

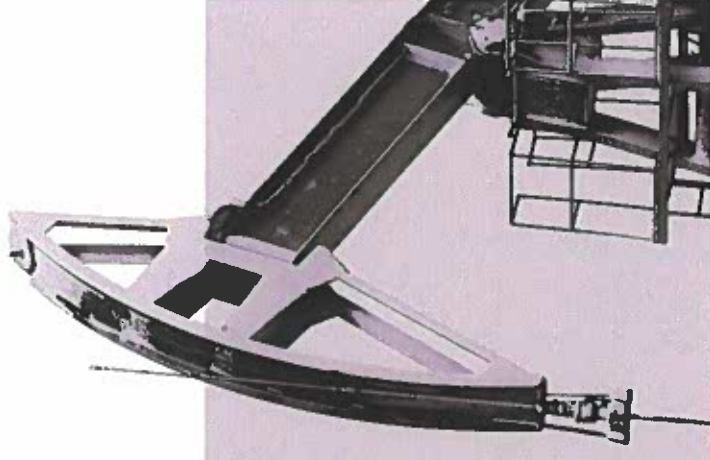
COG Operating LLC

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.

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Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name	
4 Property 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

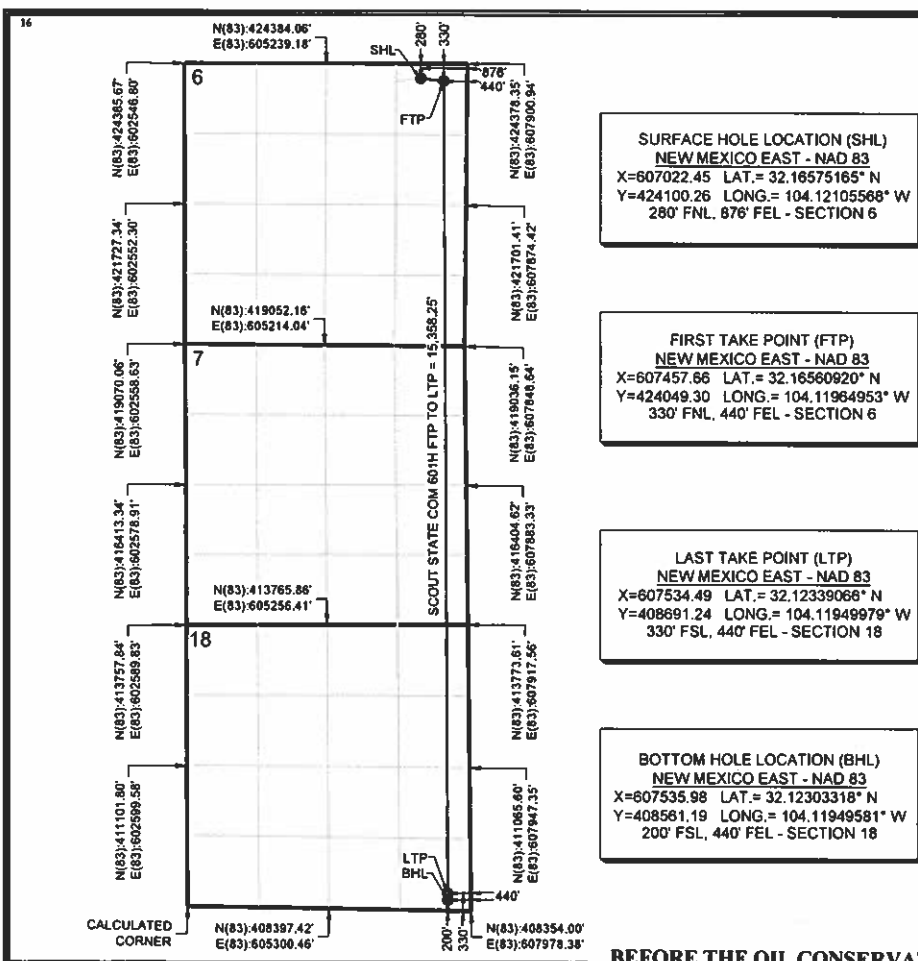
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	6	25-S	28-E		280'	NORTH	876'	EAST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	18	25-S	28-E		200'	SOUTH	440'	EAST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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.



17 OPERATOR CERTIFICATION

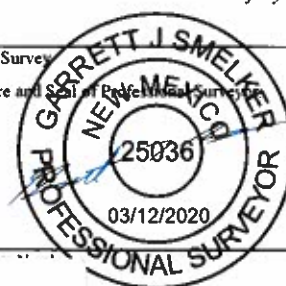
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____
Printed Name _____
E-mail Address _____

" SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey _____
Signature and Seal of Professional Surveyor _____



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

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4 Property Code	5 Property Name SCOUT STATE COM	6 Well Number 602H
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 line	County
A	6	25-S	28-E		280'	NORTH	906'	EAST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	18	25-S	28-E		200'	SOUTH	1342'	EAST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
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	<p>17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
	<p>18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor _____</p>
	<p>25036 03/12/2020 PROFESSIONAL SURVEYOR</p>
	<p>Certificate Number _____</p>

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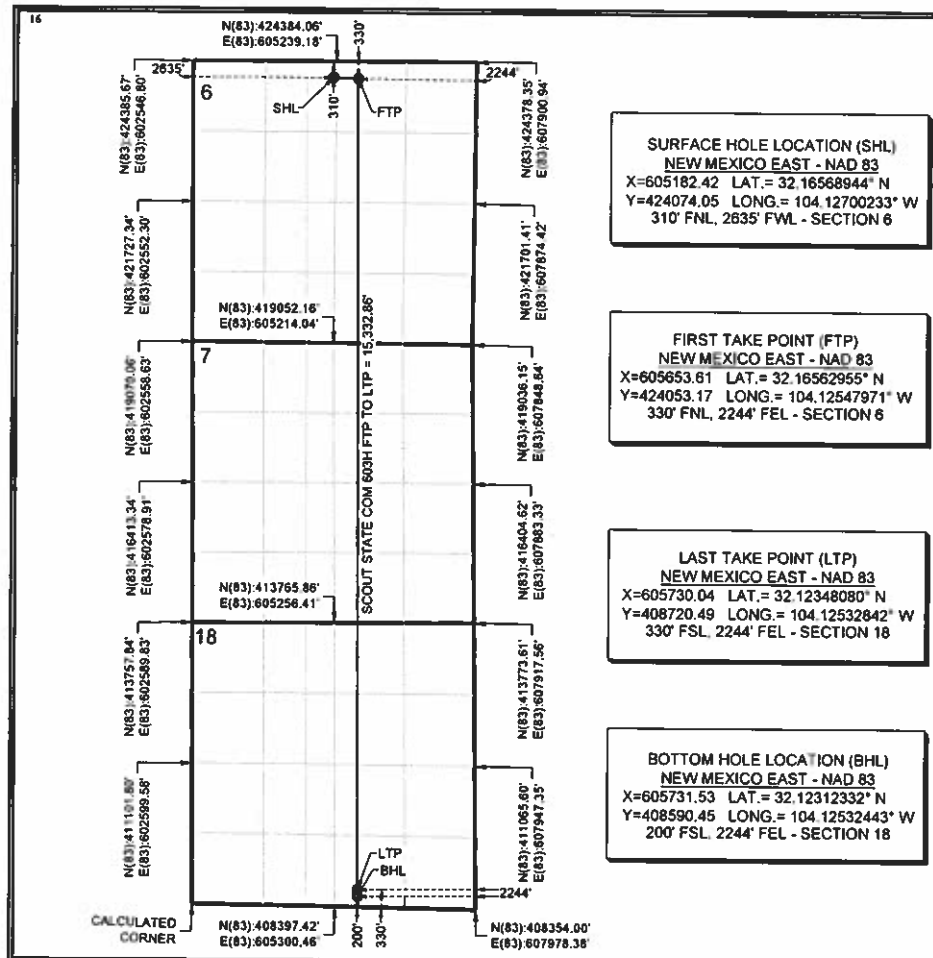
WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name	
4 Property Code		5 Property Name SCOUT STATE COM			
7 OGRID No.		8 Operator Name COG OPERATING LLC			
		6 Well Number 603H			
		9 Elevation 3056'			

10 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	6	25-S	28-E		310'	NORTH	2635'	WEST	EDDY

11 Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	18	25-S	28-E		200'	SOUTH	2244'	EAST	EDDY
12 Dedicated Acres		13 Joint or Infill		14 Consolidation Code		15 Order No.			

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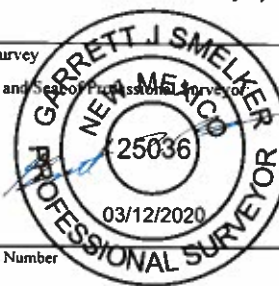
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Signature _____ Date _____
Printed Name _____
E-mail Address _____

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WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name	
4 Property Code		5 Property Name SCOUT STATE COM			6 Well Number 604H
7 OGRID No.		8 Operator Name COG OPERATING LLC			9 Elevation 3056'

" Surface Location

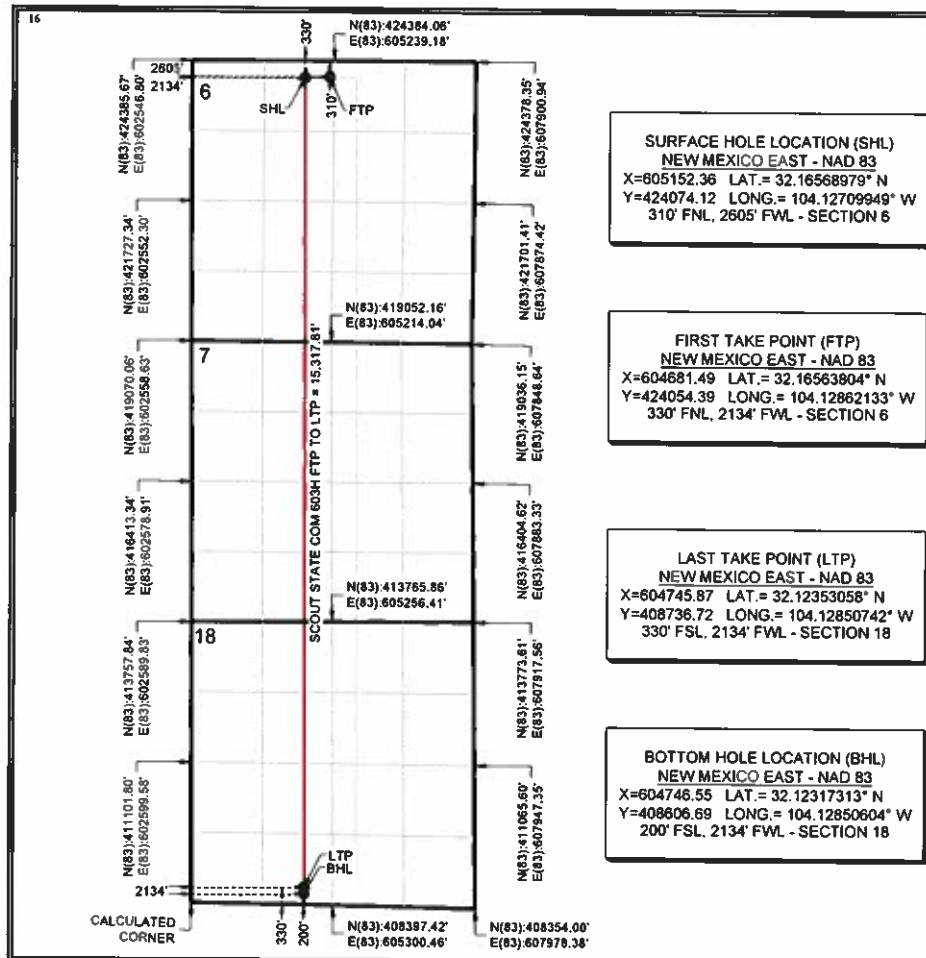
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	6	25-S	28-E		310'	NORTH	2605'	WEST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	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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1 API Number		2 Pool Code		3 Pool Name	
4 Property Code		5 Property Name SCOUT STATE COM			6 Well Number 605H
7 OGRID No.		8 Operator Name COG OPERATING LLC			9 Elevation 3064'

" Surface Location

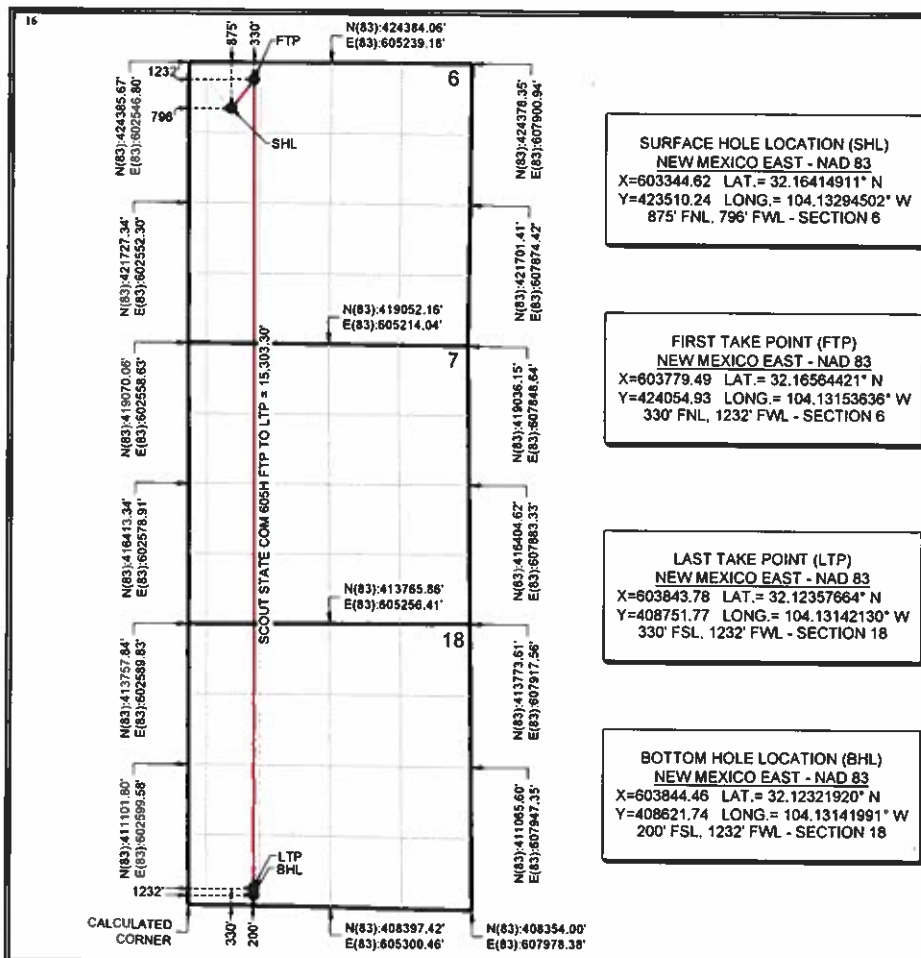
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	6	25-S	28-E		875'	NORTH	796'	WEST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
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17 OPERATOR CERTIFICATION

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Signature _____ Date _____

Printed Name _____

E-mail Address _____

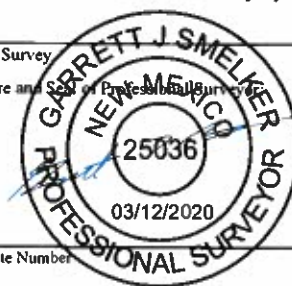
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Date of Survey _____

Signature and Seal of Professional Surveyor _____

Certificate Number _____



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4 Property Code		5 Property Name SCOUT STATE COM			
7 OGRID No.		8 Operator Name COG OPERATING LLC			
				6 Well Number 606H	
				9 Elevation 3064'	

10 Surface Location

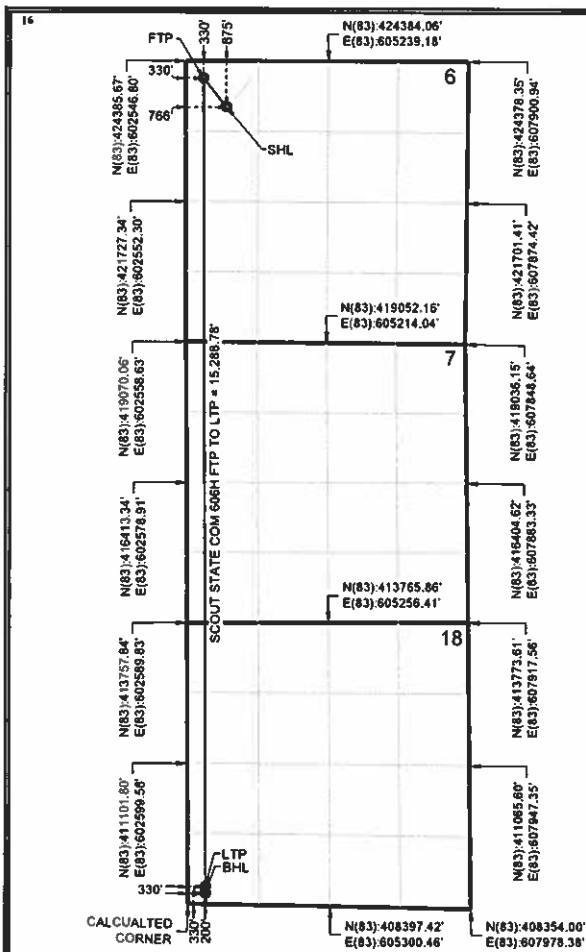
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	6	25-S	28-E		875'	NORTH	766'	WEST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	18	25-S	28-E		200'	SOUTH	330'	WEST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.

