

OCD-HOBBS
RECEIVEDFORM APPROVED
OMB No 1004-0137
Expires March 31, 2007UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEP 21 2010

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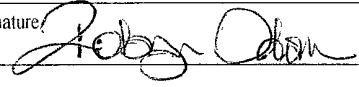
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work ☒ DRILL ☐ REENTER		5 Lease Serial No. NMLC-029405A
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	3b. Phone No. (include area code) (432) 685-4385	8 Lease Name and Well No B C Federal #65
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface SHL: 502' FNL & 1121' FEL, Unit A At proposed prod zone BHL: 990' FNL & 990' FEL, Unit A		9 API Well No. 30-025- 39913
10 Field and Pool, or Exploratory Maljamar; Yeso, West		11 Sec., T R M or Blk and Survey or Area Sec 20, T17S, R32E
12 Distance in miles and direction from nearest town or post office* 2.5 miles SW of Maljamar, NM		13 State NM
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 502'	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 120'	19 Proposed Depth 7000'	20 BLM/BIA Bond No. on file NMB000215
21 Elevations (Show whether DF, KDB, RT, GL, etc) 4032' GL	22 Approximate date work will start* 09/30/2010	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) Robyn M. Odom	Date 06/21/2010
Title Regulatory Analyst		

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date SEP 17 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 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)

KZ 09/22/10

Roswell Controlled Water Basin

PETROLEUM ENGINEER

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I
4625 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- 39913	Pool Code 44500	Pool Name MALJAMAR; YESO, WEST
Property Code 302456 ✓	Property Name BC FEDERAL	Well Number 65
OGRID No. 229137 ✓	Operator Name COG OPERATING, LLC	Elevation 4032'

Surface Location

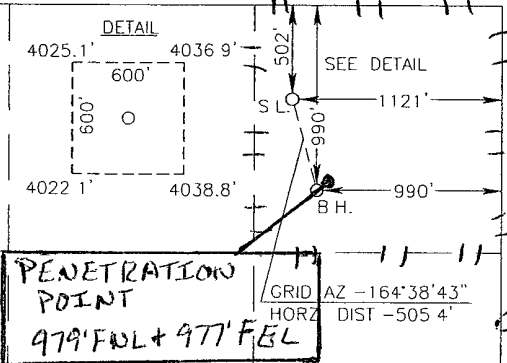
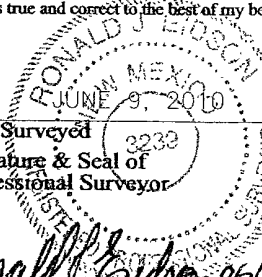
UL or lot No. A	Section 20	Township 17-S	Range 32-E	Lot Idn	Feet from the 502	North/South line NORTH	Feet from the 1121	East/West line EAST	County LEA
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Bottom Hole Location If Different From Surface

UL or lot No. A	Section 20	Township 17-S	Range 32-E	Lot Idn	Feet from the 990	North/South line NORTH	Feet from the 990	East/West line EAST	County LEA
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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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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

 DETAIL 4025.1' 4036.9' 4038.8' 4022.1' 600' 600' PENETRATION POINT 979' FWL + 977' FEL GRID AZ -164° 38' 43" HORZ DIST -505.4' SEE DETAIL	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> 6/18/2010 Signature Date Robyn Odom Printed Name
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=664615.9 N X=669000.3 E LAT = 32.825907° N LONG. = 103.783177° W BOTTOM HOLE LOCATION Y=664128.7 N X=669134.1 E	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.  Date Surveyed 3233 Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> 06/16/2010 10.11 0646 Certificate No. GARY G. 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 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 13 1/2"	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, 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, 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, ~~1000'-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' 850'	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 —
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.

See
COA

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.



