

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

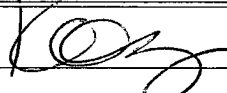
FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

1a Type of work: ☒ DRILL ☐ REENTER		5 Lease Serial No. NMLC-029418B
1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone		6 If Indian, Allottee or Tribe Name N/A
2 Name of Operator COG Operating LLC		7 If Unit or CA Agreement, Name and No N/A
3a Address 550 W. Texas Ave., Suite 100 Midland, TX 79701	3b Phone No. (include area code) 432-685-4384	8 Lease Name and Well No. Tex Mack 11 Federal #42
4 Location of Well (Report location clearly and in accordance with any State requirements*) At surface 2047' FNL & 990' FEL, Unit H At proposed prod zone 1650' FNL & 990' FEL, Unit H		9 API Well No. 30-015- 39311
14 Distance in miles and direction from nearest town or post office* 6 miles East of Loco Hills, NM		10 Field and Pool, or Exploratory Fren; Glorieta-Yeso, East 97213
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 990'		11 Sec, T R M or Blk and Survey or Area Sec 11 T17S R31E
16 No of acres in lease 1200	17 Spacing Unit dedicated to this well 40	12 County or Parish EDDY
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 900'	19 Proposed Depth 7000' TVD; 7025' MD	13 State NM
20 BLM/BIA Bond No. on file NMB000740	21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3967' GR	22 Approximate date work will start* 08/31/2011
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 | 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) Kelly J. Holly	Date 06/08/2011
Title Permitting Tech		

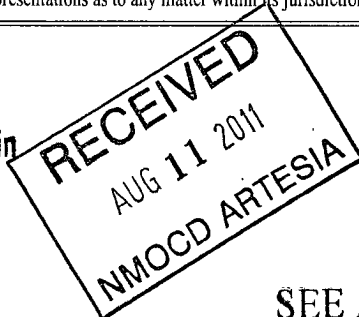
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date AUG 8 2011
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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 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

Approval Subject to General Requirements
& Special Stipulations AttachedSEE 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	670'
Top of Salt	801'
Base of Salt	1771'
Yates	2006'
Seven Rivers	2332'
Queen	2952'
Grayburg	3392'
San Andres	3718'
Glorietta	5222'
Paddock	5285'
Blaine	5688'
Tubb	6700'

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

Water Sand	150'	Fresh Water
Grayburg	3392'	Oil/Gas
San Andres	3718'	Oil/Gas
Glorieta	5222'	Oil/Gas
Paddock	5285'	Oil/Gas
Blaine	5688'	Oil/Gas
Tubb	6700'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 695' 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, (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

See
COA

4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
17 1/2" <i>See COA</i>	0- 695	13 3/8"	48#	H-40orJ-55	New	ST&C	8.71/3.724/14.91
11" <i>COA</i>	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 or 17#	J-55orL80	New	LT&C	1.71/1.574/2.20

5. Cement Program

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'~~ ^{500'} (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. 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 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
0-695' 750	Fresh Water	8.5	28	N.C.
695-1800' 1850	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 C&A*

- 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 1/2" 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.



COG Operating LLC

Eddy County, NM (NAN27 NME)

Tex Mack 11 Federal #42

Tex Mack 11 Federal #42

OH

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

SHL = 2047' FNL & 990' FEL

BHL = 1660' FNL & 980' FEL

Top of Paddock = 1660' FNL & 980' FEL @ 5220' TVD

Standard Planning Report

12 April, 2011





Scientific Drilling Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Tex Mack 11 Federal #42
Well: Tex Mack 11 Federal #42
Wellbore: OH
Design: Plan #1 7-7/8" Hole

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

Site Tex Mack 11 Federal #42
GL Elev @ 3967 00usft
GL Elev @ 3967 00usft
Grid
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: Tex Mack 11 Federal #42

Site Position: Northing: 673,551 00 usft Latitude: 32° 51' 2 453 N
From: Map Easting: 653,213 00 usft Longitude: 103° 50' 3 952 W
Position Uncertainty: 0 00 usft Slot Radius: 13-3/16 " Grid Convergence: 0 27 °