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SURFACE HOLE LOCATION (SHL)
NEW MEXICO EAST - NAD 83
X=603314.83 LAT.= 32.16414946° N
Y=423510.30 LONG.= 104.13304194° W
875' FNL, 766' FWL - SECTION 6

FIRST TAKE POINT (FTP)
NEW MEXICO EAST - NAD 83
X=602877.49 LAT.= 32.16565031° N
Y=424055.47 LONG.= 104.13445139° W
330' FNL, 330' FWL - SECTION 6

LAST TAKE POINT (LTP)
NEW MEXICO EAST - NAD 83
X=602941.69 LAT.= 32.12362264° N
Y=408766.83 LONG.= 104.13433379° W
330' FSL, 330' FWL - SECTION 18

BOTTOM HOLE LOCATION (BHL)
NEW MEXICO EAST - NAD 83
X=602942.37 LAT.= 32.1236519° N
Y=408636.80 LONG.= 104.13433379° W
200' FSL, 330' FWL - SECTION 18

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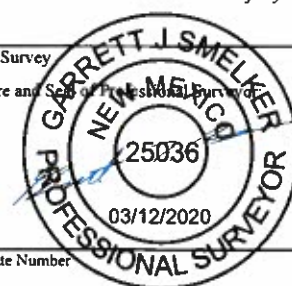
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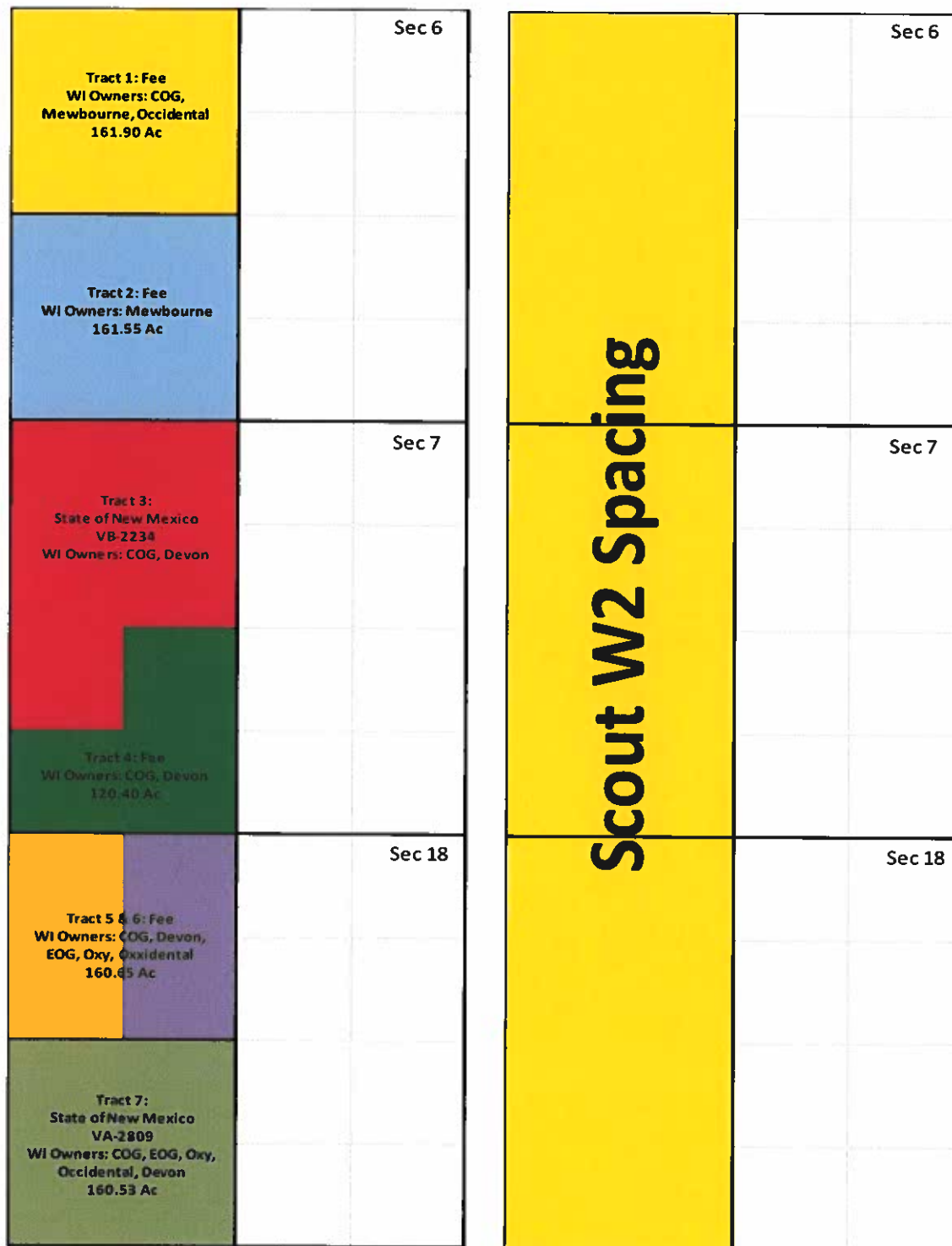
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Date of Survey _____

Signature and Seal of Professional Surveyor _____

Certificate Number _____





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

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

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

ORRI Parties to Pool:

N/A

RI Owner Requiring Pooling:

Devon Energy Prod. Co. LP

Pooling

Leashold Ownership					
	COG/Concho	Occidental/Oxy	Devon	EOG	Mewbourne
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 4: State of New Mexico VA-2809 WI Owners: COG, EOG, Oxy, Occidental, Devon 160.00 Ac
		Tract 5: Fee COG, EOG, Oxy, Occidental 160.00 Ac

Sec 6		Scout E2 Spacing
Sec 7		
Sec 18		

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	Mewbourne
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.

BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

One Concho Center | 600 West Illinois Avenue | Midland, Texas 79701 | Case Nos. 21219 & 21220 Exhibit No. A-3

Submitted by:

COG OPERATING LLC

Hearing Date: June 26, 2020

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.

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

Please Indicate your election below:

<u>WELL NAME</u>	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

By: _____

Name: _____

Title: _____

Date: _____

CWM 2000-B, LTD.

By: _____

Name: _____

Title: _____

Date: _____

MEWBOURNE ENERGY PARTNERS 13-A

By: _____

Name: _____

Title: _____

Date: _____

3 MG CORPORATION

By: _____

Name: _____

Title: _____

Date: _____

MEWBOURNE DEVELOPMENT

By: _____

Name: _____

Title: _____

Date: _____

CWM 2000-B II, LTD.

By: _____

Name: _____

Title: _____

Date: _____

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
Drill & Complete**

Well Name SCOUT STATE COM 601H
SHL 6: 220 FNL, 778 FEL OR UNIT A
BHL 18: 330 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

Cost Description	Code	Pre-Set (PS)	Pre-Set Casing (PC)	Drilling (DR)	Completions (C)	Tank Btty Constrcn (TB)	Pmpq Equip (PEQ)	Revision	Total
Intangible Costs									
D-Loch/Pits/Roads	205			\$ 136,000.00			\$ -	\$ -	136,000.00
D-Drilling Overhead	206			\$ 13,000.00			\$ -	\$ -	13,000.00
D-Daywork Contract	209			\$ 953,000.00			\$ -	\$ -	953,000.00
D-Directional Drtg Services	210			\$ 456,000.00			\$ -	\$ -	456,000.00
D-Fuel & Power	211			\$ 203,000.00			\$ -	\$ -	203,000.00
D-Water	212			\$ 108,000.00			\$ -	\$ -	108,000.00
D-Bits	213			\$ 151,000.00			\$ -	\$ -	151,000.00
D-Mud & Chemicals	214			\$ 361,000.00			\$ -	\$ -	361,000.00
D-Cement Surface	217			\$ 28,000.00			\$ -	\$ -	28,000.00
D-Cement Intermed	218			\$ 107,000.00			\$ -	\$ -	107,000.00
D-Prod-2nd Int Cmt	219			\$ 158,000.00			\$ -	\$ -	158,000.00
D-Float Equipment & Centralizers	221			\$ 86,000.00			\$ -	\$ -	86,000.00
D-Csg Crews & Equip	222			\$ 93,000.00			\$ -	\$ -	93,000.00
D-Contract Labor	225			\$ 10,000.00			\$ -	\$ -	10,000.00
D-Company Sprvsn	226			\$ 73,000.00			\$ -	\$ -	73,000.00
D-Contract Sprvsn	227			\$ 171,000.00			\$ -	\$ -	171,000.00
D-Tstg Csg/Tbg	228			\$ 58,000.00			\$ -	\$ -	58,000.00
D-Mud Logging Unit	229			\$ 65,000.00			\$ -	\$ -	65,000.00
D-Rentals-Surface	235			\$ 281,000.00			\$ -	\$ -	281,000.00
D-Rentals-Subsfc	236			\$ 131,000.00			\$ -	\$ -	131,000.00
D-Trucking/Forklift/Rig Mob	237			\$ 201,000.00			\$ -	\$ -	201,000.00
D-Welding Services	238			\$ 5,000.00			\$ -	\$ -	5,000.00
D-Contingency	243			\$ 88,000.00			\$ -	\$ -	88,000.00
D-Envrnmnt/Clad Loop	244			\$ 441,000.00			\$ -	\$ -	441,000.00
C-Wellbore Frac Prep	304				\$ 127,000.00		\$ -	\$ -	127,000.00
C-Loch/Pits/Roads	305				\$ 16,000.00		\$ -	\$ -	16,000.00
C-Completion OH	306				\$ 23,000.00		\$ -	\$ -	23,000.00
C-Frac Equipment	307				\$ 1,464,000.00		\$ -	\$ -	1,464,000.00
C-Frac Chemicals	308				\$ 627,000.00		\$ -	\$ -	627,000.00
C-Frac Proppant	309				\$ 285,000.00		\$ -	\$ -	285,000.00
C-Frac Proppant Transportation	310				\$ 442,000.00		\$ -	\$ -	442,000.00
C-Fuel Delivery & Services	311				\$ 64,000.00		\$ -	\$ -	64,000.00
C-Water	312				\$ 866,000.00		\$ -	\$ -	866,000.00
C-Frac Surface Rentals	315				\$ 480,000.00		\$ -	\$ -	480,000.00
C-Contract Labor	325				\$ 16,000.00		\$ -	\$ -	16,000.00
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				\$ 61,000.00		\$ -	\$ -	61,000.00
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
TB-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
Total Intangible Costs		\$ -	\$ -	\$ 4,377,000.00	\$ 6,598,000.00	\$ 229,000.00	\$ 267,000.00	\$ -	\$ 11,472,000.00

Tangible Costs									
PEQ-Flowback Crews & Equip	392						\$ 122,000.00	\$ -	122,000.00
D-Surface Casing	401			\$ 35,000.00			\$ -	\$ -	35,000.00
D-Intermed Csg	402			\$ 323,000.00			\$ -	\$ -	323,000.00
D-Production Casing/Liner	403			\$ 446,000.00			\$ -	\$ -	446,000.00
D-Wellhead Equip	405			\$ 108,000.00			\$ -	\$ -	108,000.00
C-Tubing	504				\$ 79,000.00		\$ -	\$ -	79,000.00
C-Wellhead Equip	505				\$ 43,000.00		\$ -	\$ -	43,000.00
TB-Tanks	510					\$ 80,000.00	\$ -	\$ -	80,000.00
TB-Flowlines/Pipelines	511					\$ 30,000.00	\$ -	\$ -	30,000.00
TB-Htr Trtr/Seprtr	512					\$ 185,000.00	\$ -	\$ -	185,000.00
TB-Electrical System/Equipment	513					\$ 119,000.00	\$ -	\$ -	119,000.00
C-Pckrs/Anchors/Hgrs	514			\$ 98,000.00			\$ -	\$ -	98,000.00
TB-Couplings/Fittings/Valves	515				\$ 204,000.00		\$ -	\$ -	204,000.00
TB-Pumps-Surface	521				\$ 25,000.00		\$ -	\$ -	25,000.00
TB-Instrumentation/SCADA/POC	522				\$ 20,000.00		\$ -	\$ -	20,000.00
TB-Miscellaneous	523				\$ 20,000.00		\$ -	\$ -	20,000.00
TB-Meters/Lacts	525				\$ 25,000.00		\$ -	\$ -	25,000.00
TB-Flares/Combusters/Emission	526				\$ 30,000.00		\$ -	\$ -	30,000.00
C-Gas Lift/Compression	527			\$ 38,000.00			\$ -	\$ -	38,000.00
PEQ-Wellhead Equipment	531						\$ 43,000.00	\$ -	43,000.00
Total Tangible Costs		\$ -	\$ -	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 185,000.00	\$ -	\$ 2,073,000.00

Total Gross Cost	\$ -	\$ -	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	\$ -	\$ -	\$ 13,545,000.00
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Note: The above costs are estimates only. Actual costs will be billed as incurred.

COG Operating LLC

By: _____

Date Prepared: 1.23.20

We approve:
_____% Working Interest

COG Operating LLC

By: _____

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.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
Drill & Complete**

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 WOLF CAMP A
Legal
AFE Numbers

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

Cost Description	Code	Pre-Set (PS)	Pre-Set Casing (PC)	Drilling (DR)	Completions (C)	Tank Btty Constrctn (TB)	Pmpq Equip (PEQ)	Revision	Total
Intangible Costs									
D-Conn/Pits/Roads	205			\$ 136,000.00				\$ -	\$ 136,000.00
D-Drilling Overhead	206			\$ 13,000.00				\$ -	\$ 13,000.00
D-Daywork Contract	209			\$ 953,000.00				\$ -	\$ 953,000.00
D-Directional Drllg Services	210			\$ 456,000.00				\$ -	\$ 456,000.00
D-Fuel & Power	211			\$ 203,000.00				\$ -	\$ 203,000.00
D-Water	212			\$ 108,000.00				\$ -	\$ 108,000.00
D-Bits	213			\$ 151,000.00				\$ -	\$ 151,000.00
D-Mud & Chemicals	214			\$ 361,000.00				\$ -	\$ 361,000.00
D-Cement Surface	217			\$ 28,000.00				\$ -	\$ 28,000.00
D-Cement Intermed	218			\$ 107,000.00				\$ -	\$ 107,000.00
D-Prod-2nd Int Cmt	219			\$ 158,000.00				\$ -	\$ 158,000.00
D-Float Equipment & Centralizers	221			\$ 86,000.00				\$ -	\$ 86,000.00
D-Csg Crews & Equip	222			\$ 93,000.00				\$ -	\$ 93,000.00
D-Contract Labor	225			\$ 10,000.00				\$ -	\$ 10,000.00
D-Company Sprvsn	226			\$ 73,000.00				\$ -	\$ 73,000.00
D-Contract Sprvsn	227			\$ 171,000.00				\$ -	\$ 171,000.00
D-Tstg Csg/Tbg	228			\$ 58,000.00				\$ -	\$ 58,000.00
D-Mud Logging Unit	229			\$ 65,000.00				\$ -	\$ 65,000.00
D-Rentals-Surface	235			\$ 281,000.00				\$ -	\$ 281,000.00
D-Rentals-Subsrfc	236			\$ 131,000.00				\$ -	\$ 131,000.00
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D-Contingency	243			\$ 88,000.00				\$ -	\$ 88,000.00
D-Envrnmnt/Cld Loop	244			\$ 441,000.00				\$ -	\$ 441,000.00
C-Wellbore Frac Prep	304				\$ 127,000.00			\$ -	\$ 127,000.00
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C-Completion OH	306				\$ 23,000.00			\$ -	\$ 23,000.00
C-Frac Equipment	307				\$ 1,464,000.00			\$ -	\$ 1,464,000.00
C-Frac Chemicals	308				\$ 627,000.00			\$ -	\$ 627,000.00
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C-Frac Proppant Transportation	310				\$ 442,000.00			\$ -	\$ 442,000.00
C-Fuel Delivery & Services	311				\$ 64,000.00			\$ -	\$ 64,000.00
C-Water	312				\$ 866,000.00			\$ -	\$ 866,000.00
C-Frac Surface Rentals	315				\$ 480,000.00			\$ -	\$ 480,000.00
C-Contract Labor	325				\$ 16,000.00			\$ -	\$ 16,000.00
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				\$ 61,000.00			\$ -	\$ 61,000.00
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
TB-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
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Total Intangible Costs		\$ -	\$ -	\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00	\$ -	\$ 11,472,000.00

Tangible Costs									
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D-Intermed Csg	402			\$ 323,000.00				\$ -	\$ 323,000.00
D-Production Casing/Liner	403			\$ 446,000.00				\$ -	\$ 446,000.00
D-Wellhead Equip	405			\$ 108,000.00				\$ -	\$ 108,000.00
C-Tubing	504				\$ 79,000.00			\$ -	\$ 79,000.00
C-Wellhead Equip	505				\$ 43,000.00			\$ -	\$ 43,000.00
TB-Tanks	510					\$ 80,000.00		\$ -	\$ 80,000.00
TB-Flowlines/Pipelines	511					\$ 30,000.00		\$ -	\$ 30,000.00
TB-Htz Trlr/Seprtr	512					\$ 185,000.00		\$ -	\$ 185,000.00
TB-Electrical System/Equipment	513					\$ 119,000.00		\$ -	\$ 119,000.00
C-Pckrs/Anchors/Hgrs	514				\$ 98,000.00			\$ -	\$ 98,000.00
TB-Couplings/Fittings/Valves	515					\$ 204,000.00		\$ -	\$ 204,000.00
TB-Pumps-Surface	521					\$ 25,000.00		\$ -	\$ 25,000.00
TB-Instrumentation/SCADA/POC	522					\$ 20,000.00		\$ -	\$ 20,000.00
TB-Miscellaneous	523					\$ 20,000.00		\$ -	\$ 20,000.00
TB-Meters/Lacts	525					\$ 25,000.00		\$ -	\$ 25,000.00
TB-Flares/Combusters/Emission	526					\$ 30,000.00		\$ -	\$ 30,000.00
C-Gas Lift/Compression	527				\$ 38,000.00			\$ -	\$ 38,000.00
PEQ-Wellhead Equipment	531						\$ 43,000.00	\$ -	\$ 43,000.00
Total Tangible Costs		\$ -	\$ -	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 165,000.00	\$ -	\$ 2,073,000.00

Total Gross Cost	\$ -	\$ -	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	\$ -	\$ 13,545,000.00
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Note: The above costs are estimates only. Actual costs will be billed as incurred.

