

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

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

**Case Nos. 23594, 23595, 23596, 23597,  
23598, 23599, 23600 & 23601**

**PREHEARING STATEMENT**

Cimarex Energy Co., (“Cimarex”), OGRID No. 215099, through its undersigned attorneys, submits the following Prehearing Statement pursuant to the rules of the Oil Conservation Division (“Division”) for the above referenced Cases which are consolidated with the Case Nos. 23452-23455, and 23508 – 23523 for a contested hearing pursuant to that certain “Further Amended Pre-Hearing Order” issued on June 8, 2023. This Prehearing Statement describes the status of Cimarex’s Case Nos. 23594 - 23601, which were originally filed in response to Read & Stevens, Inc., in association with Permian Resources Operating, LLC (collectively referred to herein as “Permian Resources”) proposing to pool the Wolfcamp formation underlying Sections 5 and 8, and Sections 4 and 9, in Township 20 South, Range 34 East, NMPM, Lea County (“Subject Lands”) in Case Nos. 23512-23515 and 23520 – 23523.

**APPEARANCES**

**APPLICANT**

Cimarex Energy Co.

**ATTORNEY**

Darin C. Savage  
Andrew D. Schill  
William E. Zimsky  
Abadie & Schill, PC  
214 McKenzie Street  
Santa Fe, New Mexico 87501  
Telephone: 970.385.4401  
Facsimile: 970.385.4901

darin@abadieschill.com  
andrew@abadieschill.com  
bill@abadieschill.com

COMPETING PARTY

Read & Stevens, Inc., in association  
with Permian Resources Operating, LLC

Michael H. Feldewert  
Adam G. Rankin  
Julia Broggi  
Paula M. Vance  
Holland & Hart LLP  
Post Office Box 2208  
Santa Fe, NM 87504  
505-988-4421  
Facsimile: 505-983-6043  
mfeldewert@hollandhart.com  
agrarkin@hollandhart.com  
jbroggi@hollandhart.com  
pmvance@hollandhart.com

ADDITIONAL PARTIES

Sandstone Properties, LLC

Sealy Cavin, Jr.  
Scott S. Morgan  
Brandon D. Hajny  
P.O. Box 1216  
Albuquerque, NM 87103  
505-243-5400  
scavin@cilawnm.com  
smorgan@cilawnm.com  
bhajny@cilawnm.com

Northern Oil and Gas, Inc.

Blake C. Jones  
Steptoe & Johnson PLLC  
1780 Hughes Landing Blvd., Ste 750  
The Woodlands, TX 77380  
281-203-5730  
Facsimile: 281-203-5701  
blake.jones@steptoe-johnson.com

**APPLICANT'S STATEMENT OF THE CASES**

Cimarex provides this Prehearing Statement to inform the Division of the current status of Case Nos. 23594, 23595, 23596 and 23597, 23598, 23599, 23600 & 23601. A little more than a month after Cimarex filed its applications to develop and pool the Bone Spring formation in the Subject Lands, Permian Resources not only filed applications for the Bone Spring but also filed applications for drilling and pooling the Wolfcamp formation in the Subject Lands in Case Nos. 23512-23515 and 23520 – 23523, and proposed to drill wells in the Upper Wolfcamp of the Subject Lands despite the fact that, based on the geological and reservoir data, those wells would drain the 3<sup>rd</sup> Bone Spring Sand and would likely result in permanent damage to the target reservoir located in the Bone Spring where the target reservoir is located.

Permian Resources' decision to propose to develop the Upper Wolfcamp created a dilemma for Cimarex. On the one hand, Cimarex understood, based on clear geological and reservoir data, that the Upper Wolfcamp should not be developed in the Subject Lands but, on the other hand, Cimarex understood that once Permian Resources filed its application to pool the Upper Wolfcamp, Cimarex needed to provide a counter proposal that would oppose Permian Resources' Upper Wolfcamp applications.

Consequently, Cimarex drafted competing pooling applications for the Wolfcamp in which it explained that the best way to develop the target reservoir is by drilling wells in the 3<sup>rd</sup> Bone Springs Sands, the same wells proposed by Cimarex's Bone Spring applications and prohibit the drilling of wells in Upper Wolfcamp to prevent drainage from and damage to the target reservoir. Cimarex filed its Wolfcamp applications in Case Nos. 23594 – 23601, in which it dedicated the Wolfcamp units exclusively to wells drilled in the 3<sup>rd</sup> Bone Spring Sands, and not in the Upper Wolfcamp, in order preserve the Upper Wolfcamp from being drilled and thereby protect the 3<sup>rd</sup> Bone Spring Sand from drainage and damage.

Cimarex has further evaluated its applications in Case Nos. 23594 – 23601 as a response to the applications filed by Permian Resources in Case Nos. 23512 – 23515 and 23520 – 23523, and Cimarex has determined that the best way to develop the Subject Lands and both protect the primary reservoir of said Lands while optimizing production is to request that the Division establish a protective zone covering the Upper Wolfcamp in order to protect correlative rights and prevent waste.

As a result, Cimarex has filed a Motion for an Order to Prohibit the Drilling of Wells in the Upper Wolfcamp in Order to Protect Correlative Rights and Optimize Production of the Subject Lands (“Motion”), attached hereto as Exhibit 1, in which it has asked the Division to consider and rule on the Motion as part of the Division’s ruling in the contested hearing. Should the Division decide that Cimarex has the better development plan, then the Upper Wolfcamp would not be drilled.

**APPLICANT’S PROPOSED EVIDENCE AND WITNESS QUALIFICATIONS**

WITNESS	ESTIMATED TIME	EXHIBITS
<p>Landman: John Coffman  Qualifications: I graduated in 2018 from Texas Tech University with a bachelor’s degree in Business Administration with an emphasis on Energy Commerce. I have worked at Cimarex for approximately 4 years, and I have been working in New Mexico for 4 years. My credentials as an expert witness in petroleum land matters have been accepted by the Division and made a matter of record.</p>	Approx. 5 min	Approx. 1
<p>Geologist: Staci Meuller  Qualifications: I have a Bachelor of Science Degree in Geophysical Engineering from Colorado School of Mines, and a Master of Science Degree in Geophysics from Colorado School of Mines. I have worked on New Mexico Oil and Gas matters since July 2018. My credentials as an expert witness in geology have been accepted by the Division and made a matter of record.</p>	Approx. min	Approx. 21
<p>Reservoir Engineer: Eddie Behm  Qualifications: I attended the University of Tulsa and graduated with a bachelor’s in petroleum engineering in 2011. I have worked for Occidental, California Resources prior to working for Cimarex and have been employed as a Production and Reservoir engineer for Cimarex for the last 6 years, working in the Delaware Basin with a primary focus on Lea County, New Mexico. I have</p>	Approx. 45 minutes	Approx. 17

previously testified before the Division as an expert reservoir engineer, and my credentials have been accepted of record.

Facilities Engineer: Calvin Boyle Available for questions (15 min) Approx. 1  
Qualifications: I attended the University of Oklahoma and graduated with a bachelor's in petroleum engineering in 2016 followed by Oklahoma State University where I graduated with a Master of Business Administration in 2018. I worked for Halliburton prior to working for Cimarex Energy Co. ("Cimarex") and have been employed as a Field, Production, and Facilities engineer for Cimarex for the last 4 years, working in the Delaware Basin with a primary focus on Lea County, New Mexico. I am familiar with the subject applications filed in the above-referenced Cases and the engineering involved. I have not testified previously before the Division and am providing a one-page resume.

### **LIST OF MATERIAL FACTS NOT IN DISPUTE**

Parties are in general agreement that the Bone Spring formation underlying the Subject Lands would be productive if drilled and developed and should be developed; however, there is disagreement about whether the Upper Wolfcamp should be drilled and developed simultaneously with the Bone Spring.

### **LIST OF DISPUTED FACTS AND ISSUES**

The central issue in Cimarex's Case Nos. 23594 - 23601 and Permian Resources' competing Case Nos. 23512 – 23515 and 23520 - 23523 is whether the Upper Wolfcamp should be drilled and developed (Cimarex asserts that the drilling of the Upper Wolfcamp would result in waste and harm to correlative rights and to the target reservoir, and therefore the Upper Wolfcamp should not be drilled; while Permian Resources proposes to drill the Upper Wolfcamp). As an alternative to drilling the Upper Wolfcamp, Cimarex has filed a Motion to establish a protective buffer zone in the Upper Wolfcamp to prevent it from being drilled.

### **PROCEDURAL MATTERS**

For Cimarex's Case Nos. 23594 – 23601 and Permian Resources' Case Nos. 23512 – 23515 and 23520 – 23523, Cimarex requests that the Division review and consider the Motion (attached

hereto as Exhibit 1) that Cimarex has filed concerning the Wolfcamp formation and how best to develop the Subject Lands.

