# 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

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

- 2. As a result of its evaluation of the Subject Lands, as well as the surrounding area, Cimarex found that not only were the best reserves of oil and gas residing in the 3<sup>rd</sup> Bone Spring Sand but also that the Upper Wolfcamp reservoir under the Subject Lands and surrounding area was significantly below average in quality and potential, rendering Wolfcamp wells economically unfeasible. *See* Exhibit 1, attached hereto, showing that the consensus landing for optimal development is the 3<sup>rd</sup> Bone Spring Sands, not the Upper Wolfcamp.
- 3. Cimarex has also determined that there are no indications of any major geomechanical changes/frac baffles in between Cimarex's 3<sup>rd</sup> Sand target and Permian Resources' Wolfcamp Sands target, indicating that these two intervals are most likely one shared reservoir tank. Due to the absence of the baffle between the 3<sup>rd</sup> Bone Spring Sand and the Upper Wolfcamp, Cimarex has concluded that if Upper Wolfcamp wells were to be completed while drilling and developing the 3<sup>rd</sup> Bone Spring Sand, those wells would drain much of the reserves in the 3rd Bone Spring Sand, where the best reserves are located, and would likely result in permanent damage to the target reservoir in the 3<sup>rd</sup> Bone Spring Sand.
- 4. Thus, Cimarex limited its proposed development and applications for compulsory pooling to the Bone Spring and did not seek to pool the Upper Wolfcamp. Cimarex's analysis of the Subject Lands comports to how other operators are developing the surrounding areas that share the same three fundamental characteristics, *viz.*, excellent reserves in the 3<sup>rd</sup> Bone Spring Sand, poor quality reservoir in the Upper Wolfcamp, and the lack of a baffle between the two. *See* Exhibit 2, attached hereto, showing the overwhelming predominance of Bone Spring development

and the dearth and rarity of the Wolfcamp development.

- 5. A little more than a month after Cimarex filed 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 3<sup>rd</sup> Bone Spring Sand and would likely result in permanent damage to the target reservoir located in the Bone Spring where the best reservoirs are located.
- 6. Given the poor quality of the Upper Wolfcamp reservoir, the lack of the baffle that would otherwise minimize drainage of the 3<sup>rd</sup> Bone Spring, the fact that additional Upper Wolfcamp wells will not increase EUR, and the recent history of developing the lands in the area that account for these facts, Permian Resources' decision to seek to develop the Upper Wolfcamp Formation is baffling. The geological data demonstrates that expending tens of millions of 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

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

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

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

### II. Argument

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

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

- Wolfcamp based on wells drilled in 3<sup>rd</sup> Bone Spring Sand may not be the best way to protect correlative rights and counter Permian Resources' plan for the Upper Wolfcamp. Cimarex submits that the best course of action for the Division to follow, in order to ensure achieving optimal production from the rich reserves located in the 3<sup>rd</sup> Bone Spring Sand and to protect correlative rights, would be to allow the drilling of the 3<sup>rd</sup> Bone Spring Sand wells, as proposed by Cimarex, and to establish a vertical protective zone that would preclude the drilling of wells in the subpar Upper Wolfcamp. Such a protective zone would prevent drainage of the 3<sup>rd</sup> Bone Spring, thus protecting the correlative rights of the owners in the 3<sup>rd</sup> Bone Spring. In addition, the protective zone would spare the working interest owners approximately \$95 Million for wells that not only fail to increase the EUR but would also likely damage the reservoir. Cimarex has carefully analyzed the need for such a protective buffer zone and provides in Exhibit 5, attached hereto, a graphic depiction and quantification of the area and extent of the Upper Wolfcamp that needs to be protected.
- 12. The Division has the clear authority to fashion such a necessary solution and establish a protective zone under NMSA 1978 Section 70-2-11, which grants the Division authority "to do whatever may be reasonably necessary" to protect correlative rights, prevent waste, and prevent the drilling of unnecessary wells. The wells proposed to be drilled by Permian

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

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

### III. Conclusion:

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

If the Division finds Cimarex's production data and analysis of the geology and target reservoir to be accurate and persuasive, and as a result, decides to grant Cimarex operatorship of the Subject Lands by approving its applications for the Bone Spring, then concurrently with the Division's decision, Cimarex respectfully asks the Division to grant this Motion by enacting the following: (1) Dismiss Cimarex's applications for the Wolfcamp in Case Nos. 23594, 23595, 23596, 23597, 23598, 23599, 23600, and 23601, and as an alternative to pooling the Wolfcamp, pool only the Bone Spring formation underlying the units proposed by Cimarex in Case Nos. 23448 – 23455; (2) establish a protective buffer zone covering the Upper Wolfcamp below the base of the Bone Spring that would prohibit the drilling of wells in the Upper Wolfcamp in order to protect the correlative rights of the owners, prevent waste and optimize production from the Subject Lands; and (3) deny the applications filed by Permian Resources that propose to pool the Wolfcamp formation for the purpose of drilling the Upper Wolfcamp and require any operator wanting to develop the Lower 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

