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 ATTORNEY

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COMPETING PARTY

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

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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 3rd 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 3rd 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 3rd Bone Spring Sands, and not in the Upper Wolfcamp, in order preserve the Upper Wolfcamp from being drilled and thereby protect the 3rd 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

Landman: John Coffman Approx. 5 min Approx. 1

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.

Geologist: Staci Meuller Approx. min Approx. 21 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.

Reservoir Engineer: Eddie Behm Approx. 45 minutes Approx. 17

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 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

Darin C. Savage

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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

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Attorney for Northern Oil and Gas, Inc.

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Attorneys for Sandstone Properties, LLC

/s/ Darin C. Savage

Darin C. Savage

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

APPLICATIONS OF CIMAREX ENERGY CO.
FOR A HORIZONAL 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 3rd 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 3rd 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 3rd 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 3rd Bone Spring Sand and the Upper Wolfcamp, Cimarex has concluded that if Upper Wolfcamp wells were to be completed while drilling and developing the 3rd Bone Spring Sand, those wells would drain much of the reserves in the 3rd Bone Spring Sand, where the best reserves are located, and would likely result in permanent damage to the target reservoir in the 3rd 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 3rd 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 is 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 3rd 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 3rd 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 dollars¹ 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

¹ 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 3rd 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 3rd Bone Spring Sands, and not in the Upper Wolfcamp, in order preserve the Upper Wolfcamp from being drilled and thereby protect the 3rd Bone Spring Sand from drainage and damage.

II. Argument

- A. The optimal development of the Subject Lands is to drill wells in the 3rd 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 3rd 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 3rd 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 3rd 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.

- Wolfcamp based on wells drilled in 3rd 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 3rd Bone Spring Sand and to protect correlative rights, would be to allow the drilling of the 3rd 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 3rd Bone Spring, thus protecting the correlative rights of the owners in the 3rd 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 3rd 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 Wolcamp, 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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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:

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Attorneys for Sandstone Properties, LLC

/s/ Darin C. Savage

Darin C. Savage



Well Count by Landing and Operators Shows 3rd Sand is the Consensus Landing

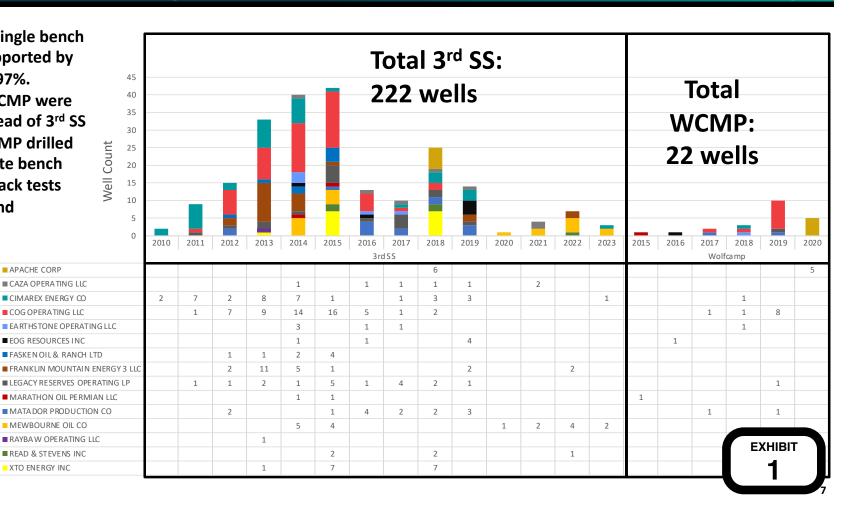
- 3rd Sand / single bench landing supported by 236 wells, 97%.
- 13 of 22 WCMP were drilled instead of 3rd SS
- 5 of 22 WCMP drilled as a separate bench
- 3 WCMP stack tests with 3rd Sand

