

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

**APPLICATION OF READ & STEVENS, INC.
FOR CREATION OF A SPECIAL
WOLFBONE POOL IN SECTIONS 4, 5, 8,
AND 9 IN TOWNSHIP 20 SOUTH, RANGE 34
EAST, NMPM, LEA COUNTY, NEW
MEXICO.**

CASE NO. 24528

**APPLICATION OF CIMAREX
ENERGY CO. FOR THE CREATION
OF A SPECIAL POOL, A WOLFBONE POOL,
PURSUANT TO ORDER NO. R-23089 AND TO
REOPEN CASE NOS. 23448 – 23455, 23594 –
23601, AND 23508 – 23523, LEA COUNTY,
NEW MEXICO.**

CASE NO. 24541

NOTICE OF REBUTTAL EXHIBITS

Read & Stevens, Inc. (“Read & Stevens”), the applicant in Case No. 24528, and Permian Resources Operating, LLC (“Permian Resources”) (OGRID No. 372165) (collectively “Permian Resources”), submit notice that it is filing the attached exhibits marked as Permian Resources Rebuttal Exhibits G-1 through G-7, H-1, and I-1 through I-4, which its witnesses may refer to as rebuttal exhibits at the special hearing scheduled for August 13, 2024.

Respectfully submitted,

HOLLAND & HART LLP

By: 

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**ATTORNEYS FOR READ & STEVENS, INC. &
PERMIAN RESOURCES OPERATING, LLC**

CERTIFICATE OF SERVICE

I hereby certify that on August 12, 2024, I served a copy of the foregoing document and witness testimony and exhibits to the following counsel of record via Electronic Mail to:

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***Attorney for MRC Permian Company
& Foran Oil Company***

Attorneys for Cimarex Energy Co.



Adam G. Rankin



Rebuttal – Cimarex Claims

1

Cimarex Land Testimony, Para 11

11. Because Cimarex's Option 2 did account for the Third Bone Spring and Upper Wolfcamp in the pooling and production of the single reservoir located primarily in the Third Bone Spring but extending into the Upper Wolfcamp, the notice letters in Exhibit E-1 of Cimarex's Hearing Packet's I, II and IV properly informed the owners about Cimarex's plan to pool the single reservoir, and in preparation for the present Wolfbone case, Cimarex provided in a timely manner notice for the present case, informing uncommitted owners of the proposed Wolfbone Application

August 2023: Permian Resources had to seek waivers from the two owners (Warren & CLM) who only own in the Wolfcamp due to Cimarex's lack of notice (See Cimarex's attempt at continuance filed August 1, 2023). Cimarex furthermore appears not to even had title as to the Wolfcamp formation during the 2023 hearing relying on PR ownership tables they viewed in July 2023 when Exhibits were originally due. Assumption is that 12 months of time has helped resolve the lack of title.

2

Cimarex preference NOT to use allocation formula:

Mr. Coffman, does Cimarex itself have a preference between the two options, option one or option two?
MR. COFFMAN: I think option one would be our preference. But we would comply with whatever the commission decides.

*Day 1 Transcripts – August 2023 Hearing

proposed for production from the Bone Spring formation. However, our geologists and engineers have thoroughly evaluated the Bone Spring formation in relation to the Wolfcamp formation in the above-referenced lands ("Subject Lands") and have determined that due to the extensive communication between the Bone Spring and the Wolfcamp, the Wells, as proposed, will produce the primary concentrations of hydrocarbons in the Wolfcamp, those being in the Upper Wolfcamp, and Cimarex believes they will do so more optimally given their current location within the 3rd Bone Spring than if

of Cimarex's Geologist, Staci Mueller, it was Cimarex, not Permian Resources, who correctly identified the Third Bone Spring and Upper Wolfcamp as being a single reservoir, and from the beginning, Cimarex designed its development plan -- designating the Third Bone Spring as the location and placement of its wells to achieve optimal production of the single reservoir -- around

Cimarex Land Testimony, Para 7 – Cimarex repeated **INTENT** of violation of correlative rights "from the beginning"

MR. GARCIA: Earlier, we spoke to your landman about option one and option two. I believe he said his option one was his preferred outcome, which was completely pooling just the Bone Springs.

I guess do you agree with that option? Or would you prefer the option two because of potential future Wolfcamp development?

MS. MUELLER: I think I would agree with option one. And we would come back later on and drop our well below any sort of baffle, well into the AI shale.

*Day 1 Transcripts – August 2023 Hearing

Cimarex letter dated 6/15/2023 – "Supplement to Proposal to Drill"

distribution of production from the Wolfbone Pool. Instead, Permian Resources' development plan proposes to drill a set of wells in the Third Bone Spring and an additional set of wells in the Upper Wolfcamp, for a total of 16 wells to produce the Wolfbone Pool, twice as many wells as Cimarex's plan, costing an additional \$79,398,674.84 for Permian Resources to produce the Wolfbone, in a

Cimarex Land Testimony, Para 21

250' below Cimarex 3rd Bone Sand Target is well within both Cimarex's and Permian's proposed Wolfbone pool¹. In this event, Cimarex would seek to allocate 72.8% interest in it's purported future Wolfcamp A Shale wells Bone Spring owners

If we were to come back later on and develop the Wolfcamp A shale, then we would land probably 250 feet-ish below our Third Sand landing to make sure that those wells have minimal interaction between each other. But I don't have an example of that in my exhibits.

*Day 1 Transcripts – August 2023 Hearing

¹Compare purported Cimarex future Wolfcamp A shale landings (~11,100' TVD) to base of proposed Wolfbone pool (11,236' TVD)

*Note – Purported WCA Shale wells will not cost \$0.00. Cimarex future expenditures to develop Wolfbone remain unknown



Rebuttal – Cimarex Claims

Cimarex Repeated Complaint:

Its more expensive to drill more wells.

Permian Resources Offer:

Should Cimarex continue to feel that it does not wish to bear the cost burden of prudently developing the Wolfbone pool, Permian hereby offers Cimarex the opportunity to non-consent in any proportion it so desires on a well-by-well basis.

