New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

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Form 3160-3
(April 2004)

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: ☑ DRILL ☐ REENTER	5 Lease Serial No. **SHL:B08469 BHL:NMNM-105885**
1b. Type of Well. ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	6 If Indian, Allotee or Tribe Name **N/A**
2. Name of Operator **COG Operating LLC** <229137>	7 If Unit or CA Agreement, Name and No. **N/A**
3a. Address **550 W. Texas Ave., Suite 100 Midland, TX 79701**	8. Lease Name and Well No. <38074> **Taurus State-Federal Com #2**
3b. Phone No. *(include area code)* **432-685-4385**	9 API Well No. **30-005-27995**
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface **SHL: 1980' FSL & 330' FEL, Unit I** At proposed prod. zone **BHL: 2017' FSL & 331' FWL, Unit L**	10 Field and Pool, or Exploratory **Wildcat; Wolfcamp** <97115>
	11. Sec., T. R. M. or Blk and Survey or Area **Sec 10 T15S R31E**
14. Distance in miles and direction from nearest town or post office* **6 miles East of Loco Hills, NM**	12 County or Parish **CHAVES** / 13. State **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 **1200**	17. Spacing Unit dedicated to this well **160**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**4,710'**	19 Proposed Depth **13,246 MD**	20 BLM/BIA Bond No. on file **NMB-00215**
21 Elevations (Show whether DF, KDB, RT, GL, etc.) **4396' GR**		22. Approximate date work will start* **10/16/2009**	23. Estimated duration **15 days**

24. Attachments

ROSWELL CONTROLLED WATER BASIN

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office)
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer

25. Signature <Robyn M. Odom> Title **Regulatory Analyst**	Name *(Printed/Typed)* **Robyn M. Odom**	Date **03/04/2010**
Approved by *(Signature)* **/S/ Angel Mayes** Title **Assistant Field Manager, Lands And Minerals**	Name *(Printed/Typed)* Angel Mayes Office **ROSWELL FIELD OFFICE**	Date **04/08/2010**

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.

APPROVED FOR 2 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

DECLARED WATER BASIN

CEMENT BEHIND THE 13 3/8" CASING MUST BE CIRCULATED

WITNESS

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

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Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-005-27995	97715	WILDCAT; WOLFCAMP

Property Code	Property Name	Well Number
~~36890~~ 38074	TAURUS STATE–FEDERAL COM	2H

OGRID No.	Operator Name	Elevation
229137	C.O.G. OPERATING L.L.C.	4396'

