

Submit 3 Copies to Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-015-35897	
5. Indicate Type of Lease FEDERAL STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name REINDEER 21 FEDERAL	
8. Well Number 2	
9. OGRID Number 229137	
10. Pool name or Wildcat WILDCAT; ABO	

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

COG Operating LLC

3. Address of Operator

550 W. Texas Ave., Suite 1300

Midland, TX 79701

4. Well Location

Unit Letter **A** : **330'** feet from the **North** line and **330'** feet from the **East** line

Section **21**

Township **16S**

Range **28E**

NMPM

County **EDDY**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

3599' GR

Pit or Below-grade Tank Application ☐ or Closure ☒

Pit type **DRILLING** Depth to Groundwater **100'** Distance from nearest fresh water well **1000'** Distance from nearest surface water **1000'**

Pit Liner Thickness: **12 mil** Below-Grade Tank: Volume **bbls**; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: **Change Pool** ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ P AND A ☐

CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

COG Operating LLC respectfully requests permission to change the pool from Wolfcamp to Abo.
Attached is a revised plat and drilling plan, and approval from the Bureau of Land Management.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Phyllis Edwards TITLE Regulatory Analyst DATE 4-24-08

Type or print name **Phyllis Edwards** E-mail address: **pedwards@conchoresources.com** Telephone No. **432-685-4340**
For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

FOR RECORDS ONLY

DISTRICT I
1826 N. French Dr., Hobbs, NM 58240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1226 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2006

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-35897	Pool Code	Pool Name WILDCAT; ABO
Property Code 36817	Property Name REINDEER "21" FEDERAL	Well Number 2
OGRID No. 229137	Operator Name C.O.G. OPERATING L.L.C.	Elevation 3599'

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	21	16 S	28 E		330	NORTH	330	EAST	EDDY

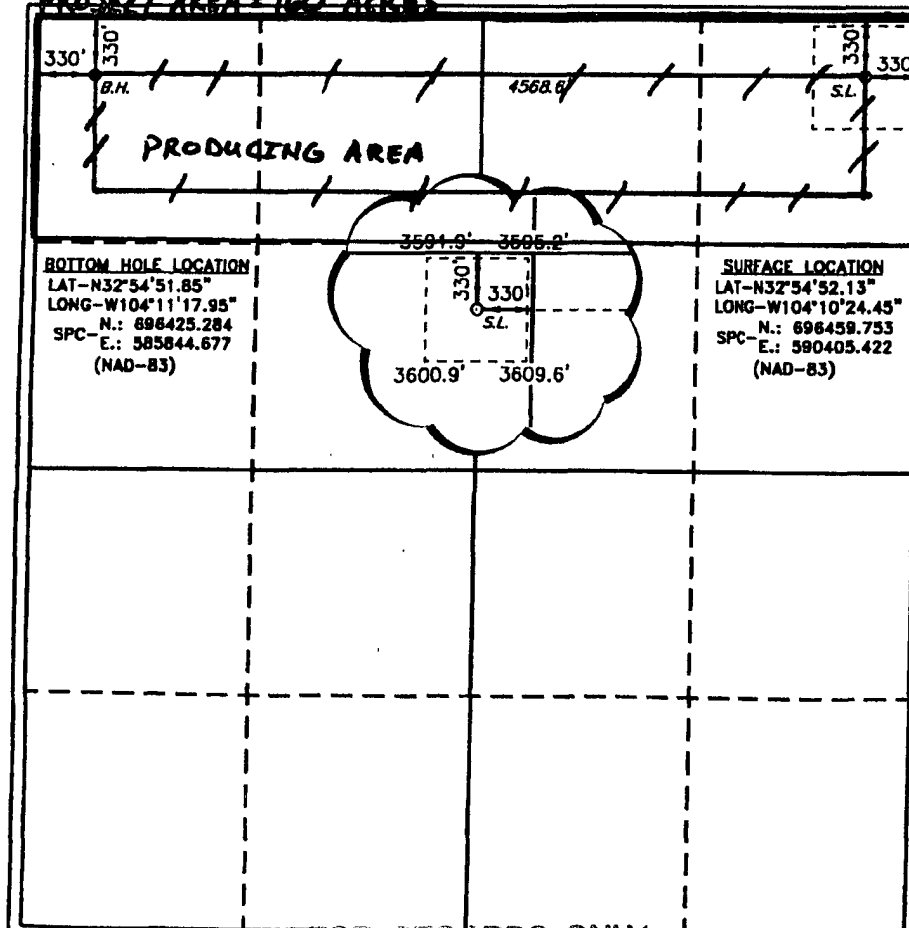
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	16 S	28 E		330	NORTH	330	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

PROJECT AREA = 160 ACRES



OPERATOR CERTIFICATION

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

Phyllis A. Edwards 4/24/07
Signature Date

PHYLLIS A. EDWARDS
Printed Name
REGULATORY ANALYST

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.

