

COG OPERATING
Exhibit #1

DISTRICT I
1825 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 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) 478-3480 Fax: (505) 478-3482

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

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	Well Number
	ROADRUNNER FEDERAL COM	23H
OGRID No.	Operator Name	Elevation
	COG OPERATING, LLC	3350.6

Surface Location

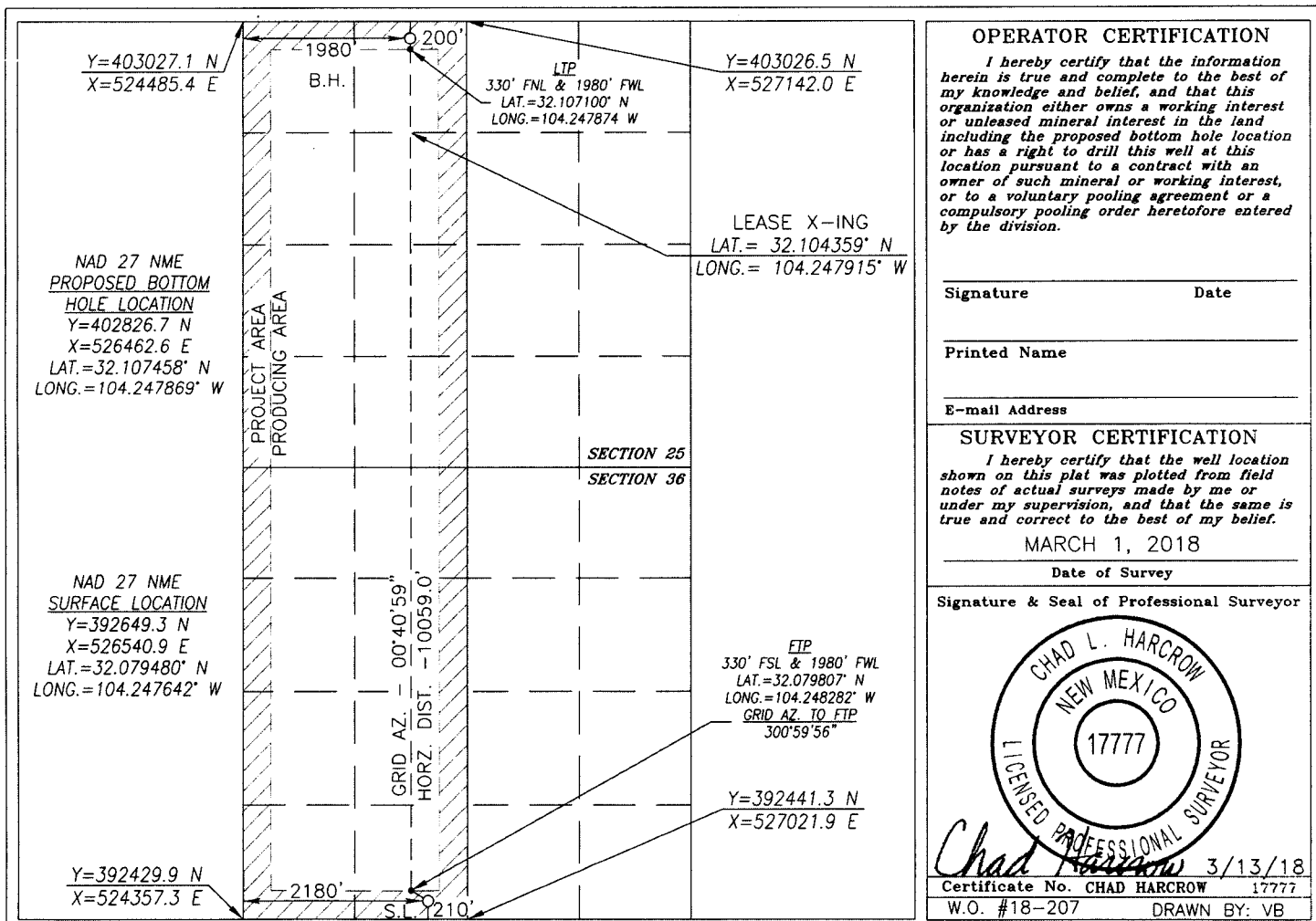
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	36	25-S	26-E		210	SOUTH	2180	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	25	25-S	26-E		200	NORTH	1980	WEST	EDDY

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



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.

MARCH 1, 2018

Date of Survey

Signature & Seal of Professional Surveyor



Chad L. Harcrow 3/13/18
Certificate No. CHAD HARCROW 17777
W.O. #18-207 DRAWN BY: VB

Land Analysis – Ownership

Fee			
Fed	Fee		

25

36

State

	Tract 1
	Tract 2
	Tract 3
	Tract 4

Tract 1	WI
COG Operating LLC	100.0000000%

Tract 2	WI
COG Operating LLC	16.666667%
Tap Rock Resources, LLC	83.333333%

Tract 3	WI
COG Operating LLC	54.166667%
Cimarex Energy Co.	2.500000%
MRC Permian Company	41.666666%
RSC Resources, L.P.	1.666667%

Tract 4	WI
COG Operating LLC	62.674447%
Concho Oil & Gas LLC	3.298655%
The Allar Company	19.026898%
Chevron U.S.A. Inc.	15.000000%

Unit Summary	WI
COG Operating LLC	67.535140%
Tap Rock Resources, LLC	5.208333%
Cimarex Energy Co.	0.468750%
MRC Permian Company	7.812500%
RSC Resources, L.P.	0.312500%
The Allar Company	9.513449%
Concho Oil & Gas LLC	1.649000%
Chevron U.S.A. Inc.	7.500000%



James D. Martin

September 17, 2018

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Cimarex Energy Company
600 N. Marienfeld, Suite 600
Midland, Texas 79701
Attn: Caitlin E. Pierce

Re: **Well Proposal – Road Runner Federal Com 23H**
Township 25 South, Range 26 East
SHL: 210 FSL & 2180 FWL or a legal location in Unit N (Section 36)
BHL: 200 FNL & 1980 FWL or a legal location in Unit C (Section 25)
Eddy County, New Mexico

Dear Working Interest Owner:

COG Operating LLC ("COG"), as Operator, hereby proposes the drilling of the well referenced above. The Road Runner Federal Com 23H will be drilled to a depth sufficient to test the Wolfcamp formation at total vertical depth of 8,956' and measured depth of approximately 18,800'. The surface hole location is proposed at a legal location in Unit N of Section 36 and a bottom hole location at a legal location in Unit C of Section 25. The dedicated horizontal project area will comprise the W2 of Section 36, T25S–R26E and the W2 of Section 25, T25S–R26E, Eddy County, New Mexico.

