



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Philly 31 Fed Com

#702H

OH

Design: OH

Midland PVA

17 August, 2018

HOBBS OCD

OCT 10 2018

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Midland PVA

Company: EOG Resources - Midland Project: Lea County, NM (NAD 83 NME) Site: Philly 31 Fed Com Well: #702H Wellbore: OH Design: OH		Local Co-ordinate Reference: Well #702H TVD Reference: KB = 25' @ 3391.0usft MD Reference: KB = 25' @ 3391.0usft North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 5000.14	
Project Lea County, NM (NAD 83 NME)			
Map System: US State Plane 1983 Geo Datum: North American Datum 1983 Map Zone: New Mexico Eastern Zone		System Datum: Mean Sea Level	
Site Philly 31 Fed Com			
Site Position: From: Map Position Uncertainty: 0.0 usft		Northing: 365,084.00 usft Easting: 794,820.00 usft Slot Radius: 13-3/16 " Latitude: 32° 0' 3.819 N Longitude: 103° 30' 56.229 W Grid Convergence: 0.43 °	
Well #702H			
Well Position +N/-S 0.0 usft Position Uncertainty +E/-W 0.0 usft		Northing: 365,084.00 usft Easting: 794,855.00 usft Wellhead Elevation: usft Latitude: 32° 0' 3.816 N Longitude: 103° 30' 55.823 W Ground Level: 3,367.0 usft	
Wellbore OH			
Magnetics			
Model Name	Sample Date	Declination (°)	Dip Angle (°)
IGRF2015	9/19/2017	6.88	59.86
Field Strength (nT) 47,785,35954681			
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)
	0.0	0.0	0.0
			Direction (°) 2.48



Midland PVA

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Site:	Philly 31 Fed Com	MD Reference:	KB = 25' @ 3391.0usft
Well:	#702H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey Program		Date	8/17/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
186.0	848.0	Cartel 41 8' + 17' (OH)	MWD	OWSG MWD - Standard	
944.0	20,183.0	Learn MWD (OH)	MWD	OWSG MWD - Standard	

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	N/S (usft)	EW (usft)	OLeg (°/100usft)	BuId (°/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
186.0	0.92	80.60	186.0	0.2	1.5	0.49	0.49	0.00	0.0	0.0
372.0	0.97	75.94	372.0	0.9	4.5	0.05	0.03	-2.51	0.0	0.0
532.0	0.64	40.43	532.0	1.9	6.4	0.36	-0.21	-22.19	0.0	0.0
690.0	0.31	81.21	689.9	2.6	7.4	0.29	-0.21	25.81	0.0	0.0
848.0	0.29	55.28	847.9	2.9	8.1	0.09	-0.01	-16.41	0.0	0.0
944.0	0.70	25.78	943.9	3.6	8.6	0.49	0.43	-30.73	0.0	0.0
1,074.0	0.80	25.10	1,073.9	5.1	9.3	0.08	0.08	-0.52	-0.1	0.0
1,259.0	0.50	344.80	1,258.9	7.1	9.6	0.29	-0.16	-21.78	-0.2	0.6
1,445.0	1.30	215.60	1,444.9	6.1	8.2	0.89	0.43	-69.46	-4.2	-0.7
1,538.0	2.80	208.10	1,537.8	3.3	6.5	1.64	1.61	-8.06	-8.4	-1.6
1,631.0	3.10	182.10	1,630.7	-1.2	5.3	1.46	0.32	-27.96	-10.5	-8.6
1,724.0	2.60	151.50	1,723.6	-5.6	6.3	1.70	-0.54	-32.90	-4.7	-16.2
1,818.0	2.60	113.50	1,817.5	-8.3	9.2	1.80	0.00	-40.43	7.3	-16.1
1,912.0	2.80	107.70	1,911.4	-9.9	13.4	0.36	0.21	-6.17	9.2	-14.1
2,006.0	2.60	108.20	2,005.3	-11.3	17.6	0.21	-0.21	0.53	9.3	-12.9
2,193.0	3.10	107.20	2,192.1	-14.1	26.4	0.27	0.27	-0.53	9.6	-9.9
2,380.0	2.80	105.20	2,378.8	-16.8	35.7	0.17	-0.16	-1.07	9.6	-6.6
2,568.0	3.90	117.40	2,566.5	-20.9	45.8	0.69	0.59	6.49	6.9	-6.4
2,755.0	3.80	117.50	2,753.1	-26.7	56.9	0.05	-0.05	0.05	4.0	-5.3
2,942.0	3.30	116.10	2,939.7	-31.9	67.3	0.27	-0.27	-0.75	2.3	-4.0