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

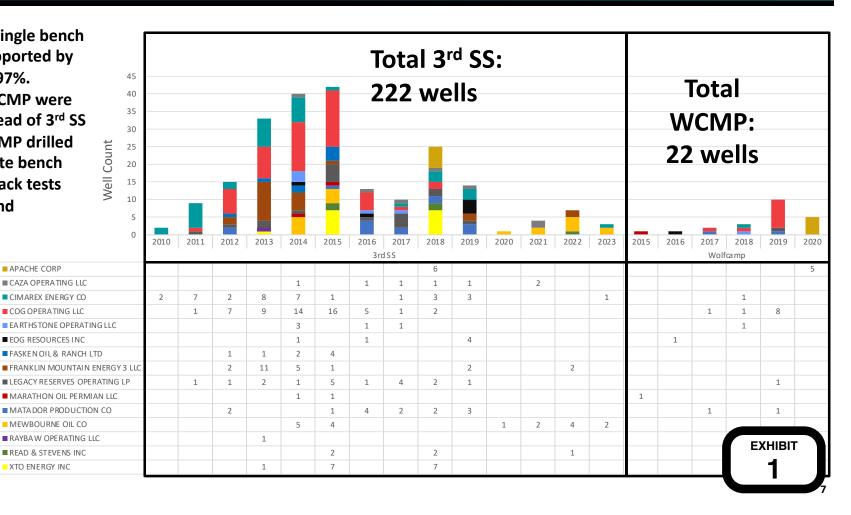


### Well Count by Landing and Operators Shows 3<sup>rd</sup> Sand is the Consensus Landing

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

APACHE CORP

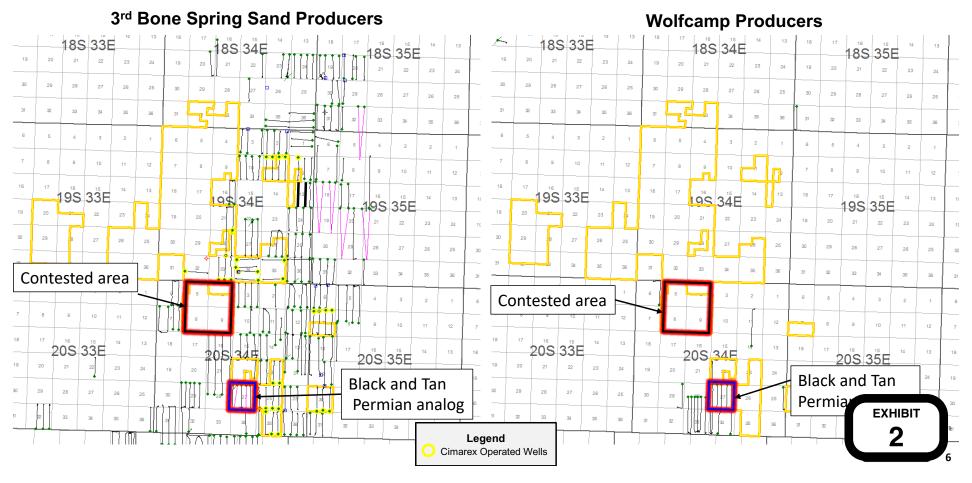
XTO ENERGY INC



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

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



## Permian Resources Operating, LLC 300 N. Marienfeld St., Ste. 1000 Midland, TX 79701 Phone (42) 605 4222 - Ear. (42) 605 4252

ATE:	2.17.2023		_	AFE NO.:	1
ELL NAME:	Bane 4-9 Federal Com 20	1H		FIELD:	Tonto; Wolfcamp
OCATION:	Section 4, T20S-R34E			MD/TVD:_	21,210' / 10,925'
OUNTY/STATE:	Lea County, New Mexico	<u> </u>		DRILLING DAYS:	19.6
nman WI: EOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
OLOGIC TARGET.		well and complete w	rith 44 stages. AFE include		_
MARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE and/Legal/Regulatory	COSTS	COSTS 59,066	COSTS	COSTS 37,500	COSTS S 96,50
ocation, Surveys & Dama	ıges	288,079	18,067	2,500	308,64
reight/Transportation		47,628	43,778	25,000	116,40
Rental - Surface Equipmer Rental - Downhole Equips		124,327 205,424	215,417 59,805	105,000	444,74 265,2
tental - Living Quarters	пец	48,083	54,480		102,5
Directional Drilling, Surv	reys	429,543			429,5
Drilling Drill Bits		753,820 100,176	<u>-</u> _	<del></del>	753,83 100,13
Fuel & Power		188,935	725,061	<del></del>	913,9
Cementing & Float Equip	,	243,296			243,2
ompletion Unit, Swab,	CTU		*******	15,000	15,0
erforating, Wireline, Sli ligh Pressure Pump Tru	ckune rk	<u>:</u>	393,136 123,274		393,13 123,2
ompletion Unit, Swab,			146,484		146,4
Mud Circulation System		105,209			105,2
Aud Logging	hustine.	17,529	8,339		17,5: 15,6
ogging/Formation Eval lud & Chemicals	uaudi	7,270 361,835	438,185	10,000	810,0
Waler		43,459	661,625	300,000	1,005,0
Stimulation			814,033		814,0
itimulation Flowback & Aud/Wastewater Dispo	Disp	193,104	121,606 61,151	150,000	271,6 254,2
ig Supervision/Engine		121,196	133,420	21,667	276,2
rlg & Completion Over		10,423			10,4
abor		153,358	69,489	101,667	324,5
roppant nsurance		14,660	1,255,227	<del></del>	1,255,2
ntingency			24,421	3,833	28,2
igging & Abandonmei					
	TOTAL INTANGIBLES >	3,516,419	5,367,000	772,167	9,655,5
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE		COSTS	COSTS	COSTS	COSTS
rface Casing ermediate Casing	s	122,234 344,284	<del></del>	<del></del>	\$ 122,2 344,2
illing Liner			<del></del>		
duction Casing		687,039		-	687,0
duction Liner				110 000	140,0
bing Ilhead		64,820	<del></del>	140,000	104,8
kers, Liner Hangers		14,732		20,000	34,7
ıks				45,833	45,8
duction Vessels				126,667	126,6
w Lines I string		<del></del>	<del></del>	- 00,067	- 66,6
ficial Lift Equipment			-	90,000	90,0
npressor				5,833	5,8
llation Costs ace Pumps			<u> </u>	61,667	61,6
nhole Pumps		<del></del>	<del></del>	- 01,007	- 01,6
arement & Meter Ir			<u> </u>	116,667	116,6
Conditioning / Dehy	dration	<u>:</u>		20,000	20,0
erconnecting Facility I thering/Bulk Lines	rpug	<del></del>	<del></del>	20,000	
es, Dumps, Controll	ers	<del></del>		108,333	108,3
ık/Facility Containm	ent			43,333	43,3
e Stack		<u>:</u>		16,667	16,6
trical/Grounding nmunications/SCAD	A.	<del></del>		50,000 36,667	50,0 36,6
trumentation/Safety		<del></del>		833	8
	TOTAL TANGIBLES >	1,233,109		989,167	2,222,
	TOTAL COSTS >	4,749,528	5,367,000	1,761,334	11,877,
D RV R! P	ourse Occasio - 115				
	sources Operating, LLC:			<del>.</del>	
Drilling Enginee					
Completions Enginee					
Production Enginee	er: DC				
Resources Operatir	g, LLC APPROVAL:				
Co-CE		Co	CEO	VP - Oper	
	WH	_	JW		CRM
VP - Land & Leg	al	VP - Geosci	ences		
	BG.		50		
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ERATING PARTN	ER APPROVAL:				
Company Nam	o:	_	Working Interest (%):		Tax ID:
Signed b	y:		Date:		
			A F	Yes	_ , ,
Tit	le;		Approval:	165	□ No (t

