ATS-10-710
11-935

OCD-ARTESIA

Form 3160-3
(April 2004)

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work: ☑ DRILL ☐ REENTER	5 Lease Serial No. **NMLC-029020M**
	6. If Indian, Allotee or Tribe Name **N/A**
	7 If Unit or CA Agreement, Name and No. **N/A**
1b Type of Well. ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	8 Lease Name and Well No **Carmen Federal #15**
2 Name of Operator **COG Operating LLC**	9 API Well No. **30-015-** 39289
3a Address **550 W. Texas, Suite 1300 Midland TX 79701** / 3b Phone No. *(include area code)* **(432) 685-4385**	10 Field and Pool, or Exploratory **Loco Hills; Glorieta Yeso 96718**
4 Location of Well *(Report location clearly and in accordance with any State requirements *)* At surface **SHL: 660' FNL & 600' FWL, Unit D** At proposed prod zone **BHL: 330' FNL & 330' FWL, Unit D**	11 Sec., T. R M or Blk. and Survey or Area **Sec 3, T17S, R30E**
14 Distance in miles and direction from nearest town or post office* **2.5 miles Northeast of Loco Hills, NM**	12 County or Parish **Eddy** / 13 State **NM**

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) **600'**	16 No. of acres in lease **159.57**	17. Spacing Unit dedicated to this well **40**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **50'**	19 Proposed Depth **6150' TVD; 6174' MD**	20 BLM/BIA Bond No. on file **NMB000740**
21 Elevations (Show whether DF, KDB, RT, GL, etc.) **3730' GL**	22 Approximate date work will start* **07/31/2011**	23. Estimated duration **10 days**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, shall be attached to this form.

1 Well plat certified by a registered surveyor.
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer

25. Signature	Name *(Printed/Typed)* **Robyn M. Odom**	Date **05/25/2011**
Title **Regulatory Analyst**		
Approved by *(Signature)* **/s/ Don Peterson**	Name *(Printed/Typed)*	Date **JUL 26 2011**
Title **FIELD MANAGER**	Office **CARLSBAD FIELD OFFICE**	

Application approval 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.
Conditions of approval, if any, are attached. **APPROVAL FOR TWO YEARS**

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

(Instructions on page 2)

Roswell Controlled Water Basin

RECEIVED
AUG 4 2011
NMOCD ARTESIA

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

MASTER DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Rustler	340'
Top of Salt	500'
Base of Salt	1000'
Yates	1280'
Seven Rivers	1570'
Queen	2190'
Grayburg	2600'
San Andres	2910'
Glorietta	4380'
Paddock	4460'
Blinebry	4930'
Tubb	5940'

3. Estimated Depths of Anticipated Fresh Water, Oil and Gas

Water Sand	150'	Fresh Water
Grayburg	2600'	Oil/Gas
San Andres	2910'	Oil/Gas
Glorietta	4380'	Oil/Gas
Paddock	4460'	Oil/Gas
Blinebry	4930'	Oil/Gas
Tubb	5940'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to ~~425'~~ and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be protected by setting 8 5/8" casing to 1300' and circulating cement, in a single or multi-stage job and/or with an ECP, back to the surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them. This will be achieved by cementing, with a single or multi-stage job, the 5 1/2" production casing back 200' into the intermediate casing (but calculated to surface), to be run at TD. If wellbore conditions arise that require immediate action and/or a change to this program, COG Operating LLC personnel will always react to protect the wellbore and/or the environment. See COA

4. Casing Program

See COA

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	brst/clps/ten
17 ½"	0-~~425~~340	13 3/8"	48#	H-40orJ-55	ST&C/New	ST&C	9.22/3.943/15.8
11"	0-1300'	8 5/8"	24or32#	J-55	ST&C/New	ST&C	3.03/2.029/7.82
7 7/8"	0-TD	5 1/2"	15.5or17#	J-55orL-80	LT&C/New	LT&C	1.88/1.731/2.42

5. Cement Program

13 3/8" Surface Casing: 450 Class C w/ 2% Cacl2 + 0.25 pps CF, yield 1.32, back to surface. 101% excess

8 5/8" Intermediate Casing:

11" Hole:

Single Stage: LEAD: 300 sx 50:50:10 C:Poz:Gel w/ 5% Salt +0.25% CF, yield-2.45 + TAIL: 200 sx Class C w/2% CaCl2, yield-1.32, back to surface. 202% excess

Multi-Stage: Stage 1: 200 Class C w/2% CaCl2, yield - 1.32; 26% excess. Stage 2: 300 sx 50:50:10 C:Poz:Gel w/ 5% Salt +0.25% CF, yield - 2.45, back to surface, 509% excess; assumption for tool is lost circulation. Multi stage tool to be set at approximately, depending on hole conditions, 475' (50' below the surface casing). Cement volumes will be adjusted proportionately for depth changes of multi stage tool.

See COA

5 1/2" Production Casing:

Single Stage: LEAD 500 sx 35:65:6 C:Poz:Gel w/ 5% Salt + 5 pps LCM + 0.2% SMS + 0.3% FL-52A + 0.125 pps CF, yield-2.05; + TAIL 400 sx 50:50:2 C:Poz:Gel w/ 5% Salt + 3 pps LCM + 0.6% SMS + 1% FL-25 + 1% BA-58 + 0.3% FL-52A + 0.125 pps CF, yield-1.37, 62.4% open hole excess, cement calculated back to surface.

Multi-Stage: Stage 1: (Assumed TD of 6000') 500 sx 50:50:2 C:Poz:Gel w/ 5% Salt + 3 pps LCM + 0.6% SMS + 1% FL-25 + 1% BA-58 + 0.3% FL-52A + 0.125 pps CF, yield - 1.37, 31.8% excess; Stage 2: LEAD

See COA

450 sx 50:50:2 C:Poz:Gel w/ 5% Salt + 3 pps LCM + 0.6% SMS + 1% FL-25 + 1% BA-58 + 0.3% FL-52A + 0.125 pps CF, yield - 1.37, + TAIL 250 sx Class C w/ 0.3% R-3 + 1.5% CD-32, yield – 1.02 110.8% open hole excess, cement calculated back to surface. Multi stage tool to be set at approximately, depending on hole conditions, 3000'. Cement volumes will be adjusted proportionately for depth changes of multi stage tool, assumption for tool is water flow.

6. Minimum Specifications for Pressure Control

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (2000 psi WP) preventer, and in some cases possibly a 2000 psi Hydril type annular preventer as provided for in Onshore Order #2. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on the bottom. A 13-5/8" or 11" BOP will be used, depending on the rig selected, during the drilling of the well. The BOP will be nippled up on the 13 3/8" surface casing with BOP equipment and tested to 2000 psi. When 11" BOP is used the special drilling flange will be utilized on the 13-3/8" head to allow testing the BOP with a retrievable test plug. After setting 8-5/8" the BOP will then be nippled up on the 8 5/8" intermediate casing and tested by a third party to 2000 psi and used continuously until total depth is reached. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) with a 2000 psi WP rating.

The majority of the rigs currently in use have a 13-5/8" BOP, so no special provision is needed for most wells in the area for conventionally testing the BOP with a test plug. However, due to the vagaries of rig scheduling, it might be that one of the few rigs with 11" BOP's might be called upon to drill any specific well in the area. Note that intermediate hole size is always 11". Therefore, COG Operating LLC respectfully requests a variance to the requirement of 13-5/8" BOP on 13-3/8" casing. When that circumstance is encountered the special flange will be utilized to allow testing the entire BOP with a test plug, without subjecting the casing to test pressure. The special flange also allows the return to full-open capability if desired. See COA

7. Types and Characteristics of the Proposed Mud System

The well will be drilled to TD with a combination of brine, cut brine and polymer mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-~~425~~ 340	Fresh Water	8.5	28	N.C.
~~4~~25-1300'	Brine	10	30	N.C.
1300'-TD	Cut Brine	8.7-9.1	29	N.C.

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times.

8. Auxiliary Well Control and Monitoring Equipment

A. Kelly cock will be kept in the drill string at all times.

B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program See COA

A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be run from TD to 8 5/8" casing shoe.

