

HOBBS OCD
DEC 06 2019
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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Magnolia 15 Fed Com

#744H

OH

Design: OH

Final PVA Report

25 October, 2019

Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #744H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3348.0usft
Site:	Magnolia 15 Fed Com	MD Reference:	KB = 25' @ 3348.0usft
Well:	#744H	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	Magnolia 15 Fed Com				
Site Position:		Northing:	381,905.00 usft	Latitude:	32° 2' 51.321 N
From:	Map	Easting:	780,373.00 usft	Longitude:	103° 33' 42.598 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.41 °

Well		#744H				
Well Position	+N-S	0.0 usft	Northing:	382,290.00 usft	Latitude:	32° 2' 54.997 N
	+E-W	0.0 usft	Easting:	782,257.00 usft	Longitude:	103° 33' 20.677 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,323.0 usft

Wellbore	OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)	
	IGRF2015	7/23/2019	6.71	59.88	47,620.94453412	

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)	Direction (°)	
	0.0	0.0	0.0	179.93	

Survey Program	Date 10/25/2019				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.0	20,497.0	TrueShot MWD #1 (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	0.0
200.0	0.18	42.14	200.0	0.2	0.2	0.09	0.09	0.00	-0.3	0.0	
293.0	0.13	324.00	293.0	0.4	0.2	0.21	-0.05	-84.02	-0.2	-0.5	
382.0	0.09	27.02	382.0	0.6	0.2	0.13	-0.04	70.81	-0.6	0.1	
472.0	0.26	311.96	472.0	0.8	0.1	0.28	0.19	-83.40	-0.4	-0.6	
563.0	0.26	284.91	563.0	1.0	-0.2	0.08	0.00	-18.74	-0.6	-0.8	
658.0	0.44	318.73	658.0	1.4	-0.7	0.24	0.19	25.07	-1.5	-0.4	
754.0	0.26	22.36	754.0	1.8	-0.8	0.42	-0.19	66.28	-1.4	1.5	
849.0	0.09	7.07	849.0	2.1	-0.7	0.18	-0.18	-18.09	-2.0	1.0	
944.0	0.31	321.98	944.0	2.4	-0.9	0.27	0.23	-47.46	-2.4	-0.8	
1,040.0	0.40	283.40	1,040.0	2.7	-1.4	0.26	0.09	-40.19	-2.0	-2.3	
1,127.0	0.75	276.72	1,127.0	2.8	-2.2	0.41	0.40	-7.68	-2.6	-2.5	
1,316.0	0.48	191.80	1,316.0	2.2	-3.6	0.45	-0.14	-44.88	1.4	-4.0	
1,505.0	0.82	191.99	1,505.0	-0.1	-4.1	0.23	0.23	0.05	-0.9	-4.0	
1,695.0	0.88	203.86	1,694.9	-2.9	-5.0	0.10	-0.02	6.25	-4.7	-3.4	
1,885.0	2.07	332.53	1,884.9	-1.2	-7.2	1.43	0.63	67.72	-2.2	7.0	
2,074.0	9.10	359.33	2,072.9	16.8	-8.9	3.87	3.72	14.18	-9.7	8.3	
2,264.0	9.98	358.46	2,260.3	48.3	-9.6	0.47	0.46	-0.46	-22.0	7.1	
2,454.0	9.36	357.05	2,447.8	80.2	-10.8	0.35	-0.33	-0.74	-31.0	5.6	
2,644.0	9.58	357.14	2,635.0	111.4	-12.4	0.12	0.12	0.05	-39.2	5.2	
2,835.0	8.40	359.51	2,823.6	141.2	-13.3	0.65	-0.62	1.24	-45.6	6.0	
3,025.0	8.00	1.53	3,011.7	168.3	-13.1	0.28	-0.21	1.06	-49.5	5.8	
3,216.0	7.78	10.85	3,200.8	194.3	-10.3	0.68	-0.12	4.88	-51.5	9.8	
3,406.0	7.34	4.43	3,389.2	219.0	-6.9	0.50	-0.23	-3.38	-54.3	-0.8	
3,596.0	7.25	344.83	3,577.7	242.7	-9.1	1.30	-0.05	-10.32	-51.7	-18.5	
3,786.0	6.51	8.12	3,766.4	264.9	-10.7	1.51	-0.39	12.26	-54.0	3.1	
3,976.0	7.16	6.45	3,955.1	287.4	-7.9	0.36	0.34	-0.88	-53.9	-3.0	

