

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

Carlsbad Field Office
OCD Artesia

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMLC028784B
2. Name of Operator COG OPERATING LLC		6. If Indian, Allottee or Tribe Name
3a. Address 600 W ILLINOIS AVENUE MIDLAND, TX 79701		7. If Unit or CA/Agreement, Name and/or No. NMNM88525X
3b. Phone No. (include area code) Ph: 432-685-4385		8. Well Name and No. BURCH KEELY UNIT 946H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 23 T17S R29E NENE 487FNL 342FEL 32.825954 N Lat, 104.037971 W Lon		9. API Well No. 30-015-44100-00-X1
		10. Field and Pool or Exploratory Area BURCH KEELY-GLORIETA-UPPER YE
		11. County or Parish, State EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

COG Operating LLC respectfully requests to change the bottom hole location of this well.

From: 330 FNL 330 FWL
To: 330 FNL 10 FWL

This change is to maximize the returns and reduce waste of the reservoir. Attached is a revised plat and directional plan.

NEW OIL CONSERVATION
ARTESIA DISTRICT

MAY 19 2017

- BHL in "unorthodox".

DENIED

RECEIVED

14. I hereby certify that the foregoing is true and correct. Electronic Submission #375286 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by DEBORAH MCKINNEY on 05/10/2017 (17DLM1670SE)	
Name (Printed/Typed) ROBYN RUSSELL	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 05/08/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By DENIED	MUSTAFA HAQUE Title PETROLEUM ENGINEER	Date 05/16/2017
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office Carlsbad

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RWP 6-27

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-44100	² Pool Code 97918	³ Pool Name Burch Keely; Glorieta-Upper Yeso
⁴ Property Code 308086	⁵ Property Name BURCH KEELY UNIT	⁶ Well Number 946H
⁷ OGRID NO. 229137	⁸ Operator Name COG OPERATING, LLC	⁹ Elevation 3602'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North South line	Feet From the	East West line	County
A	23	17S	29E		487	NORTH	342	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

U/L or lot no	Section	Township	Range	Lot Idn	Feet from the	North South line	Feet from the	East West line	County
D	23	17S	29E		330	NORTH	10	WEST	EDDY

12 Dedicated Acres 160	13 Joint or Infill	14 Consolidation Code	15 Order No
---------------------------	--------------------	-----------------------	-------------

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

CORNER DATA

NAD 83 GRID - NM EAST

A: FND USGL BC 19'4
N 659544.7 - E 627143.8

B: FND USGL BC 9'4
N 662184.6 - E 627134.6

FND USGL BC 19'4
N 664824.0 - E 627124.4

D: FND 1/2\" PEABAR
N 664626.4 - E 629765.3

E: FND 1\" STEEL PIPE
N 664828.6 - E 632407.9

F: FND 3/4\" IRON PIPE
N 662189.9 - E 632413.4

G: FND 2\" GALVANIZED PIPE
N 659552.3 - E 632418.3

WELL LOCATION

NAD 83 GRID - NM EAST

SURFACE LOCATION
N 664347.4 - E 632061

LAT: 32.82595338° N
LONG: 104.03796856° W

BOTTOM HOLE

N 664494.7 - E 627135

LAT: 32.82640981° N
LONG: 104.05402642° W

1. OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that the same is not entered for a work interest or mineral interest in the land, nor above the proposed bottom hole location or has a right to drill the well at the location pursuant to a contract with an owner of such a mineral or working interest or to a voluntary pooling agreement or a compulsory pooling agreement hereinafter entered by the district.

