

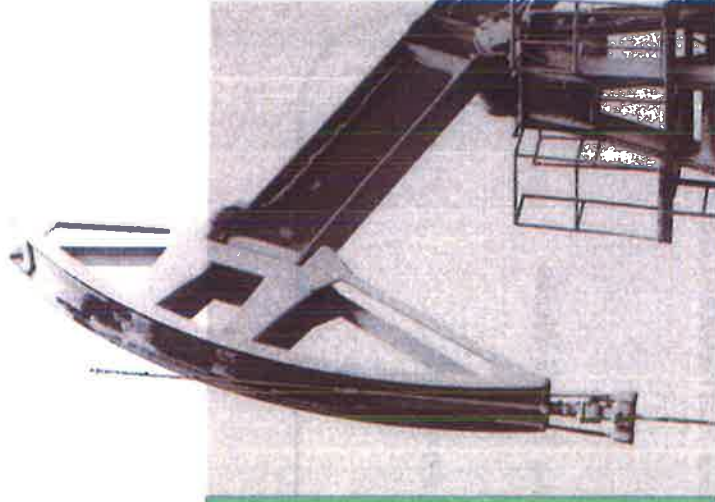


COG OPERATING LLC

Boone 16 State Com 4H

Section 21-T21S-33E

Lea County, New Mexico



BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING MAY 2, 2019

CASE NO. 20417



**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. 20417

AFFIDAVIT OF LUKE BEDRICK

Luke Bedrick, of lawful age and being first duly sworn, declares as follows:

1. My name is Luke Bedrick. I work for COG Operating LLC ("COG") as a Senior 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 applications filed by COG in these matters and familiar with the status of the lands in the subject areas.
4. None of the parties proposed to be pooled in these cases has indicated opposition, therefore I do not expect any opposition at the hearing.
5. COG seeks an order pooling all uncommitted interests in the Bone Spring formation (WC-025 G-08 S213304D; Bone Spring Pool (97895)) underlying a 320-acre standard horizontal spacing unit comprised of the W/2 W/2 of Sections 9 and 16, Township 21 South, Range 33 East, Lea County, New Mexico. This horizontal spacing unit will be dedicated to the proposed **Boone 16 State Com 4H** well to be drilled from a surface hole location in the NW/4 NW/4 (Unit D) of Section 21 to a bottom hole location in the NW/4 NW/4 (Unit D) of Section 9.

14. COG has estimated the overhead and administrative costs for drilling and producing the proposed wells at \$7,000 per month while drilling and \$700 per month while producing. These costs are consistent with what other operators are charging in this area for similar wells.

15. I provided the law firm of Holland & Hart LLP a list of names and addresses for the owners that COG seeks to pool and instructed that they be notified of this hearing.

16. COG Exhibit Nos. 1A through 1C were either prepared by me or compiled under my direction and supervision.

FURTHER AFFIANT SAYETH NOT.

DISTRICT I
1626 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 593-6161 Fax: (575) 593-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (505) 748-1203 Fax: (505) 748-9720

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

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462

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 30-025- 44499	Pool Code 97895	Pool Name WC-025 G-08 S213304D; Bone Spring
Property Code 39741	Property Name BOONE 16 STATE COM	Well Number 4H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3741.0'

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	21	21-S	33-E		400	NORTH	660	WEST	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
D	9	21-S	33-E		50	NORTH	660	WEST	LEA

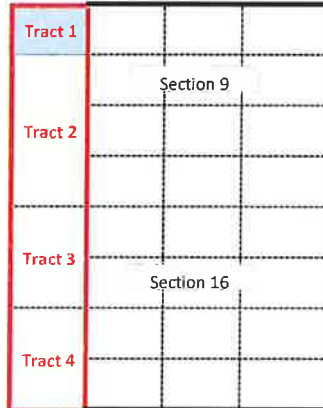
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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>Y=546672.6 N X=771707.0 E</p> <p>LIP 100' FNL & 660' FWL Y=546576.6 N X=772367.8 E LAT.=32.500368° N LONG.=103.583957° W</p>	<p>Y=546680.6 N X=773024.5 E</p> <p>PROPOSED BOTTOM HOLE LOCATION Y=546626.6 N X=772367.4 E LAT.=32.500506° N LONG.=103.583957° W</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><i>[Signature]</i> 01/30/19 Signature Date</p> <p>Robyn M. Russell Printed Name</p> <p>Russell@concho.com E-mail Address</p>
<p>FTP 100' FSL & 660' FWL Y=536218.5 N X=772454.3 E LAT.=32.471897° N LONG.=103.583912° W GRID AZ TO FTP 359°31'50"</p>	<p>Y=536114.7 N X=771795.1 E</p> <p>Y=536122.3 N X=773111.0 E</p> <p>SURFACE LOCATION Y=535718.5 N X=772458.4 E LAT.=32.470523° N LONG.=103.583910° 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 11, 2018 Date of Survey</p> <p>Signature & Seal of Professional Surveyor</p> <p><i>[Signature]</i> 1/8/19 Certificate No. CHAD HARCROW 17777 W.O. # 18-1699 DRAWN BY: AM</p>

COG - Boone 16 State Com 4H

W½W½ Section 9, Township 21 South, Range 33 East, N.M.P.M.
W½W½ Section 16, Township 21 South, Range 33 East, N.M.P.M.
Limited in depth to the Bone Spring Formation



Tract 1 : Section 9: NW¼NW¼ (40.0 acres)	
COG Operating LLC	25.00000000%
Advance Energy Partners Hat Mesa, LLC	70.00000000%
Chevron U.S.A., Inc.	5.00000000%
Total	100.00000000%

Tract 2: Section 9: SW¼NW¼, W½SW¼ (120.0 acres)	
COG Operating LLC	41.00000000%
Chevron U.S.A., Inc.	1.80000000%
Advance Energy Partners Hat Mesa, LLC	57.20000000%
Total	100.00000000%

Tract 3 : Section 16: W¼NW¼ (80.00 acres)	
COG Operating LLC	75.00000000%
Advance Energy Partners Hat Mesa, LLC	25.00000000%
Total	100.00000000%

Tract 4 : Section 16: W½SW¼ (80.00 acres)	
COG Operating LLC	75.00000000%
Advance Energy Partners Hat Mesa, LLC	25.00000000%
Total	100.00000000%

Record Title Owner Tract 1	
COG Operating LLC	100.00000000%
Total	100.00000000%

Record Title Owner Tract 2	
COG Operating LLC	100.00000000%
Total	100.00000000%

Record Title Owner Tract 3	
Advance Energy Partners Hat Mesa, LLC	100.00000000%
Total	100.00000000%

Record Title Owner Tract 4	
Advance Energy Partners Hat Mesa, LLC	100.00000000%
Total	100.00000000%

Unit Working Interest	
COG Operating LLC	63.80000000%
Advance Energy Partners Hat Mesa, LLC	34.70500000%
Chevron U.S.A., Inc.	1.30000000%
Bullhead Energy, LLC	0.19500000%
Total	100.00000000%

Unmarketable Title Owners	
E. G. L. Resources, Inc. Newman Resources, LLC Printz II, LLC S.E.S. Energy Ltd. S.E.S. Oil & Gas, Inc. Starck Family Oil & Gas, LLC	