Midland PVA

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Well:	#702H	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)	BuId (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
3,129.0	3.30	115.60	3,126.4	-36.6	77.0	0.02	0.00	-0.27	1.2	-2.6	
3,316.0	3.00	107.30	3,313.1	-40.4	86.5	0.29	-0.16	-4.44	0.8	-0.4	
3,503.0	3.40	99.80	3,499.8	-42.8	96.6	0.31	0.21	-4.01	-0.7	3.1	
3,692.0	3.60	103.50	3,688.5	-45.1	107.9	0.16	0.11	1.96	-2.7	7.0	
3,879.0	3.80	105.60	3,875.1	-48.2	119.6	0.13	0.11	1.12	-5.3	10.4	
4,066.0	3.80	112.10	4,061.7	-52.2	131.3	0.23	0.00	3.48	-6.8	13.6	
4,254.0	3.30	103.10	4,249.3	-55.7	142.3	0.40	-0.27	-4.79	-11.2	14.9	
4,440.0	3.60	132.00	4,435.0	-60.9	151.9	0.94	0.16	15.54	-3.5	19.7	
4,627.0	3.40	118.40	4,621.7	-67.4	161.1	0.46	-0.11	-7.27	-9.6	17.9	
4,814.0	3.30	113.90	4,808.3	-72.3	170.9	0.15	-0.05	-2.41	-12.2	18.4	
5,002.0	4.00	111.70	4,996.0	-76.9	182.0	0.38	0.37	-1.17	-15.3	19.8	
5,189.0	3.30	114.90	5,182.6	-81.5	192.9	0.39	-0.37	1.71	-16.4	22.5	
5,359.0	2.60	115.60	5,352.4	-85.3	200.8	0.41	-0.41	0.41	-12.3	24.9	
5,546.0	6.90	117.00	5,538.7	-92.2	214.7	2.30	2.30	0.75	-10.2	27.7	
5,733.0	6.80	134.10	5,724.4	-105.0	232.6	1.09	-0.05	9.14	-6.5	30.2	
5,920.0	6.40	137.80	5,910.1	-120.4	247.6	0.31	-0.21	1.98	-9.3	27.6	
6,107.0	6.40	136.20	6,096.0	-135.7	261.8	0.10	0.00	-0.86	-14.1	23.8	
6,294.0	3.90	120.70	6,282.2	-146.5	274.5	1.52	-1.34	-8.29	-19.2	17.8	
6,480.0	3.20	124.00	6,467.8	-152.6	284.2	0.39	-0.38	1.77	-12.6	19.6	
6,667.0	3.90	118.40	6,654.5	-158.5	294.1	0.42	0.37	-2.99	-9.0	19.8	
6,852.0	5.90	117.90	6,838.8	-166.0	308.1	1.08	1.08	-0.27	-8.1	21.9	
7,040.0	5.80	115.30	7,025.8	-174.6	325.2	0.15	-0.05	-1.38	-11.3	24.1	
7,226.0	5.30	104.50	7,210.9	-180.7	342.0	0.62	-0.27	-5.81	-17.4	25.8	
7,414.0	6.80	133.90	7,397.9	-190.6	358.5	1.80	0.80	15.64	-4.3	32.7	
7,600.0	5.20	170.50	7,583.0	-206.6	367.8	2.18	-0.86	19.68	10.8	23.3	
7,788.0	2.20	210.20	7,770.6	-218.1	367.4	2.01	-1.60	21.12	14.6	-0.7	
7,976.0	1.10	316.20	7,958.5	-219.9	364.3	1.45	-0.59	56.38	-15.1	-8.5	



