

OCD-HOBBS

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

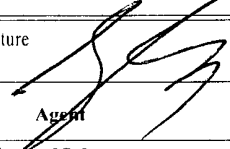
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. LC-029509A
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 COG Operating LLC		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 550 W. Texas, Suite 1300 Midland TX 79701		8. Lease Name and Well No. MC Federal #15
3b. Phone No. (include area code) (432) 685-4372		9. API Well No. 30-025-38835
4. Location of Well (Report location clearly and in accordance with any State requirements*) At surface 330' FNL & 600' FNL 430' FNL & 600' FNL Unit D At proposed prod. zone 330' FNL & 330' FNL c.l. 03/18/08		10. Field and Pool, or Exploratory Maljamar; Yeso West
11. Sec., T. R. M. or Blk. and Survey or Area Sec 21, T17S, R32E		12. County or Parish Lea
13. State NM		14. Distance in miles and direction from nearest town or post office* 2.5 miles south of Maljamar, NM
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	17. Spacing Unit dedicated to this well 40
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1100'	19. Proposed Depth 7300'	20. BLM/BIA Bond No. on file NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4056' GL	22. Approximate date work will start* 01/01/2008	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. | 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) Gary E. Miller	Date 10/08/2007
Title Agent		
Approved by /s/ DAVID D. EVANS	Name (Printed/Typed) /s/ DAVID D. EVANS	Date MAR 26 2008
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

Under 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)

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Roswell Controlled Water Basin

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SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO 1004-0135
Expires: July 31, 2010**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. NMLC029509A
2 Name of Operator COG OPERATING LLC		6. If Indian, Allottee or Tribe Name
Contact PHYLLIS A. EDWARDS E-Mail pedwards@conchoresources.com		7. If Unit or CA/Agreement, Name and/or No
3a Address 550 W TEXAS AVE SUITE 1300 MIDLAND, TX 79701	3b Phone No (include area code) Ph: 432-685-4340 Fx: 432-685-4399	8. Well Name and No MC FEDERAL 15
4 Location of Well (Footage, Sec, T, R, M, or Survey Description) Sec 21 T17S R32E NWNW 430FNL 600FWL		9. API Well No 30-025-38835
		10. Field and Pool, or Exploratory MALJAMAR
		11. County or Parish, and State LEA COUNTY, 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	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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 recompletion 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.)

The present SHL for this well is:
330 FNL & 600 FWL Section 21, T17S, R32E.

The Bureau of Land Management requested that the SHL be moved to:
430 FNL & 600 FWL Section 21, T17S, R32E.

Attached is the plat showing the new SHL of:
430 FNL & 600 FWL Section 21, T17S, R32E.

OK c.l. 03/18/08

14. I hereby certify that the foregoing is true and correct	
Electronic Submission #58665 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Hobbs Committed to AFMSS for processing by KURT SIMMONS on 02/19/2008 (08KMS0406SE)	
Name (Printed/Typed) PHYLLIS A. EDWARDS	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 02/18/2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____	Date _____
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		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.

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



August 20, 2007

U.S. Department of Interior
Bureau of Land Management

Sirs:

Please accept this letter as authorization for Gary E. Miller of Highlander Environmental Corp. to act as an agent of COG Operating, L.L.C. He will be submitting and signing permits and correspondence with your personnel on these matters for our company.

If you have any questions please call.

Sincerely,

A handwritten signature in cursive script, appearing to read "John Coffman".

COG Operating, L.L.C.

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DISTRICT I

1630 N. FRENCH DR., MOORE, NM 88240

DISTRICT II

1301 F. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos 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
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

New Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-38835		Pool Code 44500	Pool Name MALJAMAR YESO; WEST
Property Code 302519	Property Name MC FEDERAL		Well Number 15
OCRID No. 229137	Operator Name COG OPERATING, LLC		Elevation 4054'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	17-S	32-E		430	NORTH	600	WEST	LEA

