

COG Operating LLC

Direct Testimony & Exhibits
Case Nos. 21219 & 21220
Eddy County, New Mexico
Scout State Com #601H - #606H



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

APPLICATION OF COG OPERATING LLC FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

Case Nos. 21219-21220

DIRECT TESTIMONY OF TRAVIS MACHA

Travis Macha, of lawful age and being first duly sworn, declares as follows:

1.	State your name, by whom you're employed, and in what capacity.
	Travis Macha, I have been a landman with COG Operating LLC since January 2017

2. Have you previously testified before the Division?

Yes.

3. Were your credentials as a petroleum landman accepted and made a matter of record?

Yes.

4. Are you familiar with the applications that have been filed by COG in these cases?

Yes.

5. Are you familiar with the status of the lands that are the subject of this application?

Yes.

6. Turn to COG Exhibit No. A-1 and identify it.

These are approved C-102s showing the proposed standard horizontal spacing unit that COG seeks to pool in these cases.

7. Explain what COG seeks under the application for Case No. 20219.

An order pooling all uncommitted interests in the Wolfcamp formation, Purple Sage-Wolfcamp Gas Pool (Pool code 98220), underlying a standard 960.48-acre, more or less, horizontal spacing unit comprised of Lots 1, 2, S/2NE/4, SE/4 of Section 6, E/2 of Section 7, and E/2 of Section 18, Township 25 South, Range 28 East, Eddy County, New Mexico; and

8. Explain what COG seeks under the application for Case No. 20220.

In Case No. 20220, COG seeks an order pooling all uncommitted interests in the Wolfcamp formation, Purple Sage-Wolfcamp Gas Pool (Pool code 98220), underlying a standard 966.73-acre, more or less, horizontal spacing unit comprised of Lots 3-7, SE/4NW/4, E/2SW/4 of Section 6, Lots 1-4 and E/2W/2 of Section 7, and Lots 1-4 and E/2W/2 of Section 18, Township 25 South, Range 28 East, NMPM, Eddy County, New Mexico.

9. What wells will these proposed spacing units be dedicated to?

In Case No. 20219, the Scout State Com 601H well, to be horizontally drilled from a surface hole location in Lot 1 (Unit A) of Section 6 to a bottom hole location in the SE/4SE/4 (Unit P) of Section 18; the Scout State Com 602H well, to be horizontally drilled from a surface hole location in Lot 1 (Unit A) of Section 6 to a bottom hole location in the SW/4SE/4 (Unit O) of Section 18; and the Scout State Com 603H well, to be horizontally drilled from a surface hole location in Lot 2 (Unit B) of Section 6 to a bottom hole location in the SW/4SE/4 (Unit O) of Section 18.

In Case No. 20220, the Scout State Com 604H well, to be horizontally drilled from a surface hole location in Lot 3 (Unit C) of Section 6 to a bottom hole location in the SE/4SW/4 (Unit N) of Section 18; the Scout State Com 605H well, to be horizontally drilled from a surface hole location in Lot 4 (Unit D) of Section 6 to a bottom hole location in Lot 4 (Unit M) of Section 18; and the Scout State Com 606H well, to be horizontally drilled from a surface hole location in Lot 4 (Unit D) of Section 6 to a bottom hole location in Lot 4 (Unit M) of Section 18.

10. What is the character of the lands?

State and fee lands.

11. Have APDs been approved for the proposed Scout wells?

APDs for all proposed wells were approved on April 3, 2020.

12. What pool are these wells in?

Our proposed Scout wells will develop the Purple Sage-Wolfcamp Gas Pool.

13. The pool code for the Purple Sage-Wolfcamp Gas Pool is 98220?

Yes.

14. Are there special rules for this pool?

Yes, the pool rules require 320-acre well spacing.

15. Turn to COG Exhibit No. A-2 and identify what this is.

It is a plat identifying the tracts of land comprising the proposed unit, the interest ownership by tract, and a unit recapitulation for both cases.

16. Have you proposed the wells to the parties identified in that exhibit?

Yes.

17. Who are the remaining parties that COG seeks to pool?

Occidental Permian LP, Oxy Y-1 Company, Devon Energy Prod. Co. LP, and Mewbourne Oil Company.

18. Those are the parties highlighted in yellow in your exhibit?

Yes.

19. Turn to COG Exhibit No. A-3. What is included in this exhibit?

A sample well proposal letter for the E/2 and the W/2 spacing units and AFEs for the Scout State Com 601H, 602H, 603H, 604H, 605H, and 606H that were sent out with the letter.

20. What other efforts has COG undertaken to obtain a voluntary joinder from the remaining interest owners in the proposed units?

COG has been working with all parties to obtain voluntary joinder within the proposed units and continues to do so in good faith.

21. In your opinion, has COG made a good-faith effort to obtain voluntary joinder of the parties it is seeking to pool?

Yes.

22. If you reach an agreement with any of these parties, will you notify the Division so that those parties will not be subject to a pooling order?

Yes.

23.	Are there any depth severances in the proposed spacing units?
	No.
24.	Are there any unleased mineral interests in the subject acreage?
	No.
25.	Has COG estimated the overhead and the costs for drilling this well, as well as for producing it should you be successful?
	Yes, \$8000 per month for drilling, and \$800 per month for producing.
26.	Are these costs in line with what COG and other operators in this area charge for similar wells?
	Yes.
27.	Do you ask that these administrative and overhead costs be adjusted in accordance with the appropriate COPAS accounting procedures?
	Yes.
28.	Do you request that the Division impose a 200% risk penalty to the interests that remain uncommitted to these wells?
	Yes.
29.	Is COG Exhibit No. A-4 an affidavit of notice of this hearing that was sent to the parties we are seeking to pool in both cases?
	Yes.
30.	Were any of these unsuccessfully delivered?
	No.
31.	Were there any parties you could not locate?
	No.
32.	Does COG Exhibit No. A-4 include an affidavit of publication from the Hobbs- News Sun and published notice for both cases?
	Yes.

33.	Do you request that COG be designated operator of the well?
	Yes.
34.	In your opinion, would granting COG's applications be in the best interest of conservation, prevent waste, and protect correlative rights?
	Yes.
35.	Were COG Exhibit Nos. A-1 through A-4 prepared by you or compiled under your direction or supervision?
	Yes.
36.	Does this conclude your direct testimony?
	Yes.

<u>District I</u>
1625 N French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
<u>District II</u>
811 S. First St., Artesia, NM 88210

Phone: (575) 748-1283 Fax: (575) 748-9720 <u>District III</u> 1000 Rto Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170

<u>District IV</u> 1220 S St Francis Dr., Santa Fe, NM 87505 Phone (505) 476-3460 Fax: (505) 476-3462 State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

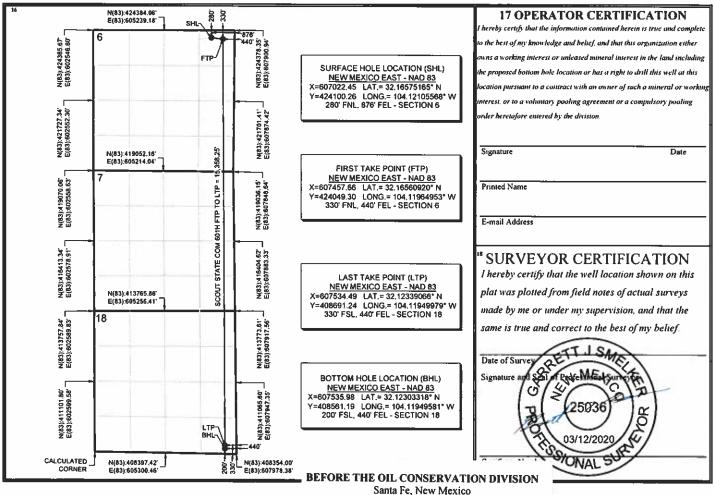
Form C-102
Revised August 1, 2011
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■ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1	1 API Number			2 Pool Cod	•		3 Pool Na	nme	
4 Property	erty Code			5 Property Name SCOUT STATE COM					6 Well Number 601H
7 OGRID	No.	8 Operator Name COG OPERATING LLC					9 Elevation 3050'		
					"Surface	Location			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West lin	e County
Α	6	25 - S	28-E		280'	NORTH	876'	EAST	EDDY
			" Bo	ttom Ho	le Location I	f Different Fro	m Surface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West lin	e County
P	18	25-S	28-E		200'	SOUTH	440'	EAST	EDDY
12 Dedicated Acre	s 13 Joint o	or Infill 14	Consolidation	Code 15 O	rder No.				

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. A-1
Submitted by:

COG OPERATING LLC
Hearing Date: June 26, 2020

District 1
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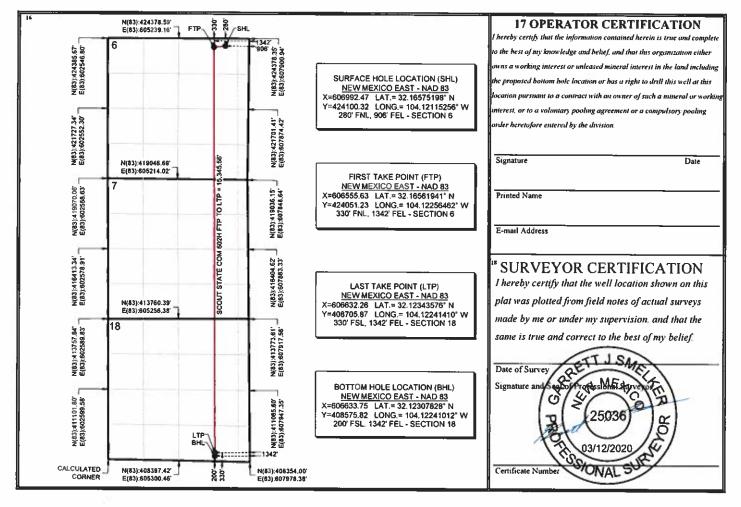
State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

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WELL LOCATION AND	ACREAGE	DEDICATION PL	AT
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1.	API Number	r'		2 Pool Cod	e	3 Pool Name				
4 Property	Code				5 Property SCOUT STA	.	6 Well Number 602H			
1 0000000000000000000000000000000000000					9 Elevation 3050'					
		_			" Surface	Location				
UL or let no.	Section	Township	Range	Lot ldn	Feet from the	North/South line	Feet from the	East/West	line County	
Α	6	25-S	28-E		280'	NORTH	906'	EAST	EDDY	
			"Bo	ttom Ho	le Location I	f Different Fro	m Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West	line County	
0	18	25-S	28-E		200'	SOUTH	1342'	EAST	EDDY	
2 Dedicated Acre	s 13 Joint o	r Infill 14	Consolidation	Code 15 O	rder No.	·				



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WELL LOCATION AND ACREAGE DEDICATION PLAT	ON PLAT	DEDICATION	ACREAGE	AND	CATION	LOC	LL	W)
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1.	API Number	r		2 Pool Cod	2 Pool Code 3 Pool Name					
4 Property	Code				5 Property SCOUT STA		 		6 Well Number 603H	
					9 Elevation 3056'					
					[™] Surface	Location				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
С	6	25-S	28-E		310'	NORTH	2635'	WEST	EDDY	
		_	" Bo	ttom Ho	le Location I	f Different Fro	m Surface			
UL or lot no.	Section	Township	Range	Lot ldn	Feet from the	North/South line	Feet from the	East/West line	County	
0	18	25-S	28-E		200'	SOUTH	2244'	EAST	EDDY	
2 Dedicated Acre	s 13 Joint o	r Infill 14	Consolidation	Code 15 O	rder No.			8.		

16	N(83):424384.06' E(83):605239.18' T	330.		17 OPERATOR CERTIFICATION
263		2244	¬	I hereby certify that the information contained herein is true and complete
N(83_424385.67 E(83):602546.80	6 SHL 2	()	SURFACE HOLE LOCATION (SHL) NEW MEXICO EAST - NAD 83	to the best of my knowledge and beltef, and that this organization either
1243 90254	SHL- E	\FTP	933	owns a working interest or unleased mineral interest in the land including
(83):(1. 1. 1. 1		SURFACE HOLE LOCATION (SHL) NEW MEXICO EAST - NAD 83	the proposed bottom hole location or has a right to drill this well at this
Zw		1	X=605182.42 LAT.= 32,16568944" N	location pursuant to a contract with an owner of such a mineral or working
<u>'</u> ⊂	-	-	Y=424074.05 LONG.= 104.12700233° W 310' FNL, 2635' FWL - SECTION 6	interest, or to a voluntary pooling agreement or a compulsory pooling
823			22	order heretofore entered by the division.
N(83):421727.34° E(83):802552.30			310 FNL, 2035 FWL - SECTION 6	
E(83)	N(83):419052.16"	ي	(83)4	Signature Date
	E(83):605214.04	.332.86	FIRST TAKE POINT (FTP)	Date:
88	7	100	NEW MEXICO EAST - NAD 92	
9076. 2558.		LTE SEE	X=605653.61 LAT.= 32.16562955° N X=424053.17 LONG.= 104.12547971° W	Printed Name
N(83,419076,06 E(83):602558.63			X=605653.61 LAT.= 32.16562955* N Y=424053.17 LONG.= 104.12547971* W 330* FNL, 2244* FEL - SECTION 6	
E.88		E S		E-mail Address
	-		٦	
N(83)416411.34" E(83):602578.91"		STATE COM 603H FTP TO LTP		"SURVEYOR CERTIFICATION
1641		TATE	LAST TAKE POINT (LTP) NEW MEXICO EAST - NAD 83 X=605730 04 LAT = 32 12348080° N	I hereby certify that the well location shown on this
(83):6	N(63):413765.86'	5 5	LAST TAKE POINT (LTP) NEW MEXICO EAST - NAD 83	r I
Ž w	E(83):605256.41	SCOUT	X=605730.04 LAT.= 32.12348080* N Y=408720.49 LONG.= 104.12532842* W	plat was plotted from field notes of actual surveys
· · · ·	18		330' FSL, 2244' FEL - SECTION 18	made by me or under my supervision, and that the
N(83),413757,84°	9 1 3	l g	E(63):607917.56	same is true and correct to the best of my belief.
1413		1 3	6078	77.10
N(83	10 14 1		E(83)	Date of Survey
1			BOTTOM HOLE LOCATION (BHL)	Signature and Seakor Turks should for exor
≥ 38	16.754		NEW MEXICO EAST - NAD 83 X=605731.53 LAT.= 32.12312332* N	Date of Survey Signature and Season run salvial in vero
1101			Y=408590.45 LONG.= 104.12532443* W	I Incorpor
N(83).41 1191.80*		CLTP	X=605731.53 LAT.= 32.12312332*N Y=408590.45 LONG = 104 12532443* W 200 FSL 2244* FEL - SECTION 18	25036
200				03/13/2020
CALCON		=======================================		100000000000000000000000000000000000000
CALCULATED CORNER			:408354.00° :607978.38°	Certificate Number ONAL STATE

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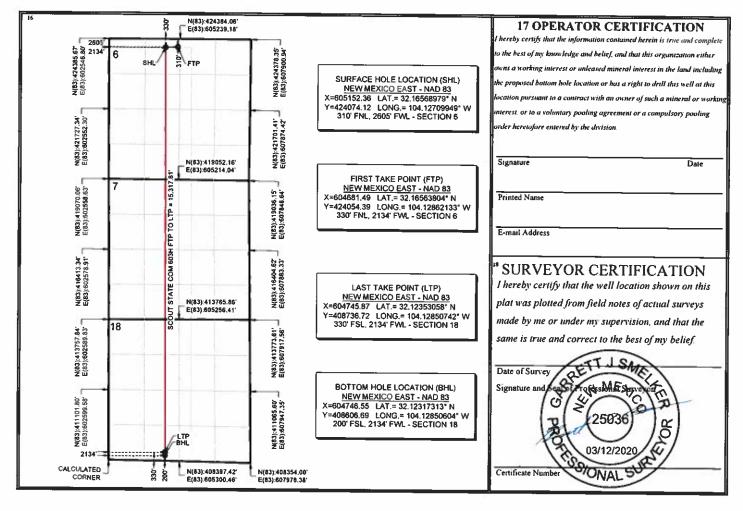
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1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

	WELL	<u>LOCATION AND</u>	ACREAGE DEDICATION PI	LAT
1 API Number		2 Pool Code	3 Pool N	lame
4 Property Code			roperty Name STATE COM	6 Well Number 604H
7 OGRID No.			perator Name ERATING LLC	9 Elevation

3056 Surface Location UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County C 25-S 6 28-E 310 NORTH 26051 WEST **EDDY** " Bottom Hole Location If Different From Surface UL or lot no. Section Township Range Feet from the North/South line Feet from the East/West line County N 18 25-S 28-E 200' SOUTH 2134' WEST **EDDY** 12 Dedicated Acres 13 Joint or Infill 14 Consolidation Code 15 Order No.



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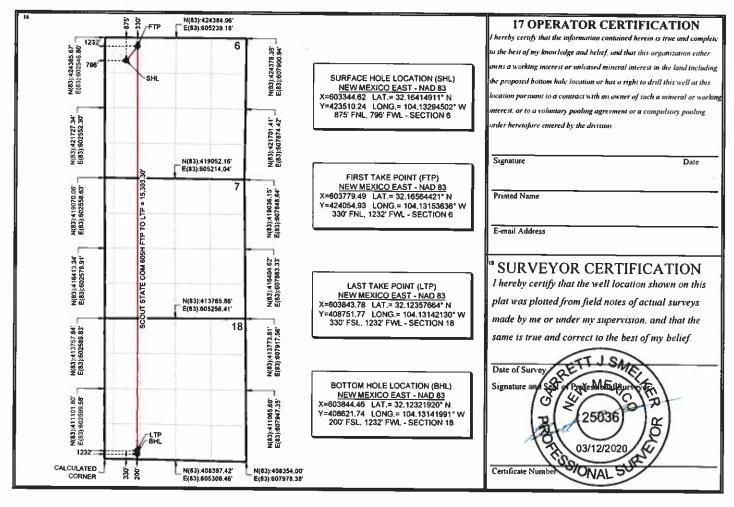
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WELL LOCATION AND ACREAGE DEDICATION PLAT

1	r		2 Pool Cod	e	3 Pool Name					
4 Property	Code		<u> </u>		5 Property Name 6 Well Number SCOUT STATE COM 605H					
7 OGRID No.				8 Operator Name COG OPERATING LLC					9 Elevation 3064'	
				 :	" Surface	Location				
UL or lot no.	Section	Township	hip Range Lot Idn		Range Lot Idn Feet from the North/South lin	North/South line	Feet from the	East/West line	County	
D	6	25-S	28-E		875'	NORTH	796'	WEST	EDDY	
·			" Bo	ttom Ho	le Location	f Different Fro	m Surface			
UL or lot no.	Section	Township	Range	Let Idn	Feet from the	North/South line	Feet from the	East/West line	County	
M	18	25-S	28-E		200'	SOUTH	1232'	WEST	EDDY	
2 Dedicated Acre	s 13 Joint o	or Infill 14 (onsolidation	Code 15 O	rder No.					



