

HOBBS OCD

OCT 01 2018

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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Orrtanna 20 Fed

#706H

OH

Design: OH

Midland PVA

20 June, 2018



Midland PVA

Company: EOG Resources - Midland		Local Co-ordinate Reference: Well #706H	
Project: Lea County, NM (NAD 83 NME)		TVD Reference: KB = 25' @ 3278.0usft (H&P 610)	
Site: Omtanna 20 Fed		MD Reference: KB = 25' @ 3278.0usft (H&P 610)	
Well: #706H		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 Omtanna 20 Fed			
Site Position:	Northing: 373,025.00 usft	Latitude:	32° 1' 24.126 N
From: Map	Easting: 770,593.00 usft	Longitude:	103° 35' 36.933 W
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence:	0.39 "

Well #706H			
Well Position +N-S 0.0 usft	Northing: 373,025.00 usft	Latitude:	32° 1' 24.126 N
+E-W 0.0 usft	Easting: 770,593.00 usft	Longitude:	103° 35' 36.933 W
Position Uncertainty 0.0 usft	Wellhead Elevation: usft	Ground Level:	3,253.0 usft

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/15/2017	6.95	59.87	47,818,22105580

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	7.43



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Design:	OH	Database:	EDM 5000.14

Survey Program		Date 6/20/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
192.0	965.0	Gordon MWD Cartel 18 22' KB + 3' (OH)	MWD	OWSG MWD - Standard	
1,015.0	17,220.0	Drilltech MWD (OH)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	E/W (usft)	DLog ("/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
192.0	0.29	82.41	192.0	0.1	0.5	0.15	0.15	0.00	-0.5	0.0
223.0	0.30	86.90	223.0	0.1	0.6	0.08	0.03	14.48	-0.6	0.0
255.0	0.25	81.00	255.0	0.1	0.8	0.18	-0.16	-18.44	-0.8	0.0
301.0	0.36	71.20	301.0	0.2	1.0	0.26	0.24	-21.30	-1.0	-0.2
344.0	0.38	65.85	344.0	0.3	1.3	0.09	0.05	-12.44	-1.3	-0.3
388.0	0.38	52.84	388.0	0.4	1.5	0.20	0.00	-29.57	-1.5	-0.6
432.0	0.38	56.18	432.0	0.6	1.8	0.05	0.00	7.59	-1.8	-0.5
475.0	0.37	55.27	475.0	0.7	2.0	0.03	-0.02	-2.12	-2.1	-0.5
519.0	0.40	51.71	519.0	0.9	2.2	0.09	0.07	-8.09	-2.3	-0.7
563.0	0.42	45.33	563.0	1.1	2.5	0.11	0.05	-14.50	-2.5	-0.9
606.0	0.46	42.40	606.0	1.4	2.7	0.11	0.09	-6.81	-2.8	-1.1
650.0	0.52	39.90	650.0	1.6	3.0	0.14	0.14	-5.68	-3.2	-1.2
694.0	0.55	32.19	694.0	2.0	3.2	0.18	0.07	-17.52	-3.4	-1.7
737.0	0.68	31.45	737.0	2.4	3.4	0.30	0.30	-1.72	-3.8	-1.7
781.0	0.68	32.24	781.0	2.8	3.7	0.02	0.00	1.80	-4.4	-1.6
824.0	0.71	35.34	824.0	3.2	4.0	0.11	0.07	7.21	-5.0	-1.4
868.0	0.71	40.14	868.0	3.7	4.3	0.14	0.00	10.91	-5.6	-0.9
905.0	0.71	43.38	905.0	4.0	4.6	0.11	0.00	8.78	-6.1	-0.6
965.0	0.71	43.38	965.0	4.6	5.2	0.00	0.00	0.00	-6.8	-0.6
1,015.0	0.79	47.67	1,015.0	5.0	5.6	0.20	0.16	8.58	-7.5	-0.1