APACHE CORP

COG OPERATING LLC

■ EOG RESOURCES INC

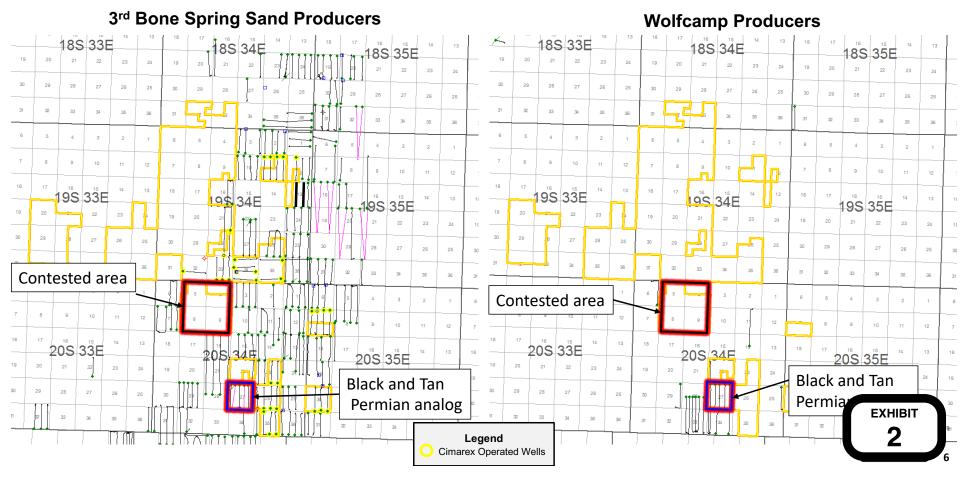
XTO ENERGY INC



O

3rd 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



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

DATE:	2.17.2023		ORIZATION FOR EXPENDI	AFE NO.:	1
ELL NAME:	Bane 4-9 Federal Com 20	пн		FIELD:	Tonto; Wolfcamp
CATION:	Section 4, T20S-R34E			MD/TVD:	21,210' / 10,925'
DUNTY/STATE:	Lea County, New Mexico	<u> </u>		LATERAL LENGTH:	10,000'
ennian WI:				DRILLING DAYS:	19.6
EOLOGIC TARGET:	WCXY		•	COMPLETION DAYS:	19
		well and complete w	ith 44 stages. AFE include:	s drilling, completions, i	flowback and Initial
EMARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBL		COSTS	COSTS	COST5	COSTS
and/Legal/Regulatory		59,066 288,079	18,067	2,500	S 96,560 308,642
.ocation, Surveys & Dan reight/Transportation	iages	47,628	43,778	25,000	116,400
Rental - Surface Equipme		124,327	215,417	105,000	444,744
Rental - Downhole Equip		205,424	59,805		265,229
Rental - Living Quarters Directional Drilling, Su		48,083 429,543	54,480		102,563 429,543
Drilling	110,5	753,820			753,820
Drill Bits		100,176		-	100,170
Fuel & Power	•	188,935 243,296	725,061	<u>-</u>	913,990
Cementing & Float Equ Completion Unit, Swab		243,290		15,000	15,00
Perforating, Wireline, S			393,136		393,130
High Pressure Pump Tr	uck		123,274	-	123,274
Completion Unit, Swab		105,209	146,484		146,48- 105,20
Mud Circulation System Mud Logging		17,529			17,52
t Mud Logging Logging/Formation Ev	atuation	7,270	8,339		15,60
3 Mud & Chemicals		361,835	438,185	10,000	810,02
4 Water		43,459	661,625	300,000	1,005,08 814,03
5 Stimulation 6 Stimulation Flowback &	k Disp		814,033 121,606	150,000	271,60
8 Mud/Wastewater Disp		193,104	61,151	-	254,25
O Rig Supervision / Engin	neering	121,196	133,420	21,667	276,28
2 Drig & Completion Ove	erhead	10,423	ZO 480	101 447	10,42
5 Labor 4 Proppant		153,358	69,489 1,255,227	101,667	324,51- 1,255,22
5 Insurance		14,660	-		14,66
7 Contingency			24,421	3,833	28,25
9 Plugging & Abandonm					****
	TOTAL INTANGIBLES >		5,367,000	772,167	9,655,58 TOTAL
TANGIBLE	COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	COSTS
Surface Casing	5	122,234			\$ 122,23
I Intermediate Casing		344,284			344,28
Orilling Liner Production Casing		687,039			687,03
Production Liner					
Tubing		===		140,000	140,00
Wellhead		64,820		40,000	104,82
Packers, Liner Hangers Tanks		14,732		20,000 45,833	34,73 45,83
Production Vessels				126,667	126,66
Flow Lines				66,667	66,66
Rod string					
Artificial Lift Equipmen	al			90,000	90,00 5,83
Compressor Installation Costs				5,833	5,83
Surface Pumps				61,667	61,66
Downhole Pumps					-
				116,667	116,66
			<u>-</u> _	20,000	20,00
Gas Conditioning/Deb			-		
Gas Conditioning / Deb Interconnecting Facility					-
Gas Conditioning/Deb Interconnecting Facility Gathering/Bulk Lines Valves, Dumps, Contro	Piping			108,333	108,33
7 Measurement & Meter is 8 Gas Conditioning / Deb 9 Interconnecting Facility 0 Gathering / Bulk Lines 11 Valves, Dumps, Contro 12 Tank / Facility Contains	Piping	===		43,333	108,33 43,33
3 Gas Conditioning / Det 9 Interconnecting Facility 0 Gathering / Bulk Lines 1 Valves, Dumps, Contro 2 Tank / Facility Contains 3 Flare Stack	Piping			43,333 16,667	108,33 43,33 16,66
8 Gas Conditioning/Deb 9 Interconnecting Facility 0 Gathering/Bulk Lines 1 Valves, Dumps, Contro	Piping illers ment	<u> </u>		43,333	108,33 43,33
8 Gas Conditioning / Deb 9 Interconnecting Facility 0 Gathering / Bulk Lines 1 Valves, Dumps, Contro 2 Tank / Facility Contains 3 Flare Stack 4 Electrical / Grounding	Piping Illers ment DA y		-	43,333 16,667 50,000 36,667 833	108,33 43,33 16,66 50,00 36,66
Gas Conditioning / Deb Interconnecting Facility O Gathering / Bulk Lines I Valves, Dumps, Contro E Tank / Facility Contains Flare Stack I Electrical / Grounding Communications / SCA	Piping illers ment IDA y TOTAL TANGIBLES>	1,233,109		43,333 16,667 50,000 36,667 833 989,167	108,33 43,33 16,66 50,00 36,66 83 2,222,27
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Gas Conditioning, Deb Diateromecting, Facility Gathering, Bulk Lines Valves, Dumps, Contro Trank/ Facility Contain: Flare Stack Electrical/ Grounding Communications/ SCA Instrumentation/ Safet	Piping Illers IDA Y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC:	1,233,109		43,333 16,667 50,000 36,667 833 989,167	108,33 43,33 16,66 50,00 36,66 83 2,222,27
Gas Conditioning / Deb Interconnecting Recility Gathering / Bulk Lines Valves, Dumps, Contro Tank / Facility Contains Flare Stack Electrical / Grounding Communications / SCA Instrumentation / Safet ARED BY Permian Re Drilling Engine	Piping illers ment IDA y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer: 15	1,233,109		43,333 16,667 50,000 36,667 833 989,167	108,33 43,33 16,66 50,00 36,66 83 2,222,27
Gas Conditioning / Deb Interconnecting Recility Gathering / Bulk Lines Valves, Dumps, Control Tank / Facility Contain Flare Stack Electrical / Grounding Communications / SCA Instrumentation / Safety ARED BY Permian R. Drilling Engin Completions Engine	Piping illers ment DA y TOTAL TANGIBLES TOTAL COSTS esources Operating, LLC: eer: P5 eer: ML	1,233,109		43,333 16,667 50,000 36,667 833 989,167	108,33 43,33 16,66 50,00 36,66 83 2,222,27
Gas Conditioning / Deb Interronnecting Recility Gathering / Bulk Lines Valves, Dumps, Contro Tank / Facility Contains Flare Stack Electrical / Grounding Communications / SCA Instrumentation / Safet ARED BY Permian Re	Piping illers ment DA y TOTAL TANGIBLES TOTAL COSTS esources Operating, LLC: eer: P5 eer: ML	1,233,109		43,333 16,667 50,000 36,667 833 989,167	108,33 43,33 16,66 50,00 36,66 83 2,222,27
