



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Lobo Blanco 9 Fed

#703H

OH

Design: OH

Final PVA Report

13 August, 2019

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Final PVA Report

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Lobo Blanco 9 Fed Well: #703H Wellbore: OH Design: OH		Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:		Well #703H KB = 25' @ 3384.0usft KB = 25' @ 3384.0usft Grid Minimum Curvature EDM 5000.14													
Project Lea County, NM (NAD 83 NME)																	
Map System: US State Plane 1983 Geo Datum: North American Datum 1983 Map Zone: New Mexico Eastern Zone		System Datum:		Mean Sea Level													
Site Lobo Blanco 9 Fed																	
Site Position: From: Map Position Uncertainty: 0.0 usft		Northing: 383,514.00 usft Easting: 805,018.00 usft Slot Radius: 13-3/16 "		Latitude: 32° 3' 5.412 N Longitude: 103° 28' 56.122 W Grid Convergence: 0.45 °													
Well #703H																	
Well Position +N-S 0.0 usft +E-W 0.0 usft Position Uncertainty 0.0 usft		Northing: 383,522.00 usft Easting: 806,012.00 usft Wellhead Elevation: usft		Latitude: 32° 3' 5.412 N Longitude: 103° 28' 44.572 W Ground Level: 3,339.0 usft													
Wellbore OH																	
<table border="1"> <thead> <tr> <th>Magnetics</th> <th>Model Name</th> <th>Sample Date</th> <th>Declination (°)</th> <th>Dip Angle (°)</th> <th>Field Strength (nT)</th> </tr> </thead> <tbody> <tr> <td></td> <td>IGRF2015</td> <td>12/17/2018</td> <td>6.73</td> <td>59.90</td> <td>47,691.73646073</td> </tr> </tbody> </table>						Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)		IGRF2015	12/17/2018	6.73	59.90	47,691.73646073
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)												
	IGRF2015	12/17/2018	6.73	59.90	47,691.73646073												
Design OH																	
Audit Notes: Version: 1.0 Phase: ACTUAL Tie On Depth: 0.0																	
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Survey Program Date 8/13/2019																	
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132.0	22,924.0	Intrepid MWD (OH)	MWD	OWSG MWD - Standard													



Final PVA Report

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Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3364.0usft
Site:	Lobo Blanco 9 Fed	MD Reference:	KB = 25' @ 3364.0usft
Well:	#703H	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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0
132.0	0.40	238.10	132.0	-0.2	-0.4	0.30	0.30	0.00	-0.5	0.0	
308.0	0.70	169.60	308.0	-1.6	-0.7	0.38	0.17	-38.92	-1.5	-1.0	
484.0	0.70	199.70	484.0	-3.7	-0.9	0.21	0.00	17.10	-3.8	0.4	
667.0	1.30	222.90	667.0	-6.3	-2.7	0.39	0.33	12.68	-6.4	2.3	
788.0	1.60	223.70	787.9	-8.5	-4.8	0.25	0.25	0.66	-9.4	2.4	
893.0	1.70	228.10	892.9	-10.6	-7.0	0.15	0.10	4.19	-12.2	3.2	
1,082.0	1.70	226.70	1,081.8	-14.4	-11.1	0.02	0.00	-0.74	-17.9	2.9	
1,272.0	1.80	223.30	1,271.7	-18.5	-15.2	0.08	0.05	-1.79	-23.9	1.6	
1,462.0	1.80	223.80	1,461.6	-22.8	-19.3	0.01	0.00	0.28	-29.8	1.9	
1,652.0	1.60	221.50	1,651.5	-27.0	-23.1	0.11	-0.11	-1.21	-35.5	0.6	
1,841.0	1.80	215.80	1,840.4	-31.3	-26.6	0.14	0.11	-3.02	-41.0	-3.2	
2,029.0	0.60	127.20	2,028.4	-34.3	-27.5	1.00	-0.64	-47.13	1.2	-44.0	
2,219.0	2.20	77.00	2,218.3	-34.1	-23.2	0.99	0.84	-26.42	30.3	-28.0	
2,408.0	2.60	73.50	2,407.2	-32.1	-15.5	0.23	0.21	-1.85	24.0	-26.4	
2,598.0	3.40	72.80	2,596.9	-29.2	-6.0	0.42	0.42	-0.37	14.4	-26.1	
2,787.0	4.00	72.00	2,785.5	-25.5	5.6	0.32	0.32	-0.42	2.6	-26.0	
2,977.0	5.50	63.50	2,974.9	-19.4	20.0	0.87	0.78	-4.47	-9.2	-26.3	
3,167.0	9.10	74.20	3,163.3	-11.2	42.7	2.02	1.89	5.63	-37.9	-22.6	
3,356.0	11.70	88.10	3,349.2	-6.5	76.2	1.90	1.38	7.35	-75.9	-9.2	
3,546.0	14.30	106.90	3,534.4	-12.7	117.9	2.60	1.37	9.89	-116.4	22.8	
3,706.0	11.00	123.80	3,690.6	-27.0	149.5	3.08	-2.06	10.56	-138.8	61.7	
3,896.0	8.80	137.00	3,877.7	-47.7	174.5	1.66	-1.16	6.95	-153.4	95.9	
4,086.0	7.20	142.50	4,065.9	-67.7	191.7	0.93	-0.84	2.89	-169.3	110.9	
4,276.0	4.60	152.30	4,254.9	-83.9	202.5	1.46	-1.37	5.16	-156.8	134.9	
4,466.0	3.60	115.00	4,444.4	-83.2	211.4	1.47	-0.53	-19.63	-199.3	13.2	
4,656.0	7.10	110.50	4,633.6	-99.8	227.8	1.85	1.84	-2.37	-198.6	3.5	