B. Drill Stem test is not anticipated.

C. No conventional coring is anticipated.

D. Further testing procedures will be determined after the 5 ½" production casing has been cemented at TD, based on drill shows and log evaluation.

10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and the estimated maximum bottom hold pressure is 2300 psig. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area, although a Hydrogen Sulfide Drilling Operation Plan is attached to this program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations

Road and location work will not begin until approval has been received from the BLM. As this is a Master Drilling plan, please refer to the Form 3160-3 for the anticipated start date. Once commenced, drilling operations should be finished in approximately 12 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

CONCHO

COG Operating LLC

Eddy County, NM (NAN27 NME)
Carmen Federal #15
Carmen Federal #15

OH

Plan: Plan #1 - 7-7/8" Hole
SHL = 660' FNL & 600' FWL
BHL = 380' FNL & 380' FWL
Top of Paddock = 380' FNL & 380' FWL @ 4400' TVD

Standard Planning Report

18 November, 2010

Scientific Drilling
Directional Drilling Operations

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Carmen Federal #15
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3730 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3730.00usft
Site:	Carmen Federal #15	**North Reference:**	Grid
Well:	Carmen Federal #15	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" 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 Carmen Federal #15

Site Position:		**Northing:**	679,991 50 usft	**Latitude:**	32° 52' 7 822 N
From:	Map	**Easting:**	612,815 90 usft	**Longitude:**	103° 57' 57 237 W
Position Uncertainty:	0 00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0 20 °

Well Carmen Federal #15

Well Position	**+N/-S**	0 00 usft	**Northing:**	679,991 50 usft	**Latitude:**	32° 52' 7 822 N
	+E/-W	0 00 usft	**Easting:**	612,815 90 usft	**Longitude:**	103° 57' 57 237 W
Position Uncertainty		0 00 usft	**Wellhead Elevation:**		**Ground Level:**	3,730 00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2010/11/18	7 89	60 73	49,016

Design Plan #1 - 7-7/8" 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	321 58

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	
1,450 00	0 00	0 00	1,450.00	0 00	0 00	0 00	0 00	0 00	0 00	
1,847 16	7 94	321 58	1,845 89	21 53	-17 08	2 00	2 00	0 00	321 58	
4,026 29	7 94	321 58	4,004 11	257 47	-204 22	0 00	0 00	0 00	0 00	
4,423 45	0 00	0 00	4,400 00	279 00	-221 30	2 00	-2 00	0 00	180 00	TG1-Carmen #15
6,173 45	0 00	0 00	6,150 00	279 00	-221 30	0 00	0 00	0 00	0 00	PBHL-Carmen #15

