

NM OIL CONSERVATION
ARTESIA DISTRICT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MAY 18 2015
OCD/Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM114969
2. Name of Operator COG OPERATING LLC		6. If Indian, Allottee or Tribe Name
3a. Address ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701		7. If Unit or CA/Agreement, Name and/or No.
3b. Phone No. (include area code) Ph: 575.748.6945		8. Well Name and No. MARSH OWL FEDERAL COM 1H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 12 T26S R26E SWSE 10FSL 1770FEL 32.049727 N Lat, 104.243246 W Lon		9. API Well No. 30-015-43073-00-X1
		10. Field and Pool, or Exploratory WILDCAT
		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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 ☐ Fracture Treat ☐ Reclamation ☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair ☐ New Construction ☐ Recomplete ☒ Other
	☐ Change Plans ☐ Plug and Abandon ☐ Temporarily Abandon ☐ Change to Original APD
	☐ Convert to Injection ☐ Plug Back ☐ Water Disposal

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 recomplete 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall 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 approval for the following drilling changes to the original approved APD.

See attached.

cement must reach 500 PSI

COAs from EC # 300494 still stand.

Accepted for record

AD NMOC 5/28/15

14. I hereby certify that the foregoing is true and correct. Electronic Submission #301751 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER SANCHEZ on 05/14/2015 (15JAS0351SE)	
Name (Printed/Typed) MAYTE X REYES	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 05/14/2015
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By	Title
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	

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

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

COG Operating LLC, Marsh Owl Federal Com 1H

COG, Operating, LLC respectfully requests the following changes to the approved drilling plan.

A different rig will be utilized than originally planned with a 9' higher KB. This will change the casing depths of the surface from 216' to 225' and the intermediate string from 1917' to 1926'.

It was required to obtain approval from Yates Petroleum of the directional plan as the well path crosses Yates' lease. The approved directional plan is attached, and the corresponding changes to the production casing depths, pilot hole kick-off plug depths, etc., are shown below.

It is requested that the entire pilot hole interval be drilled with 8-3/4" bits rather than tapering down to 7-7/8" bits as in the original application. The resulting change in the pilot hole cement plug volumes are indicated below.

It is requested that Halliburton's Tuned Light cement be used for the lead cement on the production casing as indicated below. *Cement must reach 500ps.*

Geologic Formations

TVD of target	7412'	Pilot hole depth	10015'
MD at TD:	14314'	Deepest expected fresh water:	26'

Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Prod.	775	10.3	3.52	21.3	75	Lead: Halliburton Tuned Lite w/ 2# kolseal, 1.5# salt, 1/4# D-Air 5000, 1/8# PEF, etc
	1980	14.4	1.25	5.7	22	Tail: 50:50:2 H blend (FR, Retarder, FL adds as necessary)

Casing String	TOC	% Excess
Production	0'	49%

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type
5800'	6400'	25	320	17.2	0.98	3.62	Class H
9015'	10015'	17	500	17.2	0.98	3.62	Class H

KOP: 6000'

Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
	Are anchors required by manufacturer? No.	



COG Operating, LLC

Eddy County, NM (NAD 27)

Sec12, T26S, R26E

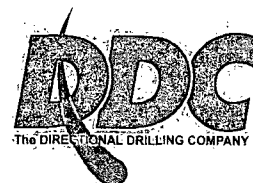
Marsh Owl Federal Com #1H

Wellbore #1

Plan: Design #3

DDC Well Planning Report

14 May, 2015





HP
Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Marsh Owl Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	Well @ 3272.0usft (Scandrift, Freedom)
Project:	Eddy County, NM (NAD 27)	MD Reference:	Well @ 3272.0usft (Scandrift, Freedom)
Site:	Sec12, T26S, R26E	North Reference:	Grid
Well:	Marsh Owl Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

Project:	Eddy County, NM (NAD 27)		
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:	Sec12, T26S, R26E		
Site Position:	From:	Map	
	Northing:	381,824.00 usft	Latitude: 32° 2' 58.985 N
	Easting:	527,501.60 usft	Longitude: 104° 14' 40.449 W
Position Uncertainty:	0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.05 °