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

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	NS (usft)	EW (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan. (usft)	Right to Plan (usft)	
8,163.0	1.40	330.20	8,145.5	-216.6	361.9	0.23	0.16	7.49	-21.2	-4.0	
8,350.0	1.10	324.30	8,332.4	-213.2	359.8	0.17	-0.16	-3.16	-24.7	-6.4	
8,538.0	0.60	307.20	8,520.4	-211.1	357.9	0.30	-0.27	-9.10	-24.5	-13.9	
8,726.0	0.20	311.60	8,708.4	-210.3	356.9	0.21	-0.21	2.34	-26.8	-11.9	
8,914.0	0.30	295.30	8,896.4	-209.9	356.2	0.06	0.05	-8.67	-23.2	-19.0	
9,101.0	0.60	246.70	9,083.4	-210.1	354.9	0.25	0.16	-25.99	-2.3	-30.3	
9,288.0	0.90	217.90	9,270.4	-211.6	353.1	0.25	0.16	-15.40	10.2	-28.2	
9,476.0	1.10	217.00	9,458.4	-214.2	351.1	0.11	0.11	-0.48	7.4	-28.0	
9,663.0	1.10	230.20	9,645.3	-216.8	348.6	0.14	0.00	7.06	-2.7	-28.6	
9,850.0	0.40	107.50	9,832.3	-218.2	347.8	0.73	-0.37	-65.61	25.8	11.6	
10,036.0	1.20	86.40	10,018.3	-218.2	350.4	0.45	0.43	-11.34	17.4	19.9	
10,224.0	0.70	41.30	10,206.3	-217.2	353.1	0.46	-0.27	-23.99	-4.4	25.0	
10,411.0	0.30	285.20	10,393.3	-216.3	353.4	0.47	-0.21	-62.09	-20.5	-15.9	
10,598.0	1.00	230.90	10,580.3	-217.2	351.7	0.46	0.37	-29.04	-0.9	-26.3	
10,785.0	1.80	166.40	10,767.2	-221.0	351.1	0.88	0.43	-34.49	19.7	-13.7	
10,973.0	1.10	220.20	10,955.2	-225.3	350.6	0.77	-0.37	28.62	-2.9	-21.6	
11,159.0	2.20	214.00	11,141.1	-229.6	347.5	0.60	0.59	-3.33	-5.9	-22.0	
11,346.0	1.60	163.60	11,328.0	-235.1	346.2	0.91	-0.32	-26.95	8.3	-21.3	
11,533.0	1.80	182.80	11,514.9	-240.5	346.8	0.32	0.11	10.27	-4.6	-22.0	
11,720.0	0.40	347.30	11,701.9	-242.8	346.5	1.17	-0.75	87.97	0.7	23.2	
11,907.0	1.00	31.10	11,888.9	-240.8	347.2	0.41	0.32	23.42	14.5	16.7	
12,029.0	1.20	50.70	12,010.8	-239.1	348.7	0.35	0.16	16.07	17.0	11.2	
12,161.0	1.00	232.90	12,142.8	-238.9	348.9	1.67	-0.15	-134.70	-17.2	-10.6	
12,201.0	1.80	229.90	12,182.8	-239.5	348.1	2.01	2.00	-7.50	-17.6	-11.5	
12,211.0	1.72	237.90	12,182.8	-239.7	347.9	2.58	-0.80	79.98	-19.3	-8.9	
KOP 12211.0 MD; 12192.8 TVD; -239.7; 347.9; 1.72											
12,294.0	2.40	297.90	12,275.8	-239.5	345.3	2.58	0.82	72.29	-18.9	14.9	



