

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

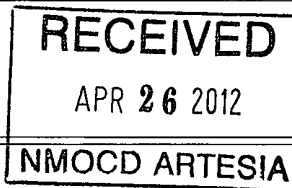
Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

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 1300 MIDLAND, TX 79701**
Facility or well name: **CLYDESDALE "1" FEE #1H**
API Number: **30-015- 40219** OCD Permit Number: **212869**
U/L or Qtr/Qtr **UL A** Section **1** Township **19S** Range **25E** 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, 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 indentify 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): **KACIE CONNALLY** Title: **PERMITTING TECH**
Signature: *Kacie Connally* Date: **4-25-12**
e-mail address: **kconnally@congho.com** Telephone: **432-221-0336**

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

OCD Representative Signature: _____

Approval Date: _____

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)

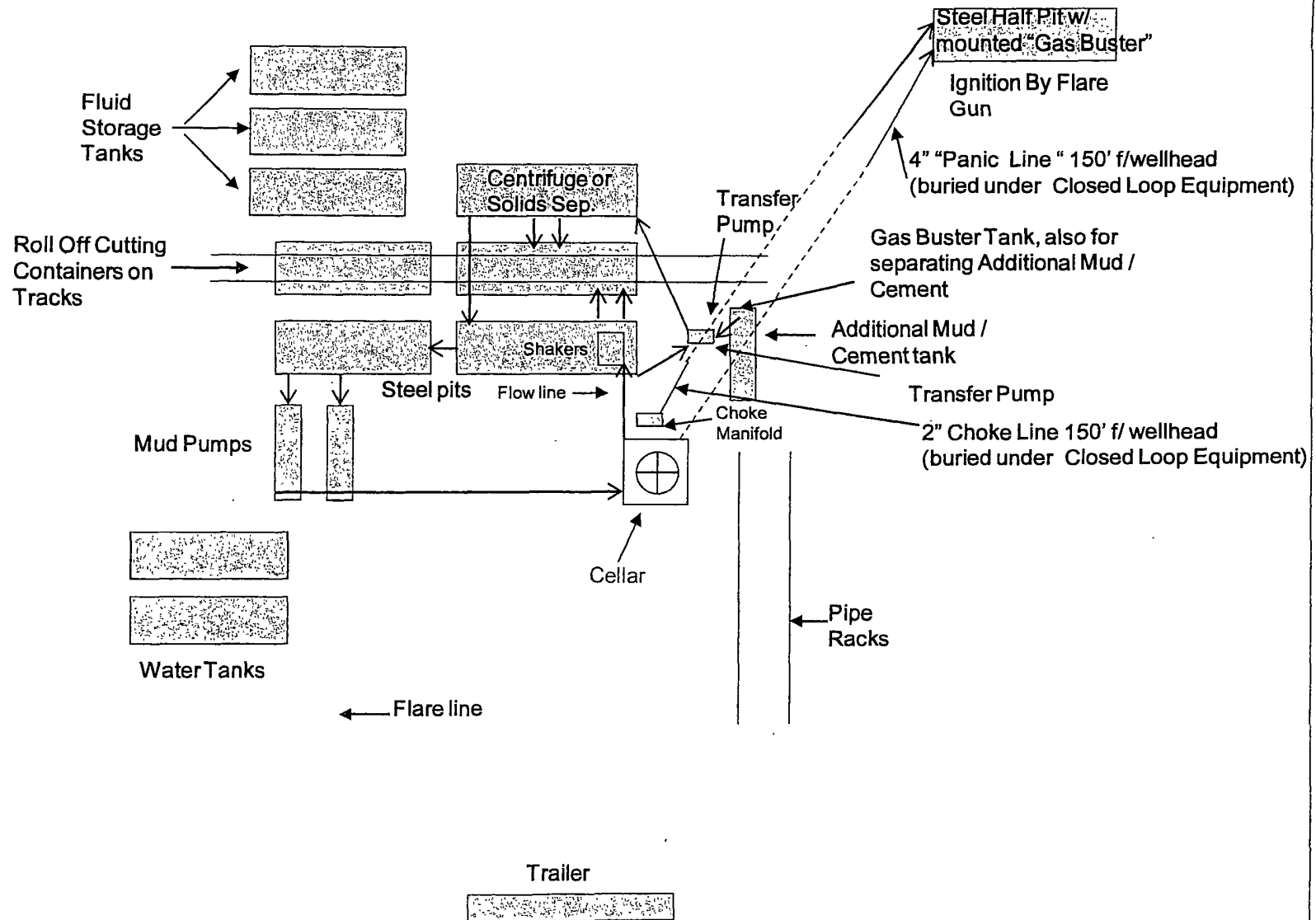
or

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

Clydesdale 1 Fee 1H

Clydesdale 1 Fee 1H

Wellbore #1

Surface: 380' FNL, 150' FEL, Sec 1, T19S, R25E, Unit A (Lot 1)

BHL: 380' FNL, 330' FWL, Sec 1, T19S, R25E, Unit D (Lot 4)

PP: 380' FNL, 180' FEL, Sec 1, T19S, R25E, Unit A (Lot 1)

Plan: Plan #1

Standard Planning Report

12 April, 2012

Crescent Directional Drilling

Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Clydesdale 1 Fee 1H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3452 00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3452 00ft (Original Well Elev)
Site:	Clydesdale 1 Fee 1H	North Reference:	Grid
Well:	Clydesdale 1 Fee 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project:		Eddy 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		Clydesdale 1 Fee 1H			
Site Position:		Northing:	616,840 10 ft	Latitude:	32° 41' 44 71 N
From:	Map	Easting:	470,401 70 ft	Longitude:	104° 25' 46 38 W
Position Uncertainty:	0 00 ft	Slot Radius:	13 200 in	Grid Convergence:	-0 05 °

Well	Clydesdale 1 Fee 1H					
Well Position	+N/-S	0 00 ft	Northing:	616,840 10 ft	Latitude:	32° 41' 44 71 N
	+E/-W	0 00 ft	Easting:	470,401 70 ft	Longitude:	104° 25' 46 38 W
Position Uncertainty	0 00 ft	Wellhead Elevation:		Ground Level:	3,434 00 ft	

Wellbore:	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/3/2012	7 92	60 45	48,723

Design:	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0 00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0 00	0 00	0 00	271 25

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	
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	271 25	2,750 00	10 37	-477 35	12 00	12 00	0 00	271 25	
7,432 52	90 00	271 25	2,750 00	106.20	-4,886 30	0 00	0 00	0.00	0 00	PBHL (Clydesdale 1 F

