

HOBBS OCD

OCT 01 2018

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Orrtanna 20 Fed

#705H

OH

Design: OH

Midland PVA

04 June, 2018





Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3277.0usft (H&P 610)
Site:	Oritanna 20 Fed	MD Reference:	KB = 25' @ 3277.0usft (H&P 610)
Well:	#705H	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	Oritanna 20 Fed		
Site Position:		Northing:	373,025.00 usft
From:	Map	Easting:	770,593.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 1' 24.126 N
		Longitude:	103° 35' 37.186 W
		Grid Convergence:	0.39 °

Well		#705H				
Well Position	+N-S	0.0 usft	Northing:	373,051.00 usft	Latitude:	32° 1' 24.385 N
	+E-W	0.0 usft	Easting:	770,571.00 usft	Longitude:	103° 35' 37.186 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,252.0 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/3/2018	6.85	59.86	47,727.82873165

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	1.74



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Survey Program		Date	6/4/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description		
137.0	972.0	Cartel 41 MWD 8' KB + 17' (OH)	MWD	OWSG MWD - Standard		
1,060.0	17,153.0	Driltech MWD (OH)	MWD	OWSG MWD - Standard		

Survey											
MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Buikd (°/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	0.0
137.0	0.60	228.00	137.0	-0.5	-0.5	0.44	0.44	0.00	0.0	0.0	0.0
224.0	0.40	114.20	224.0	-0.9	-0.6	0.97	-0.23	-130.80	0.0	0.0	0.0
280.0	0.50	123.20	280.0	-1.1	-0.2	0.22	0.18	16.07	0.0	0.0	0.0
407.0	0.20	199.70	407.0	-1.6	0.2	0.39	-0.24	60.24	0.0	0.0	0.0
469.0	0.50	188.40	469.0	-2.0	0.1	0.49	0.48	-18.23	0.0	0.0	0.0
532.0	0.40	159.60	532.0	-2.5	0.1	0.39	-0.16	-45.71	0.0	0.0	0.0
658.0	0.20	274.40	658.0	-2.9	0.1	0.41	-0.16	91.11	0.0	0.0	0.0
816.0	0.40	248.20	816.0	-3.1	-0.7	0.15	0.13	-16.58	0.0	0.0	0.0
944.0	0.20	213.60	944.0	-3.4	-1.3	0.20	-0.16	-27.03	0.0	0.0	0.0
972.0	0.10	116.10	972.0	-3.5	-1.3	0.84	-0.36	-348.21	0.0	0.0	0.0
1,060.0	0.35	124.15	1,060.0	-3.7	-1.0	0.29	0.28	9.15	-0.2	0.0	0.0
1,153.0	0.53	129.77	1,153.0	-4.1	-0.4	0.20	0.19	6.04	-0.7	0.0	0.0
1,246.0	0.62	125.82	1,246.0	-4.7	0.3	0.11	0.10	-4.25	-1.5	-0.1	-0.1
1,338.0	0.62	142.60	1,338.0	-5.3	1.0	0.20	0.00	18.24	-2.3	0.4	0.4
1,431.0	0.53	156.05	1,431.0	-6.1	1.5	0.17	-0.10	14.46	-3.0	0.9	0.9
1,524.0	0.35	161.94	1,524.0	-6.8	1.8	0.20	-0.19	6.33	-3.4	1.2	1.2
1,618.0	0.18	213.44	1,618.0	-7.2	1.8	0.29	-0.18	54.79	-1.6	3.5	3.5
1,711.0	0.26	208.79	1,711.0	-7.5	1.6	0.09	0.09	-5.00	-2.2	3.2	3.2
1,805.0	0.35	216.87	1,805.0	-7.9	1.3	0.11	0.10	8.60	-2.3	3.3	3.3
1,898.0	0.35	249.48	1,898.0	-8.2	0.9	0.21	0.00	35.06	-0.8	4.1	4.1



Midland PVA



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 Site: Ortiana 20 Fed
 Well: #705H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #705H
 TWD Reference: KB = 25' @ 3277.0usft (H&P 610)
 MD Reference: KB = 25' @ 3277.0usft (H&P 610)
 North Reference: Gld
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.14

