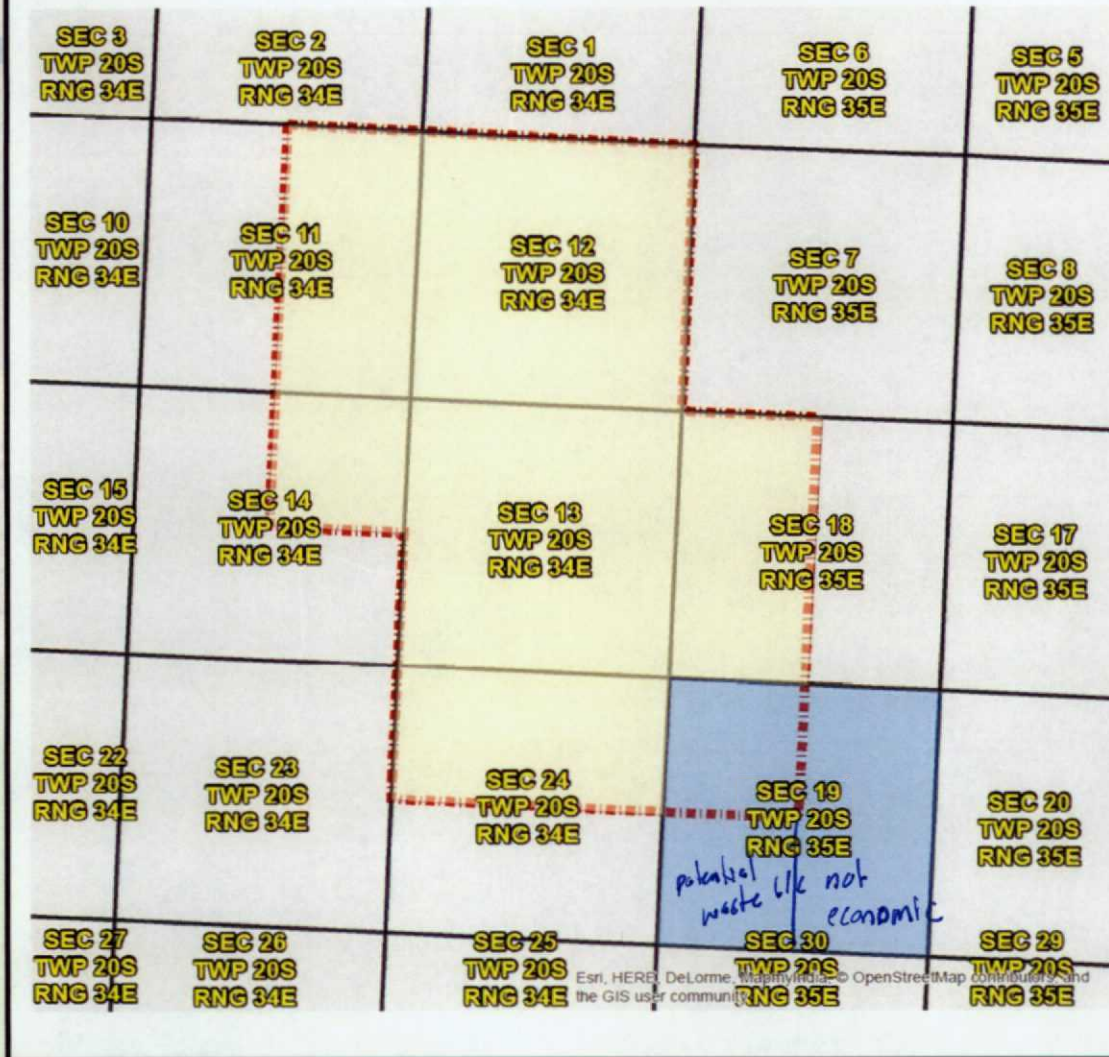


## LEA UNIT - ACREAGE CONTRIBUTION



### LEA UNIT OWNERSHIP

Legacy/Jupiter JV LLC	- .9131061
Finley Resources	- .05053440
HOG LP	- .01953370
COG	- .01682580

### LEA UNIT

<span style="background-color: blue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	STATE ACREAGE
<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	FEDERAL ACREAGE
<span style="border-top: 2px dashed red; border-bottom: 2px dashed red; display: inline-block; width: 15px; height: 10px;"></span>	LEA UNIT

Date: 3/1/2016

## Lea Unit

### Acreage Contribution:

Lea Unit Acreage	- 2,559.68
Federal Acreage	- 2,399.68 Acres - 93.75%
State Acreage	- 160 Acres - 6.25%

### Royalty Calculation:

- Current Royalty Payments under 5<sup>th</sup> Revision of Bone Spring Participation Area
  - Federal - .125
  - State - 0.00
  - The State of New Mexico is entitled to 50% of the Federal royalty less a 2% fee.

There is no Bone Spring production on the state acreage to date and cannot be incorporated in a Bone Spring Participation Area until a well is drilled on the acreage.

- Once Legacy drills the Lea Unit #59H the unit wide royalty would be paid as follows:
  - Federal - .125 Royalty X (2,399.68/2,559.68) = **.11718652**
  - State - .125 Royalty X (160 State Acres / 2,559.68 Lea Unit Acres) = **.00781348**

### Lea Unit Ownership:

Legacy Reserves Operating LP/Jupiter JV LLC	- .9131061
Finley Resources	- .05053440
HOG Limited Partnership	- .01953370
COG	- .01682580