Well: Tex Mack 11 Federal #42

Well Position: +N/-S 0 00 usft Northing: 673,551 00 usft Latitude: 32° 51' 2 453 N
+E/-W 0.00 usft Easting: 653,213 00 usft Longitude: 103° 50' 3 952 W
Position Uncertainty 0 00 usft Wellhead Elevation: Ground Level: 3,967 00 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/04/12	7 78	60 73	48,979

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	1 16

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	
1,950 00	0 00	0 00	1,950 00	0 00	0 00	0 00	0 00	0 00	0 00	
2,331 51	7 63	1 16	2,330 38	25 36	0 51	2 00	2 00	0 00	1 16	
4,863 16	7 63	1 16	4,839 62	361 44	7 29	0 00	0 00	0 00	0 00	
5,244 67	0 00	0 00	5,220 00	386 80	7 80	2 00	-2 00	0 00	180 00	TG1-Tex Mack 11 #42
7,024 67	0 00	0 00	7,000 00	386 80	7 80	0 00	0 00	0 00	0 00	PBHL-Tex Mack 11 #



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Site Tex Mack 11 Federal #42
GL Elev @ 3967 00usft
GL Elev @ 3967 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-Tex Mack 11 #42 - South HL-Tex Mack 11 #42									
1,850 00	0.00	0.00	1,850 00	0 00	0 00	0 00	0 00	0 00	0 00
8-5/8" Casing-									
1,950 00	0 00	0 00	1,950 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 2.00°/100'									
2,000 00	1 00	1 16	2,000 00	0 44	0 01	0 44	2 00	2 00	0 00
2,100 00	3 00	1 16	2,099 93	3 93	0 08	3 93	2 00	2 00	0 00
2,200 00	5 00	1 16	2,199 68	10 90	0 22	10 90	2 00	2 00	0 00
2,300 00	7 00	1 16	2,299 13	21 35	0 43	21 35	2 00	2 00	0 00
2,331 51	7 63	1 16	2,330 38	25 36	0 51	25 37	2 00	2 00	0 00
EOC hold 7.63°									
2,400 00	7 63	1 16	2,398 27	34 45	0 69	34 46	0 00	0 00	0 00
2,500 00	7 63	1 16	2,497 38	47 73	0 96	47 74	0 00	0 00	0 00
2,600 00	7 63	1 16	2,596 50	61 00	1 23	61 02	0 00	0 00	0 00
2,700 00	7 63	1 16	2,695 61	74 28	1 50	74 29	0 00	0 00	0 00
2,800 00	7 63	1 16	2,794 73	87 55	1 77	87 57	0 00	0 00	0 00
2,900 00	7 63	1 16	2,893 84	100 83	2 03	100 85	0 00	0 00	0 00
3,000 00	7 63	1 16	2,992 95	114 10	2 30	114 13	0 00	0 00	0 00
3,100 00	7 63	1 16	3,092 07	127 38	2 57	127 40	0 00	0 00	0 00
3,200 00	7 63	1 16	3,191 18	140 65	2 84	140 68	0 00	0 00	0 00
3,300 00	7 63	1 16	3,290 30	153 93	3 10	153 96	0 00	0 00	0 00
3,400 00	7 63	1 16	3,389 41	167 20	3 37	167 24	0 00	0 00	0 00
3,500 00	7 63	1 16	3,488 53	180 48	3 64	180 52	0 00	0 00	0 00
3,600 00	7 63	1 16	3,587 64	193 75	3 91	193 79	0 00	0 00	0 00
3,700 00	7 63	1 16	3,686 76	207 03	4 17	207 07	0 00	0 00	0 00
3,800 00	7 63	1 16	3,785 87	220 30	4 44	220 35	0 00	0 00	0 00
3,900 00	7 63	1 16	3,884 99	233 58	4 71	233 63	0 00	0 00	0 00
4,000 00	7 63	1 16	3,984 10	246 85	4 98	246 90	0 00	0 00	0 00
4,100 00	7 63	1 16	4,083 21	260 13	5 25	260 18	0 00	0 00	0 00
4,200 00	7 63	1 16	4,182 33	273 40	5 51	273 46	0 00	0 00	0 00
4,300 00	7 63	1 16	4,281 44	286 68	5 78	286 74	0 00	0 00	0 00
4,400 00	7 63	1 16	4,380 56	299 95	6 05	300 02	0 00	0 00	0 00
4,500 00	7 63	1 16	4,479 67	313 23	6 32	313 29	0 00	0 00	0 00
4,600 00	7 63	1 16	4,578 79	326 50	6 58	326 57	0 00	0 00	0 00
4,700 00	7 63	1 16	4,677 90	339 78	6 85	339 85	0 00	0 00	0 00
4,800 00	7 63	1 16	4,777 02	353 06	7 12	353 13	0 00	0 00	0 00
4,863 16	7 63	1 16	4,839 62	361 44	7 29	361 51	0 00	0 00	0 00
Start Drop 2.00°/100'									
4,900 00	6 89	1 16	4,876 16	366 10	7 38	366 17	2 00	-2 00	0 00
5,000 00	4 89	1 16	4,975 63	376 36	7 59	376 44	2 00	-2 00	0 00
5,100 00	2 89	1 16	5,075 39	383 15	7 73	383 23	2 00	-2 00	0 00
5,200 00	0 89	1 16	5,175 33	386 45	7 79	386 53	2 00	-2 00	0 00
5,244 67	0 00	0 00	5,220 00	386 80	7 80	386 88	2 00	-2 00	-2 59
EOC hold 0.00° - TG1-Tex Mack 11 #42									
7,024 67	0 00	0 00	7,000 00	386 80	7 80	386 88	0 00	0 00	0 00
PBHL-Tex Mack 11 #42									



