

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Hawk 35 Fed

#702H

OH

Design: OH

PVA Report

26 February, 2018

HOBBS OCD
APR 18 2018
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PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#702H	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	Hawk 35 Fed		
Site Position:		Northing:	430,092.00 usft
From:	Map	Easting:	783,830.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 47.900 N
		Longitude:	103° 32' 58.362 W
		Grid Convergence:	0.42 "

Well	#702H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 10' 47.898 N
		Longitude:	103° 32' 57.955 W
		Ground Level:	3,508.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	12/5/2017	6.89
			Dip Angle (°)
			60.02
			Field Strength (nT)
			47,865.52470772

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			1.09

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Survey Program	Date	2/26/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
143.0	1,281.0	Olebrook MWD (OH)	MWD	OWSG MWD - Standard	
1,346.0	17,830.0	Sperry MWD (OH)	MWD	OWSG MWD - Standard	

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)
	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
	143.0	0.35	60.84	143.0	0.2	0.4	0.24	0.24	0.00	-0.4	0.0
	174.0	0.53	85.71	174.0	0.3	0.6	0.83	0.58	80.23	-0.6	0.2
	235.0	0.70	47.30	235.0	0.5	1.2	0.71	0.28	-62.97	-1.2	-0.4
	296.0	0.70	13.20	296.0	1.2	1.5	0.67	0.00	-55.90	-1.5	-1.2
	328.0	0.70	355.98	328.0	1.5	1.6	0.65	0.00	-53.81	-1.4	-1.7
	423.0	0.62	5.12	423.0	2.6	1.6	0.14	-0.08	9.62	-2.8	-1.3
	455.0	0.62	355.45	455.0	3.0	1.6	0.33	0.00	-30.22	-2.8	-1.8
	486.0	0.62	5.73	486.0	3.3	1.6	0.36	0.00	33.16	-3.5	-1.2
	613.0	0.79	347.19	613.0	4.9	1.4	0.22	0.13	-14.60	-4.4	-2.5
	675.0	0.44	3.89	675.0	5.5	1.4	0.63	-0.56	26.94	-5.6	-1.0
	770.0	0.62	349.82	770.0	6.4	1.3	0.23	0.19	-14.81	-6.0	-2.4
	865.0	0.70	351.49	865.0	7.5	1.1	0.09	0.08	1.76	-7.2	-2.2
	960.0	0.88	333.30	959.9	8.7	0.7	0.32	0.19	-19.15	-7.4	-4.5
	1,023.0	0.62	347.45	1,022.9	9.4	0.4	0.50	-0.41	22.46	-9.1	-2.5
	1,180.0	0.53	345.34	1,179.9	11.0	0.0	0.06	-0.06	-1.34	-10.6	-2.8
	1,275.0	0.35	17.77	1,274.9	11.7	0.0	0.32	-0.19	34.14	-11.1	3.5
	1,281.0	0.35	1.34	1,280.9	11.7	0.0	1.67	0.00	-273.83	-11.7	0.2
	1,346.0	0.18	73.77	1,345.9	11.9	0.1	0.53	-0.26	111.43	-3.5	11.4
	1,532.0	1.76	102.95	1,531.9	11.4	3.2	0.86	0.85	15.69	-0.6	11.8
	1,719.0	1.67	115.16	1,718.8	9.6	8.5	0.20	-0.05	6.53	-3.6	12.3

