

NM OIL CONSERVATION
ARTESIA DISTRICT

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUN 06 2014 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.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. HOBGOBLIN 7 FEDERAL COM LBB 1H
2. Name of Operator COG OPERATING LLC Contact: KELLY J HOLLY E-Mail: kholly@concho.com		9. API Well No. 30-015-41812-00-X1
3a. Address ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 432-685-4384	10. Field and Pool, or Exploratory LOCO HILLS
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 7 T17S R30E NENE 330FNL 150FEL 32.855290 N Lat, 104.002740 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
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 Operating LLC respectfully requests to change the TVD and name of this well:

FROM: Hobgoblin 7 Federal Com LBB #1H

TO: Hobgoblin 7 Federal Com PDK #1H 313343

FROM: 5527' TVD; 10093' MD

TO: 4552' TVD; 9118' MD

Attached is the revised C-102 and directional plan.

Accepted for record
NMOCD 10-6-14
original COAs still stand

Additional cement may be needed on 75-1/2" casing 2%

14. I hereby certify that the foregoing is true and correct. Electronic Submission #246534 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by CATHY QUEEN on 05/28/2014 (14CQ0062SE)	
Name (Printed/Typed) KELLY J HOLLY	Title PERMITTING TECH
Signature (Electronic Submission)	Date 05/21/2014
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
JUN 2 2014
[Signature]
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 ****

Revisions to Operator-Submitted EC Data for Sundry Notice #246534

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM117122	NMNM7752
Agreement:		
Operator:	COG OPERATING LLC 600 W ILLINOIS AVE MIDLAND, TX 79701 Ph: 432-685-4384	COG OPERATING LLC ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701 Ph: 432.685.4385
Admin Contact:	KELLY J HOLLY PERMITTING TECH E-Mail: kholly@concho.com Ph: 432-685-4384	KELLY J HOLLY PERMITTING TECH E-Mail: kholly@concho.com Ph: 432-685-4384
Tech Contact:	KELLY J HOLLY PERMITTING TECH E-Mail: kholly@concho.com Ph: 432-685-4384	KELLY J HOLLY PERMITTING TECH E-Mail: kholly@concho.com Ph: 432-685-4384
Location:		
State:	NM	NM
County:	EDDY	EDDY
Field/Pool:	LOCO HILLS; GLORIETA YESO	LOCO HILLS
Well/Facility:	HOBGLOBIN 7 FEDERAL COM LBB 1H Sec 7 T17S R30E Mer NMP NENE 330FNL 150FEL	HOBGOBLIN 7 FEDERAL COM LBB 1H Sec 7 T17S R30E NENE 330FNL 150FEL 32.855290 N Lat, 104.002740 W Lon

District I
1625 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) 748-9120
District III
1000 Rio Brazos Road, Artesia, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-015-41812	2 Pool Code 96718	3 Pool Name Loco Hills; Glorieta Yeso
4 Property Code 40239	5 Property Name HOBGOBLIN 7 FED COM PDK	6 Well Number 1H
7 OGRID No. 229137	8 Operator Name COG OPERATING, LLC	9 Elevation 3683'

10 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	7	17-S	30-E		330	NORTH	150	EAST	EDDY

11 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
1	7	17-S	30-E		330	NORTH	330	WEST	EDDY

12 Dedicated Acres 157.38	13 Joint or Infill	14 Consolidation Code	15 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.

16 330' B. H. 330' S. 89°38'49" W (GRID) 4716.69' (HORIZ.) Producing Area Project Area Estimated Completed Interval: 335 FNL 330 FEL LOT 1 37.44 AC. LOT 2 37.51 AC. LOT 3 37.47 AC. LOT 4 37.37 AC. CORNER DATA NAD 27 GRID - NM EAST A: BRASS CAP "1914" N 670054.6 - E 596494.2 B: BRASS CAP "1914" N 672688.0 - E 596478.6 C: BRASS CAP "1914" N 675324.2 - E 596474.6 D: BRASS CAP "1914" N 675340.1 - E 599029.3 E: BRASS CAP N 675356.3 - E 601669.2 F: BRASS CAP N 672716.0 - E 601678.5 G: BRASS CAP "1916" N 670076.5 - E 601687.3 H: BRASS CAP "1916" N 670064.7 - E 599047.3	17 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 undivided 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling unit, hereafter created by this division. Signature: <i>[Signature]</i> Date: 5-21-14 Printed Name: Kelly J Holly Email Address: kholly@concho.com 18 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. Date of Survey: 2/4/13 Signature and Seal of Professional Surveyor: <i>[Signature]</i> 19680 Certificate Number: 19680 Revised: 5/5/14 NAME
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1625 N French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
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1006 Rio Bragga Road, Adec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
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State of New Mexico
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1220 South St. Francis Dr.
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Form C-102
Revised August 1, 2011
Submit one copy to appropriate
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☐ AMENDED REPORT

