eog resources

EOG Resources - Midland

Lea County, NM (NAD 83 NME)
Convoy 28 State Com
#602H
OH

Design: OH

Midland PVA

18 April, 2018

Company:	EOG Resources - Midland	**Local Co-ordinate Reference:**	Well #602H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB = 25 @ 3550.0usft
Site:	Convoy 28 State Com	**MD Reference:**	KB = 25 @ 3550.0usft
Well:	#602H	**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 Convoy 28 State Com

Site Position:		**Northing:**	435,221.00 usft	**Latitude:**	32° 11' 39.126 N
From:	Map	**Easting:**	777,172.00 usft	**Longitude:**	103° 34' 15.406 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.41 °

Well #602H

Well Position	**+N/-S**	0.0 usft	**Northing:**	435,285.00 usft	**Latitude:**	32° 11' 39.796 N
	+E/-W	0.0 usft	**Easting:**	776,647.00 usft	**Longitude:**	103° 34' 21.510 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,525.0 usft

Wellbore OH

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	11/30/2017	6.90	60.03	47,872.93289774

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	180.72

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Survey Program **Date** 4/18/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
96.0	1,317.0	Intrepid MWD (OH)	MWD	OWSG MWD - Standard
1,327.0	21,963.0	Leam MWD (OH)	MWD	OWSG MWD - Standard

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
96.0	0.20	161.30	96.0	-0.2	0.1	0.21	0.21	0.00	-0.2	0.0
240.0	0.30	300.80	240.0	-0.2	-0.2	0.33	0.07	96.87	-0.1	0.3
415.0	0.40	315.60	415.0	0.5	-1.0	0.08	0.06	8.46	-1.0	0.4
589.0	0.90	278.00	589.0	1.1	-2.8	0.36	0.29	-21.61	-2.9	-0.7
776.0	1.40	289.90	775.9	2.1	-6.4	0.29	0.27	6.36	-6.7	0.2
962.0	1.60	289.80	961.9	3.7	-11.0	0.11	0.11	-0.05	-11.6	0.2
1,147.0	2.50	292.80	1,146.8	6.2	-17.1	0.49	0.49	1.62	-18.2	1.0
1,261.0	2.20	297.70	1,260.7	8.1	-21.3	0.32	-0.26	4.30	-22.7	2.7
1,317.0	2.20	297.70	1,316.6	9.1	-23.3	0.00	0.00	0.00	-24.8	2.7
1,327.0	2.50	301.10	1,326.6	9.3	-23.6	3.31	3.00	34.01	-25.0	4.2
1,417.0	2.60	301.10	1,416.5	11.4	-27.0	0.11	0.11	0.00	-29.0	4.2
1,511.0	3.00	322.90	1,510.4	14.5	-30.3	1.20	0.43	23.19	-29.8	15.5
1,606.0	2.80	327.70	1,605.3	18.4	-33.1	0.33	-0.21	5.05	-31.3	18.4
1,699.0	2.80	332.80	1,698.2	22.4	-35.3	0.27	0.00	5.48	-30.9	21.4
1,793.0	2.90	327.50	1,792.1	26.4	-37.7	0.30	0.11	-5.64	-34.1	18.7
1,887.0	3.30	338.00	1,885.9	30.9	-40.0	0.74	0.43	11.17	-31.9	24.9
1,981.0	3.80	346.80	1,979.7	36.5	-41.7	0.79	0.53	9.36	-30.3	29.2
2,075.0	3.90	346.60	2,073.5	42.6	-43.1	0.11	0.11	-0.21	-33.5	28.4
2,168.0	3.70	344.00	2,166.3	48.6	-44.7	0.28	-0.22	-2.80	-37.7	26.2
2,262.0	3.80	344.90	2,260.1	54.5	-46.3	0.12	0.11	0.96	-40.2	26.3

