

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
NMNM102912

6 If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side.7. If Unit or CA/Agreement, Name and/or No
NMNM111789X

1 Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8 Well Name and No
ALMOST HEROES 1 FEDERAL 4H

2 Name of Operator

COG OPERATING LLC

Contact: STORMI S DAVIS

E-Mail: sdavis@conchoresources.com

9 API Well No.

30-015-39292-00-X1

3a Address

550 WEST TEXAS AVENUE SUITE 1300
MIDLAND, TX 79701

3b. Phone No. (include area code)

Ph: 575-748-6946

Fx: 575-748-6950

10. Field and Pool, or Exploratory
WILDCAT

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

Sec 1 T24S R29E SWSW Lot M 375FSL 375FWL

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 requests to change the following.

Lateral TD: 12,701' MD & 8237' TVD (see attached directional plan)

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

RECEIVED

SEP 29 2011

14 I hereby certify that the foregoing is true and correct

Electronic Submission #117420 verified by the BLM Well Information System

For COG OPERATING LLC, sent to the Carlsbad

Committed to AFMSS for processing by KURT SIMMONS on 09/14/2011 (11KMS2543SE)

Name (Printed/Typed) STORMI S DAVIS

Title REGULATORY ANALYST

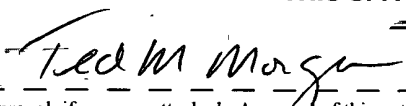
Signature

(Electronic Submission)

Date 09/13/2011

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

TED MORGAN
Title PETROLEUM ENGINEER

Date 09/23/2011

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 Carlsbad

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 ****Accepted For Record - NMMSD
80/3/2011



COG Operating LLC

**Eddy County (NAD83)
Almost Heroes 1 Federal
No.4H
OH**

Plan: Plan No.4

PathFinder X & Y

12 September, 2011

PATHFINDER®
A Schlumberger Company



Project: Eddy County (NAD83)
 Site: Almost Heroes 1 Federal
 Well: No.4H
 Wellbore: OH
 Plan: Plan No.4 (No.4H/OH)

WELL DETAILS: No.4H

Ground Elevation: 3096.40
 RKB Elevation: 17' RKB - 3096.40 GL @ 3113.40ft (Original Well Elev)
 Rig Name: Original Well Elev
 Northing 451433.56 Easting 661272.32 Latitude 32° 14' 25.6965977 N Longitude 103° 56' 43.5024750 W



