

HOBBS OCD

JAN 08 2017

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30-025-44006

Plan #1
Ophelia 22 Fed Com #704H
Lea County, NM (NAD 83 NME)

PROJECT DETAILS: Lea County (NAD 83 NME)

Geodetic System: US State Plane 1983

Datum: North American Datum 1983

Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

WELL DETAILS: #704H

Ground Level: 3294.0

Latitude 32° 5' 41.8" N

Longitude 103° 37' 55.89" W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Diag	Tface	VSect	Target
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2	3500.0	0.00	0.00	3500.0	4.8	-8.8	2.00	296.00	4.4	
3	3750.0	5.00	296.00	3749.7	153.4	-304.7	2.00	180.00	-14.2	
4	7514.6	5.00	296.00	7500.0	148.6	-304.7	2.00	180.00	-14.2	
5	7746.6	0.00	0.00	7749.7	153.4	-311.2	12.00	179.60	324.7	
6	12599.6	88.77	179.60	12592.0	-296.7	-296.7	0.00	0.00	2100.2	
7	14376.8	88.77	179.60	14360.0	-296.7	-296.7	0.00	0.00	2100.2	
8	14399.6	88.77	179.60	14390.4	-211.6	-296.6	2.00	0.33	2122.8	
9	16094.2	89.23	179.60	16080.0	-286.5	-286.5	0.00	0.00	3900.1	
10	18080.3	89.54	179.60	18060.0	-272.9	-272.9	0.00	0.00	5800.0	
11	18096.2	89.22	179.60	18080.0	-581.0	-272.8	2.00	180.00	5816.0	
12	18080.3	89.54	179.60	18060.0	-579.4	-272.9	0.00	0.00	5800.0	
13	18096.2	89.22	179.60	18080.0	-581.0	-272.8	2.00	180.00	5816.0	
14	18080.3	89.54	179.60	18060.0	-579.4	-272.9	0.00	0.00	5800.0	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	North	East
SBS TOT	10600.0	77863.0
KOP (Ophelia 22 Fed Com #704H)	154.6	77863.0
FTP (Ophelia 22 Fed Com #704H)	1322.0	77863.0
TOT 1 (Ophelia 22 Fed Com #704H)	1322.0	77863.0
TOT 2 (Ophelia 22 Fed Com #704H)	1322.0	77863.0
TOT 3 (Ophelia 22 Fed Com #704H)	1322.0	77863.0
LTP (Ophelia 22 Fed Com #704H)	1322.0	77863.0
PSB (Ophelia 22 Fed Com #704H)	1322.0	77863.0

No casing data is available

Vertical Section at 130.2° (100 units)

Vertical Section at 130.2° (100 units)

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30-025-44006

EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Ophelia 22 Fed Com

#704H

OH

Design: OH

PVA Report

16 October, 2017

HOBBS OCD
JAN 08 2017
RECEIVED

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3319.0usft
Site:	Ophelia 22 Fed Com	MD Reference:	KB = 25' @ 3319.0usft
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:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Ophelia 22 Fed Com		
Site Position:		Northing:	377,559.00 usft
From:	Map	Easting:	778,915.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 8.418 N
		Longitude:	103° 33' 59.896 W
		Grid Convergence:	0.41 °

Well	#704H		
Well Position	+N/-S	0.0 usft	Northing: 377,559.00 usft
	+E/-W	0.0 usft	Easting: 778,915.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 2' 8.418 N
		Longitude:	103° 33' 59.896 W
		Ground Level:	3,294.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	3/27/2017	6.96
			Dip Angle (°) 59.89
			Field Strength (nT) 47,850.58129928

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 (°)	181.99

Survey Program	Date 10/16/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
177.0	19,693.0	Intrepid MWD (OH)	MWD
			Description
			MWD - Standard

