

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		CONFIDENTIAL		5. Lease Serial No. NMLC029509A
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 checked="" type="checkbox"/> Multiple Zone				6. If Indian, Allottee or Tribe Name
2. Name of Operator COG OPERATING LLC		Contact: NOEL OLIVAS E-Mail: NOlivas@conchoresources.com		7. If Unit or CA Agreement, Name and No.
3a. Address 550 W TEXAS AVE SUITE 1300 MIDLAND, TX 79701		3b. Phone No. (include area code) Ph: 432-686-3008 Fx: 432-685-4399		8. Lease Name and Well No. MC FEDERAL 27
4. Location of Well (Report location clearly and in accordance with any State requirements)		UNORTHODOX LOCATION Unit H		9. API Well No. 30-025-38996
At surface SENE 2460FNL 330FEL 32.82048 N Lat, 103.76341 W Lon				10. Field and Pool, or Exploratory MALJAMAR Yeso West
At proposed prod zone SENE 2460FNL 330FEL 32.82048 N Lat, 103.76341 W Lon				11. Sec., T., R., M., or Blk. and Survey or Area Sec 21 T17S R32E Mer NMP SME: BLM
14. Distance in miles and direction from nearest town or post office* 2.5 MILES SOUTH OF MALJAMAR, NM Roswell Controlled Water Basin				12. County or Parish LEA
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330		16. No. of Acres in Lease 640.00		13. State NM
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 772		19. Proposed Depth 7000 MD 7000 TVD		17. Spacing Unit dedicated to this well 40.00
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4023 GL		22. Approximate date work will start 06/01/2008		20. BLM/BIA Bond No. on file NmB000215
				23. Estimated duration 10 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 (Electronic Submission)	Name (Printed/Typed) NOEL OLIVAS Ph: 432-686-3008	Date 04/25/2008
Title FIELD COORDINATOR		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date JUN 11 2008
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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.

NSL-5832 Electronic Submission #59901 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Hobbs
Committed to AFMSS for processing by TESSA CISNEROS on 04/28/2008 (08TLC0104AE)

RECEIVED

JUN 13 2008

HOBBS OGD

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHEDSEE ATTACHED FOR
CONDITIONS OF APPROVAL

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II

1301 W GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brasos Rd., Aztec, NM 87410

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-38996	Pool Code 44500	Pool Name MALJAMAR; YESO, WEST
Property Code 302519	Property Name MC FEDERAL	Well Number 27
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 4023'

Surface Location

UL or lot No. H	Section 21	Township 17-S	Range 32-E	Lot Idn	Feet from the 2460	North/South line NORTH	Feet from the 330	East/West line EAST	County LEA
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Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No. NSL-5832						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div><p>DETAIL</p><p>4024.8' 4012.8'</p><p>600'</p><p>4044.0' 4021.2'</p><p>SEE DETAIL</p><p>330'</p><p>2460'</p><p>GEODETTIC COORDINATES NAD 27 NME</p><p>Y=662675.2 N X=675083.2 E</p><p>LAT.=32.820484° N LONG.=103.763410° W</p></div>	<div><p>OPERATOR CERTIFICATION</p><p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p><p><i>Phyllis A. Edwards</i> 12-08 Signature Date</p><p>Phyllis A. Edwards Printed Name</p><p>Regulatory Analyst</p><p>SURVEYOR CERTIFICATION</p><p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p><p>APR 10 2008 NEW MEXICO Professional Surveyor 3239 Date Surveyed Signature & Seal of Professional Surveyor 3239 Certificate No. DAVE EIDSON 12841 RONALD J. EIDSON 3239</p></div>
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LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALJAMAR, N.M. - 10'

SEC. 21 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

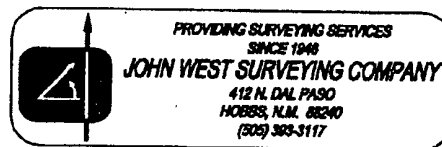
DESCRIPTION 2460' FNL & 330' FEL

ELEVATION 4023'

OPERATOR COG OPERATING, LLC

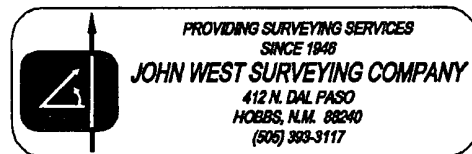
LEASE MC FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
MALJAMAR, N.M.

