



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Magnolia 15 Fed Com

#706H

OH

Design: OH

Midland PVA

02 March, 2019

**HOBBS OCD
MAY 22 2019
RECEIVED**

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3332.0usft
Site:	Magnolia 15 Fed Com	MD Reference:	KB = 25' @ 3332.0usft
Well:	#706H	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
From:	Map	Easting:	780,373.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 51.321 N
		Longitude:	103° 33' 42.598 W
		Grid Convergence:	0.41 °

Well	#706H		
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	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	1/9/2019	6.76	59.88	47,676.24531974

Design	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
				0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	182.75

Survey Program	Date	3/2/2019		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
166.0	19,863.0	Pro MWD (OH)	MWD	OWSG MWD - Standard



Midland PVA

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Local Co-ordinate Reference: Well #706H
 TVD Reference: KB = 25' @ 3332.0usft
 MD Reference: KB = 25' @ 3332.0usft
 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
166.0	1.20	18.90	166.0	1.6	0.6	0.72	0.72	0.00	-1.7	0.0
310.0	1.50	16.80	309.9	4.9	1.6	0.21	0.21	-1.46	-5.1	-0.1
398.0	1.40	27.00	397.9	6.9	2.4	0.31	-0.11	11.59	-7.3	1.0
483.0	1.30	21.60	482.9	8.8	3.2	0.19	-0.12	-6.35	-9.3	0.2
569.0	1.10	30.20	568.9	10.4	4.0	0.31	-0.23	10.00	-11.0	1.7
661.0	1.00	32.50	660.9	11.8	4.9	0.12	-0.11	2.50	-12.6	2.2
754.0	0.90	31.10	753.8	13.1	5.7	0.11	-0.11	-1.51	-14.2	1.9
847.0	0.90	26.10	846.8	14.4	6.4	0.08	0.00	-5.38	-15.8	0.6
939.0	0.70	21.00	938.8	15.6	6.9	0.23	-0.22	-5.54	-17.0	-0.9
992.0	0.60	22.60	991.8	16.1	7.1	0.19	-0.19	3.02	-17.6	-0.4
1,118.0	0.70	72.50	1,117.8	17.0	8.1	0.44	0.08	39.60	-12.9	13.8
1,209.0	2.60	321.20	1,208.8	18.8	7.4	3.22	2.09	-122.31	-10.0	-17.5
1,301.0	6.40	314.50	1,300.5	24.0	2.4	4.16	4.13	-7.28	-13.3	-19.0
1,393.0	9.10	303.50	1,391.6	31.6	-7.3	3.34	2.93	-11.96	-17.1	-21.7
1,486.0	9.50	304.70	1,483.4	40.0	-19.8	0.48	0.43	1.29	-24.9	-20.6
1,580.0	9.30	306.50	1,576.2	49.0	-32.2	0.38	-0.21	1.91	-31.1	-19.2
1,674.0	9.00	304.40	1,669.0	57.6	-44.4	0.48	-0.32	-2.23	-35.6	-19.8
1,768.0	9.80	305.80	1,761.7	66.5	-57.0	0.89	0.85	1.49	-41.6	-18.2
1,861.0	10.10	305.70	1,853.3	75.8	-70.0	0.32	0.32	-0.11	-48.0	-17.7
1,955.0	6.90	304.00	1,946.3	83.8	-81.4	3.41	-3.40	-1.81	-51.6	-18.5
2,049.0	6.90	307.50	2,039.6	90.4	-90.6	0.45	0.00	3.72	-54.1	-14.7
2,142.0	6.90	306.80	2,131.9	97.2	-99.5	0.09	0.00	-0.75	-55.4	-15.1
2,235.0	6.90	306.20	2,224.2	103.8	-108.4	0.08	0.00	-0.65	-56.7	-15.3
2,329.0	7.30	306.40	2,317.5	110.7	-117.8	0.43	0.43	0.21	-58.6	-14.6
2,424.0	7.60	306.20	2,411.7	118.0	-127.7	0.32	0.32	-0.21	-60.9	-14.4
2,518.0	7.80	307.70	2,504.9	125.5	-137.8	0.30	0.21	1.60	-64.0	-12.4



