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

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

Cimarex Energy Co., ("Cimarex"), through its undersigned attorneys, considering the complex questions and issues of first impression raised in Cimarex's Brief Providing Foundation for Evaluating A Single Reservoir Situated in the Third Bone Spring without Frac Baffles Between Formations, Under the Oil and Gas Act, NMSA 1978 §§ 70-2-1 et al. ("Brief")," moves the New Mexico Oil Conservation Division ("Division") to dismiss its prior "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," submitted to the Division on July 18, 2022, ("Prior Motion") in the above-referenced cases. At this point in the proceedings involving the above-referenced cases, Cimarex had requested and was granted leave to submit the Brief in order to provide the Division with background information regarding the novelty of the above-referenced

cases that Cimarex believes is essential for their evaluation in a contested hearing. In lieu of its Prior Motion, Cimarex requests that the Division consider and grant as its replacement this "Amended Motion for an Order to Prohibit the Drilling of Wells in the Upper Wolfcamp to Protect Correlative Rights and Optimize Production of the Subject Lands" ("Amended Motion").

In support of its Amended Motion, Cimarex submits the following:

I. Factual and procedural background:

- 1. The facts and background are much the same as in the Prior Motion and are presented as follows with certain additions to account for any updates pursuant to Cimarex's Brief.
- 2. Cimarex has been preparing to develop Sections 4, 5, 8 and 9, Township 20 South, Range 34 East, NMPM, Lea County, New Mexico ("Subject Lands") since 2018. Based on its detailed analysis of the specific geology and reservoir characteristics of this area, Cimarex filed on March 9, 2023, applications in Case Nos. 23448 through 23455 for the compulsory pooling 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. Cimarex in its Brief presented Option 1 for the compulsory pooling of the Bone Spring formation but not the Wolfcamp formation and presented Option 2 for the compulsory pooling of both the Bone Spring formation and the Wolfcamp formation. In accordance with Option 2, Cimarex filed applications in Case Nos. 23594 through 23601 for pooling the Wolfcamp formation. *See* Cimarex's Brief at Section I. p. 10, for a full description of Option 1, and at Section II. p. 15, for a full description of Option 2.
- 3. 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 Bone Spring Sand but also that the Upper Wolfcamp reservoir under the Subject Lands and surrounding area

("Subject Area") was significantly below average in quality and potentially rendering Wolfcamp wells economically unfeasible. *See* Exhibit 1, attached hereto, showing that the consensus landing for optimal development is the Third Bone Spring Sand, not the Upper Wolfcamp. Cimarex respectfully submits that this is why operators¹ in the Subject area overwhelmingly pool the Bone Spring formation only and not the Wolfcamp formation.

- 4. Cimarex has also determined that there is no baffle between the Third Bone Spring Sand and Upper Wolfcamp that would normally prevent communication between the two formations, resulting in a single reservoir as a common source of supply. Due to the absence of the baffle between the Third Bone Spring Sand and the Upper Wolfcamp, Cimarex has concluded that if Upper Wolfcamp wells were to be completed while drilling and developing the Third Bone Spring Sand, those wells would drain much of the reserves in the Third Bone Spring Sand, where the best reserves are located and would likely result in permanent damage to the target reservoir in the Third Bone Spring Sand.
- 5. Thus, in Option 1, Cimarex limits its proposed development and applications for compulsory pooling to the Bone Spring and does not seek to pool the Upper Wolfcamp. Option 1 comports to how other operators are developing the surrounding areas that share the same three fundamental characteristics, *viz.*, excellent reserves in the Third 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

¹ Consider that searches in the OCD database appears to show that Permian Resources began actively filing a series of applications for compulsory units in the Subject Area beginning in 2020. Outside of the above-referenced cases it filed with the OCD for the contested hearing with Cimarex, Permian Resources appears to have filed at total of 11 applications to pool units in the Subject Area. Ten of the 11 applications proposed to pool only the Bone Spring and not the Wolfcamp, and only one application pools the Wolfcamp but not the Bone Spring. *See* Case Nos. 23508, 23509, 23510, 23511, 23524, 23525, 23526, 23527, 23528, 23529, and 23530.

rarity of the Wolfcamp development.

- 6. 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 23516-19. Permian Resources also filed applications for drilling and pooling the Wolfcamp formation in Case Nos. 23512-23515 and 23520-23523, proposing to drill wells in the Upper Wolfcamp despite the fact that those wells would drain the Third 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.
- 7. Given the poor quality of the Upper Wolfcamp reservoir, the lack of the baffle that would otherwise minimize drainage of the Third 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 dollars² 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.
- 8. 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

² 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.

reservoir data, that the Upper Wolfcamp should not be drilled with additional wells 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.

9. Consequently, Cimarex provided the Division with its Option 2, that involved 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 Third Bone Springs Sand, the same wells proposed by Cimarex's Bone Spring applications and prohibit the drilling of wells in Upper Wolfcamp. Under Option 2, the "drainage" of the Wolfcamp would be classified as "production" once the Wolfcamp formation is pooled. 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 Third Bone Spring Sand, and not in the Upper Wolfcamp, in order preserve the Upper Wolfcamp from being drilled and thereby protect the common source of supply from drainage and damage.

II. Argument:

- A. The optimal development of the Subject Lands is to drill wells in the Third Bone Spring Sand and either select Cimarex's Option 2 or, in the alternative, select Option 1 with a protective buffer zone that would prohibit the drilling of wells in the Upper Wolfcamp.
- 10. In order to protect the abundant reserves in the Third Bone Spring Sand, and resolve the dilemma created by Permian Resources, the Division, if it finds Cimarex's position in these matters persuasive, should either approve Cimarex's Option 1 or Option 2. If Option 1 is selected for pooling only the Bone Spring formation, this could potentially leave the Upper Wolfcamp open and vulnerable to future applications for drilling and pooling, and therefore, Cimarex under Option 1, if selected, respectfully requests the Division to 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 been repeatedly demonstrated over the years by the fact that operators who were free to drill in both the Bone Spring and Wolfcamp decided to develop the Third Bone Spring Sand and to forego drilling any Upper Wolfcamp wells. *See* Exhibits 1 and 2, attached hereto.

