

Conoco Phillips Company

Arapahoe County, Colorado

Sec. 2-T5S-R65W

State Massive-1H (Re-Stake)

Plan C (Lateral)

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

27 August, 2014

Well Coordinates: 1,662,532.18 N, 3,246,700.19 E (39° 38' 57.05" N, 104° 37' 25.96" W)

Ground Level: 5,854.00 usft

Local Coordinate Origin:

Centered on Well State Massive-1H (Re-Stake)

Viewing Datum:

KB 24 ft @ 5878.00usft (H&P 280)

TVDs to System:

N

North Reference:

True

Unit System:

API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

HALLIBURTON

Design Report for State Massive-1H (Re-Stake) - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.00	0.42	261.69	145.00	-0.08	-0.53	0.52	0.29
First Sperry MWD Survey @ 145.00 ft							
238.00	0.42	272.33	238.00	-0.11	-1.20	1.19	0.08
329.00	0.40	276.02	328.99	-0.07	-1.85	1.84	0.04
423.00	0.38	266.96	422.99	-0.05	-2.49	2.48	0.07
519.00	0.41	265.01	518.99	-0.09	-3.15	3.13	0.03
612.00	0.29	254.44	611.99	-0.19	-3.71	3.68	0.15
706.00	0.33	263.97	705.99	-0.28	-4.21	4.18	0.07
799.00	0.19	248.61	798.99	-0.36	-4.62	4.58	0.17
893.00	0.13	276.84	892.98	-0.41	-4.87	4.82	0.10
987.00	0.11	242.01	986.98	-0.44	-5.05	5.01	0.08
1,080.00	0.04	97.23	1,079.98	-0.48	-5.10	5.05	0.16
1,172.00	0.07	192.91	1,171.98	-0.54	-5.08	5.03	0.09
1,265.00	0.04	160.75	1,264.98	-0.63	-5.08	5.02	0.05
1,356.00	0.06	122.38	1,355.98	-0.68	-5.03	4.97	0.04
1,449.00	0.18	57.05	1,448.98	-0.63	-4.87	4.81	0.18
1,542.00	0.11	76.16	1,541.98	-0.53	-4.66	4.61	0.09
1,636.00	0.06	123.08	1,635.98	-0.53	-4.53	4.48	0.09
1,731.00	0.13	186.36	1,730.98	-0.67	-4.50	4.44	0.12
1,825.00	0.24	166.13	1,824.98	-0.97	-4.47	4.38	0.13
1,919.00	0.15	152.63	1,918.98	-1.27	-4.36	4.26	0.11
2,014.00	0.30	165.82	2,013.98	-1.62	-4.24	4.11	0.17
2,108.00	0.30	145.53	2,107.98	-2.06	-4.04	3.88	0.11
2,179.00	0.31	159.88	2,178.98	-2.39	-3.87	3.69	0.11
2,261.00	0.26	94.33	2,260.98	-2.61	-3.61	3.41	0.38
2,324.00	1.06	28.93	2,323.97	-2.12	-3.19	3.02	1.56
2,419.00	2.99	16.19	2,418.91	1.03	-2.07	2.14	2.07
2,514.00	4.66	5.46	2,513.70	7.25	-1.01	1.55	1.91
2,609.00	6.22	0.02	2,608.27	16.24	-0.64	1.84	1.73
2,704.00	7.96	2.41	2,702.54	27.96	-0.36	2.43	1.86
2,799.00	8.15	3.13	2,796.60	41.26	0.28	2.77	0.23
2,894.00	8.01	2.95	2,890.66	54.59	0.99	3.05	0.15
2,989.00	8.31	355.03	2,984.70	68.04	0.73	4.30	1.22
3,084.00	8.15	354.25	3,078.72	81.58	-0.54	6.56	0.21
3,179.00	9.57	355.57	3,172.58	96.16	-1.82	8.92	1.51
3,274.00	9.63	355.55	3,266.25	111.95	-3.05	11.31	0.06
3,369.00	8.92	355.47	3,360.01	127.22	-4.25	13.64	0.75
3,463.00	8.74	0.50	3,452.90	141.62	-4.76	15.21	0.84
3,558.00	8.21	2.22	3,546.86	155.62	-4.43	15.92	0.62
3,653.00	8.92	359.83	3,640.80	169.76	-4.19	16.73	0.84
3,748.00	8.45	358.81	3,734.71	184.10	-4.36	17.95	0.52
3,842.00	7.66	356.26	3,827.78	197.26	-4.91	19.48	0.92
3,937.00	8.59	358.47	3,921.83	210.67	-5.51	21.07	1.03
4,032.00	9.06	6.51	4,015.71	225.20	-4.85	21.49	1.39
4,126.00	8.33	7.48	4,108.63	239.30	-3.13	20.81	0.79
4,221.00	9.02	7.04	4,202.54	253.51	-1.32	20.05	0.73
4,316.00	9.96	1.15	4,296.24	269.12	-0.24	20.13	1.42
4,411.00	9.72	0.18	4,389.84	285.35	-0.05	21.14	0.31
4,505.00	8.99	358.37	4,482.59	300.63	-0.24	22.46	0.84

