

Form 3160-3  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**


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


1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No. <b>NMLC-058181</b>
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator <b>COG Operating LLC</b>		7 If Unit or CA Agreement, Name and No N/A
3a Address <b>550 W. Texas, Suite 100 Midland TX 79701</b>		8 Lease Name and Well No. <b>Beech Federal #5</b> (302457)
3b Phone No (include area code) <b>(432) 685-4384</b>		9 API Well No. <b>30-015-39461</b>
4 Location of Well (Report location clearly and in accordance with any State requirements.) At surface <b>SHL: 1785' FSL &amp; 2073' FEL, UL J</b> At proposed prod zone <b>BHL: 1650' FSL &amp; 2310' FEL, UL J</b>		10 Field and Pool, or Exploratory <b>Red Lake; Glorieta-Yeso, Northeast</b> (96876)
14. Distance in miles and direction from nearest town or post office* <b>2 miles North of Loco Hills, NM</b>		11 Sec, T R M or Blk and Survey or Area <b>Sec 25, T17S, R27E</b>
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig, unit line, if any) <b>1785'</b>	16 No. of acres in lease <b>40</b>	17 Spacing Unit dedicated to this well <b>40</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>150'</b>	19. Proposed Depth <b>TVD: 4750' MD: 4767'</b>	20 BLM/BIA Bond No on file <b>NMB000740; NMB000215</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3577' GL</b>	22 Approximate date work will start* <b>09/30/2011</b>	23 Estimated duration <b>15 days</b>

## 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.  | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)      |
| 2 A Drilling Plan.   | 5. Operator certification  |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25 Signature 	Name (Printed/Typed) <b>Kelly J. Holly</b>	Date <b>07/12/2011</b>
Title <b>Permitting Tech</b>		

Approved by (Signature) 	Name (Printed/Typed) <b>James A. Amos</b>	Date <b>SEP 21 2011</b>
Title <b>FIELD MANAGER</b>		
Office <b>CARLSBAD FIELD OFFICE</b>		

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.

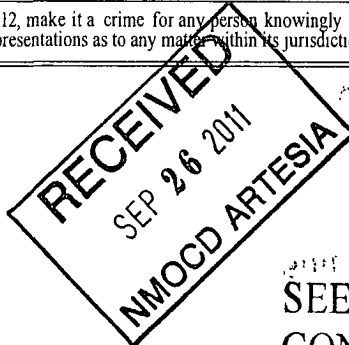
Conditions of approval, if any, are attached

**APPROVAL FOR TWO YEARS**

Title 18 USC 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

Approval Subject to General Requirements  
& Special Stipulations Attached**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

## DRILLING PROGRAM

### 1. Geologic Name of Surface Formation

Quaternary

### 2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Top of Salt	0'
Base of Salt	100'
Yates	250'
Seven Rivers	450'
Queen	950'
Grayburg	1400'
San Andres	1750'
Glorieta	3100'
Yeso Group	3200'
Tubb	4600'

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

Water Sand	150'	Fresh Water
Grayburg	1400'	Oil/Gas
San Andres	1750'	Oil/Gas
Glorieta	3100'	Oil/Gas
Yeso Group	3200'	Oil/Gas
Tubb	4600'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to ~~300'~~ 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 1000' 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 (although cement volume is actually 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 environment.

\* See  
COA

See COA

\* See  
COA

4. Casing Program

See COA

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	brst/clps/ten
17 1/2"	<del>0-300'</del>	13 3/8"	48#	H-40orJ-55	ST&C/New	ST&C	9.22/3.943/15.8
11"	0-1000'	8 5/8"	24or32#	J-55orK-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:

Class C w/ 2% CaCl<sub>2</sub> + 0.25 pps CF, 350 sx, yield 1.32, back to surface. 122% excess

8 5/8" Intermediate Casing:

**11" Hole:**

**Single Stage:** 50:50:10 C:Poz:Gel w/ 5% Salt + 0.25% CF, 200 sx lead, yield-2.45 + Class C, 200 sx tail, yield-1.32, back to surface. 197% excess

**Multi-Stage:** Stage 1: Class C w/2% CaCl<sub>2</sub>, 200 sx, yield - 1.32; 108% excess  
Stage 2: 50:50:10 C:Poz:Gel w/ 5% Salt + 0.25% CF, 300 sx, yield - 2.45, back to surface, 726% excess; assumption for tool is lost circulation. Multi stage tool to be set at approximately, depending on hole conditions, ~~250'~~ (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 400 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, to 200' minimum tie back to intermediate casing. 52% open hole

excess, cement calculated back to surface (no need for excess in casing overlap).