Bottom Hole Location If Different From Surface

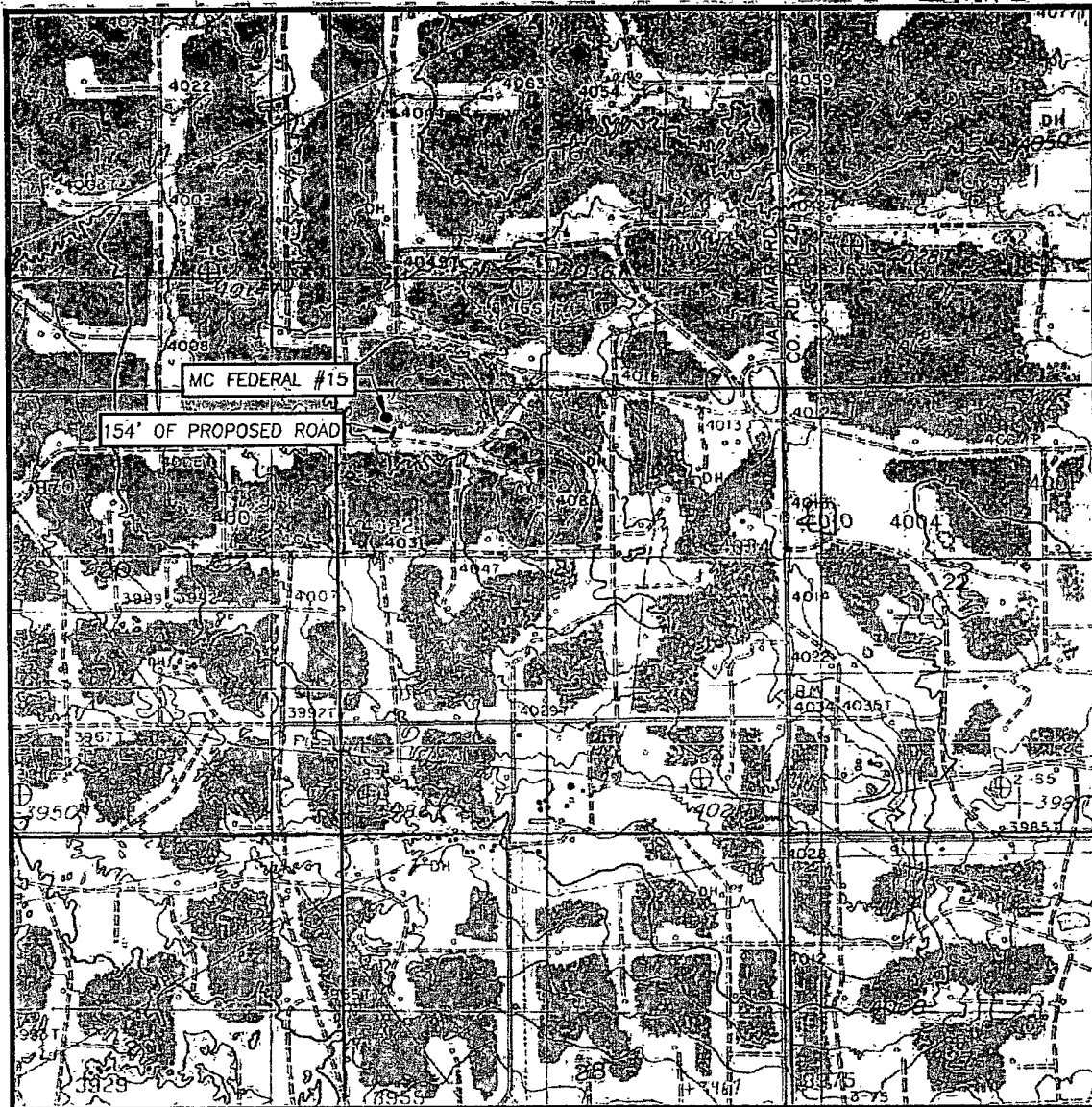
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	17-S	32-E		330	NORTH	330	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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

	<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> 2-18-08 Signature Date</p> <p>Phyllis A. Edwards Printed Name</p> <p>Regulatory Analyst</p>
<p>GEODETIC COORDINATES NAD 27 NMC SURFACE LOCATION</p> <p>Y=664694.7 N X=670720.5 E</p> <p>LAT.=32.826099° N LONG.=103.777576° W</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>FEBRUARY 12, 2008 Date Surveyed SW</p> <p>Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> 02/15/08</p> <p>08.1+0.15</p>
<p>BOTTOM HOLE LOCATION</p> <p>Y=664793.9 N X=670450.0 E</p>	<p>Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239</p>

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

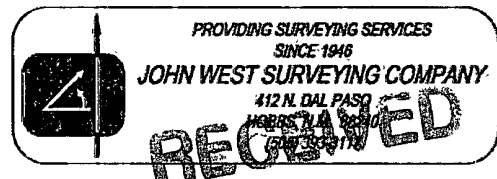
DESCRIPTION 330' FNL & 600' FWL

ELEVATION 4056'

OPERATOR COG OPERATING, LLC

LEASE MC FEDERAL

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



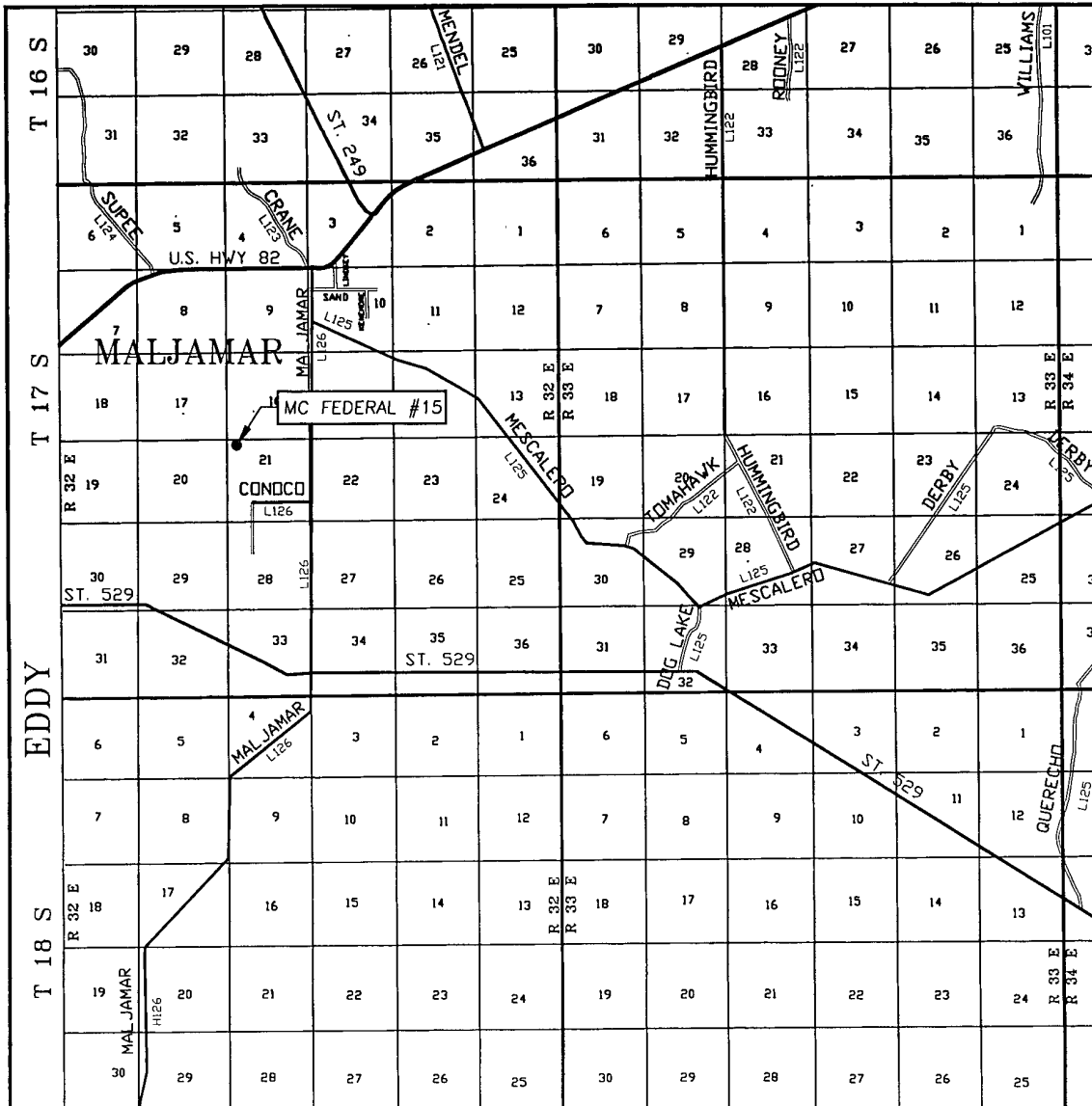
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VICINITY MAP