Included herewith is an Authority for Expenditure ("AFE") in the gross amount of \$ 12,760,000.00, being the total estimated cost to drill and complete this well. COG anticipates to spud the captioned well on or before November 15, 2018.

COG is proposing to drill the above referenced well under the terms of a new Operating Agreement dated June 1, 2018 ("OA") which will supersede and replace that modified 1982 AAPL form of Operating Agreement dated February 1, 2010, and Amendment and Ratification of Joint Operating Agreement dated March 1, 2017, as they apply to the above mentioned project area. A copy of the proposed OA will be sent subsequent to your receipt of the well proposal and AFE.

If you have any comments or questions, please do not hesitate to contact the undersigned at 432-685-2590 or JMartin1@concho.com

Sincerely,

COG Operating LLC

James Martin
Landman II – Northern Delaware Basin

OCD Case No. 16378
COG OPERATING
Exhibit #3

Road Runner Federal Com 23H:

_____ I/We hereby elect to participate in the Road Runner Fed Com 23H.

_____ I/We hereby elect **not** to participate in the Road Runner Fed Com 23H.

Cimarex Energy Company

Estimated Working Interest: TBD

Company: _____
By: _____
Name: _____
Title: _____
Date: _____



James D. Martin

Well(s): Road Runner Federal Com 23H

Working Interest Owners:

Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
6301 Deauville Blvd.
Midland, TX 79706

MRC Permian Company
5400 LBJ Freeway, Suite 1500
Dallas, Texas 75240

Cimarex Energy Co.
600 N. Mariefeld Street, Suite 600
Midland, Texas 79701

RSC Resources, L.P.
P.O. Box 8329
Horseshoe Bay, TX 78657

The Allar Company
P.O. Box 1567
Graham, Texas 76450

Overriding Royalty Interest Owners:

EG3, Inc.
735 Elm Street
Graham, Texas 76450

CrownRock Minerals, L.P.
P.O. Box 51933
Midland, TX 79710

John Kyle Thoma, Trustee of the Cornerstone Family Trust
P.O. Box 558
Peyton, CO 80831-0558

Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
6301 Deauville Blvd.
Midland, TX 79706

Nestegg Energy Corporation
2308 Sierra Vista Rd
Artesia, NM 88210

Unmarketable Title Owners:

1. Heirs and devisees of J.F. Forehand (deceased)

OCD Case No. 16378

**COG OPERATING
Exhibit #4**

Last known address:

Current Mineral Owners of J.F. Forehand title chain:

Lost Creek Royalties, LP
PO Box 2064
Midland, TX 79702

Arroyo Resources, LTD
400 W. Illinois Ave, Suite 1070
Midland, TX 79701

Alisa Ogden aka Alisa Ogden Stell
Rt 1 Box 204C
Carlsbad, NM 88220

B&G Royalties
PO Box 376
Artesia, NM 88211-0376

Ross Duncan Properties, LLC
PO Box 647
Artesia, New Mexico 88211/0647

CH4NET.com, Ltd
PO Box 1000
Roswell, NM 88202

Hold The Door, L.P.
6824 Island Circle
Midland, TX 79707

TD Minerals, LLC
8111 Westchester, Suite 900
Dallas, TX 75225

Sourcing Rock, LLC
1304 Silverton Drive
Midland, TX 79705

2. Heir and devisees of Edgar D. Smith

Last known address:

Current Mineral Owners of Edgar D. Smith title chain:

Dale Williston Minerals 2011, LP
2100 Ross Avenue, Suite 1870, LP-9
Dallas, TX 75201

Alisa Ogden aka Alisa Ogden Stell
Rt 1 Box 204C
Carlsbad, NM 88220

3. Heirs and devisees of Minnie Reed

Last known address:

Current Mineral Owners of Minnie Reed title chain:

Ross Duncan Properties, LLC
PO Box 647
Artesia, New Mexico 88211/0647

Jodie R. Darden
PO Box 13362
Odessa, TX 79768

John Reed
PO Box 13057
Odessa, TX 79768

Jana B. Crane
104 Jamie Way
Del Rio, TX 78840

Camille R. Allen
PO Box 13256
Odessa, TX 79768

4. Heirs and devisees of Elmer Forehand

Last known address:

Current Mineral Owners of Minnie Reed title chain:

Charlotte Forehand Albright
1705 Boyd Dr.
Carlsbad, New Mexico 88220

Mark Lee Forehand and Jeanne Lynn Forehand
PO Box 5373
Carlsbad, New Mexico 88220

5. Heirs and devisees of Roy Forehand

Last known address:

Current Mineral Owners of Minnie Reed title chain:

Elizabeth Forehand Smith
Box 33
Socorro, NM 87801

Ann Forehand Langlinais
PO Box 401
Garden Valley, Idaho 83622

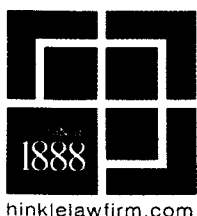
Susan Ogden Benting
1900 Richard Jones Road #P-3
Nashville, Tennessee 37215

Karen Ogden Cortese
Rt 1 Box 136
Ft. Sumner, NM 88119

Craig William Ogden
Rt 1 Box 65
Loving, NM 88256

Alisa Ogden aka Alisa Ogden Stell
Rt 1 Box 204C
Carlsbad, NM 88220

Benting Revocable Trust u/a/d August 8, 2003
1900 Richard Jones Road #P-3
Nashville, Tennessee 37215



HINKLE SHANOR LLP
ATTORNEYS AT LAW
PO BOX 268
SANTA FE, NEW MEXICO 87504
505-982-4554 (FAX) 505-982-8623

WRITER:
Gary W. Larson,
Partner
glarson@hinklelawfirm.com

August 14, 2018

VIA CERTIFIED MAIL

Chevron North America Exploration and Production Company
(a Chevron U.S.A. Inc. division)
6301 Deauville Blvd.
Midland, TX 79706

Re: COG Operating LLC NMOCD Application

Dear Sir or Madam:

Enclosed is a copy of an application for compulsory pooling that COG Operating LLC ("COG") has filed with the New Mexico Oil Conservation Division ("the Division"). COG requests an order pooling all uncommitted mineral interests in the Wolfcamp formation in a standard 640-acre horizontal spacing unit comprised of W/2 of Section 25 and the W/2 of Section 36, Township 25 South, Range 26 East, N.M.P.M., Eddy County, New Mexico.

