STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATIONS OF CIMAREX ENERGY CO.
FOR A HORIZONTAL SPACING UNIT
AND COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO

CASE NOS. 23448-23455

APPLICATIONS OF CIMAREX ENERGY CO.
FOR COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO

CASE NOS. 23594-23601

APPLICATIONS OF READ & STEVENS, INC.
FOR COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO.

CASE NOS. 23508-23523

NOTICE OF EXHIBIT I, J & K

Read & Stevens, Inc. and Permian Resources Operating, LLC, applicant in the above-referenced cases, gives notice that it is filing the attached rebuttal exhibits for acceptance into the record.

Exhibit I, **J** and **K** are rebuttal exhibits.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on August 8, 2023, I served a copy of the foregoing document to the following counsel of record via Electronic Mail:

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Attorneys for Sandstone Properties, LLC

Adam G. Rankin

Brief Historical Timeline

EXHIBIT I

REBUTTAL EX

October 1, 1947
NMLC 0064194 Lease Issued

September 1, 1948
NMLC 0065607 Lease Issued

February 1953
NMLC 0064194 Lease HBP'd by Hudson Oil Company

August 1959
NM LC 006507 Lease HBP'd by Hudson Oil Company

February 1, 1994
Farmout agreement from Hudson to Read & Stevens (Section 4 only)

January 1995-August 1996
Read & Stevens drills and completes an additional 15 wells within Section 4

April 1, 1995
Read & Stevens acquires initial assignment in lands

September 1, 1998
NMNM 101115 Lease Issued

August 31, 2008
NMNM 101115 Lease extended

June 1, 2009
NMNM 101115 Lease HBP'd by Read & Stevens, Inc.

November 1, 2004
Magnum Hunter (Cimarex/Coterra) acquires initial assignment in lands

December 2016
4 Read & Stevens APDs approved across Section 5 (Prior to Drill Island/Potash process instituted 2017)

April 2017
4 Read & Stevens APDs approved across Section 9

2018-Present
Read & Stevens operatorship contested by Cimarex (No new wells drilled)

August 2022
Cimarex proposes the Loosey Goosey & Mighty Pheasant Development

February 16, 2023
Permian Resources closes acquisition of Read & Stevens (entity survives)

February 17, 2023
Read & Stevens sends out Joker Development Area proposal & Bane well proposals

March 9, 2023
Cimarex files for compulsory pooling based on August 2022 proposals

March 14, 2023
Read & Stevens formally proposes Joker wells

Periods of time Cimarex claims to have been attempting to develop. No pooling or Potash preliminary work done?

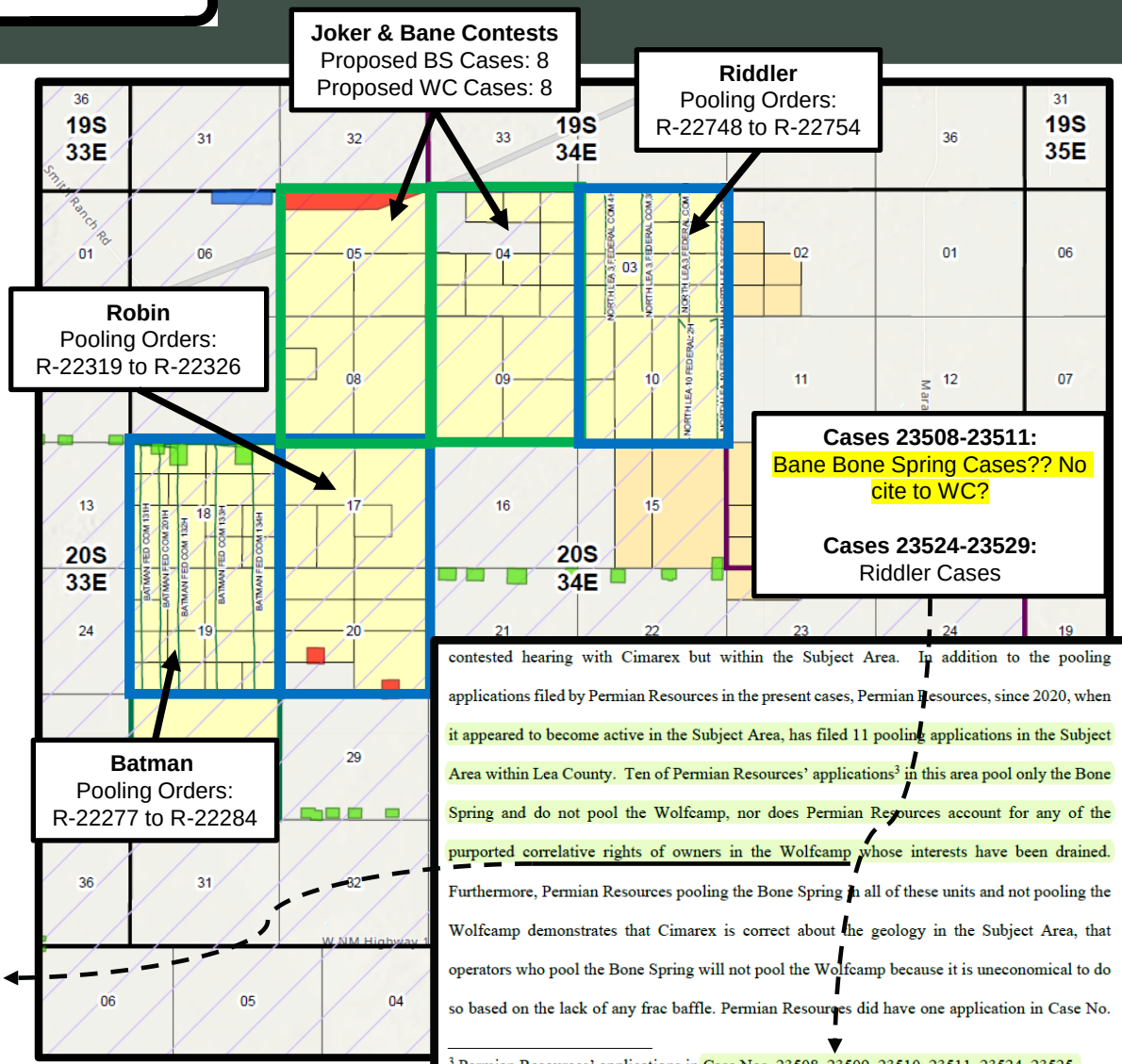
Slide pertains to ALL cases

Cimarex Brief Rebuttal

EXHIBIT I

Read & Stevens Rebuttal Ex I

- **Response to <u>Incorrect</u> Cimarex Statements:**
  - WHEREAS, Cimarex cites ten (10) Permian Bone Spring Cases and one (1) Wolfcamp case since 2020 *(Factually Incorrect?)*
  - <u>Batman</u>: (Orders R-22277 to R-22284)
    - 4 Bone Spring Cases
    - 4 Wolfcamp Cases
  - <u>Robin</u>: (Orders R-22319 to R-22326)
    - 4 Bone Spring Cases
    - 4 Wolfcamp Cases
  - <u>Riddler</u> (Orders R-22748 to R-22754)
    - 4 Bone Spring Cases being overlapping spacing units pooling <u>1st & 2nd Bone Spring</u>
    - 2 Bone Spring Cases pooling 3rd Bone Spring
    - 1 Wolfcamp Case to be co-developed with the above 3rd Bone pooled wells
- **Depth Severance Notes on existing Permian Bone Spring/Wolfcamp Orders*: (Moot Point Regardless)***
  - <u>Batman</u>: One depth severance in NE of Section 19 whereas only owner impacted is **<u>Permian</u>**, owning 16 more acres in the WC
  - <u>Robin</u>: No depth severances
  - <u>Riddler</u>: No depth severances



contested hearing with Cimarex but within the Subject Area. In addition to the pooling applications filed by Permian Resources in the present cases, Permian Resources, since 2020, when it appeared to become active in the Subject Area, has filed 11 pooling applications in the Subject Area within Lea County. Ten of Permian Resources' applications[3] in this area pool only the Bone Spring and do not pool the Wolfcamp, nor does Permian Resources account for any of the purported correlative rights of owners in the Wolfcamp whose interests have been drained. Furthermore, Permian Resources pooling the Bone Spring in all of these units and not pooling the Wolfcamp demonstrates that Cimarex is correct about the geology in the Subject Area, that operators who pool the Bone Spring will not pool the Wolfcamp because it is uneconomical to do so based on the lack of any frac baffle. Permian Resources did have one application in Case No.

[3] Permian Resources' applications in Case Nos. 23508, 23509, 23510, 23511, 23524, 23525, 23526, 23527, 23528, 23529.

Page 6 of Cimarex Brief dated July 26, 2023

Slide pertains to ALL cases

Unclear why Cimarex chose to list the Bane Bone Spring cases as part of some sort of incorrect argument

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EXHIBIT I

Joker & Bane – Contractual vs. Leasehold Interest Summary

Joker = 1280.20 Gross Acres, Bane = 1282.20 Gross Acres >>> 1280.20 + 1282.20 = 2562.40 Gross Total as shown below

Leasehold vs. Contractual Basis - Does it Change Correlative Rights Issues? *(No)*									
	Joker & Bane - Leasehold Interest				Joker & Bane - Contractual Interest				
Owner	Bone Spring	Wolfcamp	Delta	ormation Favor	Bone Spring	Wolfcamp	Delta	Formation Favor?	Status
MRC Permian*	14.40	43.23	-28.82	Wolfcamp	14.40	43.23	-28.82	Wolfcamp	Neutral
HOG Partnership LP*	142.30	166.30	-24.00	Wolfcamp	136.76	158.91	-22.15	Wolfcamp	Neutral
Northern Oil & Gas*	9.94	29.84	-19.89	Wolfcamp	9.94	29.84	-19.89	Wolfcamp	PR Plan Support
Javelina Partners*	200.95	182.95	18.00	Bone Spring	191.12	174.51	16.62	Bone Spring	Cimarex Support
Zorro Partners, Ltd.*	133.40	133.40	0.00	N/A	129.64	129.64	0.00	N/A	Cimarex Support
Delmar Hudson Trust*	85.91	85.91	0.00	N/A	84.97	84.97	0.00	N/A	Term Assignmed to Cimarex
First Century	133.55	180.34	-46.79	Wolfcamp	123.98	170.78	-46.79	Wolfcamp	PR Owned
Read & Stevens	607.51	672.79	-65.28	Wolfcamp	590.22	655.50	-65.28	Wolfcamp	PR Owned
CBR Oil Prop*	5.34	16.01	-10.67	Wolfcamp	5.34	16.01	-10.67	Wolfcamp	PR Support
Ard Oil*	69.58	69.58	0.00	N/A	66.76	66.76	0.00	N/A	PR Support
Josephine Hudson Trust*	25.74	25.74	0.00	N/A	24.80	24.80	0.00	N/A	Neutral
Magnum Hunter*	513.07	287.00	226.07	Bone Spring	541.45	315.38	226.07	Bone Spring	Cimarex Owned
CLM Production Co*	0.00	1.60	-1.60	Wolfcamp	0.00	1.60	-1.60	Wolfcamp	PR Support
Highland (Texas) Energy*	4.80	1.60	3.20	Bone Spring	4.80	1.60	3.20	Bone Spring	Neutral
Diamond Star Prod.*	1.60	1.60	0.00	N/A	1.60	1.60	0.00	N/A	PR Support
Carolyn Beall*	1.60	1.60	0.00	N/A	1.60	1.60	0.00	N/A	PR Support
Tierra Encantada*	1.60	1.60	0.00	N/A	1.60	1.60	0.00	N/A	PR Support
David Luna*	1.60	1.60	0.00	N/A	1.60	1.60	0.00	N/A	Neutral
Warren Associates*	0.00	1.60	-1.60	Wolfcamp	0.00	1.60	-1.60	Wolfcamp	PR Support
Cimarex Energy*	147.23	181.23	-34.00	Wolfcamp	148.73	182.73	-34.00	Wolfcamp	Cimarex Owned
Moore & Shelton*	61.32	61.32	0.00	N/A	58.00	58.00	0.00	N/A	Cimarex Support
Lindys Living Trust*	139.15	139.15	0.00	N/A	133.52	133.52	0.00	N/A	Term Assignmed to Jav/Zorro
Challenger Crude*	51.36	51.36	0.00	N/A	51.36	51.36	0.00	N/A	Neutral
Avalon Energy Corp	10.00	0.00	10.00	Bone Spring	10.00	0.00	10.00	Bone Spring	PR Owned
Marks Oil*	10.46	20.06	-9.60	Wolfcamp	10.46	20.06	-9.60	Wolfcamp	Neutral
Prime Rock*	30.00	0.00	30.00	Bone Spring	30.00	0.00	30.00	Bone Spring	Neutral
Wilbanks Reserve*	55.56	106.56	-51.00	Wolfcamp	55.56	106.56	-51.00	Wolfcamp	Neutral
Buccholz (Union Hill)*	16.00	16.00	0.00	N/A	41.35	41.35	0.00	N/A	Neutral
Chase Oil Co*	33.43	33.43	0.00	N/A	33.43	33.43	0.00	N/A	PR Support
Foran Oil Co	49.00	49.00	0.00	N/A	53.85	53.85	0.00	N/A	Neutral
William A. Hudson II	6.00	0.00	6.00	Bone Spring	5.54	0.00	5.54	Bone Spring	Assigned to Zorro
Totals:	2562.40	2562.40		0.00	2562.40	2562.40			

	Total Bone Spring Net Acres	Bone Spring WI% (Full 4 Sections)	Total Wolfcamp Net Acres	Wolfcamp WI% (Full 4 Sections)
Total PR Owned:	**751.06**	29.31%	**853.13**	33.29%
PR Supporters:	124.69	4.87%	158.45	6.18%
Total PR Support:	875.74	34.18%	1011.59	39.48%
Total Cimarex Owned:	**746.21**	29.12%	**554.14**	21.63%
Cimarex Supporters:	540.83	21.11%	516.83	20.17%
Total Cimarex Support:	1287.03	50.23%	1070.97	41.80%

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations

***Cimarex Ownership & Supporting Parties ownership heavily weighted towards Bone Spring formation (exposing the clear incentive/motivation to intentionally drain Wolfcamp with no account for owners as Cimarex's stated & filed plans have shown**

Slide pertains to ALL cases

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Joker & Bane – Debunking Cimarex "Support"?

EXHIBIT I

Challenger Crude, Ltd.	2.1886%	2.1884%	2.1883%	2.1881%	CTRA Support
Union Hill Oil & Gas Co. Inc.	2.2680%	2.2678%	2.2676%	2.2674%	CTRA Support
Highland (Texas) Energy Company	1.2049%	0.0000%	0.0000%	0.0000%	CTRA Support

***Snips from Cimarex "Hearing Packet I" filed 8.3.2023 pertaining Supporting Parties**

Re: -EXTERNAL- T20S-R34E Union Hill Oil and Gas

RB Robert Buchholz <robert@bigdallas.net>
To Travis Macha

You replied to this message on 8/3/2023 8:59 AM.
If there are problems with how this message is displayed, click here to view it in a web browser.

WARNING: The sender of this email could not be validated and may not match the person in the "From" field.

We have not indicated support for Cimarex. Not sure where that's coming from.

On Thu, Aug 3, 2023 at 8:45 AM Travis Macha <Travis.Macha@permianres.com> wrote:

> Hey Robert,

Where is any indication of "Support"?

Dear Mr. Macha:

Enclosed please find executed AFEs for the Joker 5-8 Federal Com lease consisting of 24 wells along with Challenger's well requirements. Challenger Crude Ltd. ("Challenger") hereby elects to participate in the proposed drilling and completion of said wells. Challenger recognizes that Permian Resources Operating LLC and Coterra Energy Inc (Cimarex Energy Co.) are each pursuing operatorship in the same formation within the same tract of land. Challenger is not interested in picking winners or losers in this matter. Challenger intends to participate in the respective wells proposed regardless of which company succeeds in being named operator. Once operatorship has been finally determined, Challenger will consider execution of an appropriate operating agreement to supersede and replace any existing or legacy operating agreements that may be in effect.

Please keep us informed as to the progress of this project. Feel free to contact me should you have further questions or comments.

***Identical Letter for the Bane wells in hand, not shown here to conserve slide space**

Marks Oil, Inc.	0.9508	0.00594271	Committed

Marks understands that a dispute exists between Permian and Cimarex as to operational rights and privileges associated with both the Lands and applicable Joint Operating Agreements. Regardless of this dispute, Marks will exercise its rights of participation in any operational proposal on the Lands, drilling or otherwise, with a party authorized to conduct such operations by the New Mexico Conservation Division or other appropriate governing body.

***Above 2 Snips from Cimarex Exhibits ("Hearing Packet I, Pg. 70), and Marks written election response**

STATE OF NEW MEXICO §
§
COUNTY OF LEA § 19976

CONVEYANCE, ASSIGNMENT AND BILL OF SALE

THIS CONVEYANCE, ASSIGNMENT AND BILL OF SALE (this "**Conveyance**"), effective from and after 7 o'clock a.m., May 1, 2004 (the "**Effective Date**"), is by and between **Magnum Hunter Production, Inc.**, a Texas corporation (herein called "**Grantor**"), and **Joseph Wm. Foran**, an individual residing in Dallas, Texas (herein called "**Grantee**");

WITNESSETH:

Cimarex/Magnum Hunter claiming to own Foran Oil Company's 49 Acres in Bane (4/9) despite having assigned it to Foran itself. This accounts for the below metric: (ABOS 1434/924)

W2W2:	4.3721%
E2W2:	4.3690%
W2E2:	4.3660%
E2E2:	2.1814%

Magnum Hunter Production	21.0570%	21.0419%	18.8161%	18.8026%	CTRA Owned

*Appears Cimarex making bold assumptions when it comes to "Support"
Joseph Wm. Foran is not a party to the Joker or Bane and has assignments 1692/489 and 2128/489

*While Cimarex Land Exhibits credit Foran Oil Company's interest to Magnum Hunter, Cimarex Engineering Exhibit D-23 accounts for Foran Oil Company Ownership…. Conflicting??

