

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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.*5. Lease Serial No.
NMNM121474

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

RIDGE NOSE FEDERAL COM 1H

2. Name of Operator

COG PRODUCTION LLC

Contact: MAYTE X REYES

E-Mail: mreyes1@concho.com

9. API Well No.

30-015-42391-00-X1

3a. Address

2208 W MAIN STREET
ARTESIA, NM 88210

3b. Phone No. (include area code)

Ph: 575-748-6945

10. Field and Pool, or Exploratory
WILDCAT

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 31 T26S R29E Lot 6 200FSL 2310FEL
32.000509 N Lat, 104.022282 W Lon

11. County or Parish, and State

EDDY COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A PD
	☐ Convert to Injection	☐ Plug Back	☐ 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 recompleat 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 recompleat 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 Production LLC, respectfully requests approval for the following changes to the original approved APD.

BHL
From: 1650' FNL & 2310' FEL
To: 330' FNL & 2310' FEL

Accepted for record
20 NMCD 12/19/14

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 18 2014

Request to revise directional plan due to change in lateral length/TD due to additional 40 acres allocated to this well. Old TD was 11,828' MD 6330' TVD. New TD 13,151' MD / 6370' TVD. (Revised directional plan attached).

Production Cementing Program adjusted for the additional footage in the lateral:
Lead : 350 sx 50:50:10 H Blend (11.9 ppg / 2.51 cuft/sx 14.1 gal/sx)

RECEIVED

Original On File

14. I hereby certify that the foregoing is true and correct:

Electronic Submission #258680 verified by the BLM Well Information System
For COG PRODUCTION LLC, sent to the Carlsbad
Committed to AFMSS for processing by JENNIFER MASON on 12/17/2014 (15JAM0130SE)

Name (Printed/Typed) MAYTE X REYES

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 08/28/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

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.

Office

APPROVED

DEC 17 2014

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

Additional data for EC transaction #258880 that would not fit on the form

32. Additional remarks, continued

Tail: 1450 sx 50:50:2 H + Salt + GasStop + CFR-3 (14.4 ppg ? 1.24 cuft/sx 6.4 gal/sk)
(Volumes based on 35% OH excess)

C102 and directional plan attached.

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (505) 334-0181 Fax: (505) 334-0720

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210
Phone: (505) 745-1853 Fax: (505) 745-9720

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

DISTRICT IV
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
11885 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-42391	Pool Code 8080	Pool Name Brushy Draw; Delaware
Property Code 313299	Property Name RIDGE NOSE FEDERAL COM	Well Number 1H
OGRID No. 217955	Operator Name COG PRODUCTION, LLC	Elevation 2900.7

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
6	31	26-S	29-E		200	SOUTH	2310	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
B	30	26-S	29-E		330	NORTH	2310	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
226.27			

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

NAD 27 PROPOSED BOTTOM HOLE LOCATION
Y=371093.2 N
X=596439.3 E
LAT.=32.019868° N
LONG.=104.022167° W

NAD 27 SURFACE LOCATION
Y=364051.3 N
X=596423.9 E
LAT.=32.000509° N
LONG.=104.022282° W

As per LR2000
Lot 6 26.27 Ac
NMNM121474

NAD 27 PROPOSED BOTTOM HOLE LOCATION
Y=371424.4 N
X=596109.6 E

NAD 27 SURFACE LOCATION
Y=371419.5 N
X=597430.0 E

NAD 27 PROPOSED BOTTOM HOLE LOCATION
Y=363849.6 N
X=596085.2 E

NAD 27 SURFACE LOCATION
Y=363856.0 N
X=597409.7 E

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 Melanie J Parker Date 8/28/14
Printed Name Melanie J Parker
E-mail Address mparker@concho.com

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.