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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)
2,356.0	3.60	345.20	2,353.9	60.4	-47.9	0.21	-0.21	0.32	-42.9	25.9
2,450.0	3.70	345.20	2,447.7	66.1	-49.4	0.11	0.11	0.00	-45.7	25.3
2,545.0	3.90	342.60	2,542.5	72.2	-51.2	0.28	0.21	-2.74	-49.5	22.6
2,639.0	3.90	342.60	2,636.3	78.3	-53.1	0.00	0.00	0.00	-49.9	21.8
2,733.0	3.90	338.40	2,730.1	84.3	-55.2	0.30	0.00	-4.47	-51.2	17.5
2,826.0	3.90	338.40	2,822.9	90.2	-57.6	0.00	0.00	0.00	-51.0	17.1
2,919.0	4.00	333.10	2,915.7	96.0	-60.2	0.41	0.11	-5.70	-52.3	12.2
3,013.0	4.00	329.80	3,009.4	101.8	-63.3	0.24	0.00	-3.51	-52.9	9.6
3,106.0	4.50	335.60	3,102.2	107.9	-66.5	0.71	0.54	6.24	-52.1	15.2
3,200.0	4.70	339.40	3,195.9	114.9	-69.3	0.39	0.21	4.04	-51.9	18.3
3,294.0	4.60	339.30	3,289.6	122.0	-72.0	0.11	-0.11	-0.11	-53.1	17.7
3,387.0	4.60	341.20	3,382.3	129.0	-74.5	0.16	0.00	2.04	-53.5	18.9
3,480.0	4.40	344.90	3,475.0	136.0	-76.7	0.38	-0.22	3.98	-53.0	21.4
3,575.0	4.00	345.80	3,569.7	142.7	-78.4	0.43	-0.42	0.95	-53.1	21.1
3,668.0	3.60	342.20	3,662.5	148.6	-80.1	0.50	-0.43	-3.87	-54.1	16.7
3,751.0	3.30	332.00	3,745.4	153.2	-82.0	0.82	-0.36	-12.29	-55.3	6.7
3,854.0	3.50	350.20	3,848.2	159.0	-84.0	1.06	0.19	17.67	-49.5	22.7
3,948.0	3.70	352.40	3,942.0	164.8	-84.9	0.26	0.21	2.34	-48.3	22.7
4,041.0	3.50	346.50	4,034.8	170.5	-85.9	0.45	-0.22	-6.34	-49.8	16.0
4,136.0	3.50	344.70	4,129.6	176.1	-87.4	0.12	0.00	-1.89	-49.5	13.3
4,229.0	3.30	340.00	4,222.5	181.4	-89.0	0.37	-0.22	-5.05	-49.5	8.4
4,323.0	3.80	343.60	4,316.3	186.9	-90.8	0.58	0.53	3.83	-48.2	10.6
4,418.0	4.10	347.70	4,411.1	193.3	-92.4	0.43	0.32	4.32	-47.4	12.8
4,511.0	3.30	358.40	4,503.9	199.2	-93.2	1.13	-0.86	11.51	-44.2	19.4
4,605.0	4.40	344.00	4,597.7	205.4	-94.3	1.55	1.17	-15.32	-47.4	6.1
4,699.0	4.40	351.00	4,691.4	212.4	-95.9	0.57	0.00	7.45	-47.2	10.5
4,763.0	3.50	4.20	4,755.2	216.8	-96.1	1.99	-1.41	20.63	-44.0	19.3

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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)
4,886.0	3.50	355.10	4,878.0	224.2	-96.1	0.45	0.00	-7.40	-45.9	8.6
4,981.0	3.70	347.50	4,972.8	230.1	-97.1	0.54	0.21	-8.00	-46.1	0.7
5,154.0	3.20	342.20	5,145.5	240.2	-99.7	0.34	-0.29	-3.06	-44.3	-5.6
5,248.0	4.20	329.60	5,239.3	245.6	-102.3	1.37	1.06	-13.40	-40.1	-14.7
5,340.0	6.90	337.00	5,330.9	253.6	-106.1	3.03	2.93	8.04	-39.6	-8.8
5,433.0	8.60	342.10	5,423.0	265.4	-110.5	1.97	1.83	5.48	-38.7	-5.5
5,527.0	8.90	342.20	5,515.9	279.0	-114.9	0.32	0.32	0.11	-36.4	-6.1
5,620.0	9.10	338.90	5,607.8	292.7	-119.7	0.60	0.22	-3.55	-33.8	-8.3
5,714.0	8.30	340.70	5,700.7	306.1	-124.6	0.90	-0.85	1.91	-31.4	-7.3
5,808.0	8.00	340.10	5,793.8	318.6	-129.1	0.33	-0.32	-0.64	-27.7	-7.8
5,901.0	8.20	340.80	5,885.8	331.0	-133.5	0.24	0.22	0.75	-24.2	-7.7
5,994.0	7.70	339.80	5,977.9	343.1	-137.8	0.56	-0.54	-1.08	-20.2	-8.2
6,088.0	8.40	334.30	6,071.0	355.2	-143.0	1.11	0.74	-5.85	-15.6	-9.0
6,181.0	8.00	332.20	6,163.1	367.0	-148.9	0.54	-0.43	-2.26	-12.0	-7.6
6,275.0	8.90	331.70	6,256.0	379.2	-155.4	0.96	0.96	-0.53	-9.0	-5.4
6,368.0	8.40	330.80	6,348.0	391.5	-162.1	0.56	-0.54	-0.97	-6.4	-3.1
6,462.0	8.20	331.00	6,441.0	403.3	-168.7	0.21	-0.21	0.21	-3.2	-0.4
6,556.0	8.10	329.60	6,534.0	414.9	-175.3	0.24	-0.11	-1.49	0.1	2.3
6,650.0	8.00	330.10	6,627.1	426.3	-182.0	0.13	-0.11	0.53	3.6	5.2
6,744.0	8.00	329.10	6,720.2	437.6	-188.6	0.15	0.00	-1.06	6.9	8.3
6,837.0	7.70	327.80	6,812.3	448.4	-195.2	0.37	-0.32	-1.40	7.8	11.2
6,930.0	7.20	331.30	6,904.5	458.8	-201.3	0.73	-0.54	3.76	7.4	12.7
7,024.0	6.20	331.20	6,997.9	468.4	-206.6	1.06	-1.06	-0.11	4.5	14.0
7,117.0	4.70	332.40	7,090.5	476.2	-210.8	1.62	-1.61	1.29	1.0	14.6
7,211.0	3.30	336.80	7,184.2	482.1	-213.6	1.52	-1.49	4.68	-2.4	14.9
7,305.0	0.50	18.50	7,278.2	484.9	-214.6	3.13	-2.98	44.36	5.7	14.5
7,399.0	0.70	110.70	7,372.2	485.1	-213.9	0.93	0.21	98.09	13.7	-5.9

