

ATS-13-768

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

JUN 06 2014

1a. Type of Work: ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No.	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. <313336> Goldfinger 17 Federal Com #1H	
2. Name of Operator COG Production LLC. <217955>		9. API Well No. 70-025-41901	
3a. Address 2208 West Main Street Artesia, NM 88210	3b. Phone No. (include area code) 575-748-6940	10. Field and Pool, or Exploratory Mesa Verde; Delaware (96191)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 190' FSL & 660' FWL Unit Letter M (SWSW) SHL Sec 17-T24S-R32E At proposed prod. Zone 2310' FSL & 660' FWL Unit Letter L (NWSW) BHL Sec 8-T24S-R32E		11. Sec., T.R.M. or Blk and Survey or Area Sec. 17 - T24S - R32E	
14. Distance in miles and direction from nearest town or post office* Approximately 21 miles from Malaga		12. County or Parish Lea County	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. Unit line, if any) 190'	16. No. of acres in lease SHL: 651.15, BHL: 1,080 Sec 17 UL's "E & D": 1,720 Sec 8 UL "M": 439.13	17. Spacing Unit dedicated to this well 240	
18. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft. SHL: 1320' BHL: 790'	19. Proposed Depth TVD: 8,450' MD: 15,707'	20. BLM/BIA Bond No. on file NMB000860 & NMB000845	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3570.0' GL	22. Approximate date work will start* 2/1/2014	23. Estimated duration 30 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 Mayte Reyes	Name (Printed/Typed) Mayte Reyes	Date 10/29/2013
Title Regulatory Analyst		
Approved by (Signature) /s/ STEPHEN J. CAFFEY	Name (Printed/Typed) Office CARLSBAD FIELD OFFICE	Date JUN - 3 2014
Title FIELD MANAGER		

Application approval does not warrant or certify that the applicant holds legan 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.

(Continued on page 2)

Carlsbad Controlled Water Basin

Ka
06/09/14

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

JUN 09 2014

*(Instructions on page 2)

Surface Use Plan
COG Production LLC
Goldfinger 17 Federal Com #1H
SHL: 190' FSL & 660' FWL ULM
Section 17, T24S, R32E
BHL: 2310' FSL & 660' FWL ULL
Section 8, T24S, R32E
Lea County, New Mexico

HOBBS OCD

JUN 09 2014

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OPERATOR CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or COG Operating, LLC, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 29th day of October, 2013.

Signed:  _____

Printed Name: Melanie J. Parker

Position: Regulatory Lead Analyst

Address: 2208 W. Main Street, Artesia, NM 88210

Telephone: (575) 748-6940

Field Representative (if not above signatory): Rand French

E-mail: mparker@concho.com

ATTACHMENT TO FORM 3160-3
COG Production LLC
GOLDFINGER 17 FEDERAL COM #1H
SHL: 190' FSL & 660' FWL, Unit M
Sec. 17 T24S R32E
BHL: 2310' FSL & 660' FWL, Unit L
Sec 8, T24S, R32E
Lea County, NM

1. Proration Unit Spacing: 240 Acres

2. Ground Elevation: 3570.0'

3. Proposed Depths:

Horizontal: EOC (end of curve) TVD = 8510' MD = 8787'
Toe (end of lateral) TVD = 8450' MD = 15707'

4. Estimated tops of geological markers: (TVD)

Permian	surface
Fresh Water	160'
Rustler	832'
Top of Salt	1153'
Base of Salt	4457'
Lamar	4682'
Bell Canyon	4716'
Cherry Canyon	5596'
Brushy Canyon	6992'
Brushy Canyon – A	8257'
Brushy Canyon-2	8491'
Bone Spring	8545'

5. Possible mineral bearing formations:

Bell Canyon	4716'	Oil/Gas
Cherry Canyon	5596'	Oil/Gas
Brushy Canyon	6992'	Oil/Gas
Brushy Canyon –A	8257'	Oil/Gas
Brushy Canyon-2	8491'	Oil/Gas
Bone Spring	8545'	Oil/Gas

See COA

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to ~~850'~~ ^{915'} 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 ~~4700'~~ ^{4600'} and circulating cement back to surface. Any zones between 9 5/8" casing shoe and TD, which contain commercial quantities of oil and/or gas will have cement circulated across them. This will be achieved by cementing 5 1/2" production casing from the TD to surface.

ATTACHMENT TO FORM 3160-3
COG Production LLC
GOLDFINGER 17 FEDERAL COM #1H
Page 2 of 5

6. Proposed Mud System

The well will be drilled to TD with a combination of fresh water, brine, cut brine and polymer mud systems. The applicable depths and properties of these systems are as follows:

See COA

DEPTH (MD)	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-850' 915'	Fresh Water	8.4	29	N.C.
850'-4700' 4600'	Brine	10	29	N.C.
4700'-15707'	Cut Brine	8.9-9.2	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.

Visual or electronic mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

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

7. Proposed Casing Program

See COA

Hole Size	Interval MD	OD Casing	Weight	Grade	Condition	Jt.	brst/clps/ten
17 1/2"	0-850' 915'	13 3/8" 0-850'	54.5#	J-55	New	ST&C	3.50/3.24/13.50
12 1/4"	850'-4700' 4600'	9 5/8" 0-4700'	40#	J-55	New	LT&C	1.16/1.06/3.25
7 7/8"	4700'-15707'	5 1/2" 0-15707'	17#	P-110	New	LT&C	1.33/1.85/3.09

8. Proposed Cement Program

13 3/8" SURFACE: (Circulate to Surface)

		Description	Yield	Density	Water Requirements
Lead: 0'-500'	325 sks	Class "C" + 4% Gel	1.75 cf/sk	13.5 ppg	9.2 gal/sk.
Excess 64%		+ 2 % CaCl ₂			
Tail: 500'-850'	250 sks	Class C w/2% CaCl ₂	1.32 cf/sk	14.8 ppg	6.3 gal/sk.
Excess 19%					

Combined open hole excess 50%.

ATTACHMENT TO FORM 3160-3
COG Production LLC
GOLDFINGER 17 FEDERAL COM #1H
Page 3 of 5

9 5/8" INTERMEDIATE CASING:

Single-Stage: (Circulate to Surface)

		<u>Description</u>	<u>Yield</u>	<u>Density</u>	<u>Water Requirements</u>
Lead:	250 sks	EconoCem-HLC +	2.00 cf/sk	12.7 ppg	10.6 gal/sk.
0'-850'		5% Salt +5 pps Kol-Seal			
Excess 56%					
Lead:*	675 sks	EconoCem-HLC +	2.00 cf/sk	12.7 ppg	10.6 gal/sk.
850'-4000'		5% Salt +5 pps Kol-Seal			
Excess 37%					
Tail:*	225 sks	Class C w/2% CaCl ₂	1.32 cf/sk	14.8 ppg	6.3 gal/sk.
4000'-4700'					
Excess 29%					

* open hole
 Combined OH excess 35%

5 1/2" PRODUCTION CASING:

Single Stage: (Cement calculated to surface. Minimum tie back 200' above 9 5/8" intermediate casing)

		<u>Description</u>	<u>Yield</u>	<u>Density</u>	<u>Water Requirements</u>
Lead: 0'-4700'	550 sks	EconoCem-H +	2.51 cf/sk	11.9 ppg	14.2 gal/sk.
(min. tie back 200'		0.5% Halad-322+			
Above 9 5/8" shoe)		5 pps Kol-Seal+			
Excess 13%		0.25 pps D-AIR 5000+			
		0.2% HR-601			
Lead:*					
4700'-8033'(KOP)	310 sks	EconoCem-H +	2.51 cf/sk	11.9 ppg	14.2 gal/sk.
Excess 35%		0.5% Halad-322+			
		5 pps Kol-Seal+			
		0.25 pps D-AIR 5000+			
		0.2% HR-601			
Tail:*					
8033'(KOP) - 15707'	1425 sks	VersaCem +	1.24 cf/sk	14.4ppg	5.7 gal/sk.
Excess 32%		0.4% GasStop + 0.3% CFR-3 +			
		1 % Salt+ 0.1 % HR-601			

*open hole
 Combined OH Excess 33%

ATTACHMENT TO FORM 3160-3
COG Production LLC
GOLDFINGER 17 FEDERAL COM #1H
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9. Pressure Control Equipment:

See
COA

A 13 5/8" 2000 psi Hydril type annular preventer with mud cross, choke manifold, chokes, kill line, Kelly cock, safety valve and subs to fit all drill strings in use as provided for in Onshore Order #2 will be nipped up on the 13 3/8" x 2000 psi SOW X 13 5/8" x 2000 psi casing head (see attached BOPE drawings). This unit will be hydraulically operated and will be tested by independent tester using test plug to 250 psig/300 psig low and 1000 psig high. Choke line valve, chokes, upper Kelly cock valve, safety valve shall also be tested to 250 psig/300 psig low and 1000 psig high by independent tester.