*Note Permian's cost to drill a 3rd Bone Sand well is \$677,177.55 cheaper on a well-by-well basis (total of \$5,417,420.40 in cost savings to all interest owners)

Permian Resource's Wolfbone Wells (16)	Cost of Well	Cimarex's Wolfbone Wells (8)	Cost of Well
Joker 5-8 Fed Com 131H	\$10,377,581.45	Mighty Pheasant 5-8 Fed Com 301H	\$11,054,759.00
Joker 5-8 Fed Com 132H	\$10,377,581.45	Mighty Pheasant 5-8 Fed Com 302H	\$11,054,759.00
Joker 5-8 Fed Com 133H	\$10,377,581.45	Mighty Pheasant 5-8 Fed Com 303H	\$11,054,759.00
Joker 5-8 Fed Com 134H	\$10,377,581.45	Mighty Pheasant 5-8 Fed Com 304H	\$11,054,759.00
Joker 5-8 Fed Com 201H	\$10,602,008.53	Loosey Goosey 4-9 Fed Com 301H	\$11,054,759.00
Joker 5-8 Fed Com 202H	\$10,602,008.53	Loosey Goosey 4-9 Fed Com 302H	\$11,054,759.00
Joker 5-8 Fed Com 203H	\$10,602,008.53	Loosey Goosey 4-9 Fed Com 303H	\$11,054,759.00
Joker 5-8 Fed Com 204H	\$10,602,008.53	Loosey Goosey 4-9 Fed Com 304H	\$11,054,759.00
Bane 4-9 Fed Com 131H	\$10,377,581.45		
Bane 4-9 Fed Com 132H	\$10,377,581.45		
Bane 4-9 Fed Com 133H	\$10,377,581.45		
Bane 4-9 Fed Com 134H	\$10,377,581.45		
Bane 4-9 Fed Com 201H	\$10,602,008.53		
Bane 4-9 Fed Com 202H	\$10,602,008.53		
Bane 4-9 Fed Com 203H	\$10,602,008.53		
Bane 4-9 Fed Com 204H	\$10,602,008.53		
TOTAL	\$167,836,719.84		\$88,438,072.00
			\$79,398,647.84

EXHIBIT F-2.2 118

Cimarex Exhibit F-2.2

Debunking Cimarex Fallacies:

There is a potential title dispute with Foran Oil Company. Cimarex is working with Foran Oil Company through claims and curative. This is noted on the ownership exhibits. See Exhibit F-5, attached hereto.

Cimarex Land testimony, Para 19

Cimarex Representation of Permian Supporters¹

Chase Oil Corporation	Neutral
Wilbanks Reserve Corporation	Neutral
Marks Oil, Inc.	Neutral

Cimarex Representation of Permian Owned Interests:

Edward N. Adcock Joe L. Compton

THIS ASSIGNMENT, CONVEYANCE AND BILL OF SALE (this "Assignment") is made between **Edward N. Adcock and Joe L. Compton** having address of 77 Calle Ventoso W, Santa Fe, NM 87506 and 3411 43rd Street, Lubbock, TX 79413, hereinafter called "Assignor", and **Permian Resources Operating, LLC**, a Delaware limited liability company having an address of 300 N. Marienfeld St., Suite 1000, Midland, Texas 79701, hereinafter called "Assignee".

Cimarex's sole Argument: (Reliance on Support rather than any merit)

Bone Spring Formation:	Net Acres:
Cimarex	799.95
Cimarex Support (3 of 29 Owners)	517.83
Wolfcamp Formation:	Net Acres:
Cimarex	607.88
Cimarex Support (3 of 29 Owners)	495.67

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%

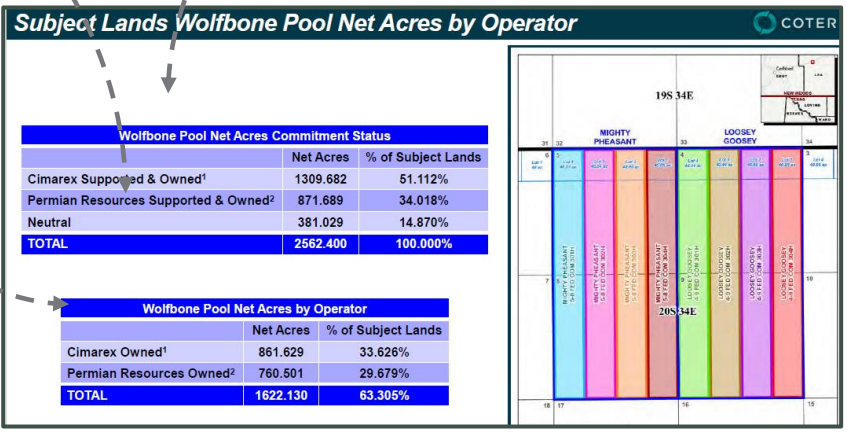
STATE OF NEW MEXICO §
COUNTY OF LEA §

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 Exhibit F-3

¹See Letters of Support supplemented here as Rebuttal Exhibits G-6 and G-7.

*Permian has 16 ORRI supporters and 11 WI supporters

*Cimarex supporters are not Hz. operators

Rebuttal – Cimarex Claims

1 Cimarex Land Testimony, Para 22:
 22. The approach of drilling wells above and below a depth severance of ownership (for example, in the Third Bone Spring and the in the Upper Wolfcamp) can be used if the two different formations have natural barriers that maintain separation of production for each set of wellbores. **When there is a natural barrier that separates the formations, which usually exists between formations,** an operator can distribute all the production from the Wolfcamp wellbores to the Wolfcamp owners and all the production from the Bone Spring wellbores to the Bone Spring

**Day 1 Transcripts – August 2023 Hearing*

13 MS. MUELLER: **There's no frac baffle**
 14 present between the Third Bone Spring target and the
 15 upper Wolfcamp target.
 16 **That's pretty common in many places in**
 17 **the Delaware Basin,** and we also see that here.
 18 MR. SAVAGE: Okay. And do you see in
 19 Mr. Bradford's testimony discussion of lack of frac
 20 baffles?

2 Cimarex Land Testimony, Para 24:
 great and excessive costs – but **Pernian Resources has also failed in its Wolfbone Application to adjust or amend the number of initial wells** in its pooling applications. Permian Resources

2. To Maintain an "Apples-to-Apples" Comparison, Permian Resources has Elected to Dismiss its Initial Proposed Bone Spring Wells Except for the Basal Third Bone Spring Wells it will Co-Develop with the Upper Wolfcamp.

Closing Arguments filed 9/21/2023, PRIOR to Wolfbone pool request from OCD

3 adhering to the timeline requirements in the Division's order, has proposed 10 initial wells in its pooling applications for the Subject Lands, which is a feasible number of wells to drill and complete within the timeline prescribed by the Division's standard pooling order. Eight (8) of the initial wells are proposed for the Wolfbone Pool and **two (2) of the initial wells are proposed for the Second Bone Spring formations in the Bone Spring Pool.** Thus, Cimarex avoids the drilling of

This is a Wolfbone hearing and why are you trying to drill inefficient one-off wells?