Crescent Directional Drilling

Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Clydesdale 1- Fee 1H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3452 00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3452 00ft (Original Well Elev)
Site:	Clydesdale 1 Fee 1H	North Reference:	Grid
Well:	Clydesdale 1 Fee 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)	
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	271.25	2,299.98	0.02	-0.79	0.79	12.00	12.00	0.00	
2,400.00	15.30	271.25	2,398.49	0.37	-16.91	16.91	12.00	12.00	0.00	
2,500.00	27.30	271.25	2,491.49	1.16	-53.15	53.17	12.00	12.00	0.00	
2,600.00	39.30	271.25	2,574.93	2.35	-107.94	107.96	12.00	12.00	0.00	
2,700.00	51.30	271.25	2,645.14	3.89	-178.86	178.91	12.00	12.00	0.00	
2,704.01	51.78	271.25	2,647.64	3.96	-182.00	182.05	12.00	12.00	0.00	
PP @ 2704.01 MD, 2647.64 TVD, 51.78 INC, 271.25 AZ, 182.05 VS										
2,800.00	63.30	271.25	2,699.07	5.71	-262.84	262.90	12.00	12.00	0.00	
2,900.00	75.30	271.25	2,734.36	7.74	-356.19	356.27	12.00	12.00	0.00	
3,000.00	87.30	271.25	2,749.47	9.89	-454.83	454.94	12.00	12.00	0.00	
3,022.54	90.00	271.25	2,750.00	10.37	-477.35	477.46	12.00	12.00	0.00	
Landing Point - Hold @ 90.00° INC, 271.25° AZ										
3,100.00	90.00	271.25	2,750.00	12.06	-554.80	554.93	0.00	0.00	0.00	
3,200.00	90.00	271.25	2,750.00	14.23	-654.78	654.93	0.00	0.00	0.00	
3,300.00	90.00	271.25	2,750.00	16.40	-754.75	754.93	0.00	0.00	0.00	
3,400.00	90.00	271.25	2,750.00	18.58	-854.73	854.93	0.00	0.00	0.00	
3,500.00	90.00	271.25	2,750.00	20.75	-954.70	954.93	0.00	0.00	0.00	
3,600.00	90.00	271.25	2,750.00	22.92	-1,054.68	1,054.93	0.00	0.00	0.00	
3,700.00	90.00	271.25	2,750.00	25.10	-1,154.66	1,154.93	0.00	0.00	0.00	
3,800.00	90.00	271.25	2,750.00	27.27	-1,254.63	1,254.93	0.00	0.00	0.00	
3,900.00	90.00	271.25	2,750.00	29.44	-1,354.61	1,354.93	0.00	0.00	0.00	
4,000.00	90.00	271.25	2,750.00	31.61	-1,454.59	1,454.93	0.00	0.00	0.00	
4,100.00	90.00	271.25	2,750.00	33.79	-1,554.56	1,554.93	0.00	0.00	0.00	
4,200.00	90.00	271.25	2,750.00	35.96	-1,654.54	1,654.93	0.00	0.00	0.00	
4,300.00	90.00	271.25	2,750.00	38.13	-1,754.52	1,754.93	0.00	0.00	0.00	
4,400.00	90.00	271.25	2,750.00	40.31	-1,854.49	1,854.93	0.00	0.00	0.00	
4,500.00	90.00	271.25	2,750.00	42.48	-1,954.47	1,954.93	0.00	0.00	0.00	
4,600.00	90.00	271.25	2,750.00	44.65	-2,054.44	2,054.93	0.00	0.00	0.00	
4,700.00	90.00	271.25	2,750.00	46.82	-2,154.42	2,154.93	0.00	0.00	0.00	
4,800.00	90.00	271.25	2,750.00	49.00	-2,254.40	2,254.93	0.00	0.00	0.00	
4,900.00	90.00	271.25	2,750.00	51.17	-2,354.37	2,354.93	0.00	0.00	0.00	
5,000.00	90.00	271.25	2,750.00	53.34	-2,454.35	2,454.93	0.00	0.00	0.00	
5,100.00	90.00	271.25	2,750.00	55.52	-2,554.33	2,554.93	0.00	0.00	0.00	
5,200.00	90.00	271.25	2,750.00	57.69	-2,654.30	2,654.93	0.00	0.00	0.00	
5,300.00	90.00	271.25	2,750.00	59.86	-2,754.28	2,754.93	0.00	0.00	0.00	
5,400.00	90.00	271.25	2,750.00	62.04	-2,854.26	2,854.93	0.00	0.00	0.00	
5,500.00	90.00	271.25	2,750.00	64.21	-2,954.23	2,954.93	0.00	0.00	0.00	
5,600.00	90.00	271.25	2,750.00	66.38	-3,054.21	3,054.93	0.00	0.00	0.00	
5,700.00	90.00	271.25	2,750.00	68.55	-3,154.18	3,154.93	0.00	0.00	0.00	
5,800.00	90.00	271.25	2,750.00	70.73	-3,254.16	3,254.93	0.00	0.00	0.00	
5,900.00	90.00	271.25	2,750.00	72.90	-3,354.14	3,354.93	0.00	0.00	0.00	
6,000.00	90.00	271.25	2,750.00	75.07	-3,454.11	3,454.93	0.00	0.00	0.00	
6,100.00	90.00	271.25	2,750.00	77.25	-3,554.09	3,554.93	0.00	0.00	0.00	
6,200.00	90.00	271.25	2,750.00	79.42	-3,654.07	3,654.93	0.00	0.00	0.00	
6,300.00	90.00	271.25	2,750.00	81.59	-3,754.04	3,754.93	0.00	0.00	0.00	
6,400.00	90.00	271.25	2,750.00	83.76	-3,854.02	3,854.93	0.00	0.00	0.00	
6,500.00	90.00	271.25	2,750.00	85.94	-3,954.00	3,954.93	0.00	0.00	0.00	
6,600.00	90.00	271.25	2,750.00	88.11	-4,053.97	4,054.93	0.00	0.00	0.00	
6,700.00	90.00	271.25	2,750.00	90.28	-4,153.95	4,154.93	0.00	0.00	0.00	
6,800.00	90.00	271.25	2,750.00	92.46	-4,253.93	4,254.93	0.00	0.00	0.00	
6,900.00	90.00	271.25	2,750.00	94.63	-4,353.90	4,354.93	0.00	0.00	0.00	

