

Submit 1 Copy To Appropriate District.
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised August 1, 2011

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

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.)		WELL API NO. 30-015-39717
1. Type of Well: Oil Well ☒ Gas Well ☐ Other ☐		5. Indicate Type of Lease STATE ☐ FEE ☒
2. Name of Operator COG Operating LLC		6. State Oil & Gas Lease No.
3. Address of Operator One Concho Center - 600 W Illinois Ave Midland, TX 79701		7. Lease Name or Unit Agreement Name Sherman 4 Fee
4. Well Location Unit Letter O : 150 feet from the SOUTH line and 2260 feet from the EAST line Section 4 Township 19S Range 26E NMPM County EDDY		8. Well Number 3H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3347'		9. OGRID Number 229137
		10. Pool name or Wildcat Atoka; Glorieta-Yeso 3250

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 ☐
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: **Change Casing Program** ☒

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 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

COG proposes to drill an 11" hole to 1200' w/fresh water, run 8-5/8" 32# J-55 and cement to surface. Drill a 7-7/8" hole to 2273' MD and kick off and drill curve to 2750' TVD 3023' MD. Drill a 7-7/8" lateral to new BHL @ 2750' TVD 7323' MD. Run a 5 1/2" 17# L-80 casing to TD cement to surface with 800 sacks.

A revised directional plan is attached.

Spud Date:

Rig Release Date:

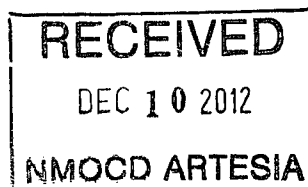
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Kacie Connally TITLE Permitting Tech DATE 12/6/2012

Type or print name Kacie Connally E-mail address: kconnally@concho.com PHONE: 432-221-0336

For State Use Only

APPROVED BY: T. C. Shepard TITLE Geologist DATE 12/10/2012
Conditions of Approval (if any):





COG Operating LLC

Eddy County, NM (NAN27 NME)

Sherman 4 Fee #3H

Sherman 4 Fee #3H

OH

Plan: Plan #1 8-3/4" Hole

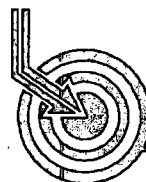
SHL = 150' FSL & 2260' FEL

PP = 330' FSL & 2260' FEL

BHL = 330' FNL & 2260' FEL

Standard Planning Report

18 November, 2011



Scientific Drilling
Directional Drilling Operations



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Sherman 4 Fee #3H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3347.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3347.00usft
Site:	Sherman 4 Fee #3H	North Reference:	Grid
Well:	Sherman 4 Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" Hole		

Project	Eddy County, NM (NAN27 NME)		
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	Sherman 4 Fee #3H				
Site Position:		Northing:	612,143.90 usft	Latitude:	32° 40' 58.340 N
From:	Map	Easting:	483,992.80 usft	Longitude:	104° 23' 7.295 W
Position Uncertainty:	0.00' usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.03 °

Well	Sherman 4 Fee #3H					
Well Position	+N/-S	0.00 usft	Northing:	612,143.90 usft	Latitude:	32° 40' 58.340 N
	+E/-W	0.00 usft	Easting:	483,992.80 usft	Longitude:	104° 23' 7.295 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,347.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/11/18	7.94	60.46	48,759

Design	Plan #1 8-3/4" Hole			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.99

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,272.54	0.00	0.00	2,272.54	0.00	0.00	0.00	0.00	0.00	0.00	
3,022.54	90.00	359.99	2,750.00	477.46	-0.12	12.00	12.00	0.00	359.99	
7,322.97	90.00	359.99	2,750.00	4,777.90	-1.20	0.00	0.00	0.00	0.00	PBHL-Sherman 4 #3H



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Sherman 4 Fee #3H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3347.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3347.00usft
Site:	Sherman 4 Fee #3H	North Reference:	Grid
Well:	Sherman 4 Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" Hole		

