

30-025-42597

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Hawk 26 Fed

#704H

OH

Design: OH

PVA Report

09 February, 2018



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3543.0usft
Site:	Hawk 26 Fed	MD Reference:	KB= 25' @ 3543.0usft
Well:	#704H	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 26 Fed		
Site Position:		Northing:	431,092.00 usft
From:	Map	Easting:	783,852.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 10' 57.794 N
		Longitude:	103° 32' 58.022 W
		Grid Convergence:	0.42 °

Well	#704H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	11/29/2017	6.89
			Dip Angle
			60.02
			Field Strength
			47,869.09939224

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
			(°)
			175.41



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Survey Program		Date 2/9/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
173.0	1,187.0	Invictus MWD (OH)	MWD	MWD - Standard
1,187.0	17,805.0	Intrepid MWD (OH)	MWD	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	0.0	0.0
173.0	1.00	318.49	173.0	1.1	-1.0	0.58	0.58	0.00	-1.5	0.0
187.0	1.00	291.49	187.0	1.3	-1.2	3.33	0.00	-192.86	-1.6	-0.7
215.0	1.60	298.49	215.0	1.5	-1.8	2.21	2.14	25.00	-2.3	-0.5
247.0	1.20	297.49	247.0	1.9	-2.5	1.25	-1.25	-3.12	-3.1	-0.6
341.0	1.50	297.49	340.9	2.9	-4.4	0.32	0.32	0.00	-5.3	-0.6
371.0	1.50	305.49	370.9	3.3	-5.1	0.70	0.00	26.67	-6.1	0.2
402.0	1.00	299.49	401.9	3.7	-5.7	1.67	-1.61	-19.35	-6.7	-0.4
434.0	1.20	289.49	433.9	4.0	-6.2	0.86	0.62	-31.25	-7.2	-1.7
465.0	1.10	291.49	464.9	4.2	-6.8	0.35	-0.32	6.45	-7.9	-1.4
497.0	1.30	307.49	496.9	4.5	-7.4	1.21	0.62	50.00	-8.6	0.9
528.0	1.00	294.49	527.9	4.8	-7.9	1.28	-0.97	-41.94	-9.2	-1.1
560.0	1.20	290.49	559.9	5.1	-8.5	0.67	0.62	-12.50	-9.7	-1.8
654.0	1.20	288.49	653.9	5.7	-10.3	0.04	0.00	-2.13	-11.6	-2.2
685.0	1.20	292.49	684.9	6.0	-10.9	0.27	0.00	12.90	-12.4	-1.3
716.0	1.00	278.49	715.9	6.1	-11.5	1.08	-0.65	-45.16	-12.3	-4.4
779.0	1.20	285.49	778.9	6.4	-12.7	0.38	0.32	11.11	-13.9	-2.8
810.0	0.60	288.49	809.8	6.5	-13.1	1.94	-1.94	9.68	-14.5	-2.0
873.0	0.60	287.49	872.8	6.7	-13.8	0.02	0.00	-1.59	-15.1	-2.3
936.0	0.70	263.49	935.8	6.8	-14.5	0.46	0.16	-38.10	-13.6	-8.4
967.0	0.80	259.49	966.8	6.7	-14.9	0.36	0.32	-12.90	-13.4	-9.3