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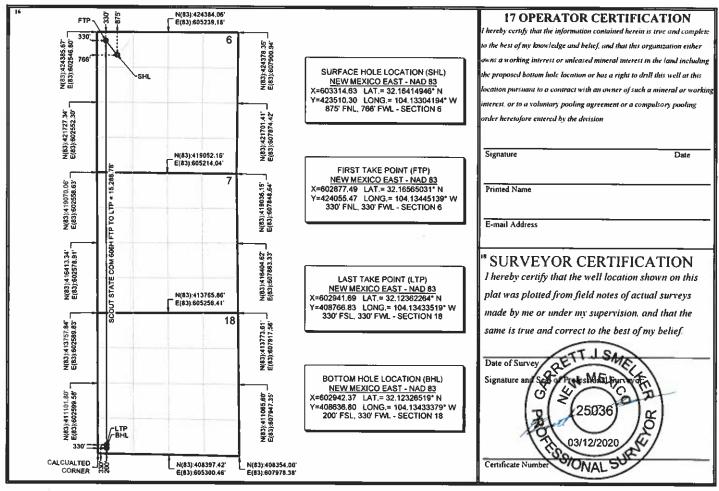
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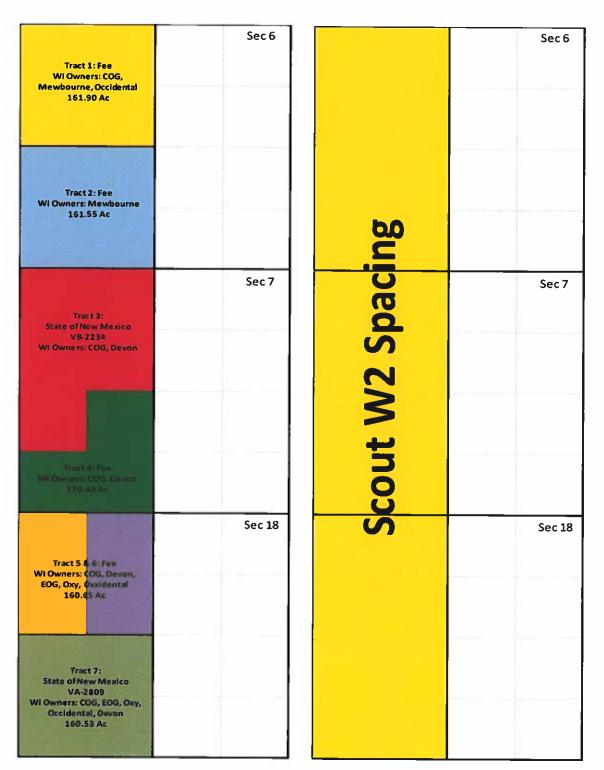
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■ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1.4	API Numbei	-		2 Pool Cod	e	3 Pool Name				
4 Property (Code				5 Property SCOUT STA			6 Well Number 606H		
7 OGRID I	No.	8 Operator Name COG OPERATING LLC							9 Elevation 3064'	
					[™] Surface	Location	·-	-		
UL or lot no.	Section	Township Range		Township Range Lot Idn Fo	Feet from the	North/South line	Feet from the	East/West line	County	
D	6	25-S	28-E		875'	NORTH	766'	WEST	EDDY	
			" Bo	ttom Ho	le Location I	f Different Fro	m Surface			
UL or lot no.	Section	Townsh	ip Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
М	18	25-S	28-E		200'	SOUTH	330'	WEST	EDDY	
Dedicated Acres	s 13 Joint o	er Infill	14 Consolidation	Code 15 O	rder No.		<u>- </u>			





Scout State Com 701H, 702H, 703H - Compulsory Pooling Info

Section 6: Lots 3-7, SENW, E2SW, Section 7: Lots 1-4, E2W2, Section 18: Lots 1-4, E2W2, T25S-R28E - Wolfcamp

Hearing Date: June 26, 2020

Proposal Ser	YEŞ
COM Sent	YES
DPU Sent	YES
JOA Sent	YES

ORRI Parties to Pool:

N/A

Working Interest Parties:

COG Operating LLC
Concho Oil & Gas LLC

Occidental Permian LP

Oxy Y-1 Company

Devon Energy Prod. Co. LP

EOG Resources, Inc.

Mewbourne Oil Company

RI Owner Requiring Pooling:

Devon Energy Prod. Co. LP

Pooling

Leashold Ownership								
COG/Concho		Occidental/Oxy	Devon	Devon EOG				
Tract 1	47.3425%	12.6575%	0.0000%	0.0000%	40.0000%			
Tract 2	0.0000%	0.0000%	0.0000%	0.0000%	100.0000%			
Tract 3	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%			
Tract 4	0.0000%	0.0000%	100.0000%	0.0000%	0.0000%			
Tract 5	9.3700%	50.6300%	40.0000%	0.0000%	0.0000%			
Tract 6	0.0000%	0.0000%	100.0000%	0.0000%	0.0000%			
Tract 7	100%	0.0000%	0.0000%	0.0000%	0.0000%			

Notes: Due to contractual interests on previous JOAs covering this acreage, Leasheold ownership does not correspond identically with Unit ownership.

Unit Recapitulation					
Owner	Working Interest				
COG Operating LLC	40.617632%				
Concho Oil & Gas LLC	0.283515%				
EOG Resources, Inc	5.450465%				
Oxy Y-1 Company	0.864652%				
Occidental Permian LP	9.949324%				
Devon Energy Production Co. LP	19.424566%				
Mewbourne Oil Company	23.409846%				
Total	100.000000%				

Sec 6	Tract 1: Fee Wi Owners: COG, Mewbourne, Occidental 160.48 Ac
	Tract 2: Fee WI Owners: Mewbourne 160. 00 Ac
Sec 7	
	Tract 3: State of New Mexico VA-2739 WI Owners: COG 320.00 Ac
Sec 18	Tract A State of New Mexico VA 2809 Wi Owners: COG, E0G, Oxy, Occidental, Devon 160.00 Ac
	Tract S. Fee COG, EOG, Oxy, Occidental 160.00 Ac

17	
Sec 6	
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	City City
Sec 7	Spacing
Sec /	•
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	Ö
Sec 18	Scout
	3

Scout State Com 701H, 702H, 703H - Compulsory Pooling Info

Section 6: Lots 1-2, S2NE, SE, Section 7: E2, Section 18: E2, T25S-R28E - Wolfcamp

Proposal Sent	YES
COM Sent	YES
DPU Sent	YES
JOA Sent	YES

ORRI Parties to Pool:

N/A

Working Interest Parties:

COG Operating LLC
Concho Oil & Gas LLC

Occidental Permian LP

Oxy Y-1 Company

Devon Energy Prod. Co. LP

EOG Resources, Inc.

Mewbourne Oil Company

RI Owner Requiring Pooling:

Devon Energy Prod. Co. LP

Pooling

Leashold Ownership									
COG/Concho Occidental/Oxy Devon EOG Mewbo									
Tract 1	47.3425%	12.6575%	0.0000%	0.0000%	40.0000%				
Tract 2	0.0000%	0.0000%	0.0000%	0.0000%	100.0000%				
Tract 3	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%				
Tract 4	100.0000%	0.0000%	0.0000%	0.0000%	0.0000%				
Tract 5	9.3700%	50.6300%	40.0000%	0.0000%	0.0000%				

Notes: Due to contractual interests on previous JOAs covering this acreage, Leasheold ownership does not correspond identically with Unit ownership.

Unit Recapitulation					
Owner	Working Interest				
COG Operating LLC	54.870603%				
Concho Oil & Gas LLC	0.327124%				
EOG Resources, Inc	6.426160%				
Oxy Y-1 Company	1.019435%				
Occidental Permian LP	11.148702%				
Devon Energy Production Co. LP	2.866314%				
Mewbourne Oil Company	23.341662%				
Total	100.000000%				



January 23, 2020

Via CMRRR No. 91 7199 9991 7039 7968 9442

Mewbourne Oil Company, CWM 2000-B, Ltd., Mewbourne Energy
Partners 13-A, 3MG Corporation, Mewbourne Development and
CWM 2000-B II, Ltd.

500 W. Texas Avenue, Suite 1020 Midland, TX 79701

Attn: Land Department

Re: Scout State Com 601H - 603H

E/2 Scout State Com Unit Lots 1, 2, S/2 NE/4, SE/4 of Section 6, E/2 of Section 7, and E/2 of Section 18, T25S-R28E Eddy County, New Mexico

Dear Sir or Madam:

COG Operating, LLC ("COG"), as Operator, hereby proposes the drilling of the following horizontal wells with productive laterals located in E/2 of Sections 6, 7, and 18, Township 25 South, Range 28 East, Eddy County, New Mexico (collectively, the "Operation"). The surface pad locations will be located in Units A, B and C of Section 6, T25S-R28E (subject to change).

- Scout State Com 601H, to be drilled to a depth sufficient to test the Wolfcamp A Sand formation at an approximate total vertical depth of 9,350'. The surface location for this well is proposed at a legal location in Lot 1 (Unit A) of Section 6, and a bottom hole location at a legal location in Unit P of Section 18. The dedicated horizontal spacing unit will be Lots 1, 2, S/2 NE/4, SE/4 (E/2), and E/2 of Sections 7 and 18, T25S-R28E, Eddy County, New Mexico. The total estimated cost to drill and complete said well is \$13, 545,000.00, as shown on the attached Authority for Expenditure ("AFE").
- Scout State Com 602H, to be drilled to a depth sufficient to test the Wolfcamp A Sand formation at an approximate total vertical depth of 9,350'. The surface location for this well is proposed at a legal location in Lot 1 (Unit A) of Section 6, and a bottom hole location at a legal location in Unit O of Section 18. The dedicated horizontal spacing unit will be Lots 1, 2, S/2 NE/4, SE/4 (E/2), and E/2 of Sections 7 and 18, T25S-R28E, Eddy County, New Mexico. The total estimated cost to drill and complete said well is \$13, 545,000.00, as shown on the attached AFE.
- Scout State Com 603H, to be drilled to a depth sufficient to test the Wolfcamp A Sand formation at an approximate total vertical depth of 9,350°. The surface location for this well is proposed at a legal location in Lot 2 (Unit B) of Section 6, and a bottom hole location at a legal location in Unit O of Section 18. The dedicated horizontal spacing unit will be Lots 1, 2, S/2 NE/4, SE/4 (E/2), and E/2 of Sections 7 and 18, T25S-R28E, Eddy County, New Mexico. The total estimated cost to drill and complete said well is \$13, 545,000.00, as shown on the attached AFE.

January 23, 2020 – Page 2 Scout State Com 601H – 603H (E/2 Unit)

COG is proposing to drill these wells under the terms of a new Operating Agreement which will be sent under separate cover.

Please indicate your participation elections in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFEs and a copy of your geologic requirements, to my attention at the letterhead address or by email to tmacha@concho.com. Should you have any questions, please do not hesitate to contact me at 432.221.0452.

Sincerely,

COG Operating LLC

Travis Macha Landman II

TM:bh Enc



January 23, 2020

Via CMRRR No. 91 7199 9991 7039 7968 9442

Mewbourne Oil Company, CWM 2000-B, Ltd., Mewbourne Energy
Partners 13-A, 3MG Corporation, Mewbourne Development and
CWM 2000-B II, Ltd.

500 W. Texas Avenue, Suite 1020 Midland, TX 79701

Attn: Land Department

Re: Scout State Com 604H - 606H

W/2 Scout State Com Unit

Lots 3-7, SE/4 NW/4, E/2 SW/4 of Section 6, Lots 1-4 and E/2 W/2 of Section 7,

And Lots 1-4 and E/2 W/2 of Section 18, T25S-R28E

Eddy County, New Mexico

Dear Sir or Madam:

COG Operating, LLC ("COG"), as Operator, hereby proposes the drilling of the following horizontal wells with productive laterals located in W/2 of Sections 6, 7, and 18, Township 25 South, Range 28 East, Eddy County, New Mexico (collectively, the "Operation"). The surface pad locations will be located in Units B, C, and D of Section 6, T25S-R28E (subject to change).

- Scout State Com 604H, to be drilled to a depth sufficient to test the Wolfcamp A Sand formation at an approximate total vertical depth of 9,350'. The surface location for this well is proposed at a legal location in Lot 3 (Unit C) of Section 6, and a bottom hole location at a legal location in Unit N of Section 18. The dedicated horizontal spacing unit will be Lots 3-7, SE/4 NW/4, and E/2 SW/4 of Section 6, Lots 1-4 and E/2 W/2 of Section 7, and Lots 1-4 and E/2 W/2 of Section 18, T25S-R28E, Eddy County, New Mexico. The total estimated cost to drill and complete said well is \$13,545,000.00, as shown on the attached Authority for Expenditure ("AFE").
- Scout State Com 605H, to be drilled to a depth sufficient to test the Wolfcamp A Sand formation at an approximate total vertical depth of 9,350°. The surface location for this well is proposed at a legal location in Lot 4 (Unit D) of Section 6, and a bottom hole location at a legal location in Lot 4 (Unit M) of Section 18. The dedicated horizontal spacing unit will be Lots 3-7, SE/4 NW/4, and E/2 SW/4 of Section 6, Lots 1-4 and E/2 W/2 of Section 7, and Lots 1-4 and E/2 W/2 of Section 18, T25S-R28E, Eddy County, New Mexico. The total estimated cost to drill and complete said well is \$13,545,000.00, as shown on the attached AFE.
- Scout State Com 606H, to be drilled to a depth sufficient to test the Wolfcamp A Sand formation at an approximate total vertical depth of 9,350'. The surface location for this well is proposed at a legal location in Lot 4 (Unit D) of Section 6, and a bottom hole location at a legal location in Lot 4 (Unit M) of Section 18. The dedicated horizontal spacing unit will be Lots 3-7, SE/4 NW/4, and E/2 SW/4 of Section 6, Lots 1-4 and E/2 W/2 of Section 7, and Lots 1-4 and E/2 W/2 of Section 18, T25S-R28E, Eddy County, New Mexico. The total estimated cost to drill and complete said well is \$13,545,000.00, as shown on the attached AFE.

January 23, 2020 – Page 2 Scout State Com 604H – 606H (W/2 Unit)

COG is proposing to drill these wells under the terms of a new Operating Agreement which will be sent under separate cover.

Please indicate your participation elections in the space provided below, sign and return this letter, along with a signed copy of the enclosed AFEs and a copy of your geologic requirements, to my attention at the letterhead address or by email to tmacha@concho.com. Should you have any questions, please do not hesitate to contact me at 432.221.0452.

Sincerely,

COG Operating LLC

Travis Macha Landman II

TM:bh Enc January 23, 2020 – Page 2 Scout State Com 604H – 606H (W/2 Unit)

Please Indicate your election below:

WELL NAME	PARTICIPATE Elect to participate in drilling & completion of well	DO NOT PARTICIPATE Elect NOT to participate in drilling & completion of well
Scout State Com 604H		
Scout State Com 605H		
Scout State Com 606H		
MEWBOURNE OIL COMPANY	CWM 2000-E	3, LTD.

MEWBOURNE OIL COMPANY	CWM 2000-B, LTD.	
Ву:	Ву:	
Name:	Name:	
Title:	Title:	
Date:	Date:	
MEWBOURNE ENERGY PARTNERS 13-A	3 MG CORPORATION	
Ву:	Ву:	·
Name:		
Title:		
Date:		
MEWBOURNE DEVELOPMENT	CWM 2000-B II, LTD.	
Ву:	Ву:	
Name:	Name:	
Title:		
Date:	Data	

Well Name SCOUT STATE COM 601H
SHL 6: 220 FNL, 778 FEL OR UNIT A
BHL 18: 339 FSL, 440 FEL OR UNIT P
Formation WOLFCAMP A
Legal
AFE Numbers

Prospect ATLAS 2528 State & County NEW MEXICO, EDDY Objective DRILL & COMPLETE Depth 25,000 TVD 9,350

Ву

Company: By:

Printed Name: Title: Date:

We approve: % Working Interest

ost Description tang ble Costs	Code	PreSpud (PS)	Pre-Set Casing(PC)	Drilling (DR)	Completions (C)	Tank Btty Constrctn(TB)	Pmpq Equip (PEQ)	Revision	
Lctn/Pits/Roads	205			\$ 136,000.00				\$ -	£ 426.00
Drilling Overhead	206			\$ 13,000.00					\$ 136,00 \$ 13.00
Daywork Contract	209			\$ 953,000.00					\$ 13,00 \$ 953,00
Directional Drig Services	210			\$ 456,000.00					
Fuel & Power	211			\$ 203,000.00		-			
Water	212			\$ 108,000.00					\$ 203,00
Bits	213			\$ 151,000.00					\$ 108,00
Mud & Chemicals	214			\$ 361,000.00					\$ 151,00
									\$ 361,00
Cement Surface	217			\$ 28,000.00					\$ 28,00
Cement Intermed	218			\$ 107,000.00					\$ 107,00
Prod-2nd Int Cmt	219			\$ 158,000.00					\$ 158,00
Float Equipment & Centralizers	221			\$ 86,000.00					\$ 86,00
Csg Crews & Equip	222			\$ 93,000.00				S -	\$ 93,00
Contract Labor	225			\$ 10,000.00				\$ -	\$ 10,00
Company Sprvsn	226		13	\$ 73,000.00		_		\$	\$ 73,00
Contract Sprvsn	227			\$ 171,000.00				\$ -	\$ 171,00
Tstg Csg/Tbg	228		1	\$ 58,000.00					\$ 58,00
Mud Logging Unit	229			\$ 65,000.00					\$ 65,00
Rentals-Surface	235			\$ 281,000.00					\$ 281,00
Rentals-Subsrfc	236			\$ 131,000.00					
Trucking/Forklift/Rig Mob	237								\$ 131,00
				\$ 201,000.00					\$ 201,00
Welding Services	238			5,000.00					\$ 5,00
Contingency	243			\$ 88,000.00					\$ 88,00
Envrnmtl/Clad Loop	244			\$ 441,000.00					\$ 441,00
Wellbore Frac Prep	304				\$ 127,000.00			S -	\$ 127,00
Lctr/Pits/Roads	305				\$ 16,000.00			\$ -	\$ 16,00
Completion OH	306				\$ 23,000.00				\$ 23,00
Frac Equipment	307				\$ 1,464,000.00				\$ 1,464,00
Frac Chemicals	308				\$ 627,000.00	4			\$ 627,00
Frac Proppant	309		—		\$ 285,000.00				\$ 285,00
Frac Proppant Transportation	310				\$ 442,000.00				\$ 442,00
Fuel Delivery & Services	311		+		\$ 64,000.00				
Water			+						\$ 64,00
	312				\$ 866,000.00				\$ 866,00
Frac Surface Rentals	315				\$ 480,000.00				\$ 480,00
Contract Labor	325				\$ 16,000.00			\$	\$ 16,00
Company Sprvsn	326				\$ 16,000.00			\$ -	\$ 16,00
Contract Sprvsn	327				\$ 227,000.00			s -	\$ 227,00
Artificial Lift Install	329				\$ 68,000.00	(A) (A)		\$.	\$ 68,00
Perf/Wireline Svc	331			77	\$ 570,000.00				\$ 570,00
Trucking/Forklift/Rig Mob	337				\$ 16,000.00				\$ 16,00
Water Disposal	339				\$ 61,000.00				
Contingency	343				\$ 226,000.00				\$ 61,00
	345		-						\$ 226,00
Dyed Diesel					\$ 495,000.00				\$ 495,00
Drillout	346				\$ 510,000.00				\$ 510,00
-Damoges/Right of Way	351			0.15	- 10	\$ 2,000.00		\$ -	\$ 2,00
-Location/Pits/Roads	353					\$ 43,000.00	J	\$ -	\$ 43,00
-Contract Labor	356			VA		\$ 184,000.00		5 -	\$ 184,00
Q-Contract Labor	374			1/2	- 77		\$ 43,000.00	S -	\$ 43,00
Q-Water Disposal	387						\$ 203,000.00		\$ 203,00
Q-HRZ Well Offset Frac	391					Control of the second	\$ 21,000.00		\$ 21,00
tal Intangible Costs	-	\$ 3953 5-16	100.00000000000000000000000000000000000	\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00			
car private Costs		120,000 000		+ 4,377,000.00	\$ 6,588,000.00	\$ 229,000.00	\$ 267,000.00		\$ 11,472,00
ngible Costs	3/20/54/44	ANY DESCRIPTION SHAPE		politica de la Section	HERBOY BASINESS				11724-1-115
Q-Flowback Crews & Equip	392						\$ 122,000.00	\$ -	\$ 122,00
Surface Casing	401			\$ 35,000.00					\$ 35,00
ntermed Csg	402			\$ 323,000.00		-			\$ 323,00
Production Casing/Liner	403			\$ 446,000.00					\$ 446,00
Wellhead Equip	405			\$ 108,000.00					\$ 108,00
Tubing	504			,	\$ 79,000.00				\$ 79,00
Velhead Equip	505		 		\$ 43,000.00				
			H		9 43,000.00	E 00.000.00			\$ 43,00
Tanks	510					\$ 80,000.00			\$ 80,00
Flowlines/Pipelines	511					\$ 30,000.00			\$ 30,00
Htr Trtr/Seprtr	512	_	L			\$ 185,000.00			\$ 185,00
Electrical System/Equipment	513					\$ 119,000.00			\$ 119,00
ckrs/Anchors/Hgrs	514				\$ 98,000.00				\$ 98,00
Couplings/Fittings/Valves	515					\$ 204,000.00			\$ 204,00
Pumps-Surface	521					\$ 25,000.00			\$ 25,00
Instrumentation/SCADA/POC	522					\$ 20,000.00			\$ 20,00
Miscellaneous	523					\$ 20,000.00			\$ 20,00
Meters/Lacts	525		-			\$ 25,000.00			
Flares/Combusters/Emission	526	-							
			 		£ 00 000 CC	\$ 30,000.00			\$ 30,00
Gas Lift/Compression	527				\$ 38,000.00				\$ 38,00
Q-Wellhead Equipment	531				1.000				\$ 43,00
tal Tangible Costs	ESSOCIAL.	\$	300 mm 2 m	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 165,000.00	\$ 500 000 000 000 000	\$ 2,073,00
tal Gross Cost					A 0.000.000.00				
	ALC: NO PERSON NO.	S AUGUSTA TO	207302161025/07 15/6	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	SUASSINATION TO	\$ 13,545,00
te: The above costs are estimat									

