



EOG Resources - Midland

Lea County, NM (NAD 27 NME)

Ophelia 27

#703H

OH

Design: OH

EOG PVA

27 October, 2014

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30-025-42045

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EOG Resources, Inc.

EOG PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3307.0usft (H&P 415)
Site:	Ophelia 27	MD Reference:	KB = 25 @ 3307.0usft (H&P 415)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD 27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Ophelia 27		
Site Position:		Northing:	370,025.00 usft
From:	Map	Easting:	741,483.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 0' 53.711 N
		Longitude:	103° 33' 15.217 W
		Grid Convergence:	0.41 °

Well	#703H					
Well Position	+N/-S	0.0 usft	Northing:	370,020.00 usft	Latitude:	32° 0' 53.712 N
	+E/-W	0.0 usft	Easting:	740,785.00 usft	Longitude:	103° 33' 23.324 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	0.0 usft	Ground Level:	3,282.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF201014	8/13/2014	7.17	59.92	48,177

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	359.86

Survey Program	Date	10/27/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
173.0	17,216.0	Survey #1 (OH)	MWD	MWD - Standard



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0
173.0	0.90	68.10	173.0	0.5	1.3	0.52	0.52	0.00	-1.4	0.0
234.0	1.10	68.30	234.0	0.9	2.2	0.33	0.33	0.33	-2.4	0.0
294.0	1.10	71.60	294.0	1.3	3.3	0.11	0.00	5.50	-3.6	0.2
420.0	1.10	52.10	419.9	2.4	5.4	0.30	0.00	-15.48	-5.8	-1.4
481.0	1.10	73.20	480.9	3.0	6.5	0.66	0.00	34.59	-7.0	1.0
541.0	1.40	76.50	540.9	3.3	7.7	0.51	0.50	5.50	-8.3	1.4
663.0	1.20	198.50	662.9	2.4	8.8	1.87	-0.16	100.00	5.1	7.5
724.0	1.10	208.70	723.9	1.3	8.3	0.37	-0.16	16.72	5.1	6.6
786.0	1.20	198.40	785.9	0.2	7.8	0.37	0.16	-16.61	2.6	7.3
848.0	1.10	214.50	847.9	-0.9	7.2	0.54	-0.16	25.97	3.3	6.5
908.0	0.90	204.30	907.9	-1.8	6.7	0.45	-0.33	-17.00	1.1	6.9
968.0	1.10	187.30	967.9	-2.8	6.5	0.59	0.33	-28.33	-2.0	6.8
1,030.0	1.40	180.60	1,029.8	-4.2	6.4	0.54	0.48	-10.81	-4.1	6.4
1,066.0	1.40	175.90	1,065.8	-5.1	6.4	0.32	0.00	-13.06	-5.5	6.0
1,196.0	1.40	190.10	1,195.8	-8.2	6.2	0.27	0.00	10.92	-7.0	7.6
1,257.0	1.20	186.60	1,256.8	-9.6	6.0	0.35	-0.33	-5.74	-8.8	7.1
1,319.0	0.90	204.70	1,318.8	-10.7	5.8	0.72	-0.48	29.19	-7.3	9.7
1,498.0	0.70	203.30	1,497.7	-13.0	4.7	0.11	-0.11	-0.78	-10.0	9.5
1,560.0	1.10	192.40	1,559.7	-13.9	4.5	0.70	0.65	-17.58	-12.6	7.3
1,657.0	1.40	198.90	1,656.7	-15.9	3.9	0.34	0.31	6.70	-13.8	8.8
1,751.0	1.60	210.00	1,750.7	-18.1	2.8	0.37	0.21	11.81	-14.3	11.5
1,845.0	1.60	206.40	1,844.6	-20.4	1.6	0.11	0.00	-3.83	-17.6	10.5
1,939.0	2.10	207.30	1,938.6	-23.2	0.2	0.53	0.53	0.96	-20.5	10.8
2,034.0	0.90	133.10	2,033.6	-25.2	0.0	2.15	-1.26	-78.11	-17.2	-18.4
2,128.0	0.70	118.40	2,127.6	-26.0	1.0	0.30	-0.21	-15.64	-13.3	-22.4
2,222.0	1.10	115.40	2,221.5	-26.6	2.3	0.43	0.43	-3.19	-13.5	-23.1