Cimarex Land Testimony, Para 25:
 effective manner, and Cimarex establishes a perfected presence in the Bone Spring Pool **by drilling the First and Second Bone Spring formations in the first year.** Cimarex has received APD approval

Cimarex Land Testimony, Para 25:
 these additional wells, but Cimarex respectfully submits that **no operator can accurately project 2 to 3 years down the road and predict that numerous wells will be drilled on any kind of strict schedule.** Fortunately, Cimarex can perfect and secure its proposed spacing units within the first year of operatorship by drilling its proposed 10 initial wells, as shown in Exhibit F-7

- Cimarex Case Nos:
- 23601: Initial Well: LG 304H, Proposing to pool E2E2, Wolfcamp formation
 - 23452: Initial Well: LG 204H AND 304H, Proposing to pool E2E2 Bone Spring formation**
 - 23597: Initial Well MF 304H, Proposing to pool E2E2, Wolfcamp formation
 - 23448: Initial Well MF 204H AND 304H, Proposing to pool E2E2 Bone Spring formation**

Cimarex Case Nos:
 Cimarex attempting to shove Case No: 23452 and 23448 though Wolfbone pooling to complicate the issue. Cimarex attempting to drill two (2) one-off, inefficient 2nd Bone wells and NOT return to drill offset for "3years" (See Cimarex transcript to the left)
Cimarex 2nd Bone Spring wells should be DISMISSED from these applications

Drilling the 10 Initial Wells to Perfect and Secure Pooling Order

Mighty Pheasant 5-8 Fed Com Wells & Loosey Goosey 4-9 Fed Com Wells	
Well Name	Timeline of Spud (Estimated)
Mighty Pheasant 5-8 Fed Com 204H	Within 1 year of signature
Mighty Pheasant 5-8 Fed Com 301H	Within 1 year of signature
Mighty Pheasant 5-8 Fed Com 302H	Within 1 year of signature
Mighty Pheasant 5-8 Fed Com 303H	Within 1 year of signature
Mighty Pheasant 5-8 Fed Com 304H	Within 1 year of signature
Loosey Goosey 4-9 Fed Com 204H	Within 1 year of signature
Loosey Goosey 4-9 Fed Com 301H	Within 1 year of signature
Loosey Goosey 4-9 Fed Com 302H	Within 1 year of signature
Loosey Goosey 4-9 Fed Com 303H	Within 1 year of signature
Loosey Goosey 4-9 Fed Com 304H	Within 1 year of signature

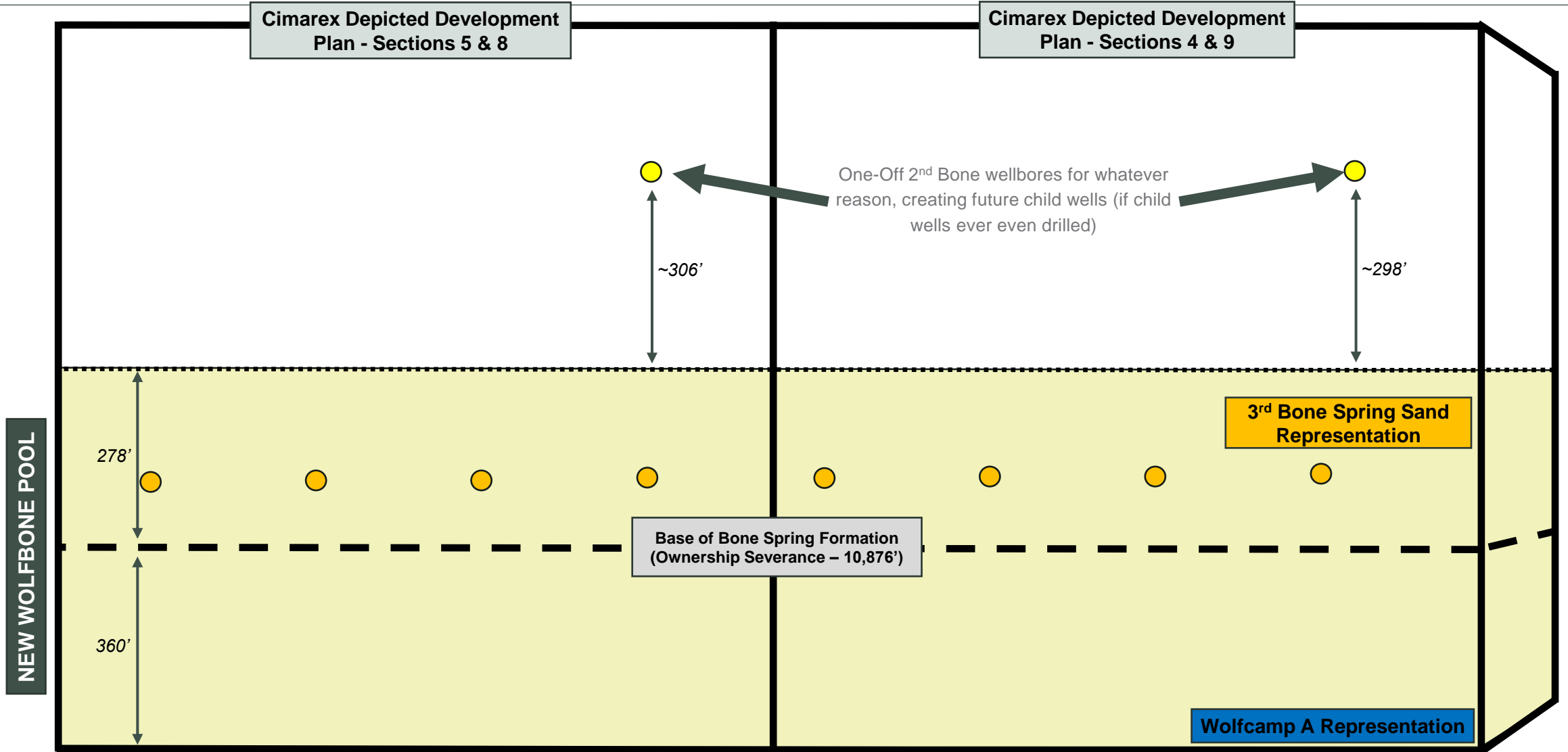
Cimarex's continued commitment in an attempt to drill one-off, inefficient wellbores with no line of sight to fully develop¹

¹See next slide for depiction of Cimarex's intended well plan & layout now knowing they indeed want to drill one-off wellbores

**Permian Basal Third Bone Spring wells in the offset Batman DSU in a successful spacing test*



Rebuttal – Cimarex Claims



*Illustration for visual purposes only, wellbores shown representative of Cimarex planned development now knowing they plan to drill one-off wells



Rebuttal – Cimarex Claims

28. As described in in the Landman Statement presented at the original hearing, Cimarex was one of the early pioneers in the development of the area surrounding the Subject Lands, and it has a successful history of developing the lands in this area, operating approximately 15,000 acres and 50 wells in the area. See Exhibit A, Paragraphs 25 through 33, Cimarex's Hearing Packet I, which describes the history and extent of Cimarex's development in this area. Through its concentrated efforts on this area, Cimarex has acquired approximately seventy-five percent (75%) of the working interest in Sections 4, 5, 6, 7, 8, 9, 17, 18, 19, 20, 29, 30, 31, 32, and 33, in this area that has been an area of focus for Cimarex for an extended period of time. It is the long-term plan of Cimarex to develop and transform the majority of this acreage into a federal unit, and that is what we have been working toward over the years, to develop these lands into a federal unit that will complement our two other federal units (Laguna Deep and Pipeline Deep) that we operate in the nearby area. See Exhibit A, Para. 25, Cimarex's Hearing Packet I, *Cimarex Land Testimony, Para 28*

1979 JOA Claim

Cimarex continues to hark on the 1979 JOA claim – Please see August 2023 hearing transcript (See Pg 35, Day 3 8/2023 Transcripts) Cimarex in no way shape or form operates that JOA. Permian operates it however; it is a moot point as each company's proposed wells traverse outside the boundaries of said JOA, requiring a superseding one to be in place (Cimarex understands this as they have likewise proposed new JOAs).