**Multi-Stage:** Stage 1: (Assumed TD of 4800' to DV at 2500') 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, 500 sx, yield - 1.37, 56% excess; **this is a minimum volume and will be adjusted up after caliper is run.** Stage 2: LEAD 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, 450 sx, yield - 1.37, + TAIL Class C w/ 0.3% R-3 + 1.5% CD-32, 250 sx, yield - 1.02 88% excess calculated back to surface (no need for excess in casing overlap). Multi stage tool to be set at approximately, depending on hole conditions, 2500'. Cement volumes will be adjusted proportionately for depth changes of multi stage tool; assumption for use of tool is water flow.

\* See  
COA

High Cave/Karst

See  
COA

## 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 nipped 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 nipped 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

\*  
See  
COA

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:

*Use Fresh Water Mud To 1000'*

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-300'	Fresh Water	8.5	28	N.C.
300-1000'	<del>Brine</del>	10	30	N.C.
1000'-TD'	Cut Brine	8.7-9.2	30	N.C.

\*  
See  
COA

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 Surface.
- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated.
- D. Further testing procedures will be determined after the 5 1/2" production casing has been cemented at TD, based on drill shows and log evaluation.

\*  
See  
COA

#### 10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature at TD is 100 degrees and the estimated maximum bottom hole pressure is 1900 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 10 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.

# **COG OPERATING LLC**

550 West Texas, Suite 100

Midland, TX 79701

## **DIRECTIONAL PLAN VARIANCE REQUEST**

**Beech Federal #5**

**EDDY, NM**

SHL	1785 FSL, 2073 FEL	Sec 25, T17S, R27E, Unit J
BHL	1650 FSL, 2310 FEL	Sec 25, T17S, R27E, Unit J

COG Operating LLC, as Operator, desires that the APD reflect the footages as stated on the surveyor's plat. However, Operator also desires to avoid inadvertently drilling the well to a non-standard location. Therefore, due to the proximity of the plat bottom hole location to the pro-ration unit hard line(s), the attached directional plan is designed to avoid the hard lines by as much as fifty feet; said fifty feet being in either (or both) the north-south and/or east-west directions as applicable.



## **COG Operating LLC**

Eddy County, NM (NAN27 NME)

Beech Federal #5

Beech Federal #5

OH

Plan: Plan #1 7-7/8" Hole

SHL = 1785' FSL & 2073' FEL

BHL = 1660' FSL & 2300' FEL

Top of Paddock = 1660' FSL & 2300' FEL @ 3200' TVD

## **Standard Planning Report**

06 July, 2011







Scientific Drilling  
Planning Report



Database	EDM-Julio	Local Co-ordinate Reference	Site Beech Federal #5
Company	COG Operating LLC	TVD Reference:	GL Elev @ 3577 00usft
Project	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3577 00usft
Site	Beech Federal #5	North Reference	Grid
Well:	Beech Federal #5	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	Beech Federal #5		
Site Position:		Northing:	655,719 80 usft
From:	Map	Easting:	531,796.40 usft
Position Uncertainty:	0 00 usft	Slot Radius:	13-3/16 "
		Grid Convergence:	0 06 °

Well:	Beech Federal #5		
Well Position	+N/-S	0 00 usft	Northing:
	+E/-W	0 00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	2011/07/06	7 93
			Dip/Angle
			60 61
			Field Strength
			48,884

Design	Plan #1 7-7/8" Hole		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0 00	0 00	0 00
			Direction
			241 41

