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HOBBS OCD

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Nautilus 16 State Com

#717H

OH

Survey: MS MWD

Midland PVA

27 April, 2018





Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #717H
Project:	Lee County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Site:	Nautilus 16 State Com	MD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Well:	#717H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Project	Lee 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	#717H					
Well Position	+N-S	0.0 usft	Northing:	383,081.00 usft	Latitude:	32° 3' 0.857 N
	+E-W	0.0 usft	Easting:	808,432.00 usft	Longitude:	103° 28' 16.496 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,322.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/22/2018	6.82	59.91	47,775,719.94633

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	178.06	



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Survey Program		Date	4/27/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
109.0	816.0	Integrity MWD Cartel 41 (OH)	MWD	OWSG MWD - Standard	
962.0	17,580.0	MS MWD (OH)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
816.0	0.30	284.80	815.9	3.9	-5.4	0.00	0.00	0.00	-6.2	-2.4
962.0	0.44	239.80	961.9	3.7	-6.2	0.21	0.10	-30.82	-3.5	-6.3
1,054.0	0.44	205.08	1,053.9	3.2	-6.7	0.29	0.00	-37.74	0.1	-7.4
1,147.0	0.44	236.11	1,146.9	2.7	-7.1	0.25	0.00	33.37	-4.4	-6.2
1,239.0	0.44	161.05	1,238.9	2.1	-7.3	0.58	0.00	-81.59	4.4	-6.2
1,333.0	0.53	145.49	1,332.9	1.4	-6.9	0.17	0.10	-16.55	5.1	-4.9
1,426.0	0.62	136.97	1,425.9	0.7	-6.4	0.13	0.10	-9.16	4.9	-4.2
1,519.0	0.62	133.63	1,518.9	0.0	-5.6	0.04	0.00	-3.59	4.1	-3.9
1,613.0	0.88	138.64	1,612.9	-0.9	-4.8	0.28	0.28	5.33	2.5	-4.2
1,706.0	1.06	133.36	1,705.9	-2.0	-3.7	0.22	0.19	-5.68	1.3	-4.0
1,800.0	1.06	152.26	1,799.9	-3.4	-2.7	0.37	0.00	20.11	-1.7	-3.9
1,895.0	1.32	154.72	1,894.9	-5.1	-1.8	0.28	0.27	2.59	-3.9	-3.8
1,988.0	1.41	145.23	1,987.8	-7.1	-0.7	0.26	0.10	-10.20	-5.4	-4.6
2,082.0	1.58	144.17	2,081.8	-9.1	0.7	0.18	0.18	-1.13	-7.8	-4.7
2,176.0	1.76	146.37	2,175.8	-11.3	2.3	0.20	0.19	2.34	-10.7	-4.4
2,269.0	2.90	193.57	2,268.7	-14.8	2.5	2.30	1.23	50.75	-13.8	5.9
2,363.0	4.22	203.68	2,362.5	-20.3	0.6	1.55	1.40	10.76	-18.3	8.7
2,457.0	3.34	193.13	2,456.3	-26.1	-1.4	1.19	-0.94	-11.22	-25.7	4.5
2,552.0	2.64	184.69	2,551.2	-31.0	-2.2	0.87	-0.74	-8.88	-31.1	0.3
2,645.0	0.62	229.16	2,644.1	-33.4	-2.8	2.41	-2.17	47.82	-24.0	23.5
2,739.0	0.88	242.96	2,738.1	-34.1	-3.8	0.33	0.28	14.68	-18.8	28.6