164 28 2009

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SCALE: 1" = 2 MILES

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

SURVEY N.M.P.M.


COUNTY LEA STATE NEW MEXICO

DESCRIPTION 330' FNL & 600' FWL

ELEVATION 4056'

OPERATOR COG OPERATING, LLC

LEASE MC FEDERAL



PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

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

4057.5'

600'

4063.8'

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150' NORTH
 OFFSET
 4059.0'

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600'

150' WEST
 OFFSET □
 4053.7'

MC FEDERAL #15



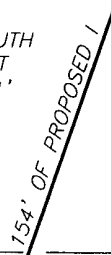
150' EAST
 □ OFFSET
 4056.8'

600'

ELEV. 4055.5'
 LAT.=32.826373° N
 LONG.=103.777576° W



150' SOUTH
 OFFSET
 4054.1'



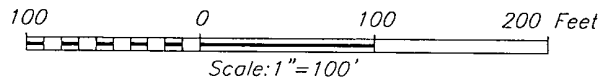
4048.3'

600'

4054.1'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #529 AND
 CO. RD. #L126 (MALJAMAR RD.), GO NORTH ON
 MALJAMAR RD. APPROX. 2.6 MILES. TURN LEFT
 AND GO NORTHWEST APPROX. 0.6 MILES. TURN
 LEFT AND GO SOUTHWEST APPROX. 0.3 MILES,
 FOLLOW ROAD WEST APPROX. 0.2 MILES TO ROAD
 SURVEY. FOLLOW ROAD SURVEY APPROX. 154
 FEET TO THE SOUTHEAST CORNER OF THIS
 LOCATION.



COG OPERATING, LLC

MC FEDERAL #15 WELL
 LOCATED 330 FEET FROM THE NORTH LINE
 AND 600 FEET FROM THE WEST LINE OF SECTION 21,
 TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO

Survey Date. 9/21/07 Sheet 1 of 1 Sheets

W.O. Number: 07.11.1022 Dr By: AR Rev 1:N/A

Date: 10/2/07 Disk: 07111022 Scale: 1"=100'



PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

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'
7 River	2375'
Queen	2975'
Grayburg	3475'
San Andres	3775'
Glorietta	5225'
Paddock	5325'
Blaine	5800'

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

Water Sand	150'	Fresh Water
Grayburg	3475'	Oil/Gas
San Andres	3775'	Oil/Gas
Paddock	5325'	Oil/Gas
Blaine	5800'	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
12 1/4"	0-2100'	8 5/8"	32#	J-55	ST&C/New	1.85/1.241/4.78
7 7/8"	0-T.D.	5 1/2"	17#	J-55	LT&C/New	1.59/1.463/2.05

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5. Cement Program

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

8 5/8" Intermediate Casing: Class C, 700 sx lead, yield-2.45 + 200 sx tail, yield-1.32, back to surface

5 1/2" Production Casing: Class C, 1500 sx, 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 2000 psi by a third party. 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	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 10 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.

