ATS-11-81

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

5 Lease Serial No.
NMLC049998A

6 If Indian, Allotee or Tribe Name
N/A

1a. Type of work ☑ DRILL ☐ REENTER

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.
FOSTER EDDY #32

2 Name of Operator
COG Operating LLC

9 API Well No.
30-015- 39125

3a. Address **550 W. Texas Ave., Suite 1300 Midland, TX 79701**

3b Phone No. *(include area code)*
432-685-4384

10 Field and Pool, or Exploratory
Cedar Lake; Glorieta-Yeso

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **1188' FNL & 1170' FEL, Unit A**
At proposed prod zone **1650' FNL & 990' FEL, Unit H**
UNORTHODOX LOCATION

11 Sec., T R M or Blk. and Survey or Area
Sec 17 T17S R31E

14 Distance in miles and direction from nearest town or post office*
9 miles East 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 drlg. unit line, if any)
1170'

16 No of acres in lease
280

17 Spacing Unit dedicated to this well
40

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft
500'

19 Proposed Depth
TVD: 6300' MD: 6334'

20 BLM/BIA Bond No. on file
NMB000215 + NMB000740

21 Elevations (Show whether DF, KDB, RT, GL, etc.)
3758'

22 Approximate date work will start*
01/31/2011

23. Estimated duration
15 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)* **Kelly J. Holly**
Date **12/15/2010**
Title **Permitting Tech**

Approved by *(Signature)* **/s/ Don Peterson**
Name *(Printed/Typed)* **/s/ Don Peterson**
Date **MAY 23 2011**
Title FOR **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)

RECEIVED
MAY 27 2011
NMOCD ARTESIA

ROSWELL CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

MASTER DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Rustler	375'
Top of Salt	600'
Base of Salt	1200'
Yates	1525'
Seven Rivers	1850'
Queen	2475'
Grayburg	2875'
San Andres	3175'
Glorietta	4700'
Paddock	4775'
Blinebry	5250'
Tubb	6200'

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

Water Sand	150'	Fresh Water
Grayburg	2875'	Oil/Gas
San Andres	3175'	Oil/Gas
Glorieta	4700'	Oil/Gas
Paddock	4775'	Oil/Gas
Blinebry	5250'	Oil/Gas
Tubb	6200'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 450' 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 1800' 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, 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.

4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
17 ½"	0-450'MD	13 3/8"	48#	H-40orJ-55	New	ST&C	8.71/3.724/14.91
11"	0-1800'	8 5/8"	24or32#	J-55	New	ST&C	2.91/1.46/5.65
7 7/8"	0-T.D.	5 1/2"	15.5 or17#	J-55orL80	New	LT&C	1.71/1.574/2.20

See COA

5. Cement Program See COA

13 3/8" Surface Casing: Class C, 475 sx w/ 2% CaCl2, 0.25 pps CF, yield-1.32, back to surface 100% excess

8 5/8" Intermediate Casing:

11" Hole:
Single Stage: LEAD 350 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. 145% excess
Multi-Stage: Stage 1: 350 sx Class C, w/2% CaCl2, yield - 1.32. 40% excess Stage 2: 200 sx Class C w/2% CaCl2, yield – 1.32, back to surface, 108% excess Multi stage tool to be set at approximately, depending on hole conditions, 500' (50' below the surface casing). Cement volumes will be adjusted proportionately for depth changes of multi stage tool.

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. 44.4% open hole excess, cement calculated back to surface.
Multi-Stage: Stage 1: (Assumed TD of 6700') 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, 7% excess; minimum volume, will be adjusted up after caliper is

See COA

run. 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 – 1.02 152% 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-~~450~~ 410	Fresh Water	8.5	28	N.C.
~~450~~-1800'	Brine	10	30	N.C.
1800'-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)
Foster Eddy #32
Foster Eddy #32

OH

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

Standard Planning Report

28 March, 2011

Scientific Drilling
Directional Drilling Operations

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Foster Eddy #32
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3758 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3758 00usft
Site:	Foster Eddy #32	**North Reference:**	Grid
Well:	Foster Eddy #32	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Rev 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 Foster Eddy #32

Site Position:		**Northing:**	669,016 50 usft	**Latitude:**	32° 50' 18 293 N
From:	Map	**Easting:**	637,215 70 usft	**Longitude:**	103° 53' 11 701 W
Position Uncertainty:	0 00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0 24 °

Well Foster Eddy #32

Well Position	**+N/-S**	0 00 usft	**Northing:**	669,016 50 usft	**Latitude:**	32° 50' 18 293 N
	+E/-W	0 00 usft	**Easting:**	637,215 70 usft	**Longitude:**	103° 53' 11 701 W
Position Uncertainty		0 00 usft	**Wellhead Elevation:**		**Ground Level:**	3,758 00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/03/28	7 81	60 71	48,971

Design Plan #1 Rev 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	157.83

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	
2,000 00	0 00	0 00	2,000 00	0 00	0 00	0.00	0 00	0 00	0 00	
2,443 99	8 88	157 83	2,442 21	-31 80	12 96	2 00	2 00	0 00	157 83	
4,690 61	8 88	157 83	4,661 91	-352 94	143 85	0 00	0 00	0 00	0 00	
4,930 30	4.09	157 83	4,900 00	-377 99	154 06	2 00	-2 00	0 00	-180 00	TG1-Foster #32
6,333 87	4 09	157 83	6,300 00	-470 60	191 80	0 00	0 00	0 00	0 00	PBHL-Foster #32

Database:	EDM-Julio	Local Co-ordinate Reference:	Site Foster Eddy #32
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3758 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3758 00usft
Site:	Foster Eddy #32	North Reference:	Grid
Well:	Foster Eddy #32	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Rev 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-Foster #32 - East HL-Foster #32									
1,900 00	0 00	0.00	1,900 00	0 00	0 00	0 00	0 00	0 00	0 00
8-5/8" Casing									
2,000 00	0 00	0 00	2,000 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 2.00°/100'									
2,100 00	2 00	157 83	2,099 98	-1 62	0 66	1 75	2 00	2 00	0 00
2,200 00	4 00	157 83	2,199 84	-6 46	2 63	6 98	2 00	2 00	0 00
2,300 00	6 00	157.83	2,299 45	-14 53	5 92	15 69	2 00	2 00	0 00
2,400 00	8.00	157 83	2,398 70	-25 82	10 52	27 88	2 00	2 00	0 00
2,443 99	8 88	157 83	2,442 21	-31 80	12 96	34 34	2 00	2 00	0 00
EOC hold 8.88°									
2,500 00	8 88	157 83	2,497 55	-39 80	16 22	42 98	0 00	0 00	0 00
2,600 00	8 88	157 83	2,596 35	-54 10	22 05	58 42	0 00	0 00	0 00
2,700 00	8 88	157 83	2,695 16	-68 39	27 87	73 85	0 00	0 00	0 00
2,800 00	8 88	157 83	2,793 96	-82.69	33.70	89 29	0 00	0 00	0 00
2,900 00	8 88	157 83	2,892 76	-96 98	39.53	104 73	0 00	0 00	0 00
3,000 00	8 88	157 83	2,991.56	-111 28	45.35	120 16	0 00	0 00	0 00
3,100 00	8 88	157 83	3,090 36	-125 57	51.18	135 60	0 00	0 00	0 00
3,200 00	8 88	157 83	3,189.16	-139 86	57.00	151 03	0 00	0 00	0 00
3,300 00	8 88	157.83	3,287 97	-154 16	62 83	166 47	0 00	0 00	0 00
3,400 00	8 88	157 83	3,386 77	-168 45	68 66	181 91	0 00	0 00	0 00
3,500 00	8 88	157 83	3,485 57	-182 75	74 48	197 34	0 00	0 00	0 00
3,600 00	8 88	157 83	3,584 37	-197 04	80.31	212 78	0 00	0 00	0 00
3,700 00	8 88	157 83	3,683 17	-211 34	86.13	228 21	0 00	0 00	0 00
3,800 00	8 88	157.83	3,781 97	-225 63	91.96	243 65	0 00	0 00	0 00
3,900.00	8 88	157.83	3,880 77	-239 92	97.78	259 09	0 00	0 00	0 00
4,000 00	8 88	157 83	3,979 58	-254 22	103.61	274 52	0 00	0 00	0 00
4,100 00	8 88	157 83	4,078 38	-268 51	109.44	289 96	0 00	0.00	0 00
4,200 00	8 88	157 83	4,177 18	-282 81	115 26	305 39	0 00	0.00	0 00
4,300 00	8.88	157 83	4,275 98	-297 10	121.09	320 83	0 00	0 00	0 00
4,400 00	8 88	157 83	4,374.78	-311 40	126.91	336 27	0 00	0 00	0 00
4,500 00	8 88	157 83	4,473 58	-325 69	132.74	351 70	0 00	0 00	0 00
4,600 00	8.88	157 83	4,572 38	-339 99	138.57	367 14	0 00	0 00	0 00
4,690 61	8 88	157 83	4,661 91	-352 94	143 85	381 13	0 00	0 00	0 00
Start Drop 2.00°/100'									
4,700 00	8 69	157 83	4,671 19	-354.27	144.39	382 56	2 00	-2 00	0 00
4,800 00	6 69	157 83	4,770 28	-366 66	149 44	395 94	2 00	-2 00	0.00
4,900 00	4.69	157 83	4,869 79	-375 84	153.18	405 86	2 00	-2 00	0 00
4,930 30	4 09	157 83	4,900 00	-377 99	154 06	408 18	2 00	-2 00	0 00
EOC hold 4.09° - TG1-Foster #32									
5,000.00	4 09	157 83	4,969 52	-382 59	155 93	413 15	0 00	0 00	0 00
5,100 00	4.09	157 83	5,069 26	-389 19	158 62	420 27	0 00	0 00	0 00
5,200 00	4 09	157 83	5,169 01	-395 79	161 31	427 40	0 00	0 00	0 00
5,300 00	4 09	157.83	5,268 76	-402 38	164 00	434 52	0 00	0.00	0 00
5,400 00	4 09	157 83	5,368 50	-408 98	166 69	441.65	0.00	0 00	0 00
5,500 00	4 09	157 83	5,468 25	-415 58	169.38	448 77	0 00	0 00	0 00
5,600 00	4 09	157 83	5,567 99	-422 18	172 07	455 90	0 00	0.00	0 00
5,700 00	4 09	157 83	5,667 74	-428 78	174 75	463 02	0 00	0 00	0 00
5,800 00	4 09	157 83	5,767 49	-435 37	177 44	470 15	0.00	0 00	0 00
5,900 00	4 09	157 83	5,867 23	-441 97	180 13	477 27	0 00	0 00	0 00
6,000 00	4 09	157 83	5,966 98	-448 57	182 82	484 40	0 00	0 00	0 00
6,100 00	4 09	157 83	6,066 72	-455 17	185 51	491 52	0 00	0 00	0 00