Midland PVA

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 Site: Magnolia 15 Fed Com
 Well: #706H
 Wellbore: OH
 Design: OH

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 TVD Reference: KB = 25' @ 3332.0usft
 MD Reference: KB = 25' @ 3332.0usft
 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)	OLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
2,611.0	6.20	304.80	2,597.2	132.3	-146.9	1.76	-1.72	-3.12	-65.0	-15.2	
2,706.0	5.50	301.70	2,691.7	137.6	-155.0	0.81	-0.74	-3.26	-63.9	-17.7	
2,799.0	5.30	302.20	2,784.3	142.2	-162.4	0.22	-0.22	0.54	-63.1	-16.0	
2,893.0	5.20	300.80	2,877.9	146.7	-169.8	0.17	-0.11	-1.49	-61.6	-16.2	
2,987.0	5.00	300.30	2,971.5	151.0	-177.0	0.22	-0.21	-0.53	-60.1	-15.3	
3,080.0	4.50	297.90	3,064.2	154.7	-183.7	0.58	-0.54	-2.58	-57.5	-16.1	
3,174.0	4.70	310.10	3,157.9	158.9	-189.9	1.08	0.21	12.98	-57.2	-3.1	
3,362.0	4.20	319.40	3,345.3	169.1	-200.3	0.47	-0.27	4.95	-52.1	3.9	
3,456.0	5.40	314.80	3,439.0	174.8	-205.6	1.34	1.28	-4.89	-50.3	-1.6	
3,644.0	4.80	327.00	3,626.2	187.7	-216.2	0.66	-0.32	6.49	-47.3	4.8	
3,737.0	5.40	319.90	3,718.9	194.3	-221.1	0.94	0.65	-7.63	-46.2	-3.4	
3,831.0	7.20	307.70	3,812.3	201.3	-228.6	2.38	1.91	-12.98	-44.9	-13.7	
3,925.0	6.40	317.50	3,905.6	208.7	-236.8	1.50	-0.85	10.43	-47.9	-6.4	
4,019.0	6.80	302.40	3,999.0	215.6	-245.1	1.89	0.43	-16.06	-45.5	-18.8	
4,113.0	6.10	297.50	4,092.4	220.9	-254.2	0.95	-0.74	-5.21	-44.6	-21.1	
4,207.0	5.60	296.00	4,185.9	225.2	-262.8	0.56	-0.53	-1.60	-44.0	-20.2	
4,301.0	4.40	298.20	4,279.6	228.9	-270.1	1.29	-1.28	2.34	-43.3	-16.5	
4,395.0	2.10	302.60	4,373.4	231.5	-274.7	2.46	-2.45	4.68	-40.0	-11.8	
4,489.0	3.70	299.60	4,467.3	234.0	-278.8	1.71	1.70	-3.19	-34.3	-12.4	
4,583.0	5.70	297.20	4,561.0	237.6	-285.6	2.14	2.13	-2.55	-31.9	-11.9	
4,677.0	5.20	297.80	4,654.6	241.7	-293.5	0.54	-0.53	0.64	-31.3	-9.6	
4,772.0	3.20	288.70	4,749.3	244.6	-299.8	2.21	-2.11	-9.58	-26.9	-11.7	
4,865.0	3.00	284.60	4,842.2	246.0	-304.6	0.32	-0.22	-4.41	-22.2	-9.7	
4,959.0	5.90	287.80	4,935.9	248.1	-311.6	3.10	3.09	3.40	-20.8	-4.8	
5,051.0	6.20	287.50	5,027.4	251.1	-320.8	0.33	0.33	-0.33	-21.5	-1.4	
5,145.0	6.30	285.70	5,120.8	254.0	-330.7	0.23	0.11	-1.91	-22.6	1.7	
5,239.0	6.80	284.20	5,214.2	256.7	-341.0	0.56	0.53	-1.60	-24.5	5.0	



