

HOBBS OCD
MAY 17 2019
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EOG Resources - Midland

Lea County, NM (NAD 83 NME)
Heartthrob 17 State Com
#705H
OH

Design: OH

Midland PVA

15 February, 2019



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3593.0usft
Site:	Hearthrob 17 State Com	MD Reference:	KB = 25 @ 3593.0usft
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	Hearthrob 17 State Com		
Site Position:		Northing:	441,801.00 usft
From:	Map	Easting:	771,748.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 12' 42.634 N
		Longitude:	103° 35' 18.010 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:
			Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	8/23/2018	8.83
			Dip Angle
			60.03
			Field Strength
			47,808.23985388

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
			346.12

Survey Program	Date 2/15/2019		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
247.0	17,821.0	Total Directional (OH)	MWD
			Description
			OWSG MWD - Standard



Midland PVA

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 Well: #705H
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 Design: OH

Local Co-ordinate Reference: Well #705H
 TVD Reference: KB = 25 @ 3593.0usft
 MD Reference: KB = 25 @ 3593.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	D/Lag (°/100usft)	B/Lag (°/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
247.0	0.80	148.90	247.0	-1.1	0.7	0.24	0.24	0.00	-1.3	0.0
334.0	0.80	135.70	334.0	-1.8	1.2	0.16	0.00	-15.17	-2.2	-0.4
520.0	0.80	144.30	520.0	-3.6	2.7	0.12	0.11	4.82	-4.5	0.1
707.0	0.80	127.70	707.0	-5.4	4.5	0.12	0.00	-8.88	-6.8	-1.6
894.0	0.70	112.30	893.9	-6.7	6.5	0.12	-0.05	-8.24	-8.6	-3.7
1,081.0	0.70	97.80	1,080.9	-7.3	8.7	0.09	0.00	-7.75	-9.6	-6.0
1,174.0	0.80	92.80	1,173.9	-7.4	8.9	0.13	0.11	-5.38	-10.3	-6.9
1,258.0	0.80	87.10	1,257.9	-7.4	11.1	0.09	0.00	-6.79	-11.3	-7.7
1,431.0	3.10	236.40	1,430.8	-9.9	8.4	2.20	1.33	86.30	10.7	14.5
1,525.0	7.20	245.50	1,524.4	-13.7	0.9	4.43	4.36	9.68	13.5	13.3
1,620.0	10.60	251.80	1,618.3	-18.9	-12.8	3.72	3.58	6.63	12.4	11.3
1,714.0	11.30	253.40	1,710.6	-24.3	-29.8	0.81	0.74	1.70	9.9	9.4
1,808.0	11.50	255.20	1,802.7	-29.3	-47.7	0.43	0.21	1.81	7.7	6.9
1,903.0	11.00	259.00	1,895.9	-33.4	-65.8	0.94	-0.53	4.00	5.7	3.5
1,997.0	10.90	260.00	1,988.2	-36.7	-83.3	0.23	-0.11	1.06	3.7	-0.2
2,092.0	10.90	261.10	2,081.5	-39.6	-101.0	0.22	0.00	1.16	1.7	-4.2
2,185.0	10.80	261.10	2,172.8	-42.4	-118.3	0.11	-0.11	0.00	-0.1	-6.2
2,279.0	10.60	263.40	2,265.2	-44.7	-135.6	0.50	-0.21	2.45	-2.3	-12.6
2,373.0	10.50	266.50	2,357.6	-46.2	-152.8	0.61	-0.11	3.30	-4.8	-17.5
2,467.0	10.40	268.00	2,450.0	-47.0	-169.8	0.31	-0.11	1.60	-7.1	-23.1
2,561.0	10.30	257.50	2,542.5	-49.2	-186.5	2.01	-0.11	-11.17	-3.6	-28.6
2,656.0	11.00	252.00	2,635.9	-53.6	-203.4	1.30	0.74	-5.78	-1.9	-31.2
2,750.0	10.90	254.30	2,728.2	-59.0	-220.5	0.48	-0.11	2.45	-4.9	-32.9
2,844.0	10.80	255.70	2,820.5	-63.6	-237.6	0.30	-0.11	1.49	-7.2	-35.1
2,938.0	10.20	244.50	2,912.9	-69.3	-253.6	2.26	-0.64	-11.91	-1.1	-37.0
3,033.0	10.40	242.70	3,006.4	-76.9	-268.8	0.40	0.21	-1.89	-0.5	-36.1