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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)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
4,166.0	6.86	344.48	4,143.7	310.1	-9.6	1.41	-0.16	-11.56	-48.5	-22.7	
4,356.0	7.60	345.54	4,332.2	333.2	-15.8	0.40	0.39	0.56	-50.1	-17.4	
4,547.0	6.20	354.32	4,521.8	355.7	-19.9	0.92	-0.73	4.60	-51.7	-7.1	
4,737.0	6.37	357.84	4,710.6	376.4	-21.3	0.22	0.09	1.85	-49.7	-4.1	
4,927.0	4.66	2.41	4,899.7	394.7	-21.4	0.93	-0.90	2.41	-45.1	-1.9	
5,117.0	6.73	341.84	5,088.8	413.0	-24.6	1.51	1.09	-10.83	-37.4	-14.6	
5,306.0	7.30	344.92	5,276.4	435.1	-31.1	0.36	0.30	1.63	-38.6	-7.7	
5,496.0	9.10	344.00	5,464.5	461.2	-38.4	0.95	0.95	-0.48	-43.0	-3.7	
5,685.0	9.01	338.77	5,651.1	489.3	-47.9	0.44	-0.05	-2.77	-50.2	-2.2	
5,875.0	10.46	350.72	5,838.4	520.2	-56.1	1.31	0.76	6.29	-58.4	13.4	
6,064.0	11.34	1.09	6,024.0	555.7	-58.5	1.14	0.47	5.49	-67.8	24.6	
6,254.0	10.55	357.49	6,210.5	581.8	-58.9	0.55	-0.42	-1.89	-82.2	18.5	
6,444.0	11.08	5.22	6,397.2	627.4	-58.0	0.81	0.28	4.07	-91.8	27.9	
6,634.0	10.24	9.62	6,583.9	662.2	-53.5	0.62	-0.44	2.32	-102.2	30.7	
6,825.0	7.16	14.36	6,772.7	690.5	-47.7	1.65	-1.61	2.48	-106.1	33.0	
7,014.0	6.29	11.99	6,960.4	712.0	-42.6	0.48	-0.46	-1.25	-107.4	21.8	
7,204.0	5.45	19.20	7,149.4	730.7	-37.5	0.59	-0.44	3.79	-101.9	27.1	
7,394.0	2.68	38.80	7,338.9	742.7	-31.8	1.61	-1.46	10.32	-82.9	46.9	
7,584.0	0.75	168.00	7,528.8	744.9	-28.7	1.69	-1.02	68.00	67.4	34.7	
7,774.0	1.14	203.15	7,718.8	742.0	-29.2	0.36	0.21	18.50	51.8	0.8	
7,964.0	1.98	213.17	7,908.7	737.5	-31.7	0.46	0.44	5.27	30.5	3.7	
8,154.0	1.41	215.81	8,098.6	732.9	-34.9	0.30	-0.30	1.39	19.8	6.9	
8,343.0	1.80	193.84	8,287.6	728.1	-37.0	0.38	0.21	-11.62	10.5	12.9	
8,533.0	1.89	210.98	8,477.5	722.5	-39.3	0.29	0.05	9.02	7.8	10.1	
8,723.0	1.71	212.12	8,667.4	717.4	-42.4	0.10	-0.09	0.60	2.1	10.0	
8,913.0	1.63	213.70	8,857.3	712.8	-45.4	0.05	-0.04	0.83	-3.2	10.0	
9,103.0	2.20	221.52	9,047.2	707.8	-49.4	0.33	0.30	4.12	-8.1	10.7	