Lastly, does Cimarex presently or have they ever in the past operated a well inside of Sections 4, 5, 8, or 9? – **No**

Cimarex's Lack of Activity

As previously noted in Permian's rebuttal exhibits from the August 2023 (cited "*Brief Historical Timeline*"). While Cimarex continues an attempt at pandering as an active operator in this area, it is not. Cimarex is the one that challenged Read & Stevens operatorship in 2017 after R&S received approved APDs. From 2017 to 2023 Cimarex appears to have virtually done nothing except for apply for APDs, which were applied for 1) without an interest in every tract, 2) Prior to proposing the wells to the interest owners, 3) Without applying for a Potash Development Area and 4) Without approved Potash Drill Islands. There is nothing about Cimarex's attempt at operatorship that is compelling. Permian acquired this acreage from Read & Stevens on February 16, 2023. February 17, 2023, well proposals were out the door, Potash DA was submitted, and the BLM designated "Joker" drill island was established.

Cimarex's pandering continues as a self-proclaimed "pioneer". Please refer to John Fechtel's exhibit referencing Cimarex's single well they've drilled in more than 5-years. As a "pioneer", they claim to operate 50 wells in the area. Permian has drilled 64 wells in the area in the past 12 months all the while completing spacing tests and drilling multiple pilot holes (See Exhibit B-6).

Cimarex further states it has acquired interest in numerous sections in a township that we assume to be T19S-R34E, north of the Joker & Bane units. First, of the ~9,600 gross acres referenced; Cimarex only operates five (5) horizontal wells. 4 of the 5 were drilled over (10) years ago, the 5th was spud September of 2014. Furthermore, the majority of Cimarex's position in the area was acquired in 2014 when the company purchased Tom Brown, Inc.

Lastly, Cimarex states it has been working for years to form a federal unit out of the referenced lands to accompany it's two other federal units, the Laguna Deep and Pipeline Deep.

- Pipeline Deep Unit - Cimarex has not drilled a single well in this unit in 18 years
- Laguna Deep Unit - Cimarex has not drilled a single well in this unit in 12 years, with a 5-year gap between the most recent well and the previous.



August 9, 2024

VIA EMAIL TO: JohnA.Garcia@emnrd.nm.gov

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

ATTN: John A. Garcia

RE: Submission to Hearing Examiners – Hearing August 13, 2024

Marks Oil, Inc. (“Marks”) is a non-operating working interest owner in the ongoing contested hearing between Permian Resources Operating, LLC as operator for Read & Stevens, Inc. (collectively “Permian”), and Cimarex Energy Co. (“Cimarex”) covering the Bone Spring and Wolfcamp formations located in Sections 4, 5, 8, and 9 of Township 20 South, Range 34 East, Lea County, New Mexico (the “Lands”). The contest has been given the Case Numbers below:

Compulsory Pooling Case Numbers:

Permian Applications:

- Case Numbers 23508 - 23523

Cimarex Applications:

- Case Numbers: 23448 – 23455, 23594 – 23601

On April 8, 2024, the New Mexico Oil Conservation Division issued Order R-23089 awarding operatorship to neither Permian nor Cimarex and requested a Wolfbone pool be formed. Permian and Cimarex have since proposed separate plans for the Wolfbone pool under the following Case Numbers which are set to be heard on August 13, 2024 (the “Wolfbone Case”).

Wolfbone Application Case Numbers:

Permian Application:

- Case Number 24528

Cimarex Application:

- Case Number 24541

While Marks encourages development of the Lands by a competent operator in a prompt and prudent manner, Marks would like to insert its opinion on the Wolfbone Case given its ownership is approximately twice the amount in the Wolfcamp formation versus the Bone Spring

New Mexico Oil Conservation Division
August 9, 2024
Page 2

formation and will be disproportionately affected. Marks does not consider Cimarex's proposed allocation formula for the Wolfbone pool to be an accurate allocation of interests between the Bone Spring and Wolfcamp formations and views this plan as a violation of correlative rights and a waste of hydrocarbon resources. Marks formally supports Permian and its plan for development and allocation of the Wolfbone Pool.

Thank you for your consideration.

Sincerely,

MARKS OIL, INC.

A handwritten signature in black ink, appearing to read "S.K. Marks", written over a light blue horizontal line.

Stephen K. Marks
President

c: Via Email

Adam Rankin – Holland & Hart LLP
Paula M. Vance – Holland & Hart LLP



450 E. 17th Avenue, Suite 220
Denver, Colorado 80203
303-825-4000 Phone
303-825-4004 fax

August 9, 2024

Sent Via Email

JohnA.Garcia@emnrd.nm.gov
OCD.Engineer@emnrd.nm.gov

New Mexico Oil Conservation Division
Attn: Mr. John Garcia
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Oil Conservation Division Examiner Hearing on August 13, 2024

Mr. Garcia:

Wilbanks Reserve Corporation (“Wilbanks”) is a working interest owner in the ongoing contested hearing between Permian Resources Operating, LLC as operator for Read & Stevens, Inc. (collectively “Permian”) and Cimarex Energy (“Cimarex”) covering the Bone Spring and Wolfcamp formations located in Sections 4, 5, 8, and 9 of Township 20 South, Range 34 East, Lea County, New Mexico. The contest has been given the below case numbers:

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Wolfbone Application Case Numbers:

Permian Application:

- Case Number 24528

Cimarex Application:

- Case Number 24541

Wilbanks would like to provide its opinion on the Wolfbone Case in view of the fact Wilbanks owns approximately twice the amount of interest in the Wolfcamp formation vs. the Bone Spring formation. Wilbanks will be negatively affected if the Wolfcamp XY/A formation is not perforated and developed to its full extent. Wilbanks does not believe the Wolfcamp XY/A can be fully developed by only perforating and producing wells from the Third Bone Spring Sand formation as proposed by Cimarex. Further, Wilbanks does not consider Cimarex's proposed allocation formula to be an accurate allocation of interests between the Bone Spring and Wolfcamp formations. Wilbanks views Cimarex's plan as a violation of correlative rights and a probable waste of resources by not fully developing the Wolfcamp XY/A. Therefore, Wilbanks formally supports Permian and its plan for development and allocation of the new Wolfbone pool.

Thank you for your time and consideration on this matter.