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TL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	7	17-S	30-E		330	NORTH	150	EAST	EDDY

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12 Dedicated Acres 157.38	13 Joint or Infill	14 Consolidation Code	15 Order No.
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LOT 1 37.44 AC. LOT 2 37.51 AC. LOT 3 37.47 AC. LOT 4 37.37 AC. CORNER DATA NAD 27 GRID - NM EAST A: BRASS CAP "1914" N 670054.6 - E 596494.2 B: BRASS CAP "1914" N 672688.0 - E 596478.6 C: BRASS CAP "1914" N 675324.2 - E 596474.6 D: BRASS CAP "1914" N 675340.1 - E 599029.3 E: BRASS CAP N 675356.3 - E 601669.2 F: BRASS CAP N 672716.0 - E 601678.5 G: BRASS CAP "1916" N 670076.5 - E 601687.3 H: BRASS CAP "1916" N 670064.7 - E 599047.3	Producing Area Project Area Estimated Completed Interval: 335 FNL 330 FEL SEE DETAIL "A" DETAIL "A" 3684.1 600' 3684.2 600' S. L. 3676.8 3672.7 16 CALCULATED 16TH COR. N 674020.9 - E 599033.8 GEODETIC DATA NAD 27 GRID - NM EAST SURFACE LOCATION N 675025.4 - E 601520.4 LAT: 32.85529° N LONG: 104.00274° W BOTTOM LOCATION N 674996.4 - E 596805.0	17 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 released 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order for production of oil or gas by this division. Signature: <i>[Signature]</i> Date: 5-21-14 Printed Name: Kelly J Holly Email Address: kholly@concho.com 18 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. Date of Survey: 2/4/13 Signature and Seal of Professional Surveyor: <i>[Signature]</i> 19680 Certificate Number: 19680 Revised: 5/5/14 NAME
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COG OPERATING, LLC

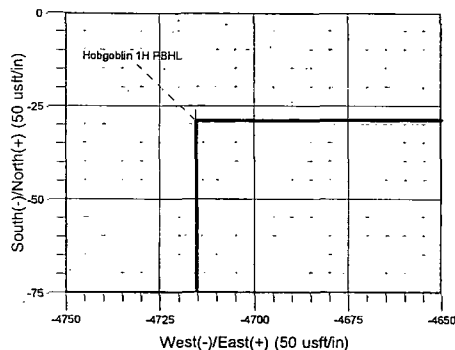
Field: Eddy County, NM
Site: Hobgoblin 7 Federal Com PDK 1H
Well: 1H
Wellbore: Lateral
Plan: Plan #2

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4104.21	0.00	0.00	4104.21	0.00	0.00	0.00	0.00	0.00	
3	4931.48	91.00	268.00	4625.00	-18.50	-529.54	11.00	268.00	529.74	
4	5025.33	91.00	269.88	4623.36	-20.23	-623.45	2.00	89.97	623.56	
5	9117.91	91.00	269.88	4551.91	-29.00	-4715.40	0.00	0.00	4715.49	Hobgoblin 1H PBHL

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Hobgoblin 1H PP	0.00	-6.29	-180.01	675019.11	601340.39	32° 51' 18.99 N	104° 0' 11.97 W	Point
Hobgoblin 1H Surface	0.00	0.00	0.00	675025.40	601520.40	32° 51' 19.05 N	104° 0' 9.86 W	Point
Hobgoblin 1H PBHL	4551.91	-29.00	-4715.40	674996.40	596805.00	32° 51' 18.91 N	104° 1' 5.14 W	Point