Scientific Drilling Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Tex Mack 11 Federal #42
Well: Tex Mack 11 Federal #42
Wellbore: OH
Design: Plan #1 7-7/8" Hole

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

Site Tex Mack 11 Federal #42
GL Elev. @ 3967 00usft
GL Elev @ 3967 00usft
Grid
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-Tex Mack 11 #42		0.00	0.00	0.00	396.80	-2.20	673,947.80	653,210.80	32° 51' 6.380 N	103° 50' 3.956 W
- plan misses target center by 396.81usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Rectangle (sides W0.00 H100.00 D0.00)										
South HL-Tex Mack 11 #42		0.00	0.00	0.00	396.80	-2.20	673,947.80	653,210.80	32° 51' 6.380 N	103° 50' 3.956 W
- plan misses target center by 396.81usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Rectangle (sides W100.00 H0.00 D0.00)										
TG1-Tex Mack 11 #42		0.00	0.00	5,220.00	386.80	7.80	673,937.80	653,220.80	32° 51' 6.280 N	103° 50' 3.839 W
- plan hits target center										
- Point										
PBHL-Tex Mack 11 #42		0.00	0.01	7,000.00	386.80	7.80	673,937.80	653,220.80	32° 51' 6.280 N	103° 50' 3.839 W
- plan hits target center										
- Circle (radius 10.00)										

