

HOBBS OCD

MAY 29 2018

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Convoy 28 State Com

#701H

OH

Design: OH

PVA Report

13 March, 2018

PVA Report

Company:	EOG Resources - Midland			Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)			TVD Reference:	KB = 25 @ 3546.0usft (HP 465)
Site:	Convoy 28 State Com			MD Reference:	KB = 25 @ 3546.0usft (HP 465)
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						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						#701H							
Well Position		+N/-S		0.0 usft		Northing:		435,221.00 usft		Latitude:		32° 11' 39.126 N	
		+E/-W		0.0 usft		Easting:		777,172.00 usft		Longitude:		103° 34' 15.406 W	
Position Uncertainty		0.0 usft				Wellhead Elevation:		usft		Ground Level:		3,521.0 usft	

Wellbore						OH							
Magnetics		Model Name		Sample Date		Declination (")		Dip Angle (")		Field Strength (nT)			
		IGRF2015		11/30/2017		6.90		60.03		47,873.03002706			

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		177.63					

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Survey Program		Date	3/12/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
142.0	1,294.0	Olebrook MWD (OH)	MWD	OWSG MWD - Standard	
1,447.0	22,445.0	Intrepid MWD (OH)	MWD	OWSG MWD - Standard	

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
142.0	0.88	212.55	142.0	-0.9	-0.6	0.62	0.62	0.00	-1.1	0.0
173.0	0.53	342.36	173.0	-1.0	-0.8	4.15	-1.13	418.74	0.7	1.0
203.0	0.79	208.77	203.0	-1.0	-0.9	4.06	0.87	-445.30	-1.3	-0.3
234.0	0.62	285.59	234.0	-1.2	-1.2	2.86	-0.55	247.81	-0.8	1.4
266.0	0.18	111.47	266.0	-1.1	-1.3	2.50	-1.37	-544.12	0.8	-1.5
327.0	0.88	254.03	327.0	-1.3	-1.6	1.69	1.15	233.70	-1.9	0.8
422.0	0.44	260.63	422.0	-1.6	-2.7	0.47	-0.46	6.95	-2.9	1.1
485.0	0.44	250.25	485.0	-1.7	-3.2	0.13	0.00	-16.48	-3.6	0.5
548.0	0.26	199.28	548.0	-1.9	-3.4	0.54	-0.29	-80.90	-2.9	-2.6
611.0	0.97	213.78	611.0	-2.5	-3.8	1.14	1.13	23.02	-4.2	-1.8
706.0	0.70	225.82	706.0	-3.6	-4.7	0.34	-0.28	12.67	-5.8	-0.7
770.0	0.97	222.04	770.0	-4.2	-5.3	0.43	0.42	-5.91	-6.7	-1.1
833.0	0.97	222.13	832.9	-5.0	-6.0	0.00	0.00	0.14	-7.8	-1.1
927.0	0.88	207.98	926.9	-6.3	-6.9	0.26	-0.10	-15.05	-8.8	-3.1
1,022.0	1.06	230.83	1,021.9	-7.5	-7.9	0.45	0.19	24.05	-10.8	0.8
1,117.0	0.53	244.89	1,116.9	-8.2	-9.0	0.59	-0.56	14.80	-11.7	3.6
1,211.0	0.62	215.63	1,210.9	-8.8	-9.7	0.32	0.10	-31.13	-14.9	-2.5
1,242.0	0.62	247.00	1,241.9	-9.0	-9.9	1.08	0.00	101.19	-15.1	6.4
1,274.0	0.44	276.97	1,273.9	-9.0	-10.2	1.01	-0.56	93.66	-10.6	14.2
1,294.0	0.26	279.96	1,293.9	-9.0	-10.3	0.90	-0.90	14.95	-10.2	15.4