PVA Report

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Well:	#704H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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	
177.0	0.80	313.10	177.0	0.8	-0.9	0.45	0.45	0.00	-1.2	0.0	
296.0	1.40	312.00	296.0	2.4	-2.6	0.50	0.50	-0.92	-3.5	0.0	
476.0	1.90	323.10	475.9	6.2	-6.0	0.33	0.28	6.17	-8.6	1.1	
534.0	2.10	312.40	533.9	7.7	-7.4	0.73	0.34	-18.45	-10.7	-0.7	
689.0	0.90	20.00	688.8	10.8	-9.1	1.25	-0.77	43.61	-7.0	12.2	
876.0	1.50	277.40	875.8	12.5	-11.0	1.02	0.32	-54.87	-12.5	-11.0	
946.0	1.30	281.90	945.8	12.8	-12.7	0.33	-0.29	6.43	-15.0	-9.9	
1,099.0	1.20	274.70	1,098.7	13.3	-16.0	0.12	-0.07	-4.71	-17.0	-11.9	
1,284.0	1.80	277.90	1,283.7	13.8	-20.8	0.33	0.32	1.73	-22.5	-10.8	
1,469.0	0.70	234.10	1,468.6	13.5	-24.6	0.75	-0.59	-23.68	-12.0	-25.4	
1,657.0	0.90	206.60	1,656.6	11.6	-26.2	0.23	0.11	-14.63	-1.4	-28.6	
1,843.0	1.30	260.00	1,842.6	9.9	-28.9	0.57	0.22	28.71	-26.7	-14.8	
2,030.0	0.50	224.90	2,029.6	8.9	-31.6	0.50	-0.43	-18.77	-15.9	-28.7	
2,218.0	0.60	258.70	2,217.5	8.2	-33.1	0.18	0.05	17.98	-30.9	-14.5	
2,406.0	1.00	264.40	2,405.5	7.8	-35.7	0.22	0.21	3.03	-34.8	-11.3	
2,592.0	1.10	258.30	2,591.5	7.3	-39.1	0.08	0.05	-3.28	-36.8	-15.1	
2,780.0	1.40	270.20	2,779.4	6.9	-43.1	0.21	0.16	6.33	-43.1	-6.8	
2,966.0	1.30	243.30	2,965.4	6.0	-47.3	0.34	-0.05	-14.46	-39.5	-26.6	
3,153.0	1.10	237.40	3,152.4	4.1	-50.7	0.13	-0.11	-3.16	-40.5	-30.7	
3,340.0	0.90	333.80	3,339.3	4.4	-52.8	0.80	-0.11	51.55	-27.3	45.5	
3,526.0	0.70	1.60	3,525.3	6.9	-53.5	0.23	-0.11	14.95	-5.3	53.5	
3,713.0	3.00	85.50	3,712.2	8.4	-48.6	1.61	1.23	44.87	40.9	8.1	
3,900.0	2.90	357.50	3,899.1	13.5	-43.9	2.19	-0.05	-47.06	-4.0	22.1	
4,088.0	5.40	316.00	4,086.6	24.6	-50.2	2.00	1.33	-22.07	-14.6	5.2	
4,275.0	4.30	318.50	4,272.9	36.2	-61.0	0.60	-0.59	1.34	-15.1	0.0	
4,463.0	3.70	315.20	4,460.5	45.8	-69.9	0.34	-0.32	-1.76	-12.7	-6.7	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3319.0usft
Site:	Ophelia 22 Fed Com	MD Reference:	KB = 25' @ 3319.0usft