Midland PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Heartthrob 17 State Corn
 Well: #705H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #705H
 TVD Reference: KB = 25 @ 3593.0usft
 MD Reference: KB = 25 @ 3593.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
3,127.0	9.90	245.10	3,098.9	-84.2	-283.7	0.70	-0.53	2.55	-2.2	-35.3
3,221.0	9.40	248.10	3,191.6	-90.4	-298.1	0.75	-0.53	3.19	-3.4	-35.1
3,315.0	8.80	249.60	3,284.4	-95.8	-312.0	0.69	-0.64	1.60	-2.9	-35.7
3,410.0	8.20	252.00	3,378.4	-100.4	-325.3	0.73	-0.63	2.53	-1.9	-36.7
3,505.0	8.90	245.10	3,472.3	-105.6	-338.4	1.31	0.74	-7.26	4.9	-37.1
3,599.0	10.50	236.40	3,565.0	-113.4	-352.1	2.30	1.70	-9.26	10.7	-34.1
3,694.0	9.50	237.50	3,658.5	-122.4	-365.9	1.07	-1.05	1.16	9.8	-31.5
3,788.0	9.00	238.60	3,751.3	-130.4	-378.7	0.56	-0.53	1.17	10.3	-29.3
3,882.0	9.10	238.60	3,844.1	-138.1	-391.4	0.11	0.11	0.00	11.7	-27.0
3,977.0	9.00	238.30	3,937.9	-145.9	-404.1	0.12	-0.11	-0.32	13.3	-24.6
4,071.0	9.70	240.80	4,030.7	-153.7	-417.3	0.86	0.74	2.66	13.2	-23.2
4,165.0	8.90	242.10	4,123.5	-160.9	-430.6	0.88	-0.85	1.38	13.8	-22.0
4,260.0	10.60	244.30	4,217.1	-168.2	-445.0	1.83	1.79	2.32	13.3	-21.5
4,354.0	10.60	244.30	4,309.5	-175.7	-460.5	0.00	0.00	0.00	12.3	-20.9
4,448.0	10.60	234.20	4,401.9	-184.5	-475.3	1.97	0.00	-10.74	14.5	-16.4
4,543.0	11.50	229.10	4,495.1	-195.8	-489.6	1.40	0.95	-5.37	13.4	-10.9
4,636.0	11.80	240.90	4,586.2	-206.5	-504.9	2.58	0.32	12.69	8.4	-9.9
4,731.0	11.30	238.20	4,679.3	-216.1	-521.3	0.77	-0.53	-2.84	6.1	-7.5
4,825.0	12.00	239.10	4,771.4	-226.0	-537.5	0.77	0.74	0.96	3.1	-5.3
4,919.0	12.40	242.90	4,863.2	-235.6	-554.9	0.95	0.43	4.04	-0.8	-3.8
5,013.0	11.00	246.80	4,955.3	-243.7	-572.1	1.71	-1.49	4.15	-3.8	-3.1
5,108.0	9.60	248.50	5,048.8	-250.2	-587.8	1.51	-1.47	1.79	-4.0	-3.3
5,202.0	11.10	246.60	5,141.2	-256.7	-603.4	1.64	1.60	-2.02	-1.3	-3.6
5,298.0	16.20	250.00	5,232.5	-264.7	-624.1	5.49	5.43	3.82	-1.2	-4.3
5,391.0	17.80	249.60	5,323.4	-274.3	-650.1	1.69	1.68	-0.42	-3.5	-5.8
5,485.0	18.30	249.40	5,412.8	-284.5	-677.4	0.54	0.53	-0.21	-6.8	-7.1
5,579.0	19.60	248.40	5,501.7	-295.5	-705.9	1.43	1.38	-1.06	-11.5	-8.2



