

EOG Resources, Inc.

Weld County, CO
Sec. 14-T11N-R63W
Crittter Creek 08-14H

Plan #1

Design: MWD Survey

Sperry Drilling Services Standard Report

31 August, 2010

Well Coordinates: 578,782.75 N, 2,306,185.78 E (40° 55' 00.86" N, 104° 23' 31.86" W)
Ground Level: 5,213.00 ft

Local Coordinate Origin:	Centered on Well Critttr Creek 08-14H
Viewing Datum:	RKB 21' @ 5234.00ft (SST 56)
TVDs to System:	N
North Reference:	True
Unit System:	API - US Survey Feet - Custom
Geodetic Scale Factor Applied	
Version: 2003.16 Build: 43I	

HALLIBURTON

Design Report for Critter Creek 08-14H - MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,420.00	0.00	0.00	1,420.00	0.00	0.00	0.00	0.00
Surface Casing Assumed Vertical at 1420.00ft							
1,461.00	0.06	65.80	1,461.00	0.01	0.02	0.00	0.15
First MWD Survey							
1,556.00	0.35	155.15	1,556.00	-0.23	0.19	-0.29	0.37
1,842.00	0.13	279.99	1,842.00	-0.97	0.23	-0.99	0.15
2,128.00	0.25	119.74	2,128.00	-1.22	0.46	-1.31	0.13
2,413.00	0.18	318.81	2,413.00	-1.20	0.70	-1.37	0.15
2,698.00	0.20	114.98	2,698.00	-1.07	0.86	-1.32	0.13
2,983.00	0.31	104.94	2,982.99	-1.48	2.05	-2.16	0.04
3,269.00	0.54	70.24	3,268.99	-1.22	4.07	-2.70	0.12
3,554.00	0.26	75.78	3,553.98	-0.61	5.96	-2.86	0.10
3,839.00	0.19	109.47	3,838.98	-0.61	7.03	-3.28	0.05
4,124.00	0.59	109.50	4,123.97	-1.25	8.86	-4.58	0.14
4,409.00	0.95	130.03	4,408.94	-3.26	12.05	-7.67	0.16
4,694.00	0.83	155.33	4,693.91	-6.66	14.72	-11.83	0.14
4,979.00	0.70	98.51	4,978.89	-8.79	17.31	-14.80	0.26
5,264.00	0.71	112.60	5,263.87	-9.73	20.66	-16.96	0.06
5,548.00	1.04	145.42	5,547.83	-12.53	23.75	-20.73	0.21
5,834.00	0.15	273.16	5,833.82	-14.64	24.85	-23.11	0.40
6,118.00	0.70	93.20	6,117.81	-14.72	26.21	-23.70	0.30
6,403.00	0.87	88.51	6,402.79	-14.76	30.11	-25.25	0.06
6,688.00	1.20	74.97	6,687.74	-13.93	35.15	-26.43	0.14
6,720.00	1.45	62.07	6,719.73	-13.65	35.83	-26.44	1.21
6,752.00	1.11	357.79	6,751.73	-13.15	36.18	-26.11	4.35
6,783.00	4.07	326.79	6,782.69	-11.93	35.57	-24.75	10.23
6,815.00	8.51	327.41	6,814.49	-8.99	33.67	-21.30	13.88
6,847.00	13.02	328.02	6,845.92	-3.93	30.48	-15.41	14.10
6,879.00	17.55	328.20	6,876.78	3.23	26.03	-7.08	14.16
6,910.00	22.49	328.41	6,905.90	12.26	20.46	3.40	15.94
6,942.00	25.21	324.95	6,935.16	23.05	13.33	16.11	9.56
6,973.00	28.03	321.45	6,962.88	34.16	5.00	29.57	10.41
7,005.00	30.73	321.67	6,990.76	46.45	-4.76	44.68	8.44
7,037.00	34.86	324.12	7,017.65	60.28	-15.19	61.47	13.55
7,068.00	39.80	326.71	7,042.30	75.77	-25.84	79.86	16.72
7,100.00	44.02	327.51	7,066.11	93.71	-37.44	100.90	13.29
7,132.00	48.44	327.55	7,088.24	113.20	-49.84	123.67	13.81
7,163.00	51.72	327.21	7,108.13	133.23	-62.66	147.09	10.61
7,195.00	54.63	327.14	7,127.31	154.75	-76.54	172.30	9.10
7,227.00	57.36	327.01	7,145.20	177.01	-90.96	198.41	8.54
7,259.00	59.64	325.91	7,161.92	199.75	-106.03	225.21	7.70
7,290.00	62.22	325.26	7,176.98	222.10	-121.35	251.74	8.52
7,322.00	65.34	325.46	7,191.12	245.72	-137.66	279.82	9.77
7,354.00	69.92	324.88	7,203.29	270.00	-154.56	308.75	14.41
7,386.00	72.99	324.39	7,213.47	294.73	-172.12	338.35	9.70
7,417.00	77.11	324.57	7,221.46	319.11	-189.52	367.55	13.30
7,449.00	81.17	324.57	7,227.49	344.71	-207.73	398.20	12.69
7,481.00	83.32	325.04	7,231.81	370.62	-226.00	429.16	6.87
7,550.00	87.19	323.24	7,237.52	426.33	-266.28	496.11	6.18