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(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	
950 00	0 00	0 00	950.00	0 00	0 00	0 00	0 00	0 00	0 00	
1,345.59	7 91	241.41	1,344 33	-13 05	-23 94	2.00	2 00	0 00	241 41	
2,820 97	7 91	241 41	2,805 67	-110 25	-202.26	0 00	0 00	0 00	0 00	
3,216 56	0 00	0 00	3,200 00	-123 30	-226 20	2 00	-2 00	0 00	180 00	TG1-Beech Fed #5
4,766 56	0 00	0 00	4,750 00	-123 30	-226 20	0.00	0 00	0 00	0 00	PBHL-Beech Fed #5



Scientific Drilling  
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Beech Federal #5
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3577 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3577 00usft
Site:	Beech Federal #5	North Reference:	Grid
Well:	Beech Federal #5	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	
West HL-Beech Fed #5 - South HL-Beech Fed #5										
850 00	0 00	0 00	850 00	0 00	0.00	0 00	0 00	0 00	0 00	
8-5/8" Casing										
950 00	0 00	0 00	950.00	0.00	0 00	0 00	0 00	0.00	0.00	
KOP Start Build 2.00°/100'										
1,000 00	1 00	241 41	1,000.00	-0 21	-0 38	0 44	2.00	2.00	0 00	
1,100 00	3 00	241 41	1,099.93	-1 88	-3.45	3.93	2 00	2.00	0 00	
1,200 00	5 00	241 41	1,199.68	-5 22	-9 57	10.90	2 00	2.00	0.00	
1,300 00	7 00	241.41	1,299.13	-10 22	-18 75	21.35	2 00	2.00	0 00	
1,345.59	7 91	241 41	1,344 33	-13 05	-23 94	27 27	2 00	2 00	0 00	
EOC hold 7.91°										
1,400 00	7 91	241.41	1,398.23	-16 64	-30.52	34 76	0.00	0 00	0.00	
1,500 00	7 91	241 41	1,497 27	-23 22	-42.61	48 52	0 00	0.00	0.00	
1,600 00	7 91	241 41	1,596 32	-29 81	-54.69	62 29	0 00	0.00	0 00	
1,700 00	7 91	241 41	1,695 37	-36 40	-66.78	76 05	0 00	0.00	0 00	
1,800 00	7 91	241 41	1,794 42	-42 99	-78.86	89 82	0 00	0.00	0 00	
1,900 00	7 91	241 41	1,893 47	-49 58	-90.95	103 58	0 00	0.00	0 00	
2,000 00	7 91	241 41	1,992 51	-56 16	-103.04	117 35	0.00	0 00	0.00	
2,100 00	7 91	241.41	2,091 56	-62 75	-115 12	131 11	0 00	0 00	0 00	
2,200 00	7 91	241 41	2,190 61	-69 34	-127 21	144.88	0 00	0.00	0 00	
2,300.00	7.91	241 41	2,289.66	-75 93	-139 29	158 64	0 00	0 00	0 00	
2,400 00	7.91	241 41	2,388.71	-82 52	-151.38	172.41	0 00	0.00	0 00	
2,500.00	7.91	241.41	2,487.76	-89 10	-163.46	186 17	0 00	0 00	0 00	
2,600.00	7 91	241 41	2,586 80	-95 69	-175 55	199 94	0.00	0 00	0 00	
2,700 00	7 91	241 41	2,685 85	-102.28	-187.64	213.70	0 00	0 00	0 00	
2,800 00	7.91	241 41	2,784 90	-108 87	-199.72	227 47	0 00	0 00	0 00	
2,820 97	7 91	241 41	2,805 67	-110 25	-202.26	230 35	0 00	0.00	0 00	
Start Drop 2.00°/100'										
2,900 00	6 33	241 41	2,884.09	-114.94	-210 86	240 15	2.00	-2.00	0.00	
3,000.00	4 33	241 41	2,983 65	-119 38	-219.02	249 44	2 00	-2.00	0.00	
3,100.00	2 33	241 41	3,083 48	-122 17	-224.12	255 25	2 00	-2.00	0 00	
3,200.00	0 33	241.41	3,183 44	-123 28	-226 16	257 57	2.00	-2.00	0 00	
3,216 56	0 00	0 00	3,200 00	-123 30	-226.20	257 62	2 00	-2.00	0 00	
EOC hold 0.00° - Top of Paddock - TG1-Beech Fed #5										
4,766.56	0.00	0 00	4,750 00	-123 30	-226 20	257 62	0 00	0 00	0 00	
PBHL-Beech Fed #5										



