

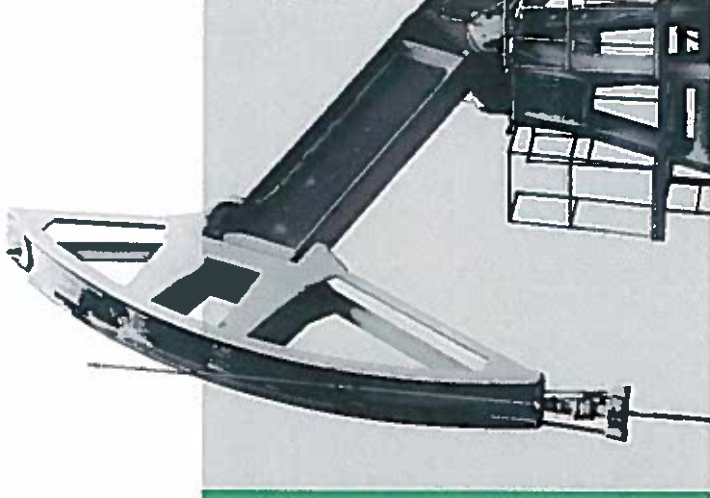
COG OPERATING LLC

Brot Helm Federal Com

601H,602H,603H,701H,702H,703H,704H

Section 35 & 2-T24S-34E

Lea County, New Mexico



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

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

CASE NO. 20205 & 20206

**AFFIDAVIT OF MATT SOLOMON
IN SUPPORT OF CASE NOS. 20205 & 20206**

Matt Solomon, of lawful age and being first duly sworn, declares as follows:

1. My name is Matt Solomon. I work for COG Operating LLC ("COG") as a Landman.
2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum land matters. My credentials as a petroleum landman have been accepted by the Division and made a matter of record.
3. I am familiar with the application filed by COG in this case, and I am familiar with the status of the lands in the subject area.
4. None of the proposed parties to be pooled in this case has indicated opposition, and therefore I do not expect any opposition at the hearing.
5. COG is seeking an order (a) pooling all uncommitted interests in the Bone Spring and Wolfcamp formations in the 640-acre horizontal spacing units comprised of the E/2 of Section 35, Township 24 South, Range 34 East and the E/2 of Section 2, Township 25 South, Range 34 East, NMPM, Lea County, New Mexico; and (b) dedicating the horizontal spacing units to the proposed Brot Helm Fed Com Nos. 601H, 602H, 603H Wells (Bone Spring) and the 701H, 702H, 703H, and 704H Wells (Wolfcamp) (collectively called the "Wells").

6. COG has prepared draft Forms of C-102 to file with the Division for the proposed Wells. The draft C-102s are attached as **COG Exhibit A-1**. The assigned Pool Codes are:

Lower Bone Spring – RED HILLS; BONE SPRING, EAST [97369]
Wolfcamp – WC-025 G-09 S253402N; WOLFCAMP [98116]

7. The completed intervals for the proposed Wells will comply with the Division's setback requirements.

8. There are no depth severances in the Bone Spring and Wolfcamp Formations.

9. **COG Exhibit A-2** is an exhibit prepared by me that identifies the tracts of land comprising the horizontal spacing units. These horizontal spacing units include federal and state lands, which I have depicted on the exhibit. This exhibit shows the interest owners and the percentage of their interest by tract. A unit recapitulation, showing the percentage of ownership interests in the proposed spacing unit, is also included on the exhibit. COG is only seeking to pool working interest owners, in particular only EOG Resources, Inc. ("EOG"). There are no unleased mineral interest owners.

10. **COG Exhibit A-3** is an Affidavit of Notice dated February 4, 2019, signed by yourself which attaches a copy of the certified return receipt reflecting that EOG received notice of COG's applications on January 8, 2019.

11. COG is not seeking to pool any overriding royalty interest owners.

12. COG sent well proposal letters to EOG. AFEs for each well were included with the well proposal letters. The costs reflected in the AFEs are consistent with what other operators have incurred for drilling similar horizontal wells in the area. A copy of the well proposal letters, along with the AFEs, is attached as **COG Exhibit A-4**.

13. COG has made an estimate of overhead and administrative costs for drilling and producing the proposed wells. It is \$7,000/month while drilling, and \$700/month while

producing. These costs are consistent with what other operators are charging in this area for these types of wells. COG respectfully requests that these administrative and overhead costs be incorporated into any orders entered by the Division in this case.

14. In my opinion, COG has made good faith efforts to reach an agreement with the party it is seeking to pool. If COG reaches an agreement with it before the Division enters an order, I will let the Division know.

15. I provided my hearing counsel with the name and address for the proposed pool party, which is included in Exhibit C. There were no unlocatable parties.

16. COG Exhibits A-1 through A-4 were either prepared by me or compiled under my direction and supervision.



MATT SOLOMON

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

SUBSCRIBED and SWORN to before me this 4th day of February, 2019 by Matt Solomon.



NOTARY PUBLIC

My Commission Expires:



DISTRICT I
1825 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-9729

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DISTRICT IV
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Santa Fe, New Mexico 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name BROT HELM FEDERAL COM	Well Number 601H
OGRID No.	Operator Name COG OPERATING, LLC	Elevation 3420.6'

Surface Location

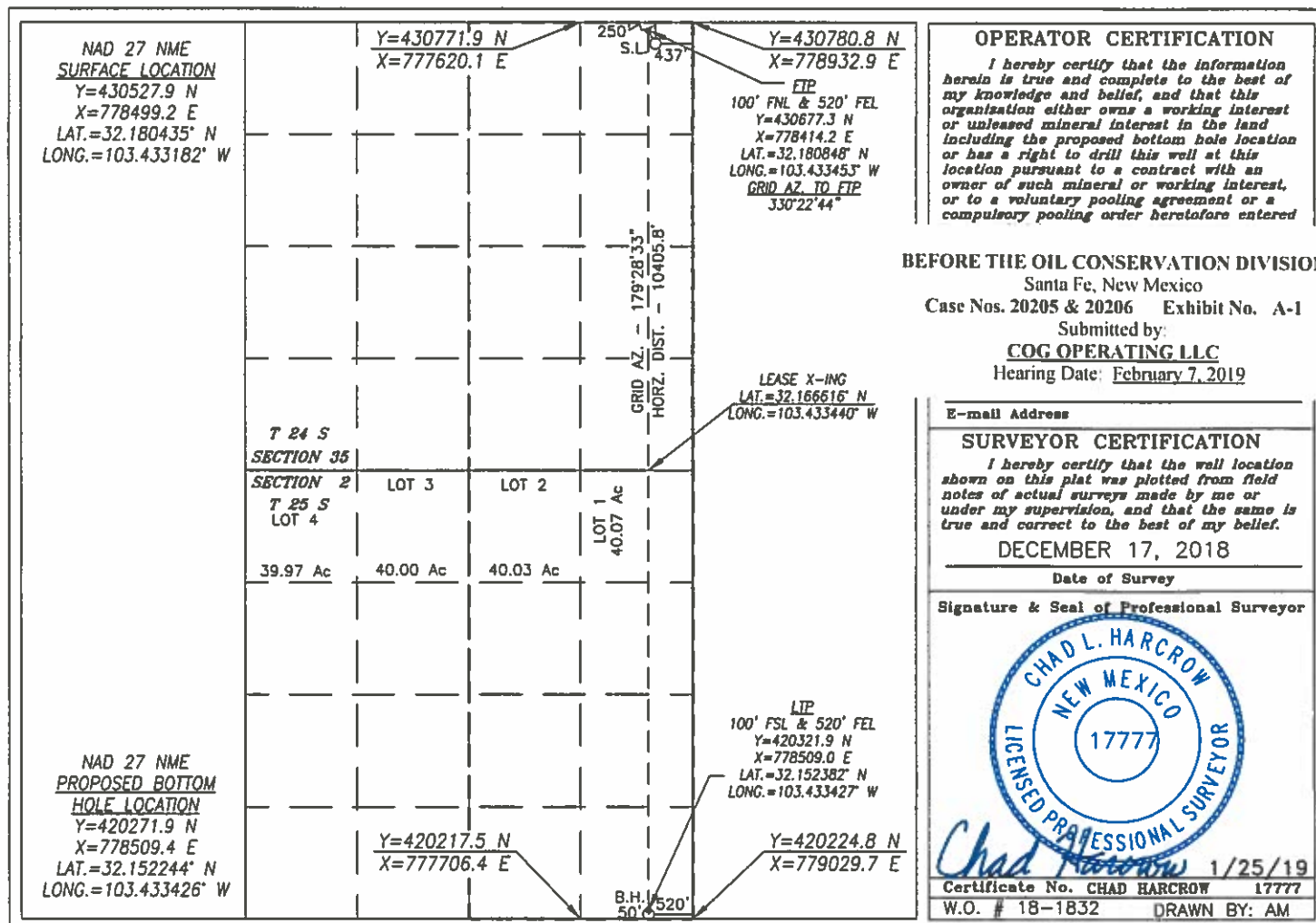
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	35	24-S	34-E		250	NORTH	437	EAST	LEA

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	2	25-S	34-E		50	SOUTH	520	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

**NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION**



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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name BROT HELM FEDERAL COM	Well Number 602H
OGRID No.	Operator Name COG OPERATING, LLC	Elevation 3415.9'

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	35	24-S	34-E		250	NORTH	1225	EAST	LEA

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	2	25-S	34-E		50	SOUTH	1310	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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<p>NAD 27 NME <u>SURFACE LOCATION</u> Y=430522.5 N X=777711.1 E LAT.=32.180438° N LONG.=103.435729° W</p>	<p>Y=430771.9 N X=777620.1 E 100' FNL & 1310' FEL Y=430672.0 N X=777624.3 E LAT.=32.180851° N LONG.=103.436006° W GRID AZ. TO FTP 32°49'41"</p>				<p>Y=430780.8 N X=778932.9 E</p>	
	<p>1250' S.L. 1225'</p>					
<p>LEASE X-ING LAT.=32.166619° N LONG.=103.435993° W</p>						
<p>GRID AZ. - 179°28'33" HORZ. DIST. - 10404.8'</p>						
<p>T 24 S SECTION 35</p>						
<p>SECTION 2</p>						
<p>T 25 S LOT 4</p>						
<p>39.97 Ac 40.00 Ac 40.03 Ac 40.07 Ac</p>						
<p>NAD 27 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=420267.6 N X=777719.4 E LAT.=32.152251° N LONG.=103.435979° W</p>						
<p>Y=420217.5 N X=777706.4 E</p>						
<p>Y=420224.8 N X=779029.7 E</p>						
<p>100' FSL & 1310' FEL Y=420317.6 N X=777719.0 E LAT.=32.152388° N LONG.=103.435979° W</p>						
<p>50' B.H. 1310'</p>						

OPERATOR CERTIFICATION

I hereby certify that the information 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 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.