Gas Conditioning / Deb Interronnecting Facility Gathering / Bulk Lines Valves, Dumps, Contro Tank / Facility Contain Facility Contain Electrical / Grounding Communications / SCA Instrumentation / Safet Drilling Engine Completions Engine Production Engine	Piping illers ment DA y TOTAL TANGIBLES TOTAL COSTS esources Operating, LLC: eer: P5 eer: ML	1,233,109		43,333 16,667 50,000 36,667 833 989,167	108,33 43,33 16,66 50,00 36,66 83 2,222,27
Gas Conditioning / Deb Interconnecting Recility Gathering, Bulk Lines Valves, Dumps, Contro Tank / Fecility Contains Flare Stack Electrical / Grounding Communications / ScA Instrumentation / Safet Drilling Engine Completions Engine Production Engine an Resources Operation	Illers ment IDA Y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer: PS eer: ML eer: DC ing, LLC APPROVAL:	1,233,109	- - - 0 5,367,000	43,333 16,667 50,600 36,667 833 989,167 1,761,334	108.33 43.33 16.66 50.00 36.66 83 2,222,21
Gas Conditioning / Deb Diaterometring Recility Oathering, Bulk Lines Valves, Dumps, Contro Tank/ Facility Contain Flare Stack Electrical/Grounding Communikations/SCA Instrumentation/Safet ARED BY Permian Re Drilling Engine Completions Engine Production Engine	Illers ment IDA Y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer: PS eer: ML eer: DC ing, LLC APPROVAL:	1,233,109		43,333 16,667 50,000 36,667 833 989,167	108.33 43.33 16.66 50.00 36.66 83 2,222,21
Gas Conditioning / Deb Interconnecting Facility Gathering / Bulk Lines Valves, Dumps, Contro Tank / Facility Contains Flare Stack Electrical / Grounding Communications / SCA Instrumentation / Safet ARED BY Permian Re Drilling Engine Completions Engine Production Engine an Resources Operation Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-C	Illers ment IDA Y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer. PS eer: ML eer: DC ing, LLC APPROVAL: EEO WH	1,233,109 4,749,528	0 5,367,000	43,333 16,667 50,600 36,667 833 989,167 1,761,334	108,33 43,33 16,66 50,00 36,66 83 2,222,27 11,877,84
Gas Conditioning / Deb Interconnecting Recility Gathering, Bulk Lines Valves, Dumps, Contro Tank / Fecility Contains Flare Stack Electrical / Grounding Communications / ScA Instrumentation / Safet Drilling Engine Completions Engine Production Engine an Resources Operation	Illers ment IDA Y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer. PS eer: ML eer: DC ing, LLC APPROVAL: EEO WH	1,233,109	0 5,367,000	43,333 16,667 50,600 36,667 833 989,167 1,761,334	108,33 43,33 16,66 50,00 36,66 83 2,222,27 11,877,84
Gas Conditioning / Deb Interconnecting Recility Gathering / Bulk Lines Valves, Dumps, Control Flare Stack Electrical / Grounding Communications / SCA Instrumentation / Safet ARED BY Permian Re Drilling Engine Completions Engine Production Engine An Resources Operation Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-Co-C	Piping illers ment IDA y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer:	1,233,109 4,749,528		43,333 16,667 50,600 36,667 833 989,167 1,761,334	108,33 43,33 16,66 50,00 36,66 83 2,222,27 11,877,84
Gas Conditioning / Deb Interconsecting Recility Gathering / Bulk Lines Valves, Dumps, Contro Tank / Facility Contains Flare Stack Electrical / Grounding Communications / SCA Instrumentation / Safety ARED BY Permian R. Drilling Engine Completions Engine Production Engine an Resources Operation COCC VP - Land & Le	Piping	1,233,109 4,749,528		43,333 16,667 50,600 36,667 833 989,167 1,761,334	108,33 43,33 16,66 50,00 36,66 83 2,222,27 11,877,84
Gas Conditioning/Deb Gas Conditioning/Deb Gathering/Bulk Lines Valves, Dumps, Conting Facility Contains Fare Stack Electrical/Grounding Communications/SCA Instrumentation/Safety Drilling Engine Completions Engine Production Engine In Resources Operation VP-Land & Le OPPERATING PARTI	Piping	1,233,109 4,749,528		43,333 16,667 50,000 36,667 833 989,167 1,761,334	108.33 43.33 16.66 50.00 36.66 83 2,222,27 11,877.84
Gas Conditioning / Deb Gas Conditioning Acility Gathering / Bulk Lines Valves, Dumps, Conting Fare Stack Electrical / Grounding Communications / SCA Instrumentation / Safety ARED BY Permian R. Drilling Engine Completions Engine Production Engine An Resources Operation COCC VP - Land & Le	Piping	1,233,109 4,749,528		43,333 16,667 50,000 36,667 833 989,167 1,761,334	108,33 43,33 16,66 50,00 36,66 83 2,222,27 11,877,84
Gas Conditioning / Deb Interconnecting Recitity Gathering/ Bulk Lines Valves, Dumps, Contro Tank / Facility Contains Flare Stack Electrical / Grounding Communications / SCA Instrumentation / Safety ARED BY Permian R. Drilling Engine Completions Engine Production Engine An Resources Operation Co-C VP - Land & Le OPPERATING PARTI	Illers ment IDA Y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer: PS eer: ML eer: DC ing, LLC APPROVAL: EEO WH egal BC NER APPROVAL: me:	1,233,109 4,749,528		43,333 16,667 50,000 36,667 833 989,167 1,761,334	108.33 43.33 16.66 50.00 36.66 83 2,222,27 11,877.84
Gas Conditioning / Deb Interconnecting Facility Gathering / Bulk Lines 'Authoring / Bulk Lines 'Author	Illers ment IDA Y TOTAL TANGIBLES > TOTAL COSTS > esources Operating, LLC: eer: PS eer: ML eer: DC ing, LLC APPROVAL: EEO WH egal BC NER APPROVAL: me:	1,233,109 4,749,528		43,333 16,667 50,000 36,667 833 989,167 1,761,334	108.33 43.33 16.66 50.00 36.66 83 2,222,27 11,877.84