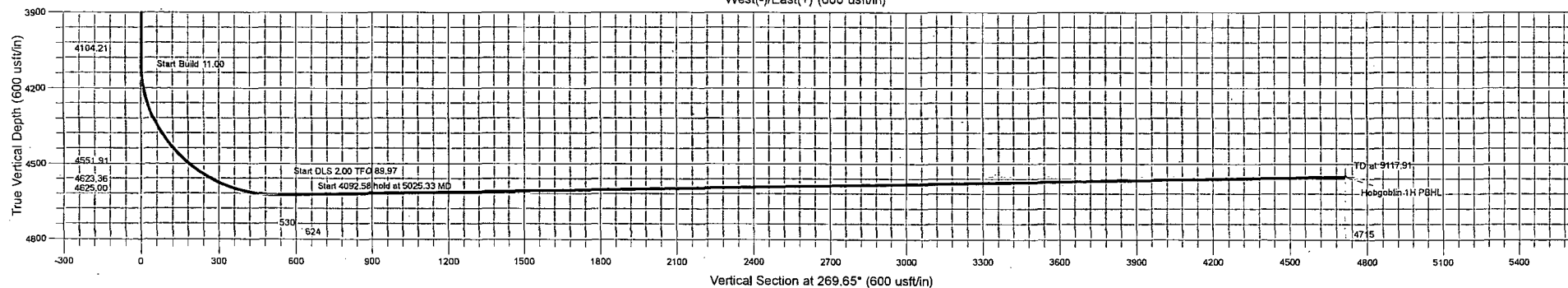
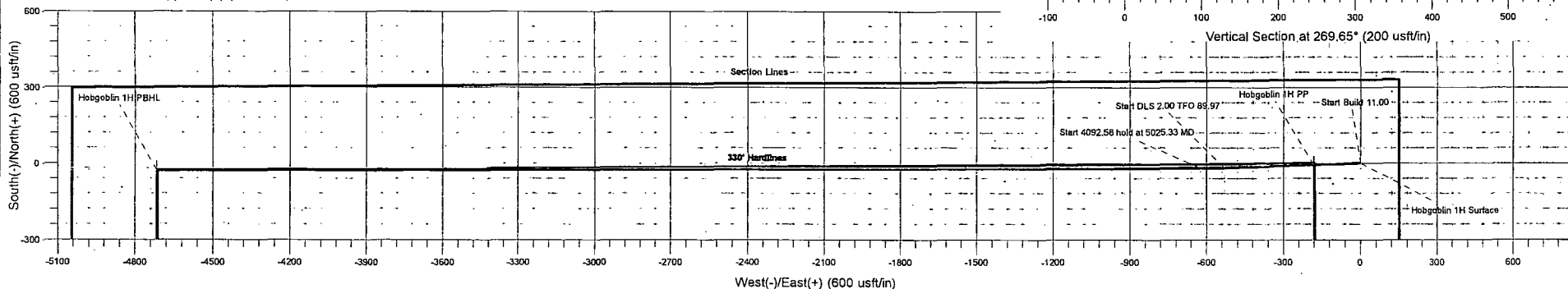
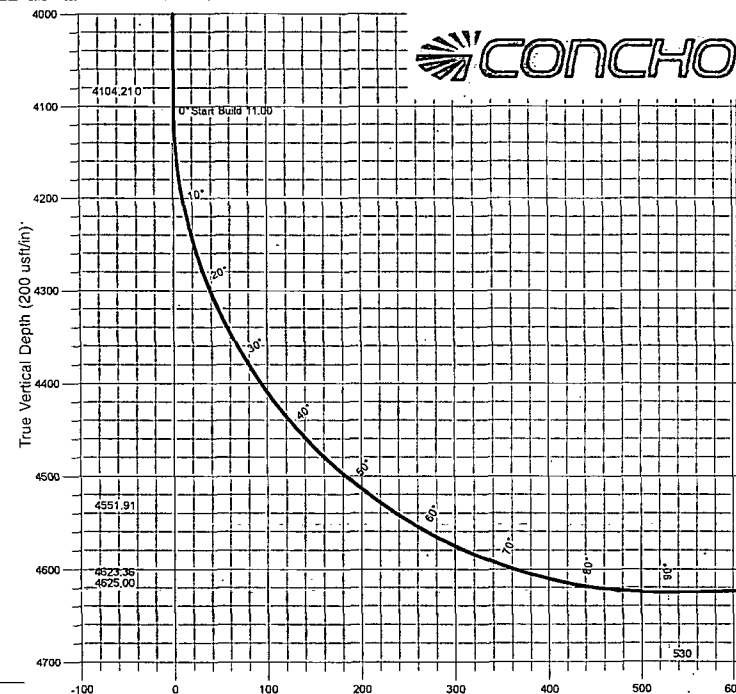
Section Distances

