

#### Casing Program

	Collapse SF	Burst SF	Tension SF
BLM Minimum Safety Factor	1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Assumed 9.0ppg MW equivalent pore pressure from 9 5/8" shoe to deepest TVD in wellbore.

BLM standard formulas were used on all SF calculations.

Casing design does meet and/or exceed BLM's minimum standards.

The pipe will be kept at a minimum 1/3 fluid fill to avoid approaching the collapse pressure rating of the casing.

This well is not located within the Capitan Reef.

This well is not located in the SOPA or in the R-111-P.

This well is not located in a high or critical Cave/Karst area.

This is not a walking operation.

We will not be pre-setting casing.

All completion intervals are planned to be fracture stimulated.

## **NOTES REGARDING THE BLOWOUT PREVENTERS**

### **Master Drilling Plan Eddy County, New Mexico**

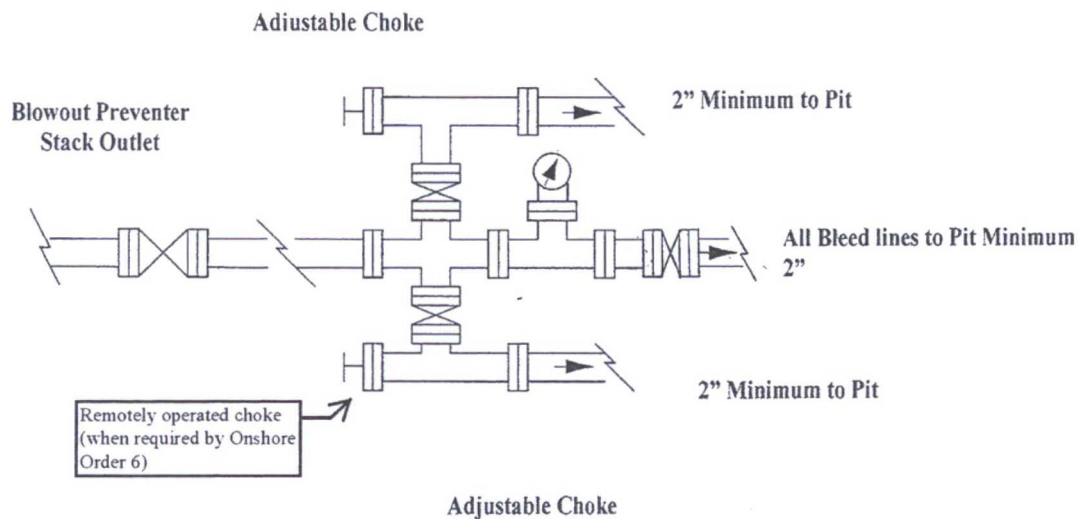
1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All 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.

