

HOBBSOCD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JAN 14 2015

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

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

RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM128366
2. Name of Operator COG OPERATING LLC Contact: MAYTE X REYES E-Mail: mreyes1@concho.com		6. If Indian, Allottee or Tribe Name
3a. Address ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701-4287	3b. Phone No. (include area code) Ph: 575-748-6945	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 1 T20S R34E Lot 3 190FNL 1260FWL 32.608890 N Lat, 103.517724 W Lon		8. Well Name and No. BLACK PEARL 1 FEDERAL 3H
		9. API Well No. 30-025-42294-00-X1
		10. Field and Pool, or Exploratory LEA
		11. County or Parish, and State LEA 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 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 shall 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 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 changes to the original approved APD.

Operator will drill out from intermediate all the way to TD with 8-3/4" hole.

Operator will pump enough cement to accommodate for the larger hole size to tie back a minimum of 500'.

Operator will use the attached well plan to drill lateral through proration unit.

Original COAs still stand w/ COAs from ES# 285984

14. I hereby certify that the foregoing is true and correct. Electronic Submission #286985 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Hobbs Committed to AFMSS for processing by JENNIFER MASON on 01/07/2015 (15JAM0052SE)	
Name (Printed/Typed) MAYTE X REYES	Title: REGULATORY ANALYST
Signature (Electronic Submission)	Date 01/06/2015
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 _____	

APPROVED
JAN 7 2015
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE



COG Operating LLC
Project: Lea County, NM
Site: Black Pearl 1 Federal
Well: #3H
Wellbore: OH
Plan: Plan #1 (#3H/OH)

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	10422.6	0.00	0.00	10422.6	0.0	0.0	0.00	0.00	0.0	
3	11168.6	89.52	131.00	10900.0	-310.6	357.3	12.00	131.00	362.0	
4	12435.5	89.52	181.68	10911.5	-1433.6	849.3	4.00	90.23	1547.3	
5	15813.9	89.52	181.68	10940.0	-4810.3	750.3	0.00	0.00	4868.5	PBHL (BP1F #3H/OH)