Midland PVA



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Well:	#717H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
2,832.0	0.44	271.44	2,831.1	-34.4	-4.8	0.58	-0.47	30.62	-3.9	34.5	
2,926.0	1.14	29.13	2,925.1	-33.6	-4.7	1.49	0.74	125.20	31.6	-12.2	
3,019.0	1.76	36.51	3,018.1	-31.6	-3.4	0.69	0.67	7.94	27.5	-16.1	
3,113.0	2.55	42.49	3,112.0	-28.9	-1.1	0.87	0.84	6.36	22.1	-18.7	
3,206.0	3.34	43.01	3,204.9	-25.4	2.1	0.85	0.85	0.56	17.1	-18.9	
3,300.0	3.61	43.36	3,298.7	-21.3	6.0	0.29	0.29	0.37	11.3	-19.0	
3,394.0	4.22	46.88	3,392.5	-16.8	10.6	0.70	0.65	3.74	3.7	-19.4	
3,487.0	4.04	37.30	3,485.3	-11.8	15.0	0.77	-0.19	-10.30	0.3	-19.1	
3,580.0	4.31	35.01	3,578.0	-6.3	19.0	0.34	0.29	-2.46	-5.7	-19.2	
3,674.0	4.66	30.27	3,671.7	-0.1	23.0	0.54	0.37	-5.04	-11.4	-19.9	
3,768.0	1.93	38.79	3,765.6	4.4	25.9	2.94	-2.90	9.06	-19.6	-17.4	
3,862.0	1.67	41.52	3,859.5	6.6	27.8	0.29	-0.28	2.90	-23.4	-16.4	
3,956.0	1.85	36.16	3,953.5	8.9	29.6	0.26	0.19	-5.70	-24.6	-18.7	
4,049.0	1.93	30.97	4,046.4	11.4	31.3	0.20	0.09	-5.58	-25.9	-20.9	
4,143.0	2.29	26.31	4,140.4	14.5	32.9	0.42	0.38	-4.96	-27.6	-23.1	
4,237.0	2.20	17.79	4,234.3	17.9	34.3	0.37	-0.10	-9.06	-27.5	-27.2	
4,330.0	2.29	12.34	4,327.2	21.4	35.3	0.25	0.10	-5.86	-28.4	-29.9	
4,423.0	2.46	5.75	4,420.1	25.2	35.9	0.35	0.18	-7.09	-28.7	-33.2	
4,516.0	2.73	7.86	4,513.0	29.4	36.4	0.31	0.29	2.27	-34.1	-32.0	
4,611.0	2.90	11.99	4,607.9	34.0	37.2	0.28	0.18	4.35	-40.9	-29.3	
4,704.0	2.99	17.70	4,700.8	38.6	38.4	0.33	0.10	6.14	-48.4	-24.9	
4,798.0	2.99	18.05	4,794.7	43.3	39.9	0.02	0.00	0.37	-53.5	-24.6	
4,891.0	2.99	23.94	4,887.5	47.8	41.6	0.33	0.00	6.33	-60.6	-18.7	
4,985.0	2.90	30.00	4,981.4	52.1	43.8	0.34	-0.10	6.45	-67.0	-11.9	
5,079.0	2.73	34.22	5,075.3	56.0	46.3	0.29	-0.18	4.49	-72.3	-6.8	
5,173.0	2.64	36.16	5,169.2	59.6	48.8	0.14	-0.10	2.06	-76.9	-4.3	
5,203.0	2.73	36.68	5,199.2	60.7	49.6	0.31	0.30	1.73	-78.4	-3.5	