Signature: Robyn M. Russell Date: 05/01/2017

Printed Name: Robyn M. Russell

E-mail Address: Russell@concho.com

2. SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

5/6/2013
Date of Survey

Signature and Seal of Professional Surveyor:

19680
Certificate Number

3/23/17 BH CHANGE



COG Operating LLC

Eddy County, NM (NAD-27 2015)

Burch Keely Unit #946H

SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A

PP: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A

BHL: 330' FNL, 10' FWL, Sec 23, T17S, R29E, Unit D

Plan: Design #1

Standard Planning Report

03 May, 2017





Planning Report



Database: EDM 5000.1 Single User Db
Company: COG Operating LLC
Project: Eddy County, NM (NAD-27 2015)
Site: Burch Keely Unit #946H
Well: SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A
Wellbore: BHL: 330' FNL, 10' FWL, Sec 23, T17S, R29E, Unit D
Design: Design #1

Local Co-ordinate Reference: Well SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A
TVD Reference: KB @ 3620.00usft (Patriot 6)
MD Reference: KB @ 3620.00usft (Patriot 6)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM (NAD-27 2015)		
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	Burch Keely Unit #946H		
Site Position:		Northing:	664,278.00 usft
From:	Map	Easting:	590,888.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	32° 49' 33.015 N
		Longitude:	104° 2' 14.853 W
		Grid Convergence:	0.16 °

Well	SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A		
Well Position	+N/-S	0.00 usft	Northing: 664,278.00 usft
	+E/-W	0.00 usft	Easting: 590,888.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,620.00 usft
		Latitude:	32° 49' 33.015 N
		Longitude:	104° 2' 14.853 W
		Ground Level:	3,602.00 usft

Wellbore	BHL: 330' FNL, 10' FWL, Sec 23, T17S, R29E, Unit D				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/03/17	7.23	60.54	48,256

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	271.77

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	
4,429.21	0.00	0.00	4,429.21	0.00	0.00	0.00	0.00	0.00	0.00	
5,256.48	91.00	271.77	4,950.00	16.40	-529.71	11.00	11.00	0.00	271.77	
9,660.85	91.00	271.77	4,873.13	152.70	-4,931.30	0.00	0.00	0.00	0.00	PBHL Plat (BKU 946+



Planning Report



Database: EDM 5000.1 Single User Db

Local Co-ordinate Reference:

Well SHL: 487' FNL, 342' FEL, Sec 23, T17S,
R29E, Unit A

Company: COG Operating LLC

TVD Reference:

KB @ 3620.00usft (Patriot 6)

Project: Eddy County, NM (NAD-27 2015)

MD Reference:

KB @ 3620.00usft (Patriot 6)

Site: Burch Keely Unit #946H

North Reference:

Grid

Well: SHL: 487' FNL, 342' FEL, Sec 23, T17S,
R29E, Unit A

Survey Calculation Method:

Minimum Curvature

Wellbore: BHL: 330' FNL, 10' FWL, Sec 23, T17S,
R29E, Unit D

Design: Design #1

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,429.21	0.00	0.00	4,429.21	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 11.00									
4,450.00	2.29	271.77	4,449.99	0.01	-0.41	0.42	11.00	11.00	0.00
4,500.00	7.79	271.77	4,499.78	0.15	-4.80	4.80	11.00	11.00	0.00
4,550.00	13.29	271.77	4,548.92	0.43	-13.94	13.94	11.00	11.00	0.00
4,600.00	18.79	271.77	4,596.96	0.86	-27.74	27.75	11.00	11.00	0.00



Planning Report



Database: EDM 5000.1 Single User Db

Local Co-ordinate Reference:

Well SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A

Company: COG Operating LLC

TVD Reference:

KB @ 3620.00usft (Patriot 6)

Project: Eddy County, NM (NAD-27 2015)

MD Reference:

KB @ 3620.00usft (Patriot 6)

Site: Burch Keely Unit #946H

North Reference:

Grid

Well: SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A

Survey Calculation Method:

Minimum Curvature

Wellbore: BHL: 330' FNL, 10' FWL, Sec 23, T17S, R29E, Unit D

Design: Design #1

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)
4,650.00	24.29	271.77	4,643.45	1.43	-46.08	46.10	11.00	11.00	0.00
4,700.00	29.79	271.77	4,687.97	2.13	-68.79	68.82	11.00	11.00	0.00
4,750.00	35.29	271.77	4,730.10	2.96	-95.66	95.70	11.00	11.00	0.00
4,800.00	40.79	271.77	4,769.47	3.92	-126.44	126.50	11.00	11.00	0.00
4,850.00	46.29	271.77	4,805.70	4.98	-160.85	160.93	11.00	11.00	0.00
4,900.00	51.79	271.77	4,838.46	6.15	-198.57	198.67	11.00	11.00	0.00
4,950.00	57.29	271.77	4,867.46	7.41	-239.26	239.38	11.00	11.00	0.00
5,000.00	62.79	271.77	4,892.42	8.75	-282.54	282.68	11.00	11.00	0.00
5,050.00	68.29	271.77	4,913.12	10.16	-328.02	328.17	11.00	11.00	0.00
5,100.00	73.79	271.77	4,929.36	11.62	-375.26	375.44	11.00	11.00	0.00
5,150.00	79.29	271.77	4,941.00	13.12	-423.85	424.05	11.00	11.00	0.00
5,200.00	84.79	271.77	4,947.92	14.66	-473.32	473.55	11.00	11.00	0.00
5,250.00	90.29	271.77	4,950.07	16.20	-523.23	523.48	11.00	11.00	0.00
5,256.48	91.00	271.77	4,950.00	16.40	-529.71	529.96	11.00	11.00	0.00
Start 4404.37 hold at 5256.48 MD									
5,300.00	91.00	271.77	4,949.24	17.75	-573.20	573.48	0.00	0.00	0.00
5,400.00	91.00	271.77	4,947.49	20.84	-673.14	673.46	0.00	0.00	0.00
5,500.00	91.00	271.77	4,945.75	23.94	-773.08	773.45	0.00	0.00	0.00
5,600.00	91.00	271.77	4,944.00	27.03	-873.01	873.43	0.00	0.00	0.00
5,700.00	91.00	271.77	4,942.26	30.13	-972.95	973.42	0.00	0.00	0.00
5,800.00	91.00	271.77	4,940.51	33.22	-1,072.89	1,073.40	0.00	0.00	0.00
5,900.00	91.00	271.77	4,938.77	36.32	-1,172.82	1,173.38	0.00	0.00	0.00
6,000.00	91.00	271.77	4,937.02	39.41	-1,272.76	1,273.37	0.00	0.00	0.00
6,100.00	91.00	271.77	4,935.28	42.51	-1,372.70	1,373.35	0.00	0.00	0.00
6,200.00	91.00	271.77	4,933.53	45.60	-1,472.63	1,473.34	0.00	0.00	0.00
6,300.00	91.00	271.77	4,931.79	48.70	-1,572.57	1,573.32	0.00	0.00	0.00
6,400.00	91.00	271.77	4,930.04	51.79	-1,672.51	1,673.31	0.00	0.00	0.00
6,500.00	91.00	271.77	4,928.29	54.88	-1,772.44	1,773.29	0.00	0.00	0.00
6,600.00	91.00	271.77	4,926.55	57.98	-1,872.38	1,873.28	0.00	0.00	0.00
6,700.00	91.00	271.77	4,924.80	61.07	-1,972.32	1,973.26	0.00	0.00	0.00
6,800.00	91.00	271.77	4,923.06	64.17	-2,072.25	2,073.25	0.00	0.00	0.00
6,900.00	91.00	271.77	4,921.31	67.26	-2,172.19	2,173.23	0.00	0.00	0.00
7,000.00	91.00	271.77	4,919.57	70.36	-2,272.13	2,273.22	0.00	0.00	0.00
7,100.00	91.00	271.77	4,917.82	73.45	-2,372.07	2,373.20	0.00	0.00	0.00
7,200.00	91.00	271.77	4,916.08	76.55	-2,472.00	2,473.19	0.00	0.00	0.00
7,300.00	91.00	271.77	4,914.33	79.64	-2,571.94	2,573.17	0.00	0.00	0.00
7,400.00	91.00	271.77	4,912.59	82.74	-2,671.88	2,673.16	0.00	0.00	0.00
7,500.00	91.00	271.77	4,910.84	85.83	-2,771.81	2,773.14	0.00	0.00	0.00
7,600.00	91.00	271.77	4,909.10	88.93	-2,871.75	2,873.13	0.00	0.00	0.00
7,700.00	91.00	271.77	4,907.35	92.02	-2,971.69	2,973.11	0.00	0.00	0.00
7,800.00	91.00	271.77	4,905.61	95.11	-3,071.62	3,073.10	0.00	0.00	0.00
7,900.00	91.00	271.77	4,903.86	98.21	-3,171.56	3,173.08	0.00	0.00	0.00
8,000.00	91.00	271.77	4,902.12	101.30	-3,271.50	3,273.07	0.00	0.00	0.00
8,100.00	91.00	271.77	4,900.37	104.40	-3,371.43	3,373.05	0.00	0.00	0.00
8,200.00	91.00	271.77	4,898.63	107.49	-3,471.37	3,473.03	0.00	0.00	0.00
8,300.00	91.00	271.77	4,896.88	110.59	-3,571.31	3,573.02	0.00	0.00	0.00
8,400.00	91.00	271.77	4,895.14	113.68	-3,671.24	3,673.00	0.00	0.00	0.00
8,500.00	91.00	271.77	4,893.39	116.78	-3,771.18	3,772.99	0.00	0.00	0.00
8,600.00	91.00	271.77	4,891.64	119.87	-3,871.12	3,872.97	0.00	0.00	0.00
8,700.00	91.00	271.77	4,889.90	122.97	-3,971.06	3,972.96	0.00	0.00	0.00
8,800.00	91.00	271.77	4,888.15	126.06	-4,070.99	4,072.94	0.00	0.00	0.00