Midland PVA

Company: EOG Resources - Midland		Local Co-ordinate Reference:				Well #708H	
Project: Lea County, NM (NAD 83 NME)		TVD Reference:				KB = 25' @ 3278.0usft (H&P 610)	
Site: Orianna 20 Fed		MD Reference:				KB = 25' @ 3278.0usft (H&P 610)	
Well: #708H		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)	
1,108.0	1.23	42.75	1,107.9	6.2	6.8	0.48	0.47	-5.29	-9.1	-0.8	
1,201.0	1.41	47.76	1,200.9	7.7	8.3	0.23	0.19	5.39	-11.3	0.1	
1,294.0	1.41	56.81	1,293.9	9.1	10.1	0.24	0.00	9.73	-13.4	2.1	
1,386.0	1.41	50.13	1,385.9	10.4	11.9	0.18	0.00	-7.26	-15.8	0.4	
1,480.0	1.32	52.24	1,479.8	11.8	13.7	0.11	-0.10	2.24	-18.0	1.0	
1,603.0	1.32	48.82	1,602.8	13.6	15.8	0.06	0.00	-2.78	-20.9	-0.2	
1,696.0	1.49	47.23	1,695.8	15.2	17.5	0.19	0.18	-1.71	-23.2	-0.8	
1,790.0	1.23	38.44	1,789.8	16.8	19.1	0.35	-0.28	-9.35	-25.0	-4.5	
1,883.0	1.23	32.29	1,882.7	18.4	20.2	0.14	0.00	-6.61	-26.4	-7.3	
1,977.0	1.06	30.27	1,976.7	20.0	21.2	0.19	-0.18	-2.15	-28.0	-8.2	
2,070.0	1.06	16.21	2,069.7	21.6	21.9	0.28	0.00	-15.12	-26.8	-15.0	
2,164.0	0.26	99.97	2,163.7	22.4	22.3	1.13	-0.85	89.11	-18.1	25.9	
2,257.0	1.14	176.17	2,256.7	21.4	22.6	1.19	0.95	81.94	20.4	23.4	
2,351.0	2.73	172.83	2,350.6	18.3	22.9	1.70	1.69	-3.55	18.6	22.0	
2,445.0	4.31	167.73	2,444.4	12.6	24.0	1.71	1.68	-5.43	16.2	19.3	
2,539.0	6.24	157.71	2,538.0	4.4	26.7	2.27	2.05	-10.66	12.8	16.7	
2,633.0	5.36	172.92	2,631.6	-4.7	29.1	1.88	-0.94	16.18	16.9	5.4	
2,727.0	5.72	175.82	2,725.1	-13.7	30.0	0.49	0.38	3.09	18.8	-6.0	
2,821.0	8.27	171.33	2,818.4	-25.1	31.4	2.77	2.71	-4.78	19.4	-14.8	
2,914.0	9.41	167.29	2,910.3	-39.1	34.1	1.40	1.23	-4.34	18.3	-22.9	
3,008.0	12.13	155.69	3,002.7	-55.6	39.8	3.69	2.89	-12.34	18.9	-26.8	
3,102.0	13.63	143.12	3,094.3	-73.5	50.5	3.37	1.60	-13.37	18.2	-27.7	
3,194.0	13.01	141.01	3,183.8	-90.2	63.6	0.86	-0.67	-2.29	12.6	-30.1	
3,288.0	11.87	136.79	3,275.6	-105.5	76.8	1.55	-1.21	-4.49	9.6	-31.6	
3,381.0	10.73	127.65	3,366.8	-117.7	90.2	2.28	-1.23	-9.83	11.3	-30.5	
3,475.0	9.76	115.08	3,459.3	-126.4	104.4	2.59	-1.03	-13.37	15.7	-25.2	
3,568.0	9.76	114.12	3,551.0	-133.0	118.7	0.17	0.00	-1.03	14.9	-20.8	



