



HOBBS OCD
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EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Magnolia 15

#302Y

OH

Design: OH

Final PVA Report

10 October, 2018



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #302Y
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25 @ 3322.0usft (HP 444)
Site:	Magnolia 15	MD Reference:	KB= 25 @ 3322.0usft (HP 444)
Well:	#302Y	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	Magnolia 15		
Site Position:		Northing:	378,055.00 usft
From:	Map	Easting:	778,760.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 13.337 N
		Longitude:	103° 34' 1.656 W
		Grid Convergence:	0.41 °

Well	#302Y		
Well Position	+N-S	0.0 usft	Northing: 378,103.00 usft
	+E-W	0.0 usft	Easting: 779,109.00 usft
Position Uncertainty	0.0 usft		Wellhead Elevation: usft
			Latitude: 32° 2' 13.788 N
			Longitude: 103° 33' 57.598 W
			Ground Level: 3,297.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	7/24/2018	6.82
			Dip Angle (°) 59.88
			Field Strength (nT) 47,715.52248468

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 (°) 353.53

Survey Program	Date	10/10/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
231.0	14,990.0	Total MWD #1 (OH)	MWD	OWSG MWD - Standard



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Well:	#302Y	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	0.00	0.0	0.0
231.0	0.80	48.30	231.0	1.1	1.2	0.35	0.35	0.00	-1.6	0.0	
415.0	0.10	85.00	415.0	1.9	2.3	0.39	-0.38	19.95	-2.5	1.7	
601.0	0.40	231.70	601.0	1.6	2.0	0.26	0.16	78.87	2.5	0.0	
789.0	1.10	240.50	789.0	0.3	-0.1	0.38	0.37	4.68	0.0	-0.3	
879.0	1.20	241.10	878.9	-0.6	-1.7	0.11	0.11	0.67	-1.8	-0.3	
976.0	1.00	242.00	975.9	-1.5	-3.3	0.21	-0.21	0.93	-3.6	-0.2	
1,070.0	0.70	243.20	1,069.9	-2.2	-4.6	0.32	-0.32	1.28	-5.0	-0.1	
1,165.0	0.50	228.90	1,164.9	-2.7	-5.4	0.26	-0.21	-15.05	-5.8	-1.5	
1,260.0	0.40	218.90	1,258.9	-3.2	-5.9	0.13	-0.11	-10.53	-6.2	-2.6	
1,354.0	0.30	233.70	1,353.9	-3.6	-6.3	0.14	-0.11	15.74	-7.2	-0.8	
1,449.0	0.30	223.20	1,448.9	-3.9	-6.7	0.06	0.00	-11.05	-7.5	-2.2	
1,544.0	0.40	212.30	1,543.9	-4.4	-7.0	0.13	0.11	-11.47	-7.5	-3.6	
1,638.0	0.30	226.60	1,637.9	-4.9	-7.4	0.14	-0.11	15.21	-8.7	-1.5	
1,733.0	0.30	211.30	1,732.9	-5.2	-7.7	0.08	0.00	-16.11	-8.5	-3.9	
1,828.0	0.30	215.50	1,827.9	-5.7	-8.0	0.02	0.00	4.42	-9.2	-3.2	
1,922.0	0.20	220.30	1,921.9	-6.0	-8.2	0.11	-0.11	5.11	-9.9	-2.4	
2,017.0	0.30	231.30	2,016.9	-6.3	-8.5	0.12	0.11	11.58	-10.6	-0.4	
2,112.0	0.20	212.50	2,111.9	-6.6	-8.8	0.13	-0.11	-19.79	-10.3	-3.9	
2,206.0	0.20	261.60	2,205.9	-6.7	-9.1	0.18	0.00	52.23	-9.9	5.3	
2,300.0	0.30	258.00	2,299.9	-6.8	-9.5	0.11	0.11	-3.83	-10.7	4.7	
2,394.0	0.30	261.80	2,393.9	-6.9	-9.9	0.02	0.00	4.04	-10.8	5.4	
2,488.0	0.30	240.80	2,487.9	-7.0	-10.4	0.12	0.00	-22.34	-12.5	1.1	
2,582.0	0.20	216.60	2,581.9	-7.3	-10.7	0.15	-0.11	-25.74	-12.2	-4.3	
2,676.0	0.20	223.30	2,675.9	-7.5	-10.9	0.02	0.00	7.13	-13.0	-2.8	
2,770.0	0.30	217.80	2,769.9	-7.9	-11.2	0.11	0.11	-5.85	-13.1	-4.0	
2,864.0	0.20	225.50	2,863.9	-8.2	-11.5	0.11	-0.11	8.19	-13.9	-2.2	



