

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.

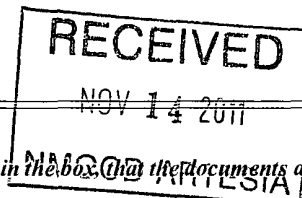
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's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

1. Operator: COG OPERATING LLC OGRID #: 229137
Address: 550 WEST TEXAS, SUITE 100 MIDLAND, TX 79701
Facility or well name: PAINT "32" FEE #4H
API Number: 30-015-39624 OCD Permit Number: 212168
U/L or Qtr/Qtr UL M Section 32 Township 18S Range 26E County: Eddy
Center of Proposed Design: Latitude N/A Longitude N/A 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, if 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: CRI Disposal Facility Permit Number: R1966
Disposal Facility Name: GM INC Disposal Facility Permit Number: 711-019-001
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): KELLY J. HOLLY Title: PERMITTING TECH
Signature: [Signature] Date: 10/06/2011
e-mail address: kholly@goncho.com Telephone: 432-685-4384

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

OCD Representative Signature: AR Dade Approval Date: 11/15/2011
Title: Dist. Supervisor OCD Permit Number: 212168

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)

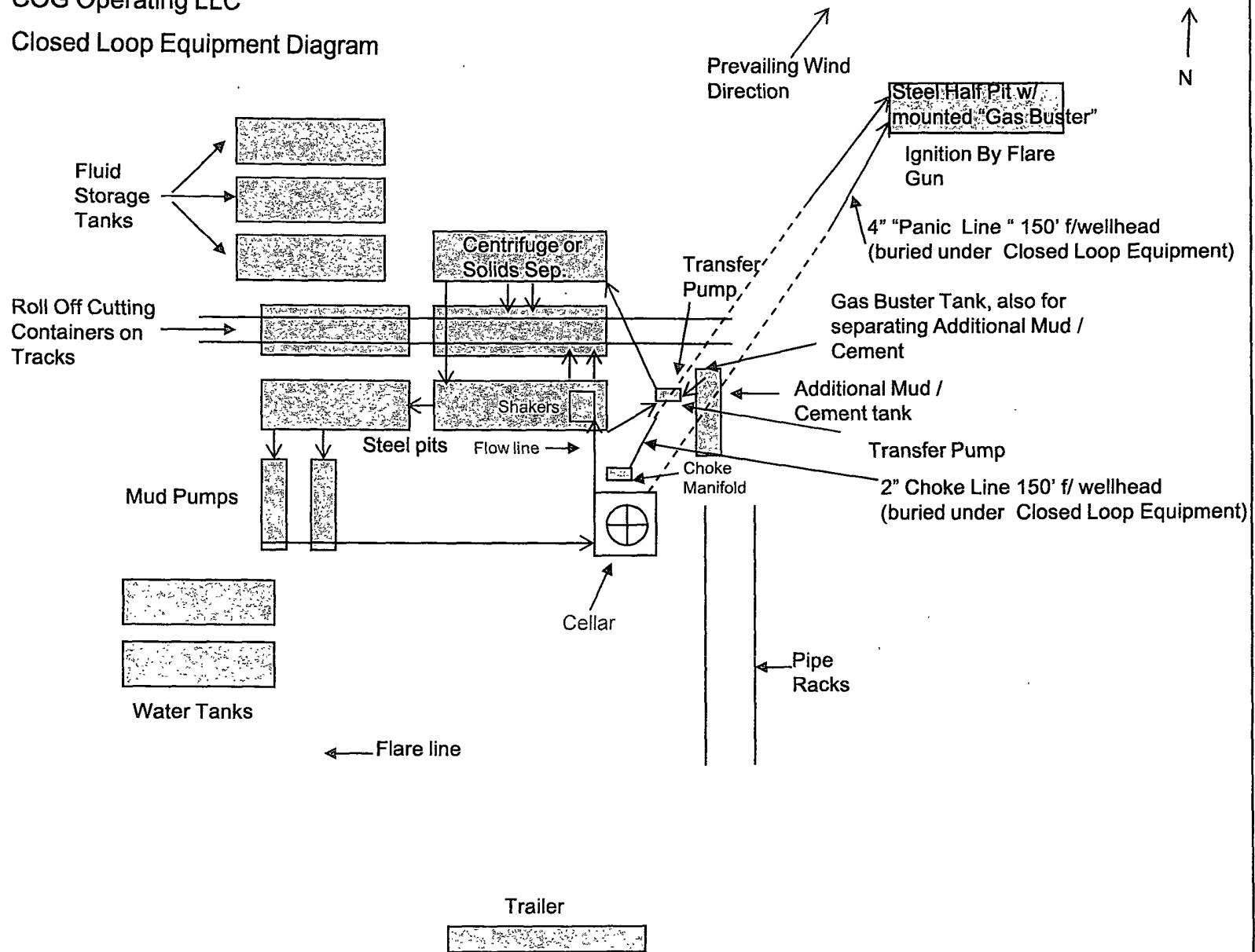
or

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)

Paint 32 Fee #4H

Paint 32 Fee #4H

OH

Plan: Plan #1 8-3/4" Hole