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

	ESTIMATE O	OF COSTS AND AUTH	ORIZATION FOR EXPEND	ITURE	
DATE: 2.1	7.2023			AFE NO.:	1
	e 4-9 Federal Com 20	2H		FIELD:	Tonto; Wolfcamp
	tion 4, T20S-R34E			MD/TVD:	21,210' / 10,925'
	County, New Mexico			LATERAL LENGTH:	10,000
Permian WI:	County, Item Mexico	<u></u>		DRILLING DAYS:	19.6
	XY			COMPLETION DAYS:	19
		well and complete w	ith 44 stages. AFE include		
	install cost	well and complete w	ith 44 stages. Are include	s drilling, completions,	
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE COST	rs	COSTS	COSTS	COSTS	COSTS
1 Land/Legal/Regulatory	5	59,066		37,500	5 96,566
2 Location, Surveys & Damages		288,079	18,067	2,500	308,647
4 Freight/Transportation		47,628	43,778	25,000 105,000	116,406 444,744
5 Rental - Surface Equipment		124,327 205,424	215,417 59,805	105,000	265,229
6 Rental - Downhole Equipment 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	1907 077		100,176
13 Fuel & Power		188,935 243,296	725,061	_	913,996 243,296
14 Cementing & Float Equip 15 Completion Unit, Swab, CTU		243,290		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	9.720		17,529 15,609
22 Logging / Formation Evaluation 23 Mud & Chemicals	1	7,270 361,835	8,339 438,185	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 10,423
32 Drig & Completion Overhead 35 Labor		10,423 153,358	69,489	101,667	324,514
54 Proppant		100,000	1,255,227	- 101,001	1,255,227
95 Insurance		14,660			14,660
97 Contingency			24,421	3,833	28,254
99 Plugging & Abandonment	TAL INTANGIBLES >	3,516,419	5,367,000	772,167	9,655,585
	TAL INTANGIBLES	DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE COST	s	COSTS	COSTS	COSTS	COSTS
60 Surface Casing	5	122,234		-	\$ 122,234
61 Intermediate Casing		344,284			344,284
62 Drilling Uner					687,039
63 Production Casing		687,039			087,039
64 Production Liner 65 Tubing		<u>_</u>		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 70 Flow Lines				126,667	126,667 66,667
71 Rod string		<u>:</u> -			- 00,007
72 Artificial Lift Equipment				90,000	90,000
73 Compressor			-	5,833	5,833
74 Installation Costs					
75 Surface Pumps		<u>·</u> _		61,667	61,667
76 Downhole Pumps				116,667	116,667
77 Measurement & Meter Installa 78 Gas Conditioning / Dehydratio				110,007	110,007
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 84 Electrical/Grounding				16,667	50,000
85 Communications / SCADA				36,667	36,667
86 Instrumentation / Safety			-	833	833
	TOTAL TANGIBLES >	1,233,109	0	989,167	2,222,276
	TOTAL COSTS >	4,749,528	5,367,000	1,761,334	11,877,862
EPARED BY Permian Resourc	es Operating, LLC:				
Drilling Engineer:	PS				
Completions Engineer:	ML				
Production Engineer:	DC				
rmian Resources Operating, Ll	.C APPROVAL:				
Co-CEO_		Co-	CEO	VP - Oper	
	WH		JW		CRM
VP - Land & Legal		VP - Geoscie			
	BG		SO		
ON OPERATING PARTNER A	PPPOVAI-				
ON OPERATING PARTNER A	FFRUVAL		Mindian to 100	-	TD.
Company Name:			Working Interest (%):		Tax ID:
Signed by:			Date:		
Title:			Approval:	Yes	No (mark one)

Permian Resources Operating, LLC 300 N. Marienfeld St., Str. 1000 Midland, TX 79701 Phone (432) 695-4222 • Fax (432) 695-4063

D. M.E.	ESTIMAT				1
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 Mex	cico		LATERAL LENGTH:	10,000'
	Dea county/11011 Inter			DRILLING DAYS:	19.6
Permian WI:	IHCO/				
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCX AL install cost	KY well and complete wi	th 44 stages. AFE include	s drilling, completions,	flowback and Initial
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE	COSTS	COSTS	COSTS	COSTS 37,500	COSTS 5 96,566
1 Land/Legal/Regulatory		\$ 59,066 288,079	18,067	2,500	308,647
2 Location, Surveys & Dama; 4 Freight / Transportation	les .	47,628	43,778	25,000	116,406
5 Rental - Surface Equipmen		124,327	215,417	105,000	444,744
6 Rental - Downhole Equipm		205,424	59,805	100,000	265,229
7 Rental - Living Quarters		48,083	54,480		102,562
10 Directional Drilling, Surv	evs	429,543			429,543
11 Drilling	•	753,820			753,820
12 Drill Bits		100,176	-		100,176
13 Fuel & Power		188,935	725,061		913,9%
14 Cementing & Float Equip		243,296			243,296
15 Completion Unit, Swab, C			•	15,000	15,000
16 Perforating, Wireline, Slic			393,136		393,136
17 High Pressure Pump Truc		<u> </u>	123,274		123,274
18 Completion Unit, Swab, C	TU	·	146,484	<u> </u>	146,484
20 Mud Circulation System		105,209			105,209
21 Mud Logging	.,	17,529	0.000	<u>-</u>	17,529
22 Logging / Formation Evalu	atton	7,270	8,339	10.002	15,609 810,020
23 Mud & Chemicals		361,835	438,185 661,625	10,000 300,000	1,005,083
24 Water 25 Stimulation		43,459	814,033	300,000	814,033
25 Stimulation 26 Stimulation Flowback & I	Von		121,606	150,000	271,606
26 Stimulation Flowback & I 28 Mud/Wastewater Dispos		193,104		000,000	254,254
		193,104	61,151	21,667	276,283
30 Rig Supervision / Enginee		10,423	133,420	21,00/	10,423
32 Drlg & Completion Overb	eau	153,358	69,489	101,667	324,514
35 Labor 54 Proppant		133,36	1,255,227	101,007	1,255,227
95 Insurance		14,660			14,660
97 Contingency		- 14,000	24,421	3,833	28,254
99 Plugging & Abandonmen	1			-	
	TOTAL INTANGIBLES	5> 3,516,419	5,367,000	772,167	9,655,585
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE C	nere	COSTS	COSTS	COSTS	COSTS
60 Surface Casing		\$ 122,234		•	5 122,234
61 Intermediate Casing		344,284	-	•	344,284
62 Drilling Liner					
63 Production Casing		687,039			687,039
64 Production Liner		· ·		-	
65 Tubing			<u> </u>	140,000	140,000
66 Wellhead		64,820	<u>·</u>	40,000	104,820
67 Packers, Liner Hangers		14,732	<u>.</u>	20,000	34,732
68 Tanks				45,833	45,833
69 Production Vessels		<u>-</u> _	<u>-</u> _	126,667	126,667
70 Flow Lines				66,667	66,667
71 Rod string				90,000	90,000
72 Artificial Lift Equipment			<u>-</u>	5,833	5,833
73 Compressor 74 Installation Costs		<u>_</u>	<u>_</u>	3,033	
75 Surface Pumps				61,667	61,667
76 Downhole Pumps				61,007	01,007
77 Measurement & Meter In:	talistina			116,667	116,667
78 Gas Conditioning/ Dehy				- 110,007	110,007
79 Interconnecting Facility P				20,000	20,000
80 Gathering / Bulk Lines	hmil				
81 Vaives, Dumps, Controlle	rs			108,333	108,333
82 Tank / Facility Containme				43,333	43,333
83 Flare Stack				16,667	16,667
84 Electrical/Grounding				50,000	50,000
85 Communications / SCAD.	A			36,667	36,667
86 Instrumentation / Safety				833	833
•	TOTAL TANGIBLES	5 > 1,233,109	0	989,167	2,222,276
	TOTAL COSTS	S > 4,749,528	5,367,000	1,761,334	11,877,862
9					<u> </u>
EPARED BY Permian Res	ources Operating, LLC:				
Drilling Engineer	. P5				
Completions Engineer					
Production Engineer					
	· · · · ·		-		
	g, LLC APPROVAL:				
mian Resources Operatin					
			EO	VP - Open	CRM
mian Resources Operatin		Co-C	Re		
Co-CEO	WH		JW		Citini
	WH	VP - Geoscies	***		Cam
Co-CEO	WH		nces		Cim
Co-CEO	WH I BC		nces		Can
Co-CE(VP - Land & Legi	BC BC		nces	т	ax ID:
Co-CEI VP - Land & Legi IN OPERATING PARTNI	BG B		50 SO		
Co-CEI VP - Land & Legi N OPERATING PARTNI Company Name	BC B		SO Working Interest (%):	· · · · ·	