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Foster Eddy #32
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3758.00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3758 00usft
Site:	Foster Eddy #32	**North Reference:**	Grid
Well:	Foster Eddy #32	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 Rev 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)
6,200 00	4 09	157 83	6,166.47	-461.77	188 20	498 65	0 00	0 00	0 00
6,300 00	4 09	157 83	6,266 22	-468 37	190 89	505 77	0 00	0 00	0 00
6,333 87	4 09	157 83	6,300 00	-470 60	191 80	508 18	0 00	0 00	0 00
PBHL-Foster #32									

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-Foster #32	0 00	0 00	0 00	-460 60	181 80	668,555 90	637,397 50	32° 50' 13 727 N	103° 53' 9 593 W
- plan misses target center by 495 18usft at 0 00usft MD (0 00 TVD, 0.00 N, 0 00 E)									
- Rectangle (sides W300 00 H0 00 D0 00)									
East HL-Foster #32	0 00	0 00	0 00	-460 60	181.80	668,555 90	637,397 50	32° 50' 13 727 N	103° 53' 9.593 W
- plan misses target center by 495 18usft at 0 00usft MD (0 00 TVD, 0.00 N, 0 00 E)									
- Rectangle (sides W0 00 H300 00 D0 00)									
TG1-Foster #32	0.00	0 00	4,900 00	-377 99	154 06	668,638 51	637,369.76	32° 50' 14 546 N	103° 53' 9 914 W
- plan hits target center									
- Point									
PBHL-Foster #32	0 00	0 01	6,300 00	-470 60	191 80	668,545 90	637,407 50	32° 50' 13 628 N	103° 53' 9 476 W
- plan hits target center									
- Circle (radius 10 00)									