A Schlumberger Company

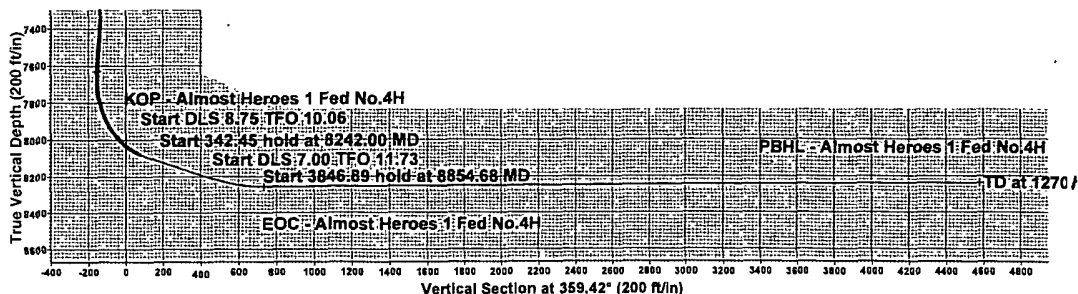
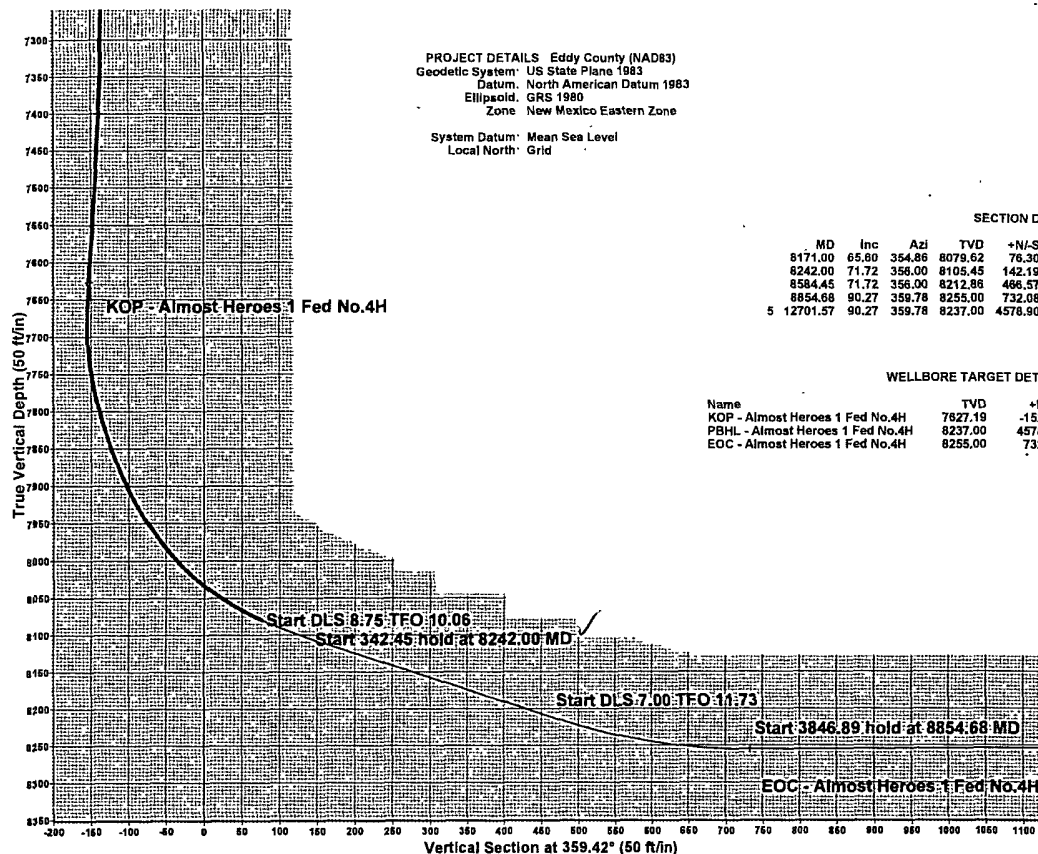
PROJECT DETAILS Eddy County (NAD83)
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level
 Local North: Grid

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
8171.00	65.80	354.86	8079.62	76.30	5.69	0.00	0.00	76.24	
8242.00	71.72	356.00	8105.45	142.19	0.44	8.75	10.06	142.18	
8584.45	71.72	356.00	8212.86	486.57	-22.24	0.00	0.00	486.77	
8854.68	90.27	359.78	8255.00	732.08	-31.80	7.00	11.73	732.37	
5 12701.57	90.27	359.78	8237.00	4576.90	-46.60	0.00	0.00	4579.14	

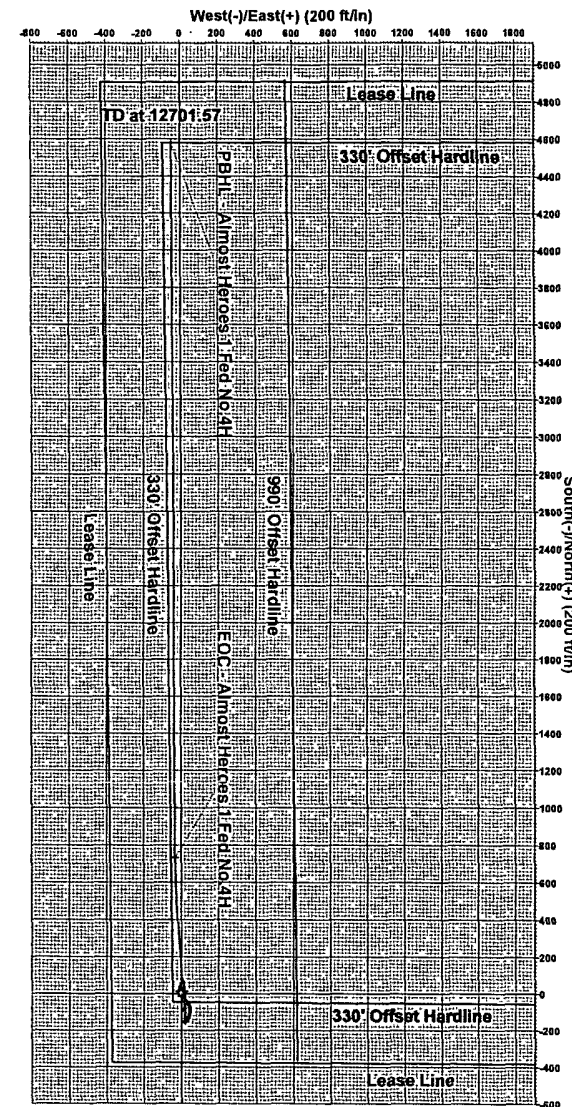
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
KOP - Almost Heroes 1 Fed No.4H	7827.19	-152.25	21.45	451281.31	661293.77	Point
PBHL - Almost Heroes 1 Fed No.4H	8237.00	4578.90	-46.60	456012.46	661225.72	Point
EOC - Almost Heroes 1 Fed No.4H	8255.00	732.08	-31.80	452165.84	661240.52	Point