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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)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
1,447.0	1.70	356.80	1,446.9	-6.7	-10.8	1.09	0.94	50.22	15.0	16.5	
1,636.0	5.00	20.70	1,635.5	3.8	-8.0	1.86	1.75	12.65	16.1	11.0	
1,825.0	5.40	24.10	1,823.8	19.6	-1.5	0.27	0.21	1.80	6.2	11.0	
2,014.0	5.10	26.10	2,012.0	35.3	5.8	0.19	-0.16	1.06	-4.2	11.3	
2,203.0	4.40	26.90	2,200.3	49.3	12.8	0.37	-0.37	0.42	-13.1	11.6	
2,392.0	5.40	33.00	2,388.6	63.2	20.9	0.60	0.53	3.23	-21.3	13.1	
2,582.0	4.60	31.60	2,577.9	77.2	29.8	0.43	-0.42	-0.74	-30.5	11.9	
2,771.0	3.60	27.90	2,766.4	88.9	36.5	0.55	-0.53	-1.96	-31.6	9.4	
2,961.0	4.90	31.00	2,955.9	101.1	43.5	0.69	0.68	1.63	-31.9	10.7	
3,150.0	3.70	26.00	3,144.4	113.5	50.3	0.66	-0.63	-2.65	-33.6	7.7	
3,340.0	4.20	36.30	3,333.9	124.7	57.1	0.46	0.26	5.42	-31.6	12.8	
3,529.0	5.90	35.50	3,522.2	138.1	66.9	0.90	0.90	-0.42	-35.3	10.5	
3,719.0	4.80	31.40	3,711.3	152.9	76.7	0.61	-0.58	-2.16	-40.5	6.5	
3,908.0	6.00	35.50	3,899.5	167.7	86.6	0.67	0.63	2.17	-44.6	8.2	
4,097.0	4.50	32.00	4,087.7	182.0	96.2	0.81	-0.79	-1.85	-49.2	3.9	
4,287.0	3.10	24.90	4,277.3	193.0	102.3	0.78	-0.74	-3.74	-48.6	-2.4	
4,476.0	4.40	38.80	4,465.9	203.3	109.0	0.83	0.69	7.35	-47.0	8.1	
4,665.0	3.60	49.20	4,654.4	212.8	118.1	0.57	-0.42	5.50	-45.5	13.0	
4,854.0	5.10	54.60	4,842.9	221.5	129.4	0.82	0.79	2.86	-46.6	11.8	
5,024.0	4.50	58.30	5,012.3	229.4	141.2	0.40	-0.35	2.18	-49.8	9.3	
5,137.0	4.00	59.60	5,125.0	233.7	148.4	0.45	-0.44	1.15	-51.1	6.3	
5,326.0	6.20	20.20	5,313.2	246.7	157.6	2.12	1.16	-20.85	-37.7	-28.7	
5,515.0	5.50	18.90	5,501.3	264.8	164.1	0.38	-0.37	-0.69	-24.8	-24.8	
5,704.0	4.70	18.90	5,689.5	280.7	169.5	0.42	-0.42	0.00	-9.0	-19.6	
5,894.0	4.20	10.20	5,878.9	294.9	173.3	0.44	-0.26	-4.58	10.8	-11.8	
6,083.0	4.40	31.20	6,067.4	307.9	178.3	0.83	0.11	11.11	25.1	-14.3	
6,272.0	4.20	27.70	6,255.9	320.3	185.2	0.17	-0.11	-1.85	44.7	-13.0	

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
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6,462.0	3.90	27.70	6,445.4	332.1	191.5	0.16	-0.16	0.00	64.4	-12.9	
6,652.0	3.60	25.90	6,635.0	343.2	197.1	0.17	-0.16	-0.95	85.4	-9.8	
6,841.0	5.80	18.90	6,823.4	357.6	202.8	1.20	1.16	-3.70	103.1	5.0	
7,029.0	5.00	17.50	7,010.5	374.4	208.3	0.43	-0.43	-0.74	117.5	13.2	
7,218.0	4.10	18.10	7,198.9	388.7	212.9	0.48	-0.48	0.32	135.1	17.7	
7,407.0	5.50	15.40	7,387.3	403.8	217.4	0.75	0.74	-1.43	145.7	29.9	
7,595.0	6.60	20.60	7,574.2	422.6	223.6	0.65	0.59	2.77	142.8	19.6	
7,784.0	5.20	16.80	7,762.2	441.0	229.9	0.77	-0.74	-2.01	124.5	28.9	
7,973.0	4.00	15.40	7,950.6	455.6	234.1	0.64	-0.63	-0.74	108.6	31.7	
8,162.0	3.20	4.90	8,139.2	467.2	236.3	0.55	-0.42	-5.56	89.3	49.8	
8,352.0	4.70	10.60	8,328.8	480.1	238.2	0.82	0.79	3.00	80.7	41.2	
8,541.0	4.20	11.70	8,517.2	494.5	241.0	0.27	-0.26	0.58	66.8	39.8	
8,635.0	3.70	357.80	8,611.0	500.9	241.6	1.15	-0.53	-14.79	48.9	53.8	
8,730.0	4.00	22.50	8,705.8	507.0	242.7	1.76	0.32	26.00	60.8	29.7	
8,919.0	2.70	41.90	8,894.4	516.4	248.2	0.90	-0.69	10.26	56.6	10.0	
9,108.0	1.70	34.40	9,083.3	522.1	252.8	0.55	-0.53	-3.97	47.6	16.7	
9,297.0	0.90	40.70	9,272.3	525.5	255.3	0.43	-0.42	3.33	44.9	11.7	
9,486.0	0.90	33.60	9,461.2	527.9	257.1	0.06	0.00	-3.76	40.1	16.9	
9,675.0	0.70	334.60	9,650.2	530.1	257.5	0.43	-0.11	-31.22	4.2	41.9	
9,861.0	0.70	140.60	9,836.2	530.3	257.7	0.75	0.00	89.25	6.0	-41.4	
10,050.0	0.50	140.10	10,025.2	528.8	259.0	0.11	-0.11	-0.26	4.4	-41.3	
10,238.0	0.90	170.50	10,213.2	526.7	259.7	0.28	0.21	16.17	-19.3	-37.4	
10,426.0	0.70	149.70	10,401.2	524.2	260.6	0.19	-0.11	-11.06	-7.3	-42.4	
10,615.0	2.30	158.30	10,590.1	519.7	262.5	0.85	0.85	4.55	-18.5	-40.6	
10,803.0	0.80	185.50	10,778.0	514.9	263.8	0.87	-0.80	14.47	-39.7	-26.0	
10,991.0	0.50	50.90	10,966.0	514.1	264.3	0.64	-0.16	-71.60	46.5	-11.0	
11,179.0	1.40	338.50	11,154.0	516.8	264.1	0.71	0.48	-38.51	21.9	40.2	