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

		T COSIS AND AUTHO	DRIZATION FOR EXPEN		
DATE:	2.17.2023 Bane 4-9 Federal Com 202	<del></del>		AFE NO.: FIELD;	Tonto; Wolfcamp
WELL NAME:		<u> </u>		MD/TVD:	21,210' / 10,925'
LOCATION:	Section 4, T20S-R34E			LATERAL LENGTH:	10,000
COUNTY/STATE:	Lea County, New Mexico			_	
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WCXY  AL install cost	well and complete wi	th 44 stages. AFE includ	les drilling, completions,	flowback and Initial
		DRILLING	COMPLETION	PRODUCTION	TOTAL COSTS
INTANGIBLE		COSTS	COSTS	COSTS	
1 Land/Legal/Regulatory	5	59,066 288,079	18,067	37,500 2,500	s 96,566 308,647
2 Location, Surveys & Damas 4 Freight / Transportation	ges .	47,628	43,778	25,000	116,406
s Rental - Surface Equipment		124,327	215,417	105,000	444,744
6 Rental - Downhole Equipm		205,424	59,805		265,22
7 Rental - Living Quarters	•	48,083	54,480	-	102,563
10 Directional Drilling, Surve	cys	429,543			429,54
11 Drilling		753,820	-		753,820 100.17
12 Drill Bits 13 Fuel & Power		100,176 188,935	725,061	<del></del>	913,996
13 Fuel & Fower 14 Cementing & Float Equip	•	243,296	- 72,,001	<del></del>	243,29
15 Completion Unit, Swab, C				15,000	15,000
16 Perforating, Wireline, Silc		-	393,136		393,13
17 High Pressure Pump Truc	k	·	123,274		123,27
18 Completion Unit, Swab, C	TU		146,484		146,48
20 Mud Circulation System		105,209			105,209
21 Mud Logging 22 Logging/Formation Evalt	uation .	17,529 7,270	8,339	<del></del>	17,52° 15,60°
22 Logging / Formation Evalt 23 Mud & Chemicals	rauvit .	361,835	438,185	10,000	810,02
24 Water	•	43,459	661,625	300,000	1,005,08
25 Stimulation	•	<del></del>	814,033		814,03
26 Stimulation Flowback & I			121,606	150,000	271,60
28 Mud/Wastewater Dispos		193,104	61,151		254,25
30 Rig Supervision / Enginee		121,196	133,420	21,667	276,28
32 Drig & Completion Overh 35 Labor	nead .	10,423 153,358	69,489	101,667	324,514
54 Proppant	•	153,556	1,255,227	101,007	1,255,22
95 Insurance		14,660			14,666
97 Contingency	•		24,421	3,833	28,25
99 Plugging & Abandonmen	TOTAL INTANGIBLES >	3,516,419	5,367,000	772,167	9,655,58
	TOTALINTANGIBLES	DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE C	COSTS	COSTS	COSTS	COSTS	COSTS
60 Surface Casing	5	122,234			\$ 122,23
61 Intermediate Casing		344,284			344,28
62 Drilling Liner					
63 Production Casing		687,039	<u> </u>	<del>.</del>	687,03
64 Production Liner 65 Tubing		<del></del>	<del></del>	140,000	140,00
66 Wellhead		64,820	<del></del>	40,000	104,82
67 Packers, Liner Hangers		14,732	<del></del>	20,000	34,73
68 Tanks	•			45,833	45,83
69 Production Vessels			-	126,667	126,66
70 Flow Lines				66,667	66,66
71 Rod string				-	
72 Artificial Lift Equipment		<del></del>	<u> </u>	90,000	90,00 5,83
73 Compressor 74 Installation Costs		<del></del>	<del></del>	3,833	
75 Surface Pumps		<del></del>		61,667	61,66
76 Downhole Pumps		<del></del>			
77 Measurement & Meter Ins	stallation	<del></del>		116,667	116,66
78 Gas Conditioning / Dehye		<del></del>	-		
79 Interconnecting Facility P	iping	<u> </u>		20,000	20,00
80 Gathering / Bulk Lines			<u>-</u>	100 200	400.00
81 Valves, Dumps, Controlle		<del></del>	<u>·</u>	108,333	108,33
82 Tank / Facility Containme 83 Flare Stack		<del>_</del>	<del></del>	16,667	16,66
84 Electrical/Grounding		<del></del> -	<del></del>	50,000	50,00
85 Communications / SCAD	Α	<del></del>	<del></del>	36,667	36,66
86 Instrumentation / Safety	•	<del></del>		833	83
	TOTAL TANGIBLES >	1,233,109	0	989,167	2,222,2
	TOTAL COSTS >	4,749,528	5,367,000	1,761,334	11,877,8
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Drilling Engineer					
Completions Engineer					
Production Engineer	n. DC				
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N OPERATING PARTNI	ER APPROVAL:				
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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

