



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Lobo Blanco 9 Fed

#701H

OH

Design: OH

Final PVA Report

13 August, 2019



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3359.0usft
Site:	Lobo Blanco 9 Fed	MD Reference:	KB = 22' @ 3359.0usft
Well:	#701H	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	Lobo Blanco 9 Fed		
Site Position:		Northing:	383,514.00 usft
From:	Map	Easting:	805,018.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 5.410 N
		Longitude:	103° 28' 56.122 W
		Grid Convergence:	0.45 "

Well	#701H					
Well Position	+N-S	0.0 usft	Northing:	383,514.00 usft	Latitude:	32° 3' 5.410 N
	+E-W	0.0 usft	Easting:	805,018.00 usft	Longitude:	103° 28' 56.122 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,337.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/17/2018	6.74	59.90	47,691.41882438

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	359.41	

Survey Program		Date 8/13/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
186.0	22,866.0	Leam MWD #1 (OH)	MWD	OWSG MWD - Standard



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Well: #701H			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	
186.0	0.09	224.48	186.0	-0.1	-0.1	0.05	0.05	0.00	-0.1	0.0	
325.0	0.09	201.80	325.0	-0.3	-0.2	0.03	0.00	-16.32	-0.3	-0.1	
510.0	0.70	219.21	510.0	-1.3	-1.0	0.33	0.33	9.41	-1.6	0.1	
685.0	0.53	190.55	685.0	-3.0	-1.9	0.19	-0.09	-15.49	-3.3	-1.3	
789.0	0.88	184.40	789.0	-4.2	-2.0	0.38	0.37	-6.54	-4.3	-1.7	
980.0	0.35	227.12	980.0	-6.0	-2.5	0.35	-0.28	22.37	-6.0	2.7	
1,171.0	0.70	241.18	1,171.0	-7.0	-4.0	0.19	0.18	7.36	-8.9	4.2	
1,362.0	0.26	328.02	1,362.0	-7.2	-5.2	0.38	-0.23	45.47	3.3	8.2	
1,552.0	0.53	268.78	1,551.9	-6.8	-6.3	0.24	0.14	-31.18	-6.5	6.7	
1,743.0	0.70	273.52	1,742.9	-6.8	-8.4	0.09	0.09	2.48	-8.0	7.3	
1,934.0	0.70	254.71	1,933.9	-7.0	-10.7	0.12	0.00	-9.85	-12.1	3.9	
2,124.0	0.62	227.12	2,123.9	-8.0	-12.6	0.17	-0.04	-14.52	-14.7	-2.7	
2,315.0	0.88	162.08	2,314.9	-10.1	-12.9	0.44	0.14	-34.05	-5.7	-15.3	
2,505.0	1.76	137.82	2,504.8	-13.7	-10.5	0.54	0.46	-12.77	-3.1	-16.9	
2,696.0	2.20	130.79	2,695.7	-18.2	-5.7	0.26	0.23	-3.68	-7.6	-17.5	
2,887.0	2.73	114.44	2,886.6	-22.5	1.2	0.46	0.28	-8.56	-10.4	-20.0	
3,077.0	2.64	125.16	3,076.3	-26.9	8.9	0.27	-0.05	5.64	-22.8	-16.9	
3,268.0	1.93	101.08	3,267.2	-30.1	15.7	0.62	-0.37	-12.61	-21.1	-26.5	
3,459.0	2.29	168.93	3,458.1	-34.4	19.6	1.24	0.19	35.52	-37.5	12.6	
3,649.0	2.81	181.77	3,647.9	-42.8	20.1	0.40	0.27	6.76	-42.1	21.5	
3,840.0	3.08	168.05	3,838.7	-52.5	21.1	0.39	0.14	-7.18	-55.7	9.7	
4,031.0	3.52	187.04	4,029.3	-63.3	21.4	0.61	0.23	9.94	-60.2	29.0	
4,221.0	3.34	170.52	4,219.0	-74.6	21.6	0.53	-0.09	-8.69	-77.1	9.0	
4,412.0	4.75	246.28	4,409.8	-83.3	15.3	2.66	0.74	39.66	-19.0	81.2	
4,603.0	2.46	231.16	4,600.3	-89.0	4.8	1.29	-1.20	-7.92	-43.1	62.4	
4,794.0	2.55	186.69	4,791.1	-95.8	1.1	0.99	0.05	-23.28	-64.9	10.9	