Survey	MD (usft)	Inc (°)	Azi (feet/mud) (°)	TVD (usft)	NIS (usft)	ENW (usft)	Drag (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
	1,991.0	0.44	243.68	1,991.0	-8.5	0.3	0.11	0.10	-6.24	-1.9	3.8
	2,085.0	0.79	235.07	2,084.9	-9.0	-0.5	0.38	0.37	-8.16	-3.5	3.3
	2,178.0	3.08	172.66	2,178.9	-11.9	-0.7	2.98	2.44	-66.39	-7.3	-2.3
	2,272.0	3.34	168.36	2,271.7	-17.0	0.1	0.36	0.28	-4.62	-12.2	-3.2
	2,366.0	4.13	162.47	2,365.5	-22.9	1.7	0.93	0.84	-6.27	-17.8	-4.8
	2,460.0	4.22	164.67	2,459.3	-29.5	3.6	0.20	0.10	2.34	-24.7	-4.1
	2,554.0	4.04	163.43	2,553.1	-36.0	5.5	0.21	-0.19	-1.32	-31.3	-4.9
	2,648.0	4.04	165.63	2,646.8	-42.4	7.2	0.16	0.00	2.34	-37.9	-3.7
	2,742.0	5.10	162.73	2,740.5	-49.6	8.3	1.15	1.13	-3.09	-45.1	-5.9
	2,835.0	4.84	163.17	2,833.2	-57.3	11.7	0.28	-0.28	0.47	-53.1	-5.6
	2,928.0	4.84	163.00	2,925.8	-64.8	14.0	0.02	0.00	-0.18	-60.8	-5.9
	3,022.0	4.75	164.23	3,019.5	-72.3	16.2	0.15	-0.10	1.31	-68.6	-4.6
	3,117.0	4.66	164.75	3,114.2	-79.9	18.3	0.10	-0.09	0.55	-74.0	-4.1
	3,210.0	4.31	166.07	3,206.9	-86.9	20.1	0.39	-0.38	1.42	-75.9	-2.7
	3,303.0	4.40	164.49	3,299.6	-93.7	21.9	0.16	0.10	-1.70	-74.3	-5.2
	3,396.0	4.22	166.95	3,392.4	-100.5	23.6	0.28	-0.19	2.65	-69.9	-2.7
	3,490.0	4.57	154.91	3,486.1	-107.3	26.0	1.05	0.37	-12.81	-62.6	-16.1
	3,583.0	5.36	142.25	3,578.7	-114.0	30.2	1.45	0.85	-13.61	-54.0	-25.7
	3,676.0	5.36	136.36	3,671.3	-120.6	35.9	0.59	0.00	-6.33	-48.7	-26.0
	3,770.0	4.84	128.81	3,765.0	-126.3	42.0	0.90	-0.55	-8.03	-42.8	-25.7
	3,863.0	5.36	133.11	3,857.6	-131.7	48.2	0.69	0.56	4.62	-42.1	-16.0
	3,957.0	5.28	139.44	3,951.2	-138.0	54.2	0.63	-0.09	6.73	-40.8	-5.8
	4,050.0	4.92	138.65	4,043.8	-144.2	59.7	0.39	-0.39	-0.85	-37.6	-1.4
	4,143.0	4.46	138.03	4,138.5	-149.9	64.7	0.46	-0.47	-0.67	-34.0	3.4
	4,237.0	4.84	145.07	4,230.2	-155.9	69.4	0.72	0.36	7.49	-29.0	11.8
	4,330.0	5.10	141.29	4,322.9	-162.4	74.3	0.45	0.28	-4.06	-28.3	14.1
	4,423.0	5.01	141.02	4,415.5	-168.7	78.4	0.10	-0.10	-0.29	-23.0	18.6



