



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Convoy 28 State Com

#704H

OH

HOBBS OCD

MAY 29 2018

RECEIVED

Survey: Drilltech MWD

Midland PVA

02 April, 2018





Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25 @ 3551.0usft (H&P 610)
Site:	Convoy 28 State Com	MD Reference:	KB = 25 @ 3551.0usft (H&P 610)
Well:	#704H	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:	
Geo Datum:		North American Datum 1983		Mean Sea Level	
Map Zone:		New Mexico Eastern Zone			

Site				Convoy 28 State Com	
Site Position:		Northing:		435,221.00 usft	
From:		Easting:		777,172.00 usft	
Position Uncertainty:		Slot Radius:		13-3/16 "	
				Latitude:	
				Longitude:	
				Grid Convergence:	
				32° 11' 39.126 N	
				103° 34' 15.406 W	
				0.41 "	

Well				#704H	
Well Position		Northing:		435,283.00 usft	
		Easting:		776,227.00 usft	
Position Uncertainty		Wellhead Elevation:		usft	
				Latitude:	
				Longitude:	
				Ground Level:	
				32° 11' 39.806 N	
				103° 34' 26.398 W	
				3,526.0 usft	

Wellbore				OH	
Magnetics		Model Name		Sample Date	
		Declination (°)		Dip Angle (°)	
		Field Strength (nT)			
		IGRF2015		11/30/2017	
		6.90		60.03	
		47,872.78429122			

Design				OH	
Audit Notes:					
Version:		1.0		Phase:	
		ACTUAL		Tie On Depth:	
		0.0			
Vertical Section:		Depth From (TVD)		+N/-S	
		(usft)		(usft)	
		0.0		0.0	
		0.0		Direction	
				(°)	
				179.49	



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Survey Program		Date	4/2/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
173.0	1,324.0	Olebrook MWD (OH)	MWD	OWSG MWD - Standard	
1,513.0	22,440.0	Drilltech 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)	
1,324.0	0.26	242.78	1,323.8	-15.9	-11.2	0.00	0.00	0.00	0.0	0.0	0.0
1,513.0	1.23	308.73	1,512.8	-14.8	-13.2	0.61	0.51	34.89	-1.5	0.2	0.2
1,607.0	1.58	325.08	1,606.8	-13.2	-14.7	0.56	0.37	17.39	-2.0	2.0	2.0
1,701.0	2.81	326.92	1,700.7	-10.2	-16.7	1.31	1.31	1.96	-2.9	4.0	4.0
1,793.0	4.04	330.79	1,792.5	-5.4	-19.5	1.36	1.34	4.21	-5.4	6.0	6.0
1,887.0	3.61	334.66	1,886.3	0.1	-22.4	0.53	-0.46	4.12	-8.3	8.1	8.1
1,981.0	3.78	343.36	1,980.1	5.8	-24.5	0.62	0.18	9.26	-10.0	10.8	10.8
2,075.0	4.04	347.58	2,073.9	12.0	-26.1	0.41	0.28	4.49	-12.4	12.6	12.6
2,169.0	4.66	354.26	2,167.6	19.0	-27.2	0.85	0.66	7.11	-14.7	14.8	14.8
2,263.0	4.66	351.71	2,261.3	26.6	-28.2	0.22	0.00	-2.71	-19.7	14.6	14.6
2,357.0	4.66	351.09	2,355.0	34.1	-29.3	0.05	0.00	-0.66	-24.3	15.0	15.0
2,451.0	4.92	3.57	2,448.7	41.9	-29.6	1.14	0.28	13.28	-25.0	20.7	20.7
2,544.0	5.28	10.08	2,541.3	50.1	-28.6	0.73	0.39	7.00	-27.5	23.4	23.4
2,638.0	5.19	9.64	2,634.9	58.6	-27.2	0.10	-0.10	-0.47	-33.0	22.8	22.8
2,731.0	5.10	8.76	2,727.6	66.8	-25.8	0.13	-0.10	-0.95	-38.5	21.9	21.9
2,825.0	5.01	6.56	2,821.2	75.0	-24.7	0.23	-0.10	-2.34	-44.3	20.0	20.0
2,917.0	5.01	7.18	2,912.9	83.0	-23.8	0.06	0.00	0.67	-48.9	20.3	20.3
3,011.0	4.84	4.71	3,006.5	91.0	-22.9	0.29	-0.18	-2.63	-54.6	17.8	17.8
3,104.0	4.92	4.80	3,099.2	98.9	-22.3	0.09	0.09	0.10	-59.2	17.8	17.8
3,197.0	5.01	4.54	3,191.8	106.9	-21.6	0.10	0.10	-0.28	-64.1	17.4	17.4
3,291.0	4.92	3.75	3,285.5	115.0	-21.0	0.12	-0.10	-0.84	-69.2	16.4	16.4



