



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Della 29 Fed

#604H

OH

Design: OH

Final PVA Report

09 January, 2019

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Final PVA Report

Company:	EOG Resources - Midland			Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)			TVD Reference:	KB = 25 @ 3740.0usft
Site:	Della 28 Fed			MD Reference:	KB = 25 @ 3740.0usft
Well:	#604H			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	Della 28 Fed				
Site Position:		Northing:	560,090.00 usft	Latitude:	32° 32' 15.011 N
From:	Map	Easting:	772,759.00 usft	Longitude:	103° 34' 56.564 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 "

Well	#604H					
Well Position	+N-S	0.0 usft	Northing:	560,090.00 usft	Latitude:	32° 32' 15.011 N
	+E-W	0.0 usft	Easting:	772,760.00 usft	Longitude:	103° 34' 56.552 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,715.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/18/2017	6.97	60.35	48,112.25355876

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	352.91	

Survey Program	Date	1/9/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
199.0	16,116.0	Total MWD #1 (OH)	MWD	OWSG MWD - Standard	



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Well:	#604H	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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
199.0	0.30	190.20	199.0	-0.5	-0.1	0.15	0.15	0.00	-0.5	0.0
225.0	0.30	163.70	225.0	-0.6	-0.1	0.53	0.00	-101.92	-0.6	-0.3
283.0	0.40	169.90	283.0	-1.0	0.0	0.18	0.17	10.69	-1.0	-0.2
346.0	0.20	147.20	346.0	-1.3	0.1	0.36	-0.32	-36.03	-1.1	-0.6
526.0	0.30	226.30	526.0	-1.9	-0.1	0.18	0.06	43.94	-1.4	1.3
588.0	0.30	285.30	588.0	-2.0	-0.4	0.48	0.00	95.16	0.2	2.0
650.0	0.80	281.90	650.0	-1.8	-0.9	0.81	0.81	-5.48	-0.5	2.0
808.0	0.80	284.30	808.0	-1.3	-3.1	0.02	0.00	1.52	-2.7	2.0
903.0	1.00	270.10	903.0	-1.2	-4.6	0.31	0.21	-14.95	-4.6	1.2
1,092.0	0.90	229.30	1,091.9	-2.1	-7.3	0.35	-0.05	-21.59	-6.9	-3.2
1,186.0	0.50	244.20	1,185.9	-2.8	-8.3	0.46	-0.43	15.85	-8.6	-1.1
1,280.0	0.80	223.80	1,279.9	-3.4	-9.1	0.40	0.32	-21.70	-8.8	-4.2
1,375.0	0.50	189.50	1,374.9	-4.3	-9.6	0.50	-0.32	-36.11	-5.9	-8.8
1,470.0	0.90	195.20	1,469.9	-5.5	-9.9	0.43	0.42	6.00	-7.9	-8.1
1,564.0	0.80	195.30	1,563.9	-6.8	-10.2	0.11	-0.11	0.11	-9.3	-8.1
1,659.0	0.80	164.70	1,658.9	-8.1	-10.2	0.44	0.00	-32.21	-5.1	-12.0
1,717.0	0.90	160.10	1,716.9	-8.9	-10.0	0.21	0.17	-7.93	-5.0	-12.4
1,754.0	0.90	309.70	1,753.9	-9.0	-10.1	4.69	0.00	404.32	-2.0	13.4
1,849.0	2.10	103.20	1,848.9	-6.9	-9.0	3.09	1.26	161.58	6.7	-10.7
1,943.0	1.20	86.60	1,942.8	-9.2	-6.3	1.07	-0.96	-17.66	6.9	-8.9
2,038.0	0.80	16.40	2,037.8	-8.6	-5.1	1.23	-0.42	-71.79	9.7	2.2
2,132.0	1.30	343.60	2,131.8	-6.9	-5.2	0.84	0.53	-37.02	5.2	7.0
2,227.0	1.30	344.50	2,226.8	-4.8	-5.8	0.02	0.00	0.95	3.1	6.9
2,321.0	1.40	343.50	2,320.8	-2.7	-6.4	0.11	0.11	-1.06	0.8	6.9
2,416.0	1.20	344.50	2,415.7	-0.6	-7.0	0.21	-0.21	1.05	-1.3	6.9
2,510.0	1.30	344.50	2,509.7	1.3	-7.6	0.11	0.11	0.00	-3.3	6.9



