

30-025-42820



HOBBS OCD

OCT 01 2015

RECEIVED

COG Operating LLC

Lea County, NM

Pan Head Fee #24H

SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N

PP: 330' FNL, 2187.9' FWL, Sec 11, T17S, R32E, Unit C

BHL: 985' FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C

Plan: Plan #1

Standard Planning Report

16 August, 2015



OCT 07 2015



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N
Company:	COG Operating LLC	TVD Reference:	KB @ 4185.0usft (United 43)
Project:	Lea County, NM	MD Reference:	KB @ 4185.0usft (United 43)
Site:	Pan Head Fee #24H	North Reference:	Grid
Well:	SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 985' FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C		
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	Pan Head Fee #24H			
Site Position:		Northing:	675,800.70 usft	Latitude: 32° 51' 23.198 N
From:	Map	Easting:	682,787.70 usft	Longitude: 103° 44' 17.127 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.32 °

Well	SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N			
Well Position	+N/-S	0.0 usft	Northing:	675,800.70 usft
	+E/-W	0.0 usft	Easting:	682,787.70 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level: 4,173.0 usft

Wellbore	BHL: 985' FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/16/2015	7.28	60.64	48,481

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	178.53

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	
6,029.1	0.00	0.00	6,029.1	0.0	0.0	0.00	0.00	0.00	0.00	
6,847.3	90.00	178.53	6,550.0	-520.7	13.3	11.00	11.00	21.82	178.53	
12,681.8	90.00	178.53	6,550.0	-6,353.3	162.8	0.00	0.00	0.00	0.00	BHL (PHF #24H/OH)



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N
Company:	COG Operating LLC	TVD Reference:	KB @ 4185.0usft (United 43)
Project:	Lea County, NM	MD Reference:	KB @ 4185.0usft (United 43)
Site:	Pan Head Fee #24H	North Reference:	Grid
Well:	SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 985' FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C		
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