Planning Report



Database: EDM 5000.1 Single User Db

Local Co-ordinate Reference:

Well SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A

Company: COG Operating LLC

TVD Reference:

KB @ 3620.00usft (Patriot 6)

Project: Eddy County, NM (NAD-27 2015)

MD Reference:

KB @ 3620.00usft (Patriot 6)

Site: Burch Keely Unit #946H

North Reference:

Grid

Well: SHL: 487' FNL, 342' FEL, Sec 23, T17S, R29E, Unit A

Survey Calculation Method:

Minimum Curvature

Wellbore: BHL: 330' FNL, 10' FWL, Sec 23, T17S, R29E, Unit D

Design: Design #1

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)
8,900.00	91.00	271.77	4,886.41	129.15	-4,170.93	4,172.93	0.00	0.00	0.00
9,000.00	91.00	271.77	4,884.66	132.25	-4,270.87	4,272.91	0.00	0.00	0.00
9,100.00	91.00	271.77	4,882.92	135.34	-4,370.80	4,372.90	0.00	0.00	0.00
9,200.00	91.00	271.77	4,881.17	138.44	-4,470.74	4,472.88	0.00	0.00	0.00
9,300.00	91.00	271.77	4,879.43	141.53	-4,570.68	4,572.87	0.00	0.00	0.00
9,400.00	91.00	271.77	4,877.68	144.63	-4,670.61	4,672.85	0.00	0.00	0.00
9,500.00	91.00	271.77	4,875.94	147.72	-4,770.55	4,772.84	0.00	0.00	0.00
9,600.00	91.00	271.77	4,874.19	150.82	-4,870.49	4,872.82	0.00	0.00	0.00
9,660.85	91.00	271.77	4,873.13	152.70	-4,931.30	4,933.66	0.00	0.00	0.00

TD at 9660.85

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 (BKU 946H/L1) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	664,278.00	590,888.00	32° 49' 33.015 N	104° 2' 14.853 W
PBHL Plat (BKU 946H/L) - plan hits target center - Point	0.00	0.00	4,873.13	152.70	-4,931.30	664,430.70	585,956.70	32° 49' 34.659 N	104° 3' 12.639 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
4,429.21	4,429.21	0.00	0.00	Start Build 11.00
5,256.48	4,950.00	16.40	-529.71	Start 4404.37 hold at 5256.48 MD
9,660.85	4,873.13	152.70	-4,931.30	TD at 9660.85



Project: Eddy County, NM (NAD-27 2015)

Site: Burch Keely Unit #946H

Well: SHL: 487" ENL: 342" FEL: Sec 23, T17S, R29E, Unit A
Site: Burch Keely Unit #546H

