Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

HOBBS OCD

SEP 25 2012

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

RECEIVED

5. Lease Serial No
NMNM0631

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
TIGER 11 FEDERAL 1H

2. Name of Operator
COG OPERATING LLC
Contact: DEBORA WILBOURN
E-Mail: dwilbourn@concho.com

9. API Well No
30-025-40430

3a. Address
2208 W MAIN ST
ARTESIA, NM 88210

3b. Phone No (include area code)
Ph: 575-748-6958

10. Field and Pool, or Exploratory
LEA; BONE SPRING

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 11 T20S R34E NWNW 30FNL 990FWL

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection)

Surface casing section:
Drill 17-1/2? hole to 1675? (approved COA depth)
Run 13-3/8? 54.5# J-55 STC csg to TD
Cmt to surface in 1 stg with:
Lead: 1050 sx Class C + 4% Gel + 2% CaCl2 @ 13.5 ppg/1.75 yield
Tail: 250 sx Class C + 2% CaCl2 @ 14.8/1.35 yield
75% excess on OH

Intermediate casing section:
Drill 12-1/4? hole to 5450? (approved COA depth)
Run 3500? 9-5/8? 36# J-55 BTC csg & 1950? 9-5/8? 40# J-55 BTC csg to TD - cement to circulate on both Stages
Cmt to surface in 2 stg with:

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #149459 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Hobbs
Committed to AFMSS for processing by WESLEY INGRAM on 09/19/2012 ()

Name *(Printed/Typed)* DEBORA WILBOURN — Title DRLG ENGINEERING TECH

Signature (Electronic Submission) — Date 09/10/2012

APPROVED
/s/ Chris Walls
SEP 21 2012

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By — Title — Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

SEP 26 2012

Additional data for EC transaction #149459 that would not fit on the form

32. Additional remarks, continued

1st stg:
Lead: 400 sx 35:65:6 + Salt + Gilsonite + CF + CFR-3 @ 12.7 ppg/1.89 yield
Tail: 250 sx Class C + 2% CaCl2 @ 14.8/1.35 yield
2nd stg:
Lead: 1050 sx Class C + 4% Gel @ 13.5 ppg/1.75 yield
Tail: 100 sx Class C + 2% CaCl2 @ 14.8/1.35 yield
100% excess on OH
DVT/ECP set @ 3800? KOP

Produciton casing section:
Drill 7-7/8? pilot hole to 10,497? to run gyro
Kick off and drill 7-7/8? curve & lateral to 15,692? MD/10,910? TVD (see attached directional plan)
Run 5-1/2? 17# P-110 LTC csg to TD
Cmt in 1 stage with:
Lead: 1200 sx 50:50:10 H + Salt + Gilsonite + CF + CFR-3 @ 11.8 ppg/2.5 yield
Tail: 1000 sx 50:50:2 H + Salt + GasStop + CFR-3 @ 14.4 ppg/1.25 yield
Minimum tie back to 3700?
35% excess on OH

Since the Wolfcamp will not be penetrated COG Operating LLC will utilize 2M & 3M systems, Nipple up on 13 3/8 with annular preventer tested to 50% of rating working pressure by independent tester and the rest of the 2M system tested to 2000 psi.
Nipple up on 9 5/8 with 3M system tested 3000 psi to by independent tester.
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. A 2? kill line and a minimum 3? choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

COG Operating LLC

Lea County, NM
Tiger 11 Federal
#1H

OH

Plan: Plan #1

Standard Planning Report

06 September, 2012

Database:	Houston R5000 Database	**Local Co-ordinate Reference:**	Site Tiger 11 Federal
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3678.00ft (Basic #46 - 22' KB)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3678.00ft (Basic #46 - 22' KB)
Site:	Tiger 11 Federal	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project Lea County, NM

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 Tiger 11 Federal

Site Position:		**Northing:**	581,050.00 ft	**Latitude:**	32.593957
From:	Map	**Easting:**	786,811.11 ft	**Longitude:**	-103.402090
Position Uncertainty:	2.00 ft	**Slot Radius:**	8.125 in	**Grid Convergence:**	0.50 °

Well #1H

Well Position	**+N/-S**	0.00 ft	**Northing:**	581,050.00 ft	**Latitude:**	32.593957
	+E/-W	0.00 ft	**Easting:**	786,811.11 ft	**Longitude:**	-103.402090
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	3,656.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/6/2012	7.38	60.53	48,733