Midland PVA



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Well:	#705H	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)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
4,517.0	5.63	143.31	4,509.1	-175.6	84.8	0.70	0.66	2.44	-19.2	23.9	
4,611.0	6.16	140.14	4,602.6	-183.2	90.7	0.66	0.56	-3.37	-18.6	27.4	
4,705.0	6.24	139.09	4,696.0	-190.9	97.3	0.15	0.09	-1.12	-17.8	32.0	
4,781.0	5.80	137.42	4,771.6	-196.9	102.6	0.62	-0.58	-2.20	-17.6	35.7	
4,963.0	5.45	137.77	4,952.7	-210.1	114.6	0.19	-0.19	0.19	-13.2	46.1	
5,057.0	5.80	142.87	5,046.3	-217.1	120.5	0.65	0.37	5.43	-6.5	51.8	
5,151.0	6.33	153.24	5,139.8	-225.6	125.7	1.29	0.56	11.03	5.3	55.1	
5,243.0	6.86	154.47	5,231.2	-235.0	130.4	0.60	0.58	1.34	8.1	56.9	
5,337.0	8.09	160.18	5,324.4	-246.3	135.0	1.53	1.31	6.07	14.0	57.0	
5,430.0	7.91	158.95	5,416.5	-258.5	139.5	0.27	-0.19	-1.32	12.1	58.0	
5,524.0	7.65	158.60	5,509.6	-270.3	144.2	0.28	-0.28	-0.37	11.5	59.0	
5,617.0	8.71	175.39	5,601.7	-283.1	147.0	2.80	1.14	18.05	27.0	52.4	
5,711.0	8.97	175.04	5,694.5	-297.5	148.2	0.28	0.28	-0.37	24.4	49.9	
5,804.0	8.44	174.33	5,786.5	-311.5	149.5	0.58	-0.57	-0.76	21.8	47.6	
5,897.0	8.35	174.16	5,878.5	-325.0	150.8	0.10	-0.10	-0.18	20.2	45.3	
5,990.0	7.74	175.48	5,970.6	-338.0	152.0	0.69	-0.66	1.42	20.3	42.2	
6,084.0	7.65	174.42	6,063.7	-350.5	153.1	0.18	-0.10	-1.13	19.2	40.0	
6,177.0	7.56	174.86	6,155.9	-362.8	154.3	0.12	-0.10	0.47	19.3	37.4	
6,270.0	7.30	175.56	6,248.1	-374.8	155.3	0.30	-0.28	0.75	19.8	34.5	
6,364.0	7.47	178.11	6,341.3	-386.8	156.0	0.39	0.18	2.71	21.3	30.6	
6,457.0	7.47	179.34	6,433.5	-398.9	156.2	0.17	0.00	1.32	21.7	26.8	
6,550.0	7.47	179.96	6,525.7	-411.0	156.3	0.09	0.00	0.67	21.8	23.0	
6,643.0	7.39	181.01	6,618.0	-423.0	156.2	0.17	-0.09	1.13	21.9	18.9	
6,831.0	7.21	182.16	6,804.4	-446.9	155.5	0.12	-0.10	0.61	22.0	10.4	
6,924.0	6.86	182.51	6,896.7	-458.3	155.1	0.38	-0.38	0.38	22.3	6.2	
7,018.0	6.77	183.91	6,990.1	-469.4	154.5	0.20	-0.10	1.49	23.0	1.3	
7,111.0	6.68	183.65	7,082.4	-480.3	153.7	0.10	-0.10	-0.28	23.7	-3.0	