Respectfully submitted,

ABADIE & SCHILL, PC

/s/ Darin C. Savage

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Darin C. Savage

Andrew D. Schill  
William E. Zimsky  
214 McKenzie Street  
Santa Fe, New Mexico 87501  
Telephone: 970.385.4401  
Facsimile: 970.385.4901  
darin@abadieschill.com  
andrew@abadieschill.com  
bill@abadieschill.com

**Attorneys for Cimarex Energy Co.**

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing was filed with the New Mexico Oil Conservation Division and was served on counsel of record via electronic mail on July 13, 2023:

Michael H. Feldewert – [mfeldewert@hollandhart.com](mailto:mfeldewert@hollandhart.com)  
Adam G. Rankin – [agrarkin@hollandhart.com](mailto:agrarkin@hollandhart.com)  
Julia Broggi – [jbroggi@hollandhart.com](mailto:jbroggi@hollandhart.com)  
Paula M. Vance – [pmvance@hollandhart.com](mailto:pmvance@hollandhart.com)

*Attorneys for Read & Stevens, Inc.;*  
*and Permian Resources Operating, LLC*

Blake C. Jones – [blake.jones@steptoe-johnson.com](mailto:blake.jones@steptoe-johnson.com)

*Attorney for Northern Oil and Gas, Inc.*

Sealy Cavin, Jr. – [scavin@cilawnm.com](mailto:scavin@cilawnm.com)  
Scott S. Morgan – [smorgan@cilawnm.com](mailto:smorgan@cilawnm.com)  
Brandon D. Hajny – [bhajny@cilawnm.com](mailto:bhajny@cilawnm.com)

*Attorneys for Sandstone Properties, LLC*

*/s/ Darin C. Savage*

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Darin C. Savage

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

**MOTION FOR AN ORDER TO PROHIBIT THE DRILLING OF WELLS IN THE  
UPPER WOLFCAMP IN ORDER TO PROTECT CORRELATIVE RIGHTS AND  
OPTIMIZE PRODUCTION OF THE SUBJECT LANDS**

Cimarex Energy Co., (“Cimarex”), through its undersigned attorneys, respectfully requests that the New Mexico Oil Conservation Division (“Division”) issue an order prohibiting the drilling of horizontal wells in the Upper Wolfcamp in Sections 4, 5, 8 and 9, Township 20 South, Range 34 East, NMPM, Lea County (“Subject Lands”) to protect correlative rights and optimize production of the Subject Lands. In support of its Motion, Cimarex submits the following:

**I. Factual and procedural background**

1. Cimarex has been preparing to develop Subject Lands since 2018. Based on its detailed analysis of the specific geology and reservoir characteristics of this area, on March 9, 2023, Cimarex filed applications in Case Nos. 23448 through 23455 for the compulsory pooling

EXHIBIT  
1



of the Bone Spring formation underlying the Subject Lands, proposing the Mighty Pheasant Wells for units in Sections 5 and 8, and proposing the Loosey Goosey Wells for units in Sections 4 and 9.

2. As a result of its evaluation of the Subject Lands, as well as the surrounding area, Cimarex found that not only were the best reserves of oil and gas residing in the 3<sup>rd</sup> Bone Spring Sand but also that the Upper Wolfcamp reservoir under the Subject Lands and surrounding area was significantly below average in quality and potential, rendering Wolfcamp wells economically unfeasible. *See* Exhibit 1, attached hereto, showing that the consensus landing for optimal development is the 3<sup>rd</sup> Bone Spring Sands, not the Upper Wolfcamp.

3. Cimarex has also determined that there are no indications of any major geomechanical changes/frac baffles in between Cimarex's 3<sup>rd</sup> Sand target and Permian Resources' Wolfcamp Sands target, indicating that these two intervals are most likely one shared reservoir tank. Due to the absence of the baffle between the 3<sup>rd</sup> Bone Spring Sand and the Upper Wolfcamp, Cimarex has concluded that if Upper Wolfcamp wells were to be completed while drilling and developing the 3<sup>rd</sup> Bone Spring Sand, those wells would drain much of the reserves in the 3<sup>rd</sup> Bone Spring Sand, where the best reserves are located, and would likely result in permanent damage to the target reservoir in the 3<sup>rd</sup> Bone Spring Sand.

4. Thus, Cimarex limited its proposed development and applications for compulsory pooling to the Bone Spring and did not seek to pool the Upper Wolfcamp. Cimarex's analysis of the Subject Lands comports to how other operators are developing the surrounding areas that share the same three fundamental characteristics, *viz.*, excellent reserves in the 3<sup>rd</sup> Bone Spring Sand, poor quality reservoir in the Upper Wolfcamp, and the lack of a baffle between the two. *See* Exhibit 2, attached hereto, showing the overwhelming predominance of Bone Spring development

and the dearth and rarity of the Wolfcamp development.

5. A little more than a month after Cimarex filed its applications to develop and pool the Bone Spring Formation, Read & Stevens, Inc., in association with Permian Resources Operating, LLC (collectively referred to as “Permian Resources”), filed competing applications to pool the Bone Spring formation of the Subject Lands in Case Nos. 23508-23511 and 23516-23519. Permian Resources also filed applications for drilling and pooling the Wolfcamp formation in Case Nos. 23512-23515 and 23520-23523, proposing to drill eight wells in the Upper Wolfcamp despite the fact that those wells would drain the 3<sup>rd</sup> Bone Spring Sand and would likely result in permanent damage to the target reservoir located in the Bone Spring where the best reservoirs are located.

6. Given the poor quality of the Upper Wolfcamp reservoir, the lack of the baffle that would otherwise minimize drainage of the 3<sup>rd</sup> Bone Spring, the fact that additional Upper Wolfcamp wells will not increase EUR, and the recent history of developing the lands in the area that account for these facts, Permian Resources’ decision to seek to develop the Upper Wolfcamp Formation is baffling. The geological data demonstrates that expending tens of millions of dollars<sup>1</sup> drilling unnecessary wells in the Upper Wolfcamp that will not increase EUR, but instead would place a substantial financial burden on Working Interest owners, incur environmental risks of drilling additional and unnecessary wells, undermine overall production, and likely result in permanent damage to the target reservoir, creating waste of oil and gas that would be forever lost through the misguided development of the Upper Wolfcamp. See Exhibit 4

7. Permian Resources’ decision to propose to develop the Upper Wolfcamp created a dilemma for Cimarex. On the one hand, based on clear geological and reservoir data, Cimarex

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<sup>1</sup> Permian Resources is proposing to drill eight Upper Wolfcamp wells on the Subject Lands at a total estimated cost of \$95,022,896. See: Permian Well Proposals, a copy of which are attached hereto as Exhibit 3.

knew, that the Upper Wolfcamp should not be developed on the Subject Lands but, on the other hand, Cimarex understood that once Permian Resources filed its application to pool the Upper Wolfcamp, Cimarex needed to provide a counter proposal that would oppose Permian Resources' Upper Wolfcamp applications.

8. Consequently, Cimarex drafted competing pooling applications for the Upper Wolfcamp in which it explained that the best way to develop the target reservoir is by drilling wells in the 3<sup>rd</sup> Bone Springs Sands, the same wells proposed by Cimarex's Bone Spring applications and prohibit the drilling of wells in Upper Wolfcamp to prevent drainage from and damage to the target reservoir. Cimarex filed its Wolfcamp applications on June 5, 2023, in Case Nos. 23594 – 23601, in which it dedicated the Wolfcamp units exclusively to wells drilled in the 3<sup>rd</sup> Bone Spring Sands, and not in the Upper Wolfcamp, in order preserve the Upper Wolfcamp from being drilled and thereby protect the 3<sup>rd</sup> Bone Spring Sand from drainage and damage.

## **II. Argument**

### **A. The optimal development of the Subject Lands is to drill wells in the 3<sup>rd</sup> Bone Spring Sand and create a protective buffer zone that would prohibit the drilling of wells in the Upper Wolfcamp.**

9. In order to protect the abundant reserves in the 3<sup>rd</sup> Bone Spring Sand and avoid the inherent damage that Permian Resources' proposed Upper Wolfcamp wells would inflict on the reservoir, the Division should create a buffer zone that prohibits development of the subpar Upper Wolfcamp. The history and practice of achieving optimal development in the area surrounding the Subject Lands has repeatedly been demonstrated over the years by the fact the operators who were free to drill in both the Bone Spring and Wolfcamp decided to develop the 3<sup>rd</sup> Bone Spring Sands and to forego drilling any Upper Wolfcamp wells. *See Exhibits 1 and 2, attached hereto.*

10. Cimarex filed its Wolfcamp applications only as a response to Permian Resources'

unexpected and imprudent Wolfcamp applications as a means to prevent Permian Resources from making the mistake of drilling the costly, wasteful, and unnecessary Upper Wolfcamp wells. In its competing Wolfcamp applications, Cimarex emphasized that only the 3<sup>rd</sup> Bone Spring Sands should be drilled and not the Upper Wolfcamp, consistently advocating that the Division should not allow the drilling of Upper Wolfcamp wells on the Subject Lands.