Azimuths to Grid North
 True North: -0.21°
 Magnetic North: 7.52°

Magnetic Field
 Strength: 48605.8snT
 Dip Angle: 60.16°
 Date: 8/24/2011
 Model: IGRF200510



Plan: Plan No.4 (No.4H/OH)

Created By: James Anderson Date: 10/05/2011



PathFinder A Schlumberger Company
PathFinder X & Y

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well No: 4H
Project:	Eddy County (NAD83)	TVD Reference:	17' RKB - 3096.40' GL @ 3113.40ft (Original Well)
Site:	Almost Heroes 1 Federal	MD Reference:	17' RKB - 3096.40' GL @ 3113.40ft (Original Well)
Well:	No. 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan No. 4	Database:	Smith DB

Project:	Eddy County (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Almost Heroes 1 Federal				
Site Position:		Northing:	451,433.56 ft	Latitude:	32° 14' 25.6965977 N
From:	Map	Easting:	661,272.32 ft	Longitude:	103° 56' 43.5024750 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.21 °

Well:	No. 4H					
Well Position	+N/-S	0.00 ft	Northing:	451,433.56 ft	Latitude:	32° 14' 25.6965977 N
	+E/-W	0.00 ft	Easting:	661,272.32 ft	Longitude:	103° 56' 43.5024750 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,096.40 ft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/24/2011	7.72	60.16	48,606

Design:	Plan No. 4			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	8,171.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	359.42



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Well:	No.4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan No.4	Database:	1 Smith DB

Survey Tool Program		Date	9/12/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	7,546.00	Survey #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
7,606.00	8,171.00	Survey #2 (OH)	MWD	MWD - Standard	
8,171.00	12,701.45	Plan No.4 (OH)			

