

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

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

Form C-103

May 27, 2004

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. 30-015-39152
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 Midland, TX 79701		7. Lease Name or Unit Agreement Name Grave Digger State Com
4. Well Location Unit Letter A : 330' feet from the North line and 380' feet from the East line Section 2 Township 20S Range 25E NMPM County EDDY		8. Well Number 4H
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3438' GR		9. OGRID Number 229137
Pit or Below-grade Tank Application ☐ or Closure ☐		10. Pool name or Wildcat N Seven Rivers; Glorieta-Yeso
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____		
Pit Liner Thickness: _____ 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 ☐

SUBSEQUENT REPORT OF:

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

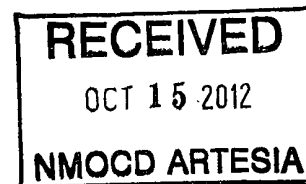
OTHER: **Change Casing Program** ☒

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 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

COG proposes to drill a 12 1/4" hole to 1100' w/ fresh water, run 8 5/8" 32# J-55 and cement to surface. Drill 7 7/8" hole to 2336' MD and kick off and drill curve to 3142' MD. Drill a 7 7/8" lateral to new BHL @ 2946' TVD 7251' MD. Run a 5 1/2" 17# L-80 casing to TD cement to surface with 800 sacks.

Directional Plan attached.



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 NMOC D guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE [Signature] TITLE **Permitting Tech** DATE **10/12/12**

Type or print name **Kelly J. Holly** E-mail address: **kholly@concho.com** Telephone No. **432-685-4384**
For State Use Only

APPROVED BY: [Signature] TITLE **Geologist** DATE **10/15/2012**

Conditions of Approval (if any):



COG Operating LLC

Eddy County, NM (NAN27 NME)

Grave Digger State Com #4H

OH

Plan #1 8-3/4" Hole

Surface: 330' FNL, 380' FEL, Sec 2, T20S, R25E, Lot 1

BHL: 340' FSL, 380' FEL, Sec 2, T19S, R25E, Unit P

Standard Planning Report

11 October, 2012





Scientific Drilling
Planning Report



Database: EDM 5000.1 Single User Db
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Grave Digger State Com
Well: #4H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Well #4H
TVD Reference: RF @ 3451 00usft (JW #4)
MD Reference: RF @ 3451 00usft (JW #4)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature

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		Using geodetic scale factor

Site	Grave Digger State Com		
Site Position:		Northing:	585,274.50 usft
From:	Map	Easting:	463,340.80 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 36' 32.284 N
		Longitude:	104° 27' 8.584 W
		Grid Convergence:	-0.06 °

Well	#4H		
Well Position	+N-S	-85.11 usft	Northing: 585,189.40 usft
	+E-W	1,469.53 usft	Easting: 464,810.20 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,438.00 usft
		Latitude:	32° 36' 31.458 N
		Longitude:	104° 26' 51.404 W

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2012	10/11/2012	7.96
		Dip Angle (°)	60.32
		Field Strength (nT)	48,598

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)
	0.00	0.00	0.00
			Direction (°)
			180.14

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	
2,335.50	0.00	0.00	2,335.50	0.00	0.00	0.00	0.00	0.00	0.00	
3,142.09	88.75	180.14	2,856.10	-509.36	-1.27	11.00	11.00	0.00	180.14	
7,251.13	88.75	180.14	2,945.75	-4,617.41	-11.50	0.00	0.00	0.00	0.00	PBHL



Scientific Drilling
Planning Report



Database: EDM 5000 1 Single User Db
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Grave Digger State Corn
Well: #4H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Well #4H
TVD Reference: RF @ 3451 00usft (JW #4)
MD Reference: RF @ 3451 00usft (JW #4)
North Reference: Grd
Survey Calculation Method: Minimum Curvature