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Site:	Magnolia 15	MD Reference:	KB= 25 @ 3322.0usft (HP 444)
Well:	#302Y	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)	
2,960.0	0.20	190.80	2,959.9	-8.4	-11.6	0.12	0.00	-36.15	-10.5	-9.8	
3,054.0	1.10	141.30	3,053.9	-9.3	-11.1	1.04	0.96	-52.66	-0.3	-14.5	
3,148.0	0.20	144.60	3,147.9	-10.1	-10.4	0.96	-0.96	3.51	-2.2	-14.4	
3,242.0	1.70	146.30	3,241.9	-11.4	-9.5	1.60	1.60	1.81	-4.2	-14.3	
3,336.0	0.10	152.10	3,335.8	-12.7	-8.7	1.70	-1.70	6.17	-7.1	-13.6	
3,430.0	0.10	147.30	3,429.8	-12.8	-8.7	0.01	0.00	-5.11	-6.1	-14.2	
3,524.0	0.90	206.90	3,523.8	-13.5	-8.9	0.91	0.85	63.40	-15.9	-1.7	
3,618.0	1.50	199.80	3,617.8	-15.4	-9.7	0.66	0.64	-7.55	-15.4	-1.9	
3,712.0	2.00	302.30	3,711.8	-15.6	-11.5	2.92	0.53	109.04	2.8	11.4	
3,806.0	3.00	207.10	3,805.7	-17.0	-14.0	3.99	1.06	-101.28	-6.3	5.0	
3,900.0	4.20	213.30	3,899.6	-22.0	-17.0	1.34	1.28	6.60	-0.8	11.3	
3,994.0	7.00	233.50	3,993.1	-28.3	-23.5	3.60	2.98	21.49	8.6	13.7	
4,088.0	9.00	240.20	4,086.2	-35.4	-34.5	2.34	2.13	7.13	11.8	13.2	
4,182.0	8.50	242.40	4,179.1	-42.2	-47.0	0.64	-0.53	2.34	12.7	12.4	
4,275.0	7.30	241.90	4,271.2	-48.2	-58.3	1.29	-1.29	-0.54	14.4	11.9	
4,369.0	6.70	239.60	4,364.5	-53.8	-68.3	0.70	-0.64	-2.45	17.2	12.3	
4,464.0	8.30	242.90	4,458.7	-59.7	-79.2	1.74	1.68	3.47	20.4	10.8	
4,558.0	9.10	243.10	4,551.6	-66.2	-91.9	0.85	0.85	0.21	20.9	10.0	
4,652.0	9.10	238.50	4,644.4	-73.4	-104.9	0.77	0.00	-4.89	19.9	11.3	
4,747.0	7.80	232.10	4,738.4	-81.3	-116.3	1.69	-1.37	-6.74	19.3	14.6	
4,845.0	6.60	230.20	4,835.6	-89.0	-125.9	1.25	-1.22	-1.94	21.7	17.6	
4,938.0	8.40	241.50	4,927.8	-95.7	-136.0	2.49	1.94	12.15	27.2	13.7	
5,031.0	8.50	242.00	5,019.8	-102.1	-148.0	0.13	0.11	0.54	28.2	13.0	
5,126.0	8.50	239.90	5,113.8	-109.0	-160.3	0.33	0.00	-2.21	28.6	13.7	
5,219.0	8.50	238.50	5,205.8	-116.0	-172.1	0.22	0.00	-1.51	29.0	14.6	
5,313.0	10.30	241.00	5,298.5	-123.7	-185.4	1.96	1.91	2.66	29.0	13.4	
5,407.0	10.70	241.60	5,390.9	-131.9	-200.4	0.44	0.43	0.64	26.7	12.7	



