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.
NMLC029415B

6 If Indian, Allotee or Tribe Name
N/A

7 If Unit or CA Agreement, Name and No
N/A

1a. Type of work. ☑ DRILL ✓ ☐ REENTER

1b Type of Well: ☑ Oil Well ✓ ☐ Gas Well ☐ Other ☐ Single Zone ✓ ☐ Multiple Zone

8 Lease Name and Well No
Puckett 12 Federal #1H [38858]

2. Name of Operator
COG Operating LLC [229137]

9 API Well No.
30-015- 39474

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
Fren; Glorieta-Yeso, East [26770]

4. Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface **SHL: 75' FSL & 330' FWL, UL M**
At proposed prod zone **BHL: 660' FNL & 330' FWL, UL D**
UNORTHODOX LOCATION

11 Sec, T R. M or Blk. and Survey or Area
Sec 12 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 drig. unit line, if any)	16 No. of acres in lease	17 Spacing Unit dedicated to this well
75'	**1920**	**160**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	19 Proposed Depth	20 BLM/BIA Bond No. on file
364'	**TVD: 6600' MD: 10940'**	**NMB000740; NMB000215**
21 Elevations (Show whether DF, KDB, RT, GL, etc)	22 Approximate date work will start*	23 Estimated duration
3946' GL ✓	**10/30/2011**	**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)*	Date
Title **Permitting Tech**	**Kelly J. Holly**	**08/04/2011**

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Don Peterson	/s/ Don Peterson	SEP 30 2011
Title **FIELD MANAGER**	Office **CARLSBAD FIELD OFFICE**	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

Roswell Controlled Water Basin

SUBJECT TO LIKE APPROVAL BY STATE

RECEIVED
OCT 04 2011
NMOCD ARTESIA

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Puckett 12 Federal #1H
SHL: 75' FSL & 330' FWL, Unit M
BHL: 660' FNL & 330' FWL, Unit D
Sec 12, T17S, R31E
Eddy County, NM

1. Proration Unit Spacing: 160 Acres

2. Ground Elevation: 3946'

3. Proposed Depths: Horizontal TVD = 6,600', MD = 10940'

4. Estimated tops of geological markers:

Quaternary	Surface
Rustler	682'
Top of Salt	900'
Base of Salt	1923'
Yates	2028'
Seven Rivers	2356'
Queen	2980'
Grayburg	3415'
San Andres	3739'
Glorieta	5247'
Paddock	5317'
Blinebry	5745'
Tubb	6700'

5. Possible mineral bearing formations:

Water Sand	150'	Fresh Water
Grayburg	3415'	Oil/Gas
San Andres	3739'	Oil/Gas
Glorieta	5247'	Oil/Gas
Paddock	5317'	Oil/Gas
Blinebry	5745'	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 700' and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be protected by setting 9 5/8" casing to ~~2000~~' 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

6. Casing Program - **Proposed**

Hole size	Interval	OD of Casing	Weight	Cond.	Collar	Grade
17-1/2"	0' - +/-700'	13-3/8"	48#	New	STC	H-40 or J/K-55
Collapse sf – 3.87, Burst sf – 8.70, Tension sf – 14.91						
12-1/4"	0' - +/-~~2000'~~ 1970	9-5/8"	36#	New	STC	J/K-55
Collapse sf – 2.88, Burst sf – 5.01, Tension sf – 8.11						
8-3/4"	0' – 10940'	7" x 5-1/2"	26#/17#	New	LTC	L-80
Collapse sf – 1.87, Burst sf – 2.48, Tension sf – 2.08						

See COA

Production string will be a tapered string with 7" 26# L-80 LTC ran from surface to kick off point and then crossed over to 5 ½" 17# L-80 LTC.

7. Cement Program

See COA

13 3/8" Surface Csg: Set at +/- 700'MD, Lead Slurry: 450sx Class "C" w/ 2% CaCl2 & .25 pps CF, 1.32 yield. 45% excess, calculated to surface.

9 5/8" Intrmd. Csg: Set at +/- 2000'MD. **Single Stage:** Lead Slurry: 300 sx 50:50:10:C:Poz:Gel w/ 5% salt, 5 pps LCM-1 .25 pps CF, 2.45 yield. Tail Slurry: 200 sx Class "C" w/ 2% CaCl2, 1.32 yield. 76% excess, calculated to surface.

Multi Stage: **Stage 1:** 200 sx Class "C" w/ 2% CaCl2, 1.32 yield. 80% excess. **Stage 2:** 300 sx 50:50:10:C:Poz:Gel w/ 5% salt, 5 pps LCM-1 .25 pps CF, 2.45 yield, back to surface, 166% excess; assumption for tool is lost circulation. Multi stage tool to be set at approximately, depending on hole conditions, 750' (50' below the surface casing). Cement volumes will be adjusted proportionately for depth changes of multi stage tool.

7 x 5 1/2" Production Csg: Set at +/- 10940'MD. **Single Stage:** Lead Slurry: 400 sx 35:65:6:C:Poz:Gel w/ 5% salt, 5 pps LCM, .2% SMS, .3% FL-52A, .125 pps CF, 2.01 yd. Inter. Slurry: 300 sx 50:50:2:C:Poz:Gel w/ 5% salt, 3 pps LCM, .6% SMS, 1% FL-25, 1% BA-58, .125 pps CF, .3% FL-52A; 1.37 yield Tail Slurry: 450 sx Class "H" SOLUCEM-H w/ .7% HR-601, 2.62 yield 69% excess in open hole, calculated to surface. **This is a minimum volume and will be adjusted up after caliper is run.**

Multi Stage: **Stage 1:** (Assumed TD of 10940'MD to DV at 3550') Lead Slurry: 450 sx 50:50:2:C:Poz:Gel w/ 5% salt, 3 pps LCM, .6% SMS, 1% FL-25, 1% BA-58, .125 pps CF, .3% FL-52A; 1.37 yield Tail Slurry: 450 sx Class "H" SOLUCEM-H w/ .7% HR-601, 2.62 yield; 12% excess. **This is a minimum volume and will be adjusted up after caliper is run.** **Stage 2:** Lead Slurry: 350 sx 50:50:2:C:Poz:Gel w/ 5% salt, 3 pps LCM, .6% SMS, 1% FL-25, 1% BA-58, .125 pps CF, .3% FL-52A; 1.37 yield. Tail Slurry: 150 sx Class C w/ 0.3% R-3 + 1.5% CD-32, 1.02 yield. 28% excess calculated back to surface (no need for excess in casing overlap). **This is a minimum volume and will be adjusted up after caliper is run.**

Multi stage tool to be set at approximately, depending on hole conditions, 3550'. Cement volumes will be adjusted proportionately for depth changes of multi stage tool; assumption for use of tool is water flow.

8. Pressure Control Equipment:

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" will be used 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. After setting 9-5/8" the BOP will then be nipped up on the 9-5/8" 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.

9. Proposed Mud Circulating System

Interval	Mud Wt.	Visc.	FL	Type Mud System
0' - 700'	8.5	28	NC	Fresh water native mud w/ paper for seepage and sweeps. Lime for PH.
700'- 2000' 1970	10	30	NC	Brine mud, lime for PH and paper for seepage and sweeps.
2000'- 10940'	9.1	29	NC	Drill section with fresh water/cut brine circulating the reserve utilizing periodic sweeps of paper as needed for seepage control and solids removal.

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

10. Production Hole Drilling Summary:

Drill 8 ¾" hole and kick off at +/- 6123', building curve over +/- 750' to horizontal at 6600' TVD. Drill horizontal section in a Northerly direction for +/-4067' lateral to TD at +/-10940' MD, 6600' TVD. Run 7" x 5-1/2" production casing in Open hole lateral and cement to surface.

11. 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.

12. Logging, Testing and Coring Program:

    A. No electric logging to be performed on this well. See COA

    B. The mud logging program will consist of lagged 10' samples from intermediate casing point to T.D. in vertical pilot hole and from Kick off point to TD in Horizontal hole.

    C. Drill Stem test is not anticipated.

    D. No conventional coring is anticipated.

    E. Further testing procedures will be determined after the 7" x 5 ½" production casing has been cemented at TD based on drill shows and log evaluation.

13. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

    No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 90 degrees and estimated maximum bottom hole pressure is 1800 psig. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area, however an H2S plan is attached to the Drilling Program. No major loss of circulation zones has been reported in offsetting wells.

14. Anticipated Starting Date

    Drilling operations will commence approximately on ***October 30, 2011*** with drilling and completion operations lasting approximately ***90*** days.

CONCHO

COG Operating LLC

Eddy County, NM (NAN27 NME)
Puckett 12 Federal #1H
Puckett 12 Federal #1H

OH

Plan: Plan #2 8-3/4" Hole
SHL = 75' FSL & 330' FWL
BHL = 660' FNL & 330' FWL

Standard Planning Report

07 July, 2011

Scientific Drilling
Directional Drilling Operations

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Puckett 12 #1H
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3946 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3946.00usft
Site:	Puckett 12 #1H	**North Reference:**	Grid
Well:	Puckett 12 #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 8-3/4" 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 Puckett 12 #1H

Site Position:		**Northing:**	670,400 50 usft	**Latitude:**	32° 50' 31 216 N
From:	Map	**Easting:**	654,550 40 usft	**Longitude:**	103° 49' 48 451 W
Position Uncertainty:	0 00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0 27 °

Well Puckett 12 #1H

Well Position	**+N/-S**	0 00 usft	**Northing:**	670,400 50 usft	**Latitude:**	32° 50' 31 216 N
	+E/-W	0 00 usft	**Easting:**	654,550 40 usft	**Longitude:**	103° 49' 48 451 W
Position Uncertainty		0 00 usft	**Wellhead Elevation:**		**Ground Level:**	3,946 00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/07/07	7 75	60 71	48,951

Design Plan #2 8-3/4" 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	359 66

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	
6,120 00	0 00	0 00	6,120 00	0 00	0.00	0 00	0 00	0 00	0 00	
6,874 01	90 00	359 66	6,600 00	479 99	-2 88	11 94	11 94	0.00	359 66	
10,939.89	90 00	359 66	6,600 00	4,545 80	-27 30	0 00	0 00	0 00	0 00	PBHL-Puckett 12 #1H

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Puckett 12 #1H
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3946 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3946 00usft
Site:	Puckett 12 #1H	**North Reference:**	Grid
Well:	Puckett 12 #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 8-3/4" 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
6,120 00	0 00	0 00	6,120 00	0 00	0.00	0 00	0 00	0 00	0 00
KOP Start Build 11.94°/100'									
6,200 00	9 55	359 66	6,199 63	6 65	-0 04	6 65	11 94	11 94	0 00
6,300 00	21 49	359 66	6,295 81	33 35	-0 20	33 36	11 94	11 94	0 00
6,400 00	33 42	359 66	6,384 39	79 37	-0 48	79 37	11 94	11 94	0 00
6,500 00	45 36	359 66	6,461 54	142 72	-0 86	142 72	11 94	11 94	0 00
6,600 00	57 29	359 66	6,523.91	220 64	-1 33	220 65	11 94	11 94	0 00
6,700 00	69 23	359 66	6,568 82	309 79	-1 86	309 79	11 94	11 94	0 00
6,800 00	81 17	359 66	6,594 33	406 29	-2 44	406 30	11 94	11 94	0 00
6,874 01	90 00	359 66	6,600 02	480 01	-2 88	480 02	11 94	11 94	0 00
Land EOC hold 90.00°									
6,900 00	90 00	359 66	6,600 00	505 98	-3 04	505 99	0 00	0 00	0 00
7,000 00	90 00	359 66	6,600 00	605 98	-3 64	605 99	0 00	0 00	0 00
7,100 00	90 00	359 66	6,600 00	705 98	-4 24	705 99	0 00	0 00	0 00
7,200 00	90 00	359 66	6,600 00	805 97	-4 84	805 99	0 00	0 00	0 00
7,300 00	90 00	359 66	6,600 00	905 97	-5 44	905 99	0 00	0 00	0 00
7,400 00	90.00	359 66	6,600 00	1,005 97	-6 04	1,005.99	0 00	0 00	0 00
7,500 00	90 00	359 66	6,600 00	1,105 97	-6 64	1,105 99	0 00	0 00	0 00
7,600 00	90 00	359 66	6,600 00	1,205 97	-7 24	1,205.99	0 00	0 00	0 00
7,700 00	90 00	359 66	6,600 00	1,305 97	-7 84	1,305 99	0 00	0 00	0.00
7,800 00	90 00	359 66	6,600 00	1,405 96	-8 44	1,405 99	0 00	0 00	0 00
7,900 00	90 00	359 66	6,600 00	1,505 96	-9 04	1,505 99	0 00	0 00	0 00
8,000 00	90 00	359 66	6,600 00	1,605 96	-9 64	1,605 99	0 00	0 00	0 00
8,100.00	90 00	359 66	6,600 00	1,705 96	-10 25	1,705 99	0 00	0 00	0 00
8,200 00	90 00	359 66	6,600 00	1,805 96	-10 85	1,805 99	0 00	0 00	0 00
8,300 00	90 00	359 66	6,600 00	1,905 95	-11 45	1,905 99	0 00	0 00	0 00
8,400 00	90 00	359 66	6,600 00	2,005 95	-12 05	2,005 99	0 00	0 00	0 00
8,500 00	90 00	359 66	6,600 00	2,105.95	-12 65	2,105 99	0 00	0 00	0 00
8,600 00	90 00	359 66	6,600 00	2,205.95	-13 25	2,205 99	0 00	0 00	0 00
8,700 00	90 00	359 66	6,600 00	2,305 95	-13.85	2,305 99	0 00	0 00	0 00
8,800 00	90 00	359 66	6,600 00	2,405 95	-14 45	2,405 99	0 00	0 00	0 00
8,900 00	90 00	359 66	6,600 00	2,505 94	-15 05	2,505 99	0 00	0 00	0 00
9,000 00	90 00	359 66	6,600 00	2,605 94	-15 65	2,605 99	0 00	0 00	0 00
9,100 00	90 00	359 66	6,600 00	2,705 94	-16 25	2,705 99	0 00	0 00	0 00
9,200 00	90 00	359 66	6,600 00	2,805 94	-16 85	2,805 99	0 00	0 00	0 00
9,300 00	90 00	359 66	6,600 00	2,905 94	-17 45	2,905 99	0 00	0 00	0 00
9,400 00	90 00	359 66	6,600 00	3,005 94	-18 05	3,005 99	0 00	0 00	0 00
9,500 00	90 00	359 66	6,600 00	3,105 93	-18 65	3,105 99	0 00	0 00	0 00
9,600 00	90 00	359 66	6,600 00	3,205 93	-19 25	3,205 99	0 00	0.00	0 00
9,700 00	90 00	359 66	6,600 00	3,305 93	-19 85	3,305 99	0 00	0 00	0 00
9,800 00	90 00	359 66	6,600 00	3,405 93	-20 45	3,405 99	0 00	0 00	0 00
9,900 00	90 00	359 66	6,600 00	3,505 93	-21 05	3,505 99	0 00	0 00	0 00
10,000 00	90 00	359 66	6,600 00	3,605 92	-21 66	3,605 99	0 00	0 00	0 00
10,100 00	90 00	359 66	6,600 00	3,705 92	-22 26	3,705 99	0 00	0 00	0 00
10,200 00	90 00	359 66	6,600 00	3,805 92	-22 86	3,805 99	0 00	0 00	0 00
10,300 00	90 00	359 66	6,600 00	3,905 92	-23 46	3,905 99	0 00	0 00	0 00
10,400 00	90 00	359 66	6,600 00	4,005 92	-24 06	4,005 99	0 00	0 00	0 00
10,500 00	90 00	359 66	6,600 00	4,105 92	-24 66	4,105 99	0 00	0 00	0 00
10,600 00	90 00	359 66	6,600 00	4,205 91	-25 26	4,205 99	0 00	0 00	0 00
10,700 00	90 00	359 66	6,600 00	4,305 91	-25 86	4,305 99	0 00	0 00	0 00
10,800 00	90 00	359 66	6,600 00	4,405 91	-26 46	4,405 99	0 00	0 00	0 00
10,900 00	90 00	359 66	6,600 00	4,505 91	-27 06	4,505 99	0 00	0 00	0 00
10,939 89	90 00	359 66	6,600 00	4,545 80	-27 30	4,545 88	0 00	0 00	0 00

Database:	EDM-Julio	**Local Co-ordinate Reference:**	Site Puckett 12 #1H
Company:	COG Operating LLC	**TVD Reference:**	GL Elev @ 3946 00usft
Project:	Eddy County, NM (NAN27 NME)	**MD Reference:**	GL Elev @ 3946 00usft
Site:	Puckett 12 #1H	**North Reference:**	Grid
Well:	Puckett 12 #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 8-3/4" 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)
PBHL-Puckett 12 #1H									

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
PBHL-Puckett 12 #1H - plan hits target center - Point	0 00	0 00	6,600 00	4,545 80	-27 30	674,946 30	654,523 10	32° 51' 16 198 N	103° 49' 48 517 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
6,120 00	6,120 00	0 00	0 00	KOP Start Build 11 94°/100'
6,874 01	6,600 02	480 01	-2 88	Land EOC hold 90 00°

CONCHO

Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Puckett 12 #1H
Wellbore: OH
Design: Plan #2 8-3/4" Hole

Scientific Drilling
Directional Drilling Operations

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	6120.00	0.00	0.00	6120.00	0.00	0.00	0.00	0.00	0.00	
3	6874.01	90.00	359.66	6600.00	479.99	-2.88	11.94	359.66	480.00	
4	10939.89	90.00	359.66	6600.00	4545.80	-27.30	0.00	0.00	4545.88	PBHL-Puckett 12 #1H

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL-Puckett 12 #1H	6600.00	4545.80	-27.30	674946.30	654523.10	32° 51' 16.198 N	103° 49' 48.517 W	Point

WELL DETAILS: Puckett 12 #1H

Ground Level: 3946.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	670400.50	654550.40	32° 50' 31.216 N	103° 49' 48.451 W	

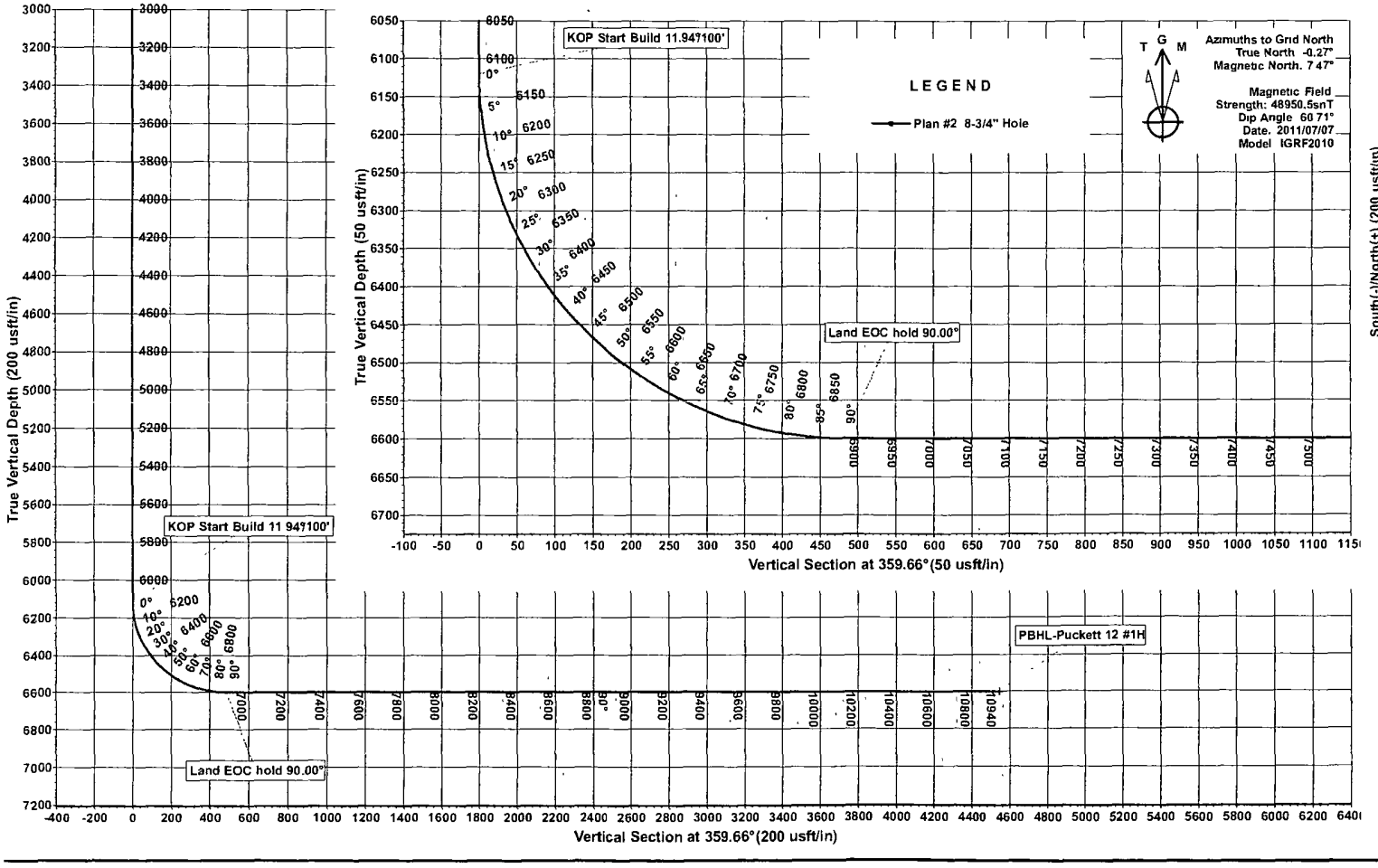
Puckett 12 #1H

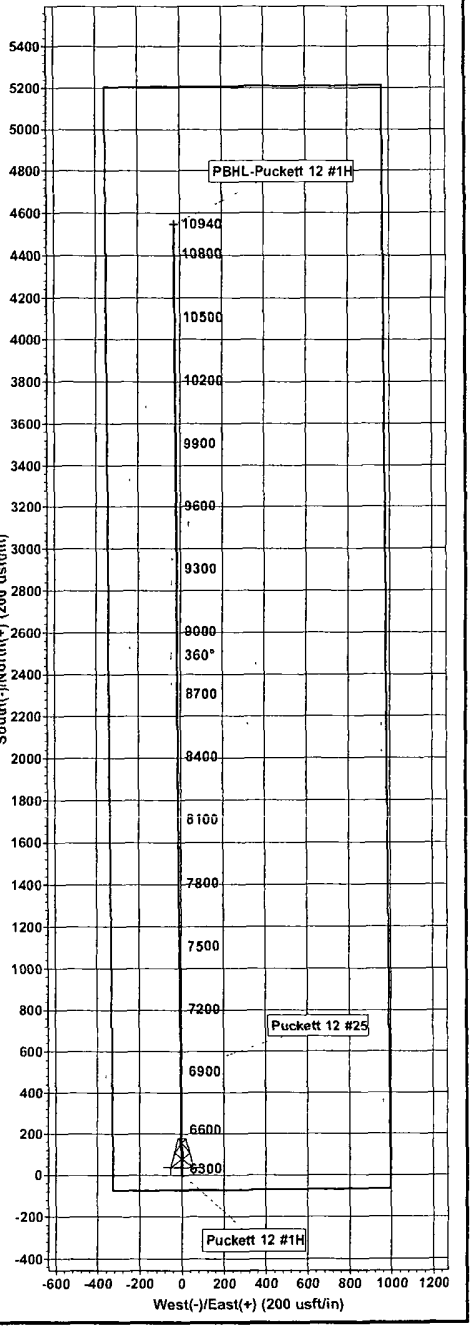
Created By: Julio Pina Date: 07-Jul-11
Checked _____ Date: _____
Reviewed. _____ Date _____

PROJECT DETAILS: Eddy County, NM (NAN27 NME)

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

AZIMUTH CORRECTIONS
ALL AZIMUTHS MUST BE CORRECTED TO GRID
GRID CORRECTIONS MUST BE APPLIED BEFORE PLOTTING
To convert a Magnetic Direction to a Grid Direction, Add 7.47°
To convert a True Direction to a Grid Direction, Subtract 0.27°

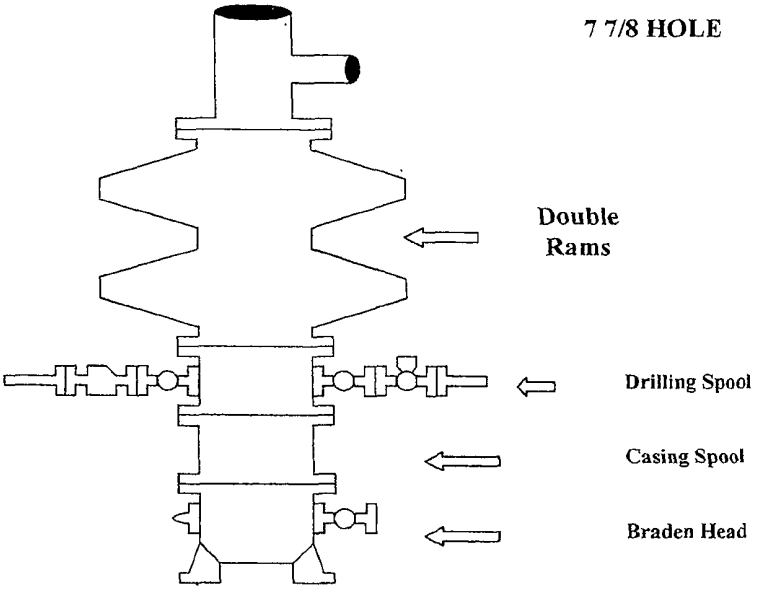




COG Operating LLC

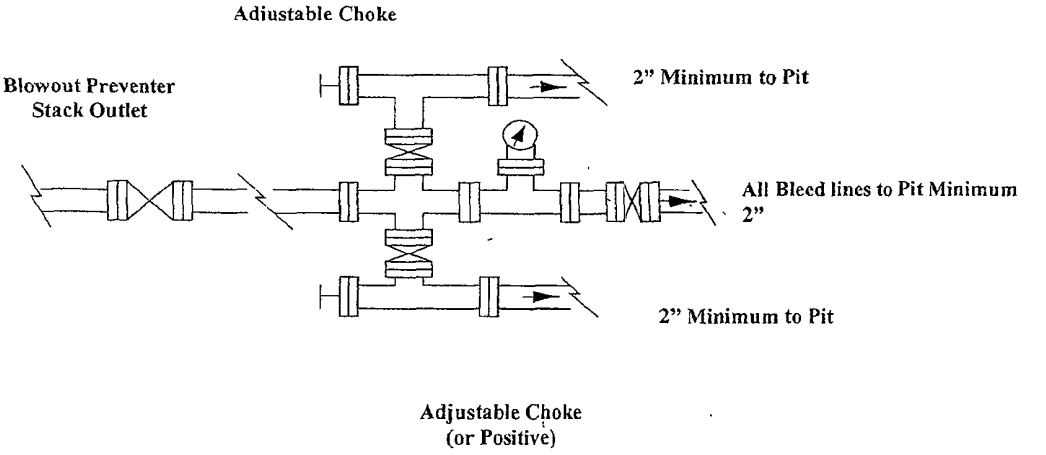
Exhibit #9

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.

DISTRICT 2 -- CHECKLIST FOR INTENTS TO DRILL

38687

Operator COG OPR OGRID # 229137
Well Name & # Puckett 12 Federal. 1H Surface Type (F) (S) (P)
Location: UL___, Sect ___, Twnship ___ s, RNG ___e, Sub-surface Type (F) (S) (P)

A. Date C101 rec'd 10/4/2011 C101 reviewed 10/5/2011
B. 1. Check mark, Information is OK on Forms:
OGRID ✓, BONDING ___, PROP CODE ✓, WELL # ✓, SIGNATURE ✓
2. Inactive Well list as of : 10/5/2011 # wells 3016, # Inactive wells 11
a. District Grant APD but see number of inactive wells: discuss w/ Donna w/I compliance
No letter required ✓; Sent Letter to Operator ___, to Santa Fe ___
3. Additional Bonding as of: 10/5/2011
a. District Denial because operator needs addition bonding:
No Letter required ✓; Sent Letter to Operator ___, To Santa Fe___
b. District Denial because of Inactive well list and Financial Assurance:
No Letter required ✓; Sent Letter to Operator ___, To Santa Fe ___

C. C102 YES ✓, NO ___, Signature ✓
1. Pool FREN; GLORIETA-YESO EAST, Code 26770
a. Dedicated acreage ___, What Units___
b. SUR. Location Standard ___: Non-Standard Location___
c. Well shares acres: Yes ___, No ___, # of wells ___ plus this well #___
2. 2nd. Operator in same acreage, Yes___, No ___
Agreement Letter ___, Disagreement letter___
3. Intent to Directional Drill Yes ✓, No ___
a. Dedicated acreage 160, What Units M-L-E-D
b. Bottomhole Location Standard ___, Non-Standard Bottomhole ✓
4. Downhole Commingle: Yes___, No___
a. Pool #2___,Code___, Acres___
Pool #3___, Code ___, Acres ___
Pool #4___, Code___, Acres___
5. POTASH Area Yes ___, No ___,
D. Blowout Preventer Yes ✓, No ___,
E. H2S Yes ✓, No ___,
F. C144 Pit Registration Yes ___, No ___,
G. Does APD require Santa Fe Approval:
1. Non-Standard Location: Yes ___, No ✓, NSL #___
2. Non-Standard Proration: Yes___, No ✓, NSP # ___
3. Simultaneous Dedication: Yes ___, No ✓, SD # ___
Number of wells ___ Plus #___
4. Injection order Yes ___, No ✓; PMX #___ or WFX #___
5. SWD order Yes ___, NO ✓; SWD # ___
6. DHC from SF___; DHC-HOB___; Holding___

7. OCD Approval Date 10/5/2011 API #30-015-39474
8. Reviewers TCS