

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, 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, NM 87505

Form C-144 CLEZ
July 21, 2008

For closed-loop systems that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, submit to the appropriate NMOCD District Office.

Closed-Loop System Permit or Closure Plan Application

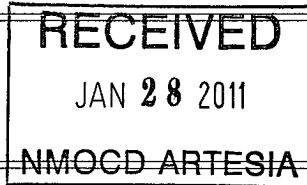
(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

Type of action: ☒ Permit ☐ Closure

Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1. Operator: <u>COG OPERATING LLC</u> OGRID #: <u>229137</u> Address: <u>550 WEST TEXAS, SUITE 1300</u> <u>MIDLAND, TX 79701</u> Facility or well name: <u>Foran State # 5</u> API Number: <u>30-015- 38440</u> OCD Permit Number: <u>21135</u> U/L or Qtr/Qtr <u>UL H</u> Section <u>16</u> Township <u>17S</u> Range <u>31E</u> County: <u>EDDY</u> Center of Proposed Design: Latitude <u>N/A</u> Longitude <u>N/A</u> NAD: ☐ 1927 ☐ 1983 Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment	
2. ☒ Closed-loop System: Subsection H of 19.15.17.11 NMAC Operation: ☒ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) ☐ P&A ☐ Above Ground Steel Tanks or ☒ Haul-off Bins	
3. Signs: Subsection C of 19.15.17.11 NMAC ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers ☒ Signed in compliance with 19.15.3.103 NMAC	
4. Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC ☒ Closure Plan (Please complete Box 5) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC ☐ Previously Approved Design (attach copy of design) API Number: _____ ☐ Previously Approved Operating and Maintenance Plan API Number: _____	
5. Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC) Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required. Disposal Facility Name: <u>CRI</u> Disposal Facility Permit Number: <u>R1966</u> Disposal Facility Name: <u>GM INC</u> Disposal Facility Permit Number: <u>711-019-001</u> Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operations? ☐ Yes (If yes, please provide the information below) ☒ No Required for impacted areas which will not be used for future service and operations: ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	
Operator Application Certification: I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief. Name (Print): <u>KELLY J. HOLLY</u> Title: <u>PERMITTING TECH</u> Signature: <u>[Signature]</u> Date: <u>11/23/2010</u> e-mail address: <u>kholly@conchoresources.com</u> Telephone: <u>432-685-4384</u>	



7. **OCD Approval:** ☒ Permit Application (including closure plan) ☐ Closure Plan (only)

OCD Representative Signature: _____

Approval Date: 01/28/2011

Title: Dist H Supervisor

OCD Permit Number: 211135

8. **Closure Report (required within 60 days of closure completion):** Subsection K of 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ Closure Completion Date: _____

9. **Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Site Reclamation (Photo Documentation)

☐ Soil Backfilling and Cover Installation

☐ Re-vegetation Application Rates and Seeding Technique

10. **Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

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)