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COG Operating LLC

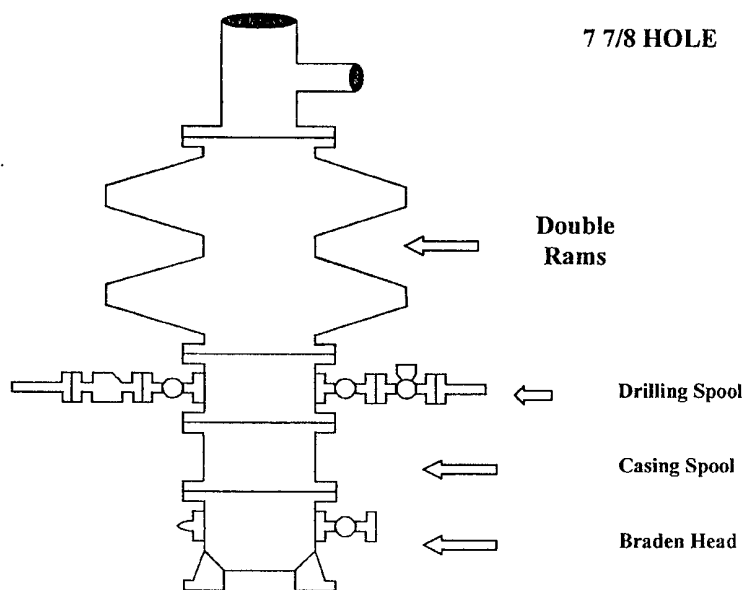
Exhibit #9

BOPE and Choke Schematic

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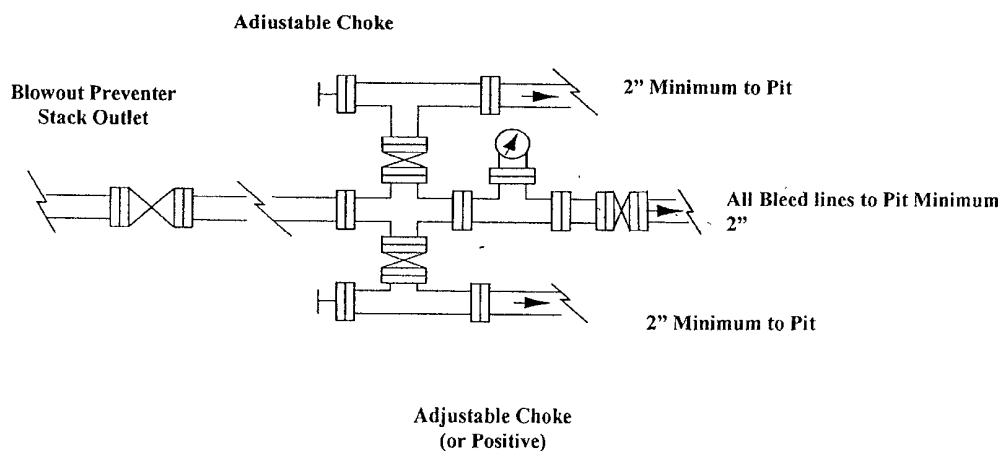
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Minimum 4" Nominal choke and kill lines

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.

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HOBBS OCD Proposal

INTREPID
Directional Drilling Specialists

Report Date: October 18, 2007	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: COG Operating, LLC.	Vertical Section Azimuth: 270.000°
Field: Eddy County, NM	Vertical Section Origin: N 0.000 R, E 0.000 ft
Structure / Slot: MC Federal #15 / MC Federal #15	TVD Reference Datum: RKB
Well: MC Federal #15	TVD Reference Elevation: 0.0 ft relative to
Borehole: MC Federal #15	Sea Bed / Ground Level Elevation: 0.000 ft relative to
UWI/API#:	Magnetic Declination: 8.156°
Survey Name / Date: MC Federal #15_r1 / October 18, 2007	Total Field Strength: 49372.533 nT
Tort / AHD / DDI / ERD ratio: 3.000° / 230.00 ft / 2.839 / 0.032	Magnetic Dip: 60.811°
Grid Coordinate System: NAD27 New Mexico State Planes, Eastern Zone, US Feet	Declination Date: October 18, 2007
Location Lat/Long: N 32 49 34.944, W 103 46 39.274	Magnetic Declination Model: IGRF 2005
Location Grid N/E Y/X: N 664794.600 RUS, E 670719.900 RUS	North Reference: Grid North
Grid Convergence Angle: +0.30128001°	Total Corr Mag North -> Grid North: +7.855°
Grid Scale Factor: 0.99994247	Local Coordinates Referenced To: Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Mag / Grav Tool Face (deg)
Tie-In	0.00	0.00	270.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	100.00	0.00	270.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	200.00	0.00	270.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	300.00	0.00	270.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	400.00	0.00	270.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	500.00	0.00	270.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	600.00	0.00	270.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	700.00	0.00	270.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	800.00	0.00	270.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	900.00	0.00	270.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1000.00	0.00	270.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1100.00	0.00	270.00	1100.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1200.00	0.00	270.00	1200.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1300.00	0.00	270.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1400.00	0.00	270.00	1400.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1500.00	0.00	270.00	1500.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1600.00	0.00	270.00	1600.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1700.00	0.00	270.00	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1800.00	0.00	270.00	1800.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	1900.00	0.00	270.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2000.00	0.00	270.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2100.00	0.00	270.00	2100.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2200.00	0.00	270.00	2200.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2300.00	0.00	270.00	2300.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2400.00	0.00	270.00	2400.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2500.00	0.00	270.00	2500.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2600.00	0.00	270.00	2600.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2700.00	0.00	270.00	2700.00	0.00	0.00	0.00	0.00	0.00	0.00	---
	2800.00	0.00	270.00	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	---
Build	2861.33	0.00	270.00	2861.33	0.00	0.00	0.00	0.00	0.00	0.00	270.00M
	2900.00	1.16	270.00	2900.00	0.39	0.00	-0.39	0.39	270.00	3.00	270.00M
EOB	2961.33	3.00	270.00	2961.28	2.62	0.00	-2.62	2.62	270.00	3.00	---
	3000.00	3.00	270.00	2999.90	4.64	0.00	-4.64	4.64	270.00	0.00	---
	3100.00	3.00	270.00	3099.76	9.87	0.00	-9.87	9.87	270.00	0.00	---
	3200.00	3.00	270.00	3199.63	15.11	0.00	-15.11	15.11	270.00	0.00	---
	3300.00	3.00	270.00	3299.49	20.34	0.00	-20.34	20.34	270.00	0.00	---
	3400.00	3.00	270.00	3399.35	25.58	0.00	-25.58	25.58	270.00	0.00	---
	3500.00	3.00	270.00	3499.22	30.81	0.00	-30.81	30.81	270.00	0.00	---