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Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)	
2,316.0	1.10	119.60	2,315.5	-27.5	3.9	0.09	0.00	4.47	-17.0	-21.9	
2,410.0	0.90	125.60	2,409.5	-28.4	5.3	0.24	-0.21	6.38	-20.8	-20.0	
2,504.0	1.20	113.60	2,503.5	-29.2	6.8	0.39	0.32	-12.77	-17.9	-24.0	
2,599.0	1.40	116.40	2,598.5	-30.1	8.8	0.22	0.21	2.95	-21.2	-23.1	
2,692.0	1.60	131.60	2,691.4	-31.5	10.8	0.48	0.22	16.34	-28.9	-16.4	
2,787.0	1.80	124.40	2,786.4	-33.2	13.0	0.31	0.21	-7.58	-29.5	-20.0	
2,881.0	0.70	88.80	2,880.4	-34.0	14.8	1.38	-1.17	-37.87	-14.1	-34.3	
2,975.0	1.10	72.30	2,974.4	-33.7	16.2	0.50	0.43	-17.55	-5.2	-37.1	
3,069.0	1.60	62.00	3,068.3	-32.8	18.2	0.59	0.53	-10.96	-0.7	-37.6	
3,163.0	1.90	73.60	3,162.3	-31.8	20.9	0.49	0.32	12.34	-11.1	-36.4	
3,258.0	1.60	85.20	3,257.3	-31.2	23.7	0.49	-0.32	12.21	-21.0	-33.1	
3,351.0	1.20	94.10	3,350.2	-31.2	26.0	0.49	-0.43	9.57	-28.1	-29.2	
3,445.0	1.20	105.40	3,444.2	-31.5	27.9	0.25	0.00	12.02	-35.3	-23.0	
3,539.0	1.80	103.80	3,538.2	-32.1	30.3	0.64	0.64	-1.70	-37.1	-24.0	
3,633.0	2.50	116.60	3,632.1	-33.4	33.6	0.90	0.74	13.62	-45.0	-14.8	
3,727.0	2.50	127.20	3,726.0	-35.6	37.0	0.49	0.00	11.28	-51.0	-5.9	
3,915.0	0.40	71.30	3,914.0	-37.8	40.9	1.22	-1.12	-29.73	-26.6	-48.9	
4,009.0	0.70	141.10	4,007.9	-38.2	41.6	0.72	0.32	74.26	-55.8	8.4	
4,181.0	0.50	136.00	4,179.9	-39.5	42.8	0.12	-0.12	-2.97	-58.1	3.3	
4,275.0	0.90	137.70	4,273.9	-40.4	43.6	0.43	0.43	1.81	-59.2	5.1	
4,464.0	1.10	149.30	4,462.9	-43.0	45.5	0.15	0.11	6.14	-60.2	17.1	
4,558.0	1.20	213.30	4,556.9	-44.6	45.4	1.30	0.11	68.09	-12.4	62.4	
4,652.0	1.40	239.10	4,650.9	-46.0	43.9	0.65	0.21	27.45	14.0	62.0	
4,841.0	1.80	159.30	4,839.8	-50.0	42.9	1.10	0.21	-42.22	-61.9	22.5	
4,936.0	0.70	236.90	4,934.8	-51.7	43.0	1.88	-1.16	81.68	7.8	66.8	
5,030.0	1.10	247.10	5,028.8	-52.4	41.7	0.46	0.43	10.85	18.0	64.5	
5,124.0	1.10	242.50	5,122.8	-53.1	40.0	0.09	0.00	-4.89	11.0	65.6	



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Local Co-ordinate Reference: Well #703H
 TVD Reference: KB = 25 @ 3307.0usft (H&P 415)
 MD Reference: KB = 25 @ 3307.0usft (H&P 415)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