Crescent Directional Drilling

Planning Report

Database:	R5000 Houston DB	Local Co-ordinate Reference:	Site Clydesdale 1 Fee 1H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3452 00ft (Original Well Elev)
Project:	Eddy County, NM	MD Reference:	WELL @ 3452 00ft (Original Well Elev)
Site:	Clydesdale 1 Fee 1H	North Reference:	Grid
Well:	Clydesdale 1 Fee 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)	
7,000 00	90 00	271 25	2,750 00	96 80	-4,453 88	4,454 93	0 00	0 00	0 00	
7,100 00	90 00	271 25	2,750 00	98 97	-4,553 85	4,554 93	0 00	0 00	0 00	
7,200 00	90 00	271 25	2,750 00	101 15	-4,653 83	4,654 93	0 00	0 00	0 00	
7,300 00	90 00	271 25	2,750 00	103 32	-4,753 81	4,754 93	0 00	0 00	0 00	
7,400 00	90 00	271 25	2,750 00	105 49	-4,853 78	4,854 93	0 00	0 00	0 00	
7,432 52	90 00	271 25	2,750 00	106 20	-4,886 30	4,887 45	0 00	0 00	0 00	
TD @ 7432.52' MD, 2750.00' TVD - PBHL (Clydesdale 1 Fee 1H Plan 1)										

Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)			
PBHL (Clydesdale 1 Fee - plan hits target center - Point	0 00	360 00	2,750 00	106 20	-4,886 30	616,946 30	465,515 40	32° 41' 45 71 N	104° 26' 43 56 W	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
2,272 54	2,272 54	0 00	0 00	KOP - Start Build @ 12 00°/100'	
2,704 01	2,647 64	3 96	-182 00	PP @ 2704 01 MD, 2647 64 TVD, 51 78 INC, 271 25 AZ, 182 05 VS	
3,022 54	2,750 00	10 37	-477 35	Landing Point - Hold @ 90 00° INC, 271 25° AZ	
7,432 52	2,750 00	106 20	-4,886 30	TD @ 7432 52' MD, 2750 00' TVD	



