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Form 3160-3
(April 2004)

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, 2007

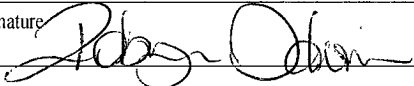
1a. Type of work ☒ DRILL ☐ REENTER		5 Lease Serial No. NMLC-029509A
1b. Type of Well. ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone		6 If Indian, Allottee or Tribe Name N/A
2 Name of Operator COG Operating LLC		7 If Unit or CA Agreement, Name and No N/A
3a. Address 550 W. Texas, Suite 1300 Midland TX 79701		8. Lease Name and Well No. <302519> M C FEDERAL #59
3b. Phone No. (include area code) <229, 37> (432) 685-4385		9 API Well No. 30-025- 39876
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface SHL: 2538' FSL & 1809' FEL, Unit J At proposed prod. zone BHL: 2310' FSL & 1650' FEL, Unit J		10 Field and Pool, or Exploratory Maljamar; Yeso, West 44500
14 Distance in miles and direction from nearest town or post office* 2.5 miles south of Maljamar NM		11. Sec, T, R, M or Blk and Survey or Area Sec 21, T17S, R32E
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 1809'	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 300'	19 Proposed Depth 7266' TVD 7213' MD	20. BLM/BIA Bond No. on file NMB000215
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 4051' GL	22. Approximate date work will start* 07/31/2010	23. Estimated duration 10 days

**SURFACE
UNORTHODOX
LOCATION**

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) Robyn M. Odom	Date 04/12/2010
Title Regulatory Analyst		

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date JUL 29 2010
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

Title 18 USC Section 1001 and Title 43 USC Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2) well becomes orthodox @ approx. 5200' - MD

**Approval Subject to General Requirements
& Special Stipulations Attached**

Roswell Controlled Water Basin

AUG 20 2010

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

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State of New Mexico

Energy, Minerals and Natural Resources Department

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

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DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1625 N. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

☐ AMENDED REPORT

API Number 30-025- 39876	Pool Code 44500	Pool Name MALJAMAR; YESO, WEST
Property Code 302519	Property Name MC FEDERAL	Well Number 59
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 4051'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	21	17-S	32-E		2538	SOUTH	1809	EAST	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
J	21	17-S	32-E		2310	SOUTH	1650	EAST	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

GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=662391.3 N X=673606.4 E LAT.=32.819726° N LONG.=103.768222° W BOTTOM HOLE LOCATION Y=662163.8 N X=673766.8 E DETAIL 4050.4' 4048.0' 600' 4044.2' 4045.1' SEE DETAIL GRID. AZ.-144°48'26" HORZ. DIST.-278.5' 2538' 2310' 1809' 1650' S.L. B.H.	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. <i>Robyn Odom</i> 4/12/2010 Signature Date Robyn Odom Printed Name 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. MARCH 30, 2010 Date Surveyed LA Signature & Seal of Professional Surveyor <i>Gary E. Eidsen</i> 4/8/10 09.11.1033 Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239
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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, 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
com

4. Casing Program

See
C&A

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	burst/collapse/tension
17 1/2"	0-650'	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.

See
C&A

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

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.

See
C&A

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

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:

See
COA

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 *See COA*

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be run from TD to 8 5/8" casing shoe.
- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated.
- D. Further testing procedures will be determined after the 5 1/2" production casing has been cemented at TD, based on drill shows and log evaluation.

10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and the estimated maximum bottom hold pressure is 2300 psig. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area, although a Hydrogen Sulfide Drilling Operation Plan is attached to this program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations

Road and location work will not begin until approval has been received from the BLM. As this is a Master Drilling plan, please refer to the Form 3160-3 for the anticipated start date. Once commenced, drilling operations should be finished in approximately 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.