Sec7.T17S.R30E
SHL - Unit A
330°FNL, 150°FEL
PP
335°FNL, 330°FEL
PBHL - Lot 1
330°FNL, 330°FWL



Azimuths to Grid North
True North: -0.18°
Magnetic North: 7.30°

Magnetic Field
Strength: 48656.7 nT
Dip Angle: 60.62°
Date: 5/8/2014
Model: IGRF2010



Archer

ARCHER DIRECTIONAL DRILLING SERVICES
12101 Cutten Rd. Houston, Texas 77066
Phone: 281-301-2600 Fax: 281-301-2795

Design: Plan #2 (1H/Lateral)
Created By: Ivonne Gonzalez
Date: 18:26, May 08 2014

COG OPERATING, LLC

Eddy County, NM

Hobgoblin 7 Federal Com PDK 1H

1H

Lateral

Plan: Plan #2

Standard Planning Report

08 May, 2014

Section Distances

Sec7,T17S,R30E

SHL - Unit A

330'FNL, 150'FEL

PP

335'FNL, 330'FEL

PBHL - Lot 1

330'FNL, 330'FWL

Archer

Planning Report

Database:	EDM:5000.1 Single User Db	Local Co-ordinate Reference:	Well: 1H
Company:	COG OPERATING, LLC	TVD Reference:	3683'GL+14'KB @ 3697.00usft (Planning)
Project:	Eddy County, NM	MD Reference:	3683'GL+14'KB @ 3697.00usft (Planning)
Site:	Hobgoblin 7 Federal Com PDK 1H	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Project	Eddy County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Hobgoblin 7 Federal Com PDK 1H		
Site Position:	Map	Northing:	675,025.40 usft
From:		Easting:	601,520.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32° 51' 19.05 N
		Longitude:	104° 0' 9.86 W
		Grid Convergence:	0.18 °

Well:	1H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:
			3,683.00 usft

Wellbore:	Lateral		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	5/8/2014	7.48
			Dip Angle
			(°)
			60.62
			Field Strength
			(nT)
			48,657

Design:	Plan #2		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			269.65

Plan Sections:										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(%)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,104.21	0.00	0.00	4,104.21	0.00	0.00	0.00	0.00	0.00	0.00	
4,931.48	91.00	268.00	4,625.00	-18.50	-529.64	11.00	11.00	0.00	268.00	
5,025.33	91.00	269.88	4,623.36	-20.23	-623.45	2.00	0.00	2.00	89.97	
9,117.91	91.00	269.88	4,551.91	-29.00	-4,715.40	0.00	0.00	0.00	0.00	Hobgoblin 1H PBHL

Archer Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: 1H
Company:	COG OPERATING, LLC	TVD Reference:	3683 GL+14 KB @ 3697.00usft (Planning)
Project:	Eddy County NM	MD Reference:	3683 GL+14 KB @ 3697.00usft (Planning)
Site:	Hobgoblin 7 Federal Com PDK 1H	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,104.21	0.00	0.00	4,104.21	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 11:00									
4,150.00	5.04	268.00	4,149.94	-0.07	-2.01	2.01	11.00	11.00	0.00
4,200.00	10.54	268.00	4,199.46	-0.31	-8.78	8.78	11.00	11.00	0.00
4,250.00	16.04	268.00	4,248.10	-0.71	-20.26	20.26	11.00	11.00	0.00
4,300.00	21.54	268.00	4,295.42	-1.27	-36.34	36.35	11.00	11.00	0.00
4,350.00	27.04	268.00	4,340.98	-1.99	-56.89	56.90	11.00	11.00	0.00
4,400.00	32.54	268.00	4,384.36	-2.85	-81.70	81.72	11.00	11.00	0.00
4,450.00	38.04	268.00	4,425.15	-3.86	-110.56	110.58	11.00	11.00	0.00
4,500.00	43.54	268.00	4,463.00	-5.00	-143.19	143.22	11.00	11.00	0.00
4,550.00	49.04	268.00	4,497.54	-6.26	-179.29	179.33	11.00	11.00	0.00
4,600.00	54.54	268.00	4,528.45	-7.63	-218.54	218.58	11.00	11.00	0.00
4,650.00	60.04	268.00	4,555.47	-9.10	-260.57	260.62	11.00	11.00	0.00

