



HOBBS OCD

MAR 21 2016

RECEIVED

COG Operating LLC

Lea County, NM (NAD27 NME)

Tin Man Federal Com

#2H

OH

Plan: Design #1

Standard Planning Report

30 September, 2014

MAR 22 2016



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3684.3usft (Original Well Elev)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	WELL @ 3684.3usft (Original Well Elev)
Site:	Tin Man Federal Com	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Project	Lea County, NM (NAD27 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	Tin Man Federal Com				
Site Position:		Northing:	612,126.50 usft	Latitude:	32° 40' 53.631 N
From:	Map	Easting:	673,751.30 usft	Longitude:	103° 46' 7.041 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.30 °

Well	#2H					
Well Position	+N/-S	3.3 usft	Northing:	612,129.80 usft	Latitude:	32° 40' 53.577 N
	+E/-W	1,649.5 usft	Easting:	675,400.80 usft	Longitude:	103° 45' 47.742 W
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level:	3,666.3 usft	

Wellbore	OH				
----------	----	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/30/2014	7.30	60.49	48,539

Design	Design #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	183.58

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	
8,922.5	0.00	0.00	8,922.5	0.0	0.0	0.00	0.00	0.00	0.00	
9,671.5	89.87	183.58	9,400.0	-475.5	-29.7	12.00	12.00	0.00	183.58	
13,967.6	89.87	183.58	9,409.7	-4,763.2	-298.0	0.00	0.00	0.00	0.00	PBHL(TM#2H)



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3684.3usft (Original Well Elev)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	WELL @ 3684.3usft (Original Well Elev)
Site:	Tin Man Federal Com	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)
0.0	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



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3684.3usft (Original Well Elev)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	WELL @ 3684.3usft (Original Well Elev)
Site:	Tin Man Federal Com	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)
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
8,922.5	0.00	0.00	8,922.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP - 8922.5 'MD, 0.00° INC, 0.00° AZI									
8,925.0	0.30	183.58	8,925.0	0.0	0.0	0.0	12.00	12.00	0.00
8,950.0	3.30	183.58	8,950.0	-0.8	0.0	0.8	12.00	12.00	0.00
8,975.0	6.30	183.58	8,974.9	-2.9	-0.2	2.9	12.00	12.00	0.00
9,000.0	9.30	183.58	8,999.7	-6.3	-0.4	6.3	12.00	12.00	0.00
9,025.0	12.30	183.58	9,024.2	-10.9	-0.7	11.0	12.00	12.00	0.00
9,050.0	15.30	183.58	9,048.5	-16.9	-1.1	16.9	12.00	12.00	0.00
9,075.0	18.30	183.58	9,072.4	-24.1	-1.5	24.1	12.00	12.00	0.00
9,100.0	21.30	183.58	9,095.9	-32.5	-2.0	32.6	12.00	12.00	0.00
9,125.0	24.30	183.58	9,119.0	-42.2	-2.6	42.3	12.00	12.00	0.00
9,150.0	27.30	183.58	9,141.5	-53.1	-3.3	53.2	12.00	12.00	0.00
9,175.0	30.30	183.58	9,163.4	-65.1	-4.1	65.2	12.00	12.00	0.00
9,200.0	33.30	183.58	9,184.6	-78.2	-4.9	78.4	12.00	12.00	0.00
9,225.0	36.30	183.58	9,205.2	-92.5	-5.8	92.7	12.00	12.00	0.00
9,250.0	39.30	183.58	9,224.9	-107.8	-6.7	108.0	12.00	12.00	0.00
9,275.0	42.30	183.58	9,243.8	-124.1	-7.8	124.3	12.00	12.00	0.00