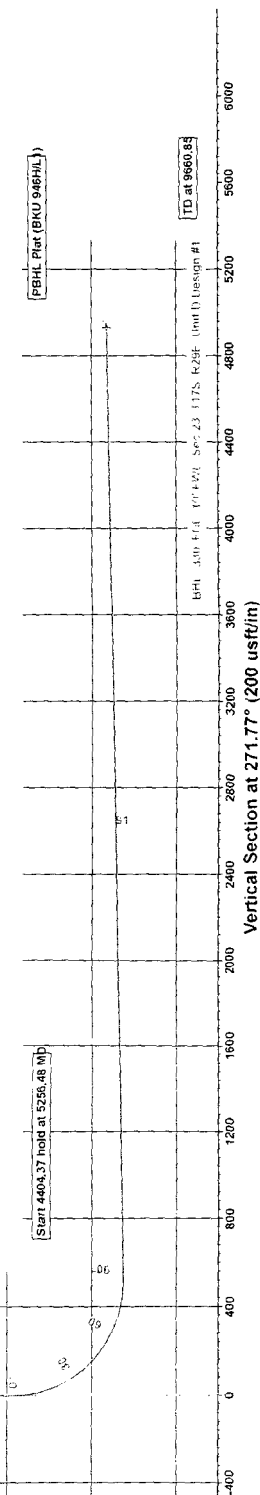
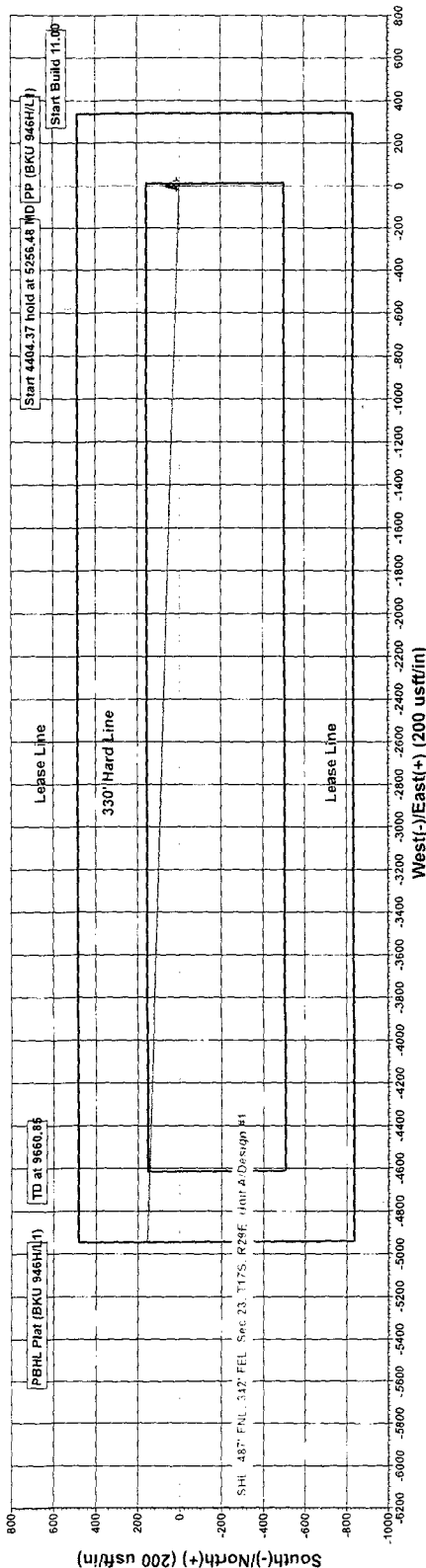
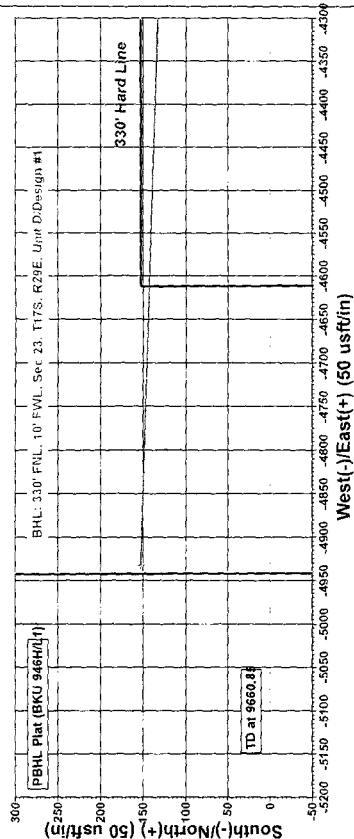
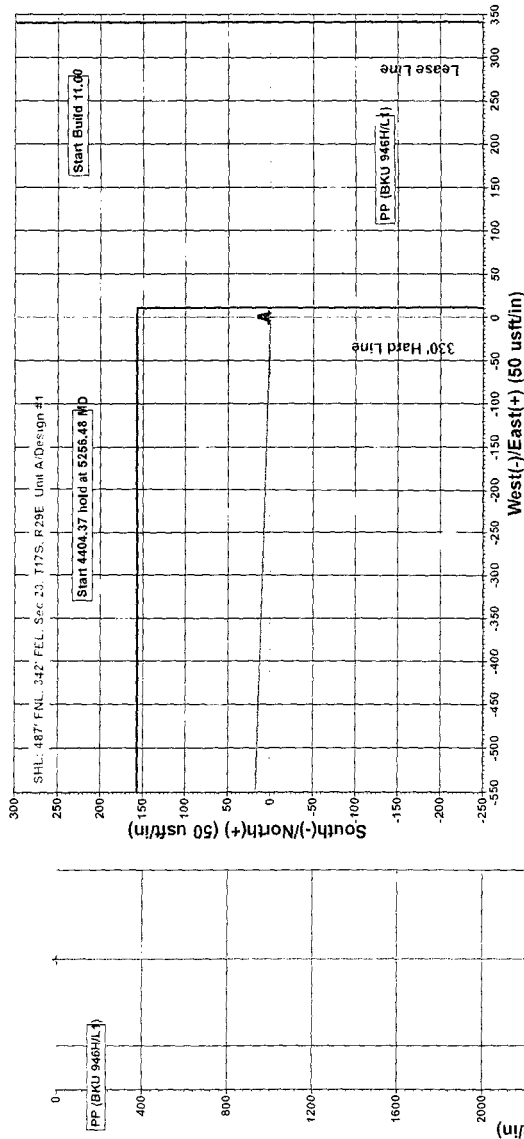
Well: 487 FNL, 34Z FEL, Sec 23, 117S, R29E, Unit A
Wellbore: BHL: 330' ENL 10' EWL Sec 23 T17S R29E Unit D