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Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLog ("/100usft)	Buile ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
4,846.0	4.70	148.90	4,822.6	-110.6	242.9	2.36	-1.26	20.21	-152.2	126.3	
5,036.0	4.60	175.90	5,012.0	-124.9	247.4	1.14	-0.05	14.21	-79.6	170.5	
5,226.0	3.70	177.00	5,201.5	-138.6	248.3	0.48	-0.47	0.58	-76.5	157.5	
5,416.0	2.80	188.90	5,391.2	-149.3	247.9	0.59	-0.47	6.26	-42.9	154.1	
5,606.0	5.10	170.80	5,580.7	-162.3	248.5	1.36	1.21	-9.53	-86.7	118.4	
5,796.0	3.60	147.70	5,770.2	-175.6	253.1	1.20	-0.79	-12.16	-120.9	65.7	
5,986.0	3.20	151.80	5,959.9	-185.3	258.8	0.25	-0.21	2.16	-108.8	67.0	
6,176.0	2.90	149.20	6,149.6	-194.1	263.7	0.17	-0.16	-1.37	-103.1	55.0	
6,366.0	2.50	145.90	6,339.4	-201.7	268.5	0.23	-0.21	-1.74	-96.0	43.1	
6,556.0	2.40	140.90	6,529.2	-208.2	273.3	0.12	-0.05	-2.63	-88.0	30.3	
6,746.0	2.40	132.90	6,718.0	-214.0	278.7	0.18	0.00	-4.23	-79.5	16.0	
6,934.0	2.40	127.90	6,906.9	-219.1	284.8	0.11	0.00	-2.65	-68.7	9.2	
7,124.0	2.10	130.60	7,096.7	-223.8	290.5	0.17	-0.16	1.42	-55.8	12.1	
7,314.0	1.40	137.40	7,286.6	-227.8	294.8	0.38	-0.37	3.58	-40.0	16.2	
7,504.0	1.10	248.90	7,476.6	-230.2	294.6	1.09	-0.16	58.68	19.1	18.3	
7,694.0	1.10	244.70	7,666.6	-231.6	291.3	0.04	0.00	-2.21	9.1	6.9	
7,884.0	0.80	319.80	7,856.6	-231.4	288.8	0.62	-0.16	39.53	6.1	-5.1	
8,074.0	0.50	285.70	8,046.6	-230.1	287.1	0.25	-0.16	-17.95	5.9	-1.5	
8,264.0	0.40	289.70	8,236.5	-229.7	285.7	0.06	-0.05	2.11	4.3	-1.9	
8,454.0	0.50	277.10	8,426.5	-229.4	284.3	0.07	0.05	-6.63	3.1	-1.0	
8,644.0	0.10	238.90	8,616.5	-229.3	283.3	0.22	-0.21	-20.11	2.3	0.6	
8,834.0	0.20	231.00	8,806.5	-229.6	282.9	0.05	0.05	-4.16	1.7	0.9	
9,024.0	0.10	199.20	8,996.5	-230.0	282.6	0.07	-0.05	-16.74	0.5	1.5	
9,214.0	0.20	237.20	9,186.5	-230.3	282.2	0.07	0.05	20.00	0.9	1.0	
9,404.0	0.50	209.50	9,376.5	-231.2	281.6	0.18	0.16	-14.58	-0.8	1.1	
9,594.0	0.40	223.20	9,566.5	-232.4	280.7	0.08	-0.05	7.21	-2.0	1.4	
9,784.0	0.30	230.00	9,756.5	-233.2	279.9	0.08	-0.05	3.58	-3.0	1.8	