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #804H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3740.0usft
Site:	Della 28 Fed	MD Reference:	KB = 25 @ 3740.0usft
Well:	#804H	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)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
2,605.0	2.60	343.40	2,604.6	4.4	-8.5	1.37	1.37	-1.16	-6.7	6.8
2,699.0	1.50	304.50	2,698.6	7.2	-10.1	1.82	-1.17	-41.38	-12.4	-0.2
2,784.0	3.50	267.50	2,793.5	7.8	-14.0	2.60	2.11	-38.95	-13.6	-8.4
2,889.0	5.20	259.50	2,888.2	6.9	-21.1	1.90	1.79	-8.42	-19.5	-10.6
2,983.0	6.30	258.30	2,981.8	5.0	-30.4	1.18	1.17	-1.28	-28.7	-11.1
3,077.0	8.80	259.00	3,074.9	2.8	-42.5	2.68	2.68	0.74	-41.0	-10.8
3,172.0	10.90	261.00	3,168.5	-0.2	-58.5	2.24	2.21	2.11	-55.1	-9.5
3,268.0	10.10	256.60	3,261.0	-3.5	-75.3	1.20	-0.85	-4.68	-65.7	-14.8
3,361.0	10.40	249.10	3,354.4	-8.5	-91.4	1.44	0.32	-7.89	-71.2	-23.7
3,455.0	10.20	250.10	3,446.9	-14.3	-107.2	0.29	-0.21	1.06	-76.5	-21.8
3,550.0	10.20	249.60	3,540.4	-20.1	-123.0	0.09	0.00	-0.53	-77.9	-21.8
3,644.0	10.50	249.60	3,632.9	-26.0	-138.8	0.32	0.32	0.00	-78.5	-21.0
3,739.0	10.40	248.80	3,728.3	-32.1	-154.9	0.19	-0.11	-0.84	-79.0	-21.2
3,833.0	10.20	248.80	3,818.8	-38.2	-170.6	0.21	-0.21	0.00	-79.5	-20.1
4,022.0	10.40	249.30	4,004.8	-50.3	-202.1	0.12	0.11	0.26	-80.7	-17.5
4,116.0	10.40	248.50	4,097.2	-56.4	-217.9	0.15	0.00	-0.85	-81.2	-17.7
4,210.0	10.50	248.70	4,189.7	-62.6	-233.8	0.11	0.11	0.21	-82.0	-16.3
4,305.0	10.50	248.30	4,283.1	-69.0	-249.9	0.08	0.00	-0.42	-82.7	-15.8
4,494.0	10.90	249.60	4,466.8	-81.6	-282.7	0.25	0.21	0.69	-85.4	-11.9
4,588.0	10.80	250.40	4,561.1	-87.6	-299.3	0.19	-0.11	0.85	-87.0	-10.1
4,683.0	10.80	249.60	4,654.4	-93.7	-316.0	0.16	0.00	-0.84	-88.1	-10.6
4,777.0	10.80	249.70	4,746.7	-99.8	-332.5	0.02	0.00	0.11	-89.5	-9.7
4,872.0	10.70	250.20	4,840.1	-105.9	-349.2	0.14	-0.11	0.53	-90.8	-8.2
4,966.0	10.70	248.80	4,932.4	-112.0	-365.5	0.28	0.00	-1.49	-91.8	-9.6
5,061.0	10.70	250.70	5,025.8	-118.1	-382.1	0.37	0.00	2.00	-93.2	-5.8
5,156.0	10.70	251.80	5,119.1	-123.8	-398.8	0.18	0.00	0.95	-94.4	-4.0
5,262.0	10.50	251.50	5,223.3	-130.0	-417.3	0.19	-0.19	-0.09	-95.5	-3.9