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Survey											
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5,336.0	2.64	39.23	5,332.0	65.6	53.5	0.11	-0.07	1.92	-81.5	0.4	
5,429.0	2.46	37.56	5,424.9	68.9	56.0	0.21	-0.19	-1.80	-79.7	-1.2	
5,522.0	2.46	39.94	5,517.8	72.0	58.5	0.11	0.00	2.56	-74.7	3.0	
5,616.0	2.64	45.74	5,611.8	75.0	61.4	0.33	0.19	6.17	-67.5	10.7	
5,709.0	2.73	43.98	5,704.6	78.1	64.5	0.13	0.10	-1.89	-61.6	8.7	
5,803.0	2.73	37.91	5,798.5	81.5	67.4	0.31	0.00	-6.46	-56.1	3.3	
5,897.0	2.64	43.01	5,892.4	84.9	70.2	0.27	-0.10	5.43	-49.4	8.9	
5,991.0	2.73	42.31	5,988.3	88.1	73.2	0.10	0.10	-0.74	-43.2	8.8	
6,083.0	2.81	35.98	6,078.2	91.5	76.0	0.34	0.09	-6.88	-38.1	5.4	
6,177.0	2.73	39.94	6,172.1	95.1	78.8	0.22	-0.09	4.21	-31.5	9.2	
6,270.0	2.90	35.37	6,265.0	98.7	81.6	0.30	0.18	-4.91	-26.3	8.2	
6,364.0	3.08	33.43	6,358.9	102.8	84.4	0.22	0.19	-2.06	-21.1	9.4	
6,457.0	2.90	35.19	6,451.8	106.8	87.1	0.22	-0.19	1.89	-15.3	12.0	
6,524.0	2.90	35.19	6,518.7	109.6	89.1	0.00	0.00	0.00	-11.2	13.3	
6,550.0	2.81	38.71	6,544.6	110.6	89.8	0.76	-0.35	13.54	-8.7	14.3	
6,643.0	2.81	38.18	6,637.5	114.2	92.7	0.03	0.00	-0.57	-2.9	15.5	
6,736.0	2.73	37.30	6,730.4	117.7	95.4	0.10	-0.09	-0.95	2.6	16.9	
6,830.0	3.69	29.57	6,824.3	122.1	98.3	1.12	1.02	-8.22	3.1	19.0	
6,923.0	4.04	27.98	6,917.0	127.6	101.3	0.39	0.38	-1.71	1.3	20.5	
7,011.0	4.13	31.15	7,004.8	133.1	104.4	0.28	0.10	3.60	-1.8	21.1	
7,104.0	4.31	33.70	7,097.6	138.9	108.0	0.28	0.19	2.74	-7.6	21.4	
7,197.0	3.43	36.68	7,190.4	144.0	111.6	0.97	-0.95	3.20	-12.7	21.9	
7,291.0	2.81	59.80	7,284.2	147.4	115.3	1.48	-0.66	24.60	-8.0	26.2	
7,385.0	2.90	68.50	7,378.1	149.4	119.5	0.47	0.10	9.26	-8.6	27.5	
7,478.0	1.93	123.26	7,471.0	149.4	123.0	2.56	-1.04	58.88	14.6	24.8	
7,571.0	2.11	143.30	7,564.0	147.2	125.4	0.78	0.19	21.55	19.0	18.9	
7,664.0	2.02	146.90	7,656.9	144.5	127.3	0.17	-0.10	3.87	16.8	17.7	



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7,758.0	2.11	152.79	7,750.8	141.5	129.0	0.25	0.10	6.27	15.2	16.1	
7,852.0	1.76	153.84	7,844.8	138.7	130.4	0.37	-0.37	1.12	12.3	15.8	
7,945.0	2.02	109.99	7,937.7	136.9	132.6	1.54	0.28	-47.15	-4.8	18.9	
8,036.0	2.02	162.02	8,028.7	134.8	134.6	1.95	0.00	57.18	9.4	16.7	
8,136.0	1.58	169.93	8,128.6	131.8	135.4	0.50	-0.44	7.91	8.5	15.5	
8,230.0	1.58	174.58	8,222.6	129.2	135.7	0.14	0.00	4.95	7.1	14.8	
8,323.0	1.76	180.39	8,315.6	126.5	135.8	0.27	0.19	6.25	5.9	14.2	
8,417.0	1.67	177.31	8,409.5	123.7	135.9	0.14	-0.10	-3.28	2.3	14.4	
8,510.0	1.76	176.87	8,502.5	120.9	136.0	0.10	0.10	-0.47	-0.6	14.4	
8,603.0	1.67	170.54	8,595.4	118.1	136.3	0.23	-0.10	-6.81	-5.0	14.1	
8,697.0	1.67	172.65	8,689.4	115.4	136.7	0.07	0.00	2.24	-7.2	14.3	
8,791.0	1.93	174.50	8,783.4	112.5	137.0	0.28	0.28	1.97	-9.7	14.6	
8,883.0	1.76	171.24	8,875.3	109.5	137.4	0.22	-0.18	-3.54	-13.4	13.9	
8,976.0	1.76	174.32	8,968.3	106.7	137.8	0.10	0.00	3.31	-15.5	14.7	
9,070.0	1.23	173.62	9,062.2	104.3	138.0	0.56	-0.56	-0.74	-18.1	14.5	
9,164.0	1.32	181.18	9,156.2	102.2	138.1	0.20	0.10	8.04	-18.2	16.9	
9,257.0	1.06	184.96	9,249.2	100.3	138.0	0.29	-0.28	4.06	-18.9	18.1	
9,351.0	0.97	190.76	9,343.2	98.6	137.8	0.15	-0.10	6.17	-18.7	20.0	
9,444.0	0.97	199.80	9,436.2	97.1	137.4	0.16	0.00	9.72	-16.9	22.8	
9,538.0	0.97	222.92	9,530.2	95.8	136.6	0.41	0.00	24.60	-8.1	27.9	
9,630.0	0.88	256.26	9,622.1	95.0	135.3	0.58	-0.10	36.24	7.2	28.2	
9,723.0	1.32	281.72	9,715.1	95.1	133.6	0.70	0.47	27.38	17.0	22.7	
9,817.0	1.76	283.13	9,809.1	95.6	131.1	0.47	0.47	1.50	15.0	22.3	
9,911.0	2.02	291.30	9,903.0	96.6	128.2	0.40	0.28	8.69	14.9	20.1	
10,005.0	2.90	292.27	9,996.9	98.1	124.4	0.94	0.94	1.03	11.2	19.9	
10,097.0	3.87	287.61	10,088.8	99.9	119.3	1.10	1.05	-5.07	4.1	20.5	
10,190.0	2.90	308.53	10,181.6	102.3	114.5	1.67	-1.04	22.49	5.9	18.8	



