

30-025-44128

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Heartthrob 17 state

#702H

OH

Design: OH

PVA Report

19 March, 2018



PVA Report

Company:		EOG Resources - Midland		Local Co-ordinate Reference:		Well #702H							
Project:		Lea County, NM (NAD 83 NME)		TVD Reference:		KB = 25 @ 3571.0usft							
Site:		Heartthrob 17 state		MD Reference:		KB = 25 @ 3571.0usft							
Well:		#702H		North Reference:		Grid							
Wellbore:		OH		Survey Calculation Method:		Minimum Curvature							
Design:		OH		Database:		EDM 5000.14							
ProjectLea 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											
SiteHeartthrob 17 state													
Site Position:		Northing:		441,886.00 usft		Latitude:		32° 12' 45.730 N					
From:		Map		Easting:		767,698.00 usft		Longitude:		103° 36' 5.126 W			
Position Uncertainty:		0.0 usft		Slot Radius:		13-3/16 "		Grid Convergence:		0.39 °			
Well#702H													
Well Position		+N/-S		0.0 usft		Northing:		441,886.00 usft		Latitude:		32° 12' 45.730 N	
		+E/-W		0.0 usft		Easting:		767,698.00 usft		Longitude:		103° 36' 5.150 W	
Position Uncertainty		0.0 usft		Wellhead Elevation:		usft		Ground Level:		3,545.0 usft			
WellboreOH													
Magnetics		Model Name		Sample Date		Declination (°)		Dip Angle (°)		Field Strength (nT)			
		IGRF2015		10/19/2017		6.93		60.04		47,892.45994891			
DesignOH													
Audit Notes:													
Version:		1.0		Phase:		ACTUAL		Tie On Depth:		0.0			
Vertical Section:		Depth From (TVD)		+N/-S (usft)		+E/-W (usft)		Direction (°)					
		0.0		0.0		0.0		4.77					



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

Survey Program	Date 3/19/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
173.0	1,214.0	Olebrook MWD (OH)	MWD	OWSG MWD - Standard
1,256.0	17,331.0	Intrepid MWD (OH)	MWD	OWSG MWD - Standard

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	1.0	0.0
173.0	1.06	212.83	173.0	-1.3	-0.9	0.61	0.61	0.00	0.0	0.0
296.0	0.12	240.69	296.0	-2.4	-1.6	0.78	-0.76	22.65	0.0	0.0
389.0	0.44	340.27	389.0	-2.1	-1.8	0.51	0.34	107.08	0.0	0.0
484.0	0.53	246.23	484.0	-1.9	-2.3	0.75	0.09	-98.99	0.0	0.0
578.0	0.70	183.13	578.0	-2.7	-2.8	0.70	0.18	-67.13	0.0	0.0
673.0	0.53	19.74	673.0	-2.8	-2.6	1.28	-0.18	-171.99	0.0	0.0
799.0	0.62	32.83	799.0	-1.7	-2.1	0.13	0.07	10.39	0.0	0.0
894.0	0.53	32.83	894.0	-0.9	-1.6	0.09	-0.09	0.00	0.0	0.0
989.0	0.26	124.85	989.0	-0.7	-1.1	0.63	-0.28	96.86	0.0	0.0
1,084.0	0.53	24.31	1,084.0	-0.4	-0.8	0.66	0.28	-105.83	0.0	0.0
1,214.0	0.35	85.13	1,214.0	0.2	-0.1	0.36	-0.14	46.78	0.0	0.0
1,256.0	0.30	325.50	1,256.0	0.3	-0.1	1.34	-0.12	-284.83	-0.2	0.1
1,443.0	2.40	151.30	1,442.9	-2.7	1.5	1.44	1.12	-93.16	0.1	-1.0
1,630.0	6.10	145.90	1,629.4	-14.4	9.0	1.99	1.98	-2.89	1.1	0.3
1,819.0	7.60	147.30	1,817.0	-33.2	21.4	0.80	0.79	0.74	-1.8	2.6
2,009.0	7.80	147.00	2,005.3	-54.6	35.2	0.11	0.11	-0.16	-7.6	4.7
2,198.0	7.80	145.70	2,192.5	-76.0	49.4	0.09	0.00	-0.69	-13.8	6.8
2,388.0	7.80	146.20	2,380.8	-97.3	63.8	0.04	0.00	0.26	-19.9	9.5
2,578.0	7.70	149.10	2,569.1	-119.0	77.5	0.21	-0.05	1.53	-25.2	12.6
2,768.0	7.40	152.70	2,757.4	-140.8	89.7	0.29	-0.16	1.89	-29.5	15.1



