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ATS-10-703

Form 3160-3
(April 2004)

NOV 29 2010

HOBBSOCD

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, 20075. Lease Serial No.
NMLC-029509A6. If Indian, Allottee or Tribe Name
N/A7. If Unit or CA Agreement, Name and No.
N/A8. Lease Name and Well No. **302519**
M C FEDERAL #509. API Well No.
30-025- 3996210. Field and Pool, or Exploratory
Maljamar; Yeso, West 4450011. Sec., T. R. M. or Blk. and Survey or Area
Sec 21, T17S, R32E12. County or Parish
Lea13. State
NM1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone2. Name of Operator
COG Operating LLC3a. Address
550 W. Texas, Suite 1300 Midland TX 797013b. Phone No. (include area code)
(432) 685-4385

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 1040' FNL & 2310' FWL, Unit C

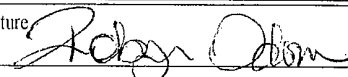
At proposed prod. zone

UNORTHODOX
LOCATION14. Distance in miles and direction from nearest town or post office*
2.5 miles south of Maljamar NM15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any) 1040'16. No. of acres in lease
64017. Spacing Unit dedicated to this well
4018. Distance from proposed location*
to nearest well, drilling completed,
applied for, on this lease, ft. 670'19. Proposed Depth
7000'20. BLM/BIA Bond No. on file
NMB00021521. Elevations (Show whether DF, KDB, RT, GL, etc.)
4073' GL22. Approximate date work will start*
09/30/201023. 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:

- 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)
Robyn M. OdumDate
06/21/2010Title
Regulatory Analyst

Approved by (Signature) /s/ Don Peterson

Name (Printed/Typed)

Date
NOV 24 2010Title
FIELD MANAGEROffice
CARLSBAD FIELD OFFICEApplication 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

WSL-622D

SEE ATTACHED FOR
CONDITIONS OF APPROVALOCD CONDITION OF APPROVAL for Drilling:
Intent to drill ONLY --- CANNOT produce until the Non-Standard
Location has been approved by OCD Santa Fe office.APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410

DISTRICT IV
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
11885 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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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 30-025-39962 | Pool Code 44500 | Pool Name Maljamar; Yeso, West |
| Property Code 302519 | Property Name MC FEDERAL | Well Number 50 |
| OGRID No. 229137 | Operator Name COG OPERATING, LLC | Elevation 4062' |

Surface Location

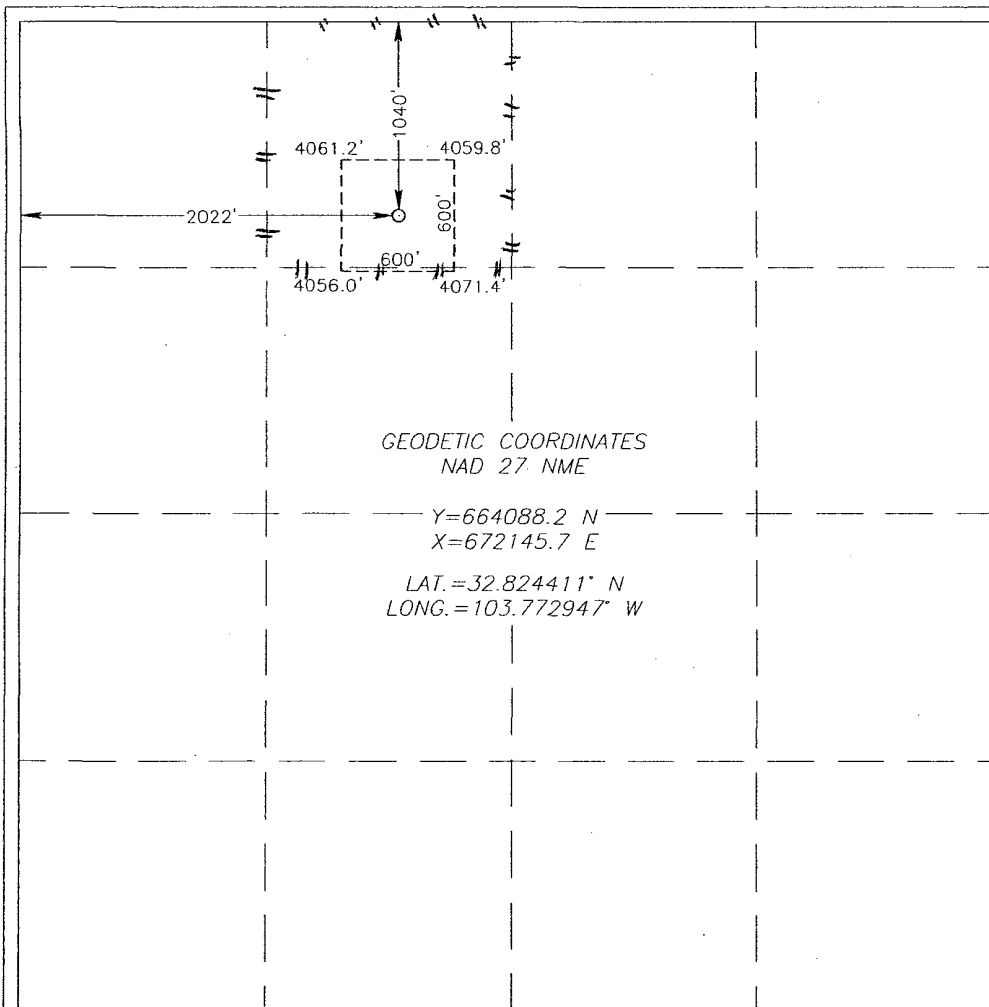
| | | | | | | | | | |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|
| UL or lot No. C | Section 21 | Township 17-S | Range 32-E | Lot Idn | Feet from the 1040 | North/South line NORTH | Feet from the 2022 | East/West line WEST | County LEA |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|