11. Cimarex recognizes that filing its competing applications for pooling the Upper Wolfcamp based on wells drilled in 3<sup>rd</sup> Bone Spring Sand may not be the best way to protect correlative rights and counter Permian Resources' plan for the Upper Wolfcamp. Cimarex submits that the best course of action for the Division to follow, in order to ensure achieving optimal production from the rich reserves located in the 3<sup>rd</sup> Bone Spring Sand and to protect correlative rights, would be to allow the drilling of the 3<sup>rd</sup> Bone Spring Sand wells, as proposed by Cimarex, and to establish a vertical protective zone that would preclude the drilling of wells in the subpar Upper Wolfcamp. Such a protective zone would prevent drainage of the 3<sup>rd</sup> Bone Spring, thus protecting the correlative rights of the owners in the 3<sup>rd</sup> Bone Spring. In addition, the protective zone would spare the working interest owners approximately \$95 Million for wells that not only fail to increase the EUR but would also likely damage the reservoir. Cimarex has carefully analyzed the need for such a protective buffer zone and provides in Exhibit 5, attached hereto, a graphic depiction and quantification of the area and extent of the Upper Wolfcamp that needs to be protected.

12. The Division has the clear authority to fashion such a necessary solution and establish a protective zone under NMSA 1978 Section 70-2-11, which grants the Division authority "to do whatever may be reasonably necessary" to protect correlative rights, prevent waste, and prevent the drilling of unnecessary wells. The wells proposed to be drilled by Permian

Resources in the Upper Wolfcamp are clearly unnecessary, wasteful, and unwarranted based on the geological and reservoir data.

13. When Cimarex drafted its competing application to pool the Wolfcamp formation as a counter to Permian Resources' Wolfcamp application, it did so with the intent of dedicating the Wolfcamp unit to a well drilled in the 3<sup>rd</sup> Bone Spring in order to prevent the Upper Wolfcamp from being drilled and establishing the Upper Wolfcamp as a buffer zone. Cimarex submits this Motion with the same intent - to prohibit the drilling of wells in the Upper Wolfcamp by creating a protective buffer zone that would prevent drainage of the target reservoir, protect correlative rights, prevent waste, avoid the drilling of unnecessary wells, and protect the target reservoir from harm and damage. Thus, Cimarex by this Motion respectfully requests that its competing applications in Case Nos. 23594, 23595, 23596, 23597, 23598, 23599, 23600, and 23601 to pool the Wolfcamp formation be dismissed; that the Division establish a protective buffer zone that prohibits the drilling of wells in the Upper Wolfcamp; and that the Division require any operator who wants develop the Lower Wolfcamp, below the proposed buffer zone, to file a separate pooling application that specifically targets the Lower Wolfcamp.

**III. Conclusion:**

Cimarex respectfully requests that the Division consider this Motion as part of the contested hearing for the above-referenced cases during which Cimarex and Permian Resources will be presenting their respective plans for the development of the Subject Lands. Permian Resources' development plans consist of drilling both the Bone Spring and Upper Wolfcamp formations; whereas, Cimarex's development plans consist of drilling only the Bone Spring formation to achieve optimal production of the Subject Lands that protects correlative rights and avoids waste.

If the Division finds Cimarex's production data and analysis of the geology and target reservoir to be accurate and persuasive, and as a result, decides to grant Cimarex operatorship of the Subject Lands by approving its applications for the Bone Spring, then concurrently with the Division's decision, Cimarex respectfully asks the Division to grant this Motion by enacting the following: (1) Dismiss Cimarex's applications for the Wolfcamp in Case Nos. 23594, 23595, 23596, 23597, 23598, 23599, 23600, and 23601, and as an alternative to pooling the Wolfcamp, pool only the Bone Spring formation underlying the units proposed by Cimarex in Case Nos. 23448 – 23455; (2) establish a protective buffer zone covering the Upper Wolfcamp below the base of the Bone Spring that would prohibit the drilling of wells in the Upper Wolfcamp in order to protect the correlative rights of the owners, prevent waste and optimize production from the Subject Lands; and (3) deny the applications filed by Permian Resources that propose to pool the Wolfcamp formation for the purpose of drilling the Upper Wolfcamp and require any operator wanting to develop the Lower Wolfcamp, below the protective zone, to file separate applications that actually target the Lower Wolfcamp, and not the Upper Wolfcamp.

Respectfully submitted,

ABADIE& SCHILL, PC

*/s/ Darin C. Savage*

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Darin C. Savage

Andrew D. Schill  
William E. Zimsky  
214 McKenzie Street  
Santa Fe, New Mexico 87501  
Telephone: 970.385.4401  
Facsimile: 970.385.4901  
darin@abadieschill.com

andrew@abadieschill.com  
bill@abadieschill.com

**Attorneys for Cimarex Energy Co.**

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing was filed with the New Mexico Oil Conservation Division and was served on counsel of record via electronic mail on July 13, 2023:

Michael H. Feldewert – mfeldewert@hollandhart.com  
Adam G. Rankin – agrankin@hollandhart.com  
Julia Broggi – jbroggi@hollandhart.com  
Paula M. Vance – pmvance@hollandhart.com

*Attorneys for Read & Stevens, Inc.;*  
*and Permian Resources Operating, LLC*

Blake C. Jones – blake.jones@steptoe-johnson.com

*Attorney for Northern Oil and Gas, Inc.*

Sealy Cavin, Jr. – scavin@cilawnm.com  
Scott S. Morgan – smorgan@cilawnm.com  
Brandon D. Hajny – bhajny@cilawnm.com

*Attorneys for Sandstone Properties, LLC*

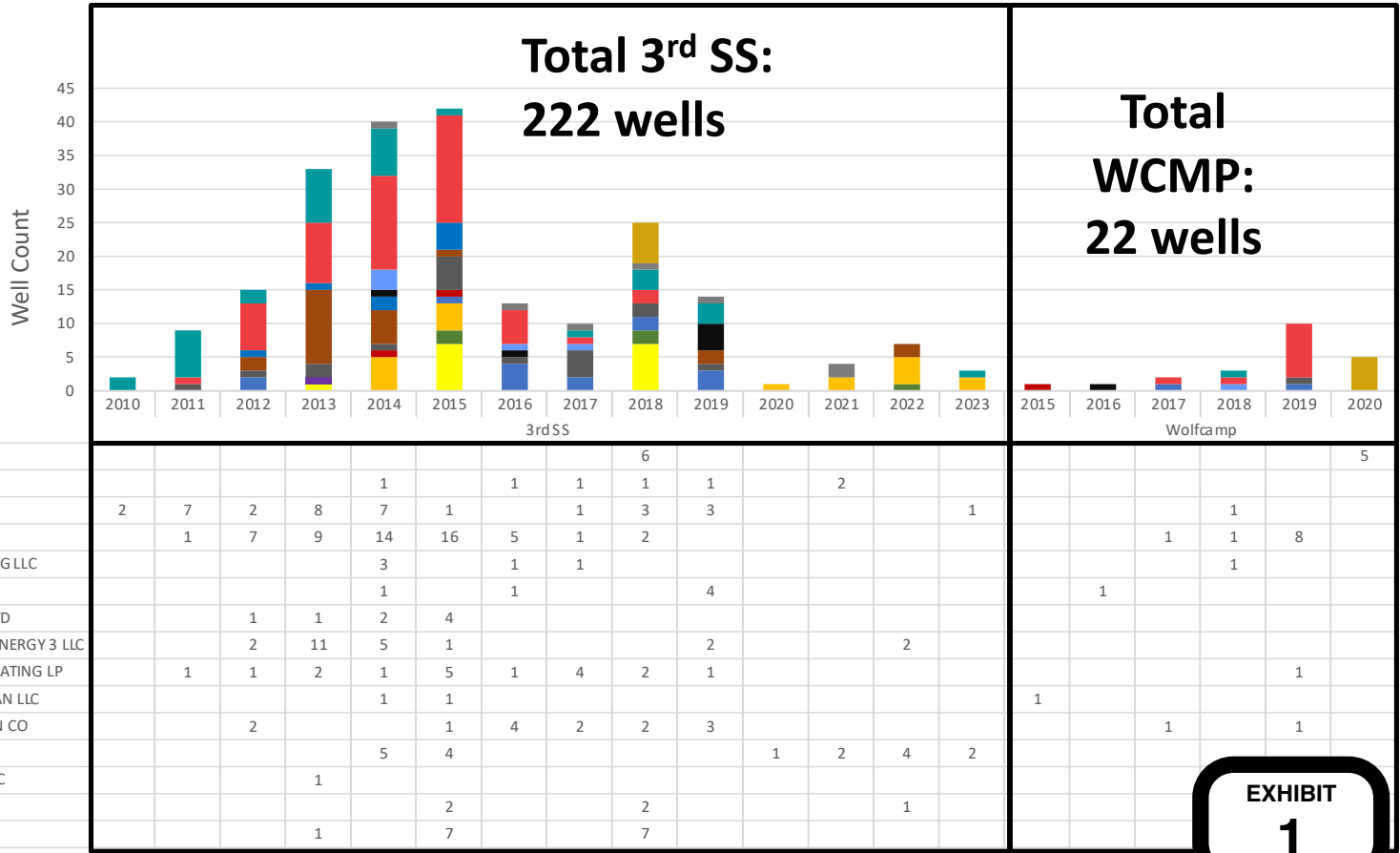
*/s/ Darin C. Savage*

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Darin C. Savage

# Well Count by Landing and Operators Shows 3<sup>rd</sup> Sand is the Consensus Landing

- 3<sup>rd</sup> Sand / single bench landing supported by 236 wells, 97%.
- 13 of 22 WCMP were drilled instead of 3<sup>rd</sup> SS
- 5 of 22 WCMP drilled as a separate bench
- 3 WCMP stack tests with 3<sup>rd</sup> Sand