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11,367.0	0.80	199.20	11,342.0	517.7	262.8	1.10	-0.32	-74.10	-42.4	-17.7	
11,556.0	0.20	178.10	11,531.0	516.1	262.4	0.33	-0.32	-11.16	-34.8	-32.2	
11,744.0	1.60	90.90	11,718.9	515.7	265.1	0.85	0.74	-46.38	27.8	-36.6	
11,759.0	1.10	82.50	11,733.9	515.7	265.4	3.58	-3.33	-56.00	32.5	-32.2	
11,865.0	1.00	19.60	11,839.9	516.7	266.7	1.04	-0.09	-59.34	42.1	13.4	
11,959.0	8.60	175.30	11,933.6	510.5	267.6	10.13	8.09	165.64	-39.0	-29.4	
12,006.0	19.80	169.70	11,979.1	499.1	269.3	23.98	23.83	-11.91	-46.6	-34.6	
12,053.0	28.80	169.20	12,021.9	480.1	272.8	19.15	19.15	-1.06	-64.8	-37.1	
12,100.0	31.60	167.50	12,062.5	457.0	277.6	6.23	5.96	-3.62	-85.4	-38.5	
12,147.0	33.20	167.50	12,102.2	432.4	283.1	3.40	3.40	0.00	-104.2	-35.9	
12,194.0	35.30	166.40	12,141.0	406.6	289.1	4.66	4.47	-2.34	-118.4	-34.4	
12,241.0	39.60	168.40	12,178.3	378.7	295.3	9.51	9.15	4.26	-130.8	-26.1	
12,288.0	44.00	170.60	12,213.4	347.9	300.9	9.87	9.36	4.68	-140.1	-17.6	
12,335.0	47.20	171.10	12,246.3	314.8	306.3	6.85	6.81	1.06	-145.4	-12.6	
12,382.0	48.70	171.00	12,277.7	280.3	311.7	3.20	3.19	-0.21	-145.8	-8.4	
12,387.0	48.71	170.96	12,281.0	276.6	312.3	0.67	0.21	-0.85	-145.5	-7.9	
HL Crossing, MD:12387.0', TVD:12281.0', N/S:276.6', E/W:312.3', INC:48.71											
12,429.0	48.80	170.60	12,308.7	245.4	317.4	0.67	0.21	-0.85	-140.2	-3.9	
12,476.0	49.00	169.80	12,339.6	210.5	323.4	1.35	0.43	-1.70	-128.4	1.1	
12,523.0	53.00	171.00	12,369.2	174.5	329.5	8.74	8.51	2.55	-112.4	7.9	
FTP(Con 28 ST Com #701H)											
12,570.0	58.70	174.40	12,395.6	136.0	334.4	13.52	12.13	7.23	-94.6	12.9	
12,618.0	64.80	177.20	12,418.3	93.8	337.4	13.71	12.71	5.83	-76.1	13.7	
12,665.0	71.70	182.30	12,435.7	50.2	337.6	17.80	14.68	10.85	-59.2	10.4	
12,712.0	77.30	184.30	12,448.3	5.0	335.0	12.60	11.91	4.26	-46.6	5.5	
12,749.0	80.40	184.90	12,455.4	-31.2	332.1	8.53	8.38	1.62	-39.4	1.6	
12,807.0	82.70	184.80	12,463.9	-88.3	327.2	3.97	3.97	-0.17	-30.8	-3.7	