COG Operating LLC

Lea County, NM (NAD27 NME)

MC Federal #59

MC Federal #59

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OH

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

SHL = 2538' FSL & 1809' FEL

BHL = 2300' FSL & 1660' FEL

Top of Paddock = 2300' FSL & 1660' FEL @ 5450' TVD

Standard Planning Report

20 May, 2010



Scientific Drilling
Directional Drilling Operations



Scientific Drilling Planning Report



Database: EDM 5000 1 Single User Db
Company: COG Operating LLC
Project: Lea County, NM (NAD27 NME)
Site: MC Federal #59
Well: MC Federal #59
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference: Well MC Federal #59
TVD Reference: GL Elev @ 4051 00ft
MD Reference: GL Elev @ 4051 00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project: Lea County, NM (NAD27 NME)
Map System: US State Plane 1927 (Exact solution) **System Datum:** Mean Sea Level
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

Site: MC Federal #59
Site Position: **Map** **Northing:** 662,391 30 ft **Latitude:** 32° 49' 11 012 N
From: **Easting:** 673,606 40 ft **Longitude:** 103° 46' 5 598 W
Position Uncertainty: 0 00 ft **Slot Radius:** 0 " **Grid Convergence:** 0 31 °

Well: MC Federal #59
Well Position **+N/-S** 0 00 ft **Northing:** 662,391 30 ft **Latitude:** 32° 49' 11 012 N
+E/-W 0 00 ft **Easting:** 673,606 40 ft **Longitude:** 103° 46' 5 598 W
Position Uncertainty 0 00 ft **Wellhead Elevation:** **Ground Level:** 4,051 00 ft

Wellbore: OH
Magnetics: **Model Name** **Sample Date** **Declination** **Dip Angle** **Field Strength**
(°) (°) (nT)
IGRF200510 2010/05/20 7 84 60 75 49,088

Design: Plan #1 - 7-7/8" Hole
Audit Notes:
Version: **Phase:** PLAN **Tie On Depth:** 0 00
Vertical Section: **Depth From (TVD)** **+N/-S** **+E/-W** **Direction**
(ft) (ft) (ft) (°)
0 00 0 00 0 00 147 66

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2,200 00	0 00	0 00	2,200 00	0 00	0 00	0 00	0 00	0 00	0 00	
2,469 42	5 39	147 66	2,469 02	-10 70	6 77	2 00	2 00	0 00	147 66	
5,193 42	5 39	147 66	5,180 98	-226 80	143 63	0 00	0 00	0 00	0 00	
5,462 83	0 00	0 00	5,450 00	-237 50	150 40	2 00	-2 00	0 00	180 00	TG1-MC #59
7,212 83	0 00	0 00	7,200 00	-237 50	150 40	0 00	0 00	0 00	0 00	PBHL-MC #59