Midland PVA



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Site:	Convoy 28 State Corn	MD Reference:	KB = 25 @ 3551.0usft (H&P 610)
Well:	#704H	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)	
3,384.0	4.84	3.13	3,378.1	122.9	-20.6	0.10	-0.09	-0.67	-74.1		15.6
3,478.0	3.61	0.58	3,471.9	129.8	-20.3	1.32	-1.31	-2.71	-78.3		12.2
3,571.0	5.10	358.12	3,564.6	136.9	-20.4	1.61	1.60	-2.65	-82.6		9.0
3,665.0	4.66	357.42	3,658.3	144.9	-20.7	0.47	-0.47	-0.74	-87.4		8.2
3,759.0	4.40	353.29	3,752.0	152.3	-21.3	0.44	-0.28	-4.39	-92.0		2.1
3,853.0	4.31	350.39	3,845.7	159.4	-22.3	0.25	-0.10	-3.09	-95.9		-2.0
3,946.0	4.92	5.42	3,938.4	166.8	-22.5	1.45	0.66	16.16	-97.3		23.7
4,039.0	5.54	13.24	4,031.0	175.1	-21.1	1.01	0.67	8.41	-98.4		36.7
4,132.0	5.36	11.22	4,123.6	183.7	-19.3	0.28	-0.19	-2.17	-105.3		32.5
4,227.0	5.36	10.52	4,218.2	192.5	-17.6	0.07	0.00	-0.74	-111.2		30.7
4,320.0	5.19	11.31	4,310.8	200.9	-16.0	0.20	-0.18	0.85	-116.2		31.8
4,414.0	4.84	14.82	4,404.4	208.9	-14.1	0.49	-0.37	3.73	-119.0		38.4
4,507.0	4.57	17.37	4,497.1	216.2	-12.0	0.37	-0.29	2.74	-121.7		43.0
4,600.0	4.13	14.91	4,589.8	223.0	-10.0	0.51	-0.47	-2.65	-127.3		36.9
4,694.0	3.87	22.20	4,683.6	229.2	-8.0	0.61	-0.28	7.76	-125.0		52.1
4,788.0	3.69	27.92	4,777.4	234.8	-5.4	0.44	-0.19	6.09	-122.4		63.2
4,882.0	3.34	37.67	4,871.2	239.6	-2.3	0.74	-0.37	10.37	-113.0		81.6
4,976.0	3.43	40.40	4,965.1	243.9	1.2	0.20	0.10	2.90	-112.0		85.0
5,019.0	3.52	41.54	5,008.0	245.9	2.9	0.26	0.21	2.65	-111.7		86.3
5,142.0	3.34	42.42	5,130.8	251.4	7.9	0.15	-0.15	0.72	-112.0		83.0
5,235.0	4.92	17.81	5,223.5	257.2	10.9	2.52	1.70	-26.46	-133.7		25.3
5,329.0	7.65	5.24	5,317.0	267.2	12.7	3.24	2.90	-13.37	-133.4		-5.7
5,422.0	8.53	6.12	5,409.0	280.3	14.0	0.96	0.95	0.95	-131.0		-4.6
5,516.0	8.44	6.47	5,502.0	294.0	15.5	0.11	-0.10	0.37	-128.5		-4.8
5,610.0	8.62	5.59	5,595.0	307.9	17.0	0.24	0.19	-0.94	-126.0		-7.7
5,703.0	8.18	4.80	5,687.0	321.4	18.2	0.49	-0.47	-0.85	-123.3		-10.2
5,796.0	8.09	5.59	5,779.0	334.5	19.4	0.15	-0.10	0.85	-120.3		-9.2