Well:	Marsh Owl Federal Com #1H		
Well Position	+N-S	0.0 usft	Northing: 381,824.00 usft
	+E-W	0.0 usft	Easting: 527,501.60 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Ground Level:	3,255.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	5/13/2015	7.47
			Dip Angle (°)
			59.82
			Field Strength (nT)
			47,977

Design	Design #3		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			74.58

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,601.1	72.13	40.86	6,454.4	250.3	216.5	12.00	12.00	0.00	40.86	
8,233.3	72.13	40.86	6,955.2	1,425.3	1,232.8	0.00	0.00	0.00	0.00	
8,968.5	72.13	87.33	7,192.6	1,721.0	1,841.5	6.00	0.00	6.32	97.51	PP Marsh Owl Federa
9,180.7	59.40	87.33	7,279.5	1,730.0	2,034.4	6.00	-6.00	0.00	180.00	
9,664.4	88.42	87.33	7,412.1	1,751.4	2,493.7	6.00	6.00	0.00	-0.01	
14,314.2	88.42	87.33	7,540.0	1,968.2	7,136.7	0.00	0.00	0.00	0.00	PBHL Marsh Owl Fed



HP
Well Planning Report



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Project:	Eddy County NM (NAD 27)	MD Reference:	Well @ 3272.0usft (Scandrift Freedom)
Site:	Sec 12, T26S, R26E	North Reference:	Grid
Well:	Marsh Owl Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)
KOP 12°/100'									
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	12.00	40.86	6,099.3	7.9	6.8	8.7	12.00	12.00	0.00
6,200.0	24.00	40.86	6,194.2	31.2	27.0	34.3	12.00	12.00	0.00
6,300.0	36.00	40.86	6,280.6	69.0	59.7	75.8	12.00	12.00	0.00
6,400.0	48.00	40.86	6,354.8	119.5	103.3	131.4	12.00	12.00	0.00
6,500.0	60.00	40.86	6,413.5	180.6	156.2	198.6	12.00	12.00	0.00
6,600.0	72.00	40.86	6,454.1	249.5	215.8	274.4	12.00	12.00	0.00
End of Build / 72.13° Inc / 40.86° Azm									
6,601.1	72.13	40.86	6,454.4	250.3	216.5	275.3	12.00	12.00	0.00
FBSG sand									
6,626.2	72.13	40.86	6,462.1	268.4	232.1	295.1	0.00	0.00	0.00
6,700.0	72.13	40.86	6,484.8	321.5	278.1	353.6	0.00	0.00	0.00
6,800.0	72.13	40.86	6,515.5	393.5	340.4	432.7	0.00	0.00	0.00
6,900.0	72.13	40.86	6,546.1	465.5	402.6	511.9	0.00	0.00	0.00
7,000.0	72.13	40.86	6,576.8	537.5	464.9	591.0	0.00	0.00	0.00
7,100.0	72.13	40.86	6,607.5	609.5	527.1	670.2	0.00	0.00	0.00
7,200.0	72.13	40.86	6,638.2	681.4	589.4	749.4	0.00	0.00	0.00
7,300.0	72.13	40.86	6,668.9	753.4	651.7	828.5	0.00	0.00	0.00