Slide pertains to ALL cases

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Joker – W2W2 Equivalent – Cases 23516 & 23520

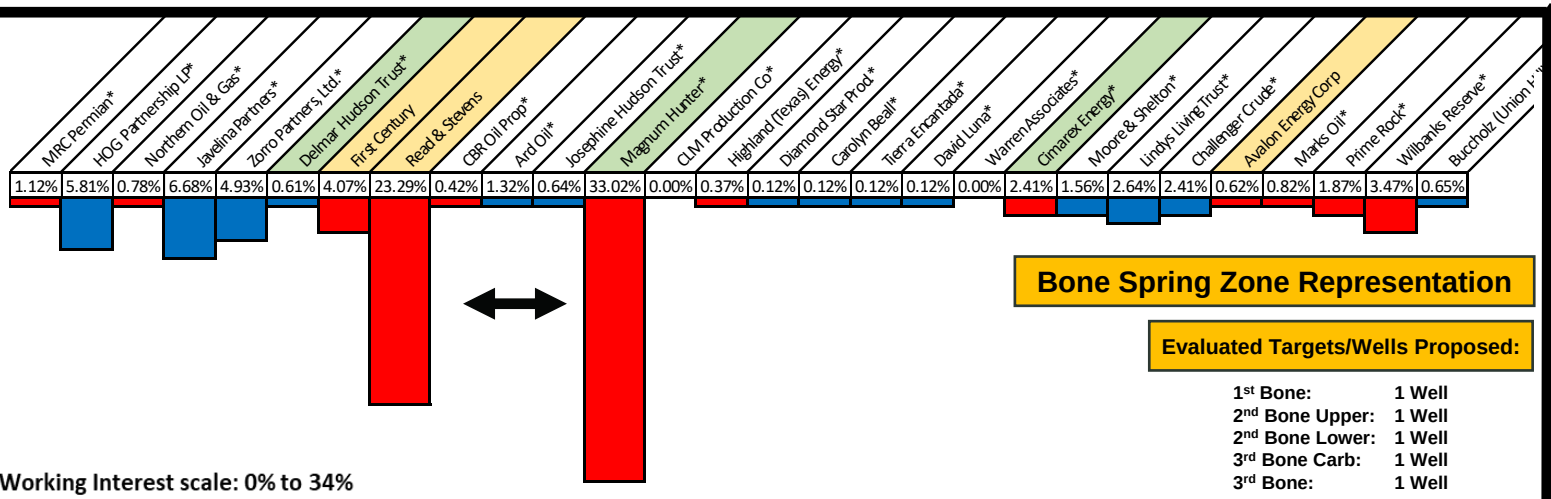
Bone Spring & Wolfcamp Formations (Sections 5 & 8)

EXHIBIT I

Joker – W2W2 of Sections 5 & 8 (320.01 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]



Bone Spring Zone Representation

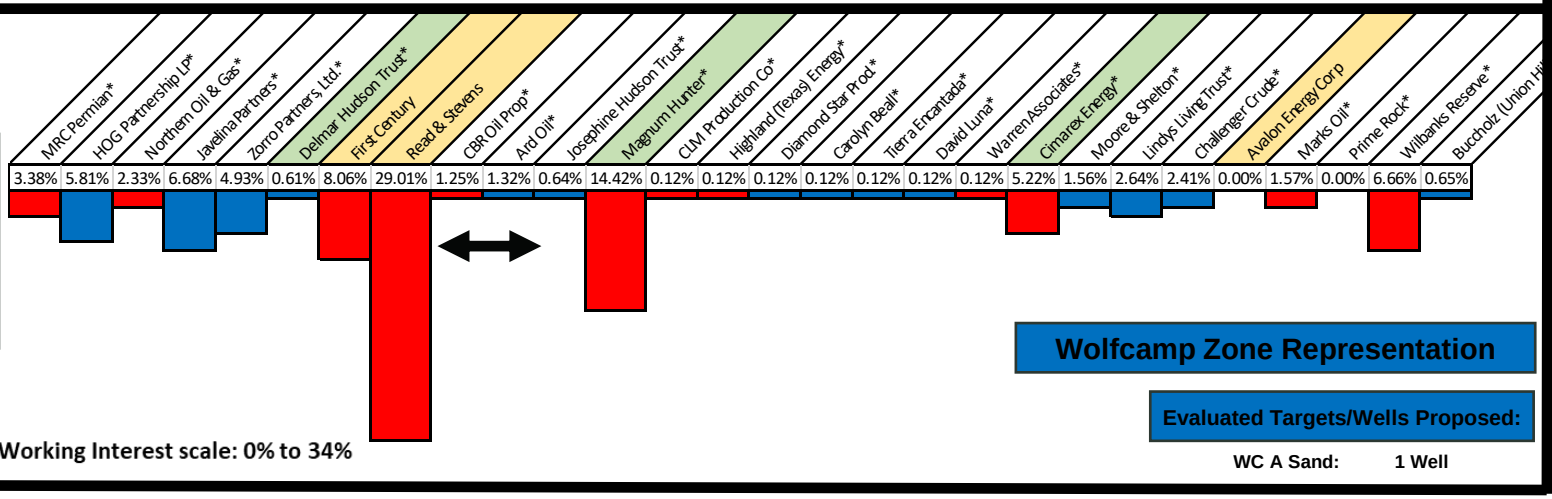
Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone:	1 Well

Working Interest scale: 0% to 34%

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]



Wolfcamp Zone Representation

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well

Working Interest scale: 0% to 34%

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations
Interest changes provided part

*Contractual Rights

RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

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Slide pertains to cases 23516 & 23520

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Joker – E2W2 Equivalent – Cases 23517 & 23521

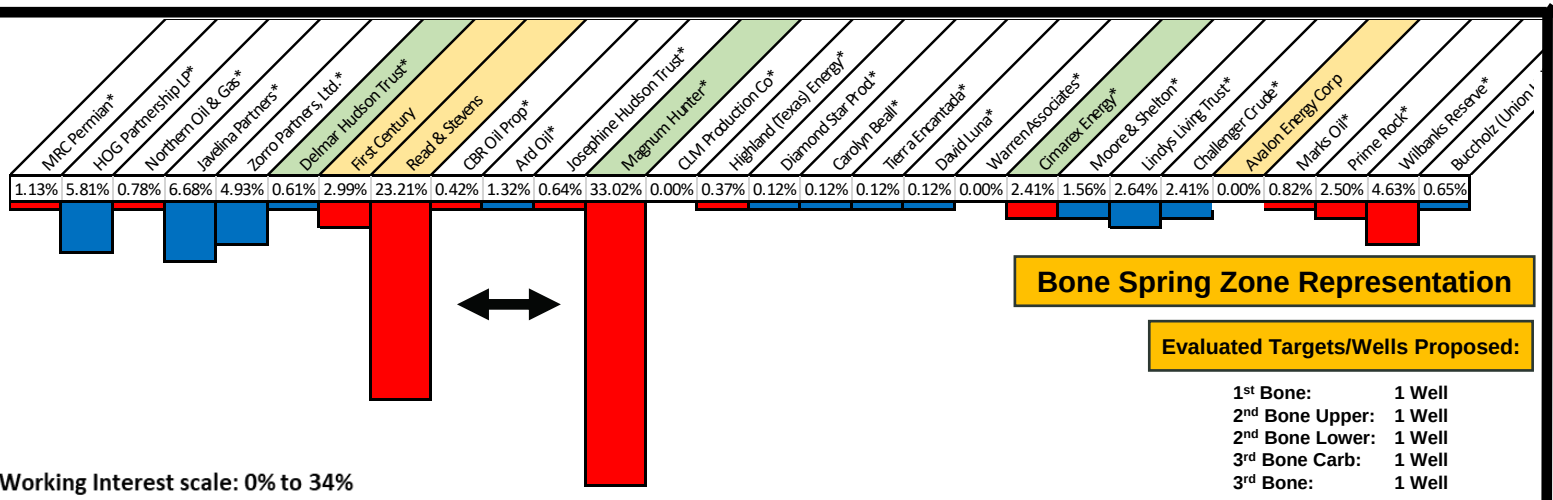
Bone Spring & Wolfcamp Formations (Sections 5 & 8)

EXHIBIT I

Joker – E2W2 of Sections 5 & 8 (320.04 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]



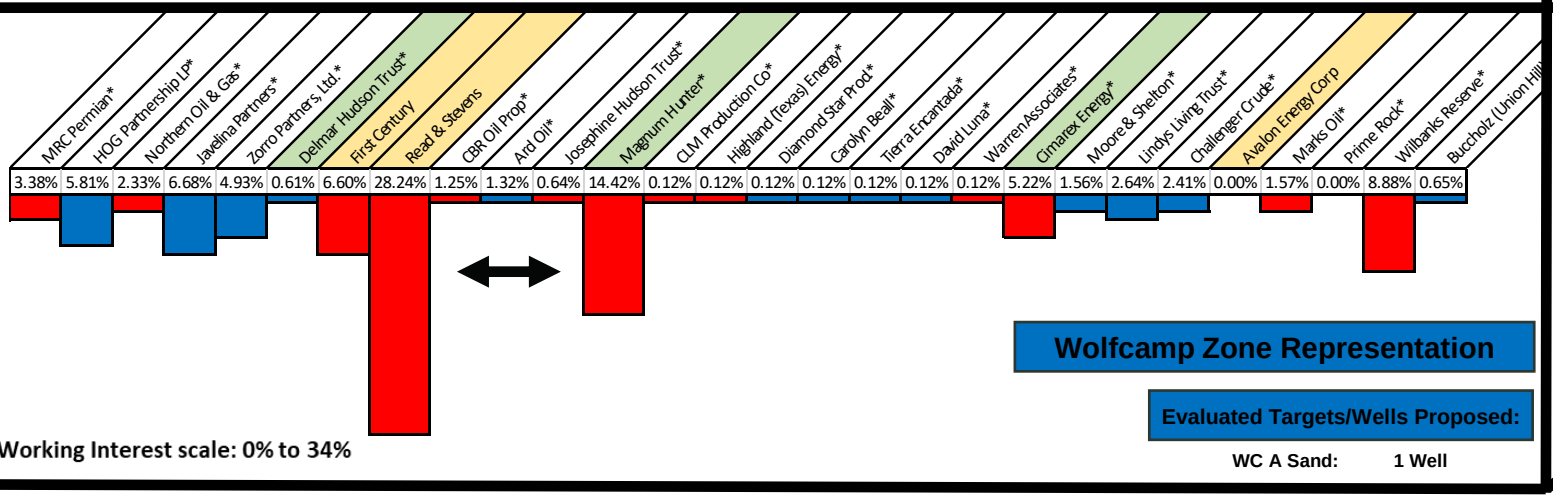
Bone Spring Zone Representation

Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone:	1 Well

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]



Wolfcamp Zone Representation

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations
Actual tracts pooled part

*Contractual Rights

RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

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Slide pertains to cases 23517 & 23521

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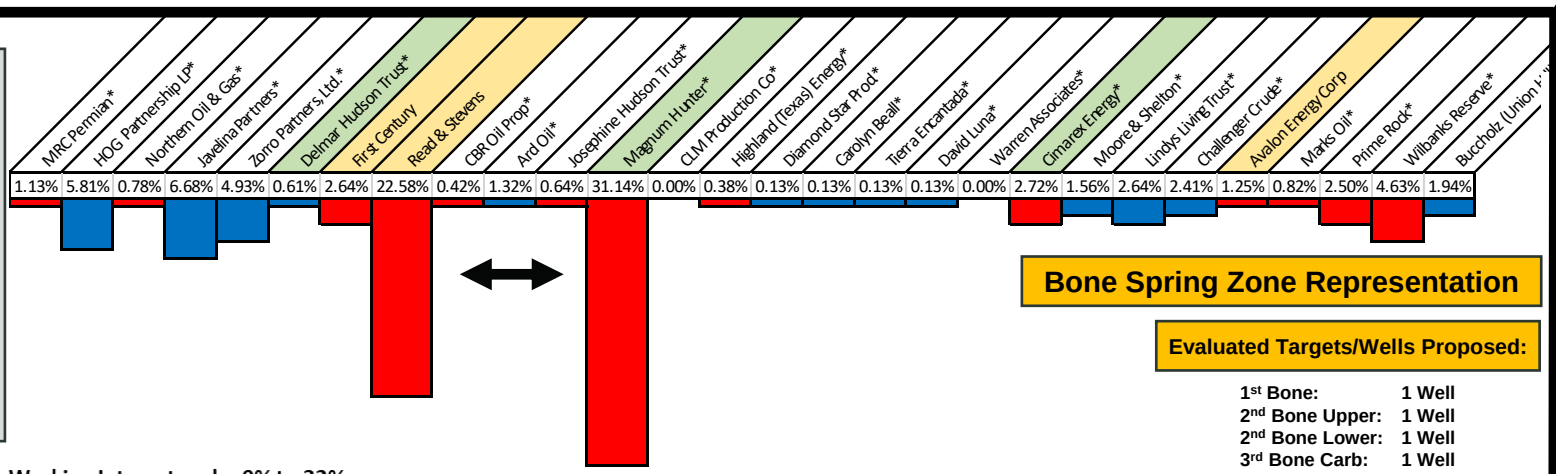
EXHIBIT I

Joker – W2E2 Equivalent – Cases 23518 & 23522
Bone Spring & Wolfcamp Formations (Sections 5 & 8)

Joker – W2E2 of Sections 5 & 8 (320.06 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]



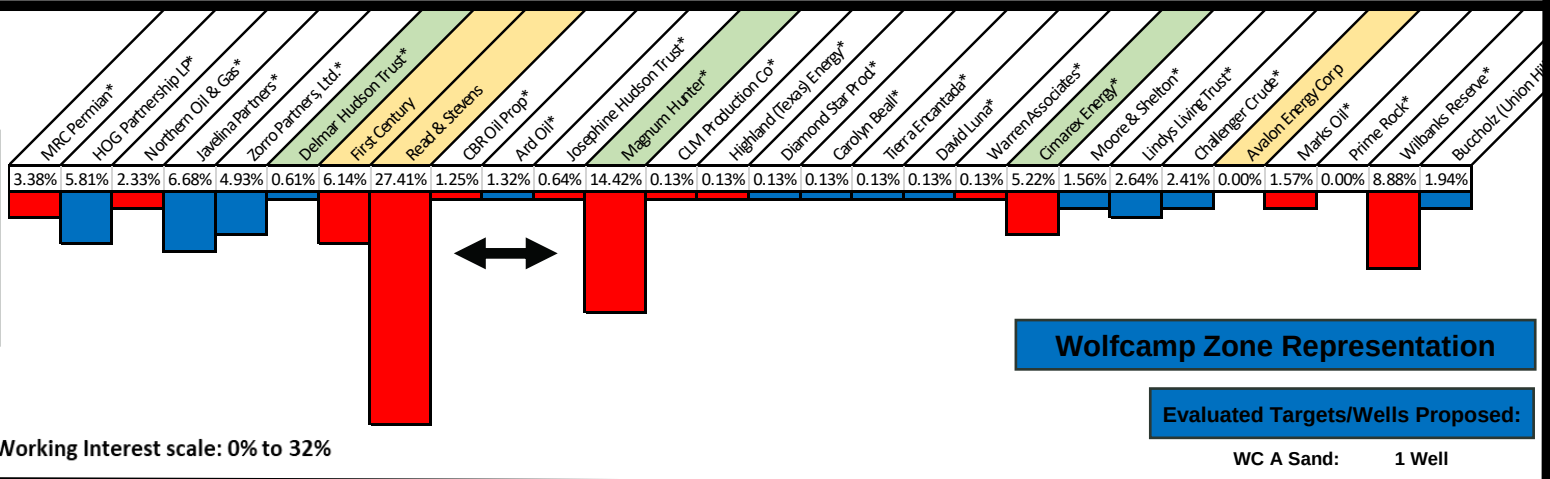
Bone Spring Zone Representation

Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone:	1 Well

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]



Wolfcamp Zone Representation

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations
*Contractual rights, not pooled part

*Contractual Rights

RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

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Slide pertains to cases 23518 & 23522

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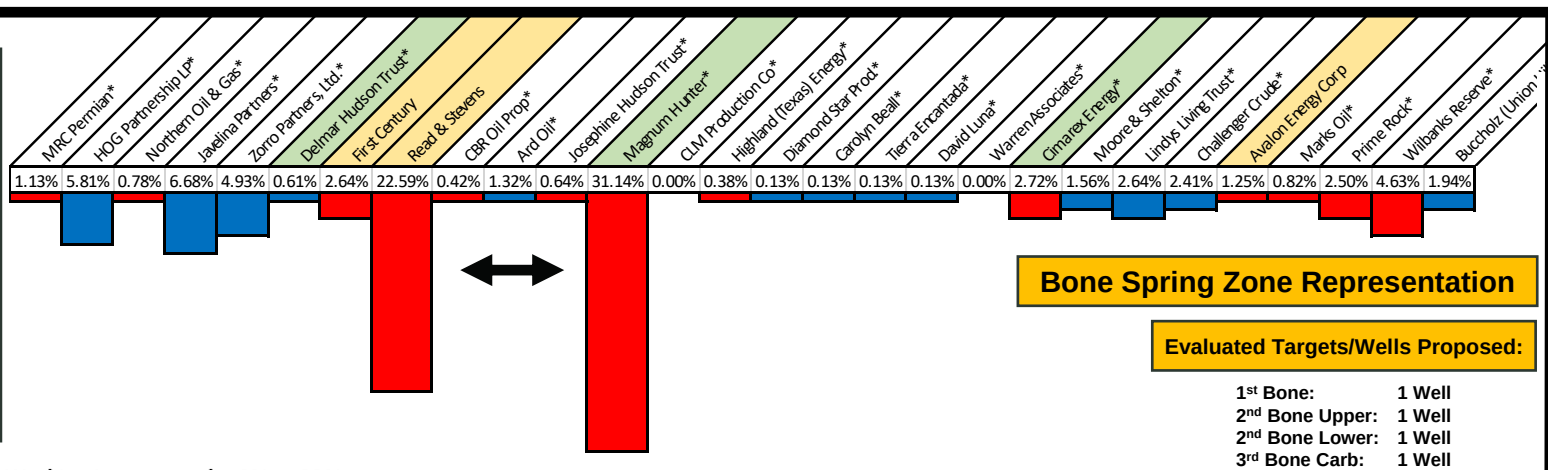
EXHIBIT I

Joker – E2E2 Equivalent – Cases 23519 & 23523
Bone Spring & Wolfcamp Formations (Sections 5 & 8)

Joker – E2E2 of Sections 5 & 8 (320.09 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]



Bone Spring Zone Representation

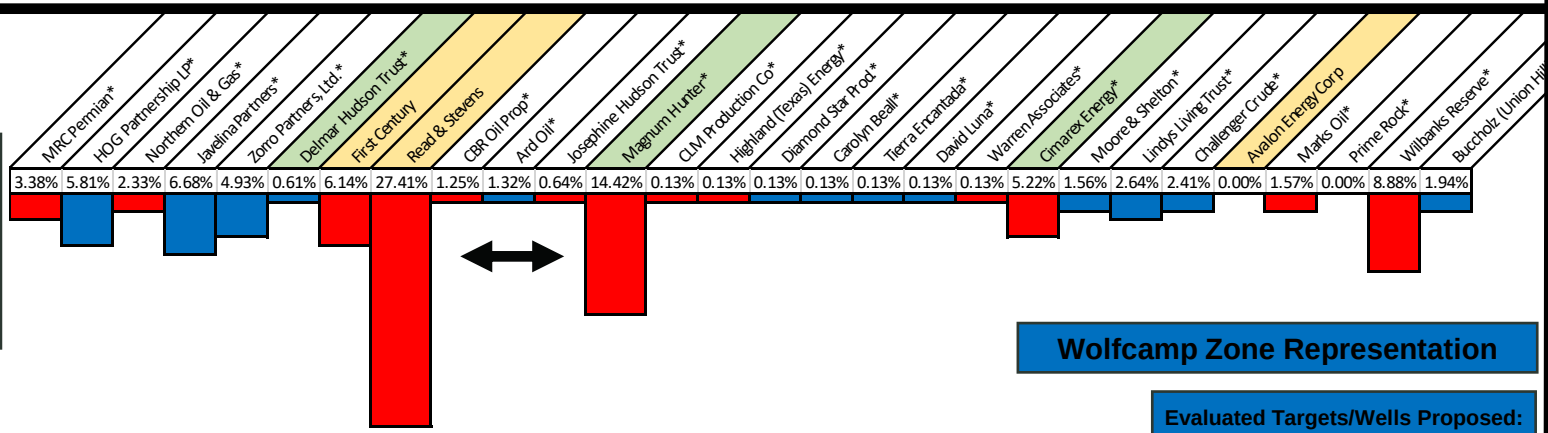
Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone:	1 Well

Working Interest scale: 0% to 32%

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]



Wolfcamp Zone Representation

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well

Working Interest scale: 0% to 32%

Slide pertains to cases 23519 & 23523

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations
*Contractual rights are not pooled rights

*Contractual Rights
RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

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Bane – W2W2 Equivalent – Cases 23508 & 23512

Bone Spring & Wolfcamp Formations (Sections 4 & 9)

EXHIBIT I

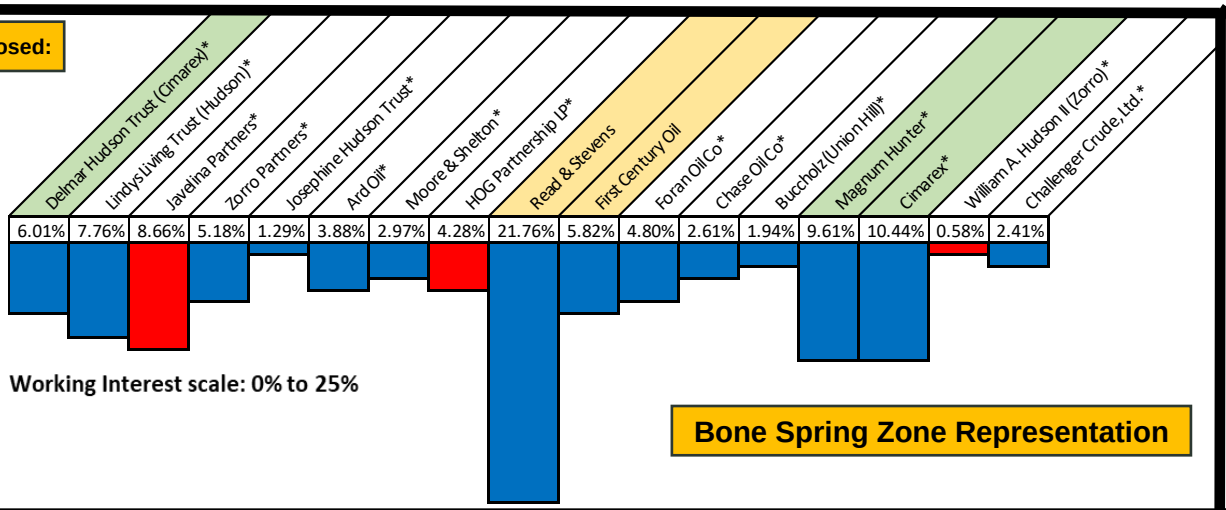
Bane – W2W2 of Sections 4 & 9 (320.21 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]

Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone Sand:	1 Well



Working Interest scale: 0% to 25%

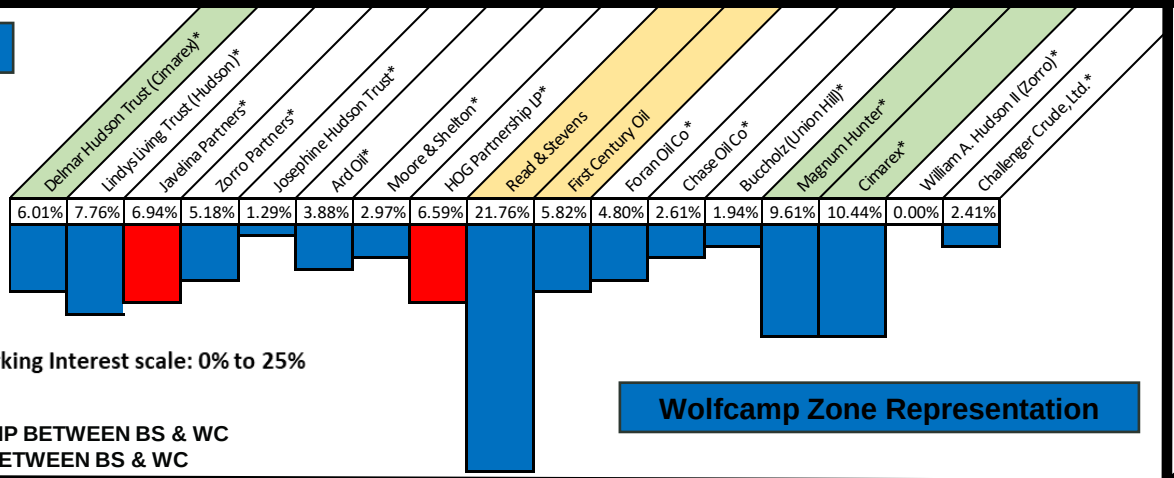
Bone Spring Zone Representation

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well



Working Interest scale: 0% to 25%

Wolfcamp Zone Representation

RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations

*Contractual Rights
*Asterisk denotes pooled party

Slide pertains to cases 23508 & 23512

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Bane – E2W2 Equivalent – Cases 23509 & 23513