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Well:	#704H	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)
999.0	0.60	280.49	998.8	6.7	-15.2	1.01	-0.62	65.62	-16.2	-3.8
1,030.0	0.70	280.49	1,029.8	6.8	-15.6	0.32	0.32	0.00	-16.6	-3.8
1,062.0	1.10	273.49	1,061.8	6.8	-16.1	1.29	1.25	-21.87	-16.5	-5.8
1,093.0	1.00	282.49	1,092.8	6.9	-16.7	0.62	-0.32	29.03	-17.8	-3.1
1,124.0	1.00	264.49	1,123.8	6.9	-17.2	1.01	0.00	-58.06	-16.4	-8.5
1,156.0	0.60	278.49	1,155.8	6.9	-17.6	1.38	-1.25	43.75	-18.5	-4.2
1,187.0	1.00	271.49	1,186.8	7.0	-18.1	1.33	1.29	-22.58	-18.2	-6.5
1,349.0	0.40	315.70	1,348.8	7.4	-19.9	0.47	-0.37	27.29	-19.5	9.3
1,535.0	2.20	99.70	1,534.8	7.3	-16.8	1.36	0.97	77.42	24.1	3.2
1,723.0	2.30	103.10	1,722.6	5.8	-9.6	0.09	0.05	1.81	23.3	0.5
1,913.0	2.10	88.10	1,912.5	5.1	-2.4	0.32	-0.11	-7.89	21.8	5.8
2,102.0	2.10	91.70	2,101.4	5.1	4.5	0.07	0.00	1.90	21.8	4.4
2,292.0	2.30	77.90	2,291.2	5.8	11.7	0.30	0.11	-7.26	19.4	10.1
2,481.0	2.00	76.10	2,480.1	7.3	18.7	0.16	-0.16	-0.95	18.4	12.1
2,670.0	0.90	106.80	2,669.0	7.7	23.3	0.69	-0.58	16.24	20.1	2.0
2,860.0	1.20	103.90	2,859.0	6.8	26.6	0.16	0.16	-1.53	16.5	2.9
3,050.0	1.20	103.10	3,048.9	5.9	30.5	0.01	0.00	-0.42	12.4	3.1
3,239.0	1.60	102.00	3,237.9	4.9	35.0	0.21	0.21	-0.58	7.7	3.3
3,430.0	2.20	95.70	3,428.8	4.0	41.3	0.33	0.31	-3.30	1.0	3.9
3,619.0	1.50	105.30	3,617.7	2.9	47.3	0.40	-0.37	5.08	-4.4	4.3
3,809.0	1.50	159.90	3,807.6	0.0	50.5	0.72	0.00	28.74	-3.0	8.1
3,999.0	1.60	180.00	3,997.6	-5.0	51.4	0.29	0.05	10.58	-5.0	9.5
4,189.0	1.50	203.20	4,187.5	-10.0	50.4	0.33	-0.05	12.21	-5.8	11.7
4,379.0	2.10	196.20	4,377.4	-15.6	48.4	0.34	0.32	-3.68	-13.2	10.6
4,569.0	2.70	155.30	4,567.2	-23.0	49.3	0.93	0.32	-21.53	-24.0	-2.9
4,759.0	3.30	143.70	4,757.0	-31.5	54.5	0.45	0.32	-6.11	-32.8	-8.5
4,949.0	5.40	136.40	4,946.4	-42.4	63.9	1.14	1.11	-3.84	-45.8	-13.4