DECEMBER 17, 2018

Date of Survey _____

Signature & Seal of Professional Surveyor



CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 1/25/19

Certificate No. CHAD HARCROW 17777

W.O. # 18-1834 DRAWN BY: AM

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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name
Property Code	Property Name BROT HELM FEDERAL COM		Well Number 603H
OGRID No.	Operator Name COG OPERATING, LLC		Elevation 3416.9'

Surface Location


UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	35	24-S	34-E		250	NORTH	2205	EAST	LEA

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	2	25-S	34-E		50	SOUTH	2120	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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<p>NAD 27 NME <u>SURFACE LOCATION</u> Y=430515.9 N X=776731.2 E LAT.=32.180443° N LONG.=103.438896° W</p>	<p>Y=430763.1 N X=776307.3 E</p>		<p>250' S.L.</p>	<p>Y=430771.9 N X=777620.1 E</p>	<p>OPERATOR CERTIFICATION <i>I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
	<p>T 24 S SECTION 35</p>		<p>100' FNL & 2120' FEL Y=430666.5 N X=776814.3 E LAT.=32.180855° N LONG.=103.438624° W GRID AZ. TO FTP 28°53'16"</p>		
<p>NAD 27 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=420263.2 N X=776909.5 E LAT.=32.152257° N LONG.=103.438596° W</p>	<p>Y=420210.3 N X=776383.1 E</p>		<p>2120'</p>	<p>Y=420217.5 N X=777706.4 E</p>	<p>SURVEYOR CERTIFICATION <i>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.</i></p> <p>DECEMBER 17, 2018 Date of Survey</p> <p>Signature & Seal of Professional Surveyor</p> <div style="text-align: center;">  </div> <p>Certificate No. CHAD HARCROW 17777 W.O. # 18-1837 DRAWN BY: AM</p>
	<p>T 25 S SECTION 2</p>		<p>LEASE X-ING LAT.=32.166622° N LONG.=103.438610° W</p>		
<p>LOT 3</p>		<p>LOT 2</p>	<p>LOT 1</p>		
<p>39.97 Ac</p>		<p>40.00 Ac</p>	<p>40.03 Ac</p>	<p>40.07 Ac</p>	

DISTRICT I
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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name BROT HELM FEDERAL COM	Well Number 701H
OGRID No.	Operator Name COG OPERATING, LLC	Elevation 3420.2'

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	35	24-S	34-E		250	NORTH	407	EAST	LEA


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	2	25-S	34-E		50	SOUTH	330	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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<p>NAD 27 NME <u>SURFACE LOCATION</u> Y=430528.1 N X=778529.2 E LAT.=32.180435° N LONG.=103.433086° W</p>	<p>Y=430771.9 N X=777620.1 E</p>				<p>250' S.L. 407</p> <p>Y=430780.8 N X=778932.9 E</p> <p>FIP 100' FNL & 330' FEL Y=430678.6 N X=778604.2 E LAT.=32.180847° N LONG.=103.432839° W GRID AZ. TO FIP 26°30'29"</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information 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 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>T 24 S SECTION 35</p>					
<p>NAD 27 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=420271.9 N X=778509.4 E LAT.=32.152244° N LONG.=103.433426° W</p>	<p>Y=420217.5 N X=777706.4 E</p>				<p>LEASE X-ING LAT.=32.166616° N LONG.=103.432826° W</p> <p>FIP 100' FSL & 330' FEL Y=420321.9 N X=778509.0 E LAT.=32.152382° N LONG.=103.433427° W</p>	<p>SURVEYOR CERTIFICATION</p> <p>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>DECEMBER 17, 2018</p> <p>Date of Survey _____</p> <p>Signature & Seal of Professional Surveyor</p>
	<p>T 25 S SECTION 2 LOT 4</p>					
<p>39.97 Ac 40.00 Ac 40.03 Ac 40.07 Ac</p>						
<p>GRID AZ. - 179°28'33" HORIZ. DIST. - 10406.0</p>						
<p>B.H. 330' 50'</p>						



1/25/19

Certificate No. CHAD HARCROW 17777

W.O. # 18-1833 DRAWN BY: AM

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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name BROT HELM FEDERAL COM	Well Number 702H
GRID No.	Operator Name COG OPERATING, LLC	Elevation 3416.3'

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	35	24-S	34-E		250	NORTH	1195	EAST	LEA

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	2	25-S	34-E		50	SOUTH	1000	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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<p>NAD 27 NME SURFACE LOCATION Y=430522.8 N X=777741.2 E LAT.=32.180438° N LONG.=103.435632° W</p>	<p>Y=430771.9 N X=777620.1 E</p>	<p>250' 0.4' S.L. 1195'</p>	<p>Y=430780.8 N X=7778932.9 E</p>	<p>OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unless 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 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>100' FNL & 1000' FEL Y=430674.1 N X=777934.2 E LAT.=32.180850° N LONG.=103.435004° W GRID AZ. TO FTP 51°54'59"</p>	<p>LEASE X-ING LAT.=32.166618° N LONG.=103.434991° W</p>		
<p>NAD 27 NME PROPOSED BOTTOM HOLE LOCATION Y=420269.3 N X=778029.4 E LAT.=32.152248° N LONG.=103.434977° W</p>	<p>Y=420217.5 N X=777706.4 E</p>	<p>100' FSL & 1000' FEL Y=420319.3 N X=778029.0 E LAT.=32.152386° N LONG.=103.434977° W Y=420224.8 N X=779029.7 E</p>	<p>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>DECEMBER 17, 2018 Date of Survey</p> <p>Signature & Seal of Professional Surveyor</p>	



Chad Hargrow 1/25/19
Certificate No. CHAD HARGROW 17777
W.O. # 18-1835 DRAWN BY: AM

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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name
Property Code	Property Name BROT HELM FEDERAL COM		Well Number 703H
OGRID No.	Operator Name COG OPERATING, LLC		Elevation 3415.9'

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	35	24-S	34-E		250	NORTH	1255	EAST	LEA

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
0	2	25-S	34-E		50	SOUTH	1650	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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<p>Y=430771.9 N X=777620.1 E</p> <p>100' FNL & 1650' FEL Y=430669.7 N X=777284.3 E LAT.=32.180853° N LONG.=103.437105° W GRID AZ. TO FTP 290°22'16"</p>		<p>Y=430780.8 N X=778932.9 E</p> <p>NAD 27 NME <u>SURFACE LOCATION</u> Y=430522.3 N X=777681.1 E LAT.=32.180438° N LONG.=103.435826° W</p>		<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information 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 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>T 24 S SECTION 35</p> <p>T 25 S LOT 4</p> <p>39.97 Ac 40.00 Ac 40.03 Ac 40.07 Ac</p>		<p>LEASE X-ING LAT.=32.166621° N LONG.=103.437091° W</p> <p>NAD 27 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=420265.7 N X=777379.4 E LAT.=32.152253° N LONG.=103.437077° W</p>		
<p>Y=420210.3 N X=776383.1 E</p> <p>100' FSL & 1650' FEL Y=420315.7 N X=777379.0 E LAT.=32.152391° N LONG.=103.437077° W</p>		<p>Y=420217.5 N X=777706.4 E</p>		<p>SURVEYOR CERTIFICATION</p> <p>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>DECEMBER 17, 2018</p> <p>Date of Survey _____</p> <p>Signature & Seal of Professional Surveyor</p>



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DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1229 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name BROT HELM FEDERAL COM	Well Number 704H
GRID No.	Operator Name COG OPERATING, LLC	Elevation 3418.1'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	35	24-S	34-E		250	NORTH	2235	EAST	LEA

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	2	25-S	34-E		50	SOUTH	2310	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

**NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION**

<p>NAD 27 NME <u>SURFACE LOCATION</u> Y=430515.7 N X=776701.2 E LAT.=32.180443° N LONG.=103.438994° W</p>	<p>Y=430763.1 N X=776307.3 E FTP 100' FSL & 2310' FEL Y=430665.2 N X=776624.3 E LAT.=32.180855° N LONG.=103.439238° W GRID AZ. TO FTP 332°45'33"</p>	<p>250' S.L. 2235'</p> <p>Y=430771.9 N X=777620.1 E</p>	<p>OPERATOR CERTIFICATION I hereby certify that the information 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 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>NAD 27 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=420262.1 N X=776719.5 E LAT.=32.152258° N LONG.=103.439210° W</p>	<p>T 24 S SECTION 35 SECTION 2 T 25 S LOT 4 39.97 Ac 40.00 Ac 40.03 Ac 40.07 Ac</p>	<p>LEASE X-ING LAT.=32.166623° N LONG.=103.439224° W</p> <p>100' FSL & 2310' FEL Y=420312.1 N X=776719.0 E LAT.=32.152396° N LONG.=103.439210° W</p>	<p>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>DECEMBER 17, 2018 Date of Survey</p> <p>Signature & Seal of Professional Surveyor</p>



1/25/19
Certificate No. CHAD HARCROW 17777
W.O. # 18-1838 DRAWN BY: AM

Case No. 20205
Brot Helm Federal Com 601H, 602H, 603H,
E2 of Section 35, T24S-R34E, NMPM & E2 of Section 2, T25S-R34E, NMPM,
Lea County, New Mexico

Tract 1:



Federal lease
USA NM-123535

Tract 2:

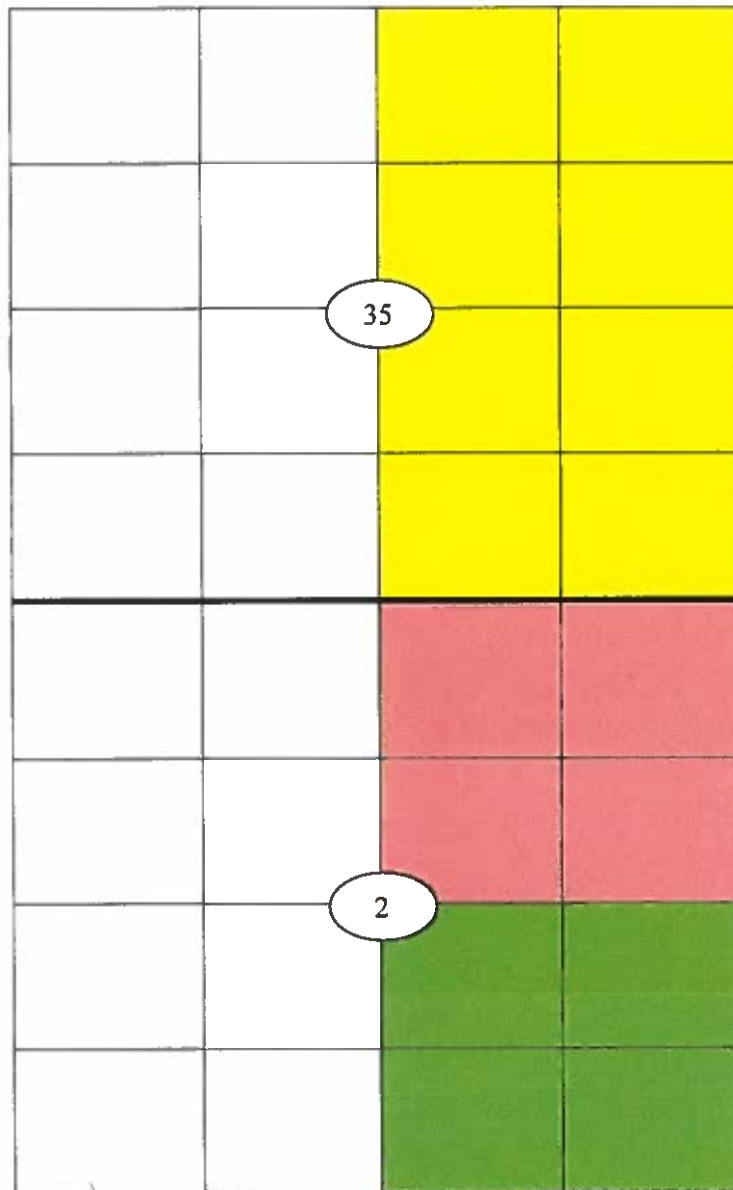


State Lease
VB-1585

Tract 3:



State Lease
VB-1586



Unit Working Interest

COG Operating LLC	50.003125%
EOG Resources, Inc.	49.996875%
Total	100.000000%

Tract 1 – E2 of Section 35

COG Operating LLC	100.000000%
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Tract 2 –NE4 of Section 2

EOG Resources, Inc.	100.000000%
---------------------	-------------

Tract 3 –SE4 of Section 2

EOG Resources, Inc.	100.000000%
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Pooling Notification List**Working Interest Owners**

