



SUR: N-26-25s-33e, 330/S & 1850/W
BHL: C-26-25s-33e, 4919/S & 1731/W
API # 30-025=39701

EOG Resources, Inc.

Lea County
Lomas Rojas "26" State Com
#2H
OH

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JUL 28 2010
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Survey: MWD #1

Pathfinder X & Y Survey Report

21 May, 2010

PATHFINDER

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Lea County	TVD Reference:	WELL @ 3353.40ft (Original Well Elev)
Site:	Lomas Rojas "26" State Com	MD Reference:	WELL @ 3353.40ft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Project	Lea County		
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						Lomas Rojas "26" State Com					
Site Position:				Northing:		403,802.800 ft		Latitude:		32° 6' 27.886 N	
From:		Map		Easting:		742,610.100 ft		Longitude:		103° 32' 59.279 W	
Position Uncertainty:		0.00 ft		Slot Radius:		"		Grid Convergence:		0.42 °	

Well	#2H					
Well Position	+N-S	0.00 ft	Northing:	399,191.200 ft	Latitude:	32° 5' 42.146 N
	+E-W	0.00 ft	Easting:	744,065.700 ft	Longitude:	103° 32' 42.749 W
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	3,334.40 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	09/28/2009	7.76	60.13	48,742

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/S	+E/W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	358.32	

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Design:	OH	Database:	Midland Database

Survey Program		Date 05/21/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	8,900.00	GYRO (OH)	Gyro	Gyro
8,931.00	13,792.00	MWD #1 (OH)	MWD	MWD - Standard

Survey											
MD (ft)	Inc (")	Azi (")	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg ("/100ft)	Northing (ft)	Easting (ft)	
8,900.00	1.08	136.27	8,895.95	5,542.55	-3.91	213.69	-10.17	0.00	399,187.29	744,279.39	
8,931.00	3.34	7.01	8,926.94	5,573.54	-3.22	214.01	-9.49	13.26	399,187.98	744,279.71	
8,963.00	6.60	0.13	8,958.81	5,605.41	-0.46	214.13	-6.73	10.34	399,190.74	744,279.83	
8,995.00	10.29	355.27	8,990.46	5,637.06	4.23	213.89	-2.04	11.73	399,195.43	744,279.59	
9,027.00	14.33	352.57	9,021.72	5,668.32	11.01	213.15	4.76	12.75	399,202.21	744,278.85	
9,059.00	18.55	351.62	9,052.40	5,699.00	19.98	211.89	13.76	13.21	399,211.18	744,277.59	
9,089.00	22.86	351.16	9,080.46	5,727.06	30.46	210.30	24.28	14.38	399,221.66	744,276.00	
9,120.00	27.35	352.25	9,108.52	5,755.12	43.47	208.41	37.35	14.56	399,234.67	744,274.11	
9,152.00	30.78	353.40	9,136.49	5,783.09	58.90	206.48	52.82	10.86	399,250.10	744,272.18	
9,184.00	33.41	354.60	9,163.60	5,810.20	75.80	204.71	69.77	8.46	399,267.00	744,270.41	
9,215.00	37.11	354.88	9,188.90	5,835.50	93.62	203.07	87.63	11.95	399,284.82	744,268.77	
9,247.00	40.63	354.62	9,213.82	5,860.42	113.62	201.23	107.67	11.01	399,304.82	744,266.93	
9,278.00	43.62	355.36	9,236.80	5,883.40	134.33	199.42	128.42	9.78	399,325.53	744,265.12	
9,310.00	46.52	355.64	9,259.40	5,906.00	156.91	197.64	151.05	9.08	399,348.11	744,263.34	
9,341.00	50.03	356.01	9,280.03	5,926.63	179.98	195.96	174.16	11.36	399,371.18	744,261.66	
9,375.00	53.73	355.33	9,301.02	5,947.62	206.65	193.94	200.87	11.00	399,397.85	744,259.64	
9,407.00	57.24	355.29	9,319.15	5,965.75	232.92	191.78	227.20	10.97	399,424.12	744,257.48	
9,439.00	61.38	355.74	9,335.47	5,982.07	260.35	189.63	254.68	12.99	399,451.55	744,255.33	
9,471.00	63.84	356.81	9,350.20	5,996.80	288.70	187.79	283.07	8.24	399,479.90	744,253.49	
9,503.00	65.86	356.52	9,363.79	6,010.39	317.62	186.11	312.03	6.37	399,508.82	744,251.81	
9,535.00	69.20	356.53	9,376.02	6,022.62	347.13	184.31	341.58	10.44	399,538.33	744,250.01	