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

Date Prepared: 1.23.20 COG Operating LLC

By:

Well Name SCOUT STATE COM 602H
SHL 6: 220 FNL, 808 FEL OR UNIT A
BHL 18: 330 FSL, 1342 FEL OR UNIT O
Formation WOLFCAMP A
Legal
AFE Numbers

Ву:

Company: By:

Printed Name: Title:

We approve:
____% Working Interest

Prospect ATLAS 2528 State & County NEW MEXICO, EDDY Objective DRILL & COMPLETE Depth 25,000 TVO 9,350

est Description angible Costs	Code	. 100,000 (10)	Pre-Set Casing(PC)	- CALCON	, completions (o)	Tank Bitty Constrctn(TB)	Pmpq Equip (PEQ)	Revision	
Lctr/Pits/Roads	205			\$ 136,000.00				\$	\$ 136,0
Drilling Overhead	206			\$ 13,000.00	ļ <u>.</u>			-	\$ 13,0
Daywork Contract	209		_	\$ 953,000.00				\$ ·	\$ 953,0
Directional Drlg Services	210			\$ 456,000.00	_			\$.	\$ 456,0
uel & Power	211			\$ 203,000.00				\$	\$ 203,0
Vater	212			\$ 108,000.00				S -	\$ 108,0
Bits	213			\$ 151,000.00				\$ -	\$ 151,0
lud & Chemicals	214			\$ 361,000.00				-	\$ 361,0
ement Surface	217		1	\$ 28,000.00				s -	\$ 28,0
ement intermed	218			\$ 107,000.00				-	\$ 107,0
rod-2nd Int Cmt	219		1	\$ 158,000.00				-	\$ 158,0
loat Equipment & Centralizers	221			\$ 86,000.00	[\$ -	\$ 86,0
sg Crews & Equip	222			\$ 93,000.00				\$ -	\$ 93,0
ontract Labor	225			\$ 10,000.00				\$ -	\$ 10.0
company Sprvsn	226		Î .	\$ 73,000.00				S -	\$ 73,0
ontract Sprvsn	227			\$ 171,000.00	i			\$ -	\$ 171,0
stg Csg/Tbg	228			\$ 58,000.00				\$ -	\$ 58,0
lud Logging Unit	229			\$ 65,000.00		-		\$	\$ 65,0
entals-Surface	235		-	\$ 281,000.00			-		
									\$ 281,0
entals-Subsrfc	236		 	\$ 131,000.00				\$ -	\$ 131,0
rucking/Forklift/Rig Mob	237			\$ 201.000.00				\$.	\$ 201,0
Velding Services	238			\$ 5,000.00				\$ -	\$ 5,0
ontingency	243			\$ 88,000.00				5 .	\$ 88,0
nvmmtl/Clsd Loop	244		ļ	\$ 441,000.00				\$.	\$ 441,0
/ellbore Frac Prep	304	_			\$ 127,000.00			-	\$ 127,0
ctn/Pits/Roads	305			1	\$ 16,000.00			5 -	\$ 16,0
ompletion OH	306				\$ 23,000.00			\$	\$ 23,0
rac Equipment	307				\$ 1,464,000.00			\$ -	\$ 1,464,0
rac Chemicals	308				\$ 627,000.00			\$.	\$ 627,0
rac Proppent	309				\$ 285,000.00			\$	\$ 285,0
rac Proppant Transportation	310				\$ 442,000.00		_	\$ -	\$ 442,0
uel Delivery & Services	311				\$ 64.000.00			\$ -	\$ 64,0
/ater	312				\$ 866,000.00			\$	
rac Surface Rentals	315								
		-						\$ -	\$ 480,0
ontract Labor	325				\$ 16,000.00			\$.	\$ 16,0
ompany Sprvsn	326				\$ 16,000.00			\$	\$ 16,0
ontract Sprvsn	327				\$ 227,000.00			S -	\$ 227,0
rtificial Lift Install	329				\$ 68,000.00			\$.	\$ 68,0
erf/Wireline Svc	331				\$ 570,000.00			\$ -	\$ 570,0
rucking/Forklift/Rig Mob	337				\$ 16,000,00			S -	\$ 16,0
Vater Disposal	339	_			\$ 61,000.00		<u>"</u>	5 -	\$ 61,0
onlingency	343				\$ 226,000.00			\$	\$ 226,0
yed Diesel	345		1		\$ 495,000.00			\$ -	\$ 495,0
rillout	346				\$ 510,000.00			\$.	\$ 510,0
Damages/Right of Way	351				4 4 4 7 1 1 1 1 1	\$ 2,000.00		\$ -	\$ 2,0
Location/Pits/Roads	353	_				\$ 43,000.00		\$.	\$ 43,0
Contract Labor	356		-			\$ 184,000.00		\$.	\$ 184,0
-Contract Labor	374					104.000.00	\$ 43,000.00	\$ -	
-Water Disposal	387								
HRZ Well Offset Frac	391								\$ 203,0
	391						\$ 21,000.00		\$ 21,0
i Intangible Costs	Control of	\$ NV (COLUMN - 35)	Silvaniense ni	\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00	THE PROPERTY AND THE PARTY	\$ 11,472,0
gible Costs		- Se	ATTER OF A PART OF						
-Flowback Crews & Equip	392					The second of the second of	\$ 122,000.00	s -	\$ 122,0
urface Casing	401		<u> </u>	\$ 35,000.00			4 122,000.00		
lermed Csg	402		-	\$ 323,000.00				-	\$ 35,0
roduction Casing/Liner	402				-	-			\$ 323,0
								s -	\$ 446,0
ellhead Equip	405			\$ 108,000.00				\$ -	\$ 108,0
ibing	504				\$ 79,000,00			\$ -	\$ 79,0
ellhead Equip	505				\$ 43,000.00			S -	\$ 43,0
l'anks	510					\$ 80,000.00		\$ -	\$ 80,0
Flowlines/Pipelines	511					\$30,000.00		\$ -	\$ 30,0
Htr Trtr/Seprtr	512					\$ 185,000.00		\$ -	\$ 185,0
Electrical System/Equipment	513					\$ 119,000.00		\$ -	\$ 119,0
ckrs/Anchors/Hgrs	514				\$ 98,000.00			\$ -	\$ 98,0
Couplings/Fittings/Valves	515					\$ 204.000.00		\$.	\$ 204,0
rumps-Surface	521					\$ 25,000.00		\$ -	\$ 25,0
nstrumentation/SCADA/POC	522					\$ 20,000.00		\$ -	\$ 20,0
discellaneous	523			-		\$ 20,000.00			
Heters/Lacts	525				-				\$ 20,0
How at Faria					-	\$ 25,000.00		\$ -	\$ 25,0
JaroelCambumton-Emissis-	526			_	ė go coo co	\$ 30,000.00		\$ -	\$ 30,0
	527				\$ 38,000.00			\$	\$ 38,0
Flares/Combusters/Emission as Lift/Compression							\$ 43,000.00		\$ 43,0
as Lift/Compression I-Wellhead Equipment	531					\$ 738,000.00	\$ 165,000.00	STOREGISTURE OF US	\$ 2,073,0
as Lift/Compression -Wellhead Equipment	531	\$ 20000000 - 660	THE PARTY OF	\$ 912,000.00	\$ 258,000.00	738,000.00	\$ 165,000.00	* A	- 101 010
as Lift/CompressionWellhead Equipment Il Yangible Costs	2000								
as Lift/Compression		\$1018255720		\$ 912,000.00 \$ 5,289,000.00					\$ 13,545,0

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

Date Prepared: 1.23.20
COG Operating LLC

Well Name SCOUT STATE COM 603H
SHL 6: 240 FNL, 2662 FEL OR UNIT 8
BHL 18: 330 FSL, 2244 FEL OR UNIT 0
Formation WOLFCAMP A
Legal
AFE Numbers

Prospect ATLAS 2528 State & County NEW MEXICO, EDDY Objective DRILL & COMPLETE Depth 25,000 TVD 9,350

Cost Description	Code	PreSpud (PS)	Pre-Set Casing(PC)	Drilling (DR)	Completions (C)	Tank Bity Constrctn(TB)	Pmpq Equip (PEQ)	Revision	Tota
ntangible Costs								ACCOUNT OF THE PARTY OF THE PARTY.	the second second second
D-Lctn/Pits/Roads	205		\$						\$ 136,000.00
D-Drilling Overhead	206		\$					\$	\$ 13,000.00
D-Daywork Contract	209		\$	953,000.00				S +	\$ 953,000.00
D-Directional Drlg Services	210		\$	456,000.00				S =	\$ 456,000.00
D-Fuel & Power	211		S	203,000.00			·-	\$ -	\$ 203,000.00
D-Water	212		\$	108,000.00					\$ 108,000.00
D-Bits	213		8	151,000.00		· ·			\$ 151,000.0
D-Mud & Chemicals	214		\$					\$ -	\$ 361,000.0
D-Cement Surface	217		5						\$ 28,000.00
D-Cement Intermed	218		- š						\$ 107,000.0
D-Prod-2nd Int Cmt	219		Š		-			\$	
D-Float Equipment & Centralizers	221		5			_			
D-Csg Crews & Equip	222								\$ 86,000.00
D-Contract Labor	225							\$ 2	\$ 93,000.0
			\$			_		\$ -	\$ 10,000.0
D-Company Sprvsn	226		\$					\$	\$ 73,000.0
D-Contract Sprvsn	227		\$						\$ 171,000.00
D-Tstg Csg/Tbg	228		S					\$ A:	\$ 58,000.0
D-Mud Logging Unit	229		\$	65,000.00			<u></u>	\$ -	\$ 65,000.0
D-Rentals-Surface	235		\$	281,000.00				\$ -	\$ 281,000.0
D-Rentals-Subsrfc	236		\$	131,000.00				\$ -	\$ 131,000.0
D-Trucking/Forklift/Rig Mob	237		5			_		\$	\$ 201,000.0
D-Welding Services	238		1 5						\$ 5,000.0
D-Contingency	243		\$						
D-Envmmtl/Clsd Loop	244		- 3						\$ 88,000.0
C-Wellbore Frac Prep	304		- 13		\$ 127,000.00	<u> </u>			\$ 441,000.0
									\$ 127,000.0
C-Lctn/Pits/Roads	305				\$ 16,000.00				\$ 16,000.0
C-Completion OH	306				\$ 23,000.00				\$ 23,000.0
C-Frac Equipment	307				\$ 1,464,000.00			\$	\$ 1,464,000.0
C-Frac Chemicals	308				\$ 627,000.00			\$	\$ 627,000.0
C-Frac Proppant	309				\$ 285,000.00				\$ 285,000.0
C-Frac Proppant Transportation	310				\$ 442,000.00			\$ -	\$ 442,000.0
C-Fuel Delivery & Services	311				\$ 64,000.00				\$ 64,000.0
C-Water	312				\$ 866,000.00				\$ 866,000.0
C-Frac Surface Rentals	315		· -		\$ 480,000.00			-	
C-Contract Labor	325								\$ 480,000.0
					\$ 16,000.00				\$ 16,000.0
C-Company Sprvsn	326				\$ 16,000.00				\$ 16,000.00
C-Contract Sprvsn	327				\$ 227,000.00				\$ 227,000.00
C-Artificial Lift Install	329				\$ 68,000.00			\$	\$ 68,000.00
C-Perf/Wireline Svc	331				\$ 570,000.00			\$	\$ 570,000.00
C-Trucking/Forklift/Rig Mob	337				\$ 16,000.00			\$ =	\$ 16,000.00
C-Water Disposal	339		L		\$ 61,000.00			\$ 20	\$ 61,000.0
C-Contingency	343				\$ 226,000.00	-	· · ·		\$ 226,000.00
C-Dyed Diesel	345				\$ 495,000.00		-		\$ 495,000.00
C-Drillout	346				\$ 510,000.00				\$ 510,000.00
TB-Damages/Right of Way	351		-			\$ 2,000.00	-		\$ 2,000.00
B-Location/Pits/Roads	353					\$ 43,000.00			\$ 43,000.00
TB-Contract Labor	356								
			-			\$ 184,000.00		-	\$ 184,000.00
PEQ-Contract Labor	374						\$ 43,000.00		\$ 43,000.00
PEQ-Water Disposal	387						\$ 203,000.00		\$ 203,000.00
PEQ-HRZ Well Offset Frac	391						\$ 21,000.00	\$ -	\$ 21,000.00
Fotal Intangible Costs	333 Block	\$ 12500 STEEL - 160	\$ 3000000 PMSS 4-140 \$	4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00	\$ 100 harden to de elle • 100	\$ 11,472,000.00
angible Costs	erat to be	Linear Control	ACCRECATE VALUE OF THE PARTY OF	AND DESCRIPTION OF THE PERSON AND		and the second second		A STATE OF THE STA	AATAMA ATAMA
PEQ-Flowback Crews & Equip	392						\$ 122,000.00	\$ -	\$ 122,000.00
D-Surface Casing	401		s	35,000.00			122,000.00		\$ 35,000.00
D-Intermed Csg	402		<u> *</u>						
D-Production Casing/Liner	403		3						
D-Wellhead Equip	405								\$ 446,000.0
					Ø 90.000.00				\$ 108,000.0
C-Tubing	504				\$ 79,000.00				\$ 79,000.0
-Wellhead Equip	505				\$ 43,000.00	_			\$ 43,000.0
8-Tanks	510					\$ 80,000.00			\$ 80,000.0
R-Flowlines/Pipelines	511					\$ 30,000.00		\$ -	\$ 30,000.0
B-Htr Trtr/Seprtr	512					\$ 185,000.00		\$.	\$ 185,000.0
B-Electrical System/Equipment	513					\$ 119,000.00			\$ 119,000.0
:-Pckrs/Anchors/Hgrs	514				\$ 98,000.00	,			\$ 98,000.0
B-Couplings/Fittings/Valves	515		-			\$ 204,000,00		-	\$ 204,000.0
	521					\$ 25,000.00			\$ 25,000.0
						\$ 20,000.00			
B-Pumps-Surface	622								\$ 20,000.0
B-Pumps-Surface B-Instrumentation/SCADA/POC	522					\$ 20,000.00			\$ 20,000.0
B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous	523							\$ -	\$ 25,000.0
B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous B-Meters/Lects	523 525					\$ 25,000.00			
B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous B-Meters/Lacts B-Flares/Combusters/Emission	523 525 526					\$ 25,000.00		\$ -	\$ 30,000.0
B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscetlaneous B-Meters/Lacts B-Flares/Combusters/Emission -Gas Lift/Compression	523 525 526 527				\$ 38,000.00			\$ -	\$ 30,000.0
B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscetlaneous B-Meters/Lacts B-Flares/Combusters/Emission -Gas Lift/Compression	523 525 526				\$ 38,000.00		\$ 43,000.00	\$ -	\$ 30,000.0 \$ 38,000.0
IB-Pumps-Surface IB-Instrumentation/SCADA/POC IB-Miscettaneous IB-Meters/Locts IB-Flares/Combusters/Emission C-Gas Lift/Compression PEC-Wellhead Equipment Total Tangible Costs	523 525 526 527 531	\$ 4000.00				\$ 30,000.00		\$ - \$ -	\$ 30,000.00 \$ 38,000.00 \$ 43,000.00
IB-Pumps-Surface IB-Instrumentation/SCADA/POC IB-Miscetlaneous IB-Meters/Lacts IB-Flares/Combusters/Emission C-Gas Lift/Compression PEQ-Wellhead Equipment	523 525 526 527 531	\$ 250000 - 40	\$ - \$			\$ 30,000.00	\$ 43,000.00 \$ 165,000.00	\$ - \$ -	\$ 30,000.00 \$ 38,000.00 \$ 43,000.00
IB-Pumps-Surface IB-Instrumentation/SCADA/POC IB-Miscellaneous IB-Meters/Lacts IB-Heters/Lacts IB-Flares/Combusters/Emission C-Gas Lift/Compression PEQ-Wellhead Equipment Total Tangible Costs	523 525 526 527 531			912,000.00	\$ 258,000.00	\$ 30,000.00 \$ 738,000.00	\$ 165,000.00	\$ - \$ -	\$ 30,000.00 \$ 38,000.00 \$ 43,000.00 \$ 2,073,000.00
B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscetlaneous B-Meters/Lacts B-Flaresi/Combusters/Emission C-Gas Lift/Compression YEO-Wellhead Equipment	523 525 526 527 531	1000000 - 90	\$ 100 March 1980 \$	912,000.00		\$ 30,000.00 \$ 738,000.00	\$ 165,000.00	\$ - \$ -	\$ 30,000.0 \$ 38,000.0 \$ 43,000.0

COG Operating LLC Date Prepared: 1.23.20 COG Operating LLC We approve: % Working Interest Ву: Company: By: Printed Name: Title: Date: This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

Well Name SCOUT STATE COM 604H
SHL 6: 240 FNL, 2660 FWL OR UNIT C
BHL 18: 330 FSL, 2134 FWL, OR UNIT N
Formation WOLFCAMP A
Legal
AFE Numbers

Ву:

We approve: % Working Interest

Prospect ATLAS 2528 State & County NEW MEXICO, EDDY Objective DRILL & COMPLETE Depth 25,000 TVD 9,350

ntang ble Costs	Code	PreSpud (PS)	Pre-Set Casing(PC)	Drilling (DR)	Completions (C)	Tank Bitty Constrctn(TB)	Pmpq Equip (PEQ)	Revision	Tot
D-LctrvPits/Roads	205	-1 -1 -10 00		\$ 136,000.00		ALSO CHILD IN THE SELECTION		S -	£ 420,000,00
-Drilling Overhead	206			\$ 13,000.00					\$ 136,000.0
-Daywork Contract	209			\$ 953,000.00		 			\$ 13,000.0
-Directional Drig Services	210		1	\$ 456,000.00					\$ 953,000.0 \$ 456,000.0
-Fuel & Power	211			\$ 203,000.00		 			\$ 203,000.0
-Water	212			\$ 108,000.00		-	·		\$ 108,000.0
-Bits	213		1	\$ 151,000.00			-		\$ 151,000.0
-Mud & Chemicals	214			\$ 361,000.00					\$ 361,000.0
-Cement Surface	217		-	\$ 28,000.00					\$ 28,000.0
-Cement Intermed	218		 	\$ 107,000.00			-		\$ 107,000.0
-Prod-2nd Int Cmt	219			\$ 158,000.00					\$ 158,000.0
-Float Equipment & Centralizers	221			\$ 86,000.00					\$ 86,000.0
-Csg Crews & Equip	222		-	\$ 93,000.00	-				
-Contract Labor	225			\$ 10,000.00					\$ 93,000.0 \$ 10,000.0
-Company Sprvsn	226		· ·	\$ 73,000.00					
-Contract Sprvsn	227			\$ 171,000.00					
-Tsig Csg/Tbg	228		 	\$ 58,000.00					\$ 171,000.0
-Mud Logging Unit	229			\$ 65,000.00					\$ 58,000.0
-Rentals-Surface	235		 	\$ 281,000.00					\$ 65,000.0
-Rentals-Subsric	236		 	\$ 131,000.00					\$ 281,000.0
-Trucking/Forklift/Rig Mob	237			\$ 201,000.00					\$ 131,000.0
-Welding Services	238		 	\$ 5,000.00					\$ 201,000.0
-Contingency	243		-	\$ 88,000.00					\$ 5,000.0
-Envmmtl/Clad Loop	243		-	\$ 441,000.00			 -		\$ 88,000.0
-Wellbore Frac Prep	304			9 441,000.00	\$ 127,000.00	-			\$ 441,000.0
	305	-			\$ 16,000.00				\$ 127,000.0
Completion OH	305								\$ 16,000.0
-Frac Equipment	307		 		\$ 23,000.00	-			\$ 23,000.0
-Frac Chemicals	307				\$ 1,464,000.00 \$ 627,000.00				\$ 1,464,000.0
-Frac Proppant	309								\$ 627,000.0
-Frac Proppant Transportation	310				\$ 285,000.00				\$ 285,000.0
-Fuel Delivery & Services	311				\$ 442,000.00				\$ 442,000.0
-Water					\$ 64,000.00				\$ 64,000.0
-rvater -Frac Surface Rentals	312				\$ 866,000.00		-		\$ 866,000.0
	315				\$ 480,000.00	_			\$ 480,000.0
-Contract Labor	325				\$ 16,000.00				\$ 16,000.0
-Company Sprvsn	326				\$ 16,000.00				\$ 16,000.0
-Contract Sprvsn	327				\$ 227,000.00				\$ 227,000.0
-Artificial Lift Install	329				\$ 68,000.00	-			\$ 68,000.0
-Perf/Wireline Svc	331				\$ 570,000.00				\$ 570,000.0
-Trucking/Forklift/Rig Mob	337				\$ 16,000.00	_			\$ 16,000.0
-Water Disposal	339				\$ 61,000.00				\$ 61,000.0
-Contingency	343				\$ 226,000.00				\$ 226,000.0
-Dyed Diesel	345				\$ 495,000.00				\$ 495,000.0
-Drillout	346				\$ 510,000.00				\$ 510,000.0
B-Damages/Right of Way	351					\$ 2,000.00			\$ 2,000.0
B-Location/Pits/Roads	353					\$ 43,000.00			\$ 43,000.0
B-Contract Labor	356					\$ 184,000.00			\$ 184,000.0
EQ-Contract Labor	374						\$ 43,000.00		\$ 43,000.00
EQ-Water Disposal	387						\$ 203,000.00	\$	\$ 203,000.00
EQ-HRZ Well Offset Frac	391						\$ 21,000.00	\$	\$ 21,000.00
otal Intangible Costs		\$ 35,659,3370 (4)	SCHOOL ST	\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00	\$ WEST PART OF SEC. ME	\$ 11,472,000.00
angible Costs EQ-Flowback Crews & Equip	392	A MORE ARE-ELE	Sales States Arminal Latina		OWNERS TO THE OWNER OF THE OWNER OWNER OF THE OWNER OWNE	NAME OF ALL PARTY	£ 400 000 00		4 400 000 0
				2 25 000 00			\$ 122,000.00		\$ 122,000.0
-Surface Casing	401		-	\$ 35,000.00					\$ 35,000.0
Intermed Csg	402		-	\$ 323,000.00					\$ 323,000.0
Production Casing/Liner	403			\$ 446,000.00					\$ 446,000.0
Welthead Equip	405			\$ 108,000.00					\$ 108,000.0
-Tubing	504				\$ 79,000.00				\$ 79,000.0
	505				\$ 43,000.00				\$ 43,000.0
						\$ 80,000.00			\$ 80,000.0
B-Tanks	510					\$ 30,000.00			\$ 30,000.0
3-Tanks 3-Flowlines/Pipelines	511							\$.	\$ 185,000.0
B-Tanks B-Flowlines/Pipelines B-Htr Trtr/Seprtr	511 512					\$ 185,000.00		-	
B-Tanks B-Flowlines/Pipelines B-Htr Trtr/Seprtr	511					\$ 185,000.00 \$ 119,000.00			
B-Tanks B-Flowlines/Pipelines B-Htr Trtr/Seprtr B-Electrical System/Equipment -Pckrs/Anchors/Hgrs	511 512 513 514				\$ 98,000.00	\$ 119,000.00			\$ 119,000.0
B-Tanks B-Flawlines/Pipelines B-Hit Trtr/Seprit B-Electrical System/Equipment Pckrs/Anchors/Hgrs B-Couplings/Fittings/Valves	511 512 513 514 515				\$ 98,000.00	\$ 119,000.00 \$ 204,000.00		\$	\$ 119,000.0 \$ 98,000.0
B-Tanks B-Flowlines/Pipelines B-Hir Trit/Seprir B-Electrical System/Equipment P-Ckrs/Anchors/Hgrs B-Couplings/Fittings/Valves B-Pumps-Surface	511 512 513 514 516 521				\$ 98,000.00	\$ 119,000.00 \$ 204,000.00 \$ 25,000.00		\$ \$ \$	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0
3-Tanks 3-Flowlines/Pipelines 3-Flowlines/Pipelines 3-Electrical System/Equipment Pckrs/Anchors/Hgrs 3-Couplings/Fittings/Valves 3-Pumps-Surface 3-Instrumentation/SCADA/POC	511 512 513 514 515 521 522				\$ 98,000.00	\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00		\$ - S - S - S - S - S - S - S - S - S -	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 25,000.0
B-Tanks B-Flowlines/Pipelines B-Hit Trit/Seprit B-Electrical System/Equipment Pelics/Anchors/Hgrs B-Couplings/Fittings/Valves B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous	511 512 513 514 515 521 522 523				\$ 98,000.00	\$ 119,000.00 \$ 204,000.00 \$ 25,000.00		\$ - \$ - \$	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 25,000.0 \$ 20,000.0
B-Tanks B-Flowlines/Pipelines B-Hir Trit/Seprir B-Electrical System/Equipment P-Ckrs/Anchors/Hgrs B-Couplings/Fittings/Valves B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous B-Miscellaneous B-Miscellaneous	511 512 513 514 515 521 522 523 525				\$ 98,000.00	\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00		\$	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 25,000.0 \$ 20,000.0
B-Tanks B-Flowlines/Pipelines B-Hir Trit/Seprir B-Electrical System/Equipment P-Ckrs/Anchors/Hgrs B-Couplings/Fittings/Valves B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous B-Miscellaneous B-Meters/Locts	511 512 513 514 515 521 522 523				\$ 98,000.00	\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00 \$ 20,000.00 \$ 25,000.00		\$	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 25,000.0 \$ 20,000.0 \$ 20,000.0 \$ 25,000.0
B-Tanks B-Flowlines/Pipetines B-Hitr Trtr/Seprit B-Electrical System/Equipment -Pckrs/Anchors/Hgrs B-Couplings/Fittings/Valves B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous B-Meters/Lects B-Flares/Combusters/Emission	511 512 513 514 515 521 522 523 525					\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00 \$ 20,000.00 \$ 25,000.00		\$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 25,000.0 \$ 20,000.0 \$ 20,000.0 \$ 3,000.0
B-Tanks B-Hovilines/Pipelines B-Hir Trit/Seprir B-Electrical System/Equipment -Pckrs/Anchors/Hgrs B-Douplings/Fittings/Valves B-Pumps-Surface B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous B-Melers/Lects B-Flares/Combusters/Emission -Gas Liff/Compression	511 512 513 514 515 521 522 523 525 526					\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00 \$ 20,000.00 \$ 25,000.00	\$ 43,000,00	\$ - \$ - \$ - \$ - \$ 5 - \$	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 25,000.0 \$ 20,000.0 \$ 20,000.0 \$ 25,000.0 \$ 30,000.0 \$ 38,000.0
-Wellhead Equip B-Tanks B-Flowlines/Pipelines B-Hir Trit/Seprir B-Electrical System/Equipment -Pckrs/Anchors/Hgrs B-Couplings/Fittings/Valves B-Pumps-Surface B-Instrumentation/SCADA/POC B-Miscellaneous B-Meters/Lects B-Flares/Combusters/Emission -Gas Lift/Compression EQ-Wellhead Equipment otal Tangible Costs	511 512 513 514 515 521 522 523 525 526 527	\$		\$ 912,000.00		\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00 \$ 20,000.00 \$ 25,000.00 \$ 30,000.00	\$ 43,000.00 \$ 165,000.00	\$	\$ 119,000.00 \$ 98,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00 \$ 20,000.00 \$ 25,000.00 \$ 38,000.00 \$ 38,000.00 \$ 43,000.00
3-Tanks 3-Flowlines/Pipelines 3-Flowlines/Pipelines 3-Flowrines/Pipelines 3-Electrical System/Equipment 9-Pctrs/Anchors/Hgrs 3-Couplings/Fittings/Valves 3-Pumps-Surface 3-Instrumentation/SCADA/POC 3-Miscellaneous 3-Meters/Lacts 3-Flares/Combusters/Emission Gas Lift/Compression G-Wellhead Equipment otal Tanglible Costs	511 512 513 514 515 521 522 523 525 526 527 531				\$ 38,000.00 \$ 258,000.00	\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00 \$ 20,000.00 \$ 25,000.00 \$ 30,000.00 \$ 30,000.00		\$	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 25,000.0 \$ 20,000.0 \$ 20,000.0 \$ 25,000.0 \$ 30,000.0 \$ 38,000.0
J-Tanks J-Flowlines/Pipetines J-Flowlines/Pipetines J-Htr Trit/Seprtr J-Electrical System/Equipment Pckrs/Anchors/Hgrs J-Couplings/Fittings/Valves J-Pumps-Surface J-Instrumentation/SCADA/POC J-Miscellaneous J-Meters/Lacts J-Flares/Combusters/Emission Ges Lift/Compression G-Wellhead Equipment	511 512 513 514 515 521 522 523 525 526 527 531	\$ 0.000 A. O.	\$255000 E	\$ 912,000.00 \$ 5,289,000.00	\$ 38,000.00 \$ 258,000.00	\$ 119,000.00 \$ 204,000.00 \$ 25,000.00 \$ 20,000.00 \$ 20,000.00 \$ 25,000.00 \$ 30,000.00 \$ 30,000.00	\$ 165,000.00	\$	\$ 119,000.0 \$ 98,000.0 \$ 204,000.0 \$ 20,000.0 \$ 20,000.0 \$ 20,000.0 \$ 25,000.0 \$ 38,000.0 \$ 38,000.0 \$ 43,000.0

Company: By: Printed Name: Title: Date: This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

Date Prepared: 1.23.20 COG Operating LLC

Well Name SCOUT STATE COM 605H
SHL 6: 870 FNL, 804 FWL OR UNIT D
BHL 18: 330 FSL, 1232 FWL OR UNIT M
Formation WOLFCAMP A
Legal
AFE Numbers

By:

Company: By:

Printed Name: Title: Date:

We approve:
____% Working Interest

Prospect ATLAS 2528 State & County NEW MEXICO, EDDY Objective DRILL & COMPLETE Depth 25,000 TVD 9,350

as circompression	446.4								
Flares/Combusters/Emission as Lift/Compression	526 527				\$ 38,000.00	\$ 30,000.00		\$	\$ 30,00 \$ 38,00
Meters/Lacts	525					\$ 25,000.00		\$.	\$ 25,00
nstrumentation/SCADA/POC discellaneous	522 523					\$ 20,000.00 \$ 20,000.00		\$ -	\$ 20,00 \$ 20,00
Pumps-Surface	521					\$ 25,000.00		\$.	\$ 25,00
Couplings/Fittings/Valves	515				30,000.00	\$ 204,000.00		\$ -	\$ 98,00 \$ 204,00
Electrical System/Equipment ckrs/Anchors/Hgrs	513 514				\$ 98,000.00	\$ 119,000.00		\$.	\$ 119,00 \$ 98.00
Hir Trir/Seprir	512					\$ 185,000.00		\$ -	\$ 185,00
lanks Flowlines/Pipelines	511					\$ 80,000.00 \$ 30,000.00		\$	\$ 80,00 \$ 30,00
/ethead Equip	505 510				\$ 43,000.00	\$ 80,000.00		\$	\$ 43,0
ubing	504				\$ 79,000.00			\$ -	\$ 79,0
/elihead Equip	403			\$ 446,000.00 \$ 108,000.00	-	-		\$ - \$ -	\$ 446,0 \$ 108,0
termed Csg roduction Casing/Liner	402 403			\$ 323,000.00				\$ -	\$ 323.0
urface Casing	401			\$ 35,000.00			*EE,000.00	\$ -	\$ 35,0
P-Flowback Crews & Equip	392						\$ 122,000.00	\$ -	\$ 122,0
gible Costs									
Il Intangible Costs	DENSIS	\$ 5000000000000000000000000000000000000		\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00		\$ 11,472,0
I-HRZ Well Offset Frac	391	11 M	160				\$ 21,000.00		\$ 21,0
l-Water Disposal	387						\$ 203,000.00		\$ 43,0 \$ 203,0
Contract Labor	356 374					\$ 184,000.00	\$ 43,000.00	\$ - \$.	\$ 184,0 \$ 43,0
.ocation/Pits/Roads	353					\$ 43,000.00		\$	\$ 43,0
Damages/Right of Way	351				5.0,000.00	\$ 2,000.00		\$	\$ 2,0
yed Diesel nilout	345				\$ 495,000.00 \$ 510,000.00			\$ -	\$ 495,0 \$ 510,0
ontingency and Diesel	343 345				\$ 226,000.00			\$ -	\$ 226,0
ater Disposal	339				\$ 61,000.00			\$ -	\$ 61,0
rucking/Forklift/Rig Mob	337				\$ 16,000.00			\$.	\$ 16,0
rtificial Lift Install erf/Wireline Svc	329 331				\$ 68,000.00 \$ 570,000.00			\$ - \$	\$ 68,0 \$ 570,0
ontract Sprvsn	327				\$ 227,000.00			\$.	\$ 227,0
ompany Sprvsn	326				\$ 16,000.00			\$.	\$ 16,0
ontract Labor	325		i		\$ 16,000.00			\$ -	\$ 16,0
fater rac Surface Rentals	312 315				\$ 866,000.00 \$ 480,000.00			\$ -	\$ 866,0 \$ 480,0
uel Delivery & Services	311				\$ 64,000.00			S -	\$ 64,0
rac Proppant Transportation	310				\$ 442,000.00			\$ -	\$ 442,0
rac Proppant	309				\$ 285,000.00			\$.	\$ 285,0
rac Equipment rac Chemicals	308				\$ 1,464,000.00 \$ 627,000.00			\$ -	\$ 1,464,0 \$ 627,0
ompletion OH	306 307				\$ 23,000.00			\$ -	\$ 23,0
:tr/Pits/Roads	305				\$ 16,000.00			\$ -	\$ 16,0
nvmmtl/Clsd Loop /ellbore Frac Prep	304			\$ 441,000.00	\$ 127,000.00	_		\$ ·	\$ 441,0 \$ 127,0
ontingency	243 244			\$ 88,000.00				s -	\$ 88,0
elding Services	238			\$ 5,000.00				\$ -	\$ 5,0
rucking/Forklift/Rig Mob	237			\$ 201,000.00				\$.	\$ 201,0
entals-Surface entals-Subsrfc	235 236			\$ 281,000.00 \$ 131,000.00				\$ -	\$ 281,0 \$ 131,0
ud Logging Unit	229			\$ 65,000.00				s -	\$ 65,0
stg Csg/Tbg	228			\$ 58,000.00				\$ -	\$ 58,0
ompany Sprvsn ontract Sprvsn	227			\$ 73,000.00 \$ 171,000.00				S -	\$ 73,0 \$ 171,0
ontract Labor	225			\$ 10,000.00 \$ 73,000.00				\$ -	\$ 10,0
sg Crews & Equip	222			\$ 93,000.00				\$ -	\$ 93,0
oat Equipment & Centralizers	221			\$ 86,000.00				\$ -	\$ 158,0 \$ 86,0
ement Intermed rod-2nd Int Cmt	218 219			\$ 107,000.00 \$ 158,000.00				\$ - \$ -	\$ 107,0 \$ 158,0
ement Surface	217			\$ 28,000.00				S -	\$ 28,0
ud & Chemicals	214			\$ 361,000.00				\$ -	\$ 361,0
/ater	212			\$ 108,000.00 \$ 151,000.00				\$ - \$ ·	\$ 108,0 \$ 151,0
uel & Power	211			\$ 203,000.00				\$	\$ 203,0
irectional Drlg Services	210			\$ 456,000.00				\$.	\$ 456,0
rilling Overhead sywork Contract	206			\$ 13,000.00 \$ 953,000.00				\$ -	\$ 13,0 \$ 953,0

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

Date Prepared: 1.23.20

COG Operating LLC

Ву:

Well Name SCOUT STATE COM 606H
SHL 6: 870 FNL, 774 FWL OR UNIT D
BHL 18: 330 FSL, 330 FWL OR UNIT M
Formation WOLFCAMP A
Legal
AFE Numbers

COG Operating LLC

We approve: % Working Interest

By:

Company: By: Printed Name:

Title: Date:

Prospect ATLAS 2528 State & County NEW MEXICO, EDDY Objective DRILL & COMPLETE Depth 25,000 TVD 9,350