**COG Operating LLC
Clydesdale 1 Fee 1H
Eddy County, NM
Plan #1**



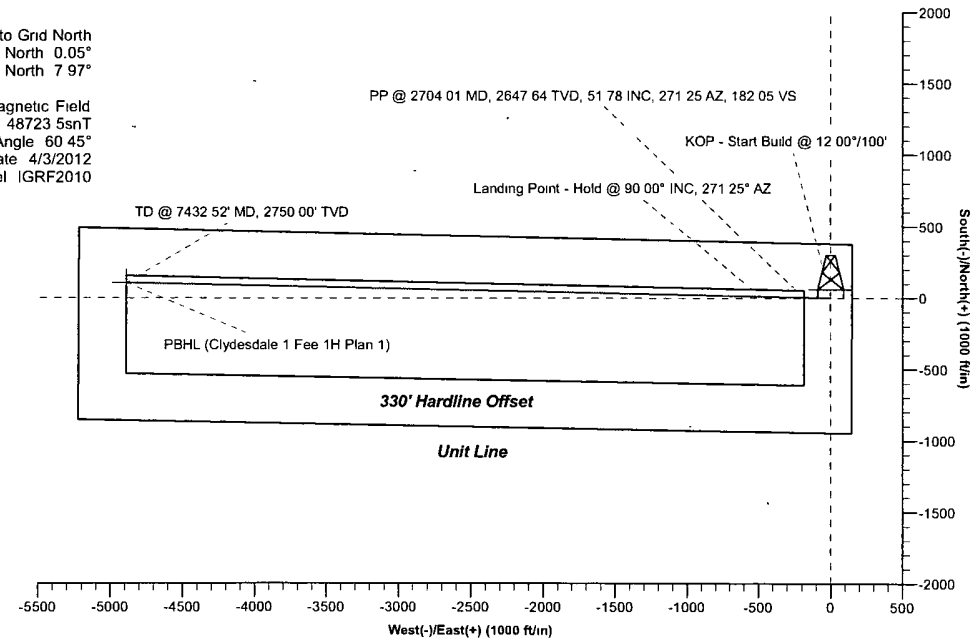
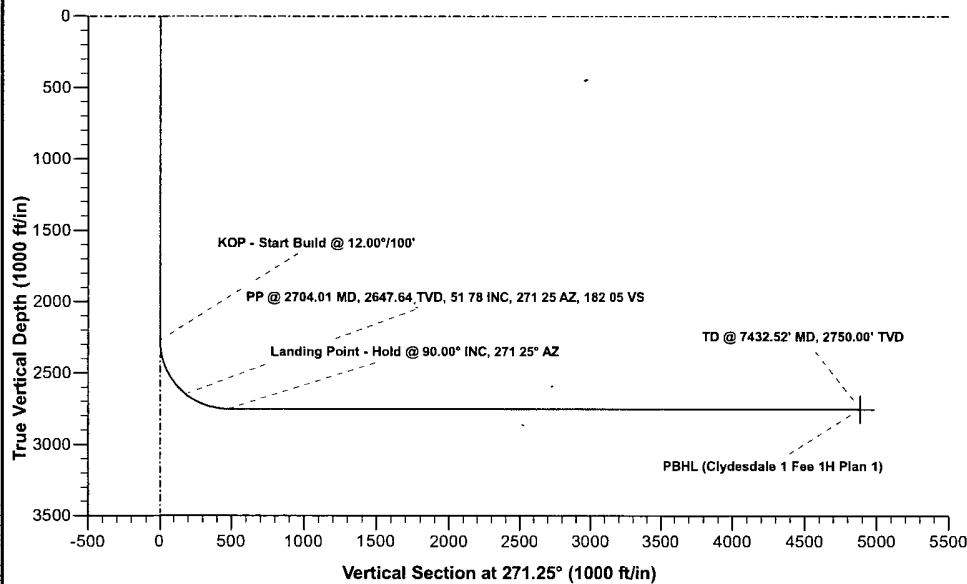
Surface Location		Ground Elev: 3434.00 WELL @ 3452.00ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	616840.10	470401.70	32° 41' 44.71 N	104° 25' 46.38 W

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
PBHL (Clydesdale 1 Fee 1H Plan 1)	2750.00	106.20	-4886.30	616946.30	465515.40	32° 41' 45.71 N 104° 26' 43.56 W



Azimuths to Grid North
True North 0.05°
Magnetic North 7.97°

Magnetic Field
Strength 48723.5nT
Dip Angle 60.45°
Date 4/3/2012
Model IGRF2010



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSect	Annotation
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	KOP - Start Build @ 12.00°/100'
3	3022.54	90.00	271.25	2750.00	10.37	-477.35	12.00	271.25	477.46	Landing Point - Hold @ 90.00° INC, 271.25° AZ
4	7432.52	90.00	271.25	2750.00	106.20	-4886.30	0.00	0.00	4887.45	TD @ 7432.52' MD, 2750.00' TVD