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

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5,502.0	10.20	240.40	5,484.3	-140.3	-215.5	0.57	-0.53	-1.26	24.0	12.9	
5,596.0	9.80	239.20	5,576.9	-148.5	-229.6	0.48	-0.43	-1.28	22.1	13.4	
5,691.0	9.80	238.50	5,670.5	-156.8	-243.4	0.13	0.00	-0.74	20.6	13.9	
5,785.0	9.60	239.00	5,763.2	-165.1	-257.0	0.23	-0.21	0.53	19.6	14.1	
5,881.0	9.20	238.90	5,857.9	-173.1	-270.4	0.42	-0.42	-0.10	18.9	14.3	
5,975.0	8.90	237.40	5,950.7	-180.9	-283.0	0.41	-0.32	-1.60	18.4	15.2	
6,070.0	8.30	237.10	6,044.6	-188.6	-294.9	0.63	-0.63	-0.32	19.0	16.0	
6,165.0	9.10	239.20	6,138.6	-196.2	-307.1	0.91	0.84	2.21	20.0	15.8	
6,259.0	9.20	240.60	6,231.4	-203.7	-320.1	0.26	0.11	1.49	20.2	15.3	
6,354.0	9.00	239.40	6,325.2	-211.2	-333.1	0.29	-0.21	-1.26	19.7	15.6	
6,448.0	8.90	238.40	6,418.0	-218.8	-345.6	0.20	-0.11	-1.06	19.5	16.2	
6,543.0	8.70	237.30	6,511.9	-226.5	-357.9	0.28	-0.21	-1.16	19.5	17.1	
6,638.0	9.40	241.40	6,605.7	-234.1	-370.8	1.00	0.74	4.32	20.6	15.8	
6,733.0	9.60	241.30	6,699.4	-241.6	-384.5	0.21	0.21	-0.11	19.7	15.5	
6,827.0	9.10	241.00	6,792.2	-249.0	-397.9	0.53	-0.53	-0.32	19.1	15.2	
6,922.0	8.90	240.00	6,886.0	-256.3	-410.8	0.27	-0.21	-1.05	18.8	15.4	
7,017.0	8.30	239.50	6,979.9	-263.4	-423.1	0.64	-0.63	-0.53	19.3	15.6	
7,112.0	8.10	239.90	7,074.0	-270.3	-434.8	0.22	-0.21	0.42	20.7	15.5	
7,207.0	8.00	239.70	7,168.0	-277.0	-446.3	0.11	-0.11	-0.21	22.3	15.6	
7,301.0	7.70	237.60	7,261.1	-283.6	-457.3	0.44	-0.32	-2.23	23.2	16.7	
7,395.0	6.20	248.40	7,354.5	-288.9	-467.3	2.11	-1.60	11.49	26.1	11.6	
7,490.0	5.20	242.30	7,449.0	-292.8	-475.9	1.23	-1.05	-6.42	23.9	13.3	
7,585.0	3.90	225.90	7,543.7	-297.0	-482.0	1.92	-1.37	-17.26	17.1	19.6	
7,679.0	2.70	246.50	7,637.5	-300.1	-486.3	1.78	-1.28	21.91	20.0	13.2	
7,774.0	3.90	299.70	7,732.4	-299.4	-491.2	3.31	1.26	56.00	18.0	-6.4	
7,868.0	2.00	305.90	7,826.3	-296.9	-495.3	2.05	-2.02	6.60	12.4	-7.9	
7,963.0	1.20	308.90	7,921.2	-295.3	-497.4	0.85	-0.84	3.16	9.3	-8.5	