Design Report for Critter Creek 08-14H - MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
7,582.00	87.20	322.50	7,239.08	451.82	-285.57	527.07	2.31
7,613.00	88.37	323.03	7,240.28	476.48	-304.32	557.06	4.14
7,645.00	89.66	324.14	7,240.83	502.22	-323.31	588.14	5.32
7,676.00	89.94	324.63	7,240.94	527.43	-341.36	618.36	1.82
7,708.00	89.85	324.24	7,241.00	553.46	-359.97	649.56	1.25
7,739.00	90.15	325.01	7,241.00	578.73	-377.92	679.81	2.67
7,771.00	90.74	324.68	7,240.75	604.89	-396.34	711.06	2.11
7,835.00	89.85	326.21	7,240.42	657.60	-432.64	773.70	2.77
7,898.00	88.77	327.48	7,241.18	710.34	-467.09	835.65	2.65
7,961.00	87.99	326.48	7,242.96	763.14	-501.41	897.61	2.01
8,024.00	88.43	326.32	7,244.93	815.59	-536.26	959.45	0.74
8,088.00	88.62	327.76	7,246.58	869.27	-571.06	1,022.41	2.27
8,152.00	88.18	328.11	7,248.36	923.48	-605.03	1,085.54	0.88
8,215.00	90.74	331.61	7,248.96	977.95	-636.65	1,148.00	6.88
8,278.00	93.02	333.27	7,246.89	1,033.77	-665.78	1,210.73	4.48
8,341.00	95.45	337.24	7,242.24	1,090.81	-692.07	1,273.51	7.37
8,373.00	95.38	338.75	7,239.22	1,120.34	-704.01	1,305.36	4.70
8,405.00	93.65	339.63	7,236.70	1,150.16	-715.34	1,337.24	6.06
8,437.00	91.42	340.56	7,235.28	1,180.22	-726.23	1,369.17	7.55
8,468.00	88.96	341.57	7,235.18	1,209.54	-736.28	1,400.10	8.58
8,500.00	90.28	342.80	7,235.39	1,240.00	-746.07	1,431.98	5.64
8,532.00	90.12	342.77	7,235.28	1,270.57	-755.55	1,463.83	0.51
8,563.00	88.56	343.94	7,235.64	1,300.27	-764.42	1,494.65	6.29
8,594.00	88.06	345.49	7,236.55	1,330.16	-772.59	1,525.38	5.25
8,626.00	87.31	346.46	7,237.84	1,361.18	-780.34	1,556.98	3.83
8,658.00	86.93	346.72	7,239.45	1,392.26	-787.75	1,588.52	1.44
8,689.00	86.96	347.71	7,241.10	1,422.45	-794.60	1,619.01	3.19
8,721.00	87.75	347.58	7,242.58	1,453.68	-801.44	1,650.45	2.50
8,753.00	88.23	346.54	7,243.70	1,484.85	-808.60	1,681.96	3.58
8,784.00	88.61	347.17	7,244.56	1,515.02	-815.65	1,712.52	2.37
8,816.00	90.18	347.87	7,244.90	1,546.26	-822.57	1,744.01	5.37
8,848.00	90.15	346.81	7,244.80	1,577.48	-829.58	1,775.51	3.31
8,879.00	89.69	345.60	7,244.85	1,607.59	-836.97	1,806.14	4.18
8,911.00	90.06	346.16	7,244.92	1,638.62	-844.78	1,837.77	2.10
8,942.00	90.06	346.32	7,244.88	1,668.73	-852.15	1,868.40	0.52
8,974.00	90.03	346.35	7,244.86	1,699.83	-859.71	1,900.00	0.13
9,006.00	90.06	346.46	7,244.83	1,730.93	-867.23	1,931.59	0.36
9,037.00	89.88	345.27	7,244.85	1,760.99	-874.80	1,962.24	3.88
9,069.00	90.06	345.07	7,244.87	1,791.92	-882.99	1,993.94	0.84
9,101.00	89.81	344.64	7,244.90	1,822.81	-891.35	2,025.66	1.55
9,132.00	89.97	344.05	7,244.96	1,852.66	-899.72	2,056.42	1.97
9,164.00	90.12	343.86	7,244.94	1,883.42	-908.56	2,088.20	0.76
9,195.00	89.78	343.32	7,244.96	1,913.15	-917.32	2,119.01	2.06
9,227.00	90.12	343.45	7,244.99	1,943.82	-926.47	2,150.83	1.14
9,259.00	90.06	343.76	7,244.94	1,974.52	-935.50	2,182.64	0.99
9,290.00	89.85	342.94	7,244.97	2,004.22	-944.39	2,213.46	2.73
9,322.00	90.00	343.27	7,245.01	2,034.83	-953.68	2,245.30	1.13
9,354.00	89.88	342.98	7,245.04	2,065.46	-962.97	2,277.13	0.98
9,386.00	89.97	342.29	7,245.08	2,096.00	-972.52	2,308.99	2.17
9,418.00	89.94	341.44	7,245.11	2,126.41	-982.48	2,340.89	2.66
9,449.00	89.91	341.15	7,245.15	2,155.77	-992.43	2,371.81	0.94