	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	rico		LATERAL LENGTH:	10,000'
	Dea county, recording			DRILLING DAYS:	19.6
Permian WI:	WCM				
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
REMARKS:	Drill a horizontal WC	KY well and complete wi	th 44 stages. AFE include	s drilling, completions,	flowback and Initial
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE	OSTS	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 & Damas 4 Freight / Transportation	6	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, Surve	vs	429,543		<del></del>	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 Pamp Truc		<u> </u>	123,274		123,274
18 Completion Unit, Swab, C	TU	<u> </u>	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	10,000 300,000	1,005,083
24 Water 25 Stimulation		43,459	814,033	300,000	814,033
25 Stimulation 26 Stimulation Flowback & E	ion	<del></del>	121,606	150,000	271,606
26 Stimulation Flowback & E 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 Overh	rau	153,358	69,489	101,667	324,514
35 Labor 54 Proppant		133,336	1,255,227	101,007	1,255,227
95 Insurance		14,660		<del></del>	14,660
97 Contingency			24,421	3,833	28,254
99 Plugging & Abandonmen		<del></del>		-	
	TOTAL INTANGIBLE	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>	<del></del>	140,000	140,000
66 Wellhead		64,820	<u>·</u>	40,000	104,820
67 Packers, Liner Hangers		14,732		20,000	34,732 45,833
68 Tanks			<del></del>	45,833 126,667	126,667
69 Production Vessels 70 Flow Lines		<u>·</u>	<del></del>	66,667	66,667
71 Rod string				00,007	- 00,007
72 Artificial Lift Equipment		<del></del>	<del></del>	90,000	90,000
73 Compressor				5,833	5,833
74 Installation Costs					
75 Surface Pumps		<del></del>		61,667	61,667
76 Downhole Pumps		<del></del>			
77 Measurement & Meter Ins	taliation		<del></del>	116,667	116,667
78 Gas Conditioning/Dehyo		<del></del>			
79 Interconnecting Facility P		<del></del>		20,000	20,000
80 Gathering / Bulk Lines		<del></del>	<del></del>		
81 Valves, Dumps, Controlle	-5	<del></del>	<del></del>	108,333	108,333
82 Tank / Facility Containme				43,333	43,333
83 Flare Stack		<del></del>	-	16,667	16,667
84 Electrical/Grounding		<del></del>	•	50,000	50,000
85 Communications / SCAD	<b>L</b>	•		36,667	36,667
86 Instrumentation / Safety		-		833	833
	TOTAL TANGIBLE	S > 1,233,109	0	989,167	2,222,276
	TOTAL COST	S > 4,749,528	5,367,000	1,761,334	11,877,862
EPARED BY Permian Res	urces Operating, LLC:				
Drilling Engineer	. PS				
Completions Engineer					
Production Engineer			-		
	•				
Production Engineer	, LLC APPROVAL:				
Production Engineer		<del> </del>	PO.		
	,	Co-C		VP - Open	
Production Engineer mian Resources Operatin	wн		JW	VP - Open	CRM
Production Engineer	wн	Co-C VP - Geoscier	JW	VP - Open	
Production Engineer mian Resources Operatin	WH I		JW nces	VP - Oper	
Production Engineer mian Resources Operatin	WH BG		JW nces	VP - Oper	
Production Engineer mian Resources Operatin Co-CEC VP - Land & Lega	WH BG		JW nces		
Production Engineer mian Resources Operating Co-CEC VP - Land & Lega NO OPERATING PARTNE	BG R APPROVAL:		JW SO		CRM
Production Engineer mian Resources Operating Co-CEC VP- Land & Lega N OPERATING PARTNE	WH  BC  R APPROVAL:		SO  Working Interest (%):		CRM