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Well:	#706H	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)	
3,661.0	9.76	109.90	3,642.7	-138.9	133.3	0.77	0.00	-4.54	14.7	-15.0	
3,754.0	9.41	108.84	3,734.4	-144.0	147.9	0.42	-0.38	-1.14	13.5	-9.3	
3,848.0	9.06	104.36	3,827.1	-148.4	162.4	0.85	-0.37	-4.77	12.8	-2.1	
3,941.0	8.00	113.06	3,919.1	-152.7	175.4	1.79	-1.14	9.35	13.1	1.6	
4,035.0	7.39	116.23	4,012.3	-157.9	186.9	0.79	-0.65	3.37	15.4	5.0	
4,128.0	6.68	113.85	4,104.6	-162.8	197.2	0.83	-0.76	-2.56	18.3	9.7	
4,222.0	6.51	111.39	4,197.9	-166.9	207.1	0.35	-0.18	-2.62	21.5	15.2	
4,315.0	6.95	109.11	4,290.3	-170.7	217.4	0.55	0.47	-2.45	24.1	21.3	
4,409.0	6.60	108.58	4,383.6	-174.3	227.9	0.38	-0.37	-0.56	27.0	27.2	
4,503.0	6.77	108.93	4,477.0	-177.8	238.2	0.19	0.18	0.37	30.5	32.7	
4,596.0	7.12	111.83	4,569.3	-181.7	248.8	0.53	0.38	3.12	35.2	36.2	
4,690.0	7.30	112.10	4,662.6	-186.1	259.7	0.19	0.19	0.29	38.0	40.9	
4,787.0	6.77	108.58	4,758.8	-190.3	270.8	0.70	-0.55	-3.63	38.3	48.6	
4,959.0	6.95	120.27	4,929.6	-198.7	289.4	0.82	0.10	6.80	54.4	46.9	
5,053.0	9.06	124.67	5,022.7	-205.8	300.4	2.34	2.24	4.68	59.9	44.6	
5,146.0	11.87	127.13	5,114.1	-215.8	314.1	3.06	3.02	2.65	59.9	43.3	
5,240.0	12.22	125.98	5,206.1	-227.4	329.8	0.45	0.37	-1.22	54.6	45.4	
5,333.0	13.10	133.54	5,296.8	-240.5	345.4	2.02	0.95	8.13	54.6	38.5	
5,427.0	13.81	135.74	5,388.2	-255.9	361.0	0.93	0.76	2.34	49.2	35.4	
5,521.0	13.10	137.50	5,479.7	-271.8	376.0	0.87	-0.76	1.87	43.4	32.4	
5,614.0	13.28	138.73	5,570.2	-287.6	390.2	0.36	0.19	1.32	37.7	29.5	
5,708.0	13.45	137.76	5,661.7	-303.8	404.7	0.30	0.18	-1.03	30.4	28.0	
5,801.0	12.84	139.78	5,752.2	-319.7	418.6	0.82	-0.66	2.17	25.0	24.9	
5,894.0	11.87	144.53	5,843.1	-335.3	430.8	1.51	-1.04	5.11	21.7	19.9	
5,987.0	11.61	143.91	5,934.1	-350.7	441.9	0.31	-0.28	-0.67	17.2	16.5	
6,080.0	10.99	144.00	6,025.3	-365.4	452.6	0.67	-0.67	0.10	13.6	13.0	
6,174.0	11.17	144.44	6,117.6	-380.1	463.2	0.21	0.19	0.47	10.4	9.3	