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COG Operating LLC

Lea County, NM (NAD27 NME)

BC Federal #65

BC Federal #65

OH

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

SHL = 502' FNL & 1121' FEL

BHL = 980' FNL & 980' FEL

Top of Paddock = 381' South of Loc & 115' East of Loc @ 5375' TVD

Standard Planning Report

20 July, 2010



Scientific Drilling
Directional Drilling Operations



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Well BC Federal #65
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 4032 00usft
Project:	Lea County, NM (NAD27 NME)	MD Reference:	GL Elev @ 4032 00usft
Site:	BC Federal #65	North Reference:	Grid
Well:	BC Federal #65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

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:	BC Federal #65		
Site Position:		Northing:	664,615 90 usft
From:	Map	Easting:	669,000 30 usft
Position Uncertainty:	0 00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 49' 33.265 N
		Longitude:	103° 46' 59.437 W
		Grid Convergence:	0 30 °

Well:	BC Federal #65		
Well Position	+N/-S	0 00 usft	Northing:
	+E/-W	0 00 usft	Easting:
Position Uncertainty	0 00 usft	Wellhead Elevation:	Ground Level:
			4,032.00 usft

Wellbore:	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF200510	2010/07/20	7 83
			Dip Angle
			(°)
			60 75
			Field Strength
			(nT)
			49,074

Design:	Plan #1 - 7-7/8" Hole		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0 00	0 00	0 00
			Direction
			(°)
			163 23

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
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	
2,588 99	7 78	163.23	2,587 79	-25 25	7 61	2 00	2 00	0 00	163 23	
5,178 02	7 78	163 23	5,153 00	-360.81	108 73	0 00	0 00	0 00	0 00	
5,401.13	3 32	163 23	5,375 00	-381.46	114 95	2 00	-2 00	0 00	180 00	TG1-BC #65
7,129 02	3 32	163 23	7,100.00	-477 20	143 80	0 00	0 00	0 00	0 00	PBHL-BC #65



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Well BC Federal #65
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 4032.00usft
Project:	Lea County, NM (NAD27 NME)	MD Reference:	GL Elev @ 4032.00usft
Site:	BC-Federal #65	North Reference:	Grid
Well:	BC-Federal #65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