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
VELL NAME:	Section 4, T20S-R34E	20411		MD/TVD:	21,210' / 10,925'
				LATERAL LENGTH:	10,000
COUNTY/STATE:	Lea County, New Mexi	iço			
'ermian WI:	WCVV			DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY	V		COMPLETION DAYS:	
IEMARKS:	Drill a horizontal WCX AL install cost	Y well and complete wi	th 44 stages. AFE include	s drilling, completions,	flowback and Initial
	-	DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE C	OSTS	COSTS	COSTS	COSTS	COSTS
Land/Legal/Regulatory		S 39,066 288,079	18,067	37,500 2,500	S 96,56
Location, Surveys & Damage Freight / Transportation	.5	47,628	43,778	25,000	116,40
Renial - Surface Equipment		124,327	215,417	105,000	444,74
Rental - Downhole Equipme	ent	205,424	59,805		265,2
Rental - Living Quarters		48,083	54,480		102,50
0 Directional Drilling, Surve	ys	429,543			429,54
1 Drilling		753,820 100,176	<u>:</u>		753,82 100,17
2 Drill Bits 3 Fuel & Power		188,935	725,061	<del></del>	913,99
4 Cementing & Float Equip		243,296			243,25
Completion Unit, Swab, C	យ	<del></del>	<del></del>	15,000	15,00
6 Perforating, Wireline, Slick			393,136		393,13
7 High Pressure Pump Truck			123,274		123,2
B Completion Unit, Swab, Cl	TU	100 000	146,484		146,4
Mud Circulation System  1 Med Logging		105,209 17,529	<del></del>	<del></del>	105,21
1 Mud Logging 2 Logging / Formation Evalua	ation	7,270	8,339	<del></del>	15,6
3 Mud & Chemicals		361,835	438,185	10,000	810,0
4 Water		43,459	661,625	300,000	1,005,0
5 Stimulation			814,033		814,0
6 Stimulation Flowback & D			121,606	150,000	271,6
8 Mud/Wastewater Disposa		193,104	61,151	8177	254,2
0 Rig Supervision / Engineer 2 Drig & Completion Overho		121,196	133,420	21,667	276,2
2 Drig & Completion Overne 5 Labor	244	153,358	69.489	101,667	324,5
4 Proppant		*	1,255,227		1,255,2
5 Insurance		14,660			14,6
7 Contingency		<del></del>	24,421	3,833	28,2
9 Plugging & Abandonment	TOTAL INTANGIBLES	> 3,516,419	5,367,000	772,167	9,655,5
	TOTALINTANGIBLES	DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE CO	osts	COSTS	COSTS	COSTS	COSTS
0 Surface Casing		\$ 122,234			\$ 122,2
1 Intermediate Casing		344,284		<u>_</u>	344,2
2 Drilling Liner		***			-
3 Production Casing		687,039	<del></del>	<del></del>	687,0
4 Production Liner 5 Tubing		<del></del>	<del></del>	140,000	140,0
6 Wellhead		64,820	<del></del>	40,000	104,8
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			<u>:</u>	66,667	66,6
71 Rod string 72 Artificial Lift Equipment		<u> </u>	<del> </del>	90,000	90,0
3 Compressor			<del></del>	5,833	5,8
4 Installation Costs		<del></del>	<del></del>		
75 Surface Pumps			<del></del>	61,667	61,6
6 Downhole Pumps					-
7 Measurement & Meter Inst			:	116,667	116,6
8 Gas Conditioning / Dehyd		<u>·</u>	<del></del>	20,000	20,0
79 Interconnecting Facility Pi 80 Gathering / Bulk Lines	ing	<del></del>	<del></del>	20,000	20,0
31 Valves, Dumps, Controller		<del></del>	<del></del>	108,333	108,3
32 Tank / Facility Containmer		<del></del>	<del></del>	43,333	43,3
33 Flare Stack		-		16,667	16,6
34 Electrical / Grounding				50,000	50,0
35 Communications / SCADA				36,667	36,6
6 Instrumentation/Safety			<del>_</del>	833	8
	TOTAL TANGIBLES		0	989,167	2,222,2
	TOTAL COSTS	i > 4,749,528	5,367,000	1,761,334	11,877,
PARED BY Permian Reso	urces Operating, LLC:				
Drilling Engineer:	PS			· <del></del>	. <u>.</u>
Completions Engineer:	ML				
Production Engineer.					
aian Resources Operating					
Co-CEO	WH	Co-C	CEO	VP - Oper	ations
VP - Land & Legal		VP - Geoscie	•		CNM
	· <del>·</del>		·-		
N OPERATING PARTNE	R APPROVAL:				
			Working Interest (61)	_	su IDs
N OPERATING PARTNE			Working Interest (%):		ax ID:
Company Name			Working Interest (%):		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:	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			LATERAL LENGTH:	10,000
Permian WI:	Dea county) Trest Interior			DRILLING DAYS:	19.6
	WCXY			COMPLETION DAYS:	19
GEOLOGIC TARGET:		<del></del> .	of AA . AFF ! . I I		
		Y well and complete wi	th 44 stages. AFE include	es drilling, completions,	HOWDACK AND INDUI
REMARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
	20070	COSTS	COSTS	COSTS	COSTS
INTANGIBLE ( TLand/Legal/Regulatory		5 59,066		37,500	\$ 96,566
1 Land/ Legal/ Regulatory 2 Location, Surveys & Damas		288,079	18,067	2500	308,647
4 Freight/Transportation	çes .	47,628	43,778	25,000	116,406
5 Kental - Surtace Equipmen	1	124,32/	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, Surv	rys	429,543	-		429,543
11 Orilling		753,820	<u> </u>	<u> </u>	753,820
12 Orll Bits		100,176	-		100,176 913,996
13 Fuel & Power 14 Cementing & Float Equip		188,935	725,061	<del>_</del>	243,296
	201	243,296	<del>.</del>	15,000	15,000
15 Completion Unit, Swab, C 16 Pertorating, Wireline, Silc		—— <u> </u>	393,136		393,136
17 High Pressure Pump Truc		<del></del>	123,274	<del></del>	123,274
18 Completion Unit, Swab, C		<del></del>	146,484	<del></del>	146,484
20 Mud Circulation System		105,209	<del></del>	<del></del>	105,209
21 Mud Logging		17,529		-	17,529
22 Logging / Formation Evalu	ation	7,270	8,339	<del></del>	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 & I			121,606	150,000	271,606 254,254
28 Mud / Wastewater Dispos		193,104	61,151	77.667	276,283
30 Kig Supervision / Enginee 32 Drig & Completion Overh		121,196	133,420	21,667	10,423
32 Drig & Completion Overr 35 Labor		153,358	69,489	101,667	324,514
54 Proppant			1,255,227	<del></del>	1,255,227
95 Insurance		14,660	<del></del>		14,660
97 Contingency		<del></del>	24,421	3,833	28,254
99 Plugging & Abandonmen	ł .		<del></del>		
	TOTAL INTANGIBLES	> 3,516,419	5,367,000	772,167	9,655,585
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE C	OCTE	COSTS	COSTS	COSTS	COSTS
50 Surface Casing	0510	5 122,234	<del></del>		5 122,234
1 Intermediate Casing		344,284			344,284
52 Drilling Liner		-			
53 Production Casing		687,039	<del></del>		687,039
64 Production Liner		•	•		
65 Tubing		<u> </u>		140,000	140,000
66 Wellhead		64,820		40,000	104,820
7 Packers, Liner Hangers		14,732		20,000	34,732 45,833
66 Tanks 69 Production Vessels		<del></del>	<u>-</u>	45,833 126,667	126,667
70 Flow Lines		<del></del>	<del></del>	66,667	66,667
71 Rod string		<del></del>	<del></del>		
72 Artisicial List Equipment		<del></del>	<del></del>	90,000	90,000
73 Compressor			<del></del>	5,833	5,833
74 Installation Costs		•	<del></del>	-	
75 Surtace Pumps		•	•	61,667	61,667
76 Downhole Pamps					
77 Measurement & Meter Ins			-	116,667	116,667
78 Gas Conditioning / Dehyo					
79 Interconnecting Facility P 80 Gathering / Bulk Lines	ping			20,000	20,000
il Valves, Dumps, Controlle	н.	<del></del>	<del></del>	108,333	108,333
2 Tank / Facility Containme		<del></del>	<del></del>	43,333	43,333
3 Flare Stack			<del></del>	16,667	15,667
4 Electrical / Grounding		<del></del>	<del></del>	50,000	50,000
5 Communications / SCAD	١	<del></del>	<del></del>	36,667	36,667
66 Instrumentation / Safety		<del></del>	-	833	833
	TOTAL TANGIBLES	> 1,233,109	0	989,167	2,222,276
	TOTAL COSTS		5,367,000	1,761,334	11,877,862
	www.Oncontinu. II.Co				
DARED BY Damilan Dage					
PARED BY Permian Reso	arees operating EEC				
Drilling Engineer	: 1%				
Drilling Engineer Completions Engineer	: PS : ML				
Drilling Engineer	: PS : ML				
Drilling Engineer Completions Engineer Production Engineer	: PS : ML : DC				
Drilling Engineer Completions Engineer Production Engineer	: PS : ML : DC				
Drilling Engineer Completions Engineer Production Engineer	PS ML DC LLC APPROVAL:	Conf	ŒO	VP+Ores	ations
Drilling Engineer Completions Engineer Production Engineer nian Resources Operating	PS ML DC LLC APPROVAL:	Co-C	DEO	VP - Oper	ationsCRM
Drilling Engineer Completions Engineer Production Engineer aian Resources Operating	: PS : ML : DC : DC : LLC APPROVAL:		- Jw	VP - Oper	
Drilling Engineer Completions Engineer Production Engineer nian Resources Operating	: PS : ML : DC : DC : LLC APPROVAL:	Co-C VP - Geoscler	- Jw	VP - Oper	
Drilling Engineer Completions Engineer Production Engineer aian Resources Operating	: PS : ML : DC : LLC APPROVAL:		jw nces	VP - Oper	
Drilling Engineer Completions Engineer Production Engineer aian Resources Operating	: PS : ML : DC : LLC APPROVAL:		jw nces	VP - Oper	
Drilling Engineer Completions Engineer Production Engineer alian Resources Operating Co-CEC VP - Land & Lega	HE DC LLC APPROVAL: WH		jw nces	VP - Oper	
Completions Engineer Production Engineer nian Resources Operating Co-CEC	BC  R APPROVAL:		jw nces		
Drilling Engineer Completions Engineer Production Engineer nian Resources Operating Co-CEC VP-Land & Lega	WH  R APPROVAL:		jw so		CRM
Drilling Engineer Completions Engineer Production Engineer alan Resources Operating Co-CEC VP - Land & Lega N OPERATING PARTNE Company Name	PS ML DC LLC APPROVAL: WH  BC  R APPROVAL:		90 Working Interest (%):	т	CRM