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Well:	#604H	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)	
5,420.0	10.80	250.60	5,378.6	-139.5	-444.9	0.22	0.19	-0.57	-97.3	-4.7	
5,514.0	10.90	250.10	5,470.9	-145.4	-481.6	0.15	0.11	-0.53	-98.6	-5.0	
5,609.0	11.20	250.70	5,564.2	-151.5	-478.7	0.34	0.32	0.63	-100.4	-3.4	
5,703.0	11.50	250.20	5,656.3	-157.7	-486.1	0.34	0.32	-0.53	-102.6	-3.7	
5,797.0	8.60	240.40	5,748.9	-164.4	-511.1	3.57	-3.09	-10.43	-100.8	-19.1	
5,892.0	7.30	229.60	5,843.0	-171.8	-521.8	2.08	-1.37	-11.37	-93.3	-32.3	
5,987.0	7.40	230.40	5,937.2	-178.6	-531.2	0.15	0.11	0.84	-90.5	-24.8	
6,081.0	5.40	225.70	6,030.6	-186.5	-539.0	2.20	-2.13	-5.00	-84.0	-25.2	
6,175.0	4.30	222.40	6,124.3	-192.2	-544.5	1.21	-1.17	-3.51	-76.1	-22.1	
6,270.0	3.90	251.00	6,219.0	-195.9	-550.0	2.17	-0.42	30.11	-67.3	18.7	
6,365.0	4.00	260.30	6,313.6	-197.5	-556.3	0.68	0.11	9.79	-53.5	27.5	
6,460.0	4.00	259.90	6,408.6	-198.7	-562.8	0.03	0.00	-0.42	-43.9	25.0	
6,554.0	3.90	261.80	6,502.4	-199.7	-569.2	0.18	-0.11	2.02	-33.8	23.9	
6,648.0	0.30	219.40	6,596.3	-200.3	-572.5	3.92	-3.83	-45.11	-32.6	0.0	
6,742.0	1.00	98.40	6,690.3	-200.7	-571.9	1.28	0.74	-128.72	7.1	-23.7	
6,837.0	1.50	78.10	6,785.3	-200.5	-569.9	0.70	0.53	-21.37	5.7	-19.3	
6,931.0	1.60	58.60	6,879.2	-199.6	-567.5	0.57	0.11	-20.74	5.5	-17.6	
7,025.0	1.00	288.20	6,973.2	-198.5	-567.1	2.42	-0.64	-128.09	13.0	11.8	
7,214.0	1.40	324.90	7,162.2	-195.8	-569.9	0.36	0.21	14.13	13.1	5.4	
7,309.0	1.50	329.80	7,257.1	-193.8	-571.2	0.16	0.11	4.95	11.1	4.4	
7,403.0	1.60	331.00	7,351.1	-191.6	-572.5	0.11	0.11	1.49	8.7	4.2	
7,497.0	1.50	328.10	7,445.1	-189.4	-573.8	0.14	-0.11	-3.09	5.9	4.6	
7,592.0	1.50	328.30	7,540.0	-187.3	-575.1	0.01	0.00	0.21	3.4	4.5	
7,686.0	1.50	331.10	7,634.0	-185.2	-576.3	0.08	0.00	2.88	1.2	4.4	
7,780.0	1.70	329.80	7,728.0	-182.9	-577.6	0.22	0.21	-1.38	-1.5	4.4	
7,874.0	1.50	339.50	7,821.9	-180.5	-578.7	0.36	-0.21	10.32	-3.4	4.9	
7,969.0	1.60	334.00	7,916.9	-178.2	-579.8	0.19	0.11	-5.79	-6.4	4.4	