Midland PVA



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Well:	#705H	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)	EW (usft)	DLeg ("/100usft)	Build ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
7,205.0	6.16	186.37	7,175.8	-490.8	152.8	0.64	-0.55	2.89	24.5	-8.8	
7,298.0	5.89	188.40	7,268.3	-500.4	151.6	0.37	-0.29	2.18	25.6	-14.8	
7,391.0	5.54	186.73	7,360.9	-509.6	150.4	0.42	-0.38	-1.80	27.9	-19.1	
7,485.0	6.42	181.63	7,454.4	-519.4	149.7	1.09	0.94	-5.43	28.9	-20.1	
7,578.0	3.43	163.17	7,547.0	-527.2	150.3	3.60	-3.22	-19.85	32.6	-11.6	
7,672.0	3.17	163.00	7,640.9	-532.4	151.9	0.28	-0.28	-0.18	30.7	-11.5	
7,766.0	3.08	160.36	7,734.7	-537.3	153.5	0.18	-0.10	-2.81	28.7	-10.2	
7,860.0	2.90	158.25	7,828.6	-541.9	155.2	0.22	-0.19	-2.24	22.1	-9.3	
7,954.0	2.64	155.79	7,922.5	-546.0	157.0	0.30	-0.28	-2.62	18.0	-8.4	
8,048.0	2.64	156.14	8,016.4	-550.0	158.8	0.02	0.00	0.37	13.6	-8.5	
8,142.0	2.46	156.58	8,110.3	-553.8	160.5	0.19	-0.19	0.47	9.4	-8.6	
8,236.0	2.46	159.22	8,204.2	-557.6	162.0	0.12	0.00	2.81	4.9	-9.0	
8,329.0	2.64	162.03	8,297.1	-561.5	163.3	0.24	0.19	3.02	0.3	-9.1	
8,422.0	2.73	161.41	8,390.0	-565.6	164.7	0.10	0.10	-0.67	-3.9	-9.1	
8,516.0	1.67	162.38	8,483.9	-569.0	165.8	1.13	-1.13	1.03	-7.7	-9.0	
8,610.0	1.67	164.75	8,577.9	-571.7	166.6	0.07	0.00	2.52	-10.8	-8.6	
8,704.0	1.32	180.49	8,671.9	-574.1	167.0	0.57	-0.37	16.74	-15.1	-5.0	
8,798.0	0.88	179.78	8,765.8	-575.9	167.0	0.47	-0.47	-0.76	-16.9	-5.2	
8,891.0	1.06	182.16	8,858.8	-577.4	168.9	0.20	0.19	2.56	-18.6	-4.5	
8,985.0	0.88	198.85	8,952.8	-579.0	166.7	0.35	-0.19	17.76	-20.7	1.3	
9,079.0	0.88	238.58	9,046.8	-580.1	165.8	0.64	0.00	42.27	-16.3	14.7	
9,174.0	1.23	279.71	9,141.8	-580.3	164.2	0.85	0.37	43.29	-4.2	22.3	
9,268.0	1.06	273.74	9,235.8	-580.0	162.3	0.22	-0.18	-6.35	-8.4	21.6	
9,362.0	0.97	271.72	9,329.8	-580.0	160.7	0.10	-0.10	-2.15	-10.8	21.3	
9,455.0	1.06	267.23	9,422.7	-580.0	159.0	0.13	0.10	-4.83	-14.1	20.3	
9,549.0	0.44	284.20	9,516.7	-579.9	157.8	0.69	-0.66	18.05	-8.7	23.8	
9,642.0	0.97	301.42	9,609.7	-579.4	156.8	0.61	0.57	18.52	-2.4	25.4	



