

HOBBS OCD
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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Caravan 28 State Com

#705H

OH

Design: OH

Final PVA Report

19 June, 2019

Final PVA Report

Company:	EOG Resources - Midland			Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)			TVD Reference:	KB = 25 @ 3557.0usft
Site:	Caravan 28 State Com			MD Reference:	KB = 25 @ 3557.0usft
Well:	#705H			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	Caravan 28 State Com		
Site Position:		Northing:	435,288.00 usft
From:	Map	Easting:	774,678.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 11' 39.963 N
		Longitude:	103° 34' 44.423 W
		Grid Convergence:	0.40 °

Well	#705H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 11' 40.442 N
		Longitude:	103° 35' 4.971 W
		Ground Level:	3,532.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	9/27/2018	6.82
			Dip Angle
			(°)
			60.02
			Field Strength
			(nT)
			47,786.94781872

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
			(°)
			179.59

Survey Program	Date	6/19/2019		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
185.0	22,762.0	Newsco MWD (OH)	MWD	OWSG MWD - Standard

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Asl (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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	
165.0	0.80	223.20	165.0	-0.8	-0.8	0.48	0.48	0.00	-1.2	0.0	
313.0	2.00	225.70	312.9	-3.4	-3.3	0.81	0.81	1.69	-4.8	0.1	
488.0	4.10	310.20	487.8	-1.5	-10.3	2.51	1.20	48.29	-6.9	7.8	
579.0	4.20	148.70	578.7	-2.2	-11.1	9.00	0.11	-177.47	3.8	-10.6	
765.0	8.20	210.60	763.7	-19.5	-14.3	3.89	2.15	33.28	-24.1	-2.4	
953.0	8.70	198.30	949.7	-44.5	-25.6	1.00	0.27	-6.54	-50.3	-10.4	
1,047.0	8.00	191.80	1,042.7	-57.7	-29.1	1.25	-0.74	-8.91	-62.4	-16.9	
1,235.0	6.40	165.20	1,229.2	-80.9	-32.8	0.96	-0.85	-3.51	-83.5	-25.4	
1,329.0	4.40	162.40	1,322.8	-89.6	-32.2	3.08	-2.13	-24.26	-75.7	-57.9	
1,517.0	1.50	91.50	1,510.6	-96.5	-27.5	2.21	-1.54	-37.71	25.0	-104.6	
1,704.0	6.00	11.00	1,697.2	-87.0	-23.2	3.18	2.41	-43.05	112.8	1.7	
1,892.0	7.20	11.30	1,883.9	-65.8	-19.0	0.64	0.64	0.16	107.2	-2.0	
2,080.0	6.90	11.30	2,070.5	-43.2	-14.5	0.16	-0.16	0.00	100.1	-5.3	
2,267.0	6.60	10.80	2,256.2	-21.6	-10.3	0.16	-0.16	-0.27	94.1	-7.6	
2,454.0	6.60	9.20	2,442.0	-0.4	-6.5	0.10	0.00	-0.86	88.9	-7.9	
2,641.0	7.10	8.70	2,627.7	21.6	-3.1	0.27	0.27	-0.27	82.7	-9.7	
2,829.0	7.20	9.00	2,814.2	44.7	0.5	0.08	0.05	0.16	75.4	-12.7	
3,017.0	7.30	10.20	3,000.7	68.1	4.5	0.10	0.05	0.64	67.4	-17.0	
3,205.0	7.60	0.60	3,187.1	92.3	6.7	0.68	0.16	-5.11	61.4	-7.7	
3,392.0	8.20	357.90	3,372.3	118.0	6.4	0.38	0.32	-1.44	52.3	-4.9	
3,579.0	7.70	0.20	3,557.5	143.8	5.9	0.32	-0.27	1.23	42.4	-6.5	
3,673.0	7.10	0.70	3,650.8	156.0	6.0	0.64	-0.64	0.53	38.4	-6.9	
3,860.0	6.70	0.60	3,836.4	178.4	6.3	0.21	-0.21	-0.05	32.2	-7.1	
4,048.0	5.90	3.70	4,023.3	189.0	7.0	0.46	-0.43	1.65	27.5	-9.3	
4,235.0	5.10	0.90	4,209.4	216.9	7.8	0.45	-0.43	-1.50	26.3	-8.7	
4,423.0	4.40	15.90	4,396.8	232.2	9.9	0.76	-0.37	7.98	23.6	-17.6	