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)	
5,219.0	1.10	242.30	5,217.7	-54.0	38.4	0.00	0.00	-0.21	8.9	65.7	
5,313.0	1.10	250.70	5,311.7	-54.7	36.8	0.17	0.00	8.94	16.6	63.8	
5,408.0	0.90	248.50	5,406.7	-55.3	35.2	0.21	-0.21	-2.32	12.5	64.3	
5,502.0	0.90	256.50	5,500.7	-55.7	33.8	0.13	0.00	8.51	19.9	62.1	
5,597.0	0.90	256.20	5,595.7	-56.1	32.4	0.00	0.00	-0.32	18.1	62.2	
5,691.0	0.90	244.20	5,689.7	-56.6	31.0	0.20	0.00	-12.77	3.3	64.4	
5,786.0	0.90	244.80	5,784.7	-57.2	29.6	0.01	0.00	0.63	2.5	64.4	
5,881.0	0.90	242.50	5,879.7	-57.9	28.3	0.04	0.00	-2.42	-1.6	64.4	
5,975.0	0.70	239.50	5,973.6	-58.5	27.2	0.22	-0.21	-3.19	-6.3	64.2	
6,069.0	0.90	237.40	6,067.6	-59.2	26.0	0.22	0.21	-2.23	-10.0	63.9	
6,164.0	0.90	235.60	6,162.6	-60.0	24.8	0.03	0.00	-1.89	-13.5	63.5	
6,258.0	0.90	238.30	6,256.6	-60.8	23.6	0.05	0.00	2.87	-11.9	64.1	
6,352.0	0.70	243.50	6,350.6	-61.5	22.4	0.23	-0.21	5.53	-7.4	65.0	
6,446.0	0.90	238.30	6,444.6	-62.1	21.3	0.23	0.21	-5.53	-14.5	64.0	
6,540.0	1.10	233.70	6,538.6	-63.0	19.9	0.23	0.21	-4.89	-21.3	62.6	
6,634.0	0.50	197.30	6,632.6	-64.0	19.1	0.81	-0.64	-38.72	-55.4	37.2	
6,729.0	0.40	150.50	6,727.6	-64.6	19.1	0.39	-0.11	-49.26	-65.7	-15.2	
6,823.0	0.40	180.80	6,821.6	-65.3	19.3	0.22	0.00	32.23	-65.0	20.2	
6,917.0	0.40	318.40	6,915.6	-65.3	19.0	0.79	0.00	146.38	61.5	29.1	
7,011.0	0.90	315.40	7,009.6	-64.6	18.3	0.53	0.53	-3.19	58.8	32.3	
7,105.0	0.70	295.40	7,103.6	-63.8	17.3	0.36	-0.21	-21.28	43.0	50.2	
7,200.0	0.90	291.00	7,198.5	-63.3	16.0	0.22	0.21	-4.63	37.7	53.3	
7,294.0	1.10	315.80	7,292.5	-62.4	14.7	0.50	0.21	26.38	55.0	32.9	
7,388.0	0.90	333.40	7,386.5	-61.1	13.8	0.39	-0.21	18.72	60.8	15.0	
7,481.0	0.70	316.30	7,479.5	-60.0	13.0	0.33	-0.22	-18.39	52.4	32.0	
7,576.0	0.70	298.90	7,574.5	-59.3	12.1	0.22	0.00	-18.32	39.3	46.0	
7,764.0	0.50	301.90	7,762.5	-58.3	10.4	0.11	-0.11	1.60	39.7	44.0	



