



SUR: D-29-25s-34e, 330/N & 430/W
BHL: M-29-25s-34e, 4900/N & 490/W
API # 30-025-30633

EOG Resources, Inc.

Lea County
Horse "29" State
#1
OH

RECEIVED
JUN 18 2010
HOBBSOCO

Survey: MWD#1

Pathfinder X & Y Survey Report

07 April, 2010

PATHFINDER

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #1
Project:	Lea County	TVD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Site:	Horse "29" State	MD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Well:	#1	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						Horse "29" State							
Site Position:						Northing:		403,912.300 ft		Latitude:		32° 6' 27.793 N	
From:		Map		Easting:		758,454.500 ft		Longitude:		103° 29' 55.070 W			
Position Uncertainty:		0.00 ft		Slot Radius:		"		Grid Convergence:		0.44 °			

Well	#1					
Well Position	+N/-S	0.00 ft	Northing:	403,912.300 ft	Latitude:	32° 6' 27.793 N
	+E/-W	0.00 ft	Easting:	758,454.500 ft	Longitude:	103° 29' 55.070 W
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	3,319.50 ft

Wellbore		OH			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.71	60.14	48,730

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	180.73	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #1
Project:	Lea County	TVD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Site:	Horse "29" State	MD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey Program	Date	04/07/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	9,000.00	GYRO (OH)	MWD	MWD - Standard
9,074.00	13,921.00	MWD#1 (OH)	MWD	MWD - Standard

Survey	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	Northing (ft)	Easting (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
	9,000.00	1.13	215.06	8,996.66	5,647.16	403,879.159	758,558.237	31.82	0.00	403,879.16	758,558.24
	9,074.00	1.76	207.39	9,070.64	5,721.14	403,877.553	758,557.295	33.43	0.89	403,877.55	758,557.30
	9,106.00	4.22	192.45	9,102.59	5,753.09	403,875.967	758,556.815	35.03	8.00	403,875.97	758,556.82
	9,137.00	7.91	188.49	9,133.41	5,783.91	403,872.742	758,556.254	38.26	11.97	403,872.74	758,556.25
	9,169.00	11.70	188.05	9,164.94	5,815.44	403,867.350	758,555.475	43.66	11.85	403,867.35	758,555.47
	9,201.00	15.30	186.91	9,196.05	5,846.55	403,859.943	758,554.512	51.08	11.28	403,859.94	758,554.51
	9,232.00	18.29	184.98	9,225.72	5,876.22	403,851.035	758,553.597	60.00	9.81	403,851.03	758,553.60
	9,264.00	21.28	184.01	9,255.83	5,906.33	403,840.238	758,552.755	70.80	9.40	403,840.24	758,552.76
	9,296.00	24.01	182.69	9,285.36	5,935.86	403,827.939	758,552.044	83.11	8.68	403,827.94	758,552.04
	9,327.00	26.64	181.37	9,313.38	5,963.88	403,814.689	758,551.581	96.37	8.68	403,814.69	758,551.58
	9,359.00	29.02	181.02	9,341.68	5,992.18	403,799.754	758,551.272	111.30	7.45	403,799.75	758,551.27
	9,391.00	31.13	181.46	9,369.37	6,019.87	403,783.723	758,550.923	127.34	6.63	403,783.72	758,550.92
	9,422.00	34.82	180.84	9,395.37	6,045.87	403,766.857	758,550.589	144.21	11.95	403,766.86	758,550.59
	9,454.00	38.78	180.67	9,420.99	6,071.49	403,747.693	758,550.337	163.37	12.38	403,747.69	758,550.34
	9,486.00	42.47	181.02	9,445.27	6,095.77	403,726.864	758,550.028	184.20	11.55	403,726.86	758,550.03
	9,517.00	45.55	182.34	9,467.56	6,118.06	403,705.339	758,549.389	205.74	10.37	403,705.34	758,549.39
	9,549.00	48.98	181.99	9,489.28	6,139.78	403,681.855	758,548.504	229.23	10.75	403,681.86	758,548.50
	9,581.00	51.97	181.90	9,509.64	6,160.14	403,657.189	758,547.666	253.90	9.35	403,657.19	758,547.67
	9,613.00	54.34	182.07	9,528.83	6,179.33	403,631.598	758,546.779	279.50	7.42	403,631.60	758,546.78
	9,644.00	58.74	182.07	9,545.92	6,196.42	403,605.759	758,545.845	305.35	14.19	403,605.76	758,545.84
	9,676.00	63.05	182.07	9,561.48	6,211.98	403,577.824	758,544.835	333.30	13.47	403,577.82	758,544.84