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5,332.0	7.30	271.70	5,306.5	258.3	-352.3	1.73	0.54	-13.44	-28.5	4.3
5,426.0	5.20	264.10	5,399.9	258.0	-362.5	2.40	-2.23	-8.09	-32.1	6.7
5,520.0	4.10	257.80	5,493.6	256.9	-370.0	1.29	-1.17	-6.70	-34.0	10.3
5,614.0	4.10	261.00	5,587.4	255.6	-376.6	0.24	0.00	3.40	-33.5	19.6
5,708.0	3.50	282.20	5,681.2	255.7	-382.7	1.61	-0.64	22.55	-21.4	36.0
5,800.0	3.30	286.60	5,773.0	257.0	-388.0	0.36	-0.22	4.78	-15.1	41.5
5,894.0	3.70	311.30	5,866.8	259.8	-392.9	1.65	0.43	26.28	7.9	44.7
5,988.0	3.40	316.30	5,960.7	263.8	-397.1	0.46	-0.32	5.32	15.7	42.9
6,081.0	3.60	314.00	6,053.5	267.9	-401.1	0.26	0.22	-2.47	18.0	42.5
6,174.0	1.70	315.30	6,146.4	270.9	-404.1	2.04	-2.04	1.40	24.3	41.1
6,268.0	1.40	314.40	6,240.3	272.7	-406.0	0.32	-0.32	-0.96	30.9	40.5
6,362.0	1.40	312.00	6,334.3	274.2	-407.6	0.06	0.00	-2.55	36.7	41.2
6,456.0	1.50	310.10	6,428.3	275.8	-409.4	0.12	0.11	-2.02	40.6	42.2
6,550.0	2.30	355.60	6,522.2	278.5	-410.5	1.75	0.85	48.40	58.9	-1.9
6,644.0	2.70	1.50	6,616.1	282.6	-410.6	0.51	0.43	6.28	55.2	-8.9
6,738.0	3.10	3.50	6,711.0	287.4	-410.4	0.43	0.42	2.11	50.1	-10.7
6,833.0	3.30	0.80	6,804.9	292.6	-410.2	0.27	0.21	-2.87	45.3	-8.5
6,927.0	3.10	359.20	6,898.7	297.9	-410.2	0.23	-0.21	-1.70	40.2	-7.3
7,020.0	3.00	0.20	6,991.6	302.8	-410.2	0.12	-0.11	1.08	35.2	-7.9
7,114.0	2.00	10.30	7,085.5	306.9	-409.9	1.16	-1.06	10.74	29.2	-13.5
7,208.0	1.20	10.60	7,179.5	309.5	-409.4	0.85	-0.85	0.32	26.5	-13.7
7,301.0	1.00	5.60	7,272.5	311.2	-409.2	0.24	-0.22	-5.38	25.8	-11.4
7,394.0	0.90	354.90	7,365.4	312.8	-409.2	0.22	-0.11	-11.51	25.9	-6.6
7,488.0	0.70	346.20	7,459.4	314.1	-409.4	0.25	-0.21	-9.26	25.3	-2.7
7,582.0	0.70	340.80	7,553.4	315.2	-409.7	0.07	0.00	-5.74	24.3	-0.3
7,676.0	0.60	338.30	7,647.4	316.2	-410.1	0.11	-0.11	-2.66	23.2	0.7
7,771.0	0.40	339.20	7,742.4	316.9	-410.4	0.21	-0.21	0.95	22.4	0.3