Design Report for State Massive-1H (Re-Stake) - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
4,600.00	8.86	357.88	4,576.44	315.36	-0.72	24.03	0.16
4,695.00	8.90	355.57	4,670.30	330.00	-1.56	25.94	0.38
4,790.00	8.92	353.70	4,764.16	344.65	-2.93	28.40	0.31
4,885.00	7.63	348.11	4,858.17	358.14	-5.04	31.50	1.60
4,980.00	6.85	351.32	4,952.41	369.91	-7.19	34.52	0.92
5,075.00	7.88	1.90	5,046.63	382.02	-7.83	36.05	1.79
5,170.00	9.09	2.84	5,140.59	396.03	-7.25	36.50	1.28
5,265.00	9.42	0.77	5,234.35	411.29	-6.77	37.15	0.49
5,360.00	10.17	359.73	5,327.97	427.46	-6.70	38.28	0.81
5,455.00	9.73	0.35	5,421.54	443.87	-6.70	39.48	0.48
5,550.00	9.51	0.71	5,515.20	459.75	-6.55	40.51	0.24
5,645.00	9.87	0.90	5,608.85	475.73	-6.32	41.47	0.38
5,740.00	9.39	1.55	5,702.51	491.62	-5.99	42.31	0.52
5,835.00	8.71	1.60	5,796.32	506.56	-5.58	43.00	0.72
5,929.00	8.60	353.59	5,889.26	520.66	-6.16	44.63	1.29
6,024.00	9.12	354.09	5,983.12	535.21	-7.73	47.27	0.55
6,119.00	8.04	353.78	6,077.06	549.30	-9.23	49.80	1.14
6,214.00	8.32	357.01	6,171.09	562.77	-10.30	51.87	0.57
6,309.00	9.11	358.98	6,264.99	577.15	-10.80	53.42	0.89
6,404.00	8.52	359.31	6,358.87	591.71	-11.01	54.72	0.62
6,499.00	9.24	0.86	6,452.73	606.37	-10.98	55.77	0.80
6,594.00	7.93	359.08	6,546.67	620.55	-10.98	56.81	1.41
6,689.00	6.57	3.48	6,640.91	632.53	-10.75	57.47	1.55
6,784.00	5.26	8.42	6,735.40	642.26	-9.78	57.23	1.48
6,879.00	4.46	14.92	6,830.06	650.14	-8.19	56.23	1.02
6,974.00	3.39	18.61	6,924.83	656.37	-6.35	54.84	1.16
7,069.00	2.06	31.93	7,019.72	660.48	-4.55	53.35	1.54
7,164.00	0.06	317.10	7,114.70	661.97	-3.68	52.60	2.15
7,259.00	0.28	219.05	7,209.70	661.82	-3.86	52.76	0.31
7,290.00	0.20	231.51	7,240.70	661.73	-3.95	52.85	0.31
7,322.00	1.38	258.50	7,272.70	661.62	-4.37	53.26	3.77
7,353.00	4.72	269.57	7,303.65	661.54	-6.01	54.89	10.89
7,385.00	9.28	272.30	7,335.40	661.63	-9.91	58.78	14.28
7,417.00	13.23	271.55	7,366.78	661.83	-16.15	65.02	12.35
7,448.00	16.16	270.07	7,396.77	661.93	-24.01	72.87	9.53
7,480.00	18.27	269.18	7,427.33	661.87	-33.48	82.31	6.64
7,512.00	20.27	270.35	7,457.54	661.83	-44.04	92.84	6.37
7,543.00	21.92	271.18	7,486.46	661.98	-55.20	103.97	5.41
7,575.00	23.84	272.88	7,515.94	662.43	-67.63	116.40	6.34
7,607.00	25.41	273.21	7,545.03	663.14	-80.94	129.73	4.93
7,638.00	26.97	271.87	7,572.84	663.74	-94.61	143.41	5.38
7,670.00	27.94	271.10	7,601.24	664.12	-109.36	158.15	3.23
7,702.00	28.56	270.02	7,629.43	664.27	-124.50	173.26	2.51
7,733.00	30.84	271.13	7,656.35	664.43	-139.86	188.59	7.57
7,765.00	33.17	273.26	7,683.49	665.09	-156.80	205.53	8.09
7,796.00	36.17	273.96	7,708.98	666.20	-174.40	223.16	9.76
7,828.00	39.53	272.84	7,734.25	667.36	-194.00	242.79	10.72
7,860.00	43.44	271.69	7,758.21	668.19	-215.17	263.97	12.45
7,891.00	47.17	271.05	7,780.01	668.71	-237.20	285.98	12.12
7,923.00	49.60	271.20	7,801.26	669.18	-261.12	309.86	7.60
7,955.00	52.26	271.61	7,821.43	669.79	-285.95	334.68	8.37