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Design: OH

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TVD Reference: KB = 25 @ 3551.0usft (H&P 610)
MD Reference: KB = 25 @ 3551.0usft (H&P 610)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)	
5,890.0	8.18	5.77	5,872.1	347.8	20.7	0.10	0.10	0.19	-117.3	-9.8	
5,984.0	8.09	6.03	5,965.1	361.0	22.1	0.10	-0.10	0.28	-114.2	-10.2	
6,078.0	7.30	358.21	6,058.3	373.6	22.6	1.39	-0.84	-8.32	-108.0	-25.1	
6,172.0	7.12	355.13	6,151.6	385.3	21.9	0.45	-0.19	-3.28	-102.0	-28.9	
6,265.0	7.12	354.08	6,243.8	396.8	20.8	0.14	0.00	-1.13	-96.9	-28.5	
6,359.0	7.03	352.23	6,337.1	408.3	19.5	0.26	-0.10	-1.97	-91.4	-28.8	
6,453.0	6.95	352.06	6,430.4	419.6	17.9	0.09	-0.09	-0.18	-86.6	-26.1	
6,547.0	6.86	353.64	6,523.7	430.8	16.5	0.22	-0.10	1.68	-82.3	-21.0	
6,640.0	6.86	353.64	6,616.1	441.9	15.3	0.00	0.00	0.00	-77.4	-18.5	
6,734.0	6.77	352.32	6,709.4	453.0	13.9	0.19	-0.10	-1.40	-71.9	-17.4	
6,828.0	5.36	359.44	6,802.9	462.8	13.1	1.70	-1.50	7.57	-67.0	-6.9	
6,922.0	4.13	5.07	6,896.6	470.6	13.4	1.40	-1.31	5.99	-58.7	-0.7	
7,015.0	1.85	25.02	6,989.4	475.3	14.3	2.66	-2.45	21.45	-45.1	14.2	
7,109.0	1.85	20.62	7,083.4	478.1	15.5	0.15	0.00	-4.68	-33.4	5.6	
7,202.0	1.76	17.99	7,176.3	480.9	16.4	0.13	-0.10	-2.83	-22.5	0.2	
7,296.0	1.58	18.43	7,270.3	483.5	17.3	0.19	-0.19	0.47	-14.0	-2.8	
7,389.0	1.67	16.14	7,363.3	486.0	18.1	0.12	0.10	-2.46	-8.2	-5.4	
7,482.0	1.41	16.05	7,456.2	488.4	18.8	0.28	-0.28	-0.10	-5.2	-6.7	
7,575.0	1.41	4.98	7,549.2	490.6	19.2	0.29	0.00	-11.90	-3.5	-7.9	
7,668.0	1.23	5.59	7,642.2	492.7	19.4	0.19	-0.19	0.66	-5.6	-7.9	
7,762.0	1.23	2.08	7,736.1	494.8	19.5	0.08	0.00	-3.73	-7.1	-8.3	
7,855.0	1.14	4.01	7,829.1	496.7	19.6	0.11	-0.10	2.08	-9.3	-8.0	
7,949.0	1.06	8.41	7,923.1	498.5	19.8	0.12	-0.09	4.68	-11.7	-7.2	
8,043.0	1.23	18.34	8,017.1	500.3	20.3	0.28	0.18	10.56	-14.6	-4.9	
8,137.0	1.06	16.84	8,111.1	502.1	20.8	0.18	-0.18	-1.60	-16.4	-5.3	
8,231.0	0.70	8.23	8,205.1	503.5	21.2	0.41	-0.38	-9.16	-16.8	-7.8	
8,325.0	0.62	25.90	8,299.1	504.5	21.5	0.23	-0.09	18.80	-19.5	-2.2	



Midland PVA



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Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #704H
TVD Reference: KB = 25 @ 3551.0usft (H&P 610)
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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)	
8,418.0	0.53	32.93	8,392.0	505.3	21.9	0.12	-0.10	7.56	-20.5	0.3	
8,512.0	0.44	46.90	8,486.0	505.9	22.4	0.16	-0.10	14.86	-20.6	5.3	
8,605.0	0.44	59.91	8,579.0	506.4	23.0	0.11	0.00	13.99	-19.6	9.9	
8,698.0	0.44	54.20	8,672.0	506.7	23.6	0.05	0.00	-6.14	-21.2	7.9	
8,792.0	0.18	110.01	8,766.0	506.9	24.0	0.39	-0.28	59.37	-5.8	22.3	
8,884.0	0.18	156.33	8,858.0	506.7	24.2	0.15	0.00	50.35	11.9	19.6	
8,977.0	0.18	192.18	8,951.0	506.4	24.2	0.12	0.00	38.55	20.9	9.0	
9,071.0	0.09	165.03	9,045.0	506.2	24.2	0.11	-0.10	-28.88	14.2	17.5	
9,164.0	0.18	305.04	9,138.0	506.2	24.1	0.27	0.10	150.55	0.3	-22.5	
9,258.0	0.26	291.15	9,232.0	506.4	23.8	0.10	0.09	-14.78	5.3	-21.8	
9,351.0	0.53	321.03	9,325.0	506.8	23.3	0.36	0.29	32.13	-6.9	-21.5	
9,444.0	0.44	317.78	9,418.0	507.4	22.8	0.10	-0.10	-3.49	-6.5	-21.8	
9,538.0	0.09	31.17	9,512.0	507.7	22.6	0.45	-0.37	78.07	-22.9	0.3	
9,631.0	0.18	57.54	9,605.0	507.9	22.8	0.12	0.10	28.35	-20.6	10.5	
9,725.0	0.26	272.08	9,699.0	508.0	22.7	0.45	0.09	-154.74	11.0	-20.4	
9,818.0	0.70	279.99	9,792.0	508.1	21.9	0.48	0.47	8.51	7.3	-21.7	
9,912.0	0.18	278.41	9,886.0	508.2	21.2	0.55	-0.55	-1.68	7.2	-21.5	
10,005.0	0.26	151.05	9,979.0	508.0	21.2	0.43	0.09	-136.95	12.6	18.6	
10,098.0	0.44	230.68	10,072.0	507.6	21.0	0.50	0.19	85.62	20.2	-8.9	
10,192.0	1.06	233.14	10,166.0	506.9	20.0	0.66	0.66	2.62	18.6	-9.7	
10,286.0	0.70	243.34	10,260.0	506.1	18.8	0.42	-0.38	10.85	15.1	-12.7	
10,379.0	0.88	253.27	10,353.0	505.6	17.6	0.24	0.19	10.68	11.4	-15.0	
10,473.0	0.70	270.85	10,447.0	505.4	16.4	0.32	-0.19	18.70	5.1	-17.6	
10,570.0	0.62	230.24	10,544.0	505.1	15.4	0.48	-0.08	-41.87	14.3	-10.4	
10,662.0	0.53	305.83	10,636.0	505.0	14.6	0.77	-0.10	82.16	-7.0	-16.0	
10,756.0	0.79	291.15	10,730.0	505.5	13.7	0.33	0.28	-15.62	-3.8	-17.4	
10,850.0	0.88	273.48	10,824.0	505.8	12.4	0.29	0.10	-18.80	0.3	-17.9	