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9,972.0	0.80	111.50	9,944.5	-234.0	280.7	0.52	0.27	-63.03	-1.2	-3.9	
10,162.0	0.60	91.80	10,134.5	-234.8	282.9	0.16	-0.11	-10.37	-2.1	-4.5	
10,352.0	0.70	204.00	10,324.5	-235.7	283.5	0.57	0.05	59.05	-4.2	4.5	
10,542.0	1.10	244.10	10,514.5	-237.5	281.3	0.38	0.21	21.11	-3.0	6.8	
10,732.0	0.70	326.10	10,704.5	-237.3	279.1	0.64	-0.21	43.16	5.0	5.7	
10,921.0	1.90	298.60	10,893.4	-234.9	275.7	0.70	0.63	-14.55	-2.4	6.8	
11,111.0	1.30	343.90	11,083.3	-231.3	272.3	0.71	-0.32	23.84	-1.2	8.7	
11,301.0	1.10	314.80	11,273.3	-227.9	270.4	0.33	-0.11	-15.32	-9.0	6.0	
11,491.0	1.20	339.10	11,463.3	-224.8	268.4	0.26	0.05	12.79	-9.3	9.9	
11,680.0	2.20	299.00	11,652.2	-221.2	264.5	0.79	0.53	-21.22	-18.7	0.3	
11,816.0	1.10	285.00	11,788.1	-219.6	261.0	0.86	-0.81	-10.28	-22.0	-4.9	
12,006.0	2.70	342.70	11,978.0	-214.8	257.9	1.21	0.84	30.37	-21.3	17.6	
12,197.0	2.50	337.00	12,168.8	-206.7	254.9	0.17	-0.10	-2.98	-31.6	14.8	
12,293.0	5.10	347.90	12,264.6	-200.6	253.2	2.80	2.71	11.35	-34.5	21.1	
12,337.8	13.38	7.85	12,308.8	-193.5	253.5	19.54	18.48	44.49	-31.9	32.7	
KOP (LB 9 Fed #703H)											
12,340.0	13.80	8.20	12,310.9	-193.0	253.6	19.54	19.16	16.31	-32.2	32.9	
12,350.3	15.98	9.66	12,320.9	-180.4	254.0	21.46	21.15	14.22	-33.9	33.9	
HL Crossing, MD:12350.3', TVD:12320.9', N/S:-190.4', E/W:254.0', INC:15.98											
12,388.0	24.00	12.80	12,356.3	-177.8	256.6	21.46	21.28	8.32	-42.7	35.9	
12,435.0	27.70	14.00	12,388.6	-157.9	261.3	7.95	7.87	2.55	-56.6	34.9	
12,483.0	30.20	13.40	12,440.6	-135.3	266.8	5.24	5.21	-1.25	-69.4	30.4	
12,530.0	32.50	11.70	12,480.7	-111.4	272.1	5.24	4.89	-3.62	-79.0	23.6	
12,578.0	37.00	9.10	12,520.2	-84.5	277.0	9.87	9.37	-5.42	-85.8	15.1	
12,625.0	41.20	5.30	12,556.6	-55.1	280.7	10.29	8.94	-8.09	-89.8	5.9	
12,673.0	44.30	359.20	12,591.9	-22.6	281.9	10.77	6.46	-12.71	-90.4	-3.0	