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Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLag ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
9,292.0	2.02	243.58	9,236.1	703.6	-54.7	0.44	-0.10	11.67	-10.2	14.4	
9,482.0	1.41	255.62	9,426.0	701.5	-60.0	0.37	-0.32	6.34	-12.6	16.9	
9,672.0	1.63	255.54	9,615.9	700.3	-64.9	0.12	0.12	-0.04	-17.7	16.9	
9,862.0	1.98	301.06	9,805.8	701.3	-70.3	0.75	0.18	23.96	-5.5	26.3	
10,052.0	2.29	286.12	9,995.7	704.0	-76.8	0.33	0.16	-7.86	-19.1	23.2	
10,241.0	1.89	174.68	10,184.6	702.0	-80.1	1.83	-0.21	-58.96	-16.3	-29.8	
10,431.0	2.07	268.72	10,374.6	698.8	-83.3	1.53	0.09	49.49	-31.7	21.5	
10,621.0	2.15	295.35	10,564.4	700.2	-89.9	0.51	0.04	14.02	-25.3	35.0	
10,811.0	1.89	283.05	10,754.3	702.5	-96.2	0.27	-0.14	-6.47	-38.8	28.0	
11,001.0	1.27	213.00	10,944.3	701.4	-100.4	0.99	-0.33	-36.87	-42.8	-29.9	
11,191.0	1.93	205.44	11,134.2	696.7	-102.9	0.36	0.35	-3.88	-43.8	-35.6	
11,381.0	1.98	274.61	11,324.1	694.1	-107.5	1.17	0.03	36.41	-53.2	31.3	
11,571.0	2.51	248.42	11,514.0	692.9	-114.7	0.60	0.28	-13.78	-68.6	3.1	
11,761.0	2.24	202.36	11,703.8	687.9	-120.0	0.99	-0.14	-24.24	-58.5	-50.3	
11,957.0	2.81	181.80	11,899.6	679.5	-121.6	0.54	0.29	-10.49	-43.6	-68.3	
11,988.0	2.90	182.67	11,930.6	678.0	-121.6	0.32	0.29	2.81	-46.2	-67.6	
12,141.3	2.94	182.31	12,083.7	670.2	-122.0	0.03	0.03	-0.23	-53.5	-67.9	
HL Crossing, MD:12141.3', TVD:12083.7', N/S:670.2', E/W:-122.0', INC:2.94											
12,178.0	2.95	182.23	12,120.3	668.3	-122.0	0.03	0.03	-0.23	-55.3	-68.0	
12,369.0	2.59	189.71	12,311.1	659.2	-123.0	0.27	-0.19	3.92	-72.9	-59.6	
12,464.0	2.51	195.15	12,406.0	655.0	-123.9	0.27	-0.08	5.73	-82.4	-52.2	
12,517.0	2.55	192.25	12,459.0	652.8	-124.4	0.25	0.08	-5.47	-82.0	-56.3	
12,530.9	3.71	184.79	12,472.8	652.0	-124.5	8.86	8.38	-53.89	-74.7	-66.6	
KOP (Magnolia 15 Fed Com #744H)											
12,612.0	10.81	174.41	12,553.2	641.8	-124.0	8.86	8.75	-12.79	-65.4	-78.7	
12,707.0	29.14	169.58	12,642.2	609.9	-118.9	19.36	19.29	-5.08	-65.0	-78.9	
12,802.0	33.80	170.63	12,723.2	561.1	-110.4	4.84	4.81	1.11	-69.4	-68.9	