Surface Location

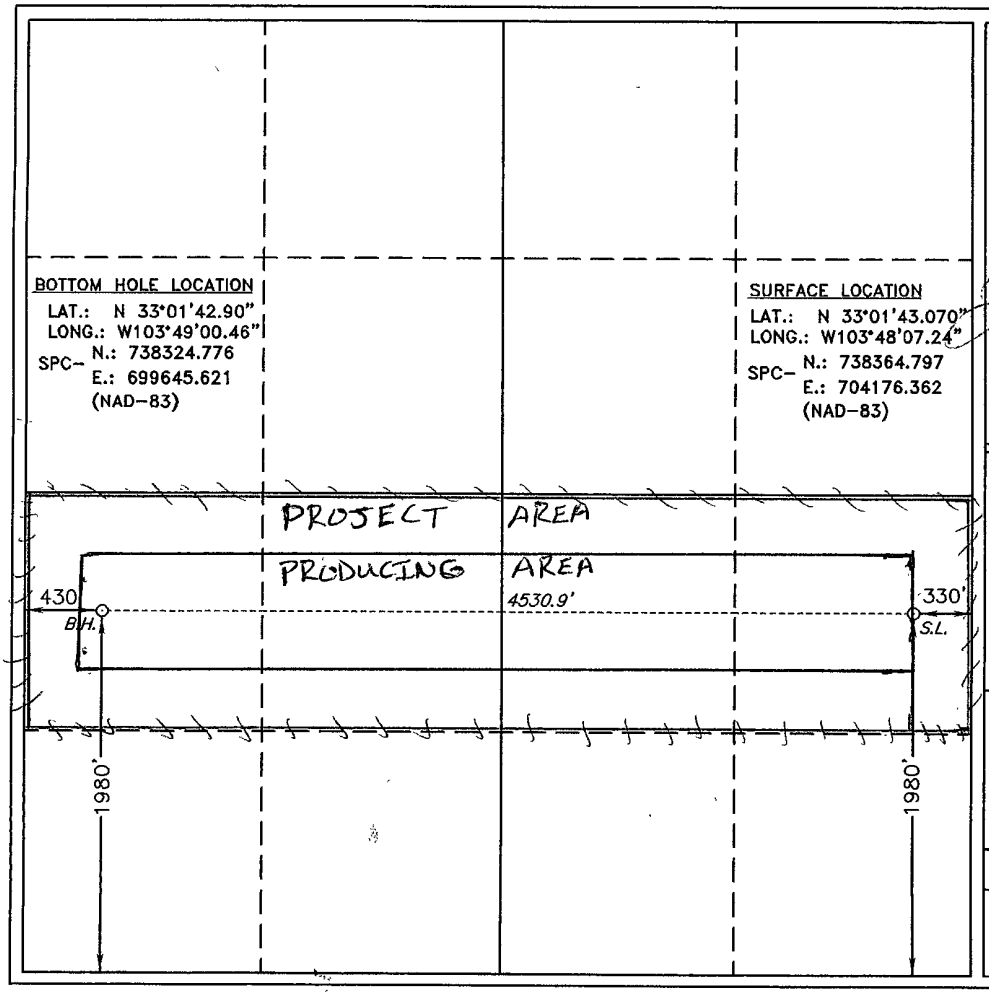
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	10	15 S	31 E		1980	SOUTH	330	EAST	CHAVES

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
L	10	15 S	31 E		1980	SOUTH	430	WEST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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



OPERATOR CERTIFICATION

I hereby certify that the information contained 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 pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 3/04/2010 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 supervison, and that the same is true and correct to the best of my belief.

DECEMBER 7, 2007
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. [illegible]8903

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Yates	2380'
Queen	3190'
San Andres	3920'
Tubb	6740'
Abo	7430'
Wolfcamp	8760'

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

Water Sand	150'	Fresh Water
Yates	2380'	Oil/Gas
Queen	3190'	Oil/Gas
San Andres	3920'	Oil/Gas
Tubb	6740'	Oil/Gas
Abo	7430'	Oil/Gas
Wolfcamp	8760'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 433' and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be protected by setting 9 5/8" casing to 4020' and circulating cement, in a single job 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 7" 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.

4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
17 ½"	0-433'	13 3/8"	48#	J-55	New	ST&C	8.71/3.724/14.91
12¼"	0-4020'	9 5/8"	40#	K-55	New	ST&C	2.91/1.46/5.65
8 ¾"	0-8000'	7"	26#	P-110	New	LT&C	1.24/1.99/4.37
6 1/8"	8000-T.D.	4 1/2"	11.6#	J-55	New	LT&C	1.71/1.574/2.20

5. Cement Program

13 3/8" Surface Casing: Class C, 500 sx, yield 1.32, back to surface

9 5/8" Intermediate Casing: **12-1/4" Hole:**
Single Stage: 50:50:10, 350 sx lead, yield-2.45 + Class C, 200 sx tail, yield-1.32, back to surface.

7" 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.

4-1/2" Production Liner: Uncemented, with packers for isolation, and requesting permission for only 100' liner overlap.

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 2000 psi by rig pump in one test. The BOP will then be nipped up on the 9 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.

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
0-450'	Fresh Water	8.5	28	N.C.
450-4020'	Brine	10	30	N.C.
4020'-TD	Cut Brine	8.7-9.1	29	N.C.

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times.

8. Auxiliary Well Control and Monitoring Equipment

A. Kelly cock will be kept in the drill string at all times.

B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program

A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be run from TD to 9 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 4 ½" production casing has been run to TD, based on drill shows and log evaluation.