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7,493.0	0.50	136.80	7,466.2	484.6	-213.1	0.36	-0.21	27.77	8.8	-11.1
7,586.0	0.70	164.90	7,559.2	483.8	-212.7	0.38	0.22	30.22	1.6	-13.7
7,680.0	0.60	166.50	7,653.2	482.7	-212.4	0.11	-0.11	1.70	0.2	-13.7
7,773.0	0.60	181.80	7,746.2	481.8	-212.3	0.17	0.00	16.45	-4.4	-13.2
7,867.0	0.70	180.90	7,840.2	480.7	-212.3	0.11	0.11	-0.96	-5.3	-13.3
7,961.0	0.60	179.30	7,934.1	479.7	-212.3	0.11	-0.11	-1.70	-6.0	-13.4
8,055.0	1.10	182.10	8,028.1	478.3	-212.4	0.53	0.53	2.98	-8.0	-13.1
8,149.0	0.90	167.30	8,122.1	476.6	-212.2	0.35	-0.21	-15.74	-6.0	-14.9
8,242.0	1.10	170.20	8,215.1	475.0	-211.9	0.22	0.22	3.12	-8.4	-14.6
8,336.0	1.10	174.90	8,309.1	473.3	-211.7	0.10	0.00	5.00	-11.3	-13.7
8,430.0	1.20	185.30	8,403.1	471.4	-211.7	0.25	0.11	11.06	-15.5	-11.3
8,523.0	1.40	177.50	8,496.0	469.3	-211.7	0.29	0.22	-8.39	-15.9	-13.4
8,617.0	0.80	194.90	8,590.0	467.5	-211.9	0.72	-0.64	18.51	-21.0	-7.7
8,711.0	1.10	192.30	8,684.0	466.0	-212.2	0.32	0.32	-2.77	-22.2	-8.7
8,804.0	1.20	185.30	8,777.0	464.1	-212.5	0.19	0.11	-7.53	-22.8	-11.4
8,898.0	0.90	210.40	8,871.0	462.5	-213.0	0.58	-0.32	26.70	-27.1	-0.3
8,992.0	0.80	270.70	8,965.0	461.9	-214.0	0.91	-0.11	64.15	-14.7	24.1
9,085.0	1.00	292.30	9,058.0	462.2	-215.4	0.42	0.22	23.23	-6.2	28.0
9,178.0	0.90	276.30	9,150.9	462.6	-216.9	0.30	-0.11	-17.20	-15.2	25.0
9,272.0	1.10	286.50	9,244.9	462.9	-218.5	0.28	0.21	10.85	-12.2	27.4
9,366.0	0.90	274.60	9,338.9	463.2	-220.1	0.31	-0.21	-12.66	-19.2	24.2
9,460.0	1.10	263.00	9,432.9	463.2	-221.7	0.30	0.21	-12.34	-25.3	19.7
9,554.0	1.70	296.70	9,526.9	463.7	-223.8	1.06	0.64	35.85	-12.3	30.9
9,647.0	2.60	315.50	9,619.8	465.8	-226.6	1.22	0.97	20.22	-5.1	33.6
9,741.0	1.60	348.70	9,713.8	468.6	-228.3	1.63	-1.06	35.32	11.1	32.1
9,835.0	1.80	338.00	9,807.7	471.3	-229.1	0.40	0.21	-11.38	2.1	33.3
9,928.0	1.80	27.80	9,900.7	473.9	-229.0	1.63	0.00	53.55	24.4	21.0