SHL = 380' FSL & 190' FWL

PP = 380' FSL & 330' FWL

BHL = 380' FSL & 330' FEL

Standard Planning Report

09 November, 2011



Scientific Drilling
Directional Drilling Operations



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Paint 32 Fee #4H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3386 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3386 00usft
Site:	Paint 32 Fee #4H	North Reference:	Grid
Well:	Paint 32 Fee #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" 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	Paint 32 Fee #4H		
Site Position:		Northing:	617,581 20 usft
From:	Map	Easting:	475,882 10 usft
Position Uncertainty:	0 00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 41' 52 096 N
		Longitude:	104° 24' 42 242 W
		Grid Convergence:	-0.04 °

Well	Paint 32 Fee #4H		
Well Position	+N/-S	0 00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0 00 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	2011/11/09	7 96	60 47	48,767

Design	Plan #1 8-3/4" 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	89.64

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0.00	0.00	0 00	
2,272 54	0 00	0 00	2,272 54	0 00	0 00	0 00	0.00	0 00	0 00	
3,022 54	90 00	89 64	2,750.00	2 97	477 46	12 00	12 00	0 00	89 64	
7,306 06	90 00	89 64	2,750 00	29 60	4,760 90	0 00	0 00	0 00	0 00	PBHL-Paint 32 Fee #