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10,284.0	2.46	315.74	10,275.5	105.2	111.2	0.59	-0.47	7.67	3.8	18.2
10,377.0	2.37	333.67	10,368.4	108.4	109.0	0.81	-0.10	19.28	5.4	16.8
10,470.0	1.85	352.56	10,461.4	111.6	107.9	0.93	-0.56	20.31	7.3	14.7
10,564.0	1.67	18.49	10,555.3	114.4	108.2	0.86	-0.19	27.59	10.2	10.7
10,657.0	1.23	21.92	10,648.3	116.6	109.0	0.48	-0.47	3.69	8.5	10.2
10,750.0	1.32	14.01	10,741.3	118.6	109.6	0.21	0.10	-8.51	5.0	11.1
10,843.0	2.02	51.01	10,834.2	120.6	111.1	1.34	0.75	39.79	8.2	6.5
10,936.0	2.81	36.51	10,927.2	123.5	113.8	1.07	0.85	-15.59	2.4	8.0
11,030.0	3.08	28.77	11,021.0	127.6	116.4	0.51	0.29	-8.23	-3.5	7.9
11,124.0	3.52	33.43	11,114.9	132.2	119.2	0.55	0.47	4.96	-8.2	8.4
11,218.0	2.46	49.25	11,208.8	135.9	122.3	1.42	-1.13	16.83	-10.4	11.1
11,311.0	3.08	48.81	11,301.6	138.9	125.7	0.67	0.67	-0.47	-15.0	11.0
11,404.0	3.25	58.66	11,394.5	141.9	129.8	0.61	0.18	10.59	-18.0	13.8
11,497.0	2.90	55.41	11,487.4	144.6	134.0	0.42	-0.38	-3.49	-23.8	12.6
11,590.0	3.78	56.55	11,580.2	147.6	138.5	0.95	0.95	1.23	-28.9	13.2
11,685.0	2.73	52.50	11,675.1	150.7	142.9	1.13	-1.11	-4.26	-35.2	10.9
11,778.0	2.20	43.89	11,768.0	153.3	145.9	0.69	-0.57	-9.26	-40.4	5.1
11,871.0	1.85	50.13	11,860.9	155.6	148.3	0.44	-0.38	6.71	-42.8	9.7
11,965.0	2.46	41.61	11,954.8	158.1	150.8	0.73	0.65	-9.06	-47.3	3.0
12,063.0	2.55	40.11	12,052.8	161.3	153.6	0.11	0.09	-1.53	-51.7	1.7
12,124.0	2.11	30.27	12,113.7	163.3	155.0	0.97	-0.72	-16.12	-53.7	-7.4
12,155.0	1.32	3.73	12,144.7	164.2	155.3	3.55	-2.55	-85.61	-45.6	-30.8
12,186.0	1.06	7.15	12,175.7	164.8	155.4	0.87	-0.84	11.03	-48.0	-28.0
12,218.0	0.82	170.63	12,207.7	164.9	155.5	5.20	-1.37	510.87	38.1	40.6
12,280.0	1.93	182.58	12,269.7	163.6	155.5	2.14	2.11	19.27	44.3	31.9
12,311.0	4.57	187.68	12,300.6	161.8	155.3	8.56	8.52	16.45	45.2	27.9
12,373.0	10.82	185.31	12,362.0	153.6	154.4	10.09	10.08	-3.82	36.7	29.7



