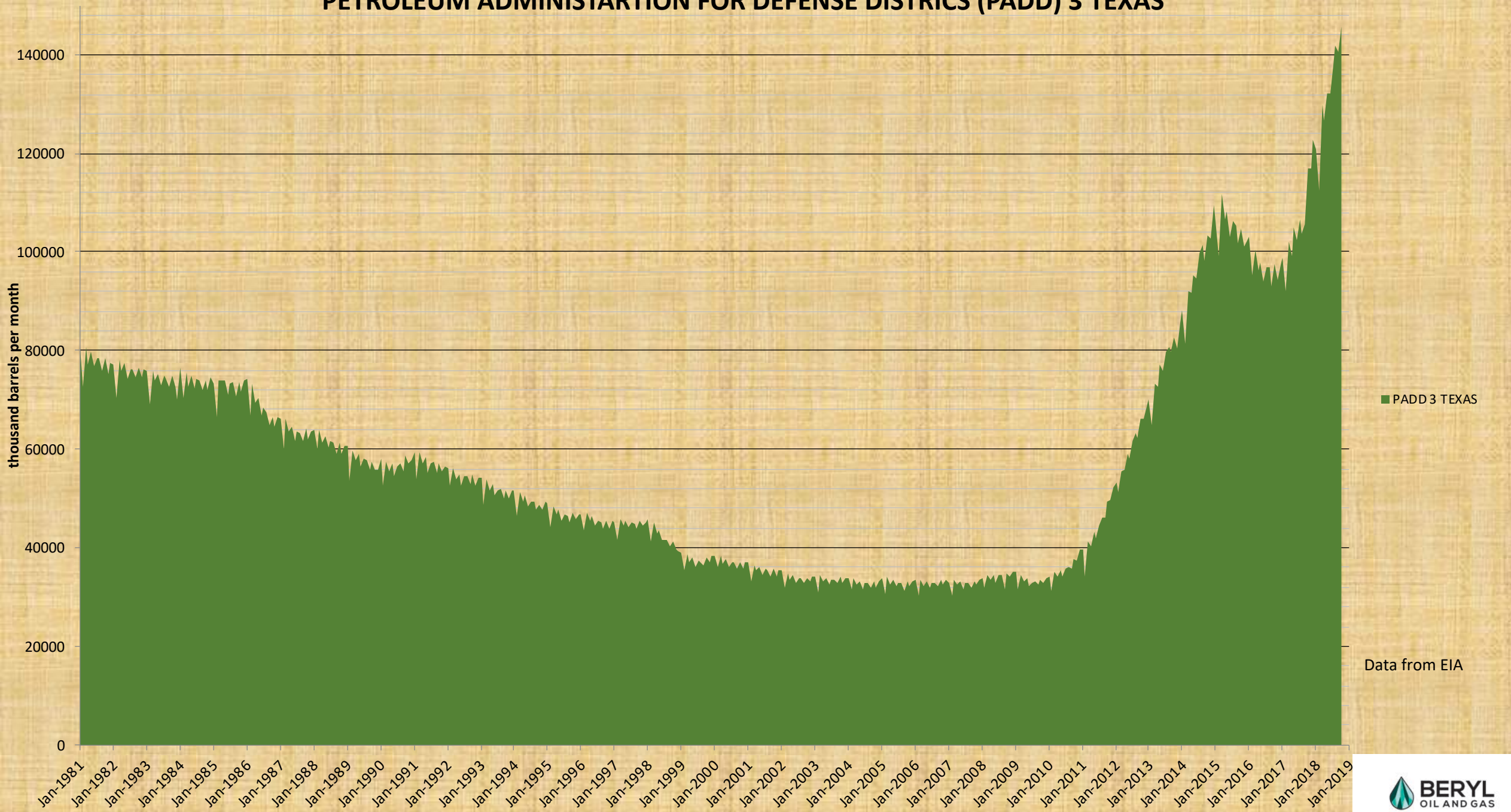
Possible Total **1,841**

- ~~• Less Than 30 Days 512~~
- ~~• Less Than 60 Days 543~~
- ~~• Less Than 90 Days 483~~
- 90-180 Days 984
- 180 Days – 1 Year 626
- 1 Year – 2 Year 231
- ~~• 2 Year – 3 Year 26~~
- ~~• More Than 3 Years 70~~