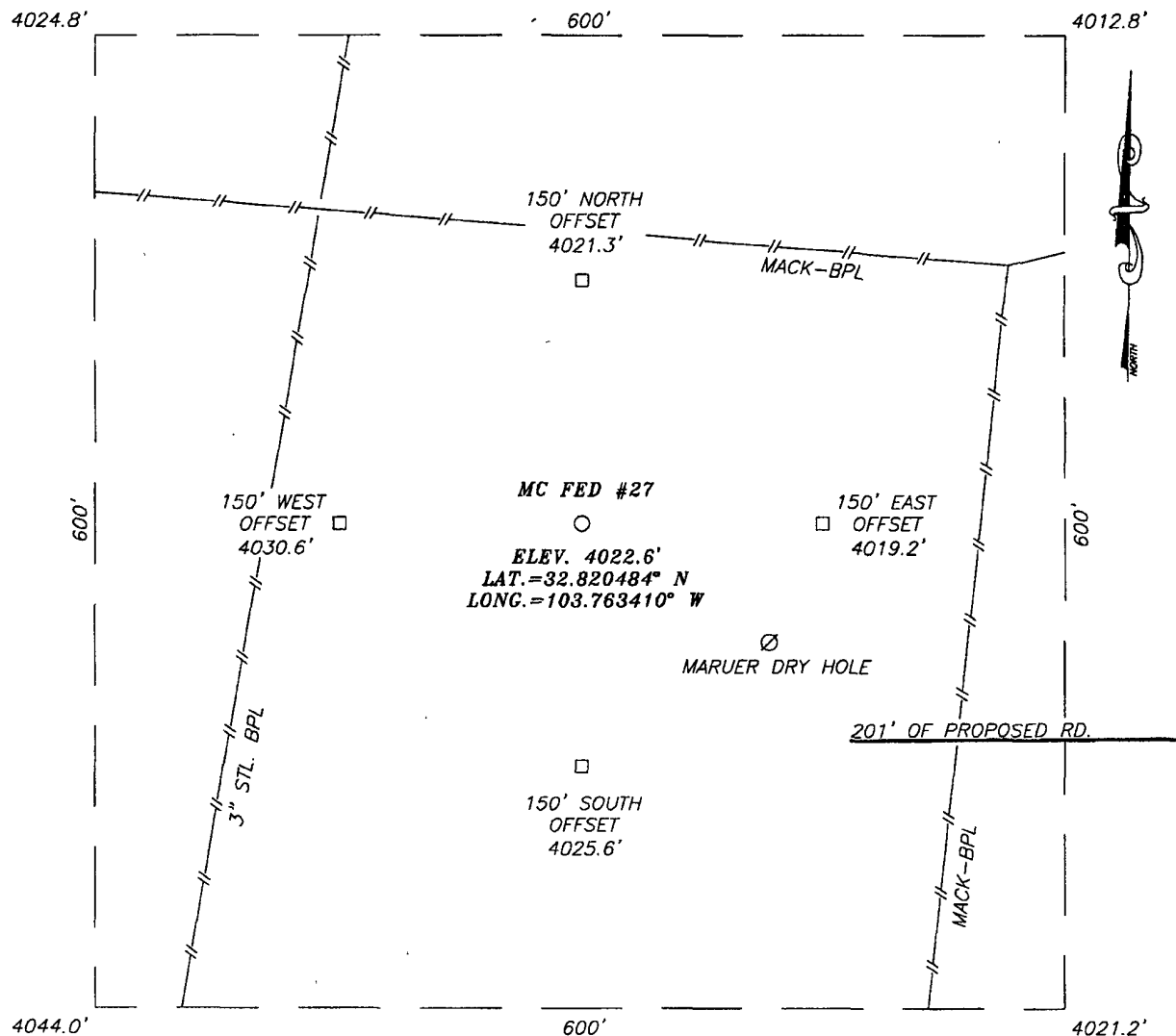


The map displays a grid of townships and ranges in Eddy County, New Mexico. The townships are labeled T 16 S, T 17 S, and T 18 S. The ranges are labeled R 32 E, R 33 E, and R 34 E. Major roads shown include U.S. HWY 82, ST. 249, ST. 529, and ST. 527. Geographical features and place names include Maljamar, Condoco, Mesquero, Tomahawk, Hummingbird, Derby, and Querecho. The map also shows various other locations such as Super, Crane, Mendel, Williams, and Querecho. The map is labeled with 'EDDY COUNTY' and 'T 16 S', 'T 17 S', 'T 18 S'.

SEC. 21 TWP. 17-S RGE. 32-E
SURVEY _____ N.M.P.M. _____
COUNTY LEA STATE NEW MEXICO
DESCRIPTION 2460' FNL & 330' FEL
ELEVATION _____ 4023' _____
OPERATOR COG OPERATING, LLC
LEASE _____ MC FEDERAL

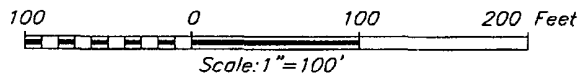


SECTION 21, TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #L126
(MALJAMAR RD.) AND CO. RD. #L126 (CONOCO RD.),
GO NORTH ON MALJAMAR RD. APPROX. 0.3 MILES.
TURN LEFT AND GO WEST APPROX. 350 FEET TO
THIS LOCATION.