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #1
Project:	Lea County	TVD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Site:	Horse "29" State	MD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	Northing (ft)	Easting (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
9,708.00	66.92	182.25	9,575.01	6,225.51	403,548.852	758,543.742	362.28	12.10	403,548.85	758,543.74	
9,739.00	70.70	181.81	9,586.21	6,236.71	403,519.971	758,542.720	391.17	12.27	403,519.97	758,542.72	
9,770.00	75.53	181.81	9,595.21	6,245.71	403,490.331	758,541.783	420.82	15.58	403,490.33	758,541.78	
9,802.00	79.32	181.37	9,602.18	6,252.68	403,459.117	758,540.917	452.05	11.92	403,459.12	758,540.92	
9,834.00	81.25	181.72	9,607.58	6,258.08	403,427.589	758,540.067	483.58	6.13	403,427.59	758,540.07	
9,872.00	84.77	181.67	9,612.20	6,262.70	403,389.894	758,538.951	521.29	9.26	403,389.89	758,538.95	
9,935.00	89.34	181.34	9,615.44	6,265.94	403,327.015	758,537.300	584.18	7.27	403,327.02	758,537.30	
9,967.00	90.22	181.28	9,615.56	6,266.06	403,295.024	758,536.568	616.18	2.76	403,295.02	758,536.57	
10,030.00	90.40	181.84	9,615.22	6,265.72	403,232.049	758,534.853	679.17	0.93	403,232.05	758,534.85	
10,094.00	89.34	180.55	9,615.36	6,265.86	403,168.065	758,533.518	743.17	2.61	403,168.07	758,533.52	
10,125.00	89.60	179.88	9,615.65	6,266.15	403,137.067	758,533.402	774.17	2.32	403,137.07	758,533.40	
10,157.00	89.78	180.24	9,615.82	6,266.32	403,105.067	758,533.368	806.16	1.26	403,105.07	758,533.37	
10,189.00	89.34	181.59	9,616.07	6,266.57	403,073.073	758,532.858	838.16	4.44	403,073.07	758,532.86	
10,220.00	87.32	180.30	9,616.97	6,267.47	403,042.093	758,532.346	869.14	7.73	403,042.09	758,532.35	
10,252.00	87.32	179.39	9,618.47	6,268.97	403,010.128	758,532.433	901.11	2.84	403,010.13	758,532.43	
10,315.00	87.05	178.67	9,621.56	6,272.06	402,947.214	758,533.498	964.00	1.22	402,947.21	758,533.50	
10,379.00	88.11	178.65	9,624.26	6,274.76	402,883.289	758,534.993	1,027.90	1.66	402,883.29	758,534.99	
10,473.00	88.90	179.56	9,626.72	6,277.22	402,789.334	758,536.461	1,121.83	1.28	402,789.33	758,536.46	
10,505.00	89.16	179.41	9,627.26	6,277.76	402,757.340	758,536.748	1,153.82	0.94	402,757.34	758,536.75	
10,537.00	89.16	179.15	9,627.73	6,278.23	402,725.346	758,537.151	1,185.80	0.81	402,725.35	758,537.15	
10,569.00	88.99	179.38	9,628.24	6,278.74	402,693.353	758,537.561	1,217.79	0.89	402,693.35	758,537.56	
10,632.00	90.75	180.11	9,628.39	6,278.89	402,630.357	758,537.841	1,280.78	3.02	402,630.36	758,537.84	
10,695.00	91.36	180.39	9,627.23	6,277.73	402,567.369	758,537.567	1,343.76	1.07	402,567.37	758,537.57	
10,758.00	91.01	181.25	9,625.92	6,276.42	402,504.389	758,536.665	1,406.75	1.47	402,504.39	758,536.67	
10,790.00	91.10	181.32	9,625.34	6,275.84	402,472.403	758,535.948	1,438.74	0.36	402,472.40	758,535.95	
10,854.00	90.13	180.44	9,624.65	6,275.15	402,408.415	758,534.965	1,502.74	2.05	402,408.42	758,534.96	
10,982.00	90.31	180.10	9,624.16	6,274.66	402,280.418	758,534.362	1,630.73	0.30	402,280.42	758,534.36	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #1
Project:	Lea County	TVD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Site:	Horse "29" State	MD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	Northing (ft)	Easting (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
11,045.00	91.01	180.56	9,623.43	6,273.93	402,217.424	758,533.999	1,693.73	1.33	402,217.42	758,534.00	
11,109.00	89.60	180.97	9,623.09	6,273.59	402,153.432	758,533.144	1,757.72	2.29	402,153.43	758,533.14	
11,173.00	89.96	180.78	9,623.34	6,273.84	402,089.440	758,532.167	1,821.72	0.64	402,089.44	758,532.17	
11,268.00	89.87	181.04	9,623.48	6,273.98	401,994.452	758,530.658	1,916.72	0.29	401,994.45	758,530.66	
11,364.00	90.75	180.78	9,622.96	6,273.46	401,898.467	758,529.134	2,012.72	0.96	401,898.47	758,529.13	
11,460.00	89.43	181.47	9,622.81	6,273.31	401,802.488	758,527.249	2,108.71	1.55	401,802.49	758,527.25	
11,556.00	89.96	181.09	9,623.32	6,273.82	401,706.514	758,525.104	2,204.71	0.68	401,706.51	758,525.10	
11,652.00	90.48	181.08	9,622.95	6,273.45	401,610.532	758,523.287	2,300.70	0.54	401,610.53	758,523.29	
11,747.00	89.34	181.81	9,623.10	6,273.60	401,515.565	758,520.891	2,395.69	1.42	401,515.56	758,520.89	
11,843.00	89.96	181.84	9,623.68	6,274.18	401,419.616	758,517.834	2,491.68	0.65	401,419.62	758,517.83	
11,938.00	89.87	181.58	9,623.83	6,274.33	401,324.658	758,514.999	2,586.66	0.29	401,324.66	758,515.00	
12,130.00	88.64	181.25	9,626.32	6,276.82	401,132.737	758,510.258	2,778.63	0.66	401,132.74	758,510.26	
12,226.00	88.64	180.73	9,628.60	6,279.10	401,036.779	758,508.600	2,874.60	0.54	401,036.78	758,508.60	
12,321.00	89.69	180.39	9,629.99	6,280.49	400,941.795	758,507.672	2,969.59	1.16	400,941.79	758,507.67	
12,417.00	90.31	180.57	9,629.99	6,280.49	400,845.799	758,506.867	3,065.59	0.67	400,845.80	758,506.87	
12,513.00	88.90	180.53	9,630.65	6,281.15	400,749.808	758,505.946	3,161.58	1.47	400,749.81	758,505.95	
12,608.00	89.16	180.51	9,632.26	6,282.76	400,654.825	758,505.084	3,256.57	0.27	400,654.83	758,505.08	
12,704.00	89.60	181.13	9,633.29	6,283.79	400,558.842	758,503.710	3,352.56	0.79	400,558.84	758,503.71	
12,800.00	89.96	180.79	9,633.66	6,284.16	400,462.856	758,502.102	3,448.56	0.52	400,462.86	758,502.10	
12,895.00	90.22	180.27	9,633.51	6,284.01	400,367.861	758,501.223	3,543.56	0.61	400,367.86	758,501.22	
12,991.00	90.22	180.29	9,633.14	6,283.64	400,271.862	758,500.754	3,639.55	0.02	400,271.86	758,500.75	
13,086.00	90.57	179.70	9,632.49	6,282.99	400,176.865	758,500.762	3,734.54	0.72	400,176.87	758,500.76	
13,181.00	91.19	180.49	9,631.03	6,281.53	400,081.878	758,500.605	3,829.52	1.06	400,081.88	758,500.60	
13,277.00	89.96	181.81	9,630.07	6,280.57	399,985.906	758,498.678	3,925.51	1.88	399,985.91	758,498.68	
13,372.00	91.19	182.31	9,629.11	6,279.61	399,890.974	758,495.263	4,020.48	1.40	399,890.97	758,495.26	
13,468.00	88.72	179.15	9,629.19	6,279.69	399,795.002	758,494.040	4,116.46	4.18	399,795.00	758,494.04	
13,563.00	89.69	178.71	9,630.51	6,281.01	399,700.029	758,495.814	4,211.40	1.12	399,700.03	758,495.81	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #1
Project:	Lea County	TVD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Site:	Horse "29" State	MD Reference:	Well1 @ 3349.50ft (Cactus 123 30' KB Correction
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Midland Database