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Carmen Federal #15
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3730 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev. @ 3730 00usft
Site:	Carmen Federal #15	**North Reference:**	Grid
Well:	Carmen Federal #15	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" 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
North HL-Carmen #15 - West HL-Carmen #15									
1,350 00	0 00	0 00	1,350 00	0 00	0 00	0 00	0 00	0 00	0.00
8-5/8" Casing									
1,450 00	0 00	0 00	1,450 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 2.00°/100'									
1,500 00	1 00	321 58	1,500.00	0 34	-0 27	0 44	2.00	2 00	0.00
1,600 00	3 00	321 58	1,599 93	3 08	-2 44	3 93	2 00	2 00	0 00
1,700 00	5 00	321.58	1,699 68	8 54	-6 77	10 90	2 00	2 00	0 00
1,800 00	7 00	321 58	1,799 13	16 73	-13 27	21 35	2 00	2 00	0 00
1,847 16	7 94	321 58	1,845 89	21 53	-17 08	27 49	2 00	2 00	0 00
EOC hold 7.94°									
1,900 00	7 94	321 58	1,898 22	27 26	-21 62	34 79	0 00	0 00	0 00
2,000 00	7 94	321 58	1,997 26	38 08	-30 21	48 61	0 00	0 00	0.00
2,100 00	7.94	321 58	2,096 30	48.91	-38 79	62 43	0 00	0 00	0 00
2,200 00	7 94	321 58	2,195 34	59.74	-47 38	76.25	0 00	0 00	0 00
2,300 00	7 94	321 58	2,294 38	70 56	-55 97	90.06	0 00	0 00	0 00
2,400 00	7 94	321 58	2,393 42	81.39	-64 56	103 88	0 00	0 00	0 00
2,500 00	7 94	321 58	2,492 47	92 22	-73 15	117 70	0 00	0 00	0 00
2,600 00	7 94	321 58	2,591 51	103 04	-81.73	131 52	0.00	0 00	0 00
2,700 00	7 94	321 58	2,690 55	113 87	-90 32	145 34	0 00	0 00	0 00
2,800 00	7 94	321 58	2,789 59	124 70	-98 91	159 16	0 00	0 00	0.00
2,900 00	7 94	321.58	2,888 63	135 52	-107 50	172 98	0 00	0 00	0 00
3,000 00	7 94	321 58	2,987.67	146 35	-116 08	186 80	0 00	0 00	0 00
3,100 00	7 94	321 58	3,086 71	157 18	-124 67	200 62	0 00	0 00	0.00
3,200 00	7 94	321 58	3,185 75	168 00	-133 26	214 44	0 00	0 00	0 00
3,300 00	7.94	321 58	3,284 79	178 83	-141 85	228 26	0 00	0 00	0 00
3,400 00	7.94	321 58	3,383 83	189 66	-150 43	242 08	0.00	0 00	0.00
3,500 00	7.94	321 58	3,482 87	200.48	-159 02	255 90	0.00	0 00	0 00
3,600 00	7.94	321 58	3,581 91	211.31	-167 61	269 71	0 00	0 00	0 00
3,700 00	7 94	321 58	3,680 95	222 14	-176 20	283 53	0 00	0 00	0 00
3,800 00	7 94	321 58	3,779 99	232.97	-184 79	297.35	0 00	0 00	0 00
3,900 00	7 94	321 58	3,879 03	243 79	-193 37	311 17	0 00	0 00	0.00
4,000 00	7 94	321 58	3,978 07	254.62	-201 96	324 99	0 00	0 00	0 00
4,026 29	7 94	321 58	4,004 11	257.47	-204 22	328.62	0 00	0 00	0 00
Start Drop 2.00°/100'									
4,100 00	6 47	321 58	4,077 24	264.71	-209 96	337 87	2 00	-2 00	0 00
4,200 00	4 47	321 58	4,176 78	272 18	-215 89	347 40	2.00	-2 00	0.00
4,300 00	2 47	321 58	4,276.59	276 92	-219 65	353.45	2.00	-2 00	0 00
4,400 00	0 47	321 58	4,376 55	278 92	-221 24	356 01	2 00	-2 00	0 00
4,423 45	0 00	0 00	4,400 00	279 00	-221 30	356 11	2 00	-2 00	163 84
EOC hold 0.00° - TG1-Carmen #15									
6,173 45	0 00	0 00	6,150 00	279 00	-221 30	356 11	0 00	0 00	0 00
PBHL-Carmen #15									

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Carmen Federal #15
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3730.00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3730.00usft
Site:	Carmen Federal #15	**North Reference:**	Grid
Well:	Carmen Federal #15	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
North HL-Carmen #15 - plan misses target center by 426.43usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W200.00 H0.00 D0.00)	0.00	0.00	0.00	329.00	-271.30	680,320.50	612,544.60	32° 52' 11.087 N	103° 58' 0.404 W
West HL-Carmen #15 - plan misses target center by 426.43usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W0.00 H200.00 D0.00)	0.00	0.00	0.00	329.00	-271.30	680,320.50	612,544.60	32° 52' 11.087 N	103° 58' 0.404 W
TG1-Carmen #15 - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,400.00	279.00	-221.30	680,270.50	612,594.60	32° 52' 10.591 N	103° 57' 59.820 W
PBHL-Carmen #15 - plan hits target center - Circle (radius 50.00)	0.00	0.00	6,150.00	279.00	-221.30	680,270.50	612,594.60	32° 52' 10.591 N	103° 57' 59.820 W

