

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

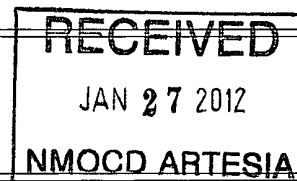
Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a closed-loop system that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, please submit a Form C-144.

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: **RAPTOR 12 STATE COM #2H**
API Number: **30-015 - 39860** OCD Permit Number: **212436**
U/L or Qtr/Qtr **UL I** Section **12** Township **16S** Range **28E** 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): **Kelly J. Holly** Title: **Permitting Tech**
Signature: Date: **1/18/12**
e-mail address: **kholly@concho.com** Telephone: **432-685-4384**

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

OCD Representative Signature: AWade Approval Date: 01/31/2012

Title: DIST # System OCD Permit Number: 212436

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)

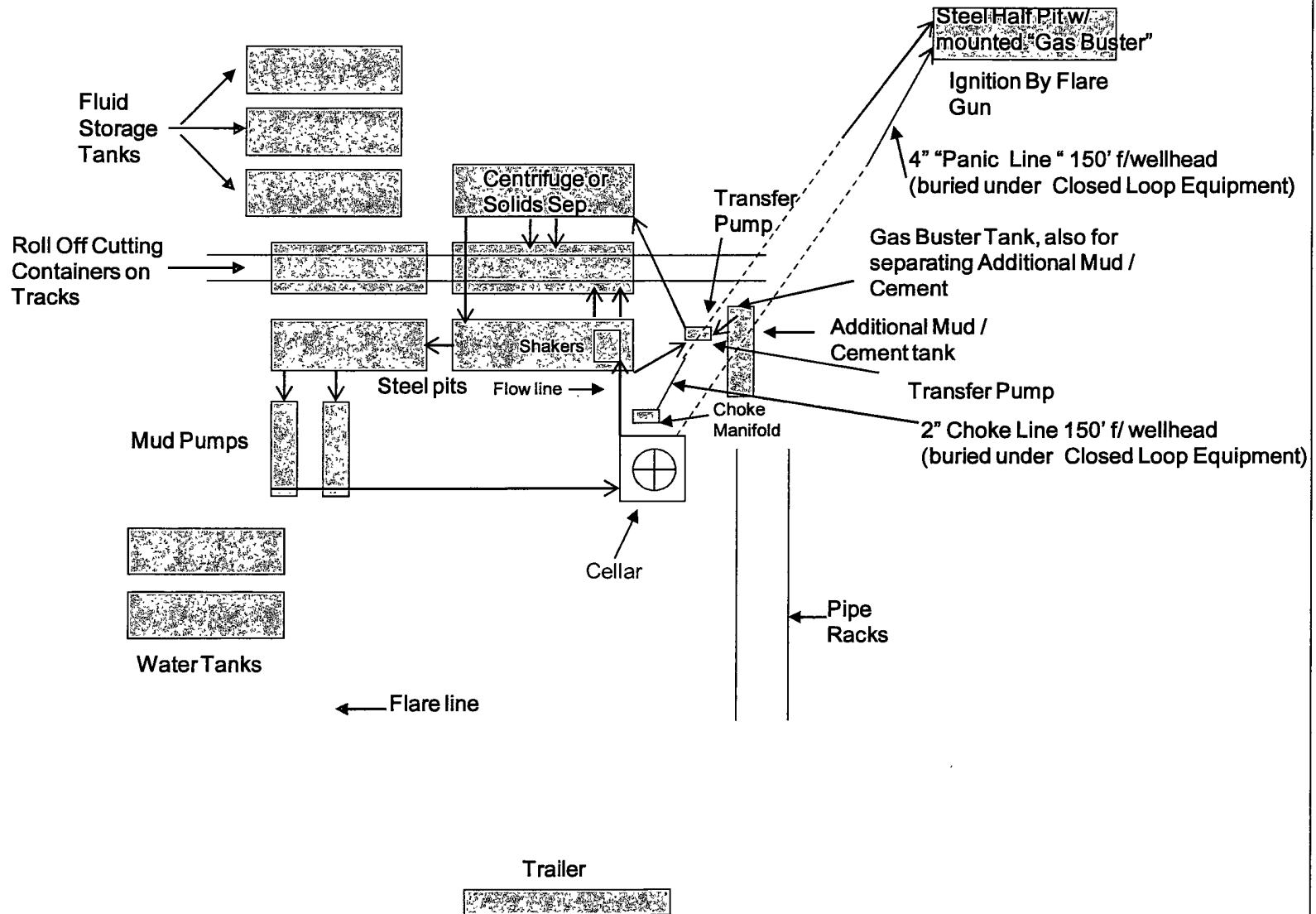
or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.