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
8,171.00	65.60	354.86	8,079.62	4,966.22	76.30	5.69	76.24	0.00	451,509.86	661,278.01	
KOP: Almost Heroes 1 Fed No.4H											
8,200.00	68.10	355.34	8,091.03	4,977.63	102.87	3.42	102.83	8.75	451,536.43	661,275.74	
8,242.00	71.72	356.00	8,105.45	4,992.05	142.19	0.44	142.18	8.75	451,575.75	661,272.76	
8,300.00	71.72	356.00	8,123.64	5,010.24	197.13	-3.40	197.15	0.00	451,630.69	661,268.92	
8,400.00	71.72	356.00	8,155.01	5,041.61	291.85	-10.02	291.94	0.00	451,725.41	661,262.30	
8,402.84	71.72	356.00	8,155.90	5,042.50	294.55	-10.21	294.63	0.00	451,728.11	661,262.11	
Target Line											
8,500.00	71.72	356.00	8,186.37	5,072.97	386.57	-16.65	386.72	0.00	451,820.13	661,255.67	
8,584.45	71.72	356.00	8,212.86	5,099.46	466.57	-22.24	466.77	0.00	451,900.13	661,250.08	
8,600.00	72.79	356.23	8,217.60	5,104.20	481.34	-23.24	481.55	7.00	451,914.90	661,249.08	
8,700.00	79.65	357.67	8,241.42	5,128.02	578.27	-28.39	578.52	7.00	452,011.83	661,243.93	
8,800.00	86.51	359.04	8,253.46	5,140.06	677.43	-31.24	677.72	7.00	452,110.99	661,241.08	
8,854.68	90.27	359.78	8,255.00	5,141.60	732.08	-31.80	732.37	7.00	452,165.64	661,240.52	
EOC: Almost Heroes 1 Fed No.4H											
8,900.00	90.27	359.78	8,254.78	5,141.38	777.40	-31.97	777.68	0.00	452,210.96	661,240.35	
9,000.00	90.27	359.78	8,254.32	5,140.92	877.40	-32.36	877.68	0.00	452,310.96	661,239.96	
9,100.00	90.27	359.78	8,253.85	5,140.45	977.40	-32.74	977.68	0.00	452,410.96	661,239.58	
9,200.00	90.27	359.78	8,253.38	5,139.98	1,077.39	-33.13	1,077.68	0.00	452,510.95	661,239.19	
9,300.00	90.27	359.78	8,252.91	5,139.51	1,177.39	-33.51	1,177.67	0.00	452,610.95	661,238.81	
9,400.00	90.27	359.78	8,252.44	5,139.04	1,277.39	-33.90	1,277.67	0.00	452,710.95	661,238.42	



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PathFinder X & Y

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Company:	COG Operating LLC	Local Co-ordinate Reference:	Well: No. 4H
Project:	Eddy County (NAD83)	TVD Reference:	17' RKB - 3096.40 GL @ 3113.40ft (Original Well)
Site:	Almost Heroes-1 Federal	MD Reference:	17' RKB - 3096.40 GL @ 3113.40ft (Original Well)
Well:	No. 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan No. 4	Database:	1 Smith DB

Planned Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
9,500.00	90.27	359.78	8,251.98	5,138.58	1,377.39	-34.28	1,377.67	0.00	452,810.95	661,238.04	
9,600.00	90.27	359.78	8,251.51	5,138.11	1,477.39	-34.67	1,477.66	0.00	452,910.95	661,237.65	
9,700.00	90.27	359.78	8,251.04	5,137.64	1,577.38	-35.05	1,577.66	0.00	453,010.94	661,237.27	
9,800.00	90.27	359.78	8,250.57	5,137.17	1,677.38	-35.44	1,677.66	0.00	453,110.94	661,236.88	
9,900.00	90.27	359.78	8,250.11	5,136.71	1,777.38	-35.82	1,777.65	0.00	453,210.94	661,236.50	
10,000.00	90.27	359.78	8,249.64	5,136.24	1,877.38	-36.21	1,877.65	0.00	453,310.94	661,236.11	
10,100.00	90.27	359.78	8,249.17	5,135.77	1,977.38	-36.59	1,977.65	0.00	453,410.94	661,235.73	
10,200.00	90.27	359.78	8,248.70	5,135.30	2,077.38	-36.97	2,077.64	0.00	453,510.94	661,235.35	
10,300.00	90.27	359.78	8,248.23	5,134.83	2,177.37	-37.36	2,177.64	0.00	453,610.93	661,234.96	
10,400.00	90.27	359.78	8,247.77	5,134.37	2,277.37	-37.74	2,277.64	0.00	453,710.93	661,234.58	
10,500.00	90.27	359.78	8,247.30	5,133.90	2,377.37	-38.13	2,377.63	0.00	453,810.93	661,234.19	
10,600.00	90.27	359.78	8,246.83	5,133.43	2,477.37	-38.51	2,477.63	0.00	453,910.93	661,233.81	
10,700.00	90.27	359.78	8,246.36	5,132.96	2,577.37	-38.90	2,577.63	0.00	454,010.93	661,233.42	
10,800.00	90.27	359.78	8,245.90	5,132.50	2,677.36	-39.28	2,677.63	0.00	454,110.92	661,233.04	
10,900.00	90.27	359.78	8,245.43	5,132.03	2,777.36	-39.67	2,777.62	0.00	454,210.92	661,232.65	
11,000.00	90.27	359.78	8,244.96	5,131.56	2,877.36	-40.05	2,877.62	0.00	454,310.92	661,232.27	
11,100.00	90.27	359.78	8,244.49	5,131.09	2,977.36	-40.44	2,977.62	0.00	454,410.92	661,231.88	
11,200.00	90.27	359.78	8,244.02	5,130.62	3,077.36	-40.82	3,077.61	0.00	454,510.92	661,231.50	
11,300.00	90.27	359.78	8,243.56	5,130.16	3,177.36	-41.21	3,177.61	0.00	454,610.92	661,231.11	
11,400.00	90.27	359.78	8,243.09	5,129.69	3,277.35	-41.59	3,277.61	0.00	454,710.91	661,230.73	
11,500.00	90.27	359.78	8,242.62	5,129.22	3,377.35	-41.98	3,377.60	0.00	454,810.91	661,230.34	
11,600.00	90.27	359.78	8,242.15	5,128.75	3,477.35	-42.36	3,477.60	0.00	454,910.91	661,229.96	
11,700.00	90.27	359.78	8,241.69	5,128.29	3,577.35	-42.75	3,577.60	0.00	455,010.91	661,229.57	
11,800.00	90.27	359.78	8,241.22	5,127.82	3,677.35	-43.13	3,677.59	0.00	455,110.91	661,229.19	
11,900.00	90.27	359.78	8,240.75	5,127.35	3,777.34	-43.52	3,777.59	0.00	455,210.90	661,228.80	
12,000.00	90.27	359.78	8,240.28	5,126.88	3,877.34	-43.90	3,877.59	0.00	455,310.90	661,228.42	
12,100.00	90.27	359.78	8,239.81	5,126.41	3,977.34	-44.29	3,977.59	0.00	455,410.90	661,228.03	