Sincerely,

Wilbanks Reserve Corporation

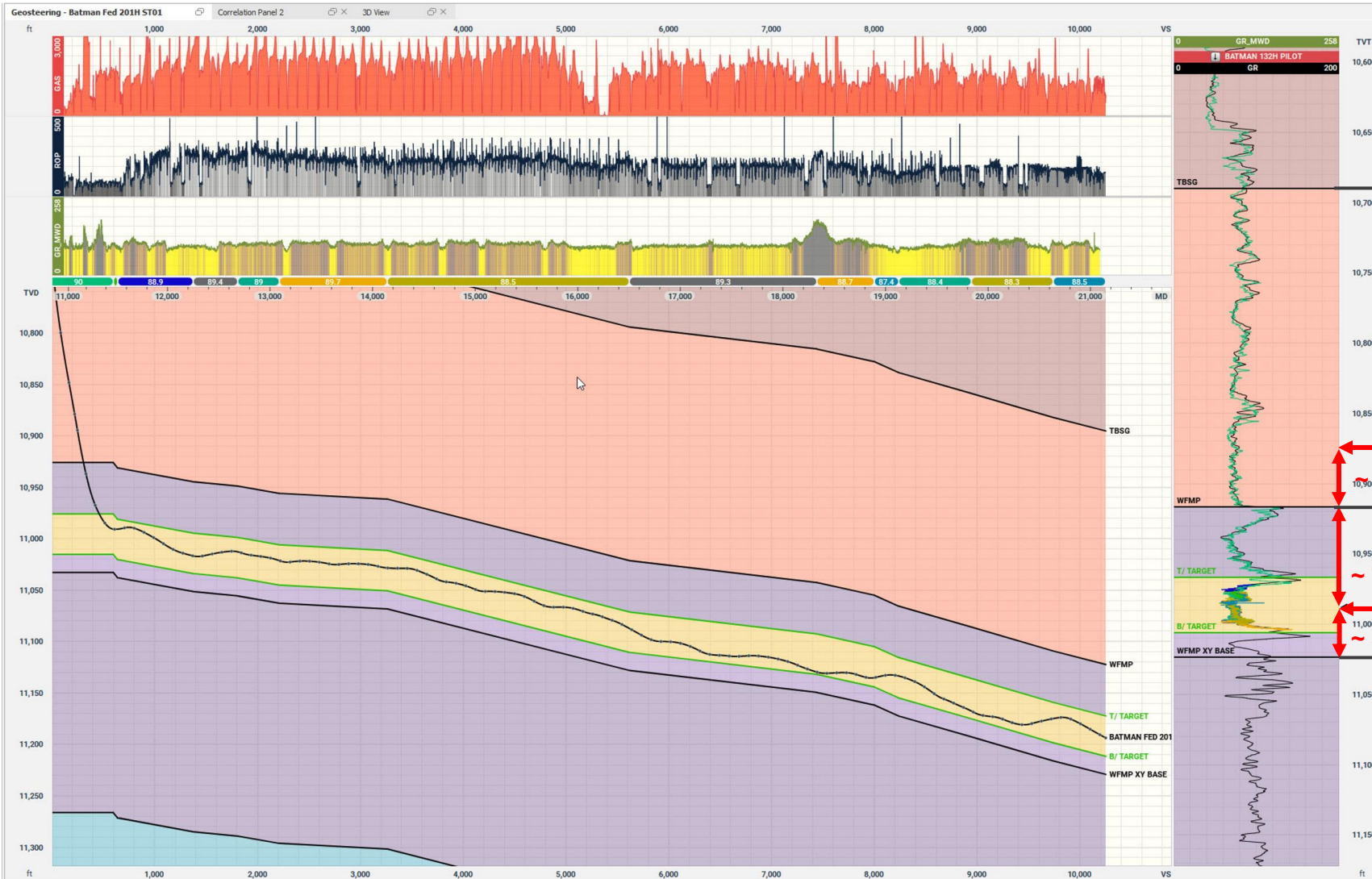


James O. Wilbanks
President

cc: Mr. Adam Rankin, Holland & Hart LLP, AGRankin@hollandhart.com
Ms. Paula M. Vance, Holland & Hart LLP, PMVance@hollandhart.com
Mr. Travis Macha, Permian Resources Operating, LLC, travis.macha@permianres.com



Batman 201H Landing



The Batman 201H is landed in the Y Sand, ~ 70' below the base of the TBSG, which is ~110' deeper than the Basal TBSG Target.

The Y sand landing target is also ~30' from the top of the A Shale

Permian Resources' plan is to continue to land wells in this target as we develop our acreage in this area