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 | Joint or Infill | Consolidation Code | Order No. NSL-6220 |
|-----------------|-----------------|--------------------|-----------------------|

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



OPERATOR CERTIFICATION

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.

Signature: *Kelly J. Holly* Date: 11/8/2010

Printed Name: Kelly J. Holly

SURVEYOR CERTIFICATION

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.

OCTOBER 22 2010

Date Surveyed: 11/8/2010
Signature & Seal of Professional Surveyor

Signature: *Ronald J. Eidson* Date: 11/23/2010

Certificate No. GARY G. EIDSON 12641
RONALD J. EIDSON 3239

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

| | | |
|--|---|---|
| 1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other | | 5. Lease Serial No. NMLC-029509A |
| 2. Name of Operator COG Operating LLC | | 6. If Indian, Allottee or Tribe Name N/A |
| 3a. Address 550 W. Texas Ave., Suite 1300 Midland, TX 79701 | 3b. Phone No. (include area code) 432-685-4385 | 7. If Unit or CA/Agreement, Name and/or No. N/A |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1040' FNL & 2310' FWL, SEC. 21, T17S, R32E, Unit C | | 8. Well Name and No. MC Federal #50 |
| | | 9. API Well No. 30-025- 39962 |
| | | 10. Field and Pool, or Exploratory Area Maljamar; Yeso, West 44500 |
| | | 11. County or Parish, State Lea, NM |

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|--|---|---|--|---|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize | <input type="checkbox"/> Deepen | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Subsequent Report | <input type="checkbox"/> Alter Casing | <input type="checkbox"/> Fracture Treat | <input type="checkbox"/> Reclamation | <input type="checkbox"/> Well Integrity |
| <input type="checkbox"/> Final Abandonment Notice | <input type="checkbox"/> Casing Repair | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete | <input checked="" type="checkbox"/> Other |
| | <input type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | MOVE |
| | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back | <input type="checkbox"/> Water Disposal | LOCATION |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG permitted this well at this location:


1040' FNL & 2310' FWL, SEC. 21, T17S, R32E, Unit C

COG respectfully requests permission to move this location to:

1040' FNL & 2022' FWL, SEC. 21, T17S, R32E, Unit C

A Revised C-102 is attached for your review.

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| | | |
|--|-----------------|-----------------------|
| 14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Kelly Holly | | Title Permitting Tech |
| Signature  | Date 11/09/2010 | |

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

| | |
|---|------------------------|
| Approved by /s/ Don Peterson | Title FIELD MANAGER |
| Conditions of approval, if any, are attached. Approval of this notice 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. | Date NOV 24 2011 |
| Office CARLSBAD FIELD OFFICE | |

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)

MASTER DRILLING PROGRAM

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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, 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

— see
COA

— see
COA

4. Casing Program

See - COA

| Hole Size | Interval | OD Casing | Weight | Grade | Jt., Condition | burst/collapse/tension |
|--------------------------|-------------------------|-----------|-----------|------------|----------------|------------------------|
| 17 1/2" | 0- 650' 850' | 13 3/8" | 48# | H-40orJ-55 | ST&C/New | 6.03/2.578/10.32 |
| 11"or 12 1/4" | 0-2100' | 8 5/8" | 24or32# | J-55 | ST&C/New | 1.85/1.241/4.78 |
| 7 7/8" | 0-T.D. | 5 1/2" | 15.5or17# | J-55orL-80 | LT&C/New | 1.59/1.463/2.05 |

5. Cement Program

13 3/8" Surface Casing:

Class C, 4% Gel, 2% CaCl₂, .25 pps CF, 450 sx lead, yield-1.98 + 200 sx tail, yield-1.32.