Planned Survey:										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
North HL-BC #65 - East HL-BC #65										
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	163 23	2,299 98	-1 67	0 50	1 75	2 00	2 00	0 00	
2,400 00	4 00	163 23	2,399.84	-6 68	2 01	6.98	2 00	2 00	0 00	
2,500 00	6 00	163 23	2,499 45	-15 03	4 53	15 69	2 00	2 00	0 00	
2,588 99	7 78	163 23	2,587 79	-25.25	7 61	26 37	2 00	2.00	0 00	
EOC hold 7.78°										
2,600 00	7 78	163 23	2,598 70	-26 67	8 04	27 86	0 00	0 00	0 00	
2,700 00	7 78	163 23	2,697 78	-39 64	11 94	41 40	0 00	0 00	0 00	
2,800 00	7 78	163.23	2,796 86	-52 60	15 85	54 93	0.00	0.00	0 00	
2,900 00	7 78	163 23	2,895 94	-65.56	19 75	68 47	0 00	0 00	0 00	
3,000 00	7 78	163 23	2,995 02	-78 52	23 66	82 01	0 00	0 00	0 00	
3,100 00	7 78	163 23	3,094 10	-91.48	27 57	95 54	0 00	0 00	0 00	
3,200 00	7 78	163 23	3,193 18	-104 44	31 47	109 08	0 00	0 00	0 00	
3,300 00	7 78	163 23	3,292 26	-117 40	35 38	122 61	0.00	0.00	0 00	
3,400 00	7 78	163 23	3,391 34	-130 36	39 28	136 15	0 00	0 00	0 00	
3,500 00	7 78	163.23	3,490 42	-143 32	43 19	149 69	0 00	0 00	0 00	
3,600 00	7 78	163.23	3,589 50	-156 28	47 09	163 22	0 00	0 00	0 00	
3,700 00	7 78	163 23	3,688 58	-169 24	51 00	176 76	0 00	0 00	0 00	
3,800 00	7 78	163 23	3,787 66	-182 20	54 91	190 30	0.00	0 00	0 00	
3,900 00	7 78	163 23	3,886 74	-195 17	58 81	203 83	0 00	0 00	0 00	
4,000 00	7 78	163 23	3,985 82	-208 13	62 72	217 37	0 00	0 00	0 00	
4,100 00	7 78	163 23	4,084.90	-221 09	66 62	230 91	0 00	0 00	0 00	
4,200 00	7 78	163.23	4,183 98	-234.05	70 53	244 44	0 00	0 00	0 00	
4,300 00	7 78	163 23	4,283 06	-247.01	74 43	257 98	0 00	0 00	0 00	
4,400 00	7 78	163 23	4,382 14	-259 97	78 34	271.52	0 00	0 00	0 00	
4,500 00	7 78	163.23	4,481 22	-272 93	82 25	285 05	0 00	0 00	0 00	
4,600 00	7 78	163.23	4,580 30	-285 89	86 15	298 59	0 00	0 00	0 00	
4,700 00	7 78	163.23	4,679 38	-298 85	90 06	312 13	0 00	0 00	0 00	
4,800 00	7 78	163 23	4,778 46	-311 81	93 96	325 66	0 00	0 00	0 00	
4,900 00	7 78	163 23	4,877.53	-324 77	97 87	339 20	0 00	0 00	0 00	
5,000 00	7 78	163 23	4,976 61	-337 73	101 77	352.74	0 00	0 00	0 00	
5,100 00	7 78	163 23	5,075 69	-350.70	105 68	366 27	0 00	0 00	0 00	
5,178 02	7 78	163 23	5,153 00	-360 81	108 73	376 83	0.00	0 00	0 00	
Start DLS 2.00°/100'										
5,200 00	7 34	163 23	5,174 78	-363.58	109 56	379.72	2 00	-2.00	0 00	
5,300 00	5.34	163 23	5,274.17	-374 15	112 75	390 77	2 00	-2 00	0 00	
5,400 00	3 34	163 23	5,373 88	-381.39	114 93	398 33	2 00	-2 00	0 00	
5,401 13	3 32	163 23	5,375.00	-381 46	114 95	398 40	2.00	-2 00	0 00	
EOC hold 3.32° - TG1-BC #65										
5,500 00	3 32	163.23	5,473 71	-386 94	116 60	404 12	0 00	0 00	0 00	
5,600 00	3 32	163 23	5,573 54	-392 48	118 27	409 91	0 00	0 00	0 00	
5,700 00	3 32	163 23	5,673 37	-398 02	119 94	415.70	0 00	0 00	0 00	
5,800 00	3 32	163 23	5,773.21	-403 56	121.61	421 48	0 00	0 00	0 00	
5,900 00	3.32	163 23	5,873 04	-409 10	123 28	427 27	0 00	0 00	0 00	
6,000 00	3 32	163 23	5,972 87	-414 64	124 95	433 06	0 00	0 00	0 00	
6,100 00	3 32	163 23	6,072 70	-420.18	126 62	438 84	0 00	0 00	0 00	
6,200 00	3 32	163 23	6,172 54	-425 72	128 29	444 63	0 00	0 00	0 00	
6,300 00	3 32	163 23	6,272.37	-431 26	129 96	450.42	0 00	0 00	0 00	



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Well BC Federal #65
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 4032 00usft
Project:	Lea County, NM (NAD27 NME)	MD Reference:	GL Elev @ 4032 00usft
Site:	BC Federal #65	North Reference:	Grid
Well:	BC Federal #65	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 - 7-7/8" Hole		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,400 00	3 32	163 23	6,372 20	-436 80	131 63	456 21	0 00	0 00	0 00
6,500 00	3 32	163 23	6,472 03	-442 35	133 30	461 99	0 00	0 00	0 00
6,600 00	3 32	163 23	6,571 87	-447 89	134 97	467 78	0 00	0 00	0 00
6,700 00	3 32	163 23	6,671 70	-453 43	136 64	473 57	0 00	0 00	0 00
6,800 00	3 32	163 23	6,771 53	-458 97	138 31	479 35	0 00	0 00	0 00
6,900 00	3 32	163 23	6,871 36	-464 51	139 98	485 14	0 00	0 00	0 00
7,000 00	3 32	163 23	6,971 19	-470 05	141 65	490 93	0 00	0 00	0 00
7,100 00	3 32	163 23	7,071 03	-475 59	143 32	496 72	0 00	0 00	0 00
7,129 02	3 32	163 23	7,100 00	-477 20	143 80	498 40	0 00	0 00	0 00
PBHL-BC #65									

