

OCO Artesia

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

## APPLICATION FOR PERMIT TO DRILL OR REENTER


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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>NMNM-98120</b>
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator <b>COG Operating LLC</b> <b>L229137</b>		7. If Unit or CA Agreement, Name and No. <b>NMNM - 71030C</b>
3a. Address <b>550 W. Texas Ave., Suite 1300 Midland, TX 79701</b>	3b. Phone No. (include area code) <b>432-685-4385</b>	8. Lease Name and Well No. <input checked="" type="checkbox"/> <b>SKELLY UNIT #787</b> <b>L305607</b>
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface <b>SHL: 1079' FSL &amp; 78' FEL, Unit P</b> <input checked="" type="checkbox"/> At proposed prod. zone <b>BHL: 990' FSL &amp; 330' FWL, Unit M Sec. 23, T17S, R31E</b> <input checked="" type="checkbox"/>		9. API Well No. <input checked="" type="checkbox"/> <b>30-015-38447</b>
14. Distance in miles and direction from nearest town or post office* <b>9 miles East of Loco Hills, NM</b>		10. Field and Pool, or Exploratory <input checked="" type="checkbox"/> <b>Fren; Glorieta-Yeso 26770</b> <input checked="" type="checkbox"/>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>78'</b>	16. No. of acres in lease <b>720</b>	11. Sec., T. R. M. or Blk. and Survey or Area <b>Sec 22 T17S R31E</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>270'</b>	19. Proposed Depth <b>6700 TVD</b> <b>6735 MD</b>	12. County or Parish <b>EDDY</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3848' GL</b>	22. Approximate date work will start* <b>11/30/2010</b>	13. State <b>NM</b>
17. Spacing Unit dedicated to this well <b>40</b>		
20. BLM/BIA Bond No. on file <b>NMB000215</b>		
23. Estimated duration <b>15 days</b>		

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed Typed) <b>Robyn M. Odom</b>	Date <b>08/24/2010</b>
Title <b>Regulatory Analyst</b>		

Approved by (Signature) <b>/s/ Don Peterson</b>	Name (Printed Typed)	Date <b>JAN 18 2011</b>
Title <b>FIELD MANAGER</b>	Office <b>CARLSBAD FIELD OFFICE</b>	

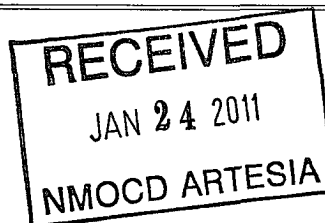
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 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

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
Top of Salt	560'
Base of Salt	1150'
Yates	1770'
Seven Rivers	2100'
Queen	2715'
Grayburg	3100'
San Andres	3450'
Glorietta	4950'
Yeso Group	4995'

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

Water Sand	150'	Fresh Water
Grayburg	3100'	Oil/Gas
San Andres	3450'	Oil/Gas
Glorieta	4950'	Oil/Gas
Yeso Group	4995'	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 ~~450'~~<sup>565'</sup> 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.

*See COA* {

#### 4. Casing Program

See COA

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
17 1/2"	0-450' <del>565</del>	13 3/8"	48#	H-40orJ-55	New	ST&C	8.71/3.724/14.91
11" or <del>2 3/4"</del>	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, 500 sx, yield 1.32, back to surface

8 5/8" Intermediate Casing:

##### 11" Hole:

**Single Stage:** 50:50:10, 350 sx lead, yield-2.45 + Class C, 200 sx tail, yield-1.32, back to surface.

**Multi-Stage:** Stage 1: Class C, 350 sx, yield-1.32. Stage 2: 50:50:10, 200 sx, yield-2.45, back to surface. Multi stage tool to be set at approximately, depending on hole conditions, ~~450'~~ 615'

See  
COA

5 1/2" Production Casing:

**Single Stage:** 35:65:6, 500 sx Lead, yield-2.05 + 50:50:2, 400 sx Tail, yield-1.37, to 200' minimum tie back to intermediate casing.

**Multi-Stage:** Stage 1: 50:50:2, 400 sx, yield - 1.37; Stage 2: 35:65:6, 500 sx, yield - 2.05, to 200' minimum tie back to intermediate casing. Multi stage tool to be set at approximately, depending on hole conditions, ~~1500'~~ - 2000'.