Well:	#704H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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)	
4,650.0	3.60	294.90	4,647.1	52.5	-79.5	0.69	-0.05	-10.86	-4.8	-12.5	
4,836.0	5.80	297.00	4,832.5	59.3	-93.2	1.19	1.18	1.13	-4.3	-12.3	
5,023.0	5.10	295.00	5,018.6	67.1	-109.1	0.39	-0.37	-1.07	-5.3	-12.5	
5,210.0	5.00	300.10	5,204.9	74.7	-123.7	0.25	-0.05	2.73	-6.6	-12.4	
5,398.0	5.30	299.80	5,392.1	83.1	-138.3	0.16	0.16	-0.16	-7.1	-13.6	
5,585.0	5.30	304.90	5,578.3	92.3	-152.9	0.25	0.00	2.73	-9.4	-14.7	
5,773.0	6.60	304.40	5,765.3	103.4	-169.0	0.69	0.69	-0.27	-12.5	-17.2	
5,960.0	6.30	291.40	5,951.1	113.2	-187.4	0.80	-0.16	-6.95	-12.9	-20.7	
6,147.0	6.20	287.30	6,137.0	120.0	-206.6	0.24	-0.05	-2.19	-15.6	-19.8	
6,335.0	4.40	287.00	6,324.2	125.1	-223.2	0.96	-0.96	-0.16	-16.7	-17.4	
6,522.0	4.50	284.90	6,510.6	129.1	-237.1	0.10	0.05	-1.12	-14.5	-15.1	
6,708.0	4.40	287.80	6,696.1	133.1	-251.0	0.13	-0.05	1.56	-13.7	-11.7	
6,895.0	4.50	285.20	6,882.5	137.2	-264.9	0.12	0.05	-1.39	-11.6	-9.6	
7,082.0	4.00	287.80	7,069.0	141.2	-278.2	0.29	-0.27	1.39	-9.7	-6.4	
7,271.0	3.60	284.20	7,257.6	144.6	-290.2	0.25	-0.21	-1.90	-5.7	-4.0	
7,457.0	4.00	268.20	7,443.2	145.9	-302.3	0.61	0.22	-8.60	-2.1	0.5	
7,648.0	2.40	271.30	7,633.9	145.7	-313.0	0.84	-0.84	1.62	-0.4	6.6	
7,835.0	2.30	234.00	7,820.7	143.6	-319.9	0.81	-0.05	-19.95	-10.1	4.7	
8,023.0	2.30	336.50	8,008.6	144.9	-324.5	1.91	0.00	54.52	3.8	12.6	
8,210.0	0.60	8.40	8,195.6	149.3	-325.8	0.97	-0.91	17.06	5.7	10.6	
8,398.0	0.40	271.20	8,383.6	150.3	-326.4	0.41	-0.11	-51.70	-11.8	3.4	
8,586.0	0.20	337.10	8,571.6	150.6	-327.1	0.20	-0.11	35.05	-2.3	12.7	
8,774.0	1.10	40.00	8,759.6	152.3	-326.1	0.54	0.48	33.46	8.3	8.2	
8,960.0	0.60	97.50	8,945.5	153.5	-324.0	0.50	-0.27	30.91	9.4	-1.1	
9,148.0	2.00	13.90	9,133.5	156.6	-322.2	1.08	0.74	-44.47	-1.2	8.3	
9,334.0	1.60	353.80	9,319.4	162.3	-321.7	0.40	-0.22	-10.81	-9.6	6.2	
9,498.0	1.10	15.20	9,483.4	166.1	-321.6	0.43	-0.30	13.05	-10.4	10.2	