This matter is scheduled for hearing at 8:15 a.m. on Thursday, September 6, 2018 in Porter Hall at the Division's offices located at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. Chevron North America Exploration and Production Company ("Chevron") is not required to attend this hearing, but as an owner of an interest that may be affected by COG's application, it may appear at the hearing and present testimony. If Chevron does not appear at that time and become a party of record, it will be precluded from contesting the matter at a later date.

A party appearing in a Division case is required by the Division's Rules to file a Pre-Hearing Statement, which in this matter must be filed no later than Thursday, August 30, 2018. The Pre-Hearing Statement must be filed with the Division's Santa Fe office at the address above, and should include: the name of the party and the party's attorney; a concise statement of the case; the name(s) of the witness(es) the party will call to testify at the hearing; the approximate amount of time the party will need to present the party's case; and an identification of any procedural matters that need to be resolved prior to the hearing. The Pre-Hearing Statement must also be provided to me.

Thank you for your attention to this matter.

Very truly yours,

Gary W. Larson

GWL:sm
Enclosure

PO BOX 10
ROSWELL, NEW MEXICO 88202
575-622-6510
(FAX) 575-623-9332

PO BOX 1720
ARTESIA, NEW MEXICO 88210
575-622-6510
(FAX) 575-746-6316

PO BOX 268
SANTA FE, NEW MEXICO 87504
505-982-4554
(FAX) 505-982-8623

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Chevron North America Exploration
6301 Deauville Blvd.
Midland, TX 79706



9590 9402 3452 7275 9733 27

2. Article Number (Transfer from service label)

7018 0040 0000 4364 0757

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- ☐ Agent
☐ Addressee

B. Received by (Printed Name)

C. Lawrence

C. Date of Delivery

8/20/18

- D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery

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

Restricted Delivery

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

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

MRC Permian Company
5400 LBJ Freeway, Suite 1500
Dallas, TX 75240



9590 9402 3452 7275 9731 29

2. Article Number (Transfer from service label)

7018 0040 0000 4364 0955

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- ☐ Agent
☐ Addressee

B. Received by (Printed Name)

8-20-18

- D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail Restricted Delivery (over \$500)

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

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

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Cimarex Energy Company
600 N. Mariefeld St., Suite 600
Midland, TX 79701



9590 9402 3452 7275 9733 10

2. Article Number (Transfer from service label)

7018 0040 0000 4364 0764

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- ☐ Agent
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

- D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery

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

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

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

RSC Resources, L.P.
P.O. Box 3359
Horseshoe Bay, TX 78657



9590 9402 2691 6351 8915 79

2. Article Number (Transfer from service label)

7018 0040 0000 4364 0986

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☒ Agent☒ Addressee

B. Received by (Printed Name)

Radell C. A.

C. Date of Delivery

8/22/18

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery

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

Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

The Allar Company
P.O. Box 1567
Graham, TX 76450



9590 9402 2691 6351 8915 31

2. Article Number (Transfer from service label)

7018 0040 0000 4364 1020

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☒ Agent☐ Addressee

B. Received by (Printed Name)

Melanie Barth

C. Date of Delivery

8-20-18

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery

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

Restricted Delivery

Domestic Return Receipt

CARLSBAD CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
0001258199

HINKLE SHANOR, LLP
P.O. BOX 2068

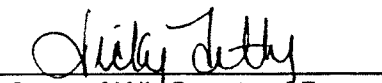
SANTA FE NM 87504

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:

08/16/18

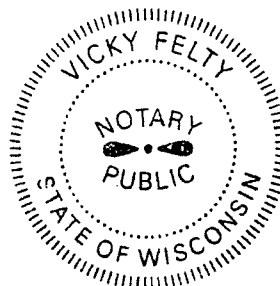

Legal Clerk

Subscribed and sworn before me this
16th of August 2018.


State of WI, County of Brown
NOTARY PUBLIC


My Commission Expires

This is to notify all interested parties, including Chevron North America Exploration and Production Company, MRC Permian Company, Cimarex Energy Co., RSC Resources, L.P., The Allar Company, EG3, Inc., CrownRock Minerals, L.P., John Kyle Thoma, Trustee of the Cornerstone Family Trust, Nestegg Energy Corporation, the Estate of J.F. Forehand, Lost Creek Royalties, LP, Arroyo Resources, LTD, Alisa Ogden, B&G Royalties, Ross Duncan Properties, LLC, CH4NET.com, Ltd, Hold The Door, L.P., TD Minerals, LLC, Sourcing Rock, LLC, the Estate of Edgar D. Smith, Dale Williston Minerals 2011, LP, the Estate of Minnie Reed, Jodie R. Darden, John Reed, Jana B. Crane, Camille R. Allen, the Estate of Elmer Forehand, Charlotte Forehand Albright, Mark Lee Forehand, Jeanne Lynn Forehand, the Estate of Roy Forehand, Elizabeth Forehand Smith, Ann Forehand Langlinais, Susan Ogden Benting, Karen Ogden Cortese, Craig William Ogden, the Benting Revocable Trust u/a/d August 8, 2003 and their heirs and assigns, that the New Mexico Oil Conservation Division will conduct a hearing on an application submitted by COG Operating LLC at 8:15 a.m. on September 6, 2018 in Porter Hall at 1220 South St. Francis Drive, Santa Fe, New Mexico. COG Operating LLC seeks an order pooling all uncommitted mineral interests in the Wolfcamp formation in a standard 640-acre horizontal spacing unit comprised of the W/2 of Section 25 and the W/2 of Section 36, Township 25 South, Range 26 East, NMPM, in Eddy County. The horizontal spacing unit is to be dedicated to the Road Runner Federal Com #23H well, which will be horizontally drilled from a surface location in Unit N of Section 36 to a bottom hole location in Unit C of Section 25. The completed interval for the well will be orthodox. Also to be considered will be the cost of drilling and completing the well and the allocation of the cost, the designation of COG Operating LLC as the operator of the well, and a 200% charge for the risk involved in drilling and completing the well. The horizontal spacing unit is located approximately ten (10) miles southeast of Whites City, New Mexico.
August 16, 2018



OCD Case No. 16378

**COG OPERATING
Exhibit #5**

Ad#:0001258199
P O : 1258199
of Affidavits :0.00

COG OPERATING Exhibit #6

COG OPERATING LLC AUTHORITY FOR EXPENDITURE Drill & Complete

Well Name	ROADRUNNER FEDERAL COM #23H	Prospect	#717055 ATLAS 2526
SHL	SEC 36: 210 FSL & 2180 FWL	State & County	NEW MEXICO, EDDY
BHL	SEC 25: 200 FNL & 1980 FWL	Objective	DRILL & COMPLETE
Formation	WOLFCAMP A SHALE	Depth	18,800
Legal	25S 26E 36	TVD	8,956
AFE Numbers	DRAFT-002050, DRAFT-002051, DRAFT-002052, DRAFT-002053, DRAFT-002054, NDO17412		