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12,854.0	85.70	183.60	12,468.7	-135.0	323.8	6.87	6.38	-2.55	-26.0	-7.4	
12,901.0	91.00	180.20	12,470.0	-181.9	322.2	13.39	11.28	-7.23	-24.5	-9.3	
12,996.0	89.90	178.30	12,469.3	-276.9	323.5	2.31	-1.16	-2.00	-25.0	-8.8	
13,115.0	91.60	181.10	12,467.7	-395.8	324.1	2.75	1.43	2.35	-26.3	-9.0	
13,209.0	89.70	181.50	12,466.7	-489.8	322.0	2.07	-2.02	0.43	-27.2	-11.8	
13,304.0	87.70	181.10	12,468.8	-584.7	319.8	2.15	-2.11	-0.42	-24.8	-14.7	
13,399.0	87.30	181.00	12,473.0	-679.6	318.1	0.43	-0.42	-0.11	-20.5	-17.1	
13,493.0	87.30	180.80	12,477.4	-773.5	316.6	0.21	0.00	-0.21	-15.9	-19.3	
13,588.0	86.70	180.10	12,482.4	-868.4	315.8	0.97	-0.63	-0.74	-10.7	-20.7	
13,683.0	88.00	178.10	12,486.8	-963.3	317.3	2.51	1.37	-2.11	-6.1	-20.0	
13,746.0	88.00	178.30	12,489.0	-1,026.2	319.3	0.32	0.00	0.32	-3.7	-18.4	
13,777.0	89.10	178.30	12,489.7	-1,057.2	320.2	3.55	3.55	0.00	-2.9	-17.7	
13,841.0	92.00	177.90	12,489.1	-1,121.1	322.4	4.57	4.53	-0.62	-3.4	-16.1	
13,872.0	92.30	178.00	12,488.0	-1,152.1	323.5	1.02	0.97	0.32	-4.5	-15.2	
13,967.0	90.60	177.40	12,485.6	-1,247.0	327.3	1.90	-1.79	-0.63	-6.7	-12.1	
14,062.0	91.00	176.80	12,484.2	-1,341.8	332.1	0.76	0.42	-0.63	-7.8	-8.0	
14,156.0	92.30	178.20	12,481.5	-1,435.7	336.2	2.03	1.38	1.49	-10.3	-4.6	
14,251.0	93.00	179.30	12,477.1	-1,530.6	338.3	1.37	0.74	1.16	-14.5	-3.2	
14,346.0	93.10	179.80	12,472.1	-1,625.5	339.0	0.54	0.11	0.53	-19.3	-3.2	
14,440.0	92.90	180.10	12,467.2	-1,719.3	339.1	0.38	-0.21	0.32	-24.1	-3.8	
14,535.0	90.60	181.10	12,464.3	-1,814.3	338.1	2.64	-2.42	1.05	-26.8	-5.5	
14,629.0	89.60	181.20	12,464.1	-1,908.2	336.2	1.07	-1.06	0.11	-26.7	-8.0	
14,724.0	88.00	182.40	12,466.1	-2,003.2	333.2	2.11	-1.68	1.26	-24.5	-11.7	
14,818.0	86.70	180.50	12,470.4	-2,097.0	330.8	2.45	-1.38	-2.02	-20.0	-14.8	
14,912.0	88.00	180.20	12,474.8	-2,190.9	330.3	1.42	1.38	-0.32	-15.4	-16.0	
15,006.0	87.80	179.60	12,478.2	-2,284.9	330.4	0.67	-0.21	-0.64	-11.8	-16.6	