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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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8,057.0	1.20	308.80	8,015.2	-294.0	-499.0	0.00	0.00	-0.11	7.4	-8.4
8,152.0	1.40	303.40	8,110.2	-292.8	-500.7	0.25	0.21	-5.68	6.0	-7.8
8,246.0	1.40	310.90	8,204.2	-291.4	-502.5	0.19	0.00	7.98	2.6	-8.4
8,341.0	2.40	320.00	8,299.1	-289.1	-504.7	1.10	1.05	9.58	-1.9	-8.5
8,435.0	1.90	176.10	8,393.1	-289.2	-505.8	4.35	-0.53	-153.09	6.5	4.6
8,530.0	2.00	158.60	8,488.0	-292.3	-505.1	0.63	0.11	-18.42	1.7	5.9
8,625.0	1.80	157.70	8,583.0	-295.2	-504.0	0.21	-0.21	-0.95	-1.6	5.9
8,720.0	1.50	157.90	8,677.9	-297.7	-502.9	0.32	-0.32	0.21	-4.3	5.9
8,815.0	1.50	158.60	8,772.9	-300.0	-502.0	0.02	0.00	0.74	-6.7	6.0
8,909.0	0.80	172.30	8,866.9	-301.7	-501.5	0.99	-0.96	14.57	-6.8	7.7
9,004.0	0.30	206.60	8,961.9	-302.4	-501.5	0.41	-0.32	36.11	-1.9	10.4
9,099.0	0.20	239.20	9,056.9	-302.7	-501.8	0.18	-0.11	34.32	3.6	10.0
9,194.0	0.40	239.80	9,151.9	-303.0	-502.2	0.21	0.21	0.63	3.2	9.9
9,289.0	0.30	223.30	9,246.9	-303.3	-502.7	0.15	-0.11	-17.37	-0.3	10.3
9,384.0	0.50	267.50	9,341.9	-303.5	-503.3	0.37	0.21	46.53	6.4	7.8
9,459.0	0.60	276.80	9,416.9	-303.5	-504.0	0.18	0.13	12.40	6.9	6.7
9,486.0	0.50	274.20	9,443.9	-303.4	-504.2	0.38	-0.37	-9.63	6.3	7.0
9,568.6	5.32	350.02	9,526.4	-299.6	-505.3	6.32	5.83	91.76	4.4	-4.0
KOP(MAG 15 #302Y)										
9,581.0	6.10	350.70	9,538.7	-298.4	-505.5	6.32	6.29	5.53	3.3	-4.1
9,628.0	11.80	356.20	9,585.1	-291.2	-506.2	12.25	12.13	11.70	-1.5	-3.9
9,676.0	16.20	358.70	9,631.6	-279.6	-506.7	9.25	9.17	5.21	-6.4	-3.6
9,723.0	23.70	352.70	9,675.8	-263.6	-508.0	16.52	15.96	-12.77	-11.7	-3.6
9,762.4	28.64	351.40	9,711.2	-246.4	-510.4	12.63	12.55	-3.29	-17.7	-2.3
HL Crossing, MD:9762.4', TVD:9711.2', N/S:-246.4', E/W:-510.4', INC:28.64										
9,770.0	29.60	351.20	9,717.8	-242.8	-511.0	12.63	12.57	-2.68	-18.9	-2.0
9,817.0	35.30	351.80	9,757.4	-217.8	-514.7	12.15	12.13	1.28	-27.1	0.8



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Design:	OH	Database:	EDM 5000.14

