

HOBBS OCD

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Nautilus 16 State Com

#716H

OH

Design: OH

Final PVA Report

25 May, 2018

Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #716H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3342.0usft (HP 481)
Site:	Nautilus 16 State Com	MD Reference:	KB = 25 @ 3342.0usft (HP 481)
Well:	#716H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Nautilus 16 State Com		
Site Position:		Northing:	383,047.00 usft
From:	Map	Easting:	806,402.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 0.681 N
		Longitude:	103° 28' 40.085 W
		Grid Convergence:	0.45 "

Well	#716H		
Well Position	+N/-S	0.0 usft	Northing: 383,085.00 usft
	+E/-W	0.0 usft	Easting: 806,864.00 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: usft
			Latitude: 32° 3' 0.863 N
			Longitude: 103° 28' 11.477 W
			Ground Level: 3,317.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	1/10/2018	6.83
			Dip Angle
			(°)
			59.91
			Field Strength
			(nT)
			47,787.99722676

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			170.88

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Survey Program		Date	5/25/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
196.0	757.0	Trushot MWD (OH)	MWD	OWSG MWD - Standard	
883.0	17,630.0	Phoenix MWD #1 (OH)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Bulid (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
196.0	0.80	191.40	196.0	-1.3	-0.3	0.41	0.41	0.00	-1.4	0.0
286.0	0.50	248.20	286.0	-2.1	-0.8	0.75	-0.33	63.11	-1.5	1.7
414.0	0.70	234.50	414.0	-2.8	-1.9	0.19	0.16	-10.70	-3.2	1.1
508.0	1.10	251.20	508.0	-3.4	-3.2	0.50	0.43	17.77	-4.2	2.2
602.0	1.20	252.60	602.0	-4.0	-5.0	0.11	0.11	1.49	-6.0	2.3
697.0	1.00	272.00	696.9	-4.2	-6.8	0.44	-0.21	20.42	-6.7	4.5
757.0	1.30	263.20	756.9	-4.3	-8.0	0.58	0.50	-14.67	-8.5	3.3
883.0	1.15	276.59	882.9	-4.3	-10.7	0.26	-0.12	10.63	-10.1	5.5
1,069.0	1.38	85.23	1,068.9	-3.9	-10.3	1.35	0.12	90.67	10.6	-3.1
1,254.0	0.74	98.11	1,253.8	-3.9	-6.9	0.37	-0.35	6.96	6.3	-4.8
1,444.0	1.95	83.12	1,443.8	-3.7	-2.5	0.66	0.64	-7.89	2.9	-3.4
1,634.0	1.36	78.81	1,633.7	-2.9	2.9	0.32	-0.31	-2.27	0.6	-3.5
1,824.0	0.90	70.64	1,823.7	-1.9	6.6	0.26	-0.24	-4.30	3.9	-2.9
2,014.0	2.77	71.03	2,013.6	0.0	12.3	0.98	0.98	0.21	4.4	-2.3
2,204.0	2.32	70.51	2,203.4	2.8	20.3	0.24	-0.24	-0.27	2.6	-1.5
2,394.0	1.91	75.87	2,393.2	4.9	27.0	0.24	-0.22	2.82	2.1	-1.3
2,584.0	2.94	77.14	2,583.1	6.7	34.8	0.54	0.54	0.67	1.9	-1.3
2,774.0	4.78	74.94	2,772.6	9.9	47.2	0.97	0.97	-1.16	2.3	-0.9
2,965.0	4.57	69.98	2,963.0	14.6	62.0	0.24	-0.11	-2.60	0.1	0.2
3,155.0	4.63	66.15	3,152.4	20.2	76.2	0.16	0.03	-2.02	-2.2	2.2