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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)	
1,906.0	1.71	122.63	1,905.7	6.9	13.3	0.12	0.02	3.99	-7.4		13.0
2,093.0	1.58	116.13	2,092.7	4.3	17.9	0.12	-0.07	-3.48	-14.2		11.7
2,280.0	1.49	97.23	2,279.6	2.8	22.7	0.27	-0.05	-10.11	-22.1		5.7
2,466.0	1.23	88.36	2,465.5	2.6	27.1	0.18	-0.14	-4.77	-27.1		1.8
2,653.0	1.36	79.39	2,652.5	3.1	31.2	0.13	0.07	-4.80	-31.3		-2.8
2,841.0	0.97	57.24	2,840.5	4.3	34.8	0.31	-0.21	-11.78	-31.6		-15.2
3,027.0	0.44	25.51	3,026.4	5.8	36.4	0.34	-0.28	-17.06	-20.9		-30.4
3,215.0	0.97	34.74	3,214.4	7.8	37.6	0.29	0.28	4.91	-27.8		-26.5
3,308.0	1.19	42.30	3,307.4	9.1	38.7	0.28	0.24	8.13	-32.8		-22.5
3,495.0	2.07	48.98	3,494.3	12.8	42.6	0.48	0.47	3.57	-40.5		-18.3
3,683.0	1.98	46.96	3,682.2	17.2	47.5	0.06	-0.05	-1.07	-46.5		-19.8
3,870.0	0.92	35.97	3,869.1	20.7	50.8	0.58	-0.57	-5.88	-46.5		-28.9
4,058.0	0.31	16.55	4,057.1	22.4	51.8	0.34	-0.32	-10.33	-36.2		-43.3
4,246.0	0.48	2.40	4,245.1	23.6	52.0	0.10	0.09	-7.53	-25.8		-50.9
4,434.0	0.22	311.07	4,433.1	24.7	51.7	0.20	-0.14	-27.30	22.8		-52.6
4,621.0	1.71	114.02	4,620.1	23.8	54.0	1.03	0.80	87.14	-39.6		43.7
4,805.0	2.86	120.44	4,804.0	20.3	60.5	0.64	0.62	3.49	-41.8		48.2
4,992.0	3.34	138.89	4,990.7	13.9	68.1	0.59	0.26	9.87	-34.3		60.4
5,054.0	3.16	139.24	5,052.6	11.2	70.4	0.29	-0.29	0.56	-37.4		60.6
5,159.0	2.73	140.92	5,157.4	7.1	73.8	0.42	-0.41	1.60	-40.7		61.3
5,347.0	2.77	139.87	5,345.2	0.1	79.6	0.03	0.02	-0.56	-46.8		55.7
5,536.0	2.20	113.59	5,534.1	-4.8	85.9	0.67	-0.30	-13.90	-68.3		24.5
5,724.0	1.58	113.15	5,722.0	-7.3	91.6	0.33	-0.33	-0.23	-68.6		21.4
5,912.0	0.57	107.97	5,909.9	-8.6	94.8	0.54	-0.54	-2.76	-67.6		12.9
6,100.0	0.57	102.78	6,097.9	-9.1	96.6	0.03	0.00	-2.76	-63.9		5.2
6,291.0	0.13	155.25	6,288.9	-9.5	97.6	0.26	-0.23	27.47	-33.4		49.8
6,482.0	1.27	250.08	6,479.9	-10.4	95.7	0.67	0.60	49.65	50.4		29.3

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Survey											
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6,672.0	1.23	256.76	6,669.8	-11.6	91.8	0.08	-0.02	3.52	49.3	23.5	
6,861.0	1.23	258.08	6,858.8	-12.5	87.8	0.01	0.00	0.70	45.8	22.4	
7,050.0	1.10	256.41	7,047.8	-13.3	84.1	0.07	-0.07	-0.88	41.3	23.7	
7,237.0	1.05	273.38	7,234.7	-13.6	80.6	0.17	-0.03	9.07	42.9	11.1	
7,415.0	0.88	283.31	7,412.7	-13.2	77.7	0.13	-0.10	5.58	41.2	3.8	
7,603.0	0.88	261.25	7,600.7	-13.1	74.8	0.18	0.00	-11.73	34.0	18.5	
7,790.0	0.88	258.87	7,787.7	-13.6	72.0	0.02	0.00	-1.27	30.3	19.8	
7,978.0	1.01	248.59	7,975.6	-14.5	69.0	0.11	0.07	-5.47	23.2	24.7	
8,166.0	0.92	250.35	8,163.6	-15.6	66.1	0.05	-0.05	0.94	20.8	24.0	
8,353.0	0.88	236.64	8,350.6	-16.9	63.5	0.12	-0.02	-7.33	11.6	27.9	
8,540.0	0.31	222.58	8,537.6	-18.1	61.9	0.31	-0.30	-7.52	2.6	29.5	
8,724.0	0.22	205.79	8,721.6	-18.8	61.4	0.06	-0.05	-9.12	-6.9	28.9	
8,911.0	0.40	209.48	8,908.6	-19.6	61.0	0.10	0.10	1.97	-6.0	29.3	
9,099.0	0.18	249.50	9,096.6	-20.3	60.4	0.15	-0.12	21.29	13.4	26.7	
9,286.0	1.01	307.48	9,283.6	-19.4	58.8	0.50	0.44	31.01	28.0	3.0	
9,473.0	1.36	302.38	9,470.5	-17.2	55.6	0.20	0.19	-2.73	23.7	5.4	
9,661.0	1.98	320.40	9,658.4	-13.5	51.6	0.43	0.33	9.59	18.9	-1.6	
9,846.0	2.64	301.41	9,843.3	-8.9	46.0	0.54	0.36	-10.26	11.1	3.6	
10,034.0	1.49	327.60	10,031.2	-4.5	41.0	0.78	-0.61	13.93	5.2	0.3	
10,221.0	1.41	196.21	10,218.1	-4.7	39.0	1.41	-0.04	-70.26	-4.3	1.9	
10,408.0	1.58	190.85	10,405.1	-9.4	37.9	0.12	0.09	-2.87	-9.4	1.3	
10,596.0	0.70	216.16	10,593.0	-12.9	36.7	0.53	-0.47	13.46	-11.4	6.2	
10,782.0	0.75	250.79	10,779.0	-14.2	34.9	0.23	0.03	18.62	-8.0	12.3	
10,970.0	1.32	208.60	10,967.0	-16.5	32.7	0.49	0.30	-22.44	-17.2	2.9	
11,158.0	1.89	204.47	11,154.9	-21.2	30.4	0.31	0.30	-2.20	-22.7	1.5	
11,343.0	2.07	226.18	11,339.8	-26.3	26.7	0.41	0.10	11.74	-26.7	10.9	
11,530.0	1.49	236.99	11,526.7	-30.0	22.2	0.36	-0.31	5.78	-29.9	16.3	