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Site:	Caravan 28 State Com	MD Reference:	KB = 25 @ 3557.0usft
Well:	#705H	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)	Bulld ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)		
4,810.0	5.40	11.00	4,583.1	247.8	13.5	0.58	0.53	-2.62	25.0	-19.3		
4,787.0	4.10	28.00	4,789.4	262.4	18.1	0.96	-0.70	8.02	18.7	-30.0		
4,985.0	5.30	348.20	4,956.8	276.9	19.3	1.73	0.64	-20.11	35.1	-13.1		
5,172.0	5.10	330.10	5,143.1	292.6	13.4	0.88	-0.11	-9.68	35.1	3.8		
5,359.0	5.10	326.80	5,329.3	306.8	4.7	0.16	0.00	-1.76	31.8	14.2		
5,547.0	7.80	340.90	5,516.2	325.8	-4.1	1.65	1.44	7.50	28.9	13.4		
5,733.0	7.50	338.10	5,700.5	349.0	-12.7	0.26	-0.16	-1.51	18.5	20.2		
5,919.0	7.00	342.10	5,885.0	371.1	-20.7	0.38	-0.27	2.15	11.8	24.6		
6,107.0	6.20	349.70	6,071.8	391.9	-26.1	0.63	-0.43	4.04	9.5	27.3		
6,294.0	5.70	351.60	6,257.8	411.1	-29.2	0.29	-0.27	1.02	7.0	29.6		
6,482.0	4.30	357.40	6,445.0	427.3	-30.9	0.79	-0.74	3.09	2.1	30.0		
6,668.0	3.50	2.10	6,630.6	440.0	-31.0	0.46	-0.43	2.53	-7.9	30.3		
6,856.0	1.10	26.20	6,818.4	447.3	-30.0	1.35	-1.28	12.82	-1.9	33.3		
7,044.0	0.50	46.80	7,008.4	449.5	-28.6	0.35	-0.32	10.96	7.5	32.4		
7,232.0	0.20	57.80	7,194.4	450.3	-27.7	0.16	-0.16	5.85	12.4	30.5		
7,419.0	0.30	84.80	7,381.4	450.5	-27.0	0.08	0.05	14.44	24.1	21.8		
7,593.7	0.11	132.59	7,556.1	450.4	-26.4	0.14	-0.11	27.38	31.8	-2.9		
Brushy Top(Caravan 28 State Com #705H)												
7,608.0	0.10	143.10	7,570.4	450.4	-26.4	0.14	-0.04	73.30	30.8	-8.7		
7,785.0	0.10	119.80	7,757.4	450.2	-26.2	0.02	0.00	-12.46	31.4	4.1		
7,963.0	1.10	192.80	7,945.4	448.3	-26.4	0.57	0.53	38.83	11.3	-28.6		
8,171.0	1.20	194.60	8,133.4	444.7	-27.3	0.06	0.05	0.96	6.6	-28.9		
8,358.0	1.10	197.60	8,320.3	441.1	-28.3	0.08	-0.05	1.60	1.3	-29.1		
8,545.0	1.20	210.80	8,507.3	437.7	-28.9	0.15	0.05	7.06	-9.1	-28.2		
8,733.0	0.80	146.30	8,695.3	434.9	-30.2	0.60	-0.21	-34.31	19.4	-22.1		
8,921.0	1.00	144.90	8,883.2	432.5	-28.5	0.11	0.11	-0.74	17.0	-21.7		
9,109.0	0.70	181.30	9,071.2	430.0	-27.6	0.32	-0.16	19.38	-1.6	-26.5		

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Design:	OH	Database:	EDM 5000.14