AUGUST 07, 2007

Date Surveyed
Signature of Professional Surveyor

W.O. 3585

Certificate No. Gary L. Jones 7977

Basin Surveys

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APR-21-08 02:43PM FROM-CONCHO

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T-127 P.02/05 F-858

Form 3160-5
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

5. Lease Serial No. NUMTMS-100844
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No. Raindeer 31 Federal #2
9. API Well No. 30-015-35897
10. Field and Pool, or Exploratory Area Crew Flank, Abo
11. County or Parish, State Eddy County, NM

SUBMIT IN TRIPLICATE- Other Instructions on reverse side.

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	
2. Name of Operator COG Operating LLC	
3a. Address 550 W. Tatum Ave., Suite 1300 Midland, TX 79701	3b. Phone No. (include area code) 432-685-4348
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SURFACE: 330' FNL & 330' FEL Section 21, T16S, R28E, UL A BHL: 330' FNL & 330' FWL Section 21, T16S, R28E, UL D	

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recombine	<input checked="" type="checkbox"/> Other Change pool & submit revised drilling plan
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompletes horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating LLC respectfully requests permission to change the pool from Wolfcamp to Abo.
Attached is a revised drilling plan to reflect change.

**SUBJECT TO LIKE
APPROVAL BY STATE**

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Phyllis A. Edwards

Title Regulatory Analyst

Signature

Phyllis A. Edwards

Date

04/21/2008

APPROVED

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or
certify that the applicant holds legal or equitable title to those rights in the subject lease
which would entitle the applicant to conduct operations thereon.

Title

Office

APR 23 2008

Date

WESLEY W. INGRAM
PETROLEUM ENGINEER

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

FOR RECORDS ONLY

**Reindeer 21 Federal 2
COG Operating LLC
April 23, 2008
Conditions of Approval**

- 1. Pool changes have to be approved by NMOCD. Copy of Approval must be in BLM CFO prior to drilling second intermediate. Note – COG may want to send copy of this sundry to NMOCD for more rapid review.**
- 2. Well bore for 9-5/8" casing to be drilled with fresh water.**
- 3. Operator shall provide method of verification that TOC on 7" is a minimum of 200' inside 9-5/8" casing.**
- 4. Production liner packer assembly to be a minimum of 200' inside 7" casing.**
- 5. Packer on production liner is to be tested per Onshore Oil and Gas Order 2.III.B.1.b. Please call BLM for witness of seal test.**

WWI 042308

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APR-21-08 02:44PM FROM-CONCHO

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T-127 P.04/05 F-858

ATTACHMENT TO FORM 3160-3
COG Operating LLC
Reindeer "21" Federal # 2
Page 2 of 3

7. Cement Program

13 3/8" Surface Casing set at +/- 500', Circ to Surf with +/- 500 sx Class "C" w/ 2% CaCl₂, 1.35 yd.

9 5/8" Intermediate Casing set at +/- 1800', Circ. to Surf with +/- 600 sx 35/65 Poz "C", 2.05 yd. & 200 sx Class "C" w/ 2% CaCl₂, 1.35 yd.

7" Production Casing set at +/- 6100' MD, Cement with +/- 500 sx. 50/50/10 "C", 2.45 yd & +/- 200 sx Class "H", 1.18 yd., Est. TOC @ 200' minimum tie back into intermediate casing.

4 1/2" Production Liner set from +/- 5950' to +/-11150' MD, 6555' TVD, Liner run with +/- 5 isolation Packers and Sliding sleeves in un-cemented Lateral.

8. Pressure Control Equipment:

After setting 13 3/8" casing and installing 3000 psi casing head, NU 13 5/8" 3000 psi annular BOP. Test annular BOP, casing and manifold with clear fluid to 1000 psi w/ rig pump.

After setting 9 5/8" casing and installing 3000 psi casing spool, NU 3000 psi double ram BOP and 3000 psi annular BOP. Test double ram BOP and manifold to 3000# with clear fluid and annular to 1500 psi using an independent tester, this equipment will be used continuously until TD is reached. Blind rams will be operationally checked on each trip out of hole. Pipe rams will be operationally checked each 24 hour period. These checks will be noted on daily tour sheets. Other accessories to the BOP equipment include a Kelly cock and floor safety valves, choke lines and choke manifold with 3000 psi WP rating.