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Survey											
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11,717.0	2.86	255.53	11,713.6	-32.5	15.7	0.81	0.73	9.91	-30.1	25.8	
11,760.0	2.68	253.51	11,756.5	-33.0	13.7	0.48	-0.42	-4.70	-33.1	24.7	
11,896.0	2.33	269.86	11,892.4	-34.0	7.9	0.58	-0.26	12.02	-30.6	33.9	
11,936.0	2.24	279.26	11,932.4	-33.8	6.3	0.96	-0.22	23.50	-26.3	38.6	
11,983.0	7.12	358.63	11,979.2	-30.8	5.3	15.02	10.38	168.87	29.8	34.0	
12,003.6	10.25	6.20	11,999.6	-27.7	5.5	16.19	15.24	36.81	30.9	30.0	
KOP(Hawk 35 Fed #702H)											
12,032.0	14.73	11.29	12,027.3	-21.6	6.4	16.19	15.74	17.91	28.3	27.3	
12,079.0	21.71	11.73	12,071.9	-7.2	9.4	14.85	14.85	0.94	18.8	26.8	
12,127.0	25.76	9.97	12,115.9	11.8	13.0	8.56	8.44	-3.67	8.3	26.6	
12,174.0	29.27	9.88	12,157.5	33.1	16.7	7.47	7.47	-0.19	0.1	26.1	
12,222.0	31.78	10.23	12,198.9	57.1	21.0	5.24	5.23	0.73	-6.1	25.4	
12,269.0	32.40	10.06	12,238.7	81.7	25.4	1.33	1.32	-0.36	-9.0	24.5	
12,317.0	36.79	10.93	12,278.2	108.5	30.4	9.20	9.15	1.81	-8.8	23.4	
12,364.0	44.48	11.90	12,313.9	138.5	36.4	16.42	16.36	2.06	-8.8	21.6	
12,411.0	51.21	13.13	12,345.4	172.5	44.0	14.45	14.32	2.62	-10.2	18.9	
12,458.0	57.45	13.04	12,372.8	209.6	52.6	13.28	13.28	-0.19	-12.4	15.5	
12,506.0	60.00	10.85	12,397.7	249.8	61.1	6.59	5.31	-4.56	-13.6	12.4	
12,554.0	66.55	11.02	12,419.3	291.8	69.3	13.65	13.65	0.35	-13.4	10.1	
12,602.0	74.64	8.65	12,435.2	336.4	77.0	17.48	16.85	-4.94	-14.4	8.4	
12,649.0	77.80	7.42	12,446.4	381.6	83.3	7.19	6.72	-2.62	-15.1	8.3	
12,696.0	82.29	6.01	12,454.5	427.6	88.7	10.00	9.55	-3.00	-14.1	9.2	
12,743.0	86.20	7.68	12,459.2	474.0	94.3	9.04	8.32	3.55	-11.7	10.2	
12,791.0	87.08	6.45	12,462.0	521.5	100.2	3.15	1.83	-2.56	-8.8	10.6	
12,818.6	87.14	5.37	12,463.4	549.0	103.0	3.93	0.23	-3.93	-7.4	10.9	
FTP Crossing, MD:12818.6', TVD:12463.4', N/S:549.0', E/W:103.0', INC:87.14											
12,823.6	87.16	5.17	12,463.7	553.9	103.5	3.93	0.23	-3.93	-7.1	11.0	
FTP(Hawk 35 Fed #702H)											