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Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
9,566.00	73.16	356.35	9,386.02	6,032.62	376.41	182.49	370.90	12.79	399,567.61	744,248.19
9,598.00	78.08	356.33	9,393.97	6,040.57	407.33	180.51	401.87	15.38	399,598.53	744,246.21
9,630.00	85.03	357.24	9,398.66	6,045.26	438.92	178.74	433.49	21.90	399,630.12	744,244.44
9,668.00	90.48	357.61	9,400.15	6,046.75	476.84	177.04	471.44	14.38	399,668.04	744,242.74
9,699.00	90.48	358.01	9,399.89	6,046.49	507.81	175.85	502.44	1.29	399,699.01	744,241.55
9,731.00	90.31	357.95	9,399.67	6,046.27	539.79	174.72	534.44	0.56	399,730.99	744,240.42
9,763.00	90.48	357.75	9,399.45	6,046.05	571.77	173.52	566.44	0.82	399,762.97	744,239.22
9,794.00	89.69	357.68	9,399.40	6,046.00	602.74	172.29	597.43	2.56	399,793.94	744,237.99
9,825.00	89.25	356.87	9,399.69	6,046.29	633.71	170.81	628.43	2.97	399,824.91	744,236.51
9,888.00	89.60	356.91	9,400.32	6,046.92	696.61	167.40	691.40	0.56	399,887.81	744,233.10
9,951.00	89.16	356.48	9,401.00	6,047.60	759.50	163.76	754.37	0.98	399,950.70	744,229.46
10,014.00	88.90	355.49	9,402.07	6,048.67	822.34	159.35	817.31	1.62	400,013.54	744,225.05
10,078.00	89.69	354.76	9,402.86	6,049.46	886.10	153.92	881.21	1.68	400,077.30	744,219.62
10,141.00	89.87	354.58	9,403.10	6,049.70	948.83	148.06	944.08	0.40	400,140.03	744,213.76
10,204.00	90.04	355.62	9,403.15	6,049.75	1,011.60	142.68	1,006.98	1.67	400,202.80	744,208.38
10,268.00	90.22	355.57	9,403.00	6,049.60	1,075.41	137.77	1,070.91	0.29	400,266.61	744,203.47
10,330.00	89.52	355.97	9,403.15	6,049.75	1,137.24	133.19	1,132.84	1.30	400,328.44	744,198.89
10,394.00	89.87	356.72	9,403.49	6,050.09	1,201.11	129.11	1,196.80	1.29	400,392.31	744,194.81
10,456.00	90.04	356.79	9,403.53	6,050.13	1,263.01	125.60	1,258.78	0.30	400,454.21	744,191.30
10,519.00	88.81	356.22	9,404.17	6,050.77	1,325.89	121.76	1,321.75	2.15	400,517.09	744,187.46
10,582.00	89.52	356.29	9,405.09	6,051.69	1,388.74	117.65	1,384.70	1.13	400,579.94	744,183.35
10,645.00	90.57	356.50	9,405.04	6,051.64	1,451.62	113.69	1,447.66	1.70	400,642.82	744,179.39
10,709.00	89.78	354.63	9,404.84	6,051.44	1,515.42	108.74	1,511.58	3.17	400,706.62	744,174.44
10,770.00	89.34	354.25	9,405.31	6,051.91	1,576.13	102.83	1,572.44	0.95	400,767.33	744,168.53
10,833.00	89.96	353.99	9,405.69	6,052.29	1,638.80	96.38	1,635.27	1.07	400,830.00	744,162.08
10,895.00	90.40	353.57	9,405.50	6,052.10	1,700.43	89.66	1,697.08	0.98	400,891.63	744,155.36
10,959.00	90.84	354.12	9,404.81	6,051.41	1,764.06	82.80	1,760.88	1.10	400,955.26	744,148.50