Cost Description	Code	PreSpud (PS)	Drilling (DR)	Completions (C)	Tank Btty Constrcn(TB)	Pmpq Equip (PEQ)	Revision	Total
Tangible Costs								
D-Surface Casing	401		\$27,000.00				\$0.00	\$27,000.00
D-Intermed Csg	402		\$155,000.00				\$0.00	\$155,000.00
D-Production Casing/Liner	403		\$390,000.00				\$0.00	\$390,000.00
D-Wellhead Equip	405		\$75,000.00				\$0.00	\$75,000.00
C-Tubing	504			\$47,300.00			\$0.00	\$47,300.00
C-Wellhead Equip	505			\$27,500.00			\$0.00	\$27,500.00
PEQ-Pumping Unit	506					\$96,000.00	\$0.00	\$96,000.00
PEQ-Rods	508					\$45,000.00	\$0.00	\$45,000.00
TB-Tanks	510				\$93,000.00		\$0.00	\$93,000.00
TB-Flowlines/Pipelines	511				\$85,000.00		\$0.00	\$85,000.00
TB-Htr Trlr/Seprtr	512				\$231,000.00		\$0.00	\$231,000.00
TB-Electrical System/Equipment	513				\$150,000.00		\$0.00	\$150,000.00
C-Pckrs/Anchors/Hgrs	514			\$66,000.00			\$0.00	\$66,000.00
TB-Couplings/Fittings/Valves	515				\$190,000.00		\$0.00	\$190,000.00
TB-Gas Lift/Compression	516				\$135,000.00		\$0.00	\$135,000.00
TB-Pumps-Surface	521				\$16,000.00		\$0.00	\$16,000.00
TB-Meters/Lacts	525				\$32,000.00		\$0.00	\$32,000.00
TB-Flares/Combusters/Emission	526				\$31,000.00		\$0.00	\$31,000.00
C-Gas Lift/Compression	527			\$15,000.00			\$0.00	\$15,000.00
PEQ-Instrumentation/SCADA/POC	529					\$7,000.00	\$0.00	\$7,000.00
PEQ-Tubing	530					\$5,000.00	\$0.00	\$5,000.00
PEQ-Wellhead Equipment	531					\$3,000.00	\$0.00	\$3,000.00
PEQ-Pumps	532					\$5,000.00	\$0.00	\$5,000.00
PEQ-Electrical System	533					\$15,000.00	\$0.00	\$15,000.00
PEQ-Packers/Anchors/Hangers	534					\$70,000.00	\$0.00	\$70,000.00
PEQ-Miscellaneous	535					\$3,000.00	\$0.00	\$3,000.00
Total Tangible Costs		\$0.00	\$647,000.00	\$165,800.00	\$963,000.00	\$249,000.00	\$0.00	\$2,014,800.00

Intangible Costs								
PS-Title/Permits	201	\$9,000.00					\$0.00	\$9,000.00
D-Insurance	202	\$2,500.00					\$0.00	\$2,500.00
PS-Damages/ROW	203	\$15,000.00					\$0.00	\$15,000.00
PS-Survey/Stake Lctn	204	\$1,000.00					\$0.00	\$1,000.00
D-Lctn/Pits/Roads	205		\$135,000.00				\$0.00	\$135,000.00
D-Drilling Overhead	206		\$9,600.00				\$0.00	\$9,600.00
D-Daywork Contract	209		\$756,000.00				\$0.00	\$756,000.00
D-Directional Drllg Services	210		\$333,000.00				\$0.00	\$333,000.00
D-Fuel & Power	211		\$183,000.00				\$0.00	\$183,000.00
D-Water	212		\$55,000.00				\$0.00	\$55,000.00
D-Bits	213		\$110,000.00				\$0.00	\$110,000.00
D-Mud & Chemicals	214		\$200,000.00				\$0.00	\$200,000.00
D-Cement Surface	217		\$22,000.00				\$0.00	\$22,000.00
D-Cement Intermed	218		\$100,000.00				\$0.00	\$100,000.00
D-Prod-2nd Int Crnt	219		\$110,000.00				\$0.00	\$110,000.00
D-Float Equipment & Centralizers	221		\$75,000.00				\$0.00	\$75,000.00
D-Csg Crews & Equip	222		\$55,000.00				\$0.00	\$55,000.00
D-Contract Labor	225		\$15,000.00				\$0.00	\$15,000.00
D-Company Sprvsn	226		\$57,600.00				\$0.00	\$57,600.00
D-Contract Sprvsn	227		\$109,000.00				\$0.00	\$109,000.00
D-Tstg Csg/Tbg	228		\$55,000.00				\$0.00	\$55,000.00
D-Mud Logging Unit	229		\$36,000.00				\$0.00	\$36,000.00
D-Perf/Wireline Svc	231		\$4,000.00				\$0.00	\$4,000.00
D-Rentals-Surface	235		\$230,000.00				\$0.00	\$230,000.00
D-Rentals-Subsrfc	236		\$180,000.00				\$0.00	\$180,000.00
D-Trucking/Forklift/Rig Mob	237		\$135,000.00				\$0.00	\$135,000.00
D-Welding Services	238		\$3,500.00				\$0.00	\$3,500.00
D-Contingency	243		\$60,000.00				\$0.00	\$60,000.00
D-Envrmtl/Clsd Loop	244		\$330,000.00				\$0.00	\$330,000.00
C-Lctn/Pits/Roads	305			\$10,000.00			\$0.00	\$10,000.00
C-Frac Equipment	307			\$1,472,000.00			\$0.00	\$1,472,000.00
C-Frac Chemicals	308			\$820,000.00			\$0.00	\$820,000.00
C-Frac Proppant	309			\$1,159,000.00			\$0.00	\$1,159,000.00
C-Frac Proppant Transportation	310			\$148,000.00			\$0.00	\$148,000.00
C-Fuel & Power	311			\$5,000.00			\$0.00	\$5,000.00
C-Water	312			\$822,000.00			\$0.00	\$822,000.00
C-Bits	313			\$9,000.00			\$0.00	\$9,000.00
C-Mud & Chemicals	314			\$25,000.00			\$0.00	\$25,000.00
C-Contract Labor	325			\$8,200.00			\$0.00	\$8,200.00
C-Company Sprvsn	326			\$15,000.00			\$0.00	\$15,000.00
C-Contract Sprvsn	327			\$214,000.00			\$0.00	\$214,000.00
C-Tstg Csg/Tbg	328			\$5,000.00			\$0.00	\$5,000.00
C-Perf/Wireline Svc	331			\$508,000.00			\$0.00	\$508,000.00
C-Stimulation/Treating	332			\$12,000.00			\$0.00	\$12,000.00
C-Completion Unit	333			\$60,000.00			\$0.00	\$60,000.00
C-Rentals-Surface	335			\$296,000.00			\$0.00	\$296,000.00
C-Rentals-Subsrfc	336			\$65,000.00			\$0.00	\$65,000.00
C-Trucking/Forklift/Rig Mob	337			\$22,500.00			\$0.00	\$22,500.00
C-Welding Services	338			\$5,000.00			\$0.00	\$5,000.00
C-Water Disposal	339			\$60,000.00			\$0.00	\$60,000.00
C-Contingency	343			\$250,000.00			\$0.00	\$250,000.00
C-Envrmtl/Clsd Loop	344			\$5,000.00			\$0.00	\$5,000.00
C-Dyed Diesel	345			\$455,000.00			\$0.00	\$455,000.00
C-Coil Tubing	346			\$435,000.00			\$0.00	\$435,000.00
C-Flowback Crews & Equip	347			\$48,000.00			\$0.00	\$48,000.00
TB-Location/Pits/Roads	353				\$78,000.00		\$0.00	\$78,000.00
TB-Contract Labor	356				\$180,000.00		\$0.00	\$180,000.00
TB-Water Disposal	362				\$135,000.00		\$0.00	\$135,000.00
PEQ-Contract Labor	374					\$6,500.00	\$0.00	\$6,500.00
PEQ-Contract Supervision	376					\$5,000.00	\$0.00	\$5,000.00
PEQ-Completion Unit	381					\$10,800.00	\$0.00	\$10,800.00
PEQ-Rentals-Surface	383					\$7,000.00	\$0.00	\$7,000.00
PEQ-Trkg/Forklift/Rig Mobilization	385					\$3,000.00	\$0.00	\$3,000.00
Total Intangible Costs		\$27,500.00	\$3,358,700.00	\$6,933,700.00	\$393,000.00	\$32,300.00	\$0.00	\$10,745,200.00