Design Report for State Massive-1H (Re-Stake) - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
7,986.00	55.09	270.86	7,839.79	670.33	-310.92	359.61	9.33
8,018.00	59.27	270.57	7,857.13	670.66	-337.80	386.45	13.08
8,050.00	63.54	270.06	7,872.45	670.81	-365.89	414.47	13.42
8,081.00	66.49	269.88	7,885.54	670.80	-393.99	442.49	9.53
8,113.00	69.76	270.28	7,897.46	670.84	-423.68	472.10	10.28
8,145.00	72.55	270.52	7,907.79	671.05	-453.96	502.32	8.75
8,176.00	75.60	270.51	7,916.30	671.32	-483.77	532.06	9.84
8,208.00	78.44	270.23	7,923.49	671.52	-514.94	563.17	8.92
8,239.00	80.33	269.75	7,929.20	671.51	-545.41	593.55	6.28
8,271.00	82.94	269.41	7,933.85	671.28	-577.07	625.11	8.22
8,296.00	85.18	269.71	7,936.44	671.09	-601.93	649.89	9.04
8,405.00	87.28	269.38	7,943.60	670.23	-710.69	758.28	1.95
8,471.00	88.58	269.21	7,945.99	669.42	-776.64	823.99	1.99
8,566.00	89.51	269.29	7,947.57	668.17	-871.61	918.62	0.98
8,661.00	91.24	269.74	7,946.95	667.37	-966.61	1,013.29	1.88
8,756.00	92.16	270.16	7,944.13	667.28	-1,061.56	1,107.98	1.06
8,851.00	92.59	269.90	7,940.20	667.33	-1,156.48	1,202.64	0.53
8,946.00	92.59	270.27	7,935.90	667.48	-1,251.38	1,297.30	0.39
9,041.00	91.11	270.36	7,932.84	668.00	-1,346.33	1,392.02	1.56
9,136.00	90.43	270.04	7,931.56	668.33	-1,441.32	1,486.78	0.79
9,231.00	90.19	270.32	7,931.04	668.63	-1,536.32	1,581.54	0.39
9,326.00	90.31	270.99	7,930.63	669.71	-1,631.31	1,676.35	0.72
9,421.00	91.48	271.15	7,929.15	671.49	-1,726.28	1,771.19	1.24
9,516.00	90.99	270.62	7,927.10	672.95	-1,821.25	1,866.00	0.76
9,611.00	90.62	270.81	7,925.76	674.14	-1,916.23	1,960.82	0.44
9,706.00	90.68	270.61	7,924.69	675.32	-2,011.22	2,055.63	0.22
9,800.00	91.79	270.54	7,922.66	676.26	-2,105.19	2,149.41	1.18
9,895.00	91.79	270.00	7,919.69	676.71	-2,200.14	2,244.14	0.57
9,990.00	90.68	269.44	7,917.65	676.24	-2,295.11	2,338.82	1.31
10,085.00	89.38	268.77	7,917.60	674.76	-2,390.10	2,433.44	1.54
10,180.00	90.12	269.73	7,918.01	673.52	-2,485.09	2,528.07	1.28
10,275.00	89.75	269.85	7,918.12	673.17	-2,580.09	2,622.79	0.41
10,370.00	90.37	270.86	7,918.02	673.76	-2,675.09	2,717.57	1.25
10,465.00	89.81	270.24	7,917.87	674.67	-2,770.08	2,812.37	0.88
10,560.00	90.00	271.41	7,918.03	676.04	-2,865.07	2,907.20	1.25
10,655.00	89.69	270.96	7,918.28	678.00	-2,960.05	3,002.06	0.58
10,750.00	90.19	271.29	7,918.38	679.87	-3,055.03	3,096.92	0.63
10,845.00	89.57	270.23	7,918.58	681.13	-3,150.02	3,191.75	1.29
10,940.00	90.56	271.18	7,918.47	682.29	-3,245.01	3,286.56	1.44
11,035.00	90.37	270.85	7,917.70	683.98	-3,339.99	3,381.41	0.40
11,130.00	89.32	270.10	7,917.96	684.76	-3,434.98	3,476.20	1.36
11,225.00	90.93	271.62	7,917.75	686.19	-3,529.97	3,571.03	2.33
11,320.00	89.38	270.13	7,917.50	687.64	-3,624.95	3,665.86	2.26
11,415.00	89.20	269.72	7,918.67	687.52	-3,719.94	3,760.58	0.47
11,510.00	89.57	269.24	7,919.69	686.65	-3,814.93	3,855.25	0.64
11,605.00	88.89	268.90	7,920.97	685.11	-3,909.91	3,949.86	0.80
11,699.00	88.95	268.40	7,922.74	682.90	-4,003.87	4,043.39	0.54
11,794.00	89.14	269.20	7,924.33	680.91	-4,098.83	4,137.95	0.87
11,889.00	89.01	270.18	7,925.86	680.40	-4,193.82	4,232.64	1.04
11,984.00	87.47	271.15	7,928.78	681.50	-4,288.76	4,327.40	1.92