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Wellbore: OH
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Survey											
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7,865.0	0.40	321.00	7,838.4	317.5	-410.7	0.13	0.00	-19.36	20.5	7.2	
7,958.0	0.30	291.80	7,929.4	317.8	-411.1	0.22	-0.11	-31.40	13.9	16.2	
8,052.0	0.30	221.20	8,023.4	317.7	-411.5	0.37	0.00	-75.11	-11.0	18.2	
8,144.0	0.10	161.60	8,115.4	317.5	-411.6	0.29	-0.22	-64.78	-21.5	-0.4	
8,238.0	0.10	134.70	8,209.4	317.3	-411.6	0.05	0.00	-28.62	-19.1	-10.2	
8,331.0	0.20	154.30	8,302.4	317.1	-411.4	0.12	0.11	21.08	-21.7	-3.1	
8,425.0	0.40	170.40	8,396.4	316.7	-411.3	0.23	0.21	17.13	-22.2	3.0	
8,519.0	0.60	184.20	8,490.4	315.9	-411.3	0.25	0.21	14.68	-21.6	8.3	
8,613.0	0.70	186.10	8,584.4	314.8	-411.4	0.11	0.11	2.02	-22.4	9.1	
8,707.0	0.90	188.40	8,678.4	313.5	-411.5	0.22	0.21	2.45	-23.3	10.0	
8,800.0	0.90	201.30	8,771.4	312.1	-411.9	0.22	0.00	13.87	-21.9	15.1	
8,893.0	0.90	211.10	8,864.4	310.8	-412.6	0.17	0.00	10.54	-20.5	18.7	
8,988.0	0.40	305.40	8,959.4	310.3	-413.2	1.07	-0.53	99.26	19.9	19.8	
9,082.0	1.30	342.80	9,053.4	311.5	-413.8	1.08	0.96	39.79	26.5	3.8	
9,175.0	1.30	337.60	9,146.3	313.5	-414.5	0.13	0.00	-5.59	24.0	6.1	
9,270.0	1.40	343.90	9,241.3	315.6	-415.2	0.19	0.11	6.63	22.3	3.6	
9,363.0	1.50	348.30	9,334.3	317.9	-415.8	0.16	0.11	4.73	20.1	1.9	
9,458.0	1.30	33.40	9,429.2	320.0	-415.5	1.15	-0.21	47.47	13.6	-12.0	
9,551.0	1.00	86.00	9,522.2	321.2	-414.1	0.76	-0.32	35.05	3.3	-16.9	
9,646.0	1.10	70.30	9,617.2	321.9	-412.5	0.13	0.11	4.53	0.3	-17.0	
9,739.0	0.40	67.40	9,710.2	322.3	-411.4	0.75	-0.75	-3.12	-0.1	-17.0	
9,833.0	1.10	349.70	9,804.2	323.3	-411.2	1.16	0.74	-82.66	15.6	-4.0	
9,927.0	1.70	311.90	9,898.2	325.1	-412.4	1.14	0.64	-40.21	12.7	5.9	
10,020.0	2.10	298.20	9,991.1	326.9	-415.0	0.65	0.43	-14.73	7.9	8.4	
10,114.0	2.80	297.90	10,085.0	328.7	-418.4	0.53	0.53	-0.32	4.0	8.4	
10,208.0	2.70	329.40	10,178.9	331.6	-421.4	1.53	0.11	33.51	3.8	6.2	
10,301.0	2.30	23.50	10,271.9	335.2	-421.8	2.47	-0.43	58.17	4.1	2.3	