TDS
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N
Company:	COG Operating LLC	TVD Reference:	KB @ 4185.0usft (United 43)
Project:	Lea County, NM	MD Reference:	KB @ 4185.0usft (United 43)
Site:	Pan Head Fee #24H	North Reference:	Grid
Well:	SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 985' FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C		
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)	
5,100.0	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	
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	
6,029.1	0.00	0.00	6,029.1	0.0	0.0	0.0	0.00	0.00	0.00	
KOP - Start DLS 11.00 TFO 178.53										
6,050.0	2.30	178.53	6,050.0	-0.4	0.0	0.4	11.00	11.00	0.00	
6,100.0	7.80	178.53	6,099.8	-4.8	0.1	4.8	11.00	11.00	0.00	
6,150.0	13.30	178.53	6,148.9	-14.0	0.4	14.0	11.00	11.00	0.00	
6,200.0	18.80	178.53	6,197.0	-27.8	0.7	27.8	11.00	11.00	0.00	
6,250.0	24.30	178.53	6,243.4	-46.1	1.2	46.1	11.00	11.00	0.00	
6,300.0	29.80	178.53	6,288.0	-68.8	1.8	68.9	11.00	11.00	0.00	
6,350.0	35.30	178.53	6,330.1	-95.7	2.5	95.8	11.00	11.00	0.00	
6,400.0	40.80	178.53	6,369.4	-126.5	3.2	126.6	11.00	11.00	0.00	
6,450.0	46.30	178.53	6,405.7	-161.0	4.1	161.0	11.00	11.00	0.00	
6,500.0	51.80	178.53	6,438.4	-198.7	5.1	198.8	11.00	11.00	0.00	
6,550.0	57.30	178.53	6,467.4	-239.4	6.1	239.5	11.00	11.00	0.00	
6,600.0	62.80	178.53	6,492.4	-282.7	7.2	282.8	11.00	11.00	0.00	
6,650.0	68.30	178.53	6,513.1	-328.2	8.4	328.3	11.00	11.00	0.00	
6,700.0	73.80	178.53	6,529.3	-375.4	9.6	375.5	11.00	11.00	0.00	
6,750.0	79.30	178.53	6,540.9	-424.0	10.9	424.2	11.00	11.00	0.00	
6,800.0	84.80	178.53	6,547.8	-473.5	12.1	473.7	11.00	11.00	0.00	
6,847.3	90.00	178.53	6,550.0	-520.7	13.3	520.9	11.00	11.00	0.00	
EOC - Start 5834.5 hold at 6847.3 MD										
6,900.0	90.00	178.53	6,550.0	-573.4	14.7	573.6	0.00	0.00	0.00	
7,000.0	90.00	178.53	6,550.0	-673.4	17.3	673.6	0.00	0.00	0.00	
7,100.0	90.00	178.53	6,550.0	-773.3	19.8	773.6	0.00	0.00	0.00	
7,200.0	90.00	178.53	6,550.0	-873.3	22.4	873.6	0.00	0.00	0.00	
7,300.0	90.00	178.53	6,550.0	-973.3	24.9	973.6	0.00	0.00	0.00	
7,400.0	90.00	178.53	6,550.0	-1,073.2	27.5	1,073.6	0.00	0.00	0.00	
7,500.0	90.00	178.53	6,550.0	-1,173.2	30.1	1,173.6	0.00	0.00	0.00	
7,600.0	90.00	178.53	6,550.0	-1,273.2	32.6	1,273.6	0.00	0.00	0.00	
7,700.0	90.00	178.53	6,550.0	-1,373.1	35.2	1,373.6	0.00	0.00	0.00	
7,800.0	90.00	178.53	6,550.0	-1,473.1	37.7	1,473.6	0.00	0.00	0.00	
7,900.0	90.00	178.53	6,550.0	-1,573.1	40.3	1,573.6	0.00	0.00	0.00	
8,000.0	90.00	178.53	6,550.0	-1,673.0	42.9	1,673.6	0.00	0.00	0.00	
8,100.0	90.00	178.53	6,550.0	-1,773.0	45.4	1,773.6	0.00	0.00	0.00	
8,200.0	90.00	178.53	6,550.0	-1,873.0	48.0	1,873.6	0.00	0.00	0.00	
8,300.0	90.00	178.53	6,550.0	-1,972.9	50.6	1,973.6	0.00	0.00	0.00	
8,400.0	90.00	178.53	6,550.0	-2,072.9	53.1	2,073.6	0.00	0.00	0.00	
8,500.0	90.00	178.53	6,550.0	-2,172.9	55.7	2,173.6	0.00	0.00	0.00	
8,600.0	90.00	178.53	6,550.0	-2,272.8	58.2	2,273.6	0.00	0.00	0.00	
8,700.0	90.00	178.53	6,550.0	-2,372.8	60.8	2,373.6	0.00	0.00	0.00	
8,800.0	90.00	178.53	6,550.0	-2,472.8	63.4	2,473.6	0.00	0.00	0.00	