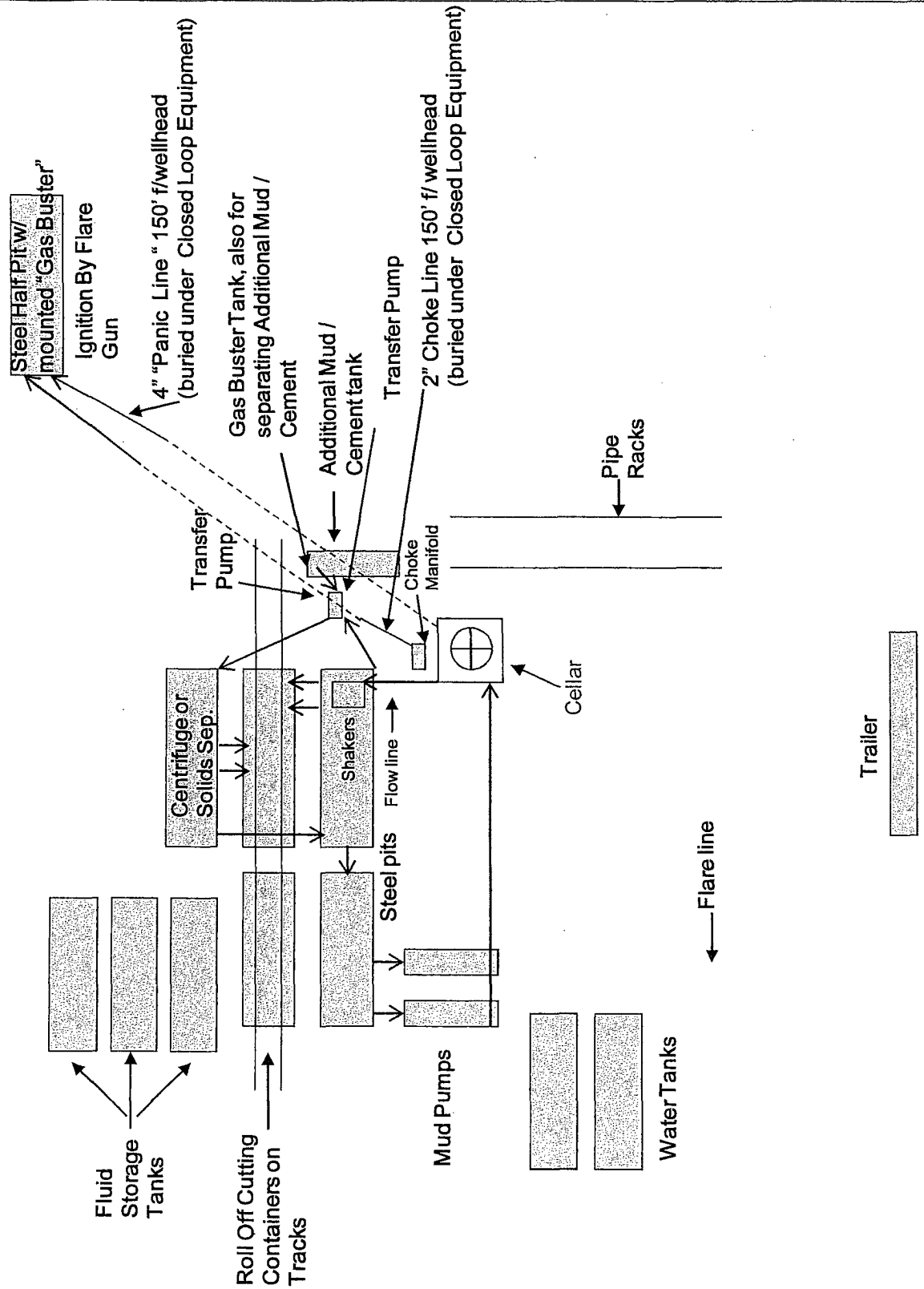
or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

COG Operating LLC

Closed Loop Equipment Diagram





COG Operating LLC

Eddy County, NM (NAN27 NME)

Foran State #5

Foran State #5

OH

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

SHL = 2145' FNL & 855' FEL

BHL = 2260' FNL & 940' FEL

Top of Paddock = 2260' FNL & 940' FEL @ 5000' TVD

Standard Planning Report

27 December, 2010





Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Foran State #5
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3858.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3858.00usft
Site:	Foran State #5	North Reference:	Grid
Well:	Foran State #5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7-7/8" Hole		

Project	Eddy County, NM (NAN27 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	Foran State #5		
Site Position:		Northing:	668,090.00 usft
From:	Map	Easting:	642,819.60 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 50' 8.886 N
		Longitude:	103° 52' 6.067 W
		Grid Convergence:	0.25 °

Well	Foran State #5					
Well Position	+N/-S	0.00 usft	Northing:	668,090.00 usft	Latitude:	32° 50' 8.886 N
	+E/-W	0.00 usft	Easting:	642,819.60 usft	Longitude:	103° 52' 6.067 W
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level:	3,858.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2010/12/27	7.83	60.71	48,996