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Site:	Hearthrob 17 State Com	MD Reference:	KB = 25 @ 3593.0ust
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (ust)	Inc (°)	Azi (azimuth) (°)	TVD (ust)	NIS (ust)	E/W (ust)	DLeg (°/100ust)	Build (°/100ust)	Turn (°/100ust)	High to Plan (ust)	Right to Plan (ust)
5,873.0	20.10	248.40	5,590.1	-307.3	-735.6	0.53	0.53	0.00	-17.8	-9.1
5,767.0	20.40	247.40	5,678.3	-319.5	-765.7	0.49	0.32	-1.08	-24.6	-10.0
5,862.0	21.50	245.90	5,767.0	-333.0	-796.9	1.29	1.16	-1.58	-32.5	-10.7
5,956.0	21.20	245.90	5,854.5	-347.0	-828.1	0.32	-0.32	0.00	-41.2	-10.4
6,050.0	18.50	244.90	5,942.9	-360.2	-857.1	2.89	-2.87	-1.06	-47.4	-10.5
6,145.0	14.40	241.70	6,034.0	-372.2	-881.2	4.42	-4.32	-3.37	-47.5	-11.6
6,239.0	13.20	239.70	6,125.3	-383.2	-900.8	1.37	-1.28	-2.13	-43.6	-10.3
6,333.0	13.30	238.20	6,216.8	-394.3	-919.2	0.36	0.11	-1.60	-39.1	-8.1
6,428.0	12.60	239.20	6,309.4	-405.4	-937.4	0.77	-0.74	1.05	-34.3	-3.9
6,522.0	12.90	237.80	6,401.1	-416.2	-955.1	0.46	0.32	-1.49	-29.2	-0.9
6,616.0	13.40	236.60	6,492.6	-427.8	-973.1	0.61	0.53	-1.28	-24.8	2.8
6,711.0	14.10	234.50	6,584.9	-440.6	-991.7	0.90	0.74	-2.21	-21.7	7.0
6,805.0	11.50	235.00	6,676.8	-452.6	-1,008.7	2.77	-2.77	0.53	-16.9	12.5
6,900.0	9.10	235.10	6,770.0	-462.3	-1,022.6	2.53	-2.53	0.11	-9.0	17.6
6,994.0	7.80	240.30	6,863.0	-469.8	-1,034.2	1.60	-1.38	5.53	0.9	21.4
7,089.0	7.30	240.40	6,957.2	-475.9	-1,045.1	0.53	-0.53	0.11	7.6	23.5
7,182.0	5.40	241.30	7,049.6	-481.0	-1,054.1	2.05	-2.04	0.97	13.5	24.9
7,276.0	3.10	247.10	7,143.3	-484.1	-1,060.3	2.49	-2.45	6.17	21.9	23.8
7,370.0	3.50	242.90	7,237.2	-486.4	-1,065.2	0.50	0.43	-4.47	24.6	25.8
7,464.0	3.40	239.10	7,331.0	-489.1	-1,070.1	0.27	-0.11	-4.04	23.9	28.1
7,558.0	3.60	243.50	7,424.8	-491.9	-1,075.2	0.36	0.21	4.68	23.8	26.6
7,653.0	3.70	242.90	7,519.6	-494.6	-1,080.6	0.11	0.11	-0.63	18.2	26.8
7,747.0	2.10	251.50	7,613.5	-496.5	-1,084.9	1.76	-1.70	9.15	17.3	24.3
7,840.0	0.70	24.10	7,706.5	-496.5	-1,086.3	2.82	-1.51	142.58	6.7	-27.9
7,935.0	1.00	34.40	7,801.5	-495.3	-1,085.6	0.35	0.32	10.84	0.2	-28.6
8,029.0	0.90	48.40	7,895.5	-494.1	-1,084.5	0.27	-0.11	14.89	-8.2	-27.6
8,123.0	0.70	60.30	7,989.5	-493.4	-1,083.5	0.28	-0.21	12.66	-15.0	-25.1