PVA Report

Company:	EOG Resources - Midland		Local Co-ordinate Reference:				Well #701H				
Project:	Lea County, NM (NAD 83 NME)		TVD Reference:				KB = 25 @ 3546.0usft (HP 465)				
Site:	Convoy 28 State Com		MD Reference:				KB = 25 @ 3546.0usft (HP 465)				
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)	
15,007.4	87.78	179.59	12,478.3	-2,286.3	330.4	1.52	-1.38	-0.64	-11.7	-16.6	
TGT 1(Con 28 ST Com #701H)											
15,100.0	86.50	179.00	12,482.9	-2,378.7	331.6	1.52	-1.38	-0.64	-7.1	-16.1	
15,164.0	87.30	178.60	12,486.4	-2,442.6	332.9	1.40	1.25	-0.62	-3.6	-15.3	
15,195.0	89.00	179.20	12,487.4	-2,473.6	333.5	5.82	5.48	1.94	-2.6	-14.9	
15,258.0	91.20	179.20	12,487.2	-2,536.6	334.4	3.49	3.49	0.00	-2.7	-14.5	
15,289.0	91.00	178.50	12,486.7	-2,567.6	335.0	2.35	-0.65	-2.26	-3.3	-14.1	
15,383.0	90.50	179.40	12,485.4	-2,661.6	336.7	1.10	-0.53	0.96	-4.6	-13.1	
15,477.0	92.70	180.90	12,482.8	-2,755.5	336.5	2.83	2.34	1.60	-7.2	-14.0	
15,540.0	93.00	181.40	12,479.7	-2,818.4	335.2	0.92	0.48	0.79	-10.3	-15.7	
15,572.0	92.10	180.70	12,478.2	-2,850.4	334.6	3.56	-2.81	-2.19	-11.7	-16.5	
15,635.0	91.00	180.80	12,476.5	-2,913.4	333.8	1.75	-1.75	0.16	-13.5	-17.8	
15,666.0	90.80	180.60	12,476.0	-2,944.4	333.4	0.91	-0.65	-0.65	-13.9	-18.4	
15,729.0	91.00	180.10	12,475.1	-3,007.3	333.0	0.85	0.32	-0.79	-14.9	-19.3	
15,761.0	91.30	180.10	12,474.4	-3,039.3	333.0	0.94	0.94	0.00	-15.6	-19.6	
15,855.0	87.60	181.00	12,475.3	-3,133.3	332.1	4.05	-3.94	0.96	-14.7	-21.2	
15,950.0	89.40	180.30	12,477.8	-3,228.3	331.0	2.03	1.89	-0.74	-12.2	-23.0	
16,045.0	89.50	180.10	12,478.7	-3,323.3	330.7	0.24	0.11	-0.21	-11.3	-24.0	
16,139.0	87.90	178.60	12,480.9	-3,417.2	331.7	2.33	-1.70	-1.60	-9.1	-23.6	
16,234.0	87.00	176.90	12,485.1	-3,512.1	335.5	2.02	-0.95	-1.79	-4.9	-20.6	
16,328.0	87.10	177.20	12,489.9	-3,605.8	340.3	0.34	0.11	0.32	0.0	-16.5	
16,423.0	91.50	177.70	12,491.1	-3,700.7	344.5	4.66	4.63	0.53	1.1	-12.9	
16,517.0	92.30	177.40	12,488.0	-3,794.5	348.5	0.91	0.85	-0.32	-2.1	-9.6	
16,611.0	90.90	178.50	12,485.3	-3,888.4	351.9	1.89	-1.49	1.17	-4.7	-6.9	
16,705.0	88.90	179.40	12,485.5	-3,982.4	353.6	2.33	-2.13	0.96	-4.5	-5.9	
16,799.0	88.30	178.00	12,487.8	-4,076.4	355.8	1.62	-0.64	-1.49	-2.2	-4.5	
16,893.0	89.50	177.90	12,489.6	-4,170.3	359.1	1.28	1.28	-0.11	-0.4	-1.8	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3546.0usft (HP 465)
Site:	Convoy 28 State Corn	MD Reference:	KB = 25 @ 3546.0usft (HP 465)
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)	
16,987.0	89.10	178.20	12,490.7	-4,264.2	362.3	0.53	-0.43	0.32	0.8	0.7	
17,018.0	90.00	178.80	12,491.0	-4,295.2	363.1	3.49	2.90	1.94	1.0	1.3	
17,080.0	92.00	178.20	12,489.9	-4,357.2	364.8	3.37	3.23	-0.97	-0.1	2.4	
17,106.0	93.30	178.80	12,488.7	-4,383.1	365.4	5.51	5.00	2.31	-1.3	2.9	
17,176.0	93.60	180.40	12,484.5	-4,453.0	365.9	2.32	0.43	2.29	-5.5	2.9	
17,270.0	89.80	182.20	12,481.7	-4,546.9	363.8	4.47	-4.04	1.91	-8.3	0.1	
17,308.0	89.30	182.00	12,482.0	-4,584.9	362.4	1.42	-1.32	-0.53	-8.0	-1.6	
17,364.0	88.80	181.50	12,482.9	-4,640.9	360.7	1.26	-0.89	-0.89	-7.1	-3.7	
17,459.0	92.70	182.40	12,481.7	-4,735.8	357.5	4.21	4.11	0.95	-8.3	-7.7	
17,509.5	92.54	183.10	12,479.4	-4,786.2	355.0	1.42	-0.32	1.38	-10.6	-10.5	
TGT 2(Con 28 ST Corn #701H)											
17,553.0	92.40	183.70	12,477.5	-4,829.6	352.5	1.42	-0.32	1.38	-12.7	-13.4	
17,648.0	91.30	182.80	12,474.4	-4,924.3	347.1	1.50	-1.16	-0.95	-16.4	-19.4	
17,681.0	90.80	180.80	12,473.8	-4,957.3	346.0	6.25	-1.52	-6.06	-17.2	-20.7	
17,743.0	90.90	181.30	12,472.9	-5,019.3	344.9	0.82	0.16	0.81	-18.5	-22.3	
17,816.0	90.20	180.10	12,472.2	-5,092.3	344.0	1.90	-0.96	-1.64	-19.6	-23.7	
17,838.0	89.50	180.30	12,472.3	-5,114.3	343.9	3.31	-3.18	0.91	-19.7	-24.0	
17,932.0	88.20	180.10	12,474.2	-5,208.3	343.6	1.40	-1.38	-0.21	-18.4	-25.0	
18,027.0	82.30	178.00	12,482.0	-5,302.9	345.2	6.59	-6.21	-2.21	-11.0	-24.2	
18,089.0	82.10	177.60	12,490.4	-5,364.3	347.5	0.72	-0.32	-0.65	-3.0	-22.3	
18,121.0	82.90	176.90	12,494.6	-5,396.0	349.0	3.31	2.50	-2.19	1.0	-21.0	
18,152.0	83.40	176.70	12,498.3	-5,426.7	350.8	1.74	1.61	-0.65	4.4	-19.4	
18,184.0	85.90	176.60	12,501.3	-5,458.5	352.6	7.82	7.81	-0.31	7.2	-17.8	
18,198.0	87.50	176.50	12,502.1	-5,472.4	353.5	11.45	11.43	-0.71	7.9	-17.1	
18,215.0	89.40	176.30	12,502.6	-5,489.4	354.5	11.24	11.18	-1.18	8.2	-16.2	
18,246.0	92.10	177.20	12,502.2	-5,520.3	356.3	9.18	8.71	2.90	7.6	-14.6	
18,278.0	91.60	177.60	12,501.1	-5,552.3	357.7	2.00	-1.56	1.25	6.4	-13.4	