PathFinder A Schlumberger Company
PathFinder X & Y

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well No.4H
Project:	Eddy County (NAD83)	TVD Reference:	17' RKB - 3096.40 GL @ 3113.40ft (Original Well)
Site:	Almost Heroes 1 Federal	MD Reference:	17' RKB - 3096.40 GL @ 3113.40ft (Original Well)
Well:	No.4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan No.4	Database:	1 Smith DB

Planned Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
12,200.00	90.27	359.78	8,239.35	5,125.95	4,077.34	-44.67	4,077.58	0.00	455,510.90	661,227.65
12,300.00	90.27	359.78	8,238.88	5,125.48	4,177.34	-45.05	4,177.58	0.00	455,610.90	661,227.27
12,400.00	90.27	359.78	8,238.41	5,125.01	4,277.34	-45.44	4,277.58	0.00	455,710.90	661,226.88
12,500.00	90.27	359.78	8,237.94	5,124.54	4,377.33	-45.82	4,377.57	0.00	455,810.89	661,226.50
12,600.00	90.27	359.78	8,237.48	5,124.08	4,477.33	-46.21	4,477.57	0.00	455,910.89	661,226.11
12,700.00	90.27	359.78	8,237.01	5,123.61	4,577.33	-46.59	4,577.57	0.00	456,010.89	661,225.73
12,701.57	90.27	359.78	8,237.00	5,123.60	4,578.90	-46.60	4,579.14	0.00	456,012.46	661,225.72
PBHL - Almost Heroes 1 Fed.No.4H										



PathFinder A Schlumberger Company
PathFinder X & Y



Company:	GOG Operating LLC	Local Co-ordinate Reference:	Well No: 4H
Project:	Eddy County (NAD83)	TVD Reference:	17' RKB - 3096.40 GL @ 3113.40ft (Original Well)
Site:	Almost Heroes 1 Federal	MD Reference:	17' RKB - 3096.40 GL @ 3113.40ft (Original Well)
Well:	No. 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan No: 4	Database:	1: Smith DB