Total Gross Cost	\$27,500.00	\$4,005,700.00	\$7,089,500.00	\$1,356,000.00	\$281,300.00	\$0.00	\$12,760,000.00
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Note: The above costs are estimates only. Actual costs will be billed as incurred.

COG Operating LLC

By: _____

Date Prepared: _____

We approve:
 % Working Interest

COG Operating LLC

By: _____

Company: _____

By: _____

Printed Name: _____

Title: _____

Date: _____

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

COG OPERATING Exhibit #7

COG OPERATING LLC AUTHORITY FOR EXPENDITURE Drill & Complete

Well Name ROADRUNNER FEDERAL COM 23H
SHL SEC 36: 210 FS & 2180 FW
BHL SEC 25: 200 N & 1980 FW
Formation WOLFCAMP
Legal 25S 26E 36
AFE Numbers NDO17412, NDO17412CM, NDO17412DR, NDO17412PE, NDO17412PS, NDO17412TB

Prospect #717055 ATLAS 2528
State & County NEW MEXICO, EDDY
Objective Drill & Complete
Depth 19,131
TVD 9,422

Cost Description	Code	PreSpud (PS)	Drilling (DR)	Completions (C)	Tank Btty Constrcn(TB)	Pmpq Equip (PEQ)	Revision	Total
Tangible Costs								
D-Surface Casing	401		\$28,000.00				\$0.00	\$28,000.00
D-Intermed Csg	402		\$513,000.00				\$0.00	\$513,000.00
D-Production Casing/Liner	403		\$392,000.00				\$0.00	\$392,000.00
D-Wellhead Equip	405		\$75,000.00				\$0.00	\$75,000.00
C-Tubing	504			\$52,100.00			\$0.00	\$52,100.00
C-Wellhead Equip	505			\$27,500.00			\$0.00	\$27,500.00
PEQ-Pumping Unit	506					\$96,000.00	\$0.00	\$96,000.00
PEQ-Rods	508					\$45,000.00	\$0.00	\$45,000.00
TB-Tanks	510				\$93,000.00		\$0.00	\$93,000.00
TB-Flowlines/Pipelines	511				\$65,000.00		\$0.00	\$65,000.00
TB-Htr Trn/Seprtr	512				\$150,000.00		\$0.00	\$150,000.00
TB-Electrical System/Equipment	513				\$125,000.00		\$0.00	\$125,000.00
C-Pckrs/Anchors/Hgrs	514			\$66,000.00			\$0.00	\$66,000.00
TB-Couplings/Fittings/Valves	515				\$350,000.00		\$0.00	\$350,000.00
TB-Gas Lift/Compression	516				\$45,000.00		\$0.00	\$45,000.00
TB-Pumps-Surface	521				\$16,825.00		\$0.00	\$16,825.00
TB-Meters/Lacts	525				\$32,000.00		\$0.00	\$32,000.00
TB-Flares/Combusters/Emission	526				\$63,000.00		\$0.00	\$63,000.00
C-Gas Lift/Compression	527			\$15,000.00			\$0.00	\$15,000.00
PEQ-Instrumentation/SCADA/POD	529					\$7,000.00	\$0.00	\$7,000.00
PEQ-Tubing	530					\$5,000.00	\$0.00	\$5,000.00
PEQ-Wellhead Equipment	531					\$3,000.00	\$0.00	\$3,000.00
PEQ-Pumps	532					\$5,000.00	\$0.00	\$5,000.00
PEQ-Electrical System	533					\$15,000.00	\$0.00	\$15,000.00
PEQ-Packers/Anchors/Hangers	534					\$70,000.00	\$0.00	\$70,000.00
PEQ-Miscellaneous	535					\$3,000.00	\$0.00	\$3,000.00
Total Tangible Costs		\$0.00	\$1,008,000.00	\$160,600.00	\$939,825.00	\$249,000.00	\$0.00	\$2,357,425.00
Intangible Costs								
PS-Title/Permits	201	\$9,000.00					\$0.00	\$9,000.00
D-Insurance	202	\$2,500.00					\$0.00	\$2,500.00
PS-Damages/ROW	203	\$15,000.00					\$0.00	\$15,000.00
PS-Survey/Stake Lctn	204	\$1,000.00					\$0.00	\$1,000.00
D-Lctn/Pits/Roads	205		\$135,000.00				\$0.00	\$135,000.00
D-Drilling Overhead	206		\$10,200.00				\$0.00	\$10,200.00
D-Daywork Contract	209		\$855,000.00				\$0.00	\$855,000.00
D-Directional Dring Services	210		\$342,000.00				\$0.00	\$342,000.00
D-Fuel & Power	211		\$194,000.00				\$0.00	\$194,000.00
D-Water	212		\$55,000.00				\$0.00	\$55,000.00
D-Bits	213		\$118,000.00				\$0.00	\$118,000.00
D-Mud & Chemicals	214		\$250,000.00				\$0.00	\$250,000.00
D-Cement Surface	217		\$22,000.00				\$0.00	\$22,000.00