Scientific Drilling

Planning Report



Database: EDM 5000 1 Single User Db
Company: COG Operating LLC
Project: Lea County, NM (NAD27 NME)
Site: MC Federal #59
Well: MC Federal #59
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference: Well MC Federal #59
TVD Reference: GL Elev @ 4051 00ft
MD Reference: GL Elev @ 4051 00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0 00	0 00	0.00	0 00	0 00	0 00	0 00	0 00	0.00	0 00
South HL-MC #59 - East HL-MC #59									
2,100 00	0 00	0 00	2,100 00	0 00	0 00	0 00	0.00	0 00	0 00
8-5/8" Casing									
2,200 00	0 00	0 00	2,200 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 2.00°/100'									
2,300 00	2 00	147 66	2,299 98	-1 47	0 93	1 75	2 00	2 00	0 00
2,400 00	4 00	147 66	2,399 84	-5 90	3 73	6 98	2 00	2 00	0 00
2,469 42	5 39	147 66	2,469 02	-10 70	6 77	12 66	2 00	2 00	0 00
EOC Hold 5.39°									
2,500 00	5 39	147 66	2,499 47	-13 12	8 31	15 53	0 00	0 00	0 00
2,600 00	5 39	147 66	2,599 03	-21 05	13 33	24 92	0 00	0 00	0 00
2,700 00	5 39	147 66	2,698 58	-28 99	18 36	34 31	0 00	0 00	0 00
2,800 00	5 39	147 66	2,798 14	-36 92	23 38	43 70	0 00	0 00	0 00
2,900 00	5 39	147 66	2,897 70	-44 86	28 41	53 09	0 00	0 00	0 00
3,000 00	5 39	147 66	2,997 26	-52 79	33 43	62 48	0 00	0 00	0 00
3,100 00	5 39	147 66	3,096 82	-60 72	38 45	71 87	0 00	0 00	0 00
3,200 00	5 39	147 66	3,196 37	-68 66	43 48	81 26	0 00	0 00	0 00
3,300 00	5 39	147 66	3,295 93	-76 59	48 50	90 66	0 00	0 00	0 00
3,400 00	5 39	147 66	3,395 49	-84 52	53 53	100 05	0 00	0 00	0 00
3,500 00	5 39	147 66	3,495 05	-92 46	58 55	109 44	0 00	0 00	0 00
3,600 00	5 39	147 66	3,594 61	-100 39	63 57	118 83	0 00	0 00	0 00
3,700 00	5 39	147 66	3,694 17	-108 32	68 60	128 22	0 00	0 00	0 00
3,800 00	5 39	147 66	3,793 72	-116 26	73 62	137 61	0 00	0 00	0 00
3,900 00	5 39	147 66	3,893 28	-124 19	78 65	147 00	0 00	0 00	0 00
4,000 00	5 39	147 66	3,992 84	-132 12	83 67	156 39	0 00	0 00	0 00
4,100 00	5 39	147 66	4,092 40	-140 06	88 69	165 78	0 00	0 00	0 00
4,200 00	5 39	147 66	4,191 96	-147 99	93 72	175 17	0 00	0 00	0 00
4,300 00	5 39	147 66	4,291 51	-155 93	98 74	184 56	0 00	0 00	0 00
4,400 00	5 39	147 66	4,391 07	-163 86	103 77	193 95	0 00	0 00	0 00
4,500 00	5 39	147 66	4,490 63	-171 79	108 79	203 34	0 00	0 00	0 00
4,600 00	5 39	147 66	4,590 19	-179 73	113 81	212 73	0 00	0 00	0 00
4,700 00	5 39	147 66	4,689 75	-187 66	118 84	222 12	0 00	0 00	0 00
4,800 00	5 39	147 66	4,789 30	-195 59	123 86	231 51	0 00	0 00	0 00
4,900 00	5 39	147 66	4,888 86	-203 53	128 89	240 90	0 00	0 00	0 00
5,000 00	5 39	147 66	4,988 42	-211 46	133 91	250 29	0 00	0 00	0 00
5,100 00	5 39	147 66	5,087 98	-219 39	138 93	259 69	0 00	0 00	0 00
5,193 41	5 39	147 66	5,180 98	-226 80	143 63	268 46	0 00	0 00	0 00
Start DLS 2.00°/100'									
5,200 00	5 26	147 66	5,187 54	-227 32	143 95	269 07	2 00	-2 00	0 00
5,300 00	3 26	147 66	5,287 26	-233 59	147 92	276 49	2 00	-2 00	0 00
5,400 00	1 26	147 66	5,387 17	-236 92	150 03	280 43	2 00	-2 00	0 00
5,462 83	0 00	0 00	5,450 00	-237 50	150 40	281 12	2 00	-2 00	-235 01
EOC Hold 0.00° - TG1-MC #59									
7,212 83	0 00	0 00	7,200 00	-237 50	150 40	281 12	0 00	0 00	0 00
PBHL-MC #59									



Scientific Drilling Planning Report



Database: EDM 5000 1 Single User Db
Company: COG Operating LLC
Project: Lea County, NM (NAD27 NME)
Site: MC Federal #59
Well: MC Federal #59
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole

Local Co-ordinate Reference: Well MC Federal #59
TVD Reference: GL Elev @ 4051 00ft
MD Reference: GL Elev @ 4051 00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name	hit/miss target	Dip Angle	Dip Dir	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
South HL-MC #59		0 00	0 00	0 00	-227 50	160 40	662,163 80	673,766 80	32° 49' 8 753 N	103° 46' 3 733 W
- plan misses target center by 278 36ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E)										
- Rectangle (sides W200 00 H0 00 D0 00)										
East HL-MC #59		0 00	0 00	0 00	-227 50	160 40	662,163 80	673,766 80	32° 49' 8 753 N	103° 46' 3 733 W
- plan misses target center by 278 36ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E)										
- Rectangle (sides W0 00 H200 00 D0 00)										
TG1-MC #59		0 00	0 00	5,450 00	-237 50	150 40	662,153 80	673,756 80	32° 49' 8 654 N	103° 46' 3 851 W
- plan hits target center										
- Point										
PBHL-MC #59		0 00	0 00	7,200 00	-237 50	150 40	662,153 80	673,756 80	32° 49' 8 654 N	103° 46' 3 851 W
- plan hits target center										
- Circle (radius 10 00)										