Design Report for Critter Creek 08-14H - MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
9,481.00	89.88	340.11	7,245.21	2,185.96	-1,003.04	2,403.75	3.25
9,513.00	89.85	339.48	7,245.28	2,215.99	-1,014.09	2,435.72	1.97
9,545.00	89.66	341.07	7,245.42	2,246.11	-1,024.89	2,467.68	5.00
9,577.00	90.00	343.54	7,245.52	2,276.59	-1,034.62	2,499.55	7.79
9,608.00	89.85	344.99	7,245.56	2,306.43	-1,043.02	2,530.32	4.70
9,639.00	89.97	345.94	7,245.60	2,336.44	-1,050.80	2,561.00	3.09
9,671.00	89.91	346.17	7,245.64	2,367.50	-1,058.52	2,592.63	0.74
9,703.00	89.85	346.48	7,245.70	2,398.59	-1,066.08	2,624.23	0.99
9,735.00	89.97	346.65	7,245.76	2,429.71	-1,073.52	2,655.81	0.65
9,767.00	90.22	346.47	7,245.70	2,460.84	-1,080.95	2,687.39	0.96
9,798.00	89.60	345.03	7,245.75	2,490.88	-1,088.58	2,718.05	5.06
9,830.00	90.21	345.48	7,245.80	2,521.83	-1,096.73	2,749.74	2.37
9,862.00	89.72	346.24	7,245.82	2,552.86	-1,104.55	2,781.38	2.83
9,894.00	89.69	345.63	7,245.99	2,583.90	-1,112.32	2,813.01	1.91
9,926.00	89.91	346.18	7,246.10	2,614.93	-1,120.11	2,844.65	1.85
9,957.00	90.28	346.06	7,246.05	2,645.03	-1,127.55	2,875.28	1.25
9,989.00	90.15	346.08	7,245.93	2,676.09	-1,135.25	2,906.90	0.41
10,021.00	89.35	345.50	7,246.07	2,707.11	-1,143.11	2,938.55	3.09
10,053.00	89.81	345.49	7,246.30	2,738.09	-1,151.12	2,970.22	1.44
10,085.00	91.48	346.61	7,245.94	2,769.14	-1,158.84	3,001.84	6.28
10,116.00	92.22	346.75	7,244.94	2,799.29	-1,165.98	3,032.41	2.43
10,148.00	92.10	347.23	7,243.74	2,830.45	-1,173.18	3,063.92	1.55
10,180.00	92.28	345.88	7,242.51	2,861.55	-1,180.61	3,095.48	4.25
10,212.00	92.68	343.84	7,241.13	2,892.40	-1,188.96	3,127.17	6.49
10,243.00	92.38	341.79	7,239.76	2,921.99	-1,198.11	3,157.99	6.68
10,275.00	93.11	340.93	7,238.23	2,952.28	-1,208.32	3,189.87	3.52
10,307.00	92.80	340.08	7,236.58	2,982.40	-1,218.99	3,221.78	2.82
10,339.00	92.44	338.59	7,235.11	3,012.31	-1,230.27	3,253.72	4.79
10,370.00	91.23	337.84	7,234.12	3,041.08	-1,241.77	3,284.70	4.59
10,402.00	88.95	337.00	7,234.07	3,070.63	-1,254.06	3,316.70	7.59
10,433.00	87.21	335.54	7,235.11	3,098.99	-1,266.52	3,347.68	7.33
10,465.00	87.01	335.46	7,236.72	3,128.07	-1,279.78	3,379.62	0.67
10,497.00	86.81	335.48	7,238.45	3,157.14	-1,293.04	3,411.56	0.63
10,529.00	86.70	334.96	7,240.26	3,186.14	-1,306.43	3,443.49	1.66
10,560.00	88.34	335.34	7,241.60	3,214.25	-1,319.45	3,474.43	5.43
10,592.00	90.15	336.16	7,242.02	3,243.42	-1,332.59	3,506.42	6.21
10,623.00	89.78	335.07	7,242.04	3,271.65	-1,345.39	3,537.41	3.71
10,655.00	90.25	335.91	7,242.03	3,300.77	-1,358.66	3,569.39	3.01
10,687.00	89.94	335.93	7,241.98	3,329.98	-1,371.72	3,601.38	0.97
10,719.00	89.91	336.74	7,242.02	3,359.29	-1,384.56	3,633.38	2.53
10,751.00	90.25	337.27	7,241.98	3,388.75	-1,397.06	3,665.38	1.97
10,782.00	88.95	337.32	7,242.19	3,417.35	-1,409.03	3,696.37	4.20
10,814.00	88.86	337.57	7,242.81	3,446.89	-1,421.30	3,728.37	0.83
10,846.00	89.60	337.50	7,243.24	3,476.46	-1,433.53	3,760.37	2.32
10,878.00	90.31	337.26	7,243.26	3,506.00	-1,445.84	3,792.36	2.34
10,909.00	89.51	336.38	7,243.31	3,534.50	-1,458.04	3,823.36	3.84
10,941.00	89.45	335.48	7,243.60	3,563.71	-1,471.09	3,855.35	2.82
10,973.00	90.28	336.70	7,243.67	3,592.97	-1,484.06	3,887.35	4.61
11,005.00	89.78	335.80	7,243.66	3,622.26	-1,496.95	3,919.34	3.22
11,037.00	88.08	335.33	7,244.26	3,651.38	-1,510.18	3,951.32	5.51
11,068.00	87.75	334.57	7,245.38	3,679.45	-1,523.30	3,982.27	2.67