Midland PVA



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Survey

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10,944.0	0.97	274.98	10,917.9	505.9	10.8	0.10	0.10	1.60	-1.7	-17.9
11,038.0	1.32	285.44	11,011.9	506.3	9.0	0.43	0.37	11.13	-6.8	-17.1
11,132.0	1.49	291.94	11,105.9	507.0	6.8	0.25	0.18	6.91	-11.0	-16.1
11,225.0	1.49	276.91	11,198.9	507.6	4.5	0.42	0.00	-16.16	-8.8	-18.7
11,319.0	1.41	245.45	11,292.8	507.3	2.2	0.84	-0.09	-33.47	0.1	-21.2
11,413.0	1.41	214.07	11,386.8	505.8	0.5	0.81	0.00	-33.38	9.0	-18.7
11,506.0	1.58	203.61	11,479.8	503.7	-0.6	0.34	0.18	-11.25	9.8	-17.0
11,598.0	1.76	194.47	11,571.7	501.2	-1.5	0.35	0.20	-9.93	9.7	-15.4
11,691.0	2.46	168.37	11,664.7	497.9	-1.4	1.26	0.75	-28.06	12.2	-10.2
11,785.0	2.46	163.62	11,758.6	493.9	-0.4	0.22	0.00	-5.05	9.0	-9.3
11,917.0	1.85	163.09	11,890.5	489.2	1.0	0.46	-0.46	-0.40	4.1	-9.2
12,006.0	2.64	156.59	11,979.4	485.9	2.2	0.93	0.89	-7.30	1.6	-8.9
12,100.0	16.27	167.58	12,071.9	471.0	5.9	14.56	14.50	11.69	-11.7	-7.9
12,193.0	29.37	165.29	12,157.5	436.1	14.5	14.12	14.09	-2.46	-27.8	-3.5
12,287.0	40.45	171.62	12,234.5	383.4	24.9	12.39	11.79	6.73	-44.8	7.9
12,381.0	46.17	177.51	12,302.9	319.3	30.8	7.44	6.09	6.27	-54.1	17.2
12,459.0	47.04	180.85	12,356.5	262.7	31.6	3.31	1.12	4.28	-50.8	19.7
12,474.0	46.78	180.93	12,366.7	251.7	31.4	1.78	-1.73	0.53	-48.7	19.6
12,553.1	53.22	183.17	12,417.5	191.2	29.2	8.42	8.14	2.83	-33.4	17.3
FTP Crossing 12553.1' MD; 12417.5' TVD; 191.2'; 29.2'; 53.22										
12,569.0	54.52	183.57	12,426.9	178.4	28.5	8.42	8.17	2.54	-29.8	16.4
12,616.0	63.40	183.84	12,451.1	138.2	25.8	18.90	18.89	0.57	-20.3	12.9
12,662.0	71.75	182.96	12,468.6	95.8	23.3	18.24	18.15	-1.91	-13.3	9.7
12,709.0	77.91	181.73	12,480.9	50.5	21.5	13.35	13.11	-2.62	-7.3	7.3
12,756.0	83.54	179.53	12,488.5	4.2	21.0	12.84	11.98	-4.68	-1.5	6.4
12,790.0	88.81	178.91	12,490.8	-29.8	21.5	15.61	15.50	-1.82	0.7	6.6
12,881.0	90.40	179.53	12,491.4	-120.7	22.7	1.88	1.75	0.68	1.2	7.2