Overriding Royalty Interest Owners	
Liberty Energy Corporation Mike Petraitis PBEX Resources, LLC	

Uncommitted Working Interest Owners	
-------------------------------------	--



Via Federal Express

Luke Bedrick, CPL
Senior Landman
COG Operating LLC
One Concho Center
600 West Illinois Avenue
Midland, Texas 79701

Main: 432-683-7443
Direct: 432-686-3000
LBedrick@concho.com

January 24, 2019

Working Interest Owners – Attached Listing

Re: **Well Proposal – Boone 16 State Com 4H**
Section 9: W½W½
Section 16: W½W½
Township 21 South, Range 33 East, N.M.P.M.
SHL: 400' FNL & 660' FWL, or an approved location in Unit D (Sec. 21)
BHL: 50' FNL & 660' FWL, or an approved location in Unit D (Sec. 9)
Lea County, New Mexico

Gentlemen:

COG Operating LLC ("COG"), as Operator, hereby proposes the drilling and completion of the Boone 16 State Com 4H well as a horizontal well at the above-captioned location, or at a legal location as approved by the governing regulatory agency, to a TVD of approximately 11,725' and a MD of approximately 21,900' to test the Bone Spring formation ("Operation"). The total cost of the Operation is estimated to be \$13,595,830 and a detailed description of the cost is set out in the enclosed Authority for Expenditure ("AFE").

COG is proposing to drill and complete this well under the terms of the AAPL Form 610-1989 (Horizontal Modified) Operating Agreement which is enclosed for your review. The Operating Agreement covers the W½W½ of Sections 9 and 16, T21S-R33E, Lea County, New Mexico ("Contract Area") and contains general provisions:

- 100% / 300% Non-consenting penalty
- \$7,000/\$700 Drilling and Producing rate
- COG Operating LLC named as Operator

Please indicate your participation election in the proposed Operation by signing in the space provided on page 2, sign and return this letter, along with a signed copy of the enclosed AFE 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 will have the following general provisions:

- 3 year primary term
- Delivering a 80% NRI, proportionately reduced
- \$750 per net acre bonus consideration

The Term Assignment offer terminates February 28, 2019 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 432-686-3000.

Respectfully,
COG OPERATING LLC



Luke Bedrick, CPL
Senior Landman
Northern Delaware Basin – East

LB:lr

Encl.

_____ I/we hereby elect to participate in the Boone 16 State Com 4H.

_____ I/we hereby elect not to participate in the Boone 16 State Com 4H.

Company or
Individual Name: _____

By: _____

Name: _____

Title: _____

Date: _____

Working Interest Owners

**Advance Energy Partners, LLC
11490 Westheimer Road, Suite 950
Houston, TX 77077**

**Chevron U.S.A. Inc.
6301 Deauville Blvd.
Midland, TX 79706**

**Bullhead Energy, LLC
P. O. Box 3445
Midland, TX 79702**

**EOG Resources Inc.
5509 Champions Dr.
Midland, TX 79706**

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME:	BOONE 16 STATE COM 4H	PROSPECT NAME:	Zeus 2133 (717079)
SHL: Sec. 21	400 FNL&660 FWL or an approved location in Unit D	STATE & COUNTY:	New Mexico, Lea
BHL: Sec. 9	50 FNL&660 FWL or an approved location in Unit D	OBJECTIVE:	Drill and Complete
FORMATION:	3rd Bone Spring Sand	DEPTH:	21,900
LEGAL:	Sections 9 & 16, T21S-R33E	TVD:	11,725

		Drig - Rig Release(D)	Completion(C)	Tank Btty. Constructn(TB)	Pmpg. Equipment(PEQ)	TOTAL
INTANGIBLE COSTS						
Title/Curative/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	353	58,000	203,000
Drilling / Completion Overhead	206	8,400	306			23,400
Turnkey Contract	207	0				0
Footage Contract	208	0				0
Daywork Contract	209	720,000				720,000
Directional Drilling Services	210	243,000				243,000
Frac Equipment			307			1,829,000
Frac Chemicals			308			473,000
Frac Proppant			309			814,000
Frac Proppant Transportation			310			399,000
Fuel & Power	211	152,000	311	354	367	220,000
Water	212	105,000	312		368	1,071,000
Bits	213	92,000	313		369	96,500
Mud & Chemicals	214	95,000	314		370	120,000
Drill Stem Test	215	0	315			0
Coring & Analysis	216	0				0
Cement Surface	217	37,000				37,000
Cement Intermediate	218	60,000				60,000
Cement 2nd Intermediate/Production	219	130,000				130,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Centralizers	221	50,000				50,000
Casing Crews & Equipment	222	52,000				52,000
Fishing Tools & Service	223	0	323		372	0
Geologic/Engineering	224	7,200	324	355	373	7,200
Contract Labor	225	6,500	325	356	374	283,000
Company Supervision	226	50,400	326	357	375	65,400
Contract Supervision	227	123,000	327	358	376	383,000
Testing Casing/Tubing	228	30,000	328		377	35,000
Mud Logging Unit	229	36,000	329			36,000
Logging	230	0			378	0
Perforating/Wireline Services	231	4,000	331	588,000	379	592,000
Stimulation/Treating			332	397,000	380	397,000
Completion Unit			333	138,000	381	146,800
Swabbing Unit			334		382	0
Rentals-Surface	235	150,000	335	403,000	359	591,000
Rentals-Subsurface	236	135,000	336	30,000	384	165,000
Trucking/Ford/Rig Mobilization	237	200,000	337	20,000	385	223,000
Welding Services	238	3,000	338	5,000	381	115,000
Water Disposal	239	0	339	80,000	362	238,000
Plug to Abandon	240	0	340			0
Solismic Analysis	241	0	341			0
Miscellaneous	242	0	342		389	0
Contingency	243	54,000	343	250,000	363	304,000
Closed Loop & Environmental	244	275,000	344	5,000	364	280,000
Dryd Diesel	245		345	484,000		750,000
Coil Tubing			346	750,000		48,000
Flowback Crews & Equip			347	48,000		40,000
Offset Directional/Frac	246		348		391	40,000
TOTAL INTANGIBLES		3,003,000	8,076,500	622,000	70,300	11,771,800
TANGIBLE COSTS						
Surface Casing	401	65,000				65,000
Intermediate Casing	402	169,000				169,000
Production Casing/Liner	403	361,000				361,000
Tubing			504	52,030	530	57,030
Wellhead Equipment	405	28,000	505	22,000	531	53,000
Pumping Unit				0	506	96,000
Prime Mover				0	507	0
Rods				0	508	55,000
Pumps-Sub Surface (BH)			509		532	5,000
Tanks				80,000		80,000
Flowlines				36,000		36,000
Heater Treater/Separator				144,000		144,000
Electrical System				80,000	533	95,000
Packers/Anchors/Hangers	414		514	66,000	534	68,000
Couplings/Fittings/Valves	415			360,000		360,000
Dehydration					517	0
Injection Plant/CO2 Equipment					518	0
Pumps-Surface				9,000		9,000
Instrumentation/SCADA/POC				30,000	529	37,000
Miscellaneous	419		519	51,000	535	54,000
Contingency	420		520		536	0
Meters/LACT				13,000	525	13,000
Flares/Combustors/Emission				29,000	526	29,000
Gas Lift/Compression			527	15,000	516	36,000
TOTAL TANGIBLES		623,000	155,030	855,000	181,000	1,824,030
TOTAL WELL COSTS		3,626,000	8,232,000	1,477,000	261,300	13,595,830