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7,858.0	0.40	274.30	7,856.5	-58.1	9.8	0.25	-0.11	-29.36	14.1	57.2	
7,953.0	0.40	231.90	7,951.5	-58.2	9.2	0.30	0.00	-44.63	-28.7	51.5	
8,047.0	0.40	222.10	8,045.5	-58.7	8.7	0.07	0.00	-10.43	-37.7	45.8	
8,141.0	0.50	224.70	8,139.5	-59.2	8.2	0.11	0.11	2.77	-36.3	47.5	
8,235.0	0.50	202.60	8,233.5	-59.9	7.7	0.20	0.00	-23.51	-52.3	30.2	
8,329.0	0.70	194.50	8,327.5	-60.8	7.4	0.23	0.21	-8.62	-57.0	22.4	
8,423.0	0.90	194.30	8,421.5	-62.1	7.1	0.21	0.21	-0.21	-58.4	22.2	
8,517.0	0.90	194.80	8,515.4	-63.5	6.7	0.01	0.00	0.53	-59.7	22.7	
8,611.0	0.70	177.60	8,609.4	-64.8	6.6	0.33	-0.21	-18.30	-65.0	3.9	
8,704.0	1.10	179.60	8,702.4	-66.3	6.6	0.43	0.43	2.15	-66.3	6.1	
8,799.0	0.90	189.20	8,797.4	-67.9	6.5	0.27	-0.21	10.11	-66.0	17.3	
8,893.0	0.90	183.80	8,891.4	-69.4	6.3	0.09	0.00	-5.74	-68.8	10.9	
8,988.0	0.90	189.60	8,986.4	-70.9	6.2	0.10	0.00	6.11	-68.9	17.9	
9,082.0	0.90	190.60	9,080.4	-72.3	5.9	0.02	0.00	1.06	-70.0	19.1	
9,176.0	0.50	169.90	9,174.4	-73.5	5.8	0.50	-0.43	-22.02	-73.3	-7.1	
9,271.0	0.40	174.50	9,269.4	-74.2	5.9	0.11	-0.11	4.84	-74.4	-1.2	
9,366.0	0.50	185.50	9,364.4	-74.9	5.9	0.14	0.11	11.58	-74.0	13.1	
9,460.0	0.90	228.60	9,458.4	-75.8	5.3	0.68	0.43	45.85	-46.1	60.4	
9,554.0	0.90	254.60	9,552.3	-76.5	4.1	0.43	0.00	27.66	-16.4	74.9	
9,647.0	1.60	240.70	9,645.3	-77.4	2.2	0.81	0.75	-14.95	-35.9	68.6	
9,741.0	1.20	248.60	9,739.3	-78.4	0.2	0.47	-0.43	8.40	-28.4	73.0	
9,836.0	1.10	237.60	9,834.3	-79.2	-1.5	0.25	-0.11	-11.58	-43.7	66.1	
9,931.0	0.70	253.90	9,929.3	-79.9	-2.9	0.50	-0.42	17.16	-24.9	75.9	
10,025.0	1.20	294.70	10,023.3	-79.6	-4.3	0.86	0.53	43.40	29.3	74.1	
10,119.0	0.70	285.90	10,117.2	-79.0	-5.7	0.55	-0.53	-9.36	16.1	77.6	
10,213.0	0.40	287.80	10,211.2	-78.8	-6.6	0.32	-0.32	2.02	17.8	77.0	
10,306.0	0.50	117.90	10,304.2	-78.9	-6.6	0.96	0.11	-182.69	-31.1	-72.8	



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10,400.0	0.90	147.00	10,398.2	-79.7	-5.8	0.56	0.43	30.96	-62.6	-48.1
10,494.0	0.90	123.00	10,492.2	-80.7	-4.8	0.40	0.00	-25.53	-37.0	-68.6
10,589.0	0.90	118.00	10,587.2	-81.5	-3.5	0.08	0.00	-5.26	-30.4	-70.2
10,683.0	0.90	117.70	10,681.2	-82.1	-2.2	0.01	0.00	-0.32	-29.5	-68.9
10,777.0	0.90	133.70	10,775.2	-83.0	-1.0	0.27	0.00	17.02	-46.5	-57.1
10,871.0	0.90	161.10	10,869.2	-84.2	-0.2	0.45	0.00	29.15	-66.6	-29.3
10,966.0	1.20	163.60	10,964.2	-85.9	0.3	0.32	0.32	2.63	-67.1	-26.8
11,063.0	1.20	169.70	11,061.1	-87.8	0.8	0.13	0.00	6.29	-69.2	-20.1
11,211.0	1.20	56.90	11,209.1	-88.5	2.3	1.35	0.00	-76.22	44.0	-53.7
11,306.0	1.90	355.50	11,304.1	-86.4	3.0	1.78	0.74	-64.63	63.8	13.0
11,405.0	1.90	343.40	11,403.0	-83.2	2.5	0.40	0.00	-12.22	53.9	26.2
11,499.0	1.20	339.30	11,497.0	-80.8	1.7	0.75	-0.74	-4.36	46.9	30.2
11,593.0	1.20	344.40	11,591.0	-78.9	1.0	0.11	0.00	5.43	45.1	26.4
11,687.0	1.10	348.00	11,685.0	-77.1	0.6	0.13	-0.11	3.83	42.4	24.2
11,781.0	1.20	40.30	11,778.9	-75.4	1.0	1.08	0.11	55.64	42.6	-15.8
11,876.0	1.60	75.70	11,873.9	-74.4	3.0	0.98	0.42	37.26	24.0	-34.6
11,958.0	1.80	100.60	11,955.9	-74.3	5.3	0.92	0.24	30.37	6.1	-39.3
12,065.0	3.50	23.50	12,062.8	-71.6	8.3	3.33	1.59	-72.06	40.3	-4.9
12,112.0	8.40	18.50	12,109.5	-67.1	10.0	10.47	10.43	-10.64	43.9	-3.6
12,159.0	13.40	13.80	12,155.7	-58.5	12.4	10.80	10.64	-10.00	47.7	-2.7
12,206.0	18.30	14.70	12,200.9	-46.1	15.5	10.44	10.43	1.91	51.2	-6.8
12,253.0	22.90	16.60	12,244.8	-30.2	20.0	9.89	9.79	4.04	54.6	-13.0
12,301.0	30.10	8.90	12,287.8	-9.3	24.6	16.59	15.00	-16.04	59.2	-10.8
12,348.0	36.60	1.10	12,327.0	16.4	26.6	16.54	13.83	-16.60	62.2	-5.9
12,395.0	43.60	355.30	12,363.0	46.6	25.6	16.87	14.89	-12.34	63.0	0.0
12,442.0	52.60	353.20	12,394.3	81.4	22.0	19.43	19.15	-4.47	60.9	4.7