8 5/8" Intermediate Casing:

11" Hole:

Single Stage: 50:50:10, 400 sx lead, yield-2.45 + Class C, 200 sx tail, yield-1.32, back to surface.

Multi-Stage: Stage 1: Class C, 400 sx, yield - 1.32; Stage 2: Class C, 200 sx, — See COA yield - 1.32, back to surface. Multi stage tool to be set at approximately, depending on hole conditions, ~~650'~~ — 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, — See COA 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, ~~500'~~ 2000', — See COA

Operator should provide a smaller range.

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 1000 psi by rig pump in one test.~~ 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.

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 |
|-----------|-------------|---------|-----------|-----------|
| 0-650' | 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. |

See
COA

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 — A. The electric logging program will consist of GR-Dual Laterolog, Spectral
COA 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 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 →

Steel Tank

100'

175'



Well Head

135'

30' x 30'
Stinger

150'

TOP SOIL

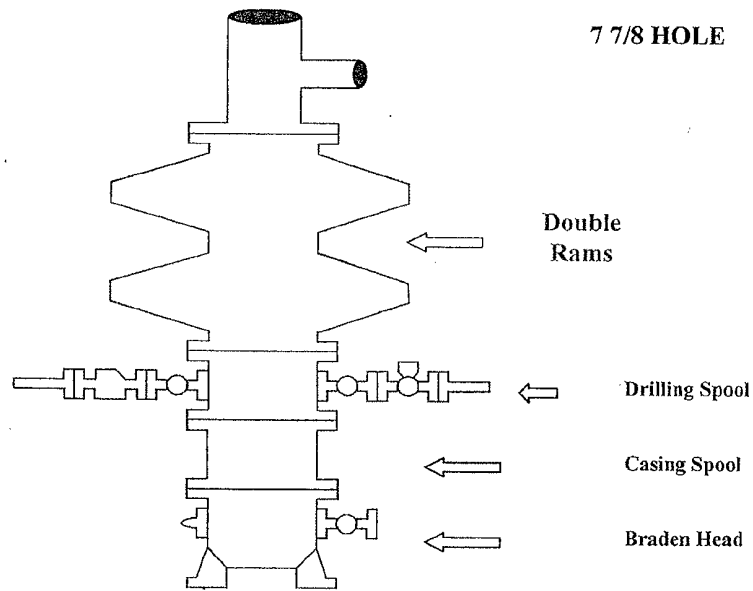
Not To Scale

COG OPERATING LLC
Rig Layout-Closed Loop
System

COG Operating LLC

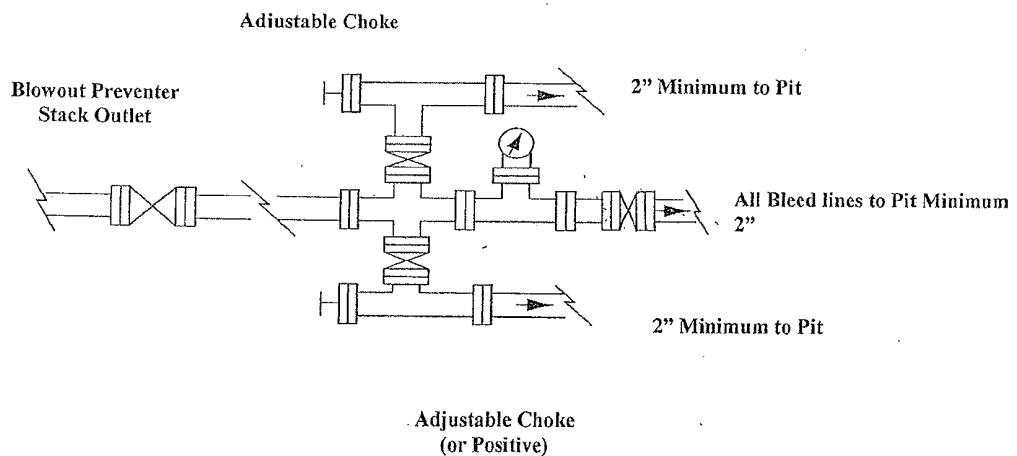
Exhibit #9

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
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.