Bone Spring & Wolfcamp Formations (Sections 4 & 9)

EXHIBIT I

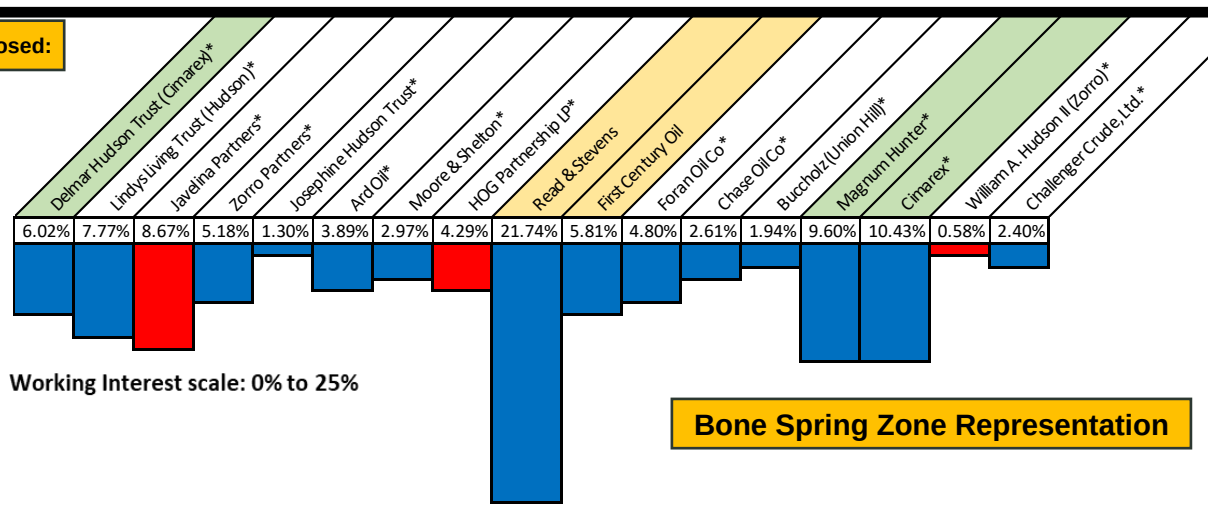
Bane – E2W2 of Sections 4 & 9 (320.44 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]

Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone Sand:	1 Well



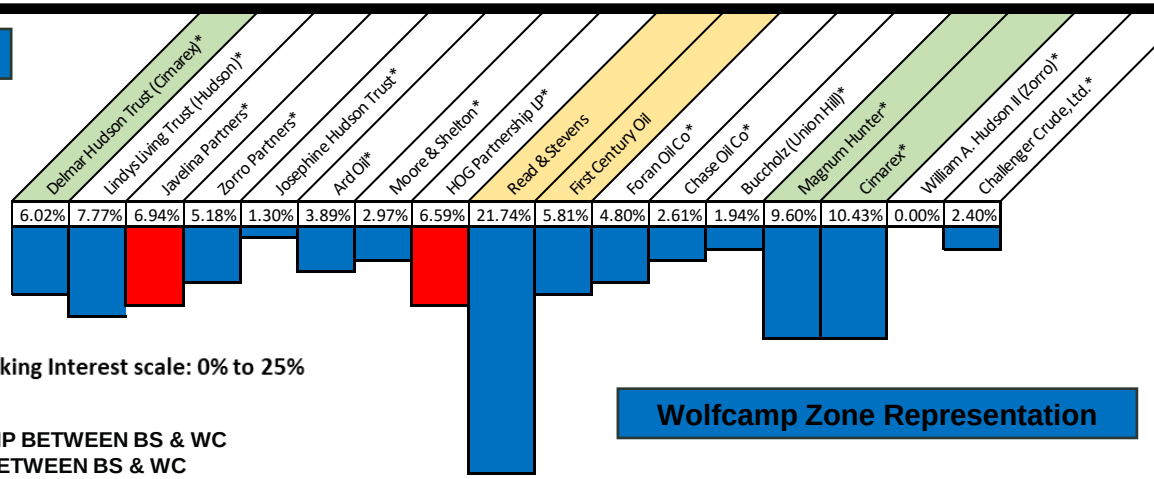
Bone Spring Zone Representation

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well



Wolfcamp Zone Representation

RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

Slide pertains to cases 23509 & 23513

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations

*Contractual Rights
*Asterisk denotes pooled party

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Bane – W2E2 Equivalent – Cases 23510 & 23514

Bone Spring & Wolfcamp Formations (Sections 4 & 9)

EXHIBIT I

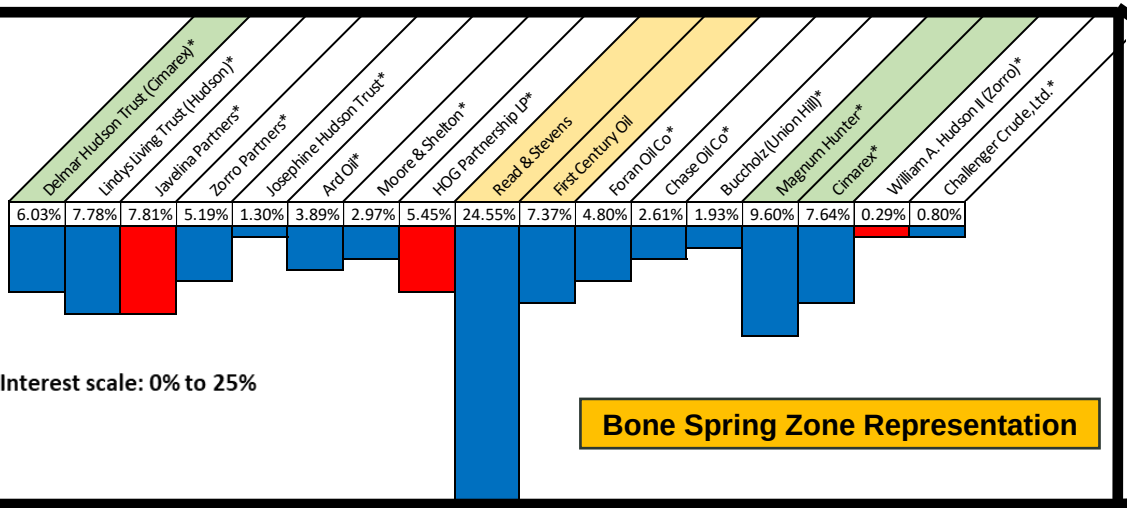
Bane – W2E2 of Sections 4 & 9 (320.66 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]

Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone Sand:	1 Well



Working Interest scale: 0% to 25%

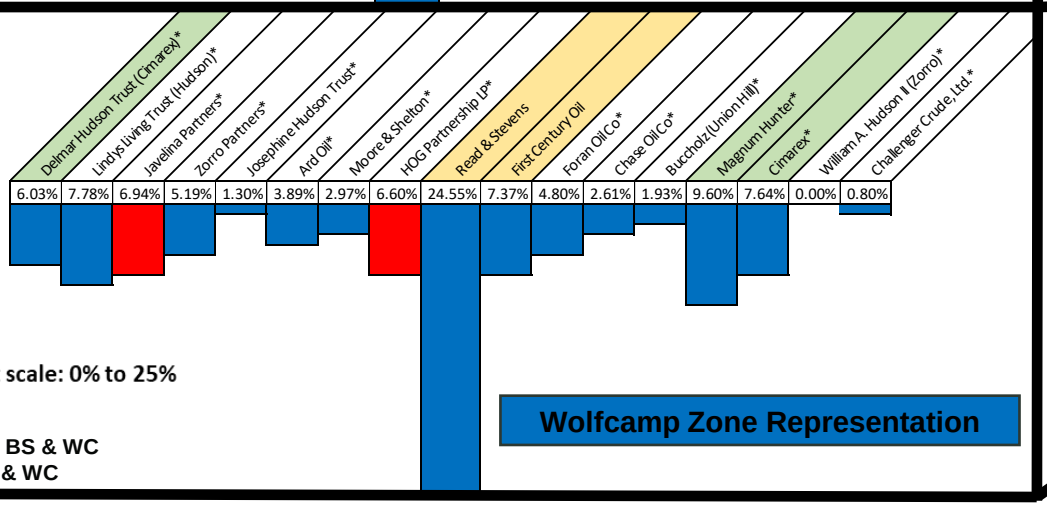
Bone Spring Zone Representation

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well



Working Interest scale: 0% to 25%

Wolfcamp Zone Representation

RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations

*Contractual Rights
*Asterisk denotes pooled party

Slide pertains to cases 23510 & 23514

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EXHIBIT I

Bane – E2E2 Equivalent – Cases 23511 & 23515

Bone Spring & Wolfcamp Formations (Sections 4 & 9)

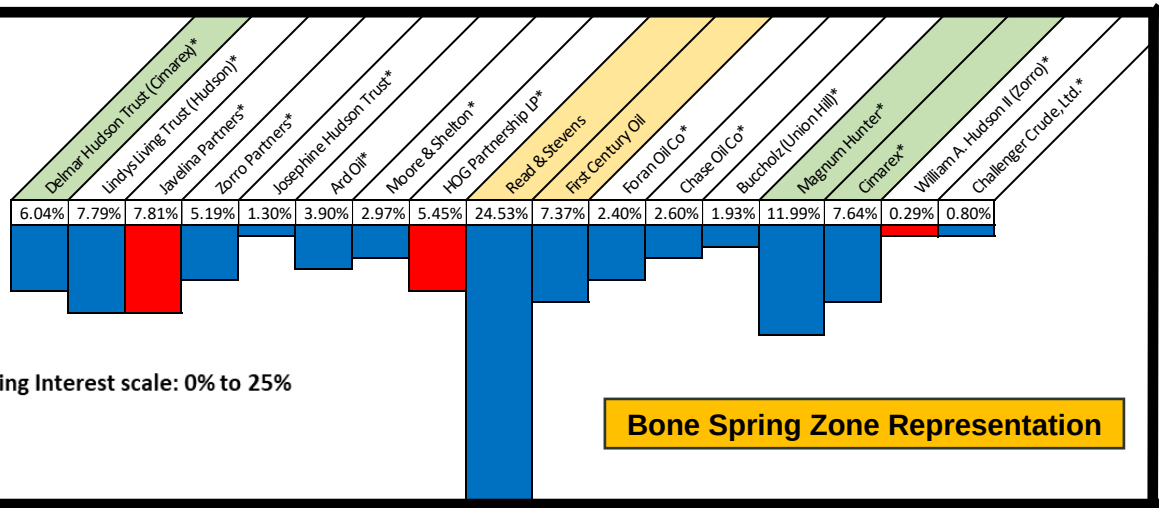
Bane – E2E2 of Sections 4 & 9 (320.89 Gross Acres) – CONTRACTUAL DOI

POOLED INTERVAL

Pool: Teas; Bone Spring, East [96637]

Evaluated Targets/Wells Proposed:

1st Bone:	1 Well
2nd Bone Upper:	1 Well
2nd Bone Lower:	1 Well
3rd Bone Carb:	1 Well
3rd Bone Sand:	1 Well



Working Interest scale: 0% to 25%

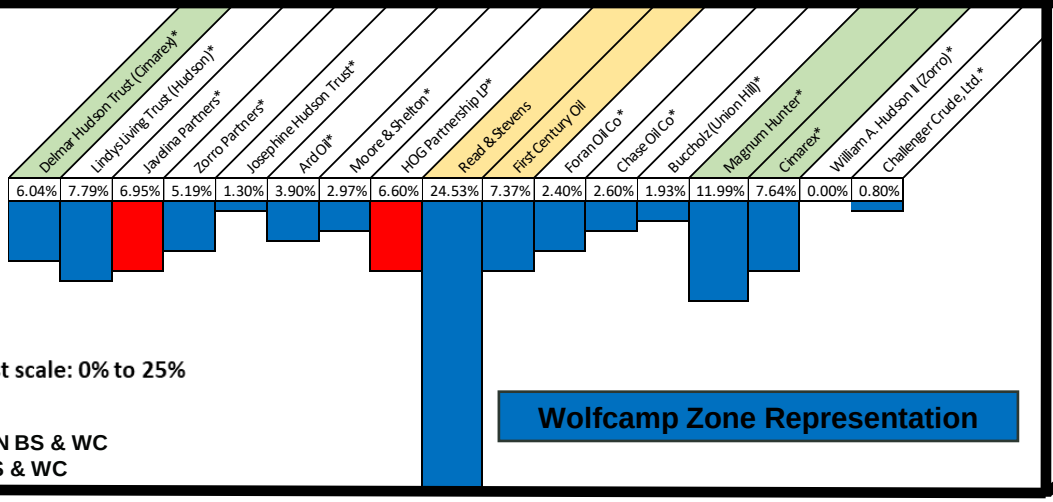
Bone Spring Zone Representation

POOLED INTERVAL

Pool: Tonto; Wolfcamp [59500]

Evaluated Targets/Wells Proposed:

WC A Sand:	1 Well



Working Interest scale: 0% to 25%

Wolfcamp Zone Representation

RED BARS = DIFFERING OWNERSHIP BETWEEN BS & WC
BLUE BARS = SAME OWNERSHIP BETWEEN BS & WC

Slide pertains to cases 23511 & 23515

*All ownership information obtained from 2023 title opinions and reports
*Please note ownership differences between Bone Spring and Wolfcamp formations

*Contractual Rights
*Asterisk denotes pooled party

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EXHIBIT
I

CHASE OIL CORPORATION

Post Office Box 1767
Artesia, New Mexico 88211-1767
Office (575) 746-9853
FAX (575) 748-7374

August 1, 2023

Read & Stevens, Inc.
c/o Permian Resources LLC
300 N. Marienfeld Street, Suite 1000
Midland, Texas 79701

RE: Bane Development
Township 20 South, Range 34 East
Sections 4 & 9

To Whom It May Concern:

The purpose of this letter is for Chase Oil Corporation, an impacted working interest owner in the above-referenced development, to adopt and ratify the statements and conclusions in the letter dated July 13, 2023 between Permian Resources LLC & Northern Oil & Gas, Inc. concerning the same.

Sincerely,

Chase Oil Corporation

Staci D. Sanders

Staci D. Sanders
Vice President - Land

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EXHIBIT I

From: Robert Buchholz <robert@bigdallas.net>
Sent: Thursday, August 3, 2023 7:49 AM
To: Travis Macha
Subject: Re: -EXTERNAL- T20S-R34E Union Hill Oil and Gas

WARNING: The sender of this email could not be validated and may not match the person in the "From" field.

We have not indicated support for Cimarex. Not sure where that's coming from.

On Thu, Aug 3, 2023 at 8:45 AM Travis Macha <Travis.Macha@permianres.com> wrote:

Hey Robert,

Looping back around to this, as you know the PR/Cimarex hearing is set for 8/9. They turned in some more stuff yesterday citing Union Hill as an active supporter of Cimarex's development. As of now our understanding Union Hill is a neutral party here. No hard feelings if you indeed are supporting Cimarex here but wanted to reach out your way and make that clarification.

Obviously we greatly value support here so if there's anything you need from me in the meantime feel free to let me know.

Thanks,

PERMIAN RESOURCES

Travis Macha | NM Land Lead

O 432.400.1037 | travis.macha@permianres.com

300 N. Marienfeld Street, Suite 1000 | Midland, TX 79701

permianres.com

Permian Resources is a result of the merger of Centennial Resource Development and Colgate Energy effective September 1, 2022.

EXHIBIT
I

MARKS
OIL
INC

March 24, 2023

VIA U.S. REGULAR MAIL AND
EMAIL TO: travis.macha@permianres.com

Mr. Travis Macha
Senior Landman
Permian Resources Operating, LLC
300 N. Marienfeld Street, Suite 1000
Midland, TX 79701

RE: Bane 4-9 Federal Com – Well Proposals
Sections 4 & 9, Township 20 South, Range 34 East
Lea County, New Mexico

Dear Mr. Macha:

On February 22, 2023, Marks Oil, Inc. ("Marks") received a letter dated February 17, 2023, from Permian Resources Operating, LLC, as operator for Reed & Stevens, Inc. ("Permian") setting forth the proposal (the "Permian Proposal") to drill the following twenty-four (24) wells: Bane 4-9 Federal Com 111H, 112H, 113H, 114H, 121H, 122H, 123H, 124H, 125H, 126H, 127H, 128H, 171H, 172H, 173H, 174H, 131H, 132H, 133H, 134H, 201H, 202H, 203H, and 204H (collectively the "Wells") located in Sections 4 & 9, Township 20 South, Range 34 East, Lea County, New Mexico (collectively the "Lands").

Marks has also received proposals from Reed & Stevens, Inc. dated September 15, 2022, Cimarex Energy Co. ("Cimarex") dated August 25, 2022, and MRC Permian Company dated August 30, 2022, all of which propose drilling multiple horizontal wells located on the Lands and targeting the same formations in the Permian Proposal.

Marks understands that a dispute exists between Permian and Cimarex as to operational rights and privileges associated with both the Lands and applicable Joint Operating Agreements. Regardless of this dispute, Marks will exercise its rights of participation in any operational proposal on the Lands, drilling or otherwise, with a party authorized to conduct such operations by the New Mexico Conservation Division or other appropriate governing body.

TEL 303.861.1974 · FAX 303.863.0616
1775 SHERMAN STREET · DENVER, COLORADO 80203

If you have any questions, please contact me at (303) 861-1974 or by email to Steve.Marks@MarksOil.net.

Sincerely,

MARKS OIL, INC.

Stephen K. Marks
President

Permian Resources-Bane Proposals_MOI ltr 032423_SKM

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EXHIBIT
I

CHALLENGER CRUDE, LTD

3525 Andrews Highway
Midland, TX 79703
(432) 694-3000

March 20, 2023

Permian Resources Operating LLC
Attn: Travis Macha
300 N. Marienfeld Street, Ste 1000
Midland, TX 79701

RE: Well Proposal – Bane 4-9 Fed Com Lease (24 Wells)
Section 4 & 9, T20S, R34E
Lea County, NM

Dear Mr. Macha:

Enclosed please find executed AFEs for the Bane 4-9 Federal Com lease consisting of 24 wells along with Challenger's well requirements. Challenger Crude Ltd. ("Challenger") hereby elects to participate in the proposed drilling and completion of said wells. Challenger recognizes that Permian Resources Operating LLC and Coterra Energy Inc (Cimarex Energy Co.) are each pursuing operatorship in the same formation within the same tract of land. Challenger is not interested in picking winners or losers in this matter. Challenger intends to participate in the respective wells proposed regardless of which company succeeds in being named operator. Once operatorship has been finally determined, Challenger will consider execution of an appropriate operating agreement to supersede and replace any existing or legacy operating agreements that may be in effect.

Please keep us informed as to the progress of this project. Feel free to contact me should you have further questions or comments.