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Well:	#701H	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)	DLog (*100usft)	Build (*100usft)	Turn (*100usft)	High to Plan (usft)	Right to Plan (usft)	
4,984.0	4.40	153.29	4,980.8	-106.5	3.9	1.40	0.97	-17.58	-56.8	-20.4	
5,175.0	5.88	156.10	5,171.0	-122.2	11.3	0.84	0.83	1.47	-60.3	-9.5	
5,366.0	3.96	202.51	5,361.3	-137.4	12.8	2.27	-1.06	24.30	-46.2	38.8	
5,556.0	3.96	197.59	5,550.9	-149.7	8.3	0.18	0.00	-2.59	-46.3	30.4	
5,747.0	3.78	196.18	5,741.4	-162.0	4.5	0.11	-0.09	-0.74	-43.6	25.6	
5,938.0	3.25	210.95	5,932.1	-172.7	0.0	0.55	-0.28	7.73	-32.3	28.9	
6,128.0	2.90	210.42	6,121.8	-181.5	-5.2	0.18	-0.18	-0.28	-27.9	22.2	
6,319.0	2.37	209.36	6,312.6	-189.1	-9.6	0.28	-0.28	-0.55	-22.0	14.4	
6,510.0	1.85	215.87	6,503.5	-195.0	-13.4	0.30	-0.27	3.41	-13.1	8.5	
6,700.0	1.76	219.73	6,693.4	-199.7	-17.0	0.08	-0.05	2.03	-5.0	-0.1	
6,891.0	1.58	218.33	6,884.3	-204.1	-20.5	0.10	-0.09	-0.73	1.5	-8.5	
7,082.0	1.67	207.08	7,075.2	-208.6	-23.4	0.17	0.05	-5.89	1.0	-10.0	
7,273.0	0.44	358.60	7,266.2	-210.3	-24.7	1.08	-0.64	79.33	-3.9	9.6	
7,463.0	0.35	41.67	7,456.2	-209.2	-24.3	0.16	-0.05	22.67	2.6	10.2	
7,654.0	0.18	23.56	7,647.2	-208.5	-23.8	0.10	-0.09	-9.48	-1.5	10.3	
7,845.0	0.53	184.93	7,838.2	-209.1	-23.8	0.37	0.18	84.49	4.2	-9.2	
8,036.0	0.88	214.29	8,029.2	-211.2	-24.7	0.26	0.18	15.37	-3.1	-9.6	
8,226.0	0.88	210.42	8,219.1	-213.6	-26.2	0.03	0.00	-2.04	-5.4	-9.9	
8,417.0	0.97	196.00	8,410.1	-216.4	-27.4	0.13	0.05	-7.55	-5.8	-11.3	
8,607.0	1.58	197.23	8,600.1	-220.5	-28.7	0.32	0.32	0.65	-10.2	-11.1	
8,797.0	1.41	180.36	8,790.0	-225.3	-29.4	0.25	-0.09	-8.88	-11.4	-14.4	
8,988.0	1.76	180.36	8,980.9	-230.6	-29.5	0.18	0.18	0.00	-16.7	-14.4	
9,179.0	1.14	208.31	9,171.9	-235.2	-30.4	0.48	-0.32	14.63	-26.0	-3.5	
9,370.0	0.79	285.12	9,362.9	-236.6	-32.6	0.64	-0.18	40.21	-11.1	26.4	
9,560.0	0.79	304.99	9,552.8	-235.5	-34.9	0.14	0.00	10.46	-4.0	29.0	
9,751.0	0.97	350.69	9,743.8	-233.1	-36.3	0.37	0.09	23.93	15.4	24.1	
9,941.0	1.49	28.31	9,933.8	-229.3	-35.3	0.49	0.27	19.80	23.2	10.6	