Design Report for Critter Creek 08-14H - MWD Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)
11,100.00	87.66	334.35	7,246.66	3,708.30	-1,537.08	4,014.21	0.74
11,132.00	87.66	334.10	7,247.97	3,737.09	-1,550.98	4,046.14	0.78
11,163.00	89.29	334.92	7,248.80	3,765.06	-1,564.32	4,077.09	5.89
11,195.00	90.00	334.95	7,248.99	3,794.05	-1,577.88	4,109.06	2.22
11,227.00	89.48	334.01	7,249.14	3,822.93	-1,591.66	4,141.02	3.36
11,258.00	89.78	334.16	7,249.34	3,850.81	-1,605.21	4,171.97	1.08
11,290.00	89.60	333.34	7,249.51	3,879.51	-1,619.36	4,203.91	2.62
11,322.00	89.63	333.72	7,249.73	3,908.15	-1,633.63	4,235.84	1.19
11,354.00	89.81	334.72	7,249.88	3,936.97	-1,647.54	4,267.80	3.18
11,386.00	89.81	334.53	7,249.99	3,965.88	-1,661.26	4,299.76	0.59
11,402.00	89.72	334.59	7,250.06	3,980.33	-1,668.13	4,315.75	0.68
Final MWD Survey							
11,456.00	89.72	334.59	7,250.32	4,029.10	-1,691.30	4,369.69	0.00
Survey Projection to TD							