9. Proposed Mud Circulating System

Interval	Mud Wt.	Visc.	FL	Type Mud System
0' - 500'	8.5	28	NC	Fresh water native mud w/ paper for seepage and sweeps. Lime for PH.
500' - 1800'	9.1	30	NC	Brine mud, lime for PH and paper for seepage and sweeps.
1800' - 5300'	9.1	29	NC	Drill section with fresh water/cut brine circulating the reserve utilizing periodic sweeps of paper as needed for seepage control and solids removal.
5300' - 11150'	9.5	36	10	Drill horizontal section with XCD polymer / cut brine / starch.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

10. Production Hole Drilling Summary:

Drill 8-3/4" pilot hole thru Top Basal Abo to +/- 6700', run open hole logs. Spot 350 sx. "H" Kick off plug from +/- 6700' to +/-6000'. Dress off to 6100' and set 7" production casing. Drill 6-1/8" hole and kick off at +/- 6200', building curve over +/- 350' to horizontal at 6555' TVD. Drill horizontal section in an westerly direction for +/-4500' lateral to TD at +/-11150' MD. Run 4-1/2" production liner in Open hole lateral and set isolation packers.

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T-127 P.05/05 F-858

**ATTACHMENT TO FORM 3160-3
COG Operating LLC
Reindeer #21" Federal # 2
Page 3 of 3**

11. Auxiliary Well Control and Monitoring Equipment

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

12. Logging, Testing and Coring Program:

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be ran from T.D. in Pilot hole to 9 5/8" casing shoe.
- B. The mud logging program will consist of lagged 10' samples from intermediate casing point to T.D. in vertical pilot hole and from Kick off point to TD in Horizontal hole.
- C. Drill Stem test is not anticipated.
- D. No conventional coring is anticipated.
- E. Further testing procedures will be determined after the 5 1/2" production casing has been cemented at TD based on drill shows and log evaluation.

13. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and estimated maximum bottom hole pressure is 2838 psig. Low levels of Hydrogen sulfide have been monitored in producing wells in the area, so H2S may be present while drilling of the well. An H2S plan is attached to the Drilling Program. No major loss of circulation zones has been reported in offsetting wells.

14. Anticipated Starting Date

Drilling operations will commence approximately on October 15 2007 with drilling and completion operations lasting approximately 45 days.

FOR RECORDS ONLY

APR-21-08 02:44PM FROM-CONCHO

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T-127 P.03/05 F-859

ATTACHMENT TO FORM 3160-3
COG Operating LLC
Reindeer "21" Federal # 2
SL: 330' FNL & 330' FEL, Unit A
BHL: 330' FNL & 330' FWL, Unit D
Sec 21, T16S, R28E
Eddy County, NM
Revised 4/21/08

1. Proration Unit Spacing: 180 Acres
2. Ground Elevation: 3599'
3. Proposed Depths: Pilot hole TD = 6700', Horizontal TVD = 6555', Horizontal MD = 11600'
4. Estimated tops of geological markers:

Quaternary	Surface
Yates/Seven Rivers	600'
Queens	1120'
San Andres	1940'
Glorietta	3350'
Abo	5375'
Top Basal Abo	6520'

5. Possible mineral bearing formations:

Water Sand	Fresh Water	150'
San Andres	Oil / Gas	1940'
Glorietta	Oil / Gas	3350'
Abo	Oil / Gas	5375'
Top Basal Abo	Oil / Gas	6520'

6. Casing Program

<u>Hole size</u>	<u>Interval</u>	<u>OD of Casing</u>	<u>Weight</u>	<u>Cond.</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0' - +/-500'	13-3/8"	48#	New	STC	H40
Collapse sf - 2.98, Burst sf - 2.33, Tension sf - 13.42						
12 1/4"	0' - 1800'	9-5/8"	40#	New	STC	J-55
Collapse sf - 2.86, Burst sf - 1.42, Tension sf - 7.22						
8-3/4"	0' - 6100'MD	7"	28#	New	LTC	P-110
Collapse sf - 2.18, Burst sf - 1.53, Tension sf - 4.37						
6-1/8"	5950' - 11150'MD	4-1/2"	11.6#	New	BTC	P-110
Collapse sf - 2.47, Burst sf - 1.64, Tension sf - 4.48						

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