Archer

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: 1H
Company:	COG OPERATING, LLC	TVD Reference:	3683 GL+14 KB @ 3697.00usft (Planning)
Project:	Eddy County, NM	MD Reference:	3683 GL+14 KB @ 3687.00usft (Planning)
Site:	Hobgoblin-7 Federal Com PDK 1H	North Reference:	Grid:
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
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)	
4,700.00	65.54	268.00	4,578.32	-10.65	-304.99	305.05	11.00	11.00	0.00	
4,750.00	71.04	268.00	4,596.81	-12.27	-351.39	351.46	11.00	11.00	0.00	
4,800.00	76.54	268.00	4,610.77	-13.95	-399.36	399.44	11.00	11.00	0.00	
4,850.00	82.04	268.00	4,620.06	-15.66	-448.44	448.53	11.00	11.00	0.00	
4,900.00	87.54	268.00	4,624.60	-17.40	-498.18	498.28	11.00	11.00	0.00	
4,931.48	91.00	268.00	4,625.00	-18.50	-529.64	529.74	11.00	11.00	0.00	
Start DLS 2:00 TFO 89:97										
5,000.00	91.00	269.37	4,623.81	-20.07	-598.13	598.24	2.00	0.00	2.00	
5,025.33	91.00	269.88	4,623.36	-20.23	-623.45	623.56	2.00	0.00	2.00	
Start 4092:58 hold at 5025:33 MD										
5,100.00	91.00	269.88	4,622.06	-20.39	-698.11	698.22	0.00	0.00	0.00	
5,200.00	91.00	269.88	4,620.31	-20.61	-798.09	798.20	0.00	0.00	0.00	
5,300.00	91.00	269.88	4,618.57	-20.82	-898.08	898.19	0.00	0.00	0.00	
5,400.00	91.00	269.88	4,616.82	-21.04	-998.06	998.17	0.00	0.00	0.00	
5,500.00	91.00	269.88	4,615.08	-21.25	-1,098.05	1,098.16	0.00	0.00	0.00	
5,600.00	91.00	269.88	4,613.33	-21.46	-1,198.03	1,198.14	0.00	0.00	0.00	
5,700.00	91.00	269.88	4,611.58	-21.68	-1,298.02	1,298.12	0.00	0.00	0.00	
5,800.00	91.00	269.88	4,609.84	-21.89	-1,398.00	1,398.11	0.00	0.00	0.00	
5,900.00	91.00	269.88	4,608.09	-22.11	-1,497.99	1,498.09	0.00	0.00	0.00	
6,000.00	91.00	269.88	4,606.35	-22.32	-1,597.97	1,598.08	0.00	0.00	0.00	
6,100.00	91.00	269.88	4,604.60	-22.54	-1,697.95	1,698.06	0.00	0.00	0.00	
6,200.00	91.00	269.88	4,602.85	-22.75	-1,797.94	1,798.04	0.00	0.00	0.00	
6,300.00	91.00	269.88	4,601.11	-22.96	-1,897.92	1,898.03	0.00	0.00	0.00	
6,400.00	91.00	269.88	4,599.36	-23.18	-1,997.91	1,998.01	0.00	0.00	0.00	
6,500.00	91.00	269.88	4,597.62	-23.39	-2,097.89	2,098.00	0.00	0.00	0.00	
6,600.00	91.00	269.88	4,595.87	-23.61	-2,197.88	2,197.98	0.00	0.00	0.00	
6,700.00	91.00	269.88	4,594.12	-23.82	-2,297.86	2,297.96	0.00	0.00	0.00	
6,800.00	91.00	269.88	4,592.38	-24.03	-2,397.85	2,397.95	0.00	0.00	0.00	
6,900.00	91.00	269.88	4,590.63	-24.25	-2,497.83	2,497.93	0.00	0.00	0.00	
7,000.00	91.00	269.88	4,588.89	-24.46	-2,597.82	2,597.92	0.00	0.00	0.00	
7,100.00	91.00	269.88	4,587.14	-24.68	-2,697.80	2,697.90	0.00	0.00	0.00	
7,200.00	91.00	269.88	4,585.40	-24.89	-2,797.78	2,797.88	0.00	0.00	0.00	
7,300.00	91.00	269.88	4,583.65	-25.11	-2,897.77	2,897.87	0.00	0.00	0.00	
7,400.00	91.00	269.88	4,581.90	-25.32	-2,997.75	2,997.85	0.00	0.00	0.00	
7,500.00	91.00	269.88	4,580.16	-25.53	-3,097.74	3,097.84	0.00	0.00	0.00	
7,600.00	91.00	269.88	4,578.41	-25.75	-3,197.72	3,197.82	0.00	0.00	0.00	
7,700.00	91.00	269.88	4,576.67	-25.96	-3,297.71	3,297.80	0.00	0.00	0.00	
7,800.00	91.00	269.88	4,574.92	-26.18	-3,397.69	3,397.79	0.00	0.00	0.00	
7,900.00	91.00	269.88	4,573.17	-26.39	-3,497.68	3,497.77	0.00	0.00	0.00	
8,000.00	91.00	269.88	4,571.43	-26.61	-3,597.66	3,597.76	0.00	0.00	0.00	
8,100.00	91.00	269.88	4,569.68	-26.82	-3,697.65	3,697.74	0.00	0.00	0.00	
8,200.00	91.00	269.88	4,567.94	-27.03	-3,797.63	3,797.72	0.00	0.00	0.00	
8,300.00	91.00	269.88	4,566.19	-27.25	-3,897.61	3,897.71	0.00	0.00	0.00	
8,400.00	91.00	269.88	4,564.44	-27.46	-3,997.60	3,997.69	0.00	0.00	0.00	
8,500.00	91.00	269.88	4,562.70	-27.68	-4,097.58	4,097.68	0.00	0.00	0.00	
8,600.00	91.00	269.88	4,560.95	-27.89	-4,197.57	4,197.66	0.00	0.00	0.00	
8,700.00	91.00	269.88	4,559.21	-28.10	-4,297.55	4,297.64	0.00	0.00	0.00	
8,800.00	91.00	269.88	4,557.46	-28.32	-4,397.54	4,397.63	0.00	0.00	0.00	
8,900.00	91.00	269.88	4,555.71	-28.53	-4,497.52	4,497.61	0.00	0.00	0.00	
9,000.00	91.00	269.88	4,553.97	-28.75	-4,597.51	4,597.60	0.00	0.00	0.00	
9,100.00	91.00	269.88	4,552.22	-28.96	-4,697.49	4,697.58	0.00	0.00	0.00	
9,117.91	91.00	269.88	4,551.91	-29.00	-4,715.40	4,715.49	0.00	0.00	0.00	
TD at 9117:91										