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12,897.0	46.07	180.92	12,785.9	500.5	-106.7	14.83	12.92	10.83	-71.1	-55.4	
FTP (Magnolia 15 Fed Com #744H)											
12,992.0	54.39	188.83	12,856.7	427.9	-113.1	10.84	8.78	8.33	-63.3	-58.5	
13,088.0	64.09	183.11	12,905.8	346.0	-121.5	11.32	10.10	-5.96	-41.0	-71.8	
13,183.0	78.59	179.42	12,936.1	256.3	-123.4	15.70	15.26	-3.88	-21.3	-75.1	
13,277.0	88.84	177.05	12,946.4	163.0	-120.5	11.19	10.90	-2.52	-11.9	-72.9	
13,373.0	91.47	172.57	12,946.1	67.5	-111.8	5.41	2.74	-4.67	-12.9	-64.9	
13,467.0	93.23	170.90	12,942.3	-25.5	-98.3	2.58	1.87	-1.78	-17.4	-52.0	
13,562.0	92.62	171.68	12,937.4	-119.3	-83.9	1.05	-0.64	0.83	-22.5	-38.3	
13,657.0	91.21	170.11	12,934.3	-213.0	-68.9	2.23	-1.48	-1.66	-25.9	-24.0	
13,752.0	89.54	174.59	12,933.6	-307.1	-56.3	5.03	-1.76	4.72	-26.8	-12.3	
13,847.0	89.89	179.42	12,934.1	-402.0	-51.3	5.10	0.37	5.08	-28.8	-8.1	
13,942.0	88.00	179.57	12,935.9	-497.0	-50.5	2.00	-1.99	0.16	-25.4	-8.0	
14,037.0	88.79	179.51	12,938.5	-591.9	-49.7	0.83	0.83	-0.06	-23.2	-8.0	
14,132.0	90.33	177.58	12,939.2	-686.9	-47.3	2.60	1.62	-2.03	-22.9	-6.3	
14,227.0	89.01	175.99	12,939.8	-781.7	-42.0	2.18	-1.39	-1.67	-22.8	-1.8	
14,322.0	91.38	176.79	12,939.5	-876.5	-36.0	2.63	2.49	0.84	-23.5	3.5	
14,417.0	88.09	172.04	12,939.9	-971.0	-26.7	6.08	-3.46	-5.00	-23.5	11.9	
14,512.0	90.55	177.85	12,941.0	-1,065.8	-18.4	6.64	2.59	6.12	-22.8	19.6	
14,607.0	88.62	179.77	12,941.7	-1,160.6	-16.4	2.87	-2.03	2.02	-22.5	20.8	
14,702.0	92.26	181.36	12,941.0	-1,255.5	-17.3	4.18	3.83	1.67	-23.7	19.1	
14,797.0	89.01	179.86	12,939.9	-1,350.5	-18.4	3.77	-3.42	-1.58	-25.2	17.4	
14,892.0	90.73	180.30	12,940.2	-1,445.5	-18.5	1.87	1.81	0.46	-25.4	16.5	
14,987.0	88.26	180.83	12,941.0	-1,540.5	-19.4	2.66	-2.60	0.56	-24.9	14.8	
15,081.0	88.66	181.44	12,943.5	-1,634.4	-21.3	0.78	0.43	0.65	-22.8	12.2	
15,176.0	88.75	182.32	12,945.7	-1,729.4	-24.4	0.93	0.09	0.93	-21.1	8.4	
15,271.0	89.89	183.99	12,946.8	-1,824.2	-29.6	2.13	1.20	1.76	-20.4	2.4	