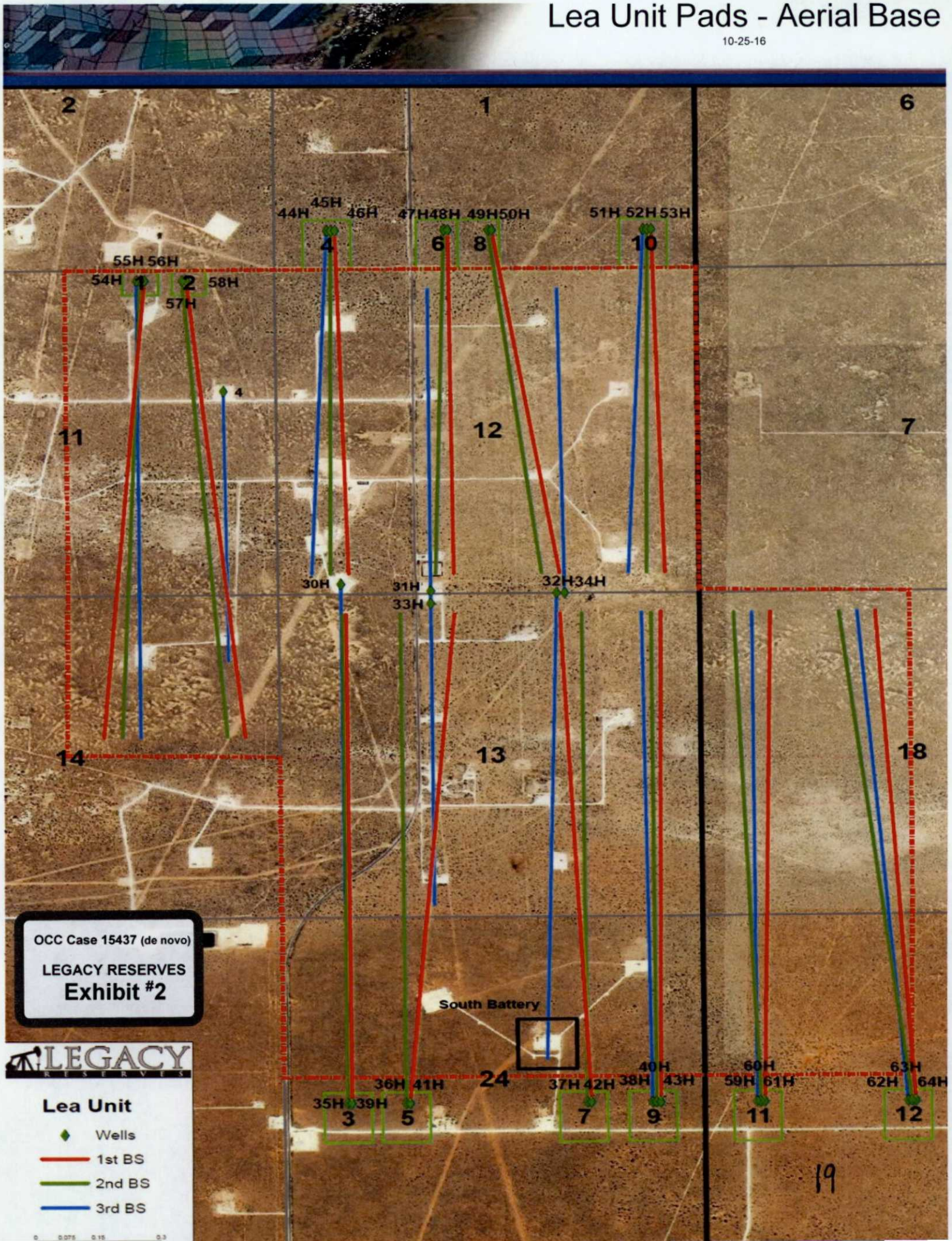
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**LEGACY RESERVES**  
**Exhibit #1**



# Lea Unit Pads - Aerial Base

10-25-16







FedEx Tracking #7969 3262 3985  
United States Department of the Interior  
Bureau of Land Management  
Carlsbad Field Office  
620 E. Greene St.  
Carlsbad, New Mexico 88220-6292  
Attn: Jim Stovall – Carlsbad Field Office Manager

March 30, 2011

**SUBJECT:** Protest of APD's Submitted by Mewbourne Oil Company  
#2H-Marathon Road 14 Fed Com  
#3H-Marathon Road 14 Fed Com  
E/2 Section 14, T20S, R34E  
Lea County, New Mexico

Legacy Reserves Operating, LP, hereby submits its protest of the above mentioned Application and Permits to Drill submitted by Mewbourne Oil Company.

Legacy Reserves Operating, LP as unit operator of the Lea Unit, protest as follows. Mewbourne Oil Company's proposed bottom hole locations (BHL's) and a portion of the proposed laterals on both wells will enter into and land in the NE/4 of Section 14 which is within the Lea Unit (Tract No 11 (NM-053434) and Tract No 12 (NM-080262)) boundaries. Legacy Reserves Operating, LP started a study on the feasibility of drilling a horizontal lateral in the 3<sup>rd</sup> Bone Spring Sand out of the Lea Unit #4 in late 2010. The APD for this project is in the process of being prepared and will be submitted soon. The proposed BHL for the Lea Unit #4H lands at 1980' FNL and 660' FEL, section 14 with a TVD of 10,926' (+/-7,250' sub surface) and a MD of 16,150'. Legacy Reserves Operating, LP also plans to drill dual laterals out of the Lea Unit #6 well (North and South) of which the South lateral would cover and land in the W/2 of the NE/4 of section 14. Further plans are to drill multiple horizontal laterals within the Lea Unit boundaries in a North-South direction in the coming months and years.

For these reasons, Legacy Reserves Operating, LP protest the drilling of the #2H-Marathon Road 14 Fed Com and #3H Marathon Road Fed Com wells as proposed by Mewbourne Oil Company. Please do not hesitate to contact me if you have any questions or need additional information regarding this protest.

Thank you in advance for your consideration in this matter.

Sincerely,

D. Patrick Darden, P.E.  
Senior Engineer  
432-689-5237

dpd

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LEGACY RESERVES  
Exhibit #3



# LEGACY RESERVES

**LEA UNIT**  
LEA COUNTY, NM  
BONE SPRING HORIZONTAL  
DEVELOPMENT

SEC. 11

SEC. 12

PLANNED  
DRILLED  
APPROVED APD  
FILED APD

3 <sup>rd</sup> BSS	#54H
2 <sup>nd</sup> BSS	#55H
1 <sup>st</sup> BSS	#56H
-----	
3 <sup>rd</sup> BSS	#4H
2 <sup>nd</sup> BSS	#57H
1 <sup>st</sup> BSS	#58H

SEC. 14

SEC. 13

#35H	3 <sup>rd</sup> BSS	#30H	3 <sup>rd</sup> BSS	#44H	
		2 <sup>nd</sup> BSS	2 <sup>nd</sup> BSS	#45H	
#39H		1 <sup>st</sup> BSS	1 <sup>st</sup> BSS	#46H	
-----					
#36H	3 <sup>rd</sup> BSS	#31H	2 <sup>nd</sup> BSS	#33H	3 <sup>rd</sup> BSS
			1 <sup>st</sup> BSS	2 <sup>nd</sup> BSS	#47H
#41H				1 <sup>st</sup> BSS	#48H
-----					
3 <sup>rd</sup> BSS		#32H	3 <sup>rd</sup> BSS	#34H	3 <sup>rd</sup> BSS
#37H		2 <sup>nd</sup> BSS	2 <sup>nd</sup> BSS	2 <sup>nd</sup> BSS	#49H
#42H		1 <sup>st</sup> BSS	1 <sup>st</sup> BSS	1 <sup>st</sup> BSS	#50H
-----					
#38H		3 <sup>rd</sup> BSS	3 <sup>rd</sup> BSS	3 <sup>rd</sup> BSS	#51H
#40H		2 <sup>nd</sup> BSS	2 <sup>nd</sup> BSS	2 <sup>nd</sup> BSS	#52H
#43H		1 <sup>st</sup> BSS	1 <sup>st</sup> BSS	1 <sup>st</sup> BSS	#53H
-----					
#59H		3 <sup>rd</sup> BSS	3 <sup>rd</sup> BSS	SEC. 18	
#60H		2 <sup>nd</sup> BSS	2 <sup>nd</sup> BSS		
#61H		1 <sup>st</sup> BSS	1 <sup>st</sup> BSS		
-----					
#62H		3 <sup>rd</sup> BSS	3 <sup>rd</sup> BSS		
#63H		2 <sup>nd</sup> BSS	2 <sup>nd</sup> BSS		
#64H		1 <sup>st</sup> BSS	1 <sup>st</sup> BSS		