APRIL 23, 2013
Date of Survey

Signature & Seal of Professional Surveyor

Certificate No. CHAD HARCROW 17777
W.O. # 14-443 DRAWN BY: VD



COMPANY: COG Operating, LLC.
WELL: Ridge Nose Federal Com #1H
COUNTY: Eddy County, N.M.
DATUM: NAD 1927 (NADCON CONUS)



GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.22°

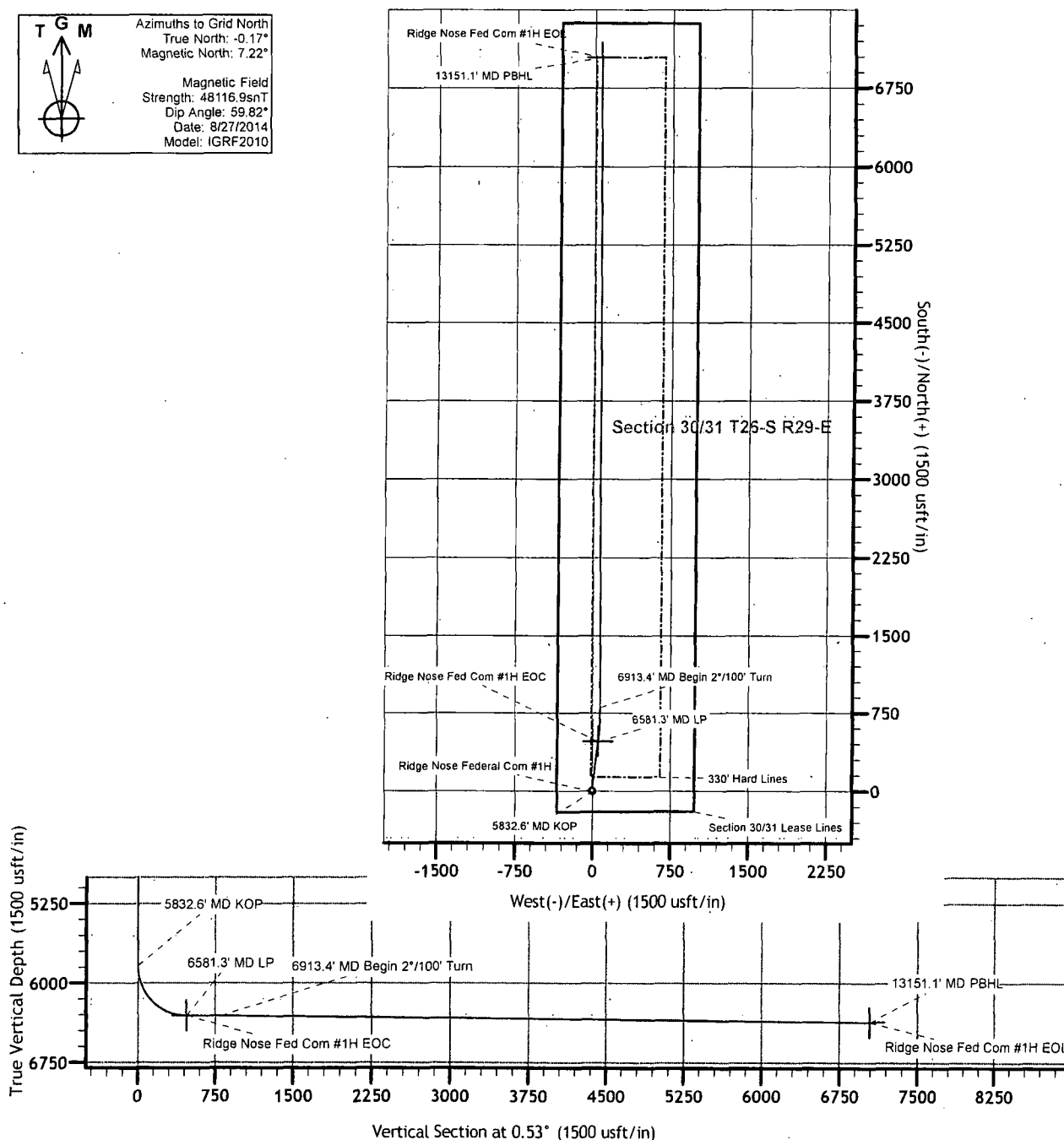
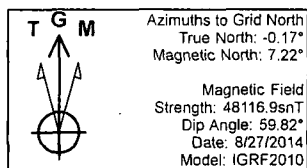
OFFICE: 936.582.7296

GEODETIC ZONE: New Mexico East 3001
GL 2900.7+18 @ 2918.7usft (Silver Oak 7)
GROUND ELEVATION: 2900.7

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.0	0.0	364051.30	596423.90	32° 0' 1.833 N	104° 1' 20.216 W	

PLAN SECTIONS

Sec.	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5832.6	0.00	0.00	5832.6	0.0	0.0	0.00	0.00	0.0	
3	6581.3	89.86	6.56	6310.0	473.1	54.4	12.00	6.56	473.6	Ridge Nose Fed Com #1H EOC
4	6913.4	89.47	359.93	6312.0	804.5	73.2	2.00	-93.39	805.1	
5	13151.1	89.47	359.93	6370.0	7041.9	65.4	0.00	0.00	7042.2	Ridge Nose Fed Com #1H EOL



COG Operating, LLC.