**EXHIBIT 1**

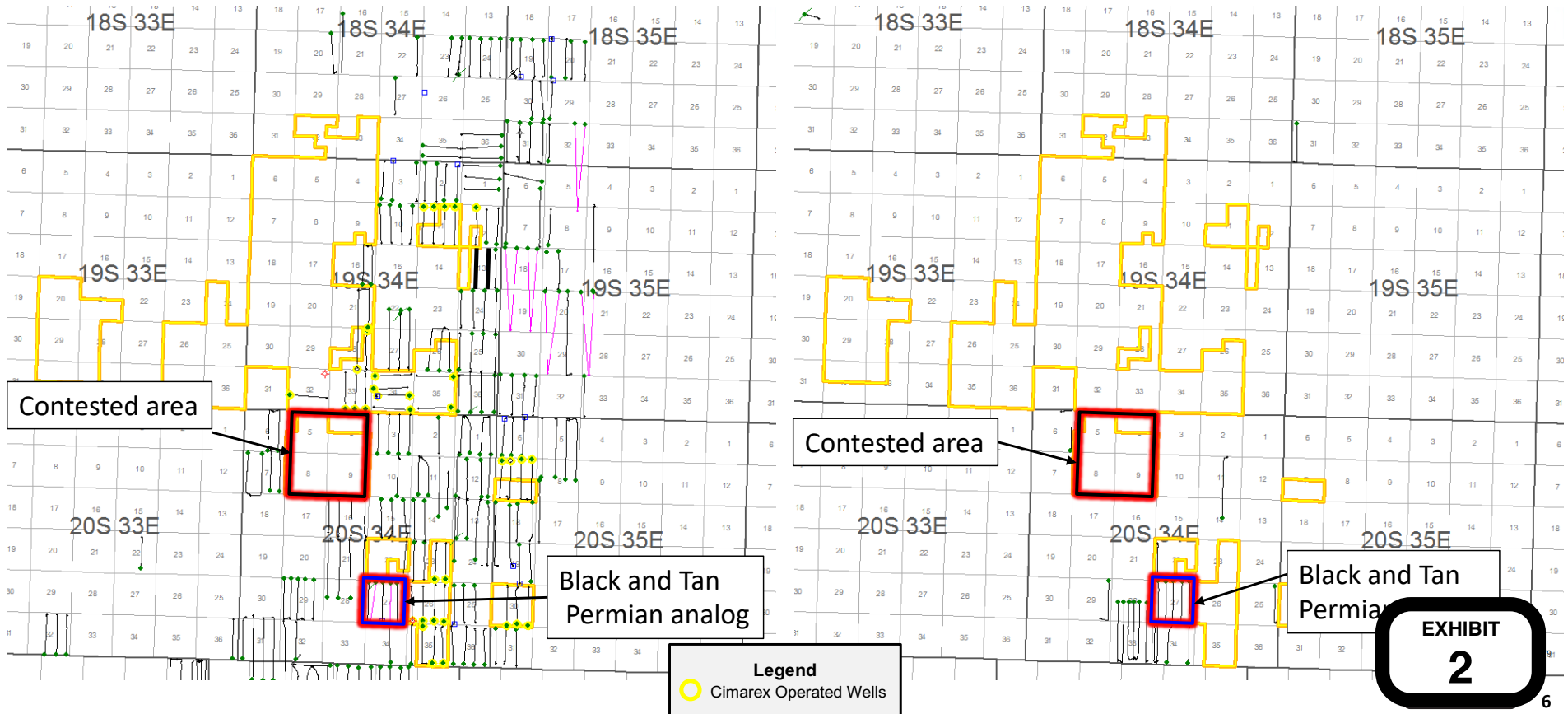


# 3<sup>rd</sup> Bone Spring Sand is the Established Single Bench Target at 4 WPS within AOI

42,650 acres developed with more than 1 well, all but one development, 98.5% of sections similar to Cimarex proposal

### 3<sup>rd</sup> Bone Spring Sand Producers

### Wolfcamp Producers



**Permian Resources Operating, LLC**

300 N. Marlenfeld St., Ste. 3000 Midland, TX 79701  
Phone (432) 695-4222 • Fax (432) 695-4063

**ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE**

DATE:	2.17.2023	AFE NO.:	1
WELL NAME:	Bane 4-9 Federal Com 201H	FIELD:	Tonto; Wolfcamp
LOCATION:	Section 4, T20S-R34E	MD/TVD:	21,210' / 10,925'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian WI:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost		

INTANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
1 Land / Legal / Regulatory	\$ 59,066	-	37,900	\$ 96,966
2 Location, Surveys & Damages	288,079	18,067	2,500	308,647
4 Freight / Transportation	47,628	43,778	25,000	116,406
5 Rental - Surface Equipment	124,327	215,417	105,000	444,744
6 Rental - Downhole Equipment	205,424	59,805	-	265,229
7 Rental - Living Quarters	48,083	54,480	-	102,562
10 Directional Drilling, Surveys	429,543	-	-	429,543
11 Drilling	753,820	-	-	753,820
12 Drill Bits	100,176	-	-	100,176
13 Fuel & Power	188,935	725,061	-	913,996
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, CTU	-	-	15,000	15,000
16 Perforating, Wireline, Slickline	-	393,136	-	393,136
17 High Pressure Pump Truck	-	123,274	-	123,274
18 Completion Unit, Swab, CTU	-	146,484	-	146,484
20 Mud Circulation System	105,209	-	-	105,209
21 Mud Logging	17,529	-	-	17,529
22 Logging / Formation Evaluation	9,270	8,339	-	17,609
23 Mud & Chemicals	364,835	438,185	10,000	813,020
24 Water	43,459	661,625	300,000	1,005,083
25 Stimulation	-	814,033	-	814,033
26 Stimulation Flowback & Disp	-	121,606	150,000	271,606
28 Mud / Wastewater Disposal	193,104	61,151	-	254,254
30 Rig Supervision / Engineering	121,196	133,420	21,667	276,283
32 Drig & Completion Overhead	10,423	-	-	10,423
35 Labor	153,358	69,489	101,667	324,514
54 Proppant	-	1,255,227	-	1,255,227
95 Insurance	14,660	-	-	14,660
97 Contingency	-	24,421	3,833	28,254
99 Plugging & Abandonment	-	-	-	-
<b>TOTAL INTANGIBLES &gt;</b>	<b>3,516,419</b>	<b>5,367,000</b>	<b>772,167</b>	<b>9,655,585</b>

TANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
60 Surface Casing	\$ 122,234	-	-	\$ 122,234
61 Intermediate Casing	344,284	-	-	344,284
62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	5,833	5,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning / Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering / Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank / Facility Containment	-	-	43,333	43,333
83 Flare Stack	-	-	16,667	16,667
84 Electrical / Grounding	-	-	50,000	50,000
85 Communications / SCADA	-	-	36,667	36,667
86 Instrumentation / Safety	-	-	833	833
<b>TOTAL TANGIBLES &gt;</b>	<b>1,233,109</b>	<b>0</b>	<b>989,167</b>	<b>2,222,276</b>
<b>TOTAL COSTS &gt;</b>	<b>4,749,528</b>	<b>5,367,000</b>	<b>1,761,334</b>	<b>11,877,862</b>

**PREPARED BY Permian Resources Operating, LLC:**

Drilling Engineer:	PS
Completions Engineer:	ML
Production Engineer:	DC

**Permian Resources Operating, LLC APPROVAL:**

Co-CEO	WH	Co-CEO	JW	VP - Operations	CRM
VP - Land & Legal	BC	VP - Geosciences	SO		

**NON OPERATING PARTNER APPROVAL:**

Company Name:	Working Interest (%):	Tax ID:
Signed by:	Date:	
Title:	Approval: <input type="checkbox"/> Yes <input type="checkbox"/> No	

The costs on this AFE are estimates only and may not be consistent as findings are specific items in the final cost of the project. Taking finalization approved under the AFE may be delayed up to 30 days after the well has been completed. In executing this AFE, the Participants acknowledge that they are not providing a warranty, but rather a representation of the estimated costs. The actual costs may vary from the estimated costs. The actual costs shall be reported to the Participants as soon as they are known.