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 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #703H
 TVD Reference: KB = 25' @ 3364.0usft
 MD Reference: KB = 25' @ 3364.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
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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)
12,693.1	45.49	358.28	12,608.1	-8.4	281.8	6.76	5.93	-4.59	-89.5	-3.8
FTP (LB 9 Fed #703H)										
12,720.0	47.10	357.10	12,624.7	11.0	280.8	6.76	5.97	-4.38	-87.4	-4.1
12,768.0	49.20	357.30	12,658.7	46.7	279.1	4.39	4.37	0.42	-80.8	-2.1
12,815.0	53.20	357.80	12,686.2	83.3	277.5	8.55	8.51	1.06	-71.3	-0.1
12,863.0	59.60	359.50	12,712.7	123.3	276.6	13.65	13.33	3.54	-60.4	1.4
12,910.0	61.40	359.10	12,735.9	164.2	276.1	3.90	3.83	-0.85	-48.0	1.5
12,958.0	67.90	357.60	12,756.4	207.5	274.8	13.83	13.54	-3.12	-33.9	2.4
13,005.0	78.30	358.20	12,770.1	252.4	273.2	22.16	22.13	1.28	-22.0	3.7
13,053.0	83.60	358.90	12,777.8	299.7	272.0	11.14	11.04	1.46	-14.0	4.5
13,148.0	89.40	358.30	12,783.4	394.5	269.7	6.14	6.11	-0.63	-7.3	5.9
13,243.0	90.60	358.10	12,783.4	489.5	266.7	1.28	1.26	-0.21	-6.4	8.1
13,338.0	88.70	357.70	12,784.0	584.4	263.2	2.04	-2.00	-0.42	-4.9	10.7
13,433.0	89.30	359.50	12,785.6	679.3	260.9	2.00	0.63	1.89	-2.3	12.2
13,528.0	90.90	0.30	12,785.5	774.3	260.7	1.88	1.68	0.84	-1.6	11.6
13,623.0	90.20	0.90	12,784.6	869.3	261.7	0.97	-0.74	0.63	-1.6	9.8
13,718.0	90.20	0.80	12,784.2	964.3	263.1	0.11	0.00	-0.11	-1.0	7.5
13,813.0	87.80	0.00	12,785.9	1,059.3	263.8	2.66	-2.53	-0.84	1.6	6.1
13,908.0	87.90	0.20	12,789.4	1,154.2	263.9	0.24	0.11	0.21	6.0	5.1
14,003.0	85.30	359.50	12,795.1	1,249.0	263.7	2.83	-2.74	-0.74	12.6	4.5
14,098.0	92.90	359.70	12,798.6	1,344.0	263.0	8.00	8.00	0.21	15.0	4.3
14,193.0	91.70	0.00	12,792.8	1,438.9	262.8	1.30	-1.26	0.32	12.1	3.8
14,288.0	93.70	0.60	12,788.3	1,533.8	263.3	2.20	2.11	0.63	8.5	2.5
14,383.0	92.80	0.60	12,782.9	1,628.6	264.3	0.95	-0.95	0.00	4.0	0.6
14,478.0	91.20	359.80	12,779.6	1,723.5	264.6	1.88	-1.68	-0.84	1.6	-0.5
14,574.0	89.10	359.90	12,779.3	1,819.5	264.4	2.19	-2.19	0.10	2.3	-1.1
14,668.0	90.20	1.00	12,779.9	1,913.5	265.1	1.65	1.17	1.17	3.8	-2.6