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15,366.0	92.09	184.87	12,945.2	-1,918.9	-37.0	2.49	2.32	0.93	-22.5	-5.7	
15,445.8	91.20	183.78	12,942.9	-1,998.4	-43.0	1.78	-1.12	-1.39	-25.1	-12.3	
TOT 1 (Magnolia 15 Fed Com #744H)											
15,461.0	91.03	183.55	12,942.6	-2,013.6	-43.9	1.78	-1.12	-1.39	-25.5	-13.4	
15,556.0	91.25	182.76	12,940.7	-2,108.4	-49.2	0.86	0.23	-0.83	-27.6	-19.4	
15,651.0	94.95	178.98	12,935.5	-2,203.3	-50.6	5.56	3.89	-3.98	-32.8	-21.6	
15,746.0	93.19	178.90	12,928.8	-2,298.0	-48.9	1.85	-1.85	-0.08	-39.8	-20.6	
15,841.0	93.23	178.54	12,923.5	-2,392.8	-46.7	0.38	0.04	-0.38	-45.3	-19.2	
15,936.0	86.15	180.39	12,924.0	-2,487.8	-45.9	7.70	-7.45	1.95	-45.0	-19.1	
16,031.0	85.67	182.59	12,930.8	-2,582.5	-48.3	2.36	-0.51	2.32	-38.4	-22.2	
16,126.0	86.73	177.84	12,937.1	-2,677.2	-48.7	5.11	1.12	-5.00	-32.3	-23.4	
16,221.0	86.33	180.21	12,942.8	-2,772.0	-47.1	2.53	-0.42	2.49	-26.7	-22.5	
16,316.0	87.38	175.82	12,948.0	-2,866.8	-43.8	4.74	1.11	-4.62	-21.7	-19.9	
16,410.0	88.40	177.05	12,951.5	-2,960.6	-37.9	1.70	1.09	1.31	-18.4	-14.8	
16,505.0	90.46	177.75	12,952.4	-3,055.5	-33.6	2.29	2.17	0.74	-17.7	-11.3	
16,600.0	90.15	177.66	12,951.9	-3,150.4	-29.8	0.34	-0.33	-0.09	-18.4	-8.2	
16,695.0	89.67	177.66	12,952.1	-3,245.3	-25.9	0.51	-0.51	0.00	-18.4	-5.1	
16,790.0	90.29	178.02	12,952.1	-3,340.2	-22.4	0.75	0.65	0.38	-18.6	-2.2	
16,885.0	90.55	178.10	12,951.4	-3,435.2	-19.1	0.29	0.27	0.08	-19.5	0.2	
16,980.0	90.42	177.49	12,950.6	-3,530.1	-15.5	0.66	-0.14	-0.64	-20.5	3.1	
17,075.0	88.09	179.25	12,951.8	-3,625.1	-12.8	3.07	-2.45	1.85	-19.4	5.1	
17,170.0	89.10	179.69	12,954.2	-3,720.0	-11.9	1.16	1.06	0.46	-17.3	5.2	
17,265.0	89.05	179.60	12,955.7	-3,815.0	-11.3	0.11	-0.05	-0.09	-15.9	5.1	
17,360.0	88.66	179.69	12,957.6	-3,910.0	-10.7	0.42	-0.41	0.09	-14.2	4.9	
17,450.4	88.41	180.53	12,959.9	-4,000.3	-10.9	0.97	-0.27	0.93	-12.1	4.0	
TOT 2 (Magnolia 15 Fed Com #744H)											
17,455.0	88.40	180.57	12,960.0	-4,005.0	-10.9	0.97	-0.27	0.93	-12.0	4.0	

Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #744H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3348.0usft
Site:	Magnolia 15 Fed Com	MD Reference:	KB = 25' @ 3348.0usft
Well:	#744H	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)	
17,550.0	88.18	180.74	12,862.9	-4,099.9	-12.0	0.28	-0.23	0.18	-9.2	2.1	
17,645.0	95.69	182.41	12,859.7	-4,194.7	-14.6	8.10	7.91	1.76	-12.5	-1.2	
17,740.0	93.80	182.32	12,951.8	-4,289.3	-18.5	1.99	-1.99	-0.09	-20.5	-5.9	
17,835.0	90.37	179.43	12,948.4	-4,384.2	-20.0	4.72	-3.61	-3.04	-24.0	-8.1	
17,929.0	89.41	172.03	12,948.5	-4,477.9	-13.0	7.94	-1.02	-7.87	-23.9	-1.8	
18,024.0	89.54	185.36	12,949.4	-4,571.0	5.6	7.02	0.14	-7.02	-23.4	15.7	
18,119.0	90.64	172.39	12,949.3	-4,664.2	23.9	7.48	1.18	7.40	-23.5	33.6	
18,214.0	90.77	175.12	12,948.1	-4,758.6	34.3	2.88	0.14	2.87	-24.7	43.3	
18,309.0	90.20	181.62	12,947.3	-4,853.5	37.0	6.87	-0.60	6.84	-25.6	45.2	
18,404.0	90.55	181.53	12,946.7	-4,948.5	34.4	0.38	0.37	-0.09	-26.3	41.9	
18,498.0	88.66	180.92	12,947.3	-5,042.4	32.4	2.11	-2.01	-0.65	-25.7	39.1	
18,594.0	89.98	180.65	12,948.5	-5,138.4	31.0	1.40	1.37	-0.28	-24.7	37.0	
18,689.0	89.01	178.83	12,949.3	-5,233.4	31.6	2.36	-1.02	-2.13	-23.9	36.9	
18,785.0	87.34	178.10	12,952.3	-5,329.3	34.4	1.82	-1.74	-0.55	-21.0	38.9	
18,880.0	87.74	180.48	12,956.4	-5,424.2	35.5	2.54	0.42	2.51	-17.0	39.3	
18,975.0	89.05	182.32	12,959.1	-5,519.1	33.2	2.38	1.38	1.94	-14.4	36.3	
19,070.0	86.51	180.92	12,962.8	-5,614.0	30.5	3.05	-2.67	-1.47	-10.8	32.8	
19,165.0	90.02	179.16	12,965.6	-5,708.9	30.5	4.13	3.69	-1.85	-8.1	32.0	
19,260.0	91.03	182.85	12,964.8	-5,803.9	28.8	4.03	1.06	3.88	-9.1	29.6	
19,355.0	88.75	183.03	12,965.0	-5,898.8	23.9	2.41	-2.40	0.19	-8.9	24.0	
19,450.0	88.75	182.23	12,967.0	-5,993.7	19.6	0.84	0.00	-0.84	-7.0	18.9	
19,457.2	88.79	182.25	12,967.2	-6,000.9	19.3	0.87	0.61	0.29	-6.8	18.5	
TGT 3 (Magnolia 15 Fed Com #744H)											
19,544.0	89.32	182.50	12,968.6	-6,087.6	15.7	0.67	0.61	0.29	-5.2	14.3	
19,639.0	90.95	182.59	12,968.4	-6,182.5	11.5	1.72	1.72	0.09	-5.3	9.3	
19,734.0	90.33	183.03	12,967.3	-6,277.3	6.8	0.80	-0.65	0.46	-6.2	3.9	
19,829.0	89.36	183.82	12,967.6	-6,372.2	1.2	1.32	-1.02	0.83	-5.7	-2.5	

Final PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Magnolia 15 Fed Com
 Well: #744H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #744H
 TVD Reference: KB = 25' @ 3348.0usft
 MD Reference: KB = 25' @ 3348.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 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)
19,924.0	91.12	184.17	12,987.2	-8,468.9	-5.5	1.89	1.85	0.37	-5.9	-9.9
20,028.0	91.12	181.27	12,965.2	-8,568.8	-10.3	2.84	0.00	-2.84	-7.7	-15.5
20,121.0	92.28	180.04	12,962.4	-8,663.7	-11.4	1.78	1.20	-1.29	-10.3	-17.3
20,216.0	93.01	179.86	12,958.0	-8,758.6	-11.3	0.81	0.79	-0.19	-14.5	-18.0
20,310.0	94.37	179.51	12,952.0	-8,852.4	-10.8	1.49	1.45	-0.37	-20.4	-18.2
20,406.0	94.99	178.63	12,944.1	-8,948.1	-9.2	1.12	0.65	-0.92	-28.0	-17.4
20,443.0	95.12	178.90	12,940.9	-8,985.0	-8.4	0.81	0.35	0.73	-31.2	-16.9
Final MWD Survey (MD=20443.0)										
20,498.4	95.12	178.90	12,936.1	-7,038.1	-7.4	0.00	0.00	0.00	-35.9	-16.3
PBHL (Magnolia 15 Fed Com #744H)										
20,497.0	95.12	178.90	12,936.1	-7,038.7	-7.4	0.00	0.00	0.00	-35.9	-16.3
Final Projection to Bit (MD=20497.0)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
12,141.3	12,083.7	670.2	-122.0	HL Crossing, MD:12141.3', TVD:12083.7', N/S:670.2', E/W:-122.0', INC:2.94
20,443.0	12,940.9	-8,985.0	-8.4	Final MWD Survey (MD=20443.0)
20,497.0	12,936.1	-7,038.7	-7.4	Final Projection to Bit (MD=20497.0)