COG Operating LLC

Date Prepared: 1/17/19

COG Operating LLC

We approve:
% Working Interest

By: RM-JV-KL-PS

Company: Advance Energy Partners, LLC
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: BOONE 16 STATE COM 4H

PROSPECT NAME: Zeus 2133 (717079)

SHL: Sec. 21 400 FNL&660 FWL or an approved location in Unit D

STATE & COUNTY: New Mexico, Lea

BHL: Sec. 9 50 FNL&660 FWL or an approved location in Unit D

OBJECTIVE: Drill and Complete

FORMATION: 3rd Bone Spring Sand

DEPTH: 21,900

LEGAL: Sections 9 & 161, T21S-R33E

TVD: 11,725

		Drill - Rig Release(D)	Completion(C)	Tank Btry Contract(TB)	Progr Equipment(PEQ)	TOTAL
INTANGIBLE COSTS						
Title/Curative/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/Pits/Road Expense	205	135,000	305	10,000	353	203,000
Drilling / Completion Overhead	206	8,400	308	58,000	366	23,400
Turnkey Contract	207	0				0
Footage Contract	208	0				0
Daywork Contract	209	720,000				720,000
Directional Drilling Services	210	243,000				243,000
Frac Equipment			307	1,829,000		1,829,000
Frac Chemicals			308	473,000		473,000
Frac Proppant			309	814,000		814,000
Frac Proppant Transportation			310	399,000		399,000
Fuel & Power	211	152,000	311	66,000	354	220,000
Water	212	105,000	312	966,000	356	1,071,000
Bits	213	92,000	313	4,500	358	96,500
Mud & Chemicals	214	95,000	314	26,000	370	120,000
Unit Stem Test	215	0	315			0
Coring & Analysis	216	0				0
Cement Surface	217	37,000				37,000
Cement Intermediate	218	60,000				60,000
Cement 2nd Intermediate/Production	219	130,000				130,000
Cement Squeeze & Other (Kickoff Plug)	220	0			371	0
Float Equipment & Centralizers	221	50,000				50,000
Casing Crows & Equipment	222	52,000				52,000
Fishing Tools & Service	223	0	323		372	0
Geologic/Engineering	224	7,200	324	355	373	7,200
Contract Labor	225	6,500	325	20,000	356	263,000
Company Supervision	226	50,400	326	15,000	357	65,400
Contract Supervision	227	123,000	327	255,000	358	383,000
Testing Casing/Tubing	228	30,000	328	5,000	377	35,000
Mud Logging Unit	229	36,000	329			36,000
Logops	230	0			378	0
Perforating/Wireline Services	231	4,000	331	566,000	379	592,000
Stimulation/Treating			332	397,000	380	397,000
Completion Unit			333	138,000	381	148,800
Swabbing Unit			334		382	0
Rentals-Surface	235	150,000	335	403,000	359	591,000
Rentals-Subsurface	236	135,000	336	30,000	384	165,000
Trucking/Forklift/Rig Mobilization	237	200,000	337	20,000	360	223,000
Welding Services	238	3,000	338	5,000	381	115,000
Water Disposal	239	0	339	60,000	362	238,000
Plug to Abandon	240	0	340	176,000	387	0
Seismic Analysis	241	0	341			0
Miscellaneous	242	0	342		389	0
Contingency	243	54,000	343	250,000	363	304,000
Closed Loop & Environmental	244	275,000	344	5,000	364	280,000
Dyed Diesel	245		345	484,000		
Coil Tubing			346	750,000		750,000
Flowback Crows & Equip			347	48,000		48,000
Offset Directional/Frac	248		348		391	40,000
TOTAL INTANGIBLES		3,003,000	8,076,500	622,000	70,300	11,771,800
TANGIBLE COSTS						
Surface Casing	401	85,000				85,000
Intermediate Casing	402	169,000				169,000
Production Casing/Liner	403	361,000				361,000
Tubing			504	52,030	530	57,030
Wellhead Equipment	405	28,000	505	22,000	531	53,000
Pumping Unit				0	506	98,000
Prime Mover				0	507	0
Rods				0	508	65,000
Pumps-Sub Surface (BH)			509		532	5,000
Tanks				80,000		80,000
Flowlines				38,000		38,000
Heater Treater/Separator				144,000		144,000
Electrical System				80,000	533	95,000
Packers/Anchors/Hangers	414		514	66,000	534	68,000
Couplings/Fittings/Valves	415			360,000		360,000
Dehydration				0	517	0
Injection Plant/CO2 Equipment				0	518	0
Pumps-Surface				9,000	521	9,000
Instrumentation/SCADA/PLC				30,000	522	37,000
Miscellaneous	418		519	51,000	535	64,000
Contingency	420		520		536	0
Meters/LACT				13,000		13,000
Flares/Combustors/Emission				29,000		29,000
Gas Lift/Compression			527	23,000	528	38,000
TOTAL TANGIBLES		623,000	156,030	856,000	191,000	1,824,030
TOTAL WELL COSTS		3,626,000	8,232,500	1,477,000	261,300	13,595,830

COG Operating LLC

% of Total Well Cost

27%

61%

11%

2%

Date Prepared: 1/17/19

COG Operating LLC

We approve:
_____% Working Interest

By: RM-JV-KL-PS

Company: Chevron U.S.A. 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:	BOONE 16 STATE COM 4H	PROSPECT NAME:	Zeus 2133 (717079)
SHL:	Sec. 21 400 FNL&660 FWL or an approved location in Unit D	STATE & COUNTY:	New Mexico, Lea
BHL:	Sec. 9 50 FNL&660 FWL or an approved location in Unit D	OBJECTIVE:	Drill and Complete
FORMATION:	3rd Bone Spring Sand	DEPTH:	21,900
LEGAL:	Sections 9 & 16, T21S-R33E	TVD:	11,725