WELL DETAILS: #3H

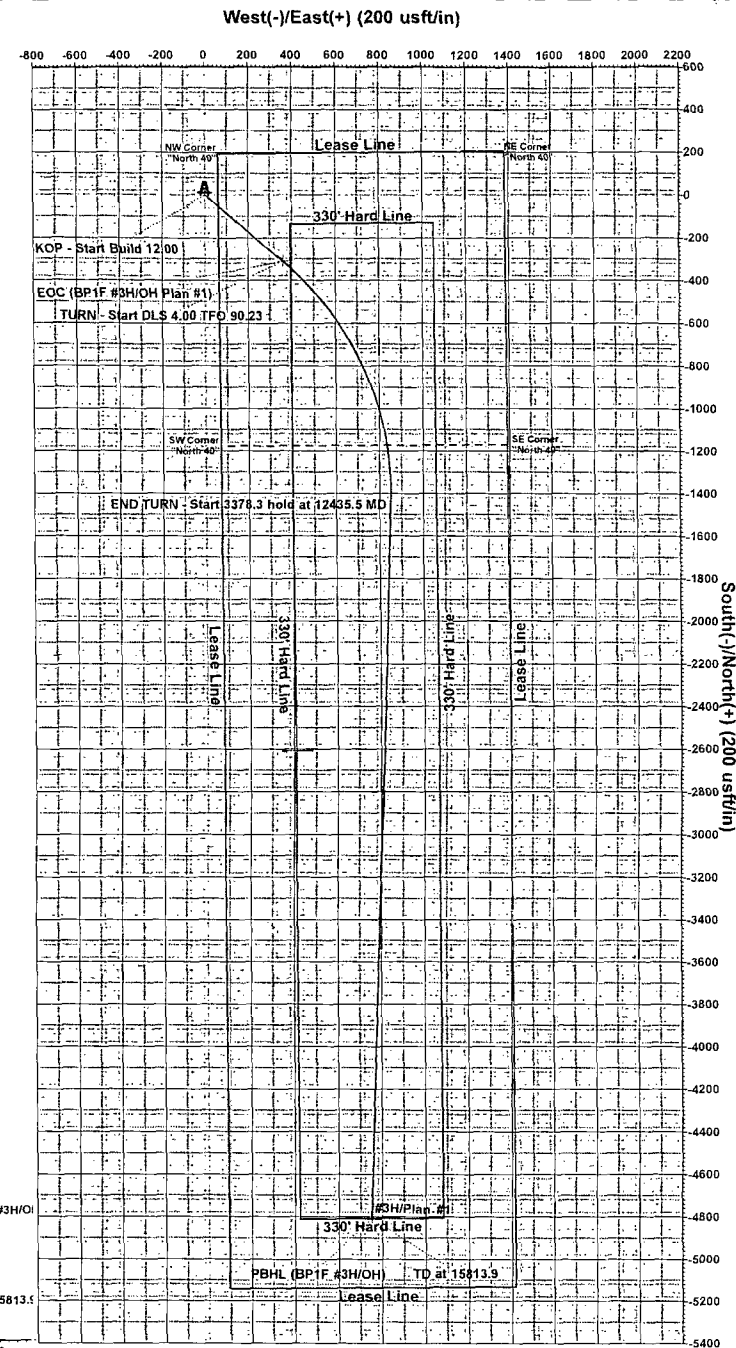
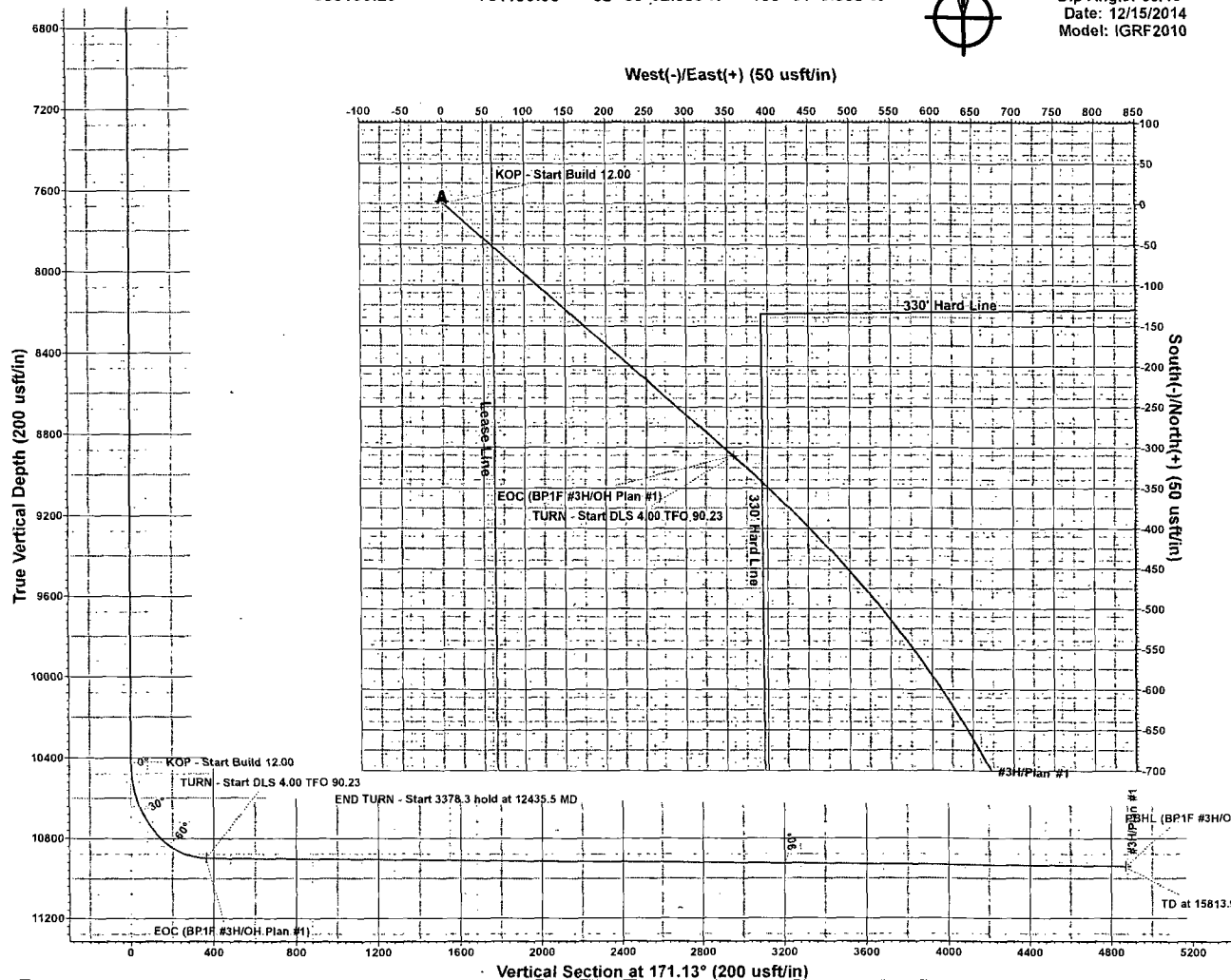
Ground Elevation:: 3695.4
RKB Elevation: KB @ 3712.4usft
Rig Name:

Northing 586189.20 Easting 751153.00 Latitude 32° 36' 32.005 N Longitude 103° 31' 3.808 W



Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.72°

Magnetic Field
Strength: 48500.6snT
Dip Angle: 60.46°
Date: 12/15/2014
Model: IGRF2010



Plan: Plan #1 (#3H/OH)
Created By: Well Planner Date: 7:48, December 22 2014

Terra Directional Services
322 Spring Hill Drive, Suite A100, Spring, Texas 77386
432.425.7532

PROJECT DETAILS: Lea County, NM
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
Local North: Grid



COG Operating LLC

Lea County, NM

Black Pearl 1 Federal

#3H

OH

Plan: Plan #1

Standard Planning Report

22 December, 2014





TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #3H
Company:	COG Operating LLC	TVD Reference:	KB @ 3712.4usft
Project:	Lea County, NM	MD Reference:	KB @ 3712.4usft
Site:	Black Pearl 1 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project:	Lea 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:	Black Pearl 1 Federal		
Site Position:	Map	Northing:	586,220.00 usft
From:		Easting:	754,185.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 36' 32.078 N
		Longitude:	103° 30' 28.361 W
		Grid Convergence:	0.44 °

Well:	#3H		
Well Position	+N/-S	-30.8 usft	Northing:
	+E/-W	-3,032.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 36' 32.005 N
		Longitude:	103° 31' 3.808 W
		Ground Level:	3,695.4 usft

Wellbore:	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	12/15/2014	7.16
			Dip Angle
			(°)
			60.46
			Field Strength
			(nT)
			48,501

Design:	Plan #1		
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
			(°)
			171.13

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)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,422.6	0.00	0.00	10,422.6	0.0	0.0	0.00	0.00	0.00	0.00	
11,168.6	89.52	131.00	10,900.0	-310.6	357.3	12.00	12.00	0.00	131.00	
12,435.5	89.52	181.68	10,911.5	-1,433.6	849.3	4.00	0.00	4.00	90.23	
15,813.9	89.52	181.68	10,940.0	-4,810.3	750.3	0.00	0.00	0.00	0.00	PBHL (BP1F #3H/OH)