Cost Description	Code	PreSpud (PS)	Pre-Set Casing(PC)	Drilling (DR)	Completions (C)	Tank Bitty Constrctn(TB)	Pmpq Equip (PEQ)	Revision	
Intangible Costs			CORE II AGAZAMINE KA	20 T = 13 = 20 8 00	Charles and bearing	VIII PARTER STORES		STOCKE STOCKE	Territory (Control of
D-Lctn/Pits/Roads	205			\$ 136,000.00				\$ -	\$ 136,000
D-Drilling Overhead	206			\$ 13,000.00				\$	\$ 13,000
D-Daywork Contract	209			\$ 953,000.00				\$.	\$ 953,000
D-Directional Drlg Services	210			\$ 456,000.00				S -	\$ 456,000
D-Fuel & Power	211			\$ 203,000.00				\$	\$ 203,000
D-Water	212			\$ 108,000.00				\$ -	\$ 108,000
D-Bits	213			\$ 151,000.00			-	\$	\$ 151,000
D-Mud & Chemicals	214			\$ 361,000.00				\$ -	\$ 361,000
D-Cement Surface	217	_		\$ 28,000.00				\$	\$ 28,000
D-Cement Intermed	218			\$ 107,000.00				S -	\$ 107,000
D-Prod-2nd Int Cmt	219			\$ 158,000.00				\$	\$ 158,000
D-Float Equipment & Centralizers	221			\$ 86,000.00				\$ -	\$ 86,000
D-Csg Crews & Equip	222			\$ 93,000.00				\$ -	\$ 93,000
D-Contract Labor	225 226			\$ 10,000.00				\$.	\$ 10,000
D-Company Sprvsn	227		-	\$ 73,000.00				\$ -	\$ 73,000
D-Contract Sprvsn	228			\$ 171,000.00				\$ -	\$ 171,000
D-Tstg Csg/Tbg	229			\$ 58,000.00				\$.	\$ 58,000
D-Mud Logging Unit D-Rentals-Surface				\$ 65,000.00				\$ -	\$ 65,000
	235			\$ 281,000.00				\$ -	\$ 281,000
D-Rentals-Subsrfc D-Trucking/Forklift/Rig Mob	236 237			\$ 131,000.00		-		\$.	\$ 131,000
				\$ 201,000.00				-	\$ 201,000
D-Welding Services	238			\$ 5,000.00		-		\$.	\$ 5,000
D-Contingency	243			\$ 88,000.00				\$	\$ 88,000
D-Envmmtl/Clsd Loop C-Wellbore Frac Prep	244 304			\$ 441,000.00	¢ 407.000.00			\$ -	\$ 441,000
	304				\$ 127,000.00			\$.	\$ 127,000
C-Lctn/Pits/Roads					\$ 16,000.00			\$.	\$ 16,000
C-Completion OH C-Frac Equipment	306 307				\$ 23,000.00			\$ -	\$ 23,000
					\$ 1,464,000.00			\$.	\$ 1,464,000
C-Frac Chemicals C-Frac Proppant	308 309				\$ 627,000.00 \$ 285,000.00			\$.	\$ 627,000
	310							-	\$ 285,000
C-Frac Proppant Transportation C-Fuel Delivery & Services	311				\$ 442,000.00			\$ -	\$ 442,000
C-Puel Delivery & Services	312				\$ 64,000.00			\$.	\$ 64,000
C-Frac Surface Rentals	315				\$ 866,000.00 \$ 480,000.00			\$ -	\$ 866,000
C-Contract Labor	325				\$ 480,000.00 \$ 16,000.00			\$.	\$ 480,000
C-Company Sprvsn	326	-						-	\$ 16,000
C-Contract Sprvsn	327				\$ 16,000.00 \$ 227,000.00				\$ 16,000
C-Artificial Lift Install	329				\$ 227,000.00 \$ 68,000.00			\$ -	\$ 227,000
C-Perf/Wireline Svc	331	_			\$ 570,000.00			\$ -	\$ 68,000
C-Trucking/Forklift/Rig Mob	337				\$ 16,000.00			\$.	\$ 570,000
C-Water Disposal	339		-		\$ 61,000.00				\$ 16,000 \$ 61,000
C-Contingency	343				\$ 226,000.00			\$ -	
C-Dyed Diesel	345				\$ 495,000.00			\$.	\$ 226,000 \$ 495,000
C-Drillout	346				\$ 510,000.00	·		\$ -	\$ 510,000
TB-Damages/Right of Way	351				\$ 510,000.00	\$ 2,000.00		\$ -	\$ 2,000
TB-Location/Pits/Roads	353					\$ 43,000.00		\$	\$ 43,000
TB-Contract Labor	356			-		\$ 184,000.00		\$ -	\$ 184,000
PEQ-Contract Labor	374					104,000.00	\$ 43,000.00		\$ 43,000
PEQ-Water Disposal	387			-			\$ 203,000.00		\$ 203,000
PEQ-HRZ Well Offset Frac	391						\$ 21,000.00		\$ 21,000
Total Intangible Costs	COMME!	\$ 1953000000000000000000000000000000000000	100000000000000000000000000000000000000	\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00		
Total Miserigions Costs		CALCULATION DO NOT	A STATE OF THE PARTY AND	4 4,011,000.00	4 0,000,000	225,000.00	201,000.00	• Shepat America Shekara • 180	\$ 11,472,000.
Tangible Costs		Int Karoli Associati	Market Market Control	urio valenta	TO WAR THE REAL PROPERTY.	The Man Land	Decide of the second		
PEQ-Flowback Crews & Equip	392						\$ 122,000.00	IS -	\$ 122,000
D-Surface Casing	401		1	\$ 35,000.00			9 144,900.00	\$ -	\$ 35,000
D-Intermed Csg	402			\$ 323,000.00				\$.	\$ 323,000
D-Production Casing/Liner	403			\$ 446,000.00				\$ -	\$ 446,000
D-Wellhead Equip	405			\$ 108,000.00				\$ -	\$ 108,000
C-Tubing	504				\$ 79,000.00			\$.	\$ 79,000
C-Wellhead Equip	505				\$ 43,000.00			\$ -	\$ 43,000
TB-Tanks	510				-0,000.00	\$ 80,000.00		\$ -	\$ 45,000
T8-Flowlines/Pipelines	511			-		-\$ 30,000.00		5	\$ 30,000
TB-Htr Trtr/Seprtr	512		-			\$ 185,000.00	-	\$.	\$ 185,000
TB-Electrical System/Equipment	513					\$ 119,000.00		· -	\$ 119,000
C-Pckrs/Anchors/Hgrs	514				\$ 98,000.00			\$ -	\$ 98,000.
TB-Couplings/Fittings/Valves	515					\$ 204,000.00		\$.	\$ 204,000
TB-Pumps-Surface	521					\$ 25,000.00		\$ -	\$ 25,000.
TB-Instrumentation/SCADA/POC	522					\$ 20,000.00		\$.	\$ 20,000
TB-Miscellaneous	523					\$ 20,000.00		\$.	\$ 20,000
TB-Meters/Lacts	525					\$ 25,000.00		\$ -	\$ 25,000.
TB-Flares/Combusters/Emission	526					\$ 30,000.00		\$.	\$ 30,000
C-Gas Lift/Compression	527				\$ 38,000.00			\$	\$ 38,000
PEQ-Wellhead Equipment	531						\$ 43,000.00		\$ 43,000.
Total Tangible Costs	1000	\$ 5000000.00	and the state of the	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 165,000.00		\$ 2,073,000
									-14-41666
Total Gross Cost	SECRECIAL SECURITY	S PANISH TO	580008102310	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	★ G = 12 CH C = 2 CH (1 = 2 C)	\$ 13,545,000.
Note: The above costs are estimat				-, -,,,,,,,,,		44.144.44	100,000,00		- 1010-101000
The cours of the case of	way. 21		ometres metalics.						

This AFE is only an estimate. By signing you agree to pay your share of the actual costs incurred.

Date Prepared: 1.23.20 COG Operating LLC

By:

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

APPLICATION OF COG OPERATING LLC FOR COMPULSORY POOLING, LEA COUNTY, NEW MEXICO.

Case No. 21219 & 21220

AFFIDAVIT

STATE OF NEW MEXICO)	
)	SS
COUNTY OF SANTA FE)	

Michael Rodriguez, attorney and authorized representative of COG Operating LLC, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Applications were provided under the notice letters and proof of receipts attached hereto.

Michael Rodriguez

SUBSCRIBED AND SWORN to before me this 18th day of June 2020 by Michael Rodriguez.



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. A-4
Submitted by:

COG OPERATING LLC
Hearing Date: June 26, 2020

Carlsbad Current Argus.

Affidavit of Publication Ad # 0004114852 This is not an invoice

CONCHO 1048 PASEO DE PERALTA

SANTA FE, NM 87501

I, a legal clerk of the Carlsbad Current Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county, that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

03/18/2020

Legal Clerk

Subscribed and sworn before me this March 18, 2020:

M, County of Brown NOTARY PUBLIC

My commission expires

Ad # 0004114852 PO# 0004114852 # of Affidavits 1

MOTARY PUBLIC SALIMINATION OF WISCOMMINICATION This is not an invoice

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

The State of New Mexico through its Oil Conservation Division hereby gives notice pursuant to law and the Rules and Regulations of the Division of the following public hearing Regulations of the Division of the following public hearing to be held at 8:15 A.M. on April 2, 2020, in Porter Hall, the Oil Conservation Division Hearing Room, 1st Floor, Wendell Chino Building, 1220 South St. Francis, Santa Fe, New Mexico, before an examiner duly appoint for the hearing. If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact: Florene Davidson at 505-476-3458 or through the New Mexico Relay Network, 1-800-659-1779 by March 24, 2020. Public documents, including the agenda and minutes, can be provided in various acing the agenda and minutes, can be provided in various accessible formats. Members of the public may obtain copies of the docket by contacting Ms. Davidson at the phone number indicated above. Also, the docket will be posted on the Oil Conservation Division website at www.emnrd.state.n m.us/OCD/. Please contact Ms. Davidson if a summary or other type of accessible form is needed.

> STATE OF NEW MEXICO TO: All named parties and persons having any right, title, interest or claim in the following case and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To: All working interest owners, overriding royalty interest owners, unleased mineral interest owners, and pooled parties, including: Devon Energy Production Company, LP; Mewbourne Oil Company, CWM 2000-B, Ltd., Mewbourne Energy Partners 13-A, 3MG Corporation, Mewbourne Development opment and CWM 2000-B II, Ltd. (all Mewbourne entities); Occidental Permian Company, LP; OXY Y-1 Company; EOG Resources, Inc.

CASE 21219: Application of COG Operating LLC for compulsory pooling, Lea County, New Mexico. Applicant in the above-styled cause seeks an order from the division pooling above-styled cause seeks an order from the oblision pooling all uncommitted interest owners in the Wolfcamp formation, Purple Sage-Wolfcamp Gas Pool (Pool code 98220), underlying a standard 960.48-acre, more or less, horizontal spacing unit comprised of Lots 1, 2, S/2NE/4, SE/4 of Section 6, E/2 of Section 7, and E/2 of Section 18, Township 25 South, Range 28 East, NMPM, Eddy County, New Mexico. COG Operating LLC seeks to dedicate the above-referenced horizontal spacing unit to the following proposed wells:

- The Scout State Com 601H well to be horizontally drilled from a surface hole location in Lot 1 (Unit A) of Section 6 to a bottom hole location in the SE/4SE/4 (Unit P) of Section 18,

 • The Scout State Com 602H well to be horizontally drilled from a surface hole location in Lot 1 (Unit A) of Section 6 to
- a bottom hole location in the SW/4SE/4 (Unit O) of Section
- The Scout State Com 603H well to be horizontally drilled from a surface hole location in Lot 2 (Unit B) of Section 6 to a bottom hole location in the SW/4SE/4 (Unit O) of Section 18.
- . Also, to be considered will be the allocation of the cost thereof, the actual operating costs and charges for supervision, the designation of COG Operating LLC as operator of the wells, and the imposition of 200% charge for risk involved in drilling and completing said wells. Said area is located approximately 5.4 miles southwest of Malaga, New Mexico

Pub: March 18, 2020 #4114852



Affidavit of Publication Ad # 0004114852 This is not an invoice

CONCHO 1048 PASEO DE PERALTA

SANTA FE, NM 87501

I, a legal clerk of the Carlsbad Current Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

03/18/2020

Legal Clerk

Subscribed and sworn before, me this March 18, 2020

VI. County of Brown **NOTARY PUBLIC**

My commission expires

Ad # 0004114852 PO #: 0004114852 # of Affidavits1

PUBLIC STATE This is not an invoice

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

The State of New Mexico through its Oil Conservation Division hereby gives notice pursuant to law and the Rules and Regulations of the Division of the following public hearing to be held at 8:15 A.M. on April 2, 2020, in Porter Hall, the Oil Conservation Division Hearing Room, 1st Floor, Wendell Chino Building, 1220 South St. Francis, Santa Fe, New Mexico, before an examiner duly appoint for the hearing. If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact: Florene Davidson at 505-476-3458 or through the New Mexico Relay Network, 1-800-659-1779 by March 24, 2020. Public documents, including the agenda and minutes, can be provided in various ac-The State of New Mexico through its Oil Conservation Diviing the agenda and minutes, can be provided in various accessible formats. Members of the public may obtain copies of the docket by contacting Ms. Davidson at the phone number indicated above. Also, the docket will be posted on the Oil Conservation Division website at www.emnrd.state.n m.us/OCD/. Please contact Ms. Davidson if a summary or other type of accessible form is needed.

> STATE OF NEW MEXICO TO: All named parties and persons having any right, title, interest or claim in the following case and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To: All working interest owners, overriding royalty interest owners, unleased mineral interest owners, and pooled parties, including: Devon Energy Production Company, LP; Mewbourne Oil Company, CWM 2000-B, Ltd., Mewbourne Energy Partners 13-A, 3MG Corporation, Mewbourne Development and CWM 2000-B II, Ltd. (all Mewbourne entities); Occidental Permian Company, LP; OXY Y-1 Company; EOG Resources, Inc.

CASE 21219: Application of COG Operating LLC for compulsory pooling, Lea County, New Mexico. Applicant in the above-styled cause seeks an order from the division pooling above-styled cause seeks an order from the division pooling all uncommitted interest owners in the Wolfcamp formation, Purple Sage-Wolfcamp Gas Pool (Pool code 98220), underlying a standard 960.48-acre, more or less, horizontal spacing unit comprised of Lots 1, 2, S/2NE/4, SE/4 of Section 6, E/2 of Section 7, and E/2 of Section 18, Township 25 South, Range 28 East, NMPM, Eddy County, New Mexico. COG Operating LLC seeks to dedicate the above-referenced horizontal spacing unit to the following proposed wells:

- The Scout State Com 601H well to be horizontally drilled from a surface hole location in Lot 1 (Unit A) of Section 6 to a bottom hole location in the SE/4SE/4 (Unit P) of Section 18,
- The Scout State Com 602H well to be horizontally drilled from a surface hole location in Lot 1 (Unit A) of Section 6 to a bottom hole location in the SW/45E/4 (Unit O) of Section 18, and
- The Scout State Com 603H well to be horizontally drilled from a surface hole location in Lot 2 (Unit B) of Section 6 to a bottom hole location in the SW/4SE/4 (Unit O) of Section
- · Also, to be considered will be the allocation of the cost thereof, the actual operating costs and charges for supervision, the designation of COG Operating LLC as operator of the wells, and the imposition of 200% charge for risk involved in drilling and completing said wells. Said area is located approximately 5.4 miles southwest of Malaga, New Markey

Pub: March 18, 2020 #4114852





<u>VIA CERTIFIED MAIL</u> RETURN RECEIPT REQUESTED

TO ALL INTEREST OWNERS SUBJECT TO POOLING PROCEEDINGS

Re:

Case No. 21219: Application of COG Operating, LLC for Compulsory

Pooling, Lea County, New Mexico.

Scout State Com 601H, 602H & 603H Wells.

To Whom It May Concern:

This letter is to advise you that COG Operating LLC has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on April 2, 2020, and the status of the hearing can be monitored through the Division's website at http://www.emnrd.state.nm.us/ocd. Division hearings will commence at 8:15 a.m. in Porter Hall at the Oil Conservation Division's Santa Fe offices located at 1200 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Pursuant to Division Rule 19.135.4.13.B, parties appearing in a case are required to file a Prehearing Statement at least four business days in advance of a scheduled hearing, but in no event later than 5:00 p.m. mountain time, on the Thursday preceding the scheduled hearing date. The statement must be filed at the Division's Santa Fe office at the above-specified address and should include: the names of the parties and their attorneys, a concise statement of the case, the names of all witnesses the party will call to testify at the hearing, the approximate time the party will need to present its case, and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter, please contact Travis Macha at (432) 221-0452 or tmacha@concho.com.

Sincerely.

Michael Rodriguez

ATTORNEY FOR COG OPERATING LLC

7018 2290 0000 3430 5228 2290 0000 3430 5211 7018 Postage Actuit Signature Restricted Delivery \$ Extra Services & Fees (check box, ☐ Return Receipt (electronic) ☐ Return Receipt (hardcopy) Certified Mail Fee ☐ Adult Signature Required Certified Mail Restricted Delivery Certified Mail Fee CWM 2000-B II, Ltd. Adult Signature Required \$ Adult Signature Restricted Delivery \$ Midland, TX 79701 500 W. Texas Avenue, Suite 1020 Corporation, Mewbourne Development and Mewbourne Energy Partners 13-A, 3MG Mewbourne Oil Company, CWM 2000-B, Ltd. PS Form 3800, April 2015 PSN 7530-02-000-9047 ostage Cortified Mail Restricted Delivery Return Receipt (electronic) ☐ Return Receipt (hardcopy) otra Services & Fees (checkbox, For delivery information, visit our For delivery information, visit our website at www.usps.com Domestic Mail Only Domestic Mail Only CERTIFIED MAIL® RECEIPT U.S. Postal Service¹⁵ CERTIFIED MAIL® RECEIPT U.S. Postal Service 333 W. Sheridan Avenue Devon Energy Production Company, LP Oklahoma City, OK 73102 Attn: Land Department T add fee as appropriate) add fee as appropria See Reverse for Instructions 3 3 5050

S Form 3800, April 2015 PSN 753

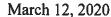
See Reverse for Instructions

Domestic Return Receipt



7018 2290 0000 3430 5235 9790 7018 2290 0000 3430 Postage Certified Mail Fee Certified Mail Fee ☐ Return Receipt (herdcopy)
☐ Return Receipt (electronic)
☐ Cartified Mail Restricted Delivery Actuit Signature Restricted Delivery \$ ☐ Return Receipt (electronic)
☐ Certified Mail Restricted Delivery
☐ Adult Signature Required Adult Signature Restricted Delivery \$ CERTIFIED MAIL® RECEIPT Adult Signeture Required For delivery information, visit our website at S Form 3800. April 2015 PSN 7530-02-000-0047 Domestic Mail Only U.S. Postal Service For delivery information, visit our website at www.usp 5 Greenway Plaza, Suite 2400 Occidental Permian Company, LP Attn: Land Department Houston, TX 77227 OXY Y-1 Company dra Services & Fees (check box, add fee as appropriate) 5509 Champions Drive EOG Resources Inc. Domestic Mail Only CERTIFIED MAIL® RECEIPT U.S. Postal Service " Attn: Land Manager Midland, TX 79706 See Reverse EI RAM 5050 Posta Postr

Domestic Return Receipt	PS Form 3811, July 2015 PSN 7530-02-000-9053	
Collect on Delivery Restricted Delivery	25	or Instructions
3. Service Type Adult Sgrature Adult Sgrature Restricted Delivery Certified Mail Restricted Delivery	97	
D. Is delivery address different from item 1? \(\text{Ves}\) kmk delivery address below: \(\text{INO}\) No	Occidental Permian Company, LP OXY Y-1 Company 5 Greenway Plaza, Suite 2400 Houston, TX 77227 Attn: Land Department	ZAD 41
A. Signature X Agent Addressee B. Received by (Printed Name) C. Date of Delivery 3/16/3/3/0	 Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	Coom
Domestic Return Receipt	PS Form 3811, July 2015 PSN 7530-02-000-9053 """ """ """ """ """ """ """	
3. Service Type Adult Signature Adult Signature Restricted Delivery Certified Mail® Collect on Delivery Collect on Delivery Restricted Delivery Collect on Delivery Restricted Delivery Signature Confirmation fall Restricted Delivery Signature Confirmation Restricted Delivery	979	or instructions
D. Is delivery address different from Item 1? Yes If YES, enter delivery address below: No	EOG Resources Inc. 5509 Champions Drive Midland, TX 79706 Attn: Land Manager	CSOS 84 HAM
	 Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	form.
COMPLETE I DIO SECTION ON DELIVERY	SENDER: COMPLETE THIS SECTION	





VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

TO ALL INTEREST OWNERS SUBJECT TO POOLING PROCEEDINGS

Re:

Case No. 21220: Application of COG Operating, LLC for Compulsory

Pooling, Lea County, New Mexico.

Scout State Com 604H, 605H & 606H Wells.

To Whom It May Concern:

This letter is to advise you that COG Operating LLC has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on April 2, 2020, and the status of the hearing can be monitored through the Division's website at http://www.emnrd.state.nm.us/ocd. Division hearings will commence at 8:15 a.m. in Porter Hall at the Oil Conservation Division's Santa Fe offices located at 1200 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

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If you have any questions about this matter, please contact Travis Macha at (432) 221-0452 or tmacha@concho.com.

