

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 NMOC District Office

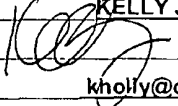
Closed-Loop System Permit or Closure Plan Application

(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 100 MIDLAND, TX 79701</u>	
Facility or well name: <u>PALOMINO "12" FEE #1H</u>	
API Number: <u>30-015-39780</u>	OCD Permit Number: <u>212306</u>
U/L or Qtr/Qtr <u>UL D</u>	Section <u>12</u> Township <u>19S</u> Range <u>26E</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 <i>will not</i> 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: 	Date: <u>11/21/2011</u>
e-mail address: <u>kholly@concho.com</u>	Telephone: <u>432-685-4384</u>

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

OCD Representative Signature: _____

Approval Date: 12/21/2011

Title: _____

OCD Permit Number: _____

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 indentify 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)

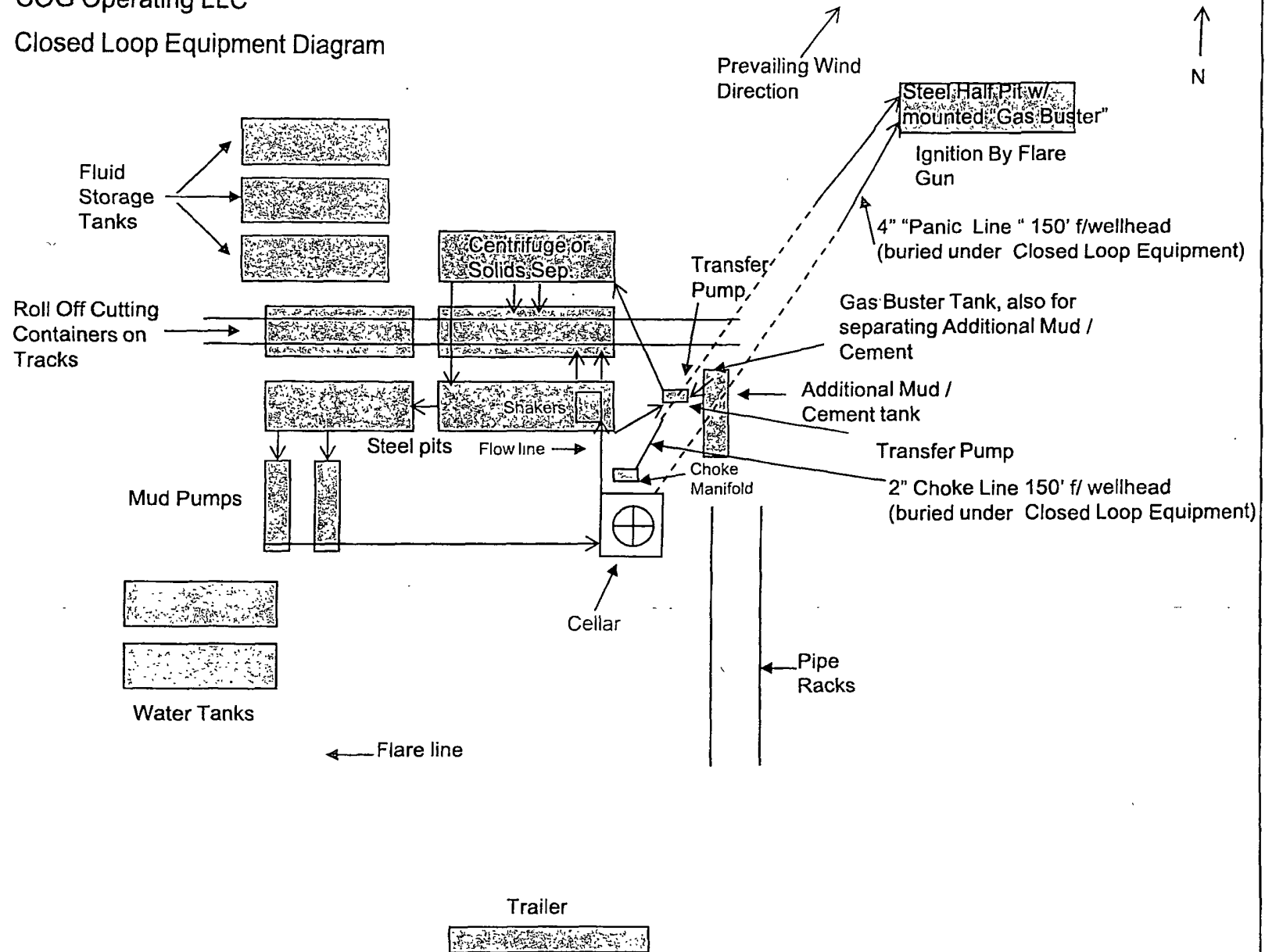
or

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)