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
10,991.00	89.43	354.33	9,404.73	6,051.33	1,795.90	79.58	1,792.79	4.45	400,987.10	744,145.28
11,023.00	89.34	354.38	9,405.07	6,051.67	1,827.74	76.43	1,824.72	0.32	401,018.94	744,142.13
11,054.00	88.02	355.18	9,405.79	6,052.39	1,858.60	73.61	1,855.65	4.98	401,049.80	744,139.31
11,086.00	87.85	354.56	9,406.94	6,053.54	1,890.45	70.75	1,887.57	2.01	401,081.65	744,136.45
11,118.00	88.29	355.20	9,408.02	6,054.62	1,922.31	67.90	1,919.49	2.43	401,113.51	744,133.60
11,149.00	88.46	355.31	9,408.90	6,055.50	1,953.19	65.33	1,950.44	0.65	401,144.39	744,131.03
11,212.00	89.43	355.34	9,410.06	6,056.66	2,015.97	60.20	2,013.34	1.54	401,207.17	744,125.90
11,276.00	89.43	355.91	9,410.69	6,057.29	2,079.78	55.32	2,077.26	0.89	401,270.98	744,121.02
11,338.00	88.72	355.47	9,411.70	6,058.30	2,141.60	50.66	2,139.19	1.35	401,332.80	744,116.36
11,400.00	89.08	356.24	9,412.89	6,059.49	2,203.42	46.18	2,201.12	1.37	401,394.62	744,111.88
11,463.00	88.64	355.46	9,414.14	6,060.74	2,266.24	41.62	2,264.05	1.42	401,457.44	744,107.32
11,524.00	88.46	355.23	9,415.68	6,062.28	2,327.02	36.67	2,324.95	0.48	401,518.22	744,102.37
11,587.00	89.96	355.96	9,416.55	6,063.15	2,389.83	31.83	2,387.87	2.65	401,581.03	744,097.53
11,650.00	89.25	355.75	9,416.99	6,063.59	2,452.66	27.28	2,450.81	1.18	401,643.86	744,092.98
11,714.00	88.02	355.32	9,418.51	6,065.11	2,516.45	22.30	2,514.71	2.04	401,707.65	744,088.00
11,777.00	88.02	356.15	9,420.69	6,067.29	2,579.23	17.62	2,577.61	1.32	401,770.43	744,083.32
11,840.00	88.55	356.50	9,422.57	6,069.17	2,642.08	13.58	2,640.54	1.01	401,833.28	744,079.28
11,902.00	89.16	356.39	9,423.81	6,070.41	2,703.94	9.74	2,702.50	1.00	401,895.14	744,075.44
11,966.00	88.46	355.76	9,425.14	6,071.74	2,767.78	5.36	2,766.43	1.47	401,958.98	744,071.06
12,027.00	89.16	356.16	9,426.41	6,073.01	2,828.62	1.06	2,827.37	1.32	402,019.82	744,066.76
12,091.00	89.60	355.91	9,427.10	6,073.70	2,892.46	-3.37	2,891.31	0.79	402,083.66	744,062.33
12,155.00	89.69	355.70	9,427.50	6,074.10	2,956.29	-8.05	2,955.25	0.36	402,147.49	744,057.65
12,215.00	90.13	355.65	9,427.59	6,074.19	3,016.11	-12.57	3,015.19	0.74	402,207.31	744,053.13
12,277.00	90.40	355.51	9,427.30	6,073.90	3,077.93	-17.35	3,077.11	0.49	402,269.13	744,048.35
12,339.00	89.78	356.14	9,427.21	6,073.81	3,139.76	-21.86	3,139.06	1.43	402,330.96	744,043.84
12,401.00	89.87	356.48	9,427.40	6,074.00	3,201.63	-25.85	3,201.02	0.57	402,392.83	744,039.85
12,464.00	90.48	356.38	9,427.20	6,073.80	3,264.51	-29.78	3,263.98	0.98	402,455.71	744,035.92