PVA Report

Company:	EOG Resources - Midland					Local Co-ordinate Reference:		Well #701H			
Project:	Lea County, NM (NAD 83 NME)					TVD Reference:		KB = 25 @ 3546.0usft (HP 465)			
Site:	Convoy 28 State Com					MD Reference:		KB = 25 @ 3546.0usft (HP 465)			
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)	
18,309.0	91.60	178.30	12,500.3	-5,583.3	358.9	2.26	0.00	2.26	5.3	-12.5	
18,340.0	92.00	179.40	12,499.3	-5,614.2	359.5	3.77	1.29	3.55	4.2	-12.1	
18,373.0	92.40	179.40	12,498.0	-5,647.2	359.8	1.21	1.21	0.00	2.7	-12.0	
18,403.0	91.50	179.30	12,497.0	-5,677.2	360.2	3.02	-3.00	-0.33	1.5	-11.9	
18,497.0	88.10	180.30	12,497.3	-5,771.2	360.5	3.77	-3.62	1.06	1.2	-12.3	
18,544.0	86.70	179.30	12,499.5	-5,818.1	360.7	3.66	-2.98	-2.13	3.0	-12.5	
18,591.0	86.90	179.00	12,502.1	-5,865.1	361.3	0.77	0.43	-0.64	5.4	-12.1	
18,684.0	92.10	178.10	12,502.9	-5,958.0	363.7	5.67	5.59	-0.97	5.6	-10.5	
18,715.0	94.20	178.80	12,501.2	-5,988.9	364.5	7.14	6.77	2.26	3.7	-9.9	
18,778.0	93.80	178.50	12,496.8	-6,051.8	366.0	0.79	-0.63	-0.48	-1.1	-8.8	
18,873.0	89.70	178.30	12,493.9	-6,146.7	368.7	4.32	-4.32	-0.21	-4.6	-6.9	
18,905.0	88.90	178.00	12,494.3	-6,178.6	369.7	2.67	-2.50	-0.94	-4.4	-6.1	
18,968.0	88.60	177.30	12,495.7	-6,241.6	372.3	1.21	-0.48	-1.11	-3.4	-4.0	
18,999.0	89.00	178.70	12,496.3	-6,272.5	373.4	4.70	1.29	4.52	-2.9	-3.1	
19,062.0	88.40	178.10	12,497.7	-6,335.5	375.1	1.35	-0.95	-0.95	-1.9	-1.8	
19,125.0	88.80	179.70	12,499.3	-6,398.5	376.3	2.62	0.63	2.54	-0.8	-1.1	
19,157.0	89.30	179.80	12,499.8	-6,430.5	376.5	1.59	1.56	0.31	-0.4	-1.2	
19,252.0	88.70	181.00	12,501.5	-6,525.4	375.8	1.41	-0.63	1.26	0.6	-2.6	
19,315.0	87.10	180.10	12,503.8	-6,588.4	375.2	2.91	-2.54	-1.43	2.5	-3.6	
19,346.0	88.60	180.70	12,504.9	-6,619.4	375.0	5.21	4.84	1.94	3.5	-4.1	
19,410.0	89.30	180.10	12,506.1	-6,683.4	374.5	1.44	1.09	-0.94	4.3	-5.0	
19,441.0	90.70	180.50	12,506.1	-6,714.4	374.4	4.70	4.52	1.29	4.1	-5.4	
19,488.0	89.10	179.60	12,506.2	-6,761.4	374.3	3.91	-3.40	-1.91	3.9	-5.8	
19,536.0	89.90	179.20	12,506.6	-6,809.3	374.8	1.86	1.67	-0.83	4.0	-5.6	
19,583.0	91.20	179.10	12,506.2	-6,856.3	375.5	2.77	2.77	-0.21	3.2	-5.3	
19,630.0	93.10	179.50	12,504.4	-6,903.3	376.1	4.13	4.04	0.85	1.2	-5.1	
19,677.0	92.60	179.00	12,502.1	-6,950.2	376.7	1.50	-1.06	-1.06	-1.4	-4.8	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3546.0usft (HP 465)
Site:	Convoy 28 State Com	MD Reference:	KB = 25 @ 3546.0usft (HP 465)
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)	
19,725.0	92.40	178.70	12,500.0	-6,998.2	377.7	0.75	-0.42	-0.62	-3.8	-4.2	
19,788.0	90.30	179.20	12,498.5	-7,061.2	378.8	3.43	-3.33	0.79	-5.7	-3.5	
19,820.0	90.70	179.40	12,498.2	-7,093.1	379.2	1.40	1.25	0.62	-6.2	-3.3	
19,867.0	90.40	179.10	12,497.8	-7,140.1	379.9	0.90	-0.64	-0.64	-6.9	-3.1	
19,914.0	88.90	180.00	12,498.0	-7,187.1	380.2	3.72	-3.19	1.91	-7.0	-3.0	
19,915.7	88.89	180.03	12,498.1	-7,188.8	380.2	1.72	-0.85	1.49	-6.9	-3.1	
TGT 3(Con 28 ST Com #701H)											
19,961.0	88.50	180.70	12,499.1	-7,234.1	379.9	1.72	-0.85	1.49	-6.0	-3.7	
20,009.0	89.10	180.80	12,500.1	-7,282.1	379.3	1.27	1.25	0.21	-5.2	-4.7	
20,056.0	91.30	180.90	12,499.9	-7,329.1	378.6	4.69	4.68	0.21	-5.5	-5.7	
20,103.0	91.50	180.80	12,498.8	-7,376.1	377.9	0.48	0.43	-0.21	-6.7	-6.8	
20,198.0	90.10	180.50	12,497.5	-7,471.1	376.8	1.51	-1.47	-0.32	-8.3	-8.5	