COG Operating LLC

By: _____

Date Prepared: 1.23.20 _____

We approve:
_____% Working Interest

COG Operating LLC

By: _____

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.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
Drill & Complete**

Well Name SCOUT STATE COM 603H
SHL 6: 240 FNL, 2662 FEL OR UNIT B
BHL 18: 330 FSL, 2244 FEL OR UNIT O
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	Pre-Spud (PS)	Pre-Set Casing(PC)	Drilling (DR)	Completions (C)	Tank Btty Constrctn(TB)	Pmpq Equip (PEQ)	Revision	Total
Intangible Costs									
D-Lctn/Pits/Roads	205			\$ 136,000.00			\$ -	\$ -	136,000.00
D-Drilling Overhead	206			\$ 13,000.00			\$ -	\$ -	13,000.00
D-Daywork Contract	209			\$ 953,000.00			\$ -	\$ -	953,000.00
D-Directional Drig Services	210			\$ 456,000.00			\$ -	\$ -	456,000.00
D-Fuel & Power	211			\$ 203,000.00			\$ -	\$ -	203,000.00
D-Water	212			\$ 108,000.00			\$ -	\$ -	108,000.00
D-Bits	213			\$ 151,000.00			\$ -	\$ -	151,000.00
D-Mud & Chemicals	214			\$ 361,000.00			\$ -	\$ -	361,000.00
D-Cement Surface	217			\$ 28,000.00			\$ -	\$ -	28,000.00
D-Cement Intermed	218			\$ 107,000.00			\$ -	\$ -	107,000.00
D-Prod-2nd Int Cmt	219			\$ 158,000.00			\$ -	\$ -	158,000.00
D-Float Equipment & Centralizers	221			\$ 86,000.00			\$ -	\$ -	86,000.00
D-Csg Crews & Equip	222			\$ 93,000.00			\$ -	\$ -	93,000.00
D-Contract Labor	225			\$ 10,000.00			\$ -	\$ -	10,000.00
D-Company Sprvsn	226			\$ 73,000.00			\$ -	\$ -	73,000.00
D-Contract Sprvsn	227			\$ 171,000.00			\$ -	\$ -	171,000.00
D-Tstg Csg/Tbs	228			\$ 58,000.00			\$ -	\$ -	58,000.00
D-Mud Logging Unit	229			\$ 65,000.00			\$ -	\$ -	65,000.00
D-Rentals-Surface	235			\$ 281,000.00			\$ -	\$ -	281,000.00
D-Rentals-Subsrfc	236			\$ 131,000.00			\$ -	\$ -	131,000.00
D-Trucking/Forklift/Rig Mob	237			\$ 201,000.00			\$ -	\$ -	201,000.00
D-Welding Services	238			\$ 5,000.00			\$ -	\$ -	5,000.00
D-Contingency	243			\$ 88,000.00			\$ -	\$ -	88,000.00
D-Envmntl/Clsd Loop	244			\$ 441,000.00			\$ -	\$ -	441,000.00
C-Wellbore Frac Prep	304				\$ 127,000.00		\$ -	\$ -	127,000.00
C-Lctn/Pits/Roads	305				\$ 16,000.00		\$ -	\$ -	16,000.00
C-Completion OH	306				\$ 23,000.00		\$ -	\$ -	23,000.00
C-Frac Equipment	307				\$ 1,464,000.00		\$ -	\$ -	1,464,000.00
C-Frac Chemicals	308				\$ 627,000.00		\$ -	\$ -	627,000.00
C-Frac Proppant	309				\$ 285,000.00		\$ -	\$ -	285,000.00
C-Frac Proppant Transportation	310				\$ 442,000.00		\$ -	\$ -	442,000.00
C-Fuel Delivery & Services	311				\$ 64,000.00		\$ -	\$ -	64,000.00
C-Water	312				\$ 866,000.00		\$ -	\$ -	866,000.00
C-Frac Surface Rentals	315				\$ 480,000.00		\$ -	\$ -	480,000.00
C-Contract Labor	325				\$ 16,000.00		\$ -	\$ -	16,000.00
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				\$ 61,000.00		\$ -	\$ -	61,000.00
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
TB-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
Total Intangible Costs		\$ -	\$ -	\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00	\$ -	\$ 11,472,000.00

Tangible Costs									
PEQ-Flowback Crews & Equip	392					\$ 122,000.00	\$ -	\$ -	122,000.00
D-Surface Casing	401			\$ 35,000.00			\$ -	\$ -	35,000.00
D-Intermed Csg	402			\$ 323,000.00			\$ -	\$ -	323,000.00
D-Production Casing/Liner	403			\$ 446,000.00			\$ -	\$ -	446,000.00
D-Wellhead Equip	405			\$ 108,000.00			\$ -	\$ -	108,000.00
C-Tubing	504				\$ 79,000.00		\$ -	\$ -	79,000.00
C-Wellhead Equip	505				\$ 43,000.00		\$ -	\$ -	43,000.00
TB-Tanks	510					\$ 80,000.00	\$ -	\$ -	80,000.00
TB-Flowlines/Pipelines	511					\$ 30,000.00	\$ -	\$ -	30,000.00
TB-Hlr Trtr/Seprtr	512					\$ 185,000.00	\$ -	\$ -	185,000.00
TB-Electrical System/Equipment	513					\$ 119,000.00	\$ -	\$ -	119,000.00
C-Pckrs/Anchors/Hgrs	514			\$ 98,000.00			\$ -	\$ -	98,000.00
TB-Couplings/Fittings/Valves	515					\$ 204,000.00	\$ -	\$ -	204,000.00
TB-Pumps-Surface	521					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Instrumentation/SCADA/POC	522					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Miscellaneous	523					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Meters/Lacts	525					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Flares/Combusters/Emission	526					\$ 30,000.00	\$ -	\$ -	30,000.00
C-Gas Lift/Compression	527			\$ 38,000.00			\$ -	\$ -	38,000.00
PEQ-Wellhead Equipment	531						\$ 43,000.00	\$ -	43,000.00
Total Tangible Costs		\$ -	\$ -	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 165,000.00	\$ -	\$ 2,073,000.00

Total Gross Cost	\$ -	\$ -	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	\$ -	\$ -	\$ 13,545,000.00
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Note: The above costs are estimates only. Actual costs will be billed as incurred.

COG Operating LLC

By: _____

Date Prepared: 1.23.20

We approve:
_____% Working Interest

COG Operating LLC

By: _____

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.

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
Drill & Complete**

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

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 Btty Constrcn(TB)	Pmpq Equip (PEQ)	Revision	Total
Intangible Costs									
D-Lctr/Pits/Roads	205			\$ 136,000.00			\$ -	\$ -	136,000.00
D-Drilling Overhead	206			\$ 13,000.00			\$ -	\$ -	13,000.00
D-Daywork Contract	209			\$ 953,000.00			\$ -	\$ -	953,000.00
D-Directional Drig Services	210			\$ 456,000.00			\$ -	\$ -	456,000.00
D-Fuel & Power	211			\$ 203,000.00			\$ -	\$ -	203,000.00
D-Water	212			\$ 108,000.00			\$ -	\$ -	108,000.00
D-Bits	213			\$ 151,000.00			\$ -	\$ -	151,000.00
D-Mud & Chemicals	214			\$ 361,000.00			\$ -	\$ -	361,000.00
D-Cement Surface	217			\$ 28,000.00			\$ -	\$ -	28,000.00
D-Cement Intermed	218			\$ 107,000.00			\$ -	\$ -	107,000.00
D-Prod-2nd Int Cmt	219			\$ 158,000.00			\$ -	\$ -	158,000.00
D-Float Equipment & Centralizers	221			\$ 86,000.00			\$ -	\$ -	86,000.00
D-Csg Crews & Equip	222			\$ 93,000.00			\$ -	\$ -	93,000.00
D-Contract Labor	225			\$ 10,000.00			\$ -	\$ -	10,000.00
D-Company Sprvsn	226			\$ 73,000.00			\$ -	\$ -	73,000.00
D-Contract Sprvsn	227			\$ 171,000.00			\$ -	\$ -	171,000.00
D-Tstg Csg/Tbg	228			\$ 58,000.00			\$ -	\$ -	58,000.00
D-Mud Logging Unit	229			\$ 65,000.00			\$ -	\$ -	65,000.00
D-Rentals-Surface	235			\$ 281,000.00			\$ -	\$ -	281,000.00
D-Rentals-Subsrfc	236			\$ 131,000.00			\$ -	\$ -	131,000.00
D-Trucking/Forklift/Rig Mob	237			\$ 201,000.00			\$ -	\$ -	201,000.00
D-Welding Services	238			\$ 5,000.00			\$ -	\$ -	5,000.00
D-Contingency	243			\$ 88,000.00			\$ -	\$ -	88,000.00
D-Envmntl/Clad Loop	244			\$ 441,000.00			\$ -	\$ -	441,000.00
C-Wellbore Frac Prep	304				\$ 127,000.00		\$ -	\$ -	127,000.00
C-Lctr/Pits/Roads	305				\$ 16,000.00		\$ -	\$ -	16,000.00
C-Completion OH	306				\$ 23,000.00		\$ -	\$ -	23,000.00
C-Frac Equipment	307				\$ 1,464,000.00		\$ -	\$ -	1,464,000.00
C-Frac Chemicals	308				\$ 627,000.00		\$ -	\$ -	627,000.00
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C-Frac Proppant Transportation	310				\$ 442,000.00		\$ -	\$ -	442,000.00
C-Fuel Delivery & Services	311				\$ 64,000.00		\$ -	\$ -	64,000.00
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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				\$ 18,000.00		\$ -	\$ -	16,000.00
C-Water Disposal	339				\$ 61,000.00		\$ -	\$ -	61,000.00
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
TB-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
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TB-Htr Trlr/Seprtr	512					\$ 185,000.00	\$ -	\$ -	185,000.00
TB-Electrical System/Equipment	513					\$ 119,000.00	\$ -	\$ -	119,000.00
C-Pckrs/Anchors/Hgrs	514			\$ 98,000.00			\$ -	\$ -	98,000.00
TB-Couplings/Fittings/Valves	515					\$ 204,000.00	\$ -	\$ -	204,000.00
TB-Pumps-Surface	521					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Instrumentation/SCADA/POC	522					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Miscellaneous	523					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Meters/Lacts	525					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Flares/Combusters/Emission	526					\$ 30,000.00	\$ -	\$ -	30,000.00
C-Gas Lift/Compression	527			\$ 38,000.00			\$ -	\$ -	38,000.00
PEQ-Wellhead Equipment	531						\$ 43,000.00	\$ -	43,000.00
Total Tangible Costs		\$ -	\$ -	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 165,000.00	\$ -	2,073,000.00

Total Gross Cost	\$ -	\$ -	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	\$ -	\$ -	13,545,000.00
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COG Operating LLC

By: _____

Date Prepared: 1.23.20

We approve:
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COG Operating LLC

By: _____

Company:
By: _____

Printed Name:
Title:
Date: _____

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**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
Drill & Complete**

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

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 Btty Constrctn(TB)	Pmpq Equip (PEQ)	Revision	Total
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D-Directional Drig Services	210			\$ 456,000.00			\$ -	\$ -	456,000.00
D-Fuel & Power	211			\$ 203,000.00			\$ -	\$ -	203,000.00
D-Water	212			\$ 108,000.00			\$ -	\$ -	108,000.00
D-Bits	213			\$ 151,000.00			\$ -	\$ -	151,000.00
D-Mud & Chemicals	214			\$ 361,000.00			\$ -	\$ -	361,000.00
D-Cement Surface	217			\$ 28,000.00			\$ -	\$ -	28,000.00
D-Cement Intermed	218			\$ 107,000.00			\$ -	\$ -	107,000.00
D-Prod-2nd Int Cmt	219			\$ 158,000.00			\$ -	\$ -	158,000.00
D-Float Equipment & Centralizers	221			\$ 86,000.00			\$ -	\$ -	86,000.00
D-Csg Crews & Equip	222			\$ 93,000.00			\$ -	\$ -	93,000.00
D-Contract Labor	225			\$ 10,000.00			\$ -	\$ -	10,000.00
D-Company Sprvsn	226			\$ 73,000.00			\$ -	\$ -	73,000.00
D-Contract Sprvsn	227			\$ 171,000.00			\$ -	\$ -	171,000.00
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D-Mud Logging Unit	229			\$ 65,000.00			\$ -	\$ -	65,000.00
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D-Rentals-Subsrfc	236			\$ 131,000.00			\$ -	\$ -	131,000.00
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D-Welding Services	238			\$ 5,000.00			\$ -	\$ -	5,000.00
D-Contingency	243			\$ 88,000.00			\$ -	\$ -	88,000.00
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C-Wellbore Frac Prep	304				\$ 127,000.00		\$ -	\$ -	127,000.00
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C-Frac Equipment	307				\$ 1,464,000.00		\$ -	\$ -	1,464,000.00
C-Frac Chemicals	308				\$ 627,000.00		\$ -	\$ -	627,000.00
C-Frac Proppant	309				\$ 285,000.00		\$ -	\$ -	285,000.00
C-Frac Proppant Transportation	310				\$ 442,000.00		\$ -	\$ -	442,000.00
C-Fuel Delivery & Services	311				\$ 64,000.00		\$ -	\$ -	64,000.00
C-Water	312				\$ 866,000.00		\$ -	\$ -	866,000.00
C-Frac Surface Rentals	315				\$ 480,000.00		\$ -	\$ -	480,000.00
C-Contract Labor	325				\$ 16,000.00		\$ -	\$ -	16,000.00
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				\$ 61,000.00		\$ -	\$ -	61,000.00
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C-Dnrlout	346				\$ 510,000.00		\$ -	\$ -	510,000.00
TB-Damages/Right of Way	351					\$ 2,000.00	\$ -	\$ -	2,000.00
TB-Location/Pits/Roads	353					\$ 43,000.00	\$ -	\$ -	43,000.00
TB-Contract Labor	356					\$ 184,000.00	\$ -	\$ -	184,000.00
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Tangible Costs									
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C-Tubing	504				\$ 79,000.00		\$ -	\$ -	79,000.00
C-Wellhead Equip	505				\$ 43,000.00		\$ -	\$ -	43,000.00
TB-Tanks	510					\$ 80,000.00	\$ -	\$ -	80,000.00
TB-Flowlines/Pipelines	511					\$ 30,000.00	\$ -	\$ -	30,000.00
TB-Hlr Trlr/Seprtr	512					\$ 185,000.00	\$ -	\$ -	185,000.00
TB-Electrical System/Equipment	513					\$ 119,000.00	\$ -	\$ -	119,000.00
C-Pckrs/Anchors/Hgrs	514			\$ 98,000.00			\$ -	\$ -	98,000.00
TB-Couplings/Fittings/Valves	515					\$ 204,000.00	\$ -	\$ -	204,000.00
TB-Pumps-Surface	521					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Instrumentation/SCADA/POC	522					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Miscellaneous	523					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Meters/Lacts	525					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Flares/Combusters/Emission	526					\$ 30,000.00	\$ -	\$ -	30,000.00
C-Gas Lift/Compression	527				\$ 38,000.00		\$ -	\$ -	38,000.00
PEQ-Wellhead Equipment	531						\$ 43,000.00	\$ -	43,000.00
Total Tangible Costs		\$ -	\$ -	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 185,000.00	\$ -	\$ 2,073,000.00

Total Gross Cost	\$ -	\$ -	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	\$ -	\$ -	\$ 13,545,000.00
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Date Prepared: 1.23.20

We approve:
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Company:
By: _____

Printed Name:
Title:
Date: _____

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**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
Drill & Complete**

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 WOLF CAMP 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 (PB)	Pre-Set Casing(PC)	Drilling (DR)	Completions (C)	Tank Btty Constrctn(TB)	Pmpq Equip (PEQ)	Revision	Total
Intangible Costs									
D-Lctrn/Pits/Roads	205			\$ 136,000.00			\$ -	\$ -	136,000.00
D-Drilling Overhead	206			\$ 13,000.00			\$ -	\$ -	13,000.00
D-Daywork Contract	209			\$ 953,000.00			\$ -	\$ -	953,000.00
D-Directional Drllg Services	210			\$ 456,000.00			\$ -	\$ -	456,000.00
D-Fuel & Power	211			\$ 203,000.00			\$ -	\$ -	203,000.00
D-Water	212			\$ 108,000.00			\$ -	\$ -	108,000.00
D-Bits	213			\$ 151,000.00			\$ -	\$ -	151,000.00
D-Mud & Chemicals	214			\$ 361,000.00			\$ -	\$ -	361,000.00
D-Cement Surface	217			\$ 28,000.00			\$ -	\$ -	28,000.00
D-Cement Intermed	218			\$ 107,000.00			\$ -	\$ -	107,000.00
D-Prod-2nd Int Cmt	219			\$ 158,000.00			\$ -	\$ -	158,000.00
D-Float Equipment & Centralizers	221			\$ 86,000.00			\$ -	\$ -	86,000.00
D-Csg Crews & Equip	222			\$ 93,000.00			\$ -	\$ -	93,000.00
D-Contract Labor	225			\$ 10,000.00			\$ -	\$ -	10,000.00
D-Company Sprvn	226			\$ 73,000.00			\$ -	\$ -	73,000.00
D-Contract Sprvn	227			\$ 171,000.00			\$ -	\$ -	171,000.00
D-Tslg Csg/Tbg	228			\$ 58,000.00			\$ -	\$ -	58,000.00
D-Mud Logging Unit	229			\$ 65,000.00			\$ -	\$ -	65,000.00
D-Rentals-Surface	235			\$ 281,000.00			\$ -	\$ -	281,000.00
D-Rentals-Subsrfc	236			\$ 131,000.00			\$ -	\$ -	131,000.00
D-Trucking/Forklift/Rlg Mob	237			\$ 201,000.00			\$ -	\$ -	201,000.00
D-Welding Services	238			\$ 5,000.00			\$ -	\$ -	5,000.00
D-Contingency	243			\$ 88,000.00			\$ -	\$ -	88,000.00
D-Envmntl/Clsd Loop	244			\$ 441,000.00			\$ -	\$ -	441,000.00
C-Wellbore Frac Prep	304				\$ 127,000.00		\$ -	\$ -	127,000.00
C-Lctrn/Pits/Roads	305				\$ 16,000.00		\$ -	\$ -	16,000.00
C-Completion OH	306				\$ 23,000.00		\$ -	\$ -	23,000.00
C-Frac Equipment	307				\$ 1,464,000.00		\$ -	\$ -	1,464,000.00
C-Frac Chemicals	308				\$ 627,000.00		\$ -	\$ -	627,000.00
C-Frac Proppant	309				\$ 285,000.00		\$ -	\$ -	285,000.00
C-Frac Proppant Transportation	310				\$ 442,000.00		\$ -	\$ -	442,000.00
C-Fuel Delivery & Services	311				\$ 64,000.00		\$ -	\$ -	64,000.00
C-Water	312				\$ 866,000.00		\$ -	\$ -	866,000.00
C-Frac Surface Rentals	315				\$ 480,000.00		\$ -	\$ -	480,000.00
C-Contract Labor	325				\$ 16,000.00		\$ -	\$ -	16,000.00
C-Company Sprvn	326				\$ 16,000.00		\$ -	\$ -	16,000.00
C-Contract Sprvn	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/Rlg Mob	337				\$ 16,000.00		\$ -	\$ -	16,000.00
C-Water Disposal	339				\$ 61,000.00		\$ -	\$ -	61,000.00
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
TB-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
Total Intangible Costs		\$ -	\$ -	\$ 4,377,000.00	\$ 6,599,000.00	\$ 229,000.00	\$ 267,000.00	\$ -	\$ 11,472,000.00