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	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	215.72

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,144.20	2.88	215.72	2,144.14	-2.95	-2.12	2.00	2.00	0.00	215.72	
4,859.36	2.88	215.72	4,855.86	-113.85	-81.88	0.00	0.00	0.00	0.00	
5,003.56	0.00	0.00	5,000.00	-116.80	-84.00	2.00	-2.00	0.00	180.00	TG1-Foran #5
6,703.56	0.00	0.00	6,700.00	-116.80	-84.00	0.00	0.00	0.00	0.00	PBHL-Foran #5



Scientific Drilling Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Foran State #5
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3858.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3858.00usft
Site:	Foran State #5	North Reference:	Grid
Well:	Foran State #5	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
East HL-Foran #4 - North HL-Foran #4									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8-5/8" Casing									
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 2.00°/100'									
2,100.00	2.00	215.72	2,099.98	-1.42	-1.02	1.75	2.00	2.00	0.00
2,144.20	2.88	215.72	2,144.14	-2.95	-2.12	3.63	2.00	2.00	0.00
EOC hold 2.88°									
2,200.00	2.88	215.72	2,199.87	-5.23	-3.76	6.44	0.00	0.00	0.00
2,300.00	2.88	215.72	2,299.74	-9.31	-6.70	11.47	0.00	0.00	0.00
2,400.00	2.88	215.72	2,399.62	-13.39	-9.63	16.50	0.00	0.00	0.00
2,500.00	2.88	215.72	2,499.49	-17.48	-12.57	21.53	0.00	0.00	0.00
2,600.00	2.88	215.72	2,599.36	-21.56	-15.51	26.56	0.00	0.00	0.00
2,700.00	2.88	215.72	2,699.24	-25.65	-18.45	31.59	0.00	0.00	0.00
2,800.00	2.88	215.72	2,799.11	-29.73	-21.38	36.62	0.00	0.00	0.00
2,900.00	2.88	215.72	2,898.98	-33.82	-24.32	41.66	0.00	0.00	0.00
3,000.00	2.88	215.72	2,998.86	-37.90	-27.26	46.69	0.00	0.00	0.00
3,100.00	2.88	215.72	3,098.73	-41.99	-30.20	51.72	0.00	0.00	0.00
3,200.00	2.88	215.72	3,198.60	-46.07	-33.13	56.75	0.00	0.00	0.00
3,300.00	2.88	215.72	3,298.48	-50.16	-36.07	61.78	0.00	0.00	0.00
3,400.00	2.88	215.72	3,398.35	-54.24	-39.01	66.81	0.00	0.00	0.00
3,500.00	2.88	215.72	3,498.22	-58.33	-41.95	71.84	0.00	0.00	0.00
3,600.00	2.88	215.72	3,598.10	-62.41	-44.89	76.88	0.00	0.00	0.00
3,700.00	2.88	215.72	3,697.97	-66.50	-47.82	81.91	0.00	0.00	0.00
3,800.00	2.88	215.72	3,797.84	-70.58	-50.76	86.94	0.00	0.00	0.00
3,900.00	2.88	215.72	3,897.72	-74.67	-53.70	91.97	0.00	0.00	0.00
4,000.00	2.88	215.72	3,997.59	-78.75	-56.64	97.00	0.00	0.00	0.00
4,100.00	2.88	215.72	4,097.46	-82.84	-59.57	102.03	0.00	0.00	0.00
4,200.00	2.88	215.72	4,197.34	-86.92	-62.51	107.07	0.00	0.00	0.00
4,300.00	2.88	215.72	4,297.21	-91.01	-65.45	112.10	0.00	0.00	0.00
4,400.00	2.88	215.72	4,397.08	-95.09	-68.39	117.13	0.00	0.00	0.00
4,500.00	2.88	215.72	4,496.96	-99.18	-71.32	122.16	0.00	0.00	0.00
4,600.00	2.88	215.72	4,596.83	-103.26	-74.26	127.19	0.00	0.00	0.00
4,700.00	2.88	215.72	4,696.70	-107.34	-77.20	132.22	0.00	0.00	0.00
4,800.00	2.88	215.72	4,796.58	-111.43	-80.14	137.25	0.00	0.00	0.00
4,859.36	2.88	215.72	4,855.86	-113.85	-81.88	140.24	0.00	0.00	0.00
Start Drop 2.00°/100'									
4,900.00	2.07	215.72	4,896.46	-115.28	-82.91	142.00	2.00	-2.00	0.00
5,000.00	0.07	215.72	4,996.44	-116.80	-84.00	143.87	2.00	-2.00	0.00
5,003.56	0.00	0.00	5,000.00	-116.80	-84.00	143.87	2.00	-2.00	4,052.73
EOC hold 0.00° - TG1-Foran #5									
6,703.56	0.00	0.00	6,700.00	-116.80	-84.00	143.87	0.00	0.00	0.00
PBHL-Foran #5									