Sincerely,

Michael Rodriguez

ATTORNEY FOR COG OPERATING LLC

2290 0000 3430 7018 9837 Certified Mail Fee Adult Signature Restricted Delivery \$ Adutt Signature Required □ Certified Mall Restricted Delivery ☐ Return Receipt (electronic) ☐ Return Receipt (hardcopy) Extra Services & Fees (check box, add fee as appropriate) For delivery information, visit our website at www.usps.ccm U.S. Postal Service CERTIFIED MAIL® Oklahoma City, OK 73102 Devon Energy Production Company, LP Domestic Mail Only Attn: Land Department 333 W. Sheridan Avenue I T RECEIPT 70Z07 Postmark AAM

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted
Delivery

ALID

Domestic Return Receipt

C. Date of Delivery

[] Addressee ☐ Agent Restricted Delivery

SENDER: COMPLETE THIS SECTION

Complete Items 1, 2, and 3.

A Signature

Print your name and address on the reverse

so that we can return the card to you.

C. Date of Delivery

□ Agent ☐ Addressee



PS Form 3811, July 2015 PSN 7530-02-000-9053

2290

0000 3430

9820

7018

Domestic Return Receipt

□ Return Receipt for
Merchandise

9 □ Signature Confirmation
Restricted Delivery

☐ Priority Malf Express®
☐ Registered Mali™
☐ Registered Mali Restricted
Delivery



SENDEH: COMBIETE THE SPECTION OF BRICHER AT TOP OF BRUCHCOPE TO THE RIGHT

A. Signature

Complete items 1, 2, and 3.

Print your name and address on the reverse

so that we can return the card to you.

EOG Resources Inc. 5509 Champions Drive Midland, TX 79706 Attn: Land Manager Sterm 3800, April 2015 PSN 753002:000 3947 See Reverse for Instructions	S Chiral Sarvicess & Fees (check box, and fee as appropriate) Return Receipt (leardoopy) \$ Return Receipt (electronic) \$ Centified Mail Restricted Delivery \$ Adult Signature Restricted Delivery \$ Adult Signature Restricted Delivery \$ Posttage	Domestic Mail Only For delivery information, visit our website at www.usps.com*. OFFC (Mart W85) Certified Mail Fee	U.S. Postal Service™ CERTIFIED MAII® BECFIPT	Attn: Land Department PS Form 3800, April 2015 PSN 7580-02-000-9047 See Reverse for Instructions	Occidental Permian Company, LP OXY Y-1 Company 5 Greenway Plaza, Suite 2400 Houston, TX 77227	Services & Fees (check box, add fee as appropriate) Return Receipt (hardcopy) Return Receipt (hardcopy) Return Receipt (hardcopy) Cartified Mali Restricted Delivery Adult Signature Rectricted Delivery Auth Signature Rectricted Delivery And Signature Rectricted Delivery	For delivery information, visit our website at www.usps.com? For delivery information, visit our website at www.usps.com? OF FIGURE OF THE CARTING Mall Fee
9590 9402 4582 8278 6183 73 GG	EOG Resources Inc. 5509 Champions Drive Midland, TX 79706 Attn: Land Manager	 Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	SENDER: COMPLETE THIS SECTION SS: FOID AND DOTTED LINE	PS Form 3811, July 2015 PSN 7530-02-000-9053	9590 9402 4582 8278 6183 66 7018 2290 0000 3430 98	OXY Y-1 Company 5 Greenway Plaza, Suite 2400 Houston, TX 77227 Attn: Land Department	Attach this card to the back of the mailpiece, or on the front if space permits. Adding Addressed to: Occidental Permian Company, LP
3. Service Type Adult Signature Adult Signature Restricted Delivery Certified Mail Restricted Delivery Cortified Mail Restricted Delivery Collect on Delivery Delivery Bellvery Collect on Delivery Collect on Delivery Bellvery Collect on Delivery Coll	D. Is delivery address different from item 1? Yes If YES, enter delivery address below: No	A. Signature X. Color John Difference B. Received by (Existed Name) C. Date of Delivery C. Date of Johnson	ANGANIEGO ON	Domestic Return Receipt	3. Service Type Adult Signature	James Brand	B. Received by (Printed Name) C. Date of Delivery 3/8/2000 D. Is delivery address different from item 1? 'es if YES, enter delivery address below: 'No

Priority Mati Express®
 Registered Mail**
 Registered Mail Restricted
 Delivery

C. Date of Delivery

☐ Addressee ☐ Agent

9806

7018 2290 0000 3430

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

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

APPLICATION OF COG OPERATING LLC FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

Case Nos. 21219-21220

DIRECT TESTIMONY OF DEAN SNIDOW

Dean Snidow, of lawful age and being first duly sworn, declares as follows:

1. State your name, by whom you're employed, and in what capacity.

Dean Snidow, I am a Geoscience Supervisor with COG Operating LLC, and have been with Concho since 2014.

2. Have you previously testified before the Division?

Yes.

3. Were your credentials as a petroleum geologist accepted and made a matter of record?

Yes.

4. Are you familiar with the applications that have been filed by COG in these cases?

Yes.

5. Have you conducted a geologic study of the lands subject of this application?

Yes.

6. Turn to COG Exhibit No. B-1 and identify what this is.

This is a project locator map for the E2 and W2 of Sections 6, 7, & 18 that reflects COG's acreage in yellow. The paths of the proposed wells are depicted by dashed red lines. Existing producing wells in the Wolfcamp formation are represented by purple lines.

7. Turn to COG Exhibit No. B-2 and identify what this is.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. B
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

This is a subsea structure map of the E2 and W2 of Sections 6, 7, & 18 for the Wolfcamp interval that is representative of the targeted interval within the Wolfcamp formation. The structure map shows the formation is gently dipping to the east in this area.

8. Did you observe any faulting, pinch-outs, or other geologic impediments to developing the targeted interval with horizontal wells in this area?

No.

9. Turn to COG Exhibit No. B-3 and identify what this is.

This is a location map of the proposed development project with a cross-section line in green consisting of three wells penetrating the Wolfcamp formation used to construct a stratigraphic cross-section from A to A'.

10. Do you consider these wells to be representative of the area that is the subject of your proposed unit?

Yes.

11. Turn to COG Exhibit No. B-4. Identify what this is and walk us through it.

This exhibit is a stratigraphic cross-section using the representative wells from Exhibit B-3. Each well in the cross-section contains gamma ray, resistivity, and porosity logs. The proposed target intervals in the Wolfcamp formation are labeled on the exhibit. The cross-section demonstrates that the targeted interval is continuous across the proposed spacing unit.

12. In your opinion, what well orientation is preferred for horizontal well development in this area?

Stand-up orientation is preferred to efficiently, effectively and economically develop acreage.

13. And is that the orientation COG plans to drill the subject wells?

Yes.

14. How does that relate to other wells in the area?

Most of the nearby development in the Wolfcamp A has been drilled North-South.

15. And what orientation are Mewbourne's Pothole wells that intersect our Scout wells?

Lay-down, which is not our preferred orientation because it would not be efficiently, effectively, and economically developed.

16. Based on your geologic study, do you anticipate the acreage comprising the proposed spacing units will contribute, more-or-less, equally to the production from the wellbores?

Yes.

17. In your opinion, is a horizontal well the best way to efficiently and effectively drain the project area?

Yes.

18. In your opinion, would granting COG's applications be in the best interest of conservation, prevent waste, and protect correlative rights?

Yes.

19. Were COG Exhibit Nos. B-1 through B-4 prepared by you or compiled under your direction or supervision?

Yes.

20. Does this conclude your direct testimony?

Yes.

SCOUT STATE COM 601H

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SCOUT STATE COM 602H

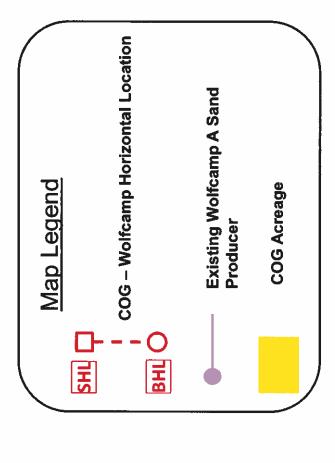
SCOUT STATE COM 606H

32

SCOUT STATE COM 604H

36

SCOUT STATE COM 603H





BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. B-1
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

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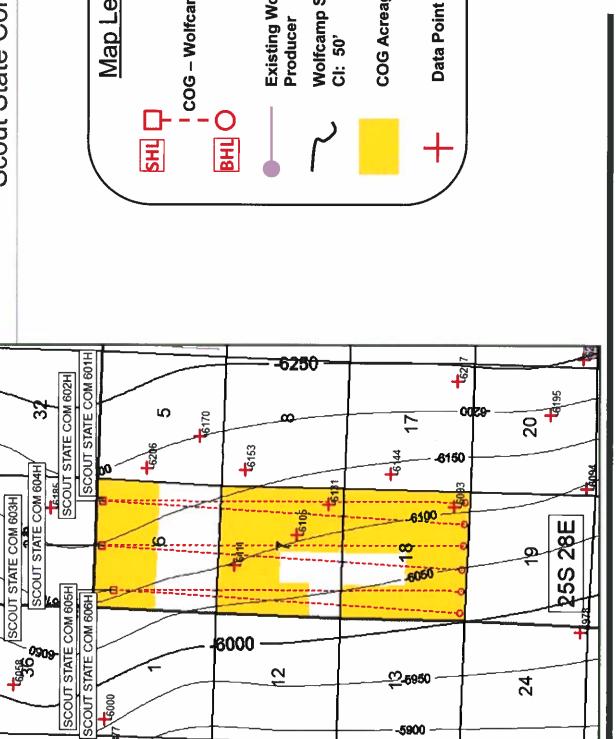
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129

SCOUT STATE COM 603H





-5900

BEFORE THE OIL CONSERVATION DIVISION Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. B-2
Submitted by: COG OPERATING LLC
Hearing Date: June 26, 2020 Wolfcamp Pool Scout State Com # 601H- 606H

SCOUT STATE COM 601H

SCOUT STATE COM 602H

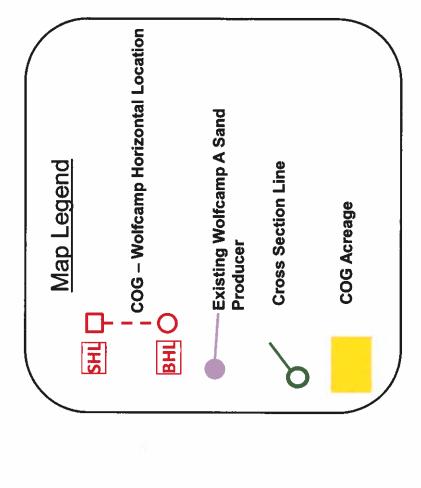
SCOUT STATE COM 605H

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SCOUT STATE COM 604H

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SCOUT STATE COM 603H



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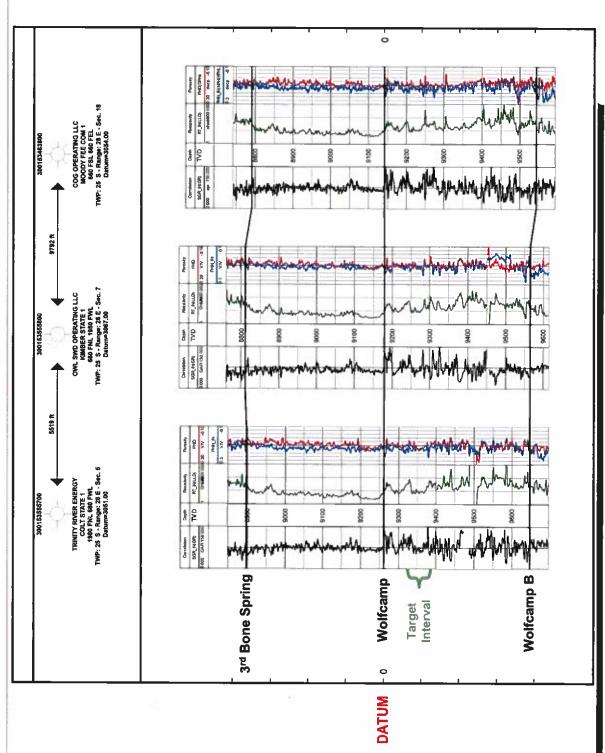
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BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. B-3
Submitted by:

Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020





BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. B-4
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

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

APPLICATION OF COG OPERATING LLC FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

Case Nos. 21219-21220

DIRECT TESTIMONY OF DAVID HURD

David Hurd, of lawful age and being first duly sworn, declares as follows:

1. State your name, by whom you're employed, and in what capacity.

My name is David Hurd. I have been a reservoir engineer with COG Operating LLC since 2018, and with the company since 2015.

2. Have you previously testified before the Division?

Yes.

3. Were your credentials as a reservoir engineer accepted and made a matter of record?

Yes.

4. Are you familiar with the applications that have been filed by COG in these cases?

Yes.

5. Have you conducted an economic evaluation of the subject wells in Case Nos. 20219 and 2020?

Yes.

6. Turn to COG Exhibit No. C-1. Identify the exhibit and explain to the examiners.

This is a generic comparative economic analysis between a 3-mile project and a 1-mile project. The assumptions for the analysis are noted at the bottom of the exhibit. The analysis shows that increased lateral lengths from COG's development plan leads to fewer surface and facility locations, increased completed lateral per section, and improved economics.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. C
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

7. Turn to COG Exhibit No. C-2. Identify what this is and walk us through it.

This shows our preferred development pattern on the left side and the alternate development pattern if Mewbourne were to drill its proposed 1-mile laydown wells through the acreage we propose to pool on the right side. The preferred development will allow for 15,180 feet of total lateral. Project capital will be approximately \$73.5 million. If Concho were forced to follow the sub-optimal development plan, it would only allow for 14,400 feet of total lateral. Project capital of \$89.7 million.

At current commodity pricing, 1-mile wells are not economic. While there may be slightly positive economic value associated with low discount rates and oil pricing at ~\$40/BBL, the risks associated with any new well development would make 1-mile wells a poor investment. Particularly when compared to Concho and Mewbourne's other development opportunities.

8. In your expert opinion, would the alternate plan cause waste?

Yes. The alternate plan uses capital inefficiently (requires an estimated \$22 million of additional capital to fully develop the 3 sections), and results in increased surface land used by wellbore SHLs as well as production facilities.

9. At current commodity pricing, would Concho drill the alternate plan any time soon?

No, Concho would not, particularly in the N/2 of section 6 where Concho would have a stranded 1-mile DSU. Concho would likely prioritize and develop it's longer lateral DSU's first that have more economic value.

10. Turn to COG Exhibit No. C-3. Identify what this is and walk us through it.

This exhibit shows an economic comparison between our preferred development pattern and the alternate development pattern. Again, assumptions are listed at the bottom of the exhibit. The Net Present Value discounted at 10% for our preferred development plan will be 60% more than the alternate plan. The preferred plan would also result in a 45% improvement to the total development return on investment (discounted at 10%) and a 96% better total development average rate of return more than the alternate plan. Using the lateral lengths from Exhibit C-2, drilling and completion costs (in total and on a per foot basis) are less under the preferred plan. Concho's development plan will cost approximately \$22 million less than the alternative plan. If Mewbourne drills its wells and forces the alternative plan, it will result in \$20-30 million of lost value to all parties involved.

11. Turn to COG Exhibit No. C-4. Identify the exhibit and explain to the examiner.

This exhibit illustrates how Concho's development plan will allow for more efficient recovery of the area. The red bar areas show the non-stimulated area. The alternative plan

would lead to a portion of the reservoir that would not be stimulated due to lost lateral length from statewide offset requirements.

12. Turn to COG Exhibit No. C-5. Identify what this is and walk us through it.

This shows how our preferred development pattern reduces surface and facility usage compared to Mewbourne's alternate development pattern. The green areas depict surface usage.

13. In your opinion, would granting COG's applications be in the best interest of conservation, prevent waste, and protect correlative rights?

Yes.

14. Were COG Exhibit Nos. C-1 through C-5 prepared by you or compiled under your direction or supervision?

Yes.

15. Does this conclude your direct testimony?

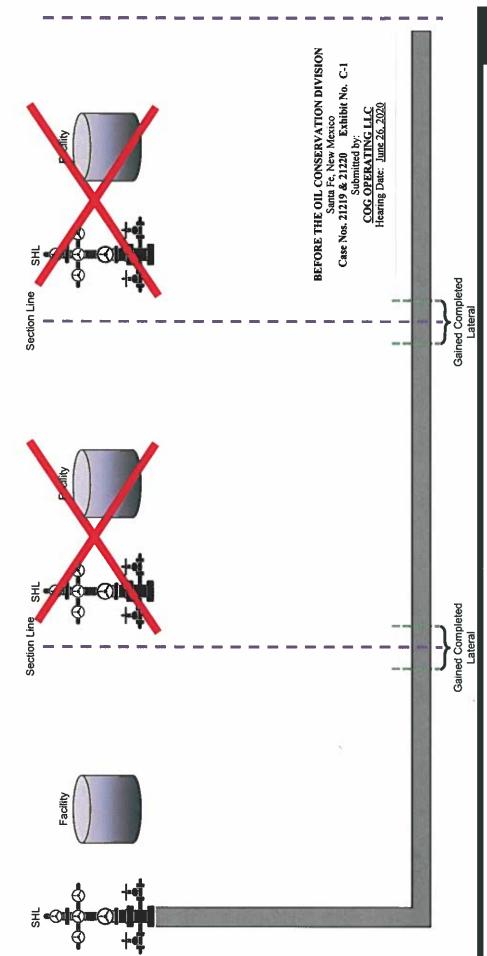
Yes.