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3684.3usft (Original Well Elev)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	WELL @ 3684.3usft (Original Well Elev)
Site:	Tin Man Federal Com	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)
9,300.0	45.30	183.58	9,261.9	-141.3	-8.8	141.6	12.00	12.00	0.00
9,325.0	48.30	183.58	9,279.0	-159.5	-10.0	159.8	12.00	12.00	0.00
9,350.0	51.30	183.58	9,295.1	-178.6	-11.2	178.9	12.00	12.00	0.00
9,375.0	54.30	183.58	9,310.3	-198.4	-12.4	198.8	12.00	12.00	0.00
9,400.0	57.30	183.58	9,324.3	-219.1	-13.7	219.5	12.00	12.00	0.00
9,425.0	60.30	183.58	9,337.3	-240.4	-15.0	240.9	12.00	12.00	0.00
9,450.0	63.30	183.58	9,349.1	-262.4	-16.4	262.9	12.00	12.00	0.00
9,475.0	66.29	183.58	9,359.7	-285.0	-17.8	285.5	12.00	12.00	0.00
9,500.0	69.29	183.58	9,369.2	-308.1	-19.3	308.7	12.00	12.00	0.00
9,525.0	72.29	183.58	9,377.4	-331.6	-20.7	332.3	12.00	12.00	0.00
9,550.0	75.29	183.58	9,384.4	-355.6	-22.2	356.3	12.00	12.00	0.00
9,575.0	78.29	183.58	9,390.1	-379.9	-23.8	380.6	12.00	12.00	0.00
9,600.0	81.29	183.58	9,394.5	-404.4	-25.3	405.2	12.00	12.00	0.00
9,625.0	84.29	183.58	9,397.6	-429.2	-26.9	430.0	12.00	12.00	0.00
9,650.0	87.29	183.58	9,399.5	-454.1	-28.4	455.0	12.00	12.00	0.00
9,671.5	89.87	183.58	9,400.0	-475.5	-29.7	476.4	12.00	12.00	0.00
EOC- 9671.5 °MD, 89.87° INC, 183.58° AZI									
9,700.0	89.87	183.58	9,400.1	-504.0	-31.5	504.9	0.00	0.00	0.00
9,800.0	89.87	183.58	9,400.3	-603.8	-37.8	604.9	0.00	0.00	0.00
9,900.0	89.87	183.58	9,400.5	-703.6	-44.0	704.9	0.00	0.00	0.00
10,000.0	89.87	183.58	9,400.7	-803.4	-50.3	804.9	0.00	0.00	0.00
10,100.0	89.87	183.58	9,401.0	-903.2	-56.5	904.9	0.00	0.00	0.00
10,200.0	89.87	183.58	9,401.2	-1,003.0	-62.8	1,004.9	0.00	0.00	0.00
10,300.0	89.87	183.58	9,401.4	-1,102.8	-69.0	1,104.9	0.00	0.00	0.00
10,400.0	89.87	183.58	9,401.7	-1,202.6	-75.2	1,204.9	0.00	0.00	0.00
10,500.0	89.87	183.58	9,401.9	-1,302.4	-81.5	1,304.9	0.00	0.00	0.00
10,600.0	89.87	183.58	9,402.1	-1,402.2	-87.7	1,404.9	0.00	0.00	0.00
10,700.0	89.87	183.58	9,402.3	-1,502.0	-94.0	1,504.9	0.00	0.00	0.00
10,800.0	89.87	183.58	9,402.6	-1,601.8	-100.2	1,604.9	0.00	0.00	0.00
10,900.0	89.87	183.58	9,402.8	-1,701.6	-106.5	1,704.9	0.00	0.00	0.00
11,000.0	89.87	183.58	9,403.0	-1,801.4	-112.7	1,804.9	0.00	0.00	0.00
11,100.0	89.87	183.58	9,403.2	-1,901.2	-118.9	1,904.9	0.00	0.00	0.00
11,200.0	89.87	183.58	9,403.5	-2,001.0	-125.2	2,004.9	0.00	0.00	0.00
11,300.0	89.87	183.58	9,403.7	-2,100.8	-131.4	2,104.9	0.00	0.00	0.00
11,400.0	89.87	183.58	9,403.9	-2,200.6	-137.7	2,204.9	0.00	0.00	0.00
11,500.0	89.87	183.58	9,404.1	-2,300.4	-143.9	2,304.9	0.00	0.00	0.00
11,600.0	89.87	183.58	9,404.4	-2,400.2	-150.2	2,404.9	0.00	0.00	0.00
11,700.0	89.87	183.58	9,404.6	-2,500.1	-156.4	2,504.9	0.00	0.00	0.00
11,800.0	89.87	183.58	9,404.8	-2,599.9	-162.7	2,604.9	0.00	0.00	0.00
11,900.0	89.87	183.58	9,405.1	-2,699.7	-168.9	2,704.9	0.00	0.00	0.00
12,000.0	89.87	183.58	9,405.3	-2,799.5	-175.1	2,804.9	0.00	0.00	0.00
12,100.0	89.87	183.58	9,405.5	-2,899.3	-181.4	2,904.9	0.00	0.00	0.00
12,200.0	89.87	183.58	9,405.7	-2,999.1	-187.6	3,004.9	0.00	0.00	0.00
12,300.0	89.87	183.58	9,406.0	-3,098.9	-193.9	3,104.9	0.00	0.00	0.00
12,400.0	89.87	183.58	9,406.2	-3,198.7	-200.1	3,204.9	0.00	0.00	0.00
12,500.0	89.87	183.58	9,406.4	-3,298.5	-206.4	3,304.9	0.00	0.00	0.00
12,600.0	89.87	183.58	9,406.6	-3,398.3	-212.6	3,404.9	0.00	0.00	0.00
12,700.0	89.87	183.58	9,406.9	-3,498.1	-218.9	3,504.9	0.00	0.00	0.00
12,800.0	89.87	183.58	9,407.1	-3,597.9	-225.1	3,604.9	0.00	0.00	0.00
12,900.0	89.87	183.58	9,407.3	-3,697.7	-231.3	3,704.9	0.00	0.00	0.00
13,000.0	89.87	183.58	9,407.6	-3,797.5	-237.6	3,804.9	0.00	0.00	0.00
13,100.0	89.87	183.58	9,407.8	-3,897.3	-243.8	3,904.9	0.00	0.00	0.00
13,200.0	89.87	183.58	9,408.0	-3,997.1	-250.1	4,004.9	0.00	0.00	0.00
13,300.0	89.87	183.58	9,408.2	-4,096.9	-256.3	4,104.9	0.00	0.00	0.00