EOG Resources, Inc.
5509 Champions Drive
Midland, TX 79706

Case No. 20206
Brot Helm Federal Com 701H, 702H, 703H, 704H
E2 of Section 35, T24S-R34E, NMPM & E2 of Section 2, T25S-R34E, NMPM,
Lea County, New Mexico

Tract 1:



Federal lease
USA NM-123535

Tract 2:

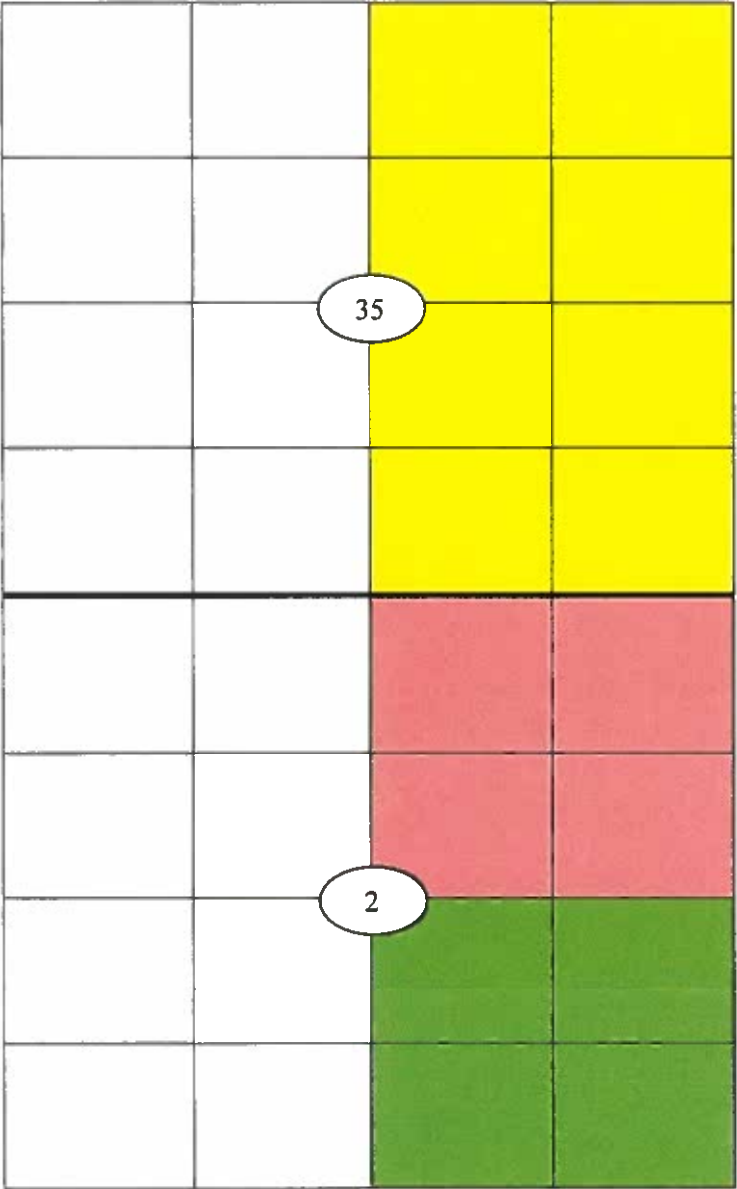


State Lease
VB-1585

Tract 3:



State Lease
VB-1586



Unit Working Interest

COG Operating LLC	50.003125%
EOG Resources, Inc.	49.996875%
Total	100.000000%

Tract 1 – E2 of Section 35

COG Operating LLC	100.000000%
-------------------	-------------

Tract 2 –NE4 of Section 2

EOG Resources, Inc.	100.000000%
---------------------	-------------

Tract 3 –SE4 of Section 2

EOG Resources, Inc.	100.000000%
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Pooling Notification List**Working Interest Owners**

EOG Resources, Inc.
5509 Champions Drive
Midland, TX 79706

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

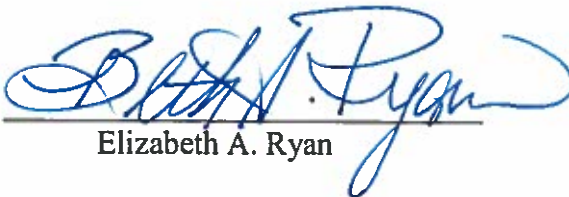
**APPLICATION OF COG OPERATING LLC
FOR COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO.**

CASE NOS. 20205 & 20206

AFFIDAVIT

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

Elizabeth A. Ryan, attorney and authorized representative of COG Operating LLC, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application was provided under the notice letter and proof of receipt attached hereto.


Elizabeth A. Ryan

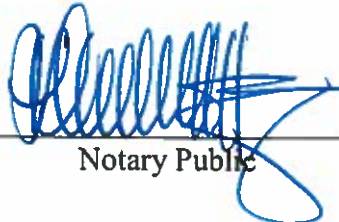
SUBSCRIBED AND SWORN to before me this 4th day of February 2019 by Elizabeth A. Ryan.



OFFICIAL SEAL
LISAMARIE ORTIZ
NOTARY PUBLIC-STATE OF NEW MEXICO

My commission expires

01/14/2023


Notary Public

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 20205 & 20206 Exhibit No. A-3
Submitted by:
COG OPERATING LLC
Hearing Date: February 7, 2019

January 4, 2019

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

TO: EOG Resources Inc.
Attn: Charles Moran
5509 Champions Drive
Midland, Texas 79706

Re: **Applications of COG Operating LLC for Compulsory Pooling, Lea County, New Mexico. Brot Helm Fed Com 601H, 602H, 603H, 701H, 702H, 703H & 704H Wells.**

Dear Mr. Moran:

This letter is to advise you that COG Operating LLC has filed the enclosed applications with the New Mexico Oil Conservation Division seeking a non-standard spacing and proration unit and compulsory pooling, Lea County New Mexico.

Although, these applications reflect they are set for the January 24, 2019 docket, recent changes being implemented by the New Mexico Oil Conservation Division to address its back-logged docket, will place these applications for hearing before a Division Examiner at 8:15 a.m. on February 7, 2019. The hearing will be held in Porter Hall in the Oil Conservation Division's Santa Fe Office located at 1220 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 these applications, 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.

Parties appearing in cases are required by Division Rule 19.15.4.13(B) to file a Pre-Hearing Statement four days in advance of a scheduled hearing. This 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 hearing.

Thank you for your time and attention to these matters.

Sincerely,



Elizabeth A. Ryan
Senior Counsel
COG Operating LLC


CORPORATE ADDRESS

ONE CONCHO CENTER | 600 WEST ILLINOIS AVENUE | MIDLAND, TEXAS 79701
P 432.683.7443 | F 432.683.7441

SANTA FE OFFICE

1048 PASEO DE PERALTA | SANTA FE, NEW MEXICO 87501
P 505.780.8000 | F 505.428.0485

7017 2680 0000 1772 1977

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For delivery information, visit our website at www.usps.com ®.	
OFFICIAL USE <i>Prof Holm Wells</i>	
Certified Mail Fee \$ _____	
Extra Services & Fees (check box, add fee as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy) \$ _____	
<input type="checkbox"/> Return Receipt (electronic) \$ _____	
<input type="checkbox"/> Certified Mail Restricted Delivery \$ _____ <input type="checkbox"/> Adult Signature Required \$ _____ <input type="checkbox"/> Adult Signature Restricted Delivery \$ _____	
Postage \$ _____	
EOG Resources Inc. Attn: Charles Moran 5509 Champions Drive Midland, Texas 79706	
PS Form 3800, April 2015 PSN 7530-02-000-2047 See Reverse for Instructions	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> ■ 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. 		A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee <i>[Signature]</i>	
1. Article Addressed to: EOG Resources Inc. Attn: Charles Moran 5509 Champions Drive Midland, Texas 79706		B. Received by (Printed Name) <i>[Signature]</i>	C. Date of Delivery 1-8-19
2. Article Number (Transfer from service label) 7017 2680 0000 1772 1977		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Mail Restricted Delivery		<input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Signature Confirmation Restricted Delivery	
PS Form 3811, July 2015 PSN 7530-02-000-8053		Domestic Return Receipt	



October 24, 2018

Via Certified Mail: 91 7199 9991 7038 7628 2906

EOG Resources Inc.
5509 Champions Drive
Midland, TX 79706

Re: Brot Helm Federal Com #601H, #602H & #603H
Sec 35: E/2 E/2 - T24S-R34E
Sec 2: E/2 E/2 - T25S-R34E
Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the following wells located in the E/2 of Section 35, 24S-34E and E/2 of Section 2, 25S-34E, Lea County, New Mexico:

The **Brot Helm Federal Com #601H** well has a surface hole location of 250' FNL and 407' FEL of Section 35, 24S-34E, and a bottom hole location of 50' FSL and 520' FEL of Section 2, 25S-34E, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,550' and a MD of approximately 22,910' to test the Bone Spring formation ("Operation"). The total cost of the Operation is estimated to be \$9,952,616, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

The **Brot Helm Federal Com #602H** well has a surface hole location of 250' FNL and 1225' FEL of Section 35, 24S-34E, and a bottom hole location of 50' FSL and 1310' FEL of Section 2, 25S-34E, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,550' and a MD of approximately 22,910' to test the Bone Spring formation ("Operation"). The total cost of the Operation is estimated to be \$9,952,616, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

The **Brot Helm Federal Com #603H** well has a surface hole location of 250' FNL and 2205' FEL of Section 35, 24S-34E, and a bottom hole location of 50' FSL and 2120' FEL of Section 2, 25S-34E, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,550' and a MD of approximately 22,910' to test the Bone Spring formation ("Operation"). The total cost of the Operation is estimated to be \$9,952,616, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill these wells under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 35: E/2 - T24S-R34E and Sec 2: E/2 - T25S-R34E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case Nos. 20205 & 20206 Exhibit No. A-4
Submitted by:
COG OPERATING LLC
Hearing Date: February 7, 2019

Please indicate your participation elections in the spaces provided below, sign and return this letter, along with a signed copy of the enclosed AFEs and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG proposes to acquire your interest via term assignment. It has the following general provisions:

- 3 year primary term
- Delivering a 75% NRI, proportionately reduced
- \$5,000 per net acre bonus consideration

The Term Assignment offer terminates December 1, 2018 and is subject to the approval of COG's management and verification of title. If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

If you have any questions, please do not hesitate to contact the undersigned at (432) 685-4352 or msolomon@concho.com.

Respectfully,



Matt Solomon
Staff Landman

Brot Helm Federal Com #601H

_____ I/We hereby elect to participate in the Brot Helm Federal Com 601H.

_____ I/We hereby elect **not** to participate in the Brot Helm Federal Com 601H.

Brot Helm Federal Com #602H

_____ I/We hereby elect to participate in the Brot Helm Federal Com 602H.

_____ I/We hereby elect **not** to participate in the Brot Helm Federal Com 602H.

Brot Helm Federal Com #603H

_____ I/We hereby elect to participate in the Brot Helm Federal Com 603H.

_____ I/We hereby elect **not** to participate in the Brot Helm Federal Com 603H.

Company: EOG Resources Inc.