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

DATE:	2.17.2023		ORIZATION FOR EXPEND	AFE NO.:	1
	Bane 4-9 Federal Com	2041-		FIELD:	Tonto; Wolfcamp
	Section 4, T20S-R34E	20411		MD/TVD:	21,210' / 10,925'
				LATERAL LENGTH:	10,000
	Lea County, New Mex	ico			
'ermian WI:	WCVV			DRILLING DAYS: COMPLETION DAYS:	19.6 19
	WCXY			_	
REMARKS:	AL install cost	(Y well and complete wi	th 44 stages. AFE include	s ariting, completions,	noweack and irunai
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE C	OSTS	DRILLING COSTS	COSTS	COSTS	COSTS
Land/Legal/Regulatory		S 39,066		37,500	s 96,50
Location, Surveys & Damage	5	288,079	18,067	2,500	308,64
Freight / Transportation Rental - Surface Equipment		124,327	43,778	25,000 105,000	116,40 444,74
Rental - Downhole Equipme	ent .	205,424	59,805	- 105,000	265,2
Rental - Living Quarters		48,083	54,480	-	102,50
Directional Drilling, Survey	ys	429,543			429,5
1 Drilling		753,820		<u> </u>	753,8
2 Drill Bits		100,176 188,935	725,061		100,17 913,9
3 Fuel & Power 1 Cementing & Float Equip		243,296	723,001		243,25
Completion Unit, Swab, Cl	TU			15,000	15,00
6 Perforating, Wireline, Slick			393,136		393,13
7 High Pressure Pump Truck			123,274		123,2
3 Completion Unit, Swab, Cl	TU		146,484		146,4
Mud Circulation System		105,209	<u>·</u>		105,2
1 Mud Logging		17,529	9 2 2 2 0	<u>-</u>	17,5
2 Logging / Formation Evalue 3 Mud & Chemicals	HUUI	7,270 361,835	8,339 438,185	10,000	15,64 810,00
4 Water		43,459	661,625	300,000	1,005,0
5 Stimulation			814,033		814,0
6 Stimulation Flowback & D	İsp		121,606	150,000	271,6
8 Mud/Wastewater Disposa		193,104	61,151		254,2
0 Rig Supervision / Engineer		121,196	133,420	21,667	276,2
2 Drlg & Completion Overhe	ad	10,423	69,489	101,667	10,41 324,5
5 Labor 4 Proppant		153,358	1,255,227	101,007	1,255,2
95 Insurance		14,660	1,200,227		14,6
77 Contingency			24,421	3,833	28,2
9 Plugging & Abandonment					
	TOTAL INTANGIBLES		5,367,000	772,167	9,655,5 TOTAL
TANGIBLE CO	ests	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	COSTS
0 Surface Casing		s 122,234	•		\$ 122,2
1 Intermediate Casing		344,284			344,2
2 Drilling Liner					
53 Production Casing		687,039	·	.	687,0
4 Production Liner				140,000	
55 Tubing 56 Wellhead		64,820		40,000	140,0
7 Packers, Liner Hangers		14,732		20,000	34,7
58 Tanks				45,833	45,8
69 Production Vessels				126,667	126,6
70 Flow Lines				66,667	66,6
71 Rod string			<u> </u>		
72 Artificial Lift Equipment				90,000	90,0
73 Compressor 74 Installation Costs				5,833	5,8
75 Surface Pumps				61,667	61,6
6 Downhole Pumps					
77 Measurement & Meter Inst	aliation			116,667	116,6
78 Gas Conditioning / Dehydi					
79 Interconnecting Facility Pip	olng		<u> </u>	20,000	20,0
30 Gathering / Bulk Lines				100 333	100.5
81 Valves, Dumps, Controller 82 Tank / Facility Containmen		<u> </u>		108,333	108,3
83 Flare Stack	ı			16,667	16,6
84 Electrical / Grounding				50,000	50,0
85 Communications / SCADA				36,667	36,6
6 Instrumentation/Safety			•	833	- 8
	TOTAL TANGIBLES	i > 1,233,109	0	989,167	2,222,2
	TOTAL COSTS	5 4,749,528	5,367,000	1,761,334	11,877,
PARED BY Permian Reso	0 11.0-				
	-				
Drilling Engineer:	PS				
Completions Engineer:	ML				
Production Engineer:	DC				
ian Resources Operating	LLC APPROVAL:				
Co-CEO			CEO	VP - Oper	ations
CVCEO	WH	CO		· · · Oper	CRM
VP - Land & Legal	BG BG	VP - Geoscie	nces		
	P APPROVAL.				
N OPERATING PARTNE					
			Working Interest (41)	-	av ID:
N OPERATING PARTNE			Working Interest (%):	т	ax ID:
Company Name:			Working Interest (%): Date:		ax ID:

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	AUTHO	RIZATION	FOR	EXPEN	DITUR