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Well:	#604H	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)
8,063.0	1.50	336.50	8,010.9	-175.9	-580.8	0.13	-0.11	2.66	-8.7	4.7
8,158.0	1.30	338.90	8,105.8	-173.7	-581.7	0.22	-0.21	2.53	-10.8	5.1
8,347.0	1.20	330.20	8,294.8	-170.0	-583.5	0.11	-0.05	-4.60	-15.6	3.1
8,441.0	1.20	328.50	8,388.8	-168.3	-584.5	0.04	0.00	-1.81	-17.6	2.6
8,536.0	1.00	324.90	8,483.7	-166.8	-585.5	0.22	-0.21	-3.79	-18.6	1.5
8,630.0	1.00	319.50	8,577.7	-165.5	-586.5	0.10	0.00	-5.74	-21.3	-0.5
8,725.0	1.10	326.30	8,672.7	-164.1	-587.5	0.17	0.11	7.16	-22.9	2.1
8,819.0	1.10	337.10	8,766.7	-162.5	-588.4	0.22	0.00	11.49	-23.9	6.6
8,914.0	1.30	325.50	8,861.7	-160.8	-589.3	0.33	0.21	-12.21	-26.7	1.4
9,102.0	1.50	317.20	9,049.8	-157.2	-592.2	0.15	0.11	-4.41	-31.2	-2.7
9,197.0	0.80	282.10	9,144.8	-156.2	-593.8	0.97	-0.63	-36.95	-25.7	-20.9
9,291.0	0.80	225.20	9,238.6	-156.5	-595.0	0.87	-0.11	-60.53	2.4	-33.6
9,386.0	0.50	214.50	9,333.6	-157.3	-595.7	0.34	-0.32	-11.26	7.5	-32.7
9,480.0	0.40	216.50	9,427.6	-157.9	-596.1	0.11	-0.11	2.13	5.6	-32.9
9,669.0	0.70	216.20	9,616.8	-159.4	-597.2	0.16	0.16	-0.16	4.0	-32.9
9,763.0	0.80	203.70	9,710.6	-160.5	-597.8	0.28	0.21	-13.30	9.7	-31.4
9,857.0	0.70	223.10	9,804.6	-161.6	-598.5	0.36	-0.21	20.64	-2.5	-32.6
9,952.0	0.70	230.40	9,899.6	-162.4	-599.3	0.09	0.00	7.68	-7.8	-31.9
10,047.0	0.60	237.30	9,994.5	-163.0	-600.2	0.13	-0.11	7.26	-12.6	-30.7
10,141.0	0.50	267.50	10,088.5	-163.3	-601.0	0.32	-0.11	32.13	-27.2	-19.9
10,235.0	0.50	296.30	10,182.5	-163.1	-601.8	0.28	0.00	30.64	-34.2	-4.1
10,329.0	0.40	281.60	10,276.5	-162.9	-602.5	0.16	-0.11	-15.64	-32.7	-12.8
10,423.0	0.40	293.80	10,370.5	-162.7	-603.1	0.09	0.00	12.98	-35.3	-5.5
10,518.0	0.60	247.90	10,465.5	-162.7	-603.9	0.45	0.21	-48.32	-21.4	-29.5
10,581.0	0.50	241.10	10,528.5	-163.0	-604.4	0.18	-0.16	-10.79	-18.3	-31.8
10,670.0	2.80	355.60	10,617.5	-161.0	-604.9	3.42	2.58	128.65	-23.3	30.2