By: _____

Name: _____

Title: _____

Date: _____

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: BROTHELM FED COM #601H SHL: Sec 35: 250 FNL & 407 FEL BHL: Sec 2: 50 FSL & 520 FEL FORMATION: 3rd Bone Spring LEGAL: Sec 35: 24S-34E	PROSPECT NAME: Bulldog 2434 (717040) STATE & COUNTY: New Mexico, Lea OBJECTIVE: Drill and Complete DEPTH: 22,910 TVD: 12,550
--	---

INTANGIBLE COSTS		Drig - Rig Release(D)	Completion(C)	Tank Btty Constrctn(TB)	Pmpg Equipment(PEQ)	TOTAL
Time/Cursive/Permit	301	20,000				20,000
Insurance	302	2,300				2,300
Damages/Right of Way	303	20,000				20,000
Survey/State Location	304	7,000				7,000
Location/Plot/Road Expense	305	135,000	10,000	40,950	306	185,950
Drilling / Completion Overhead	306	11,100	15,000			26,100
Turnkey Contract	307	0				0
Footage Contract	308	0				0
Daywork Contract	309	923,000				923,000
Directional Drilling Services	310	442,000				442,000
Frac Equipment			679,000			679,000
Frac Chemicals			224,000			224,000
Frac Proppant			385,000			385,000
Frac Proppant Transportation			189,000			189,000
Fuel & Power	211	211,000	35,000	354	367	246,000
Water	212	80,000	494,000		368	554,000
Bits	213	111,000	4,900		369	115,900
Mud & Chemicals	214	275,000	25,000		370	300,000
Drill Stem Test	215	0				0
Coring & Analysis	216	0				0
Cement Surface	217	28,000				28,000
Cement Intermediate	218	75,000				75,000
Cement 2nd Intermediate/Production	219	115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Controls	221	65,000				65,000
Casing Crews & Equipment	222	70,000				70,000
Fishing Tools & Service	223	0	323		372	0
Geologic/Engineering	224	11,400		365	373	11,400
Contract Labor	225	6,500	20,000		374	144,871
Company Supervision	226	88,800	15,000	367	375	81,600
Contract Supervision	227	157,000	188,000	368	376	330,000
Testing Casing/Tubing	228	30,000	5,000		377	35,000
Mud Logging Unit	229	52,000				52,000
Logging	230	0			378	0
Perforating/Wireline Services	231	4,000	287,000		379	271,000
Stimulation/Testing			12,000		380	12,000
Completion Unit			50,000		381	58,800
Swabbing Unit					382	0
Rentals-Surface	235	180,000	300,000	359	383	487,000
Rentals-Subsurface	236	150,000	30,000		384	180,000
Trucking/Forklift/Rig Mobilization	237	200,000	20,000	380	385	220,000
Welding Services	238	3,000	8,000	361	386	8,000
Water Disposal	239	0	80,000	382	387	182,850
Plug to Abandon	240	0				0
Seismic Analysis	241	0				0
Miscellaneous	242	0			389	0
Contingency	243	89,900	100,000	383	390	189,900
Closed Loop & Environmental	244	330,000	5,000	384	388	335,000
Dyed Diesel	245		229,000			
Coil Tubing			390,000			390,000
Flowback Crews & Equip			48,000			48,000
Offset Directional/Frac	248				391	0
TOTAL INTANGIBLES		3,841,000	3,744,900	275,671	30,300	7,891,471

TANGIBLE COSTS						
Surface Casing	401	52,000				52,000
Intermediate Casing	402	565,000				565,000
Production Casing/liner	403	518,000				518,000
Tubing			504	52,000	530	57,000
Wellhead Equipment	405	75,000	505	22,000	531	100,000
Pumping Unit				0	506	88,000
Prime Mover				0	507	0
Rods				0	508	35,000
Pumps-Sub Surface (BH)			509		532	5,000
Tanks				510	57,917	57,917
Flowlines				511	24,200	24,200
Heater Treater/separator				512	127,408	127,408
Electrical System				513	118,300	133,300
Packers/Anchors/Hangers	414		514	88,000	534	88,000
Couplings/Fittings/Valves	415			515	93,077	93,077
Dehydration				517		0
Injection Plant/CO2 Equipment				518		0
Pumps-Surface				521	4,282	4,282
Instrumentation/SCADA/POC				522	9,536	18,536
Miscellaneous	419		519	4,789	535	7,789
Contingency	420		520		536	0
Meters/LACT				525	22,892	22,892
Flares/Combustors/Emission				526	21,481	21,481
Gas Lift/Compression			527	15,000	516	68,263
TOTAL TANGIBLES		1,198,000	155,000	537,115	171,000	2,061,145
TOTAL WELL COSTS		5,039,000	3,900,000	812,786	201,300	9,952,616

COG Operating LLC

Date Prepared 9/25/18

COG Operating LLC

We approve
% Working Interest

By: JH-KL-JHOL-PS

Company: EOG RESOURCES INC.
By:

Printed Name
Title
Date

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

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME:	BROT HELM FED COM #602H	PROSPECT NAME:	Bulldog 2434 (717040)
SHL:	Sec 35: 250 FNL & 1225 FEL	STATE & COUNTY:	New Mexico, Lea
BHL:	Sec 2: 50 FSL & 1310 FEL	OBJECTIVE:	Drill and Complete
FORMATION:	3rd Bone Spring	DEPTH:	22,910
LEGAL:	Sec 35: 24S-34E	TVD:	12,550

		Drill - Rig Release(D)	Completion(C)	Tank Btty Constructn(TB)	Pmpg Equipment(PEQ)	TOTAL
INTANGIBLE COSTS						
Title/Cursive/Permit	201	20,000				20,000
Insurance	202	2,500	302			2,500
Damages/Right of Way	203	20,000	303			20,000
Survey/Stake Location	204	7,000				7,000
Location/Plat/Road Expense	205	135,000	305	10,000	306	165,000
Drilling / Completion Overhead	206	11,100	306	15,000		26,100
Turnkey Contract	207	0				0
Footage Contract	208	0				0
Daywork Contract	209	923,000				923,000
Directional Drilling Services	210	442,000				442,000
Frac Equipment			307	679,000		679,000
Frac Chemicals			308	224,000		224,000
Frac Proppant			309	385,000		385,000
Frac Proppant Transportation			310	189,000		189,000
Fuel & Power	211	211,000	311	35,000	354	246,000
Water	212	80,000	312	494,000	367	554,000
Bbs	213	111,000	313	4,500	368	115,500
Mud & Chemicals	214	275,000	314	25,000	370	300,000
Drill Stem Test	215	0	315			0
Coring & Analysis	216	0				0
Cement Surface	217	28,000				28,000
Cement Intermediate	218	75,000				75,000
Cement 2nd Intermediate/Production	219	115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Centralizers	221	65,000				65,000
Casing Crews & Equipment	222	70,000				70,000
Fishing Tools & Service	223	0	323		372	0
Geologic/Engineering	224	11,400	324		373	11,400
Contract Labor	225	8,500	325	20,000	366	144,871
Company Supervision	226	88,800	326	15,000	367	81,800
Contract Supervision	227	157,000	327	186,000	368	330,000
Testing Casing/Tubing	228	30,000	328	5,000	377	35,000
Mud Logging Unit	229	52,000	329			52,000
Logging	230	0			378	0
Perforating/Wireline Services	231	4,000	331	267,000	379	271,000
Stimulants/Testing			332	12,000	380	12,000
Completion Unit			333	50,000	381	58,800
Swabbing Unit			334		382	0
Rentals-Surface	235	180,000	335	300,000	359	487,000
Rentals-Subsurface	236	150,000	336	30,000	364	180,000
Trucking/Facility/Rig Mobilization	237	200,000	337	20,000	365	220,000
Welding Services	238	3,000	338	5,000	381	8,000
Water Disposal	239	0	339	80,000	382	182,850
Plug to Abandon	240	0	340			0
Seismic Analysis	241	0	341			0
Miscellaneous	242	0	342		389	0
Contingency	243	89,900	343	100,000	383	189,900
Closed Loop & Environmental	244	330,000	344	5,000	384	335,000
Dyed Diesel	245		345	229,000		350,000
Coil Tubing			346	350,000		48,000
Flowback Crews & Equip			347	48,000		0
Offset Directional/Frac	248		348		391	0
TOTAL INTANGIBLES		3,841,000	3,744,500	275,871	30,300	7,891,471
TANGIBLE COSTS						
Surface Casing	401	52,000				52,000
Intermediate Casing	402	555,000				555,000
Production Casing/Liner	403	518,000				518,000
Tubing			504	52,000	530	57,000
Wellhead Equipment	405	75,000	505	22,000	531	100,000
Pumping Unit				0	506	98,000
Prime Mover				0	507	0
Roads				0	508	35,000
Pumps-Sub Surface (BH)			509		532	5,000
Tanks				57,917	510	57,917
Flowlines				24,200	511	24,200
Heater Treater/Separator				127,408	512	127,408
Electrical System				118,300	513	133,300
Packers/Anchors/Hangers	414		514	68,000	534	68,000
Couplings/Fittings/Valves	415			93,077	515	93,077
Dehydration					517	0
Injection Plant/CO2 Equipment					518	0
Pumps-Surface				4,292	521	4,292
Instrumentation/SCADA/POC				9,538	522	18,538
Miscellaneous	419		519	4,788	535	7,788
Contingency	420		520		536	0
Meters/LACT				22,892	525	22,892
Flares/Combustors/Emission				21,481	526	21,481
Gas Lift/Compression			527	15,000	516	68,283
TOTAL TANGIBLES		1,198,000	155,030	537,115	171,000	2,061,145
TOTAL WELL COSTS		5,039,000	3,900,000	812,786	201,300	9,852,616
	% of Total Well Cost	51%	39%	8%	2%	

COG Operating LLC

Date Prepared: 9/25/18

COG Operating LLC

We approve:
_____% Working Interest

By: JH-KL-JHOL-PS

Company: EQO RESOURCES INC.

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
DRILLING**

WELL NAME:	BROT HELM FED COM #603H	PROSPECT NAME:	Buildog 2434 (717040)
SHL:	Sec 35: 250 FNL & 2205 FEL	STATE & COUNTY:	New Mexico, Lea
BHL:	Sec 2: 50 FSL & 2120 FEL	OBJECTIVE:	Drill and Complete
FORMATION:	3rd Bone Spring	DEPTH:	22,910
LEGAL:	Sec 35: 245-34E	TVD:	12,550

INTANGIBLE COSTS		Drig - Rig Release(D)	Completion(C)	Tank Btty Constrcn(TB)	Pmpg Equipment(PEQ)	TOTAL
Time/Cursive/Permit	301	20,000				20,000
Insurance	302	2,500				2,500
Damages/Right of Way	303	20,000		351		20,000
Survey/Stake Location	304	7,000		352		7,000
Location/Pits/Road Expense	305	135,000	10,000	353	40,000	185,000
Drilling / Completion Overhead	306	11,100	15,000			26,100
Turnkey Contract	307	0				0
Footage Contract	308	0				0
Daywork Contract	309	623,000				623,000
Directional Drilling Services	310	442,000				442,000
Frac Equipment			307	579,000		579,000
Frac Chemicals			308	224,000		224,000
Frac Proppant			309	385,000		385,000
Frac Proppant Transportation			310	189,000		189,000
Fuel & Power	211	211,000	311	35,000	354	246,000
Water	212	60,000	312	494,000	355	554,000
Sits	213	111,000	313	4,500	356	115,500
Mud & Chemicals	214	275,000	314	25,000	357	300,000
Drill Stem Test	215	0	315			0
Coring & Analysis	216	0				0
Cement Surface	217	28,000				28,000
Cement Intermediate	218	75,000				75,000
Cement 2nd Intermediate/Production	219	115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Centralizers	221	65,000				65,000
Casing Crews & Equipment	222	70,000				70,000
Fishing Tools & Service	223	0	323		372	0
Geologic/Engineering	224	11,400	324		373	11,400
Contract Labor	225	6,500	325	20,000	374	144,871
Company Supervision	226	86,600	326	15,000	375	81,600
Contract Supervision	227	157,000	327	168,000	376	330,000
Testing Casing/Tubing	228	30,000	328	5,000	377	35,000
Mud Logging Unit	229	52,000	329			52,000
Logging	230	0			378	0
Perforating/Wireline Services	231	4,000	331	267,000	379	271,000
Stimulation/Testing			332	12,000	380	12,000
Completion Unit			333	50,000	381	58,600
Swabbing Unit			334		382	0
Rentals-Surface	235	180,000	335	300,000	383	487,000
Rentals-Subsurface	236	150,000	336	30,000	384	180,000
Trucking/Forklift/Rig Mobilization	237	200,000	337	20,000	385	220,000
Welding Services	238	3,000	338	5,000	386	8,000
Water Disposal	239	0	339	60,000	387	162,650
Plug to Abandon	240	0	340			0
Seismic Analysis	241	0	341			0
Miscellaneous	242	0	342		389	0
Contingency	243	69,600	343	100,000	383	169,600
Closed Loop & Environmental	244	330,000	344	5,000	384	335,000
Dyed Diesel	245		345	229,000		
Coi Tubing			346	350,000		350,000
Flowback Crews & Equip			347	48,000		48,000
Offset Directional/Frac	248		348		391	0
TOTAL INTANGIBLES		3,841,000	3,744,500	275,671	30,300	7,891,471