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	180.58

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	
10,497.50	0.00	0.00	10,497.50	0.00	0.00	0.00	0.00	0.00	0.00	
11,254.64	90.84	185.25	10,975.00	-482.52	-44.34	12.00	12.00	0.00	185.25	
11,385.99	90.84	180.00	10,973.07	-613.67	-50.35	4.00	0.00	-4.00	-89.97	
15,692.78	90.84	180.00	10,910.00	-4,920.00	-50.00	0.00	0.00	0.00	0.00	PBHL (T11Fed#1H)

Database:	Houston R5000 Database	**Local Co-ordinate Reference:**	Site Tiger 11 Federal
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Site:	Tiger 11 Federal	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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
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

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Site:	Tiger 11 Federal	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
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
8,100.00	0 00	0 00	8,100 00	0.00	0 00	0 00	0 00	0 00	0 00
8,200.00	0 00	0.00	8,200 00	0 00	0.00	0.00	0 00	0 00	0.00
8,300 00	0 00	0 00	8,300 00	0.00	0.00	0.00	0.00	0.00	0.00
8,400 00	0 00	0.00	8,400 00	0.00	0.00	0.00	0.00	0 00	0.00
8,500.00	0.00	0 00	8,500.00	0 00	0.00	0.00	0.00	0.00	0.00
8,600 00	0.00	0.00	8,600.00	0 00	0 00	0 00	0.00	0.00	0.00
8,700.00	0 00	0 00	8,700 00	0.00	0.00	0.00	0.00	0.00	0.00
8,800 00	0.00	0 00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900 00	0 00	0.00	8,900.00	0 00	0 00	0.00	0 00	0 00	0.00
9,000.00	0.00	0.00	9,000 00	0 00	0 00	0 00	0.00	0.00	0.00
9,100 00	0 00	0.00	9,100.00	0.00	0.00	0 00	0.00	0 00	0.00
9,200 00	0.00	0.00	9,200 00	0 00	0.00	0.00	0 00	0.00	0 00
9,300 00	0 00	0.00	9,300 00	0 00	0.00	0.00	0.00	0.00	0.00
9,400.00	0 00	0.00	9,400.00	0 00	0 00	0.00	0.00	0.00	0.00
9,500 00	0.00	0.00	9,500 00	0.00	0.00	0.00	0.00	0.00	0.00
9,600 00	0 00	0 00	9,600 00	0.00	0.00	0.00	0.00	0.00	0 00
9,700.00	0 00	0.00	9,700.00	0.00	0.00	0.00	0 00	0.00	0.00
9,800.00	0.00	0 00	9,800.00	0 00	0 00	0 00	0 00	0 00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0 00	0.00	10,000 00	0 00	0 00	0 00	0 00	0 00	0 00
10,100 00	0.00	0.00	10,100.00	0.00	0 00	0.00	0 00	0.00	0 00
10,200 00	0.00	0 00	10,200 00	0.00	0.00	0.00	0 00	0.00	0.00
10,300 00	0 00	0.00	10,300 00	0.00	0.00	0 00	0.00	0 00	0.00
10,400.00	0.00	0.00	10,400.00	0.00	0.00	0 00	0.00	0 00	0.00
10,497 50	0.00	0.00	10,497.50	0.00	0 00	0.00	0.00	0.00	0.00