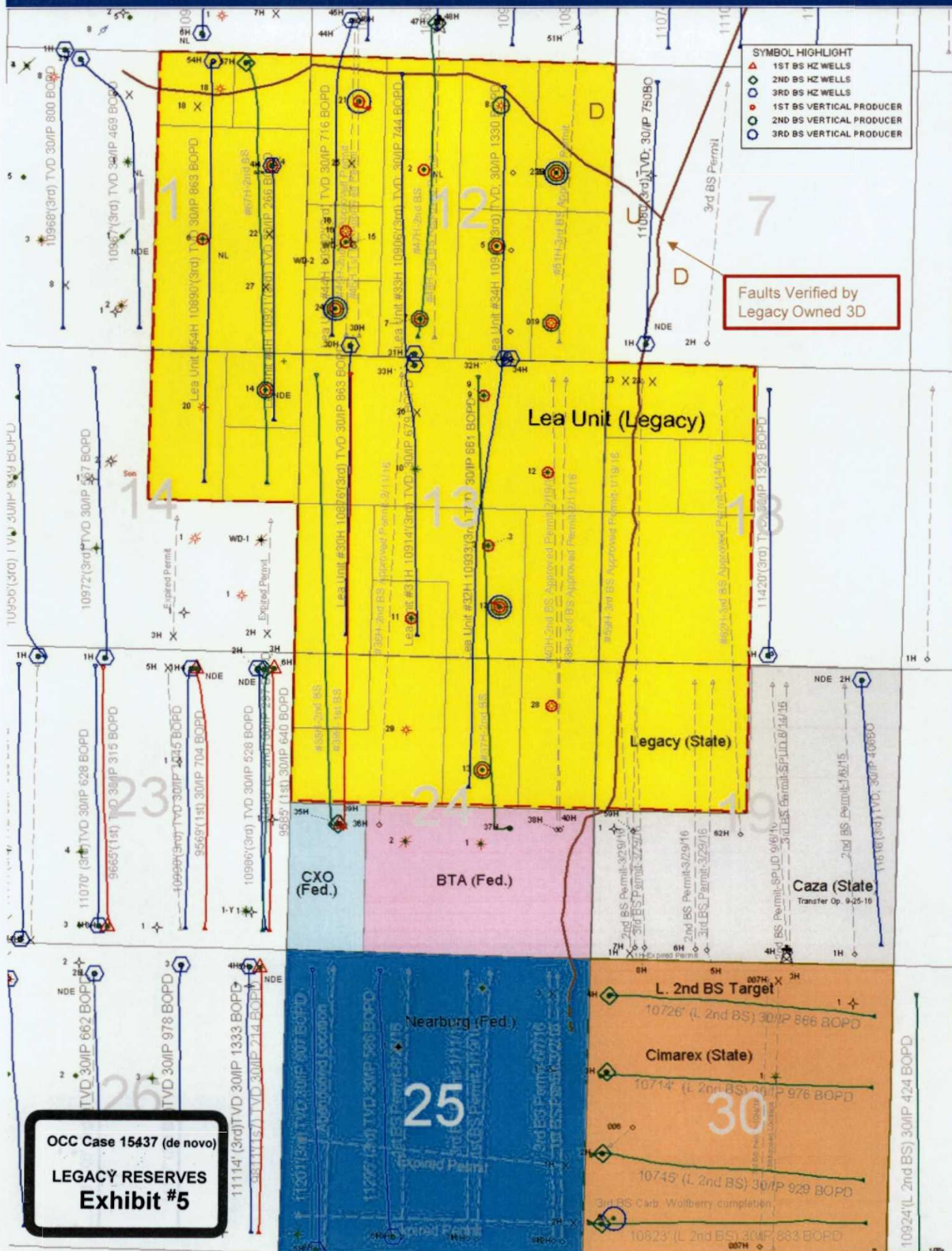
PLANNED

DRILLED

APPROVED APD

FILED APD

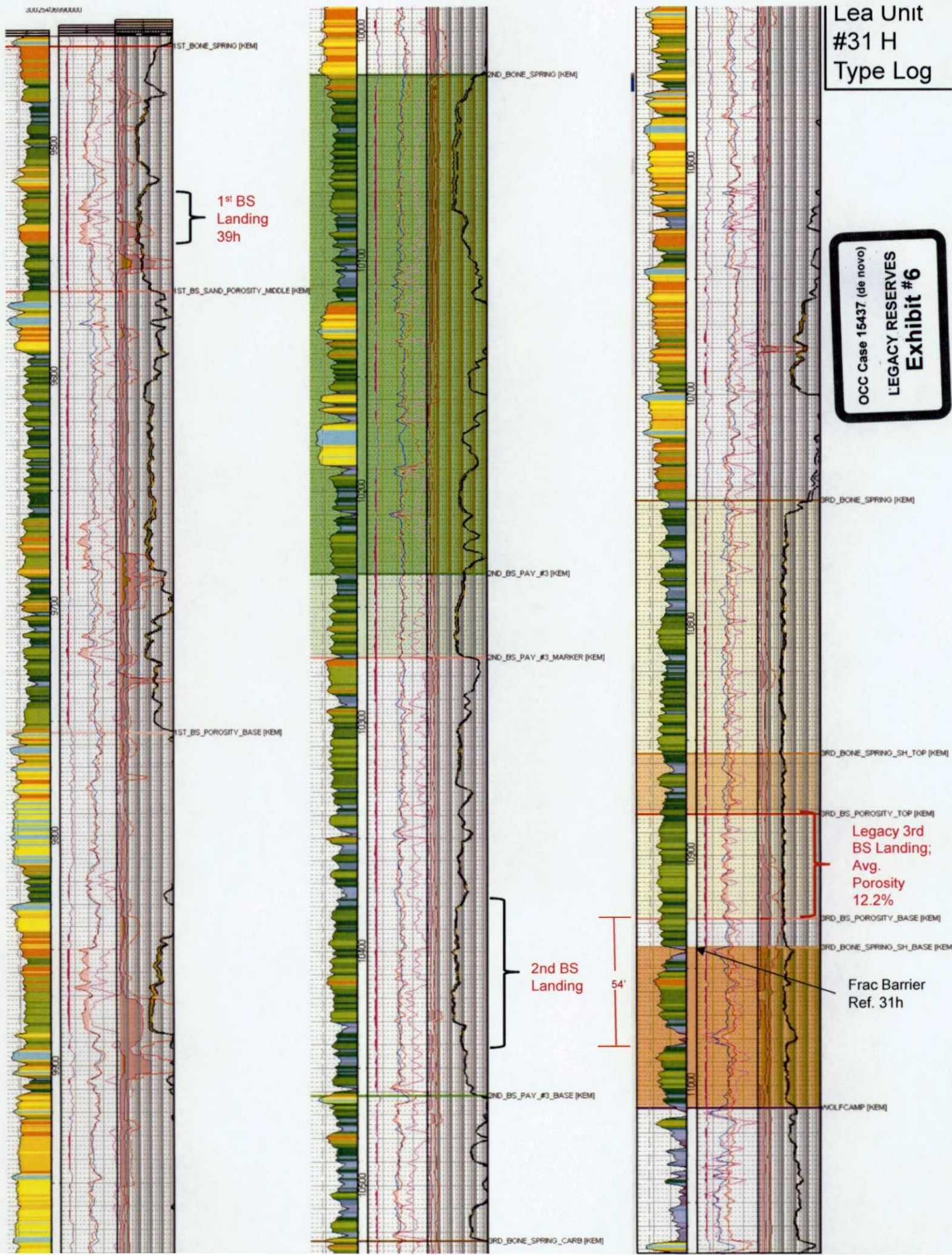






Lea Unit  
#31 H  
Type Log

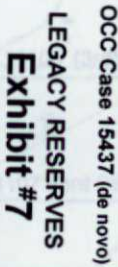
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LEGACY RESERVES  
Exhibit #6