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Well:	#716H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
3,345.0	4.77	62.51	3,341.8	27.0	90.2	0.17	0.07	-1.92	-5.0	4.9	
3,535.0	3.53	59.43	3,531.3	33.6	102.2	0.66	-0.65	-1.62	-6.4	8.2	
3,725.0	3.49	77.10	3,720.9	37.9	112.9	0.57	-0.02	9.30	-1.7	11.5	
3,915.0	3.33	80.18	3,910.6	40.1	124.0	0.13	-0.08	1.62	0.9	11.2	
4,105.0	4.26	97.89	4,100.2	40.1	136.4	0.78	0.49	9.32	4.3	7.3	
4,295.0	4.12	93.49	4,289.6	38.7	150.2	0.18	-0.07	-2.32	2.6	3.3	
4,485.0	3.21	96.26	4,479.3	37.7	162.3	0.49	-0.48	1.46	3.1	-0.8	
4,675.0	4.19	88.53	4,668.9	37.3	174.5	0.58	0.52	-4.07	4.0	-3.8	
4,865.0	3.93	89.93	4,858.4	37.5	188.0	0.15	-0.14	0.74	3.3	-6.7	
5,055.0	3.99	95.69	5,047.9	36.8	201.1	0.21	0.03	3.03	2.1	-10.6	
5,209.0	3.17	97.18	5,201.6	35.8	210.6	0.54	-0.53	0.97	2.3	-14.2	
5,328.0	2.52	91.60	5,320.5	35.3	216.5	0.59	-0.55	-4.69	8.2	-16.9	
5,518.0	7.25	75.56	5,509.7	38.2	232.3	2.57	2.49	-8.44	24.0	-14.5	
5,708.0	11.86	70.42	5,697.1	47.7	262.3	2.47	2.43	-2.71	28.1	-9.4	
5,898.0	10.92	70.07	5,883.3	60.4	297.6	0.50	-0.49	-0.18	24.9	-5.2	
6,088.0	12.41	73.41	6,069.4	72.3	334.1	0.86	0.78	1.76	20.7	-3.4	
6,279.0	11.97	69.67	6,256.1	85.1	372.4	0.47	-0.23	-1.96	15.0	1.0	
6,469.0	10.03	66.55	6,442.6	98.5	406.0	1.07	-1.02	-1.64	12.7	7.0	
6,659.0	12.14	75.16	6,629.0	110.2	440.5	1.41	1.11	4.53	11.9	8.7	
6,843.9	13.13	80.83	6,809.5	118.6	480.0	0.86	0.54	3.06	5.8	7.2	
AC TGT 1 (Nautilus 16 Fed Com #716H)											
6,849.0	13.16	80.97	6,814.4	118.7	481.2	0.86	0.57	2.83	5.5	7.1	
7,039.0	12.91	80.31	6,999.5	125.7	523.5	0.15	-0.13	-0.35	-3.0	4.9	
7,229.0	12.97	91.29	7,184.7	128.8	565.7	1.29	0.03	5.78	-10.5	7.2	
7,420.0	12.96	109.27	7,370.9	121.2	607.4	2.10	-0.01	9.41	-13.7	15.8	
7,610.0	11.54	130.85	7,556.7	101.8	641.9	2.51	-0.75	11.36	-7.3	19.9	
7,800.0	10.22	134.76	7,743.3	77.5	668.2	0.80	-0.69	2.06	-3.5	11.6	