Top TBSG

Basal TBSG Target

Base TBSG/ Top WFMP

Y Sand Target

Top A Shale

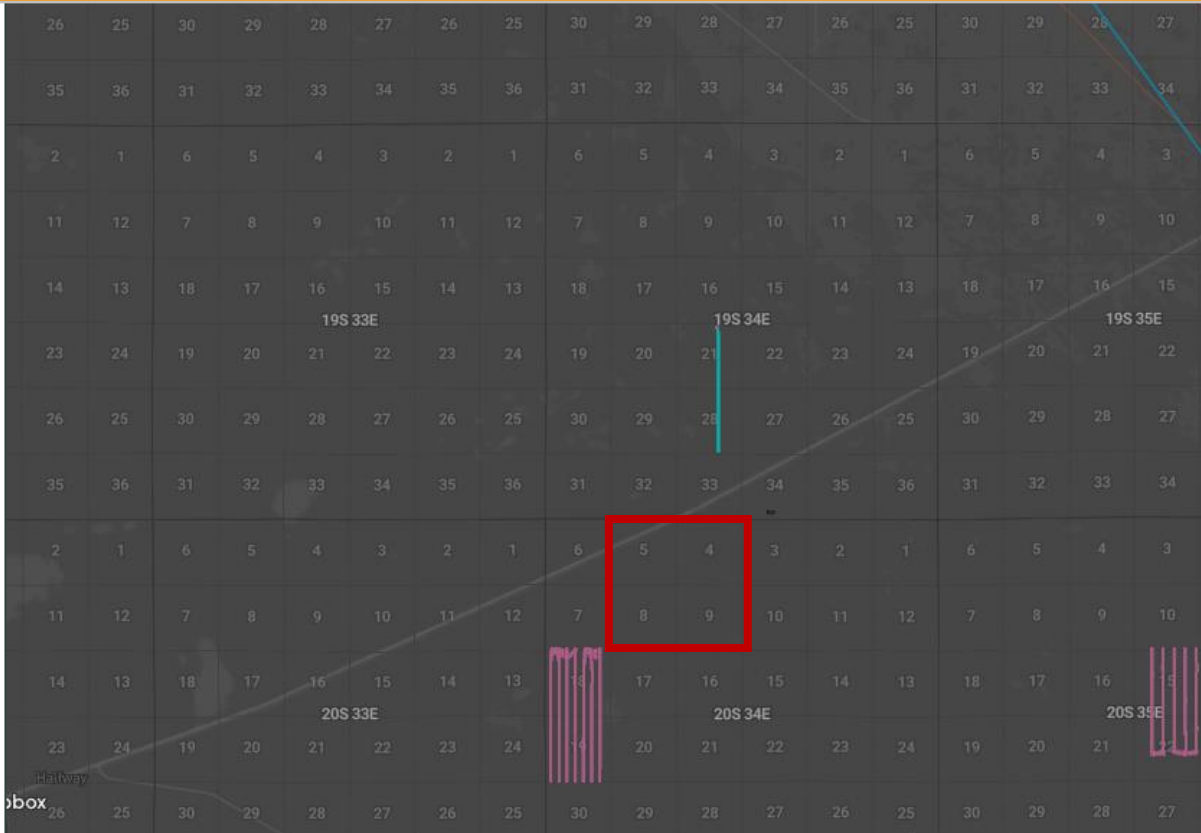
Company Performance

Cimarex Exhibits I-1 & I-2 Are Misleading

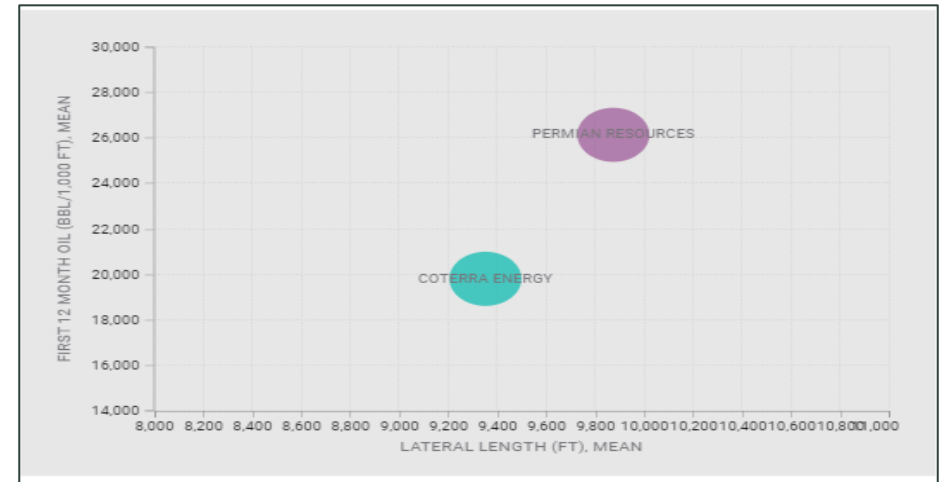
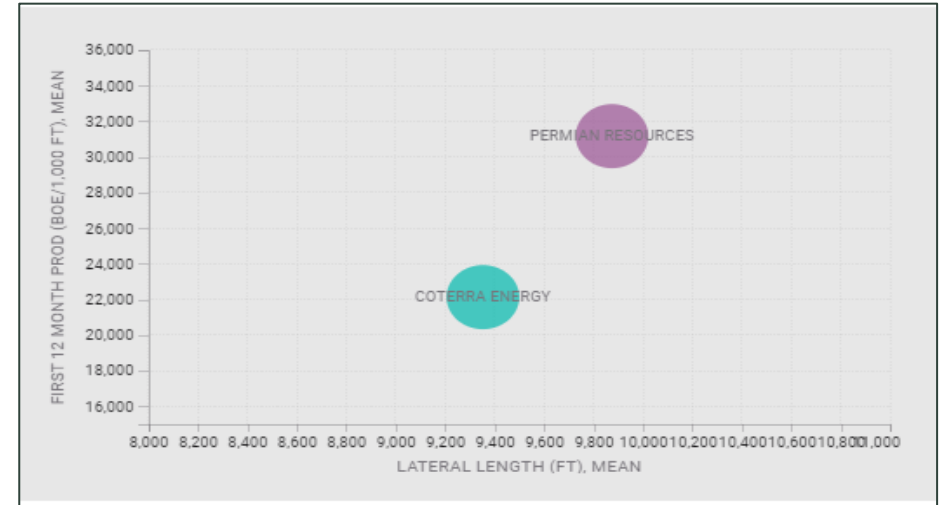
REBUTTAL EXHIBIT I-1



Map



Replicated Plots



- Filtering to wells developed in the last 5 years with at least one year of production drilled and completed by PR tells a different story than Cimarex's exhibits
- Permian Resources has materially outperformed Coterra

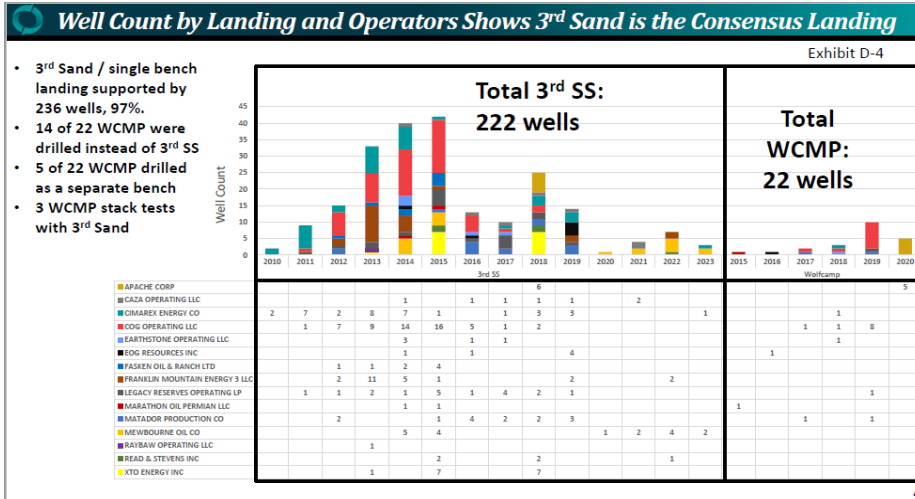


Reconciling Offset Targeting

WFMP More Common Than TBSG!

Cimarex Exhibits on Offset Development

August 2023



Cimarex provides an update to an exhibit from the original compulsory pooling hearing breaking out TBSG/WFMP development through time by Cimarex's own landing designation

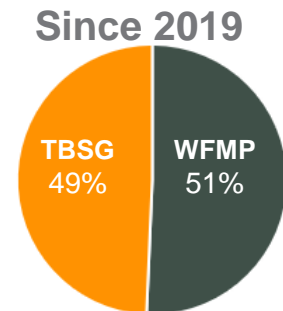
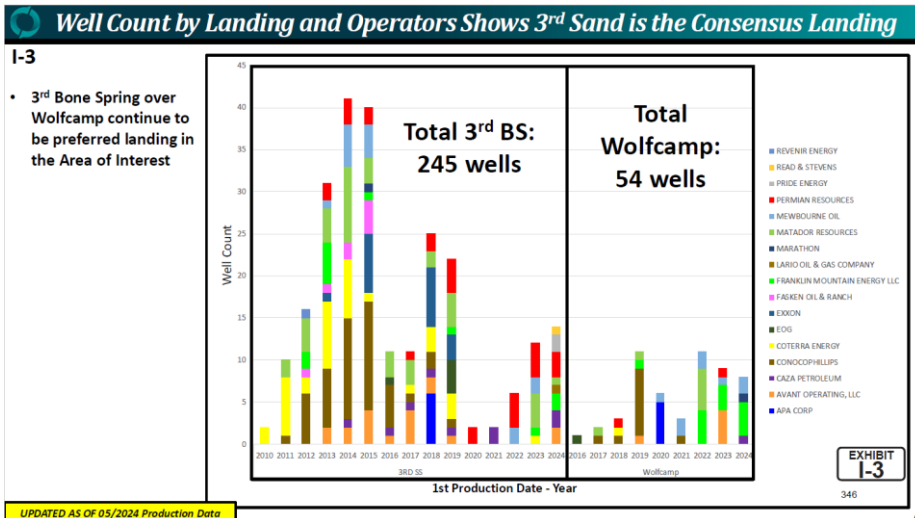
As per Cimarex's engineering expert witness's direct testimony:

'This Exhibit evidences that the trend continues to establish that the 3rd Sand is the preferred landing over the Upper Wolfcamp for operators in the area.' Behm, Tab 5, para. 9, PDF pg. 334.