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Site:	Hearthrob 17 state	MD Reference:	KB = 25 @ 3571.0usft
Well:	#702H	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)	
2,957.0	7.00	154.20	2,944.9	-161.9	100.3	0.23	-0.21	0.79	-33.0		15.9
3,147.0	6.80	151.30	3,133.5	-182.2	110.7	0.21	-0.11	-1.53	-36.8		14.3
3,337.0	6.70	152.70	3,322.2	-201.9	121.2	0.10	-0.05	0.74	-38.9		15.6
3,527.0	6.20	152.90	3,511.0	-220.9	131.0	0.26	-0.26	0.11	-40.3		15.9
3,716.0	6.10	152.70	3,698.9	-238.9	140.2	0.05	-0.05	-0.11	-40.9		15.9
3,906.0	5.80	155.10	3,887.9	-256.6	148.9	0.21	-0.16	1.26	-40.0		17.4
4,096.0	8.00	153.00	4,076.5	-277.1	158.9	1.17	1.16	-1.11	-43.6		15.7
4,286.0	7.70	148.40	4,264.7	-299.7	171.6	0.37	-0.16	-2.42	-50.9		12.8
4,476.0	7.90	146.70	4,453.0	-321.5	185.4	0.16	0.11	-0.89	-57.3		13.2
4,665.0	7.80	162.00	4,640.2	-344.5	196.5	1.10	-0.05	8.10	-57.7		28.2
4,856.0	8.40	156.40	4,829.3	-369.7	206.1	0.52	0.31	-2.93	-67.2		20.1
4,922.0	8.00	156.40	4,894.7	-378.3	209.9	0.61	-0.61	0.00	-69.7		19.7
5,027.0	7.80	154.50	4,998.7	-391.4	215.9	0.31	-0.19	-1.81	-73.8		16.9
5,217.0	8.80	157.20	5,186.7	-416.4	227.1	0.56	0.53	1.42	-73.7		19.1
5,406.0	12.20	157.10	5,372.5	-448.2	240.5	1.80	1.80	-0.05	-69.0		16.2
5,596.0	12.90	157.30	5,557.9	-486.2	256.4	0.37	0.37	0.11	-64.9		13.4
5,785.0	13.10	155.70	5,742.1	-525.2	273.4	0.22	0.11	-0.85	-62.7		9.1
5,975.0	12.50	155.30	5,927.4	-563.5	290.9	0.32	-0.32	-0.21	-59.5		6.9
6,164.0	12.80	153.50	6,111.8	-600.8	308.7	0.26	0.16	-0.95	-55.9		4.3
6,353.0	13.40	151.50	6,295.9	-638.8	328.5	0.40	0.32	-1.06	-53.7		3.0
6,543.0	12.20	150.50	6,481.1	-675.6	348.9	0.64	-0.63	-0.53	-50.5		3.9
6,732.0	9.50	153.50	6,666.7	-707.0	365.7	1.46	-1.43	1.59	-40.5		7.3
6,922.0	7.40	148.90	6,854.7	-731.5	379.0	1.16	-1.11	-2.42	-24.9		6.2
7,112.0	4.70	149.30	7,043.6	-748.7	389.3	1.42	-1.42	0.21	-11.7		8.7
7,302.0	3.50	144.10	7,233.1	-760.1	396.7	0.66	-0.63	-2.74	-5.5		10.2
7,491.0	2.20	149.10	7,421.9	-767.9	402.0	0.70	-0.69	2.65	-5.8		11.7
7,681.0	1.20	167.70	7,611.8	-772.9	404.3	0.59	-0.53	9.79	-7.0		14.1