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Site:	Hearthrob 17 State Corn	MD Reference:	KB = 25 @ 3593.0usft
Well:	#705H	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)	EW (usft)	DLag (°/100usft)	Subs (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
8,216.0	0.80	61.30	8,082.5	-492.8	-1,082.4	0.11	0.11	1.08	-16.7	-24.8	
8,311.0	0.60	84.30	8,177.4	-492.4	-1,081.4	0.36	-0.21	24.21	-26.2	-16.1	
8,405.0	0.30	79.10	8,271.4	-492.3	-1,080.6	0.32	-0.32	-5.53	-25.3	-18.4	
8,489.0	0.20	162.60	8,365.4	-492.4	-1,080.3	0.36	-0.11	88.83	-21.4	23.3	
8,593.0	0.40	109.60	8,459.4	-492.7	-1,080.0	0.34	0.21	-56.38	-31.9	-3.2	
8,686.0	0.30	129.10	8,552.4	-493.0	-1,079.5	0.17	-0.11	20.97	-31.7	7.8	
8,780.0	0.10	214.20	8,648.4	-493.2	-1,079.3	0.33	-0.21	90.53	4.9	32.5	
8,874.0	0.30	185.60	8,740.4	-493.5	-1,079.4	0.23	0.21	-30.43	-11.5	30.9	
8,968.0	0.20	185.60	8,834.4	-493.9	-1,079.4	0.11	-0.11	0.00	-11.9	30.9	
9,063.0	0.20	260.40	8,929.4	-494.1	-1,079.6	0.26	0.00	78.74	26.4	19.8	
9,156.0	0.60	245.60	9,022.4	-494.3	-1,080.2	0.44	0.43	-15.91	19.9	25.8	
9,250.0	0.70	265.30	9,116.4	-494.6	-1,081.3	0.26	0.11	20.96	26.4	17.8	
9,345.0	1.00	268.30	9,211.4	-494.6	-1,082.7	0.32	0.32	3.16	25.9	16.4	
9,439.0	0.30	226.30	9,305.4	-494.8	-1,083.7	0.85	-0.74	-44.68	7.4	29.0	
9,533.0	0.30	238.60	9,399.4	-495.1	-1,084.0	0.07	0.00	13.09	12.9	26.8	
9,627.0	0.50	266.90	9,493.4	-495.3	-1,084.7	0.29	0.21	30.11	23.4	17.6	
9,721.0	0.80	281.50	9,587.4	-495.2	-1,085.7	0.36	0.32	15.53	26.0	11.2	
9,816.0	1.10	292.30	9,682.4	-494.7	-1,087.2	0.37	0.32	11.37	26.1	6.3	
9,910.0	1.10	285.30	9,776.4	-494.1	-1,088.9	0.14	0.00	-7.45	23.4	9.3	
10,004.0	1.70	260.80	9,870.3	-494.1	-1,091.2	0.89	0.64	-26.06	15.2	17.8	
10,099.0	1.80	263.70	9,965.3	-494.5	-1,094.0	0.14	0.11	3.05	13.2	17.0	
10,193.0	1.90	263.60	10,059.3	-494.8	-1,097.1	0.11	0.11	-0.11	10.1	17.1	
10,288.0	2.10	265.30	10,154.2	-495.1	-1,100.4	0.22	0.21	1.79	7.3	16.8	
10,382.0	1.90	271.30	10,248.1	-495.3	-1,103.6	0.31	-0.21	6.38	5.7	16.1	
10,476.0	1.70	273.10	10,342.1	-495.1	-1,106.6	0.22	-0.21	1.91	3.3	16.0	
10,571.0	1.90	274.60	10,437.0	-494.9	-1,109.6	0.22	0.21	1.58	0.7	15.9	
10,665.0	1.90	264.60	10,531.0	-494.4	-1,112.6	0.35	0.00	10.64	0.4	15.8	



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Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