PVA Report

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Site:	Ophelia 22 Fed Com	MD Reference:	KB = 25' @ 3319.0usft
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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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)
9,686.0	2.10	46.10	9,671.3	170.2	-318.6	0.68	0.53	16.44	-8.7	15.0
9,872.0	2.20	56.20	9,857.2	174.6	-313.2	0.21	0.05	5.43	-12.9	16.9
10,059.0	1.30	71.30	10,044.1	177.2	-308.2	0.54	-0.48	8.07	-13.6	20.6
10,247.0	0.70	57.60	10,232.0	178.5	-305.2	0.34	-0.32	-7.29	-21.3	16.3
10,435.0	1.70	258.00	10,420.0	178.6	-307.0	1.26	0.53	-84.89	12.6	-23.1
10,623.0	1.80	215.40	10,607.9	175.6	-311.4	0.68	0.05	-22.66	19.9	-10.3
10,810.0	1.40	232.50	10,794.9	171.8	-314.9	0.33	-0.21	9.14	10.9	-14.9
10,997.0	1.20	264.80	10,981.8	170.2	-318.7	0.40	-0.11	17.27	-2.6	-17.2
11,185.0	2.20	278.80	11,169.7	170.6	-324.2	0.57	0.53	7.45	-12.2	-15.5
11,371.0	3.90	281.90	11,355.5	172.5	-333.9	0.92	0.91	1.67	-22.9	-14.7
11,557.0	3.30	273.40	11,541.1	174.1	-345.5	0.43	-0.32	-4.57	-32.1	-18.8
11,603.0	2.60	275.40	11,587.0	174.3	-347.8	1.54	-1.52	4.35	-35.1	-17.7
11,745.0	1.90	235.70	11,728.9	173.2	-353.0	1.17	-0.49	-27.96	-20.6	-38.1
11,839.0	3.90	186.70	11,822.8	169.2	-354.6	3.21	2.13	-52.13	11.0	-41.7
11,886.0	11.70	170.20	11,869.4	162.9	-354.0	17.10	16.60	-35.11	16.5	-37.3
11,932.0	19.30	168.70	11,913.7	150.8	-351.7	16.54	16.52	-3.26	9.3	-36.2
11,979.0	25.90	166.70	11,957.0	133.2	-347.8	14.14	14.04	-4.26	0.7	-34.1
12,026.0	32.70	167.10	11,998.0	110.8	-342.6	14.47	14.47	0.85	-10.2	-31.0
12,073.0	38.80	168.70	12,036.1	84.0	-336.9	13.13	12.98	3.40	-22.2	-27.1
12,120.0	43.00	170.40	12,071.6	53.7	-331.3	9.24	8.94	3.62	-33.8	-22.5
12,167.0	46.90	172.20	12,104.9	20.9	-326.3	8.73	8.30	3.83	-43.6	-17.5
12,213.0	49.50	175.70	12,135.6	-13.2	-322.7	8.01	5.65	7.61	-51.1	-12.0
12,260.0	51.20	180.20	12,165.6	-49.3	-321.5	8.21	3.62	9.57	-55.0	-8.0
12,307.0	55.60	181.30	12,193.6	-87.1	-322.0	9.55	9.36	2.34	-55.7	-8.2
12,354.0	61.00	180.70	12,218.3	-127.0	-322.7	11.54	11.49	-1.28	-55.1	-9.6
12,360.2	61.53	180.48	12,221.2	-132.5	-322.7	9.03	8.49	-3.51	-54.9	-9.9
HL Crossing, MD:12360.2', TVD:12221.2', N/S:-132.5', E/W:-322.7', INC:61.53										