7,400.0	72.13	40.86	6,699.5	825.4	713.9	907.7	0.00	0.00	0.00
7,500.0	72.13	40.86	6,730.2	897.4	776.2	986.9	0.00	0.00	0.00
7,600.0	72.13	40.86	6,760.9	969.4	838.5	1,066.0	0.00	0.00	0.00
7,700.0	72.13	40.86	6,791.6	1,041.4	900.7	1,145.2	0.00	0.00	0.00
7,800.0	72.13	40.86	6,822.2	1,113.4	963.0	1,224.3	0.00	0.00	0.00
7,900.0	72.13	40.86	6,852.9	1,185.4	1,025.3	1,303.5	0.00	0.00	0.00
8,000.0	72.13	40.86	6,883.6	1,257.3	1,087.5	1,382.7	0.00	0.00	0.00
8,100.0	72.13	40.86	6,914.3	1,329.3	1,149.8	1,461.8	0.00	0.00	0.00
8,200.0	72.13	40.86	6,945.0	1,401.3	1,212.0	1,541.0	0.00	0.00	0.00
Turn 6°/100'									
8,233.3	72.13	40.86	6,955.2	1,425.3	1,232.8	1,567.4	0.00	0.00	0.00
8,300.0	71.66	45.04	6,975.9	1,471.7	1,276.0	1,621.3	6.00	-0.72	6.27
8,400.0	71.11	51.34	7,007.9	1,534.8	1,346.5	1,706.1	6.00	-0.54	6.31
8,500.0	70.78	57.68	7,040.5	1,589.7	1,423.5	1,794.9	6.00	-0.33	6.34
8,600.0	70.67	64.03	7,073.6	1,635.6	1,505.8	1,886.5	6.00	-0.11	6.36
8,700.0	70.78	70.39	7,106.6	1,672.2	1,592.8	1,980.1	6.00	0.11	6.36
8,800.0	71.10	76.73	7,139.3	1,698.9	1,683.4	2,074.5	6.00	0.33	6.34
8,900.0	71.64	83.04	7,171.3	1,715.5	1,776.6	2,168.8	6.00	0.54	6.31
End of Turn / 72.13° Inc / 87.33° Azm / Drop 6°/100' SBSG sand									
8,968.5	72.13	87.33	7,192.6	1,721.0	1,841.5	2,232.8	6.00	0.71	6.27
9,000.0	70.24	87.33	7,202.8	1,722.4	1,871.3	2,261.8	6.00	-6.00	0.00
9,100.0	64.24	87.33	7,241.4	1,726.7	1,963.4	2,351.7	6.00	-6.00	0.00
End of Drop / 59.4° Inc / 87.33° Azm / Build 6°/100'									
9,180.7	59.40	87.33	7,279.5	1,730.0	2,034.4	2,421.1	6.00	-6.00	0.00
9,200.0	60.56	87.33	7,289.2	1,730.7	2,051.1	2,437.4	6.00	6.00	0.00
9,300.0	66.56	87.33	7,333.7	1,734.9	2,140.5	2,524.7	6.00	6.00	0.00
9,400.0	72.56	87.33	7,368.6	1,739.3	2,234.0	2,616.1	6.00	6.00	0.00
9,500.0	78.56	87.33	7,393.5	1,743.8	2,330.7	2,710.5	6.00	6.00	0.00
9,600.0	84.56	87.33	7,408.2	1,748.4	2,429.5	2,806.9	6.00	6.00	0.00
End of Curve / 88.42° Inc / 87.33° Azm / 7412.1' TVD									
9,664.4	88.42	87.33	7,412.1	1,751.4	2,493.7	2,869.6	6.00	6.00	0.00
9,700.0	88.42	87.33	7,413.1	1,753.1	2,529.2	2,904.3	0.00	0.00	0.00
9,800.0	88.42	87.33	7,415.9	1,757.7	2,629.1	3,001.8	0.00	0.00	0.00
9,900.0	88.42	87.33	7,418.6	1,762.4	2,729.0	3,099.3	0.00	0.00	0.00