Observations

- Cimarex's numbers have changed beyond an update to activity over the last year
 - Additional WFMP wells now listed in all years since 2019
- By Cimarex's new exhibit, **51% (37 of 73) of the wells drilled since 2020 target the WFMP**
- Irrespective of the flawed interpretation of the data at hand, Cimarex's landings continue to be unreliable at best even to the point of Permian Resources operated wells missing or mis-landed
 - MINIS 1 FEDERAL COM WCA 010H still classified by Cimarex as a TBSG for example
- Whether the TBSG or the WFMP is the preferred landing in the area isn't relevant anyway as they can and should be co-developed

August 2024

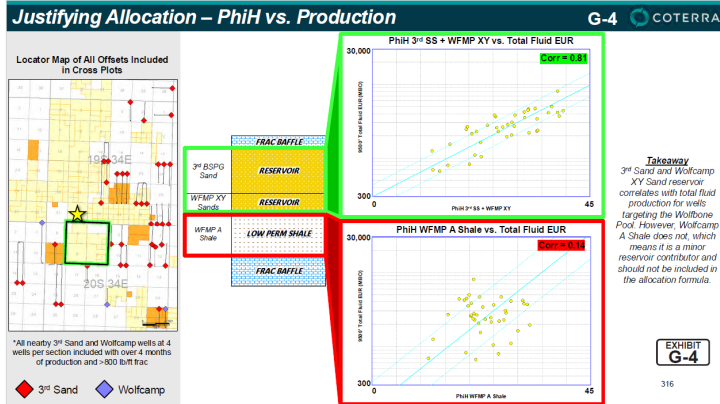




PhiHt vs. Production

Not a Meaningful Correlation, and Not Correlated with a Meaningful Variable

Cimarex Justification for PhiHt Allocation



Cimarex cites a correlation of 0.81 between normalized fluid EUR and PhiHt as proof:

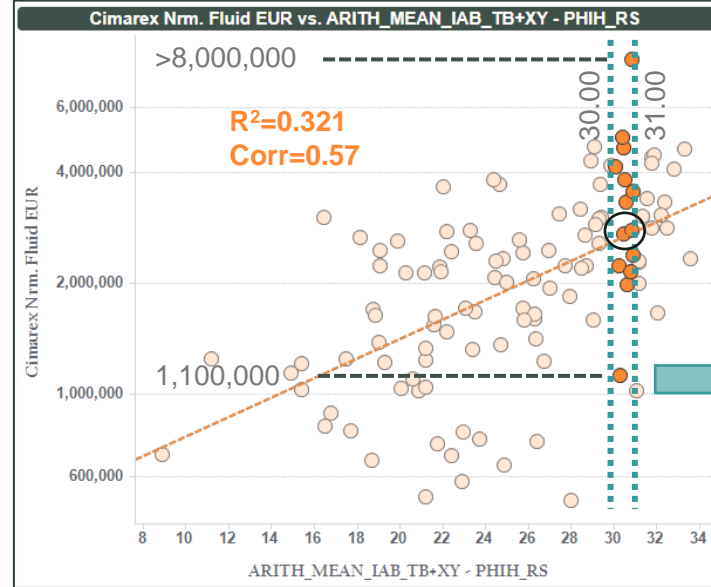
“...that the PhiH of the 3rd Sand plus the Wolfcamp Sands can be used as a predictor of production results for laterals targeting the Wolfbone Pool Mueller, Tab 3, para. 13 PDF pg. 309.

Further testifying that:

‘Phi*H (porosity times reservoir height) from the aggregate 3rd Sand + Wolfcamp XY interval provides an excellent correlation with well productivity and can be used to estimate well reserves.’ Behm, Tab 5, para. 18, PDF pg. 341.

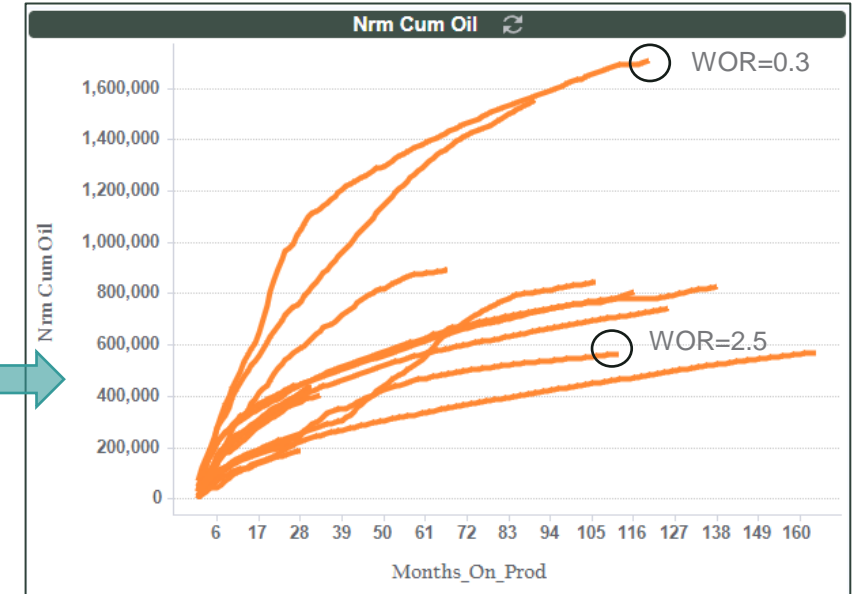
‘...well performance, measured by EUR (Expected Ultimate Recovery), and Phi*H (porosity times height) shows a good correlation of 0.81.’ Behm, Tab 5, para. 15, PDF pg. 338.

Reproducing Cimarex’s Plot...



- Cimarex provided a list of 115 APIs supporting Exhibit G-4 and then showed a 0.81 correlation fit to just 40 wells.
 - The full list of 115 wells returns a correlation of 0.57 which represents a R^2 of 0.321
- Despite an R^2 of 0.321 representing a poor fit, this is a fit to **fluid, not oil**
 - The same PhiHt (30.00-31.00 porosity-ft) corresponds to **7X** swing in normalized **fluid** EUR

Oil Performance from 30 Porosity-Ft



- The 14 wells with a PhiHt of 30-31 porosity-ft deliver massively different oil production
- PhiHt is a measure of subsurface storage in the pore space of the rock, that is it.