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #717H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Site:	Nautilus 16 State Corn	MD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Well:	#717H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Buidd (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
12,467.0	25.41	182.06	12,451.1	124.5	152.9	15.55	15.52	-3.46	19.7	30.7
12,559.0	40.19	181.26	12,528.3	74.8	151.5	16.07	16.07	-0.87	-1.7	29.5
12,653.0	54.52	182.23	12,591.8	5.9	149.3	15.26	15.24	1.03	-28.3	28.5
12,700.0	61.29	181.44	12,616.7	-33.9	146.1	14.47	14.40	-1.68	-44.0	27.3
12,747.0	61.47	181.53	12,639.3	-75.2	147.0	0.42	0.38	0.19	-57.9	25.6
12,793.0	61.73	184.34	12,661.1	-115.6	144.9	5.40	0.57	6.11	-66.1	24.7
12,840.0	61.20	185.48	12,683.6	-156.7	141.4	2.41	-1.13	2.43	-69.6	20.9
12,841.5	61.18	185.47	12,684.3	-158.0	141.3	1.57	-1.49	-0.55	-69.6	20.7
FTP Crossing 12841.5' MD; 12684.3' TVD; -158.0°; 141.3°; 61.18										
12,887.0	60.50	185.22	12,706.5	-197.6	137.6	1.57	-1.49	-0.55	-67.4	15.9
12,934.0	60.50	183.99	12,729.6	-238.3	134.3	2.28	0.00	-2.62	-59.6	11.2
12,981.0	64.81	181.09	12,751.2	-280.0	132.4	10.68	9.17	-6.17	-48.5	7.9
13,028.0	66.39	180.30	12,770.6	-322.8	131.9	3.69	3.36	-1.68	-34.7	6.9
13,060.0	68.85	179.68	12,782.8	-352.4	131.9	7.89	7.69	-1.94	-23.7	6.6
13,091.0	73.51	177.13	12,792.8	-381.7	132.8	16.93	15.03	-8.23	-13.7	7.0
13,120.0	76.77	176.87	12,800.2	-409.7	134.2	11.27	11.24	-0.90	-6.3	8.1
13,130.0	79.76	177.57	12,802.3	-419.5	134.7	30.68	29.90	7.00	-4.2	8.4
13,218.0	92.68	180.47	12,808.1	-507.1	136.2	15.04	14.68	3.30	1.7	9.1
13,312.0	92.07	179.51	12,804.2	-601.0	136.2	1.21	-0.65	-1.02	-2.0	8.3
13,406.0	90.84	178.72	12,801.8	-695.0	137.6	1.56	-1.31	-0.84	-4.2	9.0
13,500.0	90.66	178.72	12,800.6	-786.9	139.7	0.19	-0.19	0.00	-5.2	10.3
13,593.0	90.48	178.19	12,799.6	-881.9	142.3	0.60	-0.19	-0.57	-5.9	12.0
13,686.0	90.31	179.59	12,799.0	-974.9	144.1	1.52	-0.18	1.51	-6.4	12.9
13,780.0	89.25	179.16	12,799.4	-1,068.9	145.1	1.22	-1.13	-0.46	-5.8	13.2
13,873.0	89.25	178.72	12,800.6	-1,161.9	146.8	0.47	0.00	-0.47	-4.4	14.1
13,967.0	93.03	180.12	12,798.7	-1,255.8	147.8	4.29	4.02	1.49	-6.1	14.2
14,060.0	91.45	180.47	12,795.1	-1,348.7	147.3	1.74	-1.70	0.38	-9.6	12.9