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Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
7,808.3	10.20	134.69	7,749.5	76.7	669.0	0.38	-0.33	-1.09	-3.3	11.3	
AC TGT 2 (Nautilus 16 Fed Com #716H)											
7,990.0	9.60	132.56	7,930.5	54.9	691.9	0.38	-0.33	-1.16	-0.9	2.9	
8,180.0	5.53	127.38	8,118.8	38.6	710.8	2.17	-2.14	-2.73	-1.7	-1.8	
8,370.0	1.22	106.63	8,308.4	32.5	720.0	2.32	-2.27	-10.92	0.2	-2.7	
8,560.0	1.01	103.91	8,498.4	31.5	723.6	0.11	-0.11	-1.43	-2.1	-2.4	
8,750.0	1.33	98.41	8,688.3	30.8	727.4	0.18	0.17	-2.89	-5.7	-2.8	
8,940.0	0.94	114.72	8,878.3	29.8	731.0	0.26	-0.21	8.58	-10.0	-0.5	
9,130.0	1.10	121.05	9,068.3	28.2	734.0	0.10	0.08	3.33	-13.3	0.8	
9,320.0	0.26	63.91	9,258.2	27.4	735.9	0.52	-0.44	-30.07	-9.3	-12.3	
9,510.0	0.67	343.48	9,448.2	28.7	738.0	0.36	0.22	-42.33	9.4	-11.7	
9,701.0	0.63	333.46	9,639.2	30.7	735.2	0.06	-0.02	-5.25	9.1	-10.1	
9,891.0	1.10	328.23	9,829.2	33.2	733.8	0.25	0.25	-2.75	7.1	-9.3	
10,081.0	1.72	311.84	10,019.1	36.6	730.7	0.39	0.33	-8.63	4.9	-7.4	
10,271.0	1.77	252.42	10,209.1	37.7	725.8	0.91	0.03	-31.27	4.5	-2.0	
10,461.0	1.92	271.05	10,399.0	36.8	719.8	0.32	0.08	9.81	-2.4	-2.4	
10,651.0	2.04	285.51	10,588.9	37.8	713.4	0.27	0.06	7.61	-9.4	-1.0	
10,841.0	5.36	279.45	10,778.4	40.2	701.4	1.76	1.75	-3.19	-21.5	-2.3	
11,025.0	2.14	288.37	10,962.0	42.6	689.6	1.77	-1.75	4.85	-33.5	2.4	
11,216.0	1.52	271.10	11,152.9	43.8	683.7	0.43	-0.32	-9.04	-38.6	-8.7	
11,406.0	1.44	13.68	11,342.9	46.2	681.7	1.22	-0.04	53.99	-1.9	42.1	
11,596.0	2.73	353.68	11,532.8	53.0	681.8	0.77	0.68	-10.53	-23.0	38.1	
11,786.0	2.67	317.20	11,722.6	60.7	678.3	0.89	-0.03	-19.20	-49.2	14.3	
11,943.0	1.40	283.49	11,879.5	63.9	674.0	1.08	-0.81	-21.47	-53.8	-17.5	
12,110.0	2.52	123.73	12,046.4	62.3	675.0	2.31	0.67	-95.66	54.7	-2.9	
12,300.0	6.30	103.16	12,235.8	57.6	688.7	2.13	1.99	-10.83	37.9	15.1	
12,347.0	5.65	103.56	12,282.6	56.5	693.4	1.39	-1.38	0.85	33.1	14.8	