TANGIBLE COSTS						
Surface Casing	401	52,000				52,000
Intermediate Casing	402	555,000				555,000
Production Casing/Liner	403	516,000				516,000
Tubing			504	52,030	530	57,030
Wellhead Equipment	405	75,000	505	22,000	531	100,000
Pumping Unit				0	532	98,000
Prime Mover				0	507	0
Rods				0	508	35,000
Pumps-Sub Surface (BH)			509		532	5,000
Tanks				510	57,917	57,917
Flowlines				511	24,200	24,200
Heater Treater/Separator				512	127,408	127,408
Electrical System				513	118,300	133,300
Packers/Anchors/Hangers	414		514	68,000	534	68,000
Couplings/Fittings/Valves	415			515	93,077	93,077
Dehydration				517		0
Injection Plant/CO2 Equipment				518		0
Pumps-Surface				521	4,292	4,292
Instrumentation/SCADA/POC				522	9,538	16,538
Miscellaneous	419		519	4,788	535	7,788
Contingency	420		520		536	0
Meters/LACT				525	22,892	22,892
Flares/Combustors/Emission				526	21,461	21,461
Gas Lift/Compression			527	15,000	538	68,263
TOTAL TANGIBLES		1,198,000	155,030	637,115	171,000	2,061,145
TOTAL WELL COSTS		5,039,000	3,900,000	812,786	201,300	9,852,616

% of Total Well Cost

COG Operating LLC

Date Prepared: 9/28/16

COG Operating LLC

We approve:
% Working Interest

By: JH-KL-JHOL-PS

Company: EOG RESOURCES INC.

By:
Printed Name
Title
Date

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

Lea County, New Mexico

Dear Sir/Madam:

COG Operating LLC ("COG"), as Operator, hereby proposes to drill the following wells located in the E/2 of Section 35, 24S-34E and E/2 of Section 2, 25S-34E, Lea County, New Mexico:

The **Brot Helm Federal Com #701H** well has a surface hole location of 250' FNL and 437' FEL of Section 35, 24S-34E, and a bottom hole location of 50' FSL and 330' FEL of Section 2, 25S-34E, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,860' and a MD of approximately 23,320' to test the Wolfcamp formation ("Operation"). The total cost of the Operation is estimated to be \$10,552,616, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

The **Brot Helm Federal Com #702H** well has a surface hole location of 250' FNL and 1195' FEL of Section 35, 24S-34E, and a bottom hole location of 50' FSL and 1000' FEL of Section 2, 25S-34E, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,770' and a MD of approximately 23,230' to test the Wolfcamp formation ("Operation"). The total cost of the Operation is estimated to be \$10,552,616, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

The **Brot Helm Federal Com #703H** well has a surface hole location of 250' FNL and 1255' FEL of Section 35, 24S-34E, and a bottom hole location of 50' FSL and 1650' FEL of Section 2, 25S-34E, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,860' and a MD of approximately 23,320' to test the Wolfcamp formation ("Operation"). The total cost of the Operation is estimated to be \$10,552,616, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

The **Brot Helm Federal Com #704H** well has a surface hole location of 250' FNL and 2235' FEL of Section 35, 24S-34E, and a bottom hole location of 50' FSL and 2310' FEL of Section 2, 25S-34E, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 12,770' and a MD of approximately 23,230' to test the Wolfcamp formation ("Operation"). The total cost of the Operation is estimated to be \$10,552,616, and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill these wells under the terms of the modified 1989 AAPL form of Operating Agreement which is enclosed for your review and approval. The Operating Agreement covers Sec 35: E/2 - T24S-R34E and Sec 2: E/2 - T25S-R34E. It has the following general provisions:

- 100/300 Non-Consenting Penalty
- \$7,000/\$700 Drilling and Producing Rate
- COG Operating LLC named as Operator

Please indicate your participation elections in the spaces provided below, sign and return this letter, along with a signed copy of the enclosed AFEs and a copy of your geologic well requirements. A self-addressed, postage paid envelope is enclosed for your convenience. If you do not wish to participate, COG proposes to acquire your interest via term assignment. It has the following general provisions:

- 3 year primary term
- Delivering a 75% NRI, proportionately reduced
- \$5,000 per net acre bonus consideration

The Term Assignment offer terminates December 1, 2018 and is subject to the approval of COG's management and verification of title. If an agreement cannot be reached within 30 days of the date of this letter, COG will apply to the New Mexico Oil Conservation Division for compulsory pooling of your interest into a spacing unit for the proposed well if uncommitted at such time.

If you have any questions, please do not hesitate to contact the undersigned at (432) 685-4352 or msolomon@concho.com.

Brot Helm Federal Com #701H

_____ I/We hereby elect to participate in the Brot Helm Federal Com 701H.

_____ I/We hereby elect **not** to participate in the Brot Helm Federal Com 701H.

Brot Helm Federal Com #702H

_____ I/We hereby elect to participate in the Brot Helm Federal Com 702H.

_____ I/We hereby elect **not** to participate in the Brot Helm Federal Com 702H.

Brot Helm Federal Com #703H

_____ I/We hereby elect to participate in the Brot Helm Federal Com 703H.

_____ I/We hereby elect **not** to participate in the Brot Helm Federal Com 703H.

Brot Helm Federal Com #704H

_____ I/We hereby elect to participate in the Brot Helm Federal Com 704H.

_____ I/We hereby elect **not** to participate in the Brot Helm Federal Com 704H

Company: EOG Resources Inc.

By: _____

Name: _____

Title: _____

Date: _____

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME:	BROT HELM FED COM #701H	PROSPECT NAME:	Bulldog 2434 (717040)
SHL:	Sec 35: 250 FNL & 437 FEL	STATE & COUNTY:	New Mexico, Lea
BHL:	Sec 2: 50 FSL & 330 FEL	OBJECTIVE:	Drill and Complete
FORMATION:	Wolfcamp	DEPTH:	23,320
LEGAL:	Sec 35: 24S-34E	TVD:	12,860

INTANGIBLE COSTS	Drill - Rig Release(D)	Completion(C)	Tank & Bty Constrcn(TB)	Pmpg Equipment(PEQ)	TOTAL
Title/Curtain/Permit	201 20,000				20,000
Insurance	202 2,500				2,500
Damages/Right of Way	203 20,000				20,000
Survey/State Location	204 7,000				7,000
Location/Pits/Road Expense	205 135,000	305 10,000	353 40,000	308	185,000
Drilling / Completion Overhead	206 14,100	306 15,000			29,100
Turnkey Contract	207 0				0
Footage Contract	208 0				0
Daywork Contract	209 1,148,000				1,148,000
Directional Drilling Services	210 548,000				548,000
Frac Equipment		307 679,000			679,000
Frac Chemicals		308 224,000			224,000
Frac Proppant		309 385,000			385,000
Frac Proppant Transportation		310 189,000			189,000
Fuel & Power	211 288,000	311 35,000	354	367	303,000
Water	212 80,000	312 494,000		368	654,000
Bits	213 153,000	313 4,500		369	157,500
Mud & Chemicals	214 285,000	314 25,000		370	310,000
Drill Stem Test	215 0	315			0
Corrig & Analysis	216 0				0
Cement Surface	217 28,000				28,000
Cement Intermediate	218 75,000				75,000
Cement 2nd Intermediate/Production	219 115,000				115,000
Cement Squeezes & Other (Kick off Plug)	220 0			371	0
Float Equipment & Centralizers	221 45,000				45,000
Casing Crews & Equipment	222 70,000				70,000
Fishing Tools & Service	223 0	323		372	0
Geologic/Engineering	224 16,800	324	355	373	16,800
Contract Labor	225 8,500	325 20,000	356	374 6,500	144,871
Company Supervision	226 84,800	326 15,000	357	375	99,800
Contract Supervision	227 185,000	327 168,000	358	376 5,000	368,000
Testing Casing/Tubing	228 30,000	328 5,000		377	35,000
Mud Logging Unit	229 81,000	329			81,000
Logging	230 0			378	0
Perforating/Wireline Services	231 4,000	331 267,000		379	271,000
Stimulation/Trailing		332 12,000		380	12,000
Completion Unit		333 50,000		381 8,800	58,800
Shimming Unit		334		382	0
Rentals-Surface	235 230,000	335 300,000	359	383 7,000	637,000
Rentals-Subsurface	236 185,000	336 30,000		384	215,000
Trucking/Facility/Rig Mobilization	237 200,000	337 20,000	380	385 3,000	223,000
Welding Services	238 3,000	338 5,000	381	386	8,000
Water Disposal	239 0	339 80,000	382	387 122,850	182,850
Plug to Abandon	240 0	340			0
Seismic Analysis	241 0	341			0
Miscellaneous	242 0	342		388	0
Contingency	243 81,500	343 100,000	383	380	181,500
Closed Loop & Environmental	244 350,000	344 5,000	384	386	355,000
Dyed Diesel	245	345 229,000			
Cat Tubing		346 350,000			350,000
Flowback Crews & Equip		347 48,000			48,000
Offset Directional/Frac	248	348		381	0
TOTAL INTANGIBLES	4,441,000	3,744,500	275,671	30,300	8,491,471

TANGIBLE COSTS					
Surface Casing	401 52,000				52,000
Intermediate Casing	402 565,000				565,000
Production Casing/liner	403 518,000				518,000
Tubing		504 52,000		530 5,000	57,000
Wellhead Equipment	405 75,000	505 22,000		531 3,000	100,000
Pumping Unit				506 98,000	98,000
Prime Mover				507	0
Road				508 35,000	35,000
Pumps-Sub Surface (BH)		509		532 5,000	5,000
Tanks			510 57,817		57,817
Flowlines			511 24,200		24,200
Heater Treater/Separator			512 127,408		127,408
Electrical System			513 118,300	533 15,000	133,300
Packars/Anchors/Hangers	414	514 88,000		534 2,000	88,000
Couplings/Fittings/Valves	415		515 83,077		83,077
Dehydration			517		0
Injection Plant/CO2 Equipment			518		0
Pumps-Surface			521 4,292		4,292
Instrumentation/SCADA/POC			522 8,538	539 7,000	16,538
Miscellaneous	418	519 4,789	523 4,789	535 3,000	7,789
Contingency	420	520	524	536	0
Meters/LACT			525 22,882		22,882
Flares/Combustors/Emission			526 21,461		21,461
Gas Lift/Compression		527 15,000	516 53,253	528	68,253
TOTAL TANGIBLES	1,188,000	155,000	537,115	171,000	2,051,145
TOTAL WELL COSTS	5,638,000	3,900,000	812,786	201,300	10,552,618

COG Operating LLC	% of Total Well Cost	83%	37%	8%	2%
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Date Prepared: 9/25/18

COG Operating LLC

We approve: _____

% Working Interest

By: JH-KL-JHOL-PS

Company: EOG RESOURCES INC.