Survey												
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	EW (usft)	DLog (°/100usft)	Bulld (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)		
9,295.0	0.80	205.30	9,257.2	427.5	-28.2	0.21	0.11	12.80	-14.8	-23.1		
9,482.0	1.50	235.70	9,444.2	424.8	-30.9	0.46	0.32	16.26	-28.2	-11.7		
9,669.0	2.20	194.70	9,831.1	420.0	-33.8	0.78	0.37	-21.93	-19.0	-28.9		
9,857.0	2.80	198.00	9,818.9	411.9	-36.2	0.38	0.37	1.76	-29.0	-27.6		
10,045.0	1.10	155.90	10,006.8	405.8	-36.9	1.18	-0.86	-22.39	-8.4	-43.1		
10,232.0	0.70	0.30	10,193.8	405.3	-36.2	0.94	-0.21	-83.21	25.9	35.1		
10,420.0	0.60	350.80	10,381.8	407.4	-36.3	0.08	-0.05	-5.05	17.7	38.7		
10,608.0	0.70	174.20	10,568.8	407.2	-36.4	0.69	0.05	-93.84	-20.1	-37.6		
10,795.0	0.70	221.10	10,758.7	405.2	-37.0	0.30	0.00	25.08	-43.1	-10.2		
10,983.0	2.10	148.90	10,944.7	401.4	-36.0	1.06	0.74	-38.40	-7.3	-45.3		
11,170.0	0.80	181.40	11,131.6	397.2	-34.3	0.80	-0.70	17.38	-34.6	-32.4		
11,359.0	1.10	355.50	11,320.6	397.7	-34.4	1.00	0.16	92.12	30.6	35.9		
11,546.0	1.10	358.70	11,507.6	401.2	-34.6	0.03	0.00	1.71	29.0	34.3		
11,735.0	1.50	286.30	11,696.5	403.7	-37.0	0.83	0.21	-38.31	-26.9	36.3		
11,823.0	1.80	282.30	11,784.5	404.3	-39.3	0.17	0.11	-4.55	-31.8	34.2		
11,954.0	1.40	297.30	11,915.5	405.5	-42.5	0.34	-0.15	11.45	-25.2	41.8		
12,048.0	3.80	182.80	12,009.4	402.9	-44.3	4.64	2.55	-111.17	-36.9	-36.0		
12,143.0	20.40	183.70	12,102.0	383.2	-46.0	17.53	17.47	-9.58	-40.6	-42.9		
12,150.1	20.93	183.18	12,108.6	380.7	-46.2	7.87	7.43	-7.35	-41.2	-43.3		
HL Crossing, MD:12150.1', TVD:12108.6', N/S:380.7', EW:-46.2', INC:20.93												
12,236.0	27.40	178.40	12,186.9	345.6	-46.5	7.87	7.54	-5.56	-46.2	-47.0		
12,330.0	32.50	174.80	12,268.4	298.8	-43.6	5.75	5.43	-3.83	-43.0	-46.6		
12,422.0	34.20	177.20	12,345.2	248.3	-40.1	2.34	1.85	2.61	-29.0	-41.8		
12,451.5	37.54	177.31	12,389.2	231.1	-39.3	11.29	11.29	0.37	-21.8	-40.6		
FTP (Caravan 28 State Com #705H)												
12,515.0	44.70	177.50	12,416.9	189.4	-37.4	11.29	11.29	0.30	-5.9	-38.3		
12,574.0	50.60	177.50	12,456.7	145.9	-35.5	10.00	10.00	0.00	9.3	-36.3		