Lea Unit 3<sup>rd</sup> BS Shale Structure 10-25-16

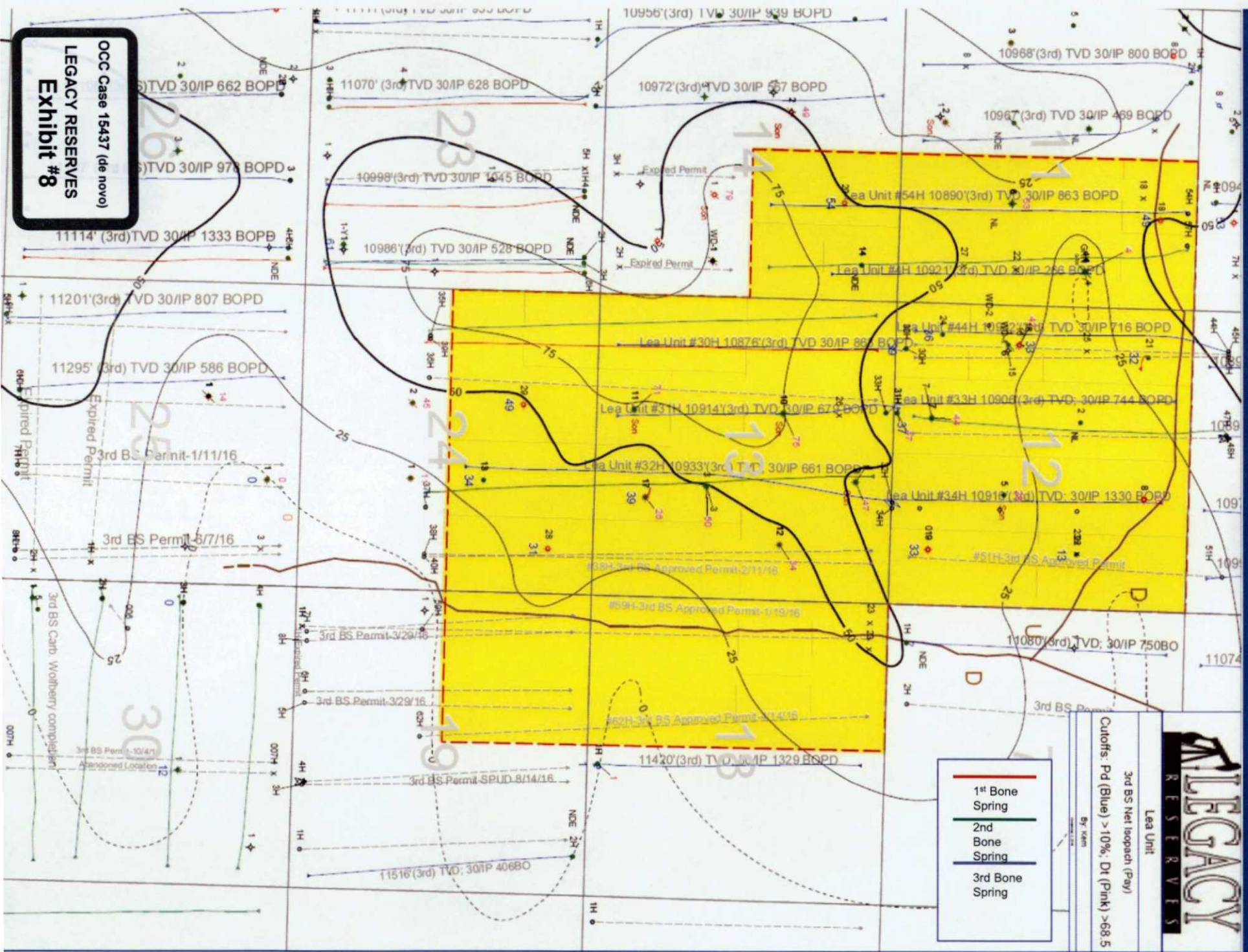
# Structure



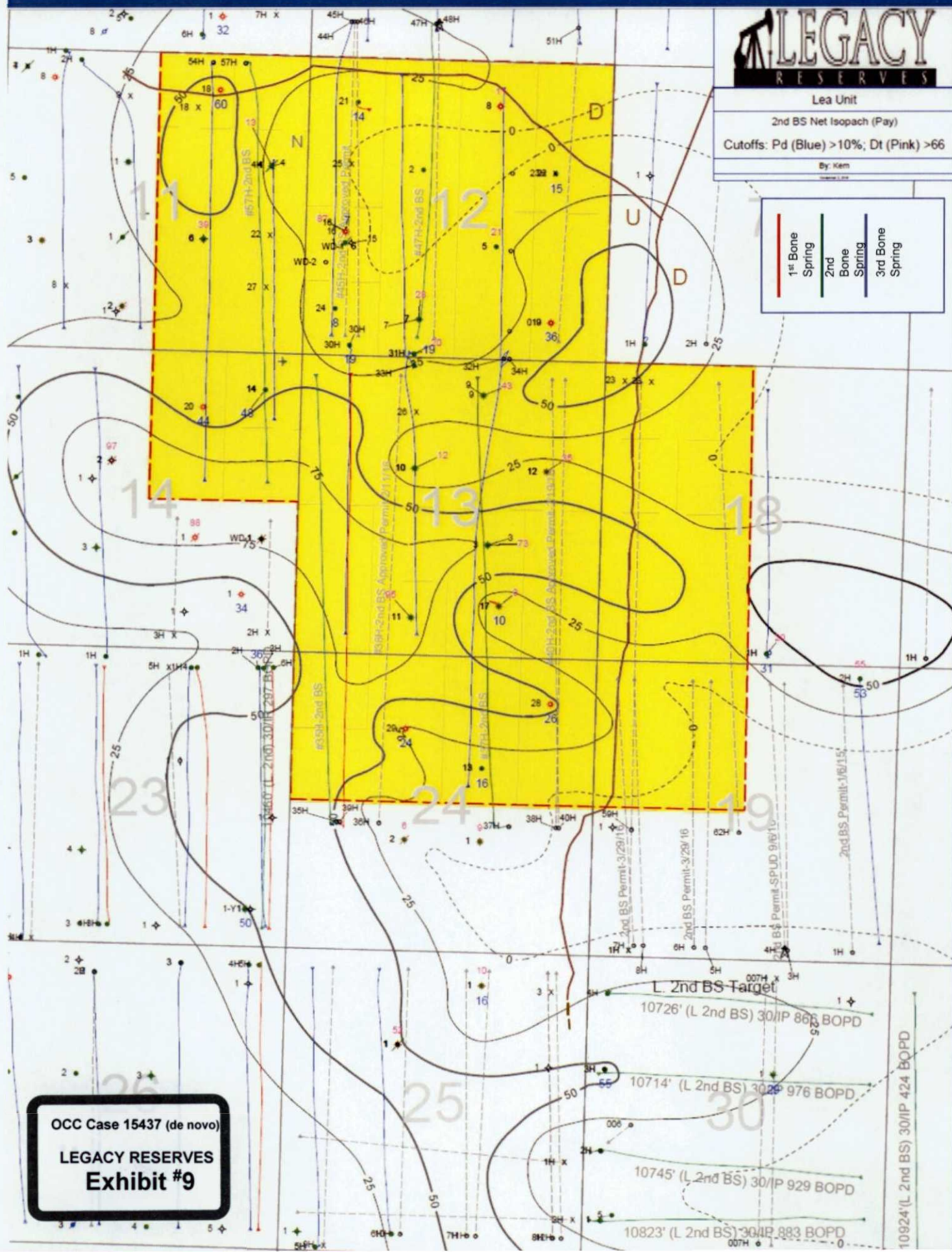


Lea Unit 3<sup>rd</sup> BS Net Isopach  
10-25-16

10-25-16





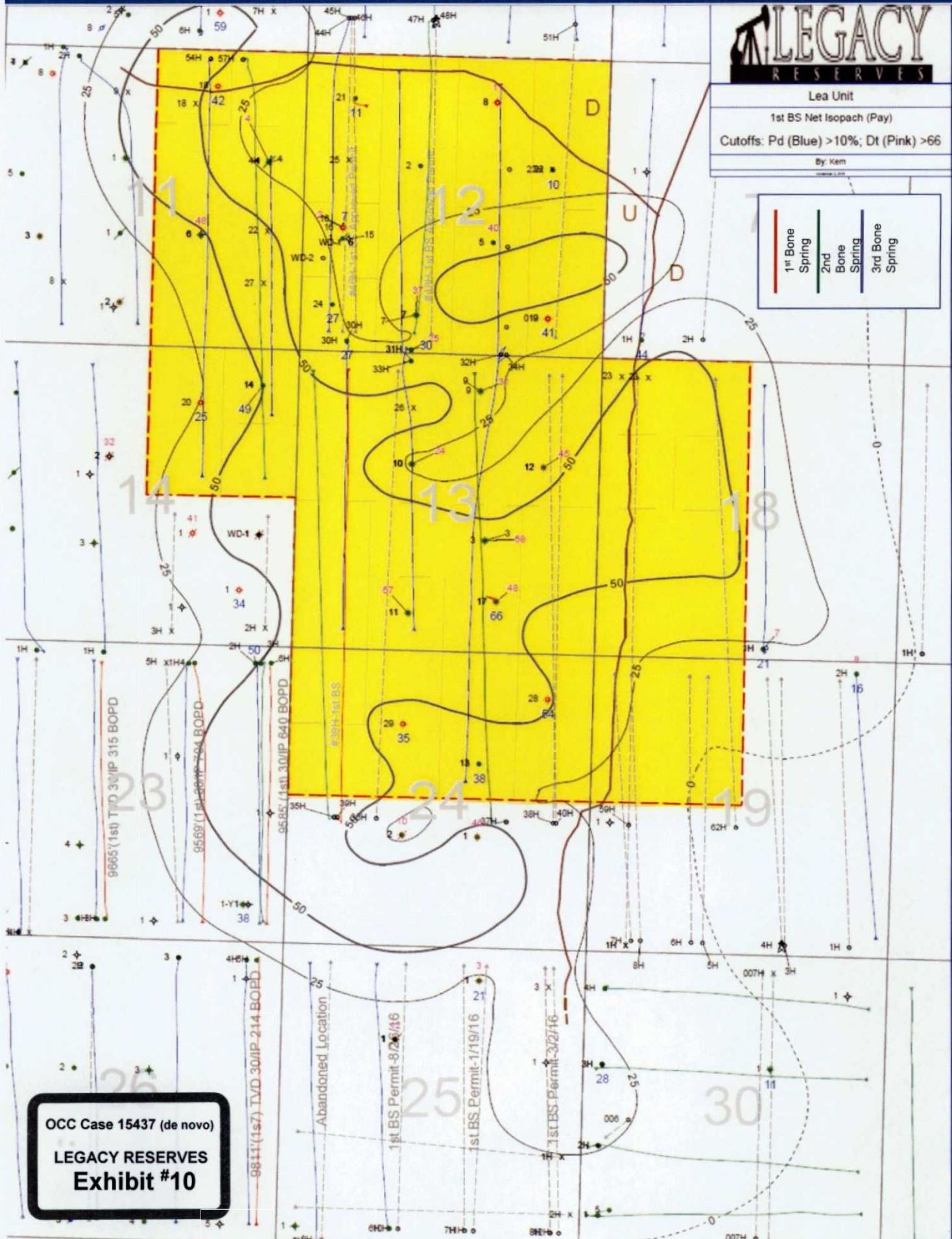


Lea Unit  
2nd BS Net Isopach (Pay)  
Cutoffs: Pd (Blue) >10%; Dt (Pink) >66  
By: Kiem

1st Bone Spring  
2nd Bone Spring  
3rd Bone Spring

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LEGACY RESERVES  
Exhibit #9