HP
Well Planning Report



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Project:	Eddy County NM (NAD 27)	MD Reference:	Well @ 3272.0usft (Scandrift Freedom)
Site:	Sec12, T26S, R26E	North Reference:	Grid
Well:	Marsh Owl Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)	
10,000.0	88.42	87.33	7,421.4	1,767.0	2,828.8	3,196.8	0.00	0.00	0.00	
10,100.0	88.42	87.33	7,424.1	1,771.7	2,928.7	3,294.3	0.00	0.00	0.00	
10,200.0	88.42	87.33	7,426.9	1,776.4	3,028.5	3,391.8	0.00	0.00	0.00	
10,300.0	88.42	87.33	7,429.6	1,781.0	3,128.4	3,489.3	0.00	0.00	0.00	
10,400.0	88.42	87.33	7,432.4	1,785.7	3,228.2	3,586.8	0.00	0.00	0.00	
10,500.0	88.42	87.33	7,435.1	1,790.4	3,328.1	3,684.3	0.00	0.00	0.00	
10,600.0	88.42	87.33	7,437.9	1,795.0	3,427.9	3,781.8	0.00	0.00	0.00	
10,700.0	88.42	87.33	7,440.6	1,799.7	3,527.8	3,879.3	0.00	0.00	0.00	
10,800.0	88.42	87.33	7,443.4	1,804.3	3,627.6	3,976.8	0.00	0.00	0.00	
10,900.0	88.42	87.33	7,446.1	1,809.0	3,727.5	4,074.3	0.00	0.00	0.00	
11,000.0	88.42	87.33	7,448.9	1,813.7	3,827.3	4,171.8	0.00	0.00	0.00	
11,100.0	88.42	87.33	7,451.6	1,818.3	3,927.2	4,269.3	0.00	0.00	0.00	
11,200.0	88.42	87.33	7,454.4	1,823.0	4,027.0	4,366.8	0.00	0.00	0.00	
11,300.0	88.42	87.33	7,457.1	1,827.7	4,126.9	4,464.3	0.00	0.00	0.00	
11,400.0	88.42	87.33	7,459.9	1,832.3	4,226.8	4,561.8	0.00	0.00	0.00	
11,500.0	88.42	87.33	7,462.6	1,837.0	4,326.6	4,659.3	0.00	0.00	0.00	
11,600.0	88.42	87.33	7,465.4	1,841.6	4,426.5	4,756.8	0.00	0.00	0.00	
11,700.0	88.42	87.33	7,468.1	1,846.3	4,526.3	4,854.3	0.00	0.00	0.00	
11,800.0	88.42	87.33	7,470.9	1,851.0	4,626.2	4,951.8	0.00	0.00	0.00	
11,900.0	88.42	87.33	7,473.6	1,855.6	4,726.0	5,049.3	0.00	0.00	0.00	
12,000.0	88.42	87.33	7,476.4	1,860.3	4,825.9	5,146.8	0.00	0.00	0.00	
12,100.0	88.42	87.33	7,479.1	1,865.0	4,925.7	5,244.3	0.00	0.00	0.00	
12,200.0	88.42	87.33	7,481.9	1,869.6	5,025.6	5,341.8	0.00	0.00	0.00	
12,300.0	88.42	87.33	7,484.6	1,874.3	5,125.4	5,439.3	0.00	0.00	0.00	
12,400.0	88.42	87.33	7,487.4	1,878.9	5,225.3	5,536.8	0.00	0.00	0.00	
12,500.0	88.42	87.33	7,490.1	1,883.6	5,325.1	5,634.3	0.00	0.00	0.00	
12,600.0	88.42	87.33	7,492.9	1,888.3	5,425.0	5,731.8	0.00	0.00	0.00	
12,700.0	88.42	87.33	7,495.6	1,892.9	5,524.8	5,829.3	0.00	0.00	0.00	
12,800.0	88.42	87.33	7,498.4	1,897.6	5,624.7	5,926.8	0.00	0.00	0.00	
12,900.0	88.42	87.33	7,501.1	1,902.3	5,724.6	6,024.3	0.00	0.00	0.00	
13,000.0	88.42	87.33	7,503.9	1,906.9	5,824.4	6,121.8	0.00	0.00	0.00	
13,100.0	88.42	87.33	7,506.6	1,911.6	5,924.3	6,219.3	0.00	0.00	0.00	
13,200.0	88.42	87.33	7,509.4	1,916.2	6,024.1	6,316.8	0.00	0.00	0.00	
13,300.0	88.42	87.33	7,512.1	1,920.9	6,124.0	6,414.3	0.00	0.00	0.00	
13,400.0	88.42	87.33	7,514.9	1,925.6	6,223.8	6,511.8	0.00	0.00	0.00	
13,500.0	88.42	87.33	7,517.6	1,930.2	6,323.7	6,609.3	0.00	0.00	0.00	
13,600.0	88.42	87.33	7,520.4	1,934.9	6,423.5	6,706.8	0.00	0.00	0.00	
13,700.0	88.42	87.33	7,523.1	1,939.6	6,523.4	6,804.3	0.00	0.00	0.00	
13,800.0	88.42	87.33	7,525.9	1,944.2	6,623.2	6,901.8	0.00	0.00	0.00	
13,900.0	88.42	87.33	7,528.6	1,948.9	6,723.1	6,999.3	0.00	0.00	0.00	
14,000.0	88.42	87.33	7,531.4	1,953.5	6,822.9	7,096.8	0.00	0.00	0.00	
14,100.0	88.42	87.33	7,534.1	1,958.2	6,922.8	7,194.3	0.00	0.00	0.00	
14,200.0	88.42	87.33	7,536.9	1,962.9	7,022.6	7,291.8	0.00	0.00	0.00	
14,300.0	88.42	87.33	7,539.6	1,967.5	7,122.5	7,389.3	0.00	0.00	0.00	
PBHL @ 14314.2 MD / 7540.0 TVD										
14,314.2	88.42	87.33	7,540.0	1,968.2	7,136.7	7,403.1	0.00	0.00	0.00	