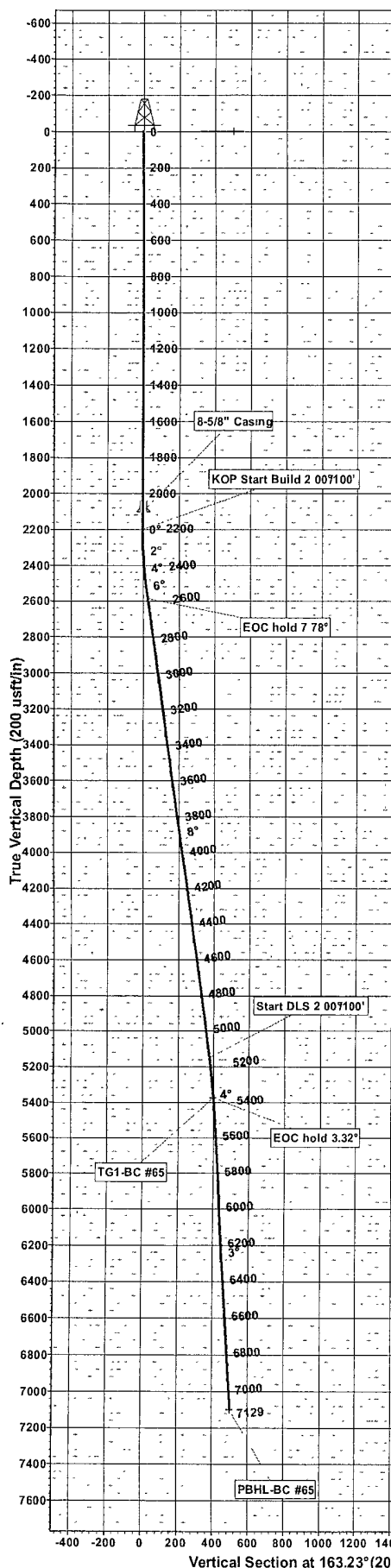
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
North HL-BC #65	0 00	0 00	0 00	-487 20	133 80	664,128 70	669,134 10	32° 49' 28 437 N	103° 46' 57 898 W
- plan misses target center by 505 24usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W200 00 H0 00 D0 00)									
East HL-BC #65	0 00	0 00	0 00	-487 20	133 80	664,128.70	669,134.10	32° 49' 28 437 N	103° 46' 57 898 W
- plan misses target center by 505 24usft at 0 00usft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W0 00 H200 00 D0 00)									
TG1-BC #65	0 00	0 00	5,375 00	-381 46	114 95	664,234 45	669,115 25	32° 49' 29 485 N	103° 46' 58.113 W
- plan hits target center									
- Circle (radius 0 00)									
PBHL-BC #65	0 00	0 00	7,100 00	-477.20	143 80	664,138 70	669,144 10	32° 49' 28 536 N	103° 46' 57 781 W
- plan hits target center									
- Circle (radius 10 00)									