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10,022.0	1.70	27.60	9,994.6	476.5	-227.6	0.11	-0.11	-0.21	21.5	21.1
10,116.0	1.10	4.20	10,088.6	478.6	-226.9	0.87	-0.64	-24.89	9.2	27.3
10,208.0	1.10	3.20	10,180.6	480.4	-226.8	0.02	0.00	-1.09	6.9	27.5
10,302.0	0.80	14.10	10,274.6	481.9	-226.6	0.37	-0.32	11.60	10.5	25.8
10,396.0	0.80	20.90	10,368.6	483.2	-226.2	0.10	0.00	7.23	12.1	24.5
10,490.0	0.60	64.30	10,462.6	484.0	-225.5	0.59	-0.21	46.17	24.7	9.9
10,583.0	0.70	13.00	10,555.5	484.8	-225.0	0.61	0.11	-55.16	6.8	25.1
10,677.0	0.60	331.70	10,649.5	485.8	-225.1	0.50	-0.11	-43.94	-12.3	23.0
10,771.0	0.30	9.70	10,743.5	486.4	-225.3	0.43	-0.32	40.43	3.8	26.0
10,865.0	0.50	146.80	10,837.5	486.3	-225.0	0.80	0.21	145.85	14.7	-21.5
10,957.0	1.00	158.60	10,929.5	485.2	-224.5	0.57	0.54	12.83	8.8	-23.9
11,050.0	1.50	182.80	11,022.5	483.3	-224.3	0.77	0.54	26.02	-3.7	-25.1
11,144.0	1.80	214.60	11,116.5	480.8	-225.1	1.01	0.32	33.83	-18.9	-18.7
11,238.0	1.60	209.40	11,210.4	478.5	-226.6	0.27	-0.21	-5.53	-19.9	-20.5
11,332.0	2.10	210.20	11,304.4	475.8	-228.1	0.53	0.53	0.85	-23.2	-20.2
11,426.0	2.00	220.60	11,398.3	473.1	-230.1	0.41	-0.11	11.06	-29.8	-15.4
11,520.0	2.80	236.80	11,492.3	470.6	-233.1	1.11	0.85	17.23	-36.8	-6.0
11,613.0	3.10	251.00	11,585.1	468.5	-237.3	0.85	0.32	15.27	-41.9	3.8
11,683.0	3.10	244.50	11,655.0	467.1	-240.8	0.50	0.00	-9.29	-45.8	-1.2
11,746.0	4.00	212.00	11,717.9	464.5	-243.5	3.44	1.43	-51.59	-41.6	-26.6
11,839.0	20.90	186.30	11,808.4	445.1	-247.1	18.69	18.17	-27.63	-40.4	-44.5
11,933.0	30.30	183.00	11,893.1	404.7	-250.2	10.11	10.00	-3.51	-56.2	-49.2
12,027.0	41.60	181.10	11,969.1	349.6	-252.0	12.08	12.02	-2.02	-69.4	-52.9
12,073.0	48.80	175.20	12,001.5	317.1	-250.9	18.09	15.65	-12.83	-72.1	-57.7
12,120.0	50.20	175.60	12,032.0	281.4	-248.0	3.05	2.98	0.85	-78.2	-54.3
12,167.0	56.00	173.00	12,060.2	244.1	-244.3	13.11	12.34	-5.53	-79.9	-52.4