		Drllg - Rig Release(D)	Completion(C)	Tank Btry Constrctn(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	351		20,000
Survey/State Location	204	7,000		352		7,000
Location/Plat/Road Expense	205	135,000	305	10,000	353	203,000
Drilling / Completion Overhead	206	8,400	306	15,000	366	23,400
Turnkey Contract	207	0				0
Footage Contract	208	0				0
Daywork Contract	209	720,000				720,000
Directional Drilling Services	210	243,000				243,000
Frac Equipment			307	1,823,000		1,823,000
Frac Chemicals			308	473,000		473,000
Frac Proppant			309	814,000		814,000
Frac Proppant Transportation			310	399,000		399,000
Fuel & Power	211	152,000	311	68,000	354	220,000
Water	212	105,000	312	966,000	368	1,071,000
Bits	213	92,000	313	4,500	369	96,500
Mud & Chemicals	214	95,000	314	25,000	370	120,000
Drill Stem Test	215	0	315			0
Coring & Analysis	216	0				0
Cement Surface	217	37,000				37,000
Cement Intermediate	218	60,000				60,000
Cement 2nd Intermediate/Production	219	130,000				130,000
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Contract Supervision	227	123,000	327	255,000	358	383,000
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Mud Logging Unit	229	36,000	329			36,000
Logging	230	0			378	0
Perforating/Wireline Services	231	4,000	331	588,000	379	592,000
Stimulation/Treating			332	397,000	380	397,000
Completion Unit			333	138,000	381	146,800
Swabbing Unit			334		382	0
Rentals-Surface	235	150,000	335	403,000	359	591,000
Rentals-Subsurface	236	135,000	336	30,000	384	165,000
Trucking/Forklift/Rig Mobilization	237	200,000	337	20,000	360	223,000
Welding Services	238	3,000	338	5,000	361	115,000
Water Disposal	239	0	339	60,000	362	236,000
Plug to Abandon	240	0	340			0
Seismic Analysis	241	0	341			0
Miscellaneous	242	0	342		389	0
Contingency	243	54,000	343	250,000	363	304,000
Closed Loop & Environmental	244	275,000	344	5,000	364	280,000
Dyed Diesel	245		345	484,000		
Coil Tubing			346	750,000		750,000
Flowback Crews & Equip			347	48,000		48,000
Offset Directional/Frac	248		348		391	40,000
TOTAL INTANGIBLES		3,003,000	8,076,500	622,000	70,300	11,771,800
TANGIBLE COSTS						
Surface Casing	401	65,000				65,000
Intermediate Casing	402	169,000				169,000
Production Casing/Liner	403	381,000				381,000
Tubing			504	52,030	530	57,030
Wellhead Equipment	405	28,000	505	22,000	531	53,000
Pumping Unit				0	506	96,000
Prime Mover				0	507	0
Rods				0	508	55,000
Pumps-Sub Surface (BH)			509		532	5,000
Tanks				80,000		80,000
Flowlines				38,000		38,000
Heater Treater/Separator				144,000		144,000
Electrical System				80,000	533	85,000
Packets/Anchors/Hangers	414	514	66,000		534	68,000
Couplings/Fittings/Valves	415			360,000		360,000
Dehydration					517	0
Injection Plant/CO2 Equipment					518	0
Pumps-Surface				9,000	521	9,000
Instrumentation/SCADA/POC				30,000	529	37,000
Miscellaneous	419	519		51,000	535	54,000
Contingency	420	520			536	0
Meters/LACT				13,000	525	13,000
Flare/Combustors/Emission				29,000	526	29,000
Gas Lift/Compression			527	23,000	528	38,000
TOTAL TANGIBLES		623,000	155,030	855,000	191,000	1,824,030
TOTAL WELL COSTS		3,626,000	8,232,000	1,477,000	261,300	13,595,830

COG Operating LLC

Date Prepared: 1/17/19

COG Operating LLC

We approve:
% Working Interest

By: RM-JV-KL-PS

Company: Bullhead Energy, LLC
By:

Printed Name:
Title:
Date:

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

Laura Reyna

From: TrackingUpdates@fedex.com
Sent: Monday, January 28, 2019 11:38 AM
To: Laura Reyna
Subject: [External] FedEx Shipment 774315888300 Delivered

**** External email. Use caution. ****

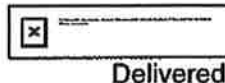


Your package has been delivered

Tracking # 774315888300

Ship date:
Fri, 1/25/2019

Laura Reyna
COG OPERATING LLC
Midland, TX 79701
US



Delivered

Delivery date:
Mon, 1/28/2019
11:34 am

EOG Resources Inc
Boone 4H Well Proposal
5509 Champions Dr
MIDLAND, TX 79706
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>774315888300</u>
Status:	Delivered: 01/28/2019 11:34 AM Signed for By: L.LOPEZ
Signed for by:	L.LOPEZ
Delivery location:	MIDLAND, TX
Delivered to:	Mailroom
Service type:	FedEx Priority Overnight®
Packaging type:	FedEx® Pak
Number of pieces:	1
Weight:	1.00 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	1/28/2019 by 12:00 pm