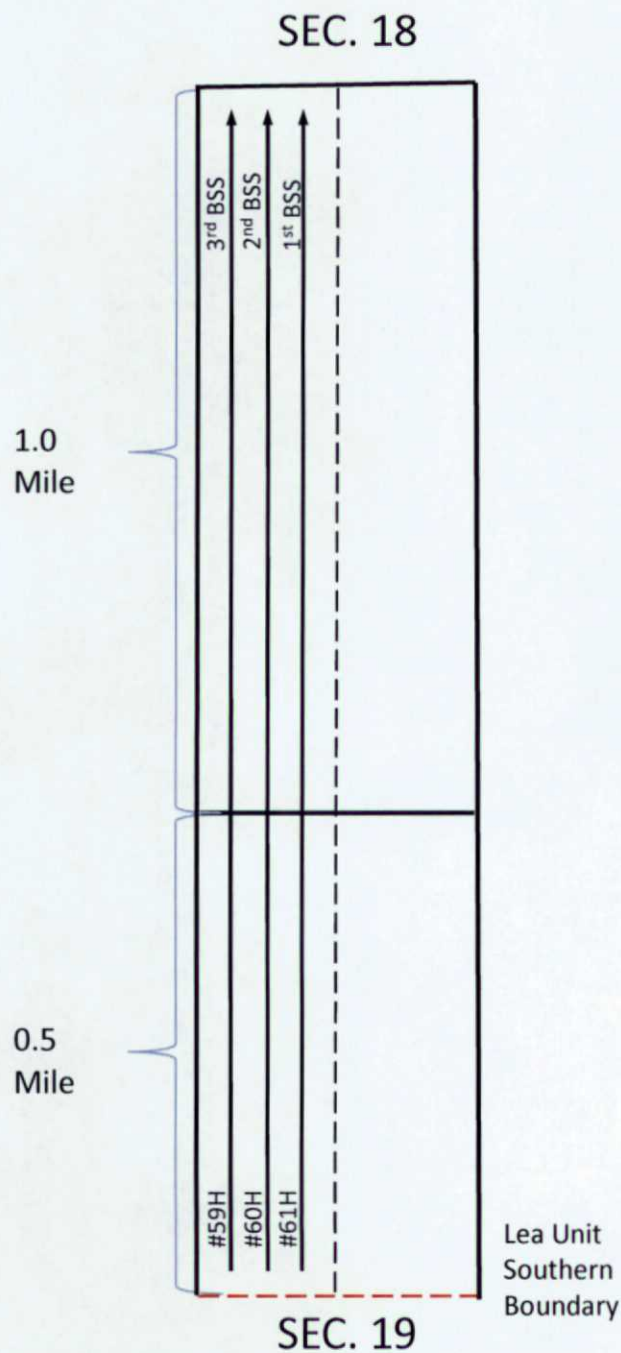




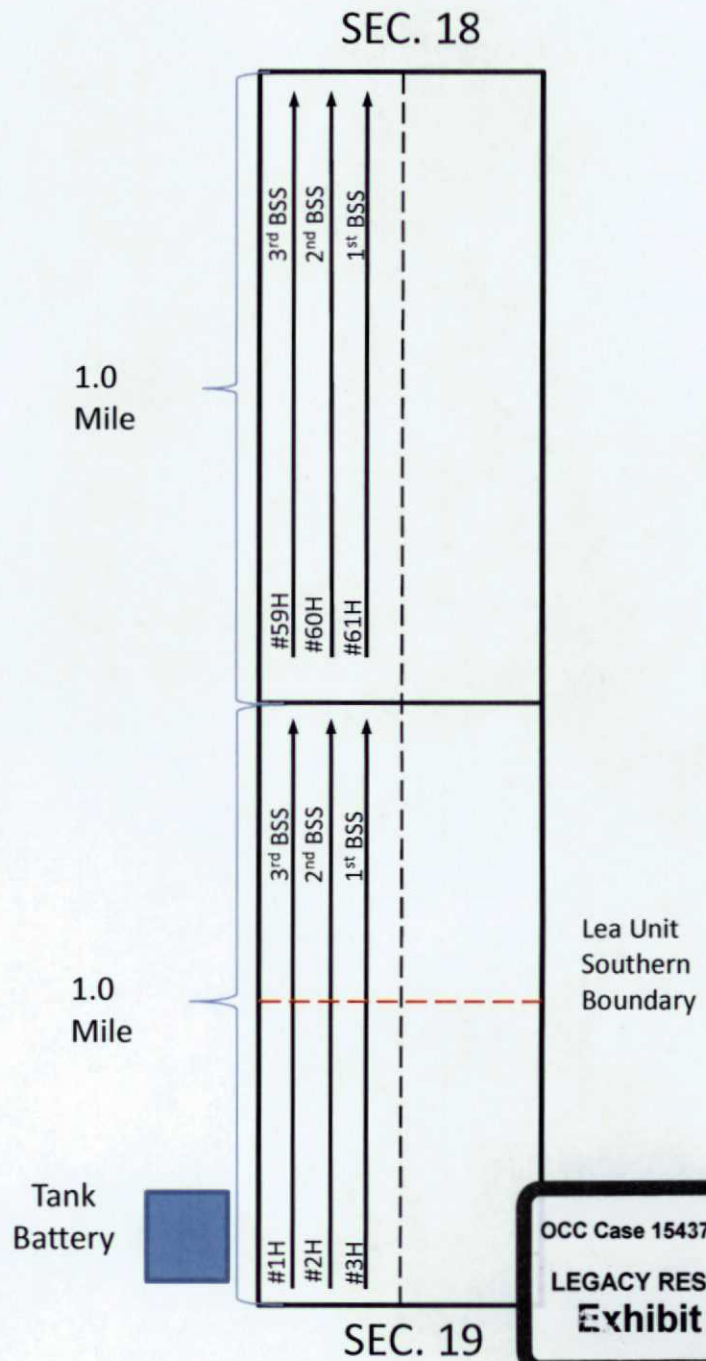


# LEGACY CURRENT DEVELOPMENT VS. CAZA PROPOSAL STICK DIAGRAMS

LEGACY'S CURRENT  
DEVELOPMENT PLAN FOR  
W/2W/2 SEC. 19 & 18



CAZA'S PROPOSED  
APPLICATION FOR W/2W/2  
SEC. 19 & 18



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LEGACY RESERVES  
Exhibit #11



# **LEGACY CURRENT DEVELOPMENT VS. CAZA PROPOSAL PARAMETERS**

## **LEGACY'S CURRENT DEVELOPMENT PLAN FOR W/2W/2 SEC. 19 & 18**

- 3 – 1.5 MILE LATERALS (1<sup>ST</sup>, 2<sup>ND</sup>, & 3<sup>RD</sup> BONE SPRING SAND).
- INITIAL D&C CAPITAL INVESTMENT FOR A 1.5 MILE LATERAL = \$5.5MM
- NO ADDITIONAL FACILITY COST.
- TOTAL INVESTMENT = \$16.5MM

## **CAZA'S PROPOSED APPLICATION FOR W/2W/2 SEC. 19 & 18**

- 1 – 1.0 MILE LATERAL (3<sup>RD</sup> BONE SPRING SAND).
- AT FULL DEVELOPMENT = 6 – 1.0 MILE LATERALS
- INITIAL D&C CAPITAL INVESTMENT FOR A 1.0 MILE LATERAL = \$5.2MM (CAZA AFE)
- RE-ALLOCATION OF LEGACY TANK BATTERY = \$157k.
- LOCATION ROAD = \$125k
- SUNK LOCATION COST ON #59H = \$200k.
- TOTAL INVESTMENT = \$31.7MM