EOG Resources, Inc.
EOG PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3307.0usft (H&P 415)
Site:	Ophelia 27	MD Reference:	KB = 25 @ 3307.0usft (H&P 415)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
12,476.8	59.26	352.97	12,413.8	110.0	18.6	19.16	19.15	-0.65	57.3	7.7
HL Crossing, MD:12476.8', TVD:12413.8', N/S:110.0', E/W:18.6', INC:59.26										
12,489.0	61.60	352.90	12,419.8	120.5	17.3	19.16	19.15	-0.59	55.6	8.9
12,536.0	69.10	352.70	12,439.4	162.9	11.9	15.96	15.96	-0.43	47.6	13.4
12,566.0	74.10	355.30	12,448.9	191.2	8.9	18.58	16.67	8.67	41.7	14.9
12,660.0	87.80	0.10	12,463.7	283.7	5.3	15.42	14.57	5.11	18.6	16.9
12,755.0	91.70	1.50	12,464.1	378.6	6.6	4.36	4.11	1.47	-2.0	14.8
12,849.0	91.80	1.00	12,461.2	472.6	8.7	0.54	0.11	-0.53	-8.8	12.1
12,943.0	92.40	2.90	12,457.8	566.4	11.9	2.12	0.64	2.02	-12.3	8.2
13,037.0	91.50	1.50	12,454.6	660.3	15.5	1.77	-0.96	-1.49	-15.4	3.9
13,131.0	91.00	0.60	12,452.5	754.3	17.2	1.10	-0.53	-0.96	-17.5	1.5
13,226.0	88.90	358.70	12,452.6	849.3	16.6	2.98	-2.21	-2.00	-17.4	1.3
13,320.0	89.70	357.30	12,453.7	943.2	13.3	1.72	0.85	-1.49	-16.3	3.9
13,414.0	88.50	358.10	12,455.2	1,037.1	9.6	1.53	-1.28	0.85	-14.8	7.0
13,508.0	89.70	358.10	12,456.7	1,131.0	6.5	1.28	1.28	0.00	-13.3	9.4
13,602.0	89.60	0.30	12,457.3	1,225.0	5.1	2.34	-0.11	2.34	-12.7	10.1
13,696.0	91.50	1.70	12,456.4	1,319.0	6.8	2.51	2.02	1.49	-13.6	7.7
13,790.0	91.80	2.20	12,453.7	1,412.9	10.0	0.62	0.32	0.53	-16.3	3.8
13,884.0	88.90	1.00	12,453.1	1,506.9	12.6	3.34	-3.09	-1.28	-16.9	0.5
13,978.0	89.70	2.40	12,454.2	1,600.8	15.4	1.72	0.85	1.49	-15.8	-3.0
14,072.0	89.20	2.70	12,455.1	1,694.7	19.6	0.62	-0.53	0.32	-14.9	-7.8
14,167.0	89.70	6.40	12,456.0	1,789.4	27.1	3.93	0.53	3.89	-14.0	-16.0
14,261.0	90.60	7.10	12,455.8	1,882.7	38.2	1.21	0.96	0.74	-14.3	-27.8
14,293.0	90.30	7.10	12,455.5	1,914.5	42.1	0.94	-0.94	0.00	-14.5	-32.0
14,324.0	91.00	6.80	12,455.2	1,945.3	45.9	2.46	2.26	-0.97	-14.8	-36.0
14,356.0	90.10	5.70	12,454.9	1,977.1	49.4	4.44	-2.81	-3.44	-15.2	-39.7
14,387.0	90.30	5.20	12,454.8	2,007.9	52.3	1.74	0.65	-1.61	-15.3	-42.9