PVA Report

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12,401.0	65.00	179.10	12,239.6	-168.9	-322.6	9.03	8.51	-3.39	-53.0	-10.5	
12,448.0	68.40	177.10	12,258.2	-212.0	-321.1	8.22	7.23	-4.26	-48.8	-9.8	
12,494.0	72.00	176.70	12,273.8	-255.2	-318.8	7.87	7.83	-0.87	-42.7	-7.6	
12,541.0	77.50	176.10	12,286.1	-300.5	-316.0	11.77	11.70	-1.28	-35.3	-4.8	
12,588.0	84.90	177.90	12,293.3	-346.8	-313.5	16.19	15.74	3.83	-29.3	-2.6	
12,681.0	90.40	178.60	12,297.1	-439.7	-310.7	5.96	5.91	0.75	-27.5	-0.4	
12,804.0	89.20	179.50	12,297.5	-562.6	-308.7	1.22	-0.98	0.73	-29.7	0.8	
12,898.0	88.80	179.60	12,299.2	-656.6	-307.9	0.44	-0.43	0.11	-30.1	0.9	
12,992.0	88.90	179.60	12,301.1	-750.6	-307.3	0.11	0.11	0.00	-30.2	0.9	
13,085.0	88.50	178.90	12,303.2	-843.6	-306.0	0.87	-0.43	-0.75	-30.1	1.4	
13,179.0	89.10	178.90	12,305.2	-937.5	-304.2	0.64	0.64	0.00	-30.1	2.6	
13,273.0	88.70	178.50	12,307.0	-1,031.5	-302.1	0.60	-0.43	-0.43	-30.4	4.1	
13,366.0	89.20	178.30	12,308.7	-1,124.4	-299.5	0.58	0.54	-0.22	-30.6	6.0	
13,459.0	89.00	177.80	12,310.1	-1,217.4	-296.3	0.58	-0.22	-0.54	-31.2	8.5	
13,553.0	89.80	179.70	12,311.1	-1,311.3	-294.3	2.19	0.85	2.02	-32.2	9.9	
13,648.0	90.10	180.90	12,311.2	-1,406.3	-294.8	1.30	0.32	1.26	-34.1	8.8	
13,741.0	88.70	180.60	12,312.2	-1,499.3	-296.0	1.54	-1.51	-0.32	-35.2	6.9	
13,834.0	88.40	180.00	12,314.5	-1,592.3	-296.5	0.72	-0.32	-0.65	-34.8	5.7	
13,928.0	89.90	180.20	12,315.9	-1,686.3	-296.7	1.61	1.60	0.21	-35.4	4.9	
14,021.0	91.10	179.70	12,315.1	-1,779.3	-296.6	1.40	1.29	-0.54	-38.2	4.3	
14,116.0	91.30	179.40	12,313.1	-1,874.3	-295.8	0.38	0.21	-0.32	-42.2	4.4	
14,209.0	90.40	178.60	12,311.7	-1,967.2	-294.2	1.29	-0.97	-0.86	-45.6	5.4	
14,302.0	89.40	178.50	12,311.9	-2,060.2	-291.9	1.08	-1.08	-0.11	-47.4	7.1	
14,396.0	89.50	180.10	12,312.8	-2,154.2	-290.7	1.71	0.11	1.70	-48.1	7.6	
14,490.0	90.20	180.30	12,313.0	-2,248.2	-291.0	0.77	0.74	0.21	-49.2	6.6	
14,588.0	89.10	181.40	12,313.6	-2,346.2	-292.5	1.59	-1.12	1.12	-49.9	4.5	
14,678.0	87.20	181.30	12,316.5	-2,436.1	-294.6	2.11	-2.11	-0.11	-48.2	1.7	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3319.0usft
Site:	Ophelia 22 Fed Com	MD Reference:	KB = 25' @ 3319.0usft
Well:	#704H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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)	
14,772.0	87.90	181.10	12,320.6	-2,530.0	-296.6	0.77	0.74	-0.21	-45.4	-0.9	
14,865.0	86.90	181.10	12,324.8	-2,622.9	-298.4	1.08	-1.08	0.00	-42.5	-3.3	
14,958.0	88.80	180.40	12,328.3	-2,715.8	-299.6	2.18	2.04	-0.75	-40.2	-5.2	