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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)	Bulid (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
10,132.0	1.87	3.00	10,124.7	-224.4	-34.0	0.37	0.09	-13.25	11.4	18.4	
10,323.0	1.78	323.27	10,315.6	-219.3	-35.8	0.61	0.05	-20.80	-8.1	19.7	
10,512.0	1.41	189.50	10,504.6	-219.2	-37.7	1.54	-0.19	-70.78	-8.9	-21.8	
10,702.0	1.32	109.34	10,694.8	-222.2	-36.1	0.93	-0.05	-42.19	17.1	-14.8	
10,893.0	1.08	137.29	10,885.5	-224.3	-32.8	0.33	-0.14	14.63	4.5	-20.0	
11,084.0	0.53	158.21	11,076.5	-226.4	-31.3	0.31	-0.28	10.95	-5.5	-19.7	
11,274.0	0.28	268.43	11,268.5	-227.2	-31.4	0.35	-0.14	58.01	-16.7	12.8	
11,465.0	1.58	333.82	11,457.5	-224.9	-33.0	0.78	0.69	34.24	1.8	20.9	
11,656.0	1.93	12.31	11,648.4	-219.4	-33.4	0.63	0.18	20.15	9.2	18.9	
11,847.0	0.97	292.51	11,839.3	-215.8	-34.2	1.05	-0.50	-41.78	-17.2	8.9	
12,038.0	0.35	159.09	12,030.3	-215.5	-35.5	0.65	-0.32	-69.85	5.9	-19.7	
12,072.0	0.26	154.87	12,064.3	-215.7	-35.5	0.27	-0.28	-12.41	7.2	-18.2	
12,256.0	2.37	13.37	12,248.3	-212.4	-34.4	1.40	1.15	-76.90	2.9	19.3	
12,307.4	10.85	359.79	12,299.2	-206.5	-34.2	16.68	16.52	-26.44	-7.5	19.2	
KOP (LB 9 Fed #701H)											
12,352.0	18.28	358.25	12,342.4	-195.3	-34.4	16.68	16.68	-3.45	-17.2	18.1	
12,357.2	19.27	358.51	12,347.3	-193.6	-34.5	18.92	18.85	5.08	-18.2	19.2	
HL Crossing, MD:12357.2', TVD:12347.3', N/S:-193.6', E/W:-34.5', INC:19.27											
12,447.0	36.23	0.89	12,426.5	-151.9	-34.4	18.92	18.89	2.65	-42.6	20.8	
12,542.0	48.72	4.58	12,496.5	-88.0	-31.1	13.40	13.15	3.88	-73.5	21.9	
12,638.2	53.64	9.59	12,555.6	-15.2	-22.0	6.68	5.22	5.32	-98.2	18.3	
FTP (LB 9 Fed #701H)											
12,638.0	53.73	9.68	12,556.6	-13.8	-21.7	6.68	5.33	4.98	-98.6	18.2	
12,683.0	59.09	6.51	12,581.5	23.2	-16.5	13.28	11.91	-7.04	-107.6	8.1	
12,733.0	59.79	4.75	12,606.9	66.1	-12.3	3.34	1.40	-3.52	-113.2	0.5	
12,778.0	60.59	1.59	12,629.3	105.1	-10.1	6.35	1.78	-7.02	-112.7	-5.9	
12,828.0	63.66	358.60	12,652.7	149.3	-10.1	8.10	6.14	-5.98	-107.3	-8.7	



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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)	
12,873.0	83.31	358.43	12,672.8	189.5	-11.1	0.85	-0.78	-0.38	-98.0	-8.1	
12,924.0	64.46	357.02	12,695.2	235.3	-12.9	3.35	2.25	-2.76	-81.8	-6.7	
12,971.0	70.79	357.72	12,713.1	278.7	-14.9	13.54	13.47	1.49	-64.9	-4.6	
13,019.0	70.26	357.37	12,729.1	323.9	-16.8	1.30	-1.10	-0.73	-48.5	-3.0	
13,066.0	78.06	358.43	12,742.7	368.8	-18.5	12.53	12.34	2.26	-34.6	-1.6	
13,114.0	80.11	359.30	12,752.6	415.7	-19.4	8.62	8.44	1.81	-24.3	-1.1	
13,161.0	79.78	358.07	12,760.8	462.0	-20.5	2.88	-0.74	-2.62	-15.7	-0.4	
13,210.0	87.14	357.02	12,766.4	510.6	-22.6	15.21	15.06	-2.14	-9.8	1.3	
13,305.0	92.07	356.67	12,787.1	605.4	-27.8	5.20	5.19	-0.37	-8.4	5.7	
13,401.0	91.98	0.54	12,763.7	701.3	-30.1	4.03	-0.09	4.03	-11.1	7.1	
13,486.0	88.64	4.05	12,763.2	786.2	-26.3	5.10	-3.52	3.69	-10.9	2.5	
13,591.0	86.09	5.11	12,767.5	890.8	-18.7	2.91	-2.68	1.12	-5.8	-5.9	
13,687.0	89.25	1.94	12,771.4	986.5	-12.8	4.66	3.29	-3.30	-1.1	-12.6	
13,782.0	88.79	0.18	12,774.7	1,081.4	-11.1	3.18	-2.59	-1.85	2.9	-15.2	
13,878.0	84.77	358.43	12,781.8	1,177.2	-12.3	2.78	-2.10	-1.82	10.6	-14.9	
13,973.0	88.29	358.07	12,787.5	1,271.9	-15.1	3.72	3.71	-0.38	17.1	-12.8	
14,068.0	89.52	358.95	12,789.3	1,366.9	-17.6	1.59	1.29	0.93	19.7	-11.2	
14,164.0	90.84	0.01	12,789.0	1,462.9	-18.5	1.78	1.37	1.10	20.1	-11.1	
14,259.0	88.81	359.83	12,789.3	1,557.9	-18.6	2.15	-2.14	-0.19	21.1	-11.8	
14,355.0	90.75	1.59	12,789.7	1,653.9	-17.4	2.73	2.02	1.83	22.2	-13.8	
14,450.0	91.80	2.64	12,787.8	1,748.8	-13.9	1.56	1.11	1.11	20.9	-18.1	
14,545.0	88.97	0.36	12,788.6	1,843.7	-11.4	5.62	-5.08	-2.40	22.6	-21.5	
14,641.0	87.85	358.60	12,792.9	1,939.6	-12.3	2.05	0.92	-1.83	27.6	-21.5	
14,736.0	90.13	357.90	12,794.6	2,034.5	-15.2	2.51	2.40	-0.74	30.0	-19.4	
14,831.0	89.96	357.80	12,794.5	2,129.5	-18.7	0.18	-0.18	0.00	30.7	-16.7	
14,927.0	89.43	357.72	12,795.0	2,225.4	-22.4	0.58	-0.55	-0.19	31.9	-13.9	
15,022.0	93.83	357.37	12,792.3	2,320.2	-26.4	4.65	4.63	-0.37	30.0	-10.7	