Casing Points

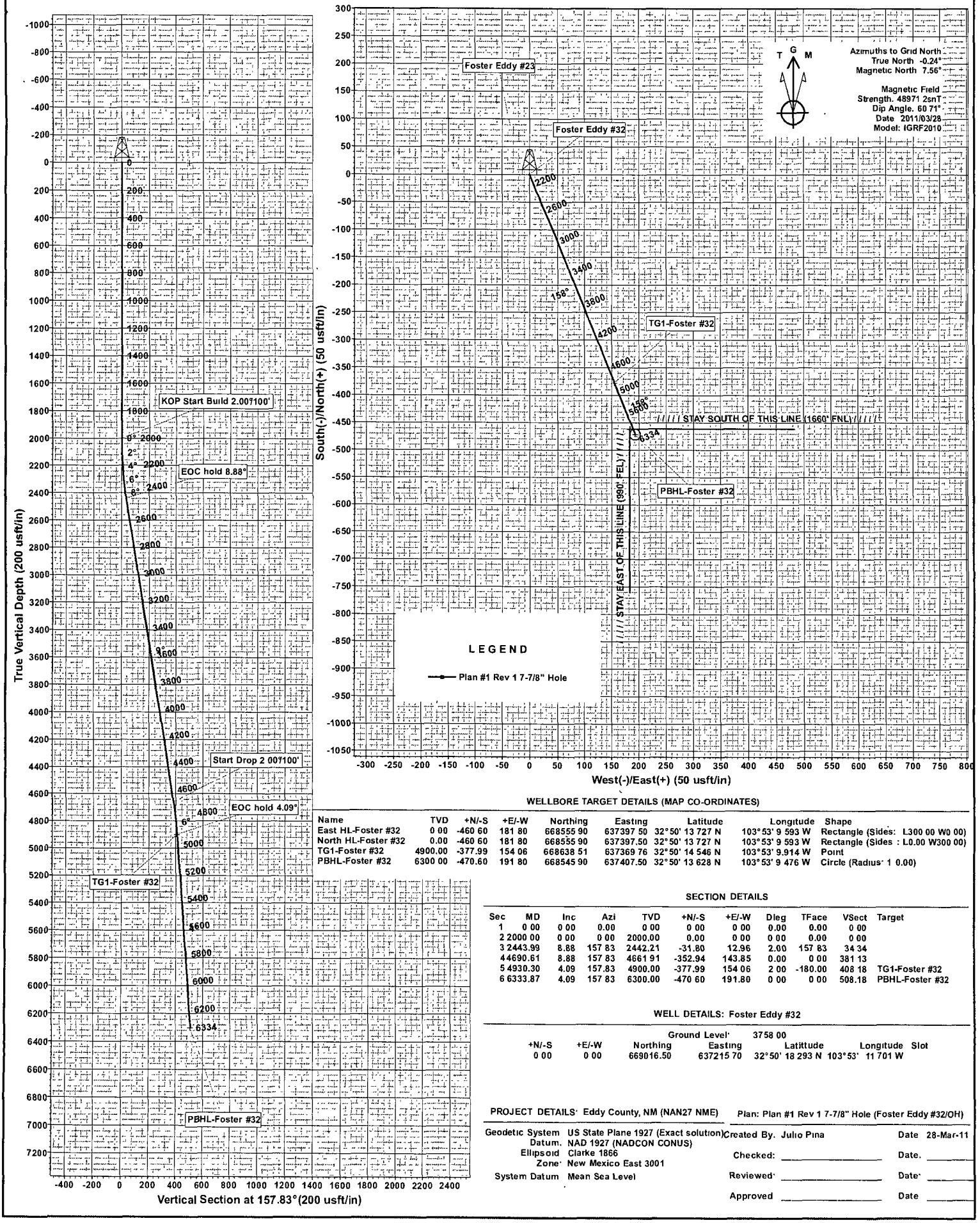
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,900 00	1,900 00	8-5/8" Casing	8-5/8	12-1/4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000 00	2,000 00	0 00	0 00	KOP Start Build 2 00°/100'
2,443 99	2,442 21	-31.80	12 96	EOC hold 8.88°
4,690 61	4,661 91	-352 94	143 85	Start Drop 2 00°/100'
4,930 30	4,900 00	-377 99	154 06	EOC hold 4 09°

Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Foster Eddy #32
Wellbore: OH
Design: Plan #1 Rev 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
East HL-Foster #32	0 00	-460 60	181 80	668555 90	637397 50	32°50' 13 727 N	103°53' 9 593 W	Rectangle (Sides: L300 00 W0 00)
North HL-Foster #32	0.00	-460 60	181 80	668555 90	637397.50	32°50' 13 727 N	103°53' 9 593 W	Rectangle (Sides : L0.00 W300 00)
TG1-Foster #32	4900.00	-377.99	154 06	668638 51	637369 76	32°50' 14 546 N	103°53' 9.914 W	Point
PBHL-Foster #32	6300 00	-470.60	191 80	668545 90	637407.50	32°50' 13 628 N	103°53' 9 476 W	Circle (Radius· 1 0.00)