Final PVA Report

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Site:	Della 29 Fed	MD Reference:	KB = 25 @ 3740.0usft
Well:	#604H	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)	
10,692.6	4.58	355.40	10,640.1	-159.6	-605.1	7.87	7.87	-0.91	-24.9	30.2	
KOP (Della 29 Fed #604H)											
10,717.0	6.50	355.30	10,664.3	-157.2	-605.2	7.87	7.87	-0.39	-26.8	30.2	
10,812.0	18.10	354.80	10,757.0	-137.1	-607.0	12.21	12.21	-0.53	-35.3	31.0	
10,823.6	19.33	354.13	10,768.0	-133.4	-607.4	10.77	10.61	-5.81	-38.8	30.9	
HL Crossing, MD:10823.6', TVD:10768.0', N/S:-133.4', E/W:-607.4', INC:19.33											
10,859.0	23.10	352.50	10,801.0	-120.7	-608.9	10.77	10.65	-4.58	-41.3	30.8	
10,906.0	24.50	356.20	10,844.0	-101.8	-610.7	4.35	2.98	7.87	-42.6	34.9	
11,001.0	31.90	359.80	10,927.8	-57.0	-612.2	7.97	7.79	3.58	-42.0	38.3	
11,099.0	39.30	351.10	11,007.3	-0.3	-617.2	9.07	7.55	-8.67	-42.5	38.2	
11,148.0	44.00	351.20	11,042.4	30.5	-622.0	10.00	10.00	0.21	-38.2	43.5	
FTP (Della 29 Fed #604H)											
11,193.0	48.20	352.50	11,075.0	64.0	-626.8	9.16	8.94	2.77	-34.8	49.2	
11,240.0	52.30	355.30	11,105.1	100.0	-630.6	9.85	8.72	5.98	-28.7	54.2	
11,287.0	53.80	356.30	11,133.3	137.4	-633.4	3.62	3.19	2.13	-22.1	57.2	
11,350.0	60.10	356.40	11,187.7	190.1	-638.7	10.00	10.00	0.16	-12.0	60.5	
11,382.0	63.20	357.40	11,182.9	218.2	-638.2	10.07	9.69	3.12	-6.4	61.9	
11,426.0	68.30	358.10	11,202.2	261.0	-639.9	10.94	10.85	1.49	1.2	63.4	
11,476.0	73.20	359.00	11,217.8	305.4	-641.0	10.58	10.43	1.91	8.6	64.2	
11,523.0	78.50	0.00	11,229.1	350.9	-641.4	11.46	11.28	2.13	15.4	64.2	
11,571.0	84.00	1.90	11,236.4	398.3	-640.6	12.11	11.46	3.96	21.5	63.0	
11,619.0	88.90	4.10	11,239.4	446.2	-638.1	11.19	10.21	4.58	25.3	60.1	
11,666.0	90.50	4.00	11,239.6	493.0	-634.8	3.41	3.40	-0.21	26.2	56.4	
11,760.0	93.80	5.60	11,236.1	588.6	-627.0	3.90	3.51	1.70	24.0	47.9	
11,855.0	92.20	4.90	11,231.1	681.1	-618.3	1.84	-1.68	-0.74	20.7	38.4	
11,949.0	92.10	4.80	11,227.6	774.7	-610.3	0.15	-0.11	-0.11	18.7	29.7	
12,044.0	89.80	2.50	11,226.0	869.5	-604.3	3.42	-2.42	-2.42	18.7	22.9	