Midland PVA



Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Convoy 28 State Com
Well: #704H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Well #704H
KB = 25 @ 3551.0usft (H&P 610)
KB = 25 @ 3551.0usft (H&P 610)
Grid
Minimum Curvature
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)	
12,975.0	90.84	180.67	12,490.4	-214.7	22.5	1.30	0.47	1.21	0.0	6.3	
13,069.0	91.19	182.60	12,488.7	-308.7	19.8	2.09	0.37	2.05	-1.9	3.0	
13,163.0	90.57	182.43	12,487.3	-402.6	15.7	0.68	-0.66	-0.18	-3.5	-1.8	
13,257.0	90.31	181.90	12,486.6	-496.5	12.2	0.63	-0.28	-0.56	-4.4	-6.1	
13,350.0	89.60	181.37	12,486.6	-589.5	9.5	0.95	-0.76	-0.57	-4.5	-9.4	
13,444.0	89.25	180.94	12,487.6	-683.4	7.6	0.59	-0.37	-0.46	-3.8	-12.0	
13,538.0	88.11	181.11	12,489.7	-777.4	5.9	1.23	-1.21	0.18	-1.8	-14.4	
13,632.0	88.72	180.32	12,492.3	-871.4	4.8	1.06	0.65	-0.84	0.6	-16.3	
13,726.0	90.57	178.91	12,492.9	-965.3	5.4	2.47	1.97	-1.50	1.0	-16.3	
13,820.0	90.22	178.91	12,492.3	-1,059.3	7.2	0.37	-0.37	0.00	0.2	-15.2	
13,913.0	88.64	179.62	12,493.2	-1,152.3	8.4	1.86	-1.70	0.76	0.9	-14.7	
14,007.0	91.89	178.56	12,492.8	-1,246.3	9.9	3.64	3.46	-1.13	0.3	-13.9	
14,100.0	92.86	177.86	12,488.9	-1,339.2	12.8	1.29	1.04	-0.75	-3.8	-11.7	
14,194.0	88.72	177.33	12,487.6	-1,433.0	16.7	4.44	-4.40	-0.56	-5.2	-8.5	
14,288.0	88.02	177.51	12,490.3	-1,526.9	20.9	0.77	-0.74	0.19	-2.8	-4.9	
14,381.0	90.57	180.67	12,491.4	-1,619.9	22.4	4.37	2.74	3.40	-1.8	-4.1	
14,474.0	91.10	181.02	12,490.1	-1,712.8	21.1	0.68	0.57	0.38	-3.3	-6.2	
14,567.0	91.71	181.64	12,487.8	-1,805.8	18.9	0.94	0.66	0.67	-5.8	-9.0	
14,660.0	90.92	180.94	12,485.7	-1,898.7	16.8	1.13	-0.85	-0.75	-8.1	-11.8	
14,753.0	91.28	182.25	12,483.9	-1,991.7	14.2	1.46	0.39	1.41	-10.1	-15.1	
14,846.0	91.10	181.73	12,482.6	-2,084.6	12.0	0.87	-0.29	-0.83	-11.5	-17.7	
14,939.0	89.34	179.44	12,482.2	-2,177.6	11.1	3.11	-1.89	-2.46	-11.9	-19.4	
15,033.0	89.96	181.02	12,482.8	-2,270.6	10.7	1.81	0.66	1.68	-11.3	-20.4	
15,126.0	87.67	180.23	12,484.7	-2,363.6	9.7	2.60	-2.46	-0.85	-9.5	-22.1	
15,219.0	87.76	179.88	12,488.5	-2,456.5	9.6	0.38	0.10	-0.37	-5.8	-22.9	
15,313.0	88.29	179.53	12,491.7	-2,549.5	10.1	0.68	0.57	-0.38	-2.6	-23.1	
15,407.0	89.08	179.27	12,493.8	-2,642.4	11.1	0.88	0.84	-0.28	-0.5	-22.8	



Midland PVA



Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
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Well: #704H
Wellbore: OH
Design: OH