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Site: Nautilus 16 State Com		MD Reference: KB = 25 @ 3342.0usft (HP 481)	
Well: #716H		North Reference: Grid	
Wellbore: OH		Survey Calculation Method: Minimum Curvature	
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12,389.7	4.21	124.09	12,325.1	55.1	696.8	5.29	-3.38	48.10	32.7	3.0	
KOP (Nautilus 16 Fed Com #716H)											
12,395.0	4.08	127.56	12,330.4	54.9	697.1	5.29	-2.40	65.20	32.4	1.0	
12,435.0	4.96	144.26	12,370.3	52.6	699.2	3.94	2.20	41.75	30.1	-6.8	
12,491.0	8.33	131.20	12,425.9	48.0	703.7	6.56	6.02	-23.32	30.4	5.5	
12,536.0	7.04	129.40	12,470.5	44.1	708.3	2.92	-2.87	-4.00	32.0	14.2	
12,585.0	12.72	156.25	12,518.8	37.2	712.8	14.63	11.59	54.80	42.5	5.4	
12,632.0	21.39	163.86	12,563.7	24.2	717.2	19.01	18.45	16.19	48.7	5.0	
12,680.0	32.94	166.32	12,606.3	3.1	722.8	24.17	24.06	5.12	50.8	7.6	
12,728.0	41.19	164.74	12,644.6	-24.9	730.0	17.30	17.19	-3.29	48.5	13.9	
12,775.0	49.11	164.21	12,677.7	-57.0	739.0	16.87	16.85	-1.13	44.0	20.3	
12,825.0	55.97	166.71	12,708.1	-95.4	748.9	14.28	13.72	5.00	38.2	25.7	
12,870.0	62.59	170.05	12,731.1	-133.2	756.6	16.03	14.71	7.42	32.4	29.5	
12,893.0	65.39	173.36	12,741.2	-153.7	759.6	17.74	12.16	14.37	29.4	30.4	
HL Crossing, MD:12893.0', TVD:12741.2', N/S:-153.7', E/W:759.6', INC:65.39											
12,915.0	68.13	176.38	12,749.8	-173.8	761.4	17.74	12.46	13.75	26.3	30.4	
FTP (Nautilus 16 Fed Com #716H)											
12,917.0	68.38	176.65	12,750.6	-175.7	761.5	17.74	12.60	13.45	26.1	30.4	
12,965.0	74.10	180.82	12,766.0	-221.1	762.5	14.48	11.92	8.69	18.2	28.8	
13,012.0	76.83	180.56	12,777.8	-266.6	761.9	5.83	5.81	-0.55	10.6	26.3	
13,060.0	77.10	179.94	12,788.6	-313.3	761.7	1.38	0.58	-1.29	6.3	24.1	
13,107.0	82.55	181.75	12,796.9	-359.6	761.0	12.20	11.60	3.85	4.3	21.4	
13,155.0	89.49	182.49	12,800.3	-407.4	759.3	14.54	14.46	1.54	1.6	17.6	
13,250.0	89.65	182.93	12,801.0	-502.3	754.8	0.49	0.17	0.46	1.0	9.8	
13,377.0	88.61	178.89	12,802.9	-629.2	752.8	3.28	-0.82	-3.18	2.6	6.7	
13,472.0	90.37	180.43	12,803.8	-724.2	753.3	2.46	1.85	1.62	3.2	6.4	
13,567.0	90.58	180.43	12,803.0	-819.2	752.6	0.22	0.22	0.00	2.1	4.9	

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Survey											
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13,631.8	90.76	180.16	12,802.2	-884.0	752.3	0.50	0.27	-0.42	1.2	4.0	
TGT 1 (Nautilus 16 Fed Com #716H)											
13,662.0	90.84	180.03	12,801.8	-914.2	752.2	0.50	0.27	-0.42	0.8	3.7	
13,757.0	89.16	178.58	12,801.8	-1,009.2	753.4	2.34	-1.77	-1.53	0.7	4.0	
13,852.0	88.18	178.36	12,804.0	-1,104.1	755.9	1.08	-1.03	-0.23	2.8	5.7	
13,947.0	91.88	180.25	12,804.0	-1,199.1	757.1	4.37	3.89	1.99	2.6	8.0	
14,042.0	90.21	179.77	12,802.2	-1,294.1	757.1	1.83	-1.78	-0.51	0.8	5.2	
14,137.0	91.35	180.78	12,800.9	-1,389.1	756.6	1.60	1.20	1.06	-0.6	3.9	
14,233.0	87.28	178.36	12,802.1	-1,485.0	757.3	4.93	-4.24	-2.52	0.5	3.8	
14,328.0	87.59	178.40	12,806.3	-1,579.9	760.0	0.33	0.33	0.04	4.6	5.7	
14,423.0	88.69	177.61	12,809.4	-1,674.8	763.3	1.43	1.16	-0.83	7.6	8.1	
14,518.0	91.51	178.76	12,809.2	-1,769.7	768.3	3.21	2.97	1.21	7.4	10.3	
14,613.0	91.71	178.62	12,806.6	-1,864.7	768.5	0.26	0.21	-0.15	4.6	11.7	
14,644.5	91.04	178.53	12,805.8	-1,896.1	769.3	2.15	-2.14	-0.27	3.8	12.2	
TGT 2 (Nautilus 16 Fed Com #716H)											
14,708.0	89.68	178.36	12,805.4	-1,959.6	771.0	2.15	-2.14	-0.27	3.4	13.3	
14,803.0	90.49	177.31	12,805.3	-2,054.5	774.6	1.40	0.85	-1.11	3.1	16.1	
14,898.0	90.72	177.31	12,804.3	-2,149.4	779.0	0.24	0.24	0.00	2.0	19.7	
14,993.0	90.63	178.19	12,803.2	-2,244.4	782.8	0.95	-0.20	0.93	0.9	22.6	
15,088.0	90.35	178.14	12,802.5	-2,339.3	785.8	0.20	-0.19	-0.05	0.1	24.9	
15,183.0	90.19	176.08	12,802.1	-2,434.2	790.6	2.17	-0.17	-2.17	-0.5	28.8	
15,278.0	91.96	178.05	12,800.3	-2,529.0	795.5	2.79	1.86	2.07	-2.3	32.9	
15,373.0	91.09	178.10	12,797.8	-2,623.9	798.7	0.92	-0.92	0.05	-4.9	35.2	
15,405.0	91.82	178.19	12,796.9	-2,655.9	799.7	2.30	2.28	0.28	-5.8	36.0	
15,437.0	91.88	178.80	12,795.9	-2,687.9	800.5	1.91	0.19	1.91	-6.9	36.6	
15,468.0	91.04	179.02	12,795.1	-2,718.9	801.1	2.80	-2.71	0.71	-7.7	36.9	
15,499.0	88.92	180.16	12,795.1	-2,749.9	801.3	7.76	-6.84	3.68	-7.7	36.8	

Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #716H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3342.0usft (HP 481)
Site:	Nautilus 16 State Com	MD Reference:	KB = 25 @ 3342.0usft (HP 481)
Well:	#716H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD. (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
15,529.0	88.04	183.55	12,795.9	-2,779.8	800.4	11.67	-2.93	11.30	-6.9	35.6	
15,563.0	88.00	183.72	12,797.1	-2,813.7	798.2	0.51	-0.12	0.50	-5.7	33.2	
15,595.0	88.19	183.33	12,798.2	-2,845.7	796.2	1.36	0.59	-1.22	-4.7	30.9	
15,628.0	88.16	183.37	12,799.2	-2,878.6	794.3	0.15	-0.09	0.12	-3.7	28.7	
15,660.0	87.51	185.35	12,800.4	-2,910.5	791.9	6.51	-2.03	6.19	-2.5	26.0	
15,661.2	87.52	185.37	12,800.5	-2,911.6	791.8	1.70	0.81	1.50	-2.4	25.9	
TGT 3 (Nautilus 16 Fed Com #716H)											
15,692.0	87.77	185.83	12,801.7	-2,942.3	788.8	1.70	0.81	1.50	-1.2	22.6	
15,723.0	87.91	185.74	12,802.9	-2,973.1	785.7	0.54	0.45	-0.29	0.0	19.2	
15,818.0	89.35	186.36	12,805.2	-3,067.6	775.6	1.65	1.52	0.65	2.2	8.4	
15,913.0	89.32	183.33	12,806.3	-3,162.2	767.6	3.19	-0.03	-3.19	3.3	-0.5	
16,008.0	91.57	184.78	12,805.5	-3,257.0	760.9	2.82	2.37	1.53	2.6	-8.0	
16,134.0	89.05	180.73	12,804.9	-3,382.8	754.9	3.79	-2.00	-3.21	1.9	-15.2	
16,229.0	88.47	179.50	12,806.9	-3,477.7	754.7	1.43	-0.61	-1.29	3.9	-16.2	
16,324.0	90.16	177.97	12,808.1	-3,572.7	756.8	2.40	1.78	-1.61	5.1	-14.9	
16,419.0	91.78	179.98	12,806.5	-3,667.7	758.5	2.72	1.71	2.12	3.5	-14.0	
16,514.0	89.65	178.76	12,805.3	-3,762.7	759.5	2.58	-2.24	-1.28	2.3	-13.8	
16,609.0	90.62	178.19	12,805.0	-3,857.6	762.0	1.18	1.02	-0.60	2.0	-12.1	
16,672.8	91.06	177.83	12,804.1	-3,921.4	764.2	0.88	0.68	-0.56	1.1	-10.5	
TGT 4 (Nautilus 16 Fed Com #716H)											
16,704.0	91.27	177.66	12,803.5	-3,952.5	765.5	0.88	0.68	-0.56	0.4	-9.5	
16,799.0	91.51	179.81	12,801.2	-4,047.5	767.6	2.28	0.25	2.26	-2.0	-8.2	
16,894.0	89.68	179.33	12,800.2	-4,142.5	768.3	1.99	-1.93	-0.51	-3.0	-8.3	
16,989.0	89.28	178.71	12,801.0	-4,237.5	769.9	0.78	-0.42	-0.65	-2.3	-7.6	
17,084.0	90.54	179.86	12,801.2	-4,332.4	771.1	1.80	1.33	1.21	-2.2	-7.2	
17,179.0	91.15	179.94	12,799.8	-4,427.4	771.3	0.65	0.64	0.08	-3.7	-7.9	
17,274.0	89.49	179.15	12,799.3	-4,522.4	772.0	1.94	-1.75	-0.83	-4.4	-7.9	

Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #716H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3342.0usft (HP 481)
Site:	Nautilus 16 State Com	MD Reference:	KB = 25 @ 3342.0usft (HP 481)
Well:	#716H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
17,369.0	90.61	178.98	12,799.2	-4,617.4	773.6	1.19	1.18	-0.18	-4.6	-7.2
17,464.0	92.07	178.76	12,797.0	-4,712.4	775.4	1.55	1.54	-0.23	-6.9	-6.2
17,528.0	93.12	178.87	12,794.1	-4,776.3	776.8	1.65	1.64	0.18	-9.8	-5.4
HL Crossing, MD:17528.0', TVD:12794.1', N/S:-4776.3', E/W:776.8', INC:93.12										
17,559.0	93.63	178.93	12,792.2	-4,807.2	777.3	1.65	1.64	0.18	-11.7	-5.1
17,583.0	93.75	179.20	12,790.7	-4,831.2	777.7	1.23	0.50	1.12	-13.3	-4.9
Final MWD Survey (MD=17583.0')										
17,625.9	93.75	179.20	12,787.9	-4,874.0	778.3	0.00	0.00	0.00	-16.1	-4.7
PBHL (Nautilus 16 Fed Com #716H)										
17,630.0	93.75	179.20	12,787.6	-4,878.1	778.4	0.00	0.00	0.00	-16.4	-4.6
Final Projection to Bit (MD=17630.0')										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,893.0	12,741.2	-153.7	759.6	HL Crossing, MD:12893.0', TVD:12741.2', N/S:-153.7', E/W:759.6', INC:65.39
17,528.0	12,794.1	-4,776.3	776.8	HL Crossing, MD:17528.0', TVD:12794.1', N/S:-4776.3', E/W:776.8', INC:93.12
17,583.0	12,790.7	-4,831.2	777.7	Final MWD Survey (MD=17583.0')
17,630.0	12,787.6	-4,878.1	778.4	Final Projection to Bit (MD=17630.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Nautilus 16 State Com #716H

HP 481

Plan #1

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level



Activities in Grid North
True North: 0.43°
Magnetic North: 0.97°

Magnetic Field
Strength: 47,000 Gauss
Dip Angle: 68.9°
Decline: 0.022200
Model: IGRF2000

To convert a Magnetic Direction to a Grid Direction, Add 6.37°
To convert a Magnetic Direction to a True Direction, Add 6.80° East
To convert a True Direction to a Grid Direction, Subtract 0.45°

WELL DETAILS: #716H

3317.0
KB = 25 @ 3342.0usft (HP 481)
Northing 393085.00 Easting 808864.00 Latitude 32° 3' 0.863 N Longitude 103° 28' 11.477 W