COG Operating LLC

Closed Loop Equipment Diagram





RECEIVED

JAN 27 2012

NMOCD ARTESIA

COG Operating LLC

Eddy County, NM (NAN27 NME)

Raptor 12 State Com #2H

Raptor 12 State Com #2H

OH

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

SHL = 1980' FSL & 330' FEL

BHL = 1980' FSL & 330' FWL

Standard Planning Report

25 January, 2012



Scientific Drilling
Directional Drilling Operations



Database:	EDM 5000-1 Single User Db	Local Co-ordinate Reference:	Site Raptor 12 State Com #2H
Company:	COG Operating LLC	TVD Reference:	GL @ 3589.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL @ 3589.00usft
Site:	Raptor 12 State Com #2H	North Reference:	Grid
Well:	Raptor 12 State Com #2H	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:	Raptor 12 State Com #2H		
Site Position:		Northing:	704,250.60 usft
From:	Map	Easting:	564,904.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 56' 9.171 N
		Longitude:	104° 7' 18.427 W
		Grid Convergence:	0.12°

Well:	Raptor 12 State Com #2H		
Well Position	+N/-S	0.00 usft	Northing: 704,250.60 usft
	+E/-W	0.00 usft	Easting: 564,904.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level: 3,589.00 usft
			Latitude: 32° 56' 9.171 N
			Longitude: 104° 7' 18.427 W

Wellbore:	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	2012/01/25	(°) 7.82
			Dip Angle (°) 60.73
			Field Strength (nT) 48,921

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 (°) 271.24

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	
6,292.80	0.00	0.00	6,292.80	0.00	0.00	0.00	0.00	0.00	0.00	
7,057.98	91.83	271.24	6,770.00	10.66	-492.54	12.00	12.00	0.00	271.24	
11,136.27	91.83	271.24	6,640.00	98.90	-4,567.80	0.00	0.00	0.00	0.00	PBHL-Raptor 12 #2H