Casing Points

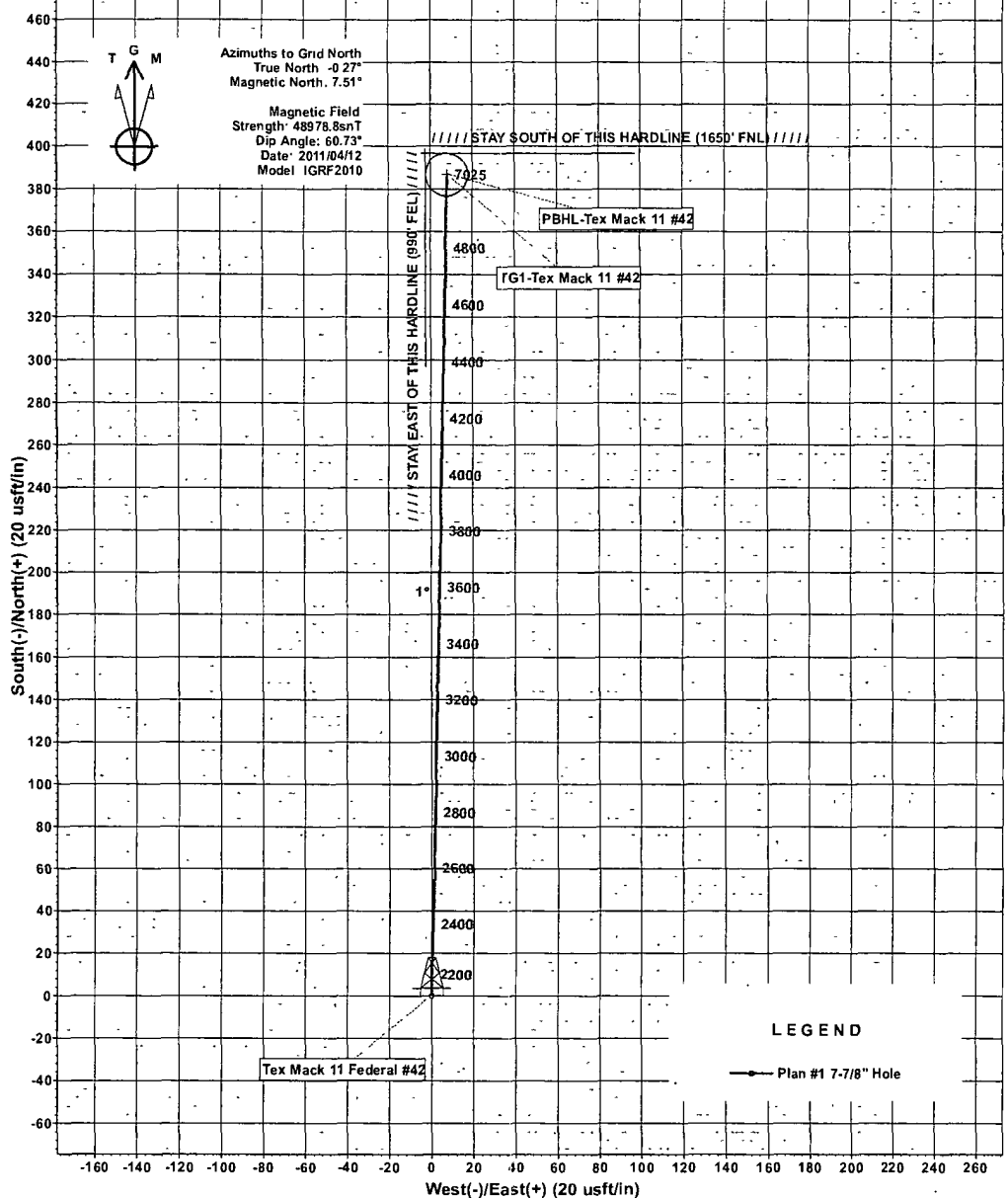
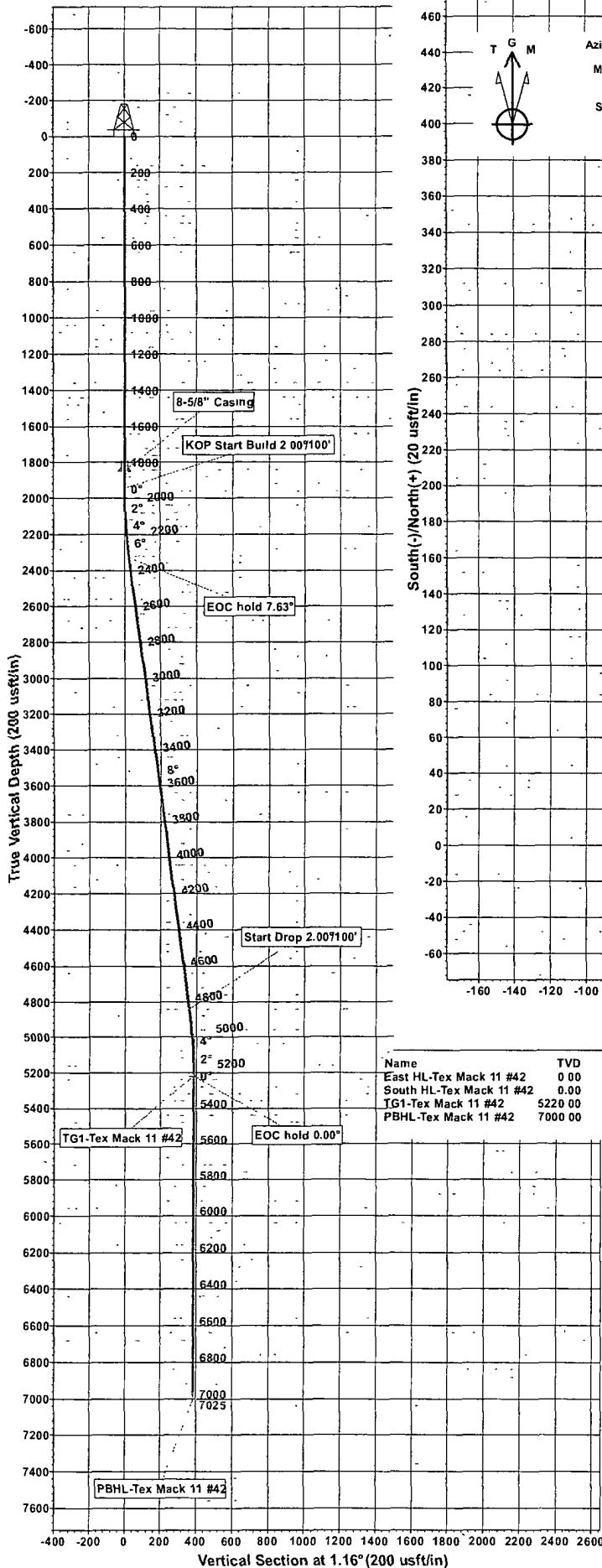
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,850.00	1,850.00	8-5/8" Casing	8-5/8	12-1/4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
1,950.00	1,950.00	0.00	0.00	KOP Start Build 2.00°/100'
2,331.51	2,330.38	25.36	0.51	EOC hold 7.63°
4,863.16	4,839.62	361.44	7.29	Start Drop 2.00°/100'
5,244.67	5,220.00	386.80	7.80	EOC hold 0.00°



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Tex Mack 11 Federal #42
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-Tex Mack 11 #42	0.00	396.80	-2.20	673947.80	653210.80	32°51' 6.380 N	103°50' 3.956 W	Rectangle (Side s: L100.00 W0.00)
South HL-Tex Mack 11 #42	0.00	396.80	-2.20	673947.80	653210.80	32°51' 6.380 N	103°50' 3.956 W	Rectangle (Side s: L0.00 W100.00)
TG1-Tex Mack 11 #42	5220.00	386.80	7.80	673937.80	653220.80	32°51' 6.280 N	103°50' 3.839 W	Point
PBHL-Tex Mack 11 #42	7000.00	386.80	7.80	673937.80	653220.80	32°51' 6.280 N	103°50' 3.839 W	Circle (Radius: 10.00)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1950.00	0.00	0.00	1950.00	0.00	0.00	0.00	0.00	0.00	
3	2331.51	7.63	1.16	2330.38	25.36	0.51	2.00	1.16	25.37	
4	4863.16	7.63	1.16	4839.62	361.44	7.29	0.00	0.00	361.51	
5	5244.67	0.00	0.00	5220.00	386.80	7.80	2.00	180.00	386.88	TG1-Tex Mack 11 #42
6	7024.67	0.00	0.00	7000.00	386.80	7.80	0.00	0.00	386.88	PBHL-Tex Mack 11 #42