Permian Resources Operating, LLC
300 N. Marlenfeld St., Sis. 1000 Midland, TX 79701
Phone (432) 695-4222 • Fax (437) 695-4063
ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE

DATE;	2.17.2023			AFE NO.:	1
WELL NAME:	Joker 5-8 Federal Com 2	02H		FIELD:	Tonto; Wolfcamp
LOCATION:	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
•	Drill a horizontal WCXY	well and complete	with 44 stages. AFE inch	ıdes drilling, completions,	flowback and Initial
REMARKS:	AL install cost		· · ·		
					TOTAL
		DRILLING COSTS	COMPLETION COSTS	PRODUCTION COSTS	TOTAL COSTS
INTANGIBLE C	OSTS	59,066	C0313	37,500	\$ 96,566
1 Land/ Legal/ Regulatory 2 Location, Surveys & Damage	•	288,079	18,067	2,500	308,647
4 Freight/Transportation	•	47,628	43,778	25,000	116,406
5 Kental - Suriace Equipment		124,327	215,417	105,000	444,744
6 Kental • Downhote Equipme	nt	205,424	59,805		265,229
7 Kental - Living Quarters 10 Directional Drilling, Survey		48,083	54,480	<del></del>	102,562
11 Drilling	•	753,820	<del></del>	<del></del>	753,820
12 Drill Bits		100,176	<del></del>		100,176
13 Fuel & Power		188,935	725,061		913,996
14 Cementing & Float Equip		243,296	·		243,296
15 Completion Unit, Swab, C1 16 Pertorating, Wireline, Slick!		<del></del>	393,136	15,000	75,000 393,136
17 High Pressure Pump Truck	MIC.	<del></del>	123,274	<del></del>	123,274
18 Completion Unit, Swab, Cl	υ		146,484	<del></del>	146,484
20 Mud Circulation System		105,209			105,209
21 Mud Logging		17,529			17,529
22 Logging/Formation Evalua 23 Mud & Chemicals	uon	361,835	8,339 438,185	10,000	15,609 810,020
23 Mud & Chemicais 24 Water		43,459	661,625	300,000	1,005,083
25 Stimulation			814,033		814,033
26 Stimulation Flowback & Di			121,606	150,000	2/1,606
25 Mud / Wastewater Disposal		193,104	61,151		254,254
30 Rig Supervision / Engineeri 32 Drig & Completion Overhe		121,196	133,420	21,667	2/6,283
32 Drig & Completion Overne. 35 Labor	•••	153,358	69,489	101,667	324,314
54 Proppant			1,255,227	<del></del>	1,255,22/
95 Insurance		14,660			14,660
97 Contingency			24,421	3,833	28,254
99 Plugging & Abandonment					
	TOTAL INTANGIBLES >		5,367,000	772,167	9,655,585
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE CO	STS	COSTS	COSTS	COSTS	COSTS 122,234
60 Surface Casing 61 Intermediate Casing	,	122,234 344,284			344,284
62 Drilling Liner		- 344,264	<u>-</u>	<del>-</del>	
63 Production Casing		687,039	<del></del>	<del></del>	687,039
64 Production Liner		<del></del>	-		
65 Tubing				140,000	140,000
66 Wellhead 67 Packers, Liner Hangers		54,820 14,732		40,000	104,820
68 Tanks		14,732	<del></del>	45,833	45,833
69 Production Vessels		<del></del>		126,667	126,667
70 Flow Lines		<del></del>		66,667	66,667
71 Rod string					90.000
72 Artificial Lift Equipment 73 Compressor				90,000	5,833
74 Installation Costs		<del></del>			
75 Surtace Pumps			-	61,667	61,667
76 Downhole Pumps					
77 Measurement & Meter Insia 78 Gas Conditioning / Dehydr		<u> </u>	· · · · ·	116,667	116,667
79 Interconnecting Facility Pip		<u>:</u>	<del>.</del>	20,000	20,000
80 Gathering / Bulk Lines		<del></del>	<del></del>		
81 Valves, Dumps, Controllers		<del></del>		108,333	108,353
82 Tank / Facility Containment	:		-	43,333	43,333
83 Flare Stack		<u>_</u>	<u>-</u> _	16,667	16,667
84 Electrical / Grounding 85 Communications / SCADA		<del>-</del>	<del></del>	50,000 36,667	36,667
86 Instrumentation / Satety			<del></del>	833	833
	TOTAL TANGIBLES >	1,233,109	0	989,167	2,222,276
	TOTAL COSTS >		5,367,000	1,761,334	11,877,862
	······································				
PARED BY Permian Resou					
TAKED DI FERUMAN KESOL	ires Operating, Lix.				
Drilling Engineer:	PS				
Completions Engineer:	ML				
Production Engineer:	DC				
			<del>-</del>	<del></del>	
nian Resources Operating,	LLC APPROVAL:				
Co-CEO	WH	C	Go-CEO	VP - Ope	CRM
VP - Land & Legal		VP C···	•		СКМ
AL - PURI M FESSI	BG	VP - Geos	SO		
	~		30		
N OPERATING PARTNER	APPROVAL				
-	APPROVAL				
N OPERATING PARTNER	APPROVAL	-	Working Interest (%):	1	Tax ID:
Company Name:	APPROVAL		•		Tax ID:
-	APPROVAL:		Working Interest (%):		
Company Name:	APPROVAL		•		Tax ID: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 AUTHORIZ	ATION FOR	EXPENDI	TURE