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12,613.0	55.50	177.10	12,480.1	114.7	-34.0	12.59	12.56	-1.03	19.6	-35.0
12,676.0	73.40	177.70	12,507.2	58.2	-31.5	28.43	28.41	0.95	30.7	-32.8
12,690.0	78.50	178.50	12,510.6	44.8	-31.0	36.85	36.43	5.71	31.3	-32.6
12,729.0	90.60	182.90	12,514.3	5.9	-31.5	32.99	31.03	11.28	29.2	-33.6
12,822.0	91.70	184.00	12,512.4	-86.9	-37.1	1.67	1.18	1.18	25.2	-38.6
12,916.0	91.60	179.50	12,509.7	-180.8	-40.0	4.79	-0.11	-4.79	23.1	-43.2
13,009.0	93.50	177.90	12,505.5	-273.7	-37.9	2.67	2.04	-1.72	19.6	-41.8
13,102.0	95.80	177.60	12,498.0	-366.3	-34.2	2.49	2.47	-0.32	12.7	-38.8
13,196.0	96.70	177.50	12,487.8	-459.7	-30.2	0.96	0.96	-0.11	3.3	-35.4
13,289.0	94.40	177.20	12,478.8	-552.1	-25.9	2.49	-2.47	-0.32	-4.9	-31.7
13,383.0	92.60	177.70	12,473.0	-645.9	-21.8	1.99	-1.91	0.53	-8.8	-28.2
13,476.0	90.60	178.30	12,470.4	-738.8	-18.5	2.25	-2.15	0.65	-11.7	-25.6
13,570.0	89.30	179.30	12,470.5	-832.7	-16.6	1.74	-1.38	1.06	-10.8	-24.3
13,664.0	88.90	180.30	12,472.0	-926.7	-16.2	1.15	-0.43	1.06	-8.6	-24.6
13,737.3	88.66	180.30	12,473.6	-1,000.0	-16.6	0.32	-0.32	0.00	-6.4	-25.5
TGT#1(Caravan 28 State Com #705H)										
13,757.0	88.60	180.30	12,474.0	-1,019.7	-16.7	0.32	-0.32	0.00	-5.8	-25.8
13,851.0	88.10	178.30	12,476.7	-1,113.7	-15.6	2.19	-0.53	-2.13	-2.5	-25.3
13,945.0	87.40	177.80	12,480.4	-1,207.5	-12.4	0.91	-0.74	-0.53	1.8	-22.7
14,038.0	87.00	177.10	12,485.0	-1,300.3	-8.2	0.87	-0.43	-0.75	7.0	-19.2
14,132.0	87.30	175.90	12,489.7	-1,394.0	-2.5	1.31	0.32	-1.28	12.3	-14.1
14,226.0	89.70	175.60	12,492.1	-1,487.7	4.5	2.57	2.55	-0.32	15.4	-7.8
14,320.0	91.60	176.70	12,491.0	-1,581.5	10.8	2.34	2.02	1.17	14.9	-2.2
14,414.0	90.80	177.70	12,489.1	-1,675.4	15.4	1.38	-0.85	1.06	13.6	1.8
14,507.0	91.70	177.90	12,487.0	-1,768.3	18.9	0.99	0.97	0.22	12.2	4.7
14,601.0	93.40	178.20	12,482.8	-1,862.1	22.1	1.84	1.81	0.32	8.6	7.2
14,695.0	93.50	178.40	12,477.2	-1,955.9	24.9	0.24	0.11	0.21	3.6	9.4