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,420.00	1,420.00	0.00	0.00	Surface Casing Assumed Vertical at 1420.00ft
1,461.00	1,461.00	0.01	0.02	First MWD Survey
11,402.00	7,250.06	3,980.33	-1,668.13	Final MWD Survey
11,456.00	7,250.32	4,029.10	-1,691.30	Survey Projection to TD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
Target	Critter Creek 08-24H Plan #1 BH Tgt	337.27	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
1,420.00	11,456.00	Sperry MWD Surveys	MWD

Design Report for Critter Creek 08-14H - MWD Survey**Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				-4,646.00	-600.00	578,124.74	2,301,547.52		
Point 2				600.00	-600.00	578,190.28	2,306,793.24		
Critter Creek 08-24H	0.00	0.00	7,237.00	750.00	-500.00	579,526.46	2,305,676.44	40° 55' 8.266 N	104° 23' 38.376 W
- actual wellpath misses target center by 8.23ft at 7949.05ft MD (7242.56 TVD, 753.17 N, -494.83 E)									
- Point									
Critter Creek 08-24H	0.00	0.00	7,237.00	2,663.00	-1,100.00	581,431.87	2,305,052.57	40° 55' 27.168 N	104° 23' 46.192 W
- actual wellpath misses target center by 32.35ft at 9967.84ft MD (7246.00 TVD, 2655.55 N, -1130.16 E)									
- Point									
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				-4,046.00	4,061.00	582,792.99	2,302,089.26		
Point 2				0.00	4,061.00	582,843.53	2,306,135.04		
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				-4,046.00	0.00	578,732.20	2,302,140.00		
Point 2				-4,046.00	4,061.00	582,792.99	2,302,089.26		
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				-4,646.00	4,661.00	583,385.46	2,301,481.80		
Point 2				600.00	4,661.00	583,451.00	2,306,727.52		
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				-4,646.00	4,661.00	583,385.46	2,301,481.80		
Point 2				-4,646.00	-600.00	578,124.74	2,301,547.52		
Critter Creek 08-24H	0.00	0.00	7,237.00	4,060.42	-1,701.09	582,821.70	2,304,434.05	40° 55' 40.975 N	104° 23' 54.023 W
- actual wellpath misses target center by 35.41ft at 11456.00ft MD (7250.32 TVD, 4029.10 N, -1691.30 E)									
- Point									
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				600.00	-600.00	578,190.28	2,306,793.24		
Point 2				600.00	4,661.00	583,451.00	2,306,727.52		
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				-4,046.00	0.00	578,732.20	2,302,140.00		
Point 2				0.00	0.00	578,782.75	2,306,185.78		
Critter Creek 08-24H	0.00	0.00	0.00	0.00	0.00	578,782.75	2,306,185.78	40° 55' 0.855 N	104° 23' 31.863 W
- actual wellpath hits target center									
- Polygon									
Point 1				0.00	0.00	578,782.75	2,306,185.78		
Point 2				0.00	4,061.00	582,843.53	2,306,135.04		

North Reference Sheet for Sec. 14-T11N-R63W - Critter Creek 08-14H - Plan #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB 21' @ 5234.00ft (SST 56). Northing and Easting are relative to Critter Creek 08-14H

Coordinate System is US State Plane 1927 (Exact solution), Colorado North 501 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 105° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 47' 0.000 N°

False Easting: 2,000,000.00ft, False Northing: 0.00ft, Scale Reduction: 1.00002440