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
2,272.54	0.00	0.00	2,272.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 12.00°/100'									
2,300.00	3.30	359.99	2,299.98	0.79	0.00	0.79	12.00	12.00	0.00
2,400.00	15.30	359.99	2,398.49	16.91	0.00	16.91	12.00	12.00	0.00
2,500.00	27.30	359.99	2,491.49	53.17	-0.01	53.17	12.00	12.00	0.00
2,600.00	39.30	359.99	2,574.93	107.96	-0.03	107.96	12.00	12.00	0.00
2,700.00	51.30	359.99	2,645.14	178.91	-0.04	178.91	12.00	12.00	0.00
2,701.41	51.46	359.99	2,646.02	180.00	-0.05	180.00	12.00	12.00	0.00
PP=330° FSL Sherman 4 #3H									
2,800.00	63.30	359.99	2,699.07	262.90	-0.07	262.90	12.00	12.00	0.00
2,900.00	75.30	359.99	2,734.36	356.27	-0.09	356.27	12.00	12.00	0.00
3,000.00	87.30	359.99	2,749.47	454.94	-0.11	454.94	12.00	12.00	0.00
3,022.54	90.00	359.99	2,750.00	477.47	-0.12	477.47	12.00	12.00	0.00
EOC hold 90.00°									
3,100.00	90.00	359.99	2,750.00	554.93	-0.14	554.93	0.00	0.00	0.00
3,200.00	90.00	359.99	2,750.00	654.93	-0.16	654.93	0.00	0.00	0.00
3,300.00	90.00	359.99	2,750.00	754.93	-0.19	754.93	0.00	0.00	0.00
3,400.00	90.00	359.99	2,750.00	854.93	-0.21	854.93	0.00	0.00	0.00
3,500.00	90.00	359.99	2,750.00	954.93	-0.24	954.93	0.00	0.00	0.00
3,600.00	90.00	359.99	2,750.00	1,054.93	-0.26	1,054.93	0.00	0.00	0.00
3,700.00	90.00	359.99	2,750.00	1,154.93	-0.29	1,154.93	0.00	0.00	0.00
3,800.00	90.00	359.99	2,750.00	1,254.93	-0.32	1,254.93	0.00	0.00	0.00
3,900.00	90.00	359.99	2,750.00	1,354.93	-0.34	1,354.93	0.00	0.00	0.00
4,000.00	90.00	359.99	2,750.00	1,454.93	-0.37	1,454.93	0.00	0.00	0.00
4,100.00	90.00	359.99	2,750.00	1,554.93	-0.39	1,554.93	0.00	0.00	0.00
4,200.00	90.00	359.99	2,750.00	1,654.93	-0.42	1,654.93	0.00	0.00	0.00
4,300.00	90.00	359.99	2,750.00	1,754.93	-0.44	1,754.93	0.00	0.00	0.00
4,400.00	90.00	359.99	2,750.00	1,854.93	-0.47	1,854.93	0.00	0.00	0.00
4,500.00	90.00	359.99	2,750.00	1,954.93	-0.49	1,954.93	0.00	0.00	0.00
4,600.00	90.00	359.99	2,750.00	2,054.93	-0.52	2,054.93	0.00	0.00	0.00
4,700.00	90.00	359.99	2,750.00	2,154.93	-0.54	2,154.93	0.00	0.00	0.00
4,800.00	90.00	359.99	2,750.00	2,254.93	-0.57	2,254.93	0.00	0.00	0.00
4,900.00	90.00	359.99	2,750.00	2,354.93	-0.59	2,354.93	0.00	0.00	0.00
5,000.00	90.00	359.99	2,750.00	2,454.93	-0.62	2,454.93	0.00	0.00	0.00
5,100.00	90.00	359.99	2,750.00	2,554.93	-0.64	2,554.93	0.00	0.00	0.00
5,200.00	90.00	359.99	2,750.00	2,654.93	-0.67	2,654.93	0.00	0.00	0.00
5,300.00	90.00	359.99	2,750.00	2,754.93	-0.69	2,754.93	0.00	0.00	0.00
5,400.00	90.00	359.99	2,750.00	2,854.93	-0.72	2,854.93	0.00	0.00	0.00
5,500.00	90.00	359.99	2,750.00	2,954.93	-0.74	2,954.93	0.00	0.00	0.00
5,600.00	90.00	359.99	2,750.00	3,054.93	-0.77	3,054.93	0.00	0.00	0.00
5,700.00	90.00	359.99	2,750.00	3,154.93	-0.79	3,154.93	0.00	0.00	0.00
5,800.00	90.00	359.99	2,750.00	3,254.93	-0.82	3,254.93	0.00	0.00	0.00
5,900.00	90.00	359.99	2,750.00	3,354.93	-0.84	3,354.93	0.00	0.00	0.00
6,000.00	90.00	359.99	2,750.00	3,454.93	-0.87	3,454.93	0.00	0.00	0.00
6,100.00	90.00	359.99	2,750.00	3,554.93	-0.89	3,554.93	0.00	0.00	0.00
6,200.00	90.00	359.99	2,750.00	3,654.93	-0.92	3,654.93	0.00	0.00	0.00
6,300.00	90.00	359.99	2,750.00	3,754.93	-0.94	3,754.93	0.00	0.00	0.00
6,400.00	90.00	359.99	2,750.00	3,854.93	-0.97	3,854.93	0.00	0.00	0.00
6,500.00	90.00	359.99	2,750.00	3,954.93	-0.99	3,954.93	0.00	0.00	0.00
6,600.00	90.00	359.99	2,750.00	4,054.93	-1.02	4,054.93	0.00	0.00	0.00
6,700.00	90.00	359.99	2,750.00	4,154.93	-1.04	4,154.93	0.00	0.00	0.00
6,800.00	90.00	359.99	2,750.00	4,254.93	-1.07	4,254.93	0.00	0.00	0.00