See  
COA

## 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. 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. The BOP will be nipped up on the 13 3/8" surface casing with BOP equipment and tested ~~together to 2000 psi by rig pump in one test.~~ <sup>13 5/8"</sup> 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. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of the intermediate casing. 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.

## 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:

See COA

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0- <del>450</del> 565	Fresh Water	8.5	28	N.C.
<del>450</del> 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 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)

Skelly Unit #787

Skelly Unit #787

OH

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

SHL = 1079' FSL & 78' FEL

BHL = 980' FSL & 340' FWL

Top of Paddock = 980' FSL & 340' FWL @ 4900' TVD

## **Standard Planning Report**

29 September, 2010





# Scientific Drilling Planning Report



Database: EDM-Julio  
Company: COG Operating LLC  
Project: Eddy County, NM (NAN27 NME)  
Site: Skelly Unit #787  
Well: Skelly Unit #787  
Wellbore: OH  
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference: Site Skelly Unit #787  
TVD Reference: GL Elev @ 3848.00usft  
MD Reference: GL Elev @ 3848.00usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

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	Skelly Unit #787		
Site Position:	Northing:	660,802.70 usft	Latitude: 32° 48' 56.506 N
From: Map	Easting:	648,917.60 usft	Longitude: 103° 50' 54.989 W
Position Uncertainty:	0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.26 °

Well	Skelly Unit #787		
Well Position	+N/-S	0.00 usft	Northing: 660,802.70 usft
	+E/-W	0.00 usft	Easting: 648,917.60 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,848.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	BGGM2010	2010/09/29	(°) 7.91
			Dip Angle (°) 60.71
			Field Strength (nT) 49,049

Design	Plan #1 - 7-7/8" Hole		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°) 102.91

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	
2,446.55	9.93	102.91	2,444.07	-9.59	41.84	2.00	2.00	0.00	102.91	
4,438.26	9.93	102.91	4,405.93	-86.31	376.66	0.00	0.00	0.00	0.00	
4,934.81	0.00	0.00	4,900.00	-95.90	418.50	2.00	-2.00	0.00	180.00	TG1-Skelly #787
6,734.81	0.00	0.00	6,700.00	-95.90	418.50	0.00	0.00	0.00	0.00	PBHL-Skelly #787



# Scientific Drilling Planning Report



Database: EDM-Julio  
Company: COG Operating LLC  
Project: Eddy County, NM (NAN27 NME)  
Site: Skelly Unit #787  
Well: Skelly Unit #787  
Wellbore: OH  
Design: Plan #1 - 7-7/8" Hole