Casing Points

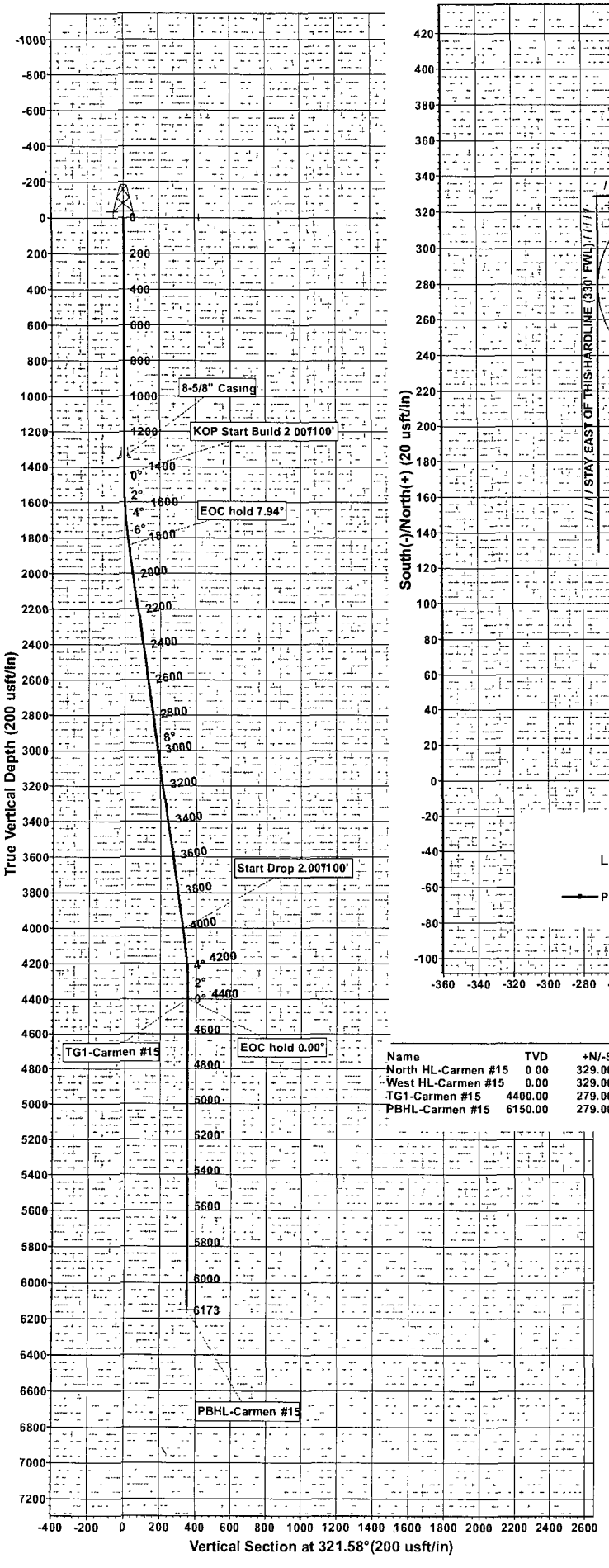
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,350.00	1,350.00	8-5/8" Casing	8-5/8	12-1/4