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

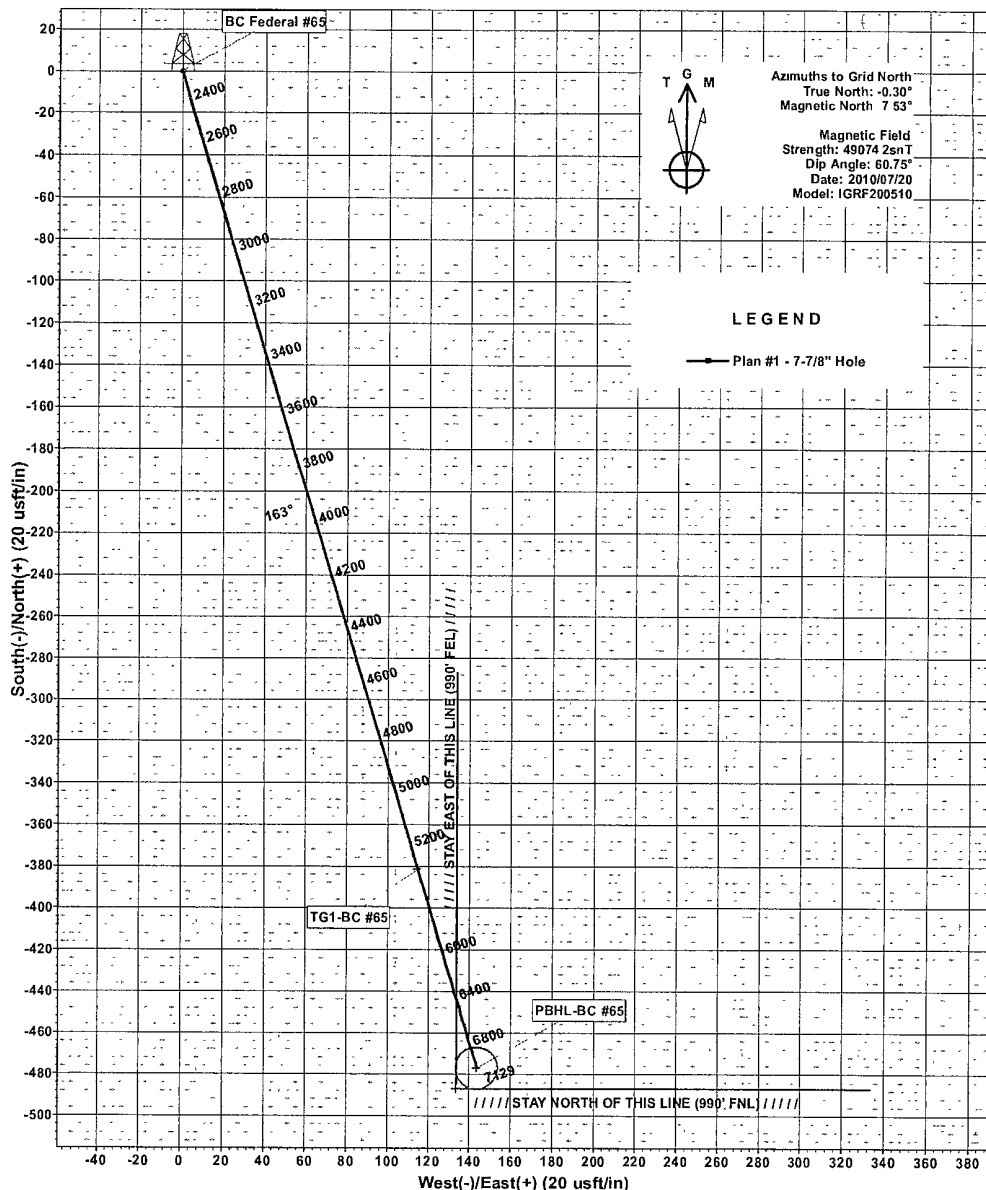
Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,200 00	2,200 00	0 00	0 00	KOP Start Build 2 00°/100'
2,588 99	2,587 79	-25 25	7 61	EOC hold 7 78°
5,178 02	5,153.00	-360.81	108 73	Start DLS 2.00°/100'
5,401 13	5,375.00	-381 46	114.95	EOC hold 3 32°



Scientific Drilling for COG Operating LLC
Site: Lea County, NM (NAD27 NME)
Well: BC Federal #65
Wellbore: OH
Design: Plan #1 - 7-7/8" Hole



Vertical Section at 163.23° (200 usft/in)



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
East HL-BC #65	0.00	-487.20	133.80	664128.70	669134.10	32°49' 28.437 N	103°46' 57.898 W	Rectangle (Sides: L2 00 00 W0 00)
North HL-BC #65	0.00	-487.20	133.80	664128.70	669134.10	32°49' 28.437 N	103°46' 57.898 W	Rectangle (Sides: L 0 00 W200.00)
TG1-BC #65	5375.00	-384.46	114.95	664234.44	669115.25	32°49' 29.485 N	103°46' 58.113 W	Circle (Radius: 0.00)
PBHL-BC #65	7100.00	-477.20	143.80	664138.70	669144.10	32°49' 28.536 N	103°46' 57.781 W	Circle (Radius: 10.0 0)