PVA Report

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 Site: Heartthrob 17 state
 Well: #702H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #702H
 TVD Reference: KB = 25 @ 3571.0usft
 MD Reference: KB = 25 @ 3571.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)	
7,871.0	1.70	198.40	7,801.7	-777.5	403.8	0.48	0.26	16.16	-3.4	16.7	
8,061.0	2.10	200.70	7,991.6	-783.5	401.7	0.21	0.21	1.21	-9.0	16.9	
8,251.0	2.40	204.20	8,181.5	-790.4	398.8	0.17	0.16	1.84	-15.4	17.7	
8,440.0	1.60	222.80	8,370.4	-795.9	395.4	0.54	-0.42	9.84	-15.3	22.9	
8,631.0	0.70	247.50	8,561.3	-798.3	392.5	0.53	-0.47	12.93	-7.9	28.3	
8,820.0	0.50	42.80	8,750.3	-798.2	392.0	0.62	-0.11	82.17	19.3	-21.9	
9,010.0	0.30	274.60	8,940.3	-797.5	392.1	0.38	-0.11	-67.47	5.3	28.1	
9,199.0	0.40	22.00	9,129.3	-796.9	391.8	0.30	0.05	56.83	24.7	-13.0	
9,389.0	1.00	272.70	9,319.3	-796.2	390.4	0.63	0.32	-57.53	2.7	27.0	
9,579.0	2.30	253.30	9,509.2	-797.2	385.1	0.74	0.68	-10.21	-11.8	25.8	
9,768.0	2.10	303.20	9,698.1	-796.4	378.6	0.99	-0.11	26.40	6.2	28.5	
9,958.0	1.50	308.20	9,888.0	-792.9	373.7	0.33	-0.32	2.63	2.7	28.2	
10,148.0	1.30	41.90	10,078.0	-789.8	373.2	1.08	-0.11	49.32	26.0	-2.1	
10,337.0	0.60	27.10	10,266.9	-787.3	375.1	0.39	-0.37	-7.83	22.6	4.1	
10,527.0	0.80	24.30	10,456.9	-785.2	376.1	0.11	0.11	-1.47	20.0	5.1	
10,717.0	1.30	36.40	10,646.9	-782.3	377.9	0.29	0.26	6.37	17.2	1.1	
10,907.0	1.60	169.50	10,836.9	-783.1	379.7	1.40	0.16	70.05	-12.1	-11.7	
11,097.0	1.20	143.70	11,026.8	-787.4	381.3	0.39	-0.21	-13.58	-10.2	-17.0	
11,286.0	2.00	44.20	11,215.8	-786.6	384.8	1.32	0.42	-52.65	15.5	-9.2	
11,476.0	0.70	319.20	11,405.7	-783.3	386.3	1.08	-0.68	-44.74	9.0	11.3	
11,606.0	1.60	262.40	11,535.7	-783.0	384.0	1.04	0.69	-43.69	-6.8	13.1	
11,795.0	3.00	254.10	11,724.5	-784.7	376.7	0.76	0.74	-4.39	-16.1	11.6	
11,985.0	0.50	218.90	11,914.4	-786.7	371.4	1.37	-1.32	-18.53	-24.8	-2.7	
12,080.0	1.40	294.80	12,009.4	-786.5	370.0	1.44	0.95	79.89	-9.9	23.8	
12,113.0	8.01	341.92	12,042.3	-784.2	369.0	21.58	20.01	142.65	8.0	23.7	
KOP(HT 17 St #702H)											
12,127.0	11.00	344.20	12,056.1	-781.9	368.3	21.58	21.42	16.31	6.9	23.5	