TDS
Planning Report



Database:	EDM 5000.1 Single User.Db	Local Co-ordinate Reference:	Well #3H
Company:	COG Operating LLC	TVD Reference:	KB @ 3712.4usft
Project:	Lea County, NM	MD Reference:	KB @ 3712.4usft
Site:	Black Pearl 1 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #3H
Company:	COG Operating LLC	TVD Reference:	KB @ 3712.4usft
Project:	Lea County, NM	MD Reference:	KB @ 3712.4usft
Site:	Black Pearl 1 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
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	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,422.6	0.00	0.00	10,422.6	0.0	0.0	0.0	0.00	0.00	0.00

KOP - Start Build 12.00



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #3H
Company:	COG Operating LLC	TVD Reference:	KB @ 3712.4usft
Project:	Lea County, NM	MD Reference:	KB @ 3712.4usft
Site:	Black Pearl 1 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
10,425.0	0.29	131.00	10,425.0	0.0	0.0	0.0	12.00	12.00	0.00
10,450.0	3.29	131.00	10,450.0	-0.5	0.6	0.6	12.00	12.00	0.00
10,475.0	6.29	131.00	10,474.9	-1.9	2.2	2.2	12.00	12.00	0.00
10,500.0	9.29	131.00	10,499.7	-4.1	4.7	4.8	12.00	12.00	0.00
10,525.0	12.29	131.00	10,524.2	-7.2	8.3	8.4	12.00	12.00	0.00
10,550.0	15.29	131.00	10,548.5	-11.1	12.8	12.9	12.00	12.00	0.00
10,575.0	18.29	131.00	10,572.4	-15.8	18.2	18.4	12.00	12.00	0.00
10,600.0	21.29	131.00	10,595.9	-21.4	24.6	24.9	12.00	12.00	0.00
10,625.0	24.29	131.00	10,619.0	-27.7	31.9	32.3	12.00	12.00	0.00
10,650.0	27.29	131.00	10,641.5	-34.9	40.1	40.6	12.00	12.00	0.00
10,675.0	30.29	131.00	10,663.4	-42.8	49.2	49.8	12.00	12.00	0.00
10,700.0	33.29	131.00	10,684.7	-51.4	59.1	59.9	12.00	12.00	0.00
10,725.0	36.29	131.00	10,705.2	-60.8	69.9	70.8	12.00	12.00	0.00
10,750.0	39.29	131.00	10,724.9	-70.8	81.4	82.5	12.00	12.00	0.00
10,775.0	42.29	131.00	10,743.9	-81.5	93.8	95.0	12.00	12.00	0.00
10,800.0	45.29	131.00	10,761.9	-92.9	106.8	108.2	12.00	12.00	0.00
10,825.0	48.29	131.00	10,779.0	-104.8	120.6	122.1	12.00	12.00	0.00
10,850.0	51.29	131.00	10,795.2	-117.3	135.0	136.7	12.00	12.00	0.00
10,875.0	54.29	131.00	10,810.3	-130.4	150.0	152.0	12.00	12.00	0.00
10,900.0	57.29	131.00	10,824.3	-144.0	165.6	167.8	12.00	12.00	0.00
10,925.0	60.29	131.00	10,837.3	-158.0	181.7	184.1	12.00	12.00	0.00
10,950.0	63.29	131.00	10,849.1	-172.4	198.4	201.0	12.00	12.00	0.00
10,975.0	66.29	131.00	10,859.8	-187.3	215.4	218.2	12.00	12.00	0.00
11,000.0	69.29	131.00	10,869.2	-202.5	232.9	235.9	12.00	12.00	0.00
11,025.0	72.29	131.00	10,877.4	-217.9	250.7	254.0	12.00	12.00	0.00
11,050.0	75.29	131.00	10,884.4	-233.7	268.8	272.3	12.00	12.00	0.00
11,075.0	78.29	131.00	10,890.1	-249.7	287.2	290.9	12.00	12.00	0.00
11,100.0	81.29	131.00	10,894.6	-265.8	305.8	309.7	12.00	12.00	0.00
11,125.0	84.29	131.00	10,897.7	-282.1	324.5	328.7	12.00	12.00	0.00
11,150.0	87.29	131.00	10,899.5	-298.4	343.3	347.8	12.00	12.00	0.00
11,168.6	89.52	131.00	10,900.0	-310.6	357.3	362.0	12.00	12.00	0.00
EOC/TURN - Start DLS 4.00 TFO 90.23									
11,200.0	89.52	132.26	10,900.3	-331.5	380.8	386.2	4.00	-0.02	4.00
11,300.0	89.50	136.26	10,901.2	-401.2	452.4	466.2	4.00	-0.01	4.00
11,400.0	89.49	140.26	10,902.1	-475.8	519.0	550.1	4.00	-0.01	4.00
11,500.0	89.48	144.26	10,903.0	-554.9	580.2	637.7	4.00	-0.01	4.00
11,600.0	89.47	148.26	10,903.9	-638.0	635.7	728.4	4.00	-0.01	4.00
11,700.0	89.47	152.26	10,904.8	-724.8	685.3	821.8	4.00	0.00	4.00
11,800.0	89.47	156.26	10,905.7	-814.9	728.7	917.5	4.00	0.00	4.00
11,900.0	89.47	160.26	10,906.7	-907.8	765.8	1,014.9	4.00	0.00	4.00
12,000.0	89.47	164.26	10,907.6	-1,003.0	796.2	1,113.7	4.00	0.00	4.00
12,100.0	89.48	168.26	10,908.5	-1,100.1	820.0	1,213.3	4.00	0.01	4.00
12,200.0	89.49	172.26	10,909.4	-1,198.6	836.9	1,313.3	4.00	0.01	4.00
12,300.0	89.50	176.26	10,910.3	-1,298.1	846.9	1,413.1	4.00	0.01	4.00
12,400.0	89.51	180.26	10,911.2	-1,398.0	849.9	1,512.3	4.00	0.01	4.00
12,435.5	89.52	181.68	10,911.5	-1,433.6	849.3	1,547.3	4.00	0.02	4.00
END TURN - Start 3378.3 hold at 12435.5 MD									
12,500.0	89.52	181.68	10,912.0	-1,498.0	847.4	1,610.7	0.00	0.00	0.00
12,600.0	89.52	181.68	10,912.8	-1,597.9	844.5	1,709.0	0.00	0.00	0.00
12,700.0	89.52	181.68	10,913.7	-1,697.9	841.6	1,807.3	0.00	0.00	0.00
12,800.0	89.52	181.68	10,914.5	-1,797.8	838.6	1,905.6	0.00	0.00	0.00
12,900.0	89.52	181.68	10,915.4	-1,897.8	835.7	2,003.9	0.00	0.00	0.00
13,000.0	89.52	181.68	10,916.2	-1,997.8	832.8	2,102.2	0.00	0.00	0.00
13,100.0	89.52	181.68	10,917.1	-2,097.7	829.9	2,200.5	0.00	0.00	0.00