Design Report for State Massive-1H (Re-Stake) - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
12,079.00	88.21	271.12	7,932.36	683.38	-4,383.68	4,422.20	0.78
12,174.00	88.39	271.30	7,935.18	685.38	-4,478.61	4,517.02	0.27
12,269.00	88.95	270.56	7,937.38	686.92	-4,573.57	4,611.84	0.98
12,364.00	88.70	270.51	7,939.33	687.81	-4,668.55	4,706.62	0.27
12,459.00	89.88	271.29	7,940.51	689.30	-4,763.53	4,801.45	1.49
12,554.00	89.14	270.81	7,941.32	691.04	-4,858.51	4,896.30	0.93
12,649.00	89.26	270.14	7,942.64	691.83	-4,953.50	4,991.08	0.72
12,744.00	90.06	269.88	7,943.21	691.85	-5,048.49	5,085.82	0.89
12,839.00	89.88	269.55	7,943.26	691.38	-5,143.49	5,180.52	0.40
12,934.00	89.88	269.35	7,943.46	690.46	-5,238.49	5,275.19	0.21
13,029.00	88.77	269.92	7,944.58	689.86	-5,333.48	5,369.88	1.31
13,124.00	88.95	269.40	7,946.47	689.29	-5,428.46	5,464.56	0.58
13,219.00	89.01	269.81	7,948.16	688.64	-5,523.44	5,559.23	0.44
13,313.00	89.07	270.65	7,949.73	689.02	-5,617.42	5,652.99	0.90
13,408.00	87.78	270.27	7,952.34	689.78	-5,712.38	5,747.74	1.42
13,503.00	87.78	270.20	7,956.02	690.17	-5,807.31	5,842.44	0.07
13,555.00	87.46	269.92	7,958.18	690.22	-5,859.27	5,894.25	0.82
13,648.00	87.47	270.04	7,962.30	690.19	-5,952.17	5,986.91	0.13
13,741.00	87.71	270.62	7,966.21	690.73	-6,045.09	6,079.61	0.67
13,836.00	88.89	270.50	7,969.02	691.65	-6,140.04	6,174.37	1.25
13,931.00	89.94	269.93	7,969.99	692.01	-6,235.03	6,269.13	1.26
14,026.00	90.06	270.05	7,969.99	691.99	-6,330.03	6,363.87	0.18
14,121.00	88.64	270.61	7,971.07	692.54	-6,425.02	6,458.64	1.61
14,216.00	88.15	270.54	7,973.73	693.49	-6,519.98	6,553.41	0.52
14,311.00	87.65	270.56	7,977.21	694.41	-6,614.91	6,648.14	0.53