Scientific Drilling  
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Beech Federal #5
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3577 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3577 00usft
Site:	Beech Federal #5	North Reference:	Grid
Well:	Beech Federal #5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7-7/8" Hole		

Design Targets										
Target Name	hit/miss target	Dip Angle	Dip Dir	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
Shape		(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
West HL-Beech Fed #5		0 00	0 00	0 00	-133 30	-236 20	655,586 50	531,560 20	32° 48' 8.116 N	104° 13' 50.233 W
- plan misses target center by 271 22usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)										
- Rectangle (sides W0.00 H100.00 D0 00)										
South HL-Beech Fed #5		0 00	0 00	0 00	-133 30	-236 20	655,586 50	531,560 20	32° 48' 8.116 N	104° 13' 50.233 W
- plan misses target center by 271 22usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)										
- Rectangle (sides W100 00 H0 00 D0 00)										
TG1-Beech Fed #5		0 00	0 00	3,200 00	-123 30	-226 20	655,596 50	531,570 20	32° 48' 8.215 N	104° 13' 50.115 W
- plan hits target center										
- Point										
PBHL-Beech Fed #5		0 00	0 00	4,750 00	-123 30	-226 20	655,596 50	531,570 20	32° 48' 8.215 N	104° 13' 50.115 W
- plan hits target center										
- Circle (radius 10 00)										