After setting the 9 5/8" intermediate casing the following BOPE as provided for in Onshore Order #2 will be rigged up on the 9 5/8" intermediate casing spool (13 5/8" 2000 psi x 13 5/8" 3000 psi): 13 5/8" X 3000 psi annular, 13 5/8" X 3000 psi double ram type preventer with blind rams on top and 4 1/2" drill pipe rams on the bottom, choke, mud cross, choke manifold, 4" diameter choke line, 2" kill line, kelly cock, safety valve with proper subs for all drill string connections in use (see attached BOPE drawings). The BOPE including auxiliary equipment (chokes, choke manifold etc.) will be tested by independent tester.

Test plug will be used and all BOPE tested to 250 psig/ 300 psig low pressure and 3000 psig high pressure for 10 minutes. Annular preventer will be tested to 1500 psig. BOP stack will be used continuously until total depth is reached. 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. Any time a component of the BOP stack or choke manifold is changed or installed BOPE will be re-tested as required.

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string depth or 1500 psig, whichever is greater, but not to exceed 70 percent of casing's minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action will be taken.

10. Production Hole Drilling Summary:

Drill 7 7/8" hole to 8033'. Kick off at +/- 8033', building curve at 12°/100' to 90.5° inclination at 8767' MD/8510' TVD az 359.60°. Continue lateral section at 90.5° inc., az 359.60° for +/-6920' lateral to TD at +/-15707' MD/ 8450' TVD. Run 5-1/2" production casing. 5 1/2" casing will be isolated by a single stage cement job. Cement will be calculated to surface (min tie back is 200' above 9 5/8" csg shoe).

11. 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.

ATTACHMENT TO FORM 3160-3
COG Production LLC
GOLDFINGER 17 FEDERAL COM #1H
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12. Logging, Testing and Coring Program:

- A. The following logs will be run in the vertical portion of the hole to KOP: SLB-PEX/HRLA, HNGS.
- B. The mud logging program will consist of lagged 10' samples from intermediate casing shoe to KOP and thru curve and lateral to TD.
- C. Drill Stem test is not anticipated
- D. No conventional coring is anticipated.
- E. Further testing procedures will be determined after the 5 ½" production casing has been cemented at TD based on drill shows and log evaluation.

13. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

*See
CWA*

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature is 107° Fahrenheit and estimated maximum bottom hole pressure is 3685 psi.. Wells in the Cotton Draw East area will penetrate formations that are known or could reasonably be expected to contain hydrogen sulfide. Measurable gas volumes or hydrogen sulfide levels have **not** been encountered during drilling operations in this area; however, a H2S drilling operations plan is included with this APD. Hydrogen Sulfide detection equipment will be operational and breathing equipment will be on location after drilling out the 13 3/8" casing shoe and until the 5 ½" casing is cemented. If H2S concentrations exceed 100 ppm the well will be shut-in and a remote operated choke will be installed. COG will comply with Onshore Order #6. All BOPE testing companies used by COG have H2S certified employees and will work on H2S locations. No major loss circulation zones have been reported in offsetting wells.

14. Anticipated Starting Date

Drilling operations will commence on approximately **February 1, 2014** with drilling and completion operations lasting approximately **90** days.

GEG/08.19.13



COG Production, LLC

Lea County (NM27E)

Sec.17-T24S-R32E

Goldfinger 17 Federal Com #1H

Wellbore #1

Plan: Design #1

Standard Planning Report

26 August, 2013

Archer



Project: Lea County (NM27E)
Site: Sec.17-T24S-R32E
Well: Goldfinger 17 Federal Com #1H
Wellbore: Wellbore #1
Design: Design #1
Lat: 32° 12' 38.095 N
Long: 103° 42' 9.630 W
GL: 3570.00
KB: WELL @ 3588.00usft

Archer

SECTION DETAILS

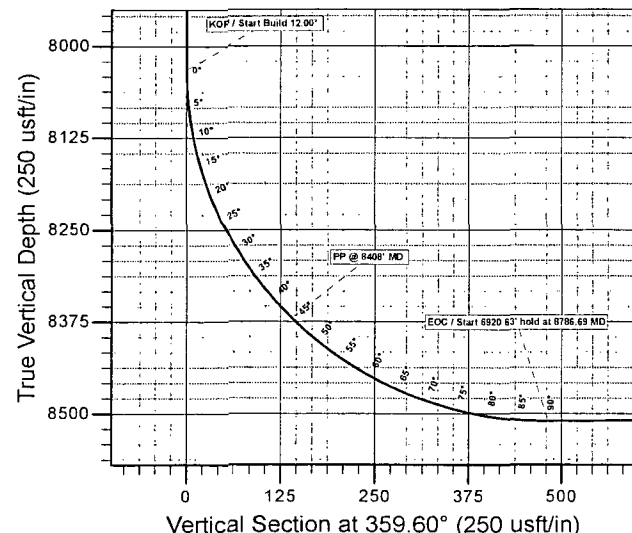
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8032.55	0.00	0.00	8032.55	0.00	0.00	0.00	0.00	0.00	KOP / Start Build 12.00°
8786.69	90.50	359.60	8510.00	481.59	-3.34	12.00	359.60	481.60	EOC / Start 6920.63' hold at 8786.69 MD
15707.33	90.50	359.60	8450.00	7401.80	-51.30	0.00	0.00	7401.98	TD at 15707.33

WELL DETAILS: Goldfinger 17 Federal Com #1H

+N/-S	+E/-W	Northing	Ground Level:	3570.00	Latitude	Longitude	Slot
0.00	0.00	440901.400	Easting	695054.300	32° 12' 38.095 N	103° 42' 9.630 W	