14,405.00	87.96	270.11	7,980.81	694.95	-6,708.84	6,741.86	0.58
14,500.00	87.96	270.06	7,984.20	695.10	-6,803.78	6,836.55	0.05
14,595.00	87.40	270.61	7,988.04	695.65	-6,898.70	6,931.25	0.83
14,690.00	88.02	271.29	7,991.84	697.22	-6,993.61	7,026.02	0.97
14,785.00	88.33	270.63	7,994.86	698.82	-7,088.55	7,120.81	0.77
14,880.00	89.32	269.90	7,996.81	699.25	-7,183.53	7,215.56	1.29
14,975.00	90.25	270.27	7,997.17	699.40	-7,278.52	7,310.31	1.05
15,070.00	90.62	270.99	7,996.45	700.44	-7,373.52	7,405.12	0.85
15,165.00	90.74	271.38	7,995.32	702.40	-7,468.49	7,499.98	0.43
15,260.00	90.68	271.66	7,994.14	704.92	-7,563.45	7,594.86	0.30
15,355.00	90.99	271.67	7,992.76	707.68	-7,658.40	7,689.76	0.33
15,450.00	90.12	271.70	7,991.84	710.48	-7,753.35	7,784.66	0.92
15,545.00	88.02	271.69	7,993.38	713.29	-7,848.29	7,879.55	2.21
15,640.00	88.08	271.81	7,996.61	716.19	-7,943.19	7,974.40	0.14
15,735.00	89.01	271.16	7,999.02	718.65	-8,038.13	8,069.26	1.19
15,829.00	88.83	270.91	8,000.80	720.35	-8,132.10	8,163.09	0.33
15,924.00	88.70	269.48	8,002.84	720.67	-8,227.07	8,257.83	1.51
16,019.00	89.44	267.86	8,004.39	718.46	-8,322.03	8,352.37	1.87
16,114.00	89.75	267.09	8,005.06	714.28	-8,416.93	8,446.70	0.87
16,209.00	91.05	265.91	8,004.39	708.48	-8,511.75	8,540.83	1.85
16,304.00	90.00	265.97	8,003.52	701.75	-8,606.51	8,634.83	1.11
16,399.00	89.75	265.43	8,003.73	694.63	-8,701.24	8,728.78	0.63
16,494.00	90.68	267.04	8,003.37	688.39	-8,796.03	8,822.85	1.96
16,589.00	91.73	268.16	8,001.38	684.42	-8,890.92	8,917.19	1.62
16,684.00	90.74	268.97	7,999.33	682.04	-8,985.87	9,011.70	1.35
Final Sperry MWD Survey @ 16684.00 ft							

