

## OCD-ARTESIA

Form 3160-3  
(April 2004)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

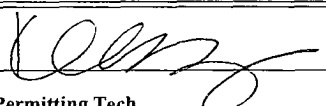
FORM APPROVED  
OMB No 1004-0137  
Expires March 31, 2007

1a. Type of work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No. <b>NMNM-0397623</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 1300 Midland TX 79701</b>		8 Lease Name and Well No. <b>Folk Federal #19</b>
3b Phone No. (include area code) <b>(432) 685-4384</b>		9 API Well No. <b>30-015- 39270</b>
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface <b>660' FNL &amp; 2310' FWL, Unit C</b> At proposed prod zone <b>330' FNL &amp; 2310' FWL, Unit C</b>		10 Field and Pool, or Exploratory <b>Empire; Glorieta-Yeso, East 96610</b>
14 Distance in miles and direction from nearest town or post office* <b>2.5 miles Northwest of Loco Hills, New Mexico</b>		11 Sec, T R M or Blk and Survey or Area <b>Sec 17, T17S, R29E</b>
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) <b>660'</b>	16 No. of acres in lease <b>400</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>330'</b>	19 Proposed Depth <b>TVD: 5500' MD: 5515'</b>	20 BLM/BIA Bond No on file <b>NMB000740 /215</b>
21 Elevations (Show whether DF, KDB, RT, GL, etc ) <b>3618' GL</b>	22 Approximate date work will start* <b>06/30/2011</b>	23 Estimated duration <b>10 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 |

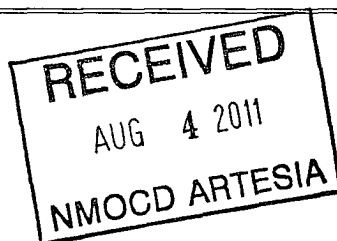
25. Signature 	Name (Printed/Typed) <b>Kelly J. Holly</b>	Date <b>05/11/2011</b>
Title <b>Permitting Tech</b>		
Approved by (Signature) <b>/s/ Don Peterson</b>	Name (Printed/Typed)	Date
Title <b>FIELD MANAGER</b>	Office <b>CARLSBAD FIELD OFFICE</b>	<b>JUL 26 2011</b>

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 USC. 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

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

## MASTER DRILLING PROGRAM

### 1. Geologic Name of Surface Formation

Quaternary

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

Quaternary	Surface
Rustler	220'
Salt	400'
Base of Salt	800'
Yates	850'
Seven Rivers	1130'
Queen	1700'
Grayburg	2100'
San Andres	2400'
Glorieta	3850'
Paddock	3950'
Blaine	4400'
Tubb	5300'

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

Water Sand	150'	Fresh Water
Grayburg	2100'	Oil/Gas
San Andres	2400'	Oil/Gas
Glorieta	3850'	Oil/Gas
Paddock	3950'	Oil/Gas
Blaine	4400'	Oil/Gas
Tubb	5300'	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 850' 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 environment.

See  
COA

#### 4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	brst/clps/ten
17 1/2"	0-300'	13 3/8"	48#	H-40orJ-55	ST&C/New	ST&C	9.22/3.943/15.8
11"	0-850'	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:

Class C w/ 2% CaCl<sub>2</sub> + 0.25 pps CF, 400 sx, yield 1.32, back to surface. 154% excess

8 5/8" Intermediate Casing:

##### 11" Hole:

**Single Stage:** 50:50:10 C:Poz:Gel w/ 5% Salt +0.25% CF, 300 sx lead, yield-2.45 + Class C w/2% CaCl<sub>2</sub>, 200 sx tail, yield-1.32, back to surface. 363% 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, 350' (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, to 200' minimum tie back to intermediate casing. 76.8% open hole excess, cement calculated back to surface.