HP
Well Planning Report



Database:	Compass	Local Co-ordinate Reference:	Well Marsh Owl Federal Com #1H
Company:	COG Operating, LLC	TVD Reference:	Well @ 3272.0usft (Scandrift Freedom)
Project:	Eddy County NM (NAD 27)	MD Reference:	Well @ 3272.0usft (Scandrift Freedom)
Site:	Sec 12, T26S, R26E	North Reference:	Grid
Well:	Marsh Owl Federal Com #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

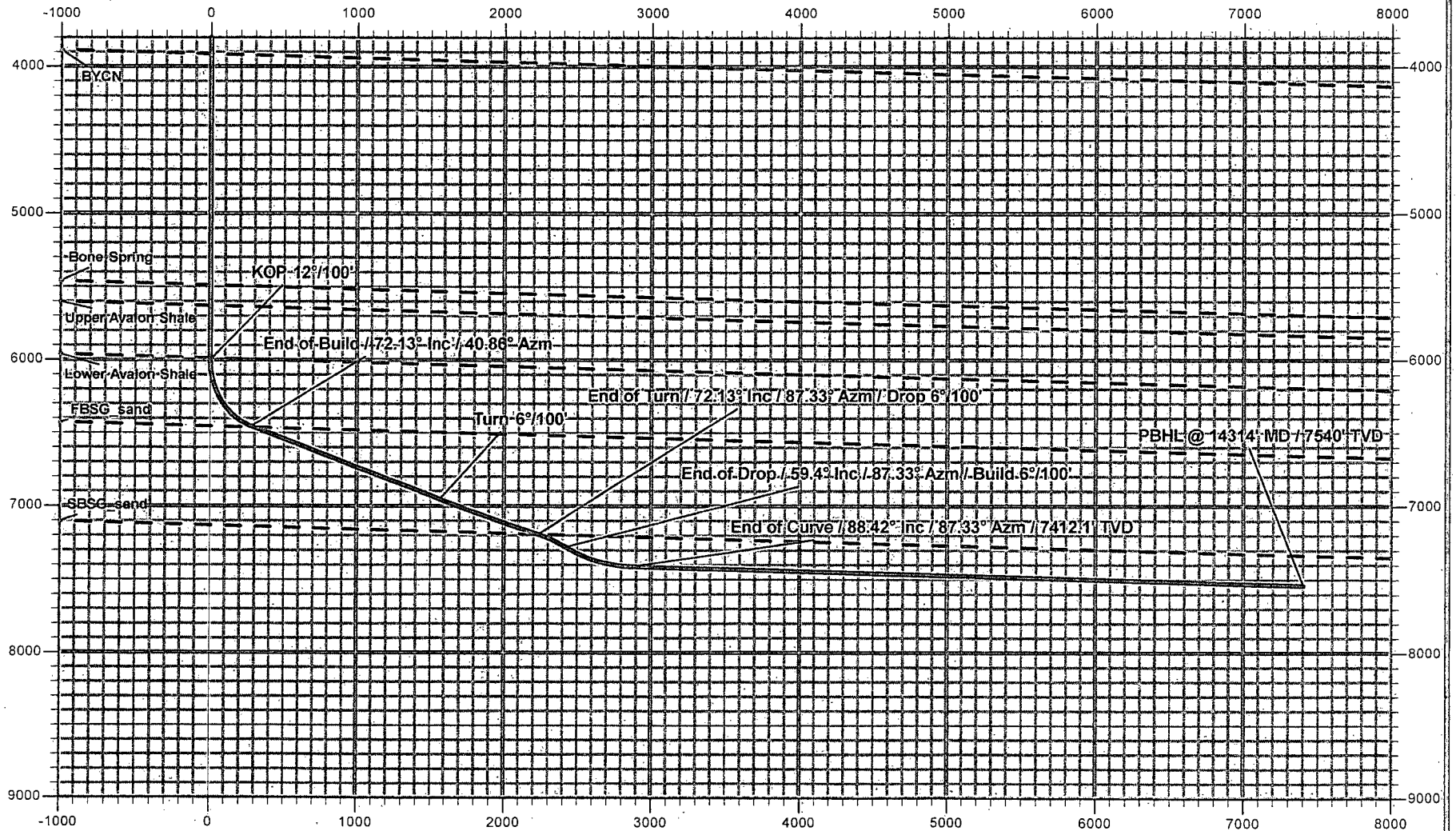
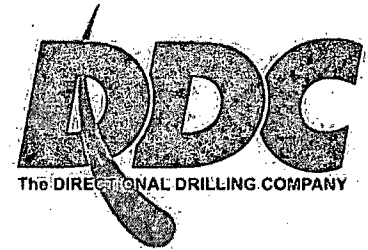
Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Shape									
PP Marsh Owl Federal # - plan hits target center - Point	0.00	0.00	7,192.6	1,721.0	1,841.5	383,544.97	529,343.11	32° 3' 16.001 N	104° 14' 19.034 W
PBHL Marsh Owl Feder: - plan hits target center - Point	0.00	0.00	7,540.0	1,968.2	7,136.7	383,792.20	534,638.30	32° 3' 18.398 N	104° 13' 17.501 W