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

Site Skelly Unit #787  
GL Elev @ 3848.00usft  
GL Elev @ 3848.00usft  
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
<b>South HL-Skelly #787 - West HL-Skelly #787</b>									
1,850.00	0.00	0.00	1,850.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>8-5/8" Casing</b>									
1,950.00	0.00	0.00	1,950.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>KOP Start Build 2.00°/100'</b>									
2,000.00	1.00	102.91	2,000.00	-0.10	0.43	0.44	2.00	2.00	0.00
2,100.00	3.00	102.91	2,099.93	-0.88	3.83	3.93	2.00	2.00	0.00
2,200.00	5.00	102.91	2,199.68	-2.43	10.63	10.90	2.00	2.00	0.00
2,300.00	7.00	102.91	2,299.13	-4.77	20.81	21.35	2.00	2.00	0.00
2,400.00	9.00	102.91	2,398.15	-7.88	34.38	35.27	2.00	2.00	0.00
2,446.55	9.93	102.91	2,444.07	-9.59	41.84	42.93	2.00	2.00	0.00
<b>EOC hold 9.93°</b>									
2,500.00	9.93	102.91	2,496.72	-11.65	50.83	52.14	0.00	0.00	0.00
2,600.00	9.93	102.91	2,595.22	-15.50	67.64	69.39	0.00	0.00	0.00
2,700.00	9.93	102.91	2,693.72	-19.35	84.45	86.64	0.00	0.00	0.00
2,800.00	9.93	102.91	2,792.22	-23.20	101.26	103.88	0.00	0.00	0.00
2,900.00	9.93	102.91	2,890.72	-27.06	118.07	121.13	0.00	0.00	0.00
3,000.00	9.93	102.91	2,989.22	-30.91	134.88	138.38	0.00	0.00	0.00
3,100.00	9.93	102.91	3,087.73	-34.76	151.69	155.62	0.00	0.00	0.00
3,200.00	9.93	102.91	3,186.23	-38.61	168.50	172.87	0.00	0.00	0.00
3,300.00	9.93	102.91	3,284.73	-42.46	185.31	190.11	0.00	0.00	0.00
3,400.00	9.93	102.91	3,383.23	-46.32	202.12	207.36	0.00	0.00	0.00
3,500.00	9.93	102.91	3,481.73	-50.17	218.93	224.61	0.00	0.00	0.00
3,600.00	9.93	102.91	3,580.23	-54.02	235.74	241.85	0.00	0.00	0.00
3,700.00	9.93	102.91	3,678.74	-57.87	252.55	259.10	0.00	0.00	0.00
3,800.00	9.93	102.91	3,777.24	-61.73	269.36	276.35	0.00	0.00	0.00
3,900.00	9.93	102.91	3,875.74	-65.58	286.17	293.59	0.00	0.00	0.00
4,000.00	9.93	102.91	3,974.24	-69.43	302.99	310.84	0.00	0.00	0.00
4,100.00	9.93	102.91	4,072.74	-73.28	319.80	328.08	0.00	0.00	0.00
4,200.00	9.93	102.91	4,171.24	-77.13	336.61	345.33	0.00	0.00	0.00
4,300.00	9.93	102.91	4,269.75	-80.99	353.42	362.58	0.00	0.00	0.00
4,400.00	9.93	102.91	4,368.25	-84.84	370.23	379.82	0.00	0.00	0.00
4,438.26	9.93	102.91	4,405.93	-86.31	376.66	386.42	0.00	0.00	0.00
<b>Start DLS 2.00°/100'</b>									
4,500.00	8.70	102.91	4,466.86	-88.54	386.40	396.41	2.00	-2.00	0.00
4,600.00	6.70	102.91	4,565.95	-91.53	399.45	409.80	2.00	-2.00	0.00
4,700.00	4.70	102.91	4,665.45	-93.75	409.13	419.73	2.00	-2.00	0.00
4,800.00	2.70	102.91	4,765.24	-95.19	415.41	426.18	2.00	-2.00	0.00
4,900.00	0.70	102.91	4,865.19	-95.85	418.29	429.14	2.00	-2.00	0.00
4,934.81	0.00	0.00	4,900.00	-95.90	418.50	429.35	2.00	-2.00	-295.63
<b>EOC hold 0.00° - Top of Paddock - TG1-Skelly #787</b>									
6,734.81	0.00	0.00	6,700.00	-95.90	418.50	429.35	0.00	0.00	0.00
<b>PBHL-Skelly #787</b>									





# Scientific Drilling Planning Report



Database: EDM-Julio  
Company: COG Operating LLC  
Project: Eddy County, NM (NAN27 NME)  
Site: Skelly Unit #787  
Well: Skelly Unit #787  
Wellbore: OH  
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference: Site Skelly Unit #787  
TVD Reference: GL Elev @ 3848.00usft  
MD Reference: GL Elev @ 3848.00usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

## Design Targets

Target Name hit/miss target Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
South HL-Skelly #787 - plan misses target center by 417.43usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W200.00 H0.00 D0.00)	0.00	0.00	0.00	-85.90	408.50	660,716.80	649,326.10	32° 48' 55.637 N	103° 50' 50.207 W
West HL-Skelly #787 - plan misses target center by 417.43usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W0.00 H200.00 D0.00)	0.00	0.00	0.00	-85.90	408.50	660,716.80	649,326.10	32° 48' 55.637 N	103° 50' 50.207 W
TG1-Skelly #787 - plan hits target center - Point	0.00	0.00	4,900.00	-95.90	418.50	660,706.80	649,336.10	32° 48' 55.538 N	103° 50' 50.090 W
PBHL-Skelly #787 - plan hits target center - Circle (radius 10.00)	0.00	0.00	6,700.00	-95.90	418.50	660,706.80	649,336.10	32° 48' 55.538 N	103° 50' 50.090 W