EOG Resources, Inc.
EOG PVA

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #703H
Project:	Lea County, NM (NAD 27 NME)	TVD Reference:	KB = 25 @ 3307.0usft (H&P 415)
Site:	Ophelia 27	MD Reference:	KB = 25 @ 3307.0usft (H&P 415)
Well:	#703H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)	
14,418.0	89.40	4.30	12,454.9	2,038.8	54.9	4.11	-2.90	-2.90	-15.2	-45.6	
14,450.0	89.90	2.00	12,455.1	2,070.8	56.6	7.36	1.56	-7.19	-15.0	-47.7	
14,481.0	89.60	1.50	12,455.2	2,101.8	57.6	1.88	-0.97	-1.61	-14.8	-48.8	
14,513.0	89.60	2.40	12,455.4	2,133.7	58.7	2.81	0.00	2.81	-14.6	-50.2	
14,544.0	90.10	3.80	12,455.5	2,164.7	60.3	4.80	1.61	4.52	-14.5	-52.1	
14,576.0	89.60	2.50	12,455.6	2,196.6	62.1	4.35	-1.56	-4.06	-14.5	-54.1	
14,607.0	89.20	1.30	12,455.9	2,227.6	63.1	4.08	-1.29	-3.87	-14.1	-55.3	
14,638.0	89.40	359.20	12,456.3	2,258.6	63.3	6.80	0.65	-6.77	-13.7	-55.7	
14,670.0	89.70	0.40	12,456.5	2,290.6	63.1	3.87	0.94	3.75	-13.5	-55.8	
14,701.0	90.30	359.70	12,456.5	2,321.6	63.2	2.97	1.94	-2.26	-13.5	-56.1	
14,732.0	89.90	359.70	12,456.5	2,352.6	63.0	1.29	-1.29	0.00	-13.5	-56.1	
14,764.0	89.90	358.50	12,456.5	2,384.6	62.5	3.75	0.00	-3.75	-13.5	-55.9	
14,795.0	90.10	357.40	12,456.5	2,415.6	61.4	3.61	0.65	-3.55	-13.5	-55.0	
14,827.0	90.60	355.90	12,456.3	2,447.5	59.5	4.94	1.56	-4.69	-13.7	-53.3	
14,858.0	90.10	355.00	12,456.2	2,478.4	57.1	3.32	-1.61	-2.90	-13.9	-51.1	
14,889.0	90.60	354.80	12,456.0	2,509.3	54.3	1.74	1.61	-0.65	-14.1	-48.6	
14,921.0	90.30	353.60	12,455.7	2,541.1	51.1	3.87	-0.94	-3.75	-14.4	-45.6	
14,952.0	90.40	352.90	12,455.5	2,571.9	47.4	2.28	0.32	-2.26	-14.6	-42.1	
14,983.0	89.90	354.10	12,455.4	2,602.7	43.9	4.19	-1.61	3.87	-14.6	-38.9	
15,015.0	90.30	356.00	12,455.4	2,634.6	41.2	6.07	1.25	5.94	-14.6	-36.4	
15,047.0	89.70	355.30	12,455.4	2,666.5	38.7	2.88	-1.87	-2.19	-14.6	-34.2	
15,078.0	89.40	355.70	12,455.6	2,697.4	36.3	1.61	-0.97	1.29	-14.4	-32.0	
15,109.0	89.60	354.60	12,455.9	2,728.3	33.7	3.61	0.65	-3.55	-14.1	-29.6	
15,141.0	89.70	354.60	12,456.1	2,760.2	30.7	0.31	0.31	0.00	-13.9	-26.8	
15,203.0	89.60	355.20	12,456.5	2,821.9	25.2	0.98	-0.16	0.97	-13.5	-21.7	
15,234.0	89.60	354.80	12,456.7	2,852.8	22.5	1.29	0.00	-1.29	-13.3	-19.3	
15,271.0	89.70	356.40	12,456.9	2,889.7	19.6	4.33	0.27	4.32	-13.1	-16.7	



EOG Resources, Inc.