3-Mile vs. 1-Mile Development Comparison

Scout development plan achieves the following:

- Fewer surface and facility locations
- Increased completed lateral per section
- Improved economics

12% More Completed Lateral/Section 67% Less Surface Use 39% Cheaper D&C/Ft 198% More PV10/Ft



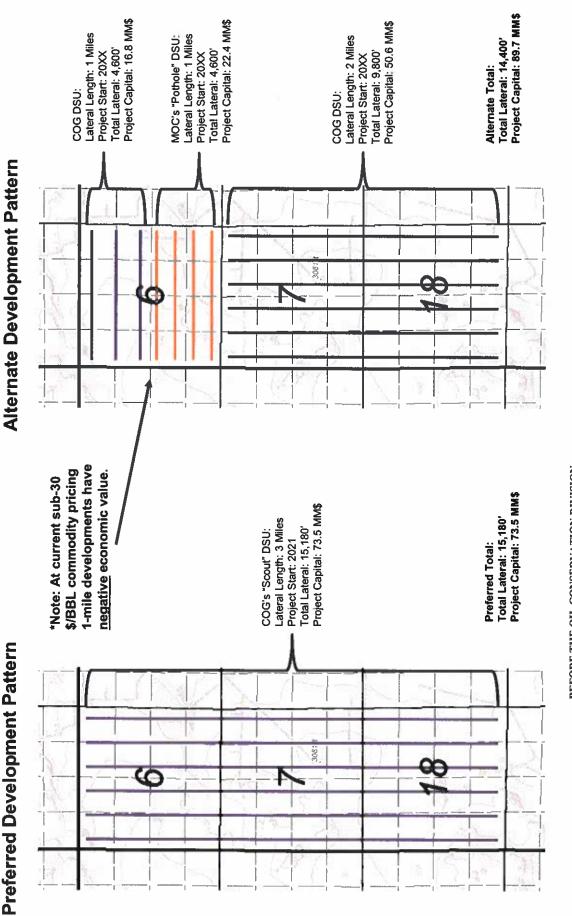


Improvements relative to typical 1-mile developments Pricing: 40 \$/BBL, 2.00 \$/MCF WI/NRI: 100/80

Analysis of Development Patterns

Possible Development Patterns

Comparison of Possible Development Patterns





BEFORE THE OIL CONSERVATION DIVISION

Case Nos. 21219 & 21220 Exhibit No. C-2 Santa Fe, New Mexico Submitted by:

COG OPERATING LLC Hearing Date: June 26, 2020

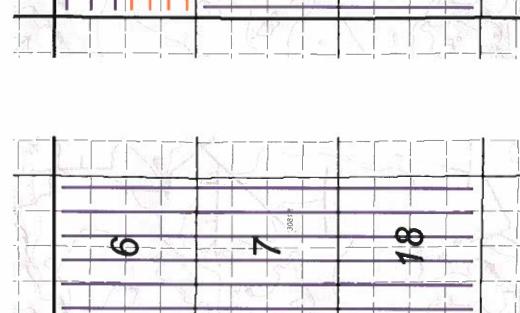
Benefits of Increased Lateral Lengths

Analysis of Development Patterns

Economic Comparison

Preferred Development Pattern





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NPV DISC10, MM\$ +60% CAPEX, MM\$ 73.5 ROI DISC10 +45%	
	%
	5 89.7
	%
ROR +96%	%
D&C/FT, \$ (Avg) 740	986

- estimated to be ~22 MM\$ cheaper. Preferred development plan is
- result in ~20-30 MM\$ of lost value. Alternate development plan would

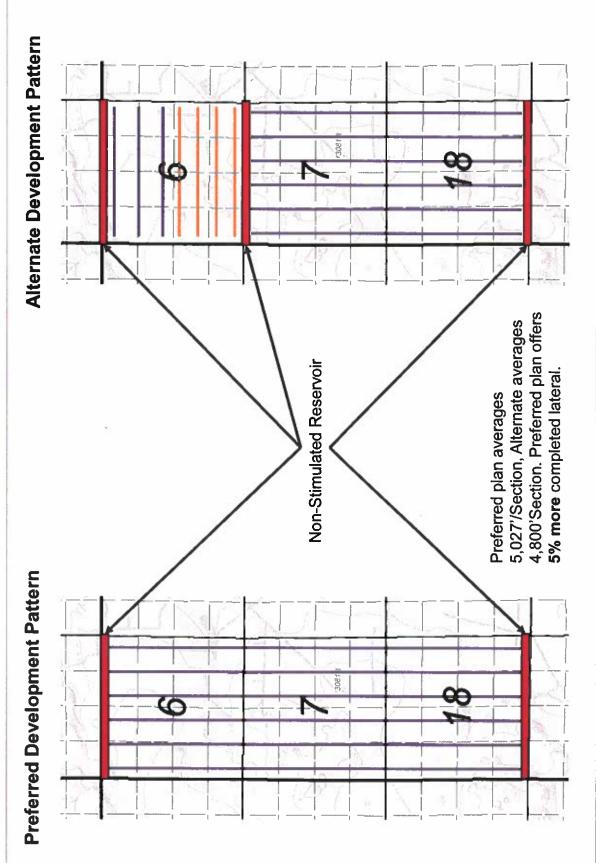
BEFORE THE OIL CONSERVATION DIVISION Santa Fe, New Mexico Case Nos. 21219 & 21220 Exhibit No. C-3 Submitted by:

COG OPERATING LLC
Hearing Date: June 26, 2020

Pricing: 40 \$/BBL, 2.00 \$/MCF WI/NRI: 100/80

CONCHO!

More Efficient Recovery





BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. C-4
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Benefits of Increased Develo
Lateral Lengths Pasts

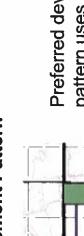
Possible Development Patterns

Analysis of Development

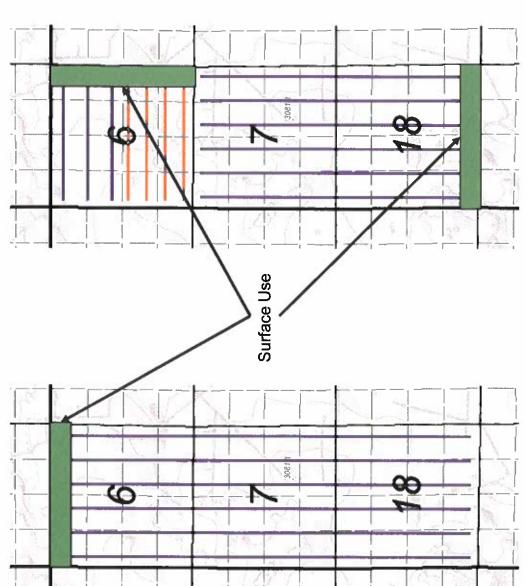
Reduced Surface Usage

Preferred Development Pattern

Alternate Development Pattern



pattern uses ~50% less Preferred development surface acres.



Santa Fe, New Mexico Case Nos. 21219 & 21220 Exhibit No. C-5 Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020 Possible Development Patterns

BEFORE THE OIL CONSERVATION DIVISION

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

APPLICATION OF COG OPERATING LLC FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

Case Nos. 21219 & 21220

DIRECT TESTIMONY OF PARKER SIMMONS

1. State your name, by whom you're employed, and in what capacity.

My name is Parker Simmons. I have been a drilling engineer with COG Operating LLC since 2016.

2. Have you previously testified before the Division?

No.

3. Please describe your educational and professional history along with any professional associations you are a member of.

I attended Texas A&M University and graduated with a Bachelor of Science in Petroleum Engineering in 2015. I have held various drilling positions at Concho including Drilling Foreman Engineer, Drilling Engineer, and currently Drilling Engineering Supervisor where I lead a team of engineers that manage all of our Delaware Basin rigs. I am a member of SPE and AADE.

4. Are you familiar with the applications that have been filed by COG in these cases?

Yes.

5. Have you conducted a drilling evaluation of the subject wells in Case Nos. 20219 and 2020?

Yes.

6. Turn to COG Exhibit No. D-1. Identify what this is and walk us through it.

This exhibit explains the process Concho will use to drill the proposed Scout wells. First, we used the Honey Graham State Com 703H as the analog well which is a 2.5 mile lateral that was drilled in late 2019. We used Landmark WellPlan to model the Scout wells using the Honey Graham to calibrate the models. We identified possible drilling limiters in the modeling which I will review for you in my next exhibits.

7. What is COG Exhibit No. D-2?

This first graph depicts the Honey Graham State Com 703H trip out at 90 feet at a time. The blue dots represent 10 second data plotted at TD. We look at friction factors which quantify the friction between the drill pipe and rock/casing with lubricity and tortuosity. The range of friction factors and actual well path shows the model fits. The range of friction factors is shown at the bottom right of the graph in red and ranges from 0.12 to 0.20. The fit of the model is high quality because the plotted dots fit within the range of friction factors.

8. What is COG Exhibit No. D-3?

This exhibit is the model built for the Scout wells to show the trip out. Again, we used the well path designed for the Scout and the friction factors to determine the hook load. This model shows no limitation in drilling on the trip out of the hole. The max hook load is 500 kip at surface. The high side of the range (0.20) for the Scouts is 280 kip. The industry standard is to have a 100kip margin of overpull and this model shows we still have 220,000.

9. Explain COG Exhibit D-4?

Next, we examined the trip in for the Honey Graham well and this graph shows the results. We see the data plotted fits within the range of friction factors (shown at bottom in red ranging from 0.20 to 0.12). Modeling the trip in is more difficult because the drill pipe must be filled with drilling fluid as you trip in and that is why you see more of a stair step in the data plotted. However, the model does show it is good quality when examining a range of friction factors and the actual well path.

10. Identify COG Exhibit D-5 and explain to the examiner.

As we did for the trip out, we then use the analog well to model the trip in for the Scout wells. Using the same range of friction factors, the model shows drilling is not limited on the trip in.

11. What is COG Exhibit D-6?

This exhibit evaluates drilling torque for the Scout wells. The model was built using the planned well path for a Scout well and the friction factors from the Honey Graham well trip in and out. We also used 5,000 ft-lb of bit torque from the analog well. The graph depicts the torque building until the casing is reached and then there is a change of slope. The model shows at the high side of the friction factors there is 22,000 ft-lb of torque. Drilling would be limited at 35,000 ft-lb. Therefore, there is no torque limitation.

12. Identify COG Exhibit D-7 and explain to the examiner.

This is a plot of surface pressure and pump pressure to make sure it does not exceed rig capability. The model was calibrated using the surface pressure at TD of the Honey Graham well. The blue line is system pressure loss. The grey line is string pressure loss. The red line is maximum pump pressure. The model shows that max pump pressure is not reached and thus there is no pressure limitation.

13. Discuss COG Exhibit D-8.

This exhibit shows the model for drilling equivalent circulating density at TD. This is a pure model because ECD is not measured. The model was built using the planned well path, 550 gallons per minute (estimated flow rate at TD for Scout Well) 0.7 psi/ft fracture gradient (actual low end of the fracture gradient for the Wolfcamp in this area). When I read this bringing up a FIT only adds more information that is already covered by the slide. The blue line shows the annulus of the well and the red line is the fracture gradient. Drilling is not ECD limited.

14. What is COG Exhibit D-9?

The exhibit shows running of casing for the Honey Graham well. A higher range of friction factors was used to be conservative because running casing can have some different dynamics than drilling that will present as higher friction. The picture on the right demonstrates "floated" casing with the red equaling mud and the yellow representing air.

15. Explain COG Exhibit D-10 to the examiner.

The exhibit is a model of running casing for the Scout wells. We used a wider range of friction factors than the analog well as shown in red at the bottom of the graph (0.45-0.15). 0.45 is the outer extreme and we expect the range to be more likely between 0.30-0.15. However, even with the conservative range, the model shows casing reaching bottom without rotating.

16. In your opinion, would granting COG's applications be in the best interest of conservation, prevent waste, and protect correlative rights?

Yes.

17. Were COG Exhibit Nos. D-1 through D-10 prepared by you or compiled under your direction or supervision?

Yes.

18. Does this conclude your direct testimony?

Yes.

Scout Development - Drilling 3 Mile Wells

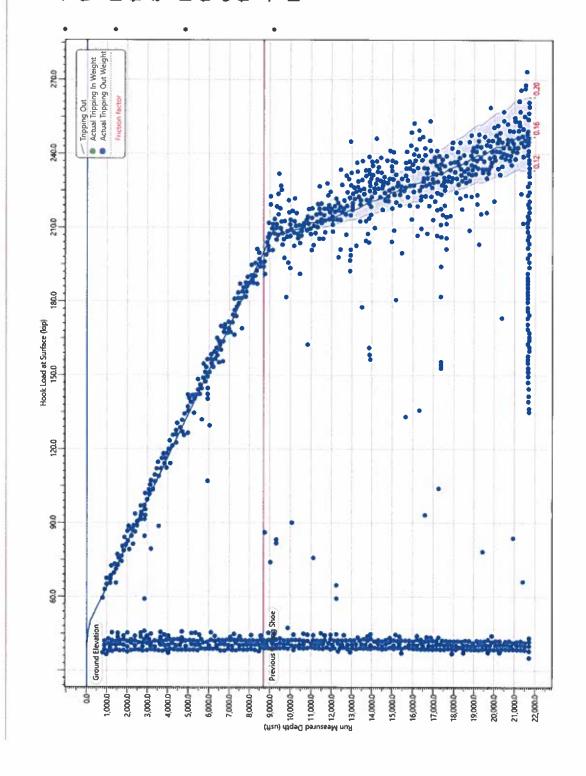
Process

- Analog well
- Honey Graham State Com 703H part of a 3 well 2.5 mile project drilled in the end of 2019, Wolfcamp A, Sec 20, T26S, R28E. Roughly 8 miles south of Scout development and in the same formation.
- Model Scout Wells in Landmark WellPlan (Halliburton software, industry recognized)
- Use Analog well to calibrate model for 3 mile Scout development
- Identify possible drilling limiters to be modeled
- Trip out at TD
- Trip in at TD
- Torque at TD
- Surface pump pressure
- · ECD (equivalent circulating density) at TD
- Running production casing



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-1
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Honey Graham State Com 703H - Trip Out



10 second data plotted for trip out at TD (dots)

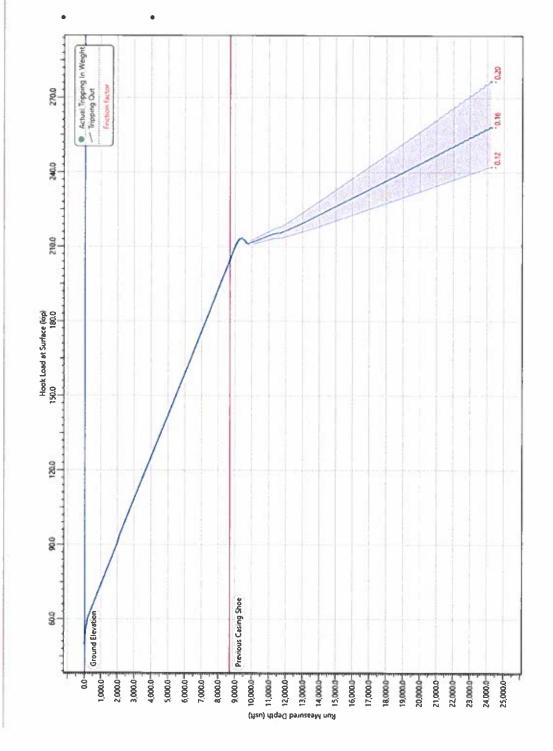
Model fit using a range of friction factors and the actual well path (line) Friction factor quantifies the friction between the drill pipe and rock / casing for the particular fluid type

The fit of this model would be considered high quality



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-2
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Scout Development - Trip Out



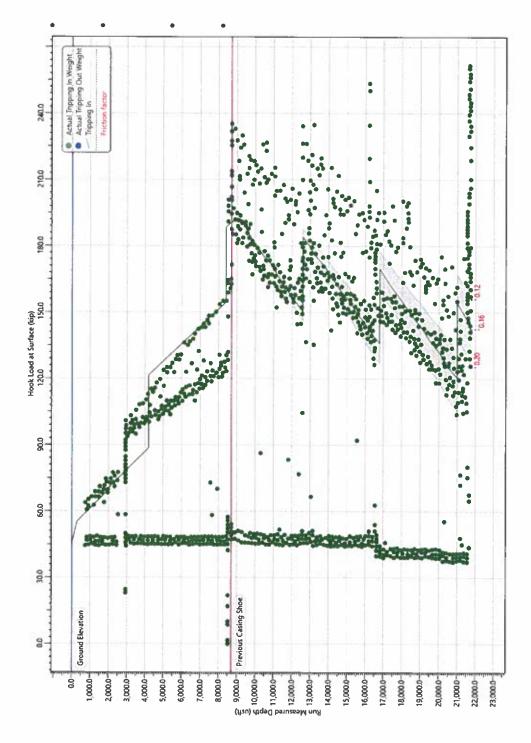
Model built using planned well path for a Scout well and the friction factors from the analog well

Drilling is not limited on trip out of hole



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-3
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Honey Graham State Com 703H - Trip In



10 second data plotted for trip out at TD (dots)

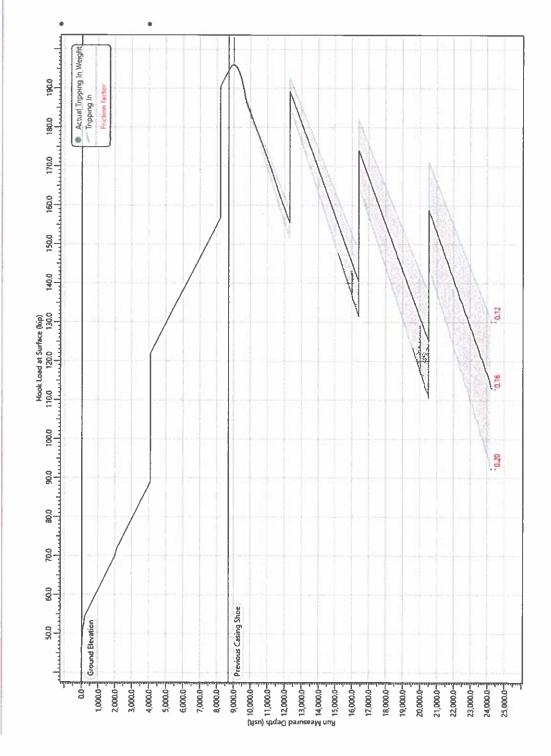
Model fit using a range of friction factors and the actual well path (line) The fit of this model would be considered good quality

Drill pipe fill up intervals can be difficult to model



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-4
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Scout Development - Trip IN



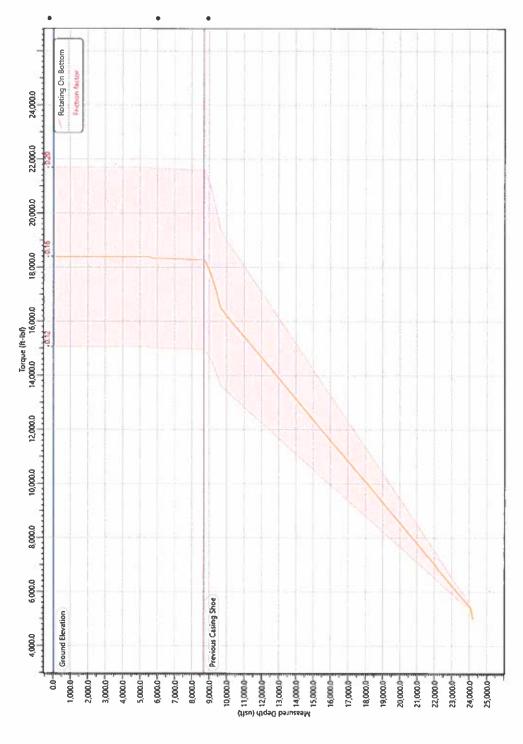
Model built using planned well path for a Scout well and the friction factors from the analog well

Drilling is not limited on trip in of hole



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-5
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Scout Development - Drilling Torque



Model built using planned well path for a Scout well and the friction factors from the analog well trip in and out

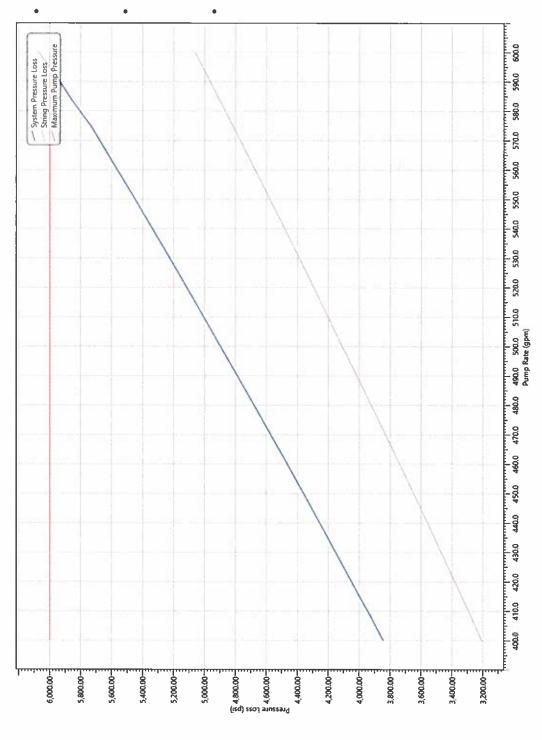
Modeled with 5,000 ft-lb of bit torque

Drilling is not torque limited



■ BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-6
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Scout Development - Drilling Surface Pump Pressure