MD (usft)	Inc (")	Adj (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
10,759.0	1.20	296.00	10,625.0	-493.6	-1,115.0	0.81	-0.74	12.13	1.0	15.8
10,854.0	1.20	291.40	10,719.9	-492.8	-1,116.8	0.10	0.00	-4.84	-2.3	15.7
10,948.0	0.60	315.10	10,813.9	-492.1	-1,118.1	0.74	-0.64	25.21	2.9	15.7
11,042.0	0.90	302.80	10,907.9	-491.3	-1,119.1	0.36	0.32	-13.09	-1.8	15.8
11,136.0	0.80	296.30	11,001.9	-490.7	-1,120.3	0.15	-0.11	-6.91	-4.9	15.4
11,230.0	1.20	288.20	11,095.9	-490.1	-1,121.8	0.46	0.43	-10.74	-9.2	14.2
11,325.0	1.30	285.50	11,190.9	-489.5	-1,123.8	0.11	0.11	-0.74	-11.4	14.1
11,419.0	0.80	271.60	11,284.9	-489.2	-1,125.5	0.59	-0.53	-14.79	-16.2	10.7
11,513.0	0.80	266.80	11,378.8	-489.2	-1,126.8	0.07	0.00	-5.11	-18.3	9.2
11,607.0	1.30	256.40	11,472.8	-489.5	-1,128.5	0.57	0.53	-11.06	-21.4	5.6
11,701.0	1.70	266.60	11,566.8	-489.9	-1,130.9	0.51	0.43	10.85	-22.5	9.5
11,821.0	2.00	268.00	11,686.7	-490.0	-1,134.8	0.25	0.25	1.17	-26.1	10.1
11,915.0	1.80	267.90	11,780.7	-490.1	-1,138.0	0.11	-0.11	-0.11	-29.4	10.1
12,009.0	2.50	275.00	11,874.6	-490.0	-1,141.6	0.70	0.64	7.55	-31.5	13.8
12,103.0	1.80	288.20	11,968.5	-489.4	-1,145.0	0.91	-0.74	14.04	-31.0	21.1
12,197.0	1.00	314.20	12,062.5	-488.4	-1,147.0	1.07	-0.85	27.66	-20.7	33.2
12,244.0	1.60	328.60	12,109.5	-487.5	-1,147.6	1.44	1.28	30.64	-11.7	38.1
12,292.0	2.90	339.60	12,157.5	-485.8	-1,148.4	2.84	2.71	22.92	-0.5	41.8
12,339.0	7.90	356.00	12,204.2	-481.5	-1,149.1	11.03	10.64	34.89	17.3	41.3
12,386.0	15.70	2.90	12,250.2	-471.9	-1,149.0	16.84	16.60	14.68	27.1	38.5
12,433.0	24.10	2.90	12,294.4	-455.9	-1,148.2	17.87	17.87	0.00	29.9	37.5
12,480.0	30.30	6.40	12,338.2	-434.5	-1,146.3	13.62	13.19	7.45	32.8	33.8
12,574.0	41.10	4.80	12,412.4	-380.0	-1,141.2	11.54	11.49	-1.91	33.0	29.3
12,669.0	54.40	5.10	12,476.1	-310.1	-1,135.2	14.01	14.00	0.53	31.8	23.2
12,764.0	67.20	1.50	12,522.4	-227.5	-1,130.6	13.87	13.47	-3.79	26.1	19.4
12,811.0	76.00	3.90	12,537.2	-183.0	-1,128.5	19.34	18.72	5.11	21.6	16.9
12,858.0	82.80	4.10	12,545.8	-136.9	-1,125.3	14.47	14.47	0.43	14.9	13.6