Midland PVA



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Wellbore: OH
Design: OH

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9,736.0	0.62	311.62	9,703.7	-578.7	155.7	0.40	-0.37	10.85	0.8	25.6	
9,829.0	0.79	271.98	9,796.7	-578.3	154.7	0.54	0.18	-42.62	-16.7	19.9	
9,922.0	1.23	254.23	9,889.7	-578.6	153.1	0.58	0.47	-19.09	-23.6	13.7	
10,015.0	1.49	221.88	9,982.7	-579.7	151.3	0.86	0.28	-34.79	-29.3	-1.6	
10,108.0	1.41	228.83	10,075.6	-581.4	149.7	0.21	-0.09	7.47	-31.6	2.1	
10,201.0	1.06	205.53	10,168.6	-582.9	148.4	0.65	-0.38	-25.05	-31.8	-11.0	
10,293.0	0.53	302.92	10,260.6	-583.5	147.7	1.35	-0.58	105.86	-7.2	33.8	
10,387.0	0.53	307.93	10,354.6	-583.0	147.0	0.05	0.00	5.33	-5.1	34.3	
10,481.0	0.44	327.88	10,448.6	-582.4	146.5	0.20	-0.10	21.22	6.2	34.1	
10,573.0	0.53	175.74	10,540.6	-582.5	146.3	1.02	0.10	-165.37	-21.5	-27.5	
10,667.0	0.88	175.48	10,634.6	-583.7	146.4	0.37	0.37	-0.28	-22.6	-27.6	
10,761.0	1.14	179.43	10,728.6	-585.3	146.5	0.29	0.28	4.20	-26.1	-25.9	
10,854.0	1.32	162.82	10,821.6	-587.3	146.8	0.43	0.19	-17.86	-19.5	-32.5	
10,948.0	1.85	144.98	10,915.5	-589.5	148.0	0.76	0.56	-18.98	-11.2	-37.3	
11,042.0	2.11	138.39	11,009.5	-592.1	150.0	0.37	0.28	-7.01	-10.1	-38.5	
11,136.0	2.20	171.34	11,103.4	-595.2	151.4	1.30	0.10	35.05	-32.6	-25.9	
11,229.0	0.62	328.49	11,196.4	-596.5	151.4	2.99	-1.70	168.98	21.2	37.2	
11,322.0	3.34	37.58	11,289.3	-593.9	152.8	3.41	2.92	74.29	39.4	-6.0	
11,416.0	3.17	44.08	11,383.2	-589.9	156.3	0.43	-0.18	6.91	33.2	-10.2	
11,510.0	2.64	34.59	11,477.1	-586.2	159.3	0.76	-0.56	-10.10	29.7	-5.0	
11,603.0	1.85	33.09	11,570.0	-583.2	161.4	0.85	-0.85	-1.61	26.1	-4.2	
11,641.0	1.23	17.80	11,608.0	-582.3	161.8	1.94	-1.63	-40.24	25.3	2.6	
11,730.0	0.97	354.33	11,697.0	-580.7	162.0	0.58	-0.29	-26.38	20.6	12.1	
11,824.0	1.23	352.84	11,790.9	-578.9	161.8	0.28	0.28	-1.59	18.4	12.6	
11,918.0	2.90	12.79	11,884.9	-575.5	162.2	1.91	1.78	21.22	18.7	5.8	
12,011.0	10.11	16.13	11,977.2	-565.4	165.0	7.76	7.75	3.59	20.5	1.4	
12,042.0	15.83	10.42	12,007.4	-558.6	166.6	18.89	18.45	-18.42	21.2	1.7	



Midland PVA



Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Oritanna 20 Fed
Well: #705H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #705H
TVD Reference: KB = 25' @ 3277.0usft (H&P 610)
MD Reference: KB = 25' @ 3277.0usft (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)	
12,104.0	24.27	11.74	12,065.6	-537.8	170.7	13.63	13.61	2.13	21.0	-2.9	
12,151.0	33.24	9.89	12,106.8	-515.6	174.9	19.18	19.09	-3.94	19.0	-6.1	
12,198.0	40.54	4.88	12,144.3	-487.6	178.4	16.79	15.53	-10.66	15.2	-8.0	
12,245.0	49.86	2.33	12,177.4	-454.4	180.4	20.20	19.83	-5.43	9.0	-9.5	
12,291.0	57.60	2.86	12,204.6	-417.4	182.1	16.85	16.83	1.15	0.3	-11.1	
12,338.0	62.96	3.65	12,227.9	-376.6	184.4	11.50	11.40	1.68	-9.6	-13.4	
12,385.0	68.15	3.03	12,247.3	-333.9	186.9	11.11	11.04	-1.32	-19.1	-16.1	
12,431.0	71.49	1.98	12,263.2	-290.8	188.8	7.57	7.26	-2.28	-27.2	-18.4	
12,442.9	72.00	1.71	12,266.9	-279.5	189.2	4.81	4.29	-2.27	-29.0	-18.9	
FTP Crossing 12442.9' MD; 12266.9' TVD; -279.5' N/S; 189.2' EW; 72.00											
12,478.0	73.51	0.92	12,277.3	-246.0	189.9	4.81	4.30	-2.25	-33.0	-20.0	
12,524.0	73.25	0.40	12,290.5	-201.9	190.4	1.22	-0.57	-1.13	-34.7	-20.9	
12,571.0	73.51	0.92	12,303.9	-156.9	191.0	1.20	0.55	1.11	-31.5	-21.8	
12,617.0	77.12	0.13	12,315.6	-112.4	191.4	8.02	7.85	-1.72	-25.1	-22.7	
12,664.0	81.25	358.90	12,324.4	-66.2	191.0	9.16	8.79	-2.62	-17.1	-22.7	
12,758.0	91.01	358.55	12,330.8	27.4	188.9	10.39	10.38	-0.37	-8.9	-21.2	
12,851.0	89.69	359.17	12,330.2	120.4	187.0	1.57	-1.42	0.67	-9.4	-20.0	
12,953.0	89.96	357.50	12,330.5	222.3	184.1	1.66	0.26	-1.64	-7.9	-17.8	
13,046.0	91.36	356.62	12,329.4	315.2	179.3	1.78	1.51	-0.95	-7.9	-13.7	
13,140.0	93.03	356.88	12,325.8	409.0	174.0	1.80	1.78	0.28	-10.4	-9.1	
13,234.0	89.96	359.17	12,323.4	502.9	170.7	4.07	-3.27	2.44	-11.8	-6.5	
13,327.0	88.37	359.87	12,324.7	595.9	170.0	1.87	-1.71	0.75	-9.3	-6.5	
13,420.0	88.99	0.22	12,326.9	688.8	170.0	0.77	0.67	0.38	-6.1	-7.2	
13,513.0	90.22	0.13	12,327.5	781.8	170.3	1.33	1.32	-0.10	-4.4	-8.2	
13,607.0	90.48	359.52	12,326.9	875.8	170.0	0.71	0.28	-0.65	-3.9	-8.6	
13,700.0	88.37	358.11	12,327.9	968.8	168.1	2.73	-2.27	-1.52	-1.7	-7.4	
13,793.0	86.79	357.94	12,331.8	1,061.6	164.9	1.71	-1.70	-0.18	3.4	-4.9	