EOG PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Ophelia 27
 Well: #703H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #703H
 TVD Reference: KB = 25 @ 3307.0usft (H&P 415)
 MD Reference: KB = 25 @ 3307.0usft (H&P 415)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

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)
15,303.0	90.10	358.10	12,457.0	2,921.6	18.1	5.46	1.25	5.31	-13.0	-15.4
15,334.0	90.10	0.10	12,456.9	2,952.6	17.6	6.45	0.00	6.45	-13.1	-15.2
15,365.0	89.90	1.50	12,456.9	2,983.6	18.0	4.56	-0.65	4.52	-13.1	-15.8
15,397.0	87.40	1.10	12,457.7	3,015.6	18.8	7.91	-7.81	-1.25	-12.3	-16.8
15,428.0	85.90	359.90	12,459.5	3,046.6	19.0	6.19	-4.84	-3.87	-10.5	-17.3
15,460.0	84.60	359.20	12,462.1	3,078.4	18.8	4.61	-4.06	-2.19	-7.8	-17.3
15,491.0	84.60	359.60	12,465.1	3,109.3	18.5	1.28	0.00	1.29	-4.9	-17.2
15,585.0	86.00	359.40	12,472.8	3,203.0	17.6	1.50	1.49	-0.21	2.7	-17.1
15,680.0	87.40	358.50	12,478.2	3,297.8	15.9	1.75	1.47	-0.95	8.2	-16.0
15,774.0	89.90	357.10	12,480.4	3,391.7	12.3	3.05	2.66	-1.49	10.4	-13.1
15,868.0	89.00	356.60	12,481.3	3,485.6	7.1	1.10	-0.96	-0.53	11.3	-8.6
15,963.0	91.00	359.20	12,481.3	3,580.5	3.6	3.45	2.11	2.74	11.3	-5.9
16,114.0	93.30	359.00	12,475.7	3,731.3	1.3	1.53	1.52	-0.13	5.7	-4.6
16,208.0	94.70	358.80	12,469.1	3,825.1	-0.5	1.50	1.49	-0.21	-0.9	-3.5
16,302.0	89.60	359.70	12,465.6	3,919.0	-1.8	5.51	-5.43	0.96	-4.4	-3.0
16,397.0	89.70	3.80	12,466.2	4,013.9	1.1	4.32	0.11	4.32	-3.8	-6.5
16,491.0	89.90	6.60	12,466.5	4,107.5	9.7	2.99	0.21	2.98	-3.5	-15.8
16,585.0	89.60	6.80	12,466.9	4,200.9	20.6	0.38	-0.32	0.21	-3.1	-27.4
16,679.0	90.60	6.80	12,466.7	4,294.2	31.8	1.06	1.06	0.00	-3.2	-39.2
16,773.0	90.40	2.70	12,465.9	4,387.9	39.5	4.37	-0.21	-4.36	-4.1	-47.7
16,867.0	90.10	2.70	12,465.5	4,481.8	44.0	0.32	-0.32	0.00	-4.5	-52.8
16,962.0	89.60	2.50	12,465.8	4,576.7	48.3	0.57	-0.53	-0.21	-4.3	-57.8
17,056.0	91.10	3.60	12,465.2	4,670.5	53.3	1.98	1.60	1.17	-4.7	-63.5
17,116.5	90.34	4.75	12,464.4	4,730.9	57.7	2.28	-1.26	1.89	-5.6	-68.4
HL Crossing, MD:17116.5', TVD:12464.4', N/S:4730.9', E/W:57.7', INC:90.34										
17,151.0	89.90	5.40	12,464.4	4,765.2	60.7	2.28	-1.26	1.89	-5.7	-71.7
Last MWD Survey										



EOG Resources, Inc.

EOG PVA

Company: EOG Resources - Midland
 Project: Lea County, NM (NAD 27 NME)
 Site: Ophelia 27
 Well: #703H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well #703H
 TVD Reference: KB = 25 @ 3307.0usft (H&P 415)
 MD Reference: KB = 25 @ 3307.0usft (H&P 415)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

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)
17,216.0	89.90	5.40	12,464.5	4,829.9	66.9	0.00	0.00	0.00	-5.6	-78.3
Projection To Bit										