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Paint 32 Fee #4H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3386 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3386 00usft
Site:	Paint 32 Fee #4H	North Reference:	Grid
Well:	Paint 32 Fee #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" 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
2,272 54	0 00	0 00	2,272 54	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 12.00/100°									
2,300 00	3 30	89 64	2,299 98	0 00	0 79	0 79	12 00	12 00	0 00
2,400 00	15 30	89 64	2,398 49	0 11	16 91	16 91	12 00	12 00	0 00
2,500 00	27 30	89 64	2,491 49	0 33	53 16	53 17	12 00	12 00	0 00
2,600 00	39 30	89 64	2,574 93	0 67	107 96	107 96	12 00	12 00	0 00
2,647 76	45 03	89.64	2,610 31	0 87	140 00	140 00	12 00	12 00	0 00
PP=330° FWL, Paint 32 Fee #4H									
2,700 00	51 30	89 64	2,645 14	1 11	178 90	178 91	12 00	12 00	0 00
2,800 00	63 30	89 64	2,699 07	1.63	262 89	262 90	12 00	12 00	0 00
2,900 00	75 30	89 64	2,734 36	2 22	356.26	356 27	12 00	12.00	0 00
3,000 00	87 30	89.64	2,749 47	2 83	454 93	454 94	12 00	12 00	0 00
3,022.54	90 00	89 64	2,750 00	2.97	477 46	477 47	12 00	12 00	0 00
Land EOC hold 90.00°									
3,100 00	90 00	89 64	2,750 00	3 45	554 92	554 93	0 00	0 00	0.00
3,200 00	90 00	89 64	2,750 00	4.07	654 92	654 93	0 00	0 00	0 00
3,300 00	90 00	89 64	2,750 00	4 69	754 92	754 93	0.00	0 00	0 00
3,400 00	90 00	89 64	2,750 00	5.32	854 91	854 93	0 00	0 00	0 00
3,500 00	90 00	89.64	2,750 00	5 94	954 91	954 93	0 00	0 00	0 00
3,600 00	90 00	89.64	2,750 00	6 56	1,054 91	1,054 93	0 00	0 00	0 00
3,700 00	90 00	89 64	2,750 00	7 18	1,154 91	1,154 93	0 00	0 00	0 00
3,800 00	90 00	89 64	2,750 00	7.80	1,254 91	1,254 93	0 00	0 00	0 00
3,900 00	90 00	89 64	2,750 00	8 42	1,354 90	1,354.93	0 00	0 00	0 00
4,000 00	90 00	89 64	2,750.00	9 05	1,454.90	1,454 93	0 00	0.00	0.00
4,100 00	90 00	89 64	2,750 00	9 67	1,554 90	1,554 93	0 00	0 00	0 00
4,200 00	90 00	89 64	2,750 00	10 29	1,654 90	1,654.93	0 00	0 00	0 00
4,300 00	90 00	89 64	2,750 00	10 91	1,754 90	1,754 93	0 00	0 00	0 00
4,400 00	90 00	89 64	2,750 00	11 53	1,854 89	1,854 93	0.00	0 00	0 00
4,500 00	90 00	89 64	2,750 00	12 15	1,954 89	1,954 93	0 00	0 00	0 00
4,600 00	90 00	89.64	2,750 00	12 78	2,054 89	2,054 93	0.00	0.00	0 00
4,700 00	90 00	89 64	2,750 00	13.40	2,154 89	2,154.93	0 00	0 00	0 00
4,800 00	90 00	89 64	2,750.00	14 02	2,254.89	2,254 93	0 00	0 00	0 00
4,900 00	90 00	89 64	2,750 00	14 64	2,354 88	2,354 93	0.00	0 00	0 00
5,000 00	90 00	89 64	2,750 00	15.26	2,454.88	2,454 93	0 00	0.00	0 00
5,100 00	90 00	89 64	2,750 00	15 88	2,554.88	2,554 93	0 00	0 00	0 00
5,200.00	90 00	89 64	2,750.00	16 51	2,654 88	2,654 93	0 00	0 00	0 00
5,300 00	90 00	89 64	2,750 00	17 13	2,754 88	2,754 93	0 00	0 00	0.00
5,400 00	90 00	89 64	2,750 00	17.75	2,854 87	2,854 93	0 00	0.00	0 00
5,500 00	90 00	89 64	2,750 00	18 37	2,954 87	2,954 93	0 00	0 00	0.00
5,600 00	90 00	89 64	2,750 00	18 99	3,054 87	3,054 93	0 00	0 00	0 00
5,700 00	90 00	89.64	2,750 00	19 61	3,154 87	3,154 93	0 00	0 00	0 00
5,800 00	90 00	89 64	2,750 00	20 24	3,254.87	3,254 93	0 00	0 00	0 00
5,900 00	90 00	89 64	2,750 00	20 86	3,354 86	3,354 93	0.00	0 00	0 00
6,000 00	90 00	89 64	2,750 00	21 48	3,454.86	3,454 93	0 00	0.00	0 00
6,100 00	90 00	89 64	2,750.00	22 10	3,554 86	3,554 93	0 00	0 00	0 00
6,200 00	90 00	89 64	2,750 00	22.72	3,654.86	3,654 93	0.00	0 00	0 00
6,300 00	90 00	89 64	2,750 00	23 35	3,754 86	3,754 93	0 00	0 00	0 00
6,400 00	90 00	89 64	2,750 00	23 97	3,854.86	3,854 93	0 00	0.00	0 00
6,500 00	90 00	89.64	2,750 00	24.59	3,954 85	3,954 93	0.00	0 00	0 00
6,600 00	90 00	89 64	2,750 00	25.21	4,054 85	4,054 93	0 00	0 00	0 00
6,700 00	90 00	89.64	2,750 00	25.83	4,154 85	4,154 93	0 00	0 00	0 00
6,800 00	90 00	89 64	2,750 00	26 45	4,254 85	4,254 93	0 00	0.00	0 00