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Foran State #5
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3858.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3858.00usft
Site:	Foran State #5	North Reference:	Grid
Well:	Foran State #5	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 7-7/8" Hole		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
East HL-Foran #4 - plan misses target center by 213.96usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W0.00 H200.00 D0.00)	0.00	0.00	0.00	-166.80	-134.00	667,923.20	642,685.60	32° 50' 7.241 N	103° 52' 7.646 W
North HL-Foran #4 - plan misses target center by 213.96usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Rectangle (sides W200.00 H0.00 D0.00)	0.00	0.00	0.00	-166.80	-134.00	667,923.20	642,685.60	32° 50' 7.241 N	103° 52' 7.646 W
TG1-Foran #5 - plan hits target center - Point	0.00	0.00	5,000.00	-116.80	-84.00	667,973.20	642,735.60	32° 50' 7.733 N	103° 52' 7.058 W
PBHL-Foran #5 - plan hits target center - Circle (radius 50.00)	0.00	0.01	6,700.00	-116.80	-84.00	667,973.20	642,735.60	32° 50' 7.733 N	103° 52' 7.058 W

Casing Points

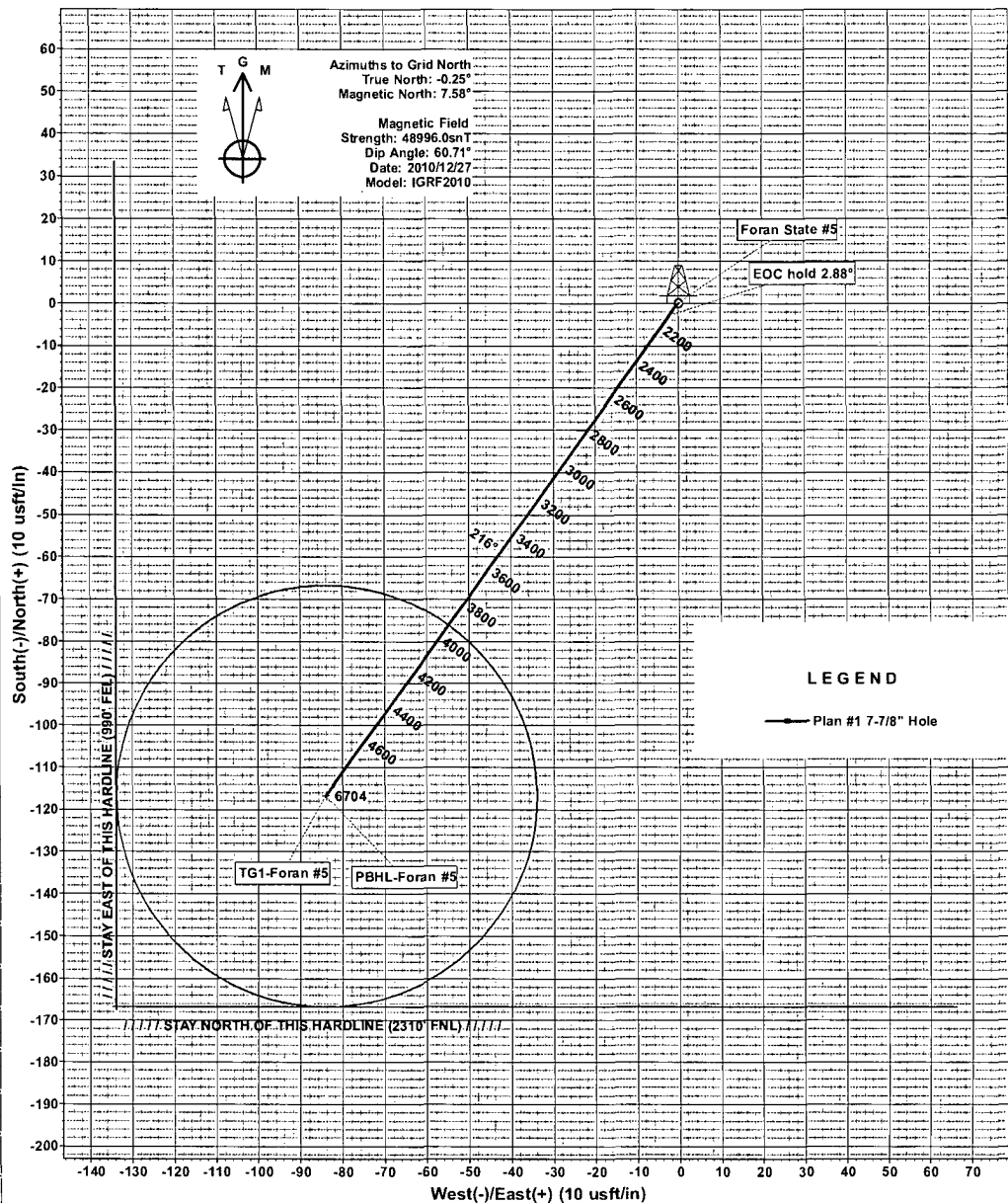
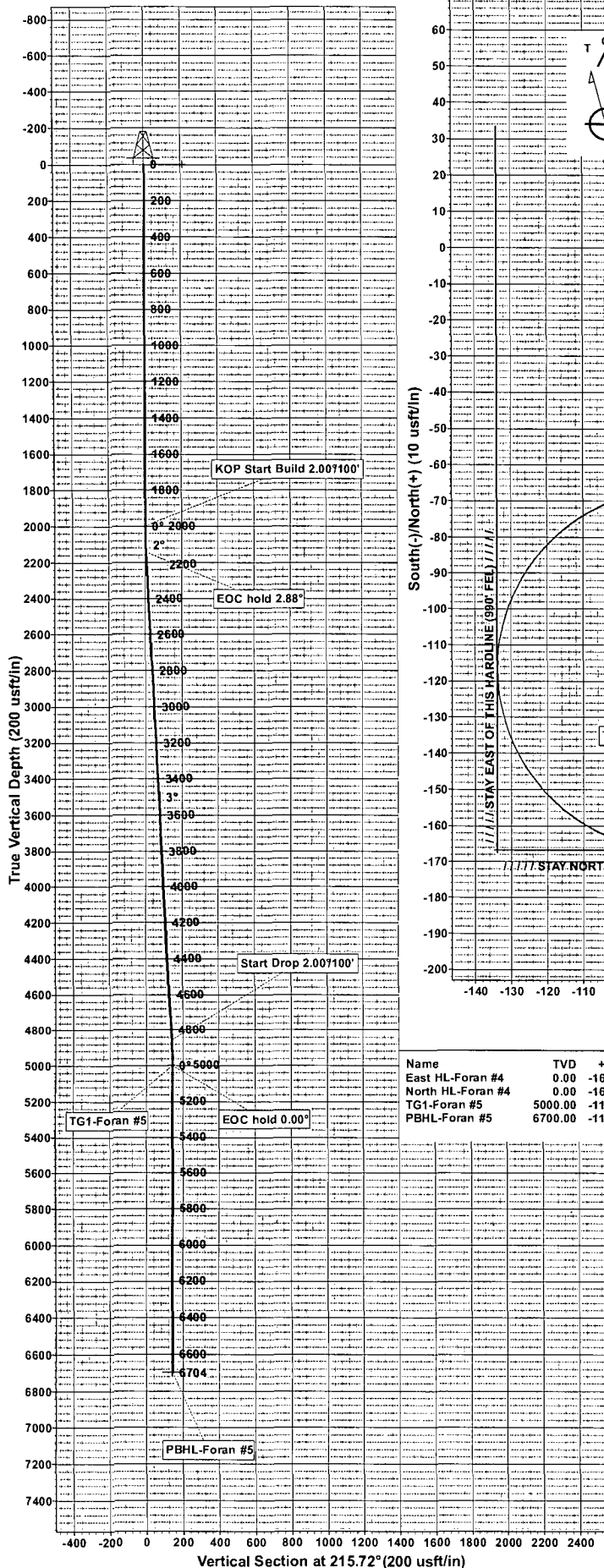
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,900.00	1,900.00	8-5/8" Casing	8-5/8	12-1/4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
2,000.00	2,000.00	0.00	0.00	KOP Start Build 2.00°/100'
2,144.20	2,144.14	-2.95	-2.12	EOC hold 2.88°
4,859.36	4,855.86	-113.85	-81.88	Start Drop 2.00°/100'
5,003.56	5,000.00	-116.80	-84.00	EOC hold 0.00°