8,900.0	90.00	178.53	6,550.0	-2,572.7	65.9	2,573.6	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N
Company:	COG Operating LLC	TVD Reference:	KB @ 4185.0usft (United 43)
Project:	Lea County, NM	MD Reference:	KB @ 4185.0usft (United 43)
Site:	Pan Head Fee #24H	North Reference:	Grid
Well:	SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 985' FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C		
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)	
9,000.0	90.00	178.53	6,550.0	-2,672.7	68.5	2,673.6	0.00	0.00	0.00	
9,100.0	90.00	178.53	6,550.0	-2,772.7	71.0	2,773.6	0.00	0.00	0.00	
9,200.0	90.00	178.53	6,550.0	-2,872.6	73.6	2,873.6	0.00	0.00	0.00	
9,300.0	90.00	178.53	6,550.0	-2,972.6	76.2	2,973.6	0.00	0.00	0.00	
9,400.0	90.00	178.53	6,550.0	-3,072.6	78.7	3,073.6	0.00	0.00	0.00	
9,500.0	90.00	178.53	6,550.0	-3,172.5	81.3	3,173.6	0.00	0.00	0.00	
9,600.0	90.00	178.53	6,550.0	-3,272.5	83.9	3,273.6	0.00	0.00	0.00	
9,700.0	90.00	178.53	6,550.0	-3,372.5	86.4	3,373.6	0.00	0.00	0.00	
9,800.0	90.00	178.53	6,550.0	-3,472.4	89.0	3,473.6	0.00	0.00	0.00	
9,900.0	90.00	178.53	6,550.0	-3,572.4	91.5	3,573.6	0.00	0.00	0.00	
10,000.0	90.00	178.53	6,550.0	-3,672.4	94.1	3,673.6	0.00	0.00	0.00	
10,100.0	90.00	178.53	6,550.0	-3,772.4	96.7	3,773.6	0.00	0.00	0.00	
10,200.0	90.00	178.53	6,550.0	-3,872.3	99.2	3,873.6	0.00	0.00	0.00	
10,300.0	90.00	178.53	6,550.0	-3,972.3	101.8	3,973.6	0.00	0.00	0.00	
10,400.0	90.00	178.53	6,550.0	-4,072.3	104.3	4,073.6	0.00	0.00	0.00	
10,500.0	90.00	178.53	6,550.0	-4,172.2	106.9	4,173.6	0.00	0.00	0.00	
10,600.0	90.00	178.53	6,550.0	-4,272.2	109.5	4,273.6	0.00	0.00	0.00	
10,700.0	90.00	178.53	6,550.0	-4,372.2	112.0	4,373.6	0.00	0.00	0.00	
10,800.0	90.00	178.53	6,550.0	-4,472.1	114.6	4,473.6	0.00	0.00	0.00	
10,900.0	90.00	178.53	6,550.0	-4,572.1	117.2	4,573.6	0.00	0.00	0.00	
11,000.0	90.00	178.53	6,550.0	-4,672.1	119.7	4,673.6	0.00	0.00	0.00	
11,100.0	90.00	178.53	6,550.0	-4,772.0	122.3	4,773.6	0.00	0.00	0.00	
11,200.0	90.00	178.53	6,550.0	-4,872.0	124.8	4,873.6	0.00	0.00	0.00	
11,300.0	90.00	178.53	6,550.0	-4,972.0	127.4	4,973.6	0.00	0.00	0.00	
11,400.0	90.00	178.53	6,550.0	-5,071.9	130.0	5,073.6	0.00	0.00	0.00	
11,500.0	90.00	178.53	6,550.0	-5,171.9	132.5	5,173.6	0.00	0.00	0.00	
11,600.0	90.00	178.53	6,550.0	-5,271.9	135.1	5,273.6	0.00	0.00	0.00	
11,700.0	90.00	178.53	6,550.0	-5,371.8	137.7	5,373.6	0.00	0.00	0.00	
11,800.0	90.00	178.53	6,550.0	-5,471.8	140.2	5,473.6	0.00	0.00	0.00	
11,900.0	90.00	178.53	6,550.0	-5,571.8	142.8	5,573.6	0.00	0.00	0.00	
12,000.0	90.00	178.53	6,550.0	-5,671.7	145.3	5,673.6	0.00	0.00	0.00	
12,100.0	90.00	178.53	6,550.0	-5,771.7	147.9	5,773.6	0.00	0.00	0.00	
12,200.0	90.00	178.53	6,550.0	-5,871.7	150.5	5,873.6	0.00	0.00	0.00	
12,300.0	90.00	178.53	6,550.0	-5,971.6	153.0	5,973.6	0.00	0.00	0.00	
12,400.0	90.00	178.53	6,550.0	-6,071.6	155.6	6,073.6	0.00	0.00	0.00	
12,500.0	90.00	178.53	6,550.0	-6,171.6	158.1	6,173.6	0.00	0.00	0.00	
12,600.0	90.00	178.53	6,550.0	-6,271.5	160.7	6,273.6	0.00	0.00	0.00	
12,681.8	90.00	178.53	6,550.0	-6,353.3	162.8	6,355.4	0.00	0.00	0.00	
TD at 12681.8										