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10,395.0	2.50	34.60	10,365.8	338.6	-419.8	0.54	0.21	11.81	0.5	1.9	
10,489.0	2.50	20.70	10,459.7	342.2	-418.0	0.64	0.00	-14.79	-4.0	1.4	
10,583.0	2.80	23.50	10,553.6	346.2	-416.3	0.35	0.32	2.98	-8.2	1.7	
10,676.0	3.10	22.40	10,646.5	350.6	-414.4	0.33	0.32	-1.18	-13.0	1.5	
10,771.0	3.10	52.00	10,741.3	354.6	-411.4	1.67	0.00	31.16	-15.4	9.1	
10,864.0	2.90	92.70	10,834.2	356.0	-407.1	2.25	-0.22	43.76	-10.0	18.5	
10,958.0	2.40	80.30	10,928.1	356.3	-402.8	0.81	-0.53	-13.19	-18.1	15.4	
11,053.0	1.20	116.40	11,023.1	356.1	-399.9	1.68	-1.26	38.00	-8.1	24.3	
11,146.0	0.80	129.80	11,116.1	355.3	-398.6	0.50	-0.43	14.41	-3.8	25.7	
11,241.0	0.20	189.60	11,211.1	354.7	-398.1	0.76	-0.63	62.95	19.8	16.8	
11,335.0	1.10	188.40	11,305.1	353.7	-398.3	0.96	0.96	-1.28	18.4	17.2	
11,429.0	1.30	181.80	11,399.0	351.7	-398.4	0.26	0.21	-7.02	14.3	19.1	
11,522.0	1.50	172.90	11,492.0	349.4	-398.3	0.32	0.22	-9.57	8.9	21.0	
11,616.0	1.90	180.10	11,586.0	346.7	-398.2	0.48	0.43	7.66	8.7	19.8	
11,657.0	2.00	187.70	11,626.9	345.3	-398.2	0.68	0.24	18.54	9.8	18.6	
11,773.0	2.40	202.30	11,742.9	341.0	-399.4	0.59	0.34	12.59	9.8	16.0	
11,868.0	5.40	195.80	11,837.6	334.9	-401.4	3.19	3.16	-8.84	1.5	16.8	
11,915.0	15.30	187.10	11,883.8	326.6	-402.8	21.27	21.06	-18.51	-7.8	16.3	
11,961.0	24.40	182.80	11,927.0	311.0	-404.0	20.02	19.78	-9.35	-18.7	15.1	
12,008.0	29.70	180.70	11,968.9	289.7	-404.6	11.46	11.28	-4.47	-30.6	13.9	
12,056.0	33.30	183.20	12,009.8	264.6	-405.5	7.98	7.50	5.21	-40.4	14.6	
12,150.0	40.00	183.50	12,085.2	208.6	-408.8	7.13	7.13	0.32	-54.2	11.3	
12,244.0	49.00	180.60	12,152.2	142.9	-411.0	9.81	9.57	-3.09	-60.5	6.2	
12,338.0	51.60	180.60	12,212.2	70.6	-411.8	2.77	2.77	0.00	-54.7	4.7	
12,431.0	54.50	181.40	12,268.1	-3.7	-413.1	3.19	3.12	0.86	-33.4	2.7	
12,526.0	68.70	178.40	12,313.2	-87.1	-412.8	15.20	14.95	-3.16	-6.7	1.9	
12,620.0	84.40	180.10	12,335.0	-178.2	-411.6	16.79	16.70	1.81	12.0	2.3	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3332.0usft
Site:	Magnolia 15 Fed Com	MD Reference:	KB = 25' @ 3332.0usft
Well:	#706H	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)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,714.0	92.00	181.30	12,337.9	-272.1	-412.8	8.19	8.09	1.28	14.4	0.3	
12,808.0	90.90	180.60	12,335.5	-366.0	-414.3	1.39	-1.17	-0.74	11.5	-2.0	
12,901.0	87.70	178.20	12,336.7	-459.0	-413.4	4.30	-3.44	-2.58	12.2	-1.7	
12,995.0	92.10	179.90	12,336.8	-553.0	-411.8	5.02	4.68	1.81	11.8	-0.9	
13,089.0	88.50	179.00	12,336.3	-647.0	-410.9	3.95	-3.83	-0.96	10.8	-0.8	
13,182.0	88.40	178.50	12,338.9	-739.9	-408.9	0.55	-0.11	-0.54	12.8	0.5	
13,277.0	92.70	180.80	12,337.9	-834.9	-408.3	5.13	4.53	2.42	11.4	0.3	
13,371.0	90.70	179.50	12,335.2	-928.8	-408.5	2.54	-2.13	-1.38	8.1	-0.6	
13,466.0	88.20	178.60	12,336.1	-1,023.8	-407.0	2.80	-2.63	-0.95	8.5	0.2	
13,559.0	86.90	178.00	12,340.0	-1,116.7	-404.2	1.54	-1.40	-0.65	11.9	2.2	
13,653.0	88.90	178.60	12,343.5	-1,210.5	-401.4	2.22	2.13	0.64	14.6	4.2	
13,747.0	90.80	179.00	12,343.7	-1,304.5	-399.5	2.07	2.02	0.43	14.0	5.4	
13,841.0	91.30	179.20	12,342.0	-1,398.5	-398.0	0.57	0.53	0.21	11.5	6.2	
13,934.0	92.00	179.80	12,339.3	-1,491.5	-397.2	0.99	0.75	0.65	8.0	6.2	