Thank you,

Kymberly Holman, CPLTA, CPL
Landman

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Received by OCD: 8/9/2023 4:21:38 PM

CHALLENGER CRUDE LTD.
WELL REQUIREMENT SHEET

I. Prior to commencement of drilling:
   A. One copy of all required governmental notices and regulatory forms
   B. One copy of the Operator's well prognosis and drilling and completion program
      Directed to: Challenger Crude Ltd.
      3525 Andrews Highway
      Midland, Texas 79703
      Attn: OBO File
      Reports to: reports@henryresources.com

II. During the drilling, testing, completion and workover operations:
   A. Daily Reports:
      Daily reports by email to (reports@henryresources.com) of all operations from spud through completion.
      Reports will include present total depth, status, sample descriptions (if applicable), DST or testing details, rate of penetration, pertinent mud properties and other engineering data.
   B. Logs and formation Tests:
      Operator shall notify as early as possible when coring, testing, logging, and other such operations are anticipated so that Non-Operator may have a representative present. Log information should be e mailed to Patrick Cohorn (PCohorn@HenryResources.com) as soon as possible following the job, but no later than 48 hours after completion of the logging job.
   C. Mudlogs:
      If Mudlogs are run, Daily Mudlog and morning reports should be emailed to Patrick Cohorn (PCohorn@HenryResources.com) no later than 9:00 AM.
   D. Well Logs:
      Cased Hole Compensated Neutron-GR (Base of surface casing to TD)
      Minimum Requirement:
      Electric Logs- if run
      CNL-FDC w/GR and caliper – if run
      BHC Sonic w/GR and caliper – if run
      Any other logs
      Final Log copies required should be delivered to:
      Challenger Crude Ltd.
      3525 Andrews Highway
      Midland, Texas
      Attn: Patrick Cohorn
      Number of Copies to Office:
      4 Electric Logs (Final Prints)
      1 Digital Log LAS file with Final Log Tif images
      2 Mud Logs (Final)
      1 Drill Stem Test charts and results – if run
      2 Analyses (Core, Water, Fluid, Etc.) if run
      1 Abandonment Report
      1 Completion Report

III. Production Information as reported to the state should be emailed to Laurie Richards (RWilson@HenryResources.com)

PARTIES TO BE NOTIFIED IN ADVANCE OF DRILLSTEM TESTING, CORING, LOGGING OR ABANDONMENT OF WELL:

Forrest Collier
Office: 432-694-3000
Fax: 432-694-2999
FCollier@HenryResources.com

Patrick Cohorn
Office: 432-694-3000
Fax: 432-694-2999
PCohorn@HenryResources.com

J:Well Requirements/Challenger Revised 08-22-2017

Released to Imaging: 8/9/2023 4:23:43 PM

Received by OCD: 8/9/2023 4:21:38 PM

CHALLENGER CRUDE, LTD

3525 Andrews Highway
Midland, TX 79703
(432) 694-3000

April 4, 2023

Permian Resources Operating LLC
Attn: Travis Macha
300 N. Marienfeld Street, Ste 1000
Midland, TX 79701

RE: Well Proposal – Joker 5-8 Fed Com Lease (24 Wells)
Section 5 & 8, T20S, R34E
Lea County, NM

Dear Mr. Macha:

Enclosed please find executed AFEs for the Joker 5-8 Federal Com lease consisting of 24 wells along with Challenger's well requirements. Challenger Crude Ltd. ("Challenger") hereby elects to participate in the proposed drilling and completion of said wells. Challenger recognizes that Permian Resources Operating LLC and Coterra Energy Inc (Cimarex Energy Co.) are each pursuing operatorship in the same formation within the same tract of land. Challenger is not interested in picking winners or losers in this matter. Challenger intends to participate in the respective wells proposed regardless of which company succeeds in being named operator. Once operatorship has been finally determined, Challenger will consider execution of an appropriate operating agreement to supersede and replace any existing or legacy operating agreements that may be in effect.

Please keep us informed as to the progress of this project. Feel free to contact me should you have further questions or comments.

Thank you,

Kymberly Holman, CPLTA, CPL
Landman

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CHALLENGER CRUDE LTD.
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      Attn: OBO File
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II. During the drilling, testing, completion and workover operations:
   A. Daily Reports:
      Daily reports by email to (reports@henryresources.com) of all operations from spud through completion.
      Reports will include present total depth, status, sample descriptions (if applicable), DST or testing details, rate of penetration, pertinent mud properties and other engineering data.
   B. Logs and formation Tests:
      Operator shall notify as early as possible when coring, testing, logging, and other such operations are anticipated so that Non-Operator may have a representative present. Log information should be e mailed to Patrick Cohorn (PCohorn@HenryResources.com) as soon as possible following the job, but no later than 48 hours after completion of the logging job.
   C. Mudlogs:
      If Mudlogs are run, Daily Mudlog and morning reports should be emailed to Patrick Cohorn (PCohorn@HenryResources.com) no later than 9:00 AM.
   D. Well Logs:
      Cased Hole Compensated Neutron-GR (Base of surface casing to TD)
      Minimum Requirement:
      Electric Logs- if run
      CNL-FDC w/GR and caliper – if run
      BHC Sonic w/GR and caliper – if run
      Any other logs
      Final Log copies required should be delivered to:
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      Attn: Patrick Cohorn
      Number of Copies to Office:
      4 Electric Logs (Final Prints)
      1 Digital Log LAS file with Final Log Tif images
      2 Mud Logs (Final)
      1 Drill Stem Test charts and results – if run
      2 Analyses (Core, Water, Fluid, Etc.) if run
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      1 Completion Report

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Forrest Collier
Office: 432-694-3000
Fax: 432-694-2999
FCollier@HenryResources.com

Patrick Cohorn
Office: 432-694-3000
Fax: 432-694-2999
PCohorn@HenryResources.com

J:Well Requirements/Challenger Revised 08-22-2017

EXHIBIT
I

Challenger Crude, Ltd.
3525 Andrews Hwy.
Midland, Texas 79703
432-693-3000

August 7, 2023

Darin C. Savage darin@abadieschill.com
Attorney for Cimarex Energy Co.

Michael H. Feldewert mfeldewert@hollandhart.com
Attorney for Read & Stevens, Inc.

Re: Application of Cimarex Energy Co., NMOCD Case Numbers 23594 through 23601
Application of Cimarex Energy Co., NMOCD Case Numbers 23448 through 23455
Application of Read & Stevens, Inc., NMOCD Case Numbers 23508 through 23523

Gentlemen:

In September of 2022, Cimarex Energy Co. ("Cimarex") presented to Challenger Crude, Ltd. ("Challenger") a proposal to drill and complete certain wells within Sections 5 & 8, T-20-S, R-34-E, NMPM, Lea County, New Mexico. On September 28, 2022, Challenger elected to participate in the Cimarex proposed development plan by signing and returning a proposed operating agreement. Subsequent to Challenger's election to participate, Read & Stevens, Inc. through its designated operator, Permian Resources Operating, LLC (collectively referred to herein as "Read & Stevens"), approached Challenger with a competing plan of development. The competing plans of development by Cimarex and Read & Stevens are currently being contested in the above referenced Applications for Compulsory Pooling filed in the identified NMOCD Case Numbers.

Challenger wishes to express to the applicants and the NMOCD that Challenger prefers to remain neutral insofar as resolution of the competing applications is concerned. Challenger is committed to participating in development of the subject lands pursuant to whichever plan is determined by the NMOCD to prevail and will execute such agreements as may be necessary or appropriate, including without limitation voluntary Communitization Agreements and a mutually acceptable operating agreement. For the avoidance of doubt, Challenger is not by this letter repudiating the Cimarex operating agreement previously executed by Challenger on September 28th and will abide by the terms of such operating agreement should the NMOCD determine that the Cimarex plan of development prevails.

Should there be any questions, please feel free to contact the undersigned at mcurry@henryresources.com or direct line 432.681.7237.

Very truly yours,

CHALLENGER CRUDE, LTD.

By, Michel E. Curry
VP Land/Sr. Counsel

EXHIBIT
I

E. G. L. Resources, Inc.

August 3, 2023

Permian Resources
300 N. Marienfeld Street, Suite 1000
Midland, TX 79701

RE: **NMOCD Case # 23508-23523**
Joker Development

To Whom It May Concern:

The purpose of this letter is to allow EGL Resources, Inc. ("EGL") as an impacted operator within the area the opportunity to make a reference to its opinion on the development strategy.

EGL, as an offset operator in similar geology, has been observing the ongoing cases between Permian Resources Operating and Cimarex Energy Company. EGL is presently exploring the co-development of the Bone Spring and Wolfcamp formations together and has concern for any precedent Cimarex is attempting to set by restricting the development of the Wolfcamp formation.

Respectfully,

Ashley Roush

Ashly Roush

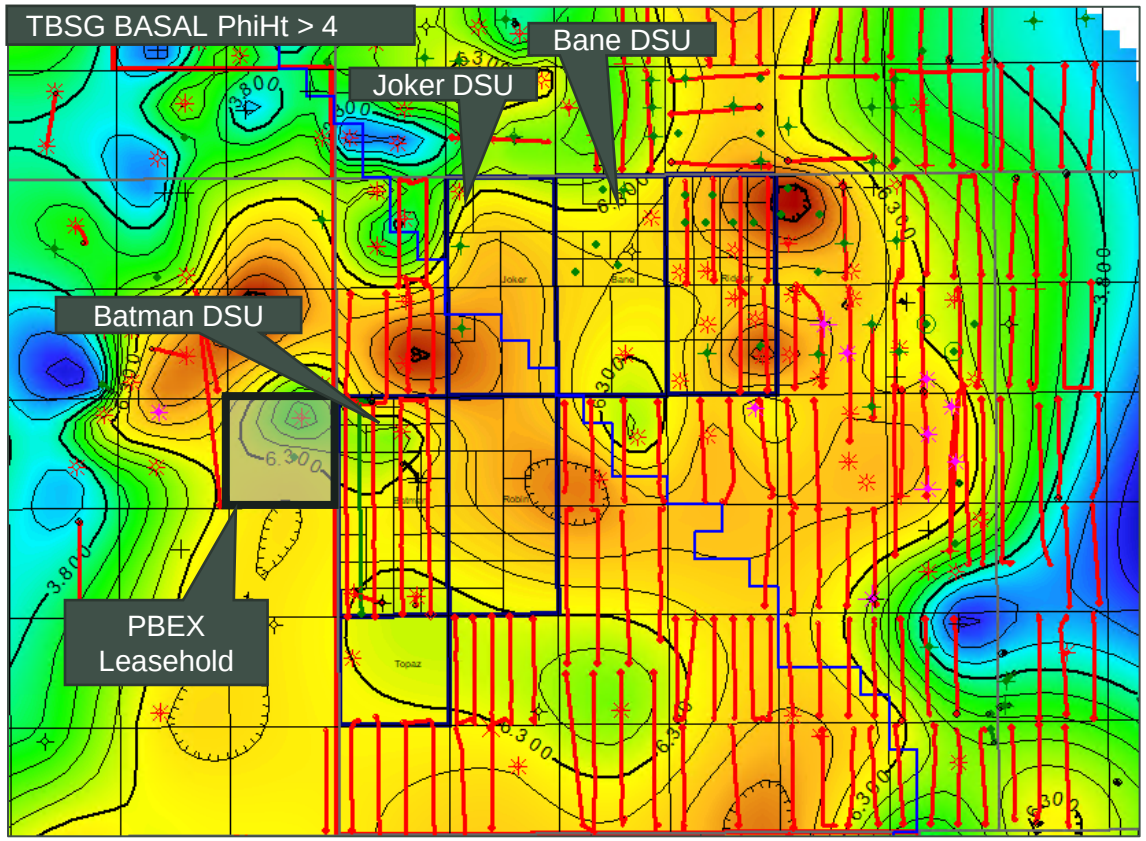
Land Manager

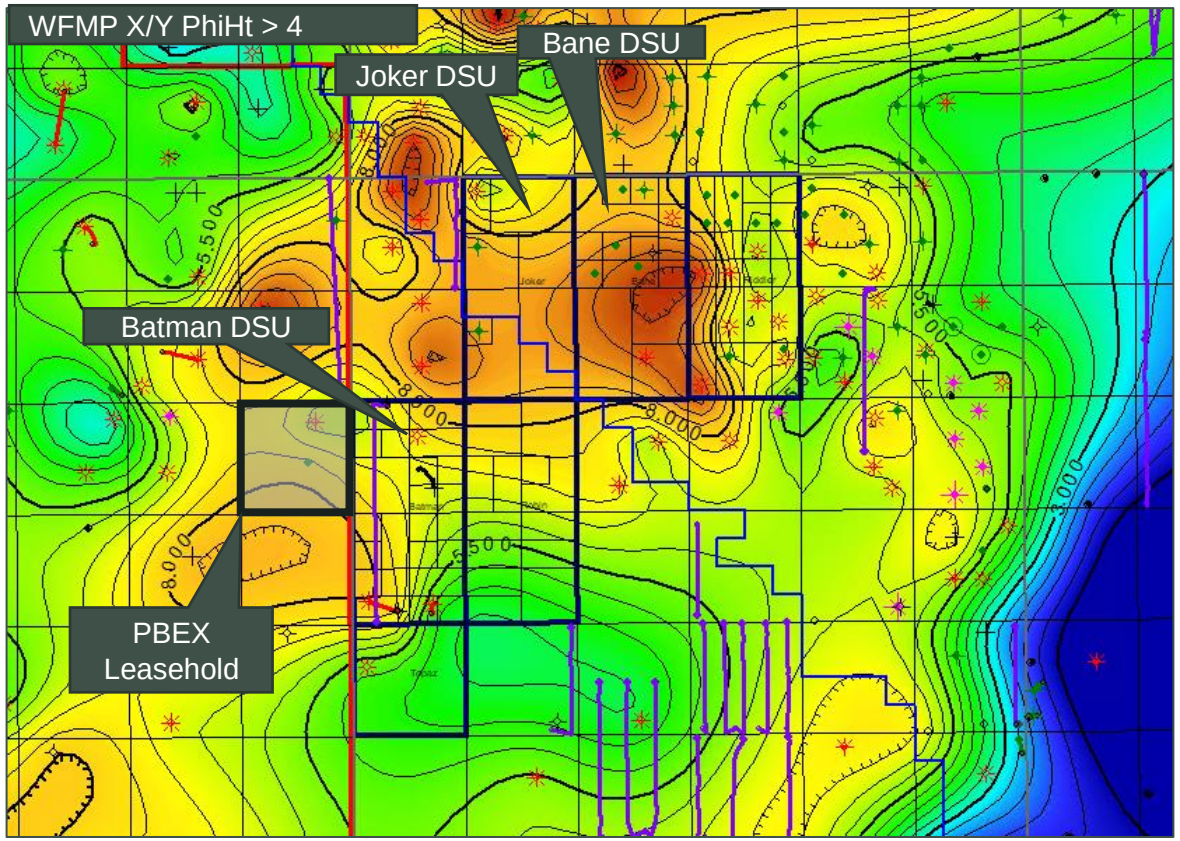
CC: NMOCD
1220 S. St. Francis Drive
Santa Fe, NM 87505

Received by OCD: 8/9/2023 4:21:38 PM

PBEX Offset Leasehold

EXHIBIT
I





PBEX offset leasehold is in a similar geologic environment as the Bane/Joker units

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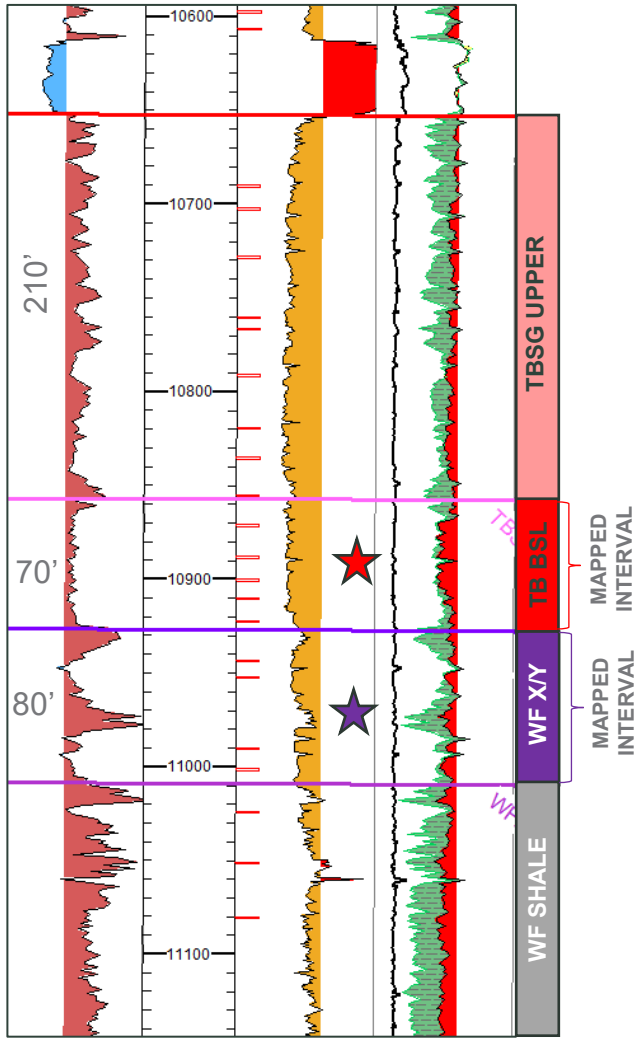
EXHIBIT J

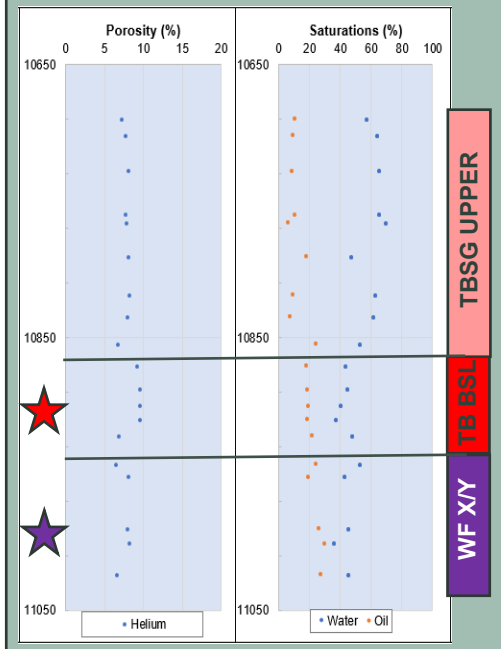
Permian Resources Offset Study

Pilot Hole and Core Support Wolfcamp XY as a High Quality Target

★Batman Fed 132H Pilot

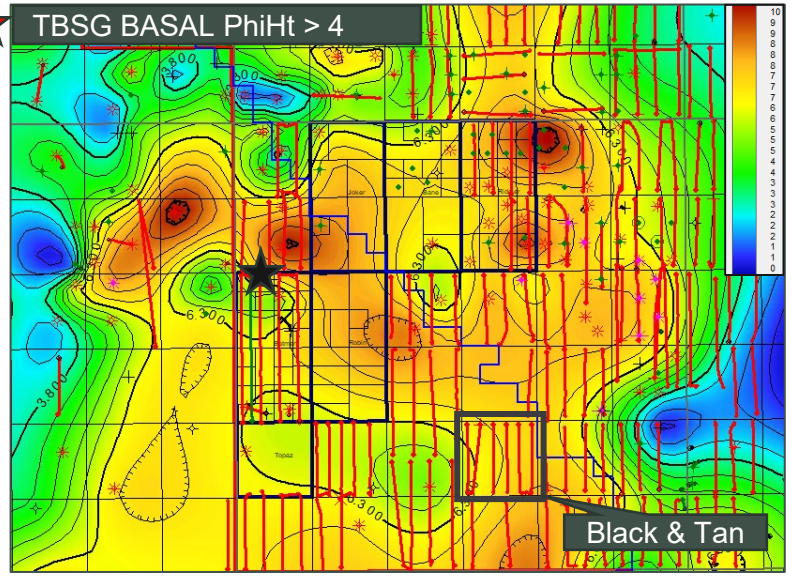


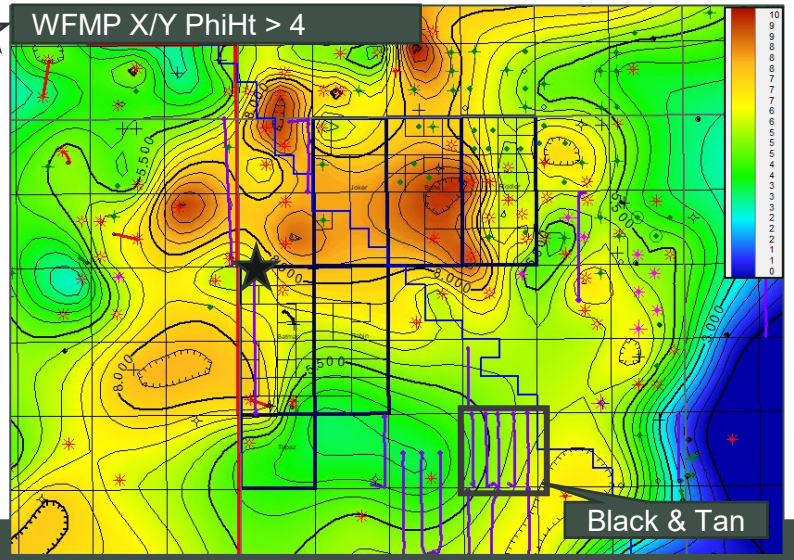
Rotary Sidewall Core Porosity and Water Saturation



PHI Range	AVG Sw
6.8-8.2%	61.5%
6.8-9.6%	42.6%
6.5-8.2%	44.2%

- WFMP X/Y sand target interval is a high-quality reservoir as evident in the offset production data which is further supported by log and core data.
- WFMP A shale is an organic rich, mature source-rock directly underlying the Wolfcamp X/Y and provides excellent hydrocarbon charge potential in the overlying sand target intervals.
- PHIHT mapping of both basal third bone spring and WFMP X/Y targets shows similar reservoir quality and thickness in this area allowing for codevelopment of both target zone intervals on subject acreage.