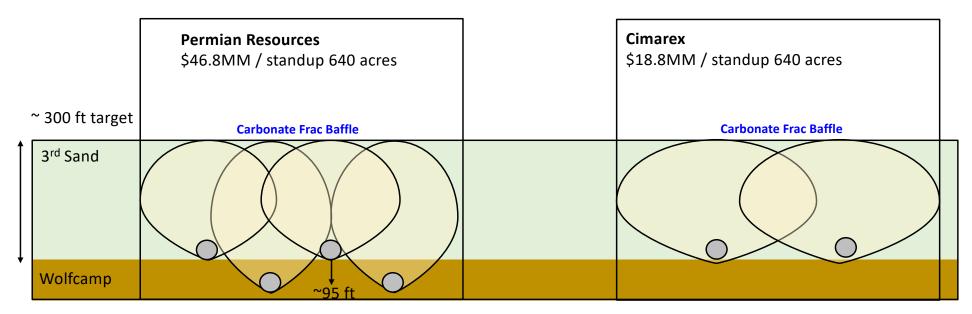
DATE:	2.17.2023			AFE NO.:	<u> </u>
WELL NAME:	Joker 5-8 Federal Com	203H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E			MD/TVD:	21,191' / 10,906'
COUNTY/STATE:	Lea County, New Mex	rico		LATERAL LENGTH:	10,000'
Permian WI:				DRILLING DAYS:	19.6
GEOLOGIC TARGET:	WCXY			COMPLETION DAYS:	19
SECRETARIOS		(V wall and complete wi	ith 44 stages. AFE include		
		CI wen and complete wi	iui 44 suges. Ai E niciude	s triming, completions, r	IOW DECK MING III III II
REMARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE (	nere	COSTS	COSTS	COSTS	COSTS
	.0313	\$ 59,066		37,500	96,566
Land/Legal/Regulatory		288,079	18,067	2,500	308,647
Location, Surveys & Damag Freight/Transportation	les .	47,628	43,778	25,000	116,400
i Freight, Transportation i Kental - Surface Equipment		124,32/	215,417	105,000	444,74
Kental - Downhole Equipm		205,424	59,805		265,225
/ Kental - Living Quarters	E144	48,083	54,480		102,56
O Directional Drilling, Surve	174	429,543		<del></del>	429,54
i Drilling	y»	753,820			753.82
IZ Drui Bits		100,176			100,17
13 Fuel & Power		188,935	725,061	<del></del>	913,99
4 Cementing & Float Equip		243,296			243,29
5 Completion Unit, Swab, C	ru		<del></del>	15,000	15,00
6 Periorating, Wireline, Silci		<del></del>	393,136		393,13
7 High Pressure Pump Truci	,	<del></del>	123,274		123,27
8 Completion Unit, Swab, C			146,484		146,48
Mud Circulation System		105,209			105,20
II Mud Logging		17,529	<del></del>		17,52
22 Logging / Formation Evalu	ation	7,270	8,339	<del></del>	15,60
is Mud & Chemicals		361,835	438,185	10,000	810,02
24 Water		43,459	661,525	300,000	1,005,08
25 Stimulation			814,033		814,03
26 Stimulation Flowback & D	lsp	<del></del>	121,506	150,000	271,60
28 Mud/Wastewater Disposa		193,104	61,151		254,25
30 Rig Supervision / Enginee		121,196	133,420	21,667	2/6,28
32 Drig & Completion Overh		10,423			10,42
39 Labor		153,358	69,489	101,667	324,51
54 Proppant			1,255,227		1,255,22
5 Insurance		14,660			14,660
77 Contingency			24,421	3,833	28,25
99 Plugging & Abandonment		<del></del>			
>> 1 mggmg ta / 15 mm time time	TOTAL INTANGIBLES	3,516,419	5.0/8.000		9,655,58
	TOTAL INTANGIBLES	5 3,310,417	5,367,000	772,167	7,003,00
		DRILLING	COMPLETION	PRODUCTION	TOTAL
TANGIBLE CO	OSTS	COSTS	COSTS	COSTS	COSTS
SUSTRACE CASING		\$ 122,234			\$ 122,234
1 Intermediate Casing		344,284	-	·	344,28
52 Drilling Liner		•	-	<del></del>	•
3 Production Casing		687,039	-		687,03
4 Production Liner			•		•
55 Tubing				140,000	140,000
6 Wellhead		64,820		40,000	104,820
57 Packers, Liner Hangers		14,732	•	20,000	34,/3.
58 Tanks			<del></del>	45,833	45,833
59 Production Vessels		-		126,667	126,667
70 Flow Lines				66,667	66,667
71 Rod string		•	<del>-</del> _		
2 Artiticial Lift Equipment				90,000	90,000
73 Compressor		`		5,833	5,83
4 Installation Costs					•
5 Surface Pumps		•		61,667	61,667
6 Downhole Pumps		<u> </u>	<u> </u>		
7 Measurement & Meter Inst				116,667	116,66
'8 Gas Conditioning / Dehyd	ration				-
9 Interconnecting Facility Pi	ping			20,000	20,000
O Gathering / Bulk Lines		<u>·</u>			
1 Valves, Dumps, Controller			<del>-</del> _	108,333	108,333
2 Tank / Facility Containmer	it		<del>_</del> _	43,333	43,333
3 Flare Stack		·	-	16,667	16,667
4 Electricat / Grounding				50,000	50,000
S Communications/SCADA				36,667	36,667
66 Instrumentation / Safety				833	833
	TOTAL TANGIBLES		0	989,167	2,222,27
	TOTAL COSTS	> 4,749,528	5,367,000	1,761,334	11,877,86
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ARED BY Permian Reso	urces Operating, LLC:				
	PS PS				
Deilling Engineer					
Drilling Engineer:					
Completions Engineer.	ML				
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Completions Engineer: Production Engineer:	ML DC				
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Completions Engineer: Production Engineer:	ML DC LLC APPROVAL:	Co-C		VP - Operal	tions
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Completions Engineer: Production Engineer: Ian Resources Operating, Co-CEO	ML DC LLC APPROVAL:		jw nces	VP - Operal	
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Completions Engineer. Production Engineer.  Jan Resources Operating.  Co-CEO  VP - Land & Legal  OPERATING PARTNEE  Company Name:	ML DC  LLC APPROVAL:  WH  BG		SO  Working Interest (%):		CRM
Completions Engineer. Production Engineer. Ian Resources Operating. Co-CEO VP - Land & Legal OPERATING PARTNEE	ML DC  LLC APPROVAL:  WH  BG		jw Ices SO		CRM
Completions Engineer. Production Engineer.  Ian Resources Operating.  Co-CEO  VP - Land & Legal  OPERATING PARTNEE  Company Name:	ML DC  LLC APPROVAL:  WH  BG		SO  Working Interest (%):		CRM