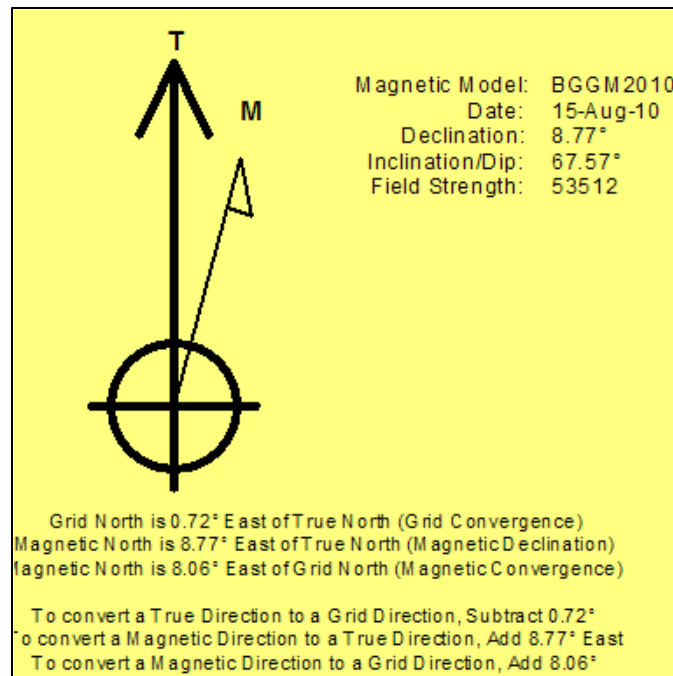
Grid Coordinates of Well: 578,782.75 ft N, 2,306,185.78 ft E

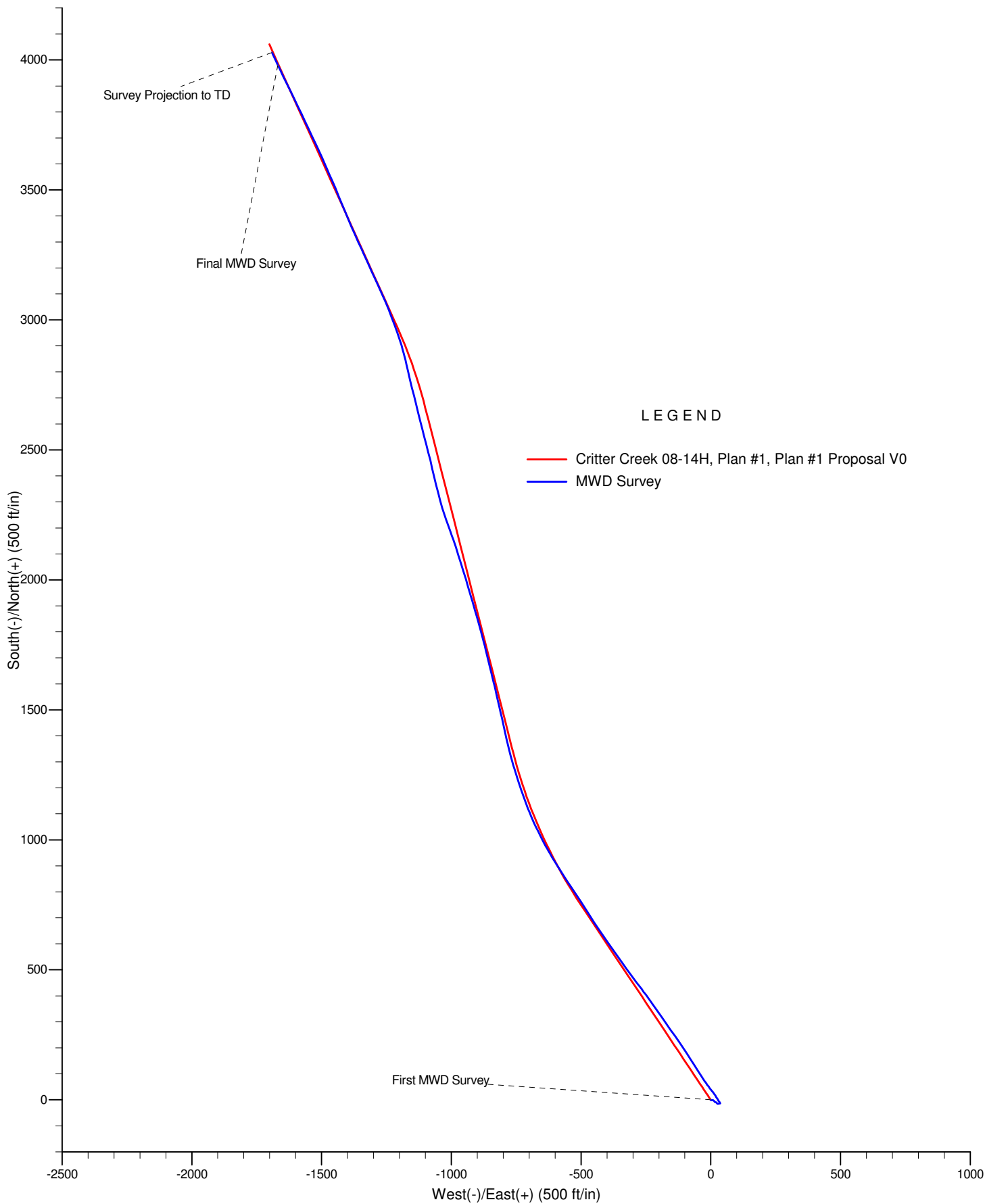
Geographical Coordinates of Well: 40° 55' 00.86" N, 104° 23' 31.86" W