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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14,763.0	89.00	1.00	12,780.6	2,008.5	268.8	1.26	-1.26	0.00	5.3	-5.1	
14,858.0	91.80	2.50	12,779.9	2,103.5	269.7	3.34	2.95	1.58	5.6	-8.8	
14,953.0	89.20	1.60	12,779.1	2,198.4	273.1	2.90	-2.74	-0.95	5.6	-13.1	
15,048.0	89.90	359.80	12,779.8	2,293.4	274.2	2.03	0.74	-1.89	7.3	-15.0	
15,143.0	90.90	359.60	12,778.2	2,388.4	273.7	1.07	1.05	-0.21	7.5	-15.4	
15,194.0	91.90	359.50	12,777.9	2,439.3	273.3	1.97	1.96	-0.20	6.8	-15.4	
15,269.0	92.40	358.40	12,775.1	2,514.3	271.9	1.61	0.67	-1.47	4.7	-14.7	
15,364.0	90.30	359.30	12,772.9	2,609.2	270.0	2.40	-2.21	0.95	3.4	-13.6	
15,459.0	89.50	359.50	12,773.0	2,704.2	269.0	0.87	-0.84	0.21	4.4	-13.4	
15,554.0	90.10	359.90	12,773.4	2,799.2	268.5	0.76	0.63	0.42	5.7	-13.8	
15,649.0	89.10	359.80	12,774.0	2,894.2	268.3	1.08	-1.05	-0.11	7.2	-14.3	
15,744.0	87.60	0.00	12,776.8	2,989.2	268.1	1.59	-1.58	0.21	10.9	-15.0	
15,834.5	89.12	358.19	12,779.3	3,079.6	268.7	2.61	1.68	-2.00	14.3	-14.3	
TGT 1 (LB 8 Fed #703H)											
15,839.0	89.20	358.10	12,779.4	3,084.1	266.6	2.61	1.68	-2.00	14.4	-14.2	
15,934.0	88.50	357.10	12,781.3	3,179.0	262.6	1.28	-0.74	-1.05	17.2	-11.1	
16,030.0	90.20	357.50	12,782.4	3,274.9	258.1	1.82	1.77	0.42	19.1	-7.4	
16,125.0	89.90	357.30	12,782.3	3,369.8	253.7	0.38	-0.32	-0.21	19.9	-3.9	
16,220.0	92.00	358.30	12,780.7	3,464.7	250.1	2.45	2.21	1.05	19.2	-1.1	
16,315.0	91.70	357.30	12,777.7	3,559.6	246.5	1.10	-0.32	-1.05	16.9	1.7	
16,410.0	91.40	358.90	12,775.1	3,654.5	243.3	1.71	-0.32	1.68	15.2	4.1	
16,505.0	91.80	359.20	12,772.6	3,749.4	241.7	0.38	0.21	0.32	13.6	4.8	
16,600.0	91.10	358.60	12,770.4	3,844.4	239.9	0.82	-0.53	-0.63	12.2	5.8	
16,695.0	91.20	0.50	12,768.5	3,939.4	239.2	2.00	0.11	2.00	11.1	5.8	
16,790.0	90.40	1.30	12,767.2	4,034.4	240.7	1.19	-0.84	0.84	10.6	3.4	
16,885.0	92.60	2.50	12,764.7	4,129.3	243.8	2.64	2.32	1.26	9.0	-0.5	
16,980.0	93.70	3.10	12,759.4	4,224.0	248.4	1.32	1.16	0.63	4.6	-6.0	