DESIGN TARGET DETAILS

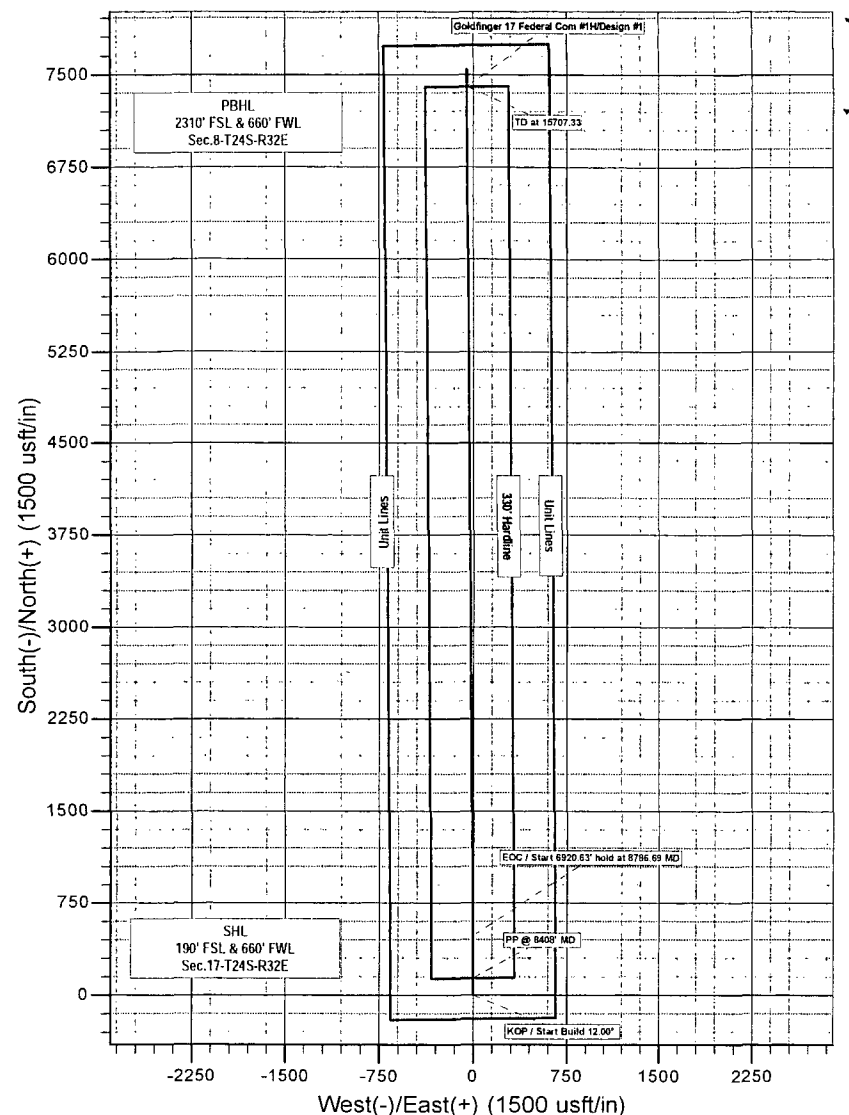
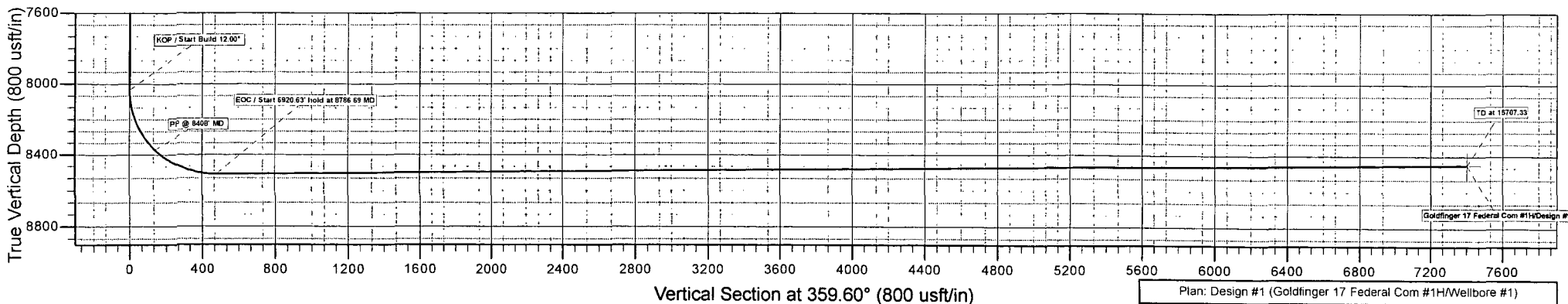
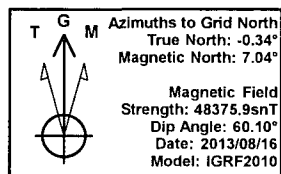
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Gldfng 17 Fed Com #1H PBHL	8450.00	7401.80	-51.30	448303.200	695003.000	32° 13' 51.345 N	103° 42' 9.722 W	Point



PROJECT DETAILS: Lea County (NM27E)
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

SITE DETAILS: Sec.17-T24S-R32E

Site Centre Latitude: 32° 12' 38.095 N
Longitude: 103° 42' 9.630 W
Positional Uncertainty: 0.00
Convergence: 0.34
Local North: Grid



Plan: Design #1 (Goldfinger 17 Federal Com #1H/Wellbore #1)

Created By: Bret Wolford Date: 10:37, August 26 2013



Archer
Planning Report

Archer

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Goldfinger 17 Federal Com #1H
Company:	COG Production, LLC	TVD Reference:	WELL @ 3588.00usft
Project:	Lea County (NM27E)	MD Reference:	WELL @ 3588.00usft
Site:	Sec.17-T24S-R32E	North Reference:	Grid
Well:	Goldfinger 17 Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project:	Lea County (NM27E)		
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:	Sec.17-T24S-R32E		
Site Position:		Northing:	440,901.400 usft
From:	Map	Easting:	695,054.300 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 12' 38.095 N
		Longitude:	103° 42' 9.630 W
		Grid Convergence:	0.34 °

Well	Goldfinger 17 Federal Com #1H					
Well Position	+N/-S	0.00 usft	Northing:	440,901.400 usft	Latitude:	32° 12' 38.095 N
	+E/-W	0.00 usft	Easting:	695,054.300 usft	Longitude:	103° 42' 9.630 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,570.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2013/08/16	7.38	60.10	48,376

Design		Design #1		
Audit Notes:				
Version:		Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	8,450.00	0.00	0.00	359.60

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,032.55	0.00	0.00	8,032.55	0.00	0.00	0.00	0.00	0.00	0.00	
8,786.69	90.50	359.60	8,510.00	481.59	-3.34	12.00	12.00	0.00	359.60	Gldfng 17 Fed Com #1
15,707.33	90.50	359.60	8,450.00	7,401.80	-51.30	0.00	0.00	0.00	0.00	Gldfng 17 Fed Com #1