Company:	EOG Resources - Midland	**Local Co-ordinate Reference:**	Well #602H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB = 25 @ 3550.0usft
Site:	Convoy 28 State Com	**MD Reference:**	KB = 25 @ 3550.0usft
Well:	#602H	**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)
12,209.7	56.00	172.82	12,084.1	208.9	-239.9	0.35	0.00	-0.43	-80.1	-47.8
FTP Crossing 12209.7' MD; 12084.1' TVD; 208.9'; -239.9'; 56.00										
12,214.0	56.00	172.80	12,086.5	205.4	-239.4	0.35	0.00	-0.43	-79.9	-47.4
12,260.0	59.00	173.30	12,111.2	166.9	-234.8	6.59	6.52	1.09	-75.9	-41.8
12,307.0	58.80	172.60	12,135.5	126.9	-229.8	1.34	-0.43	-1.49	-66.9	-37.0
12,353.0	65.30	173.10	12,157.1	86.7	-224.8	14.16	14.13	1.09	-56.4	-30.8
12,400.0	71.80	173.50	12,174.2	43.2	-219.7	13.85	13.83	0.85	-45.7	-25.0
12,447.0	75.20	174.00	12,187.6	-1.6	-214.8	7.31	7.23	1.06	-34.0	-20.0
12,495.0	77.60	174.50	12,198.9	-48.0	-210.1	5.10	5.00	1.04	-22.9	-15.4
12,547.0	81.20	176.70	12,208.4	-98.9	-206.2	8.08	6.92	4.23	-13.6	-11.6
12,594.0	88.50	177.90	12,212.6	-145.7	-204.0	15.74	15.53	2.55	-9.5	-9.6
12,687.0	89.30	178.10	12,214.4	-238.6	-200.7	0.89	0.86	0.22	-7.8	-7.1
12,782.0	89.30	176.50	12,215.6	-333.5	-196.3	1.68	0.00	-1.68	-6.8	-3.3
12,875.0	89.60	178.60	12,216.5	-426.4	-192.3	2.28	0.32	2.26	-6.0	0.0
12,969.0	91.10	178.40	12,215.9	-520.3	-189.8	1.61	1.60	-0.21	-6.7	1.8
13,062.0	94.10	181.10	12,211.7	-613.2	-189.4	4.34	3.23	2.90	-11.0	1.5
13,157.0	90.80	179.60	12,207.6	-708.1	-190.0	3.82	-3.47	-1.58	-15.2	0.2
13,251.0	86.40	178.90	12,209.9	-802.1	-188.8	4.74	-4.68	-0.74	-13.0	0.7
13,344.0	86.80	180.70	12,215.4	-894.9	-188.4	1.98	0.43	1.94	-7.6	0.4
13,438.0	86.40	178.60	12,221.0	-988.7	-187.9	2.27	-0.43	-2.23	-2.1	0.3
13,531.0	90.10	178.60	12,223.9	-1,081.6	-185.6	3.98	3.98	0.00	0.6	1.9
13,625.0	91.50	180.00	12,222.5	-1,175.6	-184.4	2.11	1.49	1.49	-0.8	2.3
13,720.0	89.30	179.10	12,221.9	-1,270.6	-183.7	2.50	-2.32	-0.95	-1.6	2.4
13,813.0	88.40	178.20	12,223.8	-1,363.5	-181.5	1.37	-0.97	-0.97	0.1	3.9
13,907.0	90.00	179.60	12,225.1	-1,457.5	-179.7	2.26	1.70	1.49	1.3	5.0
14,001.0	90.50	179.60	12,224.7	-1,551.5	-179.0	0.53	0.53	0.00	0.8	4.9
14,094.0	90.00	179.50	12,224.2	-1,644.5	-178.3	0.55	-0.54	-0.11	0.3	5.0

Company:	EOG Resources - Midland	**Local Co-ordinate Reference:**	Well #602H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB = 25 @ 3550.0usft
Site:	Convoy 28 State Com	**MD Reference:**	KB = 25 @ 3550.0usft
Well:	#602H	**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)
14,188.0	89.70	178.60	12,224.5	-1,738.5	-176.8	1.01	-0.32	-0.96	0.4	5.8
14,282.0	90.10	179.30	12,224.7	-1,832.5	-175.0	0.86	0.43	0.74	0.5	6.9
14,375.0	90.70	179.10	12,224.0	-1,925.5	-173.7	0.68	0.65	-0.22	-0.3	7.5
14,470.0	90.80	182.30	12,222.8	-2,020.4	-174.9	3.37	0.11	3.37	-1.7	5.6
14,565.0	91.40	182.50	12,220.9	-2,115.3	-178.9	0.67	0.63	0.21	-3.6	0.9
14,657.0	90.20	180.90	12,219.7	-2,207.3	-181.6	2.17	-1.30	-1.74	-5.0	-2.5
14,753.0	89.40	179.30	12,220.0	-2,303.3	-181.8	1.86	-0.83	-1.67	-4.8	-3.3
14,846.0	90.50	179.80	12,220.1	-2,396.3	-181.0	1.30	1.18	0.54	-4.8	-3.3
14,939.0	87.10	177.00	12,222.0	-2,489.2	-178.4	4.74	-3.66	-3.01	-3.0	-1.4
15,033.0	87.50	177.40	12,226.5	-2,583.0	-173.9	0.60	0.43	0.43	1.5	2.5
15,127.0	90.80	178.90	12,227.8	-2,676.9	-170.8	3.86	3.51	1.60	2.9	4.8
15,221.0	90.00	180.20	12,227.2	-2,770.9	-170.1	1.62	-0.85	1.38	2.3	4.9
15,315.0	90.70	179.50	12,226.6	-2,864.9	-169.8	1.05	0.74	-0.74	1.8	4.4
15,409.0	91.50	178.90	12,224.8	-2,958.9	-168.5	1.06	0.85	-0.64	0.0	5.0
15,502.0	88.40	178.20	12,224.9	-3,051.8	-166.2	3.42	-3.33	-0.75	0.1	6.7
15,595.0	88.60	177.50	12,227.3	-3,144.7	-162.7	0.78	0.22	-0.75	2.6	9.5
15,689.0	95.60	178.20	12,223.9	-3,238.5	-159.2	7.48	7.45	0.74	-0.8	12.3
15,782.0	89.90	177.90	12,219.4	-3,331.3	-156.0	6.14	-6.13	-0.32	-5.2	14.8
15,876.0	86.50	178.60	12,222.4	-3,425.2	-153.1	3.69	-3.62	0.74	-2.3	17.0
15,970.0	88.50	180.30	12,226.5	-3,519.1	-152.2	2.79	2.13	1.81	1.9	17.2
16,064.0	90.70	181.10	12,227.1	-3,613.1	-153.4	2.49	2.34	0.85	2.6	15.3
16,157.0	93.10	180.90	12,224.0	-3,706.0	-155.0	2.59	2.58	-0.22	-0.5	13.0
16,252.0	90.90	180.50	12,220.7	-3,801.0	-156.2	2.35	-2.32	-0.42	-3.8	11.1
16,345.0	88.50	177.40	12,221.2	-3,893.9	-154.5	4.22	-2.58	-3.33	-3.2	12.2
16,439.0	90.70	180.70	12,221.9	-3,987.9	-152.9	4.22	2.34	3.51	-2.5	13.0
16,533.0	88.70	180.50	12,222.4	-4,081.9	-153.9	2.14	-2.13	-0.21	-2.0	11.3
16,626.0	86.40	178.20	12,226.3	-4,174.8	-152.8	3.50	-2.47	-2.47	2.0	11.7