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3364.0usft
Site:	Lobo Blanco 9 Fed	MD Reference:	KB = 25' @ 3364.0usft
Well:	#703H	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)	BuId (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
17,075.0	87.40	359.60	12,758.5	4,318.9	250.7	7.59	-6.63	-3.68	4.5	-9.0	
17,170.0	84.40	358.20	12,765.3	4,413.6	248.9	3.48	-3.16	-1.47	12.1	-8.1	
17,265.0	87.30	359.10	12,772.2	4,508.4	246.6	3.20	3.05	0.95	19.9	-6.6	
17,359.0	88.80	359.20	12,777.0	4,602.2	245.2	0.54	-0.53	0.11	25.5	-6.1	
17,454.0	85.20	358.30	12,783.7	4,697.0	243.2	1.93	-1.68	-0.95	33.0	-4.8	
17,549.0	87.80	358.60	12,789.5	4,791.7	240.6	2.75	2.74	0.32	39.8	-3.1	
17,644.0	88.00	357.70	12,792.9	4,886.6	237.5	0.97	0.21	-0.85	44.0	-0.8	
17,739.0	87.70	358.00	12,796.5	4,981.5	234.0	0.45	-0.32	0.32	48.4	1.9	
17,834.0	89.40	359.30	12,798.9	5,076.4	231.7	2.25	1.79	1.37	51.6	3.3	
17,928.0	88.90	358.70	12,801.9	5,170.4	230.1	2.74	-2.66	-0.64	55.5	4.2	
18,023.0	90.20	358.40	12,804.4	5,265.3	227.7	3.49	3.47	-0.32	58.7	5.7	
18,096.0	92.51	0.32	12,802.6	5,338.3	226.9	4.11	3.16	2.63	57.6	6.0	
TGT 2 (LB 9 Fed #703H)											
18,118.0	93.20	0.90	12,801.5	5,360.2	227.1	4.11	3.16	2.64	56.8	5.5	
18,213.0	92.80	1.80	12,796.6	5,455.1	229.4	1.04	-0.42	0.95	53.1	2.5	
18,308.0	90.90	1.00	12,793.5	5,550.0	231.7	2.17	-2.00	-0.84	51.4	-0.7	
18,402.0	91.00	1.30	12,791.9	5,643.9	233.8	0.34	0.11	0.32	51.1	-3.4	
18,497.0	91.20	1.60	12,790.1	5,738.9	236.0	0.38	0.21	0.32	50.6	-6.8	
18,592.0	89.50	0.70	12,789.5	5,833.9	237.9	2.02	-1.79	-0.95	51.3	-9.3	
18,687.0	89.00	1.10	12,790.8	5,928.9	239.4	0.67	-0.53	0.42	53.9	-11.6	
18,782.0	90.40	1.50	12,791.3	6,023.8	241.5	1.53	1.47	0.42	55.7	-14.6	
18,877.0	87.70	1.20	12,792.8	6,118.8	243.8	2.86	-2.84	-0.32	58.5	-17.7	
18,972.0	89.40	1.10	12,795.3	6,213.7	245.7	1.79	1.79	-0.11	62.2	-20.4	
19,067.0	90.00	358.70	12,795.7	6,308.7	245.5	2.60	0.63	-2.53	64.0	-21.1	
19,162.0	91.60	0.00	12,794.4	6,403.7	244.4	2.17	1.68	1.37	64.0	-20.8	
19,257.0	92.50	1.70	12,791.0	6,498.6	245.8	2.02	0.95	1.79	61.9	-23.0	
19,352.0	91.10	0.50	12,788.0	6,593.6	247.6	1.94	-1.47	-1.26	60.2	-25.7	