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12,847.0	87.21	4.25	12,464.8	577.2	105.4	3.93	0.23	-3.93	-5.9	11.6	
12,918.0	87.12	1.97	12,468.3	648.0	109.3	3.21	-0.13	-3.21	-2.3	14.2	
13,011.0	90.37	1.35	12,470.4	741.0	112.0	3.56	3.49	-0.67	0.0	17.2	
13,105.0	90.51	0.83	12,469.7	834.9	113.8	0.57	0.15	-0.55	-0.5	18.2	
13,199.0	89.05	0.83	12,470.0	928.9	115.1	1.55	-1.55	0.00	0.1	16.7	
13,292.0	90.07	0.74	12,470.7	1,021.9	116.4	1.10	1.10	-0.10	1.0	14.9	
13,385.0	92.26	1.44	12,468.8	1,114.9	118.2	2.47	2.35	0.75	-0.7	12.7	
13,479.0	91.65	0.65	12,465.6	1,208.8	119.9	1.06	-0.65	-0.84	-3.7	10.4	
13,572.0	91.56	359.51	12,463.0	1,301.8	120.0	1.23	-0.10	-1.23	-6.1	9.8	
13,635.0	89.71	358.45	12,462.3	1,364.7	118.9	3.38	-2.94	-1.68	-6.7	10.5	
13,665.0	87.91	358.54	12,463.0	1,394.7	118.1	6.01	-6.00	0.30	-6.0	11.2	
13,727.0	86.29	358.89	12,466.1	1,456.6	116.7	2.67	-2.61	0.56	-2.7	12.2	
13,852.0	90.59	1.09	12,469.5	1,581.5	116.7	3.86	3.44	1.76	1.0	11.5	
13,945.0	92.48	0.04	12,467.0	1,674.5	117.6	2.32	2.03	-1.13	-1.3	10.1	
14,039.0	90.07	359.77	12,464.9	1,768.5	117.4	2.58	-2.56	-0.29	-3.2	9.7	
14,133.0	87.91	356.70	12,466.6	1,862.4	114.5	3.99	-2.30	-3.27	-1.3	12.1	
14,226.0	88.00	357.31	12,469.9	1,955.2	109.7	0.66	0.10	0.66	2.2	16.4	
14,320.0	91.12	359.68	12,470.6	2,049.2	107.2	4.17	3.32	2.52	3.1	18.4	
14,414.0	91.47	3.38	12,468.5	2,143.1	109.7	3.95	0.37	3.94	1.2	15.3	
14,539.0	91.47	2.67	12,465.3	2,267.9	116.3	0.57	0.00	-0.57	-1.7	8.0	
14,539.5	91.44	2.67	12,465.3	2,268.4	116.4	4.65	-4.64	-0.22	-1.7	8.0	
TGT 1(Hawk 35 Fed #702H)											
14,696.0	84.18	2.32	12,471.2	2,424.5	123.2	4.65	-4.64	-0.22	3.2	0.3	
14,789.0	87.21	359.95	12,478.2	2,517.2	125.0	4.13	3.26	-2.55	9.5	-2.0	
14,883.0	90.46	356.26	12,480.1	2,611.1	121.9	5.23	3.46	-3.93	10.7	0.6	
14,976.0	89.63	353.88	12,480.1	2,703.7	113.9	2.71	-0.89	-2.56	9.9	8.0	
15,070.0	92.09	356.87	12,478.6	2,797.4	106.3	4.12	2.62	3.18	7.8	15.1	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
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)	
15,163.0	90.68	358.63	12,476.4	2,890.3	102.7	2.42	-1.52	1.89	4.8	18.2	
15,257.0	83.78	358.01	12,480.9	2,984.1	99.9	7.37	-7.34	-0.66	8.5	20.5	
15,351.0	86.61	1.09	12,488.8	3,077.7	99.2	4.44	3.01	3.28	15.8	20.7	
15,445.0	94.46	7.24	12,487.9	3,171.4	106.0	10.61	8.35	6.54	14.2	13.3	
15,539.0	93.41	3.64	12,481.5	3,264.7	114.9	3.98	-1.12	-3.83	7.0	3.9	
15,633.0	90.51	358.10	12,478.3	3,358.6	116.3	6.65	-3.09	-5.89	3.1	2.0	
15,727.0	89.71	357.22	12,478.1	3,452.5	112.5	1.27	-0.85	-0.94	2.2	5.3	
15,821.0	91.69	357.84	12,476.9	3,546.4	108.4	2.21	2.11	0.66	0.4	8.8	
15,915.0	93.27	359.25	12,472.9	3,640.3	106.0	2.25	1.68	1.50	-4.4	10.7	
16,007.0	90.20	358.54	12,470.1	3,732.2	104.3	3.42	-3.34	-0.77	-7.9	11.9	
16,100.0	89.27	359.07	12,470.5	3,825.2	102.3	1.15	-1.00	0.57	-8.2	13.3	
16,192.0	89.10	358.63	12,471.8	3,917.2	100.5	0.51	-0.18	-0.48	-7.6	14.7	