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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)	
5,075.0	5.50	132.60	5,071.9	-50.7	72.4	0.30	0.08	-3.02	-56.8	-16.8	
5,216.0	2.90	140.20	5,212.5	-58.1	79.6	1.88	-1.84	5.39	-68.8	-8.2	
5,406.0	0.50	99.60	5,402.4	-61.9	83.5	1.34	-1.26	-21.37	-51.4	-54.1	
5,596.0	0.80	298.00	5,592.4	-61.4	83.2	0.68	0.16	-85.05	65.3	34.8	
5,786.0	1.70	290.50	5,782.3	-59.8	79.4	0.48	0.47	-3.95	56.0	42.9	
5,976.0	1.80	299.00	5,972.2	-57.4	74.1	0.15	0.05	4.47	56.0	34.6	
6,166.0	2.60	295.70	6,162.1	-54.1	67.6	0.43	0.42	-1.74	46.6	37.6	
6,356.0	2.20	316.50	6,351.9	-49.5	61.2	0.50	-0.21	10.95	49.2	20.1	
6,546.0	1.80	314.30	6,541.8	-44.8	56.6	0.21	-0.21	-1.16	41.8	21.8	
6,735.0	1.90	321.90	6,730.7	-40.3	52.5	0.14	0.05	4.02	38.2	16.5	
6,925.0	1.60	340.50	6,920.6	-35.3	49.7	0.34	-0.16	9.79	35.9	4.4	
7,115.0	1.10	340.10	7,110.6	-31.1	48.2	0.26	-0.26	-0.21	31.4	4.7	
7,305.0	1.10	358.40	7,300.5	-27.5	47.5	0.18	0.00	9.63	27.7	-4.9	
7,495.0	1.10	325.20	7,490.5	-24.2	46.4	0.33	0.00	-17.47	22.5	10.1	
7,685.0	0.30	342.60	7,680.5	-22.2	45.3	0.43	-0.42	9.16	22.2	3.5	
7,875.0	0.30	337.50	7,870.5	-21.3	44.9	0.01	0.00	-2.68	20.8	5.4	
8,065.0	0.70	236.60	8,060.5	-21.5	43.8	0.43	0.21	-53.11	-10.3	19.0	
8,255.0	1.00	254.50	8,250.5	-22.6	41.2	0.21	0.16	9.42	-6.7	21.6	
8,445.0	0.70	226.90	8,440.4	-23.8	38.7	0.26	-0.16	-14.53	-18.6	15.2	
8,635.0	0.90	284.70	8,630.4	-24.2	36.4	0.42	0.11	30.42	0.9	24.8	
8,825.0	0.60	288.30	8,820.4	-23.5	34.1	0.16	-0.16	1.89	-0.1	24.8	
9,014.0	0.60	337.20	9,009.4	-22.3	32.7	0.26	0.00	25.87	17.0	17.1	
9,204.0	0.90	337.50	9,199.4	-20.0	31.8	0.16	0.16	0.16	14.6	17.0	
9,393.0	0.60	289.90	9,388.4	-18.3	30.3	0.35	-0.16	-25.19	-4.7	21.2	
9,583.0	0.80	227.30	9,578.4	-18.9	28.4	0.39	0.11	-32.95	-22.7	4.7	
9,773.0	1.20	253.50	9,768.3	-20.3	25.5	0.31	0.21	13.79	-21.5	14.8	
9,963.0	2.10	246.30	9,958.2	-22.3	20.4	0.49	0.47	-3.79	-28.7	11.8	