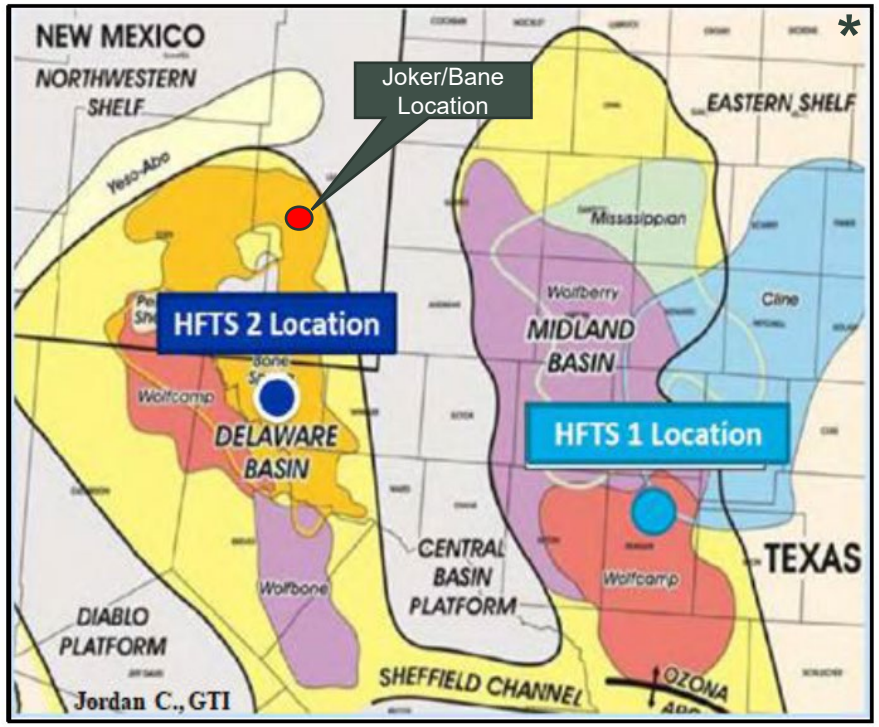


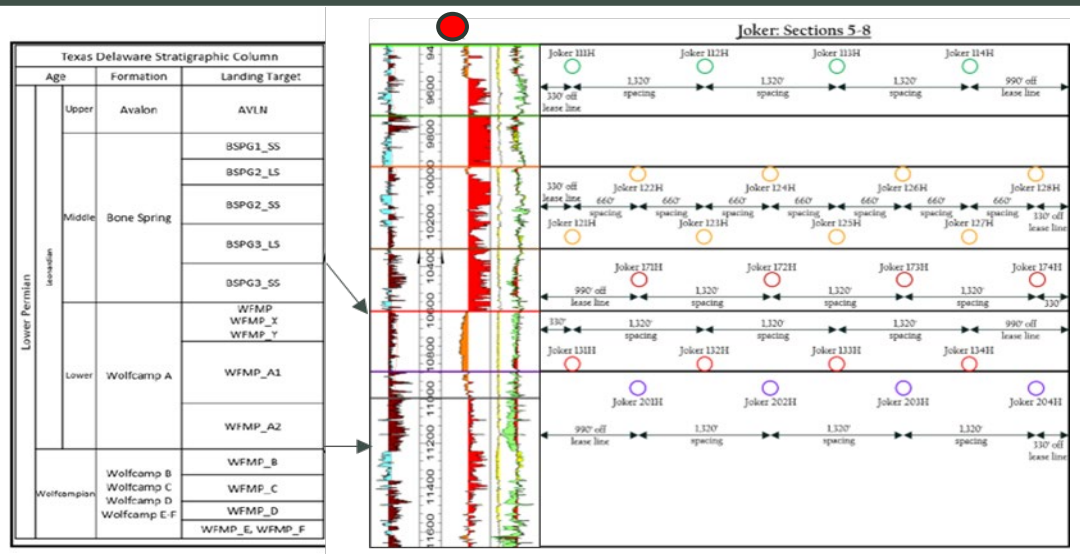
Released to Imaging: 8/9/2023 4:23:43 PM

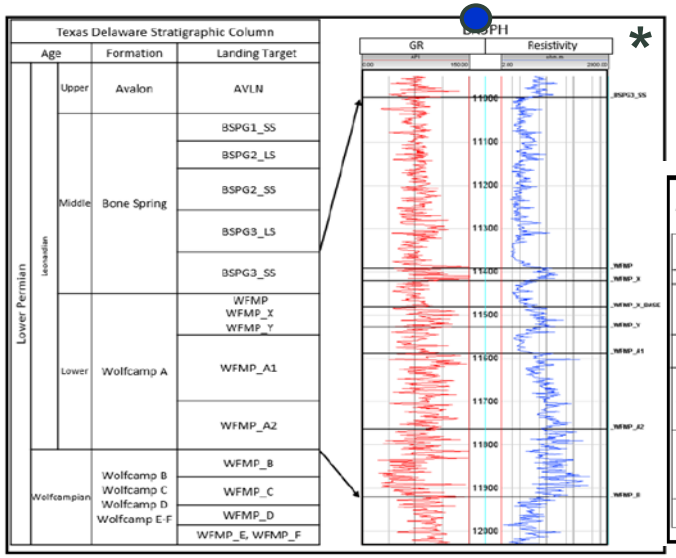
EXHIBIT J

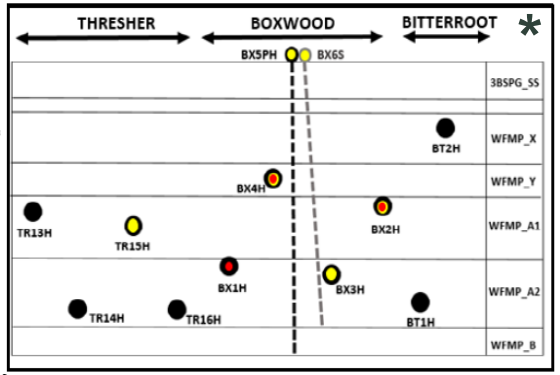
HFTS-2 is not a direct analog for Joker/Bane

HFTS2 Study is 43.7 miles to the South









- **The HFTS-2 Study is:**
  - 43.7 miles away
  - In a different state
  - Does not include Third Bone Spring development

Images with * from: Ciezobka, J. and Maity, D. (2022) *HFTS-2 Final Report* (Report No. DE-FE0031577). National Energy Technology Laboratory, US Department of Energy

Received by OCD: 8/9/2023 4:21:38 PM

EXHIBIT K

Reconciling Offset Targeting

WFMP is Commonly Targeted, SBSG ≠ TBSG

Cimarex Exhibits on Offset Development

Exhibit D-3

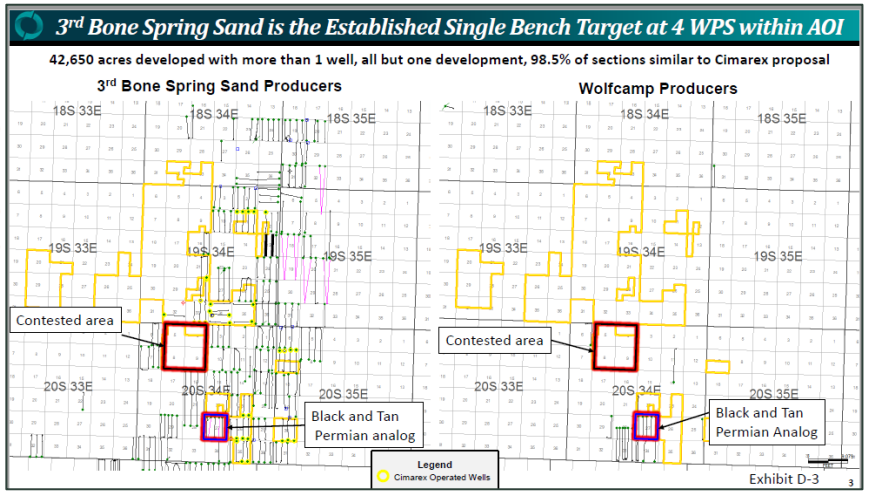
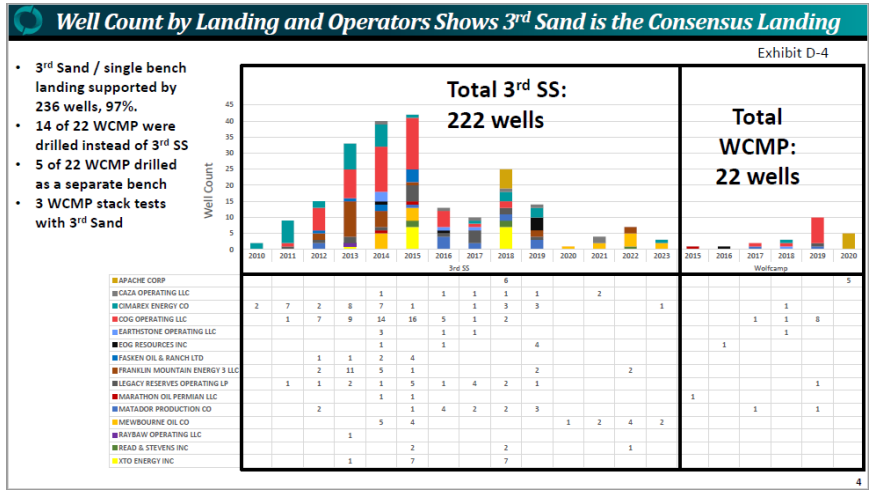


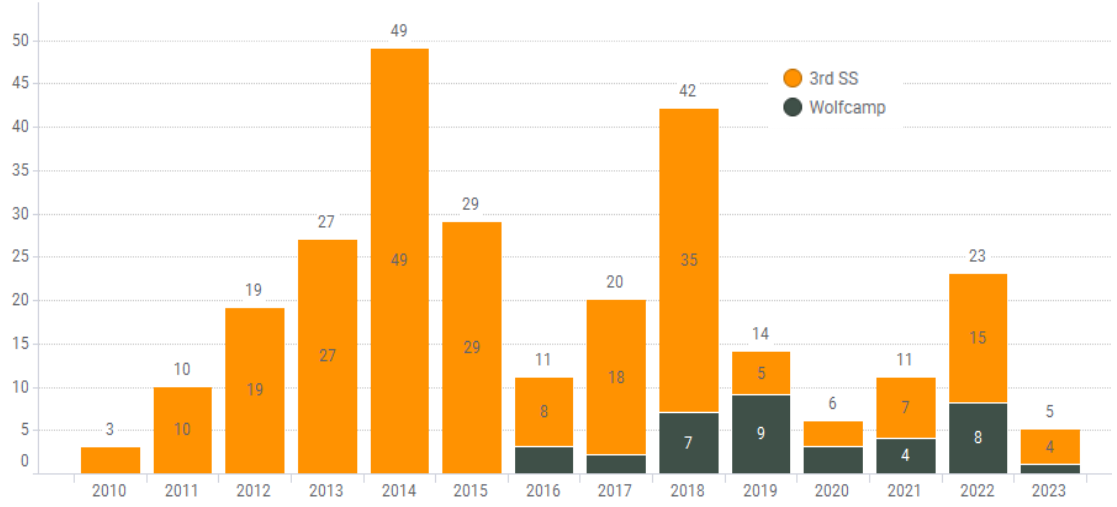
Exhibit D-4



Cimarex cites its deep geology and engineering study of the area and references offset wells within this study. The well list used for this deep study includes:

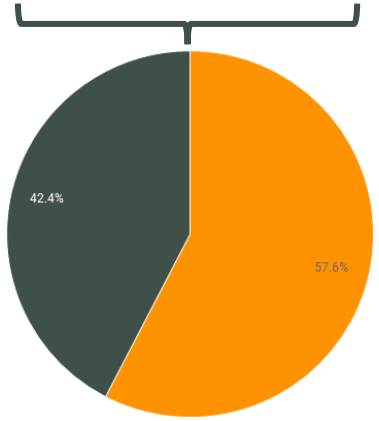
- 19 SBSG wells identified as TBSG that are likely landed in the SBSG
- Numerous missing or incorrectly identified WFMP wells
- Wells developed as far back as 2010

Offset Development Through Time by OCD Producing Pool



Commentary

Offset development has decidedly shifted towards the appraisal and inclusion of the WFMP with >40% of wells drilled since 2018 targeting the WFMP



Offset Development Since 2018

AOI assumed to be the extent of the maps in Exhibit C-3 (18S 33E-35E, 19S 33E-35E, 20S 33E-35E)
'WFMP' excludes Penn Shale

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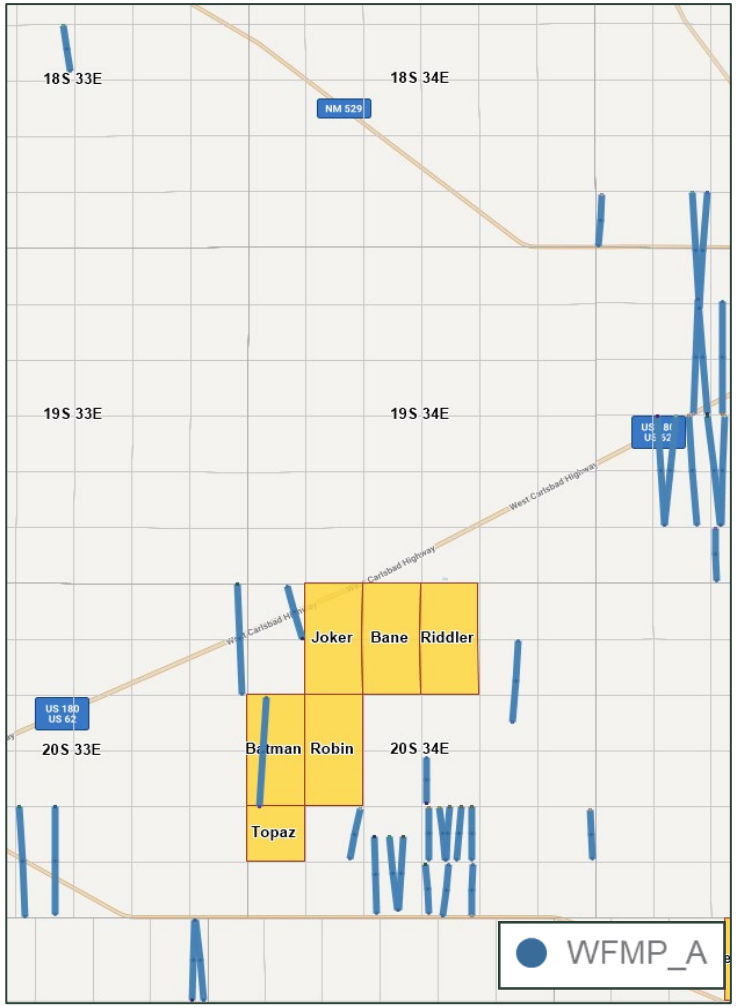
Reconciling Offset Targeting

WFMP Targeting Far More Pervasive Than Cimarex Asserts

EXHIBIT K

Map



Well List

UWI	API_10	Well Official Name	Producing Pool	Formation	Cimarex Formation
30025433950000	3002543395	AIRSTRIP 31 18 35 RN STATE COM 201H	WFMP	WFMP_A	Wolfcamp
30025458960000	3002545896	ANCHOR 19 35 33 STATE 001H	WFMP	WFMP_A	3rd SS
30025509680100	3002550968	BATMAN FED COM 201H	WFMP	WFMP_A	N/A
30025460720000	3002546072	BLACK & TAN 27 FEDERAL COM 401H	WFMP	WFMP_A	Wolfcamp
30025460730000	3002546073	BLACK & TAN 27 FEDERAL COM 402H	WFMP	WFMP_A	Wolfcamp
30025461230000	3002546123	BLACK & TAN 27 FEDERAL COM 403H	WFMP	WFMP_A	Wolfcamp
30025461240000	3002546124	BLACK & TAN 27 FEDERAL COM 405H	WFMP	WFMP_A	Wolfcamp
30025460750000	3002546075	BLACK & TAN 27 FEDERAL COM 406H	WFMP	WFMP_A	Wolfcamp
30025461400000	3002546140	CABLE 19 35 9 STATE COM 001H	WFMP	WFMP_A	3rd SS
30025499040000	3002549904	CHAROLAIS 28 21 W1MD STATE COM 001H	WFMP	WFMP_A	3rd SS
30025430530000	3002543053	DELLA 29 FEDERAL COM 701H	WFMP	WFMP_A	Wolfcamp
30025501680000	3002550168	FOXTAIL E2 05 32 W1 STATE COM 001H	WFMP	WFMP_A	3rd SS
30025501690000	3002550169	FOXTAIL E2 05 32 W1 STATE COM 002H	WFMP	WFMP_A	3rd SS
30025478630000	3002547863	GAVILON FED COM 708H	WFMP	WFMP_A	N/A
30025465880000	3002546588	GAVILON FEDERAL COM 704H	WFMP	WFMP_A	N/A
30025496910100	3002549691	GRACE 16 STATE COM 901H	WFMP	WFMP_A	N/A
30025499350000	3002549935	HEREFORD 29 20 W1PA STATE COM 001H	WFMP	WFMP_A	3rd SS
30025474830000	3002547483	HEREFORD 29-20 W1MD STATE COM 001H	WFMP	WFMP_A	3rd SS
30025474840000	3002547484	HEREFORD 29-20 W1NC STATE COM 001H	WFMP	WFMP_A	3rd SS
30025467680000	3002546768	HEREFORD 29-20 W1OB FED COM 001H	WFMP	WFMP_A	3rd SS
30025431100000	3002543110	LEA SOUTH 25 FEDERAL COM WCA 012H	WFMP	WFMP_A	Wolfcamp
30025452110100	3002545211	LEA UNIT 100H	WFMP	WFMP_A	Wolfcamp
30025451020000	3002545102	LITTLE BEAR FEDERAL COM 006H	WFMP	WFMP_A	Wolfcamp
30025451030000	3002545103	LITTLE BEAR FEDERAL COM 007H	WFMP	WFMP_A	Wolfcamp
30025451040000	3002545104	LITTLE BEAR FEDERAL COM 008H	WFMP	WFMP_A	Wolfcamp
30025451050000	3002545105	LITTLE BEAR FEDERAL COM 009H	WFMP	WFMP_A	Wolfcamp
30025434820000	3002543482	MAS FEDERAL 4H	WFMP	WFMP_A	Wolfcamp
30025442140100	3002544214	MAS FEDERAL COM 002H	WFMP	WFMP_A	Wolfcamp
30025448510000	3002544851	MINIS 1 FEDERAL COM WCA 010H	WFMP	WFMP_A	N/A
30025448530000	3002544853	MINIS 1 FEDERAL COM WCA 016H	WFMP	WFMP_A	N/A
30025416080000	3002541608	PERRY 22 FEDERAL COM 004H	WFMP	WFMP_A	Wolfcamp
30025495350000	3002549535	RAMBO E2 08 17 STATE COM 001H	WFMP	WFMP_A	N/A
30025495360000	3002549536	RAMBO E2 08 17 STATE COM 002H	WFMP	WFMP_A	N/A
30025504630000	3002550463	SAND CHUTE 4 9 W1DM FED COM 001H	WFMP	WFMP_A	N/A
30025444940000	3002544494	VERNA RAE FEDERAL COM 204H	WFMP	WFMP_A	Wolfcamp
30025474310000	3002547431	WAR EAGLE FEDERAL COM 701H	WFMP	WFMP_A	N/A

Commentary

The WFMP A has been targeted more often than asserted by Cimarex ostensibly owing to a combination of:

- Incorrectly identifying WFMP wells as TBSG
- Omitting WFMP wells entirely from well-set

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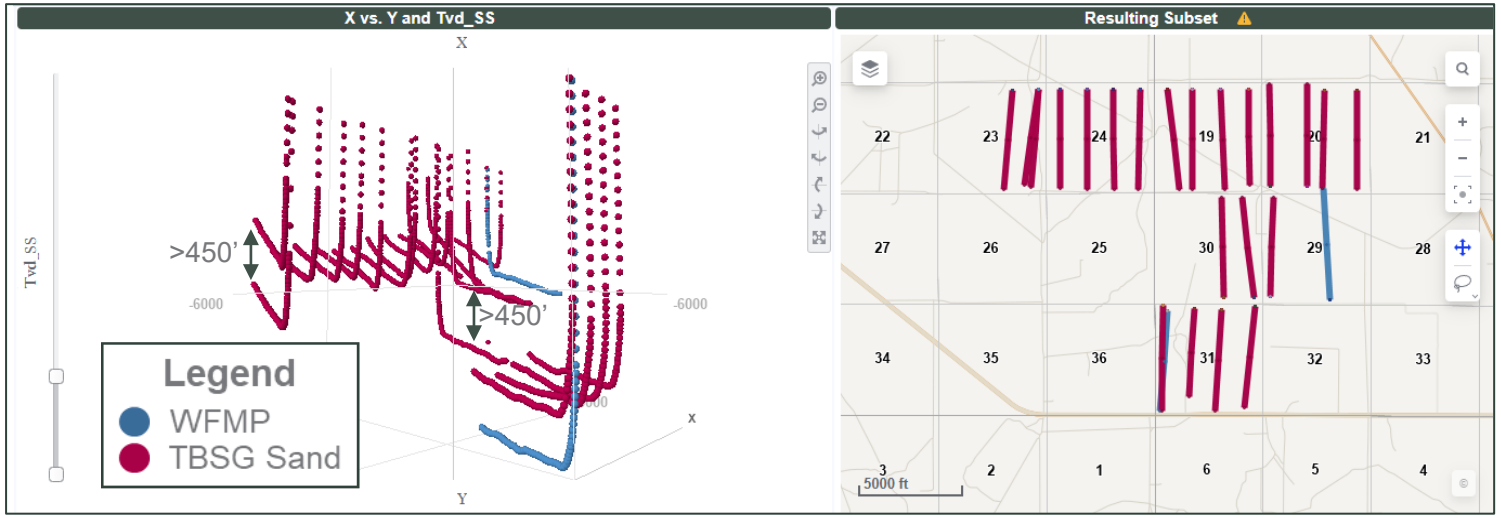
EXHIBIT K