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6,267.0	10.82	142.07	6,208.9	-394.3	473.8	0.61	-0.38	-2.55	7.0	6.3	
6,361.0	9.32	138.73	6,301.4	-407.0	484.2	1.71	-1.60	-3.55	5.3	4.0	
6,453.0	9.32	138.02	6,392.2	-418.1	494.1	0.12	0.00	-0.77	5.1	2.0	
6,547.0	9.32	139.69	6,485.0	-429.6	504.1	0.29	0.00	1.78	5.0	-0.4	
6,640.0	9.15	139.52	6,576.8	-440.9	513.8	0.19	-0.18	-0.18	5.0	-2.8	
6,733.0	9.41	139.43	6,668.5	-452.3	523.5	0.28	0.28	-0.10	4.9	-5.1	
6,827.0	9.15	139.87	6,761.3	-463.9	533.4	0.29	-0.28	0.47	4.7	-7.6	
6,921.0	8.79	140.66	6,854.2	-475.2	542.7	0.40	-0.38	0.84	5.0	-10.2	
7,014.0	8.35	141.45	6,946.1	-485.9	551.4	0.49	-0.47	0.85	5.8	-13.1	
7,108.0	8.35	141.98	7,039.1	-496.7	559.9	0.08	0.00	0.56	7.0	-16.1	
7,201.0	8.18	144.62	7,131.2	-507.4	567.9	0.45	-0.18	2.84	7.5	-19.8	
7,294.0	6.24	141.19	7,223.4	-516.7	574.9	2.14	-2.09	-3.69	11.0	-22.4	
7,388.0	5.72	132.40	7,316.9	-523.8	581.5	1.12	-0.55	-9.35	16.0	-21.6	
7,482.0	5.54	129.67	7,410.5	-529.9	588.5	0.34	-0.19	-2.90	16.2	-20.9	
7,575.0	3.87	132.22	7,503.1	-534.9	594.3	1.81	-1.80	2.74	12.8	-21.6	
7,669.0	3.52	129.94	7,596.9	-538.9	598.8	0.40	-0.37	-2.43	9.8	-21.1	
7,762.0	1.41	124.49	7,689.8	-541.3	602.0	2.28	-2.27	-5.86	7.9	-20.4	
7,856.0	0.97	116.49	7,783.8	-542.3	603.6	0.50	-0.47	-8.51	8.7	-19.2	
7,950.0	1.06	118.78	7,877.8	-543.1	605.1	0.11	0.10	2.44	6.2	-19.5	
8,044.0	1.14	121.33	7,971.8	-544.0	606.7	0.10	0.09	2.71	3.6	-19.8	
8,138.0	1.23	117.28	8,065.8	-545.0	608.4	0.13	0.10	-4.31	3.0	-19.5	
8,232.0	1.32	132.40	8,159.8	-546.2	610.1	0.37	0.10	16.09	-4.2	-19.4	
8,326.0	1.49	135.12	8,253.7	-547.8	611.7	0.19	0.18	2.89	-7.5	-19.1	
8,419.0	1.06	141.98	8,346.7	-549.3	613.1	0.49	-0.46	7.38	-11.7	-17.9	
8,512.0	1.06	138.20	8,439.7	-550.6	614.2	0.08	0.00	-4.06	-12.3	-18.7	
8,606.0	1.32	141.28	8,533.7	-552.1	615.5	0.28	0.28	3.28	-15.2	-18.0	
8,700.0	1.14	158.33	8,627.6	-553.8	616.5	0.43	-0.19	18.14	-21.8	-12.4	



Midland PVA

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Site: Ortanna 20 Fed		MD Reference: KB = 25' @ 3278.0usft (H&P 610)	
Well: #706H		North Reference: Grid	
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Design: OH		Database: EDM 5000.14	