Casing Points

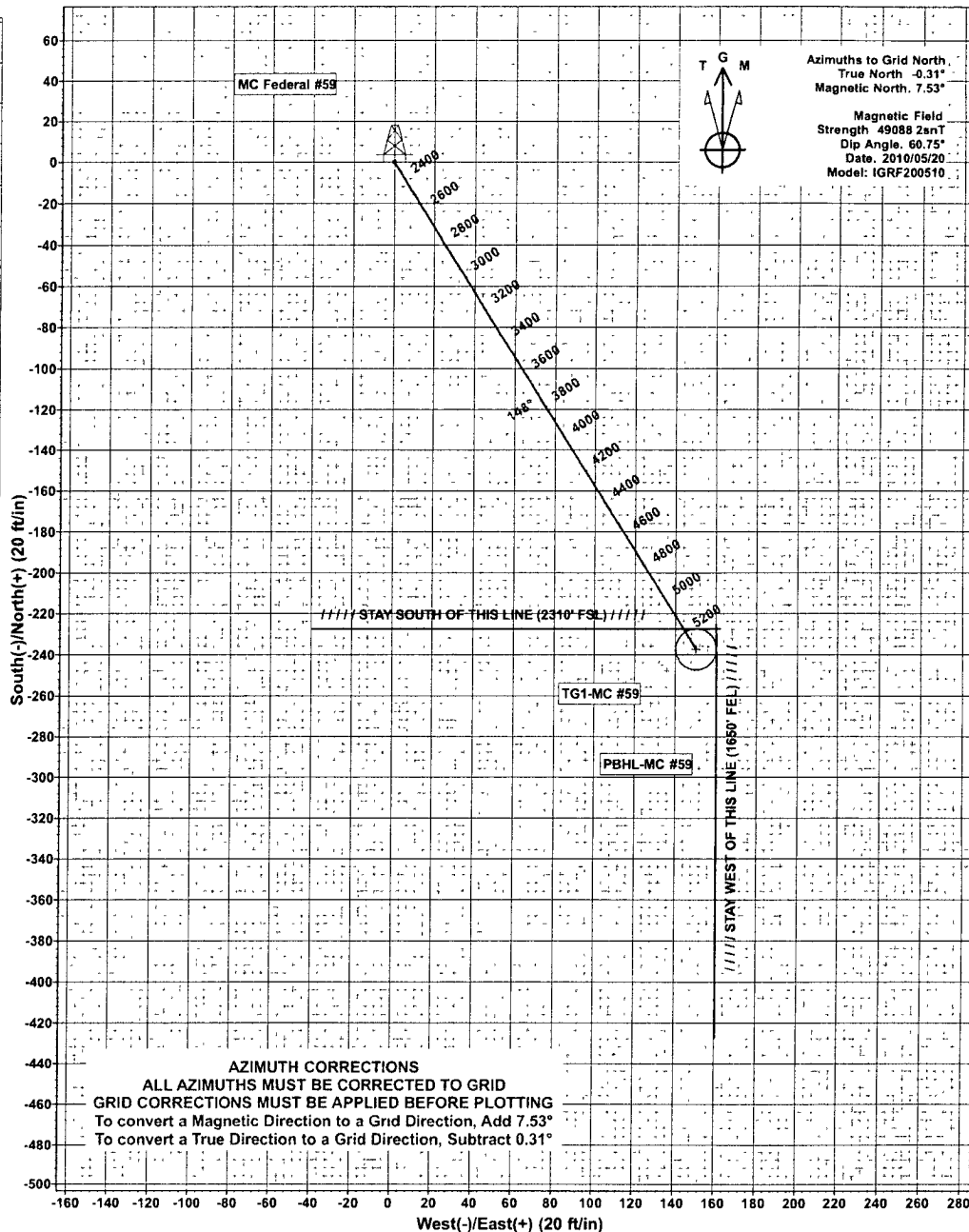
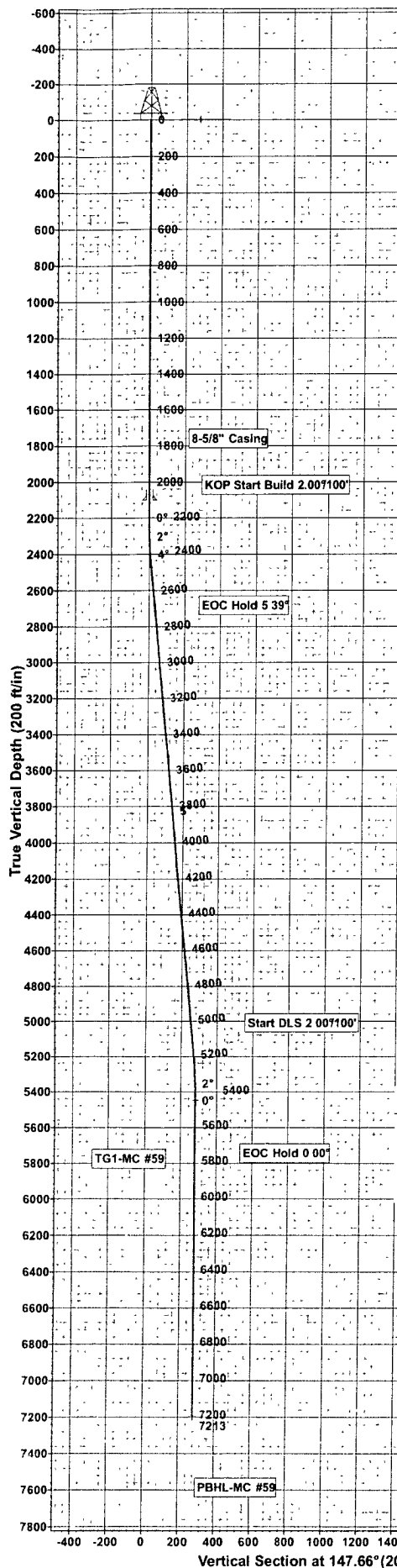
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(")	(")
2,100 00	2,100 00	8-5/8" Casing	8-5/8	12-1/4

