

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

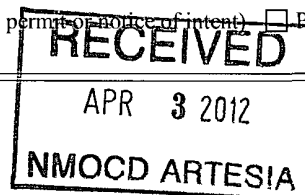
Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

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 #4H**
API Number: **30-015-40131** OCD Permit Number: **212744**
U/L or Qtr/Qtr **UL H** 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 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): **Kacie Connally** Title: **PERMITTING TECH**
Signature: *Kacie Connally* Date: **2/7/12**
e-mail address: **kconnally@concho.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)

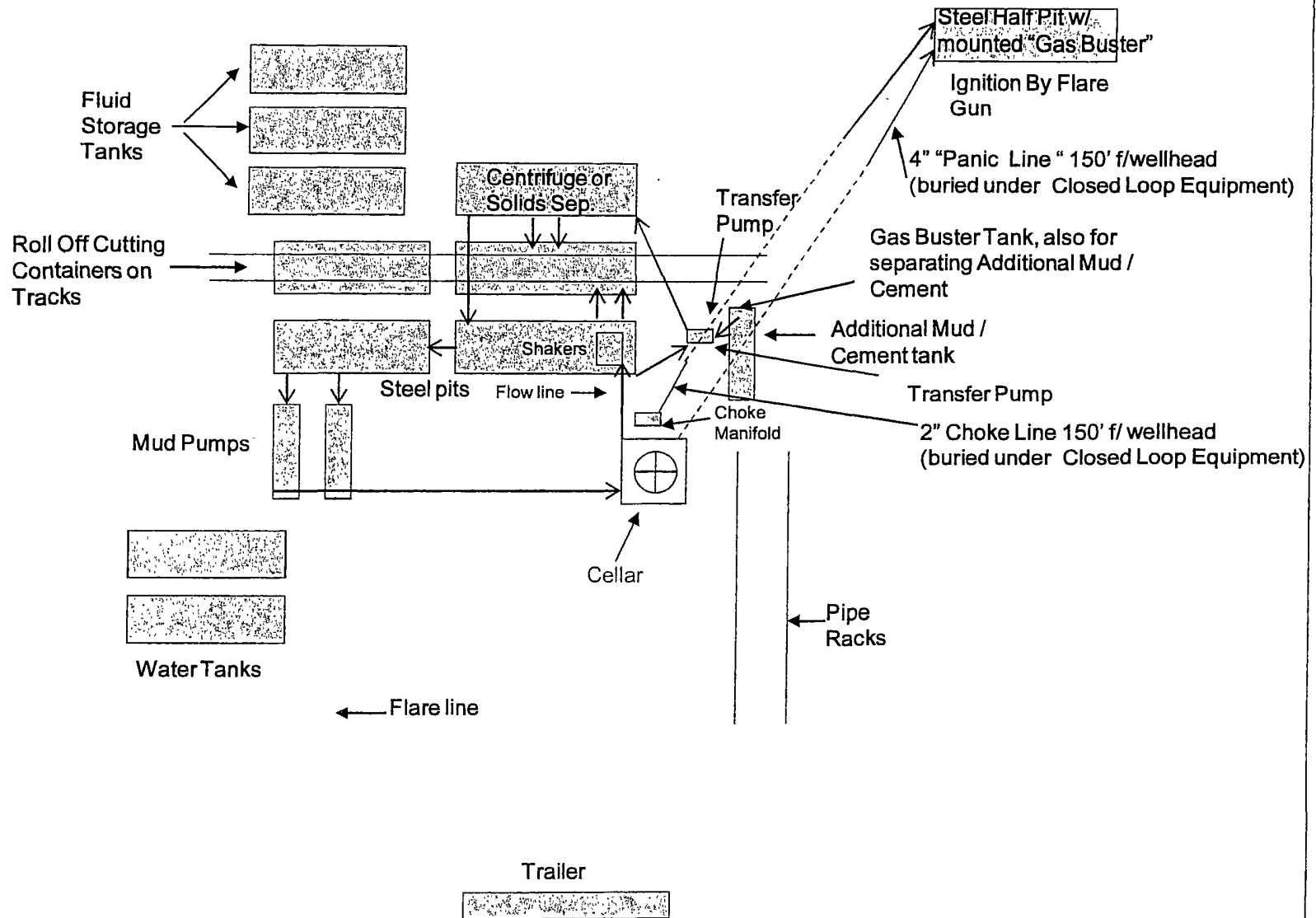
or

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 (NAN27 NME)

Clydesdale 1 Fee #4H

Clydesdale 1 Fee #4H

OH

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

SHL = 2260' FNL & 150' FEL

PP = 2260' FNL & 330' FEL

BHL = 2260' FNL & 330' FWL

Standard Planning Report

23 March, 2012



Scientific Drilling
Directional Drilling Operations



SDI
Planning Report



Database:	EDM 5000-1 Single User Db	Local Co-ordinate Reference:	Site Clydesdale 1 Fee #4H
Company:	COG Operating LLC	TVD Reference:	GL @ 3410'00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL @ 3410'00usft
Site:	Clydesdale 1 Fee #4H	North Reference:	Grid
Well:	Clydesdale 1 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:	Clydesdale 1 Fee #4H		
Site Position:		Northing:	614,960 50 usft
From:	Map	Easting:	470,388 00 usft
Position Uncertainty:	0 00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 41' 26 118 N
		Longitude:	104° 25' 46 509 W
		Grid Convergence:	-0 05 °