Permian Resources Operating, LLC
300 N. Mazienfeld St., Ste. 1000 Midland, TX 79701
Phone (832) 895-4222 • Fax (832) 695-4063
ESTIMATE OF COSTS AND AUTHORIZATION FOR EXPENDITURE

= = = = = = = = = = = = = = = = = = = =	0.417.0000				1
DATE:	2.17.2023	20477		AFE NO.: _	
WELL NAME:	Joker 5-8 Federal Com 2	204H		FIELD:	Tonto; Wolfcamp
LOCATION:	Section 5, T20S-R34E			MD/TVD:	21,181' / 10,896'
COUNTY/STATE:	Lea County, New Mexi-	<u>co</u>		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,	flowback and Initial
REMARKS:	AL install cost				
		DRILLING	COMPLETION	PRODUCTION	TOTAL
INTANGIBLE	COSTS	COSTS	COSTS	COSTS	COSTS
T Land / Legal / Regulatory		5 59,066	•	37,500	\$ 96,566
2 Location, Surveys & Dama	ges .	288,079	18,067	2,500	308,647
4 Freight / Transportation		47,628	43,778	25,000	116,406
5 Kental - Surface Equipmen 6 Kental - Downhole Equipn		124,327 205,424	215,417	105,000	265,229
7 Rental - Living Quarters	ent	48,083	54,480		102,562
10 Directional Drilling, Surv	794	429,543		<del></del>	429,543
11 Drilling	.70	753,820	<del></del>	<del></del>	753,820
12 Drill Bils		100,176	<del></del>	<del></del>	100,176
13 Fuel & Power		188,935	725,061		913,996
14 Cementing & Float Equip		243,296	<del></del>		243,296
15 Completion Unit, Swab, C				15,000	15,000
16 Perforating, Wireline, Silo		•	393,136		393,136
17 High Pressure Pump Truc			123,274		123,2/4
18 Completion Unit, Swab, C	יוט		146,484		146,484
20 Mud Circulation System		105,209	·		105,209
21 Mud Logging		17,529	<del> </del>		17,529
22 Logging / Formation Evalu 23 Mud & Chemicals	nauofi	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 & I	lisp	<del></del>	121,606	150,000	2/1,606
28 Mud / Wastewater Dispos		193,104	61,151		254,254
30 Rig Supervision / Enginee		121,196	133,420	21,667	276,283
32 Drig & Completion Over		10,423	<del></del>	<del></del>	10,423
35 Labor		153,358	69,489	101,667	324,514
54 Proppant		<del></del>	1,255,227		1,255,227
95 Insurance		14,660	<del></del>		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	nere	COSTS	COSTS	COSTS	COSTS
60 Surface Casing	0313	\$ 122,234	· · · · · · · · · · · · · · · · · · ·		5 122,234
61 Intermediate Casing	·	344,284		<del></del>	344,284
62 Drilling Liner			<del></del>	<del></del>	
63 Production Casing		687,039	<del></del>	<del></del>	687,039
64 Production Liner		<del></del>			
65 Tubing		<del></del>	<del></del>	140,000	140,000
66 Wellhead		64,820		40,000	104,820
67 Packers, Liner Hangers		14,732	<del></del>	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				90,000	90,000
72 Artificial Lift Equipment					5,833
73 Compressor 74 Installation Costs		<del></del>		5,833	3,033
75 Surtace Pumps				61,667	61,667
76 Downhole Pumps		<del></del>	<del></del>		
77 Measurement & Meter Ins	taliation	<del></del>	<del></del>	116,667	116,667
76 Gas Conditioning / Dehye			<del></del>	<del></del>	
79 Interconnecting Facility P		<del></del>		20,000	20,000
80 Gathering / Bulk Lines					
81 Valves, Dumps, Controlle	rs			108,333	108,333
82 Tank / Facility Containme	nt	<del></del>		43,333	43,333
83 Flare Stack			•	16,667	16,667
84 Electrical / Grounding				50,000	50,000
85 Communications / SCAD	L .			36,667	36,667
86 Instrumentation / Safety			<u>·</u>	833	833
	TOTAL TANGIBLES		00	989,167	2,222,276
	TOTAL COSTS	> 4,749,528	5,367,000	1,761,334	11,877,862
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EPARED BY Permian Rese	arces Operating, LLC:				
Drilling Engineer	: PS				
Completions Engineer					
Production Engineer					
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mian Resources Operating	, LLC APPROVAL:				
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Co-CEC VP - Land & Lega	1	VP - Geoscie			
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VP - Land & Lego NOPERATING PARTNE Company Name	R APPROVAL:	VP - Geoscie	SO  Working Interest (%):		ax ID:

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



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



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