Survey											
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9,864.0	38.70	356.60	9,795.0	-189.7	-517.5	9.49	7.23	10.21	-34.7	5.3	
9,911.0	40.40	3.10	9,831.2	-159.8	-517.6	9.52	3.62	13.83	-39.8	8.6	
9,958.0	41.00	2.00	9,866.9	-129.2	-516.2	1.99	1.28	-2.34	-42.6	6.4	
10,005.0	43.00	1.20	9,901.8	-97.8	-515.3	4.41	4.26	-1.70	-42.3	4.7	
10,041.9	45.36	1.68	9,928.3	-72.1	-514.7	6.45	6.38	1.29	-40.4	4.0	
FTP(MAG 15 #302Y)											
10,052.0	46.00	1.80	9,935.3	-64.8	-514.5	6.45	6.39	1.22	-39.7	3.8	
10,099.0	49.10	2.50	9,967.0	-30.2	-513.2	6.69	6.60	1.49	-35.6	2.3	
10,146.0	51.70	1.80	9,997.0	6.0	-511.8	5.65	5.53	-1.49	-29.7	0.2	
10,193.0	56.70	1.60	10,024.5	44.1	-510.7	10.64	10.64	-0.43	-22.9	-1.5	
10,240.0	62.50	1.40	10,048.2	84.6	-509.6	12.35	12.34	-0.43	-16.5	-3.0	
10,287.0	69.00	1.20	10,067.5	127.4	-508.6	13.84	13.83	-0.43	-11.3	-4.3	
10,334.0	76.60	0.10	10,081.4	172.3	-508.1	16.32	16.17	-2.34	-7.9	-5.2	
10,379.0	83.30	359.00	10,089.3	216.6	-508.5	15.08	14.89	-2.44	-6.5	-5.2	
10,428.0	90.10	358.70	10,092.1	265.4	-509.5	13.89	13.88	-0.61	-6.8	-4.6	
10,522.0	92.50	359.60	10,090.0	359.4	-510.9	2.73	2.55	0.96	-7.8	-3.9	
10,616.0	93.50	359.50	10,085.0	453.3	-511.6	1.07	1.06	-0.11	-11.2	-3.8	
10,710.0	92.70	359.00	10,080.0	547.1	-512.8	1.00	-0.85	-0.53	-14.8	-3.2	
10,804.0	91.70	358.30	10,076.3	641.0	-515.1	1.30	-1.06	-0.74	-16.9	-1.7	
10,898.0	90.30	358.50	10,074.7	735.0	-517.7	1.50	-1.49	0.21	-17.0	0.2	
10,993.0	89.90	359.00	10,074.5	829.9	-519.7	0.67	-0.42	0.53	-15.7	1.6	
11,086.0	90.20	359.60	10,074.5	922.9	-520.9	0.72	0.32	0.65	-14.2	2.1	
11,181.0	90.70	359.90	10,073.7	1,017.9	-521.3	0.61	0.53	0.32	-13.5	1.8	
11,275.0	89.20	359.60	10,073.8	1,111.9	-521.7	1.63	-1.60	-0.32	-11.9	1.6	
11,369.0	88.90	359.70	10,075.4	1,205.9	-522.3	0.34	-0.32	0.11	-8.8	1.5	
11,464.0	89.10	0.00	10,077.0	1,300.9	-522.5	0.38	0.21	0.32	-5.6	1.0	
11,558.0	89.30	0.60	10,078.3	1,394.9	-522.0	0.67	0.21	0.64	-2.8	-0.2	