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Mag / Grav Tool Face (deg)
	3600.00	3.00	270.00	3599.08	36.04	0.00	-36.04	36.04	270.00	0.00	---
	3700.00	3.00	270.00	3698.94	41.28	0.00	-41.28	41.28	270.00	0.00	---
	3800.00	3.00	270.00	3798.80	46.51	0.00	-46.51	46.51	270.00	0.00	---
	3900.00	3.00	270.00	3898.67	51.74	0.00	-51.74	51.74	270.00	0.00	---
	4000.00	3.00	270.00	3998.53	56.98	0.00	-56.98	56.98	270.00	0.00	---
	4100.00	3.00	270.00	4098.39	62.21	0.00	-62.21	62.21	270.00	0.00	---
	4200.00	3.00	270.00	4198.26	67.44	0.00	-67.44	67.44	270.00	0.00	---
	4300.00	3.00	270.00	4298.12	72.68	0.00	-72.68	72.68	270.00	0.00	---
	4400.00	3.00	270.00	4397.98	77.91	0.00	-77.91	77.91	270.00	0.00	---
	4500.00	3.00	270.00	4497.85	83.15	0.00	-83.15	83.15	270.00	0.00	---
	4600.00	3.00	270.00	4597.71	88.38	0.00	-88.38	88.38	270.00	0.00	---
	4700.00	3.00	270.00	4697.57	93.61	0.00	-93.61	93.61	270.00	0.00	---
	4800.00	3.00	270.00	4797.43	98.85	0.00	-98.85	98.85	270.00	0.00	---
	4900.00	3.00	270.00	4897.30	104.08	0.00	-104.08	104.08	270.00	0.00	---
	5000.00	3.00	270.00	4997.16	109.31	0.00	-109.31	109.31	270.00	0.00	---
	5100.00	3.00	270.00	5097.02	114.55	0.00	-114.55	114.55	270.00	0.00	---
	5200.00	3.00	270.00	5196.89	119.78	0.00	-119.78	119.78	270.00	0.00	---
	5300.00	3.00	270.00	5296.75	125.01	0.00	-125.01	125.01	270.00	0.00	---
	5400.00	3.00	270.00	5396.61	130.25	0.00	-130.25	130.25	270.00	0.00	---
	5500.00	3.00	270.00	5496.48	135.48	0.00	-135.48	135.48	270.00	0.00	---
	5600.00	3.00	270.00	5596.34	140.71	0.00	-140.71	140.71	270.00	0.00	---
	5700.00	3.00	270.00	5696.20	145.95	0.00	-145.95	145.95	270.00	0.00	---
	5800.00	3.00	270.00	5796.06	151.18	0.00	-151.18	151.18	270.00	0.00	---
	5900.00	3.00	270.00	5895.93	156.42	0.00	-156.42	156.42	270.00	0.00	---
	6000.00	3.00	270.00	5995.79	161.65	0.00	-161.65	161.65	270.00	0.00	---
	6100.00	3.00	270.00	6095.65	166.88	0.00	-166.88	166.88	270.00	0.00	---
	6200.00	3.00	270.00	6195.52	172.12	0.00	-172.12	172.12	270.00	0.00	---
	6300.00	3.00	270.00	6295.38	177.35	0.00	-177.35	177.35	270.00	0.00	---
	6400.00	3.00	270.00	6395.24	182.58	0.00	-182.58	182.58	270.00	0.00	---
	6500.00	3.00	270.00	6495.10	187.82	0.00	-187.82	187.82	270.00	0.00	---
	6600.00	3.00	270.00	6594.97	193.05	0.00	-193.05	193.05	270.00	0.00	---
	6700.00	3.00	270.00	6694.83	198.28	0.00	-198.28	198.28	270.00	0.00	---
	6800.00	3.00	270.00	6794.69	203.52	0.00	-203.52	203.52	270.00	0.00	---
	6900.00	3.00	270.00	6894.56	208.75	0.00	-208.75	208.75	270.00	0.00	---
	7000.00	3.00	270.00	6994.42	213.99	0.00	-213.99	213.99	270.00	0.00	---
	7100.00	3.00	270.00	7094.28	219.22	0.00	-219.22	219.22	270.00	0.00	---
	7200.00	3.00	270.00	7194.15	224.45	0.00	-224.45	224.45	270.00	0.00	---
	7300.00	3.00	270.00	7294.01	229.69	0.00	-229.69	229.69	270.00	0.00	---
PBHL	7306.00	3.00	270.00	7300.00	230.00	0.00	-230.00	230.00	270.00	0.00	---

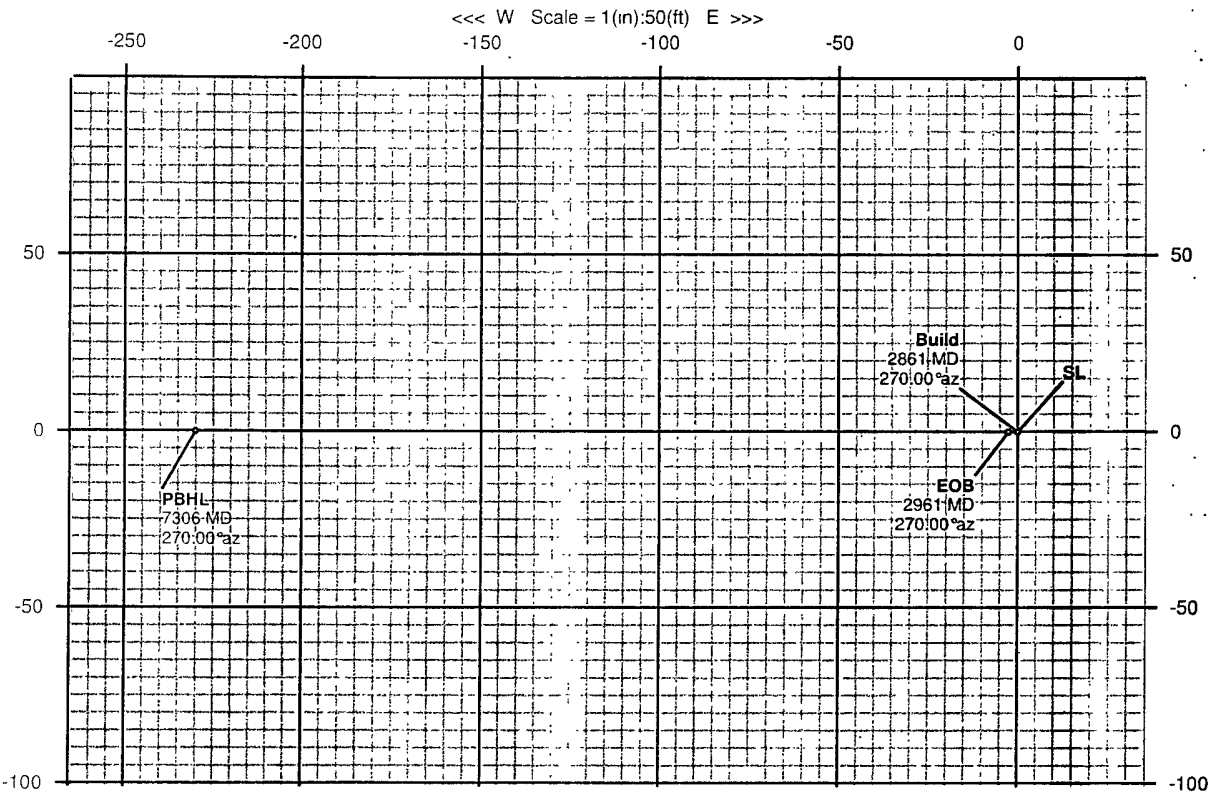
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WELL MC Federal #15			FIELD Eddy County, NM			STRUCTURE MC Federal #15		
Magnetic Parameters Model IGRF 2005			Surface Location Lat N32 49 34.544 Lon W102 46 35.374			Miscellaneous MC Federal #15 MC Federal #15 #1		
Dip 60.611° Mag Dec +8.155°			Date October 18, 2007 ES -5322.5 m			TVD Ref RRB (0.00 ft above) Sho Date October 18, 2007		
			NAO27 New Mexico State Plane, Eastern Zone US Feet 864794.60 NUS 570719.00 EUS Grid Conv -0.30128001° Scale Fact 0.999942467					