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12,341.0	8.30	5.00	12,322.6	-235.7	344.7	16.36	12.55	142.77	8.9	23.5	
12,387.0	11.60	2.20	12,367.9	-227.8	345.2	7.25	7.17	-6.09	10.4	23.3	
12,481.0	21.80	355.90	12,457.8	-200.8	344.3	11.01	10.85	-6.70	15.7	25.5	
12,515.7	25.25	357.89	12,489.6	-187.0	343.6	10.21	9.95	5.75	19.7	25.7	
FTP Crossing 12515.7' MD; 12489.6' TVD; -187.0'; 343.6'; 25.25											
12,574.0	31.10	0.30	12,541.0	-159.5	343.2	10.21	10.03	4.13	26.8	25.1	
12,624.0	35.20	2.10	12,582.8	-132.2	343.8	8.43	8.20	3.60	33.5	23.6	
12,667.0	48.70	5.70	12,614.8	-103.6	345.9	31.88	31.40	8.37	37.1	19.7	
12,717.0	62.10	4.70	12,643.1	-62.7	349.6	26.85	26.80	-2.00	32.4	16.8	
12,765.0	67.50	2.20	12,663.5	-19.3	352.1	12.20	11.25	-5.21	24.7	15.0	
12,812.0	76.20	0.80	12,678.1	25.3	353.3	18.73	18.51	-2.98	16.0	14.1	
12,859.0	80.60	359.90	12,687.6	71.3	353.6	9.55	9.36	-1.91	6.5	13.5	
12,897.0	81.60	359.60	12,693.5	108.8	353.4	2.74	2.63	-0.79	0.5	13.4	
12,952.0	82.40	359.40	12,701.1	163.3	352.9	1.50	1.45	-0.36	-4.0	13.5	
13,046.0	91.00	2.90	12,706.5	257.0	354.8	9.87	9.15	3.72	-5.0	11.0	
13,231.0	90.00	359.80	12,704.9	441.9	359.2	1.76	-0.54	-1.68	-7.2	5.5	
13,418.0	88.30	0.80	12,707.7	628.9	360.2	1.05	-0.91	0.53	-5.1	3.3	
13,512.0	90.60	1.70	12,708.6	722.9	362.2	2.63	2.45	0.96	-4.5	0.6	
13,606.0	87.00	359.10	12,710.6	816.8	362.9	4.72	-3.83	-2.77	-2.9	-0.6	
13,700.0	87.50	359.20	12,715.1	910.7	361.5	0.54	0.53	0.11	1.3	0.2	
13,794.0	89.10	0.10	12,717.9	1,004.7	360.9	1.95	1.70	0.96	3.8	0.1	
13,887.0	90.80	359.90	12,717.9	1,097.6	360.9	1.84	1.83	-0.22	3.5	-0.4	
13,980.0	89.30	1.70	12,717.9	1,190.6	362.2	2.52	-1.61	1.94	3.0	-2.3	
14,074.0	89.40	2.80	12,718.9	1,284.6	365.9	1.17	0.11	1.17	3.7	-6.6	
14,167.0	90.40	1.20	12,719.1	1,377.5	369.1	2.03	1.08	-1.72	3.5	-10.5	
14,260.0	88.50	0.80	12,720.0	1,470.5	370.8	2.09	-2.04	-0.43	4.0	-12.7	
14,354.0	90.00	358.70	12,721.2	1,564.5	370.4	2.75	1.60	-2.23	4.9	-12.9	