Database:	EDM 5000 1-Single User Db	Local Co-ordinate Reference:	Site Raptor 12 State Com #2H
Company:	COG Operating LLC	TVD Reference:	GL @ 3589'00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL @ 3589 00usft
Site:	Raptor 12 State Com #2H	North Reference:	Grid
Well:	Raptor 12 State Com #2H	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
6,292 80	0 00	0 00	6,292 80	0 00	0 00	0 00	0 00	0 00	0 00
KOP Start Build 12.00°/100'									
6,300 00	0 86	271 24	6,300 00	0 00	-0 05	0 05	12 00	12 00	0 00
6,400 00	12 86	271 24	6,399 10	0 26	-11 98	11 98	12 00	12 00	0 00
6,500 00	24 87	271 24	6,493 56	0 96	-44 25	44 26	12 00	12 00	0 00
6,600 00	36 87	271 24	6,579 24	2 07	-95 45	95 47	12 00	12 00	0 00
6,700 00	48 87	271 24	6,652 40	3 54	-163 33	163 37	12 00	12 00	0 00
6,800 00	60 87	271 24	6,709 84	5 30	-244 95	245 00	12 00	12 00	0 00
6,900 00	72 87	271 24	6,749 06	7 29	-336 72	336 80	12 00	12 00	0 00
7,000 00	84 87	271 24	6,768 33	9 41	-434 63	434 74	12 00	12 00	0 00
7,057 98	91 83	271 24	6,770 00	10 66	-492 54	492 66	12 00	12 00	0 00
Land hold 91.83°									
7,100 00	91 83	271 24	6,768 66	11 57	-534 53	534 65	0 00	0 00	0 00
7,200 00	91 83	271 24	6,765 47	13 74	-634 45	634 60	0 00	0 00	0 00
7,300 00	91 83	271 24	6,762 28	15 90	-734 38	734 55	0 00	0 00	0 00
7,400 00	91 83	271 24	6,759 10	18 06	-834 31	834 50	0 00	0 00	0 00
7,500 00	91 83	271 24	6,755 91	20 23	-934 23	934 45	0 00	0 00	0 00
7,600 00	91 83	271 24	6,752 72	22 39	-1,034 16	1,034 40	0 00	0 00	0 00
7,700 00	91 83	271 24	6,749 53	24 55	-1,134 08	1,134 35	0 00	0 00	0 00
7,800 00	91 83	271 24	6,746 35	26 72	-1,234 01	1,234 30	0 00	0 00	0 00
7,900 00	91 83	271 24	6,743 16	28 88	-1,333 94	1,334 25	0 00	0 00	0 00
8,000 00	91 83	271 24	6,739 97	31 05	-1,433 86	1,434 20	0 00	0 00	0 00
8,100 00	91 83	271 24	6,736 78	33 21	-1,533 79	1,534 15	0 00	0 00	0 00
8,200 00	91 83	271 24	6,733 60	35 37	-1,633 71	1,634 10	0 00	0 00	0 00
8,300 00	91 83	271 24	6,730 41	37 54	-1,733 64	1,734 04	0 00	0 00	0 00
8,400 00	91 83	271 24	6,727 22	39 70	-1,833 56	1,833 99	0 00	0 00	0 00
8,500 00	91 83	271 24	6,724 03	41 86	-1,933 49	1,933 94	0 00	0 00	0 00
8,600 00	91 83	271 24	6,720 85	44 03	-2,033 42	2,033 89	0 00	0 00	0 00
8,700 00	91 83	271 24	6,717 66	46 19	-2,133 34	2,133 84	0 00	0 00	0 00
8,800 00	91 83	271 24	6,714 47	48 35	-2,233 27	2,233 79	0 00	0 00	0 00
8,900 00	91 83	271 24	6,711 28	50 52	-2,333 19	2,333 74	0 00	0 00	0 00
9,000 00	91 83	271 24	6,708 10	52 68	-2,433 12	2,433 69	0 00	0 00	0 00
9,100 00	91 83	271 24	6,704 91	54 84	-2,533 04	2,533 64	0 00	0 00	0 00
9,200 00	91 83	271 24	6,701 72	57 01	-2,632 97	2,633 59	0 00	0 00	0 00
9,300 00	91 83	271 24	6,698 53	59 17	-2,732 90	2,733 54	0 00	0 00	0 00
9,400 00	91 83	271 24	6,695 35	61 34	-2,832 82	2,833 49	0 00	0 00	0 00
9,500 00	91 83	271 24	6,692 16	63 50	-2,932 75	2,933 43	0 00	0 00	0 00
9,600 00	91 83	271 24	6,688 97	65 66	-3,032 67	3,033 38	0 00	0 00	0 00
9,700 00	91 83	271 24	6,685 78	67 83	-3,132 60	3,133 33	0 00	0 00	0 00
9,800 00	91 83	271 24	6,682 59	69 99	-3,232 52	3,233 28	0 00	0 00	0 00
9,900 00	91 83	271 24	6,679 41	72 15	-3,332 45	3,333 23	0 00	0 00	0 00
10,000 00	91 83	271 24	6,676 22	74 32	-3,432 38	3,433 18	0 00	0 00	0 00
10,100 00	91 83	271 24	6,673 03	76 48	-3,532 30	3,533 13	0 00	0 00	0 00
10,200 00	91 83	271 24	6,669 84	78 64	-3,632 23	3,633 08	0 00	0 00	0 00
10,300 00	91 83	271 24	6,666 66	80 81	-3,732 15	3,733 03	0 00	0 00	0 00
10,400 00	91 83	271 24	6,663 47	82 97	-3,832 08	3,832 98	0 00	0 00	0 00
10,500 00	91 83	271 24	6,660 28	85 13	-3,932 01	3,932 93	0 00	0 00	0 00
10,600 00	91 83	271 24	6,657 09	87 30	-4,031 93	4,032 88	0 00	0 00	0 00
10,700 00	91 83	271 24	6,653 91	89 46	-4,131 86	4,132 82	0 00	0 00	0 00
10,800 00	91 83	271 24	6,650 72	91 62	-4,231 78	4,232 77	0 00	0 00	0 00
10,900 00	91 83	271 24	6,647 53	93 79	-4,331 71	4,332 72	0 00	0 00	0 00
11,000 00	91 83	271 24	6,644 34	95 95	-4,431 63	4,432 67	0 00	0 00	0 00
11,100 00	91 83	271 24	6,641 16	98 12	-4,531 56	4,532 62	0 00	0 00	0 00



Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site Raptor 12 State Com #2H
Company:	COG Operating LLC	TVD Reference:	GL @ 3589 00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL @ 3589 00usft
Site:	Raptor 12 State Com #2H	North Reference:	Gnd
Well:	Raptor 12 State Com #2H	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)
11,136.27	91.83	271.24	6,640.00	98.90	-4,567.80	4,568.87	0.00	0.00	0.00
PBHL-Raptor 12 #2H									

Design Targets

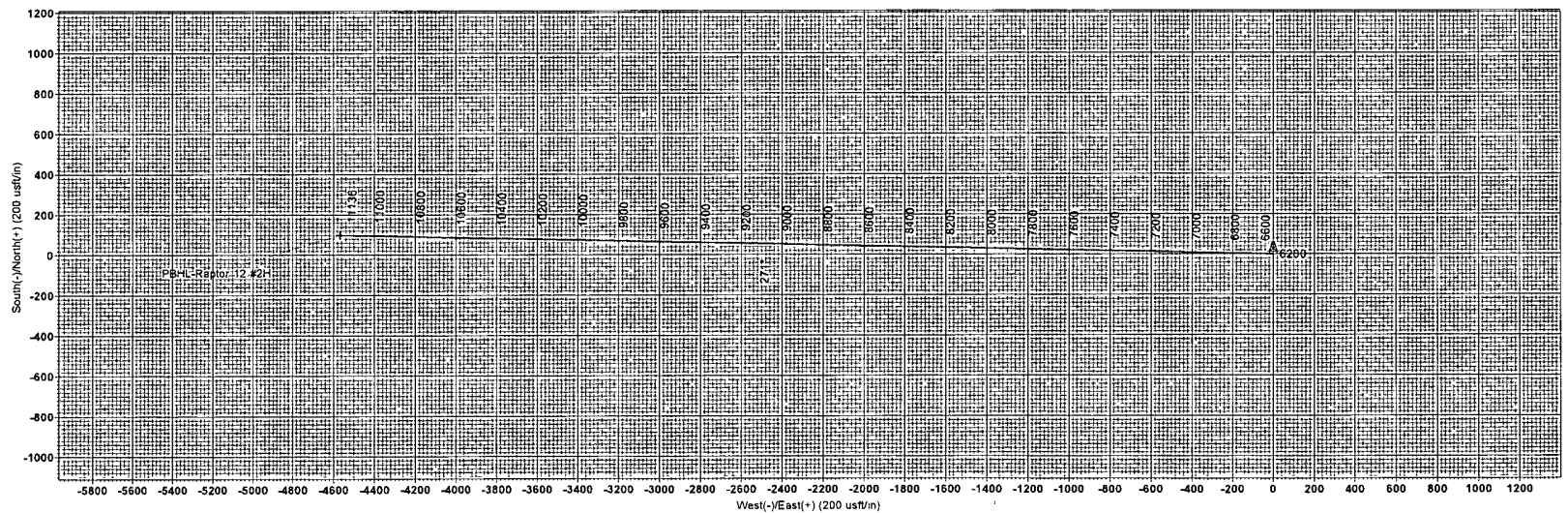
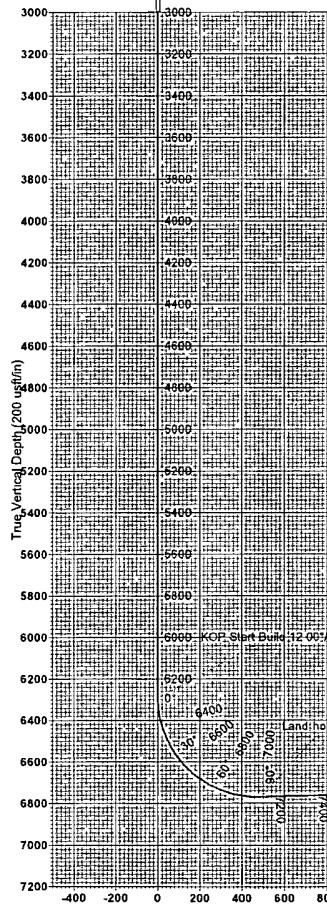
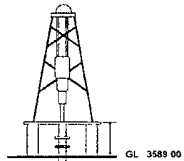
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-Raptor 12 #2H		0.00	0.00	6,640.00	98.90	-4,567.80	704,349.50	560,336.20	32° 56' 10.238 N	104° 8' 12.023 W
- plan hits target center										
- Point										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	+N/-S (usft)	+E/-W (usft)	Comment
6,292.80	6,292.80	0.00	0.00		KOP Start Build 12.00°/100'
7,057.98	6,770.00	10.66	-492.54		Land hold 91.83°