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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)	
15,117.0	93.47	359.13	12,786.3	2,415.0	-29.3	1.89	-0.38	1.85	24.6	-8.6	
15,213.0	90.04	0.01	12,783.4	2,510.9	-30.0	3.69	-3.57	0.82	22.4	-8.7	
15,308.0	90.22	0.01	12,783.1	2,605.9	-30.0	0.19	0.19	0.00	22.9	-9.5	
15,404.0	91.19	0.54	12,782.0	2,701.9	-29.6	1.15	1.01	0.55	22.5	-10.8	
15,499.0	88.37	2.12	12,782.3	2,796.9	-27.4	3.40	-2.97	1.66	23.6	-13.9	
15,594.0	89.78	3.35	12,783.9	2,891.8	-22.8	1.97	1.48	1.29	25.9	-19.2	
15,690.0	89.52	0.36	12,784.4	2,987.7	-19.7	3.13	-0.27	-3.11	27.2	-23.2	
15,785.0	88.20	358.07	12,786.3	3,082.7	-21.0	2.78	-1.39	-2.41	29.8	-22.7	
15,880.0	87.76	357.37	12,789.7	3,177.5	-24.8	0.87	-0.46	-0.74	33.8	-19.7	
15,976.0	88.29	356.84	12,793.0	3,273.3	-29.6	0.78	0.55	-0.55	37.9	-15.7	
16,071.0	91.63	0.71	12,793.1	3,368.3	-31.7	5.38	3.52	4.07	38.7	-14.5	
16,166.0	88.72	0.54	12,792.8	3,463.3	-30.6	3.07	-3.06	-0.18	39.1	-16.4	
16,251.7	89.19	359.91	12,794.3	3,548.9	-30.3	0.92	0.55	-0.74	41.3	-17.5	
TOT 1 (LB 9 Fed #701H)											
16,262.0	89.25	359.83	12,794.5	3,559.3	-30.3	0.92	0.55	-0.74	41.5	-17.5	
16,357.0	89.16	359.66	12,795.8	3,654.2	-30.8	0.20	-0.09	-0.18	43.7	-17.9	
16,452.0	90.13	0.71	12,796.4	3,749.2	-30.4	1.50	1.02	1.11	45.1	-19.1	
16,548.0	93.47	1.59	12,793.4	3,845.2	-28.5	3.60	3.48	0.92	43.0	-21.8	
16,643.0	90.04	0.18	12,790.5	3,940.1	-27.1	3.90	-3.61	-1.48	40.9	-24.1	
16,738.0	90.04	0.18	12,790.4	4,035.1	-26.8	0.00	0.00	0.00	41.7	-25.2	
16,834.0	89.52	359.83	12,790.8	4,131.1	-26.7	0.65	-0.54	-0.36	42.9	-26.1	
16,929.0	90.48	0.01	12,790.8	4,226.1	-26.9	1.03	1.01	0.19	43.7	-26.7	
17,025.0	90.92	358.95	12,789.6	4,322.1	-27.8	1.20	0.46	-1.10	43.4	-26.7	
17,120.0	90.31	357.37	12,788.6	4,417.0	-30.8	1.78	-0.64	-1.66	43.2	-24.5	
17,215.0	91.45	358.07	12,787.1	4,511.9	-34.6	1.41	1.20	0.74	42.6	-21.5	
17,311.0	89.34	355.96	12,786.4	4,607.8	-39.6	3.11	-2.20	-2.20	42.8	-17.3	
17,406.0	91.01	357.20	12,786.2	4,702.6	-45.2	2.19	1.76	1.31	43.3	-12.5	