Targets									
Target Name	hit/miss target	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	
Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude Longitude
PBHL - Almost Heroe:		0.00	0.00	8,237.00	4,578.90	-46.60	456,012.46	661,225.72	2° 15' 11.0101508 N ° 56' 43.8525131 W
- plan hits target center									
- Point									
KOP - Almost Heroes		0.00	0.00	7,627.19	-152.25	21.45	451,281.31	661,293.77	2° 14' 24.1891936 N ° 56' 43.2591243 W
- plan misses target center by 507.13ft at 8171.00ft MD (8079.62 TVD, 76.30 N, 5.69 E)									
- Point									
EOC - Almost Heroes		0.00	0.00	8,255.00	732.08	-31.80	452,165.64	661,240.52	2° 14' 32.9422590 N ° 56' 43.8419594 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
8,402.84	8,157.34	Target Line		-0.28	359.42	

Checked By: _____ Approved By: _____ Date: _____

Almost Heroes 1 Federal 4H APD/Sundry Comparison

ITEM	APD	1 st SUNDRY (9/2/2011)	2 nd SUNDRY (9/13/2011)	NOTES
SECRETARY'S POTASH				
MEDIUM KARST				
ESTIMATED TOP BONE SPRINGS AT 7046' TVD; WOLFCAMP AT 10,500' TVD				
Field and Pool	WILDCAT; BONE SPRING	No Change	No Change	No Change
Intended Completion Formation	ESTIMATED TOP BONE SPRINGS AT 7046' TVD	No Change	No Change	No Change
SHL	375' FSL, 375' FWL	No Change	No Change	No Change
BHL	330' FNL, 375' FWL	No Change	No Change	No Change
Directional Plan	KOP at 7800' Azimuth 359° Build to 90° & Hold DHEP at 477' VS DHEP TVD = 8250'		KOP 7627' Azimuth 360° Build to 71° Hold Build to 90° DHEP at 732' VS DHEP TVD = 8255'	<i>Directional Plan changed (from "Build and Hold" to "Build, Hold, Build", with Shorter Drainhole).</i>
Pilot Hole	3200'–10675' (into Wolfcamp). Operator estimated BHP for Pilot Hole at 4665 psi.	Pilot Hole Deleted	No Change	<i>Pilot Hole Changed (deleted).</i>
Drainhole Entry Point and TD	7-7/8" Bit 8522'-12624' MD DH Length = 4102'	No Change ? -12530' MD	No Change 8854'-12701' MD DH Length = 3847'	<i>TD MD Changed (from 12624' MD to 12701' MD.)</i>
	8250' TVD	8135' TVD	8254' TVD	No Change
	1 st BSS	No Change	No Change	No Change
5-1/2" Production Casing	0' – 12625' 5-1/2" 17# P-110 LTC TOC 500' Above 9-5/8" Shoe at 3200'DV 2Stage -Tool at 7600' Collapse DF = 1.125 Burst DF = 1.125 Tension DF = 1.6	0' – 12530' No Change Slurries Changed (GasStop Additive) No Other Changes	5-1/2" Casing Point changed to 12701' MD 8255' TVD.	<i>TD (5-1/2" Casing Point) Changed.</i> Single stage cement job 5-1/2" Slurries Changed.
BOPE	2M (Hydril) on 13-3/8" Surface Casing BS SBHP at 3600 psi.	No Change	No Change	No Change
	3M System on 9-5/8" Intermediate Casing	No Change	No Change	No Change

**Almost Heroes 1 Federal 4H
COG Operating LLC
30-015-39292
Sep 24, 2011
Conditions of Approval**

Summary of Current Status:

- Well Spud Aug 30, 2011

Requests of Sundry dated 9/13/2011:

“COG requests to change the following:

Lateral TD: 12,701' MD & 8237' TVD (see attached directional plan)”

ORIGINAL PLAN

Lateral with 7-7/8” Hole
KOP at 7800'. Build to 90° at 8250' TVD
TD at 11624'.
Drainhole in 1st Bone Spring Sand

REVISED CASING & PLAN

Not changed
KOP at 7627'. Build to 90° at 8255' TVD
TD at 12701'. BHL not changed.
Not changed

Conditions of Approval:

The previous COA dated 8/3/2011 shall remain applicable, with the following additions.

1. **7-1/8” Drain Hole section** - Operator is required stay within Top and Bottom of the approved Bone Springs formation.
2. BOPE remains as originally approved.

TMM 09/23/2011