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12,175.0	20.30	351.90	12,102.3	-769.3	365.9	19.81	19.37	16.04	0.8	23.4	
12,222.0	31.10	356.40	12,144.6	-749.0	364.0	23.34	22.98	9.57	-9.6	24.6	
12,269.0	38.90	3.70	12,183.1	-722.1	364.1	18.81	16.60	15.53	-22.0	26.8	
12,316.0	41.10	4.10	12,219.1	-692.0	366.2	4.71	4.68	0.85	-37.5	25.7	
12,364.0	41.30	3.60	12,255.2	-660.4	368.3	0.80	0.42	-1.04	-50.0	23.3	
12,411.0	43.10	4.70	12,290.0	-629.0	370.6	4.14	3.83	2.34	-57.2	21.6	
12,444.0	42.30	4.90	12,314.2	-606.7	372.5	2.46	-2.42	0.61	-59.7	19.5	
12,492.0	45.50	2.50	12,348.8	-573.4	374.6	7.51	6.67	-5.00	-60.1	15.0	
12,539.0	52.50	357.80	12,379.7	-538.0	374.6	16.69	14.89	-10.00	-59.4	11.6	
12,587.0	57.30	354.60	12,407.3	-498.9	372.0	11.39	10.00	-6.67	-57.8	12.5	
12,590.4	57.55	354.52	12,409.1	-496.0	371.7	7.71	7.44	-2.42	-57.6	12.8	
HL Crossing, MD:12590.4', TVD:12409.1', N/S:-496.0', E/W:371.7', INC:57.55											
12,634.0	60.80	353.50	12,431.4	-458.8	367.8	7.71	7.45	-2.33	-54.1	16.6	
12,640.1	61.15	353.36	12,434.4	-453.5	367.2	6.18	5.83	-2.34	-53.5	17.2	
FTP(HT 17 St #702H)											
12,682.0	63.60	352.40	12,453.8	-416.6	362.6	6.18	5.83	-2.28	-47.6	22.0	
12,729.0	67.80	354.60	12,473.1	-374.1	357.8	9.90	8.94	4.68	-38.6	27.8	
12,777.0	69.20	355.30	12,490.7	-329.6	353.8	3.22	2.92	1.46	-26.8	31.9	
12,807.0	74.70	356.00	12,500.0	-301.2	351.7	18.47	18.33	2.33	-19.0	33.9	
12,837.0	77.70	355.80	12,507.2	-272.1	349.6	10.02	10.00	-0.67	-11.8	35.7	
12,872.0	81.50	356.60	12,513.5	-237.8	347.3	11.09	10.86	2.29	-5.1	37.7	
12,919.0	85.10	358.20	12,519.0	-191.2	345.2	8.37	7.66	3.40	1.2	39.5	
12,966.0	89.80	0.50	12,521.1	-144.2	344.7	11.13	10.00	4.89	4.1	39.7	
13,061.0	91.40	3.10	12,520.1	-49.3	347.6	3.21	1.68	2.74	4.4	36.0	
13,104.0	90.80	1.20	12,519.3	-6.3	349.3	4.63	-1.40	-4.42	4.2	34.1	
13,156.0	91.90	1.90	12,518.0	45.6	350.7	2.51	2.12	1.35	3.7	32.3	
13,250.0	94.20	0.90	12,513.0	139.5	353.0	2.67	2.45	-1.06	0.0	29.3	