Reconciling Offset Targeting

SBSG ≠ TBSG

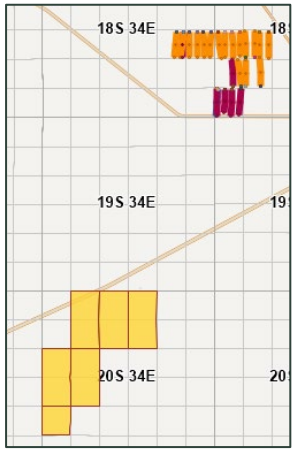
As Landed by Cimarex[1]



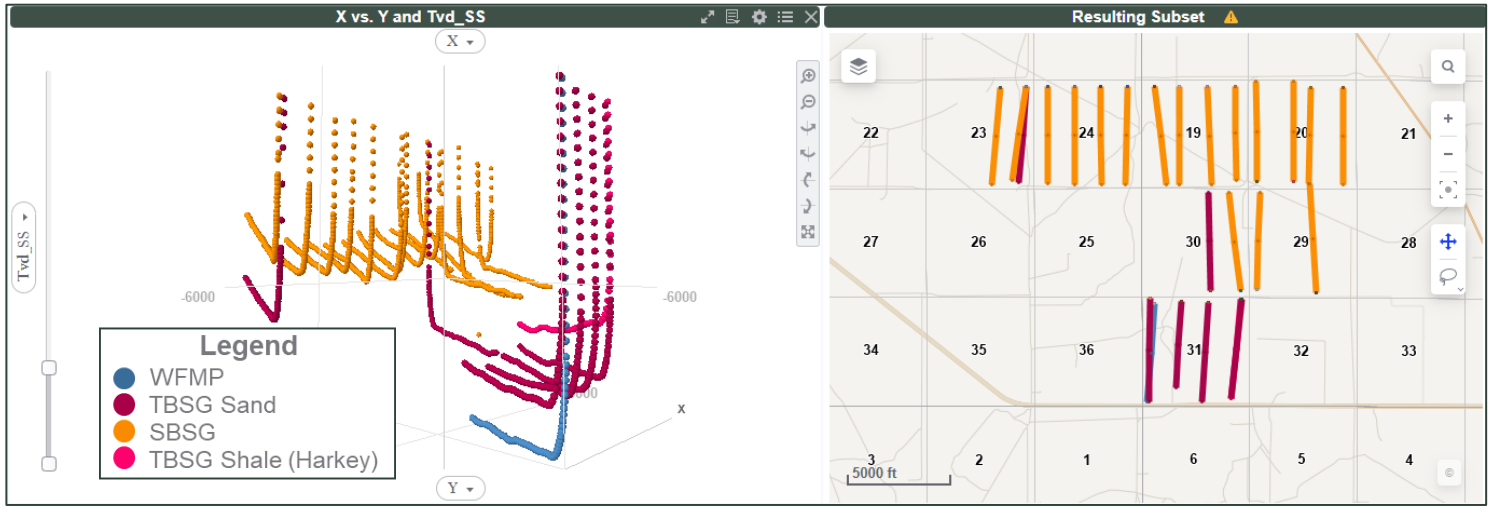
Commentary

Cimarex supplied a well list used in the deep engineering and geology study (Exhibit D-24). A quick look at the directional surveys in the northern extents of the AOI show:

- '3rd SS' wells in the same unit have >450' of TVD separation
- There are WFMP wells shallower than the TBSG



Correct Landings



Commentary

In reality, many of the '3rd SS' wells are most likely incorrectly identified and are actually landed in the **SBSG**

1 Cimarex landings pulled from Exhibit D-24

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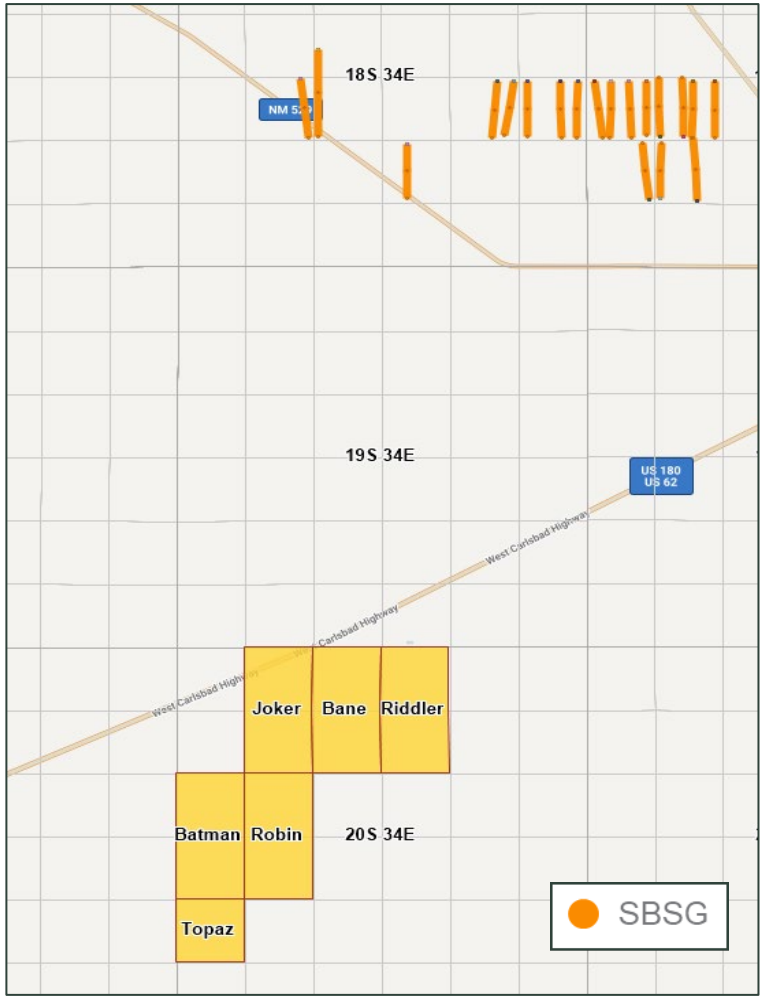
Reconciling Offset Targeting

SBSG ≠ TBSG

EXHIBIT K

Map



Well List

UWI	API_10	Well Official Name	Formation	Cimarex Formation
30025418090000	3002541809	ALBATROSS STATE COM 1H	SBSG	3rd SS
30025411480100	3002541148	CAPROCK 27 STATE FEDERAL COM 1H	SBSG	3rd SS
30025408140100	3002540814	CONDOR STATE 001H	SBSG	3rd SS
30025410250000	3002541025	CONDOR STATE 2H	SBSG	3rd SS
30025423770000	3002542377	IGGLES STATE COM 001H	SBSG	3rd SS
30025406760100	3002540676	IRONHOUSE 19 STATE COM 1H	SBSG	3rd SS
30025410940000	3002541094	IRONHOUSE 19 STATE COM 2H	SBSG	3rd SS
30025410500000	3002541050	IRONHOUSE 19 STATE COM 3H	SBSG	3rd SS
30025412450200	3002541245	IRONHOUSE 19 STATE COM 4H	SBSG	3rd SS
30025406110000	3002540611	IRONHOUSE 20 STATE 1H	SBSG	3rd SS
30025407480000	3002540748	IRONHOUSE 20 STATE COM 2H	SBSG	3rd SS
30025411630000	3002541163	IRONHOUSE 24 STATE COM 1H	SBSG	3rd SS
30025415950000	3002541595	IRONHOUSE 24 STATE COM 2H	SBSG	3rd SS
30025416960000	3002541696	IRONHOUSE 24 STATE COM 4H	SBSG	3rd SS
30025418360000	3002541836	KINGFISHER STATE COM 2H	SBSG	3rd SS
30025424720000	3002542472	KINGFISHER STATE COM 5H	SBSG	3rd SS
30025419500000	3002541950	NIGHTHAWK STATE COM 003H	SBSG	Wolfcamp
30025415190100	3002541519	NIGHTHAWK STATE COM 1H	SBSG	3rd SS
30025424990000	3002542499	PICKARD 20 18 34 RN STATE 124H	SBSG	3rd SS

Commentary

19 of the wells identified by Cimarex as either TBSG or WFMP are likely SBSG wells

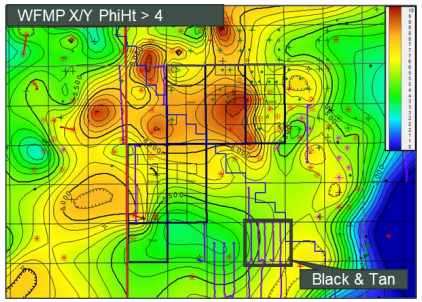
EXHIBIT K

Cimarex's Offset Development Analysis

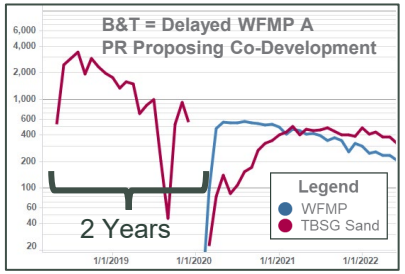
Apache Black & Tan

Black & Tan, the Only Similar Development Plan…

27. There is only one development plan within the entire AOI similar to the plan Permian Resources is proposing for its Joker and Bane Wells, the Black and Tan Wells drilled in Section 27, Township 20 South, Range 35 East, located just 2 miles south of the Subject Lands.



	TBSG Sand WPS	WFMP A WPS	Total WPS
Black & Tan	6	5	11
PR Proposal	4	4	8



Analogous Geology?

X

Analogous Density?

X

Analogous Sequencing?

X

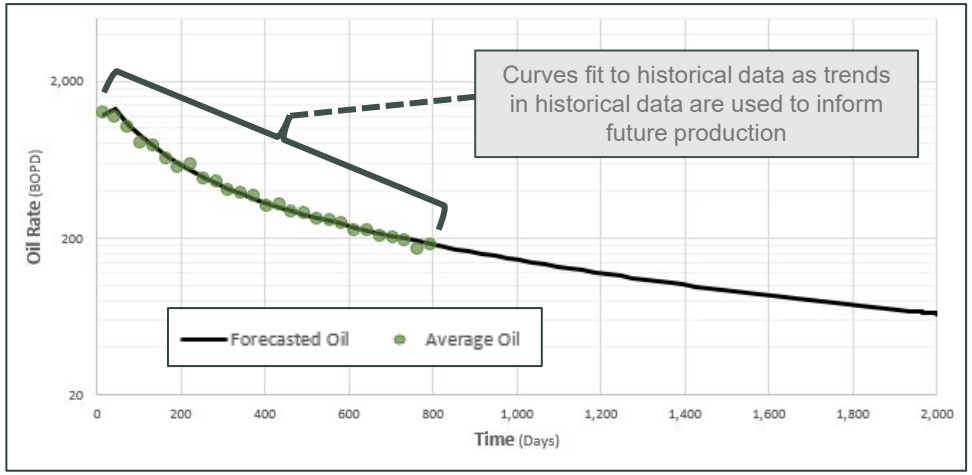
Although Apache's Black & Tan development is NOT an analog to PR's proposal, Cimarex's analysis features so heavily in their materials, it requires additional rebuttal

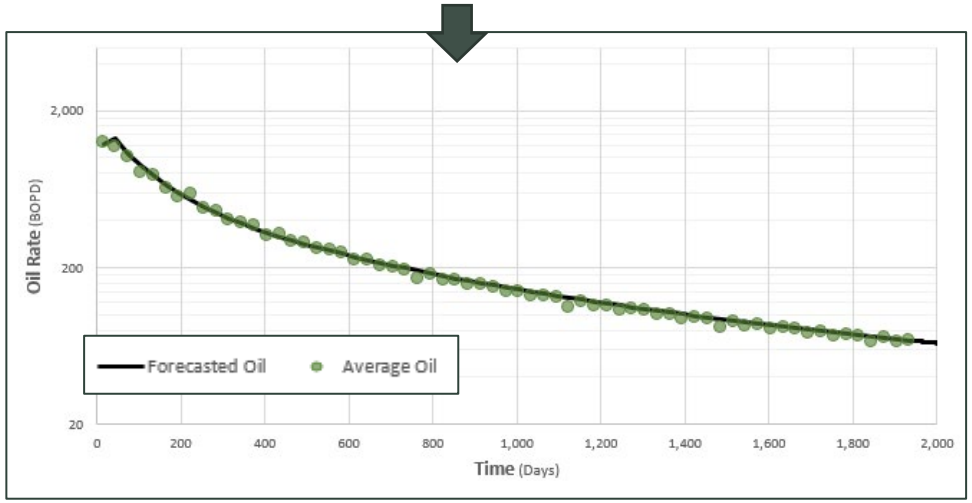
EXHIBIT K

Black & Tan Learnings

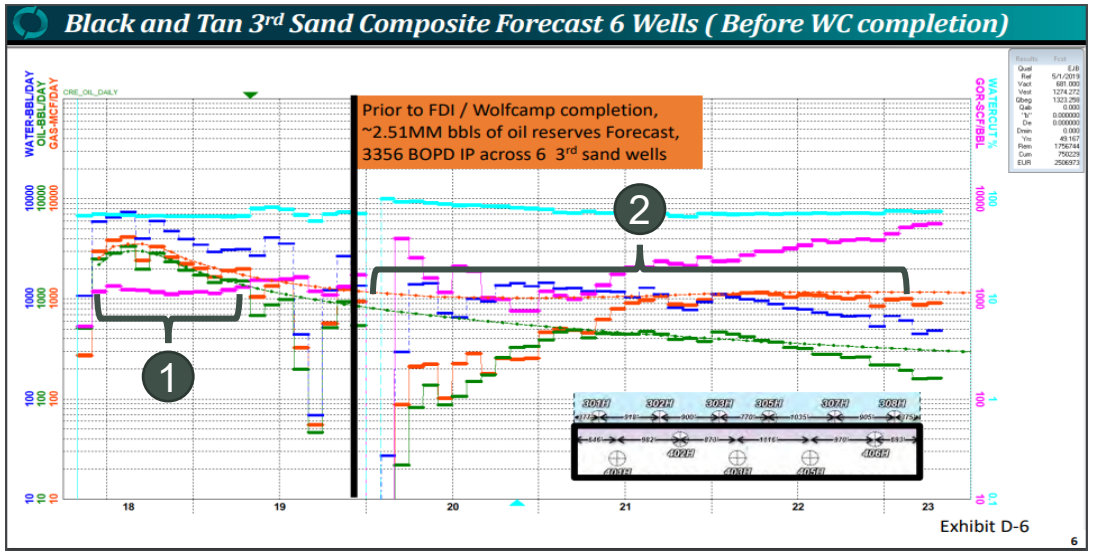
Cimarex's Analysis Fundamentally Flawed

Fundamentals Of Empirical Forecasting





Empirical Forecasting In Cimarex Analysis

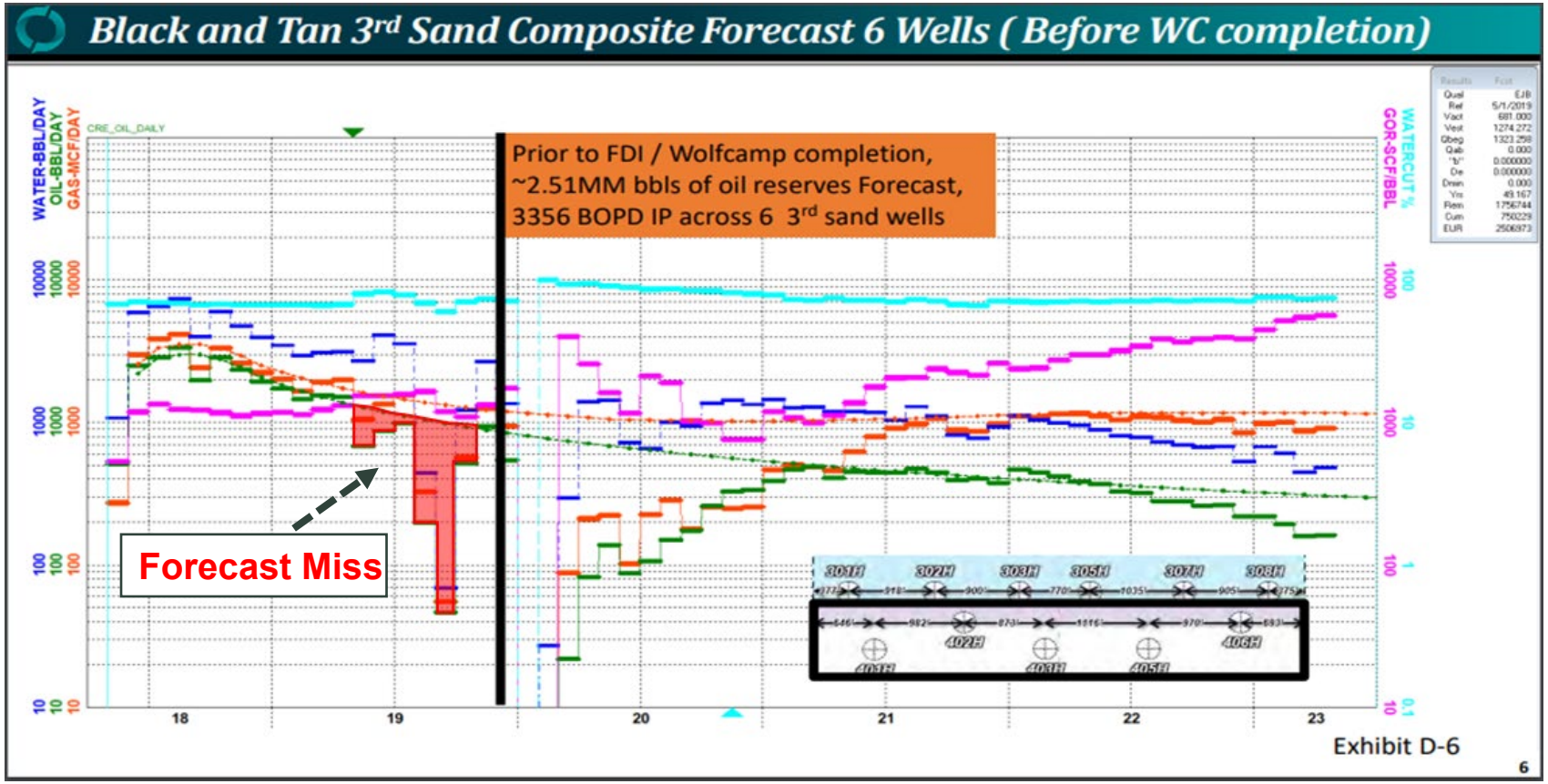


Cimarex uses Black & Tan TBSG production data through May 2019 (1) to establish the expected future performance of the project if left as a TBSG only development and then uses the difference between this forecast and the actual TBSG production to establish the damage the development of the TBSG did (2)

EXHIBIT K

Black & Tan Learnings

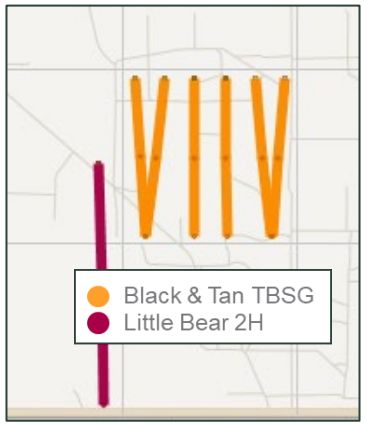
Cimarex's Analysis Fundamentally Flawed



The TBSG data to May 2019 used to generate the expected TBSG performance somehow lost the ability to predict future performance (June 2019- November 2019 highlighted in red)

What Happened To The TBSG?

- Development of the WFMP?
  - 1st B&T WFMP spud August 2019
  - Last B&T WFMP spud October 2019
  - B&T Frac December 2019
- Changing operational conditions?
- Offset interference?