KOP - 10497.50' MD, 10497.50' TVD, 0.00° INC, 0.00° AZI, 0.00' VS

Database:	Houston R5000 Database	**Local Co-ordinate Reference:**	Site Tiger 11 Federal
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3678.00ft (Basic #46 - 22' KB)
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Site:	Tiger 11 Federal	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
10,500.00	0.30	185 25	10,500.00	-0 01	0 00	0.01	12.00	12.00	0.00
10,525.00	3.30	185 25	10,524.99	-0.79	-0.07	0.79	12.00	12.00	0.00
10,550.00	6.30	185.25	10,549.89	-2.87	-0 26	2 87	12 00	12.00	0.00
10,575.00	9.30	185 25	10,574.66	-6.25	-0 57	6.25	12.00	12.00	0.00
10,600.00	12.30	185.25	10,599 22	-10.91	-1.00	10 92	12.00	12.00	0.00
10,625 00	15 30	185 25	10,623.49	-16 85	-1.55	16 86	12 00	12.00	0.00
10,650 00	18 30	185 25	10,647 42	-24 04	-2 21	24.06	12.00	12 00	0 00
10,675 00	21 30	185 25	10,670.94	-32 47	-2.98	32 50	12.00	12.00	0.00
10,700.00	24 30	185.25	10,693.99	-42 12	-3 87	42 15	12.00	12 00	0 00
10,725 00	27.30	185 25	10,716.49	-52.95	-4 87	53.00	12.00	12 00	0 00
10,750.00	30.29	185.25	10,738 40	-64 94	-5 97	65.00	12 00	12.00	0.00
10,775.00	33.29	185 25	10,759 64	-78.05	-7.17	78.12	12.00	12.00	0.00
10,800.00	36 29	185.25	10,780.17	-92 26	-8.48	92 34	12.00	12.00	0.00
10,825.00	39 29	185.25	10,799.93	-107.51	-9.88	107.61	12.00	12.00	0.00
10,850.00	42.29	185 25	10,818.85	-123 78	-11.37	123 88	12.00	12 00	0.00
10,875 00	45 29	185 25	10,836.90	-141 00	-12.96	141.13	12.00	12.00	0 00
10,900.00	48.29	185 25	10,854 01	-159.14	-14.62	159 29	12.00	12 00	0.00
10,925 00	51 29	185 25	10,870.15	-178 15	-16 37	178 31	12.00	12.00	0.00
10,950 00	54 29	185.25	10,885 26	-197.98	-18 19	198 15	12.00	12.00	0 00
10,975.00	57 29	185.25	10,899 32	-218.57	-20.08	218.76	12.00	12 00	0.00
11,000 00	60.29	185 25	10,912.27	-239 85	-22.04	240.07	12 00	12.00	0.00
11,025.00	63.29	185 25	10,924.09	-261 79	-24 06	262.02	12 00	12.00	0.00
11,050 00	66 29	185.25	10,934 74	-284.31	-26.12	284.56	12.00	12.00	0.00
11,075 00	69.29	185.25	10,944 19	-307.36	-28 24	307 63	12.00	12 00	0.00
11,100.00	72.29	185.25	10,952 41	-330.86	-30.40	331 15	12.00	12 00	0.00
11,125.00	75 29	185.25	10,959.39	-354.76	-32.60	355.08	12 00	12.00	0.00
11,150 00	78.29	185 25	10,965 11	-379 00	-34 82	379.33	12.00	12 00	0 00
11,175 00	81 29	185 25	10,969.54	-403 50	-37.08	403.85	12 00	12 00	0 00
11,200.00	84.28	185 25	10,972.68	-428.19	-39.35	428.57	12 00	12 00	0.00
11,225 00	87.28	185.25	10,974 52	-453.02	-41.63	453 42	12 00	12.00	0.00
11,250.00	90 28	185.25	10,975 05	-477.90	-43 91	478 32	12 00	12.00	0.00
11,254 64	90 84	185.25	10,975 00	-482 52	-44 34	482 95	11.99	11.99	0 00
EOC - 11254.64' MD, 10975.00' TVD, 90.84° INC, 185.25° AZI, 482.95' VS									
11,300.00	90.84	183 44	10,974.33	-527 75	-47.77	528.20	4.00	0.00	-4.00
11,385 99	90 84	180 00	10,973.07	-613 67	-50 35	614.15	4.00	0.00	-4 00
11,400 00	90 84	180.00	10,972 87	-627.68	-50.34	628.16	0.00	0.00	0 00
11,500.00	90.84	180.00	10,971 40	-727.67	-50.34	728.15	0.00	0.00	0 00
11,600.00	90 84	180.00	10,969.94	-827.66	-50 33	828.13	0.00	0 00	0.00
11,700.00	90.84	180 00	10,968.48	-927 65	-50.32	928 11	0.00	0.00	0.00
11,800.00	90 84	180 00	10,967.01	-1,027 64	-50 31	1,028 10	0.00	0.00	0.00
11,900.00	90.84	180 00	10,965 55	-1,127 63	-50.30	1,128 08	0.00	0.00	0 00
12,000 00	90 84	180 00	10,964.08	-1,227.62	-50 30	1,228 07	0.00	0.00	0.00
12,100.00	90 84	180 00	10,962 62	-1,327.61	-50.29	1,328.05	0.00	0.00	0.00
12,200 00	90.84	180.00	10,961 15	-1,427.60	-50 28	1,428.03	0 00	0 00	0 00
12,300.00	90.84	180 00	10,959 69	-1,527.59	-50.27	1,528 02	0 00	0.00	0.00
12,400.00	90.84	180.00	10,958.22	-1,627 58	-50 26	1,628 00	0.00	0.00	0.00
12,500 00	90 84	180 00	10,956.76	-1,727.57	-50.26	1,727.99	0 00	0.00	0 00
12,600 00	90.84	180 00	10,955 29	-1,827.55	-50 25	1,827.97	0.00	0 00	0 00
12,700.00	90 84	180 00	10,953 83	-1,927.54	-50.24	1,927 95	0 00	0.00	0.00
12,800 00	90.84	180.00	10,952.37	-2,027.53	-50.23	2,027 94	0.00	0.00	0 00
12,900 00	90.84	180 00	10,950 90	-2,127.52	-50 22	2,127 92	0.00	0.00	0.00
13,000 00	90 84	180 00	10,949 44	-2,227.51	-50.22	2,227.91	0 00	0.00	0 00
13,100 00	90 84	180 00	10,947.97	-2,327 50	-50 21	2,327 89	0.00	0.00	0 00
13,200.00	90 84	180.00	10,946.51	-2,427 49	-50.20	2,427.88	0.00	0 00	0.00