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Well #704H
KB = 25 @ 3551.0usft (H&P 610)
KB = 25 @ 3551.0usft (H&P 610)
Grid
Minimum Curvature
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)	
15,470.0	88.02	179.62	12,496.2	-2,708.4	12.0	1.20	-1.14	0.38	1.8	-22.6	
15,563.0	90.84	180.41	12,497.1	-2,801.4	11.9	3.15	3.03	0.85	2.7	-23.3	
15,686.0	90.13	178.74	12,496.1	-2,924.4	12.8	1.48	-0.58	-1.36	1.6	-23.3	
15,780.0	90.75	177.51	12,495.3	-3,018.3	15.9	1.47	0.66	-1.31	0.8	-21.0	
15,874.0	92.86	176.28	12,492.4	-3,112.1	21.0	2.60	2.24	-1.31	-2.2	-16.6	
15,967.0	92.51	175.40	12,488.0	-3,204.8	27.7	1.02	-0.38	-0.95	-6.6	-10.5	
16,061.0	90.40	176.89	12,485.6	-3,298.5	34.1	2.75	-2.24	1.59	-9.0	-4.9	
16,154.0	89.52	177.42	12,485.7	-3,391.4	38.7	1.10	-0.95	0.57	-9.0	-1.0	
16,247.0	88.37	177.68	12,487.4	-3,484.3	42.7	1.27	-1.24	0.28	-7.3	2.3	
16,340.0	88.81	176.89	12,489.7	-3,577.2	47.1	0.97	0.47	-0.85	-5.1	6.0	
16,433.0	88.55	178.56	12,491.8	-3,670.1	50.8	1.82	-0.28	1.80	-3.0	9.0	
16,527.0	87.93	178.56	12,494.7	-3,764.0	53.1	0.66	-0.66	0.00	-0.2	10.7	
16,620.0	88.46	180.58	12,497.7	-3,856.9	53.8	2.24	0.57	2.17	2.7	10.7	
16,713.0	87.41	180.85	12,501.0	-3,949.9	52.6	1.17	-1.13	0.29	6.0	8.9	
16,793.0	89.52	180.14	12,503.2	-4,029.8	52.0	2.78	2.64	-0.89	8.1	7.6	
16,807.0	91.19	179.62	12,503.1	-4,043.8	52.0	12.49	11.93	-3.71	8.0	7.5	
16,838.0	91.89	178.56	12,502.2	-4,074.8	52.5	4.10	2.26	-3.42	7.2	7.8	
16,900.0	90.92	178.30	12,500.7	-4,136.8	54.2	1.62	-1.56	-0.42	5.6	9.0	
16,994.0	90.66	179.27	12,499.4	-4,230.7	56.2	1.07	-0.28	1.03	4.3	10.3	
17,087.0	90.57	179.53	12,498.4	-4,323.7	57.1	0.30	-0.10	0.28	3.3	10.6	
17,238.0	90.13	178.12	12,497.5	-4,474.7	60.2	0.98	-0.29	-0.93	2.3	12.6	
17,273.0	90.04	178.03	12,497.4	-4,509.7	61.4	0.36	-0.26	-0.26	2.2	13.5	
17,366.0	91.19	179.00	12,496.4	-4,602.6	63.8	1.62	1.24	1.04	1.1	15.2	
17,459.0	92.42	180.85	12,493.5	-4,695.6	63.9	2.39	1.32	1.99	-1.8	14.6	
17,552.0	92.68	181.64	12,489.4	-4,788.5	61.9	0.89	0.28	0.85	-6.0	11.9	
17,646.0	92.77	181.90	12,484.9	-4,882.3	59.0	0.29	0.10	0.28	-10.5	8.3	
17,740.0	88.64	183.40	12,483.8	-4,976.2	54.7	4.67	-4.39	1.60	-11.7	3.3	



Midland PVA



Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 83 NME)
 Site: Conroy 28 State Com
 Well: #704H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Well #704H
 KB = 25 @ 3551.0ust (H&P 510)
 KB = 25 @ 3551.0ust (H&P 510)
 Grid
 Minimum Curvature
 EDM 5000.14