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14,789.0	92.90	178.90	12,472.0	-2,049.7	27.1	0.83	-0.64	0.53	-1.0	10.9	
14,883.0	93.90	180.10	12,466.4	-2,143.6	27.9	1.66	1.06	1.28	-6.0	11.1	
14,977.0	92.70	179.40	12,461.0	-2,237.4	28.4	1.48	-1.28	-0.74	-10.8	10.9	
15,070.0	87.80	178.00	12,460.6	-2,330.4	30.5	5.48	-5.27	-1.51	-10.6	12.3	
15,163.0	87.60	178.30	12,464.3	-2,423.2	33.5	0.39	-0.22	0.32	-6.2	14.7	
15,239.6	89.46	180.07	12,466.3	-2,499.8	34.5	3.35	2.42	2.32	-3.7	15.3	
TGT#2(Caravan 28 State Com #705H)											
15,258.0	89.90	180.50	12,466.4	-2,518.2	34.5	3.35	2.42	2.31	-3.6	15.0	
15,352.0	91.40	181.90	12,465.3	-2,612.2	32.5	2.18	1.60	1.49	-4.8	12.4	
15,444.0	90.70	180.10	12,463.6	-2,704.1	30.9	2.10	-0.76	-1.96	-6.7	10.2	
15,538.0	90.90	179.90	12,462.3	-2,798.1	30.9	0.30	0.21	-0.21	-8.2	9.5	
15,632.0	89.30	178.40	12,462.1	-2,892.1	32.3	2.33	-1.70	-1.60	-8.6	10.3	
15,726.0	87.20	177.10	12,465.0	-2,986.0	36.0	2.63	-2.23	-1.38	-5.9	13.3	
15,820.0	88.00	177.20	12,469.0	-3,079.8	40.6	0.86	0.85	0.11	-2.2	17.3	
15,914.0	87.80	177.00	12,472.3	-3,173.6	45.4	0.24	-0.11	-0.21	1.0	21.4	
16,007.0	88.90	178.50	12,474.9	-3,266.5	49.0	1.94	1.08	1.61	3.4	24.4	
16,101.0	88.10	179.10	12,477.4	-3,360.4	51.0	1.06	-0.85	0.64	5.7	25.8	
16,195.0	89.40	179.60	12,479.4	-3,454.4	52.1	1.48	1.38	0.53	7.6	26.2	
16,289.0	90.10	180.40	12,479.8	-3,548.4	52.1	1.13	0.74	0.85	7.8	25.5	
16,383.0	90.70	180.60	12,479.2	-3,642.4	51.2	0.67	0.64	0.21	6.9	24.0	
16,476.0	90.80	180.60	12,478.0	-3,735.4	50.3	0.11	0.11	0.00	5.5	22.4	
16,570.0	91.20	181.00	12,476.3	-3,829.4	49.0	0.60	0.43	0.43	3.7	20.5	
16,664.0	90.80	181.20	12,474.7	-3,923.3	47.2	0.48	-0.43	0.21	1.9	18.0	
16,758.0	90.70	180.80	12,473.4	-4,017.3	45.5	0.44	-0.11	-0.43	0.4	15.7	
16,851.0	90.90	178.90	12,472.1	-4,110.3	45.8	2.05	0.22	-2.04	-1.0	15.3	
16,946.0	89.70	178.50	12,471.7	-4,205.3	47.8	1.33	-1.26	-0.42	-1.7	16.8	
17,039.0	90.10	178.50	12,471.8	-4,298.2	50.4	0.43	0.43	0.00	-1.8	18.6	

Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3557.0usft
Site:	Caravan 28 State Com	MD Reference:	KB = 25 @ 3557.0usft
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Incl (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
17,133.0	87.50	178.80	12,473.8	-4,392.2	52.6	2.78	-2.77	0.32	0.0	20.2	
17,227.0	88.20	178.20	12,478.9	-4,486.0	55.0	1.52	-1.38	-0.64	4.9	22.0	
17,240.3	88.40	178.50	12,479.8	-4,499.3	55.4	2.68	1.49	2.24	5.8	22.3	
TGT#3(Caravan 28 State Com #705H)											
17,321.0	87.60	180.30	12,484.0	-4,576.8	56.2	2.68	1.49	2.23	9.6	22.5	
17,414.0	87.10	182.20	12,488.3	-4,672.7	54.2	2.11	-0.54	2.04	13.3	19.9	
17,507.0	88.00	185.00	12,491.5	-4,765.5	48.4	3.64	2.04	3.01	16.0	13.4	
17,601.0	91.10	184.80	12,491.4	-4,859.1	40.4	2.24	2.23	-0.21	15.3	4.7	
17,694.0	92.20	185.30	12,488.7	-4,951.7	32.2	1.30	1.18	0.54	12.1	-4.1	
17,788.0	93.10	185.40	12,484.4	-5,045.2	23.4	0.96	0.96	0.11	7.2	-13.5	
17,882.0	92.60	185.70	12,479.7	-5,138.6	14.3	0.62	-0.53	0.32	2.0	-23.2	
17,976.0	92.20	186.60	12,475.8	-5,232.0	4.3	1.05	-0.43	0.96	-2.5	-33.9	
18,070.0	88.40	183.50	12,475.3	-5,325.6	-4.0	5.22	-4.04	-3.30	-3.7	-42.8	
18,164.0	87.30	180.50	12,478.8	-5,419.5	-7.3	3.40	-1.17	-3.19	-0.7	-46.8	
18,195.0	90.20	174.40	12,479.5	-5,450.4	-5.9	21.78	9.35	-19.66	-0.2	-45.6	
18,265.0	95.60	178.80	12,476.0	-5,520.2	-1.7	9.94	7.71	6.29	-4.2	-41.9	
18,359.0	93.10	185.40	12,468.8	-5,613.8	-5.2	7.49	-2.66	7.02	-11.7	-46.1	
18,391.9	89.66	189.24	12,468.0	-5,648.4	-9.4	15.66	-10.44	11.67	-13.1	-50.4	
HL Crossing, MD:18391.9', TVD:12483.4', N/S:-6590.1', EW:66.0', INC:95.93											
18,453.0	83.30	196.40	12,471.8	-5,705.8	-22.9	15.66	-10.42	11.72	-12.0	-63.9	
18,546.0	87.90	200.00	12,494.8	-5,791.1	-50.8	16.98	-16.56	3.87	0.0	-93.8	
18,639.0	66.20	194.10	12,531.1	-5,872.9	-76.0	6.12	-1.83	-6.34	35.3	-123.3	
18,733.0	78.00	180.80	12,560.1	-5,961.3	-87.2	18.38	12.55	-14.15	75.7	-131.4	
18,827.0	87.70	163.80	12,571.9	-6,053.2	-74.6	20.68	10.32	-18.09	91.6	-116.1	
18,920.0	97.80	161.80	12,567.4	-6,141.9	-47.1	11.07	10.88	-2.15	83.3	-91.9	
19,013.0	99.00	161.90	12,553.8	-6,229.3	-18.5	1.29	1.29	0.11	69.2	-63.9	
19,054.0	99.52	161.81	12,547.2	-6,267.7	-5.9	1.29	1.28	-0.21	62.5	-51.5	
HL Crossing, MD:19054.0', TVD:12547.2', N/S:-6267.7', EW:-6.9', INC:99.52											