DATE:	2.17.2023			AFE NO.:	1
WELL NAME:	Joker 5-8 Federal Com 2	01H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E			MD/TVD:	21,211' / 10,926'
COUNTY/STATE:	Lea County, New Mexic	70		LATERAL LENGTH:	10,000'
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
GEOLOGIC TANGET:		· · · · · · · · · · · · · · · · · · ·		_	
		Y well and complete wi	ith 44 stages. AFE includes	arming, completions, in	Owback and mudai
REMARKS:	AL install cost			- ,	
		DRILLING	COMPLETION	PRODUCTION	TOTAL
		COSTS	COSTS	COSTS	COSTS
INTANGIBLE	COSTS			37,500	\$ 96,566
T Land/ Legal/ Regulatory		59,066	18,067	2,500	308,647
2 Location, Surveys & Dam	ages	288,079	43,778	25,000	116,406
4 Freight / Transportation	_4	47,628 124,327	215,417	105,000	444,744
5 Rental - Surtace Equipme 6 Rental - Downhole Equip		205,424	59,805	103,000	265,229
7 Kental - Living Quarters	mem	48,083	54,480		102,562
10 Directional Drilling, Sur	vens	429,543			429,543
11 Orilling	,-	753,820			753,820
12 Orul Bits		100,176			100,176
13 Fuel & Power		188,935	725,061		913,996
14 Cementing & Float Equi		243,296		-	243,296
15 Completion Unit, Swab,			-	15,000	15,000
16 Pertorating, Wireline, Sil			393,136		393,136
17 High Pressure Pump Tru			123,274	·	123,274
18 Completion Unit, Swab,		105,209	146,484		105,209
20 Mud Circulation System		17,529			17,529
21 Mud Logging 22 Logging/Formation Eva	lustion	7,2/0	8,339		15,609
23 Mud & Chemicals	Juanon	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 Dispo	sal .	193,104	61,151		254,254
30 Rig Supervision / Engine	ering	121,196	133,420	21,667	276,283
32 Drig & Completion Over	rhead	10,423			10,423
35 Labor		153,358	69,489	101,667	324,514
54 Proppant			1,255,227		1,255,22/
95 Insurance		14,660	-		14,660
97 Contingency			24,421	3,833	28,254
99 Plugging & Abandonme			<u> </u>		
	TOTAL INTANGIBLES	> 3,516,419	5,367,000	772,167	9,655,585
•		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE	COSTS	COSTS	COSTS	COSTS	COSTS
60 Surface Casing	CO510	5 122,234	<u>-</u> -		5 122,234
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			<u> </u>	-	90,000
72 Artificial Lift Equipment 73 Compressor				90,000	5,833
74 Installation Costs				3,033	3,033
75 Surface Pumps				61,667	61,667
76 Downhole Pumps					
77 Measurement & Meter Iz	ıstallalion			116,667	116,667
78 Gas Conditioning / Dehy					
79 Interconnecting Facility				20,000	20,000
80 Gathering / Bulk Lines					
81 Valves, Dumps, Controll				108,333	108,333
82 Tank / Facility Containm	ent			43,333	43,333
83 Flare Stack				16,667	15,657
84 Electrical / Grounding				50,000	50,000
85 Communications / SCAL	n.			36,667	36,667
86 Instrumentation / Safety	TOTAL TANGIBLES			833	833
				989,167	2,222,276
	TOTAL COSTS:	> 4,749,528	5,367,000	1,761,334	11,877,862
REPARED BY Permian Res	aumas Onantina II C				
ALI AND DI Temuan Ke	sources Operating, LLC.				
Drilling Enginee	er: PS				
Completions Enginee					
Production Enginee					
Froduction Enginee	er, DC				
			-		
ermian Resources Operatio	ig, LLC APPROVAL:				
Co-CE		Co-C	ŒO	VP - Opera	
	WH		jw -		CRM
VP - Land & Leg		VP - Geoscie			
	BG		so		
			-		
ON OPERATING PARTN	ER APPROVAL:				
Company Nam	e:		Working Interest (%):	Ta	x ID:
Signed b	у:		Date:		
	•		_	1 v '	
Tiu	ie:		Date:		No (mark one)
	e:	I work of the prospect. Tabling binduffiction appearance the terms of the applicable point operation	Approval:		his AFE, the Participent agrees to pay its

Permian Resources Operating, LLC
300 N. Marlenfeld St., Sis. 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:	oker 5-8 Federal Com 2	02H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E			MD/TVD:	21,211' / 10,926'
-	Lea County, New Mexic	70		LATERAL LENGTH:	10,000'
Permian WI:	,,			DRILLING DAYS:	19.6
-	WOXY			COMPLETION DAYS:	19
-				_	
	Drill a horizontal WCX) AL install cost	well and complete v	vith 44 stages. AFE includes	drilling, completions, i	lowback and Initial
REWARKS:	AL IISUM COST				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE CO	OSTS	COSTS	COSTS	COSTS	COSTS
T Land/Legal/Regulatory	,	59,066	· -	37,500	\$ 96,566
2 Location, Surveys & Damage	5	288,079	18,067	2,500	308,647
4 Freight/Transportation		47,528	43,778	25,000	116,406
5 Kental - Surface Equipment		124,327 205,424	215,417	105,000	444,744
6 Kental - Downhole Equipme:	TI .	48,083	59,805 54,480		265,229 102,562
7 Kental - Living Quarters 10 Directional Drilling, Survey		429,543	54,460		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, CT	U			15,000	15,000
16 Pertorating, Wireline, Slicki	ine		393,136		393,136
17 High Pressure Pump Truck			123,274		123,274
18 Completion Unit, Swab, Cl	U		146,484		146,484
20 Mud Circulation System		105,209			105,209
21 Mud Logging		17,529	<u>.</u>		17,529
22 Logging / Formation Evalua	nou	7,270	8,339		15,609
23 Mud & Chemicals		361,835	438,185	10,000	1,005,083
24 Water 25 Stimulation		43,459	814,033	300,000	814,033
25 Stimulation 26 Stimulation Flowback & Di	in.		121,606	150,000	2/1,606
26 Mud/Wastewater Disposal	r	193,104	61,151	130,000	254,254
20 Rig Supervision / Engineeri	ng	121,196	133,420	21,667	2/6,283
32 Drig & Completion Overhe		10,423			10,423
35 Labor		153,358	69,489	101,667	324,514
54 Proppant			1,255,227		1,255,22/
95 Insurance		14,660		•	14,660
97 Contingency			24,421	3,833	28,254
99 Plugging & Abandonment		•		-	-
	TOTAL INTANGIBLES >	3,516,419	5,367,000	772,167	9,655,585
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE CO	STS	COSTS	COSTS	COSTS	COSTS
50 Surface Casing	515	122.234			5 122,234
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,/32	-	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				<u> </u>	
72 Artificial Lift Equipment				90,000	90,000
73 Compressor 74 Installation Costs			-	5,833	5,833
75 Surface Pumps		<u> </u>	- _	61,667	61,667
75 Downhole Pumps			<u></u> _		
77 Measurement & Meter Insta	liation		 _	116,667	116,667
78 Gas Conditioning / Dehydra					
79 Interconnecting Facility Pip				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 / Satety				833	833
	TOTAL TANGIBLES >		<u> </u>	989,167	2,222,276
	TOTAL COSTS >	4,749,528	5,367,000	1,761,334	11,877,862
PARED BY Permian Resou	rces Operating, LLC:				
	· · ·				
Drilling Engineer:	PS				
Completions Engineer:	ML				
Production Engineer:	DC				
tian Resources Operating,	LLC APPROVAL:				
Co-CEO		Co	-CEO	VP - Opera	stions
•	WH		JW		CRM
VP - Land & Legal		VP - Geosci			
٠.	BG		so		
N OPERATING PARTNER	APPROVAL:				
N OPERATING PARTNER	APPROVAL:		Washing Interest (81)		v ID:
N OPERATING PARTNER Company Name:	APPROVAL		Working Interest (%):	T	ıx ID:
Company Name:	APPROVAL			т	ax ID:
-	APPROVAL		Working Interest (%): Date:	т	ax ID:
Company Name:	APPROVAL:			T.	No (mark one)