Eddy County, N.M.

Section 30/31 T26-S R29-E, Ridge Nose Fed Com #1H

Ridge Nose Federal Com #1H

Original Hole

Plan: Plan #2

Standard Planning Report

27 August, 2014

Stryker Directional Planning Report

Database:	Stryker_EDM	Local Co-ordinate Reference:	Well Ridge Nose Federal Com #1H
Company:	COG Operating LLC	TVD Reference:	GL: 2900.7 + 18 @ 2918.7usft (Silver Oak 7)
Project:	Eddy County, N.M.	MD Reference:	GL: 2900.7 + 18 @ 2918.7usft (Silver Oak 7)
Site:	Section 30/31 T26 S R29 E Ridge Nose Fed Com #1H	North Reference:	Grid
Well:	Ridge Nose Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Project:	Eddy County, N.M.		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site: Section 30/31 T26 S R29 E Ridge Nose Fed Com #1H					
Site Position:		Northing:	364,051.30 usft	Latitude:	32° 0' 1.833 N
From:	Map	Easting:	596,423.90 usft	Longitude:	104° 1' 20.216 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.16 °

Well:	Ridge Nose Federal Com #1H					
Well Position	+N/-S	0.0 usft	Northing:	364,051.30 usft	Latitude:	32° 0' 1.833 N
	+E/-W	0.0 usft	Easting:	596,423.90 usft	Longitude:	104° 1' 20.216 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	2,900.7 usft

Wellbore		Original Hole			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/27/2014	7.38	59.82	48,117

Design: Plan #2				
Audit Notes:				
Version:		Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	0.53

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E/W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,832.6	0.00	0.00	5,832.6	0.0	0.0	0.00	0.00	0.00	0.00	
6,581.3	89.86	6.56	6,310.0	473.1	54.4	12.00	12.00	0.88	6.56	Ridge Nose Fed Cc
6,913.4	89.47	359.93	6,312.0	804.5	73.2	2.00	-0.12	-2.00	-93.39	
13,151.1	89.47	359.93	6,370.0	7,041.9	65.4	0.00	0.00	0.00	0.00	Ridge Nose Fed Cc

Stryker Directional Planning Report

Database	Stryker EDM	Local Co-ordinate Reference:	Well Ridge Nose Federal Com #1H
Company	COG Operating LLC	TVD Reference:	GL 2900'7.18 @ 2918.7usft (Silver Oak 7)
Project	Eddy County N.M.	MD Reference:	GL 2900'7.18 @ 2918.7usft (Silver Oak 7)
Site	Section 30/31 T26 S R29 E Ridge Nose Fed Com #1H	North Reference:	Grid
Well	Ridge Nose Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore	Original Hole		
Design	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00