Survey	MD (ustf)	Inc (°)	Azi (azimuth) (°)	TVD (ustf)	NIS (ustf)	EW (ustf)	DLeg (°/100ustf)	Build (°/100ustf)	Turn (°/100ustf)	High to Plan (ustf)	Right to Plan (ustf)
	17,833.0	88.34	184.01	12,485.4	-5,069.0	48.7	1.00	0.75	0.66	-10.1	-3.4
	17,927.0	90.66	184.98	12,485.4	-5,162.7	41.3	1.74	1.40	1.03	-10.2	-11.4
	18,020.0	90.75	185.42	12,484.2	-5,255.3	32.9	0.48	0.10	0.47	-11.4	-20.6
	18,051.0	90.92	183.22	12,483.8	-5,286.2	30.5	7.12	0.55	-7.10	-11.8	-23.1
	18,113.0	91.01	182.25	12,482.8	-5,348.1	27.6	1.57	0.15	-1.56	-12.9	-26.6
	18,144.0	91.54	181.64	12,482.1	-5,379.1	26.5	2.61	1.71	-1.97	-13.6	-27.8
	18,175.0	91.54	180.50	12,481.2	-5,410.1	26.0	3.68	0.00	-3.68	-14.5	-28.6
	18,206.0	91.45	180.23	12,480.4	-5,441.1	25.8	0.92	-0.29	-0.87	-15.3	-29.1
	18,238.0	91.28	179.88	12,479.7	-5,473.0	25.7	1.22	-0.53	-1.09	-16.1	-29.3
	18,269.0	89.08	178.83	12,478.6	-5,504.0	26.1	7.86	-7.10	-3.39	-16.2	-29.2
	18,301.0	88.89	178.91	12,480.1	-5,536.0	26.7	0.38	-0.28	0.25	-15.7	-28.8
	18,394.0	90.40	179.70	12,480.6	-5,629.0	27.8	1.74	1.52	0.85	-15.2	-28.4
	18,488.0	87.93	179.18	12,482.0	-5,723.0	28.8	2.69	-2.63	-0.55	-13.9	-28.2
	18,582.0	86.61	179.18	12,486.4	-5,816.9	30.1	1.40	-1.40	0.00	-9.4	-27.5
	18,675.0	87.58	178.91	12,491.2	-5,908.7	31.6	1.08	1.04	-0.29	-4.8	-26.7
	18,769.0	88.11	178.12	12,494.7	-6,003.6	34.1	1.01	0.56	-0.84	-1.3	-24.9
	18,863.0	89.52	178.56	12,496.6	-6,097.5	36.8	1.57	1.50	0.47	0.6	-22.9
	18,956.0	89.96	179.27	12,497.1	-6,190.5	38.6	0.90	0.47	0.76	1.0	-21.8
	19,049.0	89.96	179.44	12,497.1	-6,283.5	39.6	0.18	0.00	0.18	1.0	-21.5
	19,141.0	90.13	180.14	12,497.0	-6,375.5	40.0	0.78	0.18	0.76	0.9	-21.8
	19,235.0	91.01	180.58	12,496.1	-6,469.5	39.4	1.05	0.94	0.47	-0.1	-23.1
	19,328.0	90.13	180.50	12,495.2	-6,562.5	38.5	0.95	-0.95	-0.09	-1.1	-24.6
	19,422.0	89.78	181.11	12,495.3	-6,656.5	37.2	0.75	-0.37	0.65	-1.0	-26.7
	19,454.0	91.01	180.76	12,495.0	-6,688.5	36.6	4.00	3.84	-1.09	-1.2	-27.4
	19,516.0	90.48	180.23	12,494.2	-6,750.5	36.1	1.21	-0.85	-0.85	-2.1	-28.4
	19,609.0	91.19	178.39	12,492.9	-6,843.5	37.2	2.12	0.76	-1.98	-3.5	-28.0
	19,703.0	92.07	178.65	12,490.2	-6,937.4	39.7	0.98	0.94	0.28	-6.2	-26.3



Midland PVA



Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Convoy 28 State Com
Well: #704H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #704H
TVD Reference: KB = 25 @ 3551.0usft (H&P 610)
MD Reference: KB = 25 @ 3551.0usft (H&P 610)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
19,795.0	91.10	179.53	12,487.7	-7,029.3	41.1	1.42	-1.05	0.96	-8.7	-25.5	
19,888.0	91.28	178.91	12,485.7	-7,122.3	42.4	0.69	0.19	-0.67	-10.7	-24.9	
19,982.0	90.31	179.62	12,484.4	-7,216.3	43.6	1.28	-1.03	0.76	-12.0	-24.4	
20,074.0	90.66	180.76	12,483.6	-7,308.3	43.3	1.30	0.38	1.24	-12.8	-25.4	
20,169.0	90.04	179.79	12,483.1	-7,403.3	42.8	1.21	-0.65	-1.02	-13.4	-26.5	
20,262.0	89.60	179.00	12,483.4	-7,496.3	43.8	0.97	-0.47	-0.85	-13.1	-26.2	
20,355.0	88.64	180.23	12,484.8	-7,589.3	44.4	1.68	-1.03	1.32	-11.7	-26.3	
20,448.0	90.40	179.44	12,485.6	-7,682.3	44.7	2.07	1.89	-0.85	-10.9	-26.7	
20,543.0	90.22	178.21	12,485.0	-7,777.2	46.6	1.31	-0.19	-1.29	-11.4	-25.5	
20,636.0	89.08	177.42	12,485.6	-7,870.2	50.2	1.49	-1.23	-0.85	-10.8	-22.6	
20,731.0	87.76	178.12	12,488.2	-7,965.0	53.9	1.57	-1.39	0.74	-8.2	-19.6	
20,824.0	89.25	177.68	12,490.7	-8,057.9	57.3	1.67	1.60	-0.47	-5.8	-16.9	
20,917.0	88.20	176.54	12,492.7	-8,150.8	62.0	1.67	-1.13	-1.23	-3.7	-12.9	
21,010.0	90.13	176.72	12,494.1	-8,243.6	67.4	2.08	2.08	0.19	-2.4	-8.1	
21,033.0	91.54	178.21	12,493.8	-8,266.6	68.5	8.92	6.13	6.48	-2.7	-7.3	
21,104.0	90.40	176.36	12,492.6	-8,337.5	71.8	3.06	-1.61	-2.61	-3.9	-4.4	
21,199.0	91.98	177.33	12,490.6	-8,432.3	77.1	1.95	1.66	1.02	-5.9	0.1	
21,292.0	88.02	177.60	12,490.6	-8,525.2	81.2	4.27	-4.26	0.29	-5.8	3.5	
21,386.0	88.37	178.12	12,493.5	-8,619.1	84.7	0.67	0.37	0.55	-2.9	6.3	
21,478.0	90.48	178.47	12,494.5	-8,711.1	87.4	2.32	2.29	0.38	-1.9	8.4	
21,572.0	91.28	177.77	12,493.0	-8,805.0	90.5	1.13	0.85	-0.74	-3.3	10.8	
21,665.0	94.44	179.62	12,488.4	-8,897.8	92.6	3.94	3.40	1.99	-7.9	12.2	
21,759.0	93.39	180.58	12,482.0	-8,991.6	92.4	1.51	-1.12	1.02	-14.3	11.3	
21,851.0	90.04	181.02	12,479.2	-9,083.6	91.2	3.67	-3.64	0.48	-17.1	9.4	
21,945.0	89.96	181.37	12,479.2	-9,177.5	89.2	0.38	-0.09	0.37	-17.0	6.7	
22,037.0	90.57	182.25	12,478.8	-9,269.5	86.3	1.16	0.66	0.96	-17.4	3.1	
22,131.0	90.84	183.40	12,477.6	-9,363.4	81.7	1.26	0.29	1.22	-18.6	-2.2	