**INCREASES LEGACY'S (& PARTNER'S) D&C  
COST BY \$15.2MM**

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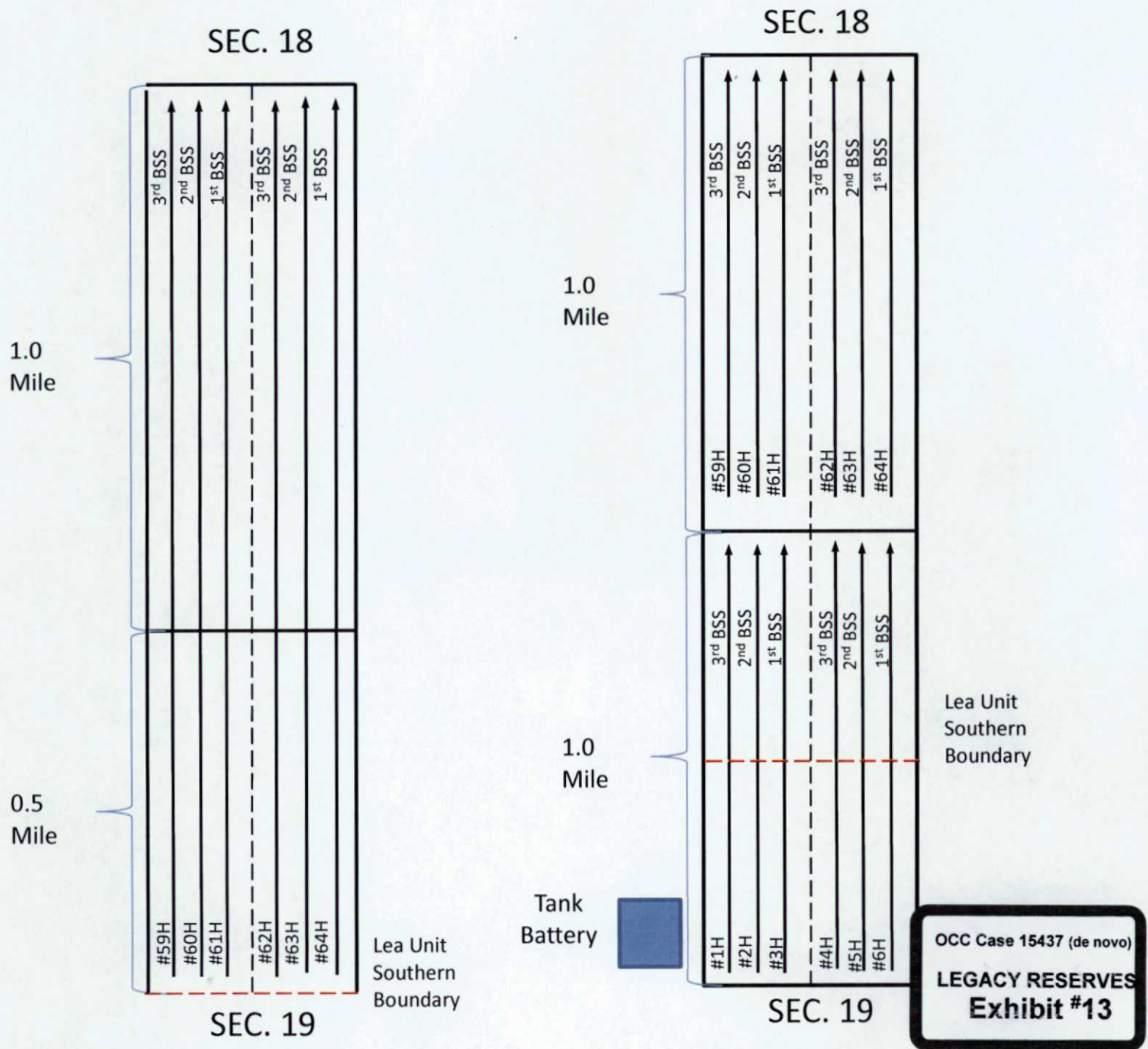
**LEGACY RESERVES  
Exhibit #12**



# LEGACY CURRENT DEVELOPMENT VS. CAZA FULL DEVELOPMENT STICK DIAGRAM

LEGACY'S CURRENT  
DEVELOPMENT PLAN FOR  
W/2 SEC. 19 & 18

CAZA'S PROPOSED  
APPLICATION FOR W/2 SEC.  
19 & 18





# **LEGACY CURRENT DEVELOPMENT VS. CAZA FULL DEVELOPMENT PARAMETERS**

## **LEGACY'S CURRENT DEVELOPMENT PLAN FOR W/2 SEC. 19 & 18**

- 6 – 1.5 MILE LATERALS (1<sup>ST</sup>, 2<sup>ND</sup>, & 3<sup>RD</sup> BONE SPRING SAND).
- INITIAL D&C CAPITAL INVESTMENT FOR A 1.5 MILE LATERAL = \$5.5 MM
- NO ADDITIONAL FACILITY COST.
- TOTAL INVESTMENT = \$33.0MM

## **CAZA'S PROPOSED APPLICATION FOR W/2 SEC. 19 & 18**

- 1 – 1.0 MILE LATERAL (3<sup>RD</sup> BONE SPRING SAND).
- AT FULL DEVELOPMENT = 12 – 1.0 MILE LATERALS
- INITIAL D&C CAPITAL INVESTMENT FOR 1.0 MILE LATERAL = \$5.2MM (CAZA AFE)
- RE-ALLOCATION OF LEGACY TANK BATTERY = \$314k.
- LOCATION ROAD = \$250k.
- SUNK LOCATION COST ON #59H & #62H = \$400k.
- TOTAL INVESTMENT = \$63.4MM

INCREASES LEGACY'S (& PARTNER'S) D&C  
COST BY \$30.4MM

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**LEGACY RESERVES  
Exhibit #14**