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Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (*/100usft)	Bulid (*/100usft)	Turn (*/100usft)	High to Plan (usft)	Right to Plan (usft)	
10,153.0	1.70	17.30	10,148.2	-21.0	18.0	1.82	-0.21	68.95	27.1	16.5	
10,343.0	1.80	40.50	10,338.1	-16.0	20.8	0.37	0.05	12.21	25.9	5.6	
10,532.0	1.40	40.80	10,527.0	-12.0	24.3	0.21	-0.21	0.16	20.6	5.5	
10,722.0	1.70	33.10	10,717.0	-7.9	27.3	0.19	0.16	-4.05	14.6	7.9	
10,911.0	1.50	61.80	10,905.9	-4.4	31.0	0.43	-0.11	15.19	11.7	1.3	
11,101.0	1.70	72.60	11,095.8	-2.4	35.9	0.19	0.11	5.68	6.4	-0.5	
11,290.0	1.60	100.50	11,284.8	-2.0	41.2	0.42	-0.05	14.76	0.3	-2.1	
11,480.0	1.60	120.80	11,474.7	-3.9	46.1	0.30	0.00	10.68	-5.6	-1.2	
11,612.0	1.00	189.40	11,606.6	-5.9	47.5	1.17	-0.45	51.97	-5.0	6.5	
11,802.0	1.40	222.10	11,796.6	-9.3	45.6	0.41	0.21	17.21	-4.4	9.0	
11,897.0	2.50	187.60	11,891.6	-12.2	44.6	1.64	1.16	-36.32	-11.8	4.3	
11,904.4	3.13	173.82	11,898.9	-12.6	44.6	12.47	8.53	-186.78	-12.8	1.3	
KOP (Hawk 26 Fed #704H)											
11,944.0	7.60	148.90	11,938.4	-15.9	46.0	12.47	11.28	-62.90	-14.2	-5.0	
11,992.0	15.00	136.30	11,985.4	-23.1	52.0	16.16	15.42	-26.25	-15.7	-8.4	
12,039.0	23.80	138.20	12,029.7	-34.6	62.5	18.77	18.72	4.04	-20.7	-7.6	
12,087.0	30.30	140.00	12,072.4	-51.1	76.8	13.65	13.54	3.75	-27.3	-7.1	
12,134.0	33.20	141.50	12,112.4	-70.3	92.4	6.39	6.17	3.19	-32.6	-7.2	
12,182.0	37.10	141.10	12,151.6	-91.8	109.7	8.14	8.12	-0.83	-35.5	-8.6	
12,229.0	44.50	142.10	12,187.2	-115.9	128.7	15.81	15.74	2.13	-38.2	-9.8	
12,276.0	48.30	142.30	12,219.6	-142.8	149.6	8.09	8.09	0.43	-40.3	-11.9	
12,323.0	51.90	142.30	12,249.7	-171.3	171.6	7.66	7.66	0.00	-40.4	-14.4	
12,371.0	56.00	143.00	12,278.0	-202.2	195.2	8.62	8.54	1.46	-38.6	-17.2	
12,418.0	57.90	143.00	12,303.6	-233.6	218.9	4.04	4.04	0.00	-34.3	-20.5	
12,466.0	59.60	143.60	12,328.5	-266.5	243.4	3.70	3.54	1.25	-29.0	-21.8	
12,513.0	62.00	146.90	12,351.4	-300.2	266.8	7.98	5.11	7.02	-24.4	-21.0	
12,560.0	66.30	147.20	12,371.9	-335.7	289.8	9.17	9.15	0.64	-20.6	-19.3	



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12,607.0	69.20	149.00	12,389.7	-372.7	312.8	7.12	6.17	3.83	-18.4	-15.5	
12,655.0	73.70	151.50	12,405.0	-412.2	335.3	10.60	9.37	5.21	-17.4	-10.5	
12,702.0	78.30	157.10	12,416.4	-453.2	355.1	15.14	9.79	11.91	-18.5	-5.8	
12,750.0	80.40	164.60	12,425.3	-497.8	370.5	15.97	4.37	15.62	-20.4	-3.6	
12,797.0	82.40	168.90	12,432.3	-543.0	381.2	10.00	4.26	9.15	-22.0	-3.9	
12,801.6	82.56	169.39	12,432.9	-547.5	382.0	11.09	3.47	10.62	-22.2	-3.9	
FTP Crossing, MD:12801.6', TVD:12432.9', N/S: -547.5', E/W:382.0', INC:82.56											
12,808.4	82.80	170.11	12,433.7	-554.1	383.2	11.09	3.49	10.62	-22.4	-4.1	
FTP (Hawk 26 Fed #704H)											
12,848.0	84.20	174.30	12,438.2	-593.1	388.5	11.09	3.54	10.58	-23.5	-5.5	
12,971.0	85.10	176.80	12,449.7	-715.2	398.0	2.15	0.73	2.03	-20.8	-6.0	
13,066.0	85.00	177.50	12,457.9	-809.7	402.8	0.74	-0.11	0.74	-14.3	-2.1	
13,161.0	84.70	177.80	12,466.4	-904.2	406.6	0.45	-0.32	0.32	-7.4	1.0	
13,227.8	85.05	178.15	12,472.4	-970.7	409.0	0.74	0.53	0.53	-2.6	2.8	
TGT 1 (Hawk 26 Fed #704H)											
13,256.0	85.20	178.30	12,474.8	-998.8	409.9	0.74	0.53	0.53	-0.6	3.4	
13,350.0	87.20	178.40	12,481.0	-1,092.5	412.6	2.13	2.13	0.11	5.2	5.3	
13,445.0	88.90	179.20	12,484.3	-1,187.5	414.5	1.98	1.79	0.84	8.0	6.5	
13,540.0	90.60	180.10	12,484.7	-1,282.5	415.1	2.02	1.79	0.95	8.0	6.3	
13,635.0	90.40	181.00	12,483.8	-1,377.4	414.2	0.97	-0.21	0.95	6.7	4.5	
13,729.0	88.20	180.70	12,485.0	-1,471.4	412.8	2.36	-2.34	-0.32	7.4	2.3	
13,824.0	87.90	181.00	12,488.2	-1,566.4	411.4	0.45	-0.32	0.32	10.2	0.1	
13,918.0	88.50	182.70	12,491.2	-1,660.3	408.4	1.92	0.64	1.81	12.7	-3.7	
14,013.0	88.00	181.50	12,494.1	-1,755.1	404.9	1.37	-0.53	-1.26	15.1	-8.0	
14,108.0	89.00	180.10	12,496.6	-1,850.1	403.6	1.81	1.05	-1.47	17.1	-10.1	
14,203.0	89.60	179.40	12,497.7	-1,945.1	404.0	0.97	0.63	-0.74	17.9	-10.5	
14,231.6	89.96	179.49	12,497.8	-1,973.6	404.3	1.30	1.26	0.32	17.8	-10.5	
TGT 2 (Hawk 26 Fed #704H)											