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	Northing (ft)	Easting (ft)	V. Sec (ft)	DLeg (%/100ft)	Northing (ft)	Easting (ft)
13,659.00	89.16	176.97	9,631.47	6,281.97	399,604.106	758,499.432	4,307.27	1.89	399,604.11	758,499.43
13,755.00	90.57	177.01	9,631.70	6,282.20	399,508.241	758,504.473	4,403.06	1.47	399,508.24	758,504.47
13,850.00	87.85	175.86	9,633.01	6,283.51	399,413.444	758,510.379	4,497.78	3.11	399,413.44	758,510.38
13,921.00	87.05	175.19	9,636.17	6,286.67	399,342.732	758,515.913	4,568.41	1.47	399,342.73	758,515.91

BHL-13921.00°MD,87.05°INC,175.19°AZI, 9636.17°TVD, 4568.41°VS, -4569.57°N, 61.41°E - PBHL(H29#1)

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
hit/miss target									
Shape									
PBHL(H29#1)	0.00	0.00	9,652.87	-4,619.10	37.60	399,293.200	758,492.100	32° 5' 42.082 N	103° 29' 55.048 W
- survey misses target center by 57.44ft at 13921.00ft MD (9636.17 TVD, -4569.57 N, 61.41 E)									
- Point									

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
13,921.00	9,636.17	-4,569.57	61.41	BHL-13921.00°MD,87.05°INC,175.19°AZI, 9636.17°TVD, 4568.41°VS, -

Checked By: _____ Approved By: _____ Date: _____