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3359.0usft
Site:	Lobo Blanco 9 Fed	MD Reference:	KB = 22' @ 3359.0usft
Well:	#701H	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)	
17,501.0	92.33	357.02	12,783.4	4,797.4	-50.0	1.40	1.39	-0.19	41.4	-8.5	
17,597.0	91.80	359.30	12,779.9	4,893.3	-53.1	2.44	-0.55	2.37	38.8	-6.3	
17,692.0	91.54	359.66	12,777.2	4,988.3	-54.0	0.47	-0.27	0.38	36.8	-6.2	
17,714.0	92.07	0.01	12,776.5	5,010.3	-54.0	2.89	2.41	1.59	36.3	-6.4	
17,815.0	91.80	359.83	12,773.1	5,111.2	-54.2	0.32	-0.27	-0.18	33.8	-7.1	
17,910.0	89.69	0.01	12,771.8	5,206.2	-54.3	2.23	-2.22	0.19	33.4	-7.8	
18,006.0	89.69	359.83	12,772.3	5,302.2	-54.4	0.19	0.00	-0.19	34.8	-8.5	
18,101.0	90.04	0.01	12,772.6	5,397.2	-54.6	0.41	0.37	0.19	35.8	-9.2	
18,196.0	90.40	359.66	12,772.2	5,492.2	-54.9	0.53	0.38	-0.37	36.3	-9.7	
18,292.0	90.66	359.48	12,771.3	5,588.2	-55.6	0.33	0.27	-0.19	36.3	-9.8	
18,387.0	90.84	0.18	12,770.1	5,683.2	-55.8	0.76	0.19	0.74	35.9	-10.4	
18,482.0	91.01	0.18	12,768.5	5,778.2	-55.6	0.18	0.18	0.00	35.2	-11.5	
18,524.1	91.16	0.18	12,767.7	5,820.3	-55.4	0.36	0.36	0.00	34.7	-12.0	
TOT 2 (LB 9 Fed #701H)											
18,578.0	91.38	0.18	12,766.5	5,874.1	-55.3	0.36	0.36	0.00	34.3	-12.6	
18,673.0	91.98	0.18	12,763.8	5,969.1	-55.0	0.65	0.65	0.00	32.8	-13.7	
18,768.0	92.15	359.48	12,760.4	6,064.0	-55.2	0.76	0.16	-0.74	30.7	-14.3	
18,864.0	91.01	0.18	12,757.7	6,160.0	-55.5	1.39	-1.19	0.73	29.4	-14.8	
18,959.0	89.52	359.83	12,757.3	6,255.0	-55.5	1.61	-1.57	-0.37	30.3	-15.7	
19,055.0	89.69	359.48	12,757.9	6,351.0	-56.1	0.41	0.18	-0.36	32.3	-15.9	
19,150.0	90.04	359.13	12,758.2	6,446.0	-57.2	0.52	0.37	-0.37	33.8	-15.6	
19,245.0	90.84	358.78	12,757.4	6,541.0	-59.0	0.92	0.84	-0.37	34.4	-14.7	
19,341.0	90.82	358.95	12,755.9	6,636.9	-60.9	0.20	0.08	0.18	34.3	-13.6	
19,436.0	90.31	358.78	12,754.9	6,731.9	-62.8	0.67	-0.64	-0.18	34.6	-12.5	
19,531.0	89.86	359.13	12,754.7	6,826.9	-64.5	0.52	-0.37	0.37	35.7	-11.8	
19,627.0	90.40	359.13	12,754.4	6,922.9	-65.9	0.46	0.46	0.00	36.7	-11.0	
19,722.0	90.40	358.95	12,753.7	7,017.9	-67.5	0.19	0.00	-0.19	37.4	-10.2	



