

EOG Resources, Inc - RM

Jackson County, CO
Sec. 18, T7N, R80W, 6th P.M.
Hebron #1-18H

Wellbore #1

Survey: Hebron #1-18H

DDC Survey Report

05 November, 2010

Company:	EOG Resources, Inc - RM	Local Co-ordinate Reference:	Well Hebron #1-18H
Project:	Jackson County, CO	TVD Reference:	WELL @ 8175.0usft (SST #53)
Site:	Sec. 18, T7N, R80W, 6th P.M.	MD Reference:	WELL @ 8175.0usft (SST #53)
Well:	Hebron #1-18H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Jackson County, CO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado North 501		

Site	Sec. 18, T7N, R80W, 6th P.M.				
Site Position:		Northing:	456,960.37 usft	Latitude:	40° 35' 3.041 N
From:	Lat/Long	Easting:	1,745,862.29 usft	Longitude:	106° 24' 53.881 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.59 °

Well	Hebron #1-18H					
Well Position	+N-S	0.0 usft	Northing:	456,962.00 usft	Latitude:	40° 35' 3.059 N
	+E-W	0.0 usft	Easting:	1,745,879.20 usft	Longitude:	106° 24' 53.662 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	8,153.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/2/2010	9.84	66.94	53,095

Design	Wellbore #1				
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	19.61	

Survey Program		Date	11/5/2010		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
50.0	930.0	VES - Gyro Surveys (Wellbore #1)	Good_gyro	Good Gyro	
6,466.0	9,994.0	Hebron #1-18H (Wellbore #1)	MWD default	MWD - Standard	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Tie-in to Schlumberger J Surveys									
6,437.0	8.80	12.80	6,402.2	467.3	107.4	476.2	0.00	0.00	0.00
6,466.0	9.30	14.20	6,430.9	471.7	108.4	480.7	1.88	1.72	4.83
6,498.0	12.40	23.50	6,462.3	477.4	110.5	486.7	11.10	9.69	29.06
6,530.0	16.30	31.10	6,493.3	484.4	114.1	494.6	13.51	12.19	23.75
6,562.0	20.20	34.10	6,523.7	492.8	119.6	504.3	12.53	12.19	9.38
6,593.0	23.90	33.70	6,552.4	502.4	126.0	515.6	11.95	11.94	-1.29
6,625.0	27.20	32.90	6,581.3	514.0	133.6	529.0	10.37	10.31	-2.50
6,657.0	30.40	32.00	6,609.3	527.0	141.9	544.0	10.09	10.00	-2.81
6,688.0	33.30	31.10	6,635.7	540.9	150.4	560.1	9.48	9.35	-2.90