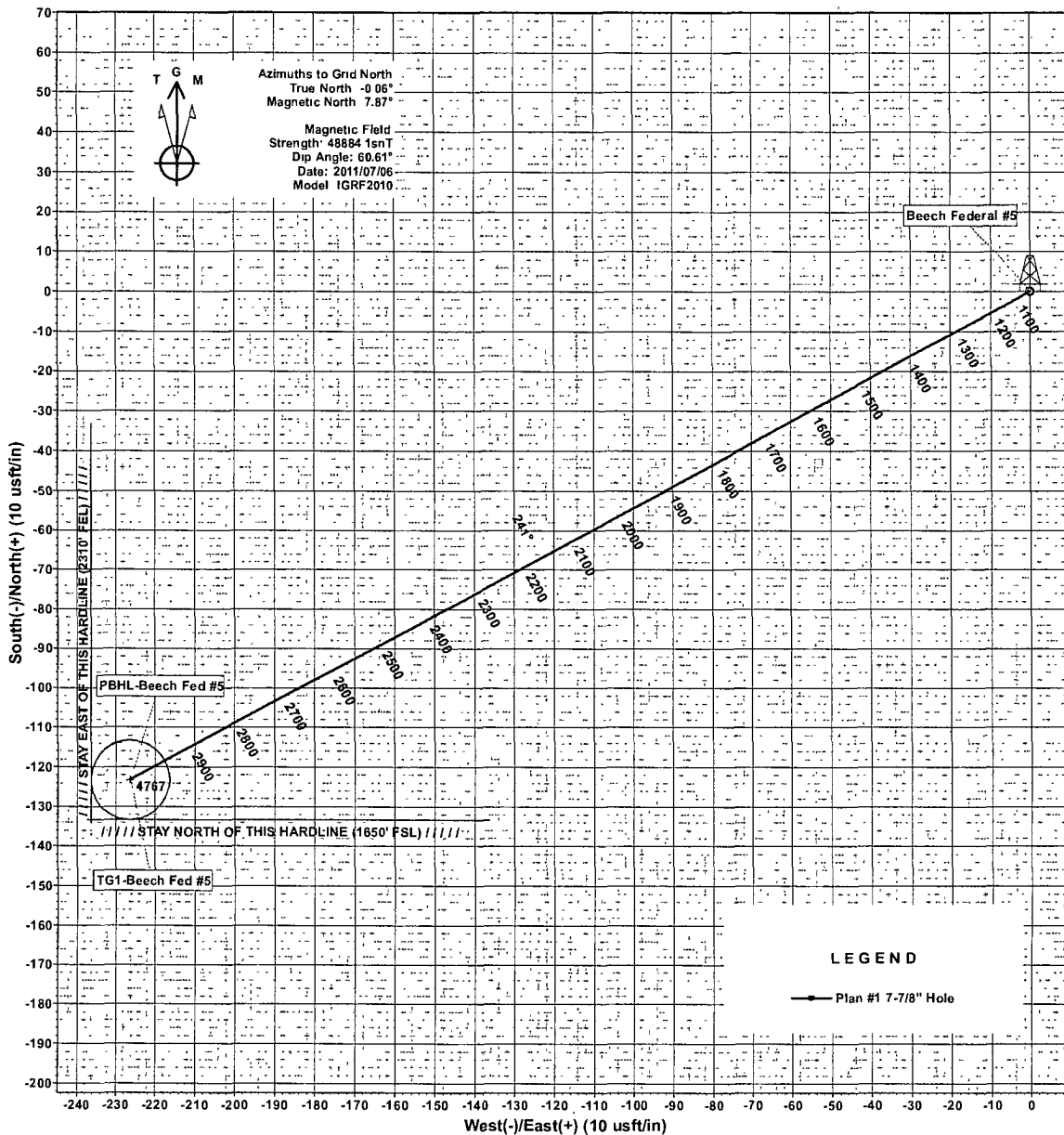
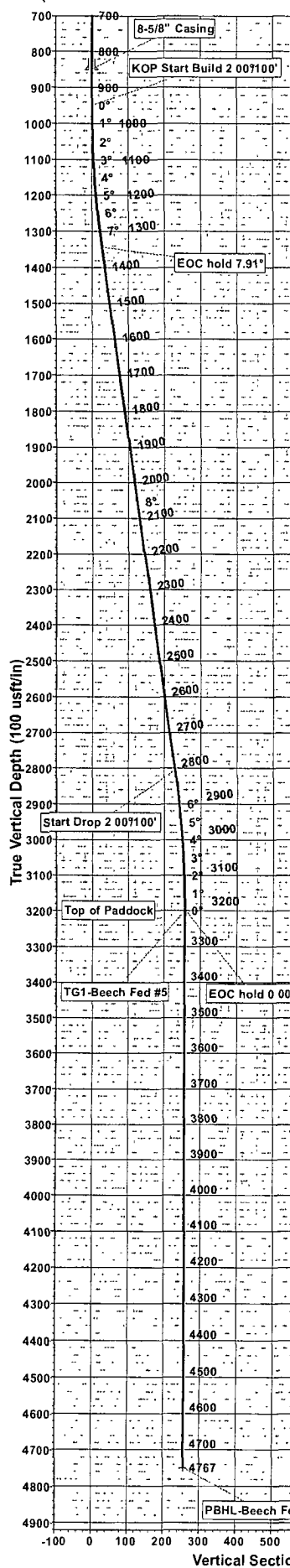
Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(usft)	(usft)			(")	(")
850 00	850 00	8-5/8" Casing		8-5/8	12-1/4

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(usft)	(usft)			(°)	(°)
3,216 56	3,200 00	Top of Paddock		0 00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N-S	+E-W	Comment	
(usft)	(usft)	(usft)	(usft)		
950 00	950 00	0 00	0 00	KOP Start Build 2 00°/100'	
1,345 59	1,344 33	-13 05	-23.94	EOC hold 7 91°	
2,820 97	2,805 67	-110.25	-202 26	Start Drop 2 00°/100'	
3,216 56	3,200 00	-123 30	-226 20	EOC hold 0 00°	