**Permian Resources Operating, LLC**

300 N. Maricfeld St., Ste. 1000 Midland, TX 79701  
Phone (432) 695-4222 • Fax (432) 695-4063

**ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE**

DATE:	2.17.2023	AFE NO.:	1
WELL NAME:	Bare 4-9 Federal Com 202H	FIELD:	Tonto; Wolfcamp
LOCATION:	Section 4, T20S-R34E	MD/TVD:	21,210' / 10,925'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian Well:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost		

INTANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
1 Land / Legal / Regulatory	\$ 59,066	-	37,500	\$ 96,566
2 Location, Surveys & Damages	288,079	18,067	2,500	308,647
4 Freight / Transportation	47,628	43,778	25,000	116,406
5 Rental - Surface Equipment	124,327	215,417	105,000	444,744
6 Rental - Downhole Equipment	205,424	59,805	-	265,229
7 Rental - Living Quarters	48,083	54,480	-	102,562
10 Directional Drilling, Surveys	429,543	-	-	429,543
11 Drilling	753,820	-	-	753,820
12 Drill Bits	100,176	-	-	100,176
13 Fuel & Power	188,935	725,061	-	913,996
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, CTU	-	-	15,000	15,000
16 Perforating, Wireline, Silckline	-	393,136	-	393,136
17 High Pressure Pump Truck	-	123,274	-	123,274
18 Completion Unit, Swab, CTU	-	146,464	-	146,464
20 Mud Circulation System	105,209	-	-	105,209
21 Mud Logging	17,529	-	-	17,529
22 Logging / Formation Evaluation	7,270	8,339	-	15,609
23 Mud & Chemicals	361,835	438,185	10,000	810,020
24 Water	43,459	661,625	300,000	1,005,083
25 Stimulation	-	814,033	-	814,033
26 Stimulation Flowback & Disp	-	121,606	150,000	271,606
28 Mud / Wastewater Disposal	193,104	61,151	-	254,254
30 Rig Supervision / Engineering	121,196	133,420	21,667	276,283
32 Drig & Completion Overhead	10,423	-	-	10,423
35 Labor	153,358	69,489	101,667	324,514
54 Proppant	-	1,255,227	-	1,255,227
95 Insurance	14,660	-	-	14,660
97 Contingency	-	24,421	3,833	28,254
99 Plugging & Abandonment	-	-	-	-
<b>TOTAL INTANGIBLES &gt;</b>	<b>3,516,419</b>	<b>5,367,000</b>	<b>772,167</b>	<b>9,655,585</b>

TANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
60 Surface Casing	\$ 122,234	-	-	\$ 122,234
61 Intermediate Casing	344,284	-	-	344,284
62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	5,833	5,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning / Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering / Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank / Facility Containment	-	-	43,333	43,333
83 Flare Stack	-	-	16,667	16,667
84 Electrical / Grounding	-	-	50,000	50,000
85 Communications / SCADA	-	-	36,667	36,667
86 Instrumentation / Safety	-	-	833	833
<b>TOTAL TANGIBLES &gt;</b>	<b>1,233,109</b>	<b>0</b>	<b>989,167</b>	<b>2,222,276</b>
<b>TOTAL COSTS &gt;</b>	<b>4,749,528</b>	<b>5,367,000</b>	<b>1,761,334</b>	<b>11,877,862</b>

**PREPARED BY Permian Resources Operating, LLC:**

Drilling Engineer:	RS
Completions Engineer:	ML
Production Engineer:	DC

**Permian Resources Operating, LLC APPROVAL:**

Co-CEO	WH	Co-CEO	JW	VP - Operations	CRM
VP - Land & Legal	BC	VP - Geosciences	SO		

**NON OPERATING PARTNER APPROVAL:**

Company Name:	_____	Working Interest (%):	_____	Tax ID:	_____
Signed by:	_____	Date:	_____		
Title:	_____	Approval:	<input type="checkbox"/> Yes <input type="checkbox"/> No (mark one)		

The costs on this AFE are estimates only and may not be considered as ceilings on any spend's time or the total cost of the project. Taking installation approved under the AFE may be delayed up to a year after the well has been completed. In executing this AFE, the Participant agrees to pay its proportionate share of actual costs beyond the total contract maximum. Total cost will remain under the terms of the applicable cost recovery agreement. Participant's role in other operations (operator the well) Participant shall be assumed by said field operations. See Operator's well

**Permian Resources Operating, LLC**

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**ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE**

DATE:	2.17.2023	AFE NO.:	1
WELL NAME:	Bane 4-9 Federal Com 203H	FIELD:	Tonto; Wolfcamp
LOCATION:	Section 4, T20S-R34E	MD/TVD:	21,210' / 10,925'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian Well:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost		

INTANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
1 Land / Legal/Regulatory	\$ 59,066	-	37,900	\$ 96,966
2 Location, Surveys & Damages	288,079	18,067	2,500	308,647
4 Freight/Transportation	47,628	43,778	25,000	116,406
5 Rental - Surface Equipment	124,327	215,417	105,000	444,744
6 Rental - Downhole Equipment	205,424	59,803	-	265,227
7 Rental - Living Quarters	48,083	54,480	-	102,562
10 Directional Drilling, Surveys	429,543	-	-	429,543
11 Drilling	753,820	-	-	753,820
12 Drill Bits	100,176	-	-	100,176
13 Fuel & Power	188,935	725,061	-	913,996
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, CTU	-	-	15,000	15,000
16 Perforating, Wireline, Slickline	-	393,136	-	393,136
17 High Pressure Pump Truck	-	123,274	-	123,274
18 Completion Unit, Swab, CTU	-	146,484	-	146,484
20 Mud Circulation System	105,209	-	-	105,209
21 Mud Logging	17,529	-	-	17,529
22 Logging/Formation Evaluation	7,230	8,339	-	15,569
23 Mud & Chemicals	36,183	438,183	10,800	810,020
24 Water	43,459	661,625	300,000	1,005,083
25 Stimulation	-	814,033	-	814,033
26 Stimulation Flowback & Disp	-	121,606	150,000	271,606
28 Mud/Wastewater Disposal	193,104	61,151	-	254,254
30 Rig Supervision/Engineering	121,196	133,420	21,667	276,283
32 Drilg. & Completion Overhead	10,423	-	-	10,423
35 Labor	153,358	69,489	101,667	324,514
54 Proppant	-	1,255,227	-	1,255,227
95 Insurance	14,660	-	-	14,660
97 Contingency	-	24,421	3,833	28,254
99 Plugging & Abandonment	-	-	-	-
<b>TOTAL INTANGIBLES &gt;</b>	<b>3,516,419</b>	<b>5,367,000</b>	<b>772,167</b>	<b>9,655,585</b>

TANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
60 Surface Casing	\$ 122,234	-	-	\$ 122,234
61 Intermediate Casing	344,284	-	-	344,284
62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	5,833	5,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning/Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering/Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank/Facility Containment	-	-	43,333	43,333
83 Flare Stack	-	-	16,667	16,667
84 Electrical/Grounding	-	-	50,000	50,000
85 Communications/SCADA	-	-	36,667	36,667
86 Instrumentation/Safety	-	-	833	833
<b>TOTAL TANGIBLES &gt;</b>	<b>1,233,109</b>	<b>0</b>	<b>989,167</b>	<b>2,222,276</b>
<b>TOTAL COSTS &gt;</b>	<b>4,749,528</b>	<b>5,367,000</b>	<b>1,761,334</b>	<b>11,877,862</b>

**PREPARED BY Permian Resources Operating, LLC:**

Drilling Engineer:	FS
Completions Engineer:	ML
Production Engineer:	DC

**Permian Resources Operating, LLC APPROVAL:**

Co-CEO	WH	Co-CEO	JW	VP - Operations	CRM
VP - Land & Legal	BC	VP - Geosciences	SO		

**NON OPERATING PARTNER APPROVAL:**

Company Name:	Working Interest (%):	Tax ID:
Signed by:	Date:	
Title:	Approval: <input type="checkbox"/> Yes <input type="checkbox"/> No (mark one)	

The costs on the AFE are estimates only and may not be considered as ceilings on any specific item or the total cost of the project. Taking notification approved under the AFE may be delayed up to a year after the well has been completed. If you using the AFE, the Permittee agrees to pay its reasonable share of actual costs incurred by the operator, less the amount of the proceeds from the sale of the production and other revenue from the well. Participants shall be required to pay their share of the actual costs incurred by the operator, less the amount of the proceeds from the sale of the production and other revenue from the well. Participants shall be required to pay their share of the actual costs incurred by the operator, less the amount of the proceeds from the sale of the production and other revenue from the well.