- 11. Cimarex filed its Wolfcamp applications 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. In its competing Wolfcamp applications, Cimarex emphasized that only the Third Bone Spring Sand 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.
- 12. Cimarex submits that if Option 1 is pursued, the best course of action for the Division to follow in order to ensure achieving optimal production from the rich reserves located in the Third Bone Spring Sand and to protect the correlative rights would be to allow the drilling of the Third 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 Third Bone Spring, thus protecting the correlative rights of the owners in the Third Bone Spring. In addition, the protective zone would save tens of millions of dollars for wells that would not add to EUR and would likely damage the reservoir. Cimarex has carefully analyzed the need for such a protective buffer zone and provides in Exhibit 4, attached hereto, a graphic depiction and quantification of the area and extent of the Upper Wolfcamp that needs to be protected.
 - 13. In the alternative, Cimarex submits that Option 2, as explained in Cimarex's Brief,

is a fully viable option for the development of the Third Bone Spring for achieving optimal production, preventing waste, and protecting correlative rights. If the Division should decide to select Cimarex's Option 2, then Cimarex would be pooling and spacing the Bone Spring formation as well as the Wolfcamp formation based on the dedication of its Third Bone Spring wells to both units. The granting of operatorship to Cimarex of the Wolfcamp unit, if pooled and spaced, would allow Cimarex to produce the Upper Wolfcamp from its Third Bone Spring Wells, and thereby protect the common source of supply from the drilling of unnecessary wells into the Upper Wolfcamp.

14. The Division has the clear authority under NMSA 1978 Section 70-2-11 to fashion such necessary solutions provided either by Cimarex's Option 2 or Option 1 including the protective buffer zone, as Section 70-2-11 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.

III. Conclusion:

15. Cimarex provides this Amended Motion as an update to and replacement for Cimarex's Prior Motion filed July 18, 2023. The Division granted Cimarex's recent Motion for Continuance of the above-referenced cases to provide additional time to prepare for the hearing to be held August 9-10, 2023, pursuant to a special docket, including allowing Cimarex to submit a Brief that describes the cases from Cimarex's position and allowing Permian Resources to provide a response. In the Brief, Cimarex describes two options, Option 1 and Option 2, based on Cimarex's current applications in place for the Bone Spring formation and the Wolfcamp formation. Cimarex has been grappling with the question of which of its applications best apply to

the Subject Lands to allow the Division to choose the best development plan between Cimarex and Permian Resources. In its Brief, Cimarex shows that both sets of applications can apply depending on which Option the Division would select if it were persuaded that Cimarex's development plan is the one that would best prevent waste, protect correlative rights, and avoid the drilling of unnecessary wells.

- 16. As a result, Cimarex requests that the Division dismiss its Prior Motion, prior to the contested hearing, and give consideration to this Amended Motion during the hearing along with Cimarex's Brief that describes the Options to be decided at the conclusion of the Division's review of the contested cases when the Division makes it final ruling between Cimarex's development plan and Permian Resources' development plan.
- 17. If the Division should select Cimarex's Option 2 in its ruling, then Cimarex would receive pooling orders for both the Bone Spring formation and the Wolfcamp formation, and as a consequence of the orders received, the Wolfcamp formation would be protected from drilling. The protective buffer zone requested herein would not be needed, and this Amended Motion would become moot.
- 18. However, in the alternative, if the Division should select Cimarex's Option 1, then Cimarex would receive an order for the compulsory pooling of just the Bone Spring formation, and in that case, Cimarex respectfully asks the Division to grant its request in this Amended 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, as these applications apply only to Option 2 and not Option 1; (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 target the Lower Wolfcamp, and not the Upper Wolfcamp.

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 28, 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

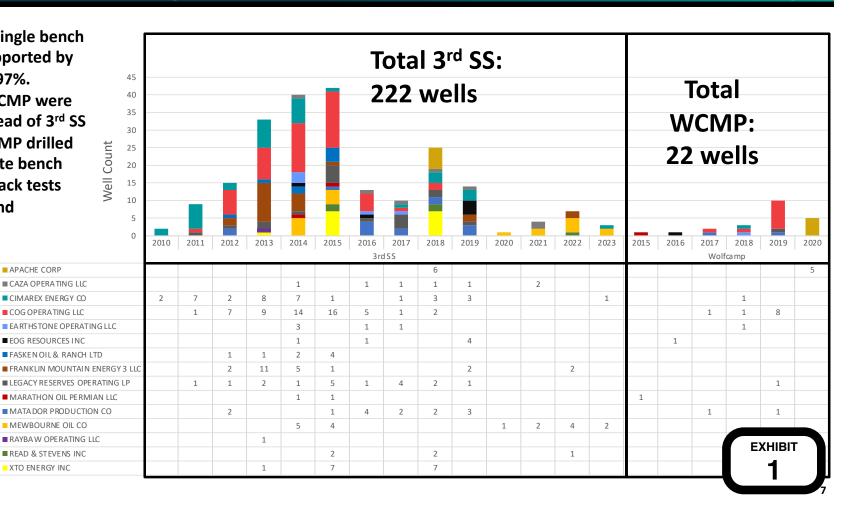
- 3rd Sand / single bench landing supported by 236 wells, 97%.
- 13 of 22 WCMP were drilled instead of 3rd SS
- 5 of 22 WCMP drilled as a separate bench
- 3 WCMP stack tests with 3rd Sand