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #717H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Site:	Neutilus 16 State Com	MD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Well:	#717H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
14,154.0	89.43	179.86	12,794.3	-1,442.7	147.0	2.24	-2.15	-0.65	-10.1	11.8	
14,247.0	89.16	179.16	12,795.5	-1,535.7	147.8	0.81	-0.29	-0.75	-8.7	11.8	
14,341.0	89.25	178.72	12,796.8	-1,629.7	149.5	0.48	0.10	-0.47	-7.2	12.7	
14,434.0	90.57	179.16	12,798.9	-1,722.7	151.3	1.50	1.42	0.47	-6.9	13.7	
14,528.0	91.01	178.54	12,795.6	-1,816.6	153.1	0.81	0.47	-0.66	-7.9	14.7	
14,638.0	89.69	179.42	12,795.0	-1,926.6	155.1	1.44	-1.20	0.80	-8.3	15.7	
14,715.0	89.60	180.47	12,795.4	-2,003.6	155.2	1.37	-0.12	1.36	-7.7	15.1	
14,809.0	89.34	179.86	12,796.3	-2,097.6	154.9	0.71	-0.28	-0.65	-6.6	14.1	
14,903.0	89.34	178.98	12,797.4	-2,191.6	155.9	0.94	0.00	-0.94	-5.3	14.2	
14,997.0	88.20	179.24	12,799.4	-2,285.6	157.3	1.24	-1.21	0.28	-3.0	14.8	
15,090.0	87.85	180.03	12,802.6	-2,378.5	157.9	0.93	-0.38	0.85	0.4	14.6	
15,184.0	88.55	179.07	12,805.6	-2,472.5	158.6	1.26	0.74	-1.02	3.6	14.5	
15,278.0	90.84	181.35	12,806.1	-2,566.4	158.3	3.44	2.44	2.43	4.3	13.4	
15,371.0	90.40	181.79	12,805.1	-2,659.4	155.8	0.67	-0.47	0.47	3.6	10.0	
15,464.0	90.13	181.00	12,804.6	-2,752.4	153.5	0.90	-0.29	-0.85	3.4	7.0	
15,557.0	89.96	179.86	12,804.6	-2,845.4	152.8	1.24	-0.18	-1.23	3.5	5.5	
15,650.0	91.19	180.65	12,803.6	-2,938.4	152.4	1.57	1.32	0.85	2.8	4.2	
15,743.0	91.54	179.16	12,801.4	-3,031.3	152.5	1.65	0.38	-1.60	0.8	3.6	
15,836.0	91.45	177.84	12,799.0	-3,124.3	155.0	1.42	-0.10	-1.42	-1.4	5.2	
15,930.0	90.57	179.42	12,797.3	-3,218.2	157.2	1.92	-0.94	1.68	-2.8	6.6	
16,023.0	90.40	179.42	12,796.5	-3,311.2	158.2	0.16	-0.16	0.00	-3.3	6.8	
16,117.0	90.48	178.19	12,795.8	-3,405.2	160.1	1.31	0.09	-1.31	-3.8	7.9	
16,210.0	91.10	179.68	12,794.5	-3,498.2	161.8	1.74	0.67	1.60	-4.9	8.8	
16,303.0	88.90	179.59	12,794.5	-3,591.1	162.4	2.37	-2.37	-0.10	-4.6	8.6	
16,397.0	88.20	177.57	12,796.9	-3,685.1	164.8	2.27	-0.74	-2.15	-2.0	10.1	
16,490.0	89.96	178.28	12,798.4	-3,778.0	168.1	2.04	1.89	0.76	-0.3	12.7	
16,584.0	91.19	178.98	12,797.5	-3,871.9	170.4	1.51	1.31	0.74	-1.0	14.1	