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
2,335 50	0 00	0 00	2,335 50	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 11.00									
2,400 00	7 10	180 14	2,399 84	-3 99	-0 01	3 99	11 00	11 00	0 00
2,500 00	18 10	180 14	2,497 28	-25 77	-0 06	25 77	11 00	11 00	0 00
2,600 00	29 10	180 14	2,588 77	-65 74	-0 16	65 74	11 00	11 00	0 00
2,700 00	40 11	180 14	2,670 95	-122 45	-0 30	122 45	11 00	11 00	0 00
2,800 00	51 11	180 14	2,740 80	-193 79	-0 48	193 80	11 00	11 00	0 00
2,900 00	62 11	180 14	2,795 75	-277 16	-0 69	277 16	11 00	11 00	0 00
3,000 00	73 12	180 14	2,833 78	-369 48	-0 92	369 48	11 00	11 00	0 00
3,100 00	84 12	180 14	2,853 48	-467 37	-1 16	467 37	11 00	11 00	0 00
3,142 09	88 75	180 14	2,856 10	-509 36	-1 27	509 36	11 00	11 00	0 00
EOC Start 4109.04 hold at 3142.09 MD									
3,200 00	88 75	180 14	2,857 36	-567 26	-1 41	567 26	0 00	0 00	0 00
3,300 00	88 75	180 14	2,859 55	-667 23	-1 66	667 24	0 00	0 00	0 00
3,400 00	88 75	180 14	2,861 73	-767 21	-1 91	767 21	0 00	0 00	0 00
3,500 00	88 75	180 14	2,863 91	-867 19	-2 16	867 19	0 00	0 00	0 00
3,600 00	88 75	180 14	2,866 09	-967 16	-2 41	967 16	0 00	0 00	0 00
3,700 00	88 75	180 14	2,868 27	-1,067 14	-2 66	1,067 14	0 00	0 00	0 00
3,800 00	88 75	180 14	2,870 45	-1,167 11	-2 91	1,167 12	0 00	0 00	0 00
3,900 00	88 75	180 14	2,872 64	-1,267 09	-3 16	1,267 09	0 00	0 00	0 00
4,000 00	88 75	180 14	2,874 82	-1,367 07	-3 41	1,367 07	0 00	0 00	0 00
4,100 00	88 75	180 14	2,877 00	-1,467 04	-3 65	1,467 05	0 00	0 00	0 00
4,200 00	88 75	180 14	2,879 18	-1,567 02	-3 90	1,567 02	0 00	0 00	0 00
4,300 00	88 75	180 14	2,881 36	-1,666 99	-4 15	1,667 00	0 00	0 00	0 00
4,400 00	88 75	180 14	2,883 54	-1,766 97	-4 40	1,766 97	0 00	0 00	0 00
4,500 00	88 75	180 14	2,885 73	-1,866 94	-4 65	1,866 95	0 00	0 00	0 00
4,600 00	88 75	180 14	2,887 91	-1,966 92	-4 90	1,966 93	0 00	0 00	0 00
4,700 00	88 75	180 14	2,890 09	-2,066 90	-5 15	2,066 90	0 00	0 00	0 00
4,800 00	88 75	180 14	2,892 27	-2,166 87	-5 40	2,166 88	0 00	0 00	0 00
4,900 00	88 75	180 14	2,894 45	-2,266 85	-5 65	2,266 86	0 00	0 00	0 00
5,000 00	88 75	180 14	2,896 64	-2,366 82	-5 90	2,366 83	0 00	0 00	0 00
5,100 00	88 75	180 14	2,898 82	-2,466 80	-6 14	2,466 81	0 00	0 00	0 00
5,200 00	88 75	180 14	2,901 00	-2,566 78	-6 39	2,566 78	0 00	0 00	0 00
5,300 00	88 75	180 14	2,903 18	-2,666 75	-6 64	2,666 76	0 00	0 00	0 00
5,400 00	88 75	180 14	2,905 36	-2,766 73	-6 89	2,766 74	0 00	0 00	0 00
5,500 00	88 75	180 14	2,907 54	-2,866 70	-7 14	2,866 71	0 00	0 00	0 00
5,600 00	88 75	180 14	2,909 73	-2,966 68	-7 39	2,966 69	0 00	0 00	0 00
5,700 00	88 75	180 14	2,911 91	-3,066 66	-7 64	3,066 66	0 00	0 00	0 00
5,800 00	88 75	180 14	2,914 09	-3,166 63	-7 89	3,166 64	0 00	0 00	0 00
5,900 00	88 75	180 14	2,916 27	-3,266 61	-8 14	3,266 62	0 00	0 00	0 00
6,000 00	88 75	180 14	2,918 45	-3,366 58	-8 39	3,366 59	0 00	0 00	0 00
6,100 00	88 75	180 14	2,920 63	-3,466 56	-8 63	3,466 57	0 00	0 00	0 00
6,200 00	88 75	180 14	2,922 82	-3,566 53	-8 88	3,566 55	0 00	0 00	0 00
6,300 00	88 75	180 14	2,925 00	-3,666 51	-9 13	3,666 52	0 00	0 00	0 00
6,400 00	88 75	180 14	2,927 18	-3,766 49	-9 38	3,766 50	0 00	0 00	0 00
6,500 00	88 75	180 14	2,929 36	-3,866 46	-9 63	3,866 47	0 00	0 00	0 00
6,600 00	88 75	180 14	2,931 54	-3,966 44	-9 88	3,966 45	0 00	0 00	0 00
6,700 00	88 75	180 14	2,933 73	-4,066 41	-10 13	4,066 43	0 00	0 00	0 00
6,800 00	88 75	180 14	2,935 91	-4,166 39	-10 38	4,166 40	0 00	0 00	0 00
6,900 00	88 75	180 14	2,938 09	-4,266 37	-10 63	4,266 38	0 00	0 00	0 00
7,000 00	88 75	180 14	2,940 27	-4,366 34	-10 88	4,366 36	0 00	0 00	0 00
7,100 00	88 75	180 14	2,942 45	-4,466 32	-11 12	4,466 33	0 00	0 00	0 00
7,200 00	88 75	180 14	2,944 63	-4,566 29	-11 37	4,566 31	0 00	0 00	0 00