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Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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13,345.0	93.50	1.70	12,506.7	234.2	355.1	1.12	-0.74	0.84	-5.0	26.5	
13,440.0	93.20	1.90	12,501.1	329.0	358.1	0.38	-0.32	0.21	-9.2	22.8	
13,534.0	92.70	2.10	12,496.3	422.8	361.4	0.57	-0.53	0.21	-12.6	18.8	
13,571.0	92.20	1.80	12,494.7	459.8	362.6	1.58	-1.35	-0.81	-13.7	17.3	
13,628.0	93.30	2.10	12,491.9	516.7	364.6	2.00	1.93	0.53	-15.6	14.9	
13,723.0	93.10	3.10	12,486.6	611.4	368.9	1.07	-0.21	1.05	-19.5	9.9	
13,818.0	89.70	3.30	12,484.3	706.2	374.2	3.59	-3.58	0.21	-20.5	3.9	
13,912.0	90.00	0.40	12,484.6	800.2	377.2	3.10	0.32	-3.09	-18.9	0.2	
14,006.0	88.60	359.80	12,485.7	894.2	377.4	1.62	-1.49	-0.64	-16.4	-0.7	
14,084.1	89.92	359.64	12,486.7	972.3	377.0	1.70	1.68	-0.21	-14.3	-0.9	
TGT#1(HT 17 St #702H)											
14,101.0	90.20	359.60	12,486.7	989.2	376.9	1.70	1.68	-0.21	-14.0	-0.9	
14,195.0	90.20	0.70	12,486.4	1,083.2	377.1	1.17	0.00	1.17	-12.5	-1.8	
14,290.0	90.20	0.00	12,486.1	1,178.2	377.7	0.74	0.00	-0.74	-11.1	-3.1	
14,384.0	87.60	359.70	12,487.9	1,272.1	377.4	2.78	-2.77	-0.32	-7.5	-3.6	
14,479.0	87.60	359.40	12,491.8	1,367.1	376.7	0.32	0.00	-0.32	-1.7	-3.5	
14,573.0	88.50	359.60	12,495.0	1,461.0	375.9	0.98	0.96	0.21	3.3	-3.4	
14,668.0	89.80	359.90	12,496.4	1,556.0	375.5	1.40	1.37	0.32	6.5	-3.7	
14,762.0	89.90	359.80	12,496.7	1,650.0	375.2	0.15	0.11	-0.11	8.5	-4.1	
14,856.0	91.60	359.80	12,495.5	1,744.0	374.9	1.81	1.81	0.00	9.1	-4.5	
14,951.0	89.90	359.80	12,494.2	1,839.0	374.6	1.79	-1.79	0.00	9.6	-4.9	
15,014.0	91.40	356.80	12,493.5	1,901.9	372.7	5.32	2.38	-4.76	10.1	-3.5	
15,045.0	88.90	355.00	12,493.4	1,932.8	370.5	9.94	-8.06	-5.81	10.6	-1.5	
15,088.1	89.14	353.28	12,494.2	1,975.7	366.1	4.04	0.55	-4.00	12.2	2.6	
TGT#2(HT 17 St #702H)											
15,100.0	89.20	352.80	12,494.3	1,987.5	364.6	4.04	0.55	-4.00	12.5	3.9	
15,139.0	90.70	352.70	12,494.4	2,026.2	359.7	3.85	3.85	-0.26	13.3	8.5	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3571.0usft