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	2000 00	0 00	0 00	2000.00	0.00	0 00	0 00	0.00	0 00	
3	2443.99	8.88	157 83	2442.21	-31.80	12.96	2.00	157 83	34 34	
4	4690.61	8.88	157 83	4661 91	-352.94	143.85	0.00	0 00	381 13	
5	4930.30	4.09	157.83	4900.00	-377.99	154 06	2 00	-180.00	408 18	TG1-Foster #32
6	6333.87	4.09	157 83	6300.00	-470 60	191.80	0 00	0 00	508.18	PBHL-Foster #32

WELL DETAILS: Foster Eddy #32

Ground Level· 3758 00

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0 00	0 00	669016.50	637215 70	32°50' 18 293 N	103°53' 11 701 W	

PROJECT DETAILS· Eddy County, NM (NAN27 NME)

Plan: Plan #1 Rev 1 7-7/8" Hole (Foster Eddy #32/OH)

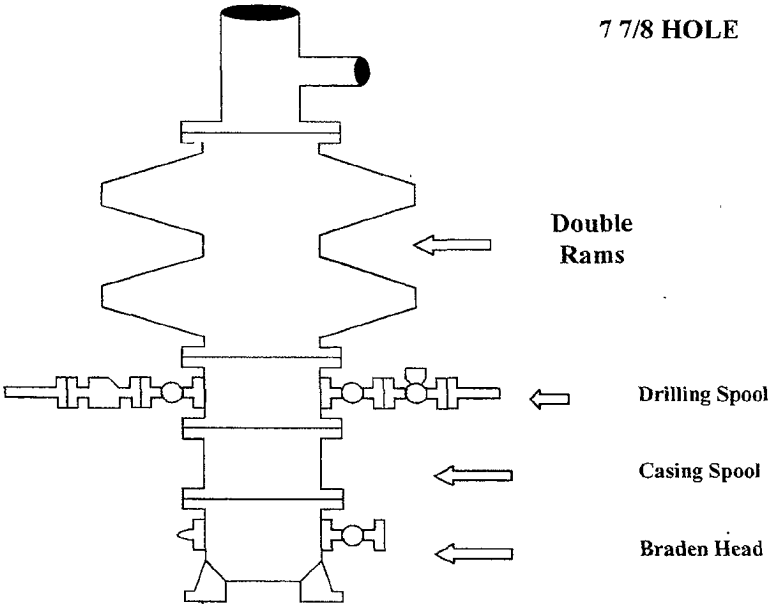
Geodetic System US State Plane 1927 (Exact solution)
Datum. NAD 1927 (NADCON CONUS)
Ellipsoid Clarke 1866
Zone· New Mexico East 3001
System Datum Mean Sea Level

Created By. Julio Pina Date 28-Mar-11
Checked: _____ Date. _____
Reviewed· _____ Date· _____
Approved _____ Date _____

COG Operating LLC

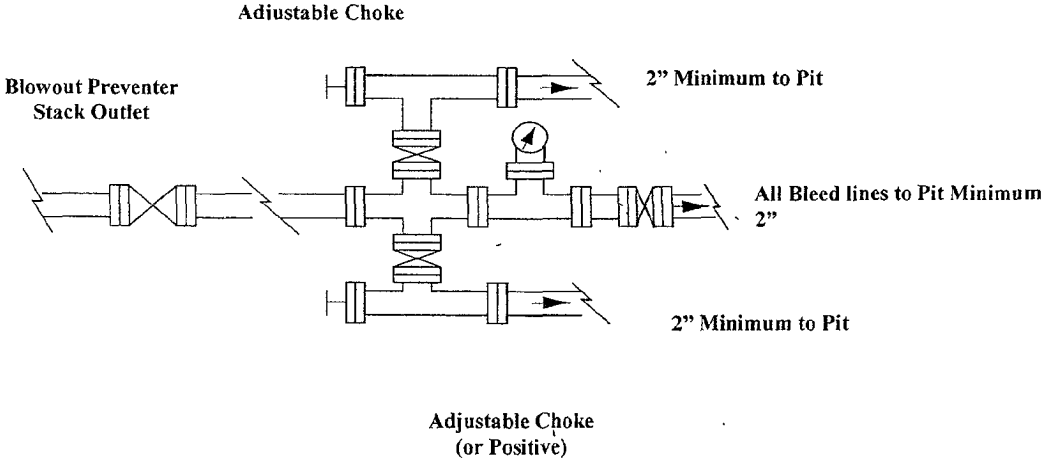
Exhibit #9

BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WP)
No Annular Required



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.