Permian Resources Operating, LLC 300 N. Martenfeld St., Ste. 1000 Midland, TX 79701 Phone (432) 695-4022 · 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 2	03H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E			MD/TVD:	21,191' / 10,906'
COUNTY/STATE:	Lea County, New Mexic	30		LATERAL LENGTH:	10,000'
Permian WI:	Date County, 11017 Internal			DRILLING DAYS:	19.6
	L. LOTTON				19
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	
		Y well and complete wi	ith 44 stages. AFE includes	s drilling, completions, fl	owback and Initial
REMARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
		COSTS	COSTS	COSTS	COSTS
INTANGIBLE (0515			37,500	\$ 96,56
Land/Legal/Regulatory	,	59,066			308,64
Location, Surveys & Damag	es	288,079	18,067	2,500	
Freight/Transportation		47,628	43,778	25,000	116,40
Rental - Surface Equipment		124,327	215,417	105,000	444,74
Rental - Downhole Equipm	ent	205,424	59,805	-	265,2
Kental - Living Quarters		48,083	54,480		102,56
I Directional Drilling, Surve	ys	429,543		-	429,5
1 Drilling		753,820			753,82
2 Drui Bits		100,176			100,17
3 Fuel & Power		188,935	725,061		913,99
4 Cementing & Float Equip		243,296	<u> </u>		243,25
5 Completion Unit, Swab, C				15,000	15,00
6 Periorating, Wireline, Silci		•	393,136	•	393,13
7 High Pressure Pump Truck		<u> </u>	123,274		123,27
i Completion Unit, Swab, C	เบ		146,484	-	146,48
Mud Circulation System		105,209	-		105,20
Mud Logging		17,529		•	17,52
Logging/Formation Evalu	ation	7,270	8,339		15,60
Mud & Chemicals		361,835	438,185	10,000	810,0
Water		43,459	661,625	300,000	1,005,0
5 Stimulation			814,033		814,0.
Stimulation Flowback & D	lsp		121,606	150,000	2/1,6
B Mud / Wastewater Disposa		193,104	61,151		254,2
0 Rig Supervision / Engineer		121,196	133,420	21,667	2/6,2
2 Drig & Completion Overh		10,423			10,4:
SLabor		153,358	69,489	101,667	324,5
4 Proppant			1,255,227		1,255,2
5 Insurance		14,660			14,6
7 Contingency			24,421	3,833	28,25
9 Plugging & Abandonment				3,033	
y rangement as reconstruction					
	TOTAL INTANGIBLES	> 3,516,419	5,367,000	772,167	9,655,5
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE CO	STS	COSTS	COSTS	COSTS	COSTS
J Surface Casing		S 122,234		<u>-</u>	\$ 122.2
I Intermediate Casing		344,284			344,2
2 Drilling Liner		34,204			314,22
Production Casing		687,039		-	687,03
4 Production Liner					007,00
5 Tubing			-	140,000	1010
6 Wellhead		64,820			140,00
				40,000	104,82
7 Packers, Liner Hangers		14,732		20,000	34,73
8 Tanks				45,833	45,83
9 Production Vessels		-		126,667	126,60
0 Flow Lines				66,667	66,66
1 Rod string		·			
2 Artiticial List Equipment				90,000	90,00
3 Compressor		-		5,833	5,83
4 Installation Costs			-		
5 Surtace Pumps				61,667	61,66
6 Downhole Pumps					
7 Measurement & Meter Inst	allation			116,667	116,66
Gas Conditioning / Dehydr	ation				
Interconnecting Facility Pi				20,000	20,00
Gathering / Bulk Lines	·				
Valves, Dumps, Controller				108,333	108,33
Tank / Facility Containmen				43,333	43,33
Flare Stack	•			16,667	16,68
		<u>_</u>	<u>-</u> _		
Helectrical / Grounding		<u> </u>		50,000	50,00
5 Communications / SCADA				36,667	36,66
b Instrumentation / Safety		<u> </u>		833	83
	TOTAL TANGIBLES		0	989,167	2,222,2
·	TOTAL COSTS :	4,749,528	5,367,000	1,761,334	11,877,8
					
ARED BY Permian Reso	irces Operating, LLC:				
D-## F	-				
Drilling Engineer:	PS PS				
Completions Engineer:	ML				
Production Engineer:	DC				
			-		
an Resources Operating.	LLC APPROVAL:				
an resources operaning		Co-C	TEO.	VP - Opening	ions
			.EU	VP - Operati	
Co-CEO	·)**		CRM
Co-CEO	WH				
		VP - Geoscien			
Co-CEO	WH BC		SO SO		
Co-CEO					
Co-CEO					
Co-CEO VP-Land & Legai	BC				
Co-CEO VP-Land & Legai	BC				
Co-CEO VP - Land & Legai OPERATING PARTNER	BC		50		ID.
Co-CEO	BC			Tax	ID:
Co-CEO VP - Land & Legai OPERATING PARTNES Company Name:	BC		SO Working Interest (%):	Tax	ID:
Co-CEO VP - Land & Legai OPERATING PARTNER	BC		50	Tax	ID:
Co-CEO VP - Land & Legai OPERATING PARTNES Company Name:	BC		SO Working Interest (%):		ID:

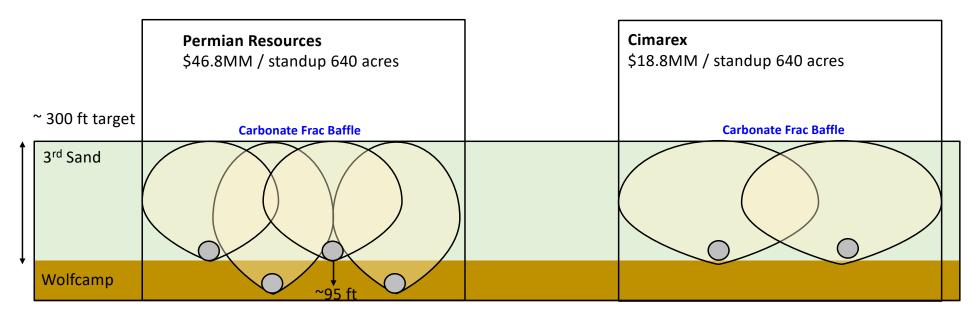
Permian Resources Operating, LLC 300 N. Marienfeld St., Ste. 1000 Midland, TX 79701 Phone (432) 695-4222 • Fax (432) 695-4063