Stryker Directional

Planning Report

Database:	Stryker_EDM	Local Co-ordinate Reference:	Well Ridge Nose Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	GL 2900.7+18 @ 2918.7usft (Silver Oak-7)
Project:	Eddy County, N.M.	MD Reference:	GL 2900.7+18 @ 2918.7usft (Silver Oak-7)
Site:	Section 30/31 T26-S R29-E, Ridge Nose Fed Com #1H	North Reference:	Grid
Well:	Ridge Nose Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,832.6	0.00	0.00	5,832.6	0.0	0.0	0.0	0.00	0.00	0.00
5832.6' MD KOP									
5,850.0	2.09	6.56	5,850.0	0.3	0.0	0.3	12.00	12.00	0.00
5,875.0	5.09	6.56	5,874.9	1.9	0.2	1.9	12.00	12.00	0.00
5,900.0	8.09	6.56	5,899.8	4.7	0.5	4.7	12.00	12.00	0.00
5,925.0	11.09	6.56	5,924.4	8.9	1.0	8.9	12.00	12.00	0.00
5,950.0	14.09	6.56	5,948.8	14.3	1.6	14.3	12.00	12.00	0.00
5,975.0	17.09	6.56	5,972.9	20.9	2.4	21.0	12.00	12.00	0.00
6,000.0	20.09	6.56	5,996.6	28.9	3.3	28.9	12.00	12.00	0.00
6,025.0	23.09	6.56	6,019.8	38.0	4.4	38.0	12.00	12.00	0.00
6,050.0	26.09	6.56	6,042.6	48.3	5.6	48.4	12.00	12.00	0.00
6,075.0	29.09	6.56	6,064.7	59.8	6.9	59.9	12.00	12.00	0.00
6,100.0	32.09	6.56	6,086.2	72.5	8.3	72.5	12.00	12.00	0.00
6,125.0	35.09	6.56	6,107.1	86.2	9.9	86.3	12.00	12.00	0.00
6,150.0	38.09	6.56	6,127.1	101.0	11.6	101.1	12.00	12.00	0.00
6,175.0	41.09	6.56	6,146.4	116.8	13.4	117.0	12.00	12.00	0.00
6,200.0	44.09	6.56	6,164.8	133.7	15.4	133.8	12.00	12.00	0.00
6,225.0	47.09	6.56	6,182.3	151.4	17.4	151.5	12.00	12.00	0.00
6,250.0	50.09	6.56	6,198.8	170.0	19.5	170.2	12.00	12.00	0.00
6,275.0	53.10	6.56	6,214.3	189.5	21.8	189.7	12.00	12.00	0.00
6,300.0	56.10	6.56	6,228.8	209.7	24.1	209.9	12.00	12.00	0.00
6,325.0	59.10	6.56	6,242.2	230.7	26.5	230.9	12.00	12.00	0.00
6,350.0	62.10	6.56	6,254.5	252.3	29.0	252.6	12.00	12.00	0.00
6,375.0	65.10	6.56	6,265.6	274.6	31.6	274.8	12.00	12.00	0.00
6,400.0	68.10	6.56	6,275.5	297.4	34.2	297.7	12.00	12.00	0.00
6,425.0	71.10	6.56	6,284.3	320.6	36.9	321.0	12.00	12.00	0.00
6,450.0	74.10	6.56	6,291.7	344.3	39.6	344.7	12.00	12.00	0.00
6,475.0	77.10	6.56	6,297.9	368.4	42.4	368.8	12.00	12.00	0.00
6,500.0	80.10	6.56	6,302.9	392.7	45.2	393.1	12.00	12.00	0.00
6,525.0	83.10	6.56	6,306.5	417.3	48.0	417.7	12.00	12.00	0.00
6,550.0	86.10	6.56	6,308.9	442.0	50.8	442.5	12.00	12.00	0.00
6,575.0	89.10	6.56	6,309.9	466.8	53.7	467.3	12.00	12.00	0.00
6,581.3	89.86	6.56	6,310.0	473.1	54.4	473.6	12.00	12.00	0.00
6581.3' MD LP									
6,600.0	89.84	6.19	6,310.0	491.7	56.5	492.2	2.00	-0.11	-1.99
6,700.0	89.72	4.19	6,310.4	591.3	65.5	591.8	2.00	-0.12	-2.00
6,800.0	89.60	2.19	6,311.0	691.1	71.1	691.7	2.00	-0.12	-2.00
6,900.0	89.48	0.20	6,311.8	791.1	73.2	791.7	2.00	-0.12	-2.00
6,913.4	89.47	359.93	6,312.0	804.5	73.2	805.1	2.00	-0.12	-2.00
6913.4' MD Begin 2°/100' Turn									
7,000.0	89.47	359.93	6,312.8	891.1	73.1	891.7	0.00	0.00	0.00
7,100.0	89.47	359.93	6,313.7	991.1	73.0	991.7	0.00	0.00	0.00
7,200.0	89.47	359.93	6,314.6	1,091.0	72.8	1,091.7	0.00	0.00	0.00
7,300.0	89.47	359.93	6,315.6	1,191.0	72.7	1,191.7	0.00	0.00	0.00
7,400.0	89.47	359.93	6,316.5	1,291.0	72.6	1,291.7	0.00	0.00	0.00
7,500.0	89.47	359.93	6,317.4	1,391.0	72.5	1,391.6	0.00	0.00	0.00
7,600.0	89.47	359.93	6,318.3	1,491.0	72.3	1,491.6	0.00	0.00	0.00