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,720.0	34.30	30.20	6,662.3	556.3	159.5	577.5	3.49	3.13	-2.81
6,752.0	35.30	28.10	6,688.5	572.2	168.4	595.5	4.88	3.13	-6.56
6,784.0	37.30	27.40	6,714.3	589.0	177.2	614.3	6.38	6.25	-2.19
6,815.0	39.30	27.80	6,738.6	606.0	186.1	633.3	6.50	6.45	1.29
6,847.0	42.50	29.00	6,762.8	624.4	196.1	654.0	10.30	10.00	3.75
6,879.0	45.70	29.50	6,785.8	643.8	207.0	676.0	10.06	10.00	1.56
6,910.0	48.70	29.20	6,806.9	663.7	218.1	698.4	9.70	9.68	-0.97
6,942.0	52.20	28.10	6,827.2	685.3	229.9	722.7	11.25	10.94	-3.44
6,974.0	56.50	27.20	6,845.9	708.3	242.0	748.5	13.63	13.44	-2.81
7,005.0	61.20	26.50	6,861.9	732.0	254.0	774.8	15.28	15.16	-2.26
7,037.0	65.70	26.20	6,876.2	757.7	266.7	803.2	14.09	14.06	-0.94
7,069.0	70.30	26.20	6,888.2	784.3	279.8	832.7	14.38	14.38	0.00
7,100.0	74.60	26.40	6,897.5	810.8	292.9	862.0	13.88	13.87	0.65
7,132.0	79.60	25.50	6,904.7	838.8	306.5	893.0	15.86	15.63	-2.81
7,163.0	81.70	24.60	6,909.7	866.5	319.5	923.5	7.35	6.77	-2.90
7,195.0	83.30	23.90	6,913.9	895.4	332.5	955.1	5.45	5.00	-2.19
Crossed Hard Line @ 7196' MD									
7,196.0	83.40	23.93	6,914.0	896.3	332.9	956.1	10.69	10.31	2.83
7,227.0	86.60	24.80	6,916.7	924.5	345.6	986.9	10.69	10.31	2.81
7,252.0	87.10	24.40	6,918.1	947.2	356.0	1,011.7	2.56	2.00	-1.60
7,308.0	89.50	24.30	6,919.8	998.2	379.1	1,067.5	4.29	4.29	-0.18
7,340.0	90.00	24.20	6,919.9	1,027.3	392.2	1,099.4	1.59	1.56	-0.31
7,372.0	90.10	22.30	6,919.9	1,056.7	404.9	1,131.3	5.95	0.31	-5.94
7,404.0	89.90	22.60	6,919.9	1,086.3	417.1	1,163.3	1.13	-0.63	0.94
7,435.0	90.10	20.30	6,919.9	1,115.2	428.4	1,194.3	7.45	0.65	-7.42
7,466.0	90.30	19.80	6,919.8	1,144.3	439.1	1,225.3	1.74	0.65	-1.61
7,497.0	90.40	19.40	6,919.6	1,173.5	449.5	1,256.3	1.33	0.32	-1.29
7,529.0	90.00	18.60	6,919.5	1,203.7	459.9	1,288.3	2.80	-1.25	-2.50
7,561.0	89.90	18.90	6,919.5	1,234.0	470.2	1,320.3	0.99	-0.31	0.94
7,593.0	89.70	18.60	6,919.6	1,264.3	480.4	1,352.3	1.13	-0.63	-0.94
7,624.0	89.80	19.30	6,919.7	1,293.7	490.5	1,383.3	2.28	0.32	2.26
7,656.0	89.30	19.30	6,920.0	1,323.9	501.1	1,415.3	1.56	-1.56	0.00
7,687.0	88.70	19.20	6,920.5	1,353.1	511.3	1,446.2	1.96	-1.94	-0.32
7,719.0	89.80	18.50	6,920.9	1,383.4	521.6	1,478.2	4.07	3.44	-2.19
7,751.0	89.40	17.70	6,921.2	1,413.8	531.6	1,510.2	2.80	-1.25	-2.50
7,782.0	89.00	18.30	6,921.6	1,443.3	541.2	1,541.2	2.33	-1.29	1.94
7,814.0	90.00	17.50	6,921.9	1,473.8	551.0	1,573.2	4.00	3.13	-2.50
7,846.0	89.70	17.10	6,922.0	1,504.3	560.5	1,605.2	1.56	-0.94	-1.25
7,877.0	89.50	17.50	6,922.2	1,533.9	569.7	1,636.1	1.44	-0.65	1.29
7,910.0	89.10	17.10	6,922.6	1,565.4	579.5	1,669.1	1.71	-1.21	-1.21
7,942.0	88.80	17.20	6,923.2	1,596.0	589.0	1,701.1	0.99	-0.94	0.31
7,974.0	89.80	18.40	6,923.6	1,626.4	598.8	1,733.1	4.88	3.13	3.75
8,006.0	91.20	18.10	6,923.3	1,656.8	608.8	1,765.1	4.47	4.38	-0.94