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3543.0usft
Site:	Hawk 26 Fed	MD Reference:	KB= 25' @ 3543.0usft
Well:	#704H	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)	
14,298.0	90.80	179.70	12,497.4	-2,040.1	404.7	1.30	1.26	0.32	16.3	-10.6	
14,393.0	89.90	180.00	12,496.8	-2,135.1	405.0	1.00	-0.95	0.32	12.2	-11.1	
14,487.0	87.80	180.00	12,498.7	-2,229.1	405.0	2.23	-2.23	0.00	10.5	-11.9	
14,582.0	87.00	179.70	12,503.0	-2,324.0	405.2	0.90	-0.84	-0.32	11.1	-12.5	
14,677.0	87.90	179.70	12,507.2	-2,418.9	405.7	0.95	0.95	0.00	11.7	-12.8	
14,771.0	87.90	178.70	12,510.7	-2,512.8	407.0	1.06	0.00	-1.06	11.5	-12.3	
14,866.0	89.20	178.40	12,513.1	-2,607.7	409.4	1.40	1.37	-0.32	10.3	-10.7	
14,961.0	89.10	177.90	12,514.5	-2,702.7	412.5	0.54	-0.11	-0.53	8.0	-8.4	
15,056.0	91.20	179.30	12,514.2	-2,797.6	414.8	2.66	2.21	1.47	4.1	-6.9	
15,150.0	91.80	179.50	12,511.8	-2,891.6	415.8	0.67	0.64	0.21	-2.0	-6.7	
15,234.1	90.47	178.97	12,510.1	-2,975.7	416.9	1.70	-1.58	-0.63	-6.9	-6.3	
TGT 3 (Hawk 26 Fed #704H)											
15,245.0	90.30	178.90	12,510.0	-2,986.6	417.1	1.70	-1.58	-0.63	-7.3	-6.2	
15,340.0	88.00	178.20	12,511.5	-3,081.5	419.5	2.53	-2.42	-0.74	-7.7	-4.6	
15,434.0	86.90	177.90	12,515.6	-3,175.4	422.7	1.21	-1.17	-0.32	-3.3	-2.2	
15,529.0	90.20	177.80	12,518.0	-3,270.3	426.3	3.48	3.47	-0.11	-0.7	0.6	
15,624.0	87.40	176.60	12,520.0	-3,365.1	430.9	3.21	-2.95	-1.26	1.5	4.4	
15,719.0	87.10	176.50	12,524.6	-3,459.8	436.6	0.33	-0.32	-0.11	6.3	9.3	
15,812.0	93.30	179.50	12,524.3	-3,552.7	439.9	7.41	6.67	3.23	6.2	11.8	
15,907.0	92.40	178.90	12,519.5	-3,647.6	441.2	1.14	-0.95	-0.63	1.7	12.3	
16,002.0	89.70	179.90	12,517.8	-3,742.6	442.2	3.03	-2.84	1.05	0.2	12.5	
16,096.0	89.90	180.00	12,518.1	-3,836.6	442.3	0.24	0.21	0.11	0.8	11.8	
16,191.0	90.20	180.40	12,518.0	-3,931.6	442.0	0.53	0.32	0.42	0.9	10.6	
16,237.7	90.74	180.50	12,517.7	-3,978.3	441.6	1.18	1.16	0.21	0.7	9.9	
TGT 4 (Hawk 26 Fed #704H)											
16,286.0	91.30	180.60	12,516.8	-4,026.5	441.1	1.18	1.16	0.21	-0.5	9.0	
16,381.0	83.80	177.60	12,520.9	-4,121.4	442.6	8.50	-7.89	-3.16	2.1	9.7	



PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3543.0usft
Site:	Hawk 26 Fed	MD Reference:	KB= 25' @ 3543.0usft
Well:	#704H	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)	Buld (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
16,476.0	87.20	180.00	12,528.3	-4,216.0	444.6	4.38	3.58	2.53	8.2	10.9	
16,569.0	88.10	180.00	12,532.1	-4,309.0	444.6	0.97	0.97	0.00	10.6	10.1	
16,664.0	90.40	179.90	12,533.4	-4,403.9	444.7	2.42	2.42	-0.11	10.4	9.4	
16,759.0	91.10	179.40	12,532.1	-4,498.9	445.3	0.91	0.74	-0.53	7.8	9.1	
16,853.0	91.10	178.90	12,530.3	-4,592.9	446.6	0.53	0.00	-0.53	4.6	9.7	
16,948.0	90.20	188.90	12,529.2	-4,687.6	440.2	10.57	-0.95	10.53	2.1	2.5	
17,043.0	90.20	173.10	12,528.9	-4,782.2	438.5	16.63	0.00	-16.63	0.3	0.0	
17,137.0	89.30	171.70	12,529.3	-4,875.4	451.0	1.77	-0.96	-1.49	-0.7	11.7	
17,232.0	89.80	175.90	12,530.1	-4,969.8	461.2	4.45	0.53	4.42	-1.3	21.1	
17,326.0	88.90	178.50	12,531.1	-5,063.7	465.8	2.93	-0.96	2.77	-1.7	24.9	
17,421.0	88.40	180.20	12,533.4	-5,158.7	466.9	1.86	-0.53	1.79	-0.8	25.2	
17,516.0	89.00	180.50	12,535.5	-5,253.6	466.3	0.71	0.63	0.32	-0.1	23.8	
17,610.0	88.40	180.00	12,537.7	-5,347.6	465.9	0.83	-0.64	-0.53	0.6	22.6	
17,705.0	84.70	178.10	12,543.4	-5,442.4	467.5	4.38	-3.89	-2.00	4.9	23.4	
17,709.4	84.66	178.07	12,543.8	-5,446.8	467.6	1.03	-0.86	-0.57	5.2	23.5	
HL Crossing, MD:17709.4', TVD:12543.8', N/S:-5446.8', E/W:467.6', INC:84.66											
17,740.0	84.40	177.90	12,546.7	-5,477.2	468.7	1.03	-0.86	-0.57	7.6	24.3	
Final MWD Survey (MD= 17740.0')											
17,805.0	84.40	177.90	12,553.0	-5,541.9	471.1	0.00	0.00	0.00	13.0	26.2	
Final Bit Projection (MD= 17805.0') - PBHL (Hawk 26 Fed #704H)											



PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Hawk 26 Fed
Well: #704H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #704H
TVD Reference: KB= 25' @ 3543.0usft
MD Reference: KB= 25' @ 3543.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,801.6	12,432.9	-547.5	382.0	FTP Crossing, MD:12801.6', TVD:12432.9', N/S:-547.5', E/W:382.0', INC:82.56
17,709.4	12,543.8	-5,446.8	467.6	HL Crossing, MD:17709.4', TVD:12543.8', N/S:-5446.8', E/W:467.6', INC:84.66
17,740.0	12,546.7	-5,477.2	468.7	Final MWD Survey (MD= 17740.0')
17,805.0	12,553.0	-5,541.9	471.1	Final Bit Projection (MD= 17805.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Hawk 26 Fed #704H

Plan #2

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: #704H

KB= 25' @ 3543.0ust
Northing 431098.00 Easting 784817.00
3518.0
Latitude 32° 10' 57.783 N Longitude 103° 32' 46.793 W



Azimuths to Grid North
True North: 0.42°
Magnetic North: 6.47°

Magnetic Field
Strength: 47869.1nT
Dip Angle: 60.02°
Date: 11/29/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.47°
To convert a Magnetic Direction to a True Direction, Add 6.89° East
To convert a True Direction to a Grid Direction, Subtract 0.42°

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target	Annotation
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	1400.0	2.00	90.00	1400.0	0.0	1.7	2.00	90.00	0.1		
4	2500.7	2.00	90.00	2500.0	0.0	40.2	0.00	0.00	3.2		
5	2600.7	0.00	0.00	2600.0	0.0	41.9	2.00	180.00	3.4		
6	11900.7	0.00	0.00	11900.0	0.0	41.9	0.00	0.00	3.4		
7	12451.8	63.72	138.59	12328.2	-199.6	217.9	12.00	138.59	216.4		
8	13016.0	89.00	179.51	12470.6	-717.1	404.1	8.00	54.64	747.2		
9	13268.5	89.00	179.51	12476.0	-870.6	406.2	0.00	0.00	1000.0		
10	13305.9	89.73	179.51	12475.4	-1007.0	406.5	2.00	0.00	1036.3		
11	14272.5	89.73	179.51	12480.0	-1873.5	414.7	0.00	0.00	2000.3		
12	14369.2	87.79	179.51	12482.1	-2070.2	415.5	2.00	180.00	2086.8		
13	15275.4	87.79	179.51	12517.0	-2875.7	423.2	0.00	0.00	3000.0		
14	15392.6	90.14	179.51	12519.1	-3092.9	424.2	2.00	0.00	3116.9		
15	16278.0	90.14	179.51	12517.0	-3978.2	431.7	0.00	0.00	4000.0		
16	16327.6	98.14	179.51	12517.3	-4027.8	432.1	2.00	-180.00	4048.5		
17	17847.0	89.14	179.51	12540.0	-5547.0	445.0	0.00	0.00	5564.8		

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
TGT 1 (Hawk 26 Fed #704H)	12475.0	-970.6	406.2	430127.40	785231.72
TGT 2 (Hawk 26 Fed #704H)	12480.0	-1973.5	414.7	429124.50	785231.72
TGT 3 (Hawk 26 Fed #704H)	12817.0	-2878.7	423.2	429122.30	785240.21
TGT 4 (Hawk 26 Fed #704H)	12817.0	-3978.2	431.7	427119.80	785248.71
PBHL (Hawk 26 Fed #704H)	12540.0	-5547.0	445.0	425551.00	785262.00
FTP (Hawk 26 Fed #704H)	12470.0	-547.0	403.0	430551.00	785229.00
KOP (Hawk 26 Fed #704H)	11900.0	0.0	41.9	431098.00	784858.90