16,273.2	88.61	359.46	12,473.4	3,998.4	99.1	1.18	-0.60	1.02	-6.6	15.6	
TGT 2(Hawk 35 Fed #702H)											
16,287.0	88.53	359.60	12,473.8	4,012.1	99.0	1.18	-0.60	1.02	-6.3	15.6	
16,380.0	87.12	359.77	12,477.3	4,105.1	98.5	1.53	-1.52	0.18	-3.1	15.6	
16,474.0	88.48	359.77	12,480.9	4,199.0	98.1	1.45	1.45	0.00	0.3	15.4	
16,568.0	88.44	0.21	12,483.4	4,293.0	98.1	0.47	-0.04	0.47	2.5	14.9	
16,662.0	90.68	0.56	12,484.2	4,387.0	98.7	2.41	2.38	0.37	2.9	13.8	
16,756.0	86.37	3.29	12,486.6	4,480.8	101.9	5.43	-4.59	2.90	5.0	10.1	
16,849.0	87.12	8.03	12,491.9	4,573.2	111.0	5.15	0.81	5.10	10.0	0.4	
16,942.0	84.66	8.47	12,498.5	4,665.0	124.3	2.69	-2.65	0.47	16.3	-13.4	
16,982.0	87.52	6.89	12,501.3	4,704.6	129.7	8.16	7.15	-3.95	19.0	-18.9	
17,012.0	87.91	7.24	12,502.5	4,734.3	133.4	1.75	1.30	1.17	20.1	-22.8	
17,036.0	88.44	7.33	12,503.2	4,758.1	136.4	2.24	2.21	0.37	20.8	-25.9	
17,087.0	90.99	6.28	12,503.5	4,808.7	142.5	5.41	5.00	-2.06	21.0	-32.2	
17,117.0	93.19	5.40	12,502.4	4,838.6	145.5	7.90	7.33	-2.93	19.9	-35.4	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
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)	
17,129.0	94.11	3.90	12,501.6	4,850.5	146.5	14.64	7.67	-12.50	19.0	-36.5	
17,174.0	94.46	2.76	12,498.3	4,895.3	149.1	2.64	0.78	-2.53	15.5	-39.4	
17,199.0	93.93	1.00	12,496.4	4,920.2	149.9	7.33	-2.12	-7.04	13.5	-40.4	
17,223.0	93.93	1.44	12,494.8	4,944.1	150.4	1.83	0.00	1.83	11.8	-41.0	
17,254.0	94.15	359.16	12,492.6	4,975.1	150.6	7.37	0.71	-7.35	9.4	-41.4	
17,286.0	95.12	358.10	12,490.0	5,006.9	149.8	4.48	3.03	-3.31	6.6	-40.8	
17,317.0	96.48	359.16	12,486.9	5,037.8	149.1	5.55	4.39	3.42	3.5	-40.2	
17,348.0	96.88	359.25	12,483.3	5,068.6	148.6	1.32	1.29	0.29	-0.2	-40.0	
17,379.0	97.27	357.40	12,479.5	5,099.3	147.7	6.05	1.26	-5.97	-4.3	-39.2	
17,410.0	95.87	354.41	12,475.9	5,130.0	145.5	10.59	-4.52	-9.65	-8.1	-37.1	
17,442.0	91.60	353.80	12,473.8	5,161.8	142.3	13.48	-13.34	-1.91	-10.1	-34.1	
17,473.0	90.55	353.44	12,473.2	5,192.6	138.8	3.58	-3.39	-1.16	-10.7	-30.8	
17,504.0	90.51	355.20	12,473.0	5,223.4	135.8	5.68	-0.13	5.68	-11.0	-27.9	
17,535.0	89.10	354.76	12,473.1	5,254.3	133.0	4.76	-4.55	-1.42	-11.0	-25.4	
17,566.0	88.92	353.97	12,473.6	5,285.2	130.0	2.61	-0.58	-2.55	-10.6	-22.5	
17,597.0	90.46	354.94	12,473.8	5,316.0	127.0	5.87	4.97	3.13	-10.5	-19.7	
17,630.0	89.89	356.96	12,473.7	5,348.9	124.7	6.36	-1.73	6.12	-10.7	-17.6	
Final MWD Survey (MD=17630.0')											
17,728.3	89.89	356.96	12,473.9	5,447.1	119.5	0.00	0.00	0.00	-10.8	-12.9	
HL Crossing, MD:17728.3', TVD:12473.9', N/S:5447.1', E/W:119.5', INC:89.89											
17,829.8	89.89	356.96	12,474.0	5,548.4	114.1	0.00	0.00	0.00	-11.0	-8.1	
PBHL(Hawk 35 Fed #702H)											
17,830.0	89.89	356.96	12,474.1	5,548.6	114.1	0.00	0.00	0.00	-11.0	-8.1	
Final Projection to Bit (MD=17830.0')											