PhiHt says nothing about what is actually being produced and cannot be used to allocate production



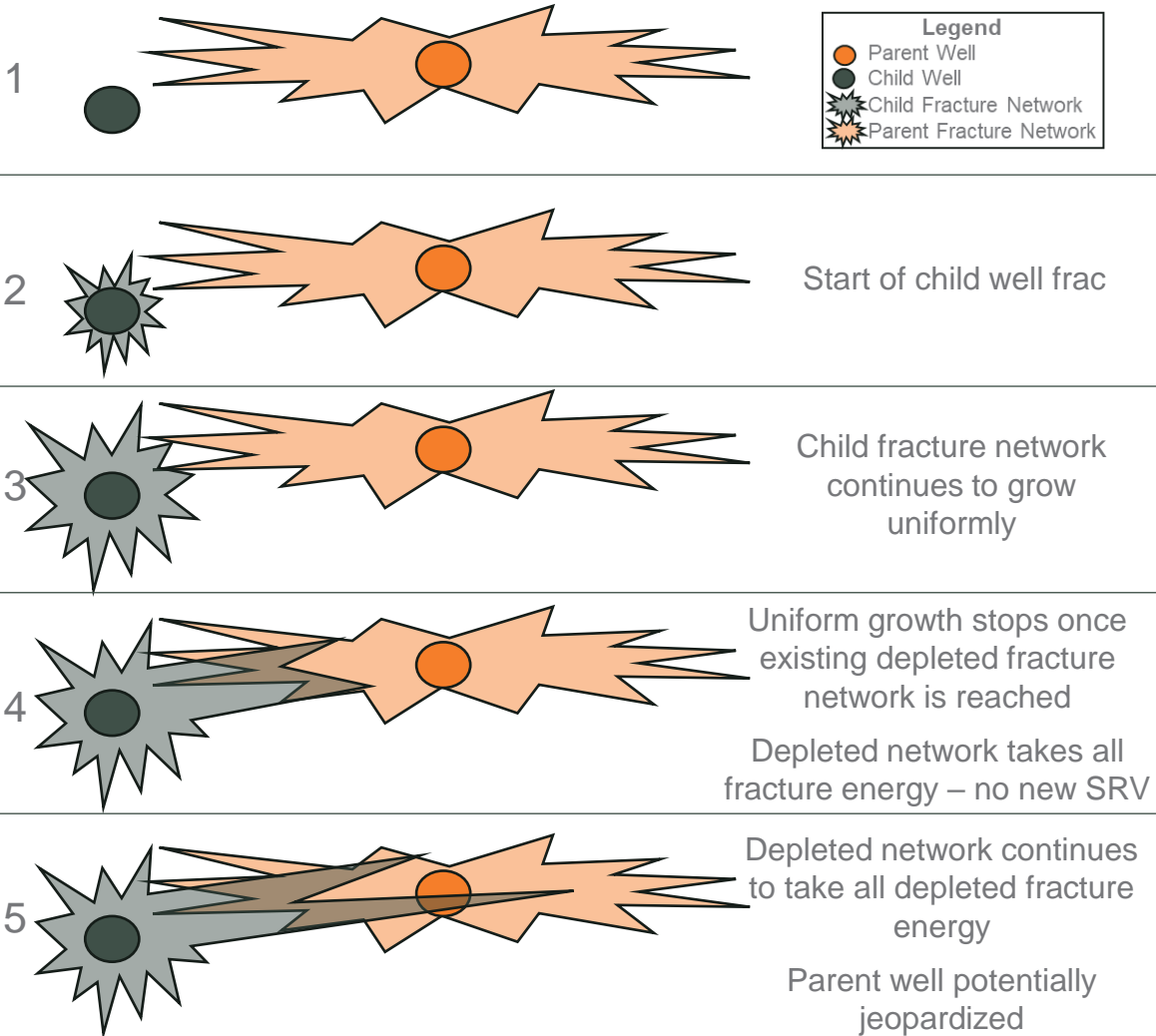
Child Well Development

Black & Tan Provides Learnings About Sequencing, Not About The Wolfcamp

Evolution of a Child Well Fracture Network

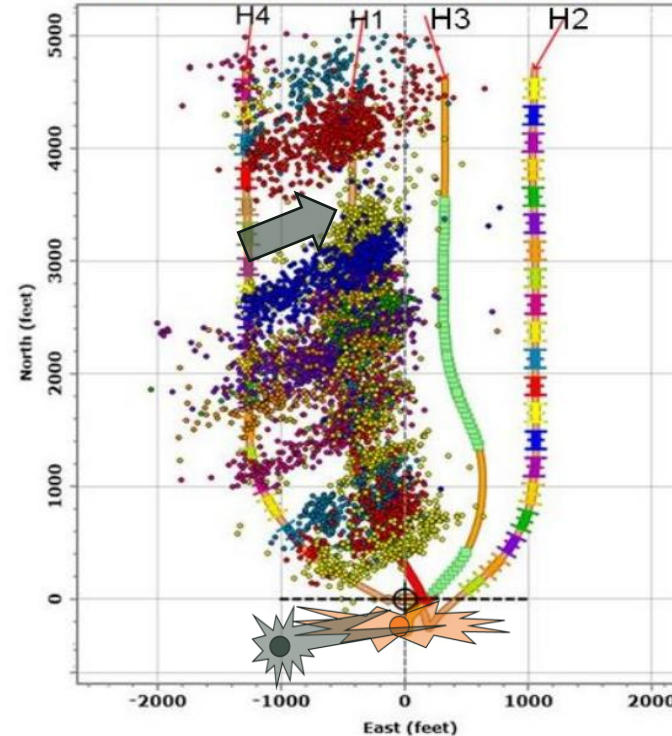
Legend

- Parent Well
- Child Well
- ✶ Child Fracture Network
- ✶ Parent Fracture Network



A Real Work Example¹

Microseismic Map View of H4 Fracs



- H4 was completed as a child well offset of a parent well H1 and monitored through Microseismic
- Substantially all of the microseismic events from the H4 frac represent reactivation of H1's existing depleted fracture network resulting in de minimis new SRV

Commentary

'...the Black & Tan Exhibits I-4, I-5 & I-6 proves that wells landed in the Wolfcamp A Shale do not contribute to the total project reserves. The aggregate of 3rd Bone Spring reserves prior to the Upper Wolfcamp Development is equal to the 3rd Bone Spring plus Upper Wolfcamp Development post the Upper Wolfcamp completion. This fact justifies the sands as primary target and the exclusion of the Wolfcamp A Shale in the allocation formula for the proposed Wolfbone pool.' Behm, Tab 5, para. 10, PDF pg. 335

The underperformance of the delayed Wolfcamp in Apache's Black & Tan development says nothing about the contribution of the shale to the XY or the TBSG or about the economics of the shale itself – only that Apache failed to properly stimulate the WFMP owing to the TBSG depletion and poor sequencing.