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N
Company:	COG Operating LLC	TVD Reference:	KB @ 4185.0usft (United 43)
Project:	Lea County, NM	MD Reference:	KB @ 4185.0usft (United 43)
Site:	Pan Head Fee #24H	North Reference:	Grid
Well:	SHL: 85' FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 985' FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C		
Design:	Plan #1		

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 (PHF #24H/OH Plan - plan hits target center - Point	0.00	0.00	6,539.1	-415.0	10.6	675,385.70	682,798.33	32° 51' 19.091 N	103° 44' 17.030 W
EOC (PHF #24H/OH Pla - plan hits target center - Point	0.00	0.00	6,550.0	-520.7	13.3	675,279.98	682,801.04	32° 51' 18.045 N	103° 44' 17.005 W
BHL (PHF #24H/OH) - plan hits target center - Point	0.00	0.00	6,550.0	-6,353.3	162.8	669,447.40	682,950.50	32° 50' 20.324 N	103° 44' 15.639 W

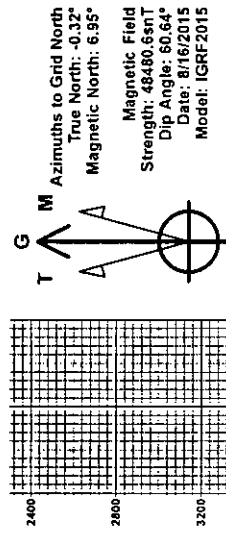
Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
(usft)	(usft)	(usft)	(usft)	
6,029.1	6,029.1	0.0	0.0	KOP - Start DLS 11.00 TFO 178.53
6,847.3	6,550.0	-520.7	13.3	EOC - Start 5834.5 hold at 6847.3 MD
12,681.8	6,550.0	-6,353.3	162.8	TD at 12681.8



COG Operating LLC
Project: Lea County, NM
Site: Pan Head Fee #24H

Well: SHL: 85° FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N
Wellbore: BHL: 985° FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C

Plan: Plan #1 (SHL: 85° FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N/BHL: 985° FNL, 2306' FWL, Sec 14, T17S, R32E, Unit C)