Midland PVA



Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Orrianna 20 Fed
Well: #705H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #705H
TVD Reference: KB = 25' @ 3277.0usft (H&P 610)
MD Reference: KB = 25' @ 3277.0usft (H&P 610)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	NS (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
13,887.0	88.20	359.17	12,335.9	1,155.5	162.5	1.99	1.50	1.31	8.8	-3.2
13,980.0	91.54	0.31	12,336.1	1,248.5	162.1	3.79	3.59	1.23	10.2	-3.5
14,073.0	88.11	358.99	12,336.4	1,341.5	161.5	3.95	-3.69	-1.42	11.7	-3.6
14,167.0	90.48	0.40	12,337.6	1,435.5	161.0	2.93	2.52	1.50	14.1	-3.8
14,214.0	91.19	0.49	12,336.9	1,482.5	161.4	1.52	1.51	0.19	14.0	-4.5
14,261.0	91.89	0.75	12,335.6	1,529.4	161.9	1.59	1.49	0.55	13.4	-5.3
14,354.0	89.16	358.90	12,334.8	1,622.4	161.6	3.55	-2.94	-1.99	13.7	-5.8
14,401.0	90.66	358.29	12,334.8	1,669.4	160.5	3.45	3.19	-1.30	14.4	-5.0
14,447.0	92.68	359.69	12,333.5	1,715.4	159.7	5.34	4.39	3.04	13.6	-4.5
14,539.0	94.09	0.05	12,328.1	1,807.2	159.5	1.58	1.53	0.39	9.4	-5.0
14,633.0	91.54	358.55	12,323.4	1,901.1	158.3	3.15	-2.71	-1.60	5.9	-4.5
14,727.0	90.31	357.50	12,321.9	1,995.0	155.1	1.72	-1.31	-1.12	5.6	-2.0
14,820.0	89.43	356.62	12,322.1	2,087.9	150.3	1.34	-0.95	-0.95	7.0	2.1
14,913.0	90.75	0.31	12,322.0	2,180.8	147.8	4.21	1.42	3.97	8.1	3.9
15,007.0	91.36	1.45	12,320.3	2,274.8	149.3	1.38	0.65	1.21	7.5	1.8
15,101.0	91.63	2.95	12,317.8	2,368.7	152.9	1.62	0.29	1.60	6.3	-2.5
15,194.0	90.31	2.16	12,316.2	2,461.6	157.0	1.65	-1.42	-0.85	5.9	-7.4
15,241.0	89.25	1.19	12,316.4	2,508.6	158.4	3.06	-2.28	-2.06	6.7	-9.1
15,287.0	89.25	1.63	12,317.0	2,554.6	159.5	0.96	0.00	0.96	7.8	-10.6
15,380.0	90.66	2.51	12,317.1	2,647.5	162.9	1.79	1.52	0.95	9.1	-14.6
15,427.0	88.99	1.19	12,317.2	2,694.5	164.4	4.53	-3.55	-2.81	9.8	-16.5
15,474.0	87.14	359.61	12,318.8	2,741.4	164.7	5.18	-3.94	-3.36	12.0	-17.2
15,560.0	90.31	359.34	12,320.7	2,827.4	163.9	3.70	3.69	-0.31	15.0	-17.0
15,654.0	91.89	0.05	12,318.9	2,921.4	163.4	1.84	1.68	0.76	14.4	-17.2
15,748.0	92.77	359.08	12,315.1	3,015.3	162.7	1.39	0.94	-1.03	11.8	-17.2
15,842.0	92.24	358.90	12,311.0	3,109.2	161.1	0.60	-0.56	-0.19	8.9	-16.2
15,934.0	88.37	359.43	12,310.5	3,201.2	159.7	4.25	-4.21	0.58	9.6	-15.6