Final PVA Report

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Lobo Blanco 9 Fed
Well: #701H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #701H
TVD Reference: KB = 22' @ 3359.0usft
MD Reference: KB = 22' @ 3359.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
19,817.0	90.84	358.60	12,752.7	7,112.8	-69.6	0.59	0.46	-0.37	37.7	-9.0
19,913.0	91.80	359.13	12,750.5	7,208.8	-71.5	1.14	1.00	0.55	36.8	-7.9
19,964.5	90.80	358.84	12,749.3	7,260.3	-72.4	2.02	-1.94	-0.56	36.3	-7.5
TGT 3 (LB 9 Fed #701H)										
20,008.0	89.96	358.60	12,749.0	7,303.8	-73.4	2.02	-1.94	-0.56	36.9	-6.9
20,104.0	90.75	358.43	12,748.4	7,399.7	-75.8	0.84	0.82	-0.18	36.7	-5.2
20,199.0	90.75	358.07	12,747.2	7,494.7	-78.7	0.38	0.00	-0.38	39.8	-3.2
20,294.0	90.75	357.55	12,746.0	7,589.6	-82.4	0.55	0.00	-0.55	40.9	-0.4
20,390.0	89.34	359.30	12,745.9	7,685.6	-85.0	2.34	-1.47	1.82	43.1	1.5
20,485.0	90.48	357.90	12,746.0	7,780.5	-87.3	1.90	1.20	-1.47	45.6	3.0
20,580.0	88.55	0.89	12,746.8	7,875.5	-88.3	3.75	-2.03	3.15	48.7	3.2
20,676.0	88.72	0.89	12,748.1	7,971.5	-88.8	0.18	0.18	0.00	53.3	0.9
20,771.0	90.48	1.59	12,749.8	8,068.4	-84.8	1.99	1.85	0.74	56.3	-2.0
20,780.8	91.02	1.59	12,749.5	8,088.2	-84.2	2.75	2.75	0.00	56.6	-2.7
TGT 4 (LB 9 Fed #701H)										
20,887.0	93.12	1.59	12,748.8	8,162.3	-82.1	2.75	2.75	0.00	54.8	-5.5
20,962.0	93.65	2.82	12,741.2	8,257.1	-78.5	1.41	0.56	1.29	50.2	-9.9
21,057.0	89.52	4.05	12,738.5	8,351.9	-72.8	4.54	-4.35	1.29	48.5	-16.4
21,152.0	90.75	2.47	12,738.3	8,448.7	-67.4	2.11	1.29	-1.66	49.2	-22.7
21,248.0	88.46	2.47	12,739.0	8,542.6	-63.3	2.39	-2.39	0.00	50.8	-27.7
21,351.0	87.49	1.59	12,742.6	8,645.5	-59.6	1.27	-0.94	-0.85	55.5	-32.2
21,446.0	87.58	0.01	12,748.7	8,740.4	-58.3	1.66	0.09	-1.66	60.5	-34.4
21,542.0	88.55	0.01	12,749.9	8,838.3	-58.3	1.01	1.01	0.00	64.7	-35.2
21,637.0	88.08	0.71	12,751.9	8,931.3	-57.7	0.92	0.56	0.74	67.6	-36.6
21,732.0	92.59	358.60	12,750.5	9,026.3	-58.2	4.31	3.69	-2.22	67.2	-36.9
21,769.3	92.66	358.60	12,748.8	9,063.5	-59.1	0.19	0.19	0.00	65.8	-36.3
TGT 5 (LB 9 Fed #701H)										



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 22' @ 3359.0usft
Site:	Lobo Blanco 9 Fed	MD Reference:	KB = 22' @ 3359.0usft
Well:	#701H	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)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
21,828.0	92.77	358.60	12,746.0	9,122.1	-60.6	0.19	0.19	0.00	63.8	-35.4
21,923.0	91.63	359.83	12,742.4	9,217.1	-81.9	1.76	-1.20	1.29	61.4	-34.9
22,019.0	92.42	359.66	12,739.0	9,313.0	-62.3	0.84	0.82	-0.18	59.2	-35.3
22,114.0	93.30	0.01	12,734.3	9,407.9	-62.6	1.00	0.93	0.37	55.7	-35.8
22,209.0	89.78	358.25	12,731.7	9,502.8	-84.0	4.14	-3.71	-1.85	54.3	-35.2
22,305.0	90.57	358.95	12,731.4	9,598.8	-66.4	1.10	0.82	0.73	55.3	-33.7
22,400.0	91.19	359.48	12,729.9	9,693.8	-67.7	0.86	0.65	0.56	55.0	-33.2
22,496.0	91.36	359.66	12,727.8	9,789.7	-68.4	0.26	0.18	0.19	54.1	-33.3
22,591.0	92.24	1.06	12,724.8	9,884.7	-67.8	1.74	0.93	1.47	52.3	-34.7
22,686.0	90.40	359.66	12,722.6	9,979.6	-67.2	2.43	-1.94	-1.47	51.3	-36.2
22,782.0	91.28	0.71	12,721.2	10,075.6	-66.9	1.43	0.92	1.09	51.2	-37.3
22,815.0	89.52	358.95	12,721.0	10,106.6	-67.0	7.54	-5.33	-5.33	51.3	-37.5
Final MWD Survey (MD=22815.0')										
22,865.6	89.52	358.95	12,721.4	10,159.2	-67.9	0.00	0.00	0.00	52.4	-37.0
PBHL (LB 9 Fed #701H)										
22,866.0	89.52	358.95	12,721.4	10,159.6	-67.9	0.00	0.00	0.00	52.4	-37.0
Final Projection to Bit (MD=22866.0')										