Database:	Houston R5000 Database	**Local Co-ordinate Reference:**	Site Tiger 11 Federal
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3678.00ft (Basic #46 - 22' KB)
Project:	Lea County, NM	**MD Reference:**	WELL @ 3678.00ft (Basic #46 - 22' KB)
Site:	Tiger 11 Federal	**North Reference:**	Grid
Well:	#1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
13,300.00	90.84	180.00	10,945.04	-2,527.48	-50.19	2,527.86	0.00	0.00	0.00
13,400.00	90.84	180.00	10,943.58	-2,627.47	-50.18	2,627.84	0.00	0.00	0.00
13,500.00	90.84	180.00	10,942.11	-2,727.46	-50.18	2,727.83	0.00	0.00	0.00
13,600.00	90.84	180.00	10,940.65	-2,827.45	-50.17	2,827.81	0.00	0.00	0.00
13,700.00	90.84	180.00	10,939.18	-2,927.44	-50.16	2,927.80	0.00	0.00	0.00
13,800.00	90.84	180.00	10,937.72	-3,027.43	-50.15	3,027.78	0.00	0.00	0.00
13,900.00	90.84	180.00	10,936.26	-3,127.42	-50.14	3,127.76	0.00	0.00	0.00
14,000.00	90.84	180.00	10,934.79	-3,227.40	-50.14	3,227.75	0.00	0.00	0.00
14,100.00	90.84	180.00	10,933.33	-3,327.39	-50.13	3,327.73	0.00	0.00	0.00
14,200.00	90.84	180.00	10,931.86	-3,427.38	-50.12	3,427.72	0.00	0.00	0.00
14,300.00	90.84	180.00	10,930.40	-3,527.37	-50.11	3,527.70	0.00	0.00	0.00
14,400.00	90.84	180.00	10,928.93	-3,627.36	-50.10	3,627.68	0.00	0.00	0.00
14,500.00	90.84	180.00	10,927.47	-3,727.35	-50.10	3,727.67	0.00	0.00	0.00
14,600.00	90.84	180.00	10,926.00	-3,827.34	-50.09	3,827.65	0.00	0.00	0.00
14,700.00	90.84	180.00	10,924.54	-3,927.33	-50.08	3,927.64	0.00	0.00	0.00
14,800.00	90.84	180.00	10,923.08	-4,027.32	-50.07	4,027.62	0.00	0.00	0.00
14,900.00	90.84	180.00	10,921.61	-4,127.31	-50.06	4,127.60	0.00	0.00	0.00
15,000.00	90.84	180.00	10,920.15	-4,227.30	-50.06	4,227.59	0.00	0.00	0.00
15,100.00	90.84	180.00	10,918.68	-4,327.29	-50.05	4,327.57	0.00	0.00	0.00
15,200.00	90.84	180.00	10,917.22	-4,427.28	-50.04	4,427.56	0.00	0.00	0.00
15,300.00	90.84	180.00	10,915.75	-4,527.27	-50.03	4,527.54	0.00	0.00	0.00
15,400.00	90.84	180.00	10,914.29	-4,627.25	-50.02	4,627.52	0.00	0.00	0.00
15,500.00	90.84	180.00	10,912.82	-4,727.24	-50.02	4,727.51	0.00	0.00	0.00
15,600.00	90.84	180.00	10,911.36	-4,827.23	-50.01	4,827.49	0.00	0.00	0.00
15,692.78	90.84	180.00	10,910.00	-4,920.00	-50.00	4,920.25	0.00	0.00	0.00