Site:	Hearthrob 17 state	MD Reference:	KB = 25 @ 3571.0usft
Well:	#702H	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)	
15,171.0	90.90	353.30	12,493.9	2,058.0	355.8	1.98	0.62	1.87	13.4	12.2	
15,202.0	91.80	355.30	12,493.2	2,088.8	352.7	7.07	2.90	6.45	13.3	15.1	
15,234.0	92.20	357.50	12,492.1	2,120.7	350.7	6.98	1.25	6.87	12.7	16.9	
15,281.0	92.40	359.60	12,490.2	2,167.7	349.5	4.48	0.43	4.47	11.6	17.7	
15,329.0	92.00	359.00	12,488.3	2,215.6	348.9	1.50	-0.83	-1.25	10.6	17.9	
15,424.0	89.10	359.70	12,487.4	2,310.6	347.9	3.14	-3.05	0.74	11.4	18.3	
15,470.0	91.30	359.00	12,487.3	2,356.6	347.3	5.02	4.78	-1.52	12.1	18.5	
15,518.0	91.40	359.60	12,486.1	2,404.6	346.8	1.27	0.21	1.25	11.8	18.7	
15,565.0	91.90	358.80	12,484.8	2,451.5	346.1	2.01	1.06	-1.70	11.3	19.0	
15,613.0	92.00	0.20	12,483.2	2,499.5	345.7	2.92	0.21	2.92	10.5	19.1	
15,660.0	93.40	0.90	12,480.9	2,546.5	346.1	3.33	2.98	1.49	9.1	18.3	
15,707.0	92.70	1.60	12,478.4	2,593.4	347.2	2.10	-1.49	1.49	7.5	16.9	
15,802.0	91.00	1.00	12,475.4	2,688.3	349.3	1.90	-1.79	-0.63	6.1	14.1	
15,896.0	91.20	0.40	12,473.6	2,782.3	350.5	0.67	0.21	-0.64	6.0	12.2	
15,943.0	93.40	0.80	12,471.7	2,829.2	351.0	4.76	4.68	0.85	5.0	11.4	
15,991.0	90.40	0.00	12,470.1	2,877.2	351.3	6.47	-6.25	-1.67	4.2	10.7	
16,085.0	89.70	359.20	12,470.0	2,971.2	350.6	1.13	-0.74	-0.85	5.8	10.6	
16,093.9	89.66	359.22	12,470.1	2,980.1	350.5	0.47	-0.42	0.21	6.1	10.7	
TGT#3(HT 17 St #702H)											
16,180.0	89.30	359.40	12,470.8	3,066.2	349.5	0.47	-0.42	0.21	8.2	11.1	
16,274.0	89.70	0.20	12,471.7	3,160.2	349.1	0.95	0.43	0.85	10.4	10.7	
16,368.0	89.90	0.20	12,472.0	3,254.2	349.5	0.21	0.21	0.00	12.2	9.7	
16,400.0	90.40	359.60	12,471.9	3,286.2	349.4	2.44	1.56	-1.87	12.6	9.5	
16,431.0	92.20	359.90	12,471.2	3,317.2	349.3	5.89	5.81	0.97	12.4	9.4	
16,463.0	92.30	0.30	12,469.9	3,349.1	349.3	1.29	0.31	1.25	11.6	9.1	
16,510.0	94.00	1.20	12,467.4	3,396.1	350.0	4.09	3.62	1.91	9.7	8.2	
16,557.0	93.90	0.90	12,464.1	3,442.9	350.8	0.67	-0.21	-0.64	7.2	7.0	