Company:	EOG Resources - Midland	**Local Co-ordinate Reference:**	Well #602H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB = 25 @ 3550.0usft
Site:	Convoy 28 State Com	**MD Reference:**	KB = 25 @ 3550.0usft
Well:	#602H	**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)
16,720.0	87.10	179.50	12,231.7	-4,268.6	-151.0	1.57	0.74	1.38	7.4	12.9
16,814.0	90.50	181.60	12,233.6	-4,362.6	-151.9	4.25	3.62	2.23	9.4	11.3
16,907.0	90.70	182.60	12,232.7	-4,455.5	-155.3	1.10	0.22	1.08	8.5	7.2
17,001.0	91.60	182.30	12,230.8	-4,549.4	-159.3	1.01	0.96	-0.32	6.6	2.5
17,095.0	87.90	178.90	12,231.2	-4,643.4	-160.3	5.35	-3.94	-3.62	7.0	0.8
17,189.0	87.50	181.40	12,235.0	-4,737.3	-160.5	2.69	-0.43	2.66	10.9	-0.2
17,283.0	90.70	185.80	12,236.4	-4,831.0	-166.4	5.79	3.40	4.68	12.4	-6.7
17,377.0	88.50	184.20	12,237.1	-4,924.7	-174.6	2.89	-2.34	-1.70	13.1	-15.6
17,470.0	87.50	183.50	12,240.3	-5,017.4	-180.8	1.31	-1.08	-0.75	16.3	-22.6
17,564.0	88.60	181.90	12,243.5	-5,111.2	-185.3	2.06	1.17	-1.70	19.6	-27.7
17,658.0	90.30	181.10	12,244.4	-5,205.2	-187.7	2.00	1.81	-0.85	20.5	-30.9
17,752.0	91.20	179.50	12,243.2	-5,299.2	-188.2	1.95	0.96	-1.70	19.3	-32.1
17,846.0	89.30	176.80	12,242.8	-5,393.1	-185.2	3.51	-2.02	-2.87	19.0	-29.7
17,939.0	90.90	176.50	12,242.6	-5,486.0	-179.8	1.75	1.72	-0.32	18.8	-25.0
18,032.0	91.30	176.70	12,240.9	-5,578.8	-174.2	0.48	0.43	0.22	17.1	-20.2
18,126.0	91.50	177.40	12,238.6	-5,672.6	-169.4	0.77	0.21	0.74	14.8	-16.0
18,219.0	94.50	177.90	12,233.7	-5,765.4	-165.6	3.27	3.23	0.54	10.0	-12.9
18,344.0	94.80	178.80	12,223.6	-5,889.9	-162.0	0.76	0.24	0.72	-0.1	-10.2
18,438.0	90.00	180.30	12,219.6	-5,983.8	-161.3	5.35	-5.11	1.60	-4.0	-10.2
18,532.0	89.20	179.40	12,220.3	-6,077.8	-161.0	1.28	-0.85	-0.96	-3.3	-10.7
18,625.0	89.70	180.50	12,221.2	-6,170.8	-160.9	1.30	0.54	1.18	-2.4	-11.3
18,719.0	87.30	180.00	12,223.6	-6,264.8	-161.4	2.61	-2.55	-0.53	0.1	-12.4
18,814.0	87.40	180.30	12,228.0	-6,359.7	-161.6	0.33	0.11	0.32	4.6	-13.3
18,908.0	86.80	180.20	12,232.8	-6,453.6	-162.0	0.65	-0.64	-0.11	9.3	-14.4
19,001.0	88.80	180.30	12,236.4	-6,546.5	-162.4	2.15	2.15	0.11	13.0	-15.5
19,094.0	89.40	180.00	12,237.8	-6,639.5	-162.7	0.72	0.65	-0.32	14.5	-16.5
19,187.0	89.20	180.20	12,238.9	-6,732.5	-162.8	0.30	-0.22	0.22	15.6	-17.3