Final PVA Report

Company: EOG Resources - Midland			Local Co-ordinate Reference:				Well #705H				
Project: Lea County, NM (NAD 83 NME)			TVD Reference:				KB = 25 @ 3557.0usft				
Site: Caravan 28 State Com			MD Reference:				KB = 25 @ 3557.0usft				
Well: #705H			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)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
19,107.0	100.20	161.70	12,538.1	-6,317.3	10.5	1.29	1.28	-0.21	53.2	-35.3	
19,201.0	102.30	165.20	12,519.8	-6,405.7	36.7	4.28	2.23	3.72	34.4	-9.6	
19,285.0	102.90	169.20	12,499.3	-6,495.1	57.0	4.20	0.84	4.26	13.4	10.0	
19,389.0	98.10	179.60	12,483.7	-6,587.2	66.0	13.09	-7.23	11.06	-2.8	18.4	
19,482.0	90.50	183.80	12,478.4	-6,680.0	63.2	7.52	-6.02	4.52	-8.7	15.0	
19,576.0	89.50	183.60	12,478.4	-6,773.8	57.2	1.08	-1.06	-0.21	-9.3	8.3	
19,670.0	88.30	183.00	12,480.2	-6,867.6	51.8	1.43	-1.28	-0.64	-8.0	2.2	
19,763.0	87.30	179.80	12,483.8	-6,960.5	49.4	3.50	-1.08	-3.33	-5.0	-0.8	
19,856.0	86.90	178.60	12,488.5	-7,053.3	50.6	1.48	-0.43	-1.40	-0.9	-0.2	
19,949.0	86.90	178.40	12,493.5	-7,146.2	53.0	0.21	0.00	-0.22	3.6	1.6	
20,042.0	86.50	178.10	12,498.8	-7,239.0	55.9	0.54	-0.43	-0.32	8.4	3.8	
20,136.0	86.30	178.70	12,504.7	-7,332.8	58.5	0.67	-0.21	0.64	13.7	5.8	
20,230.0	90.00	178.20	12,507.8	-7,426.7	61.0	3.97	3.94	-0.53	16.2	7.6	
20,323.0	88.00	176.10	12,509.4	-7,519.5	65.7	3.12	-2.15	-2.28	17.3	11.6	
20,417.0	82.50	178.00	12,509.0	-7,613.4	70.5	5.20	4.79	2.02	16.3	15.8	
20,510.0	90.20	178.70	12,506.8	-7,706.3	73.2	2.59	-2.47	0.75	13.6	17.8	
20,604.0	93.50	179.50	12,503.8	-7,800.2	74.7	3.61	3.51	0.85	10.0	18.7	
20,698.0	90.80	182.10	12,500.2	-7,894.1	73.3	3.99	-2.87	2.77	5.9	16.7	
20,790.0	91.30	182.50	12,498.6	-7,988.0	69.7	0.70	0.54	0.43	3.6	12.4	
20,804.2	90.93	182.42	12,498.3	-8,000.3	69.0	2.64	-2.58	-0.54	3.3	11.7	
TGT#4(Caravan 28 State Com #705H)											
20,883.0	88.90	182.00	12,498.4	-8,079.0	66.0	2.64	-2.58	-0.54	3.2	8.1	
20,977.0	88.80	182.20	12,500.3	-8,172.9	62.6	0.24	-0.11	0.21	4.9	4.0	
21,071.0	88.70	183.20	12,502.3	-8,266.7	58.1	1.07	-0.11	1.06	6.8	-1.1	
21,165.0	88.10	183.70	12,505.0	-8,360.5	52.5	0.83	-0.64	0.53	9.2	-7.4	
21,259.0	88.40	181.30	12,507.8	-8,454.4	48.4	2.57	0.32	-2.55	11.9	-12.2	
21,352.0	89.00	176.20	12,509.9	-8,547.3	50.4	5.52	0.65	-5.48	13.8	-10.7	

Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lee County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3557.0usft
Site:	Caravan 28 State Com	MD Reference:	KB = 25 @ 3557.0usft
Well:	#705H	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)	Bulld (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
21,446.0	90.40	178.50	12,510.4	-8,641.2	54.8	2.86	1.49	2.45	14.1	-7.1	
21,539.0	89.10	178.90	12,510.8	-8,734.2	56.9	1.46	-1.40	0.43	14.3	-5.6	
21,632.0	89.50	180.70	12,512.0	-8,827.2	57.2	1.98	0.43	1.94	15.3	-5.9	
21,726.0	90.70	182.30	12,511.8	-8,921.1	54.7	2.13	1.28	1.70	14.9	-9.0	
21,819.0	88.60	180.90	12,512.4	-9,014.1	52.1	2.71	-2.26	-1.51	15.3	-12.3	
21,913.0	88.40	179.90	12,514.8	-9,108.0	51.5	1.08	-0.21	-1.06	17.6	-13.6	
22,006.0	88.40	179.40	12,517.4	-9,201.0	52.0	0.54	0.00	-0.54	20.0	-13.7	
22,100.0	89.60	180.20	12,519.1	-9,295.0	52.4	1.53	1.28	0.85	21.4	-14.0	
22,194.0	86.50	180.50	12,522.3	-9,388.9	51.8	3.31	-3.30	0.32	24.4	-15.2	
22,288.0	86.70	179.90	12,527.8	-9,482.8	51.5	0.67	0.21	-0.84	29.8	-16.2	
22,382.0	87.30	180.20	12,532.8	-9,576.6	51.4	0.71	0.64	0.32	34.5	-16.9	
22,475.0	90.30	182.10	12,534.7	-9,669.6	48.5	3.82	3.23	2.04	36.3	-19.4	
22,569.0	92.70	183.10	12,532.3	-9,763.4	45.3	2.77	2.55	1.06	33.7	-24.3	
22,663.0	92.10	183.00	12,528.3	-9,857.2	40.3	0.65	-0.64	-0.11	29.6	-29.9	
22,706.0	93.30	183.30	12,526.3	-9,900.1	37.9	2.88	2.79	0.70	27.5	-32.6	
Final MWD Survey (MD=22706.0)											
22,762.0	93.30	183.30	12,523.1	-9,955.9	34.7	0.00	0.00	0.00	24.2	-36.2	
Final Projection to Bit (MD=22762.0) - PBHL (Caravan 28 State Com #705H)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,150.1	12,108.6	380.7	-46.2	HL Crossing, MD:12150.1', TVD:12108.6', N/S:380.7', E/W:-46.2', INC:20.93
18,391.9	12,468.0	-5,646.4	-9.4	HL Crossing, MD:19391.9', TVD:12468.0', N/S:-5690.1', E/W:66.0', INC:95.93
19,054.0	12,547.2	-6,267.7	-5.9	HL Crossing, MD:19054.0', TVD:12547.2', N/S:-6267.7', E/W:-5.9', INC:99.52
22,706.0	12,526.3	-9,900.1	37.9	Final MWD Survey (MD=22706.0)
22,762.0	12,523.1	-9,955.9	34.7	Final Projection to Bit (MD=22762.0)