WELL DETAILS: Tex Mack 11 Federal #42

+N/-S	+E/-W	Ground Level:	North	East	Latitude	Longitude
0.00	0.00	3967.00	673551.00	653213.00	32°51' 2.453 N	103°50' 3.952 W

PROJECT DETAILS: Eddy County, NM (NAN27 NME) Plan, Plan #1 7-7/8" Hole (Tex Mack 11 Federal #42/OH)

Geodetic System, US State Plane 1927 (Exact solution) Created By Julio Pina Date 12-Apr-11

Datum NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone New Mexico East 3001

System Datum, Mean Sea Level Checked, Date

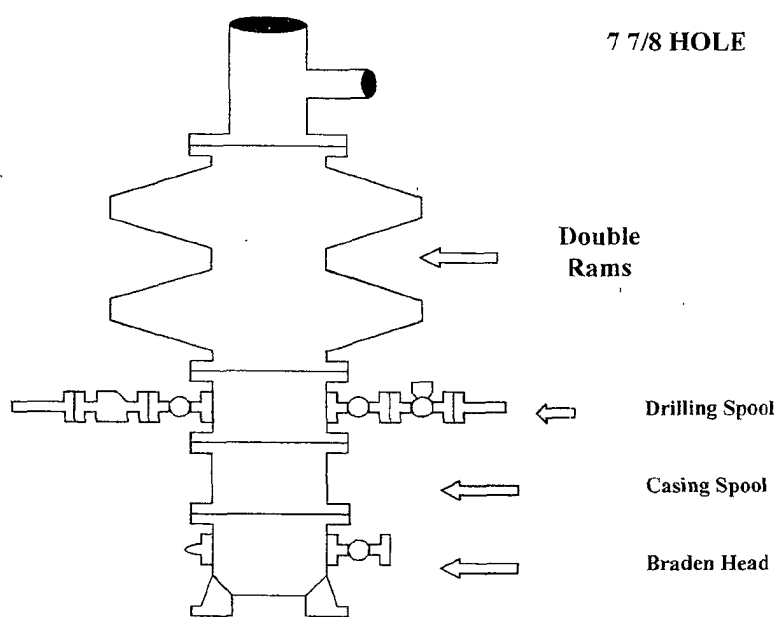
Reviewed, Date

Approved, Date

COG Operating LLC

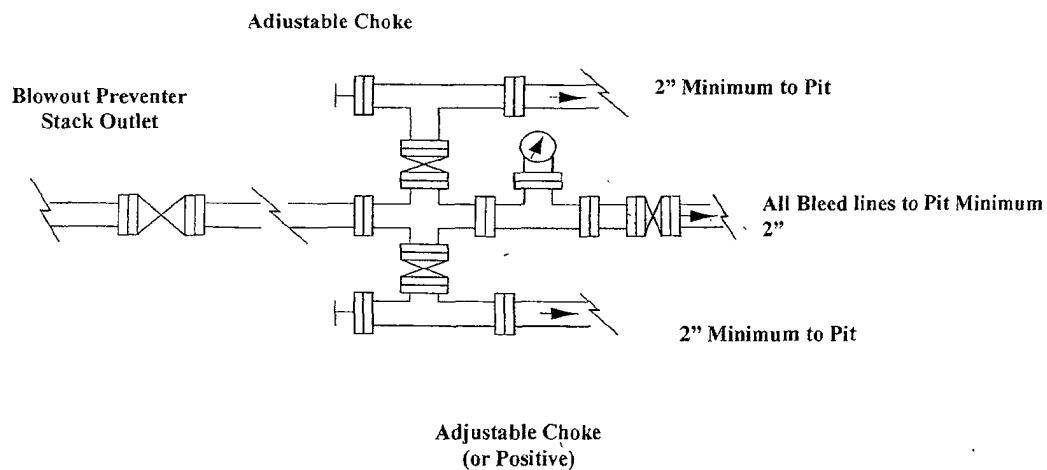
Exhibit #9

BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WF)
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.