Company:	EOG Resources - Midland	**Local Co-ordinate Reference:**	Well #602H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB = 25 @ 3550.0usft
Site:	Convoy 28 State Com	**MD Reference:**	KB = 25 @ 3550.0usft
Well:	#602H	**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)
19,281.0	89.30	180.50	12,240.2	-6,826.5	-163.4	0.34	0.11	0.32	16.9	-18.6
19,375.0	89.00	180.20	12,241.6	-6,920.4	-164.0	0.45	-0.32	-0.32	18.3	-19.9
19,469.0	90.20	181.60	12,242.2	-7,014.4	-165.5	1.96	1.28	1.49	19.0	-22.0
19,563.0	88.60	180.20	12,243.2	-7,108.4	-166.9	2.26	-1.70	-1.49	20.1	-24.2
19,655.0	86.40	180.00	12,247.2	-7,200.3	-167.1	2.40	-2.39	-0.22	24.1	-25.1
19,750.0	87.80	179.50	12,252.0	-7,295.2	-166.7	1.56	1.47	-0.53	28.9	-25.4
19,843.0	89.00	178.90	12,254.6	-7,388.1	-165.4	1.44	1.29	-0.65	31.6	-24.7
19,937.0	89.10	178.20	12,256.2	-7,482.1	-163.0	0.75	0.11	-0.74	33.2	-23.0
20,031.0	92.20	178.60	12,255.1	-7,576.0	-160.4	3.33	3.30	0.43	32.1	-21.1
20,124.0	91.50	178.40	12,252.1	-7,669.0	-157.9	0.78	-0.75	-0.22	29.2	-19.3
20,218.0	91.70	178.80	12,249.5	-7,762.9	-155.6	0.48	0.21	0.43	26.6	-17.7
20,312.0	91.70	179.50	12,246.7	-7,856.8	-154.2	0.74	0.00	0.74	23.8	-17.0
20,406.0	92.40	179.30	12,243.3	-7,950.8	-153.3	0.77	0.74	-0.21	20.5	-16.7
20,500.0	90.60	179.10	12,240.9	-8,044.7	-152.0	1.93	-1.91	-0.21	18.1	-16.1
20,593.0	89.40	178.60	12,240.9	-8,137.7	-150.1	1.40	-1.29	-0.54	18.1	-14.9
20,687.0	89.90	178.90	12,241.5	-8,231.7	-148.0	0.62	0.53	0.32	18.8	-13.6
20,781.0	89.90	178.10	12,241.6	-8,325.6	-145.6	0.85	0.00	-0.85	19.0	-11.8
20,875.0	89.30	179.10	12,242.3	-8,419.6	-143.3	1.24	-0.64	1.06	19.7	-10.2
20,968.0	89.30	178.40	12,243.4	-8,512.6	-141.3	0.75	0.00	-0.75	20.8	-8.9
21,061.0	88.90	178.10	12,244.9	-8,605.5	-138.4	0.54	-0.43	-0.32	22.3	-6.7
21,155.0	88.60	177.90	12,246.9	-8,699.5	-135.1	0.38	-0.32	-0.21	24.4	-4.1
21,249.0	87.60	178.40	12,250.0	-8,793.3	-132.1	1.19	-1.06	0.53	27.6	-1.8
21,343.0	88.90	178.80	12,252.9	-8,887.3	-129.8	1.45	1.38	0.43	30.5	-0.2
21,437.0	89.00	178.40	12,254.6	-8,981.2	-127.5	0.44	0.11	-0.43	32.3	1.4
21,531.0	88.20	179.10	12,256.9	-9,075.2	-125.5	1.13	-0.85	0.74	34.6	2.8
21,625.0	89.30	179.80	12,259.0	-9,169.2	-124.6	1.39	1.17	0.74	36.7	3.0
21,718.0	91.60	182.50	12,258.3	-9,262.1	-126.4	3.81	2.47	2.90	36.0	0.4