Plan Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
2,200 00	2,200 00	0 00	0 00	KOP Start Build 2 00"/100'
2,469 42	2,469 02	-10 70	6 77	EOC Hold 5 39°
5,193 41	5,180 98	-226 80	143 63	Start DLS 2 00"/100'
5,462 83	5,450 00	-237 50	150 40	EOC Hold 0 00°



Scientific Drilling for COG Operating LLC
Site: Lea County, NM (NAD27 NME)
Well: MC Federal #59
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
East HL-MC #59	0.00	-227 50	160 40	662163 80	673766 80	32°49' 8.753 N	103°46' 3 733 W	Rectangle (Sides: L200 00 W0 00)	
South HL-MC #59	0.00	-227 50	160 40	662163 80	673766 80	32°49' 8.753 N	103°46' 3 733 W	Rectangle (Sides: L0 00 W200 00)	
TG1-MC #59	5450 00	-237 50	150 40	662153 80	673756 80	32°49' 8 654 N	103°46' 3 851 W	Point	
PBHL-MC #59	7200.00	-237 50	150 40	662153 80	673756 80	32°49' 8 654 N	103°46' 3 851 W	Circle (Radius: 10 00)	

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	2200 00	0 00	0 00	2200 00	0 00	0 00	0 00	0 00	0 00	
3	2469 42	5 39	147 66	2469 02	-10 70	6 77	2 00	147 66	12 66	
4	5193 41	5 39	147 66	5180 98	-226 80	143.63	0 00	0 00	268 46	
5	5462 83	0 00	0 00	5450 00	-237 50	150.40	2 00	180 00	281 12	TG1-MC #59
6	7212 83	0 00	0 00	7200 00	-237 50	150 40	0 00	0 00	281.12	PBHL-MC #59