By: _____

Printed Name _____

Title _____

Date _____

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

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: BROTH HELM FED COM #702H	PROSPECT NAME: Bulldog 2434 (717040)
SHL: Sec 35: 250 FNL & 1195 FEL	STATE & COUNTY: New Mexico, Lea
BHL: Sec 2: 60 FSL & 1000 FEL	OBJECTIVE: Drill and Complete
FORMATION: Wolfcamp	DEPTH: 23,230
LEGAL: Sec 35: 24S-34E	TVD: 12,770

INTANGIBLE COSTS		Drill - Rig Release(D)	Completion(C)	Tank Btty Constrcn(TB)	Pmpg Equipment(PEQ)	TOTAL
Time/Cumulative/Permit	201	20,000				20,000
Insurance	202	2,500	302			2,500
Damages/Right of Way	203	20,000	303	351		20,000
Survey/State Location	204	7,000	352			7,000
Location/Plat/Road Expense	205	135,000	305	10,000	308	185,950
Drilling / Completion Overhead	206	14,100	306	15,000		29,100
Turnkey Contract	207	0				0
Footage Contract	208	0				0
Daywork Contract	209	1,148,000				1,148,000
Directional Drilling Services	210	548,000				548,000
Frac Equipment			307	879,000		879,000
Frac Chemicals			308	224,000		224,000
Frac Proppant			309	385,000		385,000
Frac Proppant Transportation			310	189,000		189,000
Fuel & Power	211	288,000	311	35	354	303,000
Water	212	80,000	312	494,000	367	554,000
Bbs	213	153,000	313	4,500	368	157,500
Mud & Chemicals	214	285,000	314	25,000	369	310,000
Drill Stem Test	215	0	315		370	0
Coring & Analysis	216	0				0
Cement Surface	217	28,000				28,000
Cement Intermediate	218	75,000				75,000
Cement 2nd Intermediate/Production	219	115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Centralizers	221	45,000				45,000
Casing Crews & Equipment	222	70,000				70,000
Fishing Tools & Service	223	0	323		372	0
Geologic/Engineering	224	16,800	324	365	373	16,800
Contract Labor	225	6,500	325	20,000	368	144,871
Company Supervision	226	84,800	326	15,000	375	80,800
Contract Supervision	227	195,000	327	188,000	368	388,000
Testing Casing/Tubing	228	30,000	328	5,000	377	35,000
Mud Logging Unit	229	81,000	329			81,000
Logging	230	0			378	0
Perforating/Wireline Services	231	4,000	331	287,000	379	271,000
Stimulation/Treating			332	12,000	380	12,000
Completion Unit			333	50,000	361	58,800
Swabbing Unit			334		362	0
Rentals-Surface	235	250,000	335	300,000	358	537,000
Rentals-Subsurface	236	185,000	336	30,000	364	215,000
Trucking/Forklift/Rig Mobilization	237	200,000	337	20,000	380	220,000
Welding Services	238	3,000	338	5,000	361	8,000
Water Disposal	239	0	339	80,000	362	162,850
Plug to Abandon	240	0	340			0
Seismic Analysis	241	0	341			0
Miscellaneous	242	0	342		369	0
Contingency	243	81,500	343	100,000	363	181,500
Closed Loop & Environmental	244	350,000	344	5,000	364	355,000
Dryd Diesel	245		345	229,000		
Cat Tubing			346	350,000		350,000
Pipeback Crews & Equip			347	48,000		48,000
Offset Directional/Frac	248		348		361	0
TOTAL INTANGIBLES		4,441,000	3,744,500	275,871	30,300	8,491,471

TANGIBLE COSTS						
Surface Casing	401	52,000				52,000
Intermediate Casing	402	505,000				505,000
Production Casing/liner	403	518,000				518,000
Tubing			504	52,000	530	57,000
Wellhead Equipment	405	75,000	505	22,000	531	100,000
Pumping Unit				0	508	98,000
Prime Mover				0	507	0
Rods				0	508	35,000
Pumps-Sub Surface (BH)			509		532	5,000
Tanks				510	57,917	57,917
Flowlines				511	24,200	24,200
Heater Treater/Separator				512	127,408	127,408
Electrical System				513	118,300	133,300
Packers/Anchors/Hangers	414		514	88,000	534	88,000
Couplings/Fittings/Valves	415			515	83,077	83,077
Dehydration				517		0
Injection Plant/CO2 Equipment				518		0
Pumps-Surface				521	4,292	4,292
Instrumentation/SCADA/POC				522	9,538	18,538
Miscellaneous	419		519	4,789	535	7,789
Contingency	420		520		536	0
Motors/LACT				525	22,882	22,882
Flares/Combustors/Emission				528	21,481	21,481
Gas Lift/Compression			527	15,000	518	68,283
TOTAL TANGIBLES		1,188,000	165,030	537,115	171,000	2,081,145
TOTAL WELL COSTS		5,629,000	3,909,530	812,986	201,300	10,552,616

% of Total Well Cost	83%	37%	8%	2%
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COG Operating LLC

Date Prepared 9/25/16

COG Operating LLC

We approve:
_____% Working Interest

By: JH-KL-JHOL-PS

Company: EOG RESOURCES INC.
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
DRILLING**

WELL NAME:	BROT HELM FED COM #703H	PROSPECT NAME:	Bulldog 2434 (717040)
SHL:	Sec 35: 250 FNL & 1255 FEL	STATE & COUNTY:	New Mexico, Lea
BHL:	Sec 2: 50 FSL & 1650 FEL	OBJECTIVE:	Drill and Complete
FORMATION:	Wolfcamp	DEPTH:	23,320
LEGAL:	Sec 35: 24S-34E	TVD:	12,660

INTANGIBLE COSTS	Drill - Rig Release(D)	Completion(C)	Tank Btty Constrcn(TB)	Pmpg Equipment(PEQ)	TOTAL
Title/Cursive/Permit	201 20,000				20,000
Insurance	202 2,500	302			2,500
Damages/Right of Way	203 20,000	303	351		20,000
Survey/Stake Location	204 7,000		352		7,000
Location/Pits/Road Expense	205 135,000	305 10,000	353 40,950	306	185,950
Drilling / Completion Overhead	206 14,100	306 15,000			29,100
Turnkey Contract	207 0				0
Footage Contract	208 0				0
Daywork Contract	209 1,148,000				1,148,000
Directional Drilling Services	210 548,000				548,000
Frac Equipment		307 678,000			678,000
Frac Chemicals		308 224,000			224,000
Frac Proppant		309 385,000			385,000
Frac Proppant Transportation		310 186,000			186,000
Fuel & Power	211 288,000	311 35,000	354	367	303,000
Water	212 80,000	312 464,000		368	554,000
Bits	213 153,000	313 4,500		369	157,500
Mud & Chemicals	214 285,000	314 25,000		370	310,000
Drill Stem Test	215 0	315			0
Coring & Analysis	216 0				0
Cement Surface	217 28,000				28,000
Cement Intermediate	218 75,000				75,000
Cement 2nd Intermediate/Production	219 115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220 0			371	0
Flow Equipment & Controllers	221 45,000				45,000
Casing Crews & Equipment	222 70,000				70,000
Fishing Tools & Service	223 0	323		372	0
Geologic/Engineering	224 16,800	324	355	373	16,800
Contract Labor	225 6,500	325 20,000	356 111,671	374 6,500	144,671
Company Supervision	226 84,800	326 15,000	357	375	99,800
Contract Supervision	227 185,000	327 198,000	358	376 5,000	388,000
Testing Casing/Tubing	228 30,000	328 5,000		377	35,000
Mud Logging Unit	229 61,000	329			61,000
Logging	230 0			378	0
Perforating/Wireline Services	231 4,000	331 267,000		379	271,000
Simulation/Testing		332 12,000		380	12,000
Completion Unit		333 50,000		381 8,800	58,800
Swellbore Unit		334		382	0
Rentals-Surface	235 230,000	335 300,000	359	383 7,000	537,000
Rentals-Subsurface	236 185,000	336 30,000		384	215,000
Trucking/FortM/Rig Mobilization	237 200,000	337 20,000	380	385 3,000	223,000
Welding Services	238 3,000	338 5,000	361	386	8,000
Water Disposal	239 0	339 60,000	362 122,650	387	182,650
Plug to Abandon	240 0	340			0
Seismic Analysis	241 0	341			0
Miscellaneous	242 0	342		389	0
Contingency	243 61,500	343 100,000	363	390	161,500
Closed Loop & Environmental	244 350,000	344 5,000	364	388	355,000
Dyed Diesel	245	345 229,000			
Coil Tubing		346 350,000			350,000
Flowback Crews & Equip		347 48,000			48,000
Offset Directional/Frac	248	348		391	0
TOTAL INTANGIBLES	4,441,000	3,744,500	275,671	30,300	8,491,471

TANGIBLE COSTS					
Surface Casing	401 52,000				52,000
Intermediate Casing	402 555,000				555,000
Production Casing/Liner	403 516,000				516,000
Tubing		504 52,000		530 6,000	57,000
Wellhead Equipment	405 75,000	505 22,000		531 3,000	100,000
Pumping Unit		0		506 98,000	98,000
Prime Mover		0		507	0
Rods		0		508 35,000	35,000
Pumps-Sub Surface (BH)		509		532 5,000	5,000
Tanks			510 57,917		57,917
Flowlines			511 24,200		24,200
Heater Treater/Separator			512 127,408		127,408
Electrical System			513 118,300	533 15,000	133,300
Packers/Anchors/Hangers	414 514	66,000		534 2,000	68,000
Couplings/Fittings/Valves	415		515 93,077		93,077
Dehydration			517		0
Injection Plant/CO2 Equipment			518		0
Pumps-Surface			521 4,292		4,292
Instrumentation/SCADA/POC			522 9,536	529 7,000	16,536
Miscellaneous	416 519	4,789	523 4,789	535 3,000	7,789
Contingency	420 520		524	536	0
Meters/LACT			525 22,862		22,862
Flares/Combustion/Emission			526 21,461		21,461
Gas Lift/Compression		527 15,000	518 53,283	528	68,283
TOTAL TANGIBLES	1,198,000	155,000	537,115	171,000	2,061,115
TOTAL WELL COSTS	5,639,000	3,900,000	812,786	201,300	10,552,616

COG Operating LLC

Date Prepared: 9/28/16

COG Operating LLC

We approve:
_____% Working Interest

By: JH-KL-JHOL-PS

Company: EQO RESOURCES INC.
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
DRILLING**

WELL NAME:	BROT HELM FED COM #704H	PROSPECT NAME:	Buildup 2434 (717040)
SHL:	Sec 35: 250 FNL & 2235 FEL	STATE & COUNTY:	New Mexico, Lea
BHL:	Sec 2: 50 FSL & 2310 FEL	OBJECTIVE:	Drill and Complete
FORMATION:	Volfcamp	DEPTH:	23,230
LEGAL:	Sec 35: 24S-34E	TVD:	12,770