Design Report for State Massive-1H (Re-Stake) - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
16,841.00	90.74	268.97	7,997.30	679.22	-9,142.83	9,168.02	0.00
Straight Line Projection to TD @ 16841.00 ft							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
145.00	145.00	-0.08	-0.53	First Sperry MWD Survey @ 145.00 ft
16,684.00	7,999.33	682.04	-8,985.87	Final Sperry MWD Survey @ 16684.00 ft
16,841.00	7,997.30	679.22	-9,142.83	Straight Line Projection to TD @ 16841.00 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
Target	State Massive-1H (Re-Stake)Rev C0(Lateral)_BHL Tgt	274.24	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
145.00	2,179.00	Surface_Sperry MWD	MWD
2,261.00	8,296.00	Vertical & Build_Sperry MWD	MWD
8,405.00	16,684.00	Lateral_Sperry MWD Surveys	MWD
16,841.00	16,841.00	Projection at TD	Blind

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,238.00	2,237.98	9 5/8"	9-5/8	13-1/2
8,348.00	7,940.35	7"	7	8-3/4

Design Report for State Massive-1H (Re-Stake) - Actual Field Surveys

Wellbore Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
State Massive-1H (Re- - actual wellpath hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	1,662,532.18	3,246,700.19	39° 38' 57.050 N	104° 37' 25.960 W
Point 1				0.00	1,347.32	-4,868.80	1,663,832.46	3,241,818.71	
Point 2				0.00	-3,898.06	-4,945.00	1,658,586.69	3,241,793.10	
Point 3				0.00	-3,908.74	359.87	1,658,627.17	3,247,097.73	
Point 4				0.00	1,327.55	402.03	1,663,863.52	3,247,089.39	
Point 5				0.00	1,347.32	-4,868.80	1,663,832.46	3,241,818.71	
Point 6				0.00	1,371.09	-10,162.44	1,663,805.18	3,236,525.18	
Point 7				0.00	-1,272.72	-10,205.16	1,661,161.13	3,236,507.96	
Point 8				0.00	-3,917.98	-10,247.62	1,658,515.63	3,236,491.01	
Point 9				0.00	-3,898.06	-4,945.00	1,658,586.69	3,241,793.10	
State Massive-1H (Re- - actual wellpath hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	1,662,532.18	3,246,700.19	39° 38' 57.050 N	104° 37' 25.960 W
Point 1				0.00	-3,308.74	-240.13	1,659,221.34	3,246,491.98	
Point 2				0.00	727.55	-197.97	1,663,257.78	3,246,495.21	
Point 3				0.00	747.30	-4,868.80	1,663,232.48	3,241,824.49	
Point 4				0.00	771.09	-9,562.44	1,663,211.01	3,237,130.93	
Point 5				0.00	-1,272.72	-9,605.16	1,661,166.92	3,237,107.92	
Point 6				0.00	-3,317.98	-9,647.62	1,659,121.38	3,237,085.19	
Point 7				0.00	-3,298.10	-4,945.00	1,659,186.61	3,241,787.31	
State Massive-1H (Re- - actual wellpath misses target center by 411.83usft at 16841.00usft MD (7997.30 TVD, 679.22 N, -9142.83 E) - Point	0.00	0.00	8,008.00	708.06	-9,553.51	1,663,148.07	3,237,140.47	39° 39' 4.030 N	104° 39' 28.100 W

Directional Difficulty Index

Average Dogleg over Survey:	1.28 °/100usft	Maximum Dogleg over Survey:	14.28 °/100usft at 7,385.00 usft
Net Tortousity applicable to Plans:	0.64 °/100usft	Directional Difficulty Index:	6.650

Audit Info

North Reference Sheet for Sec. 2-T5S-R65W - State Massive-1H (Re-Stake) - Plan C (Lateral)

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

Vertical Depths are relative to KB 24 ft @ 5878.00usft (H&P 280). Northing and Easting are relative to State Massive-1H (Re-Stake)

Coordinate System is US State Plane 1983, Colorado Central Zone using datum North American Datum 1983, ellipsoid GRS 1980

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:39° 45' 0.000 N°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99998161