Palomino 12 Fee #1H

Palomino 12 Fee #1H

OH

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

SHL = 150' FNL & 380' FWL

PP = 330' FNL & 380' FWL

BHL = 330' FSL & 380' FWL

Standard Planning Report

13 December, 2011





SDI
Planning Report



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Palomino 12 Fee #1H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3414 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3414 00usft
Site:	Palomino 12 Fee #1H	North Reference:	Grid
Well:	Palomino 12 Fee #1H	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	Palomino 12 Fee #1H		
Site Position:		Northing:	611,794 60 usft
From:	Map	Easting:	465,541 10 usft
Position Uncertainty:	0 00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 40' 54 742 N
		Longitude:	104° 26' 43.187 W
		Grid Convergence:	-0 06 "

Well	Palomino 12 Fee #1H		
Well Position	+N/-S	0 00 usft	Northing:
	+E/-W	0 00 usft	Easting:
Position Uncertainty	0 00 usft	Wellhead Elevation:	Ground Level:
			3,414 00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	2011/12/12	7 95
			Dip Angle
			(°)
			60 45
			Field Strength
			(nT)
			48,744

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
	(usft)	(usft)	(usft)
	0 00	0 00	0 00
			Direction
			(°)
			179 85

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	
2,272 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	179 85	2,750 00	-477 46	1 22	12 00	12 00	0 00	179 85	
7,378 99	90 00	179 85	2,750 00	-4,833 90	12 40	0 00	0 00	0 00	0 00	PBHL-Palomino 12 Fee



SDI
Planning Report



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Palomino 12 Fee #1H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3414 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3414 00usft
Site:	Palomino 12 Fee #1H	North Reference:	Grid
Well:	Palomino 12 Fee #1H	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	179.85	2,299 98	-0 79	0 00	0 79	12 00	12 00	0 00
2,400 00	15 30	179.85	2,398 49	-16 91	0 04	16 91	12 00	12 00	0 00
2,500 00	27 30	179.85	2,491 49	-53 17	0 14	53 17	12 00	12 00	0 00
2,600 00	39 30	179.85	2,574 93	-107.96	0.28	107 96	12 00	12 00	0 00
2,700 00	51 30	179.85	2,645 14	-178 91	0 46	178 91	12 00	12 00	0 00
2,701 40	51 46	179.85	2,646 01	-180 00	0 46	180 00	12 00	12 00	0 00
PP=330' FNL Palomino 12 Fee #1H									
2,800 00	63 30	179.85	2,699 07	-262 90	0 67	262 90	12 00	12 00	0 00
2,900 00	75 30	179.85	2,734.36	-356 27	0 91	356 27	12 00	12 00	0 00
3,000 00	87 30	179.85	2,749 47	-454 94	1 17	454 94	12 00	12 00	0 00
3,022 54	90 00	179.85	2,750 00	-477 47	1 22	477 47	12 00	12 00	0 00
Land EOC hold 90.00°									
3,100 00	90 00	179.85	2,750 00	-554 93	1 42	554 93	0 00	0 00	0 00
3,200 00	90 00	179.85	2,750 00	-654 93	1.68	654 93	0 00	0 00	0 00
3,300 00	90 00	179.85	2,750 00	-754 93	1 94	754 93	0 00	0 00	0 00
3,400 00	90 00	179.85	2,750 00	-854 93	2 19	854 93	0 00	0 00	0 00
3,500 00	90 00	179.85	2,750 00	-954 93	2 45	954 93	0 00	0 00	0 00
3,600 00	90 00	179.85	2,750 00	-1,054 93	2 71	1,054 93	0 00	0 00	0 00
3,700 00	90 00	179.85	2,750 00	-1,154 93	2 96	1,154 93	0 00	0 00	0 00
3,800 00	90 00	179.85	2,750 00	-1,254 93	3 22	1,254 93	0 00	0 00	0 00
3,900.00	90 00	179.85	2,750 00	-1,354 93	3 48	1,354 93	0 00	0 00	0 00
4,000 00	90 00	179.85	2,750 00	-1,454 92	3 73	1,454 93	0 00	0 00	0 00
4,100.00	90 00	179.85	2,750 00	-1,554 92	3.99	1,554 93	0 00	0 00	0 00
4,200 00	90 00	179.85	2,750 00	-1,654 92	4 25	1,654.93	0 00	0 00	0 00
4,300 00	90 00	179.85	2,750 00	-1,754 92	4 50	1,754 93	0 00	0 00	0 00
4,400 00	90 00	179.85	2,750 00	-1,854 92	4 76	1,854 93	0 00	0 00	0 00
4,500 00	90 00	179.85	2,750 00	-1,954 92	5 01	1,954 93	0 00	0 00	0 00
4,600 00	90 00	179.85	2,750 00	-2,054 92	5 27	2,054 93	0 00	0 00	0 00
4,700 00	90 00	179.85	2,750 00	-2,154 92	5 53	2,154 93	0 00	0 00	0 00
4,800 00	90 00	179.85	2,750 00	-2,254 92	5 78	2,254 93	0 00	0 00	0 00
4,900 00	90 00	179.85	2,750.00	-2,354 92	6 04	2,354 93	0 00	0 00	0 00
5,000.00	90 00	179.85	2,750 00	-2,454 92	6.30	2,454 93	0 00	0 00	0 00
5,100 00	90 00	179.85	2,750 00	-2,554 92	6 55	2,554 93	0 00	0 00	0 00
5,200 00	90 00	179.85	2,750 00	-2,654 92	6 81	2,654 93	0 00	0 00	0 00
5,300 00	90 00	179.85	2,750 00	-2,754 92	7 07	2,754 93	0 00	0 00	0 00
5,400 00	90 00	179.85	2,750 00	-2,854 92	7 32	2,854 93	0 00	0 00	0 00
5,500 00	90 00	179.85	2,750 00	-2,954 92	7.58	2,954.93	0 00	0 00	0 00
5,600 00	90 00	179.85	2,750 00	-3,054 92	7 84	3,054 93	0 00	0 00	0 00
5,700 00	90 00	179.85	2,750 00	-3,154.92	8 09	3,154 93	0 00	0 00	0 00
5,800 00	90 00	179.85	2,750 00	-3,254 92	8 35	3,254 93	0 00	0 00	0 00
5,900 00	90 00	179.85	2,750 00	-3,354 92	8 61	3,354 93	0 00	0 00	0 00
6,000 00	90 00	179.85	2,750 00	-3,454 92	8 86	3,454 93	0 00	0 00	0 00
6,100 00	90 00	179.85	2,750 00	-3,554 92	9 12	3,554 93	0 00	0 00	0 00
6,200 00	90 00	179.85	2,750 00	-3,654.92	9 38	3,654 93	0 00	0 00	0 00
6,300 00	90 00	179.85	2,750 00	-3,754 92	9 63	3,754 93	0 00	0 00	0 00
6,400 00	90 00	179.85	2,750 00	-3,854 92	9 89	3,854 93	0 00	0 00	0 00
6,500 00	90 00	179.85	2,750 00	-3,954 92	10 15	3,954.93	0 00	0 00	0 00
6,600 00	90 00	179.85	2,750 00	-4,054.92	10 40	4,054.93	0 00	0 00	0 00
6,700 00	90 00	179.85	2,750 00	-4,154 92	10 66	4,154 93	0 00	0 00	0 00
6,800 00	90 00	179.85	2,750 00	-4,254 92	10.91	4,254 93	0.00	0 00	0 00