TD @ 15692.78' MD, 10910' TVD

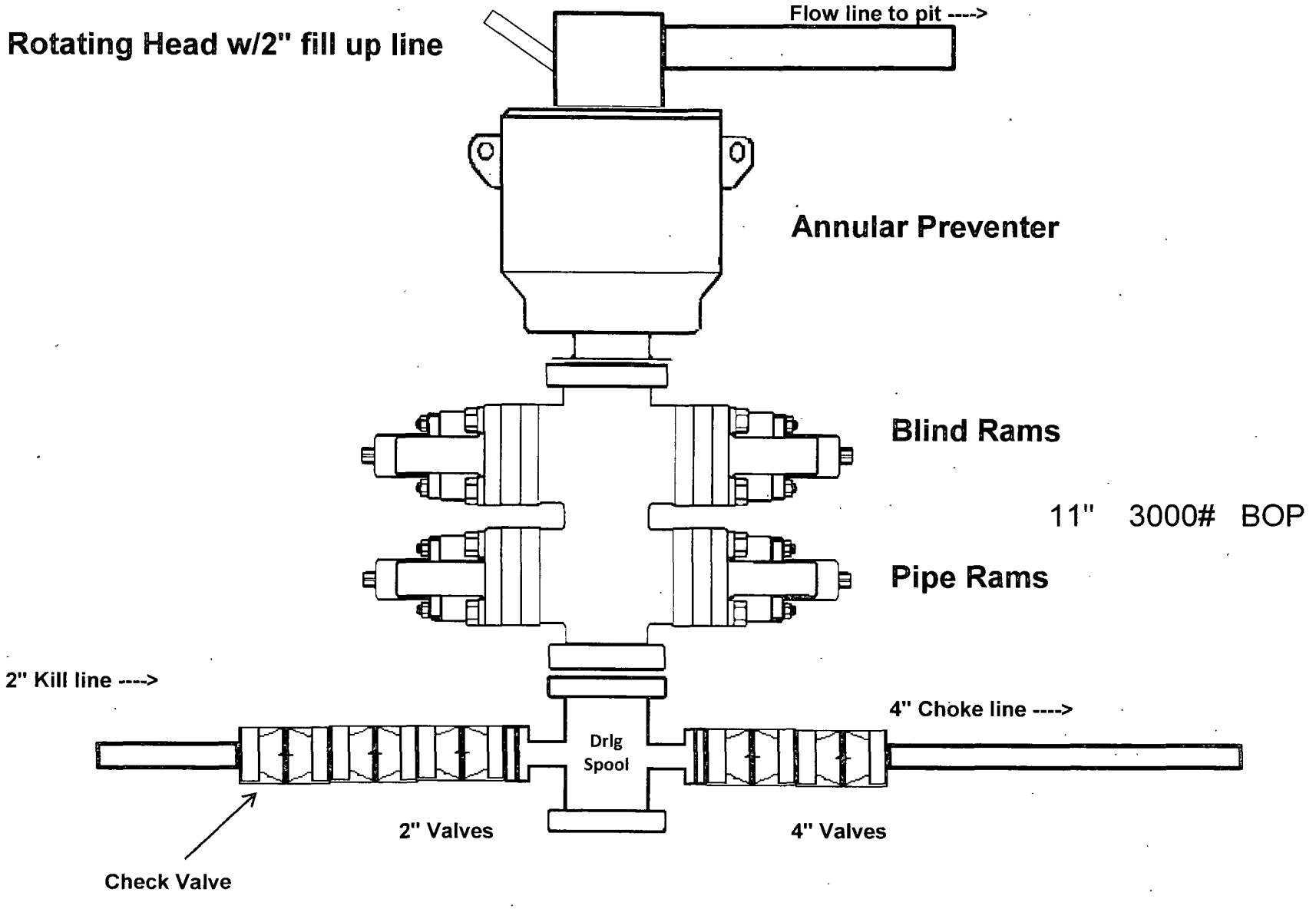
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL (T11Fed#1H) - plan hits target center - Point	0.00	0.00	10,910.00	-4,920.00	-50.00	576,130.00	786,761.11	32.580436	-103.402392

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
10,497.50	10,497.50	0.00	0.00	KOP - 10497.50' MD, 10497.50' TVD, 0.00° INC, 0.00° AZI, 0.00' VS
11,254.64	10,975.00	-482.52	-44.34	EOC - 11254.64' MD, 10975.00' TVD, 90.84° INC, 185.25° AZI, 482.95' VS
15,692.78	10,910.00	-4,920.00	-50.00	TD @ 15692.78' MD, 10910' TVD

3,000 psi BOP Schematic



2,000 psi BOP Schematic