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,357.2	12,347.3	-193.6	-34.5	HL Crossing, MD:12357.2', TVD:12347.3', N/S:-193.6', E/W:-34.5', INC:19.27
22,815.0	12,721.0	10,108.6	-67.0	Final MWD Survey (MD=22815.0')
22,866.0	12,721.4	10,159.6	-67.9	Final Projection to Bit (MD=22866.0')

Checked By: _____ Approved By: _____ Date: _____

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

Kay Maddox 11/19/2019
Signed Date



Lea County, NM (NAD 83 NME)

Lobo Blanco 9 Fed #701H

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: #701H

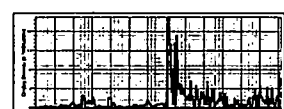
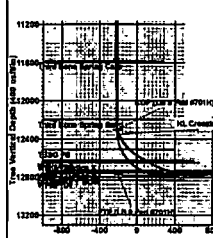
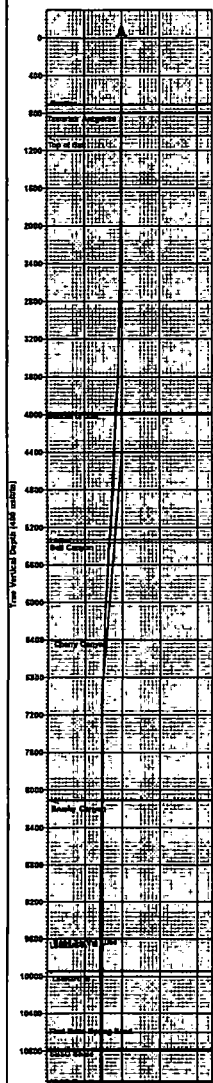
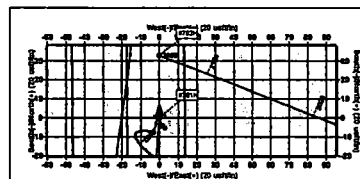
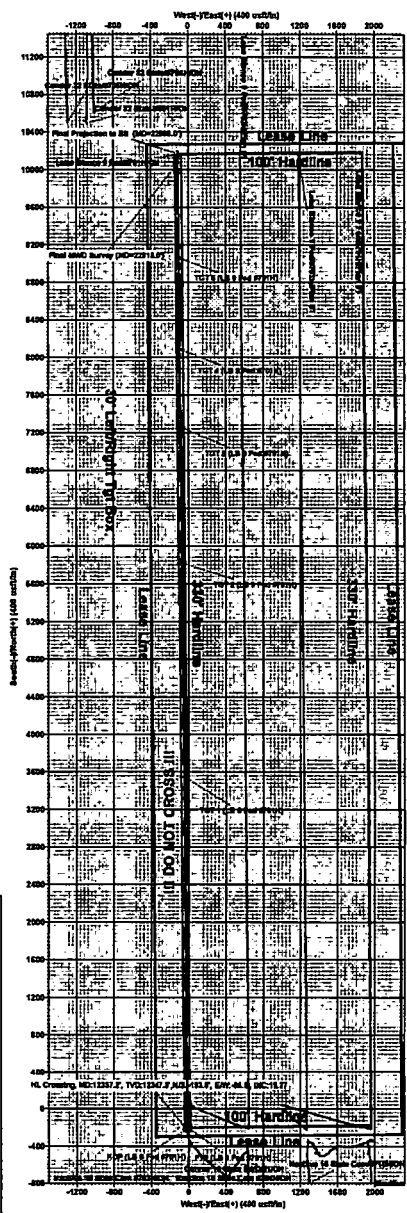
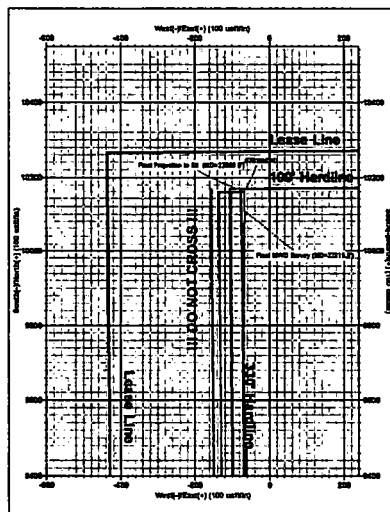
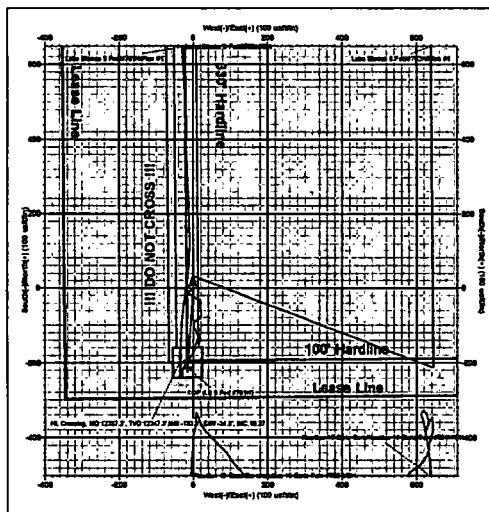
KB = 22' @ 3359.0usft 3337.0
Northing 383514.00 Easting 805018.00 Latitude 32° 3' 54.10 N Longitude 103° 28' 56.122 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4325.0	0.00	0.00	4325.0	0.0	0.0	0.00	0.00	0.0	
3	4575.2	5.00	184.01	4574.9	-10.9	-0.8	2.00	184.01	-10.9	
4	6783.8	5.00	184.01	6775.1	-203.1	-14.2	0.00	0.00	-202.9	
5	7034.1	0.00	0.00	7025.0	-214.0	-15.0	2.00	180.00	-213.8	
6	12309.7	0.00	0.00	12300.8	-214.0	-15.0	0.00	0.00	-213.8	KOP (LB 9 Fed #701H)
7	13063.3	90.44	359.50	12778.1	287.1	-19.2	12.00	359.50	287.3	