Tangible Costs									
PEQ-Flowback Crews & Equip	392						\$ 122,000.00	\$ -	122,000.00
D-Surface Casing	401			\$ 35,000.00			\$ -	\$ -	35,000.00
D-Intermed Csg	402			\$ 323,000.00			\$ -	\$ -	323,000.00
D-Production Casing/Liner	403			\$ 446,000.00			\$ -	\$ -	446,000.00
D-Wellhead Equip	406			\$ 108,000.00			\$ -	\$ -	108,000.00
C-Tubing	504				\$ 79,000.00		\$ -	\$ -	79,000.00
C-Wellhead Equip	505				\$ 43,000.00		\$ -	\$ -	43,000.00
TB-Tanks	510					\$ 80,000.00	\$ -	\$ -	80,000.00
TB-Flowlines/Pipelines	511					\$ 30,000.00	\$ -	\$ -	30,000.00
TB-Htr Trtr/Seprtr	512					\$ 185,000.00	\$ -	\$ -	185,000.00
TB-Electrical System/Equipment	513					\$ 119,000.00	\$ -	\$ -	119,000.00
C-Pckrs/Anchors/Hgrs	514			\$ 98,000.00			\$ -	\$ -	98,000.00
TB-Couplings/Fittings/Valves	515					\$ 204,000.00	\$ -	\$ -	204,000.00
TB-Pumps-Surface	521					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Instrumentation/SCADA/POC	522					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Miscellaneous	523					\$ 20,000.00	\$ -	\$ -	20,000.00
TB-Meters/Lacts	525					\$ 25,000.00	\$ -	\$ -	25,000.00
TB-Flares/Combusters/Emission	526					\$ 30,000.00	\$ -	\$ -	30,000.00
C-Gas Lift/Compression	527			\$ 38,000.00			\$ -	\$ -	38,000.00
PEQ-Wellhead Equipment	531						\$ 43,000.00	\$ -	43,000.00
Total Tangible Costs		\$ -	\$ -	\$ 912,000.00	\$ 258,000.00	\$ 738,000.00	\$ 165,000.00	\$ -	\$ 2,073,000.00

Total Gross Cost	\$ -	\$ -	\$ 5,289,000.00	\$ 6,857,000.00	\$ 967,000.00	\$ 432,000.00	\$ -	\$ -	\$ 13,545,000.00
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Note: The above costs are estimates only. Actual costs will be billed as incurred.

COG Operating LLC

By: _____

Date Prepared: 1.23.20

We approve:
_____% Working Interest

COG Operating LLC

By: _____

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.

**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.

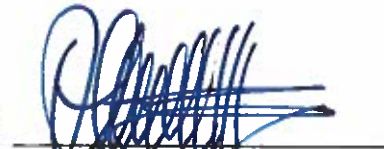


Michael Rodriguez

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



OFFICIAL SEM.
LISAMARIE ORTIZ
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires 04/14/2023



Notary Public

**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.

PART OF THE USA TODAY NETWORK

Affidavit of Publication

Ad # 0004114852

This is not an invoice

CONCHO
1048 PASEO DE PERALTA

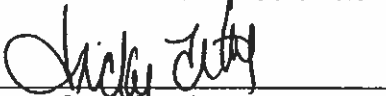
SANTA FE, NM 87501

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

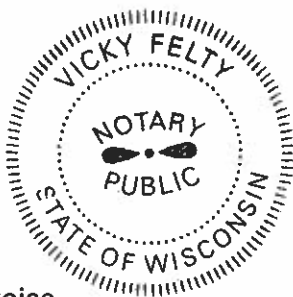

Legal Clerk

Subscribed and sworn before me this March 18, 2020:


State of WI, County of Brown
NOTARY PUBLIC
9-19-21
My commission expires

Ad # 0004114852
PO # 0004114852
of Affidavits 1

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 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.nm.us/OCDO/. 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 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 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.
- 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

Carlsbad Current Argus.

PART OF THE USA TODAY NETWORK

Affidavit of Publication

Ad # 0004114852

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CONCHO

1048 PASEO DE PERALTA

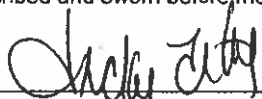
SANTA FE, NM 87501

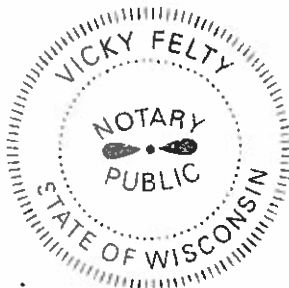
I, a legal clerk of the **Carlsbad Current Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements 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.


State of WI, County of Brown
NOTARY PUBLIC
9-19-21
My commission expires



Ad # 0004114852
PO #: 0004114852
of Affidavits 1

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 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.nm.us/OCDF. 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 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 18, and
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- 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



March 12, 2020

VIA CERTIFIED MAIL
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 Pre-hearing 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,

A handwritten signature in blue ink, appearing to read "MRD", written over a horizontal line.

Michael Rodriguez
ATTORNEY FOR COG OPERATING LLC

Restricted Delivery



March 12, 2020

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,

A handwritten signature in blue ink, appearing to read "MR", with a stylized flourish extending from the end.

Michael Rodriguez
ATTORNEY FOR COG OPERATING LLC

U.S. Postal Service[™]
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For delivery information, visit our website at www.usps.com.

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Certified Mail Fee \$

Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$
☐ Return Receipt (electronic) \$
☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$
 Postage \$



Devon Energy Production Company, LP
 333 W. Sheridan Avenue
 Oklahoma City, OK 73102
 Attn: Land Department

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7018 2290 0000 3430 9837

U.S. Postal Service[™]
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☐ Certified Mail Restricted Delivery \$
☐ Adult Signature Required \$
☐ Adult Signature Restricted Delivery \$
 Postage \$



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

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7018 2290 0000 3430 9820

SENDER: COMPLETE THIS SECTION

■ 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.

1. Article Addressed to:

Devon Energy Production Company, LP
 333 W. Sheridan Avenue
 Oklahoma City, OK 73102
 Attn: Land Department



9590 9402 4582 8278 6183 42

2. Article Number (Transfer from service label)

7018 2290 0000 3430 9837

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature

[Signature]

☐ Agent

B. Received by (Printed Name)

☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below: LA

☐ No



3. Service Type

☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail[®]
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Restricted Mail
☐ Restricted Delivery

☐ Priority Mail Express[®]
☐ Registered Mail[™]
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise[™]
☐ Signature Confirmation[™]
☐ Signature Confirmation Restricted Delivery

SENDER: COMPLETE THIS SECTION

■ 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.

1. Article Addressed to:

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



9590 9402 4582 8278 6183 59

2. Article Number (Transfer from service label)

7018 2290 0000 3430 9820

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

TIME DELIVERED

PRINTED TO ORDER BY THE U.S. POSTAL SERVICE

A. Signature

[Signature]

☐ Agent

B. Received by (Printed Name)

☐ Addressee

D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below:

☐ No



3. Service Type

☐ Adult Signature
☐ Adult Signature Restricted Delivery
☐ Certified Mail[®]
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Restricted Mail
☐ Restricted Delivery

☐ Priority Mail Express[®]
☐ Registered Mail[™]
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise[™]
☐ Signature Confirmation[™]
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

U.S. Postal Service[™]
CERTIFIED MAIL[®] RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com

OFFICIAL MAIL

Certified Mail Fee

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$

Occidental Permian Company, LP
 OXY Y-1 Company
 5 Greenway Plaza, Suite 2400
 Houston, TX 77227
 Attn: Land Department

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7018 2290 0000 3430 9813



U.S. Postal Service[™]
CERTIFIED MAIL[®] RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com

OFFICIAL MAIL

Certified Mail Fee

Extra Services & Fees (check box, add fee as appropriate)

☐ Return Receipt (hardcopy) \$

☐ Return Receipt (electronic) \$

☐ Certified Mail Restricted Delivery \$

☐ Adult Signature Required \$

☐ Adult Signature Restricted Delivery \$

Postage \$

EOG Resources Inc.
 5509 Champions Drive
 Midland, TX 79706
 Attn: Land Manager

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7018 2290 0000 3430 9806

U.S. MAIL
 SENDER: COMPLETE THIS SECTION
 PLACE STICKER AT TOP OF ENVELOPE, FOLD AT DOTTED LINE
 OF THE RETURN ADDRESS, FOLD AT DOTTED LINE OF THE RETURN ADDRESS, FOLD AT DOTTED LINE OF THE RETURN ADDRESS

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
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Article Addressed to:
 Occidental Permian Company, LP
 OXY Y-1 Company
 5 Greenway Plaza, Suite 2400
 Houston, TX 77227
 Attn: Land Department



9590 9402 4582 8278 6183 66

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

A. Signature

☒ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

3/18/2020

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James E Beard
 James Beard

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EOG Resources Inc.
 5509 Champions Drive
 Midland, TX 79706
 Attn: Land Manager



9590 9402 4582 8278 6183 73

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

A. Signature

☒ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

3-17-20

D. Is delivery address different from item 1?

If YES, enter delivery address below:

No

3. Service Type

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EOG Resources Inc.
 5509 Champions Drive
 Midland, TX 79706
 Attn: Land Manager



9590 9402 4582 8278 6183 73

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

**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?

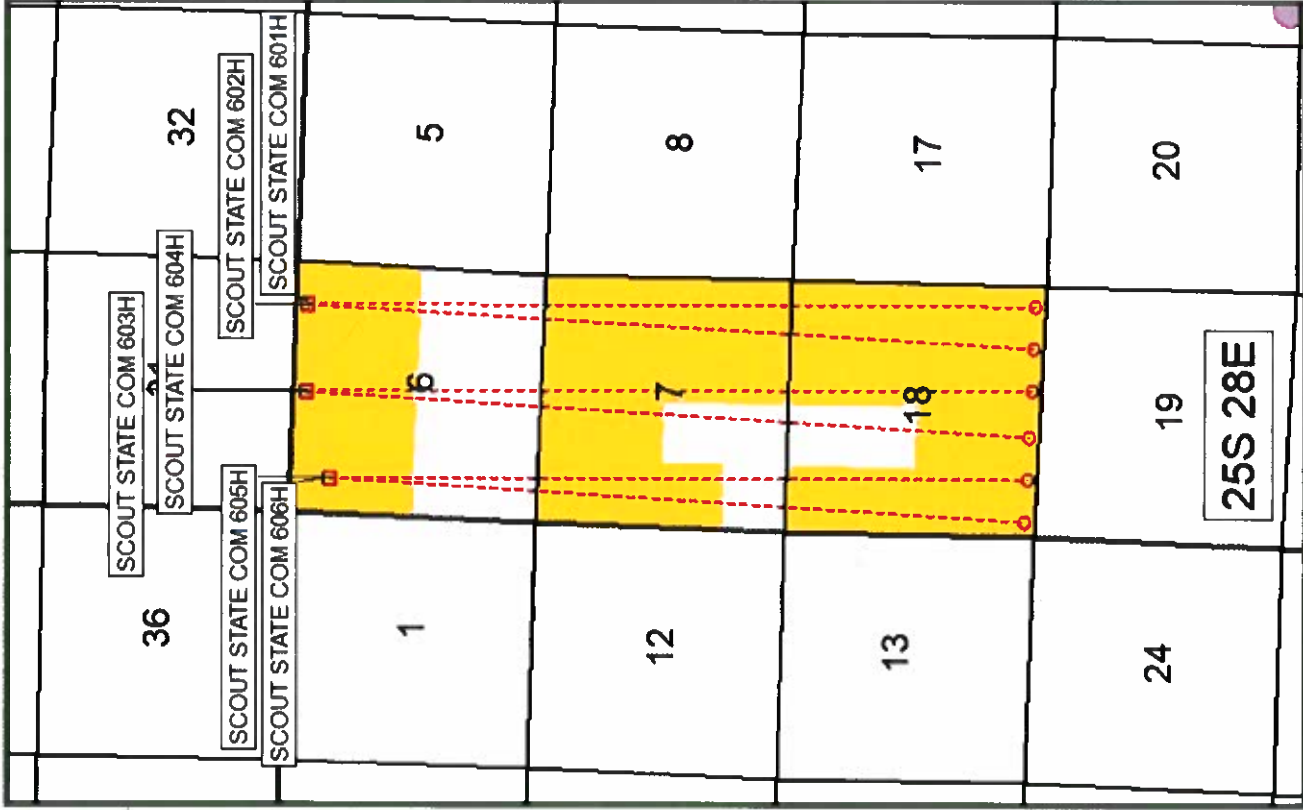
Yes.

20. Does this conclude your direct testimony?

Yes.