Well: 487 FNL, 34Z FEL, Sec 23, 117S, R29E, Unit A
Wellbore: BHL: 330' ENL 10' EWL Sec 23 T17S R29E Unit D

Wellbore: BHL: 330' FNL, 10' FWL, Sec 23, T17S, R29E, Unit D
Plan: Design #1 / SHL: 487' ENI, 342' FEI, Sec 23, T17S, R29E, Unit D

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	44.25	0.00	0.00	44.29	0.00	0.00	0.00	0.00	0.00	
3	52.56	91.00	271.77	4950.00	16.40	-52.91	11.00	271.77	529.36	PHH
4	96.60	85.00	271.77	4873.13	152.70	-49.31	30.00	0.00	493.66	PHH



True North: -0.16°
Magnetic North: 7.07°

Magnetic Field
Strength: 48256.4snT
Dip Angle: 60.54°
Date: 05/03/2017
Model: IGRF2015

PROJECT DETAILS: Eddy County, NM (NAD-27 2015)
Geodetic System: US State Plane 1927 (Exact solution)
Date: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Ground Elevation:: 3602.00

RKB Elevation: KB @ 3620.00usft (Patriot 6)
Ground Elevation: 3602.00

Northings	Easting	Latitude	Longitude
590888.00	32° 49' 33.015 N	104° 2' 14.853 W	
664278.00			

Terra Directional Services LLC
3705 South County Road 1210, Midland, TX 79706
Phone: 432-618-1210