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3740.0usft
Site:	Della 28 Fed	MD Reference:	KB = 25 @ 3740.0usft
Well:	#604H	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)
12,138.0	89.80	1.90	11,226.4	963.4	-600.7	0.64	0.00	-0.64	20.5	18.5
12,233.0	90.10	1.90	11,226.5	1,058.4	-597.5	0.32	0.32	0.00	22.1	14.6
12,327.0	88.80	0.60	11,227.4	1,152.3	-595.5	1.96	-1.38	-1.38	24.6	11.8
12,421.0	89.20	0.60	11,229.0	1,246.3	-594.5	0.43	0.43	0.00	27.7	10.1
12,516.0	88.40	0.50	11,230.2	1,341.3	-593.6	0.24	0.21	-0.11	30.4	8.4
12,610.0	89.70	0.90	11,230.9	1,435.3	-592.4	0.53	0.32	0.43	32.7	6.5
12,705.0	89.70	0.80	11,231.4	1,530.3	-591.0	0.11	0.00	-0.11	34.7	4.4
12,799.0	90.20	1.10	11,231.5	1,624.3	-589.5	0.62	0.53	0.32	36.3	2.0
12,894.0	90.00	1.20	11,231.3	1,719.2	-587.6	0.24	-0.21	0.11	37.7	-0.6
12,988.0	90.00	0.70	11,231.3	1,813.2	-586.0	0.53	0.00	-0.53	39.2	-2.9
13,083.0	90.10	0.40	11,231.2	1,908.2	-585.1	0.33	0.11	-0.32	40.7	-4.6
13,116.9	90.03	0.26	11,231.2	1,942.1	-584.9	0.48	-0.21	-0.43	41.2	-5.1
TGT 1 (Della 28 Fed #604H)										
13,177.0	89.90	0.00	11,231.2	2,002.2	-584.8	0.48	-0.21	-0.43	42.3	-5.7
13,271.0	89.60	359.70	11,231.6	2,096.2	-585.0	0.45	-0.32	-0.32	44.3	-6.2
13,366.0	90.80	359.80	11,231.3	2,191.2	-585.4	1.27	1.26	0.11	45.6	-6.5
13,460.0	91.00	359.50	11,229.8	2,285.2	-586.0	0.38	0.21	-0.32	45.8	-6.7
13,555.0	91.00	358.60	11,228.2	2,380.2	-587.6	0.95	0.00	-0.95	45.8	-5.9
13,649.0	91.10	358.70	11,226.5	2,474.1	-589.8	0.15	0.11	0.11	45.7	-4.5
13,744.0	91.40	358.20	11,224.4	2,569.1	-592.4	0.61	0.32	-0.53	45.3	-2.6
13,839.0	91.40	358.00	11,222.1	2,664.0	-595.5	0.21	0.00	-0.21	44.6	-0.3
13,933.0	91.70	357.50	11,219.5	2,757.9	-599.2	0.62	0.32	-0.53	43.7	2.7
14,028.0	88.50	358.60	11,218.5	2,852.8	-602.4	2.59	-2.32	1.16	44.3	5.2
14,122.0	88.30	357.90	11,219.5	2,946.8	-605.3	0.77	-0.21	-0.74	47.0	7.3
14,217.0	88.60	359.00	11,220.4	3,041.7	-607.9	1.20	0.32	1.16	49.5	9.1
14,311.0	91.80	359.60	11,219.2	3,135.7	-609.0	2.53	2.45	0.64	49.9	9.5
14,405.0	92.50	359.00	11,215.6	3,229.6	-610.2	0.80	0.64	-0.64	48.0	9.9



Final PVA Report

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Delta 29 Fed
 Well: #604H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #604H
 TVD Reference: KB = 25 @ 3740.0usft
 MD Reference: KB = 25 @ 3740.0usft
 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)	
14,500.0	90.70	1.10	11,212.9	3,324.6	-610.1	2.91	-1.89	2.21	46.9	9.1	
14,595.0	90.50	1.10	11,211.9	3,419.6	-608.3	0.21	-0.21	0.00	47.6	6.5	
14,689.0	90.90	1.10	11,210.8	3,513.5	-606.4	0.43	0.43	0.00	48.1	3.9	
14,783.0	91.50	0.60	11,208.8	3,607.5	-605.1	0.83	0.64	-0.53	47.8	1.8	
14,878.0	91.40	0.30	11,206.4	3,702.5	-604.3	0.33	-0.11	-0.32	47.0	0.3	
14,972.0	91.30	0.20	11,204.2	3,796.4	-603.9	0.15	-0.11	-0.11	46.4	-0.9	
15,066.0	92.20	0.10	11,201.3	3,890.4	-603.6	0.98	0.98	-0.11	45.2	-1.9	
15,133.0	92.48	0.17	11,198.8	3,957.3	-603.5	0.43	0.42	0.11	43.6	-2.6	
TOT 2 (Delta 29 Fed #604H)											
15,161.0	92.60	0.20	11,197.3	3,985.3	-603.4	0.43	0.42	0.11	42.8	-2.9	
15,255.0	91.50	359.20	11,194.0	4,079.2	-603.9	1.58	-1.17	-1.06	40.9	-3.2	
15,350.0	89.50	359.40	11,193.2	4,174.2	-605.1	2.12	-2.11	0.21	41.5	-2.8	
15,444.0	89.70	358.90	11,193.8	4,268.2	-606.4	0.57	0.21	-0.53	43.6	-2.1	
15,538.0	90.70	359.40	11,193.5	4,362.2	-607.8	1.19	1.06	0.53	44.7	-1.5	
15,633.0	91.40	0.40	11,191.7	4,457.2	-608.0	1.28	0.74	1.05	44.4	-2.1	
15,726.0	92.40	0.80	11,188.7	4,550.1	-607.0	1.16	1.08	0.43	42.7	-3.8	
15,821.0	92.70	0.60	11,184.4	4,645.0	-605.9	0.38	0.32	-0.21	39.9	-5.7	
15,915.0	92.00	0.70	11,180.6	4,738.9	-604.8	0.75	-0.74	0.11	37.5	-7.5	
16,009.0	92.00	0.30	11,177.3	4,832.9	-604.0	0.43	0.00	-0.43	35.7	-9.1	
16,057.0	92.00	0.40	11,175.6	4,880.9	-603.7	0.21	0.00	0.21	34.7	-9.7	
Final MWD Survey (MD=16057.0)											
16,116.0	92.00	0.40	11,173.6	4,839.8	-603.3	0.00	0.00	0.00	33.6	-10.6	
Final Projection to Bit (MD=16116.0) - PBHL (Delta 29 Fed #604H)											