Archer
Planning Report

Archer

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Goldfinger 17 Federal Com #1H
Company:	COG Production, LLC	TVD Reference:	WELL @ 3588.00usft
Project:	Lea County (NM27E)	MD Reference:	WELL @ 3588.00usft
Site:	Sec.17-T24S-R32E	North Reference:	Grid
Well:	Goldfinger 17 Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	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
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Goldfinger 17 Federal Com #1H
Company:	COG Production, LLC	TVD Reference:	WELL @ 3588.00usft
Project:	Lea County (NM27E)	MD Reference:	WELL @ 3588.00usft
Site:	Sec.17-T24S-R32E	North Reference:	Grid
Well:	Goldfinger 17 Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)	
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP / Start Build 12.00°										
8,032.55	0.00	0.00	8,032.55	0.00	0.00	0.00	0.00	0.00	0.00	
8,050.00	2.09	359.60	8,050.00	0.32	0.00	0.32	12.00	12.00	0.00	
8,075.00	5.09	359.60	8,074.94	1.89	-0.01	1.89	12.00	12.00	0.00	
8,100.00	8.09	359.60	8,099.78	4.76	-0.03	4.76	12.00	12.00	0.00	
8,125.00	11.09	359.60	8,124.42	8.92	-0.06	8.92	12.00	12.00	0.00	
8,150.00	14.09	359.60	8,148.82	14.37	-0.10	14.37	12.00	12.00	0.00	
8,175.00	17.09	359.60	8,172.90	21.09	-0.15	21.09	12.00	12.00	0.00	
8,200.00	20.09	359.60	8,196.59	29.06	-0.20	29.06	12.00	12.00	0.00	
8,225.00	23.09	359.60	8,219.83	38.26	-0.27	38.26	12.00	12.00	0.00	
8,250.00	26.09	359.60	8,242.56	48.66	-0.34	48.66	12.00	12.00	0.00	
8,275.00	29.09	359.60	8,264.71	60.24	-0.42	60.24	12.00	12.00	0.00	
8,300.00	32.09	359.60	8,286.23	72.96	-0.51	72.97	12.00	12.00	0.00	
8,325.00	35.09	359.60	8,307.05	86.79	-0.60	86.80	12.00	12.00	0.00	
8,350.00	38.09	359.60	8,327.12	101.70	-0.70	101.70	12.00	12.00	0.00	
8,375.00	41.09	359.60	8,346.39	117.63	-0.82	117.63	12.00	12.00	0.00	
8,400.00	44.09	359.60	8,364.79	134.54	-0.93	134.55	12.00	12.00	0.00	
PP @ 8408' MD										
8,408.00	45.05	359.60	8,370.49	140.16	-0.97	140.16	12.00	12.00	0.00	
8,425.00	47.09	359.60	8,382.28	152.40	-1.06	152.41	12.00	12.00	0.00	
8,450.00	50.09	359.60	8,398.81	171.15	-1.19	171.15	12.00	12.00	0.00	
8,475.00	53.09	359.60	8,414.34	190.74	-1.32	190.74	12.00	12.00	0.00	
8,500.00	56.09	359.60	8,428.83	211.11	-1.46	211.12	12.00	12.00	0.00	
8,525.00	59.09	359.60	8,442.22	232.22	-1.61	232.22	12.00	12.00	0.00	
8,550.00	62.09	359.60	8,454.50	253.99	-1.76	254.00	12.00	12.00	0.00	
8,575.00	65.09	359.60	8,465.61	276.38	-1.92	276.39	12.00	12.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Goldfinger 17 Federal Com #1H
Company:	COG Production, LLC	TVD Reference:	WELL @ 3588.00usft
Project:	Lea County (NM27E)	MD Reference:	WELL @ 3588.00usft
Site:	Sec.17-T24S-R32E	North Reference:	Grid
Well:	Goldfinger 17 Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)	
8,600.00	68.09	359.60	8,475.54	299.32	-2.07	299.33	12.00	12.00	0.00	
8,625.00	71.09	359.60	8,484.26	322.75	-2.24	322.76	12.00	12.00	0.00	
8,650.00	74.09	359.60	8,491.74	346.60	-2.40	346.61	12.00	12.00	0.00	
8,675.00	77.09	359.60	8,497.96	370.81	-2.57	370.82	12.00	12.00	0.00	
8,700.00	80.09	359.60	8,502.90	395.31	-2.74	395.32	12.00	12.00	0.00	
8,725.00	83.09	359.60	8,506.55	420.04	-2.91	420.05	12.00	12.00	0.00	
8,750.00	86.09	359.60	8,508.91	444.93	-3.08	444.94	12.00	12.00	0.00	
8,775.00	89.09	359.60	8,509.96	469.90	-3.26	469.91	12.00	12.00	0.00	
EOC / Start 6920.63' hold at 8786.69 MD										
8,786.69	90.50	359.60	8,510.00	481.59	-3.34	481.60	12.00	12.00	0.00	
8,800.00	90.50	359.60	8,509.88	494.90	-3.43	494.91	0.00	0.00	0.00	
8,900.00	90.50	359.60	8,509.02	594.89	-4.12	594.91	0.00	0.00	0.00	
9,000.00	90.50	359.60	8,508.15	694.89	-4.82	694.90	0.00	0.00	0.00	
9,100.00	90.50	359.60	8,507.28	794.88	-5.51	794.90	0.00	0.00	0.00	
9,200.00	90.50	359.60	8,506.42	894.87	-6.20	894.90	0.00	0.00	0.00	
9,300.00	90.50	359.60	8,505.55	994.87	-6.90	994.89	0.00	0.00	0.00	
9,400.00	90.50	359.60	8,504.68	1,094.86	-7.59	1,094.89	0.00	0.00	0.00	
9,500.00	90.50	359.60	8,503.82	1,194.86	-8.28	1,194.88	0.00	0.00	0.00	
9,600.00	90.50	359.60	8,502.95	1,294.85	-8.97	1,294.88	0.00	0.00	0.00	
9,700.00	90.50	359.60	8,502.08	1,394.84	-9.67	1,394.88	0.00	0.00	0.00	
9,800.00	90.50	359.60	8,501.21	1,494.84	-10.36	1,494.87	0.00	0.00	0.00	
9,900.00	90.50	359.60	8,500.35	1,594.83	-11.05	1,594.87	0.00	0.00	0.00	
10,000.00	90.50	359.60	8,499.48	1,694.83	-11.75	1,694.87	0.00	0.00	0.00	
10,100.00	90.50	359.60	8,498.61	1,794.82	-12.44	1,794.86	0.00	0.00	0.00	
10,200.00	90.50	359.60	8,497.75	1,894.81	-13.13	1,894.86	0.00	0.00	0.00	
10,300.00	90.50	359.60	8,496.88	1,994.81	-13.83	1,994.85	0.00	0.00	0.00	
10,400.00	90.50	359.60	8,496.01	2,094.80	-14.52	2,094.85	0.00	0.00	0.00	
10,500.00	90.50	359.60	8,495.15	2,194.79	-15.21	2,194.85	0.00	0.00	0.00	
10,600.00	90.50	359.60	8,494.28	2,294.79	-15.90	2,294.84	0.00	0.00	0.00	
10,700.00	90.50	359.60	8,493.41	2,394.78	-16.60	2,394.84	0.00	0.00	0.00	
10,800.00	90.50	359.60	8,492.55	2,494.78	-17.29	2,494.84	0.00	0.00	0.00	
10,900.00	90.50	359.60	8,491.68	2,594.77	-17.98	2,594.83	0.00	0.00	0.00	
11,000.00	90.50	359.60	8,490.81	2,694.76	-18.68	2,694.83	0.00	0.00	0.00	
11,100.00	90.50	359.60	8,489.94	2,794.76	-19.37	2,794.82	0.00	0.00	0.00	
11,200.00	90.50	359.60	8,489.08	2,894.75	-20.06	2,894.82	0.00	0.00	0.00	
11,300.00	90.50	359.60	8,488.21	2,994.75	-20.76	2,994.82	0.00	0.00	0.00	
11,400.00	90.50	359.60	8,487.34	3,094.74	-21.45	3,094.81	0.00	0.00	0.00	
11,500.00	90.50	359.60	8,486.48	3,194.73	-22.14	3,194.81	0.00	0.00	0.00	
11,600.00	90.50	359.60	8,485.61	3,294.73	-22.83	3,294.81	0.00	0.00	0.00	
11,700.00	90.50	359.60	8,484.74	3,394.72	-23.53	3,394.80	0.00	0.00	0.00	
11,800.00	90.50	359.60	8,483.88	3,494.71	-24.22	3,494.80	0.00	0.00	0.00	
11,900.00	90.50	359.60	8,483.01	3,594.71	-24.91	3,594.79	0.00	0.00	0.00	
12,000.00	90.50	359.60	8,482.14	3,694.70	-25.61	3,694.79	0.00	0.00	0.00	
12,100.00	90.50	359.60	8,481.27	3,794.70	-26.30	3,794.79	0.00	0.00	0.00	
12,200.00	90.50	359.60	8,480.41	3,894.69	-26.99	3,894.78	0.00	0.00	0.00	
12,300.00	90.50	359.60	8,479.54	3,994.68	-27.69	3,994.78	0.00	0.00	0.00	
12,400.00	90.50	359.60	8,478.67	4,094.68	-28.38	4,094.78	0.00	0.00	0.00	
12,500.00	90.50	359.60	8,477.81	4,194.67	-29.07	4,194.77	0.00	0.00	0.00	
12,600.00	90.50	359.60	8,476.94	4,294.67	-29.77	4,294.77	0.00	0.00	0.00	
12,700.00	90.50	359.60	8,476.07	4,394.66	-30.46	4,394.76	0.00	0.00	0.00	
12,800.00	90.50	359.60	8,475.21	4,494.65	-31.15	4,494.76	0.00	0.00	0.00	
12,900.00	90.50	359.60	8,474.34	4,594.65	-31.84	4,594.76	0.00	0.00	0.00	
13,000.00	90.50	359.60	8,473.47	4,694.64	-32.54	4,694.75	0.00	0.00	0.00	
13,100.00	90.50	359.60	8,472.61	4,794.63	-33.23	4,794.75	0.00	0.00	0.00	