15,052.0	89.80	179.90	12,329.4	-2,809.8	-299.8	1.19	1.06	-0.53	-40.3	-6.1	
15,145.0	90.70	180.30	12,329.0	-2,902.8	-300.0	1.06	0.97	0.43	-42.0	-6.9	
15,239.0	91.20	180.10	12,327.5	-2,996.8	-300.3	0.57	0.53	-0.21	-44.8	-7.9	
15,333.0	90.60	180.90	12,326.0	-3,090.7	-301.1	1.06	-0.64	0.85	-47.6	-9.4	
15,426.0	88.40	180.60	12,326.8	-3,183.7	-302.4	2.39	-2.37	-0.32	-48.0	-11.2	
15,520.0	86.40	180.20	12,331.1	-3,277.6	-303.0	2.17	-2.13	-0.43	-45.0	-12.6	
15,614.0	85.90	180.10	12,337.4	-3,371.4	-303.3	0.54	-0.53	-0.11	-40.0	-13.5	
15,708.0	88.10	178.40	12,342.3	-3,465.3	-302.0	2.96	2.34	-1.81	-36.3	-12.9	
15,801.0	90.00	178.30	12,343.8	-3,558.2	-299.3	2.05	2.04	-0.11	-36.0	-10.9	
15,895.0	90.40	178.90	12,343.5	-3,652.2	-297.1	0.77	0.43	0.64	-37.6	-9.2	
15,989.0	88.50	178.60	12,344.4	-3,746.1	-295.0	2.05	-2.02	-0.32	-38.0	-7.8	
16,083.0	87.70	178.60	12,347.5	-3,840.1	-292.7	0.85	-0.85	0.00	-35.9	-6.2	
16,176.0	88.50	178.70	12,350.6	-3,933.0	-290.5	0.87	0.86	0.11	-33.6	-4.7	
16,269.0	87.60	178.20	12,353.8	-4,025.9	-288.0	1.11	-0.97	-0.54	-31.1	-2.8	
16,363.0	87.30	177.70	12,357.9	-4,119.7	-284.6	0.62	-0.32	-0.53	-27.7	-0.1	
16,457.0	87.20	177.50	12,362.5	-4,213.6	-280.7	0.24	-0.11	-0.21	-23.9	3.2	
16,551.0	90.70	178.30	12,364.2	-4,307.5	-277.3	3.82	3.72	0.85	-23.0	6.0	
16,644.0	90.10	177.70	12,363.5	-4,400.4	-274.0	0.91	-0.65	-0.65	-24.4	8.6	
16,738.0	88.40	177.50	12,364.8	-4,494.3	-270.1	1.82	-1.81	-0.21	-23.9	11.8	
16,832.0	89.00	178.10	12,366.9	-4,588.2	-266.5	0.90	0.64	0.64	-22.5	14.8	
16,926.0	90.60	179.10	12,367.2	-4,682.2	-264.2	2.01	1.70	1.06	-22.9	16.5	
17,019.0	90.00	180.50	12,366.7	-4,775.2	-263.9	1.64	-0.65	1.51	-24.1	16.1	
17,112.0	91.50	181.30	12,365.5	-4,868.2	-265.3	1.83	1.61	0.86	-26.1	14.0	
17,206.0	90.90	181.20	12,363.5	-4,962.1	-267.4	0.65	-0.64	-0.11	-28.8	11.3	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3319.0usft
Site:	Ophelia 22 Fed Com	MD Reference:	KB = 25' @ 3319.0usft
Well:	#704H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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)	
17,299.0	90.00	181.10	12,362.8	-5,055.1	-269.2	0.97	-0.97	-0.11	-30.3	8.8	
17,392.0	90.30	181.10	12,362.6	-5,148.1	-271.0	0.32	0.32	0.00	-31.3	6.4	
17,485.0	90.40	180.50	12,362.0	-5,241.1	-272.3	0.65	0.11	-0.65	-32.6	4.4	
17,579.0	90.00	181.80	12,361.7	-5,335.0	-274.2	1.45	-0.43	1.38	-33.7	1.9	
17,671.0	88.80	181.70	12,362.6	-5,427.0	-277.0	1.31	-1.30	-0.11	-33.4	-1.6	
17,765.0	88.00	182.30	12,365.3	-5,520.9	-280.3	1.06	-0.85	0.64	-31.6	-5.5	
17,858.0	89.20	181.70	12,367.5	-5,613.8	-283.5	1.44	1.29	-0.65	-30.0	-9.4	