**COG OPERATING LLC
AUTHORITY FOR EXPENDITURE
DRILLING**

WELL NAME: **BOONE 16 STATE COM 4H**

PROSPECT NAME: **Zaus 2133 (717079)**

SHL: Sec. 21 400 FNL&660 FWL or an approved location in Unit D

STATE & COUNTY: **New Mexico, Lea**

BHL: Sec. 9 50 FNL&660 FWL or an approved location in Unit D

OBJECTIVE: **Drill and Complete**

FORMATION: **3rd Bone Spring Sand**

DEPTH: **21,900**

LEGAL: **Sections 9 & 16, T21S-R33E**

TVD: **11,725**

		Drilg - Rig		Completion(C)		Tank Btty		Pmpg		TOTAL
INTANGIBLE COSTS		Release(D)				Constrctn(TB)		Equipment(PEQ)		
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/Plat/Road Expense	205	135,000	305	10,000	353	58,000	366			203,000
Drilling / Completion Overhead	206	8,400	306	15,000						23,400
Turnkey Contract	207	0								0
Footage Contract	208	0								0
Daywork Contract	209	720,000								720,000
Directional Drilling Services	210	243,000								243,000
Frac Equipment			307	1,829,000						1,829,000
Frac Chemicals			308	473,000						473,000
Frac Proppant			309	814,000						814,000
Frac Proppant Transportation			310	399,000						399,000
Fuel & Power	211	152,000	311	68,000	354		367			220,000
Water	212	105,000	312	966,000			368			1,071,000
Bits	213	92,000	313	4,500			369			96,500
Mud & Chemicals	214	95,000	314	25,000			370			120,000
Drill Stem Test	215	0	315							0
Coring & Analysis	216	0								0
Cement Surface	217	37,000								37,000
Cement Intermediate	218	60,000								60,000
Cement 2nd Intermediate/Production	219	130,000								130,000
Cement Squeeze & Other (Kickoff Plug)	220	0					371			0
Float Equipment & Centralizers	221	50,000								50,000
Casing Crews & Equipment	222	52,000								52,000
Fishing Tools & Service	223	0	323				372			0
Geologic/Engineering	224	7,200	324		355		373			7,200
Contract Labor	225	8,500	325	20,000	356	250,000	374	6,500		283,000
Company Supervision	226	50,400	326	15,000	357		375			65,400
Contract Supervision	227	123,000	327	255,000	358		376	5,000		383,000
Testing Casing/Tubing	228	30,000	328	5,000			377			35,000
Mud Logging Unit	229	36,000	329							36,000
Logging	230	0					378			0
Perforating/Wireline Services	231	4,000	331	588,000			379			592,000
Simulation/Treating			332	397,000			380			397,000
Completion Unit			333	138,000			381	8,800		146,800
Swabbing Unit			334				382			0
Rentals-Surface	235	150,000	335	403,000	359	31,000	383	7,000		591,000
Rentals-Subsurface	236	135,000	336	30,000			384			165,000
Trucking/Forklift/Rig Mobilization	237	200,000	337	20,000	360		385	3,000		223,000
Welding Services	238	3,000	338	5,000	361	107,000	386			115,000
Water Disposal	239	0	339	60,000	362	178,000	387			236,000
Plug to Abandon	240	0	340							0
Seismic Analysis	241	0	341							0
Miscellaneous	242	0	342				388			0
Contingency	243	54,000	343	260,000	363		390			304,000
Closed Loop & Environmental	244	275,000	344	5,000	364		388			280,000
Dyed Diesel	245		345	484,000						
Coil Tubing			346	750,000						750,000
Flowback Crews & Equip			347	48,000						48,000
Offset Directional/Frac	246		348				391	40,000		40,000
TOTAL INTANGIBLES		3,003,000		8,076,500		822,000		70,300		11,771,800
TANGIBLE COSTS										
Surface Casing	401	65,000								65,000
Intermediate Casing	402	169,000								169,000
Production Casing/Unbr	403	361,000								361,000
Tubing			504	52,030			530	5,000		57,030
Wellhead Equipment	405	28,000	505	22,000			531	3,000		53,000
Pumping Unit				0			506	96,000		96,000
Prime Mover				0			507	0		0
Rods				0			508	55,000		55,000
Pumps-Sub Surface (BH)			509				532	5,000		5,000
Tanks					510	80,000				80,000
Flowlines					511	36,000				36,000
Heater Treater/Separator					512	144,000				144,000
Electrical System					513	80,000	533	15,000		95,000
Packers/Anchors/Hangers	414		514	88,000			534	2,000		90,000
Couplings/Fittings/Valves	415				515	380,000				380,000
Dehydration					517					0
Injection Plant/CO2 Equipment					518					0
Pumps-Surface					521	9,000				9,000
Instrumentation/SCADA/POC					522	30,000	529	7,000		37,000
Miscellaneous	419		519		523	51,000	535	3,000		54,000
Contingency	420		520		524		536			0
Meters/LACT					525	13,000				13,000
Flares/Combustors/Emission					526	29,000				29,000
Gas Lift/Compression			527	15,000	516	23,000	526			38,000
TOTAL TANGIBLES		623,000		155,030		855,000		191,000		1,824,030
TOTAL WELL COSTS		3,626,000		8,232,000		1,477,000		261,300		13,595,330

COG Operating LLC

% of Total Well Cost

27%

61%

11%

2%

Date Prepared: 1/17/19

COG Operating LLC

By: RM-JV-KL-PS

We approve:
% Working Interest

Company: EOG Resources Inc.
By:

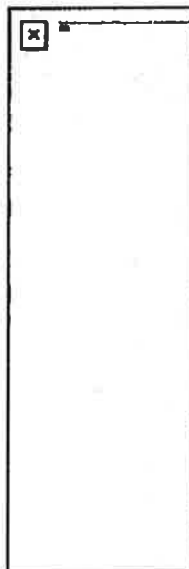
Printed Name:
Title:
Date:

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

Laura Reyna

From: TrackingUpdates@fedex.com
Sent: Monday, January 28, 2019 11:53 AM
To: Laura Reyna
Subject: [External] FedEx Shipment 774315866692 Delivered

**** External email. Use caution. ****



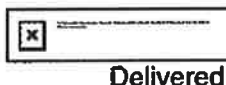
Your package has been delivered

Tracking # 774315866692

Ship date:
Fri, 1/25/2019

Laura Reyna
COG OPERATING LLC
Midland, TX 79701
US

Delivery date:
Mon, 1/28/2019
11:49 am




Delivered

Chevron USA INC
Boone 4H Well Proposal
6301 Deauville BLVD
MIDLAND, TX 79706
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>774315866692</u>
Status:	Delivered: 01/28/2019 11:49 AM Signed for By: J.LAURANCE
Signed for by:	J.LAURANCE
Delivery location:	MIDLAND, TX
Delivered to:	Shipping/Receiving
Service type:	FedEx Priority Overnight®
Packaging type:	FedEx® Pak
Number of pieces:	1
Weight:	1.00 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	1/28/2019 by 12:00 pm

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 11:37 AM CST on 01/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

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Thank you for your business.

Laura Reyna

From: TrackingUpdates@fedex.com
Sent: Monday, January 28, 2019 9:21 AM
To: Laura Reyna
Subject: [External] FedEx Shipment 774315913810 Delivered

**** External email. Use caution. ****



Your package has been delivered

Tracking # 774315913810

Ship date:
Fri, 1/25/2019

Laura Reyna
COG OPERATING LLC
Midland, TX 79701
US

Delivery date:
Mon, 1/28/2019
9:19 am

Bullhead Energy , LLC
Boone 4H Well Proposal
3629 Lovell Ave Suite
200
ATTN: Tate Savage
FORT WORTH, TX
76107
US




Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>774315913810</u>
Status:	Delivered: 01/28/2019 09:19 AM Signed for By: M.MILLER
Signed for by:	M.MILLER
Delivery location:	FORT WORTH, TX
Delivered to:	Receptionist/Front Desk
Service type:	FedEx Priority Overnight®
Packaging type:	FedEx® Pak
Number of pieces:	1
Weight:	2.00 lb.
Special	Deliver Weekday

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 11:53 AM CST on 01/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

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Thank you for your business.

Laura Reyna

From: TrackingUpdates@fedex.com
Sent: Monday, January 28, 2019 9:45 AM
To: Laura Reyna
Subject: [External] FedEx Shipment 774315949854 Delivered

**** External email. Use caution. ****



Your package has been delivered

Tracking # 774315949854

Ship date:
Fri, 1/25/2019

Laura Reyna
COG OPERATING LLC
Midland, TX 79701
US

Delivery date:
Mon, 1/28/2019
9:41 am

Advance Energy
Partners, LLC
Boone 4H Well Proposal
11490 Westheimer Rd,
Suite 950
ATT: Paul Burdick
HOUSTON, TX 77077
US



Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>774315949854</u>
Status:	Delivered: 01/28/2019 09:41 AM Signed for By: D.DEERE
Signed for by:	D.DEERE
Delivery location:	HOUSTON, TX
Delivered to:	Receptionist/Front Desk
Service type:	FedEx Priority Overnight®
Packaging type:	FedEx® Pak
Number of pieces:	1
Weight:	2.00 lb.
Special	Deliver Weekday

handling/Services:

Standard transit: 1/28/2019 by 10:30
am

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 9:44 AM CST on 01/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

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Thank you for your business.

**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. 20417

AFFIDAVIT OF CANDICE PETTIJOHN

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 geology have been accepted by the Division and made a matter of record.
3. I am familiar with the applications filed by COG in these cases and I have conducted a geologic study of the targeted third Bone Spring shale within the Bone Spring formation underlying the subject acreage.
4. COG is targeting third Bone Spring within the Bone Spring formation with its proposed **Boone 16 State Com 4H**.
5. **COG Exhibit No. 2A** is a project locator map that reflects COG's acreage in yellow. The path of the proposed wellbore for the **Boone 16 State Com 4H** depicted by a purple dashed line.
6. **COG Exhibit No. 2B** is a subsea structure map that I prepared on the top of the Wolfcamp Shale that is representative of the structure of the targeted intervals within the Bone Spring formation. The proposed well is depicted by a purple dashed line. Existing producing

Candice Pettijohn
CANDICE PETTIJOHN

STATE OF TEXAS)
COUNTY OF Midland)

SUBSCRIBED and SWORN to before me this 25th day of April 2019 by
Candice Pettijohn.