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Project:	Lea County (NM27E)	MD Reference:	WELL @ 3588.00usft
Site:	Sec.17-T24S-R32E	North Reference:	Grid
Well:	Goldfinger 17 Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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)	
13,200.00	90.50	359.60	8,471.74	4,894.63	-33.92	4,894.75	0.00	0.00	0.00	
13,300.00	90.50	359.60	8,470.87	4,994.62	-34.62	4,994.74	0.00	0.00	0.00	
13,400.00	90.50	359.60	8,470.00	5,094.62	-35.31	5,094.74	0.00	0.00	0.00	
13,500.00	90.50	359.60	8,469.14	5,194.61	-36.00	5,194.73	0.00	0.00	0.00	
13,600.00	90.50	359.60	8,468.27	5,294.60	-36.70	5,294.73	0.00	0.00	0.00	
13,700.00	90.50	359.60	8,467.40	5,394.60	-37.39	5,394.73	0.00	0.00	0.00	
13,800.00	90.50	359.60	8,466.54	5,494.59	-38.08	5,494.72	0.00	0.00	0.00	
13,900.00	90.50	359.60	8,465.67	5,594.59	-38.77	5,594.72	0.00	0.00	0.00	
14,000.00	90.50	359.60	8,464.80	5,694.58	-39.47	5,694.72	0.00	0.00	0.00	
14,100.00	90.50	359.60	8,463.94	5,794.57	-40.16	5,794.71	0.00	0.00	0.00	
14,200.00	90.50	359.60	8,463.07	5,894.57	-40.85	5,894.71	0.00	0.00	0.00	
14,300.00	90.50	359.60	8,462.20	5,994.56	-41.55	5,994.70	0.00	0.00	0.00	
14,400.00	90.50	359.60	8,461.33	6,094.55	-42.24	6,094.70	0.00	0.00	0.00	
14,500.00	90.50	359.60	8,460.47	6,194.55	-42.93	6,194.70	0.00	0.00	0.00	
14,600.00	90.50	359.60	8,459.60	6,294.54	-43.63	6,294.69	0.00	0.00	0.00	
14,700.00	90.50	359.60	8,458.73	6,394.54	-44.32	6,394.69	0.00	0.00	0.00	
14,800.00	90.50	359.60	8,457.87	6,494.53	-45.01	6,494.69	0.00	0.00	0.00	
14,900.00	90.50	359.60	8,457.00	6,594.52	-45.70	6,594.68	0.00	0.00	0.00	
15,000.00	90.50	359.60	8,456.13	6,694.52	-46.40	6,694.68	0.00	0.00	0.00	
15,100.00	90.50	359.60	8,455.27	6,794.51	-47.09	6,794.67	0.00	0.00	0.00	
15,200.00	90.50	359.60	8,454.40	6,894.51	-47.78	6,894.67	0.00	0.00	0.00	
15,300.00	90.50	359.60	8,453.53	6,994.50	-48.48	6,994.67	0.00	0.00	0.00	
15,400.00	90.50	359.60	8,452.66	7,094.49	-49.17	7,094.66	0.00	0.00	0.00	
15,500.00	90.50	359.60	8,451.80	7,194.49	-49.86	7,194.66	0.00	0.00	0.00	
15,600.00	90.50	359.60	8,450.93	7,294.48	-50.56	7,294.66	0.00	0.00	0.00	
TD at 15707.33 - Gldfng 17 Fed Com #1H PBHL										
15,707.33	90.50	359.60	8,450.00	7,401.80	-51.30	7,401.98	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Gldfng 17 Fed Com #1H	0.00	0.00	8,450.00	7,401.80	-51.30	448,303.200	695,003.000	32° 13' 51.345 N	103° 42' 9.722 W	
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
8,032.55	8,032.55	0.00	0.00	KOP / Start Build 12.00°	
8,408.00	8,370.49	140.16	-0.97	PP @ 8408' MD	
8,786.69	8,510.00	481.59	-3.34	EOC / Start 6920.63' hold at 8786.69 MD	
15,707.33	8,450.00	7,401.80	-51.30	TD at 15707.33	

Goldfinger 17 Federal Com #1H Design #1

COG Production, LLC
Goldfinger 17 Federal Com #1H - Design #1

Lea County (NM27E)
Sec.17-T24S-R32E
Your Ref:

Measured Dogleg Depth (ft)	Incl.	Azim.	Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section Rate (°/100ft)
0.00	0.00	0.000	0.000	0.00	0.00	0.00
0.00	0.00	0.000	0.000	8032.55	0.00	0.00
0.00	0.00	2.094	359.603	8050.00	0.32	0.00
0.32	12.00	5.094	359.603	8074.94	1.89	-0.01
1.89	12.00	8.094	359.603	8099.78	4.76	-0.03
4.76	12.00	11.094	359.603	8124.42	8.92	-0.06
8.92	12.00	14.094	359.603	8148.82	14.37	-0.10
14.37	12.00	17.094	359.603	8172.90	21.09	-0.15
21.09	12.00	20.094	359.603	8196.59	29.06	-0.20
29.06	12.00	23.094	359.603	8219.83	38.26	-0.27
38.26	12.00	26.094	359.603	8242.56	48.66	-0.34
48.66	12.00	29.094	359.603	8264.71	60.24	-0.42
60.24	12.00	32.094	359.603	8286.23	72.96	-0.51
72.97	12.00	35.094	359.603	8307.05	86.79	-0.60
86.80	12.00	38.094	359.603	8327.12	101.70	-0.70
101.70	12.00	41.094	359.603	8346.39	117.63	-0.82
117.63	12.00	44.094	359.603	8364.79	134.54	-0.93
134.55	12.00	47.094	359.603	8382.28	152.40	-1.06
152.41	12.00	50.094	359.603	8398.81	171.15	-1.19
171.15	12.00	53.094	359.603	8414.34	190.74	-1.32
190.74	12.00	56.094	359.603	8428.83	211.11	-1.46
211.12	12.00	59.094	359.603	8442.22	232.22	-1.61
232.22	12.00	62.094	359.603	8454.50	253.99	-1.76
254.00	12.00	65.094	359.603	8465.61	276.38	-1.92
8575.00						

Goldfinger 17 Federal Com #1H Design #1

276.39	12.00					
8600.00		68.094	359.603	8475.54	299.32	-2.07
299.33	12.00					
8625.00		71.094	359.603	8484.26	322.75	-2.24
322.76	12.00					
8650.00		74.094	359.603	8491.74	346.60	-2.40
346.61	12.00					
8675.00		77.094	359.603	8497.96	370.81	-2.57
370.82	12.00					
8700.00		80.094	359.603	8502.90	395.31	-2.74
395.32	12.00					
8725.00		83.094	359.603	8506.55	420.04	-2.91
420.05	12.00					
8750.00		86.094	359.603	8508.91	444.93	-3.08
444.94	12.00					
8775.00		89.094	359.603	8509.96	469.90	-3.26
469.91	12.00					
8786.69		90.497	359.603	8510.00	481.59	-3.34
481.60	12.00					
8800.00		90.497	359.603	8509.88	494.90	-3.43
494.91	0.00					
8900.00		90.497	359.603	8509.02	594.89	-4.12
594.91	0.00					
9000.00		90.497	359.603	8508.15	694.89	-4.82
694.90	0.00					
9100.00		90.497	359.603	8507.28	794.88	-5.51
794.90	0.00					
9200.00		90.497	359.603	8506.42	894.87	-6.20
894.90	0.00					
9300.00		90.497	359.603	8505.55	994.87	-6.90
994.89	0.00					
9400.00		90.497	359.603	8504.68	1094.86	-7.59
1094.89	0.00					
9500.00		90.497	359.603	8503.82	1194.86	-8.28
1194.88	0.00					
9600.00		90.497	359.603	8502.95	1294.85	-8.97
1294.88	0.00					
9700.00		90.497	359.603	8502.08	1394.84	-9.67
1394.88	0.00					
9800.00		90.497	359.603	8501.21	1494.84	-10.36
1494.87	0.00					
9900.00		90.497	359.603	8500.35	1594.83	-11.05
1594.87	0.00					
10000.00		90.497	359.603	8499.48	1694.83	-11.75
1694.87	0.00					
10100.00		90.497	359.603	8498.61	1794.82	-12.44
1794.86	0.00					
10200.00		90.497	359.603	8497.75	1894.81	-13.13
1894.86	0.00					
10300.00		90.497	359.603	8496.88	1994.81	-13.83
1994.85	0.00					
10400.00		90.497	359.603	8496.01	2094.80	-14.52
2094.85	0.00					
10500.00		90.497	359.603	8495.15	2194.79	-15.21
2194.85	0.00					
10600.00		90.497	359.603	8494.28	2294.79	-15.90
2294.84	0.00					
10700.00		90.497	359.603	8493.41	2394.78	-16.60
2394.84	0.00					
10800.00		90.497	359.603	8492.55	2494.78	-17.29
2494.84	0.00					
10900.00		90.497	359.603	8491.68	2594.77	-17.98
2594.83	0.00					