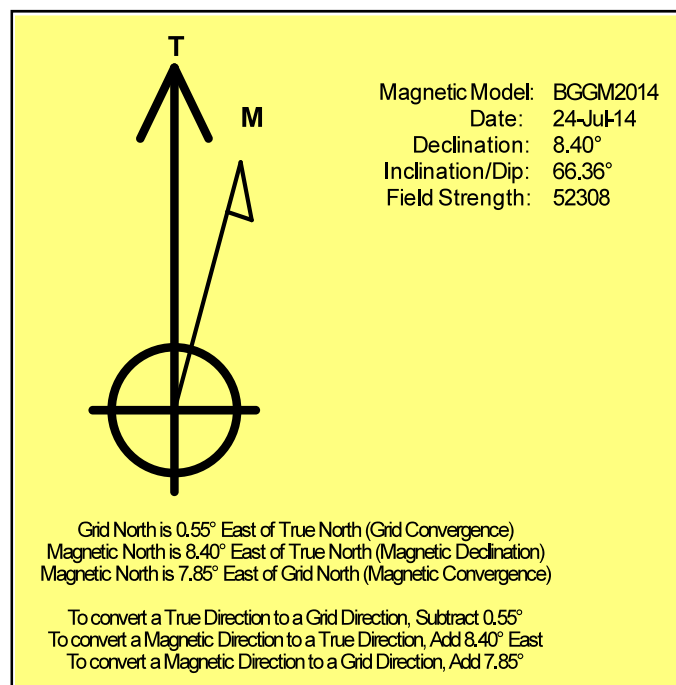
Grid Coordinates of Well: 1,662,532.18 usft N, 3,246,700.19 usft E

Geographical Coordinates of Well: 39° 38' 57.05" N, 104° 37' 25.96" W

Grid Convergence at Surface is: 0.55°

Based upon Minimum Curvature type calculations, at a Measured Depth of 16,841.00usft the Bottom Hole Displacement is 9,168.02usft in the Direction of 274.25° (True).

Magnetic Convergence at surface is: -7.85° (24 July 2014, , BGGM2014)



Project: Arapahoe County, Colorado

Site: Sec. 2-T5S-R65W

Well: State Massive-1H (Re-Stake)

Conoco Phillips Company

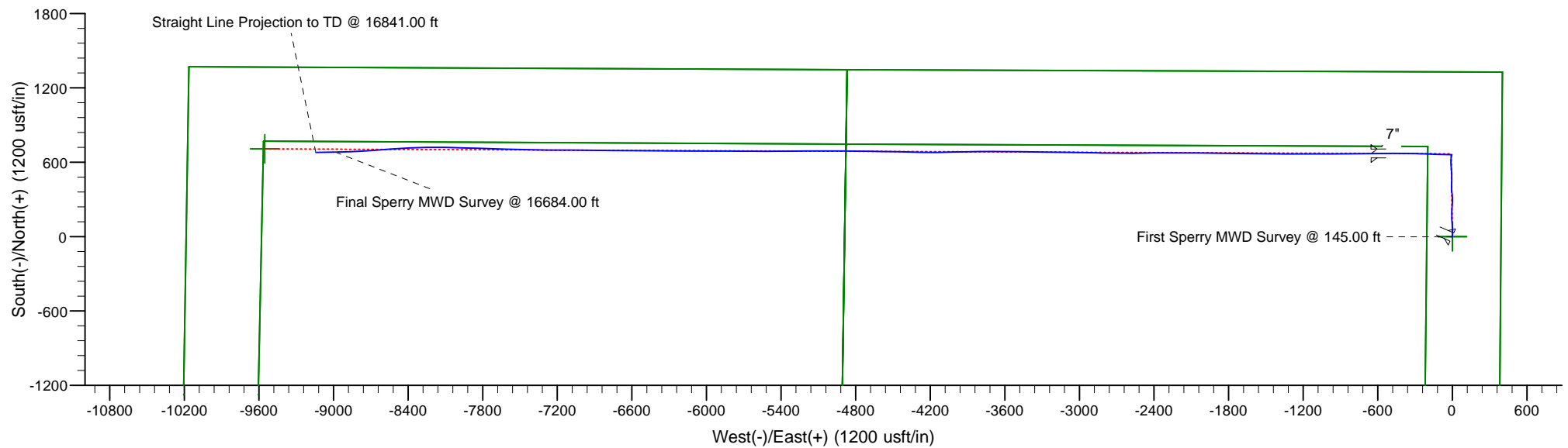
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Sperry Drilling

LEGEND

----- State Massive-1H (Re-Stake), Plan C (Lateral)

— Actual Field Surveys



Project: Arapahoe County, Colorado

Site: Sec. 2-T5S-R65W

Well: State Massive-1H (Re-Stake)

Conoco Phillips Company

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