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #717H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Site:	Nautilus 16 State Com	MD Reference:	KB = 25 @ 3347.0usft (H&P 610)
Well:	#717H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
16,677.0	91.45	180.39	12,795.3	-3,964.9	170.9	1.54	0.28	1.52	-2.9	13.8
16,770.0	92.51	181.88	12,792.1	-4,057.8	169.0	1.97	1.14	1.60	-5.9	11.2
16,863.0	89.16	181.00	12,790.8	-4,150.8	166.7	3.72	-3.60	-0.95	-7.0	8.0
16,957.0	88.29	180.82	12,792.9	-4,244.7	165.2	0.95	-0.93	-0.19	-4.7	5.7
17,050.0	88.20	178.89	12,795.7	-4,337.7	165.5	2.08	-0.10	-2.08	-1.6	5.2
17,144.0	88.90	178.89	12,798.1	-4,431.6	167.3	0.74	0.74	0.00	1.0	6.2
17,238.0	89.69	177.31	12,799.2	-4,525.6	170.4	1.88	0.84	-1.68	2.4	8.5
17,285.0	89.87	177.31	12,799.4	-4,572.5	172.6	0.38	0.38	0.00	2.7	10.3
17,332.0	87.58	175.90	12,800.5	-4,619.4	175.4	5.72	-4.87	-3.00	3.8	12.6
17,425.0	88.55	175.90	12,803.6	-4,712.1	182.0	1.04	1.04	0.00	7.2	18.5
17,493.0	90.23	176.35	12,804.3	-4,780.0	186.6	2.55	2.46	0.67	8.1	22.5
LTP Crossing 17493.0' MD; 12804.3' TVD; -4780.0'; 186.6'; 90.23										
17,518.0	90.84	176.52	12,804.1	-4,805.0	188.2	2.55	2.46	0.67	7.9	23.8
Last MWD Survey (MD = 17518.0)										
17,580.0	90.84	176.52	12,803.2	-4,866.8	191.9	0.00	0.00	0.00	7.2	27.0
Projection to Bit (MD = 17580.0)										

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
12,841.5	12,684.3	-158.0	141.3	FTP Crossing 12841.5' MD; 12684.3' TVD; -158.0'; 141.3'; 61.18
17,493.0	12,804.3	-4,780.0	186.6	LTP Crossing 17493.0' MD; 12804.3' TVD; -4780.0'; 186.6'; 90.23
17,518.0	12,804.1	-4,805.0	188.2	Last MWD Survey (MD = 17518.0)
17,580.0	12,803.2	-4,866.8	191.9	Projection to Bit (MD = 17580.0)

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Nautilus 16 State Com

#717H

H&P 610

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



Adjustments to Grid North
True North: 4.48°
Magnetic North: 8.30°
Magnetic Field
880 Gauss 47776.78 nT
Dip Angle: 68.99°
Date: 2/22/2016
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 8.30°
To convert a True Direction to a Grid Direction, Subtract 0.48°

WELL DETAILS: #717H

3322.0
KB = 25 @ 3347.0ush (H&P 610)
Northing 383081.00 Easting 808432.00 Longitude 103°28'16.496 W
Latitude 32°3'0.857 N

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSECT	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
5200.0	0.00	0.00	5200.0	0.0	0.0	0.00	0.00	0.0	
5524.8	6.50	45.21	5524.1	13.0	13.1	2.00	45.21	-12.5	
6714.3	6.50	45.21	6705.9	107.7	108.5	0.00	0.00	-104.0	
7039.0	0.00	0.00	7030.0	120.7	121.6	2.00	180.00	-116.5	
12338.2	0.00	0.00	12329.2	120.7	121.6	0.00	0.00	-116.5	
13089.2	90.12	179.50	12806.7	-357.7	125.8	12.00	179.50	361.8	TGT #1(Naut 16 SC #717H)
14377.8	90.12	179.50	12804.0	-1646.3	136.9	0.00	0.00	1650.0	
14379.0	90.14	179.50	12804.0	-1647.5	136.9	2.00	0.00	1651.2	
17611.7	90.14	179.50	12796.0	-4880.0	165.0	0.00	0.00	4882.8	PBHL(Naut 16 SC #717H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL(Naut 16 SC #717H)	12796.0	-4880.0	165.0	378291.00	808597.00
TGT #2(Naut 16 SC #717H)	12806.0	-3298.8	151.3	378784.20	808563.20
TGT #1(Naut 16 SC #717H)	12804.0	-1646.3	136.9	381434.70	808568.90
FTP(Naut 16 SC #717H)	12807.0	-159.0	124.0	382922.00	808556.00