Concho Little Bear 2H (BSPG Pool) frac May 2019

EXHIBIT K

Black & Tan Learnings

Delayed WFMP Development Leads to Sporadic Production and Reduced Wellbores

Delayed WFMP Develop Causes Issues → Depletion Influences Fracs[1]

No Parent Depletion Parent Depletion

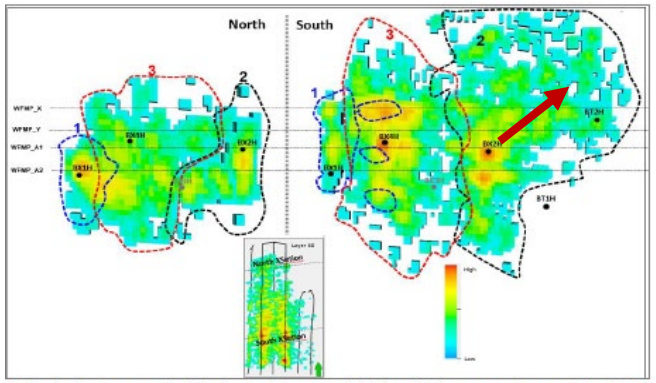
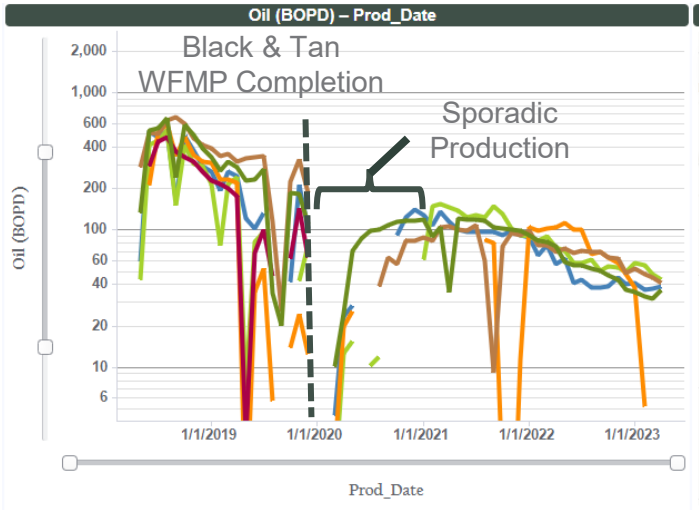
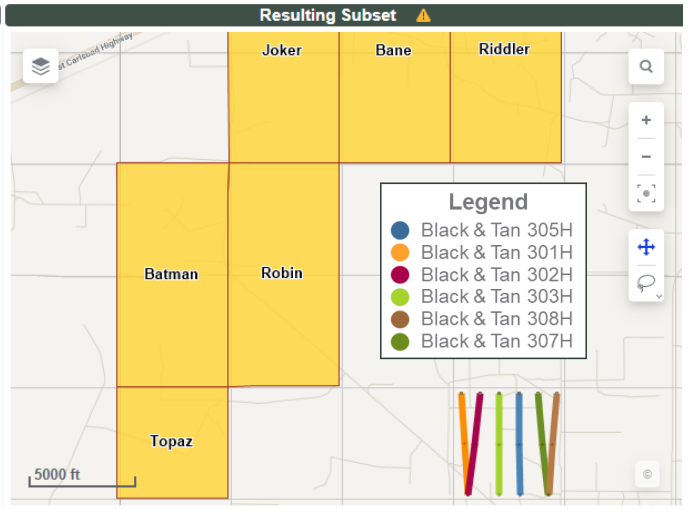


Fig 23—Areal and cross-sectional view in stimulation sequential timing of 3D heat maps grid generated for HFTS-2 area. The numbers and colors (blue, black, red) correspond to relative stimulation time successively.

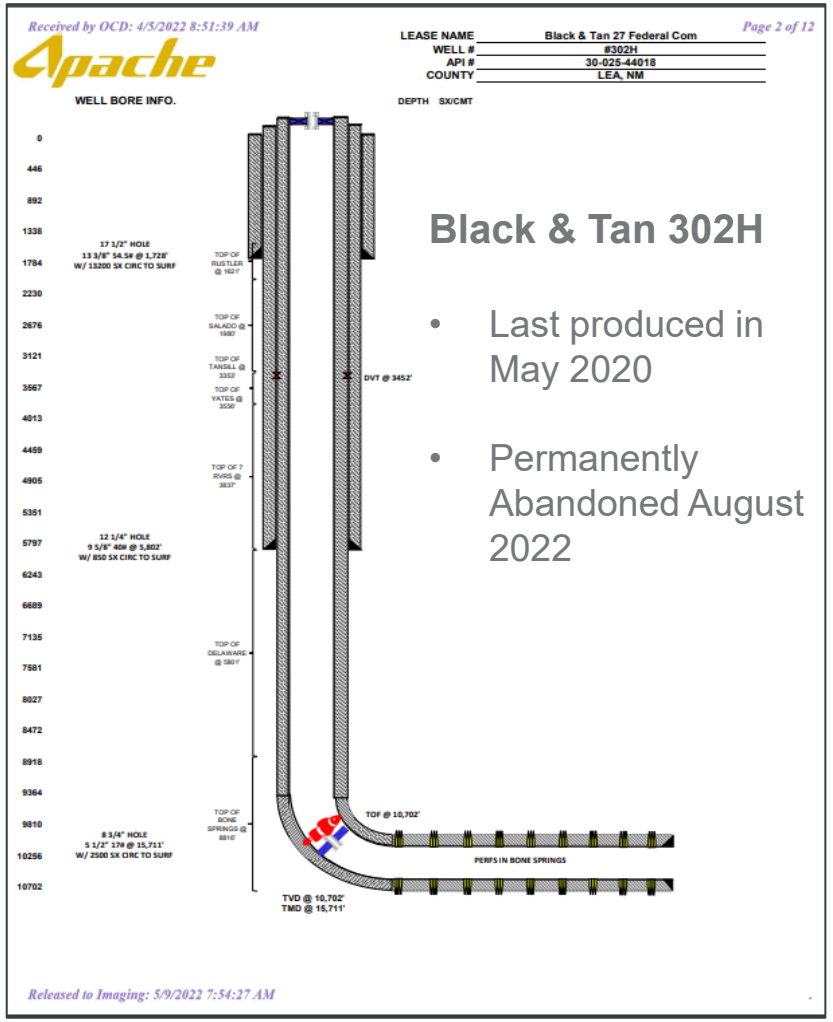
Pressure depletion influences fracture growth

Black & Tan TBSG Production By Well





Black & Tan 302H WBD[2]



Black & Tan 302H

- Last produced in May 2020
- Permanently Abandoned August 2022

1 HFTS pg.164
2 WBD from BLM application on file with the NMOCD

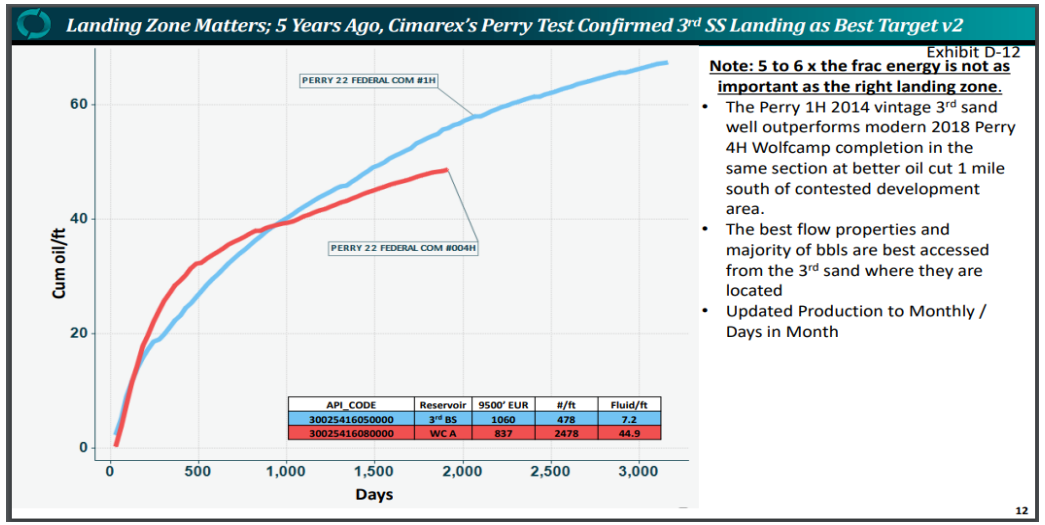
EXHIBIT K

Cimarex's Appraisal of the WFMP

Strong WFMP Results, TBSG not Damaged

Cimarex Supposed Learnings from Perry Development

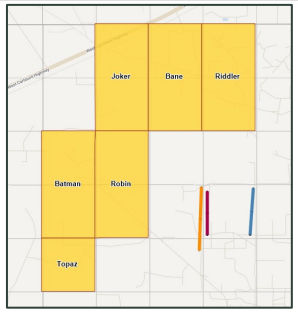
Exhibit D-12



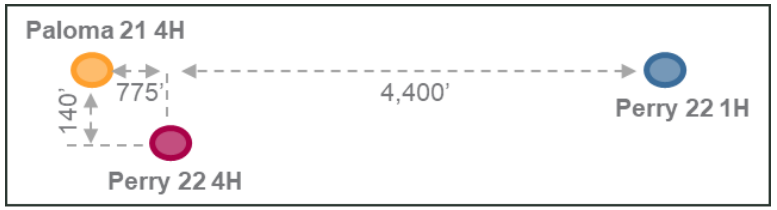
Cimarex cites their Perry development as proof positive that "drilling the upper Wolfcamp is a waste of resources"

Development Overview

Map



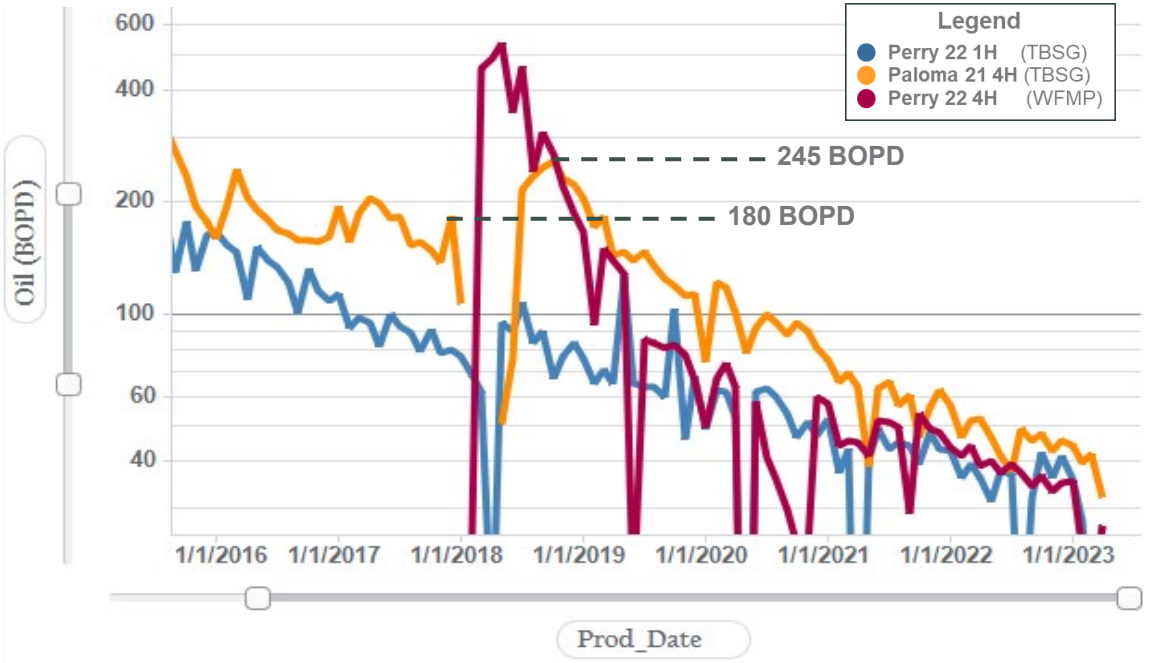
Gun Barrel Diagram



Cimarex's Perry 22 Federal Com 004H WFMP appraisal was drilled offset of an existing TBSG well, Fasken operated Paloma 21 Federal Com 04H

A Closer Look

Results



Far from destroying the TBSG, the Paloma 21 4H improves following offset completion of the Perry 4H

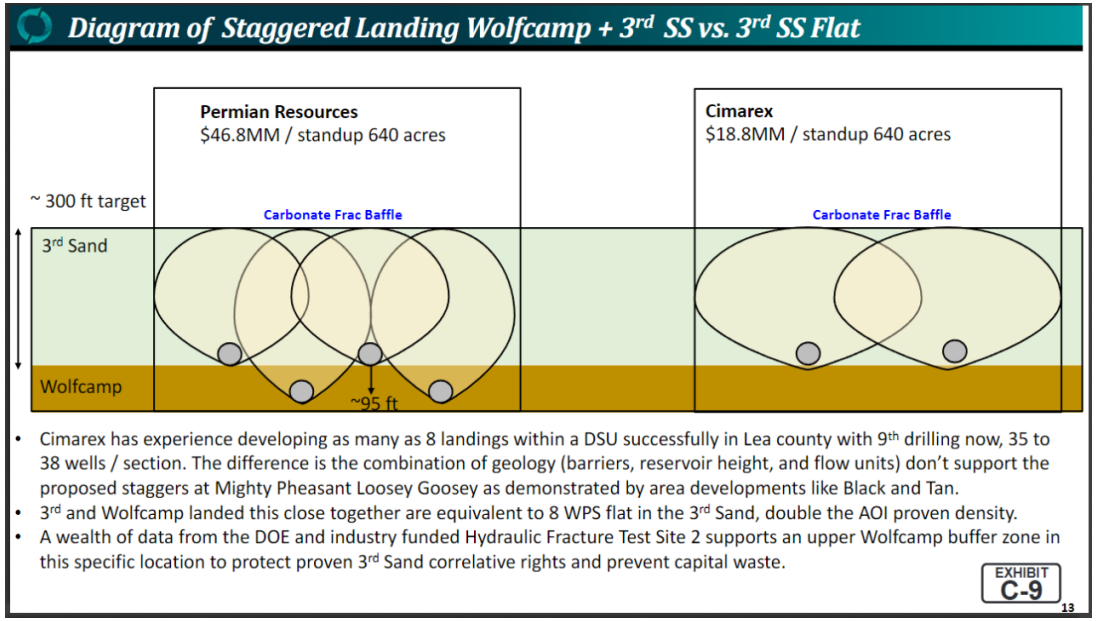
EXHIBIT K

Frac Dimensions

HFTS2 Demonstrated Fracture Growth Upward **AND** Downward

Exhibit D-10

Cimarex's Illustrative View Frac Dimensions



Cimarex has provided a cartoon depiction of fracture dimensions for WFMP/TBSG development and vaguely asserts that this is based on leanings from HFTS2

Actual HFTS2 Takeaways[1,2]

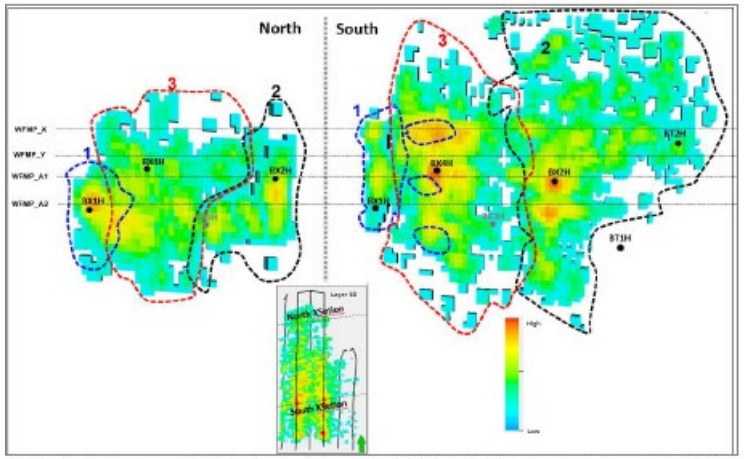
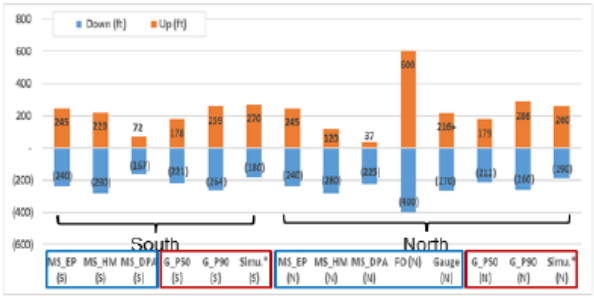


Fig 23—Areal and cross-sectional view in stimulation sequential timing of 3D heat maps grid generated for HFTS-2 area. The numbers and colors (blue, black, red) correspond to relative stimulation time successively.



b) Example of vertical coverage: Boxwood-4H

G_P50, G_P90: GOHFER statistical simulation results
Simu.: Calibrated simulation results*
(N) – North; (S) – South

Diagnostics
Simulation

HFTS2:

- Is more than 40 miles away and in very different geology
- Did not include the development of the TBSG
- Demonstrated upward **AND** downward fracture growth

1 HFTS Final Report – pg. 164
2 HFTS Final Report – pg. 37

EXHIBIT K

Cimarex Perry WFMP Appraisal

By Cimarex's Own Exhibits, the WFMP is Highly Economic

Exhibit D-9

Table 1.0 Comparison of 3rd sand to Wolfcamp	3rd Sand			Wolfcamp	(Wolfcamp - 3rd Sand Delta) = value added from 5 wells
	3rd Bone Spring	3rd Bone Post frac	3rd Sand Delta		
IP30 BOPD	3,356	NA	NA	555	NA
Pre vs. Post frac oil rate BOPD	950	500	-450	+555	105
EUR MMBO	2.51	1.63	-0.88	+0.89	0.01

Wolfcamp Recovery (EUR) = $\frac{890\ mbo}{5\ wells} = \frac{178\ mbo/well}{4{,}600\ ft/well}$ = **38.5 bo/ft**

Exhibit D-11

Black and Tan Analog Comparison To MP/LG

Exhibit D-11

Table 1.2	Black and Tan			Mighty Pheasant Loosey Goosey		
Analog Comparison	3rd Sand	Wolfcamp	3rd SS % of total	3rd Sand	Wolfcamp	3rd SS % of total
PHIH	22	7	76	27	10	73

- Contested acreage is expected to outperform Black and Tan 2.5MMbo / 640-acre Technical EUR by ~20%
- Over performance driven by improved PHIH of 3rd sand. 27/22 = 122%.
- Sensitivities highlight impact of capital waste given 0% uplift on Black and Tan Wolfcamp 3rd SS analog
  - Table 1.3 - Wolfcamp must add ~40% reserves to break even vs Cimarex Development at P90 reserves case
  - Table 1.4 - Wolfcamp must add ~31% reserves to break even vs. Cimarex Development at SM business case
  - Neither Table 1.3 or 1.4 increase in performance is reasonable to expect given public data

Table 1.3 Reserves Economic Comparison 10MM Technical EUR DSU						
$65 flat analysis at Cimarex WI & NRI			Permian		Cimarex	
Reserves	IP	Economic EUR MBO	PV10 $MM	Payout months	PV10 $MM	Payout months
100%	14,738	8,860	14.7	43	41.8	12
110% expected	16,212	9,820	21.4	33		
120% expected	17,685	10,780	28.2	26		
130% expected	19,159	11,740	34.9	23		
140% expected	20,633	12,700	41.5	21		

Table 1.4 Development Comparison 12MM Technical EUR DSU						
$65 flat analysis at Cimarex WI & NRI			Permian		Cimarex	
12 MM EUR	IP	Economic EUR MBO	PV10 $MM	Payout months	PV10	Payout months
100%	18,897	11,026	34.8	23	61.9	10
110% expected	20,787	12,987	43.6	20		
120% expected	22,676	14,233	52.3	18		
130% expected	24,566	15,480	61	16		
140% expected	26,456	16,727	69.7	15		

- In order to create equivalent PV10, Wolfcamp landings must add ~40% more reserves vs reserves estimate (table 1.3) and 31% more reserves vs. P50 expectation (table 1.4). This outcome is unrealistic vs. observed results.
- Cimarex lower terminal fixed OpEx + less well degradation results in 9.1MM EUR vs. Permian 8.9MM EUR at 100% reserves expectation.
- The Cimarex plan self-funds annual drilling after first batch of wells supporting rapid development
- Permian plan supports slower development speed

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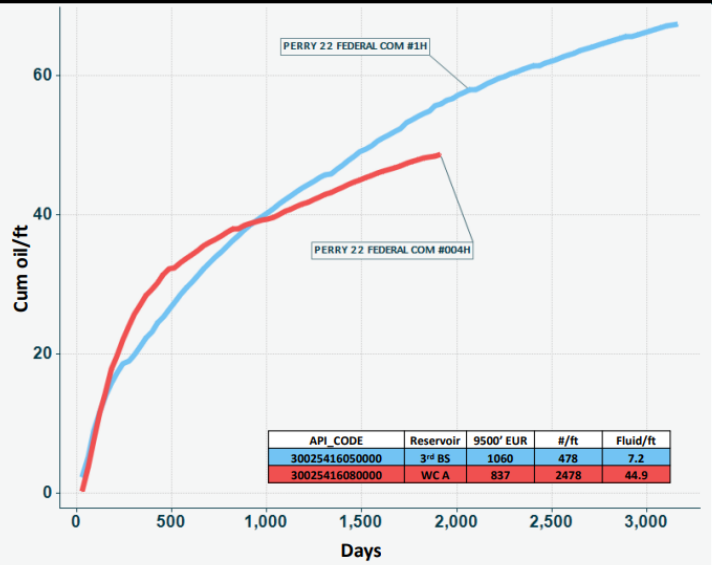
40% more reserves would represent: **38.5 bo/ft x 1.4 = 54 bo/ft**

Exhibit D-12

Landing Zone Matters; 5 Years Ago, Cimarex's Perry Test Confirmed 3rd SS Landing as Best Target v2

Exhibit D-12



API_CODE	Reservoir	9500' EUR	#/ft	Fluid/ft
30025416050000	3rd BS	1060	478	7.2
30025416080000	WC A	837	2478	44.9

Note: 5 to 6 x the frac energy is not as important as the right landing zone.