		Goldfinger 17 Federal Com #1H Design #1				
11000.00		90.497	359.603	8490.81	2694.76	-18.68
2694.83	0.00					
11100.00		90.497	359.603	8489.94	2794.76	-19.37
2794.82	0.00					
11200.00		90.497	359.603	8489.08	2894.75	-20.06
2894.82	0.00					
11300.00		90.497	359.603	8488.21	2994.75	-20.76
2994.82	0.00					
11400.00		90.497	359.603	8487.34	3094.74	-21.45
3094.81	0.00					
11500.00		90.497	359.603	8486.48	3194.73	-22.14
3194.81	0.00					
11600.00		90.497	359.603	8485.61	3294.73	-22.83
3294.81	0.00					
11700.00		90.497	359.603	8484.74	3394.72	-23.53
3394.80	0.00					
11800.00		90.497	359.603	8483.88	3494.71	-24.22
3494.80	0.00					
11900.00		90.497	359.603	8483.01	3594.71	-24.91
3594.79	0.00					
12000.00		90.497	359.603	8482.14	3694.70	-25.61
3694.79	0.00					
12100.00		90.497	359.603	8481.27	3794.70	-26.30
3794.79	0.00					
12200.00		90.497	359.603	8480.41	3894.69	-26.99
3894.78	0.00					
12300.00		90.497	359.603	8479.54	3994.68	-27.69
3994.78	0.00					
12400.00		90.497	359.603	8478.67	4094.68	-28.38
4094.78	0.00					
12500.00		90.497	359.603	8477.81	4194.67	-29.07
4194.77	0.00					
12600.00		90.497	359.603	8476.94	4294.67	-29.77
4294.77	0.00					
12700.00		90.497	359.603	8476.07	4394.66	-30.46
4394.76	0.00					
12800.00		90.497	359.603	8475.21	4494.65	-31.15
4494.76	0.00					
12900.00		90.497	359.603	8474.34	4594.65	-31.84
4594.76	0.00					
13000.00		90.497	359.603	8473.47	4694.64	-32.54
4694.75	0.00					
13100.00		90.497	359.603	8472.61	4794.63	-33.23
4794.75	0.00					
13200.00		90.497	359.603	8471.74	4894.63	-33.92
4894.75	0.00					
13300.00		90.497	359.603	8470.87	4994.62	-34.62
4994.74	0.00					
13400.00		90.497	359.603	8470.00	5094.62	-35.31
5094.74	0.00					
13500.00		90.497	359.603	8469.14	5194.61	-36.00
5194.73	0.00					
13600.00		90.497	359.603	8468.27	5294.60	-36.70
5294.73	0.00					
13700.00		90.497	359.603	8467.40	5394.60	-37.39
5394.73	0.00					
13800.00		90.497	359.603	8466.54	5494.59	-38.08
5494.72	0.00					
13900.00		90.497	359.603	8465.67	5594.59	-38.77
5594.72	0.00					
14000.00		90.497	359.603	8464.80	5694.58	-39.47
5694.72	0.00					
14100.00		90.497	359.603	8463.94	5794.57	-40.16

Goldfinger 17 Federal Com #1H Design #1						
5794.71	0.00					
14200.00		90.497	359.603	8463.07	5894.57	-40.85
5894.71	0.00					
14300.00		90.497	359.603	8462.20	5994.56	-41.55
5994.70	0.00					
14400.00		90.497	359.603	8461.33	6094.55	-42.24
6094.70	0.00					
14500.00		90.497	359.603	8460.47	6194.55	-42.93
6194.70	0.00					
14600.00		90.497	359.603	8459.60	6294.54	-43.63
6294.69	0.00					
14700.00		90.497	359.603	8458.73	6394.54	-44.32
6394.69	0.00					
14800.00		90.497	359.603	8457.87	6494.53	-45.01
6494.69	0.00					
14900.00		90.497	359.603	8457.00	6594.52	-45.70
6594.68	0.00					
15000.00		90.497	359.603	8456.13	6694.52	-46.40
6694.68	0.00					
15100.00		90.497	359.603	8455.27	6794.51	-47.09
6794.67	0.00					
15200.00		90.497	359.603	8454.40	6894.51	-47.78
6894.67	0.00					
15300.00		90.497	359.603	8453.53	6994.50	-48.48
6994.67	0.00					
15400.00		90.497	359.603	8452.66	7094.49	-49.17
7094.66	0.00					
15500.00		90.497	359.603	8451.80	7194.49	-49.86
7194.66	0.00					
15600.00		90.497	359.603	8450.93	7294.48	-50.56
7294.66	0.00					
15707.33		90.497	359.603	8450.00	7401.80	-51.30
7401.98	0.00					

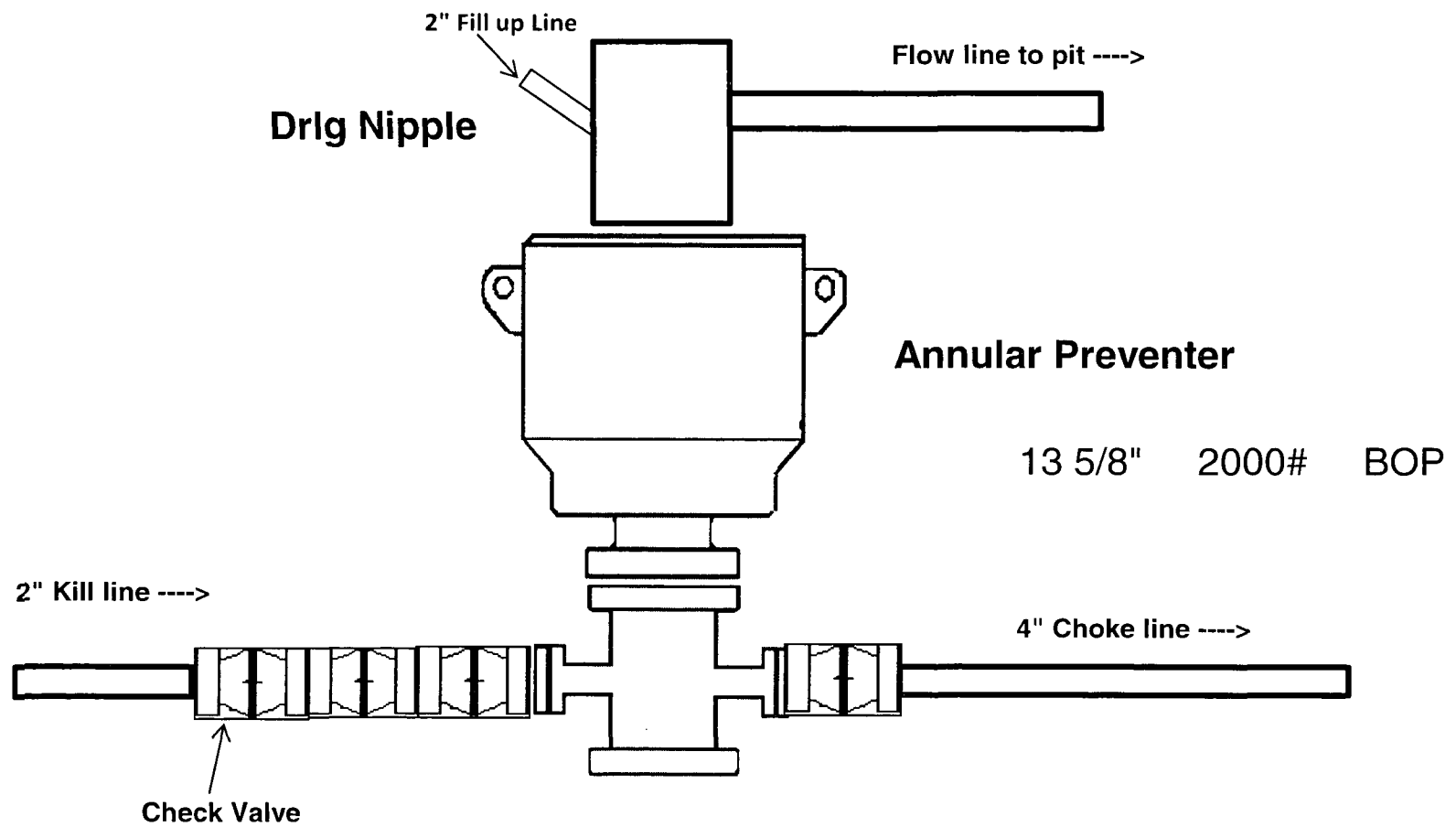
All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to WELL. Northings and Eastings are relative to well.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 359.603° (Grid).