**Multi-Stage:** Stage 1: (Assumed TD of 5450') 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,

*See COA*

yield - 1.37, 34% excess; Stage 2: LEAD 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 - 1.02 148% open hole excess, cement calculated back to surface. 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 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 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 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
0-300'	Fresh Water	8.5	28	N.C.
300-850'	Brine	10	30	N.C.
850'-TD'	Cut Brine	8.7-9.2	30	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 Surface.
- 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 hole 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 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**

**Eddy County, NM (NAN27 NME)**

**Folk Federal #19**

**Folk Federal #19**

**OH**

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

**SHL = 660' FNL & 2310' FWL**

**BHL = 380' FNL & 2300' FWL**

**Paddock Top = 380' FNL & 2300' FWL @ 3850' TVD**

## **Standard Planning Report**

**25 April, 2011**



**Scientific Drilling**  
Directional Drilling Operations



# Scientific Drilling Planning Report



Database: EDM-Julio  
Company: COG Operating LLC  
Project: Eddy County, NM (NAN27 NME)  
Site: Folk Federal #19  
Well: Folk Federal #19  
Wellbore: OH  
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference: Site Folk Federal #19  
TVD Reference: GL Elev @ 3618.00usft  
MD Reference: GL Elev @ 3618.00usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

Project: Eddy County, NM (NAN27 NME)

Map System: US State Plane 1927 (Exact solution)  
Geo Datum: NAD 1927 (NADCON CONUS)  
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Folk Federal #19

Site Position: Northing: 669,347.80 usft Latitude: 32° 50' 23.642 N  
From: Map Easting: 572,410.60 usft Longitude: 104° 5' 51.262 W  
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16" Grid Convergence: 0.13°

Well: Folk Federal #19

Well Position: +N/-S 0.00 usft Northing: 669,347.80 usft Latitude: 32° 50' 23.642 N  
+E/-W 0.00 usft Easting: 572,410.60 usft Longitude: 104° 5' 51.262 W  
Position Uncertainty: 0.00 usft Wellhead Elevation: Ground Level: 3,618.00 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/04/25	7.89	60.67	48,941

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	357.85

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	
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,258.59	6.17	357.85	1,258.00	16.59	-0.62	2.00	2.00	0.00	357.85	
3,555.92	6.17	357.85	3,542.00	263.41	-9.88	0.00	0.00	0.00	0.00	
3,864.51	0.00	0.00	3,850.00	280.00	-10.50	2.00	-2.00	0.00	180.00	TG1-FF #19
5,514.51	0.00	0.00	5,500.00	280.00	-10.50	0.00	0.00	0.00	0.00	PBHL-FF #19





Scientific Drilling  
Planning Report



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Well: Folk Federal #19  
Wellbore: OH  
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:

Site Folk Federal #19  
GL Elev @ 3618 00usft  
GL Elev @ 3618 00usft  
Grid  
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
East HL-FF #19 - North HL-FF #19									
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	357 85	1,000 00	0 44	-0 02	0 44	2 00	2 00	0 00
1,100 00	3 00	357 85	1,099 93	3 92	-0 15	3 93	2 00	2 00	0 00
1,200 00	5 00	357 85	1,199 68	10 89	-0 41	10 90	2 00	2 00	0 00
1,258 59	6 17	357 85	1,257 99	16 59	-0 62	16 60	2 00	2 00	0 00
EOC hold 6.17°									
1,300 00	6 17	357 85	1,299 16	21 04	-0 79	21 06	0 00	0 00	0 00
1,400 00	6 17	357 85	1,398 58	31 79	-1 19	31 81	0 00	0 00	0 00
1,500 00	6 17	357 85	1,498 00	42 53	-1 59	42 56	0 00	0 00	0 00
1,600 00	6 17	357 85	1,597 42	53 27	-2 00	53 31	0 00	0 00	0 00
1,700 00	6 17	357 85	1,696 85	64 02	-2 40	64 06	0 00	0 00	0 00
1,800 00	6 17	357 85	1,796 27	74 76	-2 80	74 81	0 00	0 00	0 00
1,900 00	6 17	357 85	1,895 69	85 50	-3 21	85 56	0 00	0 00	0 00
2,000 00	6 17	357 85	1,995 11	96 25	-3 61	96 31	0 00	0 00	0 00
2,100 00	6 17	357 85	2,094 53	106 99	-4 01	107 07	0 00	0 00	0 00
2,200 00	6 17	357 85	2,193 95	117 73	-4 42	117 82	0 00	0 00	0 00
2,300 00	6 17	357 85	2,293 37	128 48	-4 82	128 57	0 00	0 00	0 00
2,400 00	6 17	357 85	2,392 79	139 22	-5 22	139 32	0 00	0 00	0 00
2,500 00	6 17	357 85	2,492 21	149 96	-5 62	150 07	0 00	0 00	0 00
2,600 00	6 17	357 85	2,591 63	160 71	-6 03	160 82	0 00	0 00	0 00
2,700 00	6 17	357 85	2,691 05	171 45	-6 43	171 57	0 00	0 00	0 00
2,800 00	6 17	357 85	2,790 47	182 19	-6 83	182 32	0 00	0 00	0 00
2,900 00	6 17	357 85	2,889 89	192 94	-7 24	193 07	0 00	0 00	0 00
3,000 00	6 17	357 85	2,989 31	203 68	-7 64	203 83	0 00	0 00	0 00
3,100 00	6 17	357 85	3,088 73	214 43	-8 04	214 58	0 00	0 00	0 00
3,200 00	6 17	357 85	3,188 15	225 17	-8 44	225 33	0 00	0 00	0 00
3,300 00	6 17	357 85	3,287 57	235 91	-8 85	236 08	0 00	0 00	0 00
3,400 00	6 17	357 85	3,386 99	246 66	-9 25	246 83	0 00	0 00	0 00
3,500 00	6 17	357 85	3,486 41	257 40	-9 65	257 58	0 00	0 00	0 00
3,555 92	6 17	357 85	3,542 01	263 41	-9 88	263 59	0 00	0 00	0 00
Start Drop 2.00°/100'									
3,600 00	5 29	357 85	3,585 87	267 81	-10 04	267 99	2 00	-2 00	0 00
3,700 00	3 29	357 85	3,685 58	275 28	-10 32	275 47	2 00	-2 00	0 00
3,800 00	1 29	357 85	3,785 50	279 27	-10 47	279 47	2 00	-2 00	0 00
3,864 51	0 00	0 00	3,850 00	280 00	-10 50	280 20	2 00	-2 00	3 33
EOC hold 0.00° - TG1-FF #19									
5,514 51	0 00	0 00	5,500 00	280 00	-10 50	280 20	0 00	0 00	0 00
PBHL-FF #19									



# Scientific Drilling Planning Report



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Wellbore: OH  
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference: Site Folk Federal #19  
TVD Reference: GL Elev @ 3618 00usft  
MD Reference: GL Elev @ 3618 00usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

## 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
East HL-FF #19		0 00	0 00	0 00	330 00	-0 50	669,677 80	572,410 10	32° 50' 26 908 N	104° 5' 51 259 W
- plan misses target center by 330 00usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)										
- Rectangle (sides W0 00 H150 00 D0 00)										
North HL-FF #19		0 00	0 00	0 00	330 00	-0 50	669,677 80	572,410 10	32° 50' 26 908 N	104° 5' 51 259 W
- plan misses target center by 330 00usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)										
- Rectangle (sides W100 00 H0 00 D0 00)										
TG1-FF #19		0 00	0 01	3,850 00	280 00	-10 50	669,627 80	572,400 10	32° 50' 26 413 N	104° 5' 51 378 W
- plan hits target center										
- Point										
PBHL-FF #19		0 00	0 01	5,500 00	280 00	-10 50	669,627 80	572,400 10	32° 50' 26 413 N	104° 5' 51 378 W
- plan hits target center										
- Circle (radius 50 00)										