10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

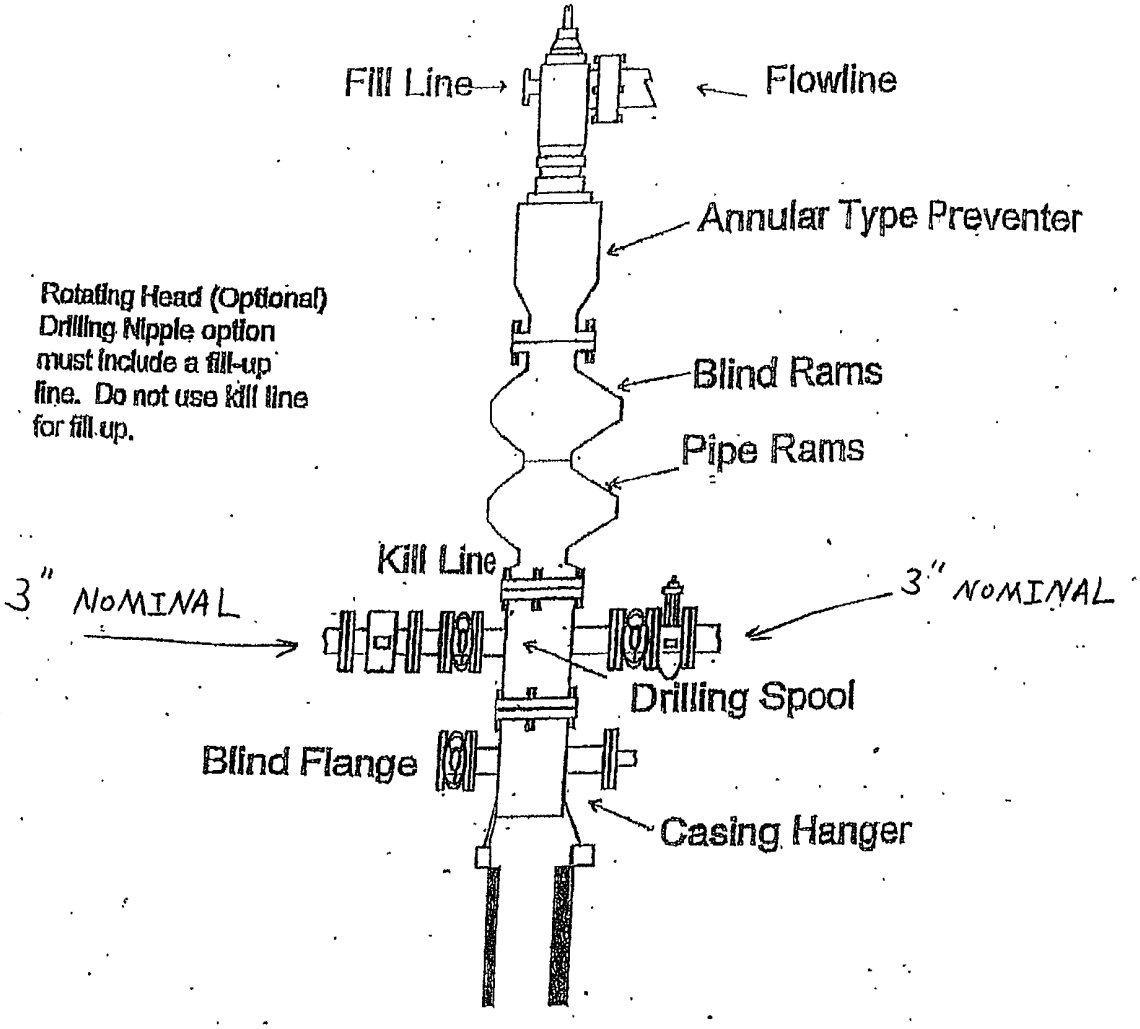
No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and the estimated maximum bottom hold pressure is 2300 psig. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area, although a Hydrogen Sulfide 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 12 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.