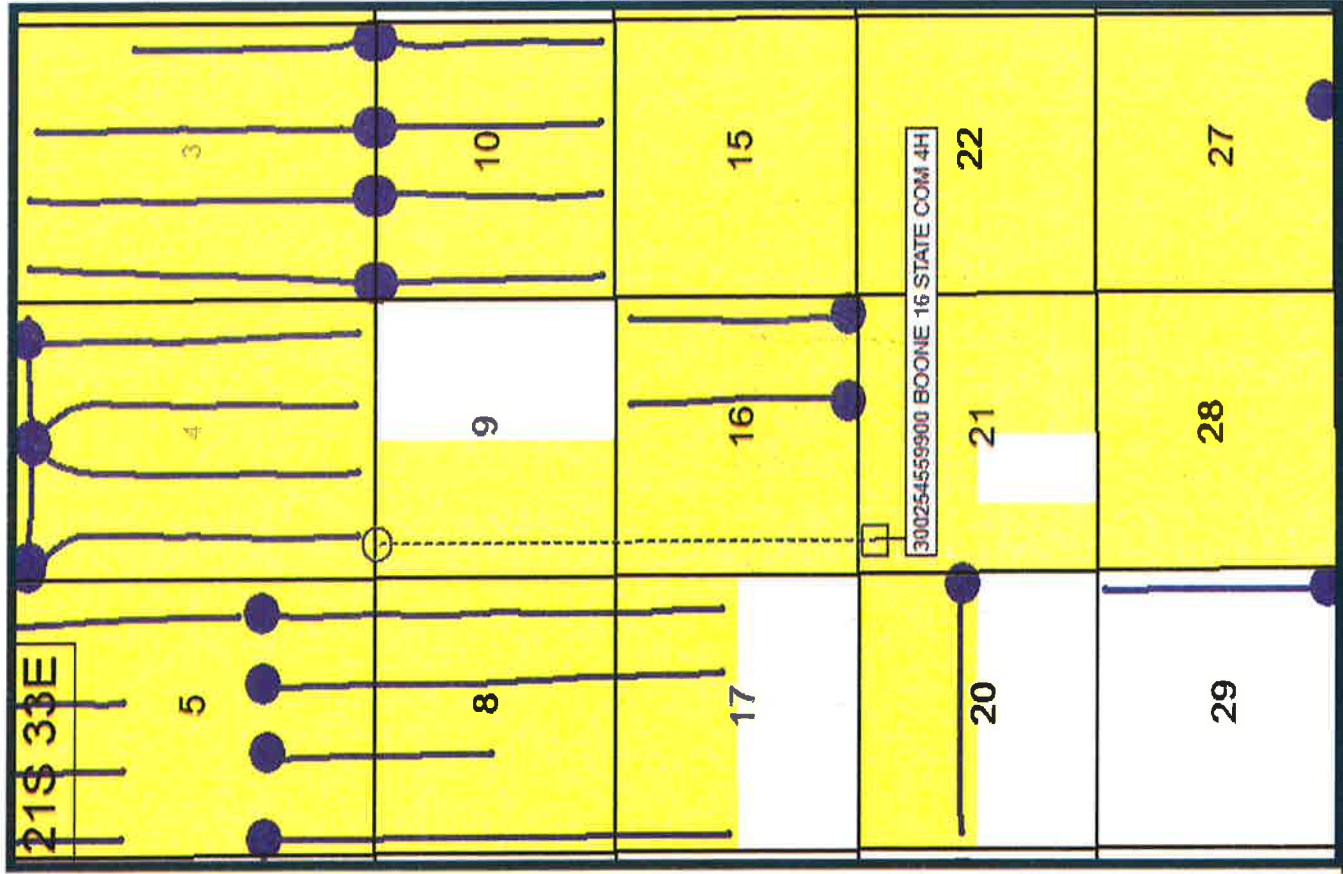


Becky Zindel
NOTARY PUBLIC

My Commission Expires:

7/10/21

Boone 16 State Com 4H



Map Legend

SHL

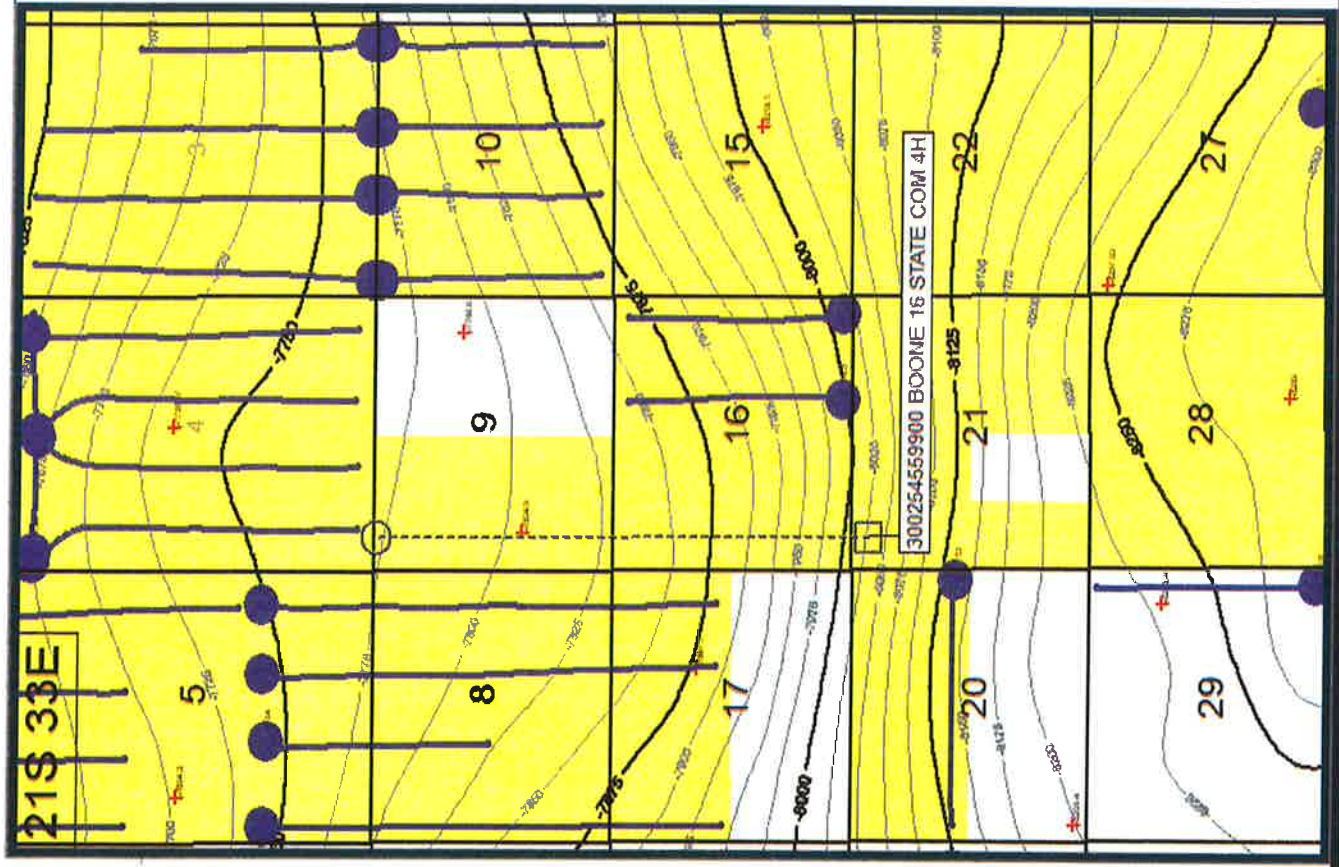
COG TBSG Horizontal Location

BHL

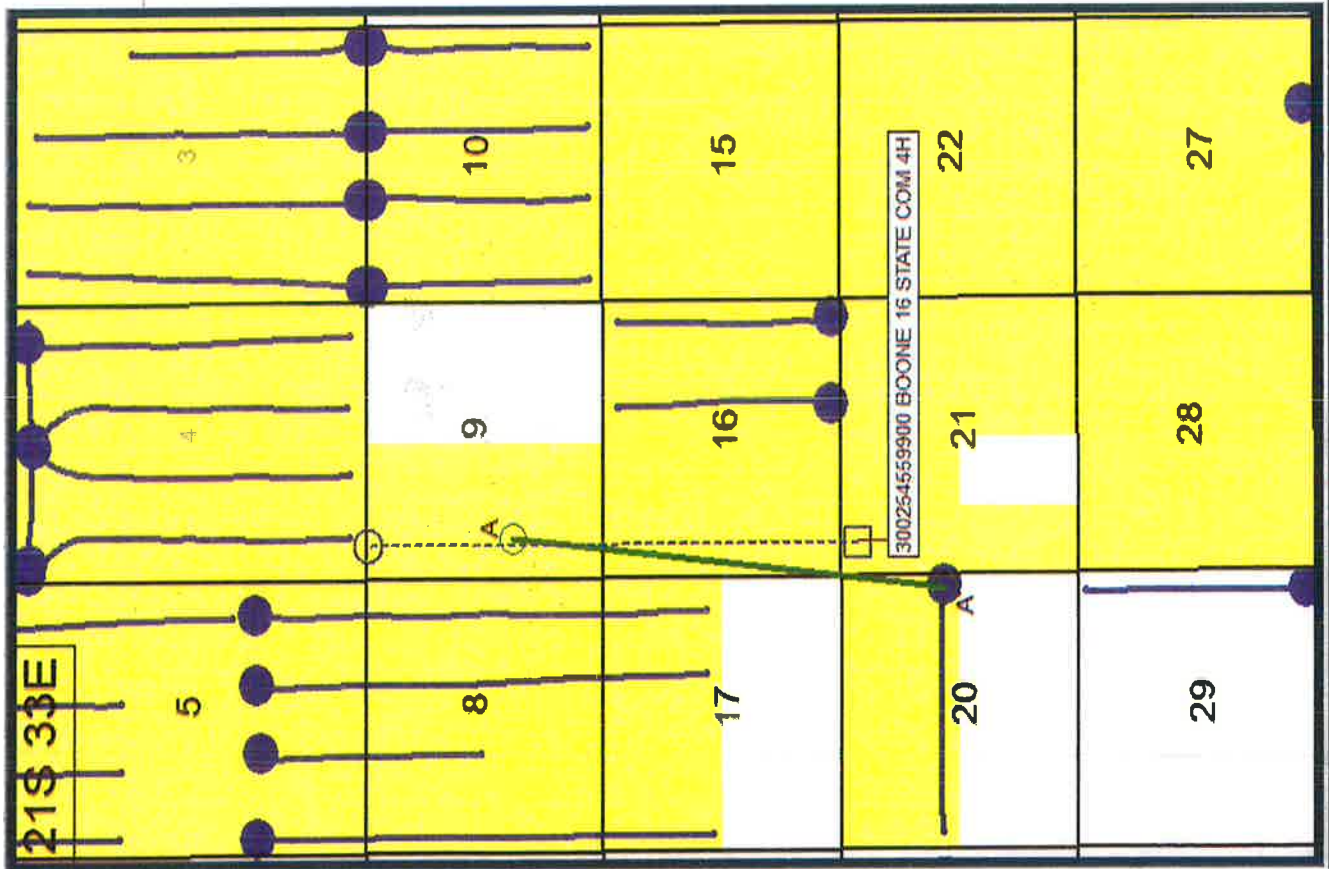
Producing TBSG Wells

COG Acreage

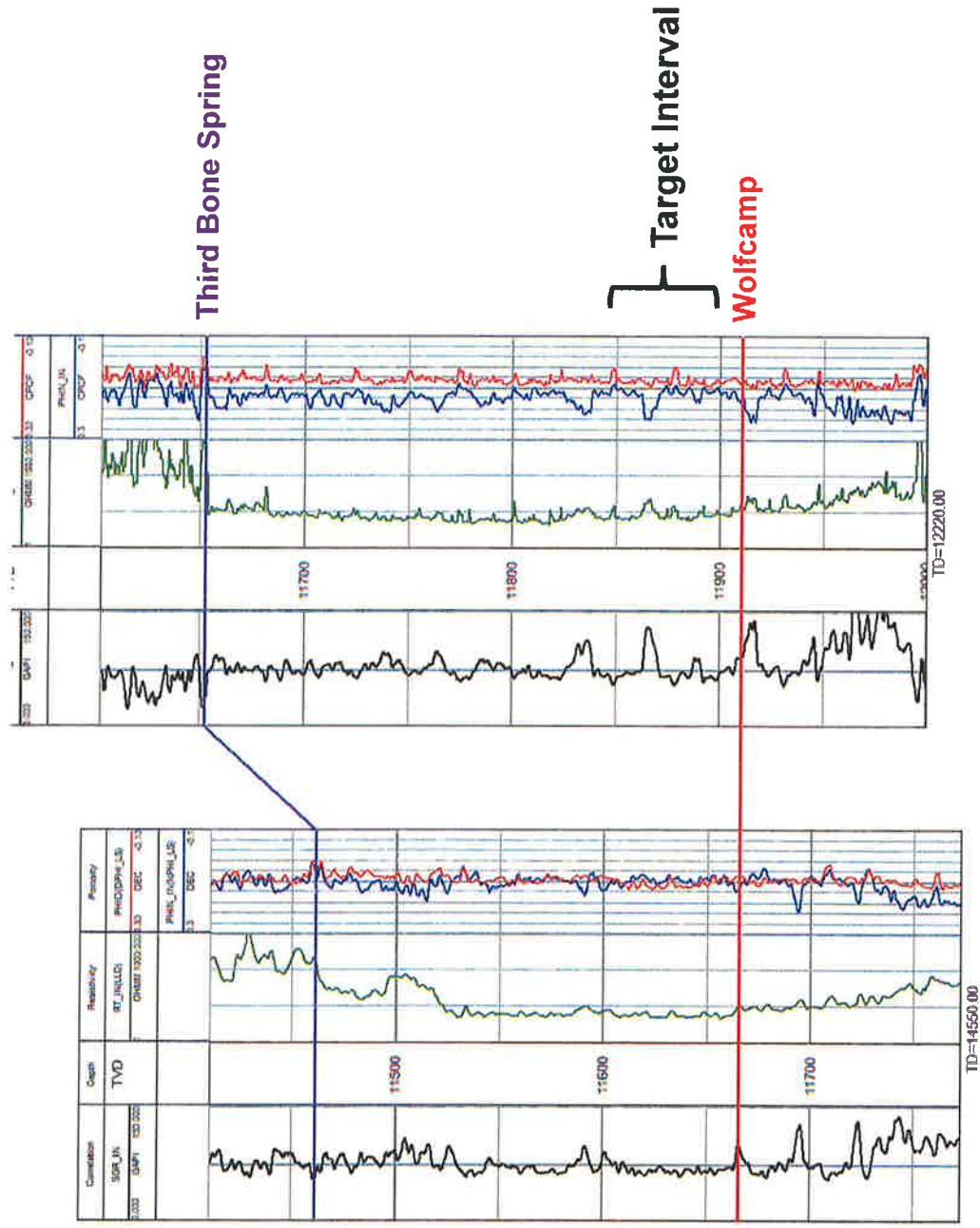
Boone 16 State Com 4H



Boone 16 State Com 4H



Stratigraphic Cross Section A – A'



**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. 20417

AFFIDAVIT


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

Kaitlyn A. Luck, attorney in fact and authorized representative of COG Operating, LLC,
the Applicant herein, being first duly sworn, upon oath, states that the above-referenced
Application has been provided under the notice letters and proof of receipts attached hereto.



Kaitlyn A. Luck

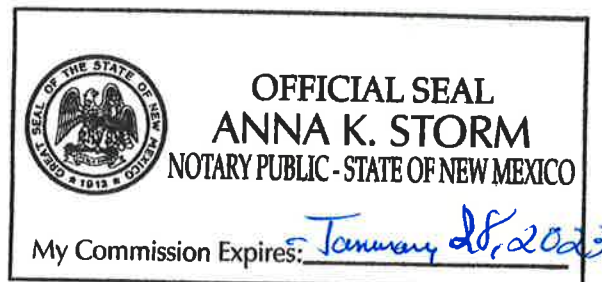
SUBSCRIBED AND SWORN to before me this 1st day of May 2019 by Kaitlyn A.
Luck.



Notary Public

My Commission

Expires: January 28, 2023



Barcode	Recipient	Status
9.21489E+21	EOG Resources Inc 5509 Champions Drive Midland TX 79706	Delivered Signature Received POD Viewed
9.21489E+21	Liberty Energy Corporation 175 Berkeley Street MST21-A214 Boston MA 02116	Delivered Signature Received
9.21489E+21	Mike Petraitis 1603 Holloway Ave Midland TX 79701	In-Transit
9.21489E+21	PBEX Resources LLC 223 W Wall Suite 900 Midland TX 79701	Delivered Signature Received
9.21489E+21	Newman Resources LLC PO BOX 10886 Midland TX 79702	Delivered
9.21489E+21	Printz II LLC 223 W Wall Street Midland TX 79701	Delivered Signature Received
9.21489E+21	S E S Energy Ltd PO BOX 10886 Midland TX 79702	Delivered
9.21489E+21	S E S Oil & Gas Inc PO BOX 10886 Midland TX 79702	Delivered
9.21489E+21	Starck Family Oil & Gas LLC 190 E Stacy Road Suite 306-373 Allen TX 75002	Delivered Signature Received
9.21489E+21	Advance Energy Partners Hat Mesa LLC 11490 Westheimer Road Suite 950 Houston TX 77077	Delivered Signature Received
9.21489E+21	Chevron U S A Inc 6301 Deauville Blvd Midland TX 79706	Delivered Signature Received
9.21489E+21	E G L Resources Inc PO BOX 10886 Midland TX 79702	Delivered



April 12, 2019

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED

TO: ALL INTEREST OWNERS SUBJECT TO POOLING PROCEEDINGS

**Re: Application of COG Operating LLC for compulsory pooling, Eddy County,
New Mexico.**
Boone 16 State Com 4H Well

This letter is to advise you that COG Operating Inc. has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on May 2, 2019, 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 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 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.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business 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 the hearing.