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3364.0usft
Site:	Lobo Blanco 9 Fed	MD Reference:	KB = 25' @ 3364.0usft
Well:	#703H	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)
19,447.0	90.60	0.20	12,788.6	6,888.5	248.2	0.61	-0.53	-0.32	60.1	-27.1
19,542.0	90.00	0.00	12,786.1	6,783.5	248.4	0.67	-0.63	-0.21	60.9	-28.1
19,559.0	90.36	359.71	12,786.1	6,800.6	248.3	2.70	2.11	-1.68	61.1	-28.2
TGT 3 (LB 9 Fed #703H)										
19,637.0	92.00	358.40	12,784.5	6,878.5	247.1	2.70	2.11	-1.68	60.5	-27.6
19,732.0	93.20	357.90	12,780.2	6,873.4	244.0	1.37	1.28	-0.53	57.5	-25.4
19,827.0	90.40	355.80	12,777.2	7,068.1	238.8	3.68	-2.95	-2.21	55.7	-20.9
19,922.0	92.30	357.80	12,774.9	7,163.0	233.5	2.90	2.00	2.11	54.8	-16.5
20,018.0	88.10	358.00	12,774.6	7,258.9	230.0	4.38	-4.37	0.21	55.7	-13.8
20,113.0	91.90	357.40	12,774.6	7,353.8	226.2	4.05	4.00	-0.63	57.0	-10.8
20,205.0	94.00	357.90	12,769.9	7,445.6	222.4	2.35	2.28	0.54	53.5	-7.8
20,300.0	95.70	359.00	12,761.8	7,540.2	219.8	2.13	1.79	1.16	48.7	-6.1
20,395.0	93.10	357.30	12,754.6	7,634.9	218.8	3.27	-2.74	-1.79	40.8	-3.8
20,491.0	92.40	358.10	12,749.9	7,730.7	212.9	1.11	-0.73	0.83	37.3	-0.8
20,586.0	89.70	357.80	12,748.2	7,825.6	209.5	2.86	-2.84	-0.32	36.8	1.8
20,681.0	90.10	357.70	12,748.4	7,920.5	205.8	0.43	0.42	-0.11	38.3	4.7
20,776.0	92.50	358.80	12,746.2	8,015.4	202.9	2.78	2.53	1.16	37.4	6.8
20,871.0	90.80	0.20	12,743.5	8,110.4	202.1	2.32	-1.78	1.47	35.9	6.8
20,966.0	92.00	359.60	12,741.2	8,205.4	201.9	1.41	1.26	-0.63	34.8	6.1
21,061.0	91.30	359.20	12,738.4	8,300.3	200.9	0.85	-0.74	-0.42	33.4	6.3
21,156.0	89.10	0.40	12,738.1	8,395.3	200.6	2.64	-2.32	1.28	34.3	5.8
21,251.0	89.20	358.10	12,739.5	8,490.3	199.3	2.42	0.11	-2.42	37.0	6.2
21,346.0	90.20	356.60	12,740.0	8,585.2	194.9	1.90	1.05	-1.58	38.7	9.8
21,441.0	91.90	356.10	12,738.3	8,680.0	188.9	1.87	1.79	-0.53	38.3	15.0
21,547.0	93.80	356.80	12,732.9	8,785.6	182.3	2.00	1.89	0.66	34.3	20.6
21,642.0	91.20	357.30	12,728.7	8,880.4	177.4	2.89	-2.84	0.53	31.3	24.7
21,737.0	89.80	359.80	12,727.8	8,975.3	175.0	3.02	-1.47	2.63	31.7	28.3



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3364.0usft
Site:	Lobo Blanco 9 Fed	MD Reference:	KB = 25' @ 3364.0usft
Well:	#703H	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)	DLog ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)
21,818.9	89.71	358.88	12,728.2	9,057.3	174.0	1.37	-0.11	-1.37	33.2	26.7
TGT 4 (LB 9 Fed #703H)										
21,832.0	89.70	358.50	12,728.3	9,070.3	173.6	1.37	-0.11	-1.37	33.4	26.9
21,927.0	89.90	1.60	12,728.6	9,165.3	173.7	3.27	0.21	3.26	34.7	26.0
22,022.0	89.60	1.40	12,729.0	9,260.3	176.2	0.38	-0.32	-0.21	36.0	22.7
22,117.0	89.70	0.20	12,729.6	9,355.3	177.5	1.27	0.11	-1.26	37.6	20.5
22,212.0	90.30	359.80	12,729.6	9,450.3	177.5	0.76	0.63	-0.42	38.5	19.7
22,307.0	91.10	359.90	12,728.4	9,545.3	177.3	0.85	0.64	0.11	38.3	19.1
22,402.0	92.30	0.10	12,725.6	9,640.2	177.3	1.28	1.28	0.21	36.4	18.3
22,498.0	92.00	359.30	12,722.0	9,736.1	176.8	0.89	-0.31	-0.83	33.8	18.0
22,593.0	94.50	0.90	12,716.6	9,831.0	176.9	3.12	2.63	1.68	29.3	17.1
22,687.0	95.50	0.40	12,708.4	9,924.6	178.0	1.19	1.06	-0.53	22.0	15.2
22,782.0	98.70	0.00	12,696.7	10,018.9	178.3	3.39	3.37	-0.42	11.2	14.1
22,865.0	100.40	0.00	12,682.9	10,100.7	178.3	2.05	2.05	0.00	-1.7	13.3
Final MWD Survey (MD=22865.0')										
22,924.0	100.40	0.00	12,672.3	10,158.8	178.3	0.00	0.00	0.00	-11.7	12.9
Final Projection to Bit (MD=22924.0') - PBHL (LB 9 Fed #703H)										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,350.3	12,320.9	-190.4	254.0	HL Crossing, MD:12350.3', TVD:12320.9', N/S:-190.4', E/W:254.0', INC:15.98
22,865.0	12,682.9	10,100.7	178.3	Final MWD Survey (MD=22865.0')
22,924.0	12,672.3	10,158.8	178.3	Final Projection to Bit (MD=22924.0')