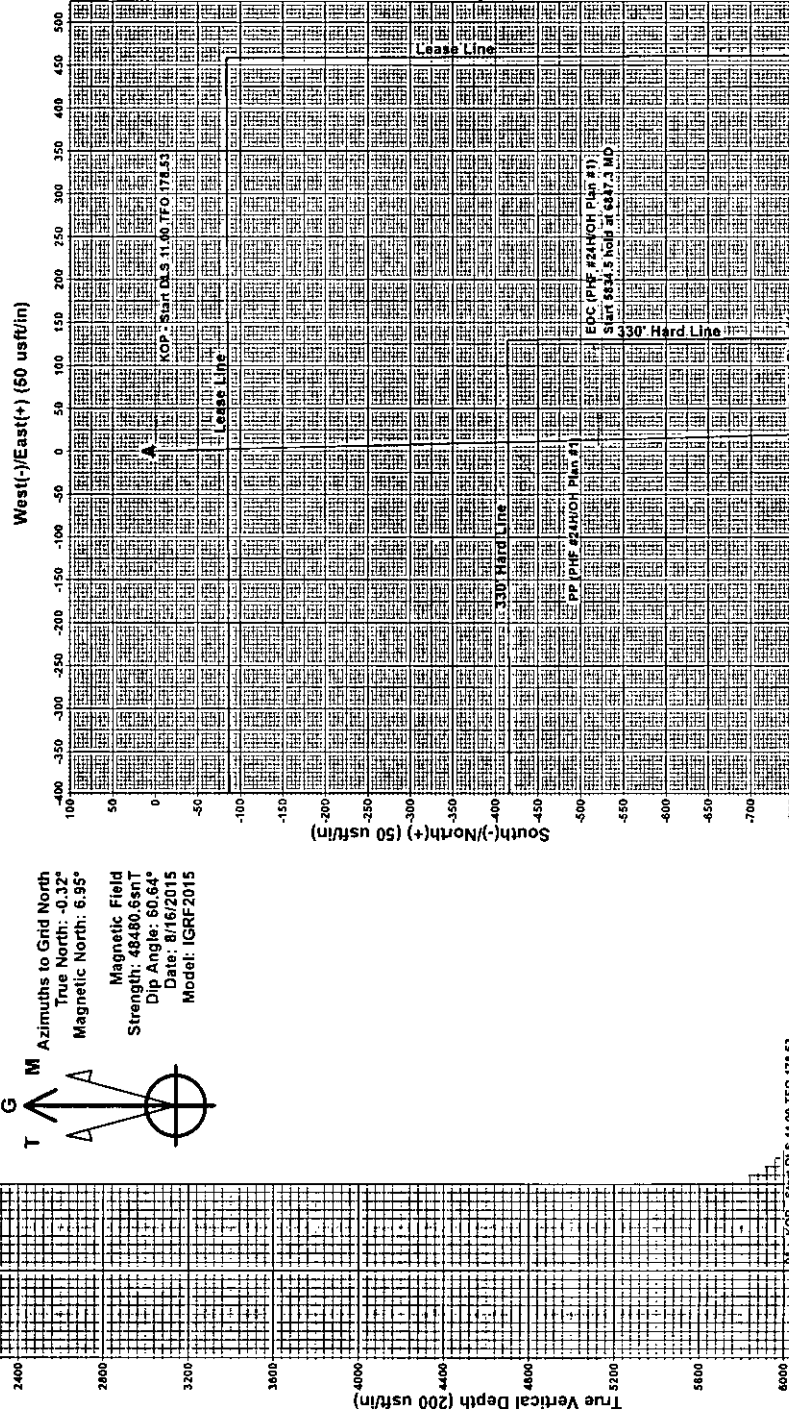
Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl	Target
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	6029.1	0.0	0.0	6029.1	0.0	0.0	0.0	0.0	0.0	0.0
3	6847.3	90.0	178.53	6550.0	-520.7	13.3	11.0	178.53	520.9	BHL (PHF #24H/OH)
4	12681.8	90.0	178.53	6550.0	-6353.3	162.8	0.0	0.0	6355.4	BHL (PHF #24H/OH)

WELL DETAILS: SHL: 85° FSL, 2180' FWL, Sec 2, T17S, R32E, Unit N

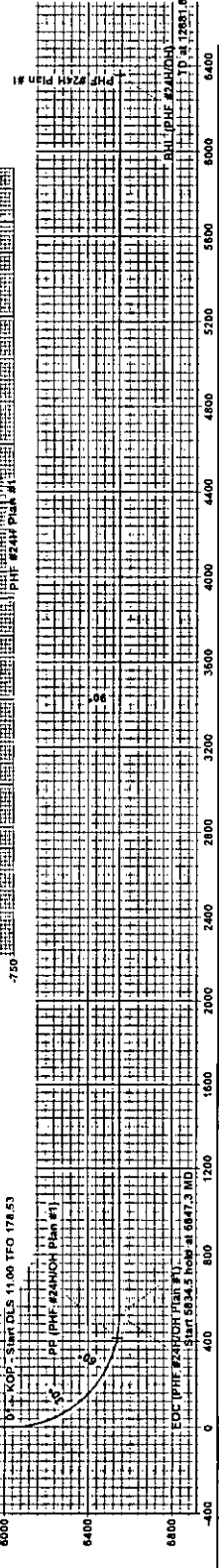
Ground Elevation: 4173.0
RKB Elevation: KB @ 4185.0usft (United 43)
Rig Name: United 43

Northing	Easting	Latitude	Longitude
675800.70	682787.70	32° 51' 23.198 N	103° 44' 17.127 W



West(-)/East(+) (300 usft/in)

South(-)/North(+) (300 usft/in)



Terra Directional Services LLC
322 Spring Hill Drive, Suite A300, Spring, Tx 77386
Phone: 432-426-7532

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