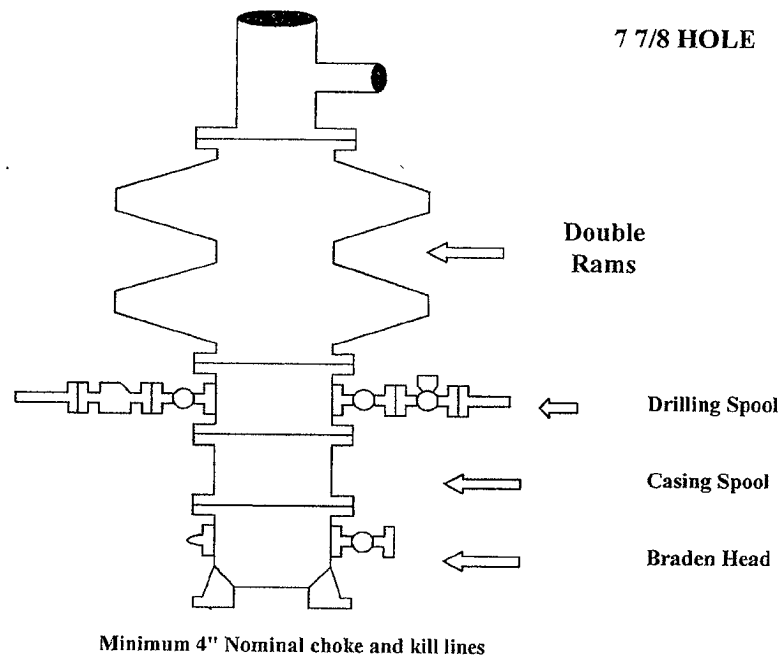
WELL DETAILS: MC Federal #59										
Ground Level:				4051.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot				
0 00	0 00	662391 30	673606 40	32°49' 11 012 N	103°46' 5 598 W					

PROJECT DETAILS: Lea County, NM (NAD27 NME)										
Geodetic System					US State Plane 1927 (Exact solution)					
Datum					NAD 1927 (NADCON CONUS)					
Ellipsoid					Clarke 1866					
Zone					New Mexico East 3001					
System Datum					Mean Sea Level					
Created By					Julio Pina					
Date					20-May-10					
Checked										
Reviewed										
Approved										

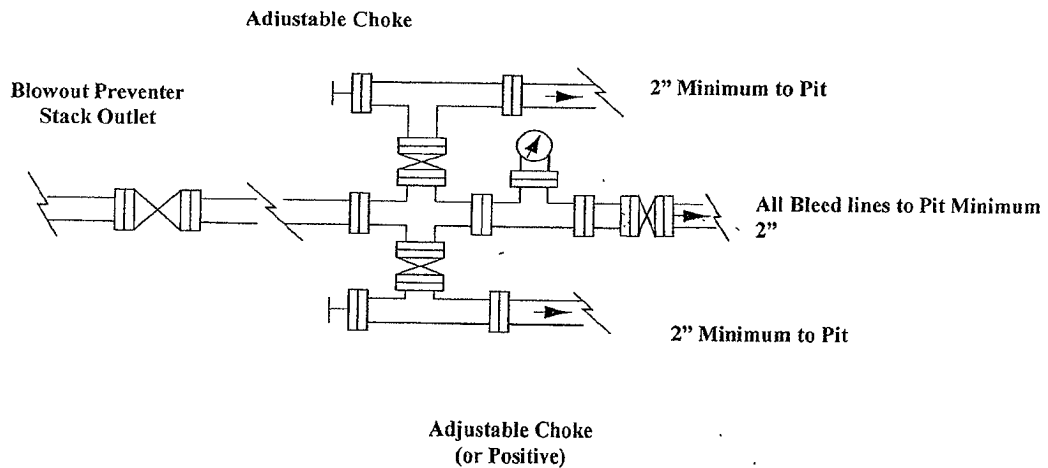
COG Operating LLC

Exhibit #9

BOPE and Choke Schematic



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.