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14,448.0	90.50	358.50	12,720.8	1,658.4	368.1	0.57	0.53	-0.21	4.1	-11.2	
14,542.0	90.90	357.50	12,719.7	1,752.4	364.8	1.15	0.43	-1.06	2.6	-8.5	
14,635.0	92.50	357.30	12,716.9	1,845.2	360.6	1.73	1.72	-0.22	-0.6	-4.9	
14,729.0	89.10	354.30	12,715.6	1,938.9	353.7	4.82	-3.62	-3.19	-2.2	1.4	
14,916.0	89.00	355.00	12,718.7	2,125.1	336.2	0.38	-0.05	0.37	0.3	17.6	
15,059.0	92.80	351.20	12,716.3	2,267.0	319.1	3.81	2.73	-2.66	-2.2	33.9	
15,152.0	88.90	356.10	12,714.8	2,359.4	308.8	6.80	-4.30	5.27	-4.2	43.6	
15,246.0	88.80	2.20	12,716.7	2,453.3	307.4	6.49	-0.11	6.49	-2.5	44.4	
15,340.0	89.20	3.80	12,718.4	2,547.1	312.3	1.75	0.43	1.70	-1.1	38.9	
15,434.0	89.30	4.30	12,719.6	2,640.9	319.0	0.54	0.11	0.53	-0.1	31.6	
15,528.0	89.50	4.00	12,720.6	2,734.6	325.8	0.38	0.21	-0.32	0.6	24.2	
15,621.0	90.90	1.20	12,720.3	2,827.5	330.0	3.37	1.51	-3.01	0.0	19.4	
15,715.0	89.10	0.80	12,720.3	2,921.5	331.6	1.96	-1.91	-0.43	-0.2	17.2	
15,809.0	89.40	1.20	12,721.5	3,015.5	333.3	0.53	0.32	0.43	0.8	14.9	
15,902.0	90.70	2.60	12,721.4	3,108.4	336.3	2.05	1.40	1.51	0.4	11.2	
15,996.0	89.80	2.80	12,721.0	3,202.3	340.8	0.98	-0.96	0.21	-0.2	6.2	
16,089.0	90.50	2.60	12,720.8	3,295.2	345.2	0.78	0.75	-0.22	-0.7	1.2	
16,183.0	89.70	3.10	12,720.6	3,389.1	349.8	1.00	-0.85	0.53	-1.1	-4.0	
16,277.0	90.40	2.90	12,720.5	3,483.0	354.8	0.77	0.74	-0.21	-1.5	-9.6	
16,360.0	90.20	1.40	12,720.1	3,565.9	357.9	1.82	-0.24	-1.81	-2.0	-13.2	
16,453.0	90.80	0.00	12,719.3	3,658.9	359.0	1.64	0.65	-1.51	-3.0	-14.9	
16,547.0	90.10	359.70	12,718.5	3,752.9	358.8	0.81	-0.74	-0.32	-3.8	-15.3	
16,641.0	88.90	359.70	12,719.4	3,846.9	358.3	1.28	-1.28	0.00	-3.1	-15.4	
16,735.0	93.10	359.80	12,717.7	3,940.9	357.9	4.47	4.47	0.11	-4.9	-15.6	
16,828.0	90.80	359.10	12,714.5	4,033.8	357.0	2.58	-2.47	-0.75	-8.2	-15.3	
16,922.0	88.70	359.30	12,715.0	4,127.8	355.6	2.24	-2.23	0.21	-7.9	-14.6	
17,033.0	90.00	0.40	12,716.2	4,238.8	355.4	1.53	1.17	0.99	-6.8	-15.0	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3391.0usft
Site:	Philly 31 Fed Com	MD Reference:	KB = 25' @ 3391.0usft
Well:	#702H	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)	
17,202.0	91.70	1.40	12,713.7	4,407.7	358.0	1.17	1.01	0.59	-9.5	-18.7	
17,388.0	88.70	356.70	12,713.1	4,593.6	354.9	3.00	-1.61	-2.53	-10.4	-16.8	
17,481.0	87.80	356.00	12,715.9	4,686.4	349.0	1.23	-0.97	-0.75	-7.7	-11.5	
17,576.0	87.80	356.70	12,719.5	4,761.1	343.0	0.74	0.00	0.74	-4.2	-6.1	
17,669.0	91.20	356.80	12,720.4	4,874.0	337.7	3.66	3.66	0.11	-3.5	-1.4	
17,763.0	87.80	358.70	12,721.2	4,967.9	334.0	4.14	-3.62	2.02	-2.8	1.7	
17,857.0	85.00	358.60	12,727.1	5,061.6	331.8	2.98	-2.98	-0.11	3.2	3.3	
17,951.0	88.70	359.70	12,732.2	5,155.5	330.4	4.11	3.94	1.17	8.5	4.1	
18,045.0	92.90	359.60	12,730.9	5,249.4	329.8	4.47	4.47	-0.11	7.3	4.1	
18,139.0	93.30	0.80	12,725.9	5,343.3	330.2	1.34	0.43	1.28	2.4	3.1	
18,232.0	91.80	0.50	12,721.7	5,436.2	331.2	1.64	-1.61	-0.32	-1.6	1.5	
18,326.0	86.90	359.70	12,722.8	5,530.2	331.4	5.28	-5.21	-0.85	-0.4	0.7	
18,419.0	89.30	359.10	12,725.9	5,623.1	330.4	2.66	2.58	-0.65	2.9	1.1	
18,513.0	92.50	359.70	12,724.4	5,717.1	329.4	3.46	3.40	0.64	1.5	1.5	
18,607.0	94.30	359.30	12,718.8	5,810.9	328.6	1.96	1.91	-0.43	-3.9	1.7	
18,701.0	90.20	358.80	12,715.1	5,904.8	327.0	4.39	-4.36	-0.53	-7.4	2.7	
18,795.0	90.20	0.40	12,714.8	5,998.8	326.4	1.70	0.00	1.70	-7.6	2.7	
18,888.0	90.20	0.90	12,714.5	6,091.8	327.4	0.54	0.00	0.54	-7.8	1.1	
18,982.0	89.30	1.60	12,714.9	6,185.7	329.5	1.21	-0.96	0.74	-7.2	-1.6	
19,075.0	92.10	2.10	12,713.7	6,278.7	332.5	3.06	3.01	0.54	-8.2	-5.2	
19,169.0	89.20	1.90	12,712.7	6,372.6	335.8	3.09	-3.09	-0.21	-9.1	-9.1	
19,261.0	88.80	2.10	12,714.3	6,464.5	339.0	0.49	-0.43	0.22	-7.3	-12.9	
19,354.0	92.20	2.30	12,713.5	6,557.5	342.6	3.66	3.66	0.22	-8.0	-17.1	
19,448.0	87.20	358.80	12,714.0	6,651.4	343.5	6.49	-5.32	-3.72	-7.3	-18.6	
19,541.0	89.10	356.80	12,717.0	6,744.3	339.9	2.97	2.04	-2.15	-4.2	-15.6	
19,634.0	90.50	358.30	12,717.3	6,837.2	335.9	2.21	1.51	1.61	-3.7	-12.3	
19,728.0	88.80	357.30	12,717.9	6,931.1	332.3	2.10	-1.81	-1.06	-2.9	-9.3	