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3684.3usft (Original Well Elev)
Project:	Lea County, NM (NAD27 NME)	MD Reference:	WELL @ 3684.3usft (Original Well Elev)
Site:	Tin Man Federal Com	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)
13,400.0	89.87	183.58	9,408.5	-4,196.7	-262.6	4,204.9	0.00	0.00	0.00
13,500.0	89.87	183.58	9,408.7	-4,296.5	-268.8	4,304.9	0.00	0.00	0.00
13,600.0	89.87	183.58	9,408.9	-4,396.3	-275.1	4,404.9	0.00	0.00	0.00
13,700.0	89.87	183.58	9,409.1	-4,496.1	-281.3	4,504.9	0.00	0.00	0.00
13,800.0	89.87	183.58	9,409.4	-4,595.9	-287.5	4,604.9	0.00	0.00	0.00
13,900.0	89.87	183.58	9,409.6	-4,695.8	-293.8	4,704.9	0.00	0.00	0.00
13,967.6	89.87	183.58	9,409.7	-4,763.2	-298.0	4,772.5	0.00	0.00	0.00
TD at 13967.6 - PBHL(TM#2H)									

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									
PBHL(TM#2H)	0.00	0.00	9,410.0	-4,763.2	-298.4	607,366.60	675,102.40	32° 40' 6.460 N	103° 45' 51.532 W
- plan misses target center by 0.5usft at 13967.6usft MD (9409.7 TVD, -4763.2 N, -298.0 E)									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,922.5	8,922.5	0.0	0.0	KOP - 8922.5 'MD, 0.00° INC, 0.00° AZI
9,671.5	9,400.0	-475.5	-29.7	EOC- 9671.5 'MD, 89.87° INC, 183.58° AZI
13,967.6	9,409.7	-4,763.2	-298.0	TD at 13967.6