Raptor 12 State Com #2H
Eddy County, NM (NAN27 NME)
Northing (Y) 704250 60
Easting (X) 564904 00
Plan #1 8-3/4" Hole



WELL DETAILS Raptor 12 State Com #2H									
				Ground Level	3599 00				
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot			
0 00	0 00	704250 60	564904 00	32° 56' 9.171 N	104° 7' 18.427 W				

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Deg	TFace	VSec
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2	6292 80	0 00	0 00	6292 80	0 00	0 00	0 00	0 00	0 00
3	7057 88	91 83	271 24	6770 00	10 56	-492 54	12 00	271 24	492 88
4	11136 27	91 53	271 24	6840 00	98 90	-4567 80	0 00	0 00	4568 87
PBHL-Raptor 12 #2H									

DESIGN TARGET DETAILS									
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL-Raptor 12 #2H	6840 00	98 90	-4567 80	704349 50	560336 2032° 56' 10 238 N	104° 8' 12 023 W	Point		
plan has target center									



Arithmetic to Grid North
True North -0.12°
Magnetic North 7.70°
Magnetic Field
Strength 48920 Gauss
Dip Angle 60.73°
Date 2012/01/25
To convert a Magnetic Direction to a Grid Direction Subtract 0.12° Model IGRF2010
To convert a True Direction to a Grid Direction Subtract 0.12°

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

SITE DETAILS Raptor 12 State Com #2H
Site Centre Northing 704250 60
Easting 564904 00
Positional Uncertainty 0 00
Convergence 0 12
Local North Grid

Map System US State Plane 1927 (Exact solution)
Datum NAD 1927 (NADCON CONUS)
Ellipsoid Clarke 1866
Zone Name New Mexico East 3001
Local Origin Site Raptor 12 State Com #2H, Grid North
Latitude 32° 56' 9.171 N
Longitude 104° 7' 18.427 W
Grid East 564904 00
Grid North 704250 60
Scale Factor 1.000

Geomagnetic Model IGRF2010
Sample Date 25-Jan-12
Magnetic Declination 7.82°
Dip Angle from Horizontal 60.73°
Magnetic Field Strength 48921
To convert a Magnetic Direction to a Grid Direction, Add 7.70°
To convert a Magnetic Direction to a True Direction, Add 7.82° East
To convert a True Direction to a Grid Direction, Subtract 0.12°

LEGEND

Plan #1 8-3/4" Hole