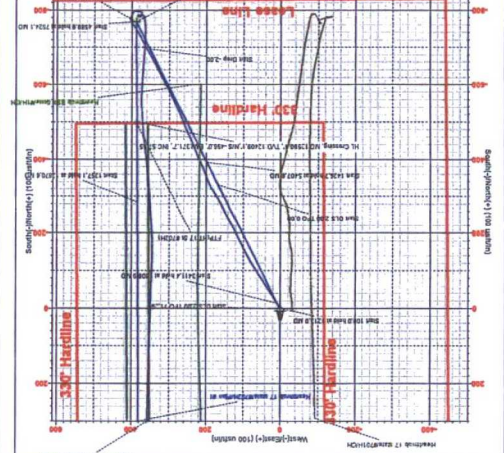
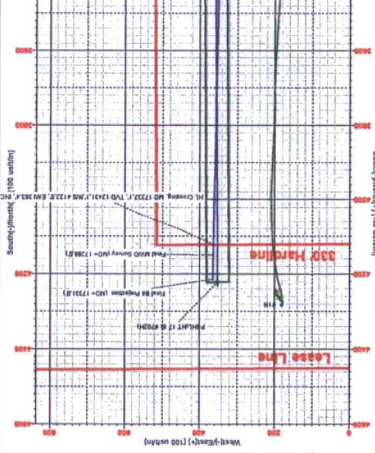
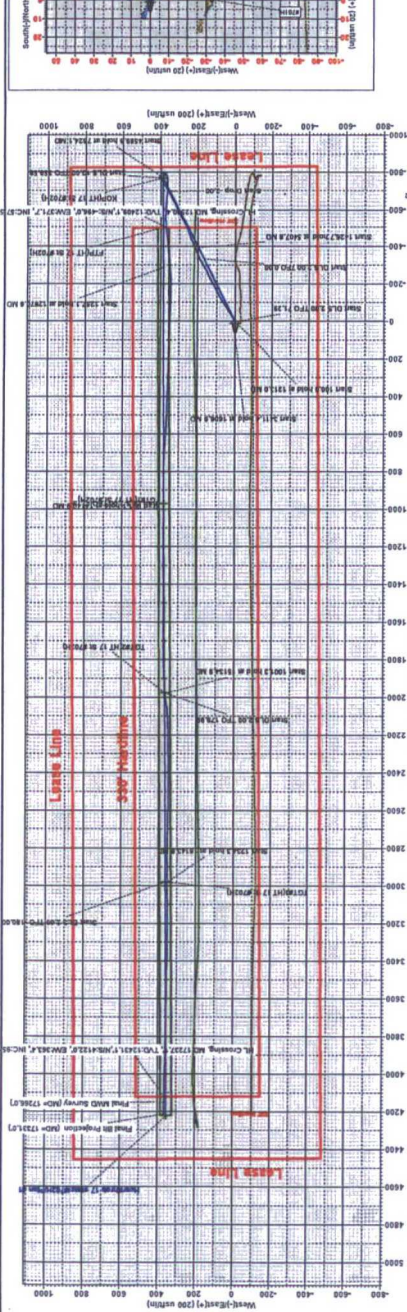
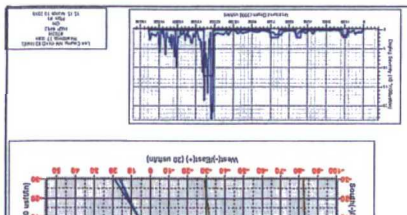
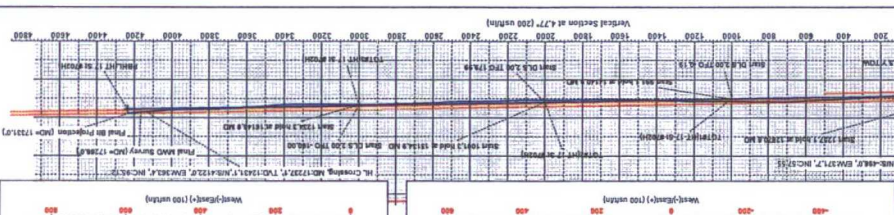
PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3571.0usft
Site:	Hearthrob 17 state	MD Reference:	KB = 25 @ 3571.0usft
Well:	#702H	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)
16,652.0	94.50	0.60	12,457.2	3,537.7	352.1	0.71	0.63	-0.32	1.7	5.0
16,746.0	93.30	1.70	12,450.8	3,631.4	353.9	1.73	-1.28	1.17	-3.3	2.4
16,840.0	92.00	1.00	12,446.4	3,725.3	356.1	1.57	-1.38	-0.74	-6.2	-0.5
16,935.0	90.90	0.70	12,444.0	3,820.3	357.6	1.20	-1.16	-0.32	-7.1	-2.6
17,029.0	91.70	1.50	12,441.9	3,914.2	359.4	1.20	0.85	0.85	-7.8	-5.1
17,123.0	92.40	1.10	12,438.5	4,008.1	361.5	0.86	0.74	-0.43	-9.7	-7.9
17,218.0	94.60	0.90	12,432.7	4,102.9	363.1	2.33	2.32	-0.21	-14.1	-10.3
17,237.1	95.12	0.86	12,431.1	4,122.0	363.4	2.72	2.71	-0.21	-15.4	-10.7
HL Crossing, MD:17237.1', TVD:12431.1', N/S:4122.0', E/W:363.4', INC:95.12										
17,266.0	95.90	0.80	12,428.3	4,150.7	363.9	2.72	2.71	-0.21	-17.7	-11.4
Final MWD Survey (MD= 17266.0')										
17,331.0	95.90	0.80	12,421.7	4,215.4	364.8	0.00	0.00	0.00	-23.4	-12.8
Final Bit Projection (MD= 17331.0') - PBHL(HT 17 St #702H)										