14,027.0	89.60	178.30	12,338.0	-1,584.4	-395.6	3.04	-2.58	-1.61	6.0	7.0	
14,120.0	88.80	177.80	12,339.3	-1,677.4	-392.5	1.01	-0.86	-0.54	6.5	9.5	
14,214.0	91.00	179.20	12,339.5	-1,771.3	-390.0	2.77	2.34	1.49	5.8	11.2	
14,308.0	89.90	180.60	12,338.8	-1,865.3	-389.8	1.89	-1.17	1.49	4.3	10.6	
14,403.0	88.50	180.50	12,340.1	-1,960.3	-390.8	1.48	-1.47	-0.11	4.8	8.9	
14,497.0	86.30	180.50	12,344.4	-2,054.2	-391.6	2.34	-2.34	0.00	8.3	7.3	
14,590.0	86.70	180.50	12,350.0	-2,147.0	-392.4	0.43	0.43	0.00	13.2	5.8	
14,684.0	86.90	180.50	12,355.3	-2,240.9	-393.2	0.21	0.21	0.00	17.6	4.2	
14,778.0	92.70	183.40	12,355.6	-2,334.8	-396.4	6.90	6.17	3.09	17.1	0.3	
14,871.0	93.70	184.40	12,350.4	-2,427.4	-402.7	1.52	1.08	1.08	10.9	-6.8	
14,965.0	91.90	185.10	12,345.8	-2,521.0	-410.5	2.05	-1.91	0.74	5.3	-15.3	
15,060.0	86.80	181.10	12,346.9	-2,615.8	-415.6	6.82	-5.37	-4.21	5.2	-21.2	
15,154.0	90.10	179.90	12,349.4	-2,709.7	-416.4	3.74	3.51	-1.28	6.8	-22.8	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3332.0usft
Site:	Magnolia 15 Fed Com	MD Reference:	KB = 25' @ 3332.0usft
Well:	#706H	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)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
15,248.0	90.80	179.90	12,348.7	-2,803.7	-416.3	0.74	0.74	0.00	5.0	-23.3
15,343.0	86.90	175.30	12,350.6	-2,898.6	-412.3	6.35	-4.11	-4.84	6.0	-20.1
15,437.0	87.30	175.20	12,355.4	-2,992.1	-404.5	0.44	0.43	-0.11	9.6	-13.1
15,531.0	90.70	176.60	12,357.0	-3,085.8	-397.8	3.91	3.62	1.49	10.2	-7.1
15,626.0	91.70	176.80	12,355.0	-3,180.7	-392.3	1.07	1.05	0.21	7.2	-2.4
15,719.0	92.10	176.70	12,351.9	-3,273.5	-387.1	0.44	0.43	-0.11	3.1	2.1
15,813.0	92.30	176.70	12,348.3	-3,367.2	-381.7	0.21	0.21	0.00	-1.5	6.8
15,907.0	89.80	178.10	12,346.8	-3,461.1	-377.4	3.24	-2.87	1.49	-4.2	10.3
16,002.0	89.80	178.60	12,347.3	-3,556.1	-374.7	0.57	0.21	0.53	-4.7	12.3
16,095.0	86.90	176.90	12,349.9	-3,648.9	-371.0	3.61	-3.12	-1.83	-3.1	15.2
16,189.0	89.50	179.20	12,352.9	-3,742.8	-367.8	3.69	2.77	2.45	-1.1	17.6
16,283.0	88.90	178.40	12,354.2	-3,836.8	-365.9	1.06	-0.64	-0.85	-0.8	18.8
16,377.0	89.10	177.80	12,355.8	-3,930.7	-362.7	0.67	0.21	-0.64	-0.2	21.2
16,471.0	91.20	179.00	12,355.6	-4,024.7	-360.1	2.57	2.23	1.28	-1.5	23.1
16,565.0	88.40	177.90	12,355.9	-4,118.6	-357.6	3.20	-2.98	-1.17	-2.2	24.9
16,660.0	91.40	178.70	12,356.1	-4,213.6	-354.8	3.27	3.16	0.84	-3.3	26.9
16,754.0	92.90	180.20	12,352.6	-4,307.5	-353.9	2.28	1.60	1.60	-8.0	27.1
16,848.0	92.40	181.30	12,348.2	-4,401.4	-355.1	1.28	-0.53	1.17	-13.6	25.1
16,942.0	89.90	181.60	12,346.3	-4,495.4	-357.5	2.68	-2.68	0.32	-16.7	22.0
17,037.0	89.70	181.60	12,346.7	-4,590.3	-360.1	0.21	-0.21	0.00	-17.5	18.6
17,132.0	86.80	182.30	12,349.6	-4,685.2	-363.3	3.14	-3.05	0.74	-15.8	14.6
17,226.0	86.20	182.10	12,355.3	-4,779.0	-366.9	0.67	-0.64	-0.21	-11.3	10.3
17,320.0	85.80	182.00	12,361.9	-4,872.7	-370.3	0.44	-0.43	-0.11	-6.0	6.1
17,414.0	89.20	181.30	12,366.0	-4,966.5	-373.0	3.69	3.62	-0.74	-3.1	2.7
17,508.0	89.10	180.60	12,367.4	-5,060.5	-374.6	0.75	-0.11	-0.74	-2.9	0.4
17,603.0	89.40	180.00	12,368.6	-5,155.5	-375.1	0.71	0.32	-0.63	-2.9	-0.9
17,698.0	90.60	180.50	12,368.6	-5,250.5	-375.5	1.37	1.26	0.53	-4.1	-2.1