Company:	EOG Resources - Midland	**Local Co-ordinate Reference:**	Well #602H
Project:	Lea County, NM (NAD 83 NME)	**TVD Reference:**	KB = 25 @ 3550.0usft
Site:	Convoy 28 State Com	**MD Reference:**	KB = 25 @ 3550.0usft
Well:	#602H	**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)
21,812.0	93.60	181.60	12,254.0	-9,356.0	-129.8	2.33	2.13	-0.96	31.8	-3.6
21,906.0	92.30	180.20	12,249.1	-9,449.8	-131.3	2.03	-1.38	-1.49	27.0	-5.8
Last MWD Survey (MD = 21906.0)										
21,963.0	92.30	180.20	12,246.9	-9,506.8	-131.5	0.00	0.00	0.00	24.7	-6.4
Projection to Bit (MD = 21963.0)										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
12,209.7	12,084.1	208.9	-239.9	FTP Crossing 12209.7' MD; 12084.1' TVD; 208.9'; -239.9'; 56.00
21,906.0	12,249.1	-9,449.8	-131.3	Last MWD Survey (MD = 21906.0)
21,963.0	12,246.9	-9,506.8	-131.5	Projection to Bit (MD = 21963.0)

Checked By: _____ Approved By: _____ Date: _____

eog resources

Lea County, NM (NAD 83 NME)

Convoy 28 State Com #602H

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

Azimuths to Grid North
True North: -0.41°
Magnetic North: 6.50°

Magnetic Field
Strength: 47872.9snT
Dip Angle: 60.03°
Date: 11/30/2017
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.50°
To convert a Magnetic Direction to a True Direction, Add 6.90° East
To convert a True Direction to a Grid Direction, Subtract 0.41°

WELL DETAILS: #602H			
3525.0			
KB = 25 @ 3550.0usft			
Northing	Easting	Latitude	Longitude
435285.00	776647.00	32° 11' 39.796 N	103° 34' 21.510 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	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1600.0	2.00	335.00	1600.0	1.6	-0.7	2.00	335.00	-1.6	
4	2500.6	2.00	335.00	2500.0	30.1	-14.0	0.00	0.00	-29.9	
5	2600.6	4.00	335.00	2599.9	34.8	-16.2	2.00	0.00	-34.6	
6	5156.9	4.00	335.00	5150.0	196.4	-91.6	0.00	0.00	-195.3	
7	5474.7	10.33	339.81	5465.1	233.2	-106.1	2.00	7.81	-231.9	
8	6715.9	10.33	339.81	6686.2	442.2	-183.0	0.00	0.00	-439.8	
9	7232.5	0.00	0.00	7200.0	485.8	-199.0	2.00	180.00	-483.2	
10	11777.0	0.00	0.00	11744.5	485.8	-199.0	0.00	0.00	-483.2	
11	12526.4	89.93	179.58	12222.0	8.9	-195.5	12.00	179.58	-6.4	
12	15034.1	89.93	179.58	12225.0	-2498.7	-177.0	0.00	0.00	2500.7	TGT 1(Con 28 ST Com #602H)
13	15038.7	90.02	179.57	12225.0	-2503.3	-177.0	2.00	-2.40	2505.3	
14	17534.5	90.02	179.57	12224.0	-4999.0	-158.4	0.00	0.00	5000.6	TGT 2(Con 28 ST Com #602H)
15	20034.8	90.02	179.57	12223.0	-7499.3	-139.9	0.00	0.00	7500.5	TGT 3(Con 28 ST Com #602H)
16	22321.6	90.03	179.58	12222.0	-9786.0	-123.0	0.00	53.57	9786.8	PBHL(Con 28 ST Com #602H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
AC TGT (Con 28 ST Com #602H)	6015.4	327.4	-140.8	435612.40	776506.25
KOP(Con 28 ST Com #602H)	11744.5	485.8	-199.0	435770.78	776448.00
FTP(Con 28 ST Com #602H)	12222.0	207.0	-197.0	435482.00	776450.00
PBHL(Con 28 ST Com #602H)	12222.0	-9786.0	-123.0	425499.00	776524.00
TGT 3(Con 28 ST Com #602H)	12223.0	-7499.3	-139.9	427785.70	776507.10
TGT 2(Con 28 ST Com #602H)	12224.0	-4999.0	-158.4	430286.00	776488.60
TGT 1(Con 28 ST Com #602H)	12225.0	-2498.7	-177.0	432786.30	776470.00