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3533.0usft
Site:	Hawk 35 Fed	MD Reference:	KB = 25 @ 3533.0usft
Well:	#702H	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)	
12,818.6	12,463.4	549.0	103.0	FTP Crossing, MD:12818.6', TVD:12463.4', N/S:549.0', E/W:103.0', INC:87.14
17,630.0	12,473.7	5,348.9	124.7	Final MWD Survey (MD=17630.0')
17,728.3	12,473.9	5,447.1	119.5	HL Crossing, MD:17728.3', TVD:12473.9', N/S:5447.1', E/W:119.5', INC:89.89
17,830.0	12,474.1	5,548.6	114.1	Final Projection to Bit (MD=17830.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Hawk 35 Fed #702H

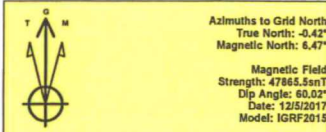
Plan #1

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: #702H

KB = 25 @ 3533.0ust 3508.0
Northing 430092.00 Easting 783865.00 Latitude 32° 10' 47.898 N Longitude 103° 32' 57.555 W



To convert a Magnetic Direction to a Grid Direction, Add 6.47°
To convert a Magnetic Direction to a True Direction, Add 6.88° East
To convert a True Direction to a Grid Direction, Subtract 0.42°

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Cleg	TFace	V.Sect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	8100.0	0.00	0.00	5100.0	0.0	0.0	0.00	0.00	0.0	
3	5300.0	2.00	90.00	5200.0	0.0	1.7	2.00	90.00	0.0	
4	6200.6	2.00	90.00	6200.6	0.0	36.7	0.00	0.00	0.7	
5	6300.6	0.00	0.00	6300.6	0.0	38.4	2.00	180.00	0.7	
6	11984.2	0.00	0.00	11983.5	0.0	38.4	0.00	0.00	0.7	
7	12745.2	90.13	7.95	12471.0	473.9	104.6	12.00	7.85	478.9	
8	13158.7	90.13	358.68	12470.0	886.2	132.1	2.00	-90.02	888.5	
9	14540.0	90.13	358.68	12467.1	2386.0	124.4	0.00	0.00	2270.0	
10	14568.6	88.57	358.68	12467.1	2386.0	124.2	2.00	-178.96	2386.0	
11	16271.2	88.57	358.68	12480.0	3988.5	114.7	0.00	0.00	4000.0	
12	16283.7	88.57	358.68	12480.0	4011.1	114.6	2.00	0.00	4012.5	
13	17820.7	88.57	358.68	12485.0	5548.0	106.0	0.00	0.00	5548.0	

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
TGT 1(Hawk 35 Fed #702H)	12467.0	2268.0	124.4	432360.00	783865.38
TGT 2(Hawk 35 Fed #702H)	12480.0	3988.5	114.7	434090.50	783973.68
PBHL(Hawk 35 Fed #702H)	12485.0	5548.0	106.0	435640.00	783971.00
FTP(Hawk 35 Fed #702H)	12471.0	551.0	134.0	430643.00	783899.00
KOP(Hawk 35 Fed #702H)	11993.5	0.0	38.4	430092.00	783903.41