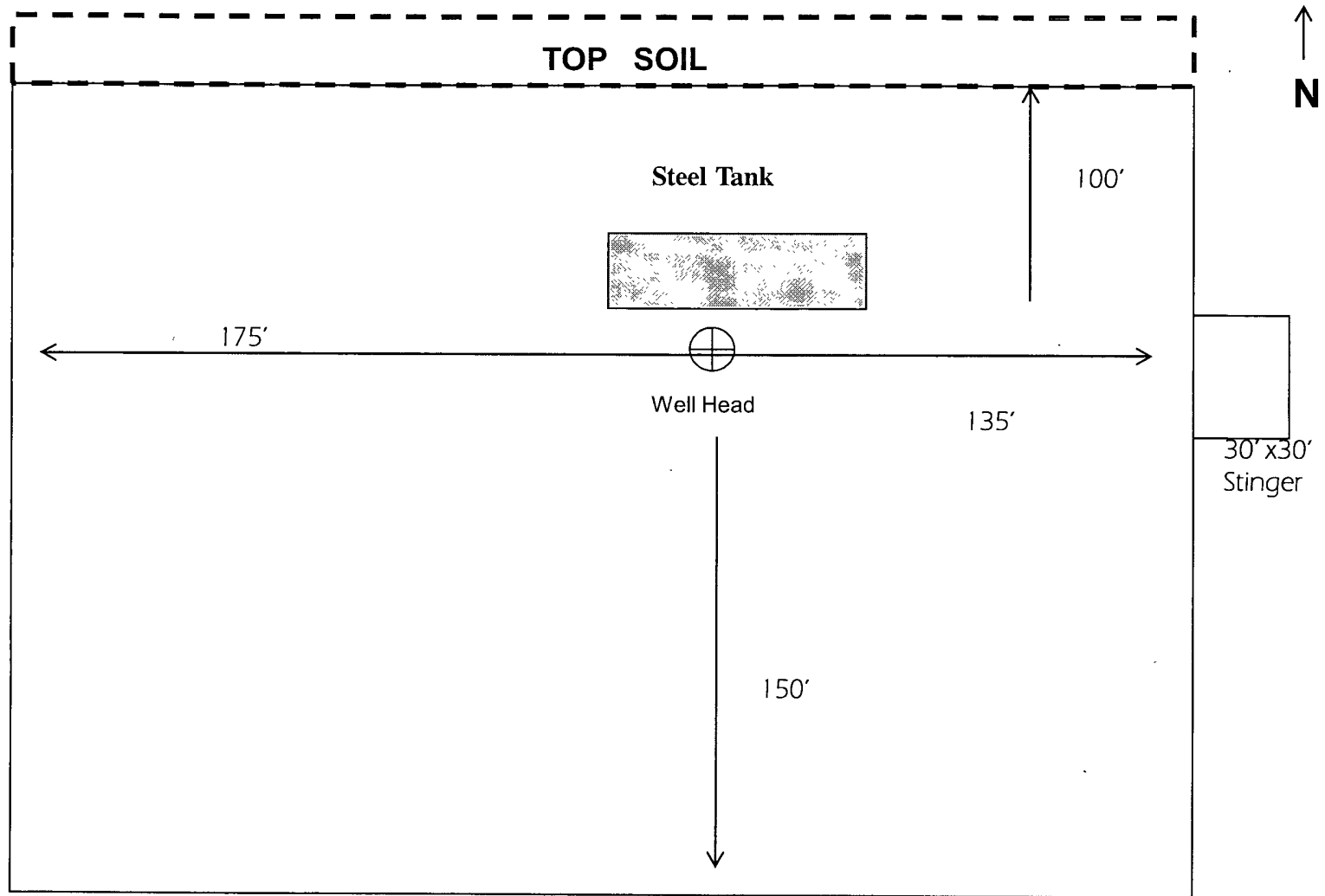
SECTION DETAILS

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	2588.99	7.78	163.23	2587.79	-25.25	7.61	2.00	163.23	26.37	
4	5178.02	7.78	163.23	5153.00	-360.81	108.73	0.00	0.00	376.83	
5	5401.13	3.32	163.23	5375.00	-384.46	114.95	2.00	180.00	398.40	TG1-BC #65
6	7129.02	3.32	163.23	7100.00	-477.20	143.80	0.00	0.00	498.40	PBHL-BC #65