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,590.4	12,409.1	-496.0	371.7	HL Crossing, MD:12590.4', TVD:12409.1', N/S:-496.0', E/W:371.7', INC:57.55
17,237.1	12,431.1	4,122.0	363.4	HL Crossing, MD:17237.1', TVD:12431.1', N/S:4122.0', E/W:363.4', INC:95.12
17,266.0	12,428.3	4,150.7	363.9	Final MWD Survey (MD= 17266.0')
17,331.0	12,421.7	4,215.4	364.8	Final Bit Projection (MD= 17331.0')

Checked By: _____ Approved By: _____ Date: _____

[illegible]

PROJECT DETAILS: Las County, NM (NAD 83 MNE) Geodetic system: US state Plane 1983 Ellipsoid: GRS 1980 Datum: North American Datum 1983 Zone: New Mexico Eastern Zone System Datum: Mean Sea Level		WELL DETAILS: #702H K = 25 @ 3570.0psi (HSP 6462) Easting 767696.00 Latitude 32° 12' 45.730 N Longitude 103° 36' 5.150 W		SECTION DETAILS Northing 441886.00 Easting 767696.00 K = 25 @ 3570.0psi (HSP 6462) Easting 767696.00 Latitude 32° 12' 45.730 N Longitude 103° 36' 5.150 W		To convert a Magnetic Direction to a Grid Direction, Add 6.54° To convert a Magnetic Direction to a True Direction, Add 6.54° To convert a True Direction to a Grid Direction, Subtract 0.35°	
PROJECT DETAILS: Las County, NM (NAD 83 MNE) Geodetic system: US state Plane 1983 Ellipsoid: GRS 1980 Datum: North American Datum 1983 Zone: New Mexico Eastern Zone System Datum: Mean Sea Level		WELL DETAILS: #702H K = 25 @ 3570.0psi (HSP 6462) Easting 767696.00 Latitude 32° 12' 45.730 N Longitude 103° 36' 5.150 W		SECTION DETAILS Northing 441886.00 Easting 767696.00 K = 25 @ 3570.0psi (HSP 6462) Easting 767696.00 Latitude 32° 12' 45.730 N Longitude 103° 36' 5.150 W		To convert a Magnetic Direction to a Grid Direction, Add 6.54° To convert a Magnetic Direction to a True Direction, Add 6.54° To convert a True Direction to a Grid Direction, Subtract 0.35°	
PROJECT DETAILS: Las County, NM (NAD 83 MNE) Geodetic system: US state Plane 1983 Ellipsoid: GRS 1980 Datum: North American Datum 1983 Zone: New Mexico Eastern Zone System Datum: Mean Sea Level		WELL DETAILS: #702H K = 25 @ 3570.0psi (HSP 6462) Easting 767696.00 Latitude 32° 12' 45.730 N Longitude 103° 36' 5.150 W		SECTION DETAILS Northing 441886.00 Easting 767696.00 K = 25 @ 3570.0psi (HSP 6462) Easting 767696.00 Latitude 32° 12' 45.730 N Longitude 103° 36' 5.150 W		To convert a Magnetic Direction to a Grid Direction, Add 6.54° To convert a Magnetic Direction to a True Direction, Add 6.54° To convert a True Direction to a Grid Direction, Subtract 0.35°	

Lea County, NM (NAD 83 NME)
Heartthrob 17 state #702H
H&P #462
Plan #1