Archer

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 1H:
Company:	COG OPERATING, LLC	TVD Reference:	3683' GL +14' KB @ 3697.00usft (Planning)
Project:	Eddy County, NM	MD Reference:	3683' GL +14' KB @ 3697.00usft (Planning)
Site:	Hobgoblin 7 Federal Com PDK 1H	North Reference:	Grid:
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

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
Hobgoblin 1H PP		0.00	0.00	0.00	-6.29	-180.01	675,019.11	601,340.39	32° 51' 18.99 N 104° 0' 11.97 W
	- plan misses target center by 180.12usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)								
	- Point								
Hobgoblin 1H Surface		0.00	0.00	0.00	0.00	0.00	675,025.40	601,520.40	32° 51' 19.05 N 104° 0' 9.86 W
	- plan hits target center								
	- Point								
Hobgoblin 1H PBHL		0.00	0.00	4,551.91	-29.00	-4,715.40	674,996.40	596,805.00	32° 51' 18.91 N 104° 1' 5.14 W
	- plan hits target center								
	- Point								

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
4,104.21	4,104.21	0.00	0.00	Start Build 11.00	
4,931.48	4,625.00	-18.50	-529.64	Start DLS 2.00 TFO 89.97	
5,025.33	4,623.36	-20.23	-623.45	Start 4092.58 hold at 5025.33 MD	
9,117.91	4,551.91	-29.00	-4,715.40	TD at 9117.91	