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3593.0usft
Site:	Hearthrob 17 State Com	MD Reference:	KB = 25 @ 3593.0usft
Well:	#705H	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)	DLag (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,953.0	89.30	4.10	12,552.4	-42.4	-1,118.5	6.84	6.84	0.00	4.1	6.3	
13,048.0	90.10	3.40	12,552.9	52.4	-1,112.3	1.12	0.84	-0.74	3.2	-0.6	
13,142.0	94.30	3.00	12,549.3	146.1	-1,107.1	4.49	4.47	-0.43	0.4	-6.8	
13,236.0	94.60	0.30	12,542.0	239.8	-1,104.4	2.88	0.32	-2.87	-6.1	-10.0	
13,330.0	91.00	358.30	12,537.4	333.6	-1,105.5	4.38	-3.83	-2.13	-10.0	-9.5	
13,424.0	89.50	358.60	12,537.0	427.6	-1,108.1	1.83	-1.60	0.32	-9.7	-7.7	
13,518.0	91.50	359.80	12,536.2	521.6	-1,109.4	2.48	2.13	1.28	-9.7	-7.0	
13,615.0	89.70	359.40	12,535.1	618.6	-1,110.1	1.90	-1.86	-0.41	-10.0	-7.1	
13,710.0	88.70	359.90	12,536.5	713.6	-1,110.6	1.18	-1.05	0.53	-7.9	-7.2	
13,805.0	89.30	0.50	12,538.1	808.5	-1,110.3	0.89	0.63	0.63	-5.4	-8.3	
13,899.0	89.30	0.20	12,539.3	902.5	-1,109.7	0.32	0.00	-0.32	-3.3	-9.5	
13,993.0	91.70	359.80	12,538.4	996.5	-1,109.7	2.59	2.55	-0.43	-3.2	-10.2	
14,088.0	92.60	359.30	12,534.9	1,091.5	-1,110.5	1.08	0.95	-0.53	-5.8	-10.2	
14,182.0	91.00	358.20	12,531.9	1,185.4	-1,112.5	2.07	-1.70	-1.17	-7.9	-8.8	
14,276.0	91.50	357.90	12,529.9	1,279.3	-1,115.7	0.82	0.53	-0.32	-9.0	-8.3	
14,370.0	92.20	358.90	12,526.8	1,373.2	-1,120.0	1.30	0.74	-1.06	-11.1	-2.8	
14,466.0	91.40	357.80	12,523.8	1,469.0	-1,124.4	1.25	-0.83	0.94	-13.2	1.0	
14,560.0	91.80	357.60	12,521.1	1,562.9	-1,128.2	0.57	0.53	-0.21	-15.0	4.0	
14,655.0	90.30	359.10	12,519.3	1,657.8	-1,130.9	2.31	-1.68	1.58	-15.9	6.1	
14,749.0	89.40	359.10	12,519.5	1,751.8	-1,132.4	0.96	-0.96	0.00	-14.7	6.8	
14,843.0	88.60	359.10	12,521.2	1,845.8	-1,133.9	0.85	-0.85	0.00	-12.3	7.6	
14,937.0	89.20	359.50	12,523.0	1,939.8	-1,135.0	0.77	0.64	0.43	-9.8	8.1	
15,031.0	88.60	359.70	12,524.8	2,033.7	-1,135.7	0.67	-0.64	0.21	-7.3	8.0	
15,126.0	89.60	359.70	12,526.3	2,128.7	-1,136.2	1.05	1.05	0.00	-5.0	7.8	
15,220.0	88.30	358.60	12,528.0	2,222.7	-1,137.6	1.81	-1.38	-1.17	-2.6	8.5	
15,314.0	91.30	358.50	12,528.3	2,316.7	-1,140.0	3.19	3.19	-0.11	-1.5	10.2	
15,409.0	92.70	358.40	12,525.0	2,411.8	-1,141.7	1.75	1.47	0.95	-4.1	11.2	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3593.0usft
Site:	Hearthrob 17 State Com	MD Reference:	KB = 25 @ 3593.0usft
Well:	#705H	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)	DLag (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
15,503.0	92.30	357.60	12,520.9	2,505.5	-1,144.2	1.96	-0.43	-1.91	-7.5	13.0	
15,596.0	92.40	357.60	12,517.1	2,598.3	-1,148.0	0.11	0.11	0.00	-10.6	16.2	
15,690.0	90.80	357.30	12,514.5	2,692.2	-1,152.2	1.73	-1.70	-0.32	-12.5	19.7	
15,785.0	91.00	357.50	12,513.0	2,787.1	-1,156.5	0.30	0.21	0.21	-13.3	23.3	
15,879.0	91.20	359.30	12,511.2	2,881.0	-1,159.2	1.93	0.21	1.91	-14.3	25.2	
15,974.0	91.80	1.30	12,508.7	2,976.0	-1,158.7	2.20	0.83	2.11	-18.1	24.0	
16,068.0	91.70	2.10	12,505.8	3,069.9	-1,155.9	0.86	-0.11	0.85	-18.3	20.5	
16,162.0	90.80	1.80	12,503.8	3,163.8	-1,152.7	1.01	-0.96	-0.32	-19.6	16.8	
16,256.0	91.90	1.90	12,501.6	3,257.7	-1,149.6	1.18	1.17	0.11	-21.1	12.9	
16,351.0	90.30	1.50	12,499.7	3,352.7	-1,146.8	1.74	-1.68	-0.42	-22.2	9.4	
16,445.0	89.70	2.10	12,499.7	3,446.6	-1,143.9	0.90	-0.64	0.64	-21.4	5.7	
16,539.0	91.10	3.60	12,499.1	3,540.5	-1,139.2	2.18	1.49	1.60	-21.4	0.4	
16,633.0	90.20	1.30	12,498.0	3,634.4	-1,135.2	2.63	-0.96	-2.45	-21.7	-4.4	
16,728.0	92.00	0.60	12,496.2	3,729.3	-1,133.6	2.03	1.89	-0.74	-22.8	-6.6	
16,823.0	91.10	0.40	12,493.6	3,824.3	-1,132.8	0.87	-0.95	-0.21	-24.7	-8.2	
16,917.0	90.10	359.10	12,492.6	3,918.3	-1,133.2	1.74	-1.06	-1.38	-24.9	-8.4	
17,012.0	90.90	359.30	12,491.8	4,013.3	-1,134.5	0.87	0.84	0.21	-25.0	-7.8	
17,106.0	89.80	357.80	12,491.2	4,107.2	-1,137.1	2.15	-1.17	-1.81	-24.9	-6.0	
17,200.0	86.50	356.10	12,494.3	4,201.0	-1,142.2	3.86	-3.51	-1.60	-21.1	-1.5	
17,294.0	88.30	356.50	12,498.5	4,294.7	-1,148.3	1.96	1.91	0.43	-16.1	3.8	
17,389.0	90.70	357.20	12,499.4	4,389.6	-1,153.5	2.63	2.53	0.74	-14.6	8.4	
17,484.0	92.50	357.80	12,496.7	4,484.5	-1,157.6	2.00	1.89	0.83	-16.5	11.8	
17,560.0	93.80	358.00	12,492.5	4,560.3	-1,160.4	1.73	1.71	0.26	-20.1	14.0	
17,621.0	93.80	358.00	12,488.5	4,621.1	-1,162.5	0.00	0.00	0.00	-23.6	15.7	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3593.0usft
Site:	Hearthrob 17 State Com	MD Reference:	KB = 25 @ 3593.0usft
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,203.0	12,088.5	-488.3	-1,147.1	KOP, MD:12203.0', TVD:12088.5', N/S:-488.3', E/W:-1147.1', INC:1.07
12,490.8	12,345.4	-429.0	-1,145.7	FTP Crossing, MD:12490.8', TVD:12345.4', N/S:-429.0', E/W:-1145.7', INC:31.5'
17,560.0	12,492.5	4,560.3	-1,160.4	Last MWD Survey (MD=17560.0')
17,621.0	12,488.5	4,621.1	-1,162.5	Projection to Bit (MD=17621.0')