Final PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Caravan 28 State Com
Well: #705H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #705H
TVD Reference: KB = 25 @ 3557.0usft
MD Reference: KB = 25 @ 3557.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Checked By: _____ Approved By: _____ Date: _____

I certify this survey to be true and correct to the best of my belief and knowledge.

Kay Maddox 11/15/2019
Signed Date



Lea County, NM (NAD 83 NME)

Caravan 28 State Com #705H

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

WELL DETAILS: #705H

KB = 25 @ 3567.00ft 3532.0
Northing 435324.00 Easting 772912.00 Latitude 32° 11' 40.442 N Longitude 103° 35' 4.971 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1300.0	0.00	0.00	1300.0	0.0	0.0	0.00	0.00	0.0	
3	1549.8	5.00	359.87	1549.5	10.9	0.0	2.00	359.87	-10.9	
4	6248.7	5.00	359.87	6230.5	420.1	-1.0	0.00	0.00	-420.1	
5	8498.5	0.00	0.00	8480.0	431.0	-1.0	2.00	180.00	-431.0	
6	12028.7	0.00	0.00	12010.2	431.0	-1.0	0.00	0.00	-431.0	
7	12782.5	90.46	179.60	12487.6	-50.3	2.3	12.00	179.60	50.3	
8	13732.3	90.46	179.60	12480.0	-1000.0	8.9	0.00	0.00	1000.0	TGT#1(Caravan 28 State Com #705H)
9	13736.3	90.38	179.60	12480.0	-1004.0	8.9	2.00	-180.00	1004.0	
10	15232.3	90.38	179.60	12470.0	-2499.9	19.3	0.00	0.00	2500.0	TGT#2(Caravan 28 State Com #705H)
11	15237.2	89.88	179.60	12469.9	-2524.9	19.5	2.00	-180.00	2525.0	
12	17232.3	89.88	179.60	12474.0	-4499.9	33.1	0.00	0.00	4500.0	TGT#3(Caravan 28 State Com #705H)
13	17243.6	89.88	179.60	12474.0	-4511.2	33.2	2.00	180.00	4511.3	
14	20732.4	89.88	179.60	12495.0	-7999.8	57.4	0.00	0.00	8000.0	TGT#4(Caravan 28 State Com #705H)
15	20743.8	89.88	179.60	12495.0	-8011.2	57.5	2.00	0.00	8011.4	
16	22899.6	89.88	179.60	12499.0	-9987.0	71.0	0.00	0.00	9987.3	PBHL (Caravan 28 State Com #705H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
Brushy Top(Caravan 28 State Com #705H)	7858.0	431.0	-1.0	435795.00	772911.00
TGT#1(Caravan 28 State Com #705H)	12470.0	-1000.0	19.3	435324.10	772911.29
TGT#2(Caravan 28 State Com #705H)	12470.0	-1004.0	19.5	435324.10	772911.44
TGT#3(Caravan 28 State Com #705H)	12470.0	-1000.0	8.9	434324.00	772920.91
TGT#4(Caravan 28 State Com #705H)	12470.0	-1000.0	1.0	435795.00	772911.00
PBHL (Caravan 28 State Com #705H)	12499.0	-9987.0	57.4	427324.20	772933.39
PBHL (Caravan 28 State Com #705H)	12499.0	-9987.0	71.0	425357.00	772925.00