## Casing Points

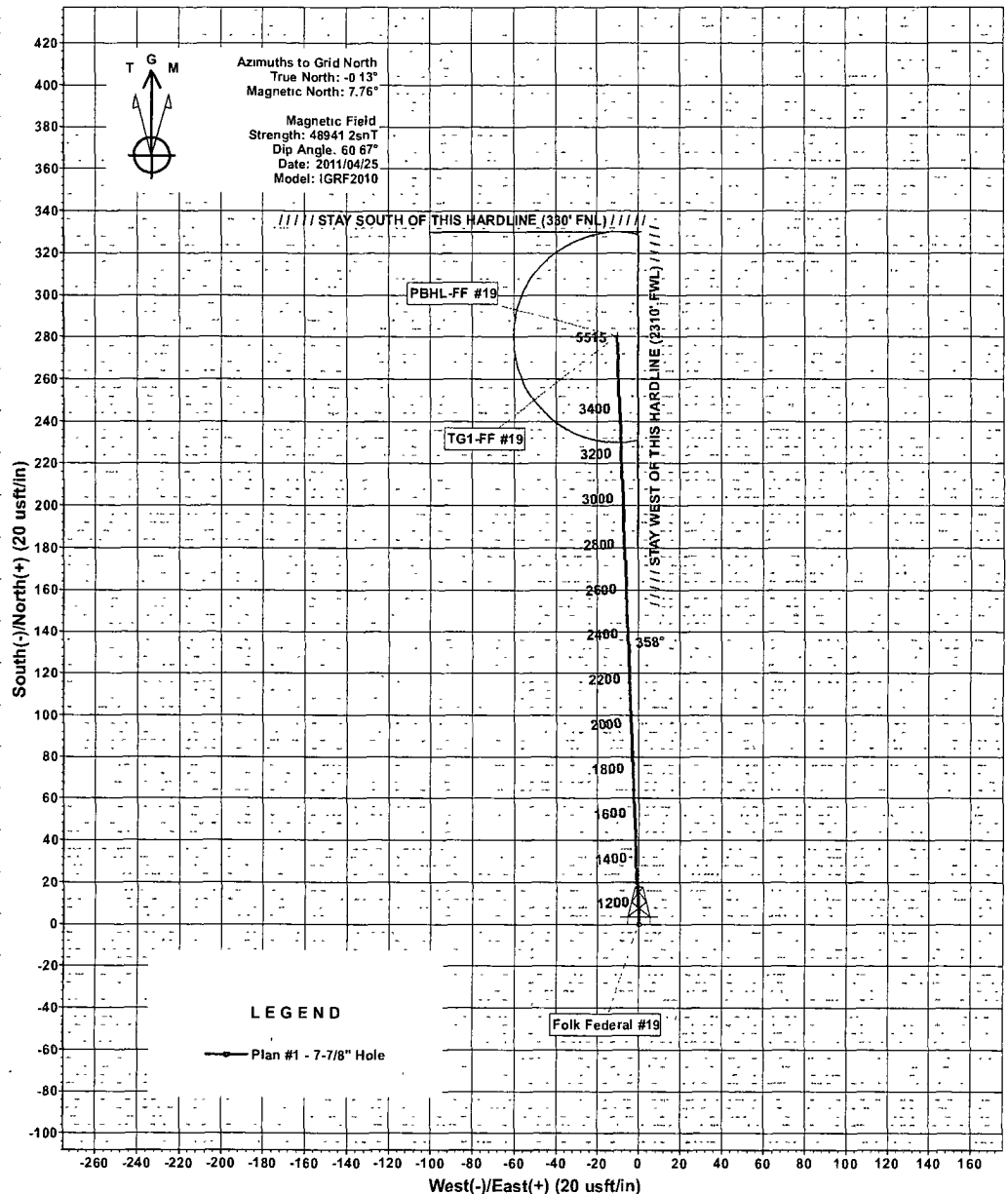
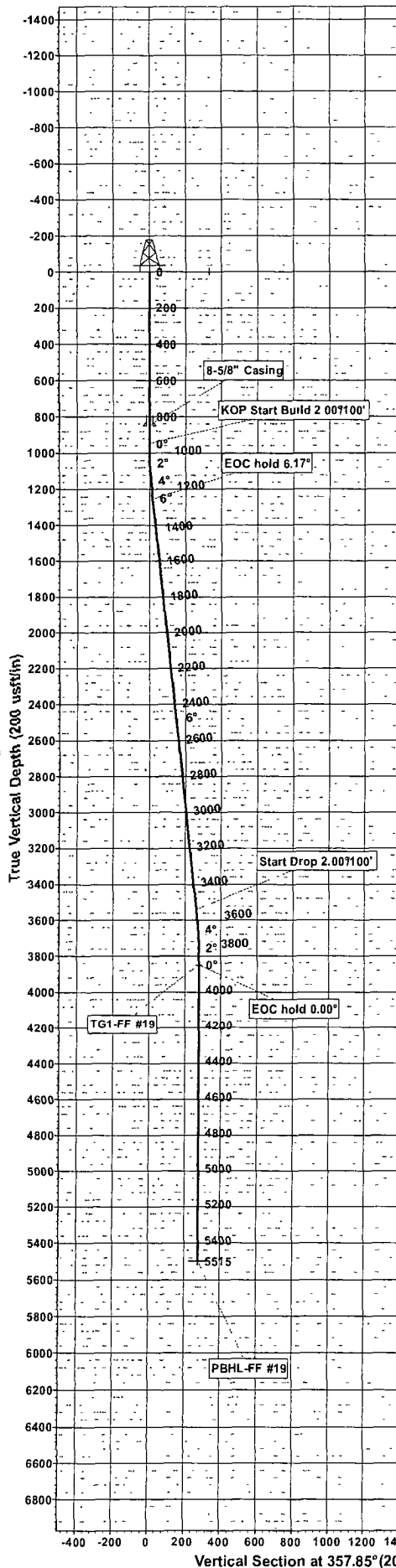
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
850 00	850 00	8-5/8" Casing	8-5/8	12-1/4

## Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
950 00	950 00	0 00	0 00	KOP Start Build 2 00°/100'
1,258 59	1,257 99	16 59	-0 62	EOC hold 6 17°
3,555 92	3,542 01	263 41	-9 88	Start Drop 2 00°/100'
3,864 51	3,850 00	280 00	-10 50	EOC hold 0 00°



Scientific Drilling for COG Operating LLC  
Site: Eddy County, NM (NAN27 NME)  
Well: Folk Federal #19  
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	
East HL-FF #19	0.00	330.00	-0.50	669677.80	572410.10	32° 50' 26.908 N	104° 5' 51.259 W	Rectangle (Sides: L150.00 W0.00)	
North HL-FF #19	0.00	330.00	-0.50	669677.80	572410.10	32° 50' 26.908 N	104° 5' 51.259 W	Rectangle (Sides: L0.00 W100.00)	
TG1-FF #19	3850.00	280.00	-10.50	669627.80	572400.10	32° 50' 26.413 N	104° 5' 51.378 W	Point	
PBHL-FF #19	5500.00	280.00	-10.50	669627.80	572400.10	32° 50' 26.413 N	104° 5' 51.378 W	Circle (Radius: 50.00)	

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	1258.59	6.17	357.85	1258.00	16.59	-0.62	2.00	357.85	16.60	
4	3555.92	6.17	357.85	3542.00	263.41	-9.88	0.00	0.00	263.59	
5	5386.51	0.00	0.00	3850.00	280.00	-10.50	2.00	180.00	280.20	TG1-FF #19
6	5514.51	0.00	0.00	5500.00	280.00	-10.50	0.00	0.00	280.20	PBHL-FF #19