D-Cement Intermed	218		\$40,000.00				\$0.00	\$40,000.00
D-Prod-2nd Int Cmt	219		\$185,000.00				\$0.00	\$185,000.00
D-Float Equipment & Centralizers	221		\$75,000.00				\$0.00	\$75,000.00
D-Csg Crews & Equip	222		\$60,000.00				\$0.00	\$60,000.00
D-Geologic/Engng	224		\$10,200.00				\$0.00	\$10,200.00
D-Contract Labor	225		\$6,500.00				\$0.00	\$6,500.00
D-Company Sprvsn	226		\$61,200.00				\$0.00	\$61,200.00
D-Contract Sprvsn	227		\$146,000.00				\$0.00	\$146,000.00
D-Tslg Csg/Tbg	228		\$30,000.00				\$0.00	\$30,000.00
D-Mud Logging Unit	229		\$42,000.00				\$0.00	\$42,000.00
D-Perf/Wireline Svc	231		\$4,000.00				\$0.00	\$4,000.00
D-Rentals-Surface	235		\$230,000.00				\$0.00	\$230,000.00
D-Rentals-Subsrfc	236		\$180,000.00				\$0.00	\$180,000.00
D-Trucking/Forklift/Rig Mob	237		\$250,000.00				\$0.00	\$250,000.00
D-Welding Services	238		\$3,000.00				\$0.00	\$3,000.00
D-Contingency	243		\$68,000.00				\$0.00	\$68,000.00
D-Envrmtl/Clsd Loop	244		\$330,000.00				\$0.00	\$330,000.00
D-Lctn/Pits/Roads	305			\$10,000.00			\$0.00	\$10,000.00
C-Completion OH	306			\$15,000.00			\$0.00	\$15,000.00
C-Frac Equipment	307			\$1,796,000.00			\$0.00	\$1,796,000.00
C-Frac Chemicals	308			\$484,000.00			\$0.00	\$484,000.00
C-Frac Proppant	309			\$397,000.00			\$0.00	\$397,000.00
C-Frac Proppant Transportation	310			\$392,000.00			\$0.00	\$392,000.00
C-Fuel Delivery & Services	311			\$68,000.00			\$0.00	\$68,000.00
C-Water	312			\$947,000.00			\$0.00	\$947,000.00
C-Bits	313			\$9,000.00			\$0.00	\$9,000.00
C-Mud & Chemicals	314			\$25,000.00			\$0.00	\$25,000.00
C-Contract Labor	325			\$8,200.00			\$0.00	\$8,200.00
C-Company Sprvsn	326			\$15,000.00			\$0.00	\$15,000.00
C-Contract Sprvsn	327			\$268,000.00			\$0.00	\$268,000.00
C-Tslg Csg/Tbg	328			\$5,000.00			\$0.00	\$5,000.00
C-Perf/Wireline Svc	331			\$577,000.00			\$0.00	\$577,000.00
C-Stimulation/Treating	332			\$12,000.00			\$0.00	\$12,000.00
C-Completion Unit	333			\$60,000.00			\$0.00	\$60,000.00
C-Rentals-Surface	335			\$385,000.00			\$0.00	\$385,000.00
C-Rentals-Subsrfc	336			\$75,000.00			\$0.00	\$75,000.00
C-Trucking/Forklift/Rig Mob	337			\$22,500.00			\$0.00	\$22,500.00
C-Welding Services	338			\$5,000.00			\$0.00	\$5,000.00
C-Water Disposal	339			\$60,000.00			\$0.00	\$60,000.00
C-Contingency	343			\$250,000.00			\$0.00	\$250,000.00
C-Envrmtl/Clsd Loop	344			\$5,000.00			\$0.00	\$5,000.00
C-Dyed Diesel	345			\$476,000.00			\$0.00	\$476,000.00
C-Drillout	346			\$700,000.00			\$0.00	\$700,000.00
C-Flowback Crews & Equip	347			\$48,000.00			\$0.00	\$48,000.00
TB-Location/Pits/Roads	353				\$40,000.00		\$0.00	\$40,000.00
TB-Contract Labor	356				\$225,000.00		\$0.00	\$225,000.00
TB-Rentals-Surface	359				\$38,000.00		\$0.00	\$38,000.00
TB-Welding Services	361				\$60,000.00		\$0.00	\$60,000.00
TB-Water Disposal	362				\$135,000.00		\$0.00	\$135,000.00
PEQ-Contract Labor	374					\$6,500.00	\$0.00	\$6,500.00
PEQ-Contract Supervision	376					\$5,000.00	\$0.00	\$5,000.00
PEQ-Completion Unit	381					\$10,800.00	\$0.00	\$10,800.00

PEQ-Rentals-Surface	383					\$7,000.00	\$0.00	\$7,000.00
PEQ-Trkg/Forklift/Rig Mobilization	385					\$3,000.00	\$0.00	\$3,000.00
Total Intangible Costs		\$27,500.00	\$3,702,100.00	\$7,094,700.00	\$498,000.00	\$32,300.00	\$0.00	\$11,354,600.00
Total Gross Cost		\$27,500.00	\$4,710,100.00	\$7,255,300.00	\$1,437,825.00	\$281,300.00	\$0.00	\$13,712,025.00

Note: The above costs are estimates only. Actual costs will be billed as incurred.