# COG Operating LLC

## Exhibit #9

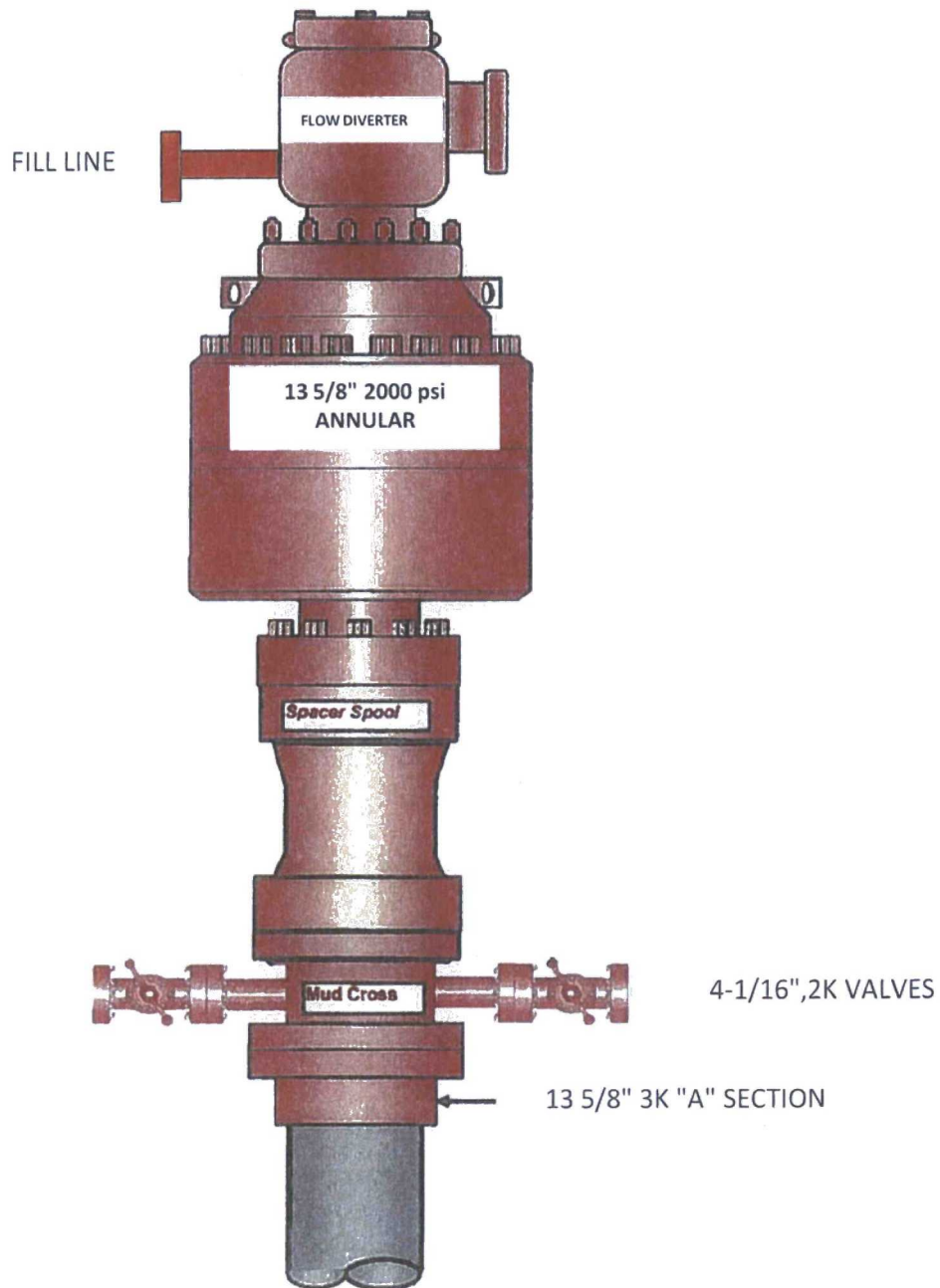
### Choke Schematic

#### Choke Manifold Requirement (2000 psi WP)



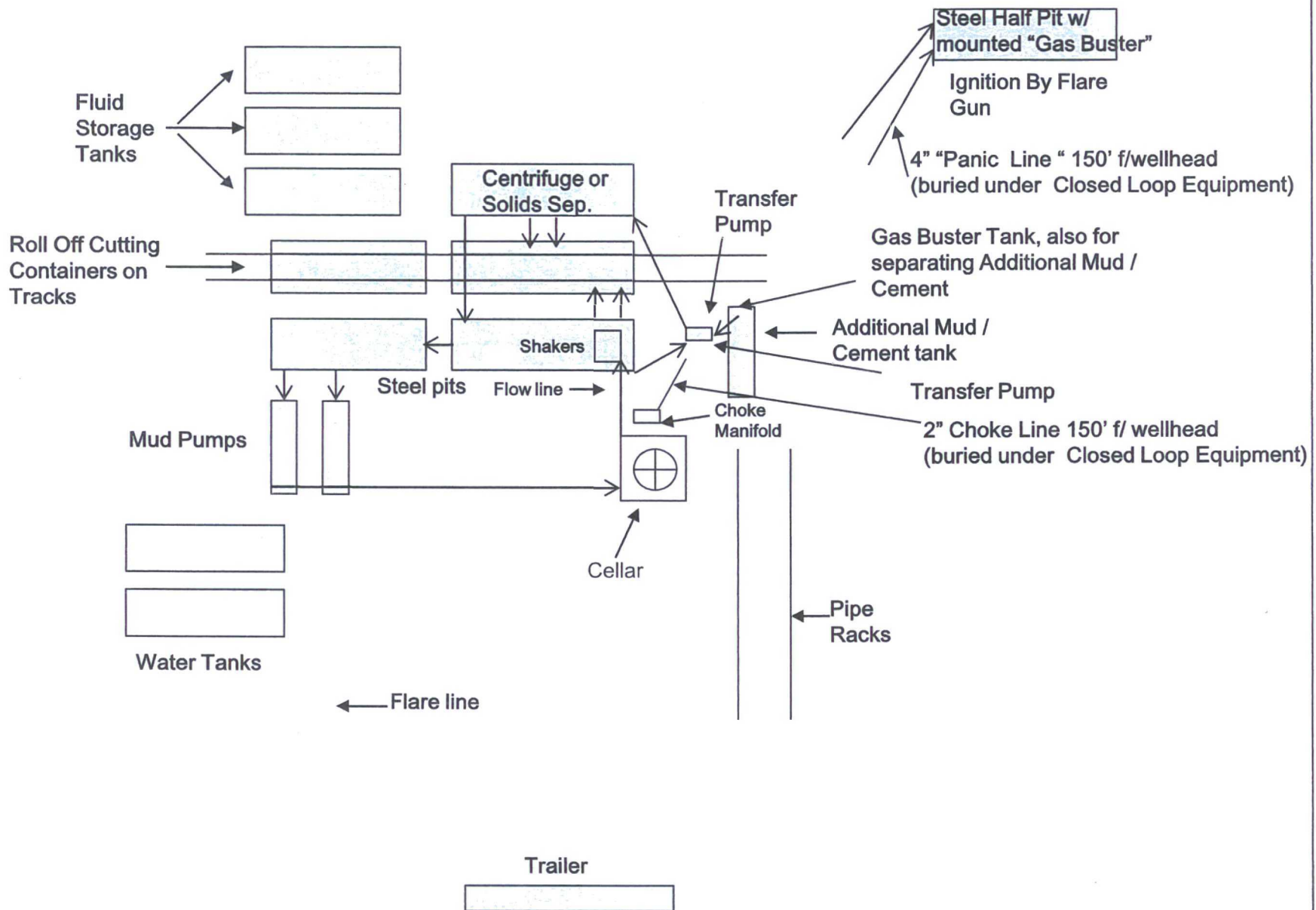
# Exhibit #10

## 13 5/8" 2K ANNULAR



# COG Operating LLC

## Closed Loop Equipment Diagram



## 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.