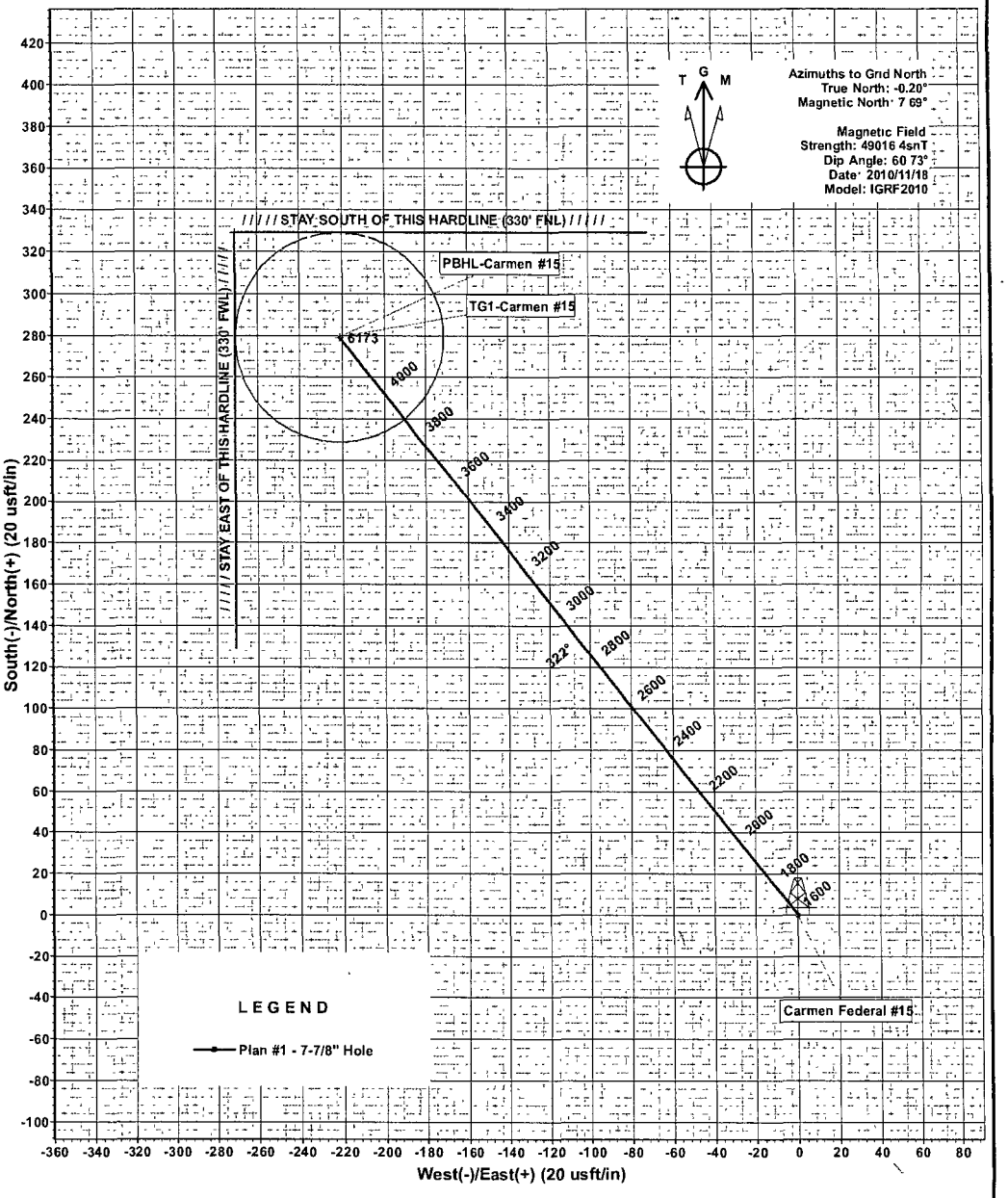
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,450.00	1,450.00	0.00	0.00	KOP Start Build 2.00°/100'
1,847.16	1,845.89	21.53	-17.08	EOC hold 7.94°
4,026.29	4,004.11	257.47	-204.22	Start Drop 2.00°/100'
4,423.45	4,400.00	279.00	-221.30	EOC hold 0.00°

Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Carmen Federal #15
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole

Scientific Drilling
Directional Drilling Operations





WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
North HL-Carmen #15	0.00	329.00	-271.30	680320.50	612544.60	32°52' 11.087 N	103°58' 0.404 W	Rectangle (Sides . L0.00 W200.00)
West HL-Carmen #15	0.00	329.00	-271.30	680320.50	612544.60	32°52' 11.087 N	103°58' 0.404 W	Rectangle (Sides: L200.00 W0.00)
TG1-Carmen #15	4400.00	279.00	-221.30	680270.50	612594.60	32°52' 10.591 N	103°57' 59.820 W	Circle (Radius. 5.0.00)
PBHL-Carmen #15	6150.00	279.00	-221.30	680270.50	612594.60	32°52' 10.591 N	103°57' 59.820 W	Circle (Radius. 50.00)

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	1450.00	0.00	0.00	1450.00	0.00	0.00	0.00	0.00	0.00	
3	1847.16	7.94	321.58	1845.89	21.53	-17.08	2.00	321.58	27.49	
4	4026.29	7.94	321.58	4004.11	257.47	-204.22	0.00	0.00	328.62	
5	4423.45	0.00	0.00	4400.00	279.00	-221.30	2.00	180.00	356.11	TG1-Carmen #15
6	6173.45	0.00	0.00	6150.00	279.00	-221.30	0.00	0.00	356.11	PBHL-Carmen #15