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Survey

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8,038.0	91.20	18.80	6,922.6	1,687.2	618.9	1,797.0	2.19	0.00	2.19
8,069.0	90.80	18.40	6,922.1	1,716.6	628.8	1,828.0	1.82	-1.29	-1.29
8,101.0	91.80	18.70	6,921.3	1,746.9	639.0	1,860.0	3.26	3.13	0.94
8,132.0	92.00	19.00	6,920.3	1,776.2	649.0	1,891.0	1.16	0.65	0.97
8,164.0	92.00	18.90	6,919.2	1,806.5	659.4	1,923.0	0.31	0.00	-0.31
8,196.0	92.10	18.50	6,918.1	1,836.7	669.6	1,954.9	1.29	0.31	-1.25
8,227.0	93.30	18.30	6,916.6	1,866.1	679.4	1,985.9	3.92	3.87	-0.65
8,259.0	93.40	18.40	6,914.7	1,896.4	689.5	2,017.8	0.44	0.31	0.31
8,290.0	93.20	18.30	6,912.9	1,925.8	699.2	2,048.8	0.72	-0.65	-0.32
8,322.0	93.10	18.10	6,911.2	1,956.2	709.2	2,080.7	0.70	-0.31	-0.63
8,354.0	92.70	18.50	6,909.6	1,986.5	719.2	2,112.7	1.77	-1.25	1.25
8,385.0	92.80	18.50	6,908.1	2,015.9	729.0	2,143.6	0.32	0.32	0.00
8,417.0	92.60	17.90	6,906.6	2,046.2	739.0	2,175.6	1.97	-0.63	-1.88
8,448.0	92.60	17.60	6,905.2	2,075.7	748.5	2,206.5	0.97	0.00	-0.97
8,480.0	93.80	18.00	6,903.4	2,106.2	758.2	2,238.5	3.95	3.75	1.25
8,512.0	93.90	18.10	6,901.2	2,136.5	768.1	2,270.4	0.44	0.31	0.31
8,543.0	92.40	18.20	6,899.5	2,165.9	777.8	2,301.3	4.85	-4.84	0.32
8,575.0	91.70	17.90	6,898.4	2,196.3	787.7	2,333.3	2.38	-2.19	-0.94
8,607.0	91.50	17.50	6,897.5	2,226.8	797.4	2,365.3	1.40	-0.63	-1.25
8,638.0	91.00	18.20	6,896.8	2,256.3	806.9	2,396.2	2.77	-1.61	2.26
8,670.0	90.90	18.00	6,896.3	2,286.7	816.8	2,428.2	0.70	-0.31	-0.63
8,703.0	92.40	19.80	6,895.3	2,317.9	827.5	2,461.2	7.10	4.55	5.45
8,735.0	92.60	20.80	6,893.9	2,347.9	838.6	2,493.2	3.18	0.63	3.13
8,767.0	92.60	20.60	6,892.5	2,377.8	849.9	2,525.1	0.62	0.00	-0.63
8,798.0	91.70	19.40	6,891.3	2,406.9	860.5	2,556.1	4.84	-2.90	-3.87
8,830.0	91.20	19.20	6,890.5	2,437.1	871.1	2,588.1	1.68	-1.56	-0.63
8,862.0	91.30	19.90	6,889.8	2,467.3	881.8	2,620.1	2.21	0.31	2.19
8,895.0	91.10	19.40	6,889.1	2,498.3	892.9	2,653.1	1.63	-0.61	-1.52
8,927.0	89.80	19.80	6,888.9	2,528.5	903.6	2,685.1	4.25	-4.06	1.25
8,959.0	89.50	19.90	6,889.1	2,558.6	914.5	2,717.1	0.99	-0.94	0.31
8,991.0	89.10	19.80	6,889.5	2,588.7	925.3	2,749.1	1.29	-1.25	-0.31
9,022.0	88.20	19.90	6,890.2	2,617.8	935.9	2,780.1	2.92	-2.90	0.32
9,054.0	87.80	20.00	6,891.3	2,647.9	946.8	2,812.1	1.29	-1.25	0.31
9,085.0	87.40	20.00	6,892.6	2,677.0	957.4	2,843.0	1.29	-1.29	0.00
9,117.0	87.40	19.60	6,894.0	2,707.1	968.2	2,875.0	1.25	0.00	-1.25
9,149.0	88.90	19.20	6,895.1	2,737.2	978.8	2,907.0	4.85	4.69	-1.25
9,181.0	89.30	18.70	6,895.6	2,767.5	989.2	2,939.0	2.00	1.25	-1.56
9,212.0	88.90	18.80	6,896.1	2,796.8	999.2	2,970.0	1.33	-1.29	0.32
9,244.0	89.20	18.90	6,896.6	2,827.1	1,009.5	3,002.0	0.99	0.94	0.31
9,276.0	90.50	18.20	6,896.7	2,857.5	1,019.7	3,034.0	4.61	4.06	-2.19
9,307.0	93.60	20.10	6,895.6	2,886.7	1,029.9	3,064.9	11.73	10.00	6.13
9,339.0	93.10	19.90	6,893.7	2,916.7	1,040.8	3,096.9	1.68	-1.56	-0.63
9,371.0	92.30	19.00	6,892.2	2,946.9	1,051.4	3,128.8	3.76	-2.50	-2.81
9,402.0	92.20	18.70	6,891.0	2,976.2	1,061.4	3,159.8	1.02	-0.32	-0.97