PROVIDING SURVEYING SERVICES
SINCE 1948
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 383-3117

COG OPERATING, LLC

MC FED #27 WELL
LOCATED 2460 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE EAST LINE OF SECTION 21,
TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 4/09/08	Sheet 1 of 1 Sheets
W.O. Number: 08.11.0056	Dr By: AR
Date: 4/16/08	Rev 1: N/A
Disk: 08110056	Scale: 1\"/>

MASTER DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Top of Salt	900'
Base of Salt	1700'
Yates	2000'
Seven Rivers	2375'
Queen	2975'
Grayburg	3475'
San Andres	3775'
Glorietta	5225'
Yeso Group	5325'

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

Water Sand	150'	Fresh Water
Grayburg	3475'	Oil/Gas
San Andres	3775'	Oil/Gas
Glorietta	5225'	Oil/Gas
Yeso Group	5325'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 650' 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 2100' and circulating cement back to the surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 1/2" production casing back to 200' into the intermediate casing, to be run at TD.

4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	burst/collapse/tension
17 1/2"	0-650'	13 3/8"	48#	H-40	ST&C/New	6.03/2.578/10.32
11" or 12 1/4"	0-2100'	8 5/8"	24 or 32#	J-55	ST&C/New	1.85/1.241/4.78
7 7/8"	0-T.D.	5 1/2"	17#	J-55 or L-80	LT&C/New	1.59/1.463/2.05

See
COA →

5. Cement Program

13 3/8" Surface Casing: Class C, 500 sx lead, yield-1.98 + 200 sx tail, yield-1.32.

8 5/8" Intermediate Casing: 11" Hole: Class C, 500 sx lead, yield-2.45 + 200 sx tail, yield-1.32, back to surface.
12-1/4" Hole: Class C, 700 sx lead, yield-2.45 + 200 sx tail, yield-1.32, back to surface.

5 1/2" Production Casing: Class C, 700 sx Lead, yield-1.97 + 400 sx Tail, yield-1.37, to 200' minimum tie back to intermediate casing.

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 and tested to 1000 psi by rig pump. 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) will 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:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-650'	Fresh Water	8.5	28	N.C.
650-2100'	Brine	10	30	N.C.
2100'-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

- 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.

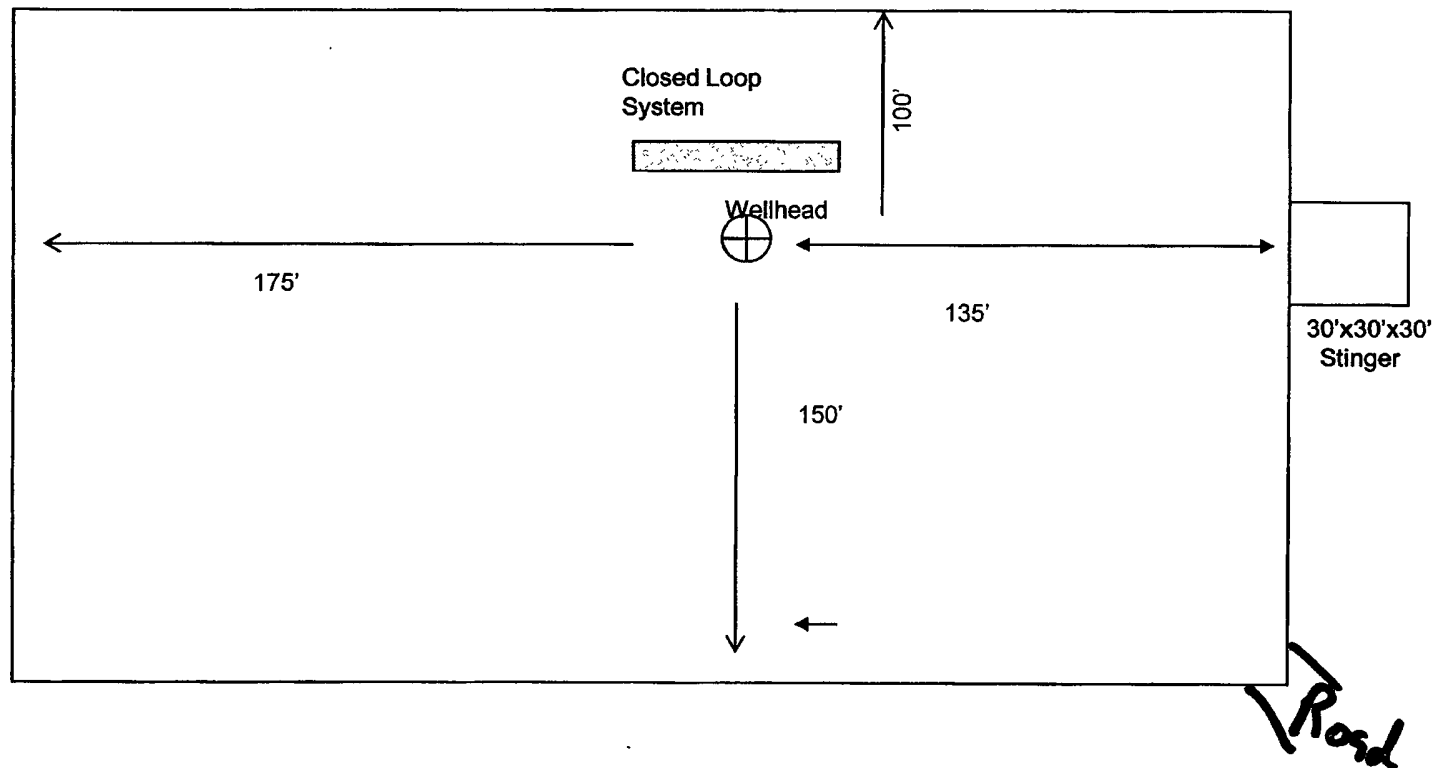
10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