Wolfcamp Pool

Scout State Com # 601H- 606H

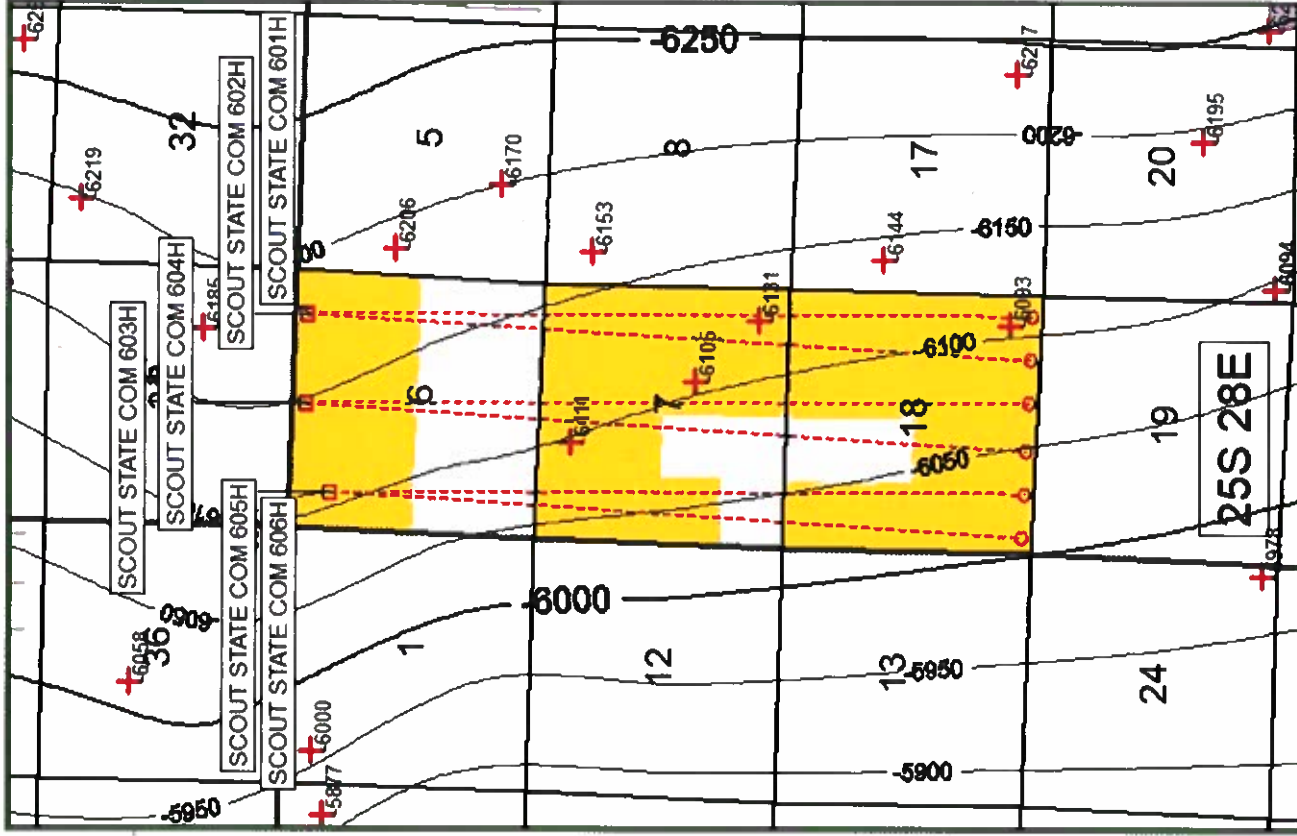


Map Legend



Wolfcamp Pool

Scout State Com # 601H- 606H



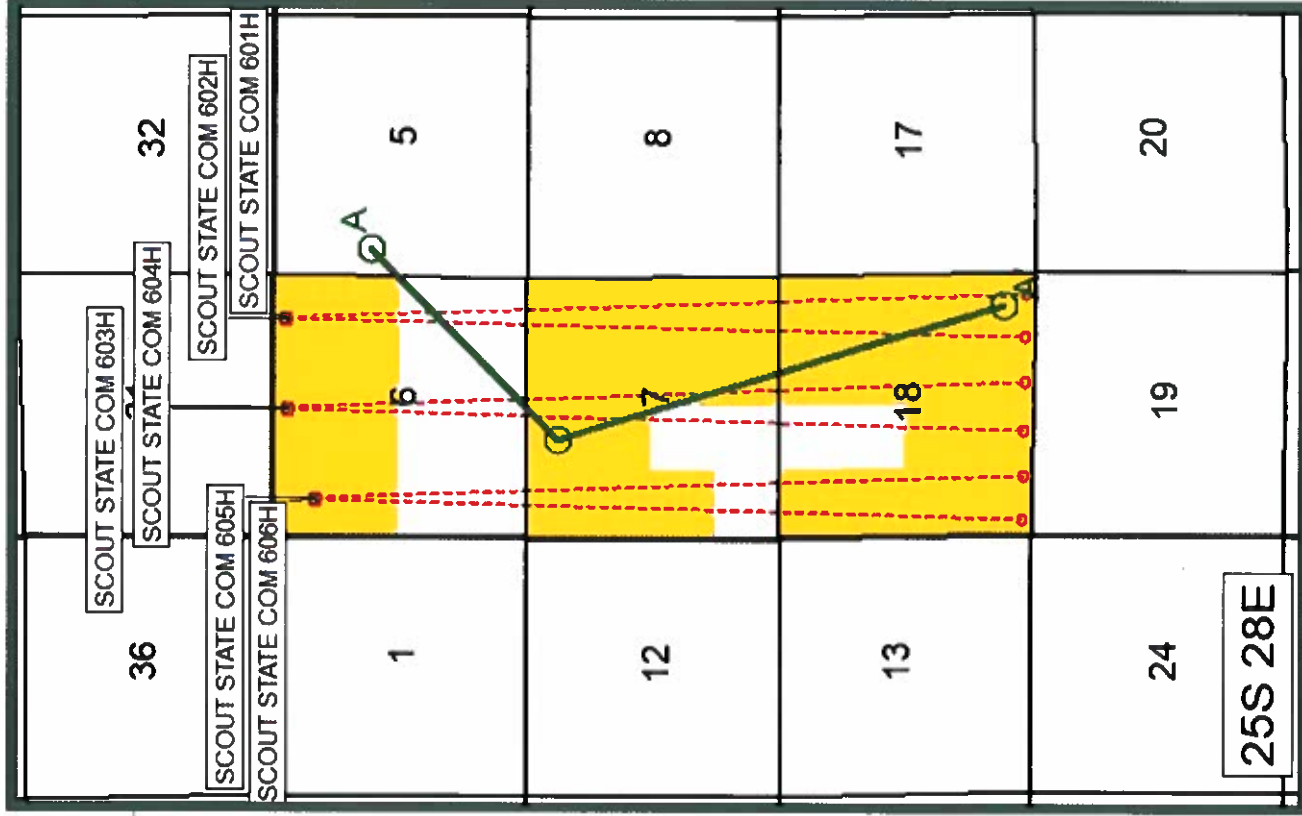
Map Legend

- SHL
- BHL
- COG – Wolfcamp Horizontal Location
- Existing Wolfcamp A Sand Producer
- Wolfcamp Structure Cl: 50'
- COG Acreage
- Data Point



Wolfcamp Pool

Scout State Com # 601H- 606H



Map Legend



COG - Wolfcamp Horizontal Location



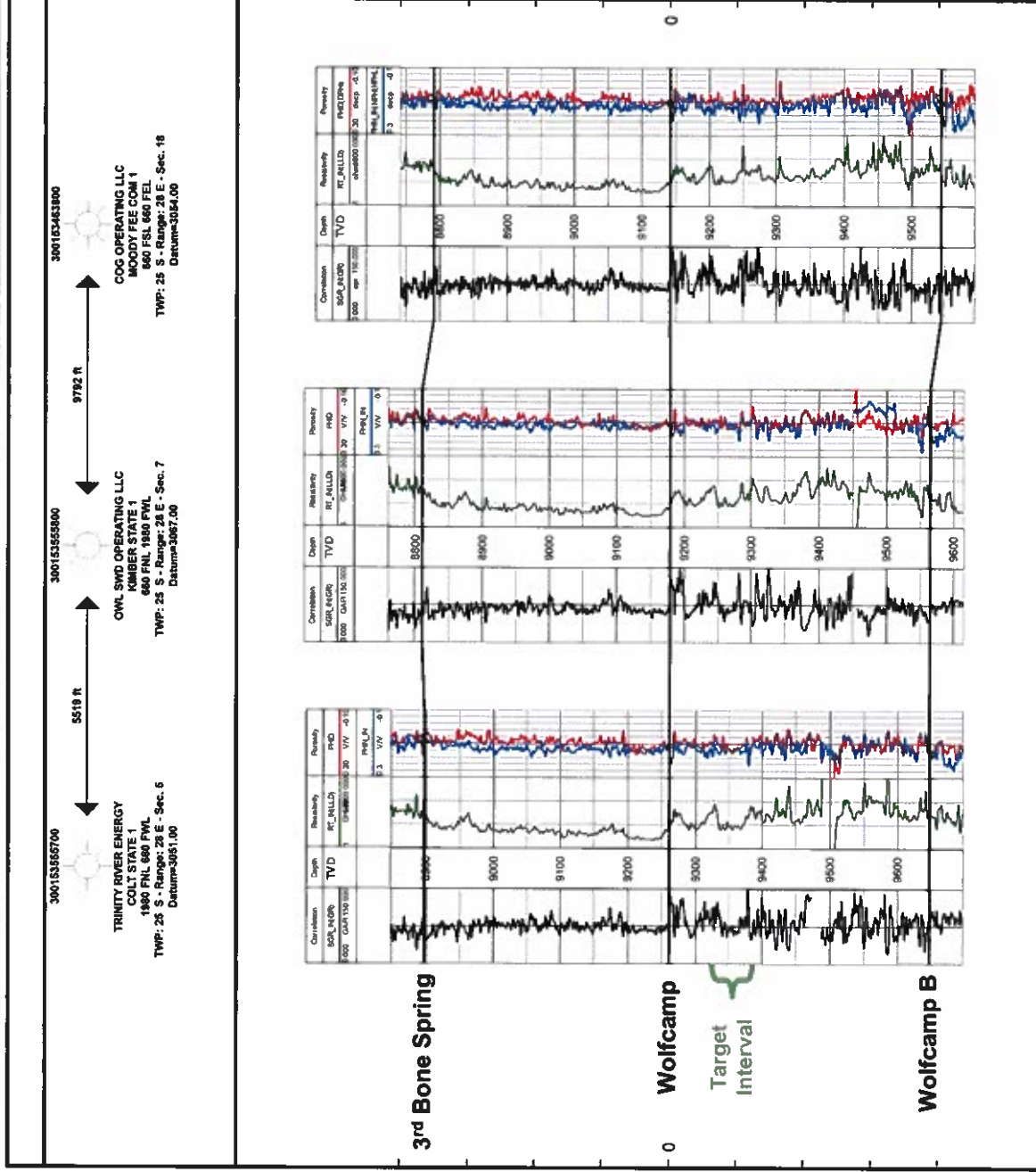
Cross Section Line



COG Acreage



Stratigraphic Cross Section A – A'



**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 its 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:

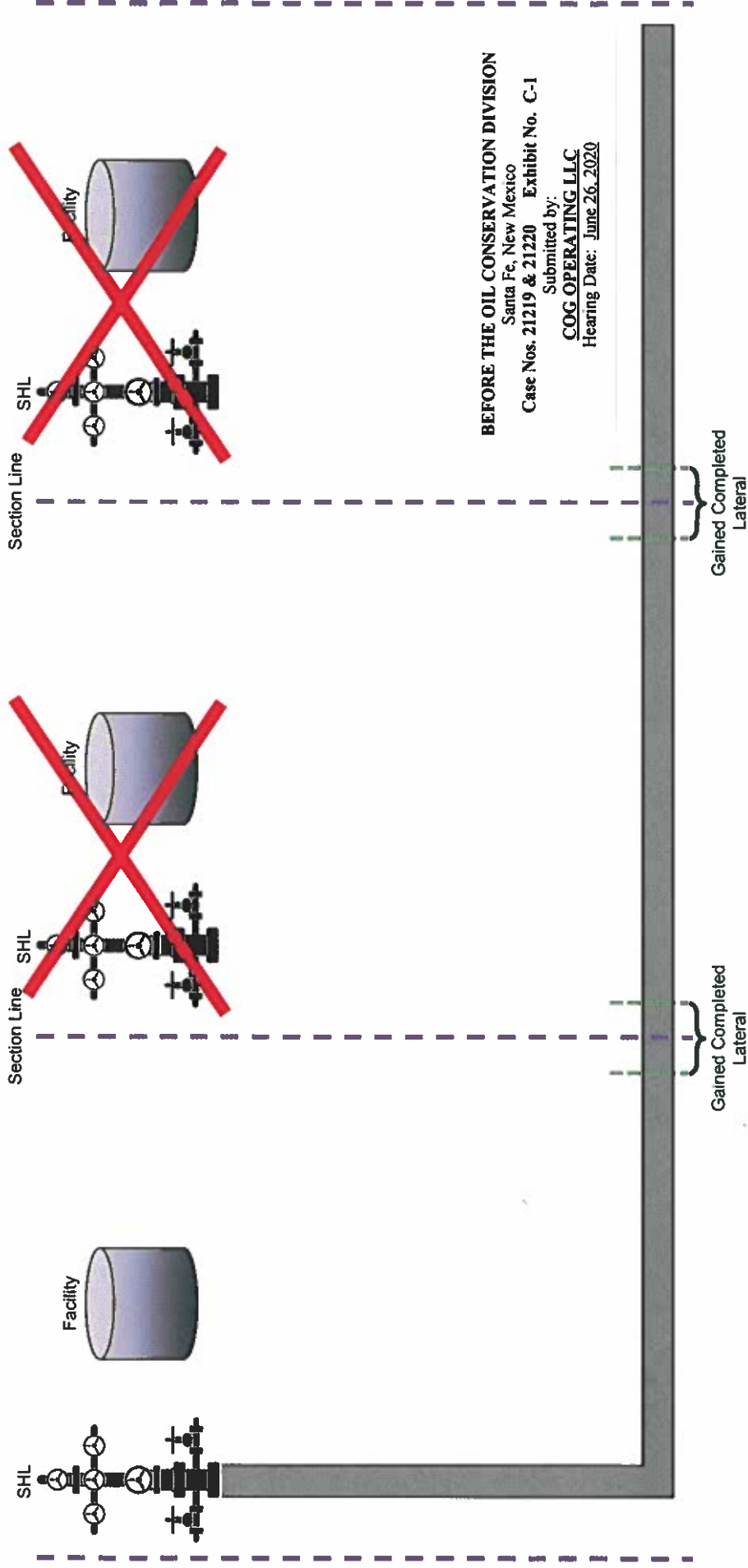
- Fewer surface and facility locations
- Increased completed lateral per section
- Improved economics

67% Less Surface Use

39% Cheaper D&C/Ft

12% More Completed Lateral/Section

198% More PV10/Ft



CONCH

1. Improvements relative to typical 1-mile developments
2. Pricing: 40 \$/BBL, 2.00 \$/MCF
3. WIN/RI: 100/80

Benefits of Increased
Lateral Lengths

Possible
Development
Patterns

Analysis of
Development
Patterns

Comparison of Possible Development Patterns

Preferred Development Pattern

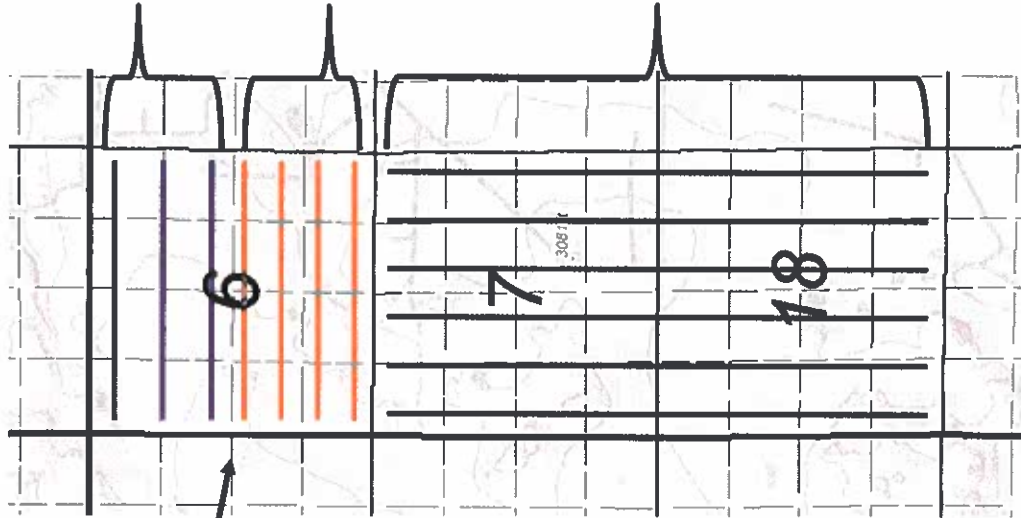


*Note: At current sub-30 \$/BBL commodity pricing 1-mile developments have negative economic value.

COG's "Scout" DSU:
Lateral Length: 3 Miles
Project Start: 2021
Total Lateral: 15,180'
Project Capital: 73.5 MM\$

Preferred Total:
Total Lateral: 15,180'
Project Capital: 73.5 MM\$

Alternate Development Pattern



COG DSU:
Lateral Length: 1 Miles
Project Start: 20XX
Total Lateral: 4,600'
Project Capital: 16.8 MM\$

MOC's "Pothole" DSU:
Lateral Length: 1 Miles
Project Start: 20XX
Total Lateral: 4,600'
Project Capital: 22.4 MM\$

COG DSU:
Lateral Length: 2 Miles
Project Start: 20XX
Total Lateral: 9,800'
Project Capital: 50.6 MM\$

Alternate Total:
Total Lateral: 14,400'
Project Capital: 89.7 MM\$



Economic Comparison

Preferred Development Pattern

Alternate Development Pattern



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

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

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



CONCHOCO

1. Pricing: 40 \$/BBL, 2.00 \$/MCF
2. WINRI: 100/80

Benefits of Increased
Lateral Lengths

Possible
Development
Patterns

Analysis of
Development
Patterns

More Efficient Recovery

Preferred Development Pattern



Alternate Development Pattern



Non-Stimulated Reservoir

Preferred plan averages
5,027'/Section, Alternate averages
4,800'/Section. Preferred plan offers
5% more completed lateral.



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
Lateral Lengths

Possible
Development
Patterns

Analysis of
Development
Patterns

Reduced Surface Usage

Preferred Development Pattern



Alternate Development Pattern



Preferred development pattern uses **~50% less** surface acres.

Surface Use

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. C-5
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 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.

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

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.

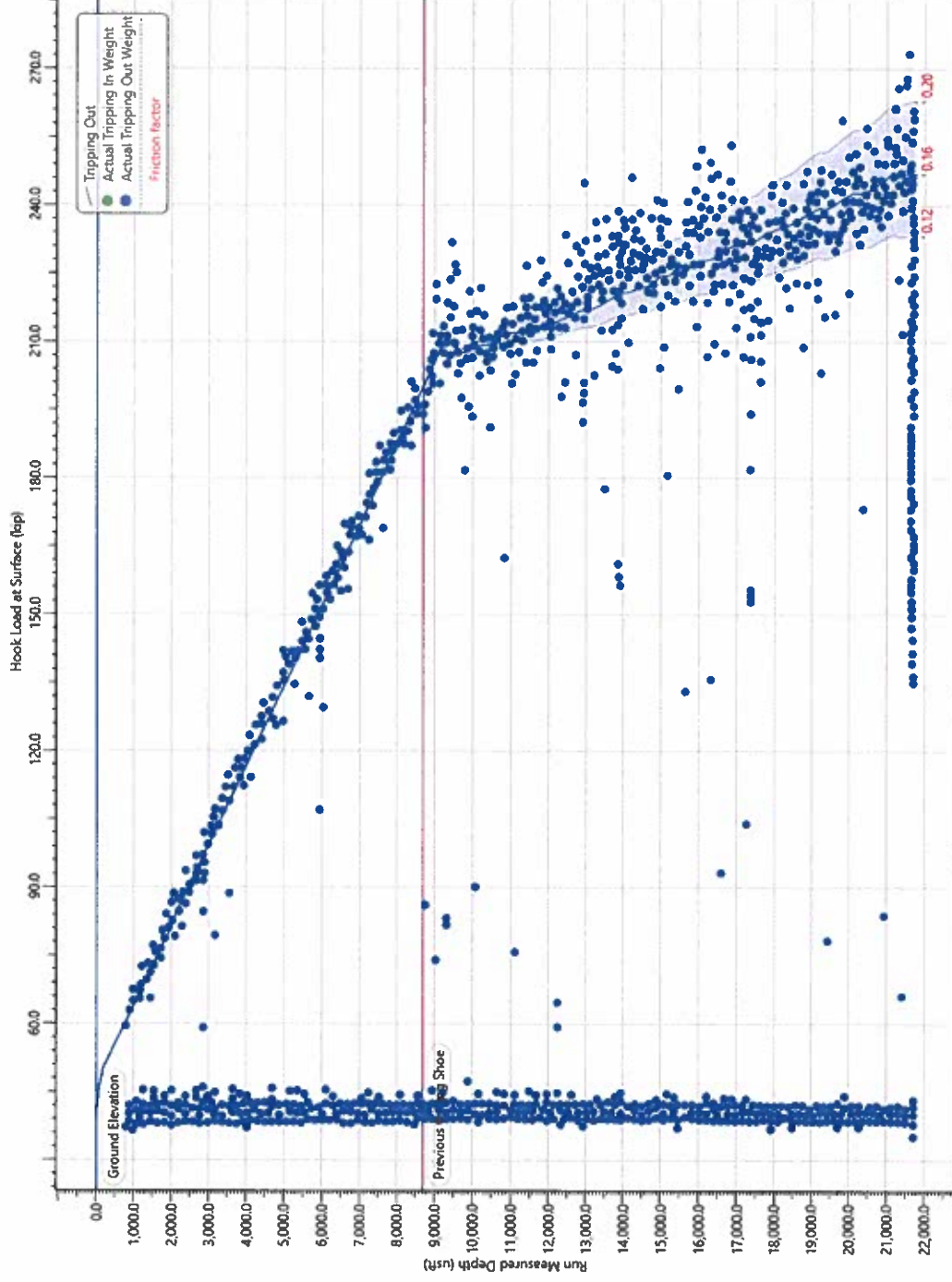
Scout Development - Drilling 3 Mile Wells