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #302Y
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25 @ 3322.0usft (HP 444)
Site:	Magnolia 15	MD Reference:	KB= 25 @ 3322.0usft (HP 444)
Well:	#302Y	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)	EAW (usft)	Dleg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
11,563.2	89.32	0.62	10,078.4	1,400.1	-522.0	0.60	0.43	0.43	-2.6	-0.2	
TGT 1 (MAG 15 #302Y)											
11,652.0	89.70	1.00	10,079.1	1,488.9	-520.7	0.60	0.43	0.43	-1.0	-2.1	
11,746.0	91.00	1.80	10,078.6	1,582.8	-518.4	1.62	1.38	0.85	-0.8	-5.1	
11,839.0	91.50	1.50	10,076.5	1,675.8	-515.8	0.63	0.54	-0.32	-2.1	-8.5	
11,934.0	93.00	1.70	10,072.8	1,770.7	-513.1	1.59	1.58	0.21	-5.0	-11.8	
12,028.0	92.20	0.50	10,068.5	1,864.6	-511.3	1.53	-0.85	-1.28	-8.5	-14.3	
12,122.0	92.20	359.70	10,064.9	1,958.5	-511.1	0.85	0.00	-0.85	-11.3	-15.1	
12,217.0	90.90	358.20	10,062.4	2,053.4	-512.9	2.09	-1.37	-1.58	-13.1	-14.1	
12,311.0	90.70	358.10	10,061.1	2,147.4	-515.9	0.24	-0.21	-0.11	-13.7	-11.7	
12,405.0	91.10	358.40	10,059.6	2,241.3	-518.8	0.53	0.43	0.32	-14.4	-9.5	
12,499.0	89.90	358.90	10,058.8	2,335.3	-521.0	1.38	-1.28	0.53	-14.4	-8.0	
12,594.0	89.70	358.90	10,059.1	2,430.3	-522.8	0.21	-0.21	0.00	-13.3	-6.8	
12,688.0	92.60	0.30	10,057.2	2,524.2	-523.5	3.43	3.09	1.49	-14.4	-6.9	
12,782.0	92.80	359.60	10,052.8	2,618.1	-523.6	0.77	0.21	-0.74	-18.0	-7.5	
12,876.0	91.30	358.50	10,049.4	2,712.0	-525.1	1.98	-1.60	-1.17	-20.6	-6.6	
12,970.0	92.00	358.60	10,046.7	2,806.0	-527.5	0.75	0.74	0.11	-22.6	-4.9	
13,064.0	91.10	358.80	10,044.2	2,899.9	-529.6	0.98	-0.96	0.21	-24.3	-3.4	
13,122.3	91.29	358.92	10,043.0	2,958.2	-530.8	0.38	0.32	0.21	-25.1	-2.7	
TGT 2 (MAG 15 #302Y)											
13,158.0	91.40	359.00	10,042.1	2,993.9	-531.4	0.38	0.32	0.21	-25.5	-2.3	
13,252.0	89.40	359.10	10,041.5	3,087.9	-533.0	2.13	-2.13	0.11	-25.3	-1.4	
13,346.0	89.10	359.00	10,042.7	3,181.8	-534.5	0.34	-0.32	-0.11	-23.2	-0.5	
13,441.0	89.80	359.50	10,043.6	3,276.8	-535.8	0.91	0.74	0.53	-21.3	0.0	
13,535.0	90.50	359.50	10,043.4	3,370.8	-536.6	0.74	0.74	0.00	-20.7	0.2	
13,629.0	91.30	0.30	10,041.9	3,464.8	-536.8	1.20	0.85	0.85	-21.2	-0.3	
13,723.0	89.90	0.60	10,040.9	3,558.8	-536.0	1.52	-1.49	0.32	-21.3	-1.8	



Final PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #302Y
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25 @ 3322.0usft (HP 444)
Site:	Magnolia 15	MD Reference:	KB= 25 @ 3322.0usft (HP 444)
Well:	#302Y	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)	
13,817.0	90.20	1.00	10,040.8	3,652.8	-534.7	0.53	0.32	0.43	-20.5	-3.7	
13,911.0	90.90	1.00	10,039.9	3,746.8	-533.1	0.74	0.74	0.00	-20.5	-6.1	
14,005.0	91.80	1.10	10,037.7	3,840.7	-531.4	0.96	0.96	0.11	-21.8	-8.5	
14,099.0	90.40	0.60	10,035.9	3,934.7	-530.0	1.58	-1.49	-0.53	-22.7	-10.5	
14,193.0	89.70	359.50	10,035.8	4,028.7	-529.9	1.39	-0.74	-1.17	-21.9	-11.3	
14,288.0	90.40	0.00	10,035.7	4,123.7	-530.3	0.91	0.74	0.53	-21.0	-11.6	
14,381.0	90.90	0.30	10,034.7	4,216.7	-530.1	0.63	0.54	0.32	-21.2	-12.5	
14,475.0	90.00	359.20	10,033.9	4,310.7	-530.5	1.51	-0.96	-1.17	-21.0	-12.7	
14,570.0	89.80	358.00	10,034.1	4,405.6	-532.8	1.28	-0.21	-1.26	-20.0	-11.1	
14,664.0	89.80	358.30	10,034.4	4,499.6	-535.8	0.32	0.00	0.32	-18.7	-8.7	
14,759.0	90.70	358.90	10,034.0	4,594.6	-538.1	1.14	0.95	0.63	-18.2	-7.1	
14,853.0	91.30	359.30	10,032.4	4,688.5	-539.6	0.77	0.64	0.43	-19.0	-6.3	
14,934.0	91.00	359.20	10,030.7	4,769.5	-540.7	0.39	-0.37	-0.12	-19.8	-5.8	
Final MWD Survey (MD=14934.0')											
14,990.0	90.79	359.13	10,029.9	4,825.5	-541.5	0.40	-0.37	-0.12	-20.1	-5.4	
Final Projection to Bit (MD=14990.0') - PBHL(MAG 15 #302Y)											