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3332.0usft
Site:	Magnolia 15 Fed Com	MD Reference:	KB = 25' @ 3332.0usft
Well:	#706H	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)	DLog (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
17,791.0	91.60	180.80	12,366.8	-5,343.5	-376.5	1.12	1.08	0.32	-7.1	-3.9	
17,885.0	90.60	179.80	12,365.0	-5,437.4	-377.0	1.50	-1.06	-1.06	-10.1	-5.1	
17,979.0	89.20	179.00	12,365.2	-5,531.4	-376.0	1.72	-1.49	-0.85	-11.1	-4.9	
18,073.0	90.50	179.80	12,365.4	-5,625.4	-375.1	1.62	1.38	0.85	-12.1	-4.6	
18,166.0	91.50	180.00	12,363.8	-5,718.4	-374.9	1.10	1.08	0.22	-15.0	-5.2	
18,260.0	91.10	179.90	12,361.7	-5,812.4	-374.8	0.44	-0.43	-0.11	-18.6	-5.9	
18,354.0	90.10	179.90	12,360.7	-5,906.4	-374.6	1.06	-1.06	0.00	-21.0	-6.5	
18,449.0	90.90	180.60	12,359.9	-6,001.4	-375.1	1.12	0.84	0.74	-23.3	-7.6	
18,542.0	91.20	180.60	12,358.1	-6,094.4	-376.0	0.32	0.32	0.00	-26.4	-9.4	
18,636.0	88.50	177.80	12,358.4	-6,188.3	-374.7	4.14	-2.87	-2.98	-27.6	-8.8	
18,730.0	89.50	178.70	12,360.0	-6,282.3	-371.9	1.43	1.06	0.96	-27.4	-6.7	
18,824.0	87.60	178.10	12,362.4	-6,376.2	-369.2	2.12	-2.02	-0.64	-28.5	-4.8	
18,918.0	89.40	180.20	12,364.9	-6,470.1	-367.8	2.94	1.91	2.23	-25.5	-4.2	
19,012.0	89.40	179.60	12,365.9	-6,564.1	-367.7	0.64	0.00	-0.64	-25.9	-4.8	
19,105.0	89.60	179.20	12,366.7	-6,657.1	-366.7	0.48	0.22	-0.43	-26.6	-4.5	
19,199.0	88.10	177.70	12,368.6	-6,751.1	-364.2	2.26	-1.60	-1.60	-26.1	-2.8	
19,293.0	90.90	178.50	12,369.4	-6,845.0	-361.0	3.10	2.98	0.85	-26.7	-0.4	
19,387.0	89.80	178.30	12,368.8	-6,939.0	-358.4	1.19	-1.17	-0.21	-28.8	1.5	
19,480.0	88.70	177.80	12,370.0	-7,031.9	-355.3	1.30	-1.18	-0.54	-29.0	3.9	
19,573.0	90.80	177.60	12,370.4	-7,124.8	-351.5	2.27	2.26	-0.22	-30.0	6.9	
19,667.0	89.10	178.10	12,370.5	-7,218.7	-348.0	1.89	-1.81	0.53	-31.3	9.6	
19,761.0	89.00	178.20	12,372.1	-7,312.7	-345.0	0.15	-0.11	0.11	-31.2	11.9	
19,798.0	88.10	178.00	12,373.0	-7,349.7	-343.7	2.49	-2.43	-0.54	-30.9	12.8	
19,863.0	88.10	178.00	12,375.2	-7,414.6	-341.5	0.00	0.00	0.00	-29.7	14.6	