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
12,527.00	90.92	356.31	9,426.43	6,073.03	3,327.38	-33.79	3,326.94	0.71	402,518.58	744,031.91	
12,590.00	90.31	356.85	9,425.76	6,072.36	3,390.26	-37.55	3,389.91	1.29	402,581.46	744,028.15	
12,652.00	90.22	357.21	9,425.47	6,072.07	3,452.18	-40.76	3,451.89	0.60	402,643.38	744,024.94	
12,714.00	91.01	356.48	9,424.81	6,071.41	3,514.08	-44.18	3,513.86	1.73	402,705.28	744,021.52	
12,777.00	89.60	356.23	9,424.47	6,071.07	3,576.95	-48.18	3,576.83	2.27	402,768.15	744,017.52	
12,839.00	89.43	356.49	9,425.00	6,071.60	3,638.82	-52.12	3,638.79	0.50	402,830.02	744,013.58	
12,901.00	90.13	355.71	9,425.23	6,071.83	3,700.68	-56.33	3,700.74	1.69	402,891.88	744,009.37	
12,963.00	89.52	355.18	9,425.42	6,072.02	3,762.48	-61.26	3,762.66	1.30	402,953.68	744,004.44	
13,025.00	90.22	355.28	9,425.56	6,072.16	3,824.27	-66.41	3,824.57	1.14	403,015.47	743,999.29	
13,088.00	90.57	354.70	9,425.13	6,071.73	3,887.02	-71.91	3,887.46	1.08	403,078.22	743,993.79	
13,151.00	91.45	354.62	9,424.02	6,070.62	3,949.74	-77.78	3,950.32	1.40	403,140.94	743,987.92	
13,214.00	90.66	355.23	9,422.86	6,069.46	4,012.48	-83.35	4,013.20	1.58	403,203.68	743,982.35	
13,277.00	90.84	355.57	9,422.03	6,068.63	4,075.27	-88.40	4,076.11	0.61	403,266.47	743,977.30	
13,340.00	91.10	355.93	9,420.97	6,067.57	4,138.09	-93.07	4,139.04	0.70	403,329.29	743,972.63	
13,404.00	90.92	356.39	9,419.84	6,066.44	4,201.94	-97.35	4,202.98	0.77	403,393.14	743,968.35	
13,467.00	88.99	357.04	9,419.89	6,066.49	4,264.83	-100.96	4,265.96	3.23	403,456.03	743,964.74	
13,560.00	89.25	357.46	9,421.32	6,067.92	4,357.71	-105.43	4,358.93	0.53	403,548.91	743,960.27	
13,654.00	90.48	356.48	9,421.54	6,068.14	4,451.58	-110.39	4,452.90	1.67	403,642.78	743,955.31	
13,740.00	91.19	356.73	9,420.29	6,066.89	4,537.42	-115.49	4,538.85	0.88	403,728.62	743,950.21	
13,792.00	91.19	356.73	9,419.21	6,065.81	4,589.32	-118.45	4,590.82	0.00	403,780.52	743,947.25	
BHL-13792.00°MD,91.19°INC,356.73°AZI, 9419.21°TVD, 4590.82°VS, 4589.32°N, -118.45°E - PBHL(LORO#2)											

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
PBHL(LORO#2)	0.00	0.00	9,425.00	4,620.60	-135.60	403,811.800	743,930.100	32° 6' 27.880 N	103° 32' 43.933 W
- survey misses target center by 36.14ft at 13792.00ft MD (9419.21 TVD, 4589.32 N, -118.45 E)									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
13,792.00	9,419.21	4,589.32	-118.45	BHL-13792.00'MD,91.19°INC,356.73°AZI, 9419.21'TVD, 4590.82°VS, 4

Checked By: _____	Approved By: _____	Date: _____
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