APACHE CORP

COG OPERATING LLC

■ EOG RESOURCES INC

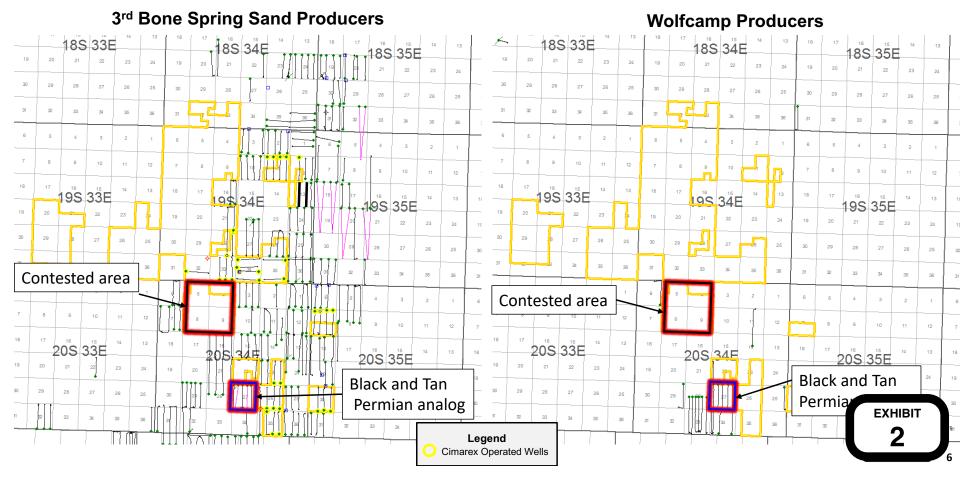
XTO ENERGY INC



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. Martenfeld St., Ste. 1000 Midland, TX 79701 Phone (432) 695-4022 • Fax (432) 695-4063

			ORIZATION FOR EXPEND	AFE NO.:	1
'E:	2.17.2023	011		AFE NO.: FIELD:	Tonto; Wolfcamp
L NAME:	Bane 4-9 Federal Com 2	<u> </u>		_	21,210' / 10,925'
ATION:	Section 4, T20S-R34E			MD/TVD:_	10,000
NTY/STATE:	Lea County, New Mexic			LATERAL LENGTH:	19.6
an WI:	WCXX			DRILLING DAYS:	19.6
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INTANGIBLE	COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
d/Legal/Regulatory		5 59,066		37,500	S 96,566
ation, Surveys & Dama	ages	288,079	18,067	2,500	308,647
eight/Transportation		47,628 124,327	43,778 215,417	25,000 105,000	116,406
ental - Surface Equipmen ental - Downhole Equipment		205,424	59,805	103,000	265,229
ental - Living Quarters	ment	48,083	54,480		102,562
Directional Drilling, Sur	veys	429,543			429,543
rilling		753,820	<u>-</u>		753,820 100,176
rill Bits ael & Power		100,176	725,061		913,996
es & Fower menting & Float Equip	ρ	243,296			243,290
mpletion Unit, Swab,	CTU			15,000	15,000
forating, Wireline, Sli			393,136		393,136 123,274
h Pressure Pump Tru npletion Unit, Swab,			123,274 146,484		123,274
ipletion Unit, Swab, I Circulation System		105,209	140,404		105,209
ud Logging		17,529			17,529
ogging/Formation Eval	tuation	7,270	8,339		15,609
Mud & Chemicals		361,835	438,185	10,000	810,020
aler imulation		43,459	661,625 814,033	300,000	1,005,083 814,033
imulation imulation Flowback &	Disp		121,606	150,000	271,600
ud/Wastewater Dispo		193,104	61,151		254,254
g Supervision / Engine	eering	121,196	133,420	21,667	276,283
rlg & Completion Over	head	10,423		101 447	10,423
or mani		153,358	69,489 1,255,227	101,667	324,514 1,255,223
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ontingency			24,421	3,833	28,254
ugging & Abandonme					-
	TOTAL INTANGIBLES:	> 3,516,419	5,367,000	772,167	9,655,58
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE	COSTS	COSTS	COSTS	COSTS	COSTS
face Casing		5 122,234			S 122,234
rmediate Casing		344,284	<u>:</u>	<u>:</u>	344,28
lling Liner duction Casing		687,039			687,039
uction Liner		- 667,039			
bing				140,000	140,00
llhead		64,820		40,000	104,820
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iks duction Vessels				126,667	126,660
v Lines				66,667	66,66
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tificial Lift Equipment	i	-	<u> </u>	90,000	90,00
apressor allation Costs		<u>-</u>		5,833	5,83
ation Costs ace Pumps				61,667	61,663
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asurement & Meter Is				116,667	116,66
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erconnecting Facility I thering / Bulk Lines	Piping			20,000	20,00
hering / Bulk Lines ves, Dumps, Controll	lers			108,333	108,33
k/Facility Containm				43,333	43,333
e Stack		-		16,667	16,66
ctrical/Grounding				50,000	50,00
munications/SCAL				36,667	36,66
strumentation/Safety		> 1,233,109	- 0	989,167	2,222,27
	TOTAL COSTS				
	TOTAL COSTS	> 4,749,528	5,367,000	1,761,334	11,877,86
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Permian Resources Operating, LLC 300 N. Marienfeld St., Ste. 1000 Midland, TX 79701

	ESTIMATE	Phone (432) 695-4222 • OF COSTS AND AUTHO	ORIZATION FOR EXPENDI	TURE	
DATE:	2.17.2023			AFE NO.:	1
	Bane 4-9 Federal Com 2	100H		FIELD;	Tonto; Wolfcamp
WELL NAME:		.0211		_	21,210' / 10,925'
LOCATION:	Section 4, T20S-R34E			MD/IVD:	
COUNTY/STATE:	Lea County, New Mexi	co		LATERAL LENGTH:	10,000'
Permian WI:				DRILLING DAYS:	19.6
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GEOLOGIC TARGET:		Y well and complete wi	th 44 stages. AFE includes	_	
REMARKS:	AL install cost				
INTANGIBLE	COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
1 Land/Legal/Regulatory		S 59,066		37,500	s 96,566
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4 Freight / Transportation	n-s	47,628	43,778	25,000	116,406
5 Rental - Surface Equipme	nt	124,327	215,417	105,000	444,744
6 Rental - Downhole Equip		205,424	59,805		265,229
7 Rental - Living Quarters	acm.	48,083	54,480		102,562
10 Directional Drilling, Sur	vevs	429,543			429,543
11 Drilling	-3-	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, Sli	ckline		393,136		393,136
17 High Pressure Pump Tru			123,274		123,274
18 Completion Unit, Swab,			146,484		146,484
20 Mud Circulation System		105,209			105,209
21 Mud Logging		17,529			17,529
22 Logging/Formation Eva	ination	7,270	8,339		15,609
23 Mud & Chemicals		361,835	438,185	10.000	810,020
		43,459	661,625	300,000	1,005,083
24 Water 25 Stimulation		43/437	814,033		814,033
	Dien		121,606	150,000	271,606
26 Stimulation Flowback &		103.164		150,000	
28 Mud/Wastewater Dispo		193,104	61,151 133,420	21,667	254.254 276,283
30 Rig Supervision / Engine		121,196	133,420	21,067	10,423
32 Drig & Completion Over	head	10,423		101.117	
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 & Abandonme		<u>-</u>			
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61 Intermediate Casing		344,284			344,284
		344,204		-	311,201
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63 Production Casing		687,039			687,039
64 Production Liner				140 000	740,000
65 Tubing			<u>-</u>	140,000	140,000
66 Wellhead		64,820	<u>-</u>	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		<u> </u>		66,667	66,667
71 Rod string					
72 Artificial Lift Equipmen	t	<u>-</u>	<u> </u>	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 In	nstallation		-	116,667	116,667
78 Gas Conditioning / Dehy	/dration		-	-	-
79 Interconnecting Facility	Piping			20,000	20,000
80 Gathering / Bulk Lines			-	-	
81 Valves, Dumps, Control	ers			108,333	108,333
82 Tank/Facility Contains				43,333	43,333
83 Flare Stack	•			16,667	16,667
84 Electrical/Grounding				50,000	50,000
85 Communications/SCAI	DA .			36,667	36,667
86 Instrumentation / Safety			-	833	833
,	TOTAL TANGIBLES	> 1,233,109	0	989,167	2,222,270
	TOTAL COSTS		5,367,000	1,761,334	11,877,86
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Permian Resources Operating, LLC 300 N. Marienfeld St., Str. 1000 Midland, TX 79701
Phone (432) 695-4222 • Fax (432) 695-4063