Checked By: _____	Approved By: _____	Date: _____
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Lea County, NM (NAD 83 NME)
Hearthrob 17 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 @ 3553.0usft
Northing 441595.00 Easting 771252.00
Latitude 32° 12' 42.643 N Longitude 103° 35' 23.697 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dieg	TFace	VSeet	Target
1	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.0	
2	1200.0	0.00	0.0	1200.0	0.0	0.0	0.00	0.0	0.0	
3	1700.0	10.00	248.64	1697.5	-17.3	-40.0	2.00	248.64	-7.2	
4	5053.5	10.00	248.64	5000.0	-248.2	-574.5	0.00	0.00	-103.1	
5	5354.5	16.02	248.64	5293.1	-275.0	-636.7	2.00	0.00	-114.2	
6	6815.5	16.02	248.64	6697.4	-434.9	-1006.9	0.00	0.00	-180.6	
7	7618.5	0.00	0.00	7488.0	-479.0	-1109.0	2.00	180.00	-188.9	Brushy Top(HT 17 St #705H)
8	12201.1	0.00	0.00	12072.8	-479.0	-1109.0	0.00	0.00	-188.9	
9	12654.9	90.46	359.57	12550.0	2.3	-1112.6	12.00	359.57	259.2	
10	13708.4	90.46	359.57	12544.0	753.7	-1118.1	0.00	0.00	1000.0	TGT#1(HT 17 St #705H)
11	13711.2	90.56	359.57	12544.0	758.5	-1118.2	2.00	0.00	1004.6	
12	14734.6	90.56	359.57	12534.0	1781.9	-1125.8	0.00	0.00	2000.0	TGT#2(HT 17 St #705H)
13	14740.5	90.44	359.57	12533.9	1787.7	-1125.8	2.00	180.00	2005.6	
14	17593.0	90.44	359.57	12512.0	4841.0	-1147.0	0.00	0.00	4780.6	PBHL(HT 17 St #705H)

To convert a Magnetic Direction to a Grid Direction, Add 6.44°
To convert a Magnetic Direction to a True Direction, Add 6.83° East
To convert a True Direction to a Grid Direction, Subtract 0.40°

CASING DETAILS

No casing data is available

WELLSBore TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
Brushy Top(HT 17 St #705H)	7488.0	-479.0	-1109.0	441120.00	770153.00
PBHL(HT 17 St #705H)	12512.0	4841.0	-1147.0	448240.00	770115.00
TGT#1(HT 17 St #705H)	12544.0	1781.9	-1125.8	443390.90	770158.22
TGT#2(HT 17 St #705H)	12544.0	753.7	-1118.1	442353.70	770143.85
FTPH(HT 17 St #705H)	12582.0	-429.0	-1109.0	441170.00	770163.00