COG Operating LLC

By: _____

We approve:
_____% Working Interest

Company: _____
By: _____

Printed Name: _____
Title: _____
Date: _____

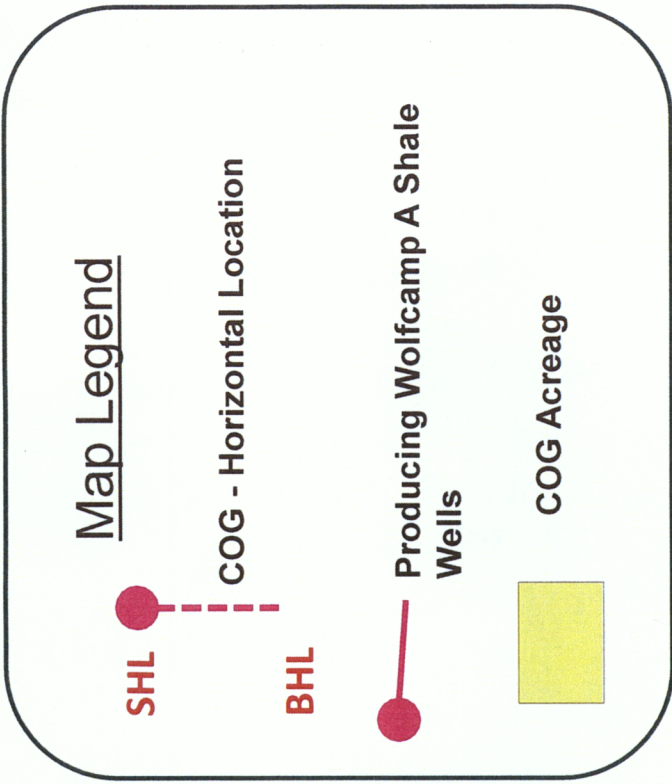
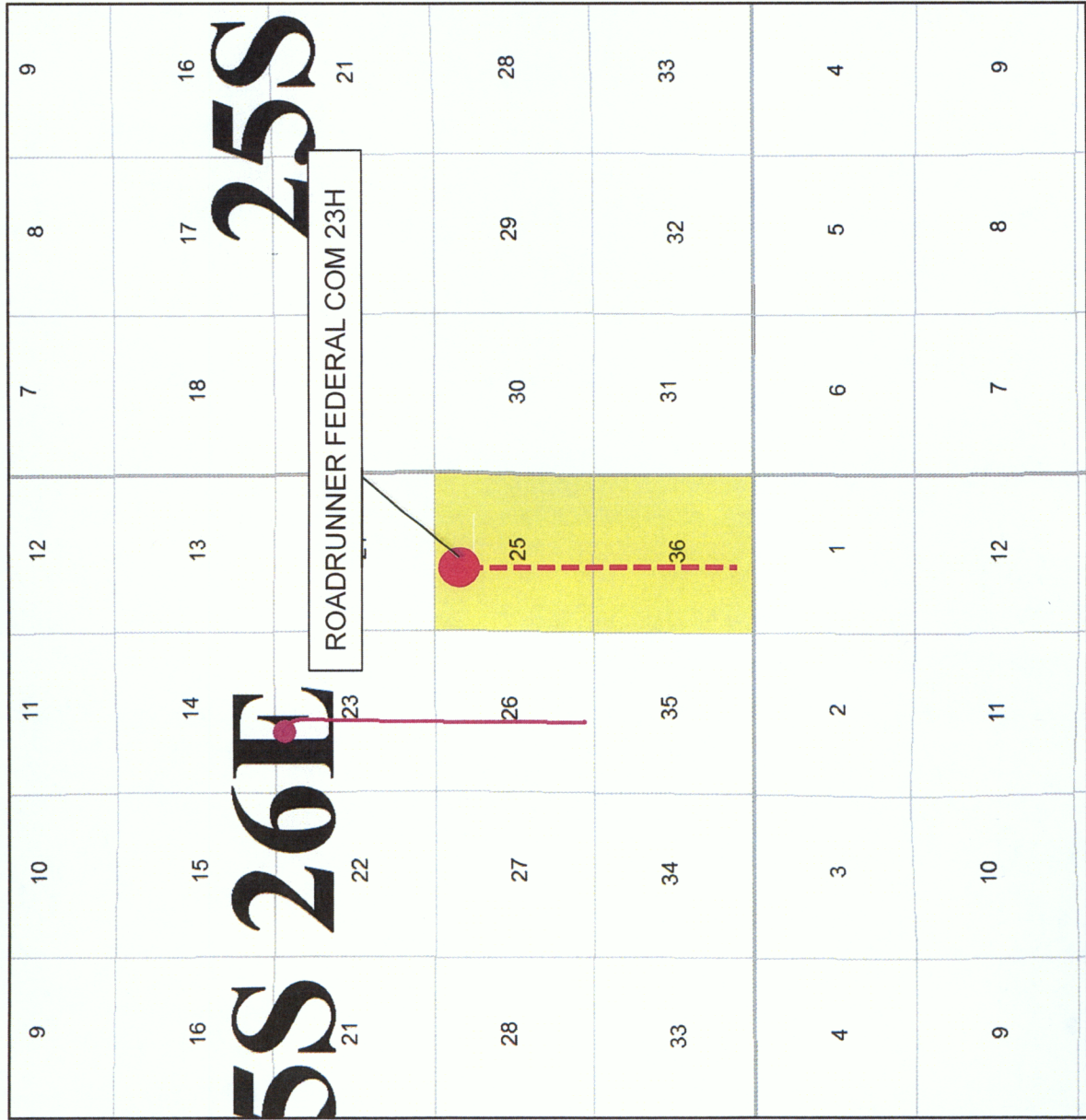
Date Prepared: _____