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
234.0	234.0	TOS		1.58	74.58	
1,707.0	1,707.0	BOS		1.58	74.58	
1,890.0	1,890.0	LMAR		1.58	74.58	
1,931.0	1,931.0	BLCN		1.58	74.58	
2,797.0	2,797.0	CYCN		1.58	74.58	
3,914.0	3,914.0	BYCN		1.58	74.58	
5,490.0	5,490.0	Bone Spring		1.58	74.58	
5,630.0	5,630.0	Upper Avalon Shale		1.58	74.58	
5,989.0	5,989.0	Lower Avalon Shale		1.58	74.58	
6,626.2	6,462.1	FBSG_sand		1.58	74.58	
8,968.5	7,192.6	SBSG_sand		1.58	74.58	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
6,000.0	6,000.0	0.0	0.0	KOP 12°/100'
6,601.1	6,454.4	250.3	216.5	End of Build / 72.13° Inc / 40.86° Azm
8,233.3	6,955.2	1,425.3	1,232.8	Turn 6°/100'
8,968.5	7,192.6	1,721.0	1,841.5	End of Turn / 72.13° Inc / 87.33° Azm / Drop 6°/100'
9,180.7	7,279.5	1,730.0	2,034.4	End of Drop / 59.4° Inc / 87.33° Azm / Build 6°/100'
9,664.4	7,412.1	1,751.4	2,493.7	End of Curve / 88.42° Inc / 87.33° Azm / 7412.1' TVD
14,314.2	7,540.0	1,968.2	7,136.7	PBHL @ 14314' MD / 7540' TVD



Eddy County, NM (NAD 27)
Sec12, T26S, R26E
Marsh Owl Federal Com #1H
Design #3



Vertical Section at 74.58° (1000 usft/in)



Eddy County, NM (NAD 27)

Sec12, T26S, R26E

Marsh Owl Federal Com #1H

Design #3