Scientific Drilling for COG Operating LLC  
Site: Eddy County, NM (NAN27 NME)  
Well: Beech Federal #5  
Wellbore: OH  
Design: Plan #1 7-7/8" Hole



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
South HL-Beech Fed #5	0 00	-133.30	-236.20	655586.50	531560.20	32°48' 8.116 N	104°13' 50.233 W	Rectangle (Sd des. L0.00 W100.00)
West HL-Beech Fed #5	0 00	-133.30	-236.20	655586.50	531560.20	32°48' 8.116 N	104°13' 50.233 W	Rectangle (Sd es. L100.00 W0.00)
TG1-Beech Fed #5	3200.00	-123.30	-226.20	655596.50	531570.20	32°48' 8.215 N	104°13' 50.115 W	Point
PBHL-Beech Fed #5	4750.00	-123.30	-226.20	655596.50	531570.20	32°48' 8.215 N	104°13' 50.115 W	Circle (Radius : 10.00)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	
3	1345.59	7.91	241.41	1344.33	-13.05	-23.94	2.00	241.41	27.27	
4	2820.97	7.91	241.41	2805.67	-110.25	-202.26	0.00	0.00	230.35	
5	3216.56	0.00	0.00	3200.00	-123.30	-226.20	2.00	180.00	257.62	TG1-Beech Fed #5
6	4766.56	0.00	0.00	4750.00	-123.30	-226.20	0.00	0.00	257.62	PBHL-Beech Fed #5

WELL DETAILS: Beech Federal #5

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude	Slot
0.00	0.00	655719.80	531796.40	3577.00	32°48' 9.433 N	104°13' 4.746 W	

PROJECT DETAILS: Eddy County, NM (NAN27 NME)

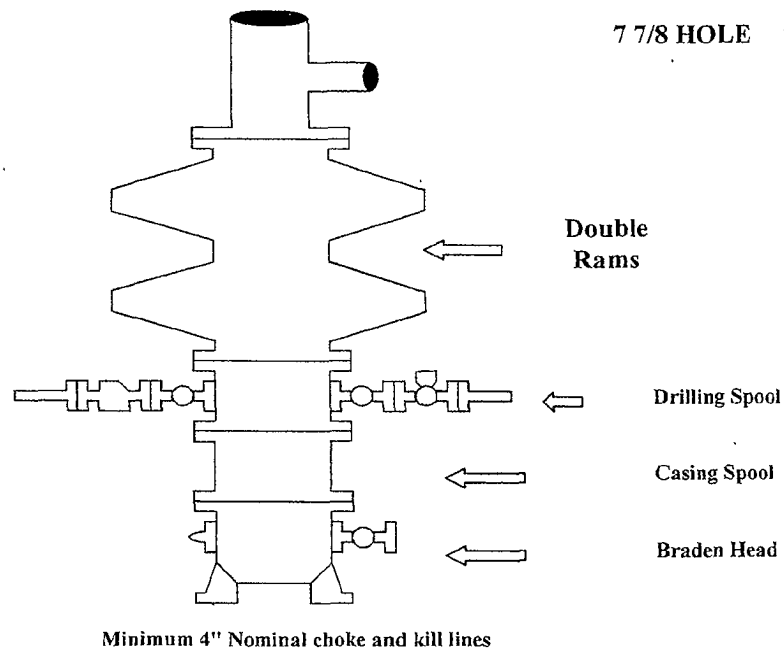
Plan: Plan #1 7-7/8" Hole (Beech Federal #5/OH)

Geodetic System: US State Plane 1927 (Exact solution)	Created By: Julio Pina	Date: 06-Jul-11
Datum: NAD 1927 (NADCON CONUS)		
Ellipsoid: Clarke 1866	Checked: _____	Date: _____
Zone: New Mexico East 3001	Reviewed: _____	Date: _____
System Datum: Mean Sea Level	Approved: _____	Date: _____