If you have any questions about this matter, please contact Luke Bedrick at (432) 686-3000 or Lbedrick@concho.com.

Sincerely,

Michael H. Feldewert
ATTORNEY FOR COG OPERATING LLC

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
0001283268

HOLLAND & HART
PO BOX 2208

SANTA FE NM 87504

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:

04/16/19


Legal Clerk

Subscribed and sworn before me this
16th of April 2019.

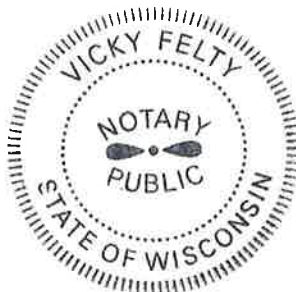


State of WI, County of Brown
NOTARY PUBLIC

9-19-21

My Commission Expires

Ad#:0001283268
P O : Boone 16 State
of Affidavits :0.00



**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 **May 2, 2019**, in the Oil Conservation Division Hearing Room at 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 **April 22, 2019**. Public documents, including the agenda and minutes, can be provided in various accessible forms. Please contact Florene 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 overriding royalty interest owners and pooled parties, including: Advance Energy Partners Hat Mesa, LLC;Chevron U.S.A.Inc.; E. G. L. Resources,Inc.; Newman Resources,LLC Printz II, LLC; S.E.S. Energy Ltd; S.E.S. Oil & Gas, Inc.; Starck Family Oil & Gas, LLC; EOG Resources, Inc.; Liberty Energy Corporation; Mike Petraitis, his heirs and devisees; PBEX Resources, LLC.

CASE 20417:Application of COG Operating LLC for compulsory pooling, Eddy County, New Mexico. Applicant in the above-styled cause seeks an order pooling all uncommitted interest owners in the Bone Spring formation (WC-025 G-08 S213304D; Bone Spring Pool (97895)) underlying a 320-acre standard horizontal spacing unit comprised of the W/2 W/2 of Sections 9 and 16, Township 21 South, Range 33 East, Lea County, New Mexico. Applicant seeks to dedicate the above-referenced horizontal spacing unit to the proposed **Boone 16 State Com 4H** well to be drilled from a surface hole location in the NW/4 NW/4 (Unit D) of Section 21 to a bottom hole location in the NW/4 NW/4 (Unit D) of Section 9. Also, to be considered will be the cost of drilling and completing the well, the allocation of the cost

thereof, the actual operating costs and charges for supervision, the designation of COG Operating LLC as operator, and the imposition of 200% charge for risk involved in drilling and completing the well. Said area is located approximately 25 miles west of Eunice, New Mexico.