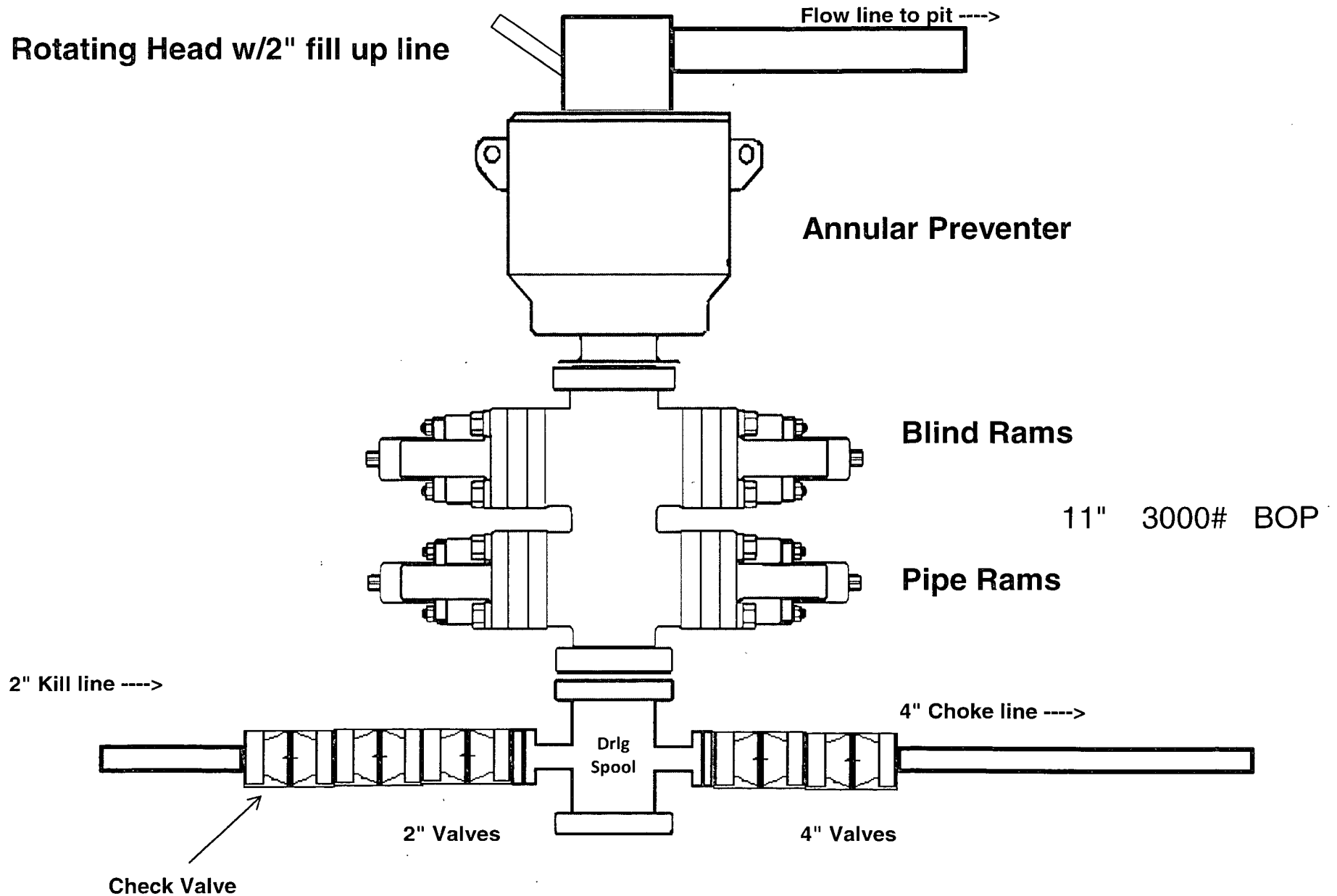
Coordinate System is NAD 1927 (NADCON CONUS) US State Plane 1927 (Exact solution), New Mexico East 3001.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.336°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 15707.33ft., the Bottom Hole Displacement is 7401.98ft., in the Direction of 359.603° (Grid).