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3277.0usft (H&P 610)
Site:	Orianna 20 Fed	MD Reference:	KB = 25' @ 3277.0usft (H&P 610)
Well:	#705H	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)	EW (usft)	DLeg (°/100usft)	Buikd (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
16,028.0	88.11	359.08	12,313.4	3,295.1	158.5	0.46	-0.28	-0.37	13.5	-15.0	
16,121.0	89.25	358.46	12,315.5	3,388.1	156.5	1.40	1.23	-0.67	16.7	-13.7	
16,215.0	88.46	357.23	12,317.4	3,482.0	153.0	1.55	-0.84	-1.31	19.7	-10.9	
16,309.0	89.87	357.67	12,318.8	3,575.9	148.8	1.57	1.50	0.47	22.1	-7.4	
16,402.0	90.66	356.88	12,318.4	3,668.8	144.4	1.20	0.85	-0.85	22.7	-3.7	
16,495.0	91.89	358.55	12,316.3	3,761.7	140.7	2.23	1.32	1.80	21.7	-0.7	
16,588.0	93.56	357.59	12,311.9	3,854.5	137.5	2.07	1.80	-1.03	18.4	1.8	
16,682.0	91.63	358.55	12,307.6	3,948.4	134.4	2.29	-2.05	1.02	15.2	4.2	
16,775.0	90.22	357.76	12,306.1	4,041.3	131.4	1.74	-1.52	-0.85	14.8	6.5	
16,868.0	92.15	359.52	12,304.2	4,134.2	129.2	2.81	2.08	1.89	14.5	8.1	
16,961.0	92.51	359.52	12,300.4	4,227.2	128.4	0.39	0.39	0.00	13.4	8.1	
17,055.0	93.03	359.61	12,295.9	4,321.1	127.7	0.56	0.55	0.10	11.6	8.2	
17,068.0	93.09	359.76	12,295.2	4,334.0	127.6	1.25	0.47	1.16	11.3	8.1	
LTP Crossing 17068.0' MD; 12295.2' TVD; 4334.0'; 127.6'; 93.09											
17,093.0	93.21	0.05	12,293.8	4,359.0	127.6	1.25	0.47	1.16	10.6	8.0	
Last MWD Survey (MD = 17093.0)											
17,153.0	93.21	0.05	12,290.4	4,418.9	127.6	0.00	0.00	0.00	9.0	7.5	
Projection to Bit (MD = 17153.0)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,442.9	12,266.9	-279.5	189.2	FTP Crossing 12442.9' MD; 12266.9' TVD; -279.5'; 189.2'; 72.00
17,068.0	12,295.2	4,334.0	127.6	LTP Crossing 17068.0' MD; 12295.2' TVD; 4334.0'; 127.6'; 93.09
17,093.0	12,293.8	4,359.0	127.6	Last MWD Survey (MD = 17093.0)
17,153.0	12,290.4	4,418.9	127.6	Projection to Bit (MD = 17153.0)