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9,435.0	92.70	19.50	6,889.6	3,007.4	1,072.2	3,192.8	2.86	1.52	2.42
9,466.0	92.10	17.80	6,888.3	3,036.7	1,082.1	3,223.7	5.81	-1.94	-5.48
9,498.0	92.20	18.40	6,887.1	3,067.1	1,092.1	3,255.7	1.90	0.31	1.88
9,530.0	92.10	18.50	6,885.9	3,097.4	1,102.2	3,287.7	0.44	-0.31	0.31
9,561.0	92.00	18.00	6,884.8	3,126.8	1,111.9	3,318.7	1.64	-0.32	-1.61
9,594.0	92.00	17.70	6,883.6	3,158.2	1,122.0	3,351.6	0.91	0.00	-0.91
9,625.0	92.00	16.90	6,882.5	3,187.8	1,131.2	3,382.6	2.58	0.00	-2.58
9,657.0	91.90	16.40	6,881.4	3,218.5	1,140.4	3,414.5	1.59	-0.31	-1.56
9,690.0	92.20	15.70	6,880.3	3,250.2	1,149.5	3,447.4	2.31	0.91	-2.12
9,721.0	91.70	14.70	6,879.2	3,280.1	1,157.6	3,478.3	3.60	-1.61	-3.23
9,752.0	92.30	14.40	6,878.1	3,310.0	1,165.4	3,509.2	2.16	1.94	-0.97
9,784.0	92.20	14.00	6,876.9	3,341.0	1,173.2	3,541.0	1.29	-0.31	-1.25
9,816.0	92.50	13.50	6,875.6	3,372.1	1,180.8	3,572.8	1.82	0.94	-1.56
9,848.0	93.70	13.90	6,873.8	3,403.1	1,188.4	3,604.6	3.95	3.75	1.25
9,881.0	97.50	14.40	6,870.6	3,435.0	1,196.4	3,637.3	11.61	11.52	1.52
9,912.0	97.80	15.20	6,866.5	3,464.7	1,204.3	3,667.9	2.73	0.97	2.58
9,944.0	96.40	15.90	6,862.5	3,495.3	1,212.8	3,699.6	4.88	-4.38	2.19
TD									
9,994.0	95.40	16.00	6,857.4	3,543.1	1,226.5	3,749.2	2.01	-2.00	0.20

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,437.0	6,402.2	467.3	107.4	Tie-in to Schlumberger J Surveys
7,196.0	6,914.0	896.3	332.9	Crossed Hard Line @ 7196' MD
9,994.0	6,857.4	3,543.1	1,226.5	TD

Checked By: _____ Approved By: _____ Date: _____