Survey											
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8,794.0	0.79	169.93	8,721.6	-555.3	617.0	0.42	-0.37	12.34	-25.4	-7.6	
8,887.0	0.97	176.26	8,814.6	-556.7	617.1	0.22	0.19	6.81	-27.5	-4.7	
8,981.0	0.88	182.76	8,908.6	-558.3	617.1	0.15	-0.10	6.91	-29.4	-1.5	
9,076.0	0.44	164.92	9,003.6	-559.3	617.2	0.51	-0.46	-18.78	-28.6	-10.6	
9,138.0	0.35	126.69	9,065.6	-559.7	617.4	0.44	-0.15	-61.66	-16.3	-26.2	
9,262.0	1.93	317.06	9,189.6	-558.4	616.3	1.83	1.27	-136.78	19.0	22.7	
9,356.0	1.76	330.33	9,283.5	-556.0	614.5	0.49	-0.18	14.12	20.7	18.1	
9,450.0	1.23	332.88	9,377.5	-553.8	613.3	0.57	-0.56	2.71	19.0	17.3	
9,543.0	0.70	290.51	9,470.5	-552.7	612.3	0.92	-0.57	-45.56	1.1	24.9	
9,636.0	1.06	315.65	9,563.5	-551.9	611.2	0.56	0.39	27.03	10.2	22.3	
9,730.0	0.62	317.23	9,657.5	-550.9	610.2	0.47	-0.47	1.68	9.5	22.0	
9,823.0	0.70	260.63	9,750.5	-550.6	609.3	0.68	0.09	-60.86	-14.0	19.6	
9,916.0	1.32	262.65	9,843.5	-550.9	607.7	0.67	0.67	2.17	-15.0	20.1	
10,009.0	1.14	232.33	9,936.4	-551.6	605.9	0.72	-0.19	-32.60	-24.9	9.3	
10,102.0	1.06	221.26	10,029.4	-552.8	604.6	0.24	-0.09	-11.90	-28.0	4.1	
10,195.0	1.49	342.37	10,122.4	-552.3	603.7	2.40	0.46	130.23	17.2	22.6	
10,288.0	1.41	346.76	10,215.4	-550.0	603.1	0.15	-0.09	4.72	16.6	21.3	
10,381.0	0.88	318.99	10,308.4	-548.4	602.3	0.81	-0.57	-29.86	3.0	26.0	
10,475.0	1.06	278.21	10,402.3	-547.7	601.0	0.74	0.19	-43.38	-16.1	21.2	
10,568.0	0.79	275.92	10,495.3	-547.5	599.5	0.29	-0.29	-2.46	-18.5	20.5	
10,661.0	1.76	292.80	10,588.3	-546.9	597.6	1.11	1.04	18.15	-13.8	25.2	
10,755.0	2.11	290.95	10,682.3	-545.7	594.6	0.38	0.37	-1.97	-17.7	24.7	
10,849.0	1.93	289.90	10,776.2	-544.5	591.5	0.20	-0.19	-1.12	-21.5	24.3	
10,943.0	0.88	301.68	10,870.2	-543.6	589.4	1.15	-1.12	12.53	-18.4	28.5	
11,036.0	1.23	283.22	10,963.2	-543.0	587.8	0.52	0.38	-19.85	-28.1	21.0	
11,130.0	1.58	271.00	11,057.1	-542.8	585.5	0.49	0.37	-13.00	-34.2	14.4	
11,223.0	1.23	258.17	11,150.1	-543.0	583.3	0.50	-0.38	-13.80	-38.8	6.1	



Midland PVA

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Omtanna 20 Fed Well: #706H Wellbore: OH Design: OH			Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:			Well #706H KB = 25' @ 3278.0usft (H&P 610) KB = 25' @ 3278.0usft (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)	
11,316.0	1.49	247.18	11,243.1	-543.6	581.2	0.39	0.28	-11.82	-41.4	-1.6	
11,410.0	1.76	231.10	11,337.0	-545.0	578.9	0.56	0.29	-17.11	-42.0	-13.3	
11,503.0	1.49	208.34	11,430.0	-547.0	577.3	0.75	-0.29	-24.47	-36.1	-29.1	
11,597.0	1.67	199.46	11,523.9	-549.3	576.2	0.32	0.19	-9.45	-33.8	-34.5	
11,682.0	1.49	196.74	11,608.9	-551.6	575.5	0.23	-0.21	-3.20	-34.4	-36.1	
11,824.0	1.06	194.98	11,750.9	-554.6	574.6	0.30	-0.30	-1.24	-36.5	-37.2	
11,918.0	1.41	165.01	11,844.9	-556.6	574.7	0.77	0.37	-31.88	-14.9	-50.9	
11,965.0	3.25	34.67	11,891.9	-556.0	575.6	9.15	3.91	-277.32	48.2	20.6	
12,011.0	8.97	15.24	11,937.6	-551.5	577.3	13.05	12.43	-42.24	38.4	33.8	
12,058.0	14.16	15.94	11,983.6	-542.4	579.8	11.05	11.04	1.49	38.1	31.0	
12,104.0	19.26	17.35	12,027.6	-529.8	583.6	11.12	11.09	3.07	38.0	26.4	
12,151.0	27.26	13.04	12,070.8	-511.8	588.4	17.39	17.02	-9.17	34.1	24.8	
12,197.0	34.38	9.35	12,110.3	-488.7	592.9	16.01	15.48	-8.02	29.1	22.8	
12,244.0	42.03	7.33	12,147.2	-460.0	597.1	16.49	16.28	-4.30	23.2	20.1	
12,291.0	46.96	5.13	12,180.7	-427.3	600.6	10.99	10.49	-4.68	16.8	17.6	
12,338.0	50.47	6.28	12,211.7	-392.1	604.1	7.69	7.47	2.45	12.2	14.0	
12,385.0	55.40	4.25	12,240.0	-354.8	607.5	11.04	10.49	-4.32	8.2	10.8	
12,432.0	65.60	1.09	12,263.1	-314.0	609.4	22.47	21.70	-6.72	2.5	9.0	
12,477.0	70.70	1.09	12,279.9	-272.2	610.2	11.33	11.33	0.00	-4.2	8.0	
12,499.0	70.91	0.84	12,287.1	-251.5	610.5	1.42	0.94	-1.13	-7.0	7.5	
FTP Crossing 12499.0' MD; 12287.1' TVD; -251.5'; 610.5'; 70.91											
12,524.0	71.14	0.56	12,295.3	-227.8	610.8	1.42	0.94	-1.13	-9.0	7.0	
12,570.0	74.74	0.04	12,308.7	-183.9	611.0	7.90	7.83	-1.13	-10.9	6.4	
12,617.0	76.77	359.25	12,320.3	-138.3	610.8	4.62	4.32	-1.68	-10.3	6.3	
12,664.0	78.08	359.16	12,330.5	-92.4	610.1	2.79	2.79	-0.19	-6.4	6.7	
12,711.0	85.38	356.70	12,337.3	-46.0	608.4	16.37	15.53	-5.23	-1.5	8.0	
12,758.0	93.39	356.61	12,337.8	0.9	605.7	17.04	17.04	-0.19	-0.5	10.4	