# 3<sup>RD</sup> BSS 1.5 MILE PROJECT TYPE CURVE

## Rate/Time Graph

Project: H:\Legacy\_Lea Unit Area\_Lea CO\_9.3.mdb

Date: 11/2/2016

Time: 2:56 PM

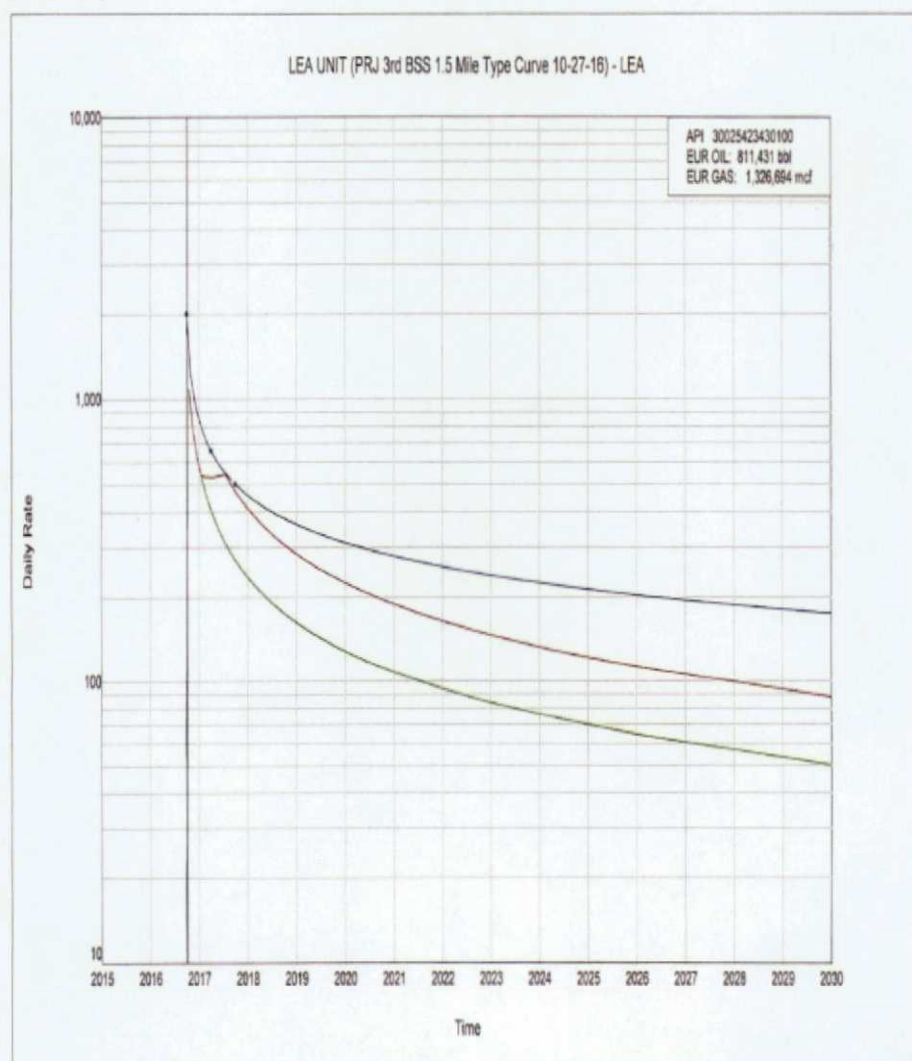
Lease Name: LEA UNIT (PRJ 3rd BSS 1.5 Mile Type Curve 10-27-16) (LEA UNIT)

Operator: LEGACY RESERVES OPERATING LP

County: ST: LEA, NM

Field Name: LEA

Location: S20 E34 12



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**LEGACY RESERVES  
Exhibit #15**



# 3<sup>RD</sup> BSS 1.0 MILE PROJECT TYPE CURVE

## Rate/Time Graph

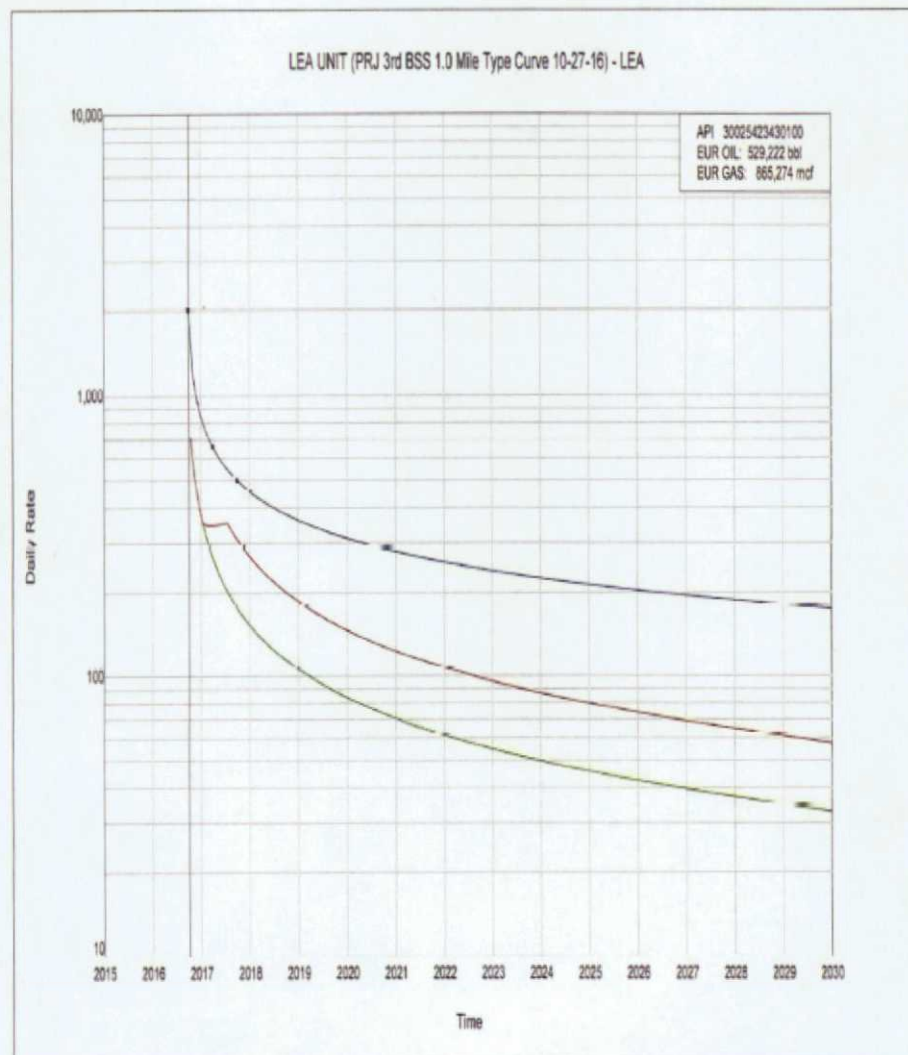
Project: H:\Legacy\_Lea Unit Area\_Lea CO\_9.3.mdb

Date: 11/2/2016

Time: 2:54 PM

Lease Name: LEA UNIT (PRJ 3rd BSS 1.0 Mile Type Curve 10-27-16) (LEA UNIT)  
County, ST: LEA, NM  
Location: S20 E34 12

Operator: LEGACY RESERVES OPERATING LP  
Field Name: LEA



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LEGACY RESERVES  
Exhibit #16



# ECONOMIC PARAMETERS

## 7,500' LATERAL

- PROJECT TYPE CURVE PRODUCTION RATES
- NYMEX STRIP (10-27-16)
- OPERATING EXPENSE OF \$18K FOR THE 1<sup>ST</sup> 2 YRS, & THEN \$5K FOR REMAINING LIFE OF THE PROJECT
- OIL DIFF = -\$3.84
- SWD = \$0.30 PER BW
- 100% WI VS 75% NRI
- \$5.5 MM INVESTMENT (D&C)

## 5,000' LATERAL

- PROJECT TYPE CURVE PRODUCTION RATES
- NYMEX STRIP (10-27-16)
- OPERATING EXPENSE OF \$18K FOR THE 1<sup>ST</sup> 2 YRS, & THEN \$5K FOR REMAINING LIFE OF THE PROJECT
- OIL DIFF = -\$3.84
- SWD = \$0.30 PER BW
- 100% WI VS 75% NRI
- \$5.2 MM INVESTMENT (D&C – CAZA AFE)



# ECONOMIC RESULTS

## 7,500' LATERAL

- OIL EUR = 811 MBO
- GAS EUR = 1.327 MMCF
- EUR = 1.033 MBOE
- BOE/FT = 138
- ROR = >100%

## 5,000' LATERAL

- OIL EUR = 529 MBO
- GAS EUR = 865 MMCF
- EUR = 673 MBOE
- BOE/FT = 135
- ROR = 52%