

Whiting Oil and Gas Corporation

Weld County, CO

Sec. 30-T10N-R57W (Horsetail #30F Pad)

Horsetail #30F-1943

Plan C

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

21 October, 2014

Well Coordinates: 1,542,708.60 N, 3,471,549.11 E (40° 48' 38.46" N, 103° 47' 47.27" W)

Ground Level: 4,780.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Horsetail #30F-1943

KB 17 ft @ 4797.00usft (Xtreme 18)

N

True

API - US Survey Feet - Custom

HALLIBURTON

Design Report for Horsetail #30F-1943 - 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
139.00	0.97	309.83	138.99	0.75	-0.90	0.79	0.70
First Sperry MWD Survey @ 139.00 ft							
231.00	0.68	329.18	230.98	1.72	-1.78	1.80	0.43
323.00	0.79	323.41	322.98	2.70	-2.44	2.81	0.14
415.00	0.80	315.07	414.97	3.66	-3.27	3.81	0.13
507.00	0.69	323.61	506.96	4.56	-4.05	4.74	0.17
599.00	0.94	336.77	598.95	5.70	-4.68	5.91	0.34
691.00	0.51	276.98	690.94	6.45	-5.38	6.68	0.88
783.00	1.38	235.82	782.93	5.87	-6.71	6.17	1.14
875.00	2.38	215.56	874.88	3.70	-8.73	4.09	1.29
967.00	3.29	202.50	966.77	-0.30	-10.85	0.19	1.21
1,060.00	5.02	204.24	1,059.52	-6.47	-13.55	-5.86	1.86
1,152.00	6.77	208.93	1,151.03	-14.89	-17.82	-14.07	1.97
1,243.00	7.76	210.76	1,241.30	-24.86	-23.56	-23.78	1.12
1,335.00	9.21	212.16	1,332.29	-36.43	-30.66	-35.02	1.59
1,427.00	10.94	212.83	1,422.87	-50.00	-39.31	-48.18	1.88
1,559.00	12.52	211.52	1,552.11	-72.73	-53.58	-70.24	1.21
1,614.00	13.32	209.62	1,605.72	-83.32	-59.83	-80.54	1.65
1,707.00	14.91	201.36	1,695.91	-103.77	-69.48	-100.54	2.76
1,798.00	14.42	199.56	1,783.95	-125.36	-77.54	-121.74	0.74
1,889.00	14.59	208.04	1,872.06	-146.15	-86.72	-142.10	2.34
1,981.00	15.19	205.06	1,960.97	-167.30	-97.28	-162.75	1.06
2,073.00	14.45	204.70	2,049.91	-188.64	-107.18	-183.63	0.81
2,164.00	16.46	209.90	2,137.62	-210.14	-118.35	-204.60	2.68
2,257.00	15.85	209.44	2,226.95	-232.62	-131.16	-226.48	0.67
2,347.00	14.71	208.20	2,313.76	-253.40	-142.60	-246.72	1.32
2,440.00	15.53	207.40	2,403.54	-274.85	-153.91	-267.65	0.91
2,531.00	15.14	206.60	2,491.30	-296.30	-164.84	-288.58	0.49
2,623.00	15.11	206.24	2,580.12	-317.79	-175.52	-309.57	0.11
2,715.00	15.14	205.82	2,668.93	-339.36	-186.05	-330.64	0.12
2,807.00	15.06	205.81	2,757.75	-360.94	-196.49	-351.73	0.09
2,899.00	14.69	205.47	2,846.67	-382.23	-206.71	-372.54	0.41
2,990.00	13.98	204.30	2,934.84	-402.67	-216.20	-392.52	0.84
3,082.00	14.11	205.94	3,024.09	-422.88	-225.67	-412.29	0.46
3,175.00	14.70	204.46	3,114.16	-443.81	-235.52	-432.76	0.75
3,267.00	15.32	205.93	3,203.02	-465.37	-245.67	-453.84	0.79
3,358.00	15.43	205.00	3,290.77	-487.15	-256.04	-475.13	0.30
3,451.00	15.30	204.70	3,380.44	-509.51	-266.39	-497.00	0.16
3,543.00	15.95	204.94	3,469.04	-532.00	-276.80	-519.00	0.71
3,635.00	16.59	205.37	3,557.36	-555.33	-287.76	-541.81	0.71
3,728.00	14.14	210.02	3,647.03	-577.17	-299.13	-563.12	2.95
3,819.00	13.36	208.14	3,735.42	-596.06	-309.65	-581.52	0.99
3,911.00	12.58	206.04	3,825.07	-614.44	-319.06	-599.45	0.99
4,003.00	12.36	204.44	3,914.90	-632.40	-327.53	-617.02	0.45
4,095.00	11.80	205.03	4,004.87	-649.89	-335.59	-634.13	0.62
4,187.00	11.21	205.43	4,095.02	-666.49	-343.41	-650.36	0.65
4,278.00	11.15	206.49	4,184.29	-682.36	-351.13	-665.86	0.24
4,371.00	9.29	203.61	4,275.81	-697.28	-358.15	-680.45	2.07
4,462.00	8.19	201.76	4,365.75	-710.03	-363.49	-692.95	1.25