WELL DETAILS: BC Federal #65

+N/-S	+E/-W	Ground Level	4032.00
0.00	0.00	664615.90	669000.30
		32°49' 33.265 N	103°46' 59.437 W

PROJECT DETAILS: Lea County, NM (NAD27 NME)		Plan: Plan #1 - 7-7/8" Hole (BC Federal #65/OH)	
Geodetic System: US State Plane 1927 (Exact solution)	Created By: Julio Pina	Date: 20-Jul-10	
Datum: NAD 1927 (NADCON CONUS)			
Ellipsoid: Clarke 1866	Checked: _____	Date: _____	
Zone: New Mexico East 3001	Reviewed: _____	Date: _____	
System Datum: Mean Sea Level	Approved: _____	Date: _____	



Not To Scale

COG OPERATING LLC
Rig Layout-Closed Loop
System

COG Operating LLC

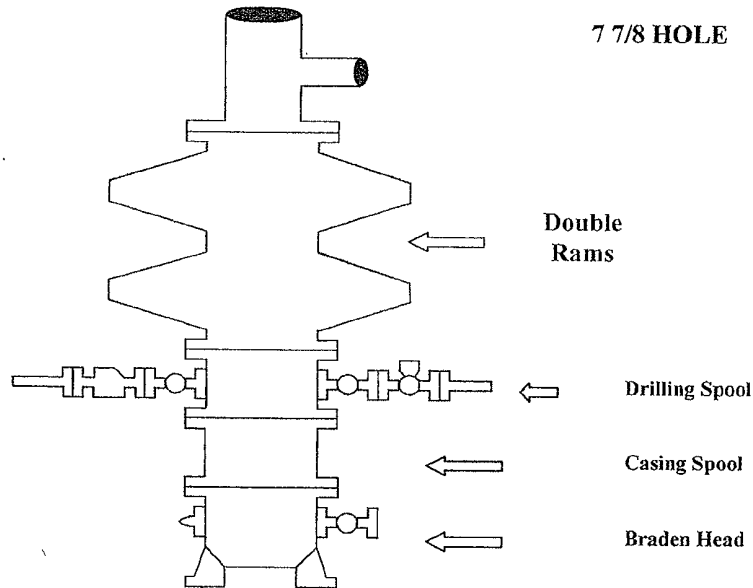
Exhibit #9

BOPE and Choke Schematic

RECEIVED

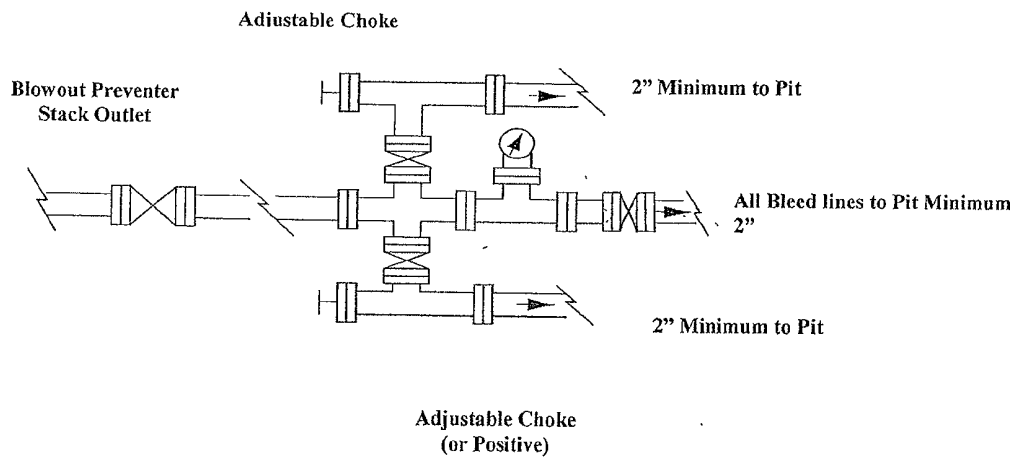
SEP 21 2010

HOBBSOCD



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.