17,952.0	88.70	180.40	12,369.3	-5,707.8	-285.3	1.48	-0.53	-1.38	-29.1	-11.8	
18,045.0	90.60	179.80	12,369.8	-5,800.8	-285.4	2.14	2.04	-0.65	-29.2	-12.6	
18,138.0	90.20	179.60	12,369.2	-5,893.8	-284.9	0.48	-0.43	-0.22	-31.1	-12.8	
18,233.0	90.60	179.70	12,368.5	-5,988.8	-284.4	0.43	0.42	0.11	-33.1	-12.8	
18,326.0	91.10	179.50	12,367.1	-6,081.7	-283.7	0.58	0.54	-0.22	-35.7	-12.8	
18,420.0	89.50	178.50	12,366.6	-6,175.7	-282.1	2.01	-1.70	-1.06	-37.5	-11.9	
18,514.0	89.20	178.40	12,367.7	-6,269.7	-279.5	0.34	-0.32	-0.11	-37.7	-10.0	
18,608.0	87.60	177.60	12,370.3	-6,363.6	-276.2	1.90	-1.70	-0.85	-36.3	-7.4	
18,702.0	88.00	177.30	12,373.9	-6,457.4	-272.1	0.53	0.43	-0.32	-34.0	-3.8	
18,795.0	90.90	177.10	12,374.8	-6,550.3	-267.5	3.13	3.12	-0.22	-34.4	0.1	
18,888.0	91.60	179.10	12,372.8	-6,643.2	-264.4	2.28	0.75	2.15	-37.6	2.5	
18,982.0	91.30	178.00	12,370.4	-6,737.2	-262.1	1.21	-0.32	-1.17	-41.3	4.2	
19,076.0	89.80	178.80	12,369.5	-6,831.1	-259.4	1.81	-1.60	0.85	-43.5	6.2	
19,170.0	89.10	178.50	12,370.4	-6,925.1	-257.2	0.81	-0.74	-0.32	-43.8	7.7	
19,263.0	89.70	180.30	12,371.4	-7,018.1	-256.3	2.04	0.65	1.94	-44.1	8.1	
19,357.0	89.30	180.20	12,372.2	-7,112.1	-256.7	0.44	-0.43	-0.11	-44.6	7.0	
19,451.0	91.30	180.10	12,371.7	-7,206.1	-256.9	2.13	2.13	-0.11	-46.3	6.1	
19,545.0	93.00	179.90	12,368.2	-7,300.0	-256.9	1.82	1.81	-0.21	-51.1	5.5	
19,625.0	91.30	179.60	12,365.2	-7,379.9	-256.6	2.16	-2.12	-0.37	-55.2	5.2	
Final MWD Survey (MD=19625.0')											

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #704H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB = 25' @ 3319.0usft
Site:	Ophelia 22 Fed Com	MD Reference:	KB = 25' @ 3319.0usft
Well:	#704H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

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)	
19,640.1	91.30	179.60	12,364.9	-7,395.0	-256.5	0.00	0.00	0.00	-55.8	5.2	
HL Crossing, MD:19640.1', TVD:12364.9', N/S:-7395.0', E/W:-256.5', INC:91.30											
19,693.0	91.30	179.60	12,363.7	-7,447.9	-256.1	0.00	0.00	0.00	-77.6	7.3	
Final Projection to Bit (MD=19693.0')											

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
12,360.2	12,221.2	-132.5	-322.7	HL Crossing, MD:12360.2', TVD:12221.2', N/S:-132.5', E/W:-322.7', INC:61.53	
19,625.0	12,365.2	-7,379.9	-256.6	Final MWD Survey (MD=19625.0')	
19,640.1	12,364.9	-7,395.0	-256.5	HL Crossing, MD:19640.1', TVD:12364.9', N/S:-7395.0', E/W:-256.5', INC:91.30	
19,693.0	12,363.7	-7,447.9	-256.1	Final Projection to Bit (MD=19693.0')	

Checked By: _____ Approved By: _____ Date: _____