20,293.0	89.00	180.10	12,498.2	-7,566.1	376.3	1.23	-1.16	-0.42	-7.8	-9.7	
20,387.0	87.60	178.90	12,501.0	-7,660.0	377.2	1.96	-1.49	-1.28	-5.3	-9.6	
20,419.0	87.80	178.90	12,502.3	-7,692.0	377.8	0.62	0.62	0.00	-4.1	-9.2	
20,482.0	87.80	178.50	12,504.7	-7,754.9	379.2	0.63	0.00	-0.63	-1.9	-8.3	
20,529.0	88.70	180.00	12,506.1	-7,801.9	379.8	3.72	1.91	3.19	-0.6	-8.0	
20,577.0	88.70	180.50	12,507.2	-7,849.9	379.6	1.04	0.00	1.04	0.4	-8.6	
20,624.0	90.20	181.50	12,507.7	-7,896.9	378.8	3.84	3.19	2.13	0.7	-9.7	
20,672.0	90.90	182.60	12,507.2	-7,944.8	377.1	2.72	1.46	2.29	0.1	-11.8	
20,719.0	91.00	182.00	12,506.4	-7,991.8	375.2	1.29	0.21	-1.28	-0.8	-14.0	
20,766.0	89.70	181.20	12,506.2	-8,038.8	373.9	3.25	-2.77	-1.70	-1.2	-15.7	
20,830.0	91.00	180.80	12,505.8	-8,102.8	372.8	2.13	2.03	-0.62	-1.8	-17.3	
20,862.0	90.70	180.60	12,505.3	-8,134.7	372.4	1.13	-0.94	-0.62	-2.3	-17.9	
20,908.0	90.10	180.30	12,505.0	-8,180.7	372.0	1.46	-1.30	-0.65	-2.8	-18.6	
20,956.0	91.30	179.90	12,504.4	-8,228.7	371.9	2.64	2.50	-0.83	-3.5	-19.1	
21,020.0	93.20	180.30	12,501.9	-8,292.7	371.8	3.03	2.97	0.62	-6.2	-19.7	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3546.0usft (HP 465)
Site:	Convoy 28 State Com	MD Reference:	KB = 25 @ 3546.0usft (HP 465)
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)
21,051.0	93.30	180.60	12,500.1	-8,323.6	371.6	1.02	0.32	0.97	-8.0	-20.1
21,114.0	91.60	180.10	12,497.4	-8,386.6	371.2	2.81	-2.70	-0.79	-10.9	-21.0
21,146.0	91.90	180.20	12,496.4	-8,418.6	371.1	0.99	0.94	0.31	-12.0	-21.3
21,241.0	89.80	179.90	12,495.0	-8,513.5	371.0	2.23	-2.21	-0.32	-13.6	-22.1
21,304.0	91.70	178.80	12,494.2	-8,576.5	371.7	3.48	3.02	-1.75	-14.6	-21.8
21,336.0	91.80	178.70	12,493.2	-8,608.5	372.4	0.44	0.31	-0.31	-15.7	-21.4
21,430.0	88.50	177.80	12,493.0	-8,702.4	375.3	3.64	-3.51	-0.96	-16.2	-19.2
21,493.0	87.60	177.10	12,495.1	-8,765.3	378.1	1.81	-1.43	-1.11	-14.2	-16.9
21,525.0	87.20	176.90	12,496.6	-8,797.3	379.8	1.40	-1.25	-0.62	-12.9	-15.4
21,619.0	86.90	177.40	12,501.4	-8,891.0	384.4	0.62	-0.32	0.53	-8.3	-11.5
21,714.0	88.20	177.90	12,505.5	-8,985.9	388.3	1.47	1.37	0.53	-4.5	-8.3
21,809.0	89.40	177.70	12,507.5	-9,080.8	392.0	1.28	1.26	-0.21	-2.8	-5.3
21,856.0	89.80	177.10	12,507.8	-9,127.7	394.1	1.53	0.85	-1.28	-2.6	-3.5
21,904.0	90.30	178.00	12,507.8	-9,175.7	396.2	2.14	1.04	1.87	-2.8	-1.8
21,998.0	91.60	179.40	12,506.2	-9,269.6	398.3	2.03	1.38	1.49	-4.6	-0.4
22,045.0	91.80	179.50	12,504.8	-9,316.6	398.7	0.48	0.43	0.21	-6.1	-0.3
22,093.0	91.40	178.60	12,503.5	-9,364.6	399.5	2.05	-0.83	-1.87	-7.6	0.1
22,140.0	91.40	178.80	12,502.3	-9,411.6	400.6	0.43	0.00	0.43	-8.8	0.9
22,188.0	93.30	179.40	12,500.3	-9,459.5	401.4	4.15	3.96	1.25	-10.9	1.3
22,282.0	93.50	179.30	12,494.8	-9,553.3	402.4	0.24	0.21	-0.11	-16.8	1.6
22,345.2	92.22	178.56	12,491.6	-9,616.4	403.6	2.33	-2.02	-1.17	-20.1	2.3
HL Crossing, MD:22345.2', TVD:12491.6', N/S:-9616.4', E/W:403.6', INC:92.22										
22,376.0	91.60	178.20	12,490.6	-9,647.2	404.5	2.33	-2.02	-1.17	-21.2	3.0
Final MWD Survey (MD=22376.0')										
22,444.0	91.60	178.20	12,488.7	-9,715.2	406.6	0.00	0.00	0.00	-23.3	4.6
PBHL(Con 28 ST Com #701H)										
22,445.0	91.60	178.20	12,488.7	-9,716.2	406.6	0.00	0.00	0.00	-23.3	4.6
Final Projection to Bit (MD=22445.0')										