## 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

## Formations

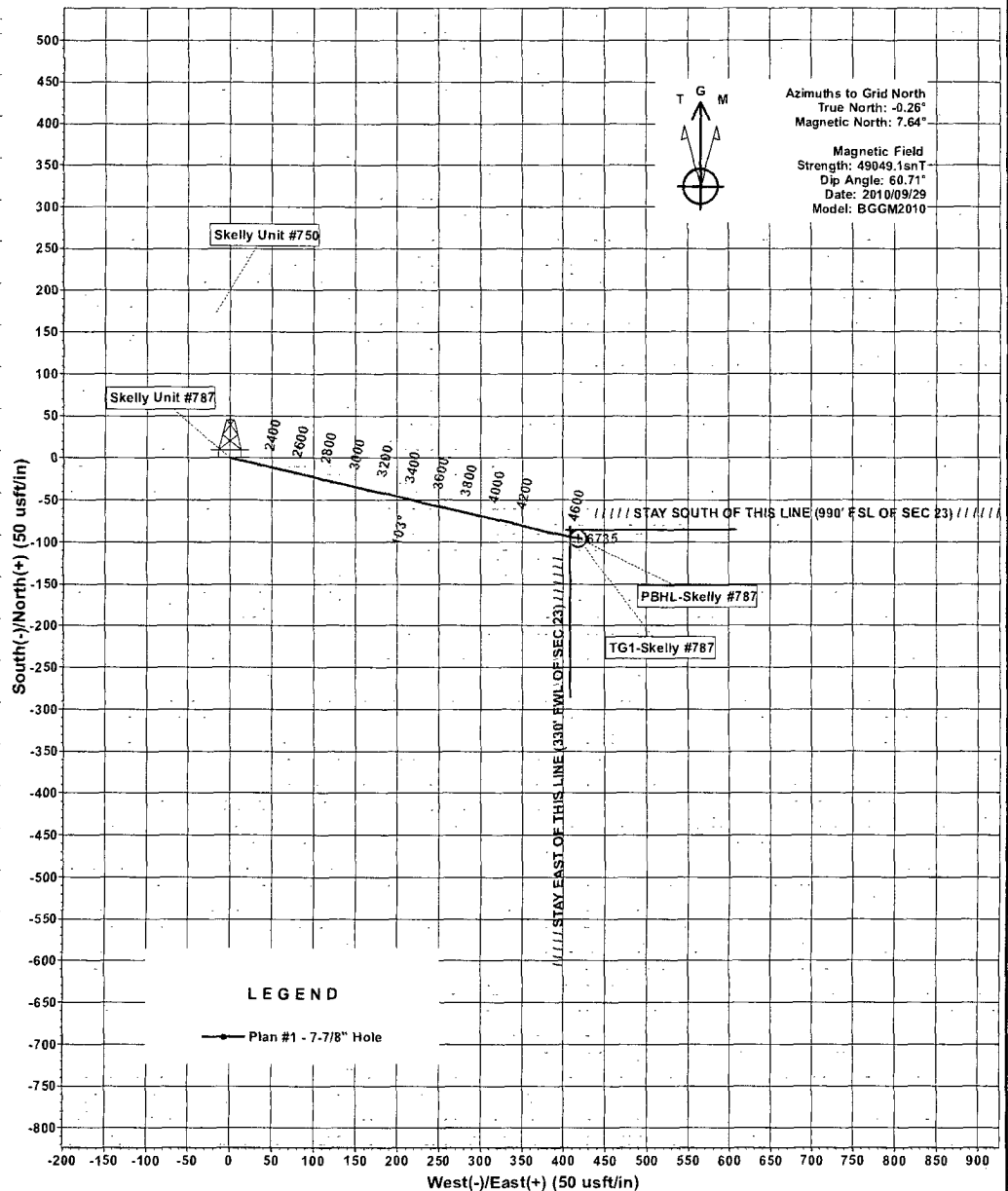
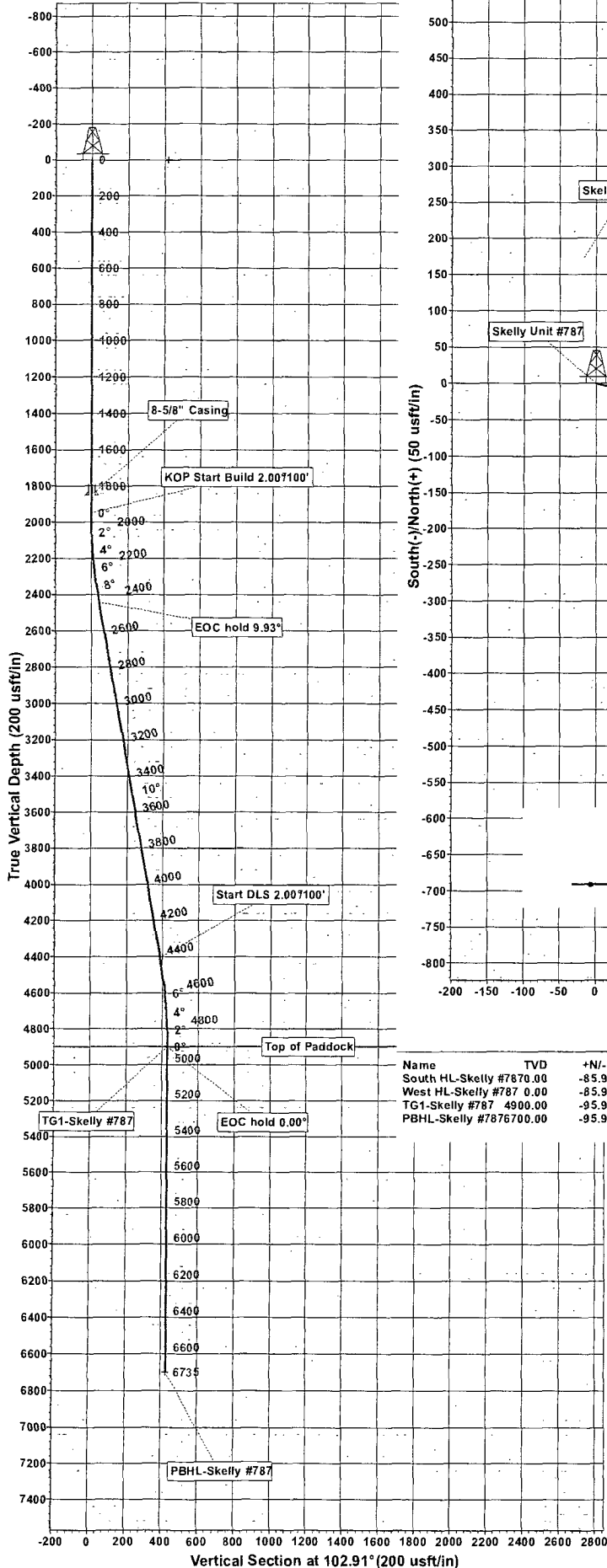
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,934.81	4,943.00	Top of Paddock		0.00	