EXHIBIT F

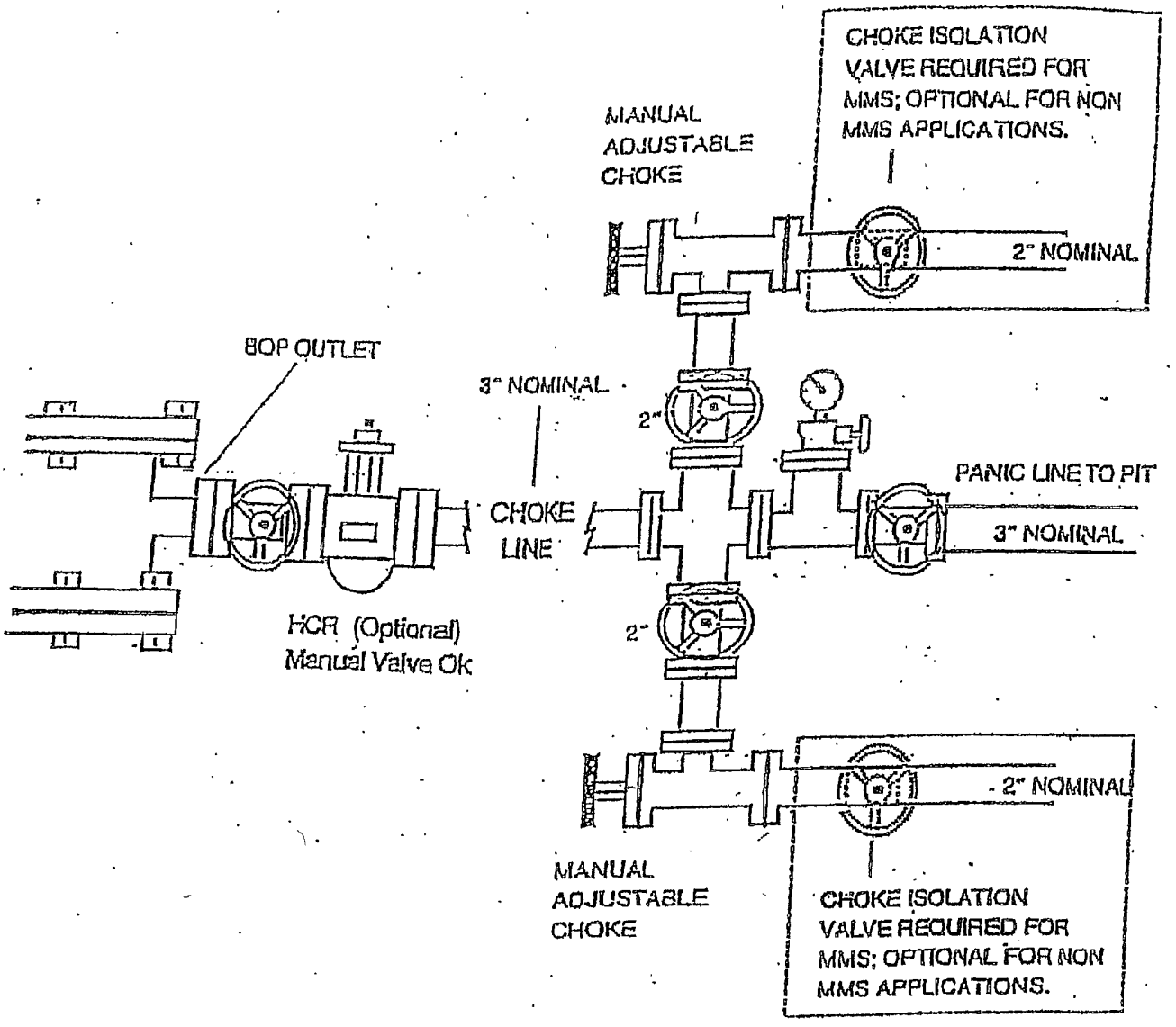
BOPE SCHEMATIC



900 SERIES

CHOKE MANIFOLD

3M SERVICE



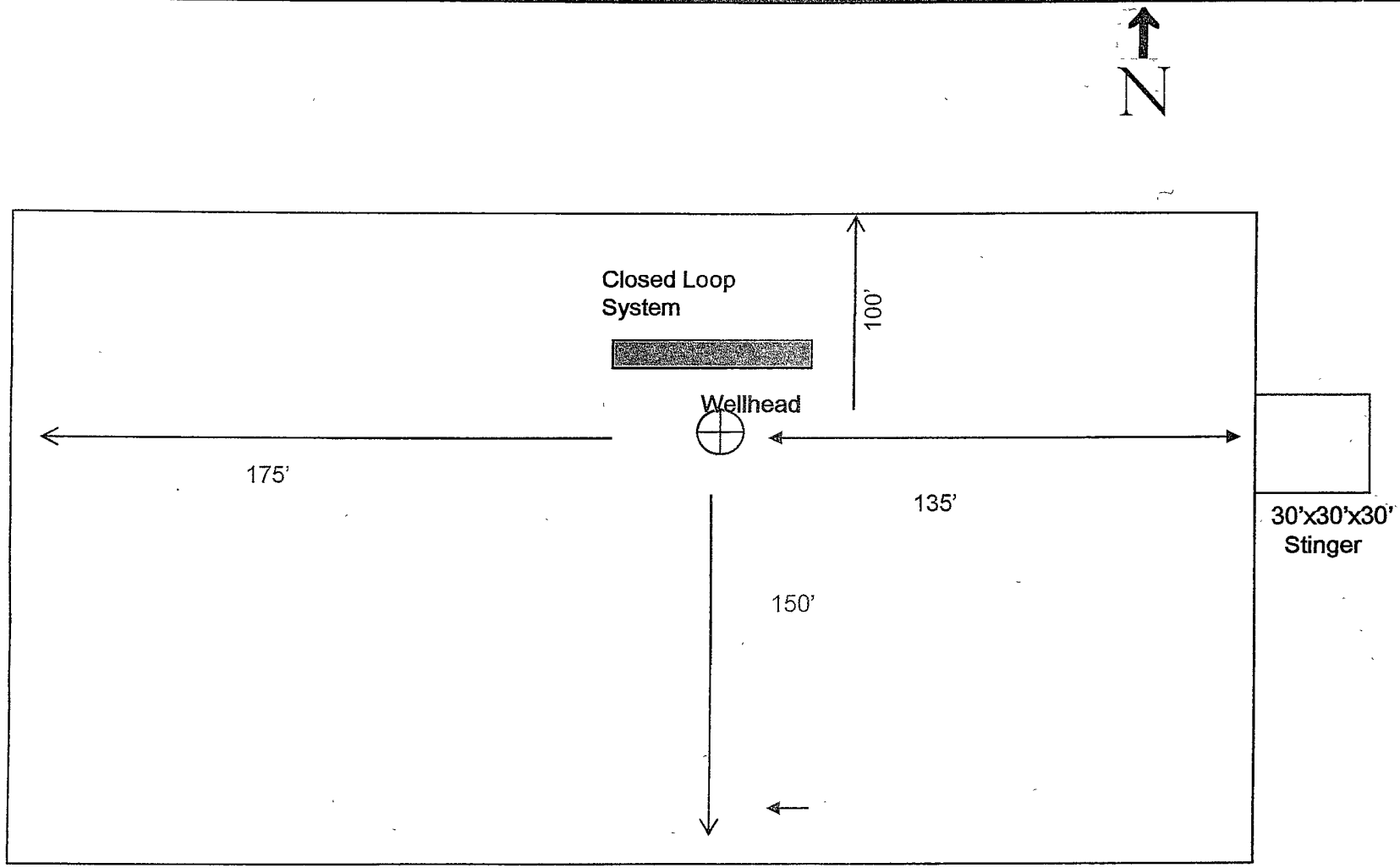


Exhibit 6

COG OPERATING, LLC

Rig Layout: Closed Loop System

Not To Scale

Closed Loop Operation & Maintenance Procedure

All drilling fluid circulated over shaker(s) with cuttings discharged into roll off container.

Fluid and fines below shaker(s) are circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.

Fluid is continuously re-circulated through equipment with polymer added to aid separation of cutting fines.

Roll off containers are lined and de-watered with fluids re-circulated into system.

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

This equipment will be maintained 24 hrs./day by solids control personnel and or rig crews that stay on location.

Cuttings will be hauled to either:

CRI (permit number R9166)
or
GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

COG Operating LLC

Closed Loop Equipment Diagram