Midland PVA



Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #705H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3277.0usft (H&P 610)
Site:	Orrtanna 20 Fed	MD Reference:	KB = 25' @ 3277.0usft (H&P 610)
Well:	#705H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Checked By: _____ Approved By: _____ Date: _____

HOBBS OCD

OCT 01 2018

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Lea County, NM (NAD 83 NME)

Orrtanna 20 Fed #705H

H&P 610

Plan #2

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

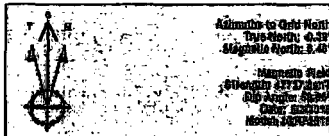
WELL DETAILS: #705H

KB = 25' @ 3277.0usft (H&P 610) 3252.0
Northing 373051.00 Easting 770571.00 Latitude 32° 1' 24.385 N Longitude 103° 35' 37.188 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target	Annotation
1	972.0	0.10	116.10	972.0	-3.6	-1.3	0.00	0.00	-3.6		
2	3000.0	0.10	116.10	3000.0	-5.0	1.3	0.00	0.00	-5.0		
3	3178.6	7.64	162.85	3377.4	-23.3	9.4	2.00	47.40	-23.0		
4	7155.6	7.64	162.85	7218.2	-34.7	164.6	0.00	0.00	-34.4		
5	7737.6	0.00	0.00	7700.0	-658.0	172.1	2.00	180.00	-53.6		
6	11922.0	0.00	0.00	11564.4	-558.0	172.1	0.00	0.00	-53.6		
7	12637.5	90.68	359.57	12241.8	-76.0	168.5	12.00	353.57	-70.9	KOP (Orrtanna 20 Fed #705H)	
8	13594.1	90.68	359.57	12331.0	860.5	161.5	0.00	0.00	860.0	TGT #1 (Orrtanna 20 Fed #705H)	
9	13538.4	90.75	359.57	12330.9	854.9	161.5	2.00	0.00	853.3	TGT #2 (Orrtanna 20 Fed #705H)	
10	14359.7	90.75	359.57	12321.0	1628.0	155.9	0.00	0.00	1630.0	TGT #3 (Orrtanna 20 Fed #705H)	
11	14360.7	90.73	359.57	12321.0	1627.0	155.9	2.00	-180.00	1631.0	TGT #4 (Orrtanna 20 Fed #705H)	
12	15931.0	90.73	359.57	12301.0	3187.1	144.2	0.00	0.00	3200.0	TGT #5 (Orrtanna 20 Fed #705H)	
13	15934.7	90.65	359.57	12301.0	3200.9	144.2	2.00	180.00	3203.8	TGT #6 (Orrtanna 20 Fed #705H)	
14	16808.6	90.65	359.57	12291.0	4072.7	137.7	0.00	0.00	4075.0	PBHL (Orrtanna 20 Fed #705H)	
15	16856.7	91.65	359.57	12290.0	4122.7	137.3	2.00	0.00	4125.0		
16	17168.1	91.65	359.57	12281.0	4434.0	135.0	0.00	0.00	4436.1		

To convert a Magnetic Direction to a Grid Direction, Add 6.40°
To convert a Magnetic Direction to a True Direction, Add 6.85° East
To convert a True Direction to a Grid Direction, Subtract 0.39°



CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP (Orrtanna 20 Fed #705H)	7700.0	-659.0	172.1	372482.01	770743.06
TGT #1 (Orrtanna 20 Fed #705H)	12331.0	860.5	161.5	373911.50	770732.34
TGT #2 (Orrtanna 20 Fed #705H)	12331.0	1628.0	155.9	374677.00	770728.65
TGT #3 (Orrtanna 20 Fed #705H)	12331.0	3187.1	144.2	376248.10	770718.19
TGT #4 (Orrtanna 20 Fed #705H)	12331.0	4072.7	137.7	377123.70	770708.68
PBHL (Orrtanna 20 Fed #705H)	12281.0	4434.0	135.0	377485.00	770706.00
FTP (Orrtanna 20 Fed #705H)	12410.0	-278.0	170.0	372772.00	770741.00
TGT #5 (Orrtanna 20 Fed #705H)	12311.0	2396.5	156.1	375447.50	770721.13