Stryker Directional Planning Report

Database:	Stryker_EDM	Local Co-ordinate Reference:	Well Ridge Nose Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	GL 2900.7+18 @ 2918.7usft (Silver Oak 7)
Project:	Eddy County, N.M.	MD Reference:	GL 2900.7+18 @ 2918.7usft (Silver Oak 7)
Site:	Section 30/31 T26-S R29-E Ridge Nose Fed	North Reference:	Grid
Well:	Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Ridge Nose Federal Com #1H		
Design:	Original Hole		
	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,700.0	89.47	359.93	6,319.3	1,591.0	72.2	1,591.6	0.00	0.00	0.00
7,800.0	89.47	359.93	6,320.2	1,691.0	72.1	1,691.6	0.00	0.00	0.00
7,900.0	89.47	359.93	6,321.1	1,791.0	72.0	1,791.6	0.00	0.00	0.00
8,000.0	89.47	359.93	6,322.1	1,891.0	71.8	1,891.6	0.00	0.00	0.00
8,100.0	89.47	359.93	6,323.0	1,991.0	71.7	1,991.6	0.00	0.00	0.00
8,200.0	89.47	359.93	6,323.9	2,091.0	71.6	2,091.6	0.00	0.00	0.00
8,300.0	89.47	359.93	6,324.9	2,191.0	71.5	2,191.6	0.00	0.00	0.00
8,400.0	89.47	359.93	6,325.8	2,291.0	71.3	2,291.6	0.00	0.00	0.00
8,500.0	89.47	359.93	6,326.7	2,391.0	71.2	2,391.5	0.00	0.00	0.00
8,600.0	89.47	359.93	6,327.7	2,491.0	71.1	2,491.5	0.00	0.00	0.00
8,700.0	89.47	359.93	6,328.6	2,591.0	71.0	2,591.5	0.00	0.00	0.00
8,800.0	89.47	359.93	6,329.5	2,691.0	70.8	2,691.5	0.00	0.00	0.00
8,900.0	89.47	359.93	6,330.4	2,791.0	70.7	2,791.5	0.00	0.00	0.00
9,000.0	89.47	359.93	6,331.4	2,891.0	70.6	2,891.5	0.00	0.00	0.00
9,100.0	89.47	359.93	6,332.3	2,991.0	70.5	2,991.5	0.00	0.00	0.00
9,200.0	89.47	359.93	6,333.2	3,091.0	70.3	3,091.5	0.00	0.00	0.00
9,300.0	89.47	359.93	6,334.2	3,191.0	70.2	3,191.5	0.00	0.00	0.00
9,400.0	89.47	359.93	6,335.1	3,291.0	70.1	3,291.5	0.00	0.00	0.00
9,500.0	89.47	359.93	6,336.0	3,390.9	70.0	3,391.4	0.00	0.00	0.00
9,600.0	89.47	359.93	6,337.0	3,490.9	69.8	3,491.4	0.00	0.00	0.00
9,700.0	89.47	359.93	6,337.9	3,590.9	69.7	3,591.4	0.00	0.00	0.00
9,800.0	89.47	359.93	6,338.8	3,690.9	69.6	3,691.4	0.00	0.00	0.00
9,900.0	89.47	359.93	6,339.7	3,790.9	69.5	3,791.4	0.00	0.00	0.00
10,000.0	89.47	359.93	6,340.7	3,890.9	69.3	3,891.4	0.00	0.00	0.00
10,100.0	89.47	359.93	6,341.6	3,990.9	69.2	3,991.4	0.00	0.00	0.00
10,200.0	89.47	359.93	6,342.5	4,090.9	69.1	4,091.4	0.00	0.00	0.00
10,300.0	89.47	359.93	6,343.5	4,190.9	69.0	4,191.4	0.00	0.00	0.00
10,400.0	89.47	359.93	6,344.4	4,290.9	68.8	4,291.4	0.00	0.00	0.00
10,500.0	89.47	359.93	6,345.3	4,390.9	68.7	4,391.4	0.00	0.00	0.00
10,600.0	89.47	359.93	6,346.3	4,490.9	68.6	4,491.3	0.00	0.00	0.00
10,700.0	89.47	359.93	6,347.2	4,590.9	68.5	4,591.3	0.00	0.00	0.00
10,800.0	89.47	359.93	6,348.1	4,690.9	68.3	4,691.3	0.00	0.00	0.00
10,900.0	89.47	359.93	6,349.1	4,790.9	68.2	4,791.3	0.00	0.00	0.00
11,000.0	89.47	359.93	6,350.0	4,890.9	68.1	4,891.3	0.00	0.00	0.00
11,100.0	89.47	359.93	6,350.9	4,990.9	68.0	4,991.3	0.00	0.00	0.00
11,200.0	89.47	359.93	6,351.8	5,090.9	67.8	5,091.3	0.00	0.00	0.00
11,300.0	89.47	359.93	6,352.8	5,190.9	67.7	5,191.3	0.00	0.00	0.00
11,400.0	89.47	359.93	6,353.7	5,290.9	67.6	5,291.3	0.00	0.00	0.00
11,500.0	89.47	359.93	6,354.6	5,390.9	67.5	5,391.3	0.00	0.00	0.00
11,600.0	89.47	359.93	6,355.6	5,490.9	67.3	5,491.2	0.00	0.00	0.00
11,700.0	89.47	359.93	6,356.5	5,590.8	67.2	5,591.2	0.00	0.00	0.00
11,800.0	89.47	359.93	6,357.4	5,690.8	67.1	5,691.2	0.00	0.00	0.00
11,900.0	89.47	359.93	6,358.4	5,790.8	67.0	5,791.2	0.00	0.00	0.00
12,000.0	89.47	359.93	6,359.3	5,890.8	66.8	5,891.2	0.00	0.00	0.00
12,100.0	89.47	359.93	6,360.2	5,990.8	66.7	5,991.2	0.00	0.00	0.00
12,200.0	89.47	359.93	6,361.1	6,090.8	66.6	6,091.2	0.00	0.00	0.00
12,300.0	89.47	359.93	6,362.1	6,190.8	66.5	6,191.2	0.00	0.00	0.00
12,400.0	89.47	359.93	6,363.0	6,290.8	66.3	6,291.2	0.00	0.00	0.00
12,500.0	89.47	359.93	6,363.9	6,390.8	66.2	6,391.2	0.00	0.00	0.00
12,600.0	89.47	359.93	6,364.9	6,490.8	66.1	6,491.1	0.00	0.00	0.00
12,700.0	89.47	359.93	6,365.8	6,590.8	66.0	6,591.1	0.00	0.00	0.00
12,800.0	89.47	359.93	6,366.7	6,690.8	65.8	6,691.1	0.00	0.00	0.00
12,900.0	89.47	359.93	6,367.7	6,790.8	65.7	6,791.1	0.00	0.00	0.00