**Permian Resources Operating, LLC**

300 N. Marienfeld St., Ste. 1000 Midland, TX 79701  
 Phone (432) 695-4222 • Fax (432) 695-4063

**ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE**

DATE:	2.17.2023	AFE NO.:	1
WELL NAME:	Bane 4-9 Federal Com 204H	FIELD:	Tonto; Wolfcamp
LOCATION:	Section 4, T20S-R34E	MD/TVD:	21,210' / 10,925'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian WI:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost		

INTANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
1 Land / Legal / Regulatory	\$ 59,066	-	37,500	\$ 96,566
2 Location, Surveys & Damages	288,079	18,067	2,500	308,647
4 Freight / Transportation	47,628	43,778	25,000	116,406
5 Rental - Surface Equipment	124,327	215,417	105,000	444,744
6 Rental - Downhole Equipment	205,424	59,805	-	265,229
7 Rental - Living Quarters	48,083	54,480	-	102,562
10 Directional Drilling, Surveys	429,543	-	-	429,543
11 Drilling	753,820	-	-	753,820
12 Drill Bits	100,176	-	-	100,176
13 Fuel & Power	188,935	725,051	-	913,986
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, CTU	-	-	15,000	15,000
16 Perforating, Wireline, Slickline	-	393,136	-	393,136
17 High Pressure Pump Truck	-	123,274	-	123,274
18 Completion Unit, Swab, CTU	-	146,484	-	146,484
20 Mud Circulation System	105,209	-	-	105,209
21 Mud Logging	17,529	-	-	17,529
22 Logging / Formation Evaluation	7,270	8,339	-	15,609
23 Mud & Chemicals	361,835	438,185	10,000	810,020
24 Water	43,459	661,625	300,000	1,005,083
25 Stimulation	-	814,033	-	814,033
26 Stimulation Flowback & Disp	-	121,606	150,000	271,606
28 Mud / Wastewater Disposal	193,104	61,151	-	254,254
30 Rig Supervision / Engineering	121,196	133,420	21,667	276,283
32 Drig & Completion Overhead	10,423	-	-	10,423
35 Labor	153,358	69,489	101,667	324,514
54 Proppant	-	1,255,227	-	1,255,227
95 Insurance	14,660	-	-	14,660
97 Contingency	-	24,421	3,833	28,254
99 Plugging & Abandonment	-	-	-	-
<b>TOTAL INTANGIBLES &gt;</b>	<b>3,516,419</b>	<b>5,367,000</b>	<b>772,167</b>	<b>9,655,585</b>

TANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
60 Surface Casing	\$ 122,234	-	-	\$ 122,234
61 Intermediate Casing	344,284	-	-	344,284
62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	5,833	5,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning / Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering / Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank / Facility Containment	-	-	43,333	43,333
83 Flare Stack	-	-	16,667	16,667
84 Electrical / Grounding	-	-	50,000	50,000
85 Communications / SCADA	-	-	36,667	36,667
86 Instrumentation / Safety	-	-	833	833
<b>TOTAL TANGIBLES &gt;</b>	<b>1,233,109</b>	<b>0</b>	<b>989,167</b>	<b>2,222,276</b>
<b>TOTAL COSTS &gt;</b>	<b>4,749,528</b>	<b>5,367,000</b>	<b>1,761,334</b>	<b>11,877,862</b>

**PREPARED BY Permian Resources Operating, LLC:**

Drilling Engineer:	PS
Completions Engineer:	ML
Production Engineer:	DC

**Permian Resources Operating, LLC APPROVAL:**

Co-CEO	WH	Co-CEO	JW	VP - Operations	CRM
VP - Land & Legal	BC	VP - Geosciences	SO		

**NON OPERATING PARTNER APPROVAL:**

Company Name:	Working Interest (%):	Tax ID:
Signed by:	Date:	
Title:	Approval: <input type="checkbox"/> Yes <input type="checkbox"/> No (mark one)	

The costs on this AFE are estimates only and may not be confirmed as actuals until the total cost of the project. Taking installation approval under the AFE may be delayed up to a year after the well has been completed. In executing the AFE, the Participant agrees to pay its proportionate share of actual costs incurred by the host country, including, but not limited to, the costs of the well. The host country government may require a permit to drill the well. The permit shall be obtained by the Participant's well.

**Permian Resources Operating, LLC**

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Phone (432) 695-4222 • Fax (432) 695-4063

**ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE**

DATE:	2.17.2023	AFE NO.:	1
WELL NAME:	Joker 5-9 Federal Com 201H	FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E	MD/TVD:	21,211' / 10,926'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian WI:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and initial AL install cost		

	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
<b>INTANGIBLE COSTS</b>				
1 Land/ Legal/ Regulatory	\$ 59,066	-	37,500	\$ 96,566
2 Location, Surveys & Damages	286,079	18,067	2,500	306,646
4 Freight/ Transportation	47,628	43,778	25,000	116,406
5 Rental - Surface Equipment	124,327	215,717	105,000	445,044
6 Rental - Downhole Equipment	205,424	59,805	-	265,229
7 Rental - Living Quarters	48,083	54,780	-	102,863
10 Directional Drilling, Surveys	429,543	-	-	429,543
11 Drilling	735,820	-	-	735,820
12 Drill Bits	188,176	-	-	188,176
13 Fuel & Power	185,935	725,061	-	910,996
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, C/U	-	-	15,000	15,000
16 Perforating, Wireline, Slickline	-	393,136	-	393,136
17 High Pressure Pump Truck	-	123,274	-	123,274
18 Completion Unit, Swab, C/U	-	146,484	-	146,484
20 Mud Circulation System	105,209	-	-	105,209
21 Mud Logging	17,529	-	-	17,529
22 Logging/ Formation Evaluation	7,270	8,339	-	15,609
23 Mud & Chemicals	361,835	438,185	10,000	810,020
24 Water	43,459	661,625	300,000	1,005,084
25 Stimulation	-	814,033	-	814,033
26 Stimulation Flowback & Disp	-	121,606	150,000	271,606
28 Mud/ Wastewater Disposal	193,104	61,751	-	254,855
30 Rig Supervision/ Engineering	121,196	133,420	21,667	276,283
32 Drig & Completion Overhead	10,423	-	-	10,423
35 Labor	153,358	69,489	101,667	324,514
54 Proppant	-	1,255,227	-	1,255,227
95 Insurance	14,660	-	-	14,660
97 Contingency	-	24,421	3,833	28,254
99 Plugging & Abandonment	-	-	-	-
<b>TOTAL INTANGIBLES &gt;</b>	<b>3,516,419</b>	<b>5,367,000</b>	<b>772,167</b>	<b>9,655,586</b>

	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
<b>TANGIBLE COSTS</b>				
60 Surface Casing	\$ 122,234	-	-	\$ 122,234
61 Intermediate Casing	344,284	-	-	344,284
62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	5,833	5,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning/ Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering/ Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank/ Facility Containment	-	-	43,333	43,333
83 Flare Stack	-	-	15,667	15,667
84 Electrical/ Grounding	-	-	50,000	50,000
85 Communications/ SCADA	-	-	36,667	36,667
86 Instrumentation/ Safety	-	-	833	833
<b>TOTAL TANGIBLES &gt;</b>	<b>1,233,109</b>	<b>0</b>	<b>989,167</b>	<b>2,222,276</b>
<b>TOTAL COSTS &gt;</b>	<b>4,749,528</b>	<b>5,367,000</b>	<b>1,761,334</b>	<b>11,877,862</b>

**PREPARED BY Permian Resources Operating, LLC:**

Drilling Engineer:	PS
Completions Engineer:	ML
Production Engineer:	DC

**Permian Resources Operating, LLC APPROVAL:**

Co-CEO	_____	Co-CEO	_____	VP - Operations	_____
VP - Land & Legal	_____	VP - Geosciences	_____		_____
	WH		JW		CRM
	BC		SO		

**NON OPERATING PARTNER APPROVAL:**

Company Name:	_____	Working Interest (%):	_____	Tax ID:	_____
Signed by:	_____	Date:	_____		
Title:	_____	Approval:	<input type="checkbox"/> Yes <input type="checkbox"/> No (mark one)		

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**Permian Resources Operating, LLC**

300 N. Marlenfeld St., Ste. 1000 Midland, TX 79701  
Phone (432) 695-4222 • Fax (432) 695-4063

**ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE**

DATE:	2.17.2023	AFE NO.:	1
WELL NAME:	Joker 5-9 Federal Com 202H	FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E	MD/TVD:	21,211' / 10,926'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian WL:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost		