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #3H
Company:	COG Operating LLC	TVD Reference:	KB @ 3712.4usft
Project:	Lea County, NM	MD Reference:	KB @ 3712.4usft
Site:	Black Pearl 1 Federal	North Reference:	Grid
Well:	#3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
13,200.0	89.52	181.68	10,917.9	-2,197.7	826.9	2,298.8	0.00	0.00	0.00
13,300.0	89.52	181.68	10,918.8	-2,297.6	824.0	2,397.2	0.00	0.00	0.00
13,400.0	89.52	181.68	10,919.6	-2,397.6	821.1	2,495.5	0.00	0.00	0.00
13,500.0	89.52	181.68	10,920.5	-2,497.5	818.1	2,593.8	0.00	0.00	0.00
13,600.0	89.52	181.68	10,921.3	-2,597.5	815.2	2,692.1	0.00	0.00	0.00
13,700.0	89.52	181.68	10,922.1	-2,697.4	812.3	2,790.4	0.00	0.00	0.00
13,800.0	89.52	181.68	10,923.0	-2,797.4	809.3	2,888.7	0.00	0.00	0.00
13,900.0	89.52	181.68	10,923.8	-2,897.3	806.4	2,987.0	0.00	0.00	0.00
14,000.0	89.52	181.68	10,924.7	-2,997.3	803.5	3,085.3	0.00	0.00	0.00
14,100.0	89.52	181.68	10,925.5	-3,097.2	800.5	3,183.6	0.00	0.00	0.00
14,200.0	89.52	181.68	10,926.4	-3,197.2	797.6	3,281.9	0.00	0.00	0.00
14,300.0	89.52	181.68	10,927.2	-3,297.1	794.7	3,380.2	0.00	0.00	0.00
14,400.0	89.52	181.68	10,928.1	-3,397.1	791.7	3,478.5	0.00	0.00	0.00
14,500.0	89.52	181.68	10,928.9	-3,497.1	788.8	3,576.8	0.00	0.00	0.00
14,600.0	89.52	181.68	10,929.7	-3,597.0	785.9	3,675.2	0.00	0.00	0.00
14,700.0	89.52	181.68	10,930.6	-3,697.0	783.0	3,773.5	0.00	0.00	0.00
14,800.0	89.52	181.68	10,931.4	-3,796.9	780.0	3,871.8	0.00	0.00	0.00
14,900.0	89.52	181.68	10,932.3	-3,896.9	777.1	3,970.1	0.00	0.00	0.00
15,000.0	89.52	181.68	10,933.1	-3,996.8	774.2	4,068.4	0.00	0.00	0.00
15,100.0	89.52	181.68	10,934.0	-4,096.8	771.2	4,166.7	0.00	0.00	0.00
15,200.0	89.52	181.68	10,934.8	-4,196.7	768.3	4,265.0	0.00	0.00	0.00
15,300.0	89.52	181.68	10,935.7	-4,296.7	765.4	4,363.3	0.00	0.00	0.00
15,400.0	89.52	181.68	10,936.5	-4,396.6	762.4	4,461.6	0.00	0.00	0.00
15,500.0	89.52	181.68	10,937.3	-4,496.6	759.5	4,559.9	0.00	0.00	0.00
15,600.0	89.52	181.68	10,938.2	-4,596.5	756.6	4,658.2	0.00	0.00	0.00
15,700.0	89.52	181.68	10,939.0	-4,696.5	753.6	4,756.5	0.00	0.00	0.00
15,800.0	89.52	181.68	10,939.9	-4,796.5	750.7	4,854.8	0.00	0.00	0.00
15,813.9	89.52	181.68	10,940.0	-4,810.3	750.3	4,868.5	0.00	0.00	0.00
TD at 15813.9									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
EOC (BP1F #3H/OH Plc)	0.00	0.00	10,900.0	-310.6	357.3	585,878.58	751,510.33	32° 36' 28.905 N	103° 30' 59.658 W
- plan hits target center									
- Point									
PBHL (BP1F #3H/OH)	0.00	0.00	10,940.0	-4,810.3	750.3	581,378.90	751,903.30	32° 35' 44.351 N	103° 30' 55.469 W
- plan hits target center									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
10,422.6	10,422.6	0.0	0.0	KOP - Start Build 12.00
11,168.6	10,900.0	-310.6	357.3	EOC/TURN - Start DLS 4.00 TFO 90.23
12,435.5	10,911.5	-1,433.6	849.3	END TURN - Start 3378.3 hold at 12435.5 MD
15,813.9	10,940.0	-4,810.3	750.3	TD at 15813.9