WELL DETAILS: Carmen Federal #15

Ground Level: 3730.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	679991.50	612815.90	32°52' 7.822 N	103°57' 5.7237 W	

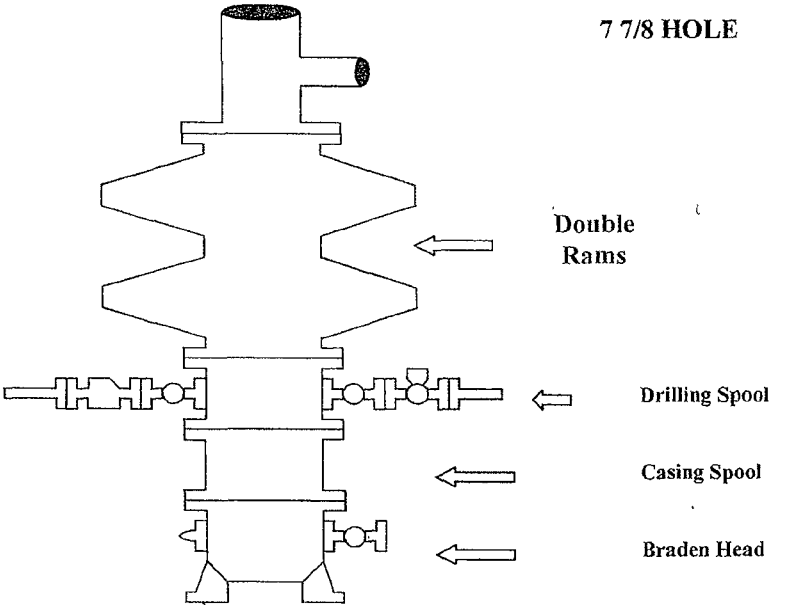
PROJECT DETAILS: Eddy County, NM (NAN27 NME)

Plan: Plan #1 - 7-7/8" Hole (Carmen Federal #15/OH)

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

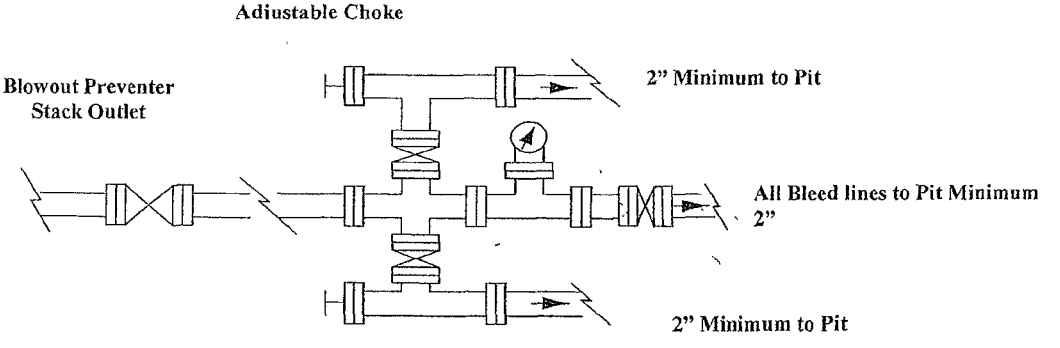
Created By: Julio Pina — Date: 18-Nov-10
Checked: _____ Date: _____
Reviewed: _____ Date: _____
Approved _____ Date: _____

COG Operating LLC
Exhibit #9
BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WP)
No Annular Required



Adjustable Choke
(or Positive)

NOTES REGARDING THE BLOWOUT PREVENTERS
Master Drilling Plan
Eddy County, New Mexico

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All fittings to be flanged.
5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum.
6. All choke and fill lines to be securely anchored especially ends of choke lines.
7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
8. Kelly cock on Kelly.
9. Extension wrenches and hands wheels to be properly installed.
10. Blow out preventer control to be located as close to driller's position as feasible.
11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.