	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
<b>INTANGIBLE COSTS</b>				
1 Land / Legal / Regulatory	\$ 39,066	-	37,500	\$ 96,566
2 Location, Surveys & Damages	288,079	18,067	2,500	308,647
4 Freight / Transportation	47,628	43,778	25,000	116,406
5 Rental - Surface Equipment	124,327	215,417	105,000	444,744
6 Rental - Downhole Equipment	205,424	39,805	-	245,229
7 Rental - Living Quarters	48,083	54,480	-	102,563
10 Directional Drilling, Surveys	429,343	-	-	429,343
11 Drilling	753,820	-	-	753,820
12 Drill Bits	100,176	-	-	100,176
13 Fuel & Power	188,935	725,061	-	913,996
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, CTU	-	-	15,000	15,000
16 Perforating, Wireline, Slickline	-	393,136	-	393,136
17 High Pressure Pump Truck	-	123,274	-	123,274
18 Completion Unit, Swab, CTU	-	146,484	-	146,484
20 Mud Circulation System	105,209	-	-	105,209
21 Mud Logging	17,529	-	-	17,529
22 Logging / Formation Evaluation	7,270	8,339	-	15,609
23 Mud & Chemicals	361,833	438,185	10,000	810,018
24 Water	43,459	661,625	300,000	1,005,083
25 Stimulation	-	814,033	-	814,033
26 Stimulation Flowback & Disp	-	121,606	150,000	271,606
28 Mud / Wastewater Disposal	193,104	61,151	-	254,254
30 Rig Supervision / Engineering	121,196	133,420	21,667	276,283
32 Drig & Completion Overhead	10,423	-	-	10,423
35 Labor	153,358	69,489	101,667	324,514
54 Proppant	-	1,255,227	-	1,255,227
95 Insurance	14,660	-	-	14,660
97 Contingency	-	24,421	3,833	28,254
99 Plugging & Abandonment	-	-	-	-
<b>TOTAL INTANGIBLES &gt;</b>	<b>3,516,419</b>	<b>5,367,000</b>	<b>772,167</b>	<b>9,655,585</b>

	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
<b>TANGIBLE COSTS</b>				
60 Surface Casing	\$ 122,234	-	-	\$ 122,234
61 Intermediate Casing	344,284	-	-	344,284
62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	3,833	3,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning / Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering / Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank / Facility Containment	-	-	43,333	43,333
83 Hare Stack	-	-	16,667	16,667
84 Electrical / Grounding	-	-	50,000	50,000
85 Communications / SCADA	-	-	36,667	36,667
86 Instrumentation / Safety	-	-	833	833
<b>TOTAL TANGIBLES &gt;</b>	<b>1,233,109</b>	<b>0</b>	<b>989,167</b>	<b>2,222,276</b>
<b>TOTAL COSTS &gt;</b>	<b>4,749,528</b>	<b>5,367,000</b>	<b>1,761,334</b>	<b>11,877,862</b>

**PREPARED BY Permian Resources Operating, LLC:**

Drilling Engineer:	FS
Completions Engineer:	ML
Production Engineer:	DC

**Permian Resources Operating, LLC APPROVAL:**

Co-CEO	WH	Co-CEO	JW	VP - Operations	CRM
VP - Land & Legal	BC	VP - Geosciences	SO		

**NON OPERATING PARTNER APPROVAL:**

Company Name:	Working Interest (%):	Tax ID:
Signed by:	Date:	
Title:	Approval: <input type="checkbox"/> Yes <input type="checkbox"/> No (mark one)	

The costs on this AFE are estimates only and may not be considered as ceilings on any specific item on the total cost of the project. Telling transactions approved under the AFE may be delayed up to a year after the well has been completed. In executing this AFE, the Participant agrees to pay its proportionate share of actual costs incurred, including, but not limited to, regulatory, permitting, and well costs under the terms of the applicable joint operating agreement, regulatory orders or other agreement covering this well. Participants shall be covered by and held proportionately by Operator's well control and general liability insurance unless participant provides Operator a certificate evidencing its own insurance to its extent acceptable to the Operator by the date of sign.

**Permian Resources Operating, LLC**

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Phone (432) 695-4222 • Fax (432) 695-4063

**ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE**

DATE:	2.17.2023	AFE NO.:	1
WELL NAME:	Joker 5-8 Federal Com 203H	FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E	MD/TVD:	21,191' / 10,906'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian Well:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost		

INTANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
1 Land/ Legal/ Regulatory	\$ 59,066	-	37,500	\$ 96,566
2 Location, Surveys & Damages	288,079	18,067	2,300	308,447
4 Freight/ Transportation	47,628	43,778	25,000	116,406
5 Rental - Surface Equipment	124,322	215,417	105,000	444,741
6 Rental - Downhole Equipment	205,424	39,805	-	245,229
7 Rental - Living Quarters	46,083	54,480	-	100,563
10 Directional Drilling, Surveys	429,543	-	-	429,543
11 Drilling	753,820	-	-	753,820
12 Drift Hits	100,176	-	-	100,176
13 Fuel & Power	188,935	725,061	-	913,996
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, C1U	-	-	15,000	15,000
16 Perforating, Wireline, Slickline	-	393,136	-	393,136
17 High Pressure Pump Truck	-	123,274	-	123,274
18 Completion Unit, Swab, C1U	-	146,484	-	146,484
20 Mud Circulation System	116,209	-	-	116,209
21 Mud Logging	17,529	-	-	17,529
22 Logging/ Formation Evaluation	7,270	8,339	-	15,609
23 Mud & Chemicals	361,835	438,185	10,000	810,020
24 Water	43,459	661,625	300,000	1,005,083
25 Stimulation	-	814,033	-	814,033
26 Stimulation Flowback & Disp	-	121,606	150,000	271,606
28 Mud/ Wastewater Disposal	193,104	61,151	-	254,254
30 Rig Supervision/ Engineering	121,196	133,420	21,667	276,283
32 Drig & Completion Overhead	10,423	-	-	10,423
38 Labor	153,358	69,489	101,667	324,514
54 Proppant	-	1,255,227	-	1,255,227
95 Insurance	14,680	-	-	14,680
97 Contingency	-	24,421	3,833	28,254
99 Plugging & Abandonment	-	-	-	-
<b>TOTAL INTANGIBLES &gt;</b>	<b>3,516,419</b>	<b>5,367,000</b>	<b>772,167</b>	<b>9,655,585</b>

TANGIBLE COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
60 Surface Casing	\$ 122,234	-	-	\$ 122,234
61 Intermediate Casing	344,284	-	-	344,284
62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	5,833	5,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning/ Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering/ Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank/ Facility Containment	-	-	43,333	43,333
83 Flare Stack	-	-	16,667	16,667
84 Electrical/ Grounding	-	-	50,000	50,000
85 Communications/ SCADA	-	-	36,667	36,667
86 Instrumentation/ Safety	-	-	833	833
<b>TOTAL TANGIBLES &gt;</b>	<b>1,233,109</b>	<b>0</b>	<b>988,167</b>	<b>2,222,276</b>
<b>TOTAL COSTS &gt;</b>	<b>4,749,528</b>	<b>5,367,000</b>	<b>1,761,334</b>	<b>11,877,862</b>

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Drilling Engineer:	FS
Completions Engineer:	ML
Production Engineer:	DC

**Permian Resources Operating, LLC APPROVAL:**

Co-CEO	_____	Co-CEO	_____	VP - Operations	_____
VP - Land & Legal	_____	VP - Geosciences	_____		_____
	WH		JW		CRM
	BC		SO		

**NON OPERATING PARTNER APPROVAL:**

Company Name: _____	Working Interest (%): _____	Tax ID: _____
Signed by: _____	Date: _____	
Title: _____	Approval: <input type="checkbox"/> Yes <input type="checkbox"/> No (mark one)	

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DATE:	2.17.2023	AFE NO.:	1
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LOCATION:	Section 5, T20S-R34E	MD/TVD:	21,181' / 10,896'
COUNTY/STATE:	Lea County, New Mexico	LATERAL LENGTH:	10,000'
Permian WI:		DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost		

	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
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7 Rental - Living Quarters	48,083	54,400	-	102,483
10 Directional Drilling, Surveys	429,343	-	-	429,343
11 Drilling	753,203	-	-	753,203
12 Drill Bits	100,176	-	-	100,176
13 Fuel & Power	186,935	725,061	-	913,996
14 Cementing & Float Equip	243,296	-	-	243,296
15 Completion Unit, Swab, CIU	-	-	15,000	15,000
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62 Drilling Liner	-	-	-	-
63 Production Casing	687,039	-	-	687,039
64 Production Liner	-	-	-	-
65 Tubing	-	-	140,000	140,000
66 Wellhead	64,820	-	40,000	104,820
67 Packers, Liner Hangers	14,732	-	20,000	34,732
68 Tanks	-	-	45,833	45,833
69 Production Vessels	-	-	126,667	126,667
70 Flow Lines	-	-	66,667	66,667
71 Rod string	-	-	-	-
72 Artificial Lift Equipment	-	-	90,000	90,000
73 Compressor	-	-	5,833	5,833
74 Installation Costs	-	-	-	-
75 Surface Pumps	-	-	61,667	61,667
76 Downhole Pumps	-	-	-	-
77 Measurement & Meter Installation	-	-	116,667	116,667
78 Gas Conditioning / Dehydration	-	-	-	-
79 Interconnecting Facility Piping	-	-	20,000	20,000
80 Gathering / Bulk Lines	-	-	-	-
81 Valves, Dumps, Controllers	-	-	108,333	108,333
82 Tank / Facility Containment	-	-	43,333	43,333
83 Flare Stack	-	-	16,667	16,667
84 Electrical / Grounding	-	-	50,000	50,000
85 Communications / SCADA	-	-	36,667	36,667
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Production Engineer:	DC