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. Low levels of hydrogen sulfide have been monitored in producing wells in the area, so H₂S may be present while drilling the well. 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 15 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.

N →



Not To Scale

Exhibit 6

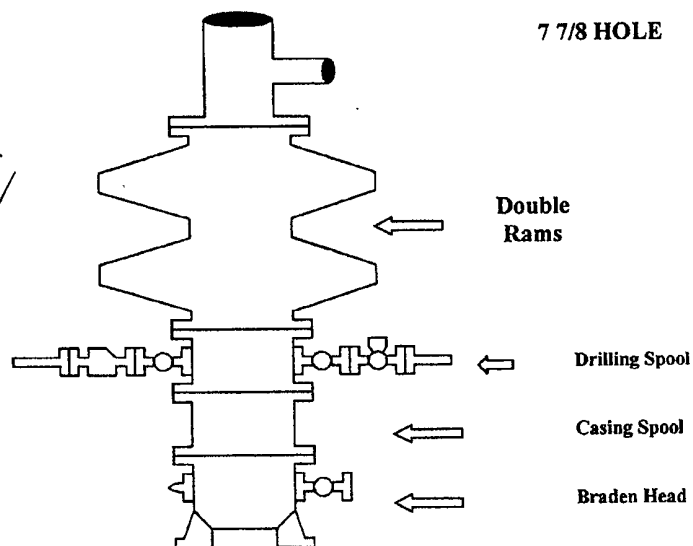
COG OPERATING, LLC

Rig Layout- Closed Loop System

COG Operating LLC

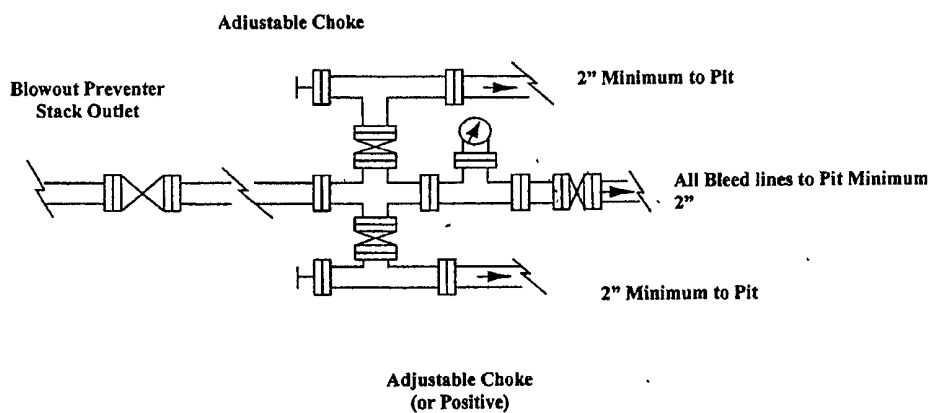
Exhibit #9

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

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.

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating
LEASE NO.:	NMLC029509A
WELL NAME & NO.:	MC Federal No 27
SURFACE HOLE FOOTAGE:	2460' FNL & 330' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 21, T. 17 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Lesser Prairie Chicken
- ☒ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☒ **Road Section Diagram**
- ☒ **Drilling**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
- ☒ **Closed Loop System/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**