Midland PVA

Company:	EOG Resources - Midland					Local Co-ordinate Reference:		Well #706H			
Project:	Lea County, NM (NAD 83 NME)					TVD Reference:		KB = 25' @ 3278.0usft (H&P 610)			
Site:	Ortanna 20 Fed					MD Reference:		KB = 25' @ 3278.0usft (H&P 610)			
Well:	#706H					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)	
12,851.0	87.76	0.39	12,336.9	93.8	603.3	7.29	-6.05	4.06	-0.5		12.1
12,945.0	87.85	0.30	12,340.5	187.7	603.8	0.14	0.10	-0.10	3.9		10.9
13,047.0	90.22	359.51	12,342.2	289.7	603.7	2.45	2.32	-0.77	6.6		10.3
13,140.0	89.60	0.21	12,342.3	382.7	603.4	1.01	-0.67	0.75	7.7		9.8
13,233.0	89.52	2.67	12,343.1	475.7	605.8	2.65	-0.09	2.65	9.2		6.8
13,327.0	90.57	358.63	12,343.0	569.6	606.8	4.44	1.12	-4.30	10.1		5.0
13,420.0	91.01	351.95	12,341.7	662.3	599.2	7.20	0.47	-7.18	9.7		11.9
13,513.0	92.95	349.84	12,338.5	754.0	584.5	3.08	2.09	-2.27	7.6		25.9
13,606.0	94.26	353.09	12,332.6	845.8	570.7	3.76	1.41	3.49	2.7		39.1
13,700.0	94.70	354.76	12,325.3	939.0	560.8	1.83	0.47	1.78	-3.8		48.3
13,794.0	93.03	359.33	12,318.9	1,032.6	556.0	5.17	-1.78	4.86	-9.6		52.5
13,887.0	91.45	2.94	12,315.3	1,125.5	557.8	4.23	-1.70	3.88	-12.4		49.9
13,980.0	91.45	5.57	12,313.0	1,218.2	564.7	2.83	0.00	2.83	-14.0		42.3
14,073.0	86.09	6.80	12,315.0	1,310.6	574.7	5.91	-5.76	1.32	-10.8		31.7
14,167.0	87.76	5.92	12,320.0	1,403.9	585.1	2.01	1.78	-0.94	-5.0		20.6
14,261.0	90.66	4.69	12,321.3	1,497.4	593.8	3.35	3.09	-1.31	-2.9		11.2
14,354.0	90.66	4.78	12,320.2	1,590.1	601.5	0.10	0.00	0.10	-3.1		2.8
14,446.0	88.99	4.17	12,320.5	1,681.8	608.7	1.93	-1.82	-0.66	-1.9		-5.0
14,540.0	90.66	3.02	12,320.8	1,775.6	614.6	2.16	1.78	-1.22	-0.7		-11.6
14,633.0	87.93	1.97	12,321.9	1,868.5	618.6	3.15	-2.94	-1.13	1.2		-16.4
14,727.0	92.15	2.50	12,321.9	1,962.4	622.3	4.52	4.49	0.56	2.2		-20.7
14,821.0	88.99	1.44	12,320.9	2,056.4	625.5	3.55	-3.36	-1.13	2.4		-24.6
14,915.0	90.04	0.39	12,321.7	2,150.4	627.0	1.58	1.12	-1.12	4.4		-26.8
15,008.0	91.01	359.33	12,320.9	2,243.3	628.8	1.54	1.04	-1.14	4.8		-27.3
15,101.0	87.32	0.30	12,322.2	2,336.3	626.5	4.10	-3.97	1.04	7.3		-27.7
15,194.0	86.88	359.77	12,326.9	2,429.2	626.5	0.74	-0.47	-0.57	13.2		-28.5
15,289.0	87.76	356.70	12,331.4	2,524.0	623.6	3.36	0.93	-3.23	18.9		-26.2