Scientific Drilling
Planning Report



Database:	EDM-Julio	Local Co-ordinate Reference:	Site Paint 32 Fee #4H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3386 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3386 00usft
Site:	Paint 32 Fee #4H	North Reference:	Grid
Well:	Paint 32 Fee #4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 8-3/4" 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)
6,900 00	90 00	89 64	2,750 00	27 08	4,354 85	4,354 93	0 00	0 00	0 00
7,000.00	90 00	89.64	2,750 00	27 70	4,454 84	4,454 93	0 00	0 00	0.00
7,100 00	90 00	89 64	2,750 00	28 32	4,554 84	4,554 93	0 00	0 00	0 00
7,200 00	90 00	89 64	2,750 00	28 94	4,654 84	4,654 93	0 00	0 00	0 00
7,300 00	90 00	89 64	2,750.00	29 56	4,754 84	4,754 93	0 00	0 00	0 00
7,306 06	90 00	89 64	2,750.00	29 60	4,760 90	4,760 99	0 00	0 00	0 00
PBHL-Paint 32 Fee #4H									

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
PP=330' FWL, Paint 32 - plan hits target center - Point	0 00	360 00	2,610 31	0 87	140.00	617,582 07	476,022 10	32° 41' 52 106 N	104° 24' 40 604 W
PBHL-Paint 32 Fee #4H - plan hits target center - Point	0 00	0 00	2,750.00	29 60	4,760 90	617,610 80	480,643 00	32° 41' 52 420 N	104° 23' 46 527 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,272 54	2,272 54	0 00	0 00	KOP Start Build 12 00/100'
3,022 54	2,750 00	177 81	443 13	Land EOC hold 90 00°



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Paint 32 Fee #4H
Wellbore: OH
Design: Plan #1 8-3/4" Hole



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2272.54	0.00	0.00	2272.54	0.00	0.00	0.00	0.00	0.00	
3	3022.54	90.00	89.64	2750.00	2.97	477.46	12.00	89.64	477.46	
4	7306.06	90.00	89.64	2750.00	29.60	4760.90	0.00	0.00	4760.99	PBHL-Paint 32 Fee #4H

Plan: Plan #1 8-3/4" Hole (Paint 32 Fee #4H/OH)

Created By: Julio Pina Date: 09-Nov-11
Checked: Date:
Reviewed: Date:

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PP=330' FWL, Paint 32 Fee #4H	2610.31	0.87	140.00	617582.07	476022.10	32°41' 52.106 N	104°24' 40.604 W	Point
PBHL-Paint 32 Fee #4H	2750.00	29.60	4760.90	617610.80	480643.00	32°41' 52.420 N	104°23' 46.527 W	Point

WELL DETAILS: Paint 32 Fee #4H

PROJECT DETAILS: Eddy County, NM (NAN27 NME)
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

		Ground Level:		3386.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0 00	617581.20	475882.10	32°41' 52 096 N	104°24' 42.242 W	

AZIMUTH CORRECTIONS
ALL AZIMUTHS MUST BE CORRECTED TO GRID
GRID CORRECTIONS MUST BE APPLIED BEFORE PLOTTING
To convert a Magnetic Direction to a Grid Direction, Add 8.00°
To convert a True Direction to a Grid Direction, Add 0.04°