COG Operating LLC
Project: Lea County, NM (NAD27 NME)
Site: Tin Man Federal Com
Well: #2H

Plan: Design #1 (#2H/OH)

WELL DETAILS: #2H

Ground Elevation:: 3666.3
RKB Elevation: WELL @ 3684.3usft (Original Well Elev)
Rig Name: Original Well Elev

Northings 612129.80
Eastings 675400.80
Latitude 32° 40' 53.577 N
Longitude 103° 45' 47.742 W

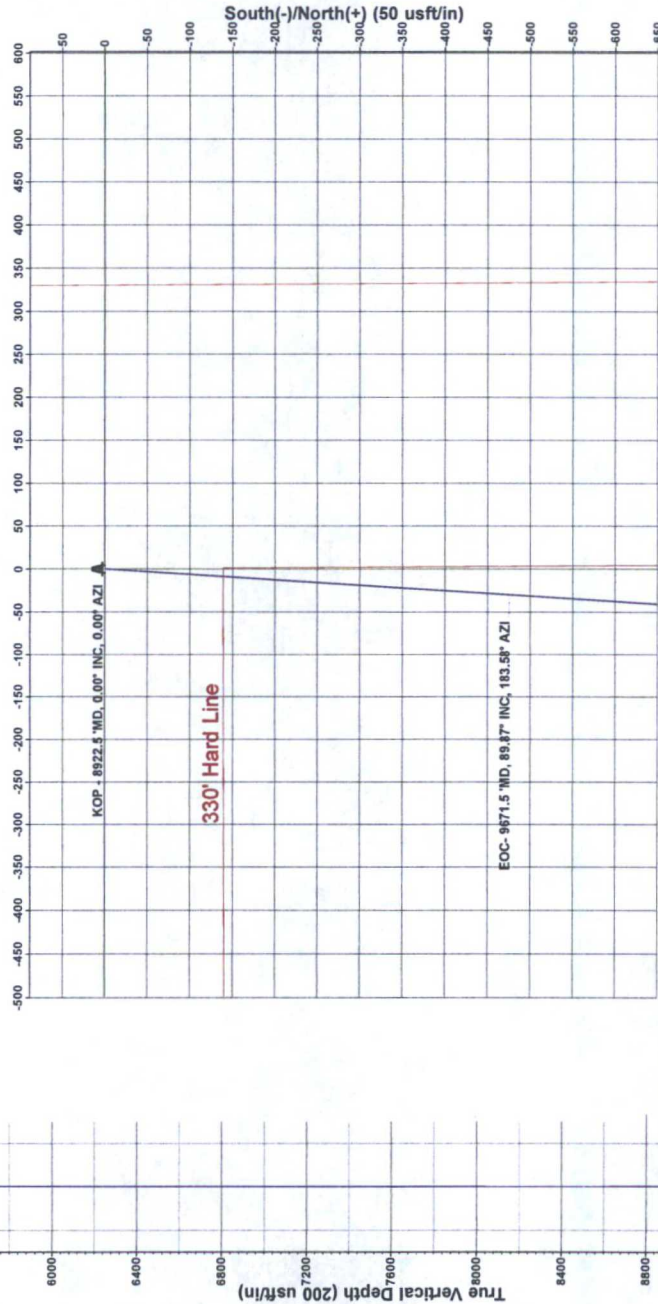
Section Details

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	8922.5	0.00	0.00	8922.5	0.0	0.0	0.00	0.00	0.0
3	9671.5	89.87	183.58	9400.0	-475.5	-29.7	12.00	183.58	476.4
4	13967.6	89.87	183.58	9409.7	-4763.2	-298.0	0.00	0.00	4772.5