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3278.0usft (H&P 610)
Site:	Ortanna 20 Fed	MD Reference:	KB = 25' @ 3278.0usft (H&P 610)
Well:	#706H	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)	Bufl (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
15,382.0	90.92	355.64	12,332.5	2,616.8	617.4	3.58	3.40	-1.14	21.2	-20.7	
15,475.0	91.71	357.66	12,330.3	2,709.6	612.0	2.33	0.85	2.17	20.2	-16.0	
15,568.0	91.63	356.34	12,327.6	2,802.5	607.1	1.42	-0.09	-1.42	18.7	-11.8	
15,662.0	92.07	356.70	12,324.6	2,896.2	601.4	0.60	0.47	0.38	16.9	-6.8	
15,755.0	87.58	358.72	12,324.9	2,989.1	597.7	5.29	-4.83	2.17	18.4	-3.7	
15,849.0	88.99	359.07	12,327.7	3,083.1	595.9	1.55	1.50	0.37	22.4	-2.6	
15,942.0	89.43	359.25	12,329.0	3,176.0	594.5	0.51	0.47	0.19	24.9	-1.9	
16,035.0	90.04	358.28	12,329.4	3,269.0	592.5	1.23	0.66	-1.04	26.5	-0.6	
16,128.0	91.10	359.07	12,328.5	3,362.0	590.4	1.42	1.14	0.85	26.8	0.8	
16,222.0	90.04	357.66	12,327.5	3,455.9	587.7	1.88	-1.13	-1.50	27.1	2.8	
16,315.0	88.99	356.52	12,328.3	3,548.8	583.0	1.67	-1.13	-1.23	29.0	6.8	
16,408.0	90.84	0.39	12,328.4	3,641.8	580.4	4.61	1.99	4.16	30.4	8.7	
16,502.0	90.57	1.97	12,327.3	3,735.7	582.4	1.71	-0.29	1.68	30.4	6.1	
16,596.0	91.01	3.46	12,326.0	3,829.6	586.8	1.65	0.47	1.59	30.3	0.9	
16,689.0	88.72	2.76	12,326.2	3,922.5	591.9	2.57	-2.46	-0.75	31.8	-4.8	
16,782.0	90.04	2.58	12,327.2	4,015.4	596.2	1.43	1.42	-0.19	34.5	-9.8	
16,876.0	88.64	0.21	12,328.3	4,109.3	598.5	2.93	-1.49	-2.52	38.2	-12.8	
16,970.0	88.90	0.65	12,330.3	4,203.3	599.2	0.54	0.28	0.47	42.9	-14.2	
17,063.0	88.72	359.86	12,332.3	4,296.3	599.6	0.87	-0.19	-0.85	47.4	-15.4	
17,129.3	90.32	4.98	12,332.8	4,362.5	602.4	8.09	2.42	7.73	49.9	-18.5	
LTP Crossing 17129.3' MD; 12332.8' TVD; 4362.5' 602.4' 80.32											
17,154.0	90.92	6.89	12,332.5	4,387.1	605.0	8.08	2.41	7.71	50.4	-21.1	
Last MWD Survey (MD = 17154.0)											
17,220.0	90.92	6.89	12,331.5	4,452.6	612.9	0.00	0.00	0.00	51.2	-29.4	
Projection to Bit (MD = 17220.0)											