SECTION DETAILS

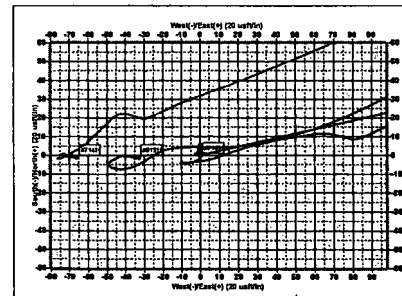
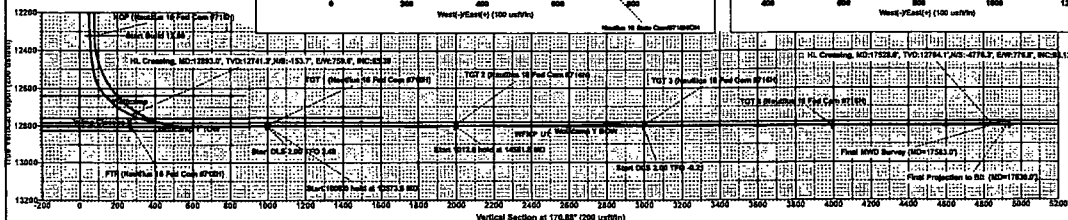
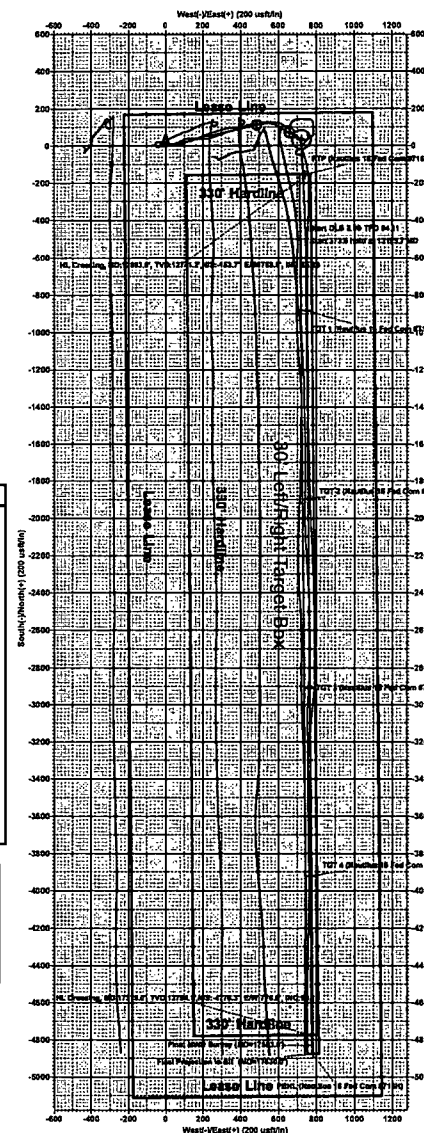
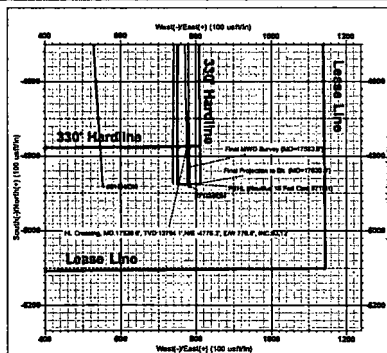
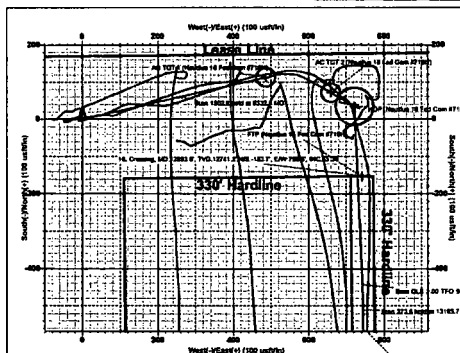
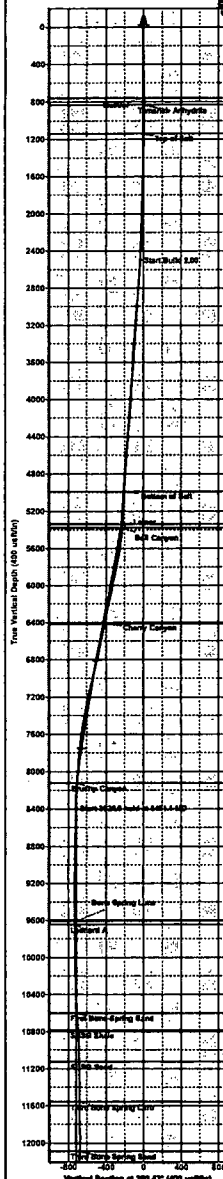
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0
1600.0	2.00	77.00	1600.0	0.4	1.7	2.00	77.00	-0.1
2500.6	2.00	77.00	2500.0	7.5	32.3	0.00	0.00	-2.2
2600.6	4.00	77.00	2599.9	8.6	37.4	2.00	0.00	-2.6
5207.1	4.00	77.00	5200.0	49.5	214.6	0.00	0.00	-14.9
5532.1	10.50	77.00	5522.2	58.8	254.5	2.00	0.00	-17.7
7035.0	10.50	77.00	7000.0	120.4	521.4	0.00	0.00	-36.2
7450.9	12.00	120.00	7408.6	107.3	595.9	2.00	101.46	-11.4
7851.1	12.00	120.00	7800.0	65.7	667.9	0.00	0.00	41.1
8451.1	0.00	0.00	8395.6	34.4	722.2	2.00	180.00	80.6
12377.9	0.00	0.00	12322.5	34.4	722.2	0.00	0.00	80.6
13127.9	90.00	177.47	12800.0	-442.6	743.2	12.00	177.47	554.9
13195.7	89.85	179.50	12800.1	-510.4	745.0	3.00	94.11	622.1
13569.3	89.85	179.50	12801.0	-884.0	748.3	0.00	0.00	991.5
13573.8	89.94	179.50	12801.0	-888.5	748.3	2.00	2.48	995.9
14581.8	89.94	179.50	12802.0	-1896.4	757.1	0.00	0.00	1992.5
15594.4	89.94	179.50	12803.0	-2909.0	765.9	0.00	0.00	2993.6