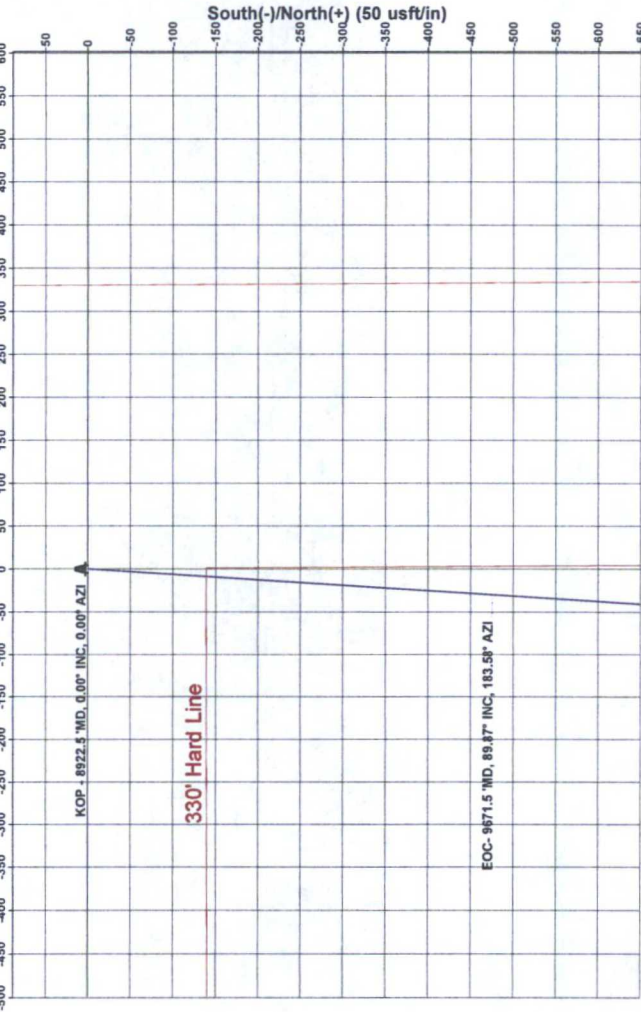
PBHL(TM#2H)



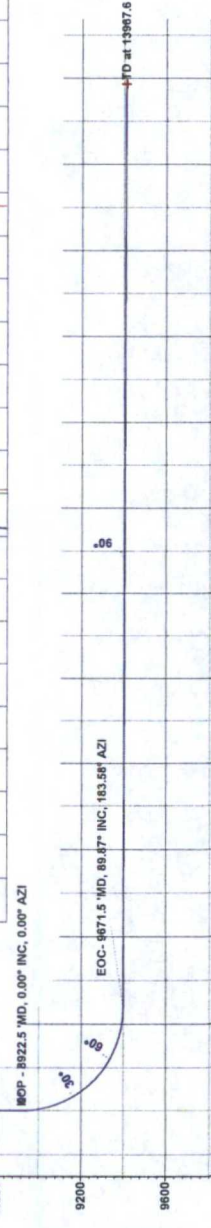
West(-)/East(+) (50 usft/in)



South(-)/North(+) (50 usft/in)



Vertical Section at 183.58° (200 usft/in)



West(-)/East(+) (200 usft/in)

PROJECT DETAILS: Lea County, NM (NAD27 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
Local North: Grid



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

No records found.

PLSS Search:

Section(s): 9

Township: 19S

Range: 32E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<u>CP 00073</u>			LE	2	4	34	19S	32E		617502	3609301	575		
<u>CP 00075</u>			LE	2	4	34	19S	32E		617502	3609301	575		
<u>CP 00563</u>			LE	1	1	2	19	19S	32E	612118	3613376*	300		
<u>CP 00639</u>			LE	3	1	20	19S	32E		613029	3612880*	350	345	5
<u>CP 00640</u>			LE	2	2	19	19S	32E		612621	3613280*	260	102	158
<u>CP 00812</u>			LE	4	4	01	19S	32E		620623	3616973*	200		

Average Depth to Water: **223 feet**

Minimum Depth: **102 feet**

Maximum Depth: **345 feet**

Record Count: 6

PLSS Search:

Township: 19S

Range: 32E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.