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Foran State #5
Wellbore: OH
Design: Plan #1 7-7/8" Hole



Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
East HL-Foran #4	0.00	-166.80	-134.00	667923.20	642685.60	32° 50' 7.241 N	103° 52' 7.646 W	Rectangle (Sides: L 200.00 W 0.00)
North HL-Foran #4	0.00	-166.80	-134.00	667923.20	642685.60	32° 50' 7.241 N	103° 52' 7.646 W	Rectangle (Sides: L 0.00 W 200.00)
TG1-Foran #5	5000.00	-116.80	-84.00	667973.20	642735.60	32° 50' 7.733 N	103° 52' 7.058 W	Point
PBHL-Foran #5	6700.00	-116.80	-84.00	667973.20	642735.60	32° 50' 7.733 N	103° 52' 7.058 W	Circle (Radius: 50.0 0)

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2144.20	2.88	215.72	2144.14	-2.95	-2.12	2.00	215.72	3.63
4	4859.36	2.88	215.72	4855.86	-113.85	-81.88	0.00	0.00	140.24
5	5003.56	0.00	0.00	5000.00	-116.80	-84.00	2.00	180.00	143.87
6	6703.56	0.00	0.00	6700.00	-116.80	-84.00	0.00	0.00	143.87

WELL DETAILS: Foran State #5									
Ground Level:				3858.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot			
0.00	0.00	668090.00	642819.60	32° 50' 8.886 N	103° 52' 6.067 W				

PROJECT DETAILS: Eddy County, NM (NAN27 NME)									
Geodetic System: US State Plane 1927 (Exact solution)					Created By: Julio Pina				
Datum: NAD 1927 (NADCON CONUS)					Date: 27-Dec-10				
Ellipsoid: Clarke 1866					Checked: _____				
Zone: New Mexico East 3001					Date: _____				
System Datum: Mean Sea Level					Reviewed: _____				
					Date: _____				
					Approved: _____				
					Date: _____				