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #604H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3740.0usft
Site:	Della 28 Fed	MD Reference:	KB = 25 @ 3740.0usft
Well:	#604H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
10,823.6	10,768.0	-133.4	-607.4	HL Crossing, MD:10823.6', TVD:10768.0', N/S:-133.4', E/W:-607.4', INC:19.33
16,057.0	11,175.6	4,880.9	-603.7	Final MWD Survey (MD=16057.0')
16,116.0	11,173.6	4,939.8	-603.3	Final Projection to Bit (MD=16116.0')

Checked By: _____	Approved By: _____	Date: _____
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Lea County, NM (NAD 83 NME)

Della 29 Fed

#604H

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

To convert a Magnetic Direction to a Grid Direction, Add 6.57°
To convert a Magnetic Direction to a True Direction, Add 6.97° East
To convert a True Direction to a Grid Direction, Subtract 0.40°

WELL DETAILS: #604H

3715.0
KB = 29 @ 3740.0m
+N-S +E-W Northing Easting Latitude Longitude Stat
0.0 0.0 56000.00 772700.00 32° 32' 15.011 N 103° 34' 58.552 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3045.0	0.00	0.00	3045.0	0.0	0.0	0.00	0.00	0.0	
3	3545.2	10.00	252.38	3542.6	-13.2	-41.5	2.00	252.38	-8.0	
4	6504.9	10.00	252.38	6457.4	-168.8	-531.5	0.00	0.00	-102.0	
5	7005.1	0.00	0.00	6955.0	-182.0	-573.0	2.00	180.00	-109.9	
6	10892.2	0.00	0.00	10842.1	-182.0	-573.0	0.00	0.00	-109.9	KOP (Della 29 Fed #604H)
7	11601.4	90.83	359.54	11215.0	400.2	-577.7	10.00	359.54	468.4	TGT 1 (Della 29 Fed #604H)
8	13143.6	90.93	359.54	11190.0	1942.1	-590.0	0.00	0.00	2000.0	TGT 2 (Della 29 Fed #604H)
9	13147.0	91.00	359.54	11189.9	1945.5	-590.0	2.00	0.00	2003.4	
10	15157.3	91.00	359.54	11155.0	3955.5	-606.1	0.00	0.00	4000.1	
11	15163.5	90.87	359.54	11154.9	3961.6	-606.1	2.00	180.00	4008.1	
12	16141.0	90.87	359.54	11140.0	4939.0	-613.9	0.00	0.00	4977.0	PBHL (Della 29 Fed #604H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
KOP (Della 29 Fed #604H)	10842.1	-182.0	-573.0	55358.00	772187.00	Polygon
PBHL (Della 29 Fed #604H)	11140.0	-132.0	-573.0	56329.01	772144.09	Rectangle (Sides: L0.0 W60.0)
TGT 1 (Della 29 Fed #604H)	11190.0	3955.5	-606.1	564045.60	772183.94	Point
TGT 2 (Della 29 Fed #604H)	11195.0	1942.1	-590.0	563292.10	772170.03	Point
FTT (Della 29 Fed #604H)	11215.0	-132.0	-573.0	55358.00	772187.00	Point