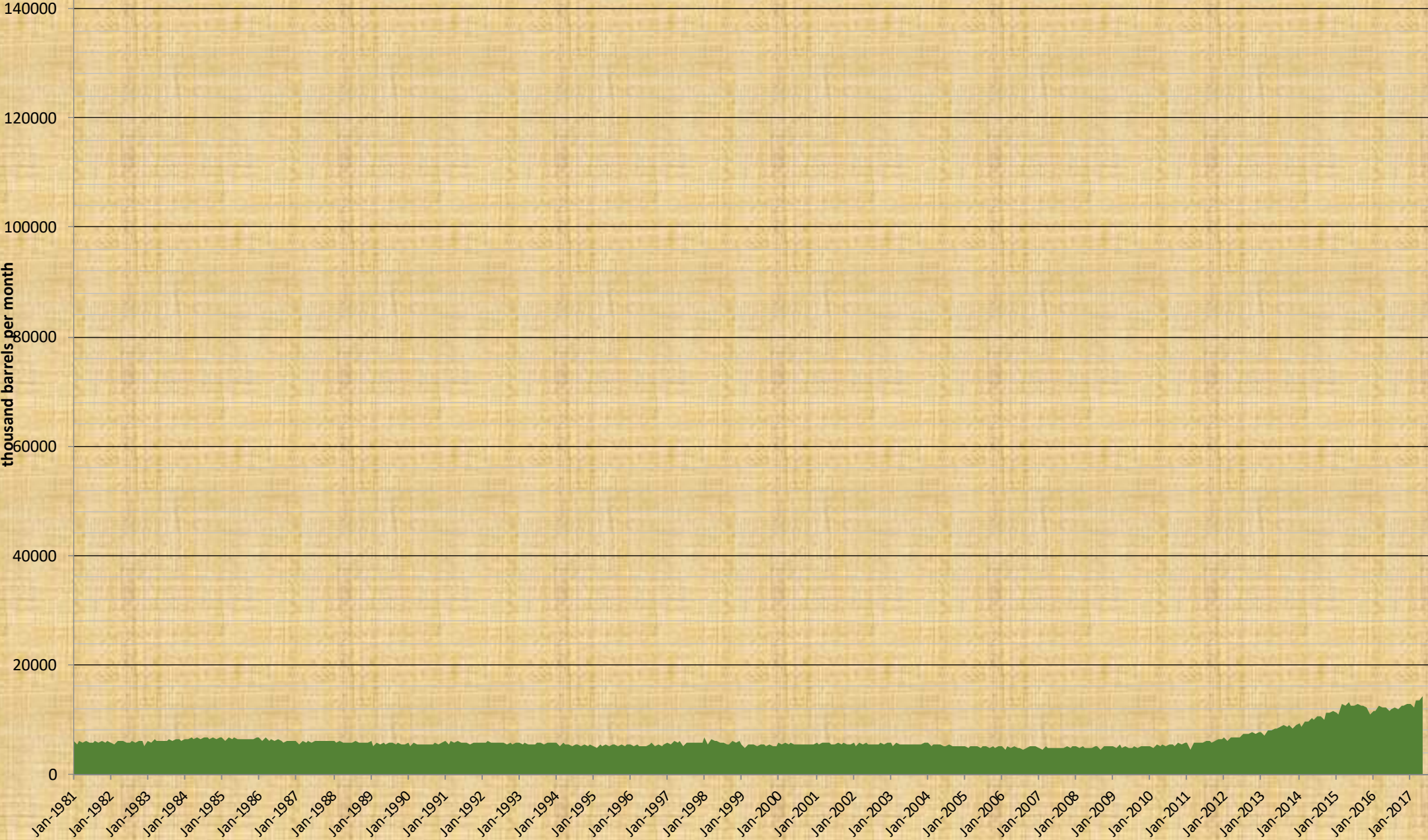
U.S. PRODUCTION BY AREA



PETROLEUM ADMINISTRATION FOR DEFENSE DISTRICTS (PADD) 3 TEXAS



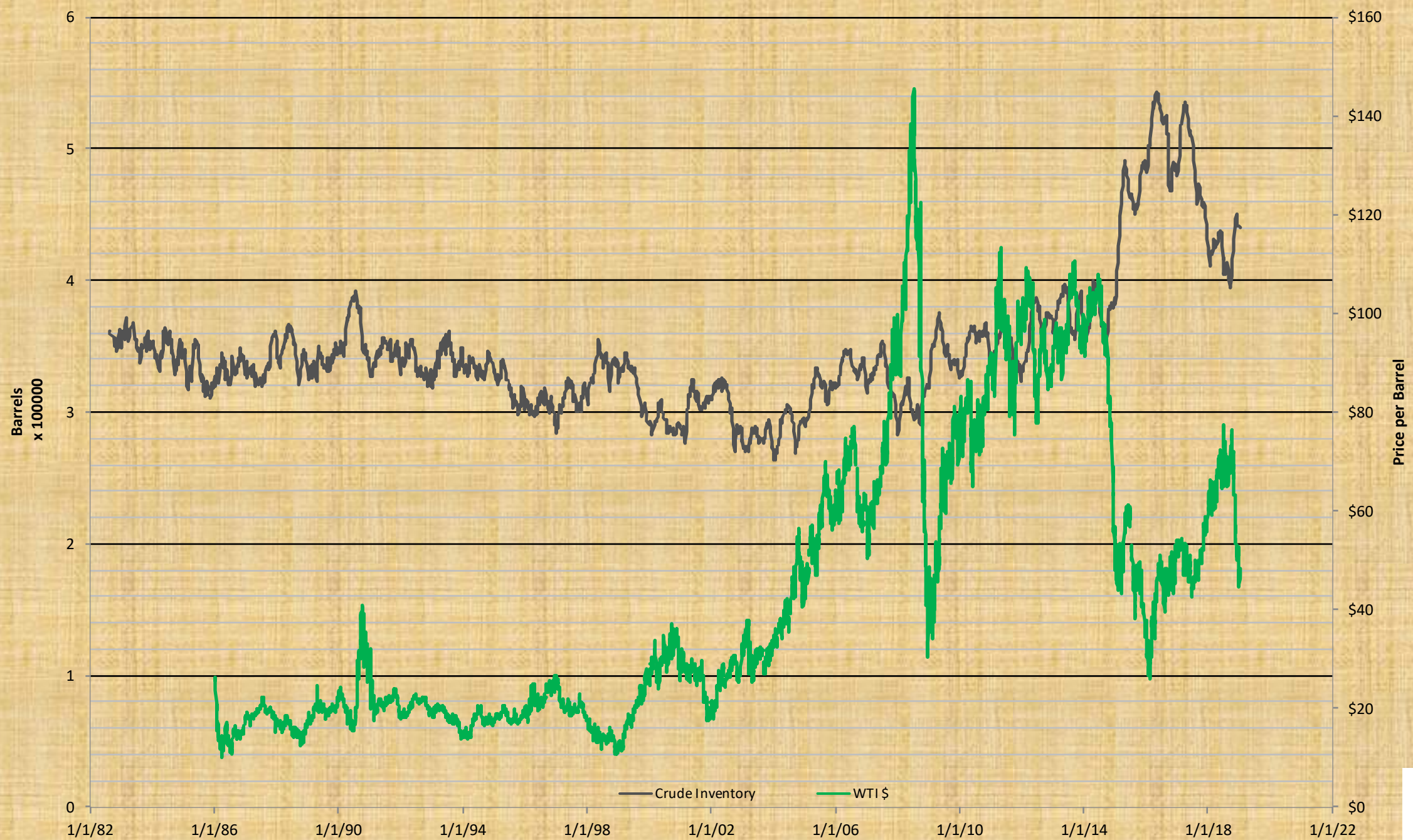
PADD 3 NEW MEXICO



PADD 3 NEW MEXICO

Data from EIA

Crude Inventory vs. Price Per Barrel



Data from EIA

"Twenty years from now, you will be more disappointed by the things that you didn't do than by the ones you did do, so throw off the bowlines, sail away from safe harbor, catch the trade winds in your sails. Explore, Dream, Discover." [Mark Twain](#), author.

42317404370100

General Information

11H SALE RANCH 22K

Data Source: PI
API/UWI: 42317404370100
State/Prov: TEXAS
Field: SPRABERRY
Current Status:
Initial Class: DEVELOPMENT REDRILL (D R)
Final Status: D&AW
Permit: 815281 on Apr 28, 2016
First Report Date: Apr 11, 2017
Projected TD: 11,000 FT
Basin: PERMIAN BASIN
Play Name:

Country: UNITED STATES
IC:
County: MARTIN
Operator: PIONEER NATURAL RESOURCES USA INC
Current Operator: PIONEER NATURAL RESOURCES USA INC
Final Well Class: DEVELOPMENT WELL-DRY (INCLUDING TEMPORARILY ABANDONED WELL) (D)
Target Objective: O&G
Hole Direction: HORIZONTAL
Abandonment Date:
Projected Formation:
Formation at TD: EAGLE FORD
Play Type:



