

Form 3160-3
(April 2004)

Split Estate

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

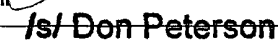
1a. Type of work. ☒ DRILL ☐ REENTER		5. Lease Serial No NMLC029415B
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator COG Operating LLC		7. If Unit or CA Agreement, Name and No N/A
3a. Address 550 W. Texas Ave., Suite 1300 Midland, TX 79701	3b. Phone No. (include area code) 432-685-4384	8. Lease Name and Well No Puckett 12 Federal #7H
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SHL: 15' FSL & 819' FEL, UL P At proposed prod zone BHL: 660' FSL & 990' FEL, UL A		9. API Well No. 30-015-39476
14. Distance in miles and direction from nearest town or post office* 9 miles East of Loco Hills, NM		10. Field and Pool, or Exploratory Fren; Glorieta-Yeso, East
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 15'		11. Sec., T R M or Blk and Survey or Area Sec 12 T17S R31E
16. No. of acres in lease 1920		12. County or Parish EDDY
17. Spacing Unit dedicated to this well 160		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 90'		20. BLM/BIA Bond No on file NMB000740; NMB000215
19. Proposed Depth TVD: 6600' MD: 11004'		21. Estimated duration 15 days
22. Approximate date work will start* 10/30/2011		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.

- Well plat certified by a registered surveyor.
- A Drilling Plan
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office)
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- 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 08/04/2011
Title Permitting Tech		

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

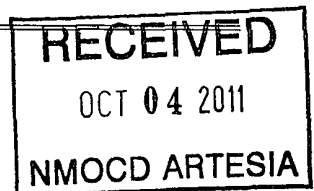
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon
Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

Title 18 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

SUBJECT TO LIKE
APPROVAL BY STATESEE ATTACHED FOR
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Puckett 12 Federal #7H
SHL: 15' FSL & 819' FEL, Unit P
BHL: 660' FNL & 990' FEL, Unit A
Sec 12, T17S, R31E
Eddy County, NM

1. Proration Unit Spacing: 160 Acres
2. Ground Elevation: 3965'
3. Proposed Depths: Horizontal TVD = 6,600', MD = 11004'
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'
Blaine	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
Blaine	5745'	Oil/Gas
Tubb	6700'	Oil/Gas

See
COA

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

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Puckett 12 Federal #7H
Page 2 of 4

6. Casing Program - Proposed

<u>Hole size</u>	<u>Interval</u>	<u>OD of Casing</u>	<u>Weight</u>	<u>Cond.</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0' - +/- 700' ⁷⁴⁰	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'	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' - 11004'	7" x 5-1/2"	26#/17#	New	LTC	L-80
Collapse sf - 1.87, Burst sf - 2.48, Tension sf - 2.08						

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 1/2" 17# L-80 LTC.

7. Cement Program

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 +/- 11004'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 67% 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 11004'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; 11% 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.

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Puckett 12 Federal #7H
Page 3 of 4

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' ⁷⁴⁰	8.5	28	NC	Fresh water native mud w/ paper for seepage and sweeps. Lime for PH.
700' - 2000'	10	30	NC	Brine mud, lime for PH and paper for seepage and sweeps.
2000' - 11004'	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 3/4" hole and kick off at +/- 6123', building curve over +/- 750' to horizontal at 6600' TVD. Drill horizontal section in a Northerly direction for +/-4131' lateral to TD at +/-11004' 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.



COG Operating LLC

Eddy County, NM (NAN27 NME)

Puckett 12 Federal #7H

Puckett 12 Federal #7H

OH

Plan: Plan #1 8-3/4" Hole

SHL = 15' FSL & 819' FEL

PP = 330' FSL & 832' FEL

BHL = 660' FNL & 990' FEL

Standard Planning Report

03 August, 2011





Scientific Drilling Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Puckett 12 Federal #7H
Well: Puckett 12 Federal #7H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Site Puckett 12 Federal #7H
TVD Reference: GL Elev @ 3965.00usft
MD Reference: GL Elev @ 3965.00usft
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: Puckett 12 Federal #7H

Site Position: Northing: 670,369.40 usft Latitude: 32° 50' 30.711 N
From: Map Easting: 658,684.50 usft Longitude: 103° 48' 59.997 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16" Grid Convergence: 0.28°

Well: Puckett 12 Federal #7H

Well Position: +N/-S 0.00 usft Northing: 670,369.40 usft Latitude: 32° 50' 30.711 N
+E/-W 0.00 usft Easting: 658,684.50 usft Longitude: 103° 48' 59.997 W
Position Uncertainty: 0.00 usft Wellhead Elevation: Ground Level: 3,965.00 usft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011/07/29	7.73	60.71	48,946

Design: Plan #1 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	357.55

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	
6,122.54	0.00	0.00	6,122.54	0.00	0.00	0.00	0.00	0.00	0.00	
6,872.54	90.00	357.55	6,600.00	477.03	-20.43	12.00	12.00	0.00	357.55	
11,004.09	90.00	357.55	6,600.00	4,604.80	-197.20	0.00	0.00	0.00	0.00	PBHL-Puckett 12 #7H



Scientific Drilling
Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Puckett 12 Federal #7H
Well: Puckett 12 Federal #7H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

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

Site Puckett 12 Federal #7H
GL Elev @ 3965 00usft
GL Elev @ 3965 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
6,122 54	0 00	0 00	6,122 54	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 12.00°/100'									
6,200 00	9 30	357 55	6,199 66	6 26	-0 27	6 27	12 00	12 00	0 00
6,300 00	21 30	357 55	6,295 94	32 57	-1 39	32 60	12 00	12 00	0 00
6,400 00	33 30	357 55	6,384 65	78 31	-3 35	78 38	12 00	12 00	0 00
6,500 00	45 30	357 55	6,461 89	141 46	-6 06	141 59	12 00	12 00	0 00
6,600 00	57 30	357 55	6,524 31	219 29	-9 39	219 49	12 00	12 00	0 00
6,700 00	69 30	357 55	6,569 16	308 38	-13 21	308 66	12 00	12 00	0 00
6,707 06	70 14	357 55	6,571 61	315 00	-13 49	315 29	12 00	12 00	0 00
PP=330' FNL, Puckett 12 #7H									
6,800 00	81 30	357 55	6,594 50	404 84	-17 34	405 21	12 00	12 00	0 00
6,872 54	90 00	357 55	6,600 00	477 03	-20 43	477 47	12 00	12 00	0 00
Land EOC hold 90.00°									
6,900 00	90 00	357 55	6,600 00	504 47	-21 60	504 93	0 00	0 00	0 00
7,000 00	90 00	357 55	6,600 00	604 38	-25 88	604 93	0 00	0 00	0 00
7,100 00	90 00	357 55	6,600 00	704 28	-30 16	704 93	0 00	0 00	0 00
7,200 00	90 00	357 55	6,600 00	804 19	-34 44	804 93	0 00	0 00	0 00
7,300 00	90 00	357 55	6,600 00	904 10	-38 72	904 93	0 00	0 00	0 00
7,400 00	90 00	357 55	6,600 00	1,004 01	-43 00	1,004 93	0 00	0 00	0 00
7,500 00	90 00	357 55	6,600 00	1,103 92	-47 28	1,104 93	0 00	0 00	0 00
7,600 00	90 00	357 55	6,600 00	1,203 83	-51 55	1,204 93	0 00	0 00	0 00
7,700 00	90 00	357 55	6,600 00	1,303 73	-55 83	1,304 93	0 00	0 00	0 00
7,800 00	90 00	357 55	6,600 00	1,403 64	-60 11	1,404 93	0 00	0 00	0 00
7,900 00	90 00	357 55	6,600 00	1,503 55	-64 39	1,504 93	0 00	0 00	0 00
8,000 00	90 00	357 55	6,600 00	1,603 46	-68 67	1,604 93	0 00	0 00	0 00
8,100 00	90 00	357 55	6,600 00	1,703 37	-72 95	1,704 93	0 00	0 00	0 00
8,200 00	90 00	357 55	6,600 00	1,803 28	-77 23	1,804 93	0 00	0 00	0 00
8,300 00	90 00	357 55	6,600 00	1,903 19	-81 50	1,904 93	0 00	0 00	0 00
8,400 00	90 00	357 55	6,600 00	2,003 09	-85 78	2,004 93	0 00	0 00	0 00
8,500 00	90 00	357 55	6,600 00	2,103 00	-90 06	2,104 93	0 00	0 00	0 00
8,600 00	90 00	357 55	6,600 00	2,202 91	-94 34	2,204 93	0 00	0 00	0 00
8,700 00	90 00	357 55	6,600 00	2,302 82	-98 62	2,304 93	0 00	0 00	0 00
8,800 00	90 00	357 55	6,600 00	2,402 73	-102 90	2,404 93	0 00	0 00	0 00
8,900 00	90 00	357 55	6,600 00	2,502 64	-107 18	2,504 93	0 00	0 00	0 00
9,000 00	90 00	357 55	6,600 00	2,602 54	-111 45	2,604 93	0 00	0 00	0 00
9,100 00	90 00	357 55	6,600 00	2,702 45	-115 73	2,704 93	0 00	0 00	0 00
9,200 00	90 00	357 55	6,600 00	2,802 36	-120 01	2,804 93	0 00	0 00	0 00
9,300 00	90 00	357 55	6,600 00	2,902 27	-124 29	2,904 93	0 00	0 00	0 00
9,400 00	90 00	357 55	6,600 00	3,002 18	-128 57	3,004 93	0 00	0 00	0 00
9,500 00	90 00	357 55	6,600 00	3,102 09	-132 85	3,104 93	0 00	0 00	0 00
9,600 00	90 00	357 55	6,600 00	3,201 99	-137 13	3,204 93	0 00	0 00	0 00
9,700 00	90 00	357 55	6,600 00	3,301 90	-141 40	3,304 93	0 00	0 00	0 00
9,800 00	90 00	357 55	6,600 00	3,401 81	-145 68	3,404 93	0 00	0 00	0 00
9,900 00	90 00	357 55	6,600 00	3,501 72	-149 96	3,504 93	0 00	0 00	0 00
10,000 00	90 00	357 55	6,600 00	3,601 63	-154 24	3,604 93	0 00	0 00	0 00
10,100 00	90 00	357 55	6,600 00	3,701 54	-158 52	3,704 93	0 00	0 00	0 00
10,200 00	90 00	357 55	6,600 00	3,801 45	-162 80	3,804 93	0 00	0 00	0 00
10,300 00	90 00	357 55	6,600 00	3,901 35	-167 08	3,904 93	0 00	0 00	0 00
10,400 00	90 00	357 55	6,600 00	4,001 26	-171 35	4,004 93	0 00	0 00	0 00
10,500 00	90 00	357 55	6,600 00	4,101 17	-175 63	4,104 93	0 00	0 00	0 00
10,600 00	90 00	357 55	6,600 00	4,201 08	-179 91	4,204 93	0 00	0 00	0 00
10,700 00	90 00	357 55	6,600 00	4,300 99	-184 19	4,304 93	0 00	0 00	0 00



Scientific Drilling
Planning Report



Database: EDM-Julio
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Puckett 12 Federal #7H
Well: Puckett 12 Federal #7H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Site Puckett 12 Federal #7H
TVD Reference: GL Elev @ 3965.00usft
MD Reference: GL Elev @ 3965 00usft
North Reference: Grid
Survey Calculation Method: 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)
10,800 00	90 00	357 55	6,600 00	4,400 90	-188 47	4,404 93	0 00	0 00	0 00
10,900 00	90.00	357 55	6,600 00	4,500 80	-192 75	4,504 93	0 00	0 00	0 00
11,000 00	90.00	357 55	6,600 00	4,600 71	-197 02	4,604 93	0 00	0 00	0 00
11,004.09	90 00	357 55	6,600 00	4,604 80	-197 20	4,609 02	0 00	0 00	0 00