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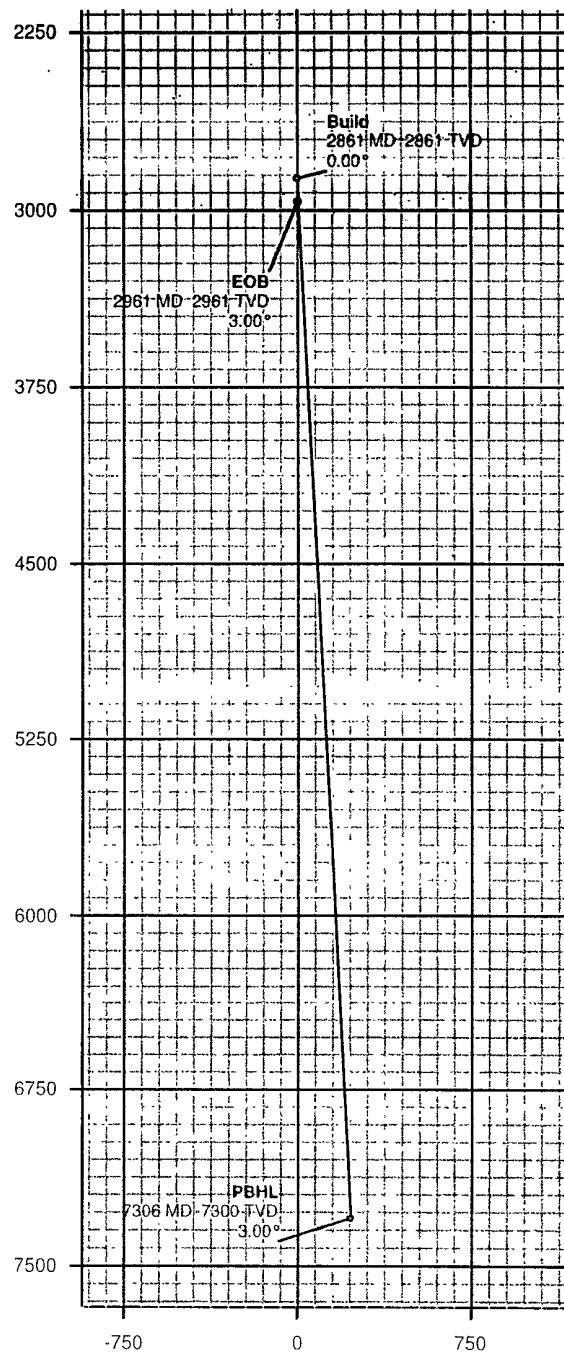
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Directional Drilling Specialists



COG Operating, LLC.

WELL	MC Federal #15	FIELD	Eddy County, NM	STRUCTURE	MC Federal #15
Magnetic Parameters Model: IGRF 2005 Dip: 60.811° Mag Dec: +18.158°	Date: October 18, 2007 FR: 89772.5 nT	Surface Location Lat: N32 49 34.344 Long: W103 48 29.724	MWD? New Mexico State Plane, Eastern Zone, US Feet Northing: 844794.02 NTS Easting: 870718.00 NTS Grid Cont: +0.3612801° Scale Fact: 0.99942647	Miscellaneous: Slot: MC Federal #15 Plan: 2861 Federal #15, r1	TVD Ref: RKB (0.00 ft above) Rev Date: October 18, 2007



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COG Operating LLC

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H₂S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

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II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. Protective equipment for essential personnel:

- A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (Exhibit #8).
- B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

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6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- B. All elastomers used for packing and seals shall be H₂S trim.

7. Communication:

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communication at Office.