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #706H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3278.0usft (H&P 610)
Site:	Orianna 20 Fed	MD Reference:	KB = 25' @ 3278.0usft (H&P 610)
Well:	#706H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
12,499.0	12,287.1	-251.5	610.5	FTP Crossing 12499.0' MD; 12287.1' TVD; -251.5'; 610.5'; 70.91
17,129.3	12,332.8	4,362.5	802.4	LTP Crossing 17129.3' MD; 12332.8' TVD; 4362.5'; 802.4'; 90.32
17,154.0	12,332.5	4,387.1	605.0	Last MWD Survey (MD = 17154.0)
17,220.0	12,331.5	4,452.6	612.9	Projection to Bit (MD = 17220.0)

Checked By: _____	Approved By: _____	Date: _____
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OCT 01 2018

RECEIVED



Lea County, NM (NAD 83 NME)

Orttanna 20 Fed #706H

H&P 610

Plan #3

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: #706H

KB = 25' @ 3278.0usft (H&P 610) 3253.0
 Northing 373025.00 Easting 770593.00 Latitude 32° 1' 24.128 N Longitude 103° 35' 36.933 W

SECTION DETAILS

Sec	MD	Inc	Asl	TVD	+W-S	+E-W	Dleg	TFace	VFace	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	2190.0	0.00	0.00	2190.0	0.0	0.0	0.00	0.00	0.0		
3	2556.6	9.33	130.47	2654.6	-24.6	28.9	2.00	100.47	-20.7		
4	7214.8	9.33	130.47	7152.4	-604.4	591.2	0.00	0.00	-423.7		Brushy Top (Orttanna 20 Fed #706H)
5	7691.5	0.00	0.00	7617.0	-529.0	620.0	2.00	180.00	-444.3		
6	11925.8	0.00	0.00	11881.3	-629.0	620.0	0.00	0.00	-444.3		
7	12690.3	90.54	359.58	12338.7	-47.9	616.4	12.00	358.58	33.1		
8	14665.8	90.54	359.58	12320.0	1838.4	601.7	0.00	0.00	2000.0		TGT #1 (Orttanna 20 Fed #706H)
9	14676.7	90.74	359.58	12319.9	1842.5	601.7	2.00	0.00	2009.7		TGT #2 (Orttanna 20 Fed #706H)
10	16685.0	90.74	359.58	12294.0	3957.3	588.8	0.00	0.00	4000.0		
11	18728.4	91.61	359.58	12293.1	4000.7	588.5	2.00	0.00	4043.0		
12	17155.9	91.61	359.58	12280.0	4468.0	583.0	0.00	0.00	4506.9		PBHL (Orttanna 20 Fed #706H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+W-S	+E-W	Northing	Easting
Brushy Top (Orttanna 20 Fed #706H)	7617.0	-529.0	620.0	372496.00	771213.00
TGT #1 (Orttanna 20 Fed #706H)	12320.0	1838.4	601.7	374893.40	771194.73
TGT #2 (Orttanna 20 Fed #706H)	12294.0	3957.3	586.3	375892.30	771179.78
PBHL (Orttanna 20 Fed #706H)	12280.0	4468.0	583.0	377493.00	771176.00
FTP (Orttanna 20 Fed #706H)	12339.0	-249.0	620.0	372776.00	771213.00