PBHL-Puckett 12 #7H

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PP=330° FNL, Puckett 1	- plan hits target center	0 00	0 00	6,571 62	315 02	-13 49	670,684 42	658,671 01	32° 50' 33 829 N	103° 49' 0 137 W
	- Point									
PBHL-Puckett 12 #7H	- plan hits target center	0 00	0 00	6,600 00	4,604 80	-197 20	674,974 20	658,487 30	32° 51' 16 285 N	103° 49' 2 044 W
	- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
6,122 54	6,122 54	0 00	0 00	KOP Start Build 12 00°/100'
6,872 54	6,600 00	477 03	-20 43	Land EOC hold 90 00°



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Puckett 12 Federal #7H
Wellbore: OH
Design: Plan #1 8-3/4" Hole



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	6122.54	0.00	0.00	6122.54	0.00	0.00	0.00	0.00	0.00	
3	6872.54	90.00	357.55	6600.00	477.03	-20.43	12.00	357.55	477.46	
4	11004.09	90.00	357.55	6600.00	4604.80	-197.20	0.00	0.00	4609.02	PBHL-Puckett 12 #7H

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PP=330' FNL, Puckett 12 #7H	6571.62	315.02	-13.49	670684.42	658671.01	32°50' 33.829 N	103°49' 0.137 W	Point
PBHL-Puckett 12 #7H	6600.00	4604.80	-197.20	674974.20	658487.30	32°51' 16.285 N	103°49' 2.044 W	Point

WELL DETAILS: Puckett 12 Federal #7H

+N/-S	+E/-W	Northing	Ground Level:	Easting	Latitude	Longitude	Slot
0.00	0.00	670369.40	3965.00	658684.50	32°50' 30.711 N	103°48' 59.997 W	