STIMATE	OF COSTS	AND.	AUTHORIZ	AT.	ION FOR	EXPENDITU	RE

D. 475	2 17 2022			- TENC	1
DATE:	2.17.2023	IOATI .		AFE NO.: _	
WELL NAME:	Joker 5-8 Federal Com 2	U4H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E			MD/TVD:_	21,181' / 10,896'
COUNTY/STATE:	Lea County, New Mexic	20		LATERAL LENGTH:	10,000'
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
	Drill a horizontal WCX1	well and complete v	with 44 stages. AFE includ	les drilling, completions,	flowback and Initial
REMARKS:	AL install cost	<u> </u>			
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE	COSTS	COSTS	COSTS	COSTS	COSTS
1 Land/ Legal/ Regulatory		59,066		37,500	\$ 96,566 308,647
2 Location, Surveys & Damag 4 Freight/Transportation	es	288,079 47,628	18,067	2,500° 25,000°	308,647
5 Rental - Surface Equipment		124,327	215,417	105,000	444,744
6 Rental - Downhole Equipm		205,424	59,805		265,229
7 Kental - Living Quarters		48,083	54,480		102,562
10 Directional Drilling, Surve	rys	429,543		-	429,543
11 Drilling		753,820			753,820
12 Drill Bils		100,176			100,176
13 Fuel & Power		188,935 243,296	725,061		913,996 243,296
14 Cementing & Float Equip 15 Completion Unit, Swab, C	eri	243,296		15,000	15,000
16 Perforating, Wireline, Silci			393,136		393,136
17 High Pressure Pump Truck			123,274		123,274
18 Completion Unit, Swab, C			146,484		146,484
20 Mud Circulation System		105,209			105,209
21 Mud Logging		17,529			17,529
22 Logging / Formation Evalu 23 Mud & Chemicals	attori	361,835	8,339 438,185	10,000	15,609 810,020
24 Water		43,459	661,625	300,000	1,005,083
25 Stimulation			814,033	300,000	814,033
26 Stimulation Flowback & U	isp		121,606	150,000	271,606
28 Mud / Wastewater Dispose	ı.	193,104	61,151		254,254
30 Rig Supervision / Enginee		121,196	133,420	21,667	276,283
32 Drig & Completion Overh	ead	10,423			10,423
35 Labor		153,358	69,489 1,255,227	101,667	324,514 1,255,227
54 Proppant 95 Insurance		14,660	1,235,227		1,235,227
97 Contingency		14,000	24,421	3,833	28,254
99 Plugging & Abandonment					
	TOTAL INTANGIBLES >	3,516,419	5,367,000	772,167	9,655,585
				PRODUCTION	TOTAL
#1.110mr = 0	nere	DRILLING COSTS	COMPLETION COSTS	COSTS	COSTS
TANGIBLE CO	7515	122,234			5 122,234
61 Intermediate Casing	3	344,284			344,284
62 Drilling Liner					511,201
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, Uner Hangers		14,/32		20,000	34,732
68 Tanks 69 Production Vessels				45,833 126,667	45,833 126,667
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 Surtace Pumps				61,667	61,667
76 Downhole Pumps 77 Measurement & Motor Inc.	taliation.			- 111.62	116,667
77 Measurement & Meter Ins 78 Gas Conditioning / Dehyd				116,667	110,007
79 Interconnecting Facility Pi				20,000	20,000
80 Gathering / Bulk Lines	. •				
81 Valves, Dumps, Controller		-		108,333	108,333
82 Tank / Facility Containment				43,333	43,333
83 Flare Stack				16,667	16,667
84 Electrical / Grounding 85 Communications / SCADA				50,000	50,000 36,667
86 Instrumentation / Safety	•			30,007	833
	TOTAL TANGIBLES >	1,233,109		989,167	2,222,270
-	TOTAL COSTS >	4.749.528	5,367,000	1,761,334	11,877,86
	:OIALCOSIS?	1,/27,348	שווע / סכק כ	1,/01,259	11,017,802
PARED BY Permian Reso	urces Operating, LLC:				
D. 100	-				
Drilling Engineer					
Completions Engineer			. =:		
Production Engineer	DC ·				
mian Resources Operating	, LLC APPROVAL:	<u></u>			
			CTO		
Co-CEC	WH	Co	-CEO	VP - Oper	CRM
VD *	****	un a	• • • • • • • • • • • • • • • • • • • •		СКМ
VP - Land & Legal		VP - Geosci			
	BG		- so		
N OPERATING PARTNE	R APPROVAL:				
			Working Interest (%).	T	ax ID:
N OPERATING PARTNE Company Name			Working Interest (%):	Т	ax ID:
			_	Т	ax ID:
Company Name:			Date:		
Company Name			_		ax ID:No (mark one)

O

Diagram of Staggered Landing Wolfcamp + 3rd SS vs. 3rd SS Flat

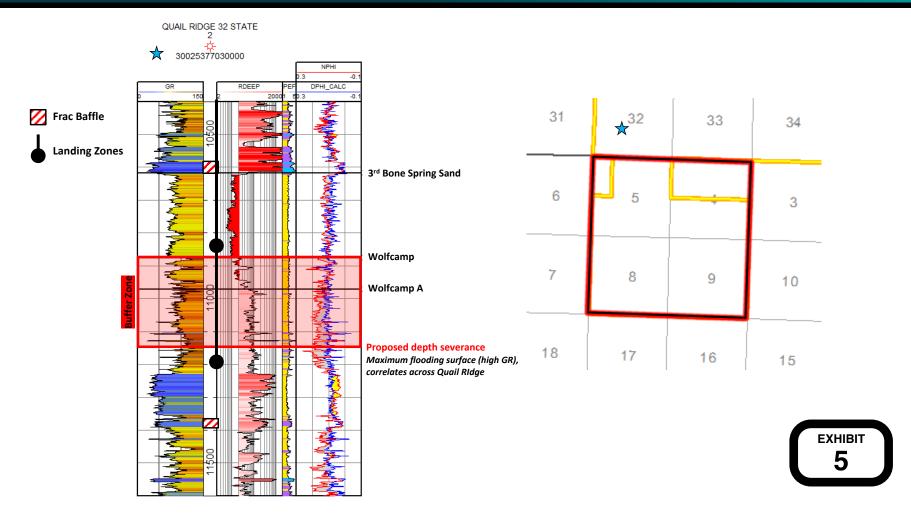


- Cimarex has experience developing as many as 8 landings within a DSU successfully in Lea county with 9th drilling now, 35 to 38 wells / section. The difference is the combination of geology (barriers, reservoir height, and flow units) don't support the proposed staggers at Mighty Pheasant Loosey Goosey as demonstrated by area developments like Black and Tan.
- 3rd and Wolfcamp landed this close together are equivalent to 8 WPS flat in the 3rd 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 3rd Sand correlative rights and prevent capital waste.

EXHIBIT 4

O

Proposed Wolfcamp Depth Severance to Minimize Interaction with 3rd Bone Spring Sand



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

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

QUESTIONS

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