Checked By: _____ Approved By: _____ Date: _____

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

Kay Maddox 12/04/2019
 Signed Date



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

Lea County, NM (NAD 83 NME)

Magnolia 15 Fed Com

#744H

Plan #2

WELL DETAILS: #744H

3123.0
KB = 29' @ 3348.0m
Northing 382257.00 Easting 782257.00 32° 2' 54.987" N Longitude 103° 33' 20.877" W Slot

SECTION DETAILS

MD	Inc	Adj	TVD	+N-S	+E-W	Diag	TFace	Vsect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	
1870.0	0.00	0.00	1870.0	0.0	0.0	0.0	0.00	0.0	
2219.8	7.00	355.87	2219.8	21.3	-1.5	2.00	355.87	-21.3	
7604.5	7.00	355.87	7762.1	69.7	-60.5	0.00	0.00	-69.8	
8154.3	0.00	0.00	8111.0	721.0	-62.0	2.00	180.00	-721.1	
12523.8	0.00	0.00	12480.5	721.0	-62.0	0.00	0.00	-721.1	KOP (Magnolia 15 Fed Com #744H)
13271.7	89.74	179.55	12858.0	245.7	-48.3	12.00	179.55	-245.7	
16517.5	89.74	179.55	12965.0	-300.0	-30.5	0.00	0.00	300.0	TGT 1 (Magnolia 15 Fed Com #744H)
16524.5	89.89	179.55	12965.0	-300.7	-30.8	2.00	0.00	300.7	
17517.5	89.89	179.55	12972.0	-4000.0	-14.9	0.00	0.00	4000.0	TGT 2 (Magnolia 15 Fed Com #744H)
17520.4	89.94	179.55	12972.0	-4002.9	-14.9	2.00	0.00	4002.8	
18517.5	89.94	179.55	12974.0	-4000.0	0.8	0.00	0.00	6000.0	TGT 3 (Magnolia 15 Fed Com #744H)
18520.0	90.11	179.55	12974.0	-4002.4	0.8	2.00	0.41	6005.4	
20558.5	90.11	179.55	12972.0	-7041.0	8.9	0.00	0.00	7041.0	PBHL (Magnolia 15 Fed Com #744H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
KOP (Magnolia 15 Fed Com #744H)	12480.5	721.0	-62.0	382011.00	782255.00	Rectangle (Sides: L60.0 W60.0)
FTP (Magnolia 15 Fed Com #744H)	12958.0	671.0	-62.0	382061.00	782255.00	Point
TGT 1 (Magnolia 15 Fed Com #744H)	12858.0	-300.0	-30.5	382020.00	782228.38	Point
PBHL (Magnolia 15 Fed Com #744H)	12972.0	-7041.0	8.9	378245.00	782255.00	Rectangle (Sides: L60.0 W60.0)
TGT 2 (Magnolia 15 Fed Com #744H)	12972.0	-4000.0	-14.9	378250.00	782343.05	Point
TGT 3 (Magnolia 15 Fed Com #744H)	12974.0	-4000.0	0.8	378290.00	782257.75	Point