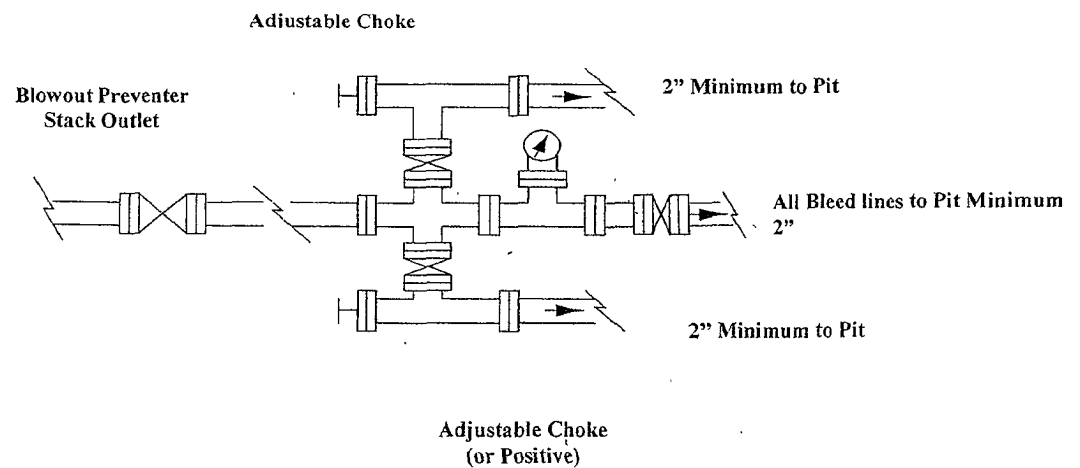
# COG Operating LLC

## Exhibit #9

### BOPE and Choke Schematic



Choke Manifold Requirement (2000 psi WP)  
No Annular Required



**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.

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

Operator COG OPERATING LLC OGRID # 229137  
 Well Name & # 302457 BEECH FEDERAL #5 Surface Type (F) (S) (P)  
 Location: UL J, Sect 24, Township 12 s, RNG 27 e, Sub-surface Type (F) (S) (P)

A. Date C101 rec'd      /      /      C101 reviewed      /      /     

B. 1. Check mark, Information is OK on Forms:

OGRID X, BONDING FED, PROP CODE X, WELL # X, SIGNATURE     

2. Inactive Well list as of: 9/26/11 # wells 3022, # Inactive wells 8

a. District Grant APD but see number of inactive wells:

No letter required X; Sent Letter to Operator     , to Santa Fe     

3. Additional Bonding as of: 9/26/11

a. District Denial because operator needs addition bonding:

No Letter required X; Sent Letter to Operator     , To Santa Fe     

b. District Denial because of Inactive well list and Financial Assurance:

No Letter required X; Sent Letter to Operator     , To Santa Fe     

C. C102 YES     , NO     , Signature     

1. Pool RED LAKE; GLORIETA-YES, NORTHEAST, Code 96836

a. Dedicated acreage 40, What Units J

b. SUR. Location Standard X; Non-Standard Location     

c. Well shares acres: Yes X No     , # of wells      plus this well #     

2. 2<sup>nd</sup>. Operator in same acreage, Yes     , No X

Agreement Letter     , Disagreement letter     

3. Intent to Directional Drill Yes X No     

a. Dedicated acreage 40, What Units J

b. Bottomhole Location Standard     , Non-Standard Bottomhole     

4. Downhole Commingle: Yes     , No X

a. Pool #2     , Code     , Acres     

Pool #3     , Code     , Acres     

Pool #4     , Code     , Acres     

5. POTASH Area Yes     , No X

D. Blowout Preventer Yes X No     

E. H2S Yes X No     

F. C144 Pit Registration Yes     , No     

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes     , No X, NSL #     

2. Non-Standard Proration: Yes     , No X, NSP #     

3. Simultaneous Dedication: Yes     , No X, SD #     

Number of wells      Plus #     

4. Injection order Yes     , No X; PMX #      or WFX #     

5. SWD order Yes     , NO X; SWD #     

6. DHC from SF     ; DHC-HOB     ; Holding     

7. OCD Approval Date 9/26/2011

API #30-015-39461

8. Reviewers