Stryker Directional Planning Report

Database:	Stryker EDM	Local Co-ordinate Reference:	Well Ridge Nose Federal Com #1H
Company:	COG Operating LLC	TVD Reference:	GL-2900.7+18 @ 2918.7usft (Silver Oak 7)
Project:	Eddy County N.M.	MD Reference:	GL-2900.7+18 @ 2918.7usft (Silver Oak 7)
Site:	Section 30/31 T26 S R29 E Ridge Nose Fed Com #1H	North Reference:	Grid
Well:	Ridge Nose Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,000.0	89.47	359.93	6,368.6	6,890.8	65.6	6,891.1	0.00	0.00	0.00
13,100.0	89.47	359.93	6,369.5	6,990.8	65.5	6,991.1	0.00	0.00	0.00
13,151.1	89.47	359.93	6,370.0	7,041.9	65.4	7,042.2	0.00	0.00	0.00

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Ridge Nose Fed Com	- plan hits target center	0.00	0.00	6,310.0	473.1	54.4	364,524.40	596,478.30	32° 0' 6.514 N	104° 1' 19.568 W
	- Point									
Ridge Nose Fed Com	- plan hits target center	0.00	0.00	6,370.0	7,041.9	65.4	371,093.20	596,489.30	32° 1' 11.522 N	104° 1' 19.221 W
	- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
5,832.6	5,832.6	0.0	0.0	5832.6' MD KOP
6,581.3	6,310.0	473.1	54.4	6581.3' MD LP
6,913.4	6,312.0	804.5	73.2	6913.4' MD Begin 2°/100' Turn
13,151.1	6,370.0	7,041.9	65.4	13151.1' MD PBHL