Puckett 12 Federal #7H

Created By: Julio Pina Date: 29-Jul-11

Checked: _____ Date: _____

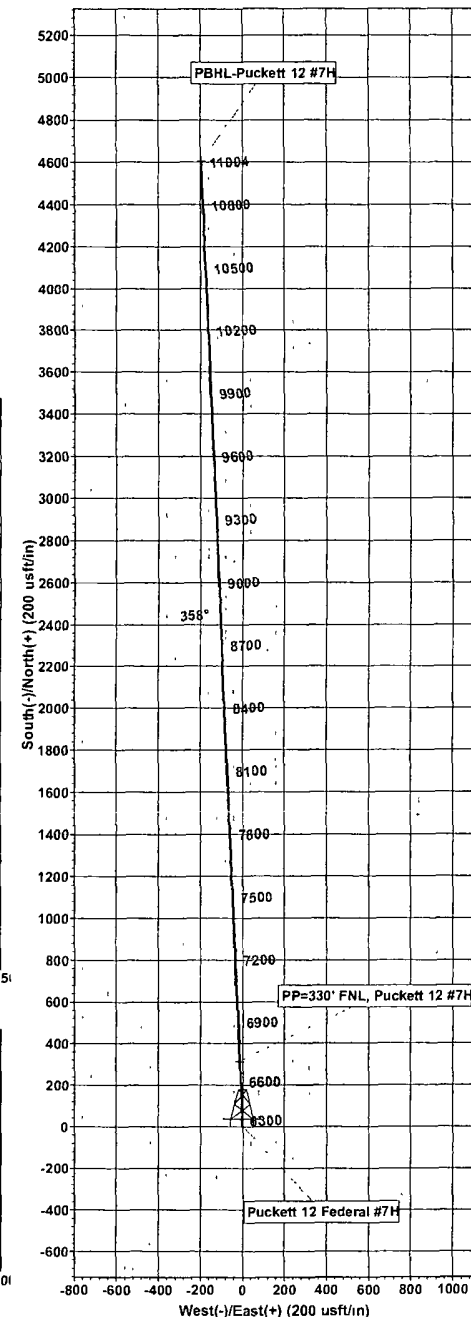
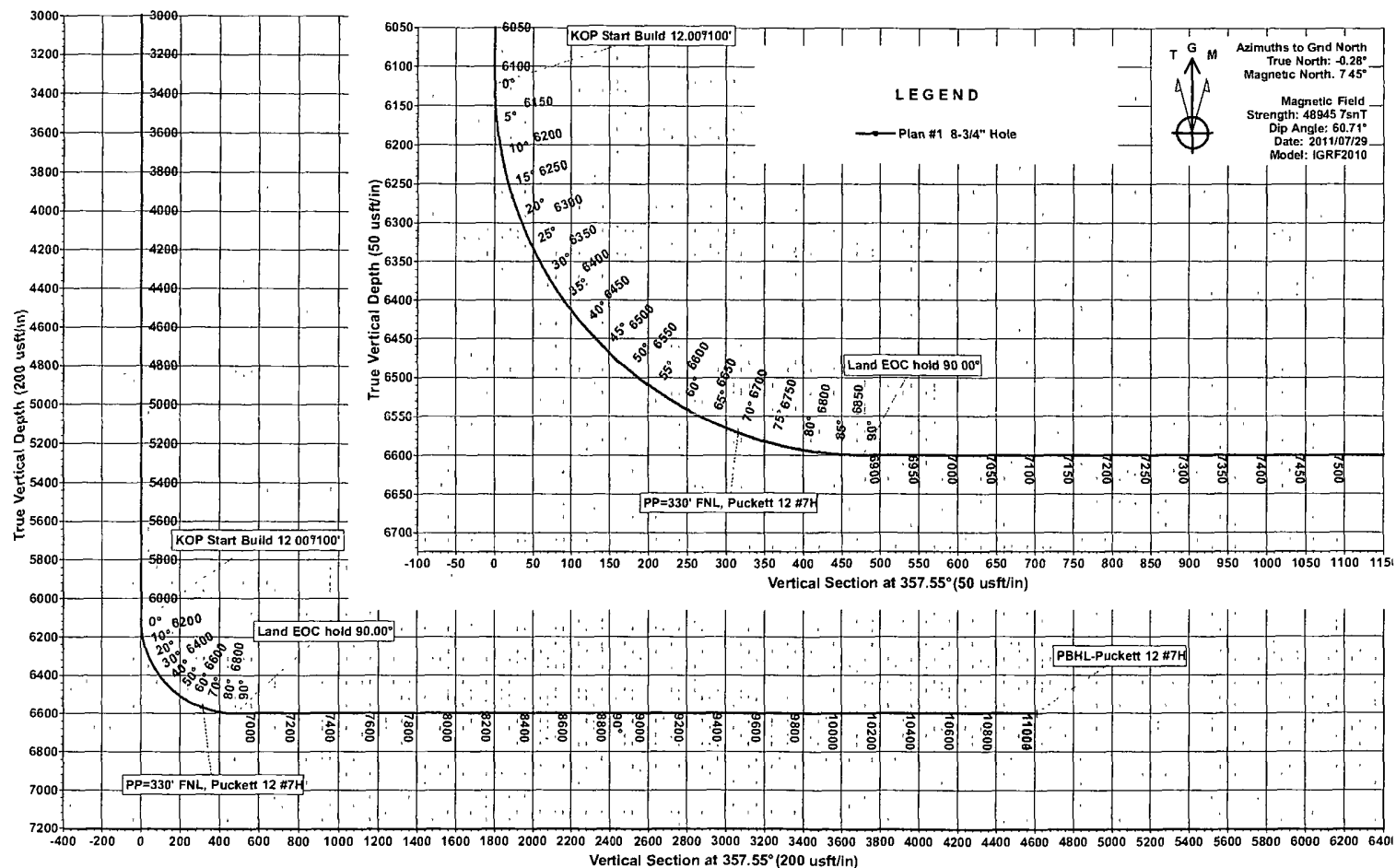
Reviewed: _____ Date: _____