Midland PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #702H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3391.0usft
Site:	Philly 31 Fed Com	MD Reference:	KB = 25' @ 3391.0usft
Well:	#702H	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)	
19,822.0	93.40	358.60	12,716.1	7,025.0	328.9	5.09	4.89	1.38	-4.6	-6.5	
19,916.0	94.10	359.10	12,709.9	7,118.8	327.1	0.91	0.74	0.53	-10.6	-5.3	
20,009.0	92.10	359.10	12,704.9	7,211.6	325.6	2.15	-2.15	0.00	-15.4	-4.4	
20,116.0	90.30	358.10	12,702.6	7,318.6	323.0	1.92	-1.68	-0.93	-17.5	-2.5	
Last MWD Survey (MD = 20116.0)											
20,183.0	90.30	358.10	12,702.3	7,385.5	320.8	0.00	0.00	0.00	-17.7	-0.7	
Projection to Bit (MD = 20183.0)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,211.0	12,192.8	-239.7	347.9	KOP 12211.0' MD; 12192.8' TVD; -239.7'; 347.9'; 1.72
12,515.7	12,489.6	-187.0	343.6	FTP Crossing 12515.7' MD; 12489.6' TVD; -187.0'; 343.6'; 25.25
20,116.0	12,702.6	7,318.6	323.0	Last MWD Survey (MD = 20116.0)
20,183.0	12,702.3	7,385.5	320.8	Projection to Bit (MD = 20183.0)