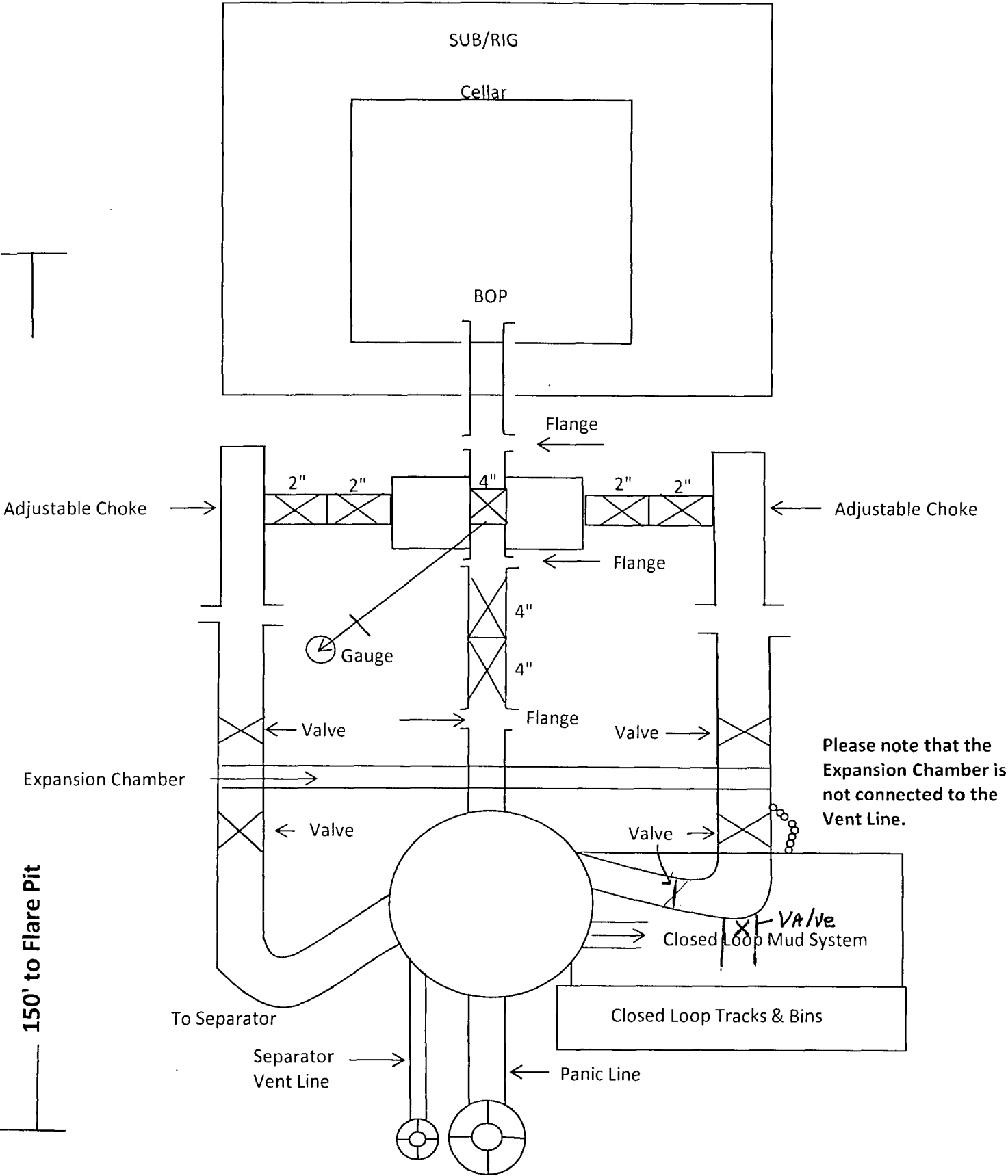
2,000 psi BOP Schematic



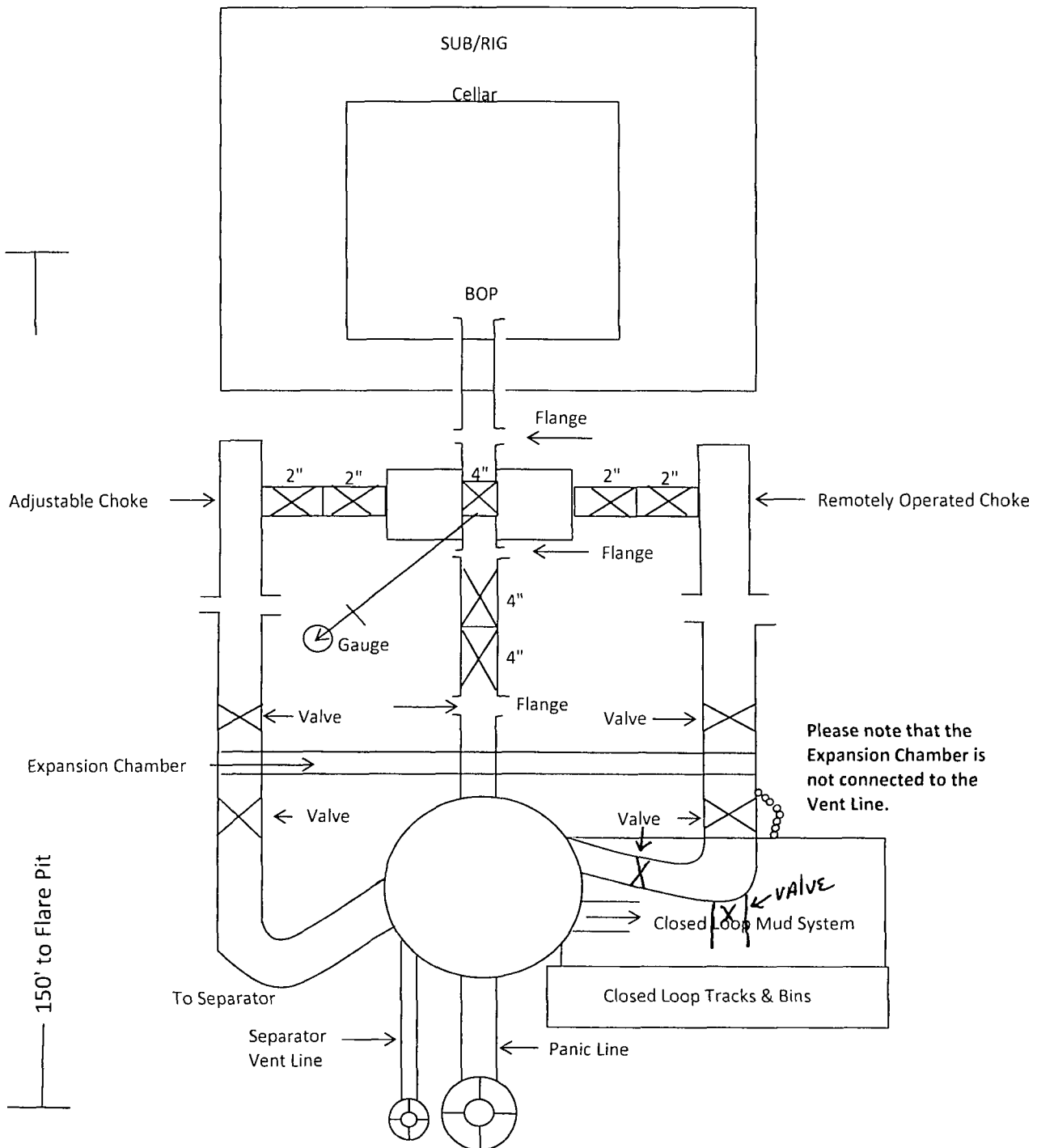
3,000 psi BOP Schematic



2M Choke Manifold Equipment



3M Choke Manifold Equipment



Rig Plat & Closed Loop Equipment Diagram

**Well pad will be 340' X 340'
with cellar in center of pad**

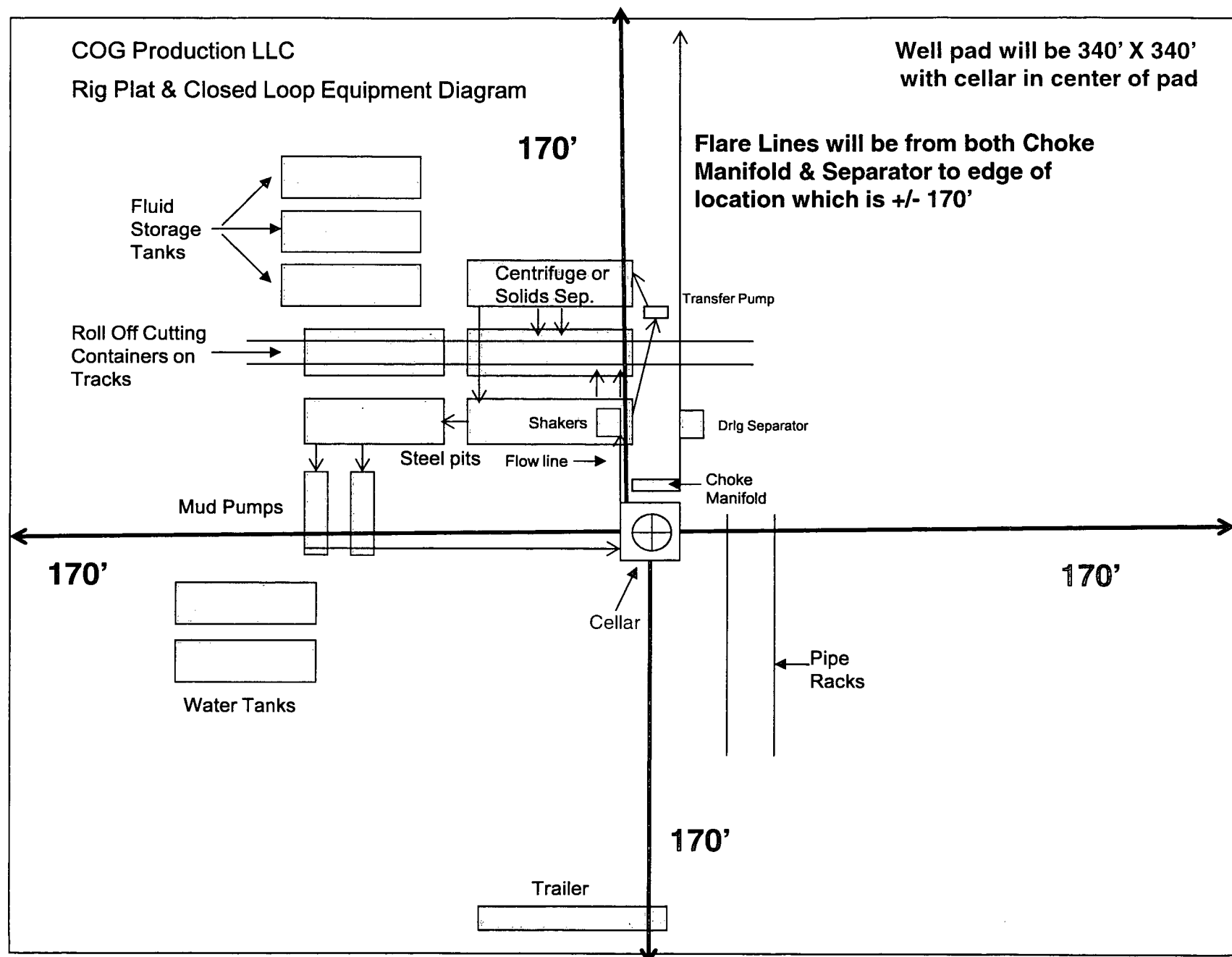


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."