DATE:					
	2.17.2023			AFE NO.:	1
WELL NAME:	Bane 4-9 Federal Com	203H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 4, T205-R34E			MD/TVD:	21,210' / 10,925'
COUNTY/STATE:	Lea County, New Mex	100		LATERAL LENGTH:	10,000'
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WC) AL install cost	(Y well and complete wi	th 44 stages. AFE include	s drilling, completions, fi	lowback and Initial
KEMAKKS:	AL IISIAII COST				
INTANGIBLE	COSTS	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
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Location, Surveys & Dam	ges	288,079	18,067	2,500	308,647
Freight/Transportation		47,628	43,778	25,000	116,406
5 Rental - Surface Equipme		124,327	215,417	105,600	444,744
6 Rental - Downhole Equip:	nent	205,424	59,805	<u>-</u>	265,229
Rental - Living Quarters		48,083	54,480	<u></u> -	102,562
10 Directional Drilling, Sur	reys	429,543		<u> </u>	429,543
11 Drilling		753,820			753,820
2 Drill Bits		100,176	-	<u>·</u>	100,176
3 Fuel & Power		188,935	725,061	-	913,990 243,290
14 Cementing & Float Equip		243,296		15,000	15,000
15 Completion Unit, Swab,			393,136	15,000	393.136
lé Perforating, Wireline, Sli			123,274		123,274
7 High Pressure Pump Tru 8 Completion Unit, Swab,			146,484		146,484
20 Mud Circulation System	_10	105,209	140/104	<u>-</u>	105,205
21 Mud Logging		17,529			17,52
22 Logging / Formation Eva	nation	7,270	8,339		15,605
22 Logging/Formation Eva 23 Mud & Chemicals	uuudii	361,835	438,185	10,000	810,020
23 Mud & Chemicais 24 Water		43,459	661,625	300,000	1,005,083
24 Stimulation		-	814,033		814,033
26 Stimulation Flowback &	Disp		121,606	150,000	271,600
28 Mud/Wastewater Dispo		193,104	61,151		254,25
30 Rig Supervision / Engine	erino	121,196	133,420	21,667	276.28
32 Drlg & Completion Over	head	10,423			10.42
35 Labor		153,358	69,489	101,667	324,51
54 Proppant			1,255,227		1,255,22
95 Insurance		14,660			14,660
97 Contingency			24,421	3,833	28,25
99 Plugging & Abandonme	ıt				-
	TOTAL INTANGIBLES	5 3,516,419	5,367,000	772,167	9,655,58
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE	COSTS	COSTS	COSTS	COSTS	COSTS
60 Surface Casing		\$ 122,234	<u>-</u>		S 122,234
61 Intermediate Casing		344,284		•	344,284
62 Drilling Liner		- /AB AAA	<u>-</u>		107.00
63 Production Casing		687,039		<u> </u>	687,039
64 Production Liner		<u>·</u>	-	-	-
65 Tubing				140,000	140,000
66 Wellhead		64,820	<u>·</u>	40,000	104,820
67 Packers, Liner Hangers		14,732		20,000	34,732
68 Tanks		<u>-</u> _		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	90,000
72 Artificial Lift Equipmen			<u>-</u>	5,833	5,833
73 Compressor			<u>-</u>	5,833	5,83.
74 Installation Costs			.	41467	
75 Surface Pumps				61,667	61,66
76 Downhole Pumps				116,667	116,667
77 Measurement & Meter I				110,007	110,00
78 Gas Conditioning / Dehy 79 Interconnecting Facility				20,000	20,000
80 Gathering / Bulk Lines	-iping			20,000	
80 Gathering / Bulk Lines 81 Valves, Dumps, Control	are			108,333	108,333
82 Tank / Facility Contains				43,333	43,33
83 Flare Stack	C.II.			16,667	16,66
84 Electrical/Grounding				50,000	50,00
85 Communications / SCAI)A			36,667	36,66
86 Instrumentation / Safety				833	833
••,	TOTAL TANGIBLES	5 > 1,233,109		989,167	2,222,27
	TOTAL COSTS		5,367,000	1,761,334	11,877,86
PARED BY Permian Re	ources Operating, LLC:				
Drilling Engine	n: PS				
Completions Engine					
Production Engine					
· · · · · · · · · · · · · · · · · · ·					
nian Resources Operati	g, LLC APPROVAL:		-		
Co-CI	0	Co-C	CEO	VP - Opera	tions
20-21	WH WH			opin	CRM
VP - Land & Leg	al	VP - Geoscie	nces		
	~		~		
N OPERATING PARTN	ER APPROVAL:				
			Working Interest (%):	Ta	x ID:
N OPERATING PARTN Company Nan	e:			TaTa	x ID:
OPERATING PARTN	e:		Working Interest (%):	·	x ID:

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

	ESTIMATI	OF COSTS AND AUTHO	ORIZATION FOR EXPEND		
DATE:	2.17.2023			AFE NO.:	11
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 Mex	ico		LATERAL LENGTH:	10,000
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
		Y well and complete wi	th 44 stages. AFE include	s drilling, completions,	flowback and Initial
REMARKS:	AL install cost	<u></u>			
INTERNICIPIE	COPTE	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
INTANGIBLE 1 Land/Legal/Regulatory	COSIS	5 59,066		37,500	S 96,566
2 Location, Surveys & Dama	iges	288,079	18,067	2,500	308,647
4 Freight / Transportation		47,628	43,778	25,000	116,406
5 Rental - Surface Equipmen		124,327	215,417	105,000	444,744 265,229
6 Rental - Downhole Equips 7 Rental - Living Quarters	nent	205,424 48,083	59,805 54,480		102,562
10 Directional Drilling, Sur	revs	429,543			429,543
11 Drilling	-7-	753,820			753,820
12 Drill Bits		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,		243,270		15,000	15,000
16 Perforating, Wireline, Sli			393,136		393,136
17 High Pressure Pump Tru			123,274		123,274
18 Completion Unit, Swab,	CTU		146,484		146,484
20 Mud Circulation System		105,209 17,529			105,209 17,529
21 Mud Logging 22 Logging / Formation Eval	uation	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 & 28 Mud/Wastewater Dispo		101 104	121,606	150,000	271,606 254,254
28 Mud / Wastewater Dispo 30 Rig Supervision / Engine		193,104 121,196	61,151	21,667	276,283
32 Drlg & Completion Over		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	24,421	3,833	14,660 28.254
97 Contingency 99 Plugging & Abandonme	at		24,421	3,033	28,254
	TOTAL INTANGIBLES	> 3,516,419	5,367,000	772,167	9,655,585
TANGIBLE	СОЕТЕ	DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
60 Surface Casing	.0313	5 122,234			\$ 122,234
61 Intermediate Casing		344,284			344,284
62 Drilling Liner		·			-
63 Production Casing		687,039			687,039
64 Production Liner 65 Tubing			<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		<u> </u>		126,667	126,667
70 Flow Lines 71 Rod string			<u> </u>	66,667	66,667
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 In	etallation	-		116,667	116,667
78 Gas Conditioning / Dehy				- 110,007	- 110,007
79 Interconnecting Facility 1		-		20,000	20,000
80 Gathering/Bulk Lines			•		
81 Valves, Dumps, Controll				108,333	108,333
82 Tank / Facility Containm 83 Flare Stack	ent			43,333	43,333 16,667
84 Electrical / Grounding				50,000	50,000
85 Communications/SCAT)A			36,667	36,667
86 Instrumentation / Safety		·		833	833
	TOTAL TANGIBLES		0	989,167	2,222,276
	TOTAL COSTS	> 4,749,528	5,367,000	1,761,334	11,877,862
EPARED BY Permian Res	sources Operating, LLC:				
Drilling Enginee					
Completions Enginee					
Production Enginee	er: DC				
mian Resources Operatir	ng, LLC APPROVAL:				
Co-CE	0		CEO	VP - Oper	ations
COPCE		Con		vi - Oper	CRM
VP - Land & Leg		VP - Geoscie	•		***************************************
	BG		50		
N OPERATING PARTN	ER APPROVAL:				
ON OPERATING PARTN			Working Interest (%):	т	ax ID:
	e:		Working Interest (%):	т	ax ID:
	y;				ax ID:

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

	ESTIMATE				
DATE:	2,17.2023			AFE NO.:	1
WELL NAME:	Joker 5-8 Federal Com 2	201H		FIELD:	Tonto; Wolfcamp
	Section 5, T20S-R34E			MD/TVD:	21,211' / 10,926'
				· -	
COUNTY/STATE:	Lea County, New Mexic			LATERAL LENGTH:	10,000
Permian WI:				DRILLING DAYS:	19.6
	WCXY			COMPLETION DAYS:	19
	Drill a horizontal WCX	f well and complete v	vith 44 stages. AFE includ	es drilling, completions,	nowback and initial
REMARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
		COSTS	COSTS	COSTS	COSTS
INTANGIBLE C	OSTS				
T Land / Legal / Regulatory		\$ 59,066	-	37,500	\$ 96,566
2 Location, Surveys & Damage	s	288,079	18,067	2,500	308,647
4 Freight/Transportation		47,628	43,778	25,000	116,406
5 Kental - Surtace Equipment		124,32/	215.417	105,000	444,744
6 Rental - Downhole Equipme	nt	205,424	59,805		265,229
		48,083	54,480		102,562
7 Kental - Living Quarters			547160		429,543
10 Directional Drilling, Survey	3	429,543			
11 Orilling		753,820	<u> </u>		753,820
12 Orill 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, CI	'u			15,000	15,000
16 Pertorating, Wireline, Slick			393,136		393,136
	.dic		123,274		123,274
17 High Pressure Pump Truck					146,484
18 Completion Unit, Swab, C1	U		146,484		
20 Mud Circulation System		105,209		-	105,209
21 Mud Logging		17,529	·	•	17,529
22 Logging / Formation Evalua	tion	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
				150,000	271,606
26 Stimulation Flowback & Di			121,606	130,000	
28 Mud/Wastewater Disposal		193,104	61,151		254,254
30 Rig Supervision / Engineeri		121,196	133,420	21,667	2/6,283
32 Drig & Completion Overhe	ad	10,423	-		10,423
35 Labor		153,358	69,489	101,667	324,514
54 Proppant			1,255,227		1,255,227
		14,660			14,660
95 Insurance					
97 Contingency		<u>-</u>	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
60 Surface Casing		5 122,234			5 122,234
61 Intermediate Casing		344,284			344,284
		344,284	<u>-</u> _		344,264
62 Drilling Liner			<u> </u>		
63 Production Casing		687,039			687,039
64 Production Liner					
65 Tubing				140,000	140,000
66 Weilhead		64,820		40,000	104,820
		14,732		20,000	34,732
67 Packers, Liner Hangers		14,/32			
68 Tanks		<u> </u>		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
				3,833	3,033
74 Installation Costs					
75 Surtace Pumps		•	•	61,667	61,667
76 Downhole Pamps		-			
77 Measurement & Meter Insta	dation			116,667	116,667
78 Gas Conditioning / Dehydr.	ation				
79 Interconnecting Facility Pip				20,000	20,000
80 Gathering / Bulk Lines				40,000	20,000
			<u> </u>		
81 Valves, Dumps, Controllers			<u> </u>	108,333	108,333
82 Tank / Facility Containment	1			43,333	43,333
63 Flare Stack		-		16,667	15,667
84 Electrical / Grounding				50,000	50,000
85 Communications / SCADA				36,667	36,667
86 Instrumentation / Safety				833	833
,	TOTAL TANCING				2,222,276
	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
REPARED BY Permian Resou	rces Operating, LLC:				
		<u> </u>			
REPARED BY Permian Resou	rces Operating, LLC:				
Drilling Engineer:	PS				
Drilling Engineer: Completions Engineer:	PS ML				
Drilling Engineer:	PS				
Drilling Engineer: Completions Engineer: Production Engineer:	PS ML DC				
Drilling Engineer: Completions Engineer: Production Engineer:	PS ML DC				
Drilling Engineer: Completions Engineer:	PS ML DC				
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating,	PS ML DC				
Drilling Engineer: Completions Engineer: Production Engineer:	PS ML DC LLC APPROVAL:	Co	-CEO	VP - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating,	PS ML DC	Co	-CEO	VP - Oper	ations
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO	PS ML DC LLC APPROVAL:		- Jw	VF - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating,	PS ML DC LLC APPROVAL:	Co VP - Geosci	- Jw	VP - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO	PS ML DC LLC APPROVAL:		- Jw	VF - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO	PS ML DC LLC APPROVAL:		- Jw	VP - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO	PS ML DC LLC APPROVAL:		- Jw	VP - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO	PS ML DC LLC APPROVAL:		- Jw	VP - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal	PS ML DC LLC APPROVAL: WH		- Jw	VP - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO	PS ML DC LLC APPROVAL: WH		- Jw	VP - Oper	
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal ON OPERATING PARTNER	PS ML DC LLC APPROVAL: WH		jw iences SO		CRM
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal	PS ML DC LLC APPROVAL: WH		- Jw		
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal DN OPERATING PARTNER Company Name:	PS ML DC LLC APPROVAL: WH		jw iences SO		CRM
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal ON OPERATING PARTNER	PS ML DC LLC APPROVAL: WH		jw iences SO		CRM
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal DN OPERATING PARTNER Company Name:	PS ML DC LLC APPROVAL: WH		SO Working Interest (%):		CRM
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal DN OPERATING PARTNER Company Name:	PS ML DC LLC APPROVAL: WH		SO Working Interest (%): Date:	т	ax ID:
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP - Land & Legal ON OPERATING PARTNER Company Name: Signed by: Title:	PS ML DC LLC APPROVAL: WH BG	VP - Geosci	SO Working Interest (%): Date: Approval:	T	ax ID:
Drilling Engineer: Completions Engineer: Production Engineer: rmian Resources Operating, Co-CEO VP- Land & Legal ON OPERATING PARTNER Company Name: Signed by: Title:	PS ML DC LLC APPROVAL: WH	VP - Geosci	SO Working Interest (%): Date:	T	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 AUTHORIZATION FOR EXPENDITURE

DATE;	2.17.2023			AFE NO.:	1
WELL NAME:	oker 5-8 Federal Com 2	02H		FIELD:	Tonto; Wolfcamp
	Section 5, T20S-R34E			MD/TVD:	21,211' / 10,926'
COUNTY/STATE:	Lea County, New Mexic	•		LATERAL LENGTH:	10,000'
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
		well and complete	with 44 stages. AFE inclu	des drilling, completions,	flowback and Initial
REMARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE CO	OSTS	COSTS	COSTS	COSTS	COSTS
Land/Legal/Regulatory		59,066	39767	37,500	\$ 96,566 308,647
! Location, Surveys & Damage ! Freight/Transportation	•	288,079	18,067	25,000	116,406
Kental - Surtace Equipment		124,327	215,417	105,000	444,744
Kental • Downhole Equipme	nt	205,424	59,805	-	265,229
Rental - Living Quarters		48,083	54,480		102,562
O Directional Dritting, Survey	5	429,543 753,820		-	429,543 753,820
11 Drilling 12 Drill Bits		100,176			100,176
3 Fuel & Power		188,935	725,06T		913,996
4 Cementing & Float Equip		243,296	•		243,296
5 Completion Unit, Swab, CT				15,000	15,000
6 Pertorating, Wireline, Slicki	ine		393,136 123,274		393,136
7 High Pressure Pump Truck 8 Completion Unit, Swab, CT	U		146,484	 -	146,484
0 Mud Circulation System	-	105,209			105,209
1 Mud Logging		17,529			17,529
2 Logging / Formation Evalua	tion	7,270	8,339		15,609
23 Mud & Chemicals 24 Water		361,833 43,459	438,185	10,000	810,020 1,005,083
24 vvater 25 Stimulation			814,033		814,033
to Stimulation Flowback & Di	;p		121,606	150,000	2/1,606
25 Mud/Wastewater Disposal	•	193,104	61,151		254,254
30 Rig Supervision / Engineeri		121,196	133,420	21,667	2/6,283
32 Drig & Completion Overhe 35 Labor	ıa	10,423	69,489	101,667	10,423 324,514
54 Proppant		133,336	1,255,227	101,007	1,255,22/
5 Insurance		14,660			14,660
7 Contingency			24,421	3,833	28,254
99 Plugging & Abandonment					
	TOTAL INTANGIBLES >		5,367,000	772,167	9,655,585
T. M. C. D. F. C. O.		DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
TANGIBLE CO O Surface Casing	515	122,234			5 122.234
1 Intermediate Casing	•	344,284			344,284
2 Drilling Liner					
3 Production Casing		687,039	-		687,039
4 Production Liner				140,000	140,000
i5 Tubing i6 Wellhead		64,820		40,000	104,820
7 Packers, Liner Hangers		14,/32		20,000	34,732
88 Tanks				45,833	45,833
9 Production Vessels				126,667	126,667
'U Flow Lines '1 Rod string				66,667	66,667
72 Artificial Lift Equipment			- _	90,000	90,000
3 Compressor				5,833	5,833
4 Installation Costs					
5 Surtace Pumps				61,667	61,667
'6 Downhole Pumps '7 Measurement & Meter Insia	Halion		 -	116,667	116,667
8 Gas Conditioning/Dehydra				- 170,007	- 110,007
⁷⁹ Interconnecting Facility Pip				20,000	20,000
O Gathering / Bulk Lines					
1 Valves, Dumps, Controllers			<u> </u>	108,333	108,333
32 Tank / Facility Containment 33 Flare Stack				43,333 16,667	43,333
A Electrical / Grounding				50,000	50,000
5 Communications / SCADA				36,667	36,667
66 Instrumentation / Satety				833	833
	TOTAL TANGIBLES >			989,167	2,222,276
	TOTAL COSTS >	4,749,528	5,367,000	1,761,334	11,877,862
	_				
ARED BY Permian Resou	rces Operating, LLC:				
Drilling Engineer:	PS				
Completions Engineer:	ML				
Production Engineer:	DC				
			· -		
ian Resources Operating,	LLC APPKOVAL:				
Co-CEO		c	Co-CEO	VP - Ope	
•	WH		JW		CRM
VP - Land & Legal	BG	VP - Geos	ciences		
			3.0		
			_		
-	APPROVAL				
N OPERATING PARTNER Company Name:	APPROVAL:		Working Interest (%):	1	Tax ID:
-	APPROVAL:		Working Interest (%): Date:	1	Fax ID:
Company Name:	APPROVAL		•		Tax ID:

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 2.17.2023 DATE: AFE NO.: Tonto; Wolfcamp FIELD: Joker 5-8 Federal Com 203H Section 5, T20S-R34E WELL NAME: MD/TVD: 21,191 / 10,906 LOCATION: COUNTY/STATE: Lea County, New Mexico LATERAL LENGTH: 10 000' Permian WI: DRILLING DAYS: 19.6 WCXY COMPLETION DAYS: GEOLOGIC TARGET: Drill a horizontal WCXY well and complete with 44 stages. AFE includes drilling, completions, flowback and Initial AL install cost REMARKS: DRILLING COSTS COMPLETION COSTS PRODUCTION COSTS TOTAL INTANGIBLE COSTS 1 Land/ Legal / Regulatory 2 Location, Surveys & Damages 54.16 37.500 96,566 18,067 43,778 215,417 288,079 47,628 **408 647** 116,406 444,744 4 Freight / Transportation 5 Rental - Surface Equipment 124,327 105,000 5 Rental - Surface Equipment 6 Rental - Downhole Equipment 7 Rental - Living Quarters 10 Directional Urilling, Surveys 11 Drilling 12 Drill Bits 205.424 59,805 54,480 102.562 47U 544 753,820 100,176 100,176 12 Drill Bits
13 Fuel & Power
14 Cementing & Float Equip
15 Completion Unit, Swab, CTU
16 Periorating, Wireline, Silckline
17 High Pressure Pump Truck
18 Completion Unit, Swab, CTU
20 Mud Circulation System
21 Mud Locarine 188.935 725.061 913,996 243,296 15,000 15,000 393,136 123,274 146,484 123,274 105,209 21 Mud Logging 22 Logging / Formation Evaluation 23 Mud & Chemicals 17,529 7,270 361,835 8,339 15,609 438,185 661,625 814,033 10.000 810.020 24 Water 25 Stimulation 43,459 300,000 150,000 26 Stimulation Flowback & Disp 121,606 271,606 28 Mud / Wastewater Disposal 30 Rig Supervision / Engineering 32 Drig & Completion Overhead 35 Labor 193,104 61,151 254,254 133,420 21,667 276.283 10,423 324,514 69,489 1,255,227 101,667 153,358 54 Proppant 95 Insurance 1.255.227 14.660 14,660 24,421 3,833 99 Plugging & Abandonment TOTAL INTANGIBLES > 3,516,419 5,367,000 772,167 9,655,585 DRILLING COMPLETION COSTS TOTAL COSTS PRODUCTION TANGIBLE COSTS 60 Surface Casing 61 Intermediate Casing COSTS 344,284 344,284 62 Drilling Liner 63 Production Casing 64 Production Liner 65 Tubing 687,039 687,039 140,000 140,000 54,820 66 Wellhead 40,000 104,820 67 Packers, Liner Hangers 14,732 20.000 34,732 67 Packers, Liner Hangers 68 Tanks 69 Production Vessels 70 How Lines 71 Rod string 72 Artificial Lift Equipment 66,667 66,667 90,000 90,000 73 Compressor 74 Installation Costs 5,833 5,833 61.667 75 Surface Pumps 61,667 76 Downhole Pumps 77 Measurement & Meter Installatio 78 Gas Conditioning / Dehydration 79 Interconnecting Facility Piping 116,667 116,667 20,000 20,000 80 Gathering / Bulk Lines 81 Valves, Dumps, Controllers 82 Tank / Facility Containment 83 Flare Stack 108,333 108,333 16,667 16,667 50,000 84 Electrical / Grounding SUDDI 85 Communications / SCADA 86 Instrumentation / Safety 2.222,276 TOTAL TANGIBLES > 989.167 1,233,109 TOTAL COSTS > 5,367,000 4,749,528 1,761,334 11,877,862 PREPARED BY Permian Resources Operating, LLC: Drilling Engineer: PS Production Engineer DC Permian Resources Operating, LLC APPROVAL: Co-CEO Co-CEO VP - Operations CRM VP - Geosciences VP - Land & Legai NON OPERATING PARTNER APPROVAL: Company Name: Working Interest (%): Tax ID: Signed by: Approval: Yes No (mark one)