Midland PVA



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TVD Reference: KB = 25 @ 3551.0usft (H&P 610)
MD Reference: KB = 25 @ 3551.0usft (H&P 610)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)	
22,224.0	91.28	183.75	12,475.9	-9,456.2	75.9	0.60	0.47	0.38	-20.3	-8.7	
22,318.0	91.80	184.71	12,473.4	-9,549.9	68.9	1.16	0.55	1.02	-22.7	-16.3	
22,379.0	91.54	185.24	12,471.6	-9,610.7	63.6	0.97	-0.43	0.87	-24.5	-22.0	
Last MWD Survey (MD = 22379.0)											
22,440.0	91.54	185.24	12,470.0	-9,671.3	58.1	0.00	0.00	0.00	-26.1	-28.0	
Projection to Bit (MD = 22440.0)											

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/-S (usft)	+E/-W (usft)		
12,553.1	12,417.5	191.2	29.2		FTP Crossing 12553.1' MD; 12417.5' TVD; 191.2'; 29.2'; 53.22
22,379.0	12,471.6	-9,610.7	63.6		Last MWD Survey (MD = 22379.0)
22,440.0	12,470.0	-9,671.3	58.1		Projection to Bit (MD = 22440.0)

Checked By: _____ Approved By: _____ Date: _____

MAY 29 2018

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Lea County, NM (NAD 83 NME)

Convoy 28 State Com #704H

H&P 610

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: #704H

KB = 25 @ 3551.0usft (H&P 610) 3526.0
Northing 435283.00 Easting 776227.00 Latitude 32° 11' 39.806 N Longitude 103° 34' 26.398 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1324.0	0.26	242.78	1323.8	-15.9	-11.2	0.00	0.00	15.8
1424.0	0.26	242.78	1423.8	-16.1	-11.6	0.00	0.00	16.0
1638.1	2.00	2.63	1637.9	-12.6	-11.9	1.00	125.89	12.5
5002.3	2.00	2.63	5000.0	104.7	-6.5	0.00	0.00	-104.7
5403.8	10.03	2.61	5399.0	146.7	-4.6	2.00	-0.03	-146.7
7114.0	10.03	2.61	7083.0	444.2	9.0	0.00	0.00	-444.1
7615.5	0.00	0.00	7582.0	488.0	11.0	2.00	180.00	-487.8
12046.0	0.00	0.00	12012.5	488.0	11.0	0.00	0.00	-487.8
12795.0	89.89	179.58	12490.0	11.5	14.5	12.00	179.58	-11.3
14806.4	89.89	179.58	12494.0	-1999.8	29.3	0.00	0.00	2000.0
14810.7	89.97	179.58	12494.0	-2004.1	29.4	2.00	-1.12	2004.3
18806.4	89.97	179.58	12496.0	-5999.7	59.0	0.00	0.00	6000.0
22592.8	90.03	179.58	12496.0	-9786.0	87.0	0.00	0.00	9786.4

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP Con 28 ST Com #704H	12012.5	488.0	11.0	435770.96	776238.00
FTP Con 28 ST Com #704H	12490.0	208.0	13.0	435491.00	776240.00
TGT1H Con 28 ST Com #704H	12494.0	-1999.8	29.3	433383.20	776256.35
PBHL Con 28 ST Com #704H	12496.0	-9786.0	87.0	425487.00	776314.00
TGTW2 Con 28 ST Com #704H	12496.0	-5999.7	59.0	429283.30	776285.96