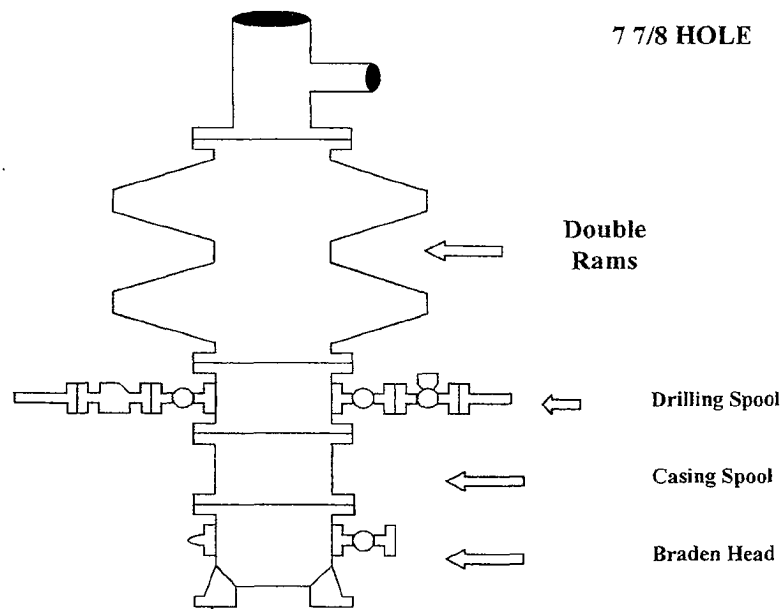
WELL DETAILS: Folk Federal #19										
Ground Level:					3618.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot				
0.00	0.00	669347.80	572410.60	32° 50' 23.642 N	104° 5' 51.262 W					

PROJECT DETAILS Eddy County, NM (NAN27 NME) Plan Plan #1 - 7-7/8" Hole (Folk Federal #19/OH)										
Geodetic System		US State Plane 1927 (Exact solution)			Created By: Julio Pina			Date: 25-Apr-11		
Datum		NAD 1927 (NADCON CONUS)								
Ellipsoid		Clarke 1866			Checked:			Date:		
Zone		New Mexico East 3001								
System Datum		Mean Sea Level			Reviewed:			Date:		
					Approved:			Date:		

# COG Operating LLC

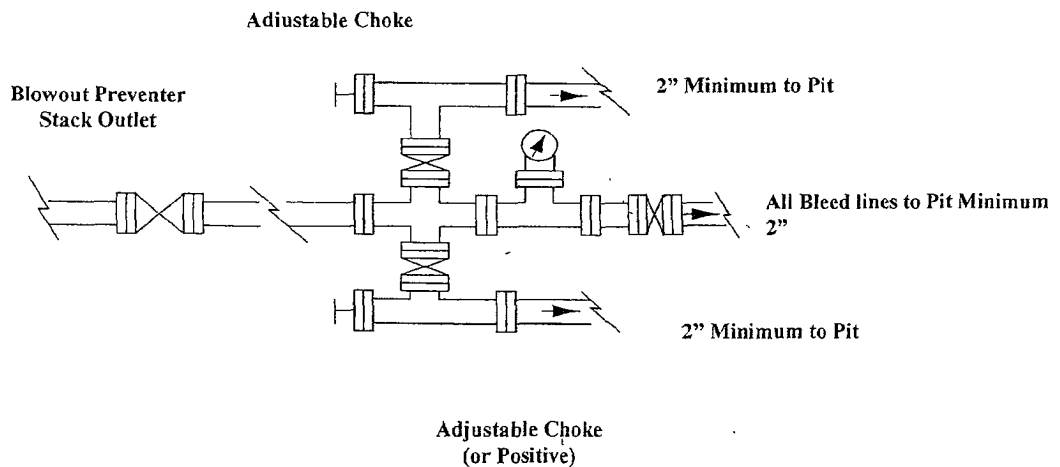
## Exhibit #9

### BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WP)  
No Annular Required



**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.