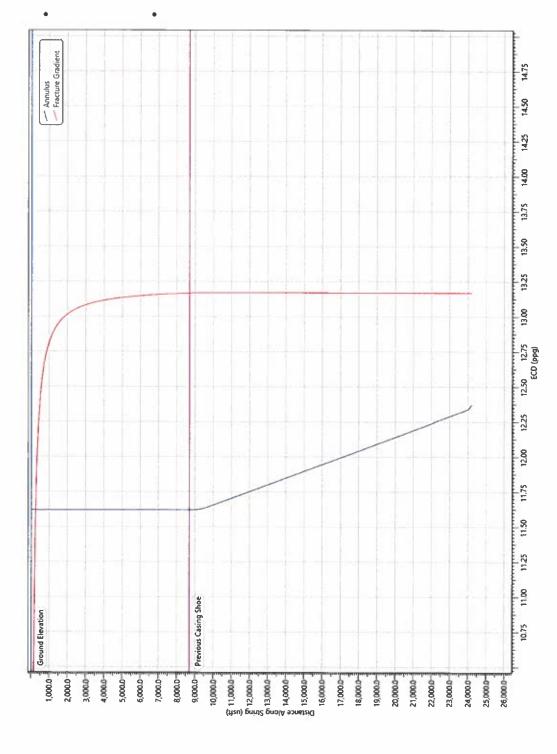


- Model calibrated using surface pressure at TD on the Honey Graham State Com 703H
- Honey Graham State Com 703H reached TD with 5,200 psi of surface pressure at 550 gpm
- Drilling is not pressure limited



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-7
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Scout Development - Drilling ECD at TD



Model built using planned well path for a Scout well, 550 gpm, 11.2 ppg mud weight and 0.7 psi/ft fracture gradient

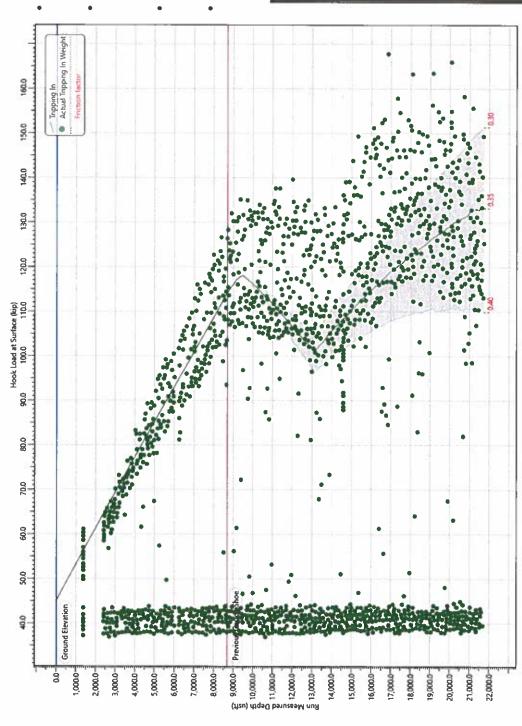
Drilling is not ECD limited



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-8
Submitted by:

Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Honey Graham State Com 703H - Running Casing

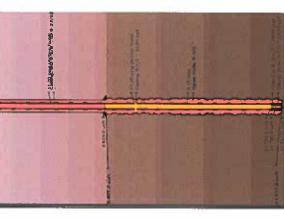


10 second data plotted for trip out at TD (dots)

Model fit using a range of friction factors and the actual well path (line)

The fit of this model would be considered fair quality

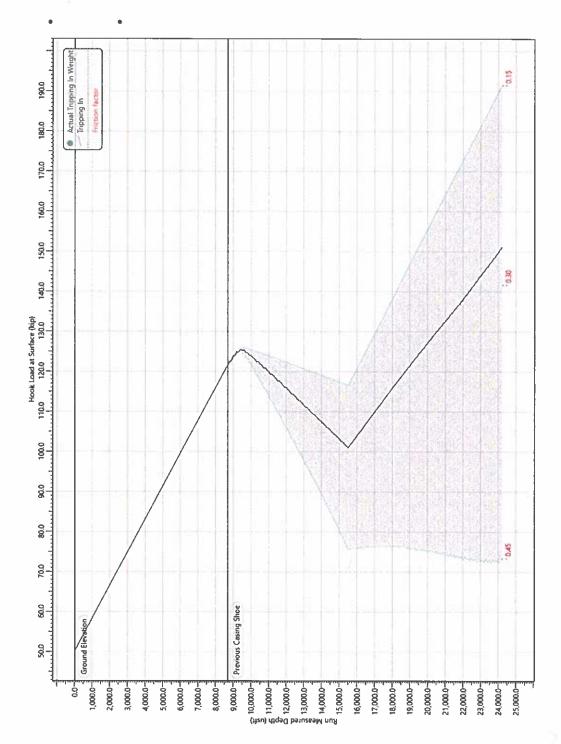
Casing was "floated" (casing void of fluid in open hole section)



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-9
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020



Scout Development - Running Casing



Model built using a wider range of friction factors than the Analog match

0.45 friction factor is very conservative, model still shows casing going to bottom with out rotating

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. D-10
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020



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

APPLICATION OF COG OPERATING LLC FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

Case Nos. 21219 & 21220

DIRECT TESTIMONY OF CRAIG ROHWER

Craig Rohwer, of lawful age and being first duly sworn, declares as follows:

1. State your name, by whom you're employed, and in what capacity.

My name is Craig Rohwer, I have been a completions engineer with COG Operating LLC since August 2012.

2. Have you previously testified before the Division?

No.

3. Please describe your educational and professional history along with any professional associations you are a member of.

I attended the University of Texas at Austin, graduating with a Bachelor of Science in Mechanical Engineering in 1991. I worked 21 years for Halliburton Energy Services, in various engineering, technical, business development, and engineering management capacities, primarily focused on well construction and completions, cementing, stimulation, wireline, and downhole tools. I have worked almost 8 years for COG Operating, LLC as a Completions Engineer, Completions Engineering Supervisor, and Completions Manager. The last 27 of my 29 years of experience have been in West Texas and SE New Mexico. I am a member of SPE.

4. Are you familiar with the applications that have been filed by COG in these case

5. Have you conducted a completions evaluation of the subject wells in Case Nos. 20219 and 2020?

Yes.

Yes.

Hearing Date: June 26, 2020

6. Turn to COG Exhibit No. E-1. Identify what this is and walk us through it.

This exhibit provides a summary of COG experience with 3-mile laterals. In late 2019 and early 2020, COG drilled and completed 6 wells in the Midland Basin. 5 of the wells were in the Wolfcamp and 1 was in the Spraberry. The median values for total measured depth, total vertical depth and completed lateral length are shown here.

7. What is COG Exhibit No. E-2 and E-3?

COG used the common method for completion known as a plug and perf. Briefly, this method starts with pumping down a frac plug and perforating guns on wireline out to then end of the lateral. After setting the plug, the perf guns shoot holes or perforations in the casing. The wireline is then pulled out of the well and then hydraulic fracturing takes place on that stage. These steps are repeated for each stage of the well from the toe to the heel. Next, a pulling unit is brought in to drill out the plugs and clean out any sand in the wellbore before the well is put on production.

COG successfully completed all the wells and they are producing as expected. There were no completion issues due to the extended lateral length.

8. Has COG completed any 3-mile wells in NM? What about 2.5-mile wells?

COG has not completed any 3-mile wells in New Mexico. COG has completed six 2.5-mile wells in Eddy County, New Mexico.

9. What is COG Exhibit No. E-4?

This exhibit compares COG's Texas 3-mile wells to the proposed New Mexico 3-mile wells. Total measured depth, total vertical depth, completed lateral length, frac gradient, and casing size are all similar to the 3-mile wells in Texas as to the proposed Scout wells.

10. Explain COG Exhibit No. E-5 to the examiner.

This exhibit summarizes the challenges and mitigation strategies for 3-mile completions. There are three main challenges: (1) pipe friction (2) wireline operations and (3) drillouts. Each of these challenges will be explained in further detail in the next exhibits.

11. What is **COG** Exhibit No. E-6? Explain to the examiner.

COG first examined whether the additional wellbore length would create excessive pipe friction that could hinder successful hydraulic fracture execution. COG evaluated different friction reducers and modeled estimated wellhead treating pressures shown in this exhibit. The simulation showed the frac job could be pumped at the designed rate without any issues. As predicted, the fracs were pumped to completion as designed.

12. Explain what is being shown in COG Exhibit No. E-7 and E-8.

Longer laterals create more friction and line drag, posing potential problems with conventional steel wireline. This additional line drag can make it more difficult to pump the plug and guns out to the end of the well and subsequently retrieve them. COG had pre-job modeling run to simulate the wireline job with both conventional steel wireline and coated wireline, shown in Exhibit E-5. Based on the modeling, COG chose to use coated wireline versus traditional steel line to reduce line drag and maximum overpull limitations.

13. Identify and explain **COG Exhibit E-9**.

Again, because of the increased friction and drag from the longer lateral, it could be difficult to rotate and push the pipe out to the end of the lateral when drillout out plugs. COG used pre-job simulation modeling to identify potential issues and to determine the optimum drill string design as shown in this exhibit. COG also used dissolvable plugs in the toe of the 3-mile wells to mitigate any potential issues that could be encountered while drilling out plugs. Dissolvable plugs should allow production from the toe even if the plugs could not be drilled out.

14. What is **COG Exhibit E-10**?

To verify production from the toe of the 3-mile laterals, COG ran tracers in the frac fluid. COG utilized the tracers to verified production from the toe stages and heel stages of lateral as shown in this exhibit.

15.	. In your opinion, would granting C	OG's applications be in the best interest of
	conservation, prevent waste, and p	protect correlative rights?

Yes.

16. Were COG Exhibit Nos. E-1 through E-10 prepared by you or compiled under your direction or supervision?

Yes.

17. Does this conclude your direct testimony?

Yes.

6 wells completed in Midland Basin 4Q19 - 1Q20

5 Wolfcamp, 1 Spraberry

Total Measured Depth ± 24,500'

➤ Total Vertical Depth ± 9,250'

Completed lateral length ± 15,400'

Completion Method

Plug and Perf Frac

▶ Pulling Unit Drillout

Outcomes

➢ All six wells completed as planned

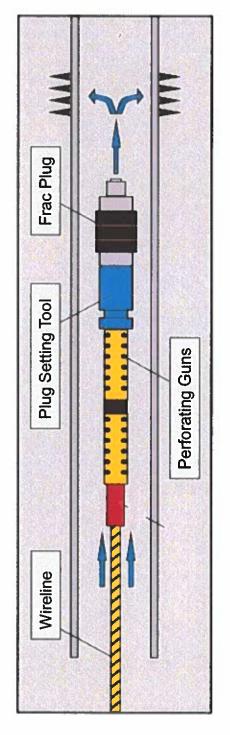
All six wells on production and performing as expected

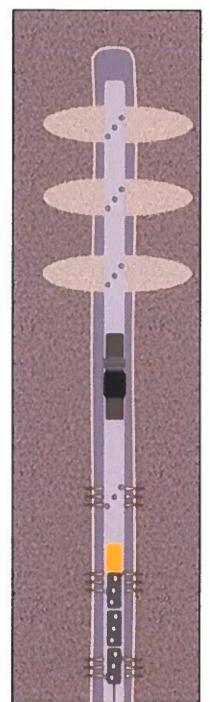
No completion issues related to extended lateral length



COG OPERATING LLC
Hearing Date: June 26, 2020

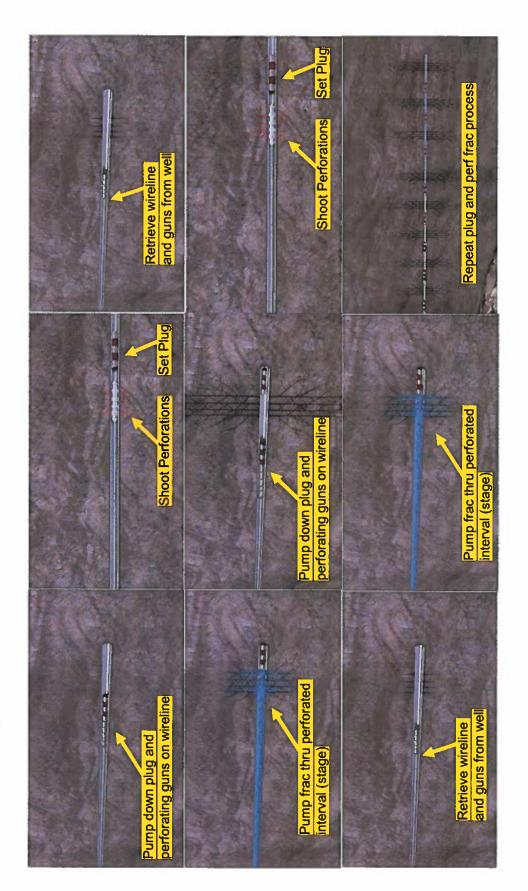
Plug and Perf Completion Method







Plug and Perf Completion Method



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. E-3

Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020



Proposed Scout 3 Mile Completions are similar to the Midland Basin 3 Mile Completions

	Midland Basin 3 Mile Completions*	Scout 3 Mile Completions
Total Measured Depth	24,500'	24,300'
Total Vertical Depth	9,250	9,320'
Completed Lateral Length	15,400'	14,950'
Frac Gradient	0.87 psi/ft	0.80 psi/ft
Production Casing	5.5"	5.5"

^{*}Median value of 6 well dataset



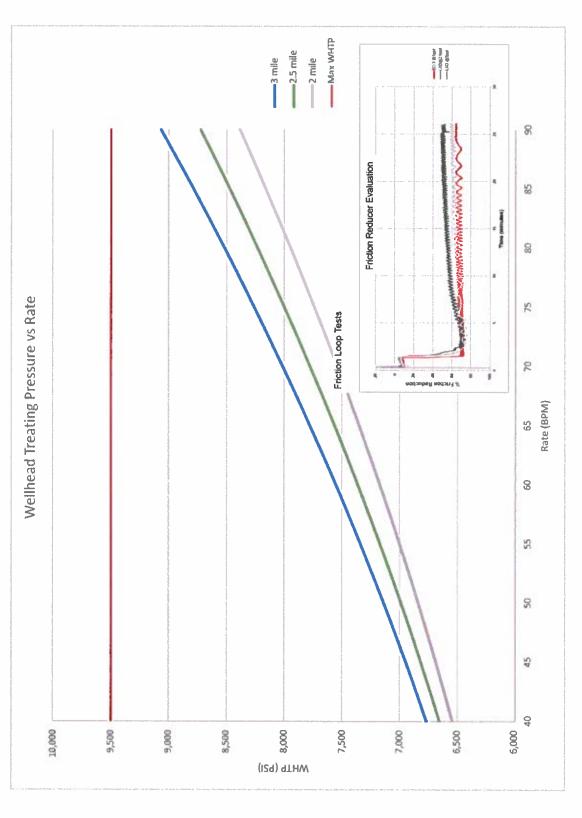
BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. E-4
Submitted by:

Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

- Challenges and Mitigation Strategies on 3 Mile Completions
- Pipe Friction potential issues due to additional wellbore pipe friction hindering frac job execution
- Ran pre-job frac simulation and friction reducer performance testing no issues predicted
- Fracs were pumped successfully at designed rates and pressures
- Wireline Operations potential issues due to additional line drag and equipment limitations
- Ran pre-job wireline simulations to identify potential issues
- Used coated wireline to reduced line drag and maximum pull limitations
- Drillouts potential issues drilling out frac plug to TD due to additional torque and drag A
- Pre-job drillout simulations for identifying potential issues and drill string design
- Dissolvable frac plugs run in toe mile of lateral
- Tracers run in frac fluid on toe stages allowed verification of production from toe of lateral



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. E-5
Submitted by:
COG OPERATING LLC
Hearing Date: June 26. 2020

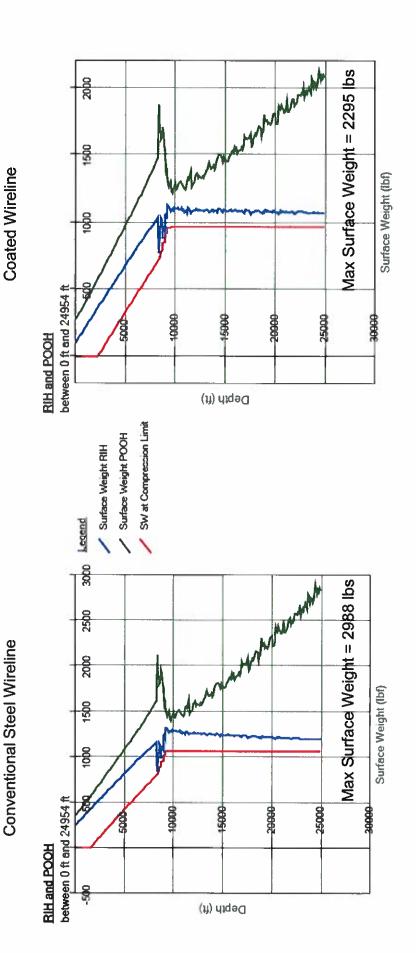




BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos, 21219 & 21220 Exhibit No. E-6
Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

3 Mile Lateral Completions - Wireline Simulation

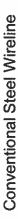
CERBERUS Tool Deployment Simulation



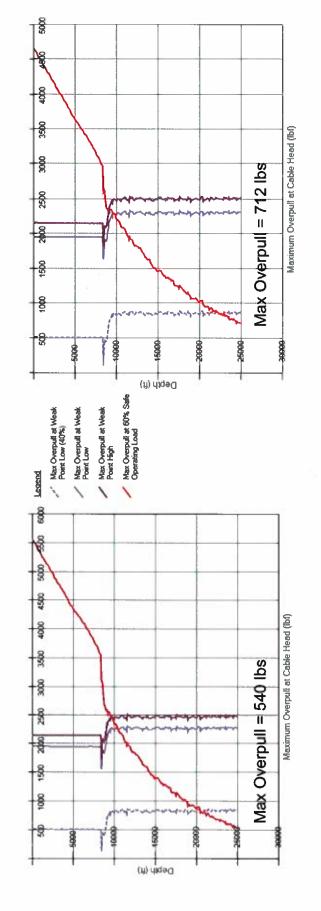


3 Mile Lateral Completions - Wireline Simulation

CERBERUS Tool Deployment Simulation



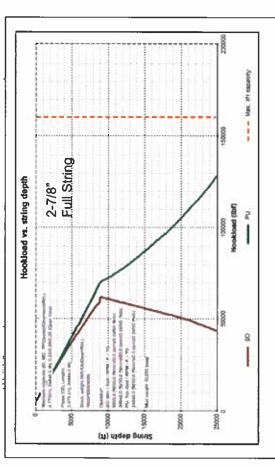


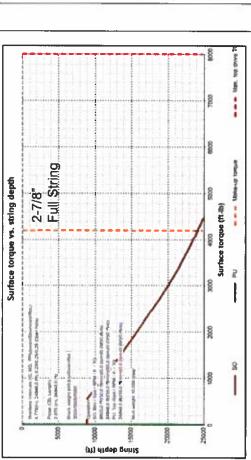


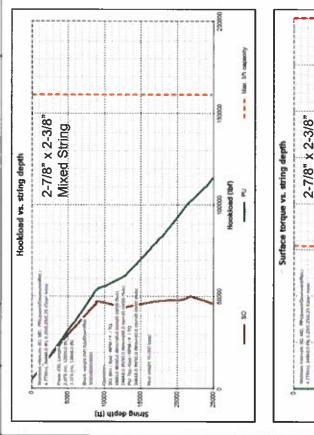


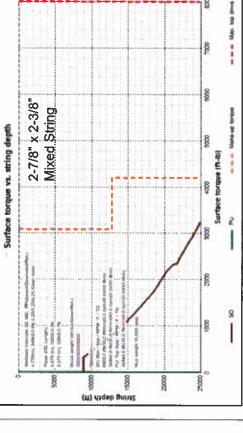
3 Mile Lateral Completions - Drillout Drill String Modeling

TADPRO Torque and Drag Model











BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. E-9
Submitted by:

Submitted by:
COG OPERATING LLC
Hearing Date: June 26, 2020

Production Verification with Tracers