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

EXHIBIT #7

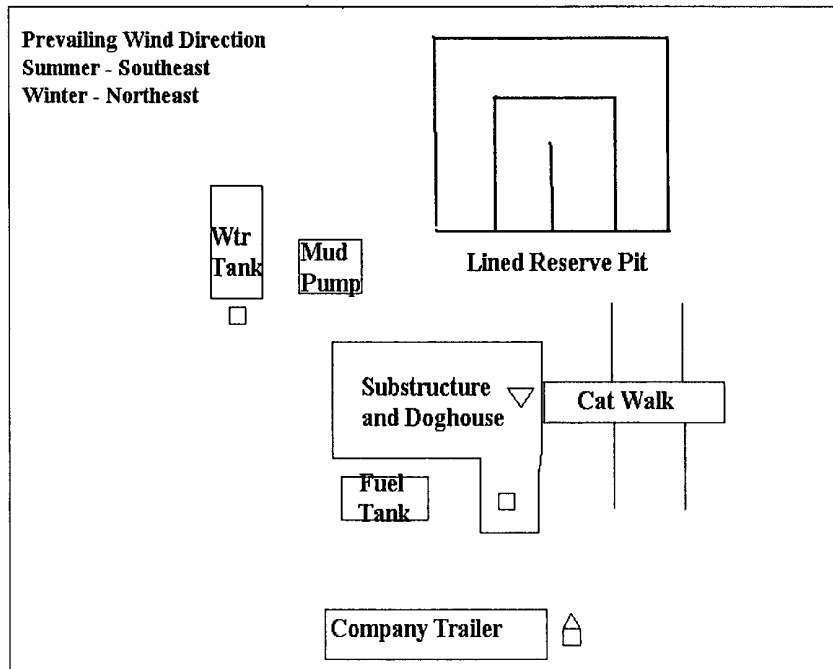
WARNING
YOU ARE ENTERING AN H₂S
AUTHORIZED PERSONNEL ONLY

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED
- 2. HARD HATS REQUIRED
- 3. SMOKING IN DESIGNATED AREAS ONLY
- 4. BE WIND CONSCIOUS AT ALL TIMES
- 5. CHECK WITH COG OPERATING FOREMAN AT

COG OPERATING LLC
1-432-683-7443

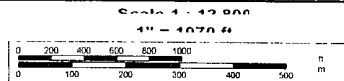
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DRILLING LOCATION H2S SAFETY EQUIPMENT Exhibit # 8



- ▽ H2S Monitors with alarms at the bell nipple
- Wind Direction Indicators
- ⌂ Safe Briefing areas with caution signs and breathing equipment min 150 feet from

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[illegible]

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating
LEASE NO.:	NMLC029509A
WELL NAME & NO.:	MC Federal No 15
SURFACE HOLE FOOTAGE:	0430' FNL & 0600' FWL
BOTTOM HOLE FOOTAGE:	0330' FNL & 0330' FWL
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
 - Reserve Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
- ☐ **Reserve Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

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I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

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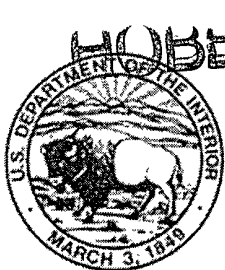


EXHIBIT NO. **HOBBS OCD**
Bureau of Land Management, Carlsbad Field Office
 620 E. Greene Street Carlsbad, NM 88220

Date of Issue:
 12/18/07

Cultural and Archaeological Resources

BLM Report No
 08-NM-523-
 169

NOTICE OF STIPULATIONS

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

Project Name:	A Class III Cultural Resource Inventory Report for the MC Federal Number 15 Proposed Well Location, Access Road, Lea County, New Mexico
Required	1. A 3-day preconstruction call-in notification. Contact BLM Inspection and Enforcement at (505) 234-5977, 5909, or 5995, to establish a construction start date.
Required	2. Professional archaeological monitoring. Contact your project archaeologist, or BLM's Cultural Resources Section at (505) 5917, 5967, 5943, or 5986, for assistance.
A. <input checked="" type="checkbox"/>	These stipulations must be given to your monitor at least 5 days prior to the start of construction.
B. <input checked="" type="checkbox"/>	No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
	3. Cultural site barrier fencing. (Your monitor will assist you).
A. <input type="checkbox"/>	A temporary site protection barrier(s) shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time.
B. <input type="checkbox"/>	A permanent, 4-strand barbed wire fence strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence.
Required	4. The archaeological monitor shall:
A. <input type="checkbox"/>	Ensure that all site protection barriers are located as indicated on the attached map(s).
B. <input checked="" type="checkbox"/>	Observe all ground-disturbing activities within 100 feet of cultural site no. LA 158093. Ensure that LA 158093 is avoided of all construction activity.
C. <input type="checkbox"/>	Ensure that all reroutes are adhered to avoid cultural site no.(s) LA
D. <input type="checkbox"/>	Ensure the proposed is/are located as shown on the attached map(s).
E. <input checked="" type="checkbox"/>	Submit a brief monitoring report within 30 days of completion of monitoring.
Other:	If subsurface cultural resources are encountered during the monitoring, all activities shall cease and a BLM-CFO archaeologist shall be notified immediately.

Site Protection and Employee Education: It is the responsibility of the project proponent and construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, disturb cultural resources on Public Lands.

For assistance, contact
 BLM Cultural Resources: Martin Stein (505) 234-5967 Bruce Boeke (505) 234-5917 James Smith (505) 234-598
 George MacDonell (505) 234-2228

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

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V. SPECIAL REQUIREMENT(S)

Mitigation Measures: The mitigation measures include the special drilling stipulations, the standard stipulation for the lesser prairie chicken, the standard stipulation for surface pipelines, and the standard stipulations for permanent resource roads.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 15 through June 15 annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 125' X 125' on the North side of the well pad V-Door East.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

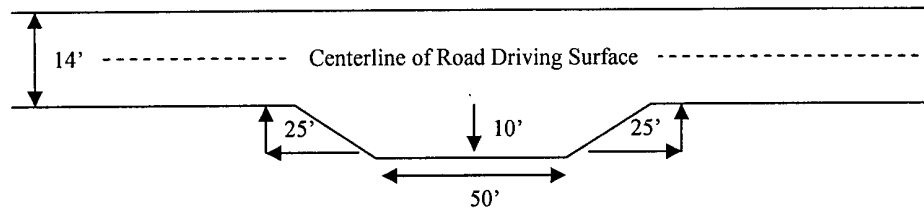
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Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