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



Honey Graham State Com 703H – Trip Out



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

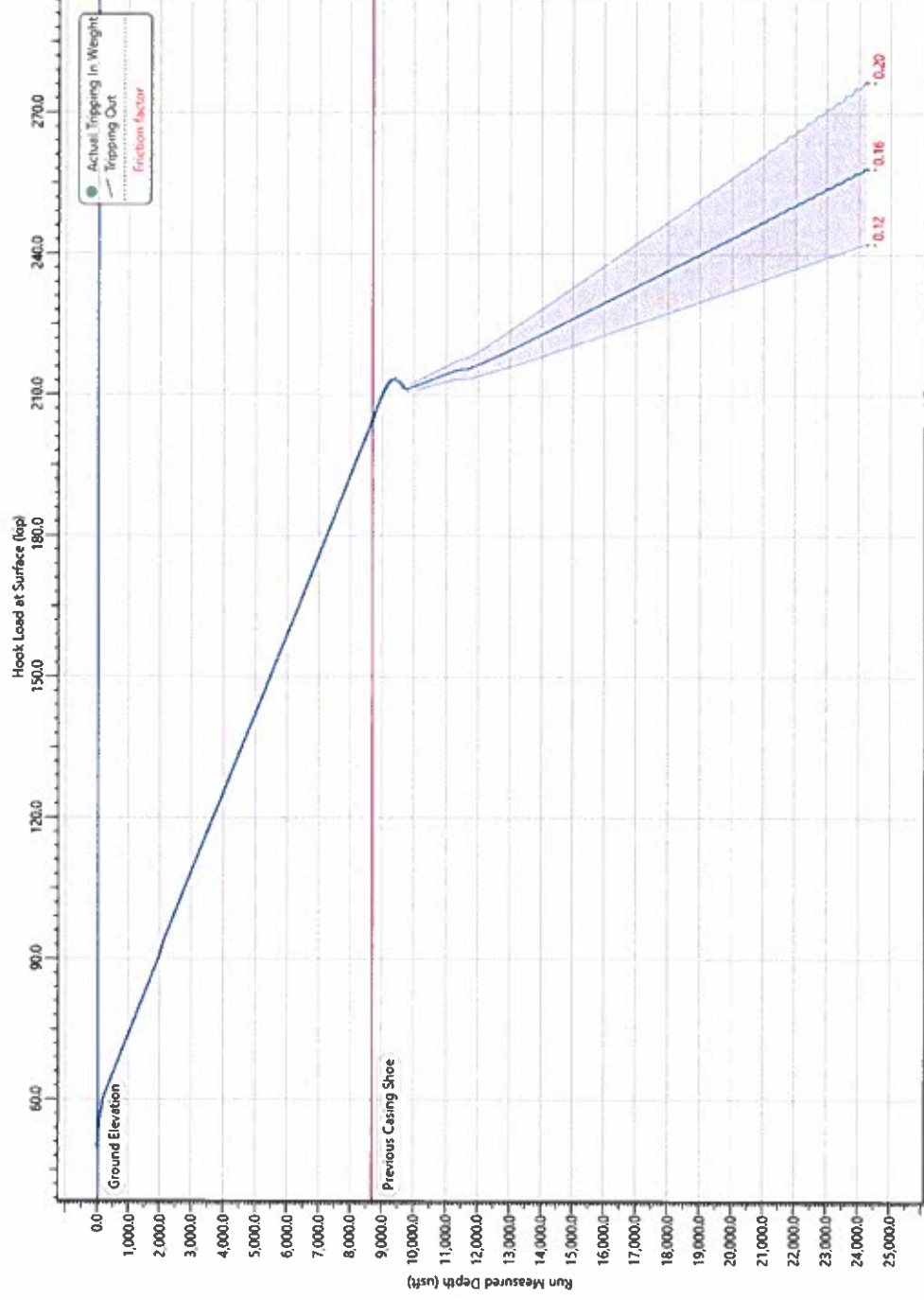
• Model fit using a range of friction factors and the actual well path (line)

• 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



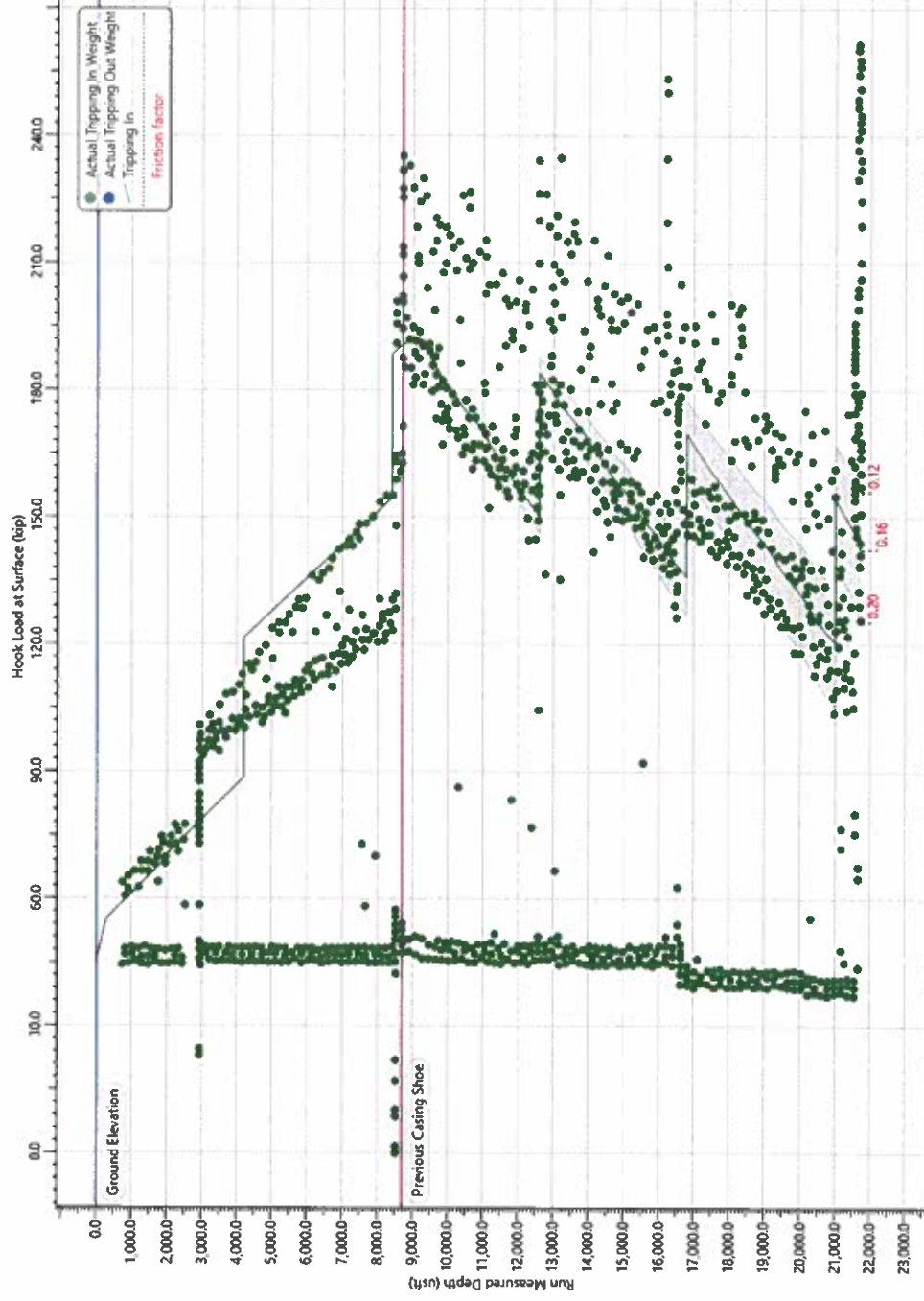
Scout Development – Trip Out



- 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



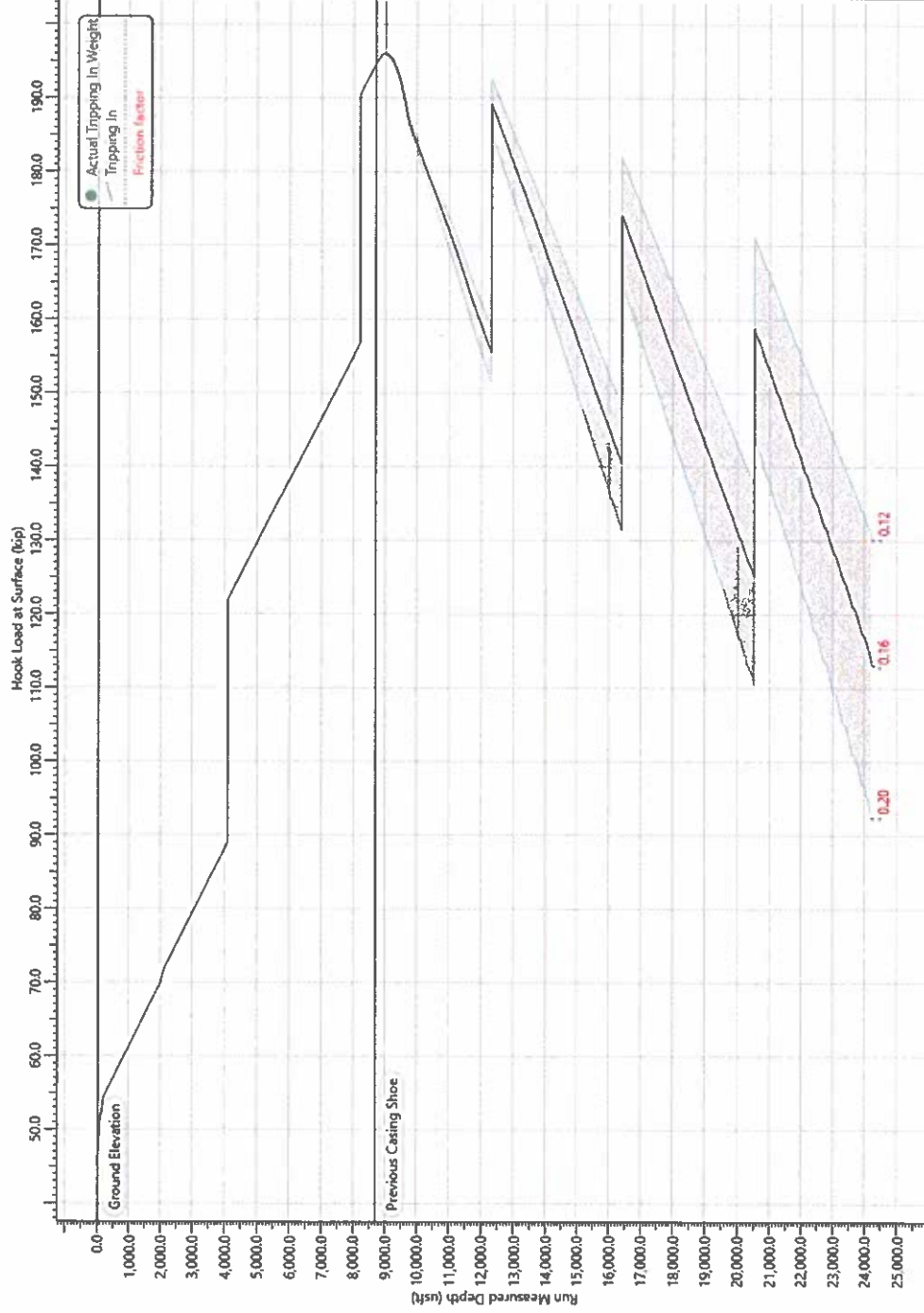
Honey Graham State Com 703H – Trip In



- 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



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

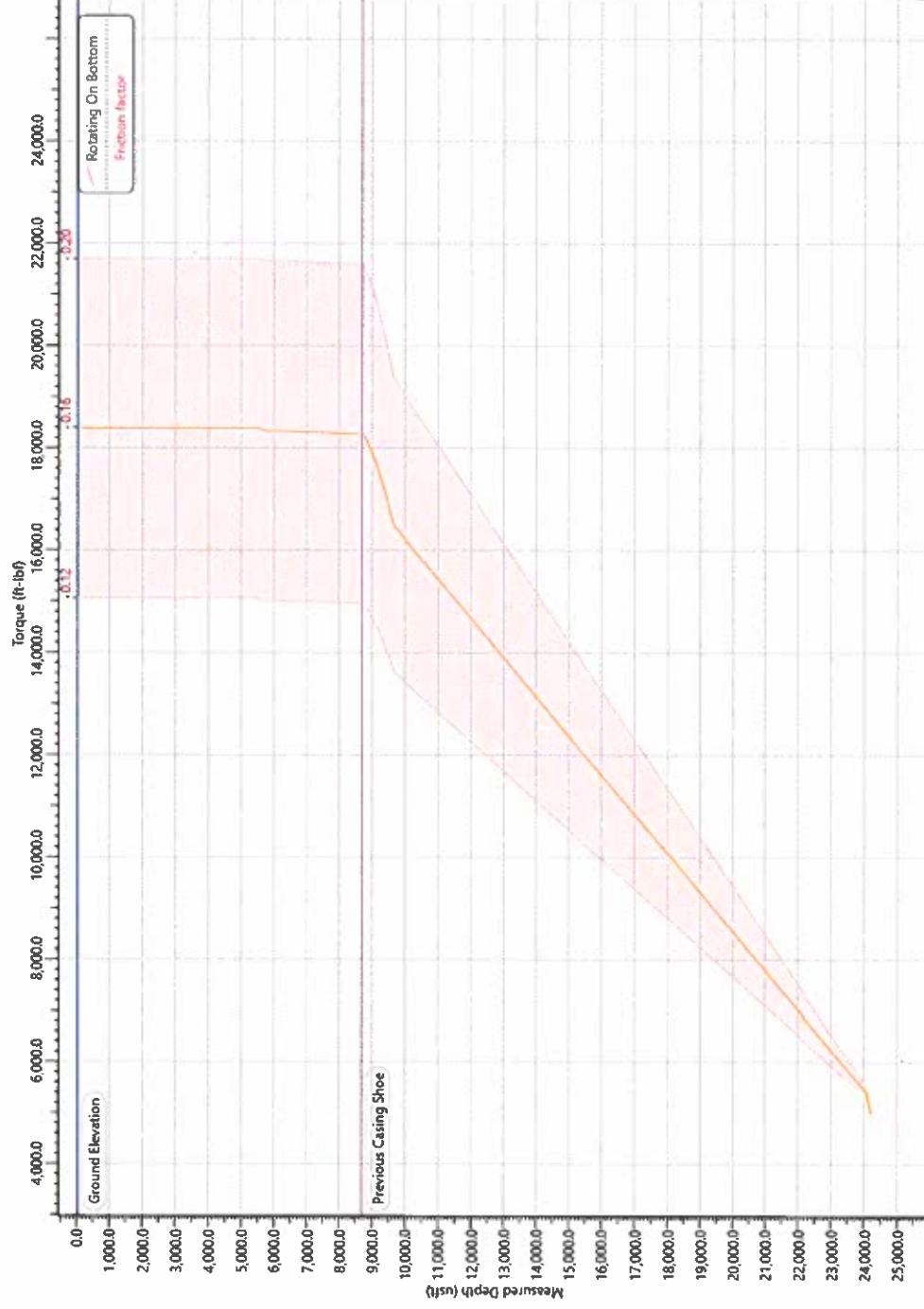
Case Nos. 21219 & 21220 Exhibit No. D-5

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

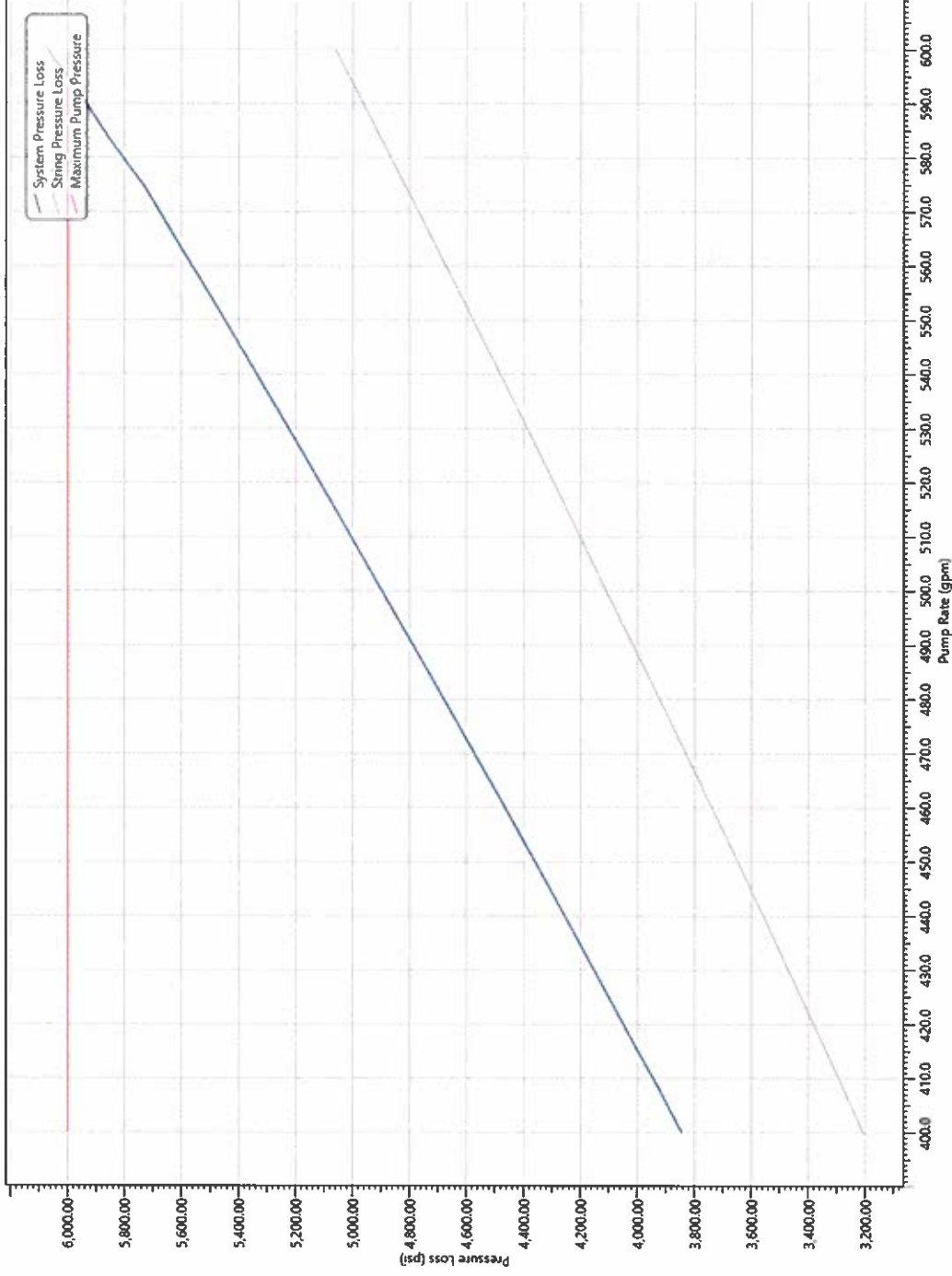
Case Nos. 21219 & 21220 Exhibit No. D-6

Submitted by:

COG OPERATING LLC

Hearing Date: June 26, 2020

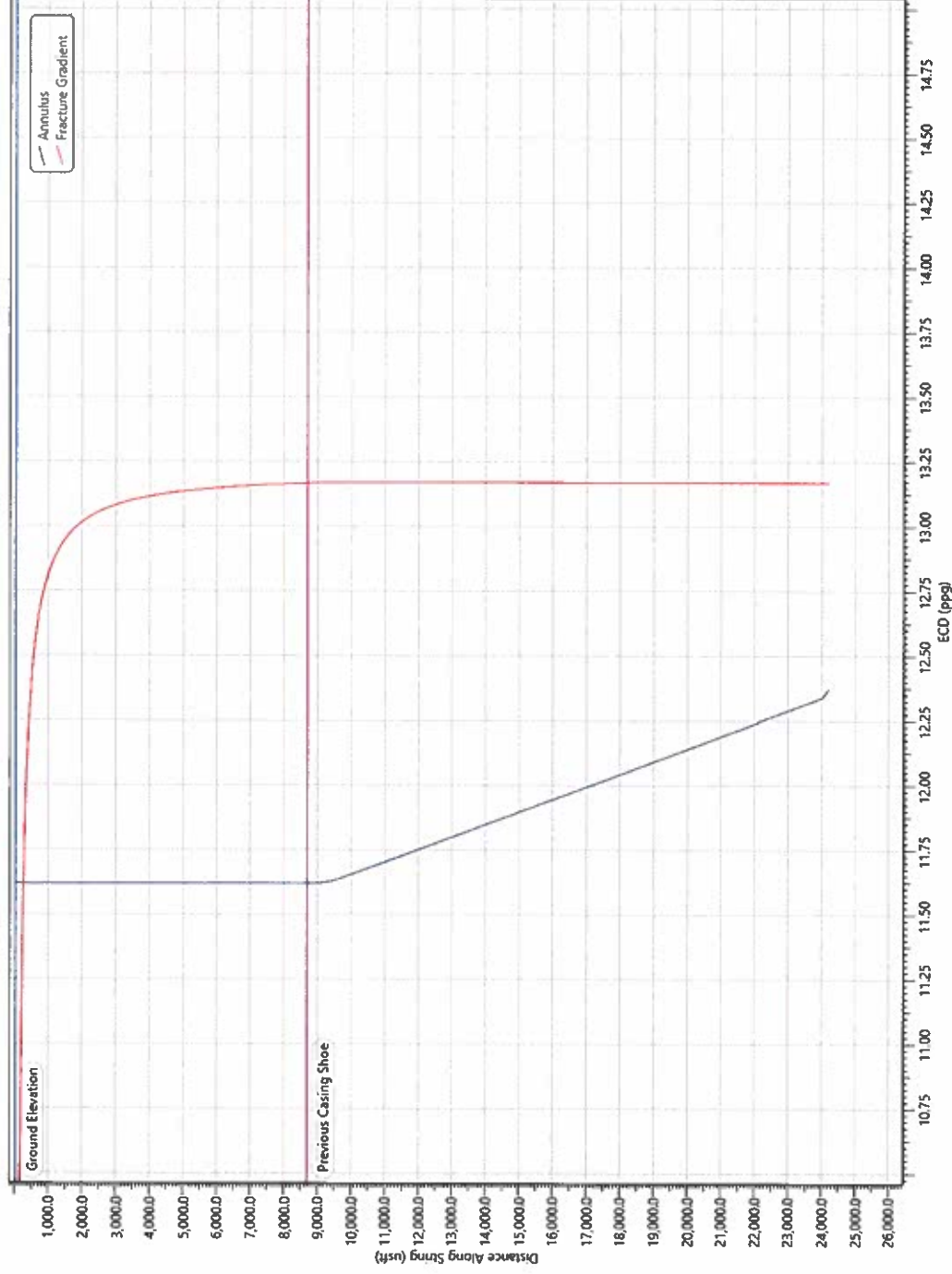
Scout Development – Drilling Surface Pump Pressure



- 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



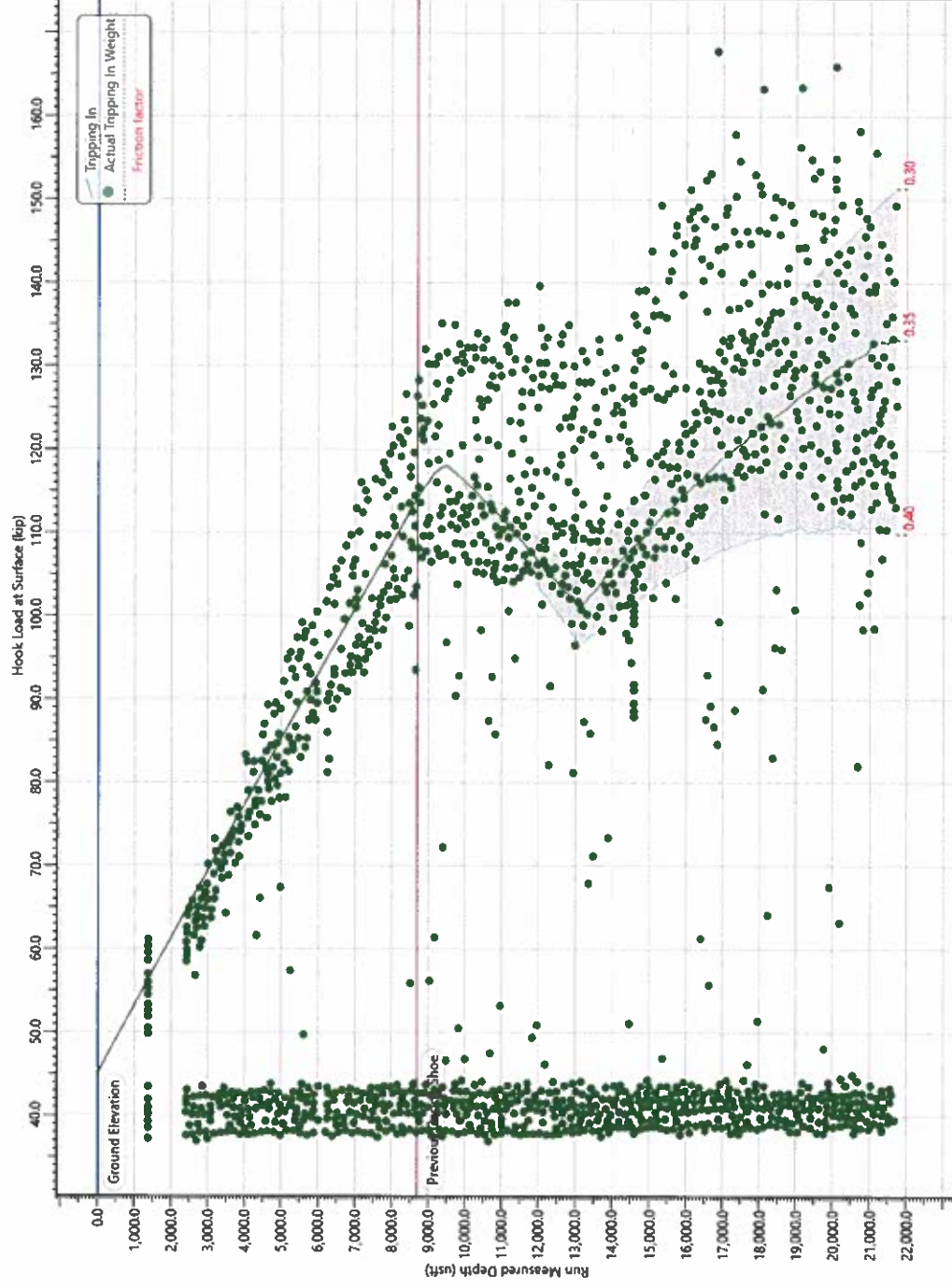
Scout Development – Drilling ECD at TD



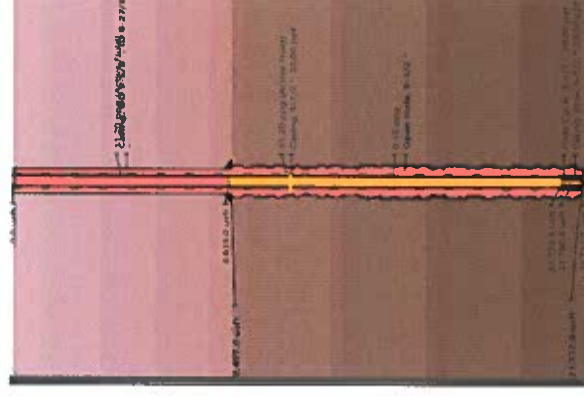
- Model built using planned well path for a Scout well, 550 gpm, 11.2 ppg mud weight and 0.7 psi/ft fracture gradient
- Drilling is not ECD limited



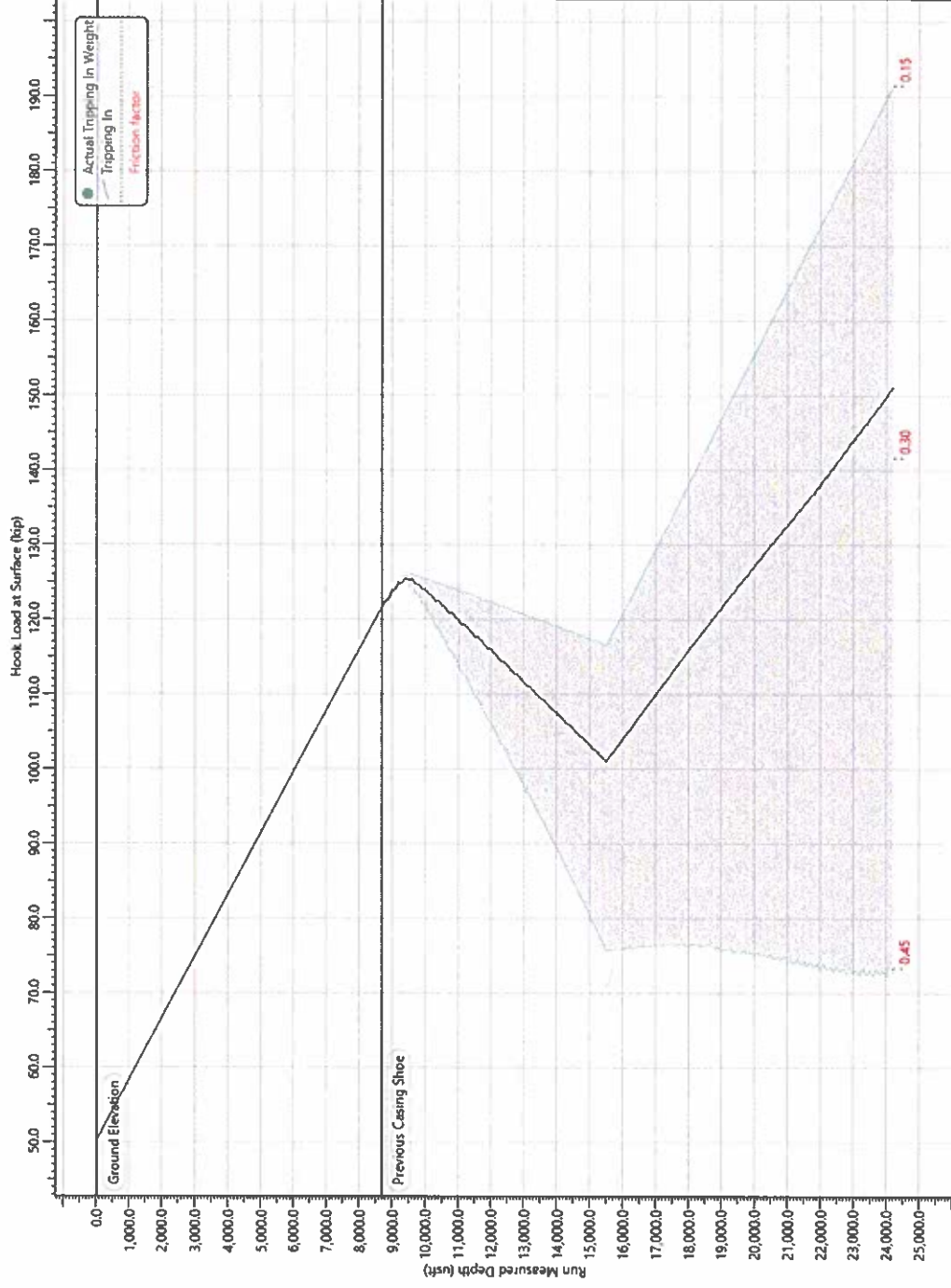
Honey Graham State Com 703H – Running Casing



- 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)



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



**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 cases?**

Yes.

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

Yes.

**BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 21219 & 21220 Exhibit No. E
Submitted by:
COG OPERATING LLC
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 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 verify production from the toe stages and heel stages of lateral as shown in this exhibit.

15. In your opinion, would granting COG's applications be in the best interest of conservation, prevent waste, and 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.

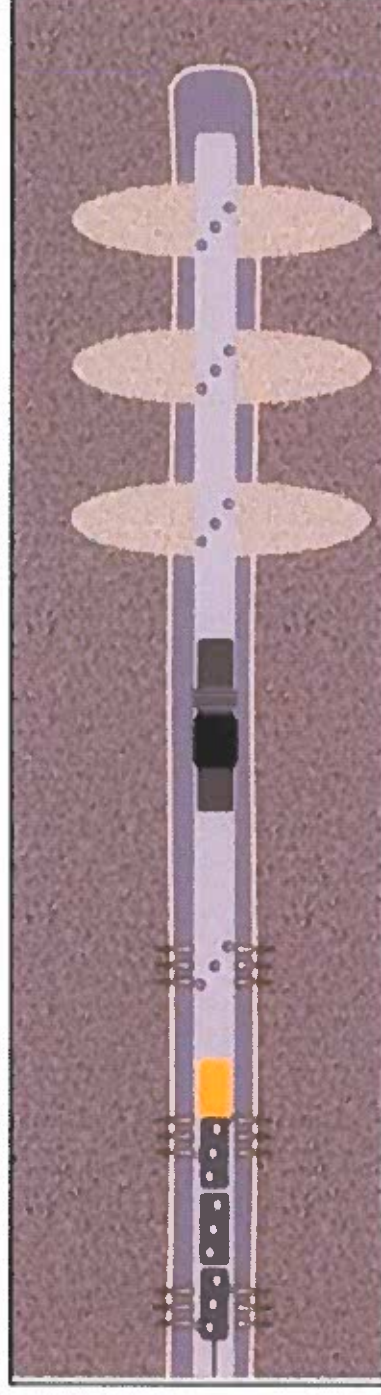
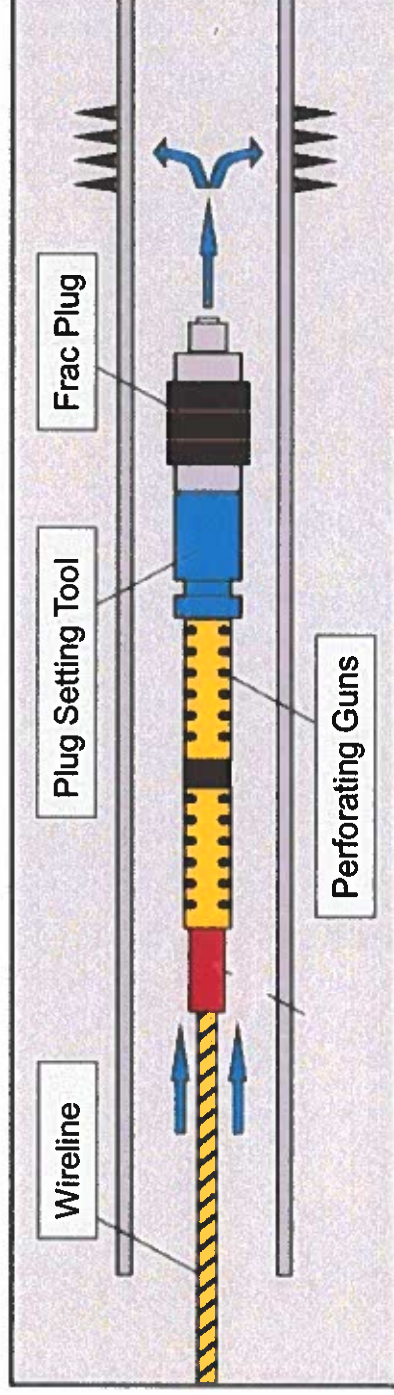
3 Mile Lateral Completions