15597.2	89.94	179.50	12803.0	-2911.8	765.9	2.00	-0.21	2996.4
16606.4	90.00	179.50	12803.0	-3921.0	774.7	0.00	0.00	3994.2
16609.5	89.94	179.50	12803.0	-3924.0	774.7	2.00	-179.75	3997.2
17560.5	89.94	179.50	12804.0	-4875.0	783.0	0.00	0.00	4937.5

CASING DETAILS

No casing data is available

WELLSIDE YARDY DETAILS (NAD COORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
AC TOT 1 (Nautilus 16 Fed Com #716H)	7758.1	112.4	488.8	383187.38	808250.77
AC TOT 2 (Nautilus 16 Fed Com #716H)	7758.1	71.2	638.8	383188.97	808252.71
KOP (Nautilus 16 Fed Com #716H)	12322.5	34.4	722.2	383189.35	808264.16
PTP (Nautilus 16 Fed Com #716H)	12800.0	-154.2	745.0	383221.00	808265.00
TOT 1 (Nautilus 16 Fed Com #716H)	12801.0	-884.3	748.3	383221.00	808265.00
TOT 2 (Nautilus 16 Fed Com #716H)	12802.0	-1896.4	757.1	383188.98	808261.19
TOT 3 (Nautilus 16 Fed Com #716H)	12803.0	-2909.0	765.9	383178.00	808259.96
TOT 4 (Nautilus 16 Fed Com #716H)	12803.0	-3921.0	774.7	379164.00	808259.76
PKBL (Nautilus 16 Fed Com #716H)	12804.0	-4875.0	783.0	379215.00	808267.00



Lea County, NM (NAD 83 NME)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level