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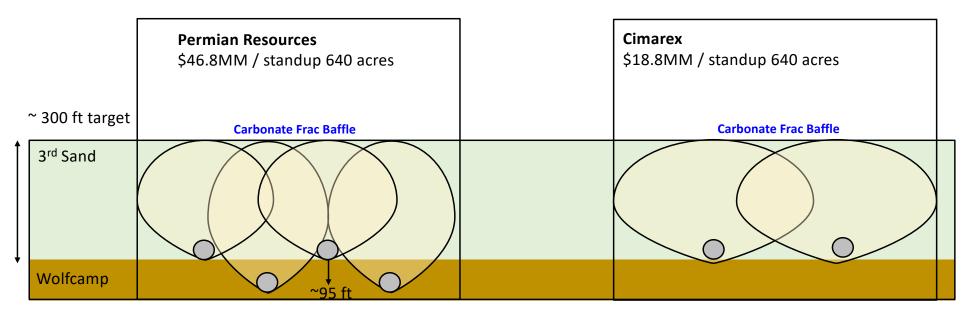
Permian Resources Operating, LLC 300 N. Marienfeld St., Ste. 1000 Midland, TX 79701 Phone (432) 695-4222 • Fax (432) 695-4063

		EXPENDITURE

DATE:	2.17.2023			AFE NO.:	1
WELL NAME:	Joker 5-8 Federal Com	204H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E			MD/TVD:	21,181' / 10,896'
COUNTY/STATE:	Lea County, New Mexi	со		LATERAL LENGTH:	10,000'
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
	Drill a horizontal WCX	Y well and complete w	ith 44 stages. AFE includ	des drilling, completions, i	lowback and Initial
REMARKS:	AL install cost		·		
		DRILLING	COMPLETION	PRODUCTION	TOTAL
		COSTS	COMPLETION	PRODUCTION COSTS	COSTS
INTANGIBLE TLand/Legal/Regulatory	0515	5 59,066		37,500	\$ 96,566
2 Location, Surveys & Dama	205	288,079	18,067	2,500	308,647
4 Freight/Transportation	,	47,628	43,778	25,000	116,406
5 Rental - Surface Equipmen		124,327	215,417	105,000	444,744
6 Rental - Downhole Equipm	ent	205,424	59,805		265,229 102,562
7 Rental - Living Quarters 10 Directional Drilling, Surv	ntee	48,083	54,480		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, C 16 Perforating, Wireline, Slice			393,136	15,000	15,000 393,136
17 High Pressure Pump Truc			123,274		123,2/4
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	iation	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		814,033
26 Stimulation Flowback & L			121,606	150,000	271,606
28 Mud/Wastewater Dispos		193,104	61,151		254,254
30 Kig Supervision / Enginee		121,196	133,420	21,667	276,283
32 Drig & Completion Overh 35 Labor	rau.	10,423	69,489	101,667	10,423 324,514
54 Proppant		- 133,36	1,255,227	- 101,007	1,255,227
95 Insurance		14,660			14,660
97 Contingency			24,421	3,833	28,254
99 Plugging & Abandonmen					
	TOTAL INTANGIBLES	> 3,516,419	5,367,000	772,167	9,655,585
•		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE C	OSTS	COSTS	COSTS	COSTS	COSTS
60 Surface Casing		\$ 122,234	·	•	5 122,234
61 Intermediate Casing		344,284		•	344,284
62 Orilling 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 69 Production Vessels		<u> </u>		45,833 126,667	45,833 126,667
70 Flow Lines			<u>:</u>	66,667	66,667
71 Rod string					
72 Artiticial 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			.	61,007	61,007
77 Measurement & Meter Ins	tatlation			116,667	116,667
78 Gas Conditioning / Dehyo	tration	•			
79 Interconnecting Facility P	ping			20,000	20,000
80 Gathering / Bulk Lines		-		108,333	300000
81 Valves, Dumps, Controlle 82 Tank / Facility Containme				43,333	108,333
83 Flare Stack				15,667	16,667
84 Electrical / Grounding		•		50,000	50,000
85 Communications / SCAD	1			36,667	36,667
86 Instrumentation / Safety	mam			833	833
	TOTAL TANGIBLES		0	989,167	2,222,276
	TOTAL COSTS	> 4,749,528	5,367,000	1,761,334	11,877,862
-					
EPARED BY Permian Reso	urces Operating, LLC:				
			-		
Drilling Engineer					
Completions Engineer					
Completions Engineer Production Engineer	: DC ·				
Completions Engineer Production Engineer	: DC ·				
Completions Engineer Production Engineer mian Resources Operating	LLC APPROVAL:	Cod	CEO	VP. Opera	tions
Completions Engineer Production Engineer	LLC APPROVAL:	Co-4	CEO	VP - Opera	itions
Completions Engineer Production Engineer mian Resources Operating Co-CEC	LLC APPROVAL:		jw	VP - Opera	
Completions Engineer Production Engineer mian Resources Operating	LLC APPROVAL:	Co-4 VP - Geoscie	jw	VP - Opera	
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Completions Engineer Production Engineer mian Resources Operating Co-CEC	LLC APPROVAL:		JW	VP - Opera	
Completions Engineer Production Engineer mian Resources Operating Co-CEC	LLC APPROVAL:		JW	VP - Opera	
Completions Engineer Production Engineer mian Resources Operating Co-CEC VP - Land & Lega	LLC APPROVAL: WH BG		JW	VP - Opera	
Completions Engineer Production Engineer mian Resources Operating Co-CEC VP - Land & Lega N OPERATING PARTNE	LLC APPROVAL: WH BG R APPROVAL:		nces SO		CRM
Completions Engineer Production Engineer mian Resources Operating Co-CEC VP - Land & Lega	LLC APPROVAL: WH BG R APPROVAL:		JW		
Completions Engineer Production Engineer mian Resources Operating Co-CEC VP - Land & Lega NO OPERATING PARTNE Company Name	LLC APPROVAL: WH BG R APPROVAL:		SO Working Interest (%):		CRM
Completions Engineer Production Engineer mian Resources Operating Co-CEC VP- Land & Lega NO OPERATING PARTNE Company Name Signed by	LLC APPROVAL: WH BG R APPROVAL:		SO Working Interest (%): Date:	Te	CRM
Completions Engineer Production Engineer mian Resources Operating Co-CEC VP - Land & Lega NO OPERATING PARTNE Company Name	LLC APPROVAL: WH BG R APPROVAL:		SO Working Interest (%):	Te	CRM

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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.



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