- COG 3 Mile Lateral Completions
 - 6 wells completed in Midland Basin 4Q19 – 1Q20
 - 5 Wolfcamp, 1 Spraberry
 - Total Measured Depth \pm 24,500'
 - Total Vertical Depth \pm 9,250'
 - Completed lateral length \pm 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



3 Mile Lateral Completions

Plug and Perf Completion Method



3 Mile Lateral Completions

Plug and Perf Completion Method



3 Mile Lateral Completions

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

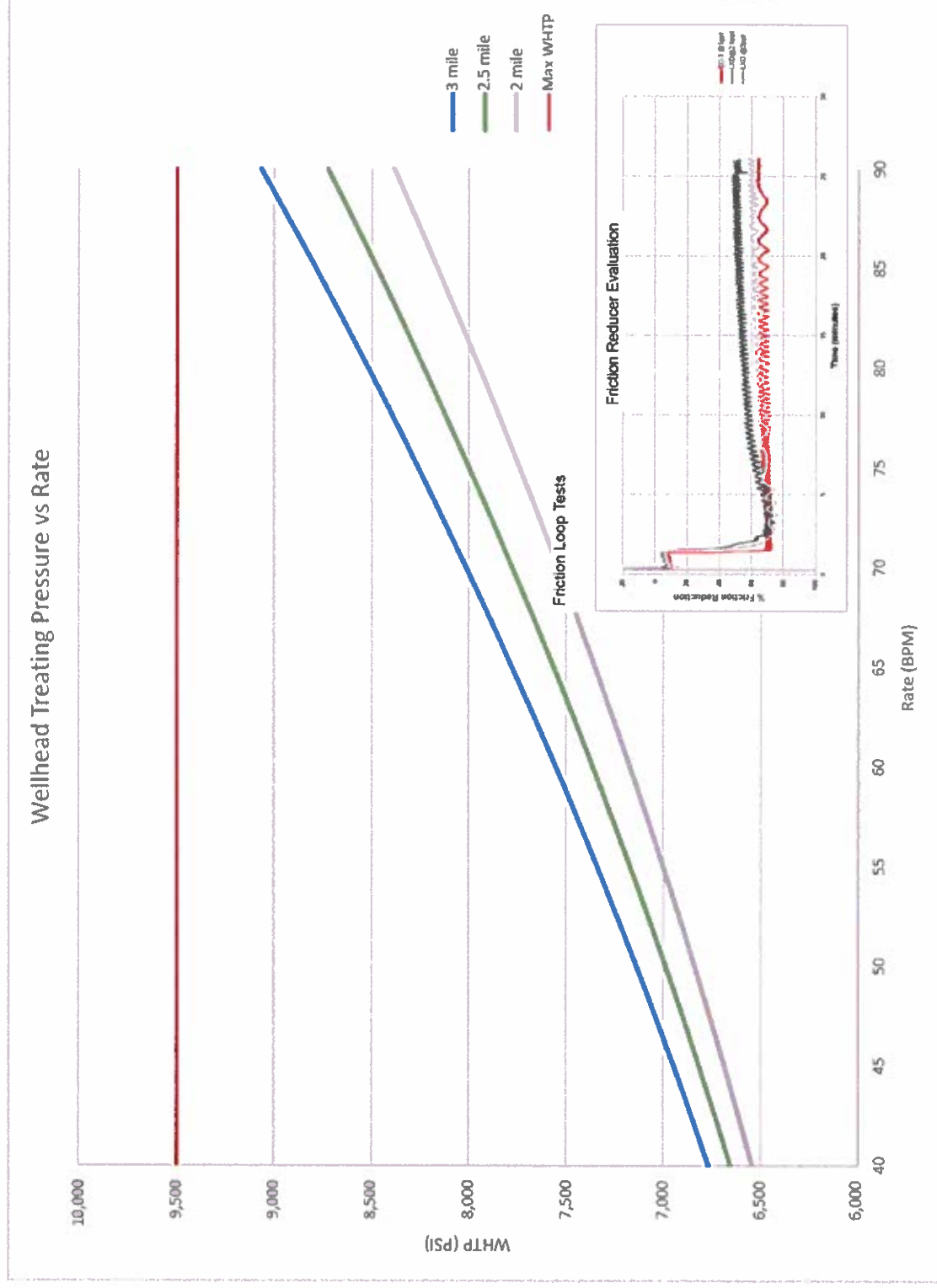


3 Mile Lateral Completions

- 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
 - 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



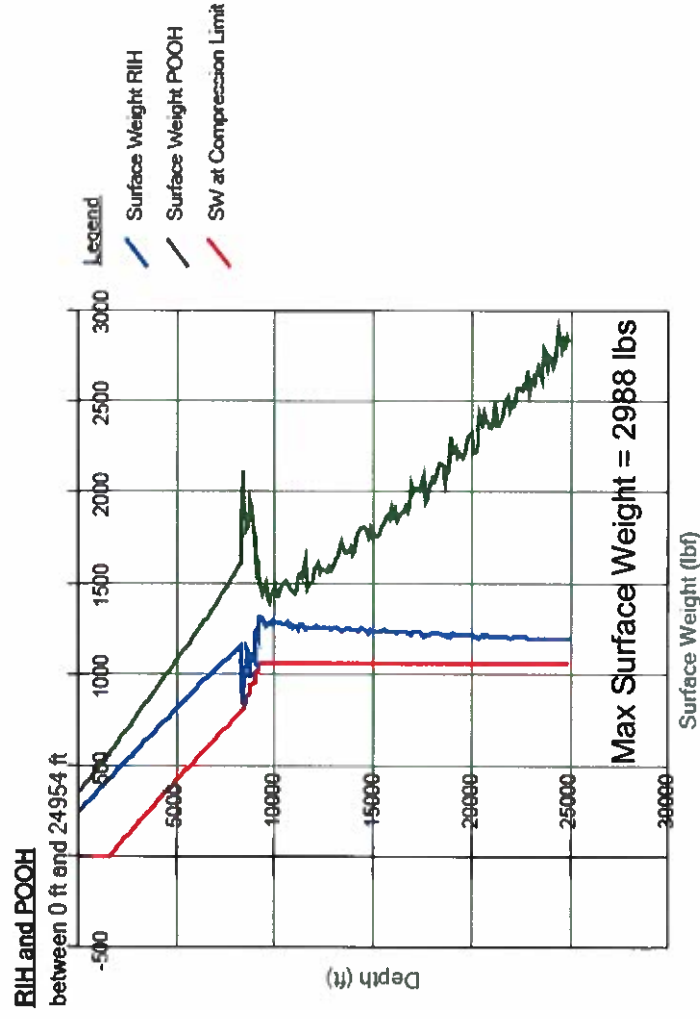
3 Mile Lateral Completions – Pipe Friction Analysis



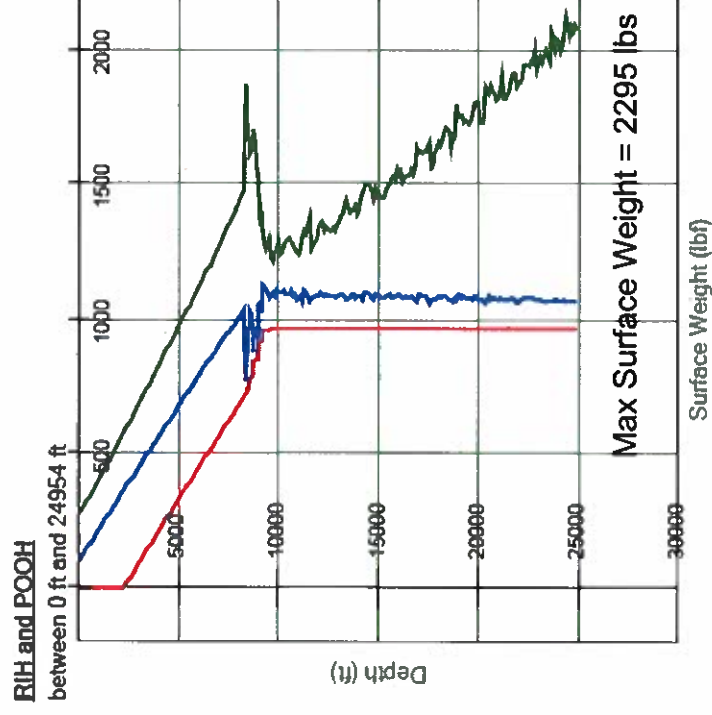
3 Mile Lateral Completions – Wireline Simulation

CERBERUS Tool Deployment Simulation

Conventional Steel Wireline



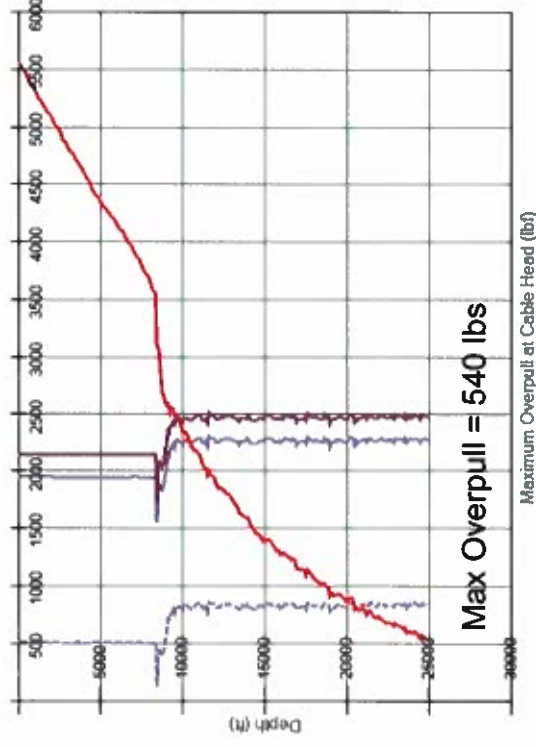
Coated Wireline



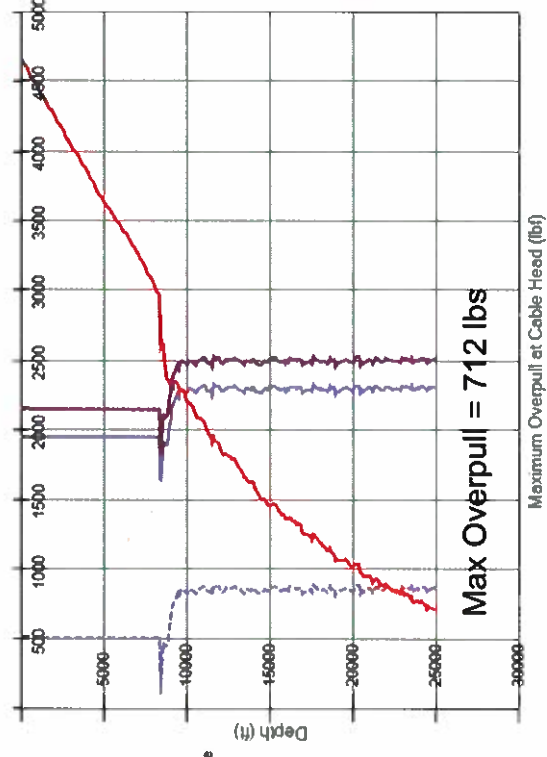
3 Mile Lateral Completions – Wireline Simulation

CERBERUS Tool Deployment Simulation

Conventional Steel Wireline



Coated Wireline



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Case Nos. 21219 & 21220 Exhibit No. E-8

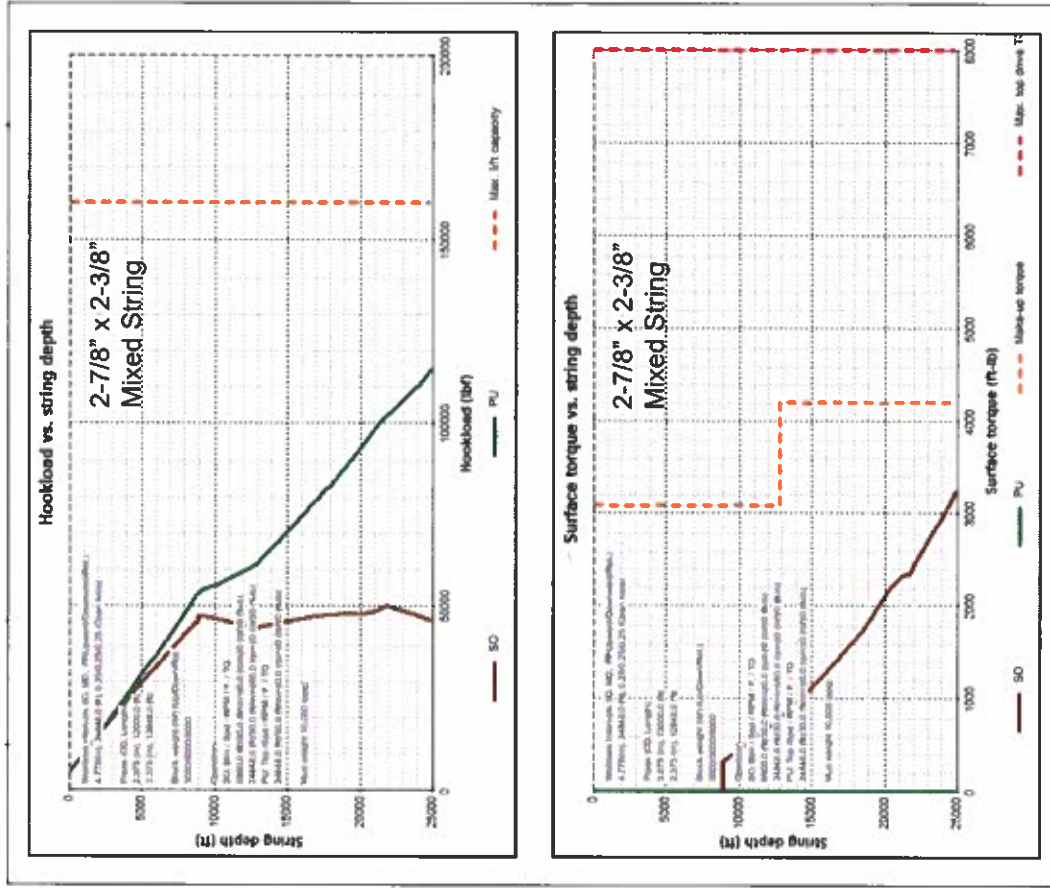
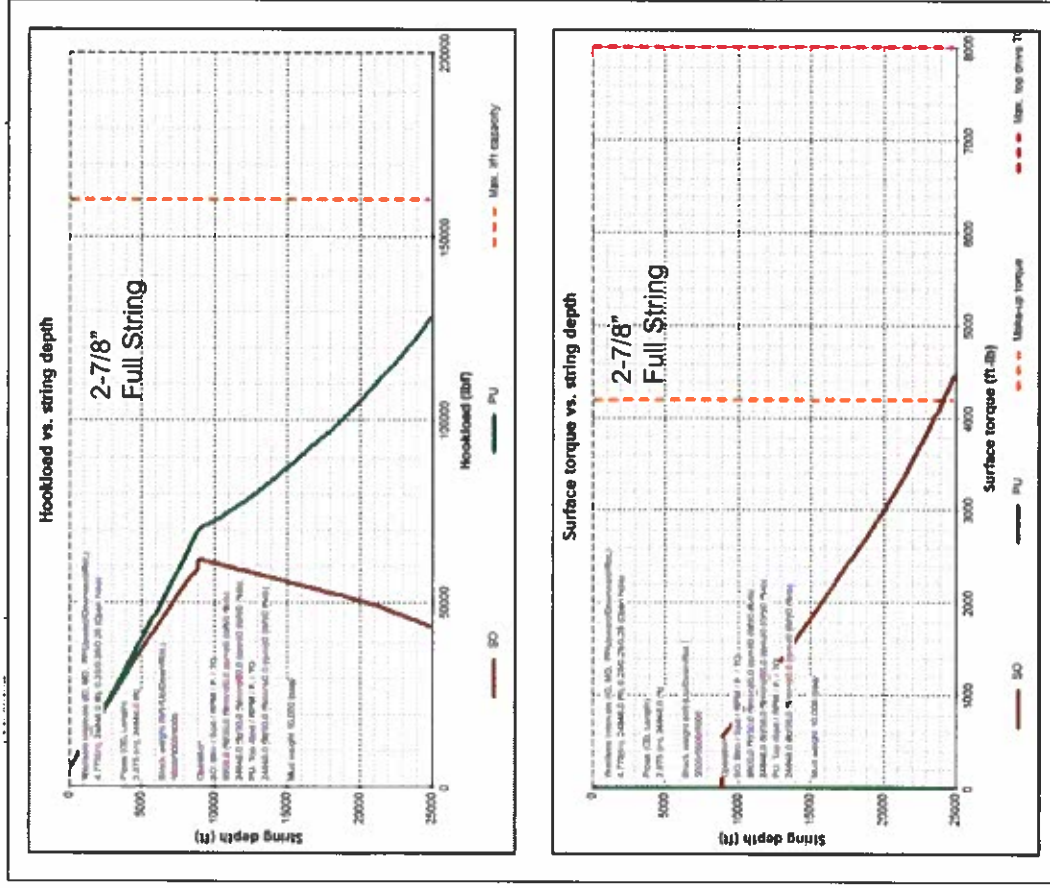
Submitted by:

COG OPERATING LLC

Hearing Date: June 26, 2020

3 Mile Lateral Completions – Drillout Drill String Modeling

TADPRO Torque and Drag Model



3 Mile Lateral Completions

Production Verification with Tracers