Scientific Drilling
Planning Report



Database: EDM 5000.1 Single User Db
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Grave Digger State Com
Well: #4H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Well #4H
TVD Reference: RF @ 3451 00usft (JW #4)
MD Reference: RF @ 3451 00usft (JW #4)
North Reference: Grd
Survey Calculation Method: Minimum Curvature

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)
7,251.13	88.75	180.14	2,945.75	-4,617.41	-11.50	4,617.43	0.00	0.00	0.00
PBHL									

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									
PBHL	0.00	0.00	2,945.75	-4,617.41	-11.50	580,572.40	464,798.70	32° 35' 45.769 N	104° 26' 51.480 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	Comment	
		+N-S (usft)	+E-W (usft)	
2,335.50	2,335.50	0.00	0.00	KOP Start Build 11.00
3,142.09	2,856.10	-509.36	-1.27	EOC Start 4109.04 hold at 3142.09 MD



Grave Digger State Com#4H
Eddy County, NM (NAN27 NME)
Northing: (Y) 585189.40
Easting: (X) 464810.20
Plan #1 8-3/4" Hole



Azimuths to Grid North
True North 0.06°
Magnetic North 0.02°
Magnetic Field
Strength 48589.2nT
Dip Angle 88.32°
Date 10/11/2012
Model 50QM2012

To convert a Magnetic Direction to a Grid Direction, Add 0.02°
To convert a True Direction to a Grid Direction, Add 0.06°

WELL DETAILS:									
			Ground Level	3438.00					
+N/S	+E/W	North	Easting	Latitude	Longitude				
0.00	0.00	585189.40	464810.20	32° 38' 31.458 N	104° 28' 51.404 W				
SECTION DETAILS									
MD	Inc	Azi	TVD	+N/S	+E/W	Diag	TFace	VSett	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2335.50	0.00	0.00	2335.50	0.00	0.00	0.00	0.00	0.00	
3142.09	88.75	180.14	2858.10	-509.36	-1.27	11.00	180.14	508.38	
7251.13	88.75	180.14	2945.75	-4617.41	-11.50	0.00	0.00	4617.43	PBHL
DESIGN TARGET DETAILS									
Name	TVD	+N/S	+E/W	North	Easting				
PBHL	2945.75	-4617.41	-11.50	585189.40	464798.70				
SITE DETAILS: Grave Digger State Com									
Site Centre Northing: 585274.50									
Easting: 465340.80									
Positional Uncertainty	0.00								
Convergence	-0.05								
Local North	Grid								
PROJECT DETAILS: Eddy County, NM (NAN27 NME)									
Geodetic System: US State Plane 1927 (Exact solution)									
Datum: NAD 1927 (NADCON CONUS)									
Ellipsoid: Clarke 1886									
Zone: New Mexico East 3001									
System Datum: Mean Sea Level									
Map System: US State Plane 1927 (Exact solution)									
Datum: NAD 1927 (NADCON CONUS)									
Ellipsoid: Clarke 1886									
Zone: New Mexico East 3001									
Local Origin: Well BHM, Grid North									
Latitude: 32° 38' 31.458 N									
Longitude: 104° 28' 51.404 W									
Grid East: 464810.20									
Grid North: 585189.40									
Scale Factor: 1.000									
Geomagnetic Model: 50QM2012									
Sample Date: 11-Oct-12									
Magnetic Declination: 7.95°									
Dip Angle from Horizontal: 88.32°									
Magnetic Field Strength: 48589									
To convert a Magnetic Direction to a Grid Direction, Add 0.02°									
To convert a Magnetic Direction to a True Direction, Add 7.95° East									
To convert a True Direction to a Grid Direction, Add 0.06°									