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

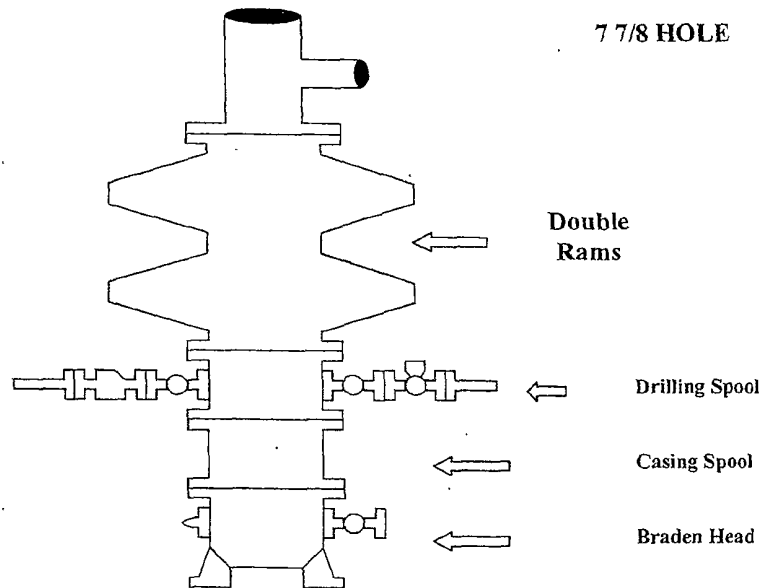
ALL AZIMUTHS MUST BE CORRECTED TO GRID
GRID CORRECTIONS MUST BE APPLIED BEFORE PLOTTING
To convert a Magnetic Direction to a Grid Direction, Add 7.45°
To convert a True Direction to a Grid Direction, Subtract 0.28°



COG Operating LLC

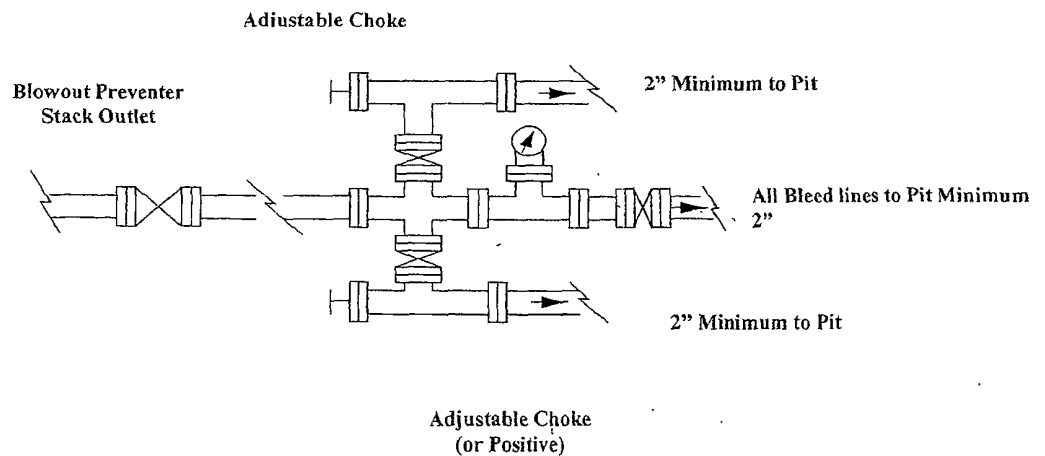
Exhibit #9

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

Operator COG OAR OGRID # 229134
 Well Name & # Pockett 12 Federal 7H Surface Type (E) (S) (P)
 Location: UL P Sect 12 Township 17 s, RNG 31 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:

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; GABRIELA - YESD 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 P-I-H-A

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 #30-0 15-39476

8. Reviewers ICS