Well:	Clydesdale 1 Fee #4H		
Well Position	+N/-S	0 00 usft	Northing:
	+E/-W	0 00 usft	Easting:
Position Uncertainty	0 00 usft	Wellhead Elevation:	Ground Level:
			3,410 00 usft

Wellbore:	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	03/19/12	7 92
			Dip Angle
			60 45
			Field Strength
			48,725

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
			271 25

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	271 25	2,750 00	10 37	-477 35	12 00	12 00	0 00	271 25	
7,428 12	90 00	271 25	2,750 00	106 10	-4,881 90	0 00	0 00	0 00	0 00	PBHL-Clydesdale 1 #



SDI
Planning Report



Database:	EDM 5000 1 Single-User.Db	Local Co-ordinate Reference:	Site Clydesdale 1 Fee #4H
Company:	COG Operating LLC	TVD Reference:	GL @ 3410 00usft
Project:	Eddy County NM (NAN27 NME)	MD Reference:	GL @ 3410 00usft
Site:	Clydesdale 1 Fee #4H	North Reference:	Grid
Well:	Clydesdale 1 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	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
2,701 44	51 47	271 25	2,646 04	3 91	-179 99	180 03	12 00	12 00	0 00
PP-330' FEL Clydesdale 1 Fee #4H									
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 88	-454 83	454 94	12 00	12 00	0 00
3,022 54	90 00	271 25	2,750 00	10 37	-477 36	477 47	12 00	12 00	0 00
Land EOC hold 90.00°									
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 09	-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 30	-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 51	-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 03	-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 72	-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 24	-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 93	-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 45	-4,253 93	4,254 93	0 00	0 00	0 00



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Clydesdale 1 Fee #4H
Company:	CQG Operating LLC	TVD Reference:	GL @ 3410 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL @ 3410 00usft
Site:	Clydesdale 1 Fee #4H	North Reference:	Grid
Well:	Clydesdale 1 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	271 25	2,750 00	94 62	-4,353 90	4,354 93	0 00	0 00	0 00
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 14	-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
7,428 12	90 00	271 25	2,750 00	106 10	-4,881 90	4,883 05	0 00	0 00	0 00
PBHL-Clydesdale 1 #4H									

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	
	Shape								Latitude Longitude
PP-330' FEL Clydesdale		0 00	0 00	2,646 05	3 91	-180 00	614,964 42	470,208 00	32° 41' 26 155 N 104° 25' 48 616 W
- plan hits target center									
- Point									
PBHL-Clydesdale 1 #4H		0 00	0 00	2,750 00	106 10	-4,881 90	615,066 60	465,506 10	32° 41' 27 120 N 104° 26' 43 637 W
- plan hits target center									
- Point									

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	10 37	-477 36	Land EOC hold 90 00°



Clydesdale 1 Fee #4H
Eddy County, NM (NAN27 NME)
Northing (Y) 614960.50
Easting (X) 470388.00
Plan #1 8-3/4" Hole



Azimuths to Grid North
True North 0.05°
Magnetic North 7.97°
Magnetic Field
Strength 46724.1nT
Dip Angle 60.45°
Date 03/19/2012
Model IGRF2010
To convert Magnetic North to Grid Add 7.97°
To convert True North to Grid Add 0.05°

WELL DETAILS Clydesdale 1 Fee #4H

+N-S	+E-W	Northing	Ground Level	Latitude	Longitude	Slot
0.00	0.00	614960.50	470388.00	32° 41' 25.118 N	104° 25' 45.509 W	

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

SECTION DETAILS

Sec	MD	inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSeal	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	271.25	2750.00	10.37	-477.35	12.00	271.25	477.46	
4	7428.12	90.00	271.25	2750.00	106.10	-4681.90	0.00	0.00	4683.05	PBHL-Clydesdale 1 #4H

SITE DETAILS Clydesdale 1 Fee #4H

Site Centre Northing 614960.50
Easting 470388.00
Positional Uncertainty 0.00
Convergence -0.05
Local North Grid
Local Origin Site Clydesdale 1 Fee #4H Grid North
Latitude 32° 41' 26.116 N
Longitude 104° 25' 46.509 W
Grid East 470388.00
Grid North 614960.50
Scale Factor 1.000

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
PP-330 FEL Clydesdale 1 Fee #330-05	3.91	-160.00	614964.41	470208.00	32° 41' 26.155 N	104° 25' 48.618 W	Point	
- plan hits target center								
PBHL-Clydesdale 1 #4H	2750.00	106.10	-4681.90	615066.90	465505.10	32° 41' 27.120 N	104° 25' 43.637 W	Point
- plan hits target center								

LEGEND

— Clydesdale 1 Fee #3H OH, Plan #2 8-3/4" Hole V0
● Plan #1 8-3/4" Hole