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
9,762.4	9,711.2	-246.4	-510.4	HL Crossing, MD:9762.4', TVD:9711.2', N/S:-246.4', E/W:-510.4', INC:28.64
14,934.0	10,030.7	4,769.5	-540.7	Final MWD Survey (MD=14934.0')
14,990.0	10,029.9	4,825.5	-541.5	Final Projection to Bit (MD=14990.0')

Checked By: _____ Approved By: _____ Date: _____



Lea County, NM (NAD 83 NME)

Magnolia 15 #302Y

HP 444

Plan #1

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GR8 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: #302Y

KB= 25 @ 3322.0ust (HP 444)
Northing 3297.0
Easting 778109.00
Latitude 32° 3' 13.788 N
Longitude 103° 33' 57.595 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	3485.0	0.00	0.00	3485.0	0.0	0.0	0.00	0.00	0.0	
3	3935.0	9.00	239.87	3933.1	-17.7	-30.5	2.00	239.87	-14.2	
4	7253.6	9.00	239.87	7210.9	-278.3	-479.5	0.00	0.00	-222.5	
5	7703.6	0.00	0.00	7659.0	-296.0	-510.0	2.00	180.00	-236.7	
6	9570.7	0.00	0.00	9528.1	-296.0	-510.0	0.00	0.00	-236.7	KOP(MAG 15 #302Y)
7	10479.9	90.92	359.59	10099.0	288.2	-514.2	10.00	359.59	342.3	TGT 1(MAG 15 #302Y)
8	11594.0	90.92	359.59	10081.0	1400.1	-522.2	0.00	0.00	1450.0	TGT 2(MAG 15 #302Y)
9	11616.5	90.47	359.59	10080.7	1422.6	-522.4	2.00	-180.00	1472.4	
10	13152.7	90.47	359.59	10068.0	2958.7	-533.5	0.00	0.00	3000.0	
11	13156.6	90.55	359.59	10068.0	2962.6	-533.5	2.00	0.00	3003.8	
12	15020.2	90.55	359.59	10050.0	4828.0	-546.9	0.00	0.00	4856.9	PBHL(MAG 15 #302Y)