Grid Convergence at Surface is: 0.72°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,456.00ft
the Bottom Hole Displacement is 4,369.69ft in the Direction of 337.23° (True).

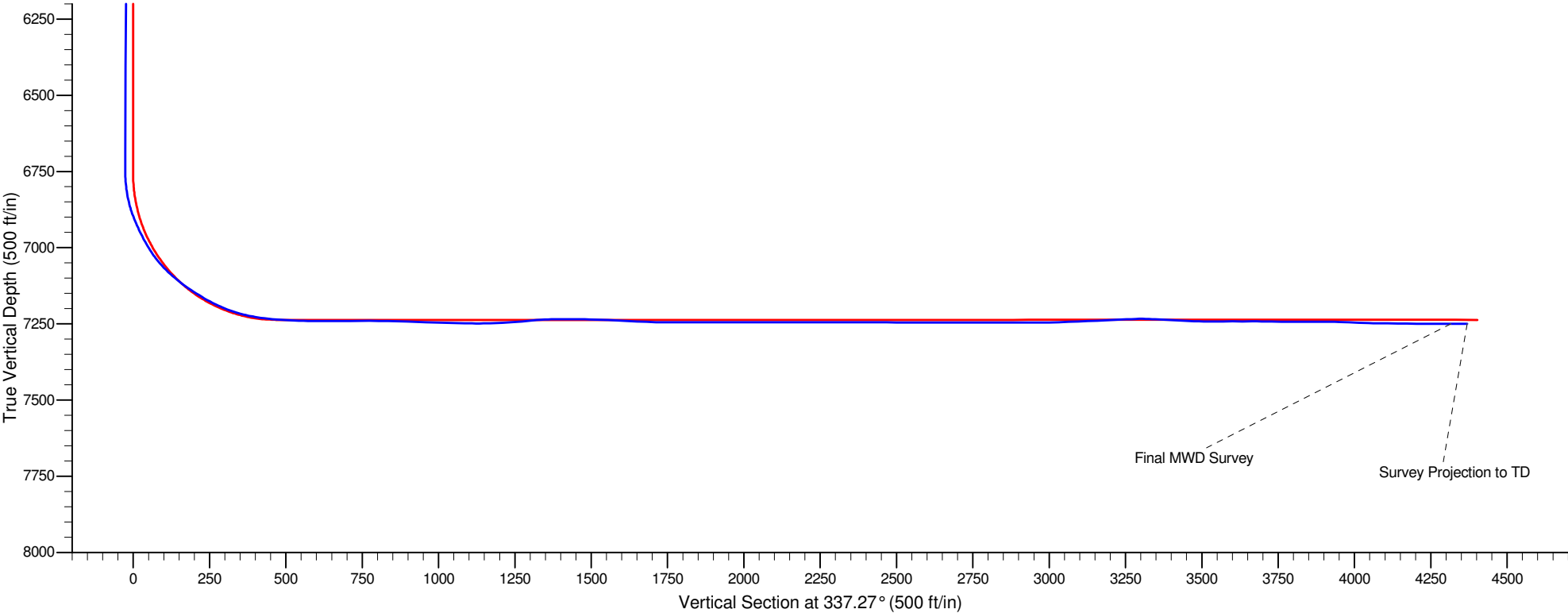
Magnetic Convergence at surface is: -8.06° (15 August 2010, , BGGM2010)





Project: Weld County, CO
Site: Sec. 14-T11N-R63W
Well: Critter Creek 08-14H

EOG Resources, Inc.



LEGEND

- Critter Creek 08-14H, Plan #1, Plan #1 Proposal V0
- MWD Survey