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Philly 31 Fed Com #702H

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: #702H

KB = 25' @ 3382.0usft
Northing 365084.00 Easting 794855.00 Latitude 32° 0' 3.816 N Longitude 103° 30' 53.823 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target
1	944.0	0.70	25.78	943.9	3.6	8.6	0.00	0.00	3.9	
2	1500.0	0.70	25.78	1499.9	9.7	11.5	0.00	0.00	10.2	
3	1658.8	3.00	124.00	1658.6	8.2	15.4	2.00	110.81	8.9	
4	5205.0	3.00	124.00	5200.0	-95.5	169.3	0.00	0.00	-88.1	
5	5318.2	5.26	125.32	5312.9	-100.2	175.9	2.00	3.07	-92.5	
6	7767.0	5.26	125.32	7751.3	-230.0	359.2	0.00	0.00	-214.3	
7	8030.0	0.00	0.00	8014.0	-237.0	369.0	2.00	180.00	-220.8	
8	12251.0	0.00	0.00	12235.0	-237.0	369.0	0.00	0.00	-220.8	KOP (Philly 31 Fed Com #702H)
9	12999.4	89.81	359.63	12712.5	238.8	366.0	12.00	359.63	254.4	TGT #1(Philly 31 Fed Com #702H)
10	13745.6	89.81	359.63	12715.0	985.0	361.2	0.00	0.00	989.7	
11	13747.3	89.77	359.63	12715.0	986.7	361.2	2.00	180.00	1001.4	TGT #2(Philly 31 Fed Com #702H)
12	14746.9	89.77	359.63	12719.0	1986.3	354.8	0.00	0.00	1999.8	
13	14750.7	89.85	359.63	12719.0	1990.1	354.8	2.00	0.00	2003.6	TGT #3(Philly 31 Fed Com #702H)
14	16248.9	89.85	359.63	12723.0	3488.2	345.2	0.00	0.00	3499.9	
15	16252.7	89.92	359.63	12723.0	3492.0	345.1	2.00	0.00	3503.7	TGT #4(Philly 31 Fed Com #702H)
16	17750.8	89.92	359.63	12725.0	4990.1	335.6	0.00	0.00	4999.9	
17	17759.2	90.09	359.63	12725.0	4998.5	335.5	2.00	0.00	5008.3	TGT #5(Philly 31 Fed Com #702H)
18	19002.3	90.09	359.63	12723.0	6241.6	327.5	0.00	0.00	6249.9	
19	19002.9	90.10	359.63	12723.0	6242.2	327.5	2.00	-49.17	6250.5	
20	20155.7	90.10	359.63	12721.0	7395.0	320.0	0.00	0.00	7401.9	PBHL (Philly 31 Fed Com #702H)

To convert a Magnetic Direction to a Grid Direction, Add 8.45°
To convert a Magnetic Direction to a True Direction, Add 6.86° East
To convert a True Direction to a Grid Direction, Subtract 0.43°

CASING DETAILS
No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP (Philly 31 Fed Com #702H)	12235.0	-237.0	369.0	364847.00	795224.00
FTP (Philly 31 Fed Com #702H)	12702.0	-187.0	371.0	364887.00	795226.00
TGT #1(Philly 31 Fed Com #702H)	12718.0	885.0	361.2	365069.00	795216.19
TGT #2(Philly 31 Fed Com #702H)	12719.0	1868.3	354.8	367070.30	795209.77
PBHL (Philly 31 Fed Com #702H)	12721.0	7395.0	320.0	372478.00	795178.00
TGT #3(Philly 31 Fed Com #702H)	12723.0	3488.2	345.2	365572.20	795200.17
TGT #4(Philly 31 Fed Com #702H)	12723.0	6241.6	327.5	371325.60	795182.55
TGT #5(Philly 31 Fed Com #702H)	12725.0	4950.1	335.6	370074.10	795190.56