## 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'
2,446.55	2,444.07	-9.59	41.84	EOC hold 9.93°
4,438.26	4,405.93	-86.31	376.66	Start DLS 2.00°/100'
4,934.81	4,900.00	-95.90	418.50	EOC hold 0.00°



Scientific Drilling for COG Operating LLC  
Site: Eddy County, NM (NAN27 NME)  
Well: Skelly Unit #787  
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	
South HL-Skelly #7870.00	-85.90	408.50	660716.80	649326.10	32°48'55.637 N	103°50'50.207 W	Rectangle (Side s: L0.00 W200.00)		
West HL-Skelly #787 0.00	-85.90	408.50	660716.80	649326.10	32°48'55.637 N	103°50'50.207 W	Rectangle (Sides : L200.00 W0.00)		
TG1-Skelly #787 4900.00	-95.90	418.50	660706.80	649336.10	32°48'55.538 N	103°50'50.090 W	Point		
PBHL-Skelly #7876700.00	-95.90	418.50	660706.80	649336.10	32°48'55.538 N	103°50'50.090 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	2446.55	9.93	102.91	2444.07	-9.59	41.84	2.00	102.91	42.93	
4	4438.26	9.93	102.91	4405.93	-86.31	376.66	0.00	0.00	386.42	
5	54934.81	0.00	0.00	4900.00	-95.90	418.50	2.00	180.00	429.35	TG1-Skelly #787
6	66734.81	0.00	0.00	6700.00	-95.90	418.50	0.00	0.00	429.35	PBHL-Skelly #787