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Sherman 4 Fee #3H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3347.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3347.00usft
Site:	Sherman 4 Fee #3H	North Reference:	Grid
Well:	Sherman 4 Fee #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" Hole		

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)
6,900.00	90.00	359.99	2,750.00	4,354.93	-1.09	4,354.93	0.00	0.00	0.00
7,000.00	90.00	359.99	2,750.00	4,454.93	-1.12	4,454.93	0.00	0.00	0.00
7,100.00	90.00	359.99	2,750.00	4,554.93	-1.14	4,554.93	0.00	0.00	0.00
7,200.00	90.00	359.99	2,750.00	4,654.93	-1.17	4,654.93	0.00	0.00	0.00
7,300.00	90.00	359.99	2,750.00	4,754.93	-1.19	4,754.93	0.00	0.00	0.00
7,322.97	90.00	359.99	2,750.00	4,777.90	-1.20	4,777.90	0.00	0.00	0.00
PBHL-Sherman 4 #3H									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PP=330' FSL Sherman 4	0.00	360.00	2,646.02	180.01	-0.05	612,323.91	483,992.76	32° 41' 0.121 N	104° 23' 7.296 W
- plan hits target center									
- Point									
PBHL-Sherman 4 #3H	0.00	0.00	2,750.00	4,777.90	-1.20	616,921.80	483,991.60	32° 41' 45.620 N	104° 23' 7.336 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)		Comment
2,272.54	2,272.54	0.00	0.00		KOP Start Build 12.00°/100'
3,022.54	2,750.00	477.47	-0.12		EOC hold 90.00°



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Sherman 4 Fee #3H
Wellbore: OH
Design: Plan #1 8-3/4" Hole



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	2272.54	0.00	0.00	2272.54	0.00	0.00	0.00	0.00	0.00	
3	3022.54	90.00	359.99	2750.00	477.46	-0.12	12.00	359.99	477.46	
4	7322.97	90.00	359.99	2750.00	4777.90	-1.20	0.00	0.00	4777.90	PBHL-Sherman 4 #3H

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PP=330' FSL Sherman 4 #3H	2646.02	180.01	-0.05	612323.91	483992.75	32°41' 0.121 N	104°23' 7.296 W	Point
PBHL-Sherman 4 #3H	2750.00	4777.90	-1.20	616921.80	483991.60	32°41' 45.620 N	104°23' 7.336 W	Point

WELL DETAILS: Sherman 4 Fee #3H

		Ground Level:		3347.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
0.00	0.00	612143.90	483992.80	32°40' 58.340 N	104°23' 7.295 W		

Sherman 4 Fee #3H

Created By: Julio Pina Date: 18-Nov-11

Checked: Date:

Reviewed: Date:

PROJECT DETAILS: Eddy County, NM (NAN27 NME)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

AZIMUTH CORRECTIONS

ALL AZIMUTHS MUST BE CORRECTED TO GRID
GRID CORRECTIONS MUST BE APPLIED BEFORE PLOTTING
To convert a Magnetic Direction to a Grid Direction, Add 7.97°
To convert a True Direction to a Grid Direction, Add 0.03°