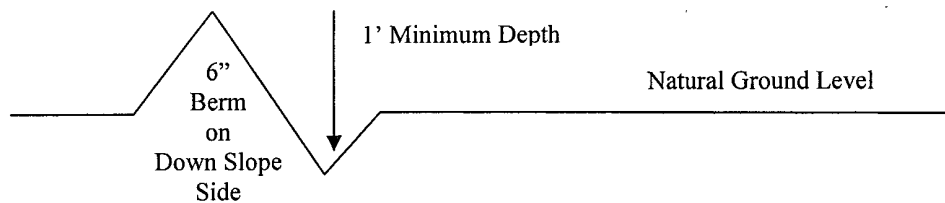


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

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Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

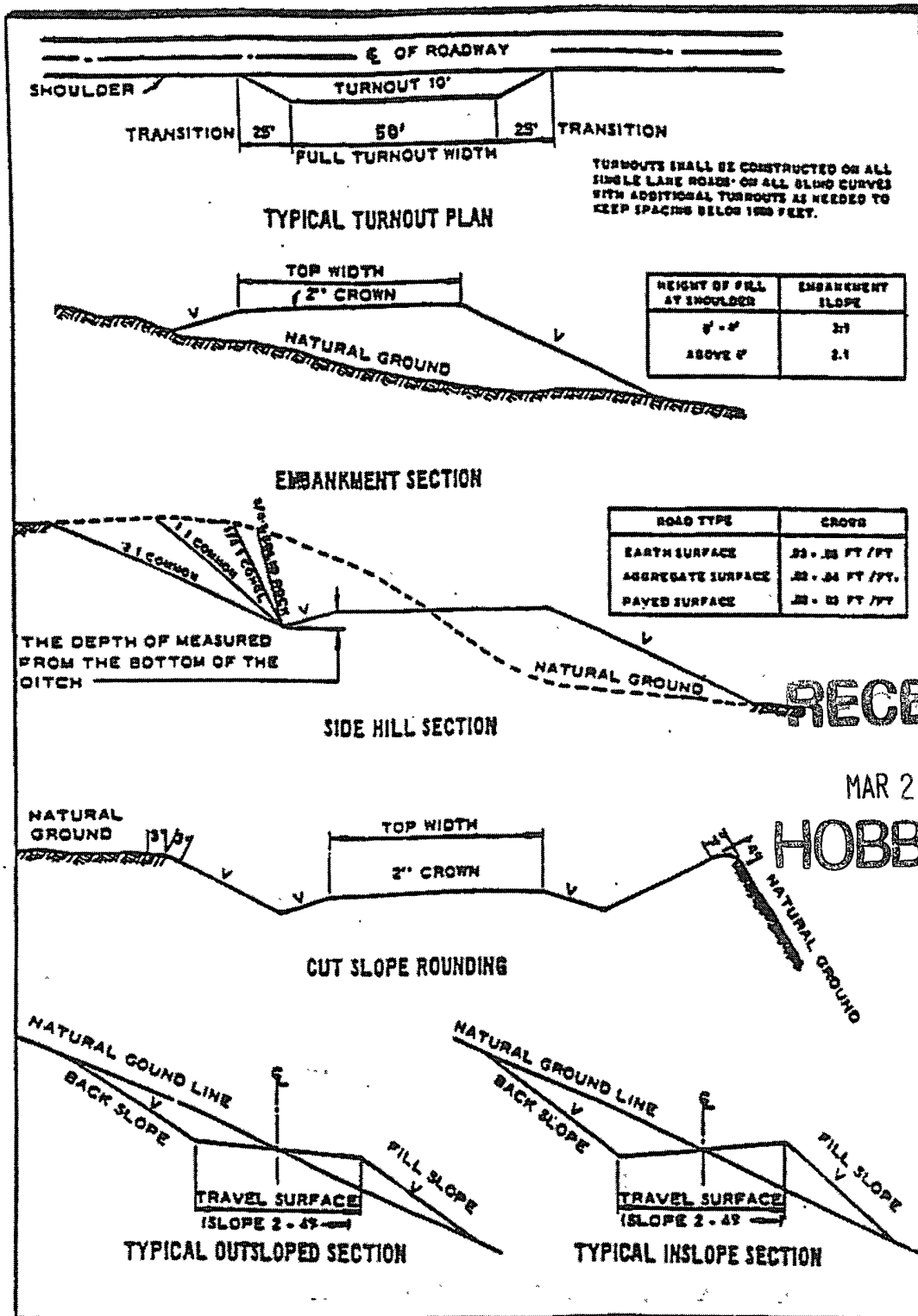
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

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Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(505) 393-3612

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1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Grayburg** formation. **Hydrogen Sulfide has been reported through out the township measuring 100-1400 ppm in the gas stream.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

B. CASING

1. The 13-3/8 inch surface casing shall be set **a minimum of 25 feet into the Rustler Anhydrite at approximately 805 feet** and cemented to the surface. **Fresh water mud to be used to setting depth.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial action will be done prior to drilling out that string.

**Possible lost circulation in the Grayburg and San Andres formations.
Possible water and brine flows in the Salado and Artesia Group.**

2. The minimum required fill of cement behind the 8-5/8 inch intermediate casing is:
☒ Cement to surface. If cement does not circulate see B.1.a-d above.
3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.
4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
 - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

Engineer on call phone (after hours): Carlsbad: (505) 706-2779

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2

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VRM Facility Requirement

B. PIPELINES

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STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.

b. Activities of other parties including, but not limited to:

- (1) Land clearing.
- (2) Earth-disturbing and earth-moving work.
- (3) Blasting.
- (4) Vandalism and sabotage.

c. Acts of God.

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The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full

expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of 25 feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green** Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline

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route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. Special Stipulations:

The reclamation stipulation is attached.

(March 1989)

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IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

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Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed
(Insert Seed Mixture Here)

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X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.

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