#### WELL DETAILS: Skelly Unit #787

		Ground Level:		3848.00	
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	660802.70	648917.60	32°48'56.506 N	103°50'54.989 W

PROJECT DETAILS: Eddy County, NM (NAN27 NME) Plan: Plan #1 - 7-7/8" Hole (Skelly Unit #787/OH)

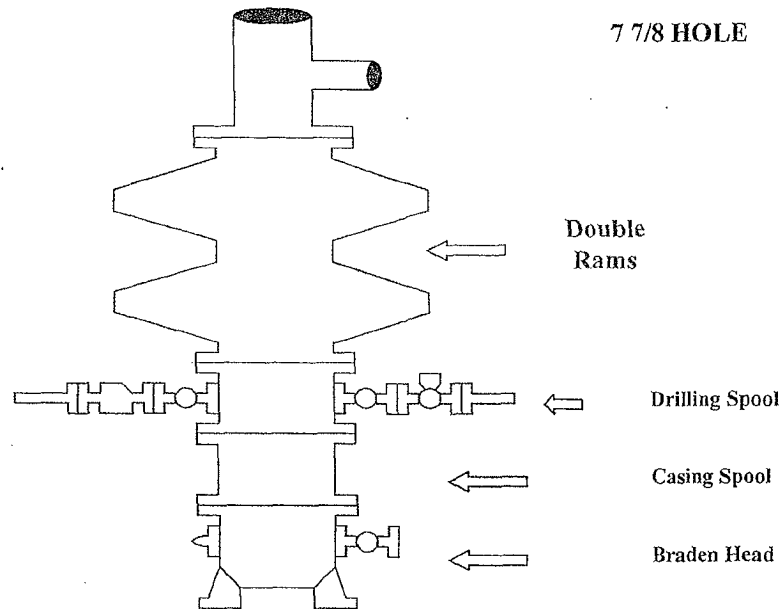
Geodetic System: US State Plane 1927 (Exact solution) Created By: Julio Pina Date: 29-Sep-10  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level

Checked: \_\_\_\_\_ Date: \_\_\_\_\_  
Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_  
Approved: \_\_\_\_\_ Date: \_\_\_\_\_

# COG Operating LLC

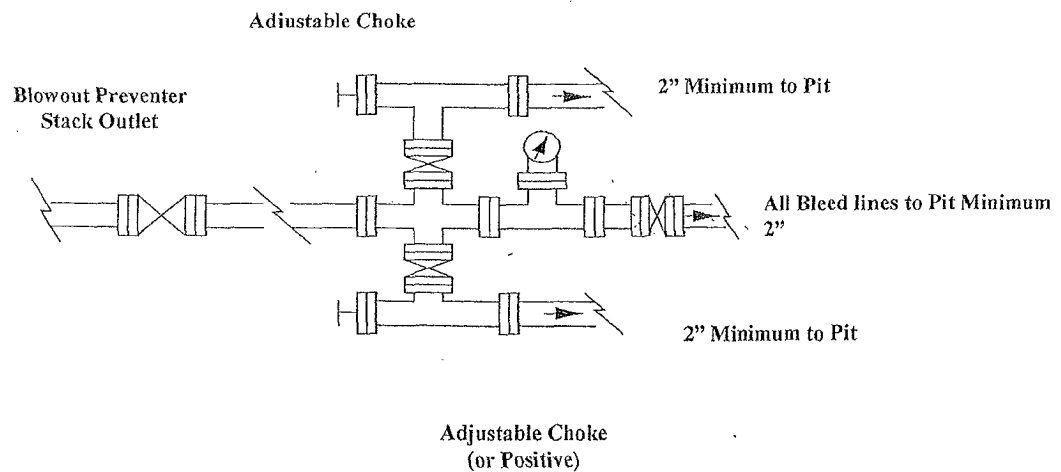
## Exhibit #9

### BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi 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.