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Co-CEO	WH	Co-CEO	JW	VP - Operations	CRM
VP - Land & Legal	BC	VP - Geosciences	SO		

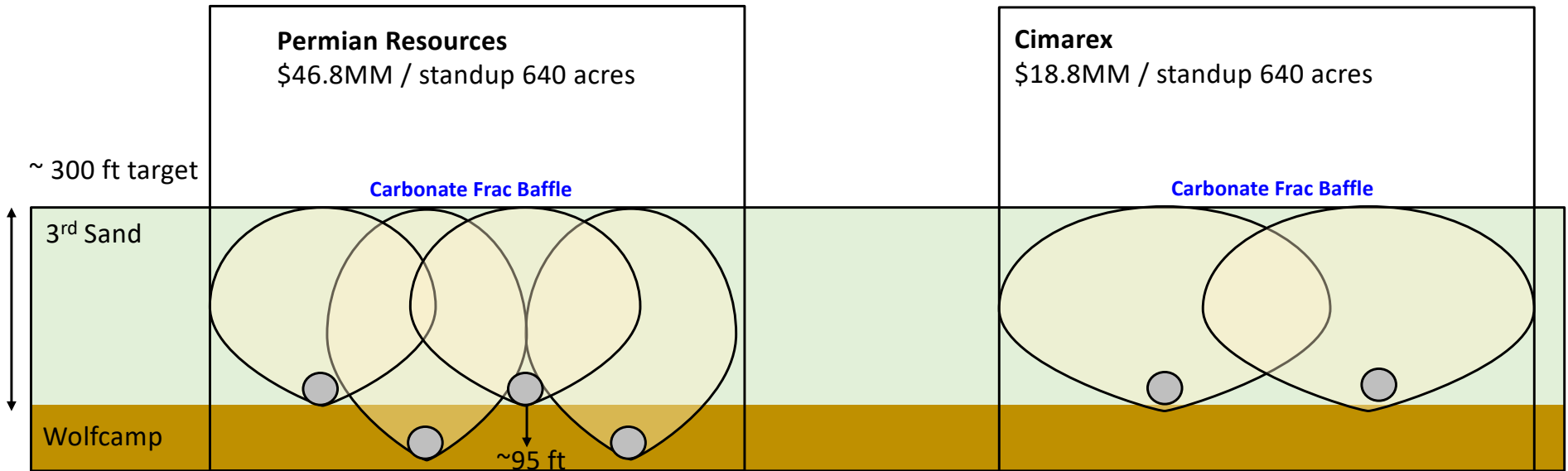
**NON OPERATING PARTNER APPROVAL:**

Company Name:	Working Interest (%):	Tax ID:
Signed by:	Date:	
Title:	Approval: <input type="checkbox"/> Yes <input type="checkbox"/> No (mark one)	

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## Diagram of Staggered Landing Wolfcamp + 3<sup>rd</sup> SS vs. 3<sup>rd</sup> SS Flat



- Cimarex has experience developing as many as 8 landings within a DSU successfully in Lea county with 9<sup>th</sup> drilling now, 35 to 38 wells / section. The difference is the combination of geology (barriers, reservoir height, and flow units) don't support the proposed staggers at Mighty Pheasant Loosey Goosey as demonstrated by area developments like Black and Tan.
- 3<sup>rd</sup> and Wolfcamp landed this close together are equivalent to 8 WPS flat in the 3<sup>rd</sup> Sand, double the AOI proven density.
- A wealth of data from the DOE and industry funded Hydraulic Fracture Test Site 2 supports an upper Wolfcamp buffer zone in this specific location to protect proven 3<sup>rd</sup> Sand correlative rights and prevent capital waste.

# Proposed Wolfcamp Depth Severance to Minimize Interaction with 3<sup>rd</sup> Bone Spring Sand

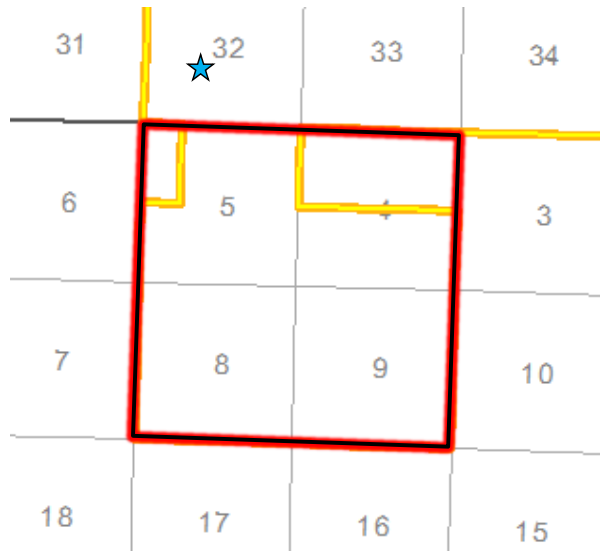
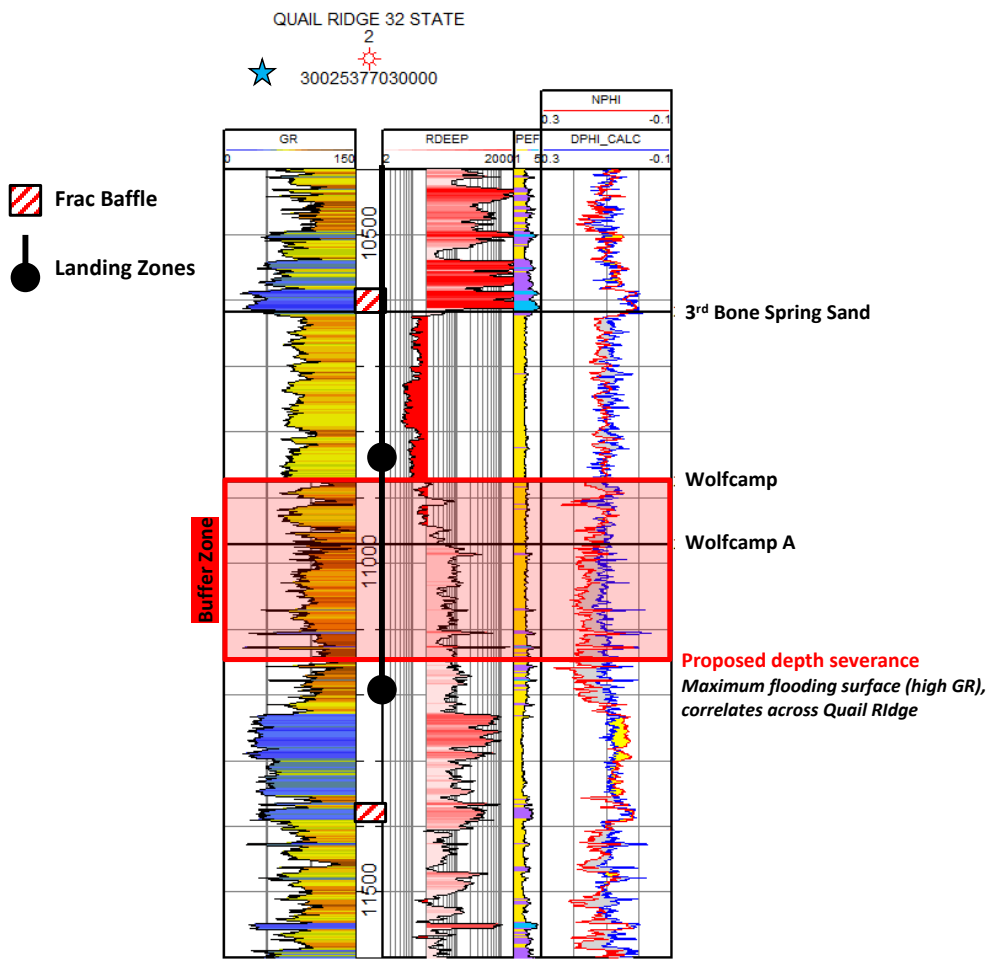


EXHIBIT  
5

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

QUESTIONS  
 Action 240070

**QUESTIONS**

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 240070
	Action Type: [HEAR] Prehearing Statement (PREHEARING)

**QUESTIONS**

<b>Testimony</b>	
<i>Please assist us by provide the following information about your testimony.</i>	
Number of witnesses	4
Testimony time (in minutes)	48