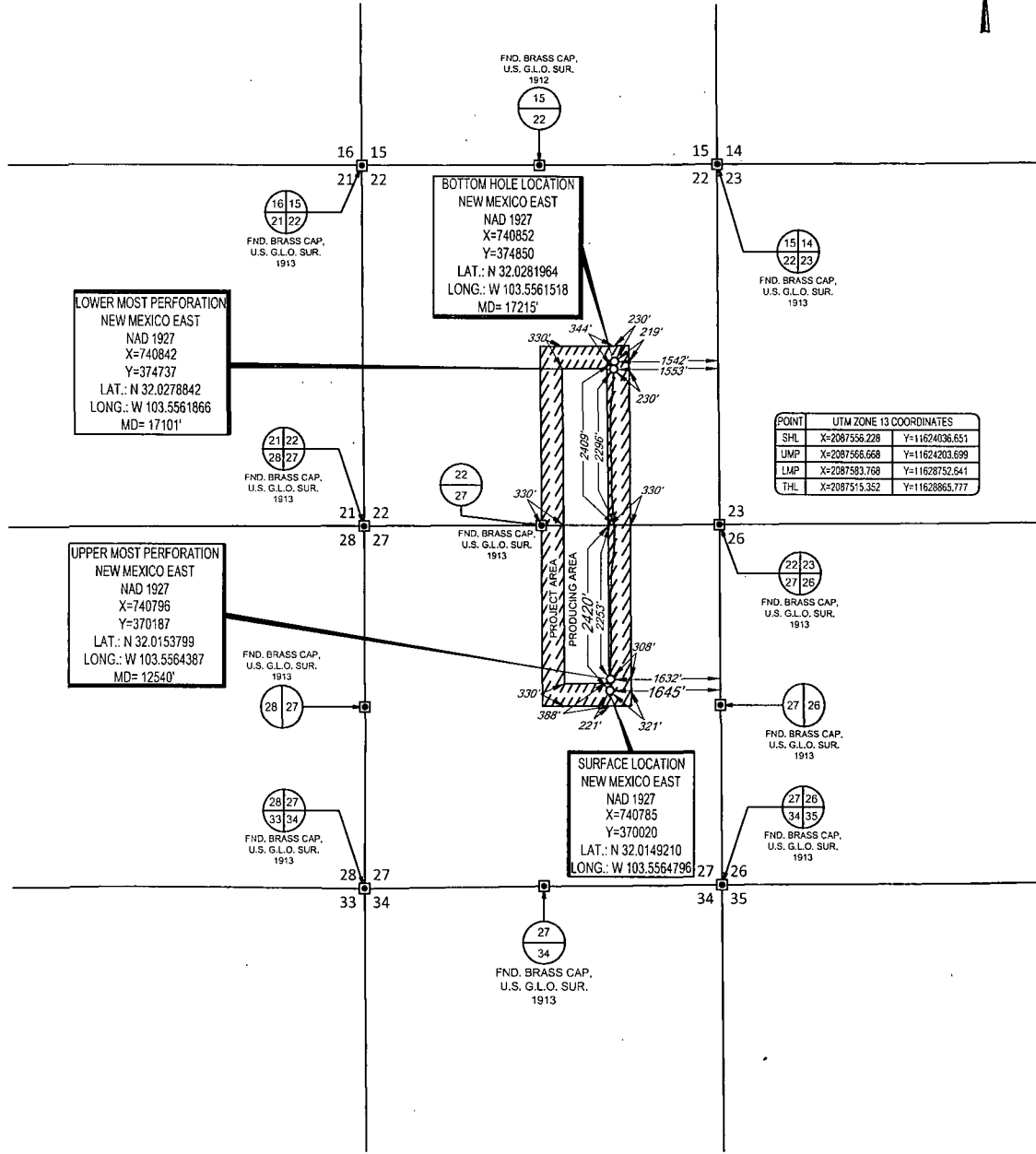
Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,476.8	12,413.8	110.0	18.6	HL Crossing, MD:12476.8', TVD:12413.8', N/S:110.0', E/W:18.6', INC:59.26
17,116.5	12,464.4	4,730.9	57.7	HL Crossing, MD:17116.5', TVD:12464.4', N/S:4730.9', E/W:57.7', INC:90.34
17,151.0	12,464.4	4,765.2	60.7	Last MWD Survey
17,216.0	12,464.5	4,829.9	66.9	Projection To Bit

Checked By: _____ Approved By: _____ Date: _____

SCALE: 1" = 2000'

SECTION 27, TOWNSHIP 26-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: OPHELIA 27 #703H
SECTION 27 TWP 26-S RGE 33-E SURVEY N.M.P.M.
COUNTY LEA STATE NM ELEVATION 3282'
DESCRIPTION 2420' FNL & 1645' FEL

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7549
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR
Michael Blake Brown, P.S. No. 18329
MARCH 23, 2015

geog resources, Inc.

OPHELIA 27 #703H AS-COMPLETED	REVISION:	
	INT	DATE
DATE: 03/23/15		
FILE: AD_OPHELIA27_703H		
DRAWN BY: GJU		
SHEET: 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 1927.
3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY. MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.