Midland PVA

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Magnolia 15 Fed Com
Well: #706H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #706H
TVD Reference: KB = 25' @ 3332.0usft
MD Reference: KB = 25' @ 3332.0usft
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)	
11,850.0	11,819.7	338.4	-401.0	KOP, MD:11850.0', TVD:11819.7',N/S:338.4', E/W:-401.0', INC:4.83
12,011.4	11,971.8	288.0	-404.6	FTP Crossing, MD:12011.4', TVD:11971.8',N/S:288.0', E/W:-404.6', INC:29.95
19,798.0	12,373.0	-7,349.7	-343.7	Last MWD Survey (MD=19798.0')
19,863.0	12,375.2	-7,414.6	-341.5	Projection to Bit (MD=19863.0')

Checked By: _____ Approved By: _____ Date: _____

Bureau of Land Management

Hobbs Field Office

414 W. Taylor

Hobbs, New Mexico

505.393.3612

WATER PRODUCTION & DISPOSAL INFORMATION

Wells: MAGNOLIA 15 FEDERAL COM # 706H 30-025-44399
MAGNOLIA 15 FEDERAL COM # 707H 30-025-44400
MAGNOLIA 15 FEDERAL COM # 713H 30-025-44405
MAGNOLIA 15 FEDERAL COM # 714H 30-025-44406
Sec 15, T26S, R33E
Lea County, NM

1. Name of formations producing water on lease: WOLFCAMP
2. Amount of water produced from all formations in barrels per day 6000 - 8000 BWPD
3. How water is stored on lease Tanks 2 -400 bbl tanks
4. How water is moved to disposal facility Pipeline/Trucked
5. Disposal Facility:
 - a. Facility Operators name EOG RESOURCES, INC
 - b. Name of facility or well name & number
ENDURANCE 25 FEDERAL #2 SWD
30-025-41067
E - 25 - T26S - R33E
SWD - 1424-0
High percentage of water goes to EOG Water
gathering system to be recycled