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #701H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3546.0usft (HP 465)
Site:	Convoy 28 State Com	MD Reference:	KB = 25 @ 3546.0usft (HP 465)
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)

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,387.0	12,281.0	276.6	312.3	HL Crossing, MD:12387.0', TVD:12281.0', N/S:276.6', E/W:312.3', INC:48.71
22,345.2	12,491.6	-9,616.4	403.6	HL Crossing, MD:22345.2', TVD:12491.6', N/S:-9616.4', E/W:403.6', INC:92.22
22,376.0	12,490.6	-9,647.2	404.5	Final MWD Survey (MD=22376.0')
22,445.0	12,488.7	-9,716.2	406.6	Final Projection to Bit (MD=22445.0')

Checked By: _____	Approved By: _____	Date: _____
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HOBBS OCD

MAY 29 2018

RECEIVED



Lea County, NM (NAD 83 NME)

Convoy 28 State Com #701H

HP 465

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 = 25 @ 3546.0usft (HP 465) 3521.0
Northing 435221.00 Easting 777172.00 Latitude 32° 11' 39.126 N Longitude 103° 34' 15.406 W



Azimuths to Grid North
True North: -0.41°
Magnetic North: 6.50°
Magnetic Field
Strength: 47873.0nT
Dip Angle: 60.03°
Date: 11/09/2017
Model: IGRF2015

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

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	Tface	Vsect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1100.0	0.00	0.00	1100.0	0.0	0.0	0.00	0.00	0.0	
1200.0	2.00	28.00	1200.0	1.5	0.8	28.00	28.00	-1.5	
2500.8	2.00	28.00	2500.0	41.6	22.1	0.00	0.00	-40.7	
2600.8	4.00	28.00	2599.9	46.2	24.6	2.00	0.00	-45.2	
5107.1	4.00	28.00	5100.0	200.6	106.7	0.00	0.00	-196.0	
5407.1	10.00	28.00	5397.6	232.9	123.8	2.00	0.00	-227.6	
7237.2	10.00	28.00	7200.0	513.5	273.0	0.00	0.00	-501.8	
7737.2	0.00	0.00	7697.5	551.9	293.5	2.00	180.00	-539.3	
12057.3	0.00	0.00	12017.5	551.9	293.5	0.00	0.00	-539.3	
12807.3	90.00	176.08	12495.0	75.6	326.1	12.00	176.08	-62.0	
12924.0	90.12	179.58	12494.8	-41.0	330.5	3.00	87.98	54.7	
15168.5	90.12	179.58	12490.0	-2285.5	347.0	0.00	0.00	2297.9	TGT 1(Con 28 ST Com #701H)
15174.7	90.00	179.58	12490.0	-2281.7	347.0	2.00	-178.65	2304.1	TGT 2(Con 28 ST Com #701H)
17670.3	90.00	179.58	12490.0	-4787.2	365.5	0.00	0.00	4798.2	TGT 3(Con 28 ST Com #701H)
17686.2	89.64	179.58	12490.1	-4805.2	365.6	2.00	-179.92	4816.2	PBHL(Con 28 ST Com #701H)
20071.9	89.64	179.58	12505.0	-7188.7	383.3	0.00	0.00	7198.4	
20081.9	89.64	179.58	12505.0	-7198.7	383.4	2.00	-0.06	7208.4	
22599.3	89.64	179.58	12512.0	-9716.0	402.0	0.00	0.00	9724.3	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
TGT 1(Con 28 ST Com #701H)	12490.0	-2285.5	347.0	435935.50	777518.00
TGT 2(Con 28 ST Com #701H)	12490.0	-4787.2	365.5	430433.80	777537.50
FTT(Con 28 ST Com #701H)	12495.0	276.0	328.0	435497.00	777500.00
TGT 3(Con 28 ST Com #701H)	12505.0	-7188.7	383.3	428033.30	777565.28
PBHL(Con 28 ST Com #701H)	12512.0	-9716.0	402.0	425505.00	777574.00