Checked By: _____	Approved By: _____	Date: _____
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I certify this survey to be true and correct to the best of my belief and knowledge.

Signed Kay Maddox Date 11/19/2019



Lea County, NM (NAD 83 NME)

Lobo Blanco 9 Fed #703H

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: #703H

KB = 25' @ 3364.0usft 3339.0
Northing 383522.00 Easting 806012.00 Latitude 32° 3' 5.412 N Longitude 103° 28' 44.572 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Diag	TFace	VSeal	Target
1	0.0	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.0	
2	3993.0	0.00	0.00	3993.0	0.0	0.0	0.00	0.00	0.0	
3	4292.8	0.00	129.30	4292.3	-9.9	12.1	2.00	129.30	-9.7	
4	7468.6	0.00	129.30	7450.7	-220.1	268.9	0.00	0.00	-215.0	
5	7768.5	0.00	0.00	7750.0	-230.0	281.0	2.00	180.00	-224.7	
6	12333.1	0.00	0.00	12314.6	-230.0	281.0	0.00	0.00	-224.7	KOP (LB 9 Fed #703H)
7	13087.8	90.55	359.50	12792.0	252.0	276.8	12.00	359.50	257.2	TGT 1 (LB 9 Fed #703H)
8	15916.7	90.55	359.50	12765.0	3079.8	252.4	0.00	0.00	3084.0	TGT 2 (LB 9 Fed #703H)
9	15917.7	90.51	359.50	12765.0	3081.8	252.3	2.00	180.00	3086.0	TGT 3 (LB 9 Fed #703H)
10	18172.8	90.51	359.50	12745.0	5336.6	232.8	0.00	0.00	5340.0	TGT 4 (LB 9 Fed #703H)
11	18196.5	90.78	359.50	12744.8	5350.5	232.7	2.00	0.00	5353.9	
12	19635.3	90.78	359.50	12725.0	8799.1	220.2	0.00	0.00	8802.0	
13	19636.5	90.78	359.50	12725.0	6800.3	220.2	2.00	-180.00	6803.2	
14	21894.3	90.78	359.50	12695.0	9057.8	200.6	0.00	0.00	9060.0	
15	21903.9	90.57	359.50	12694.9	9067.3	200.6	0.00	179.79	9069.5	
16	22998.8	90.57	359.50	12684.0	10162.0	191.1	0.00	0.00	10163.8	PBHL (LB 9 Fed #703H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N/S	+E/W	Northing	Easting
KOP (LB 9 Fed #703H)	12314.6	-230.0	281.0	383522.00	806012.00
TGT 1 (LB 9 Fed #703H)	12745.0	3079.8	252.4	386501.80	806284.38
TGT 2 (LB 9 Fed #703H)	12745.0	5336.6	232.8	388535.80	806244.94
TGT 3 (LB 9 Fed #703H)	12725.0	8799.1	220.2	390321.10	806222.18
TGT 4 (LB 9 Fed #703H)	12695.0	9057.8	200.6	392679.80	806212.84
PBHL (LB 9 Fed #703H)	12684.0	10162.0	191.1	393684.00	806203.10
FTP (LB 9 Fed #703H)	12792.0	-195.0	291.0	393332.00	806299.00