SDI
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Palomino 12 Fee #1H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3414 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3414 00usft
Site:	Palomino 12 Fee #1H	North Reference:	Grid
Well:	Palomino 12 Fee #1H	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	179 85	2,750 00	-4,354 92	11 17	4,354 93	0 00	0 00	0 00
7,000 00	90 00	179 85	2,750 00	-4,454 92	11 43	4,454 93	0 00	0 00	0 00
7,100 00	90 00	179 85	2,750 00	-4,554 91	11 68	4,554 93	0 00	0 00	0 00
7,200 00	90 00	179 85	2,750 00	-4,654 91	11 94	4,654 93	0 00	0 00	0 00
7,300 00	90 00	179 85	2,750 00	-4,754 91	12 20	4,754 93	0 00	0 00	0 00
7,378 99	90 00	179 85	2,750 00	-4,833 90	12 40	4,833 92	0 00	0 00	0 00
PBHL-Palomino 12 Fee #1H									

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									
PP=330' FNL Palomino	0 00	360 00	2,646 02	-180 00	0 46	611,614.60	465,541 56	32° 40' 52 961 N	104° 26' 43 179 W
- plan hits target center									
- Point									
PBHL-Palomino 12 Fee	0 00	0 00	2,750 00	-4,833 90	12 40	606,960 70	465,553 50	32° 40' 6.908 N	104° 26' 42.982 W
- plan hits target center									
- Point									

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,272 54	2,272 54	0 00	0 00	KOP Start Build '12 00°/100°	
3,022 54	2,750 00	-477 47	1 22	Land EOC hold 90 00°	



Scientific Drilling for COG Operating LLC
Site: Eddy County, NM (NAN27 NME)
Well: Palomino 12 Fee #1H
Wellbore: OH
Design: Plan #1 8-3/4" Hole



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	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	179.85	2750.00	-477.46	1.22	12.00	179.85	477.46	
4	7378.99	90.00	179.85	2750.00	-4833.90	12.40	0.00	0.00	4833.92	PBHL-Palomino 12 Fee #1H

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PP=330' FNL Palomino 12 Fee #1H	2646.02	-180.00	0.46	611614.60	465541.56	32°40' 52.96" N	104°26' 43.179" W	Point
PBHL-Palomino 12 Fee #1H	2750.00	-4833.90	12.40	606960.70	465553.50	32°40' 6.908" N	104°26' 42.982" W	Point

WELL DETAILS: Palomino 12 Fee #1H

	Ground Level	3414.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	611794.60	465541.10	32°40' 54.742" N	104°26' 43.187" W

Palomino 12 Fee #1H

Created By: Julio Pina Date: 12-Dec-11
Checked: Date
Reviewed: Date

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