- The Perry 1H 2014 vintage 3rd sand well outperforms modern 2018 Perry 4H Wolfcamp completion in the same section at better oil cut 1 mile south of contested development area.
- The best flow properties and majority of bbls are best accessed from the 3rd sand where they are located
- Updated Production to Monthly / Days in Month

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Cimarex provides their internal EUR for the Perry 22 4H

- **837 mbo / 9,500 ft = 88 bo/ft**

API_CODE	Reservoir	9500' EUR	#/ft	Fluid/ft
30025416050000	3rd BS	1060	478	7.2
30025416080000	WC A	837	2478	44.9

- **Exceeding 54 bo/ft required by Cimarex economics**

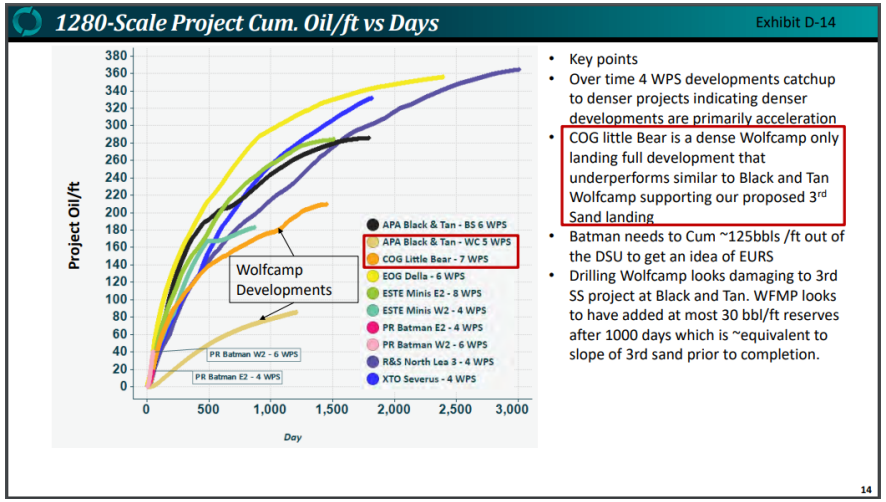
EXHIBIT K

Cimarex Offset Development Comparison

Selectively Breaking Out WFMP and TBSG is Misleading

Cimarex's Offset Comparison

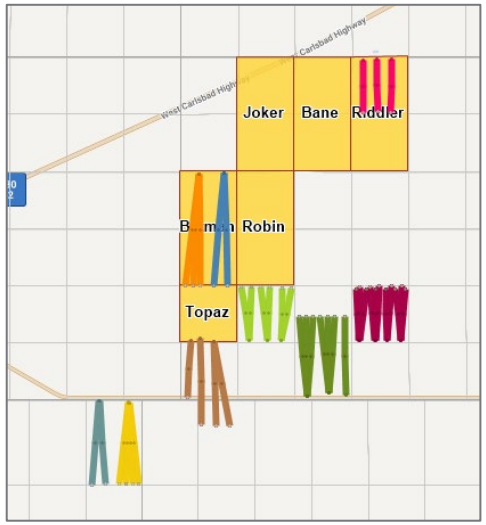
Exhibit D-14

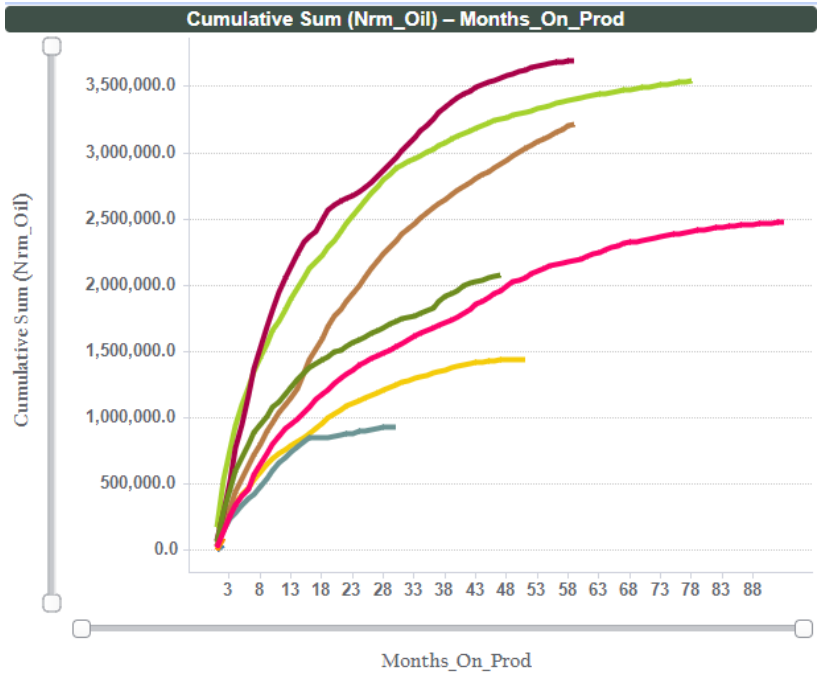


Cimarex selects offset developments in an attempt to demonstrate that 4 WPS TBSG only development generates the most production. Some observations:

- Black & Tan WFMP are graphed separately than the WFMP defeating the purpose of this plot
- Even by this plot, through the first 5 years the Della development (6 WPS and includes a WFMP) is the strongest offset development

A Closer Look





When grouping the developments together instead of selectively separating out the WFMP, the top 2 projects are WFMP & TBSG co-developments at greater than 4 WPS

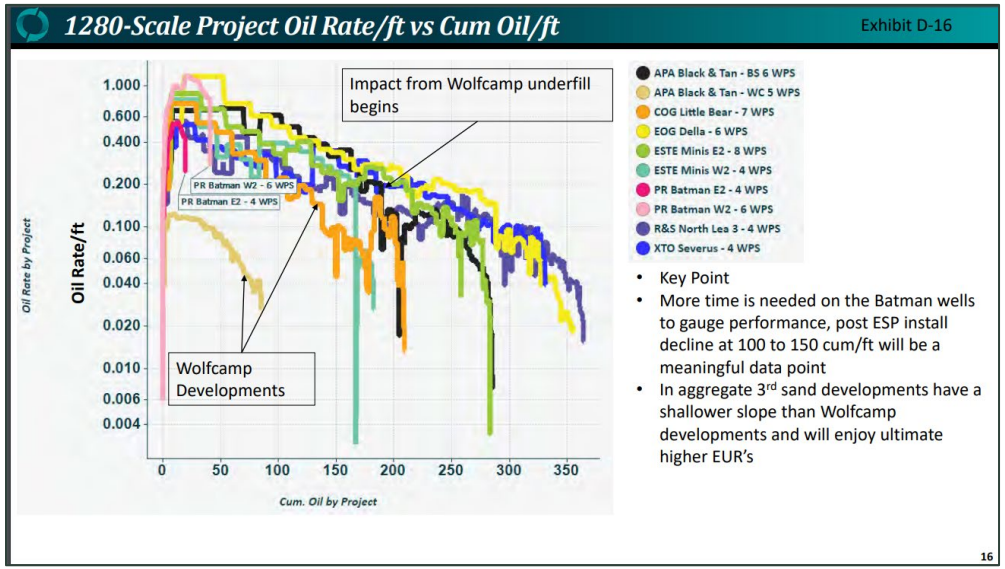
EXHIBIT K

Cimarex Offset Development Comparison

Selectively Breaking Out WFMP and TBSG is Misleading

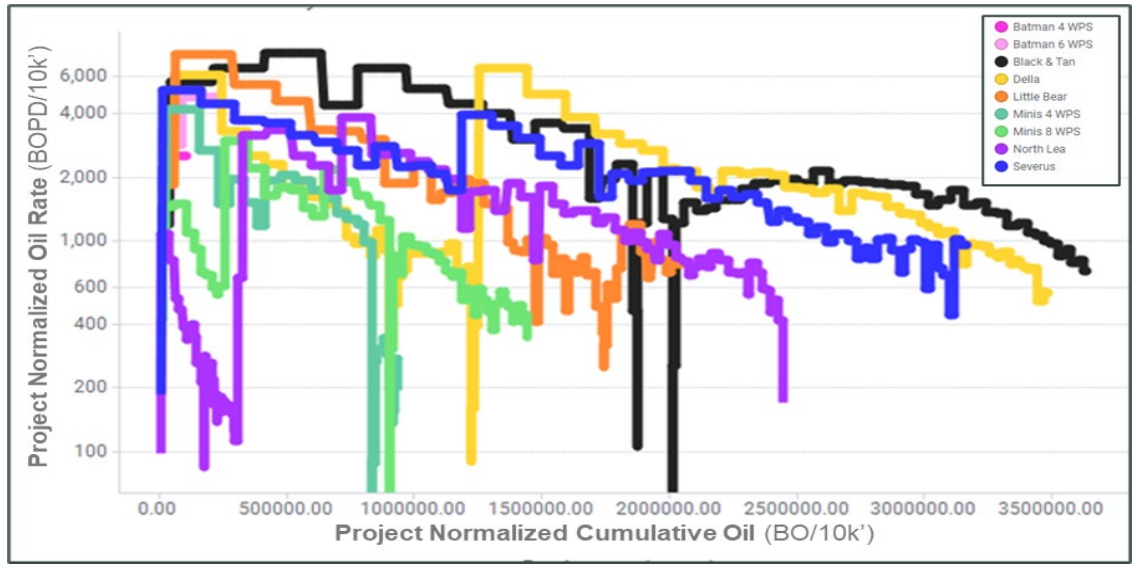
Exhibit D-16

Cimarex's Offset Comparison



- Merging daily and monthly can be misleading
- Selectively separating out WFMP and TBSG is misleading

A Closer Look



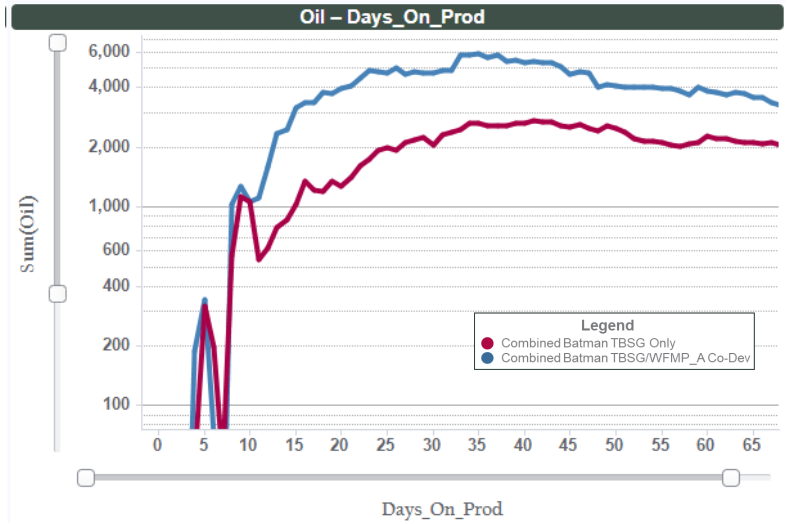
- Recreating the plot with the Black & Tan WFMP & TBSG yields very different results

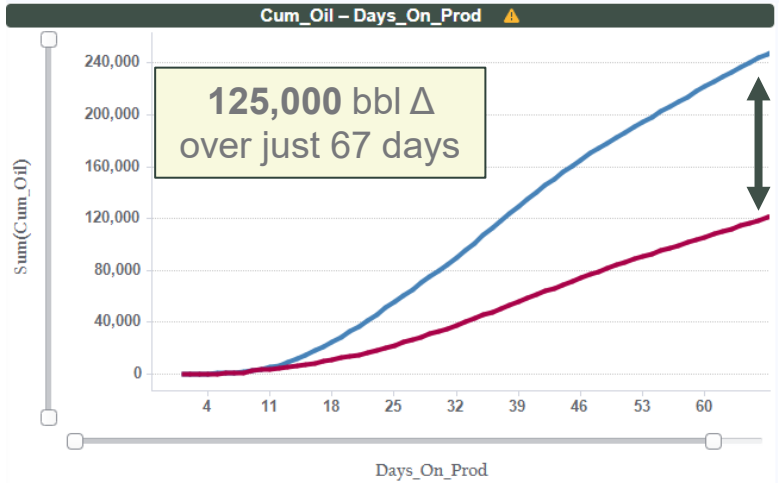
EXHIBIT K

A Note on Economics

Batman Supports Material Economic Uplift with Co-Development

Batman Early Time Performance





PR Internal Expectations

	Oil Production (bbls)	Total Forecasted EUR (MBO)	NPV 10 ($MM)	Actual Revenue to Date ($MM)	IRR
Batman Co-Development	251,000	2,524	$14.9	$8.40	78%
Batman TBSG Only	123,000	1,776	$10.1	$3.95	73%
Delta	**128,000**	**748**	**$4.8**	**$4.45**	**5%**

Current internal expectations strongly support TBSG/WCA co-development and additional reserves with:

- Massively increased early time performance
- Increased EUR
- Increased NPV10

6/9/23 Strip

EXHIBIT K

Coterra - 2Q23 Earnings Presentation

Filed 8/7/2023 on Coterra Website

Permian Asset Overview

COTERRA

targeting prolific Wolfcamp & Bone Spring

notable Permian projects

Larger-scale projects are driving capital efficiency by

- Focusing on concentrated areas & reducing mobilization time for drilling & completion services
- Spreading facilities and infrastructure across more wells

Culberson Mint Julep Row | Wolfcamp | 7.5 wps
11.4 net (23 gross) wells now online

Culberson Row | Wolfcamp | 7-9 wps
25.5 net (51 gross) wells spud 3Q23
Largest development to date

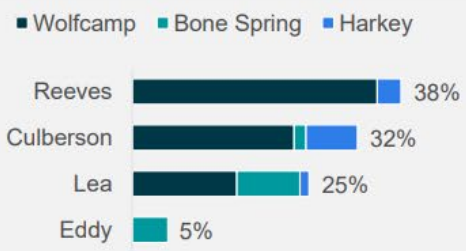
Lea County | Bone Spring, 4 Landing Zones | 14 wps
4.6 net (8 gross) wells coming online Q4 2023
Further testing multiple Bone Spring landing zones

Culberson County | Wolfcamp & Harkey | 9 & 4 wps
9.0 net (18 gross) wells coming online 4Q23
Given project timing, production tilts toward 2024

- Coterra acreage ~307k net acres
- Wolfcamp
- Bone Spring

2023 operational outlook

$880mm - $980mm	D&C capex
9,700'	avg. lateral length[1]
$1,200	avg. well cost per foot[1]
$1,250	Reeves
$1,000	Culberson
$1,400	Lea
$1,000	Eddy
80 - 90	net wells online:



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Note: wps = wells per section. [1]Of operated wells.

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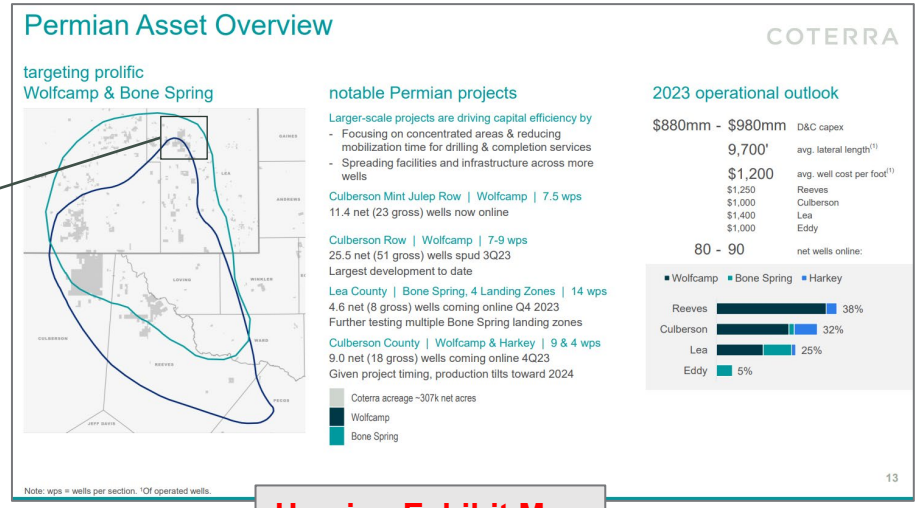
EXHIBIT K

Coterra - 2Q23 Earnings Presentation

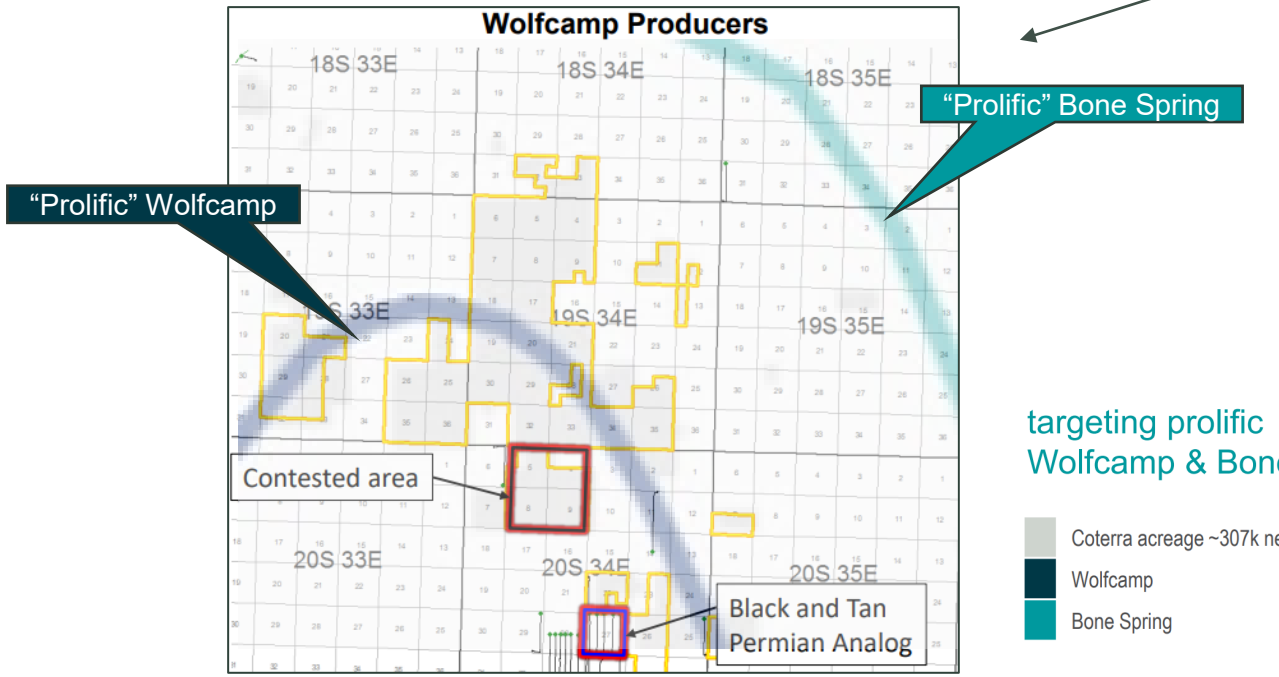
Filed 8/7/2023 on Coterra Website

- Coterra highlights "targeting prolific Wolfcamp & Bone Spring" in 2Q23 earnings presentation map – yet is not developing the Wolfcamp inside its own "prolific" play outlines

2Q23 Earnings Presentation Slides



Map Overlay from Slides

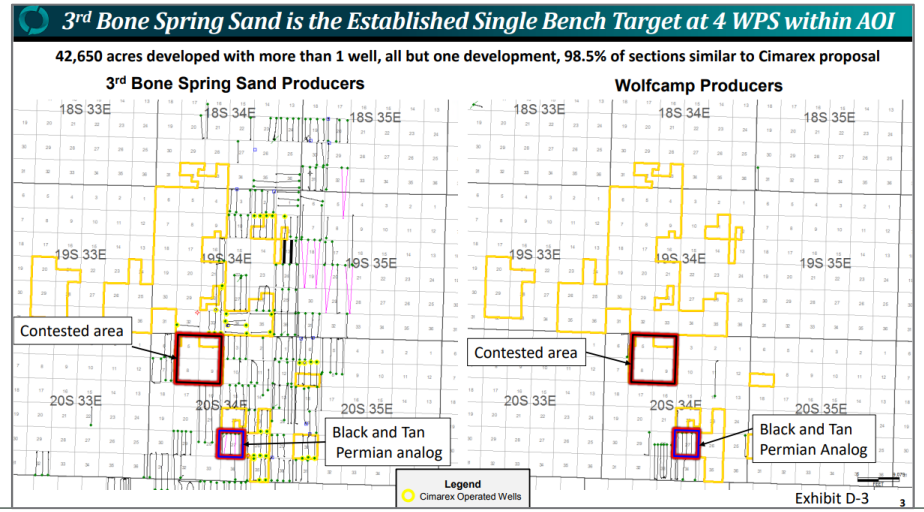


PR geo-referenced maps using Coterra acreage outline

targeting prolific
Wolfcamp & Bone Spring

Coterra acreage ~307k net acres
Wolfcamp
Bone Spring

Hearing Exhibit Map



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