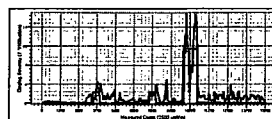
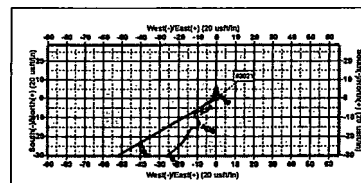
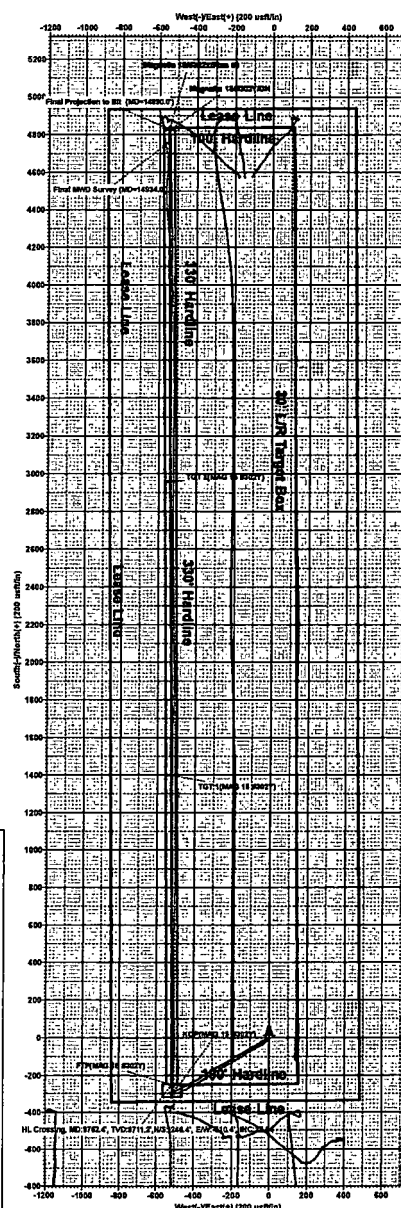
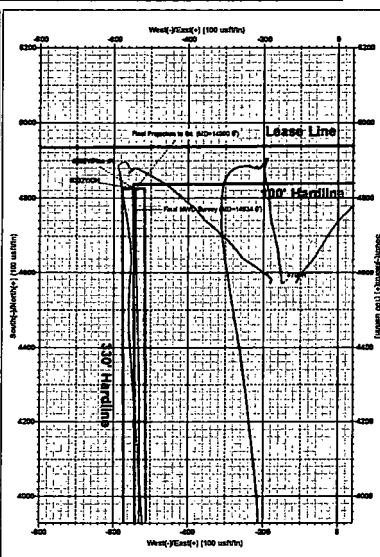
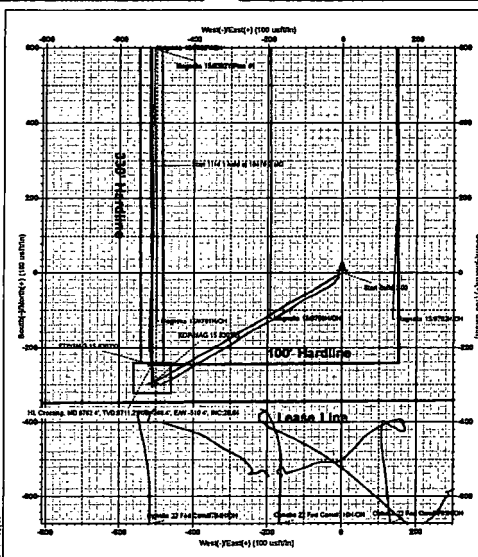
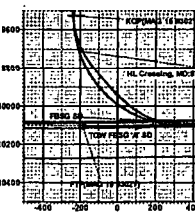
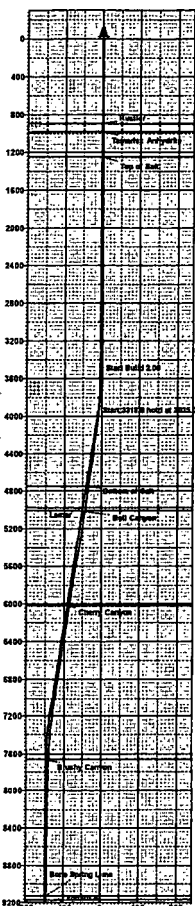
To convert a Magnetic Direction to a Grid Direction, Add 6.41°
To convert a Magnetic Direction to a True Direction, Add 6.82° East
To convert a True Direction to a Grid Direction, Subtract 0.41°

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP(MAG 15 #302Y)	9528.1	-296.0	-510.0	3297.00	778539.00
PBHL(MAG 15 #302Y)	10060.0	4826.0	-546.9	382929.04	778562.07
TGT 1(MAG 15 #302Y)	10058.0	2958.7	-533.5	381061.70	778576.33
TGT 2(MAG 15 #302Y)	10081.0	1400.1	-522.2	379503.10	778586.77
FTP(MAG 15 #302Y)	10068.0	-246.0	-510.0	377857.00	778589.00



Lea County, NM (NAD 83 NME)
Magnolia 15 #302Y
HP 444
Plan #1