INTANGIBLE COSTS		Drill - Rig Release(D)	Completion(C)	Tank Btty Constrcn(TB)	Pmpg Equipment(PEQ)	TOTAL
Title/Curtain/Permit	201	20,000				20,000
Insurance	202	2,500				2,500
Damages/Right of Way	203	20,000				20,000
Survey/Stake Location	204	7,000				7,000
Location/Plat/Road Expense	205	135,000	10,000	40,950	368	185,950
Drilling / Completion Overhead	206	14,100	15,000			29,100
Turnkey Contract	207	0				0
Footage Contract	208	0				0
Daywork Contract	209	1,148,000				1,148,000
Directional Drilling Service	210	548,000				548,000
Frac Equipment			878,000			878,000
Frac Chemicals			224,000			224,000
Frac Proppant			385,000			385,000
Frac Proppant Transportation			189,000			189,000
Fuel & Power	211	268,000	35,000	354	307	300,000
Water	212	80,000	494,000		308	554,000
Bbs	213	153,000	4,500		309	157,500
Mud & Chemicals	214	285,000	25,000		370	310,000
Drill Stem Test	215	0				0
Coring & Analysis	216	0				0
Cement Surface	217	28,000				28,000
Cement Intermediate	218	75,000				75,000
Cement 2nd Intermediate/Production	219	115,000				115,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Controls	221	45,000				45,000
Casing Crews & Equipment	222	70,000				70,000
Fishing Tools & Service	223	0	323		372	0
Geologic/Engineering	224	18,800	355		373	18,800
Contract Labor	225	8,500	20,000	111,871	374	144,871
Company Supervision	226	84,800	15,000	357	375	99,800
Contract Supervision	227	195,000	168,000	358	376	363,000
Testing Casing/Tubing	228	30,000	5,000		377	35,000
Mud Logging Unit	229	61,000	329			61,000
Logging	230	0			378	0
Perforating/Wireline Service	231	4,000	287,000		379	271,000
Simulation/Testing			12,000		380	12,000
Completion Unit			50,000		381	58,800
Swabbing Unit					382	0
Rentals-Surface	235	230,000	300,000	359	383	537,000
Rentals-Subsurface	236	185,000	30,000		384	215,000
Trucking/Facility/Rig Mobilization	237	200,000	20,000	380	385	223,000
Welding Services	238	3,000	5,000	381	386	8,000
Water Disposal	239	0	80,000	382	387	182,850
Plug to Abandon	240	0				0
Seismic Analysis	241	0				0
Miscellaneous	242	0			389	0
Contingency	243	81,500	100,000	383	390	181,500
Closed Loop & Environmental	244	350,000	5,000	384	388	355,000
Dyed Diesel	245		229,000			
Cot Tubing			350,000			350,000
Flowback Crews & Equip			48,000			48,000
Offset Directional/Frac	246				391	0
TOTAL INTANGIBLES		4,441,000	3,744,500	275,671	30,300	8,491,471
TANGIBLE COSTS						
Surface Casing	401	52,000				52,000
Intermediate Casing	402	555,000				555,000
Production Casing/Liner	403	518,000				518,000
Tubing			52,000		530	57,000
Wellhead Equipment	405	75,000	22,000		531	100,000
Pumping Unit			0		508	98,000
Prime Mover			0		507	0
Road			0		508	35,000
Pumps-Sub Surface (BH)					532	5,000
Tanks				510	57,917	57,917
Flowlines				511	24,200	24,200
Heater Treater/Separator				512	127,408	127,408
Electrical System				513	118,300	133,300
Packers/Anchors/Hangers	414		68,000		534	68,000
Couplings/Fittings/Valves	415			515	93,077	93,077
Dehydration				517		0
Injection Plant/CO2 Equipment				518		0
Pumps-Surface				521	4,292	4,292
Instrumentation/SCADA/POC				522	6,538	16,538
Miscellaneous	419			523	4,769	7,769
Contingency	420			524		0
Meters/LACT				525	22,892	22,892
Flares/Combustors/Emission				526	21,461	21,461
Gas Lift/Compression			15,000	516	53,283	68,283
TOTAL TANGIBLES		1,198,000	155,000	537,115	171,000	2,061,145
TOTAL WELL COSTS		5,639,000	3,900,000	812,786	201,300	10,552,618
% of Total Well Cost						
		83%	37%	8%	3%	

COG Operating LLC

Date Prepared: 9/25/18

COG Operating LLC

We approve:
_____% Working Interest

By: JH-KL-JHOL-PS

Company: EOG RESOURCES INC.
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
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION**

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

CASE NO. 20205 & 20206

**AFFIDAVIT OF CANDICE PETTLJOHN
IN SUPPORT OF CASE NOS. 20205 & 20206**

Candice Pettijohn, of lawful age and being first duly sworn, declares as follows:

1. My name is Candice Pettijohn. I work for COG Operating LLC ("COG") as a Geologist.
2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum geology. My credentials as a petroleum geologist have been accepted by the Division and made a matter of record.
3. I am familiar with the application filed by COG in this case, and I have conducted a geologic study of the lands in the subject area.
4. COG is targeting the Bone Spring and Wolfcamp formations.
5. COG Exhibit B-1 is a locator map. It shows COG's acreage in yellow. The path of the proposed wellbores for the proposed Brot Helm Fed Com Nos. 601H, 602H, 603H Wells (Bone Spring) and the 701H, 702H, 703H, and 704H Wells (Wolfcamp) (collectively called the "Wells") are marked by a dashed line, and the surface hole location is denoted by a circle.
6. COG Exhibit B-2 is a subsea structure map that I prepared off the top of the Wolfcamp. I used the Wolfcamp structure map because it is a reliable regional marker and the target interval lies just above and below this marker. As with the locator map, the proposed wellbore path for the proposed Wells is depicted by a dashed line. The structure map shows that

the formations dip from west to east consistently across the project area. It also shows nearby Bone Spring and Wolfcamp producing wells. The structure appears consistent in this section. I do not observe any faulting, pinchouts, or other geologic hazards to developing a horizontal well.

7. **COG Exhibit No. B-3** shows two wells used to construct a cross-section from A to A'. I consider these wells to be representative of the geology of the area.

8. **COG Exhibit No. B-4** is a cross section prepared by me for the two representative wells from A to A'. For each well in the cross-section, the COG Exhibit shows the following logs: gamma ray, resistivity, and porosity. The proposed target intervals are labeled. The logs in the cross-section demonstrate that the target interval within the Bone Spring and Wolfcamp are consistent in thickness across the entire proposed spacing units.

9. Based on my geologic study of the areas, I have not identified any geologic impediments to drilling horizontal wells in the area.

10. In my opinion, each quarter-quarter section will be productive and contribute more-or-less equally to each 40-acre unit comprising the spacing units.

11. In my opinion, horizontal drilling will be the most efficient method to develop this acreage, to prevent the drilling of unnecessary wells, and to result in the greatest ultimate recovery.

12. In my opinion, the granting of COG's application in these cases will be in the best interest of conservation, the prevention of waste, and protection of correlative rights.

13. **COG Exhibit B-1 through B-4** were either prepared by me or compiled under my direction and supervision.


CANDICE PETTIJOHN

STATE OF TEXAS

COUNTY OF MIDLAND

SUBSCRIBED and SWORN to before me this 31st day of January 2019 by
Candice Pettijohn.


NOTARY PUBLIC

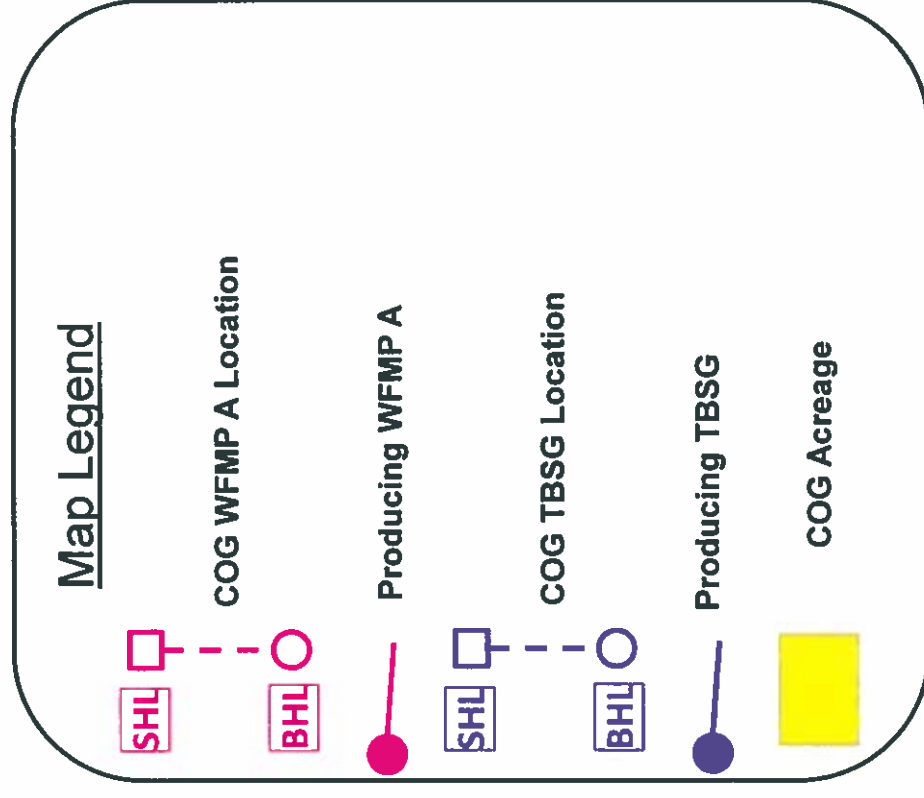
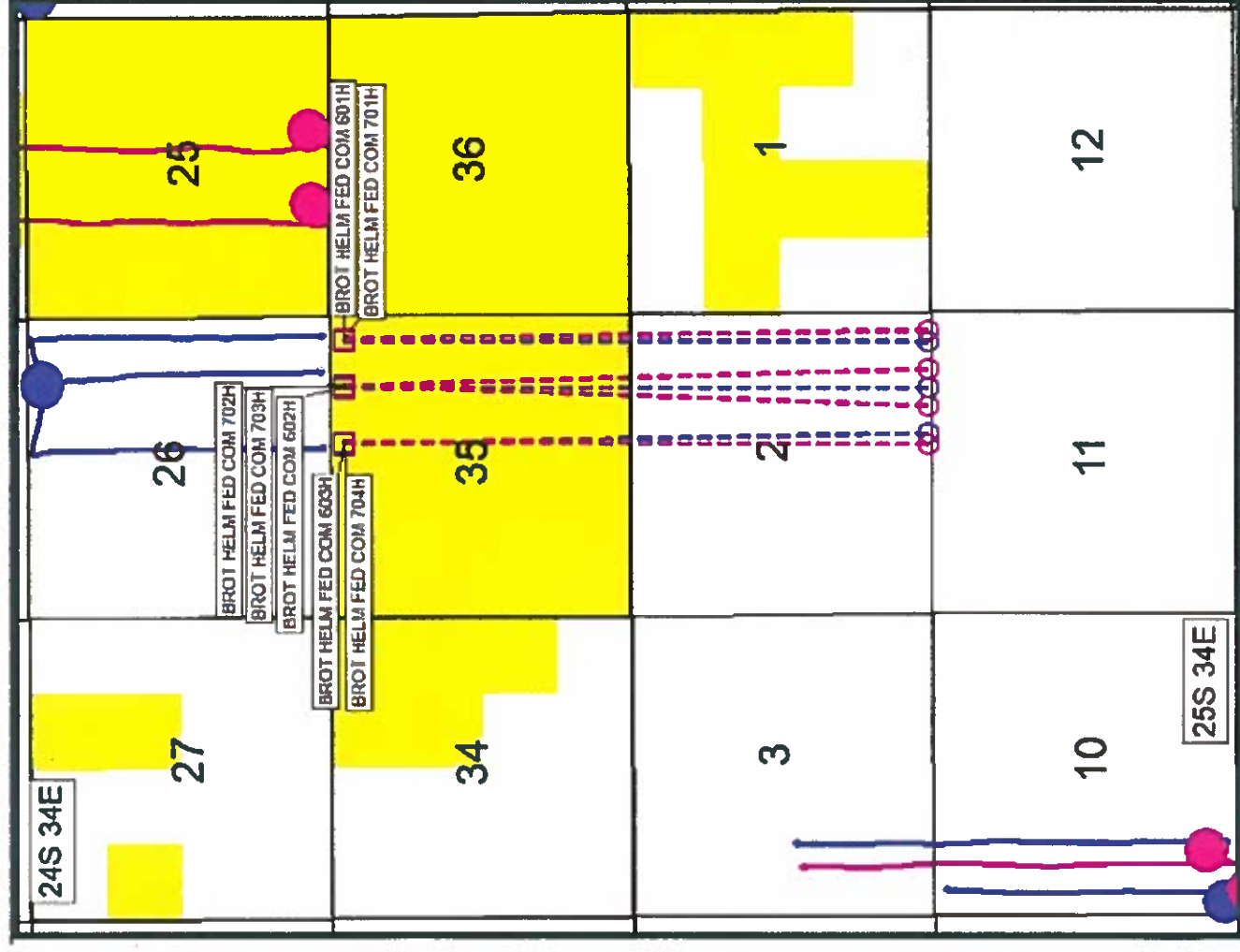
My Commission Expires:

9/9/2021



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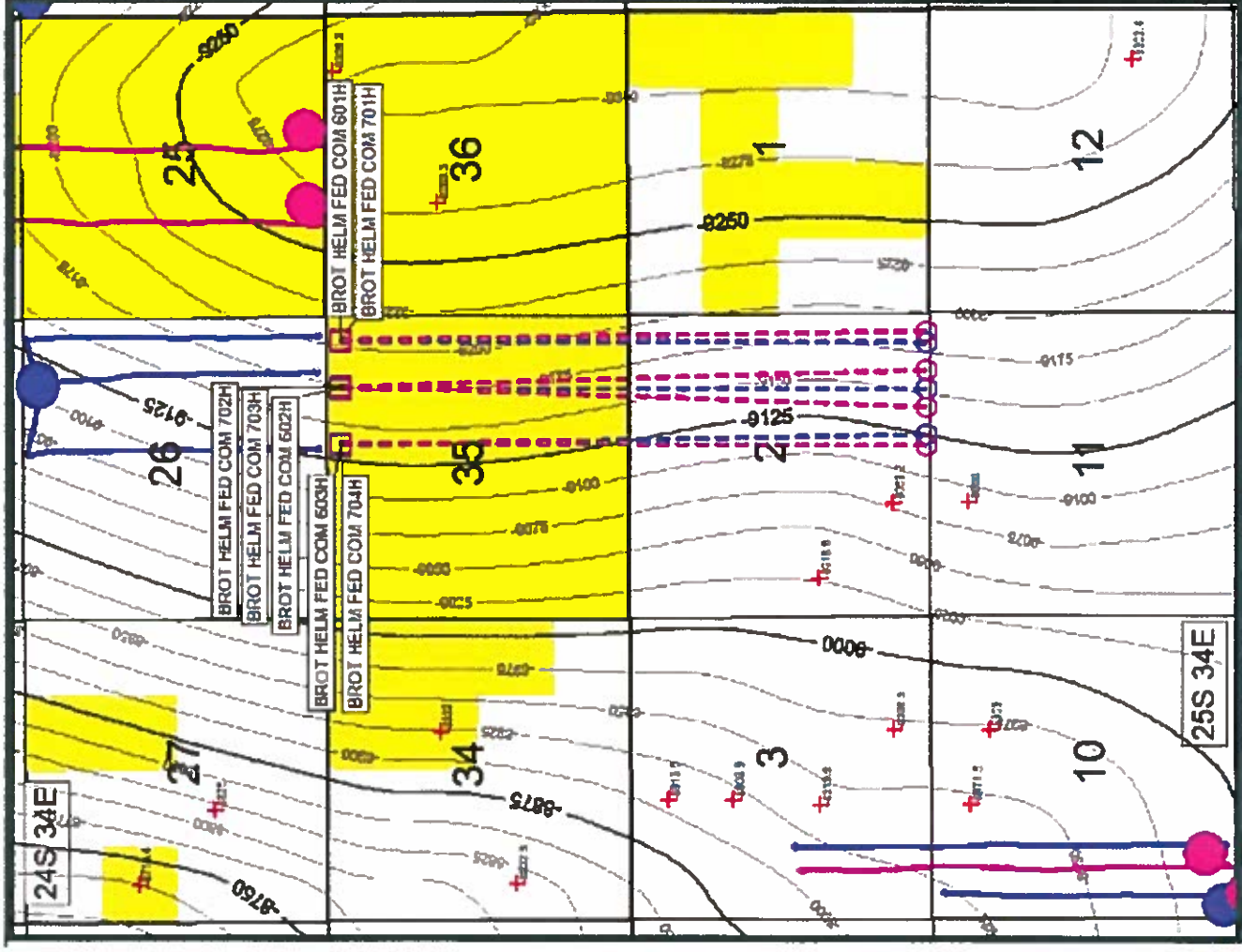
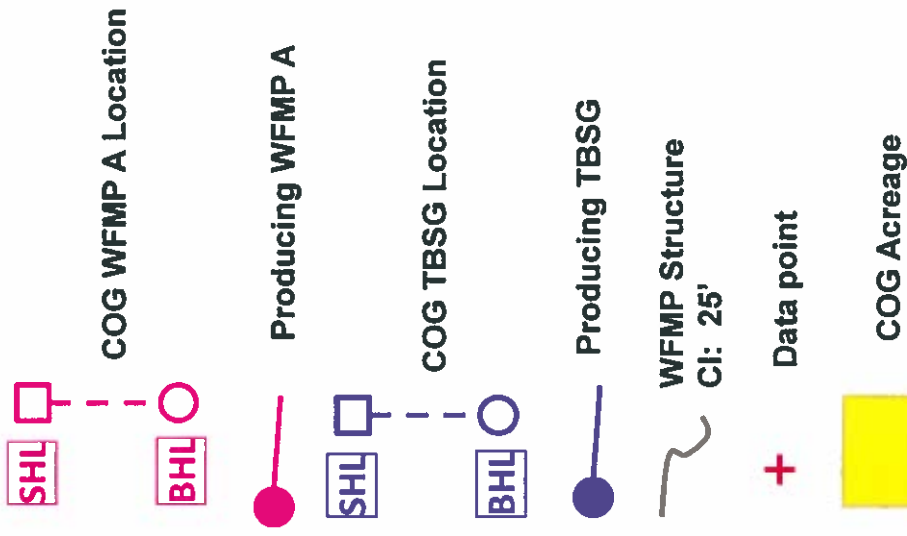
Wolfcamp and Bone Spring Pools
Brot Helm Federal Com
601H,602H,603H,701H,702H,703H,704H



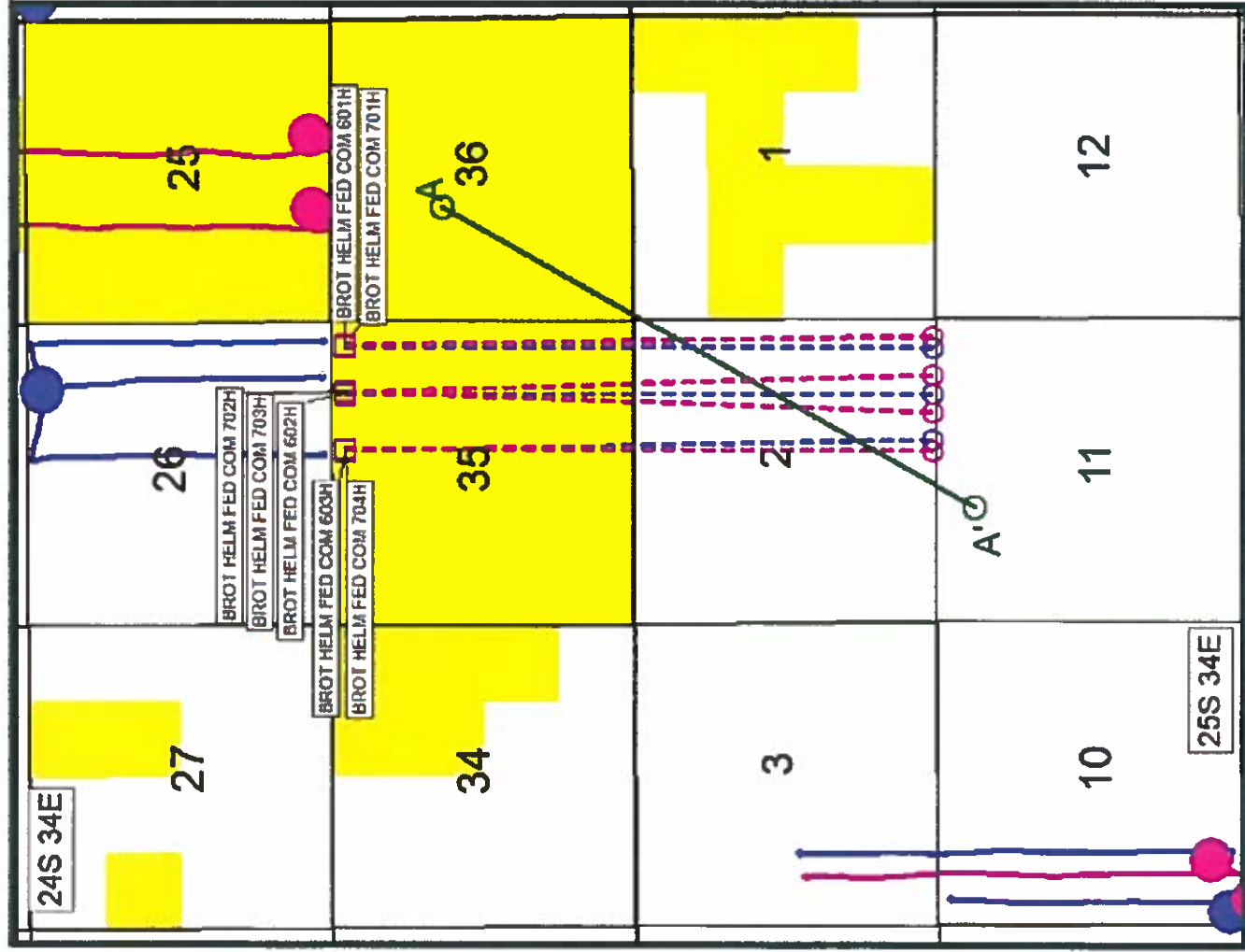
Brot Helm Federal Com

601H,602H,603H,701H,702H,703H,704H

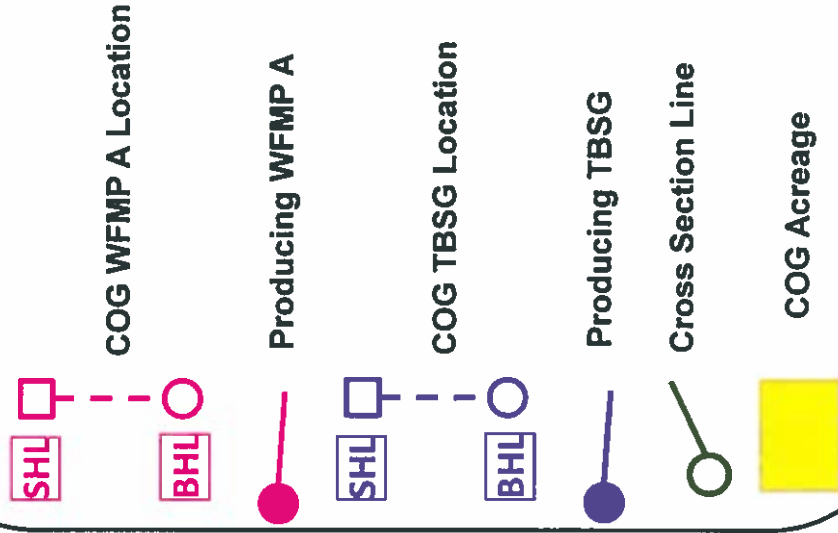
Map Legend



Woltcamp and Bone Spring Pools Brot Helm Federal Com 601H,602H,603H,701H,702H,703H,704H



Map Legend



Stratigraphic Cross Section A – A'