8	16346.1	90.44	359.50	12753.0	3549.7	-47.8	0.00	0.00	3550.0	TGT 1 (LB 9 Fed #701H)
9	18349.5	90.50	359.50	12753.0	3553.1	-47.8	2.00	3.34	3553.4	
10	18816.2	90.50	359.50	12733.0	5819.6	-67.4	0.00	0.00	5820.0	TGT 2 (LB 9 Fed #701H)
11	18830.8	90.50	359.50	12732.8	5834.2	-67.5	2.00	0.00	5834.6	
12	20056.4	90.50	359.50	12713.0	7259.8	-79.8	0.00	0.00	7260.0	TGT 3 (LB 9 Fed #701H)
13	20086.5	91.40	359.50	12712.4	7289.7	-80.1	2.00	0.00	7290.2	
14	20881.6	91.40	359.50	12693.0	8084.5	-87.0	0.00	0.00	8085.0	TGT 4 (LB 9 Fed #701H)
15	20923.1	90.57	359.50	12692.3	8126.0	-87.3	2.00	-160.00	8126.5	
16	21856.7	90.57	359.50	12683.0	9059.5	-95.4	0.00	0.00	9060.0	TGT 5 (LB 9 Fed #701H)
17	21864.7	90.73	359.50	12682.9	9067.5	-95.5	2.00	0.00	9068.0	
18	22958.3	90.73	359.50	12689.0	10159.0	-104.9	0.00	0.00	10159.5	PBHL (LB 9 Fed #701H)

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP (LB 9 Fed #701H)	12300.8	-214.0	-15.0	383500.00	805003.00
PBHL (LB 9 Fed #701H)	12689.0	-104.9	-15.0	383520.00	804913.10
TGT 1 (LB 9 Fed #701H)	12753.0	-47.8	-4.4	383572.00	804922.60
TGT 2 (LB 9 Fed #701H)	12733.0	-67.4	-6.4	381038.00	804931.03
TGT 3 (LB 9 Fed #701H)	12713.0	-79.8	-7.8	380773.60	804938.18
TGT 4 (LB 9 Fed #701H)	12693.0	-87.0	-8.7	382333.00	804950.50
TGT 5 (LB 9 Fed #701H)	12683.0	-95.4	-9.5	382083.70	804970.22
FTP (LB 9 Fed #701H)	12776.0	-104.9	-15.0	383320.00	805003.00



Vertical Section at 333.41' (500 usft)