COG Operating LLC

By: _____

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

Roadrunner Federal Com 23H Location

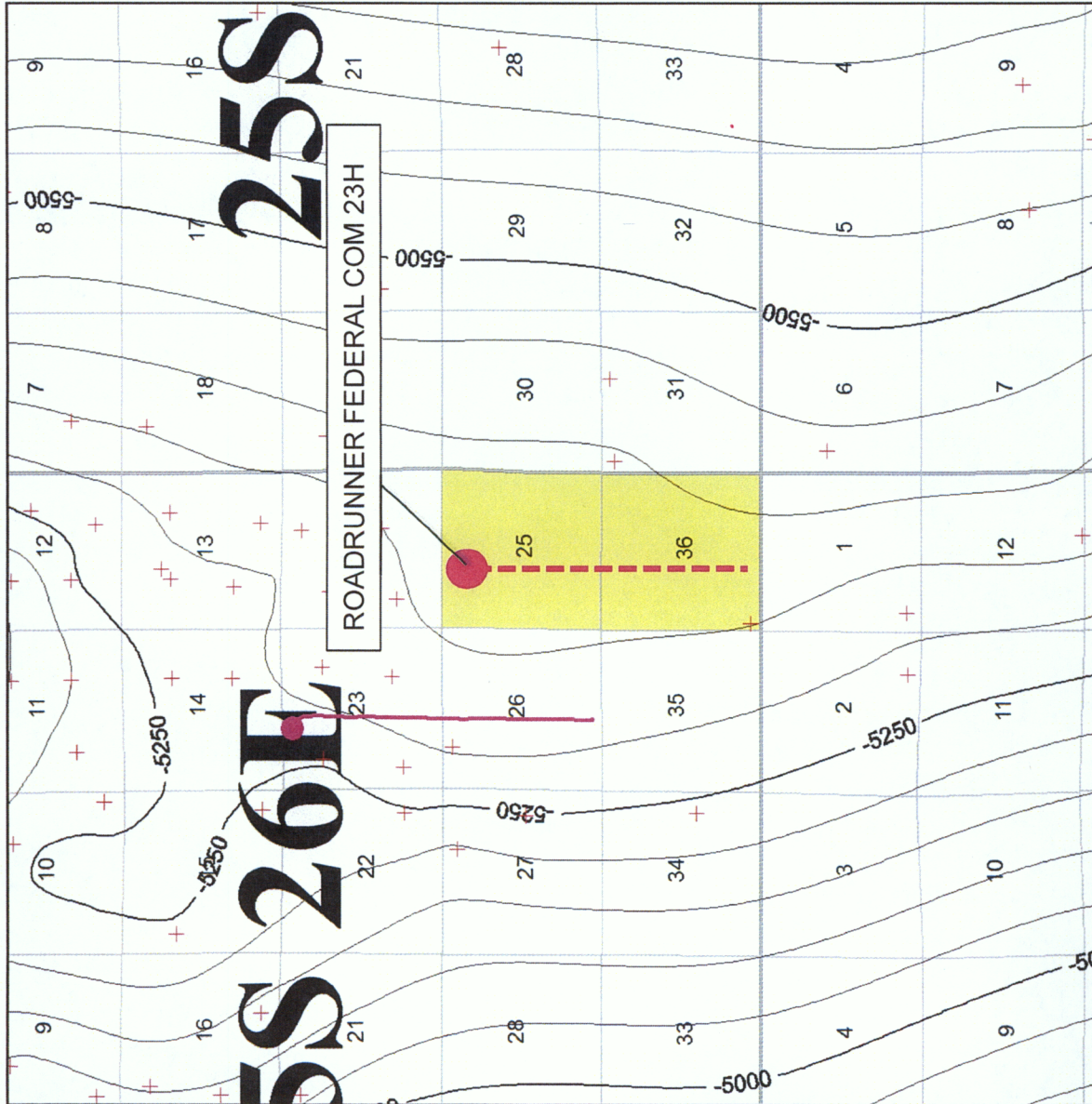


OCD Case No. 16378
COG OPERATING
Exhibit #8

Structure Map

OCD Case No. 16378

COG OPERATING
Exhibit #9



Map Legend

SHL

COG - Horizontal Location

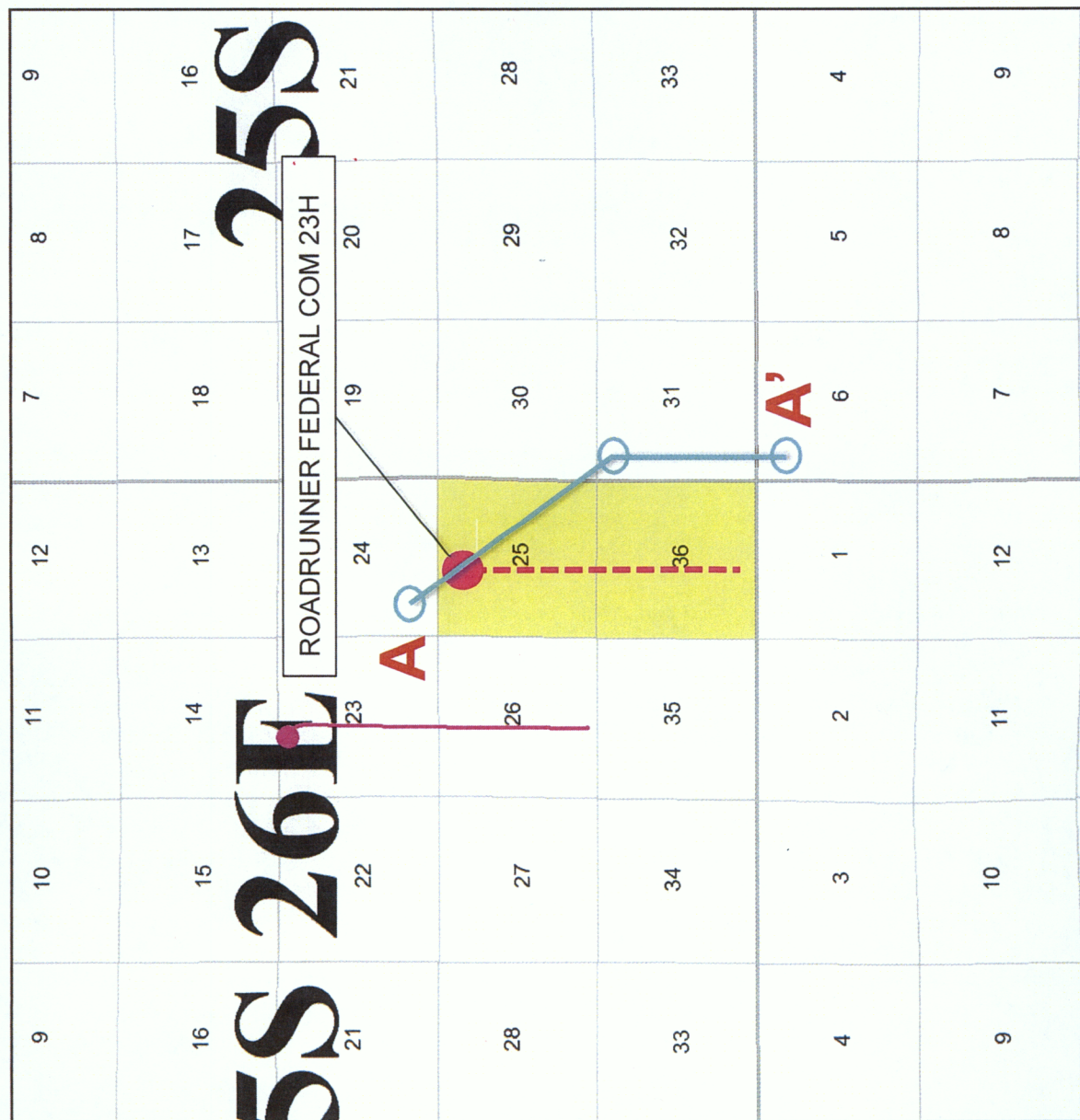
BHL

Producing Wolfcamp A Shale
Wells

COG Acreage

Wolfcamp Top Structure
Cl: 50'

Roadrunner Federal Com 23H Location



OCD Case No. 16378

COG OPERATING
Exhibit #10

Stratigraphic Cross Section A – A'