Design Report for Horsetail #30F-1943 - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
4,553.00	5.95	205.47	4,456.06	-720.31	-367.92	-703.02	2.51
4,644.00	5.78	208.43	4,546.58	-728.60	-372.13	-711.11	0.38
4,737.00	4.14	212.69	4,639.23	-735.54	-376.18	-717.86	1.81
4,828.00	1.67	216.21	4,730.11	-739.38	-378.73	-721.58	2.72
4,921.00	1.42	195.29	4,823.07	-741.58	-379.84	-723.73	0.66
5,012.00	1.82	180.21	4,914.04	-744.12	-380.14	-726.25	0.64
5,057.00	2.09	317.39	4,959.03	-744.23	-380.70	-726.34	8.09
5,103.00	9.42	350.08	5,004.77	-739.90	-381.92	-721.95	16.83
5,148.00	17.76	357.19	5,048.47	-729.39	-382.89	-711.42	18.87
5,195.00	22.61	357.86	5,092.57	-713.20	-383.58	-695.21	10.33
5,280.00	25.76	2.41	5,170.11	-678.40	-383.41	-660.45	4.30
5,367.00	32.81	6.34	5,245.95	-636.03	-380.01	-618.28	8.40
5,457.00	37.66	8.18	5,319.44	-584.55	-373.40	-567.15	5.52
5,543.00	43.17	5.62	5,384.90	-529.22	-366.78	-512.17	6.69
5,588.00	47.40	4.89	5,416.55	-497.38	-363.86	-480.50	9.47
5,633.00	52.37	4.39	5,445.54	-463.09	-361.08	-446.37	11.08
5,675.00	58.51	3.70	5,469.35	-428.61	-358.65	-412.03	14.68
5,720.00	63.50	4.10	5,491.16	-389.35	-355.97	-372.93	11.12
5,765.00	68.31	3.06	5,509.53	-348.37	-353.41	-332.10	10.89
5,810.00	73.62	2.39	5,524.20	-305.89	-351.39	-289.76	11.88
5,855.00	76.28	2.50	5,535.88	-262.48	-349.54	-246.47	5.92
5,899.00	78.47	2.82	5,545.50	-219.59	-347.55	-203.72	5.03
5,961.00	83.58	2.41	5,555.17	-158.43	-344.76	-142.75	8.27
6,095.00	89.20	2.29	5,563.60	-24.86	-339.27	-9.57	4.19
6,181.00	91.09	0.00	5,563.38	61.11	-337.56	76.24	3.45
6,267.00	92.16	359.10	5,560.94	147.07	-338.23	162.15	1.63
6,355.00	92.93	359.96	5,557.04	234.98	-338.95	250.00	1.31
6,440.00	90.77	0.60	5,554.29	319.93	-338.54	334.84	2.65
6,530.00	88.33	1.23	5,555.00	409.91	-337.10	424.67	2.80
6,619.00	90.40	3.01	5,555.99	498.83	-333.81	513.35	3.07
6,709.00	88.65	0.16	5,556.73	588.78	-331.32	603.10	3.72
6,793.00	88.58	359.17	5,558.76	672.75	-331.81	687.01	1.18
6,880.00	88.18	357.80	5,561.22	759.69	-334.11	773.96	1.64
6,970.00	87.99	358.13	5,564.23	849.58	-337.30	863.90	0.42
7,059.00	88.55	358.06	5,566.92	938.49	-340.26	952.86	0.63
7,146.00	90.34	358.87	5,567.76	1,025.45	-342.59	1,039.83	2.26
7,235.00	90.89	357.36	5,566.80	1,114.39	-345.52	1,128.82	1.81
7,323.00	89.42	358.81	5,566.57	1,202.34	-348.46	1,216.81	2.35
7,410.00	88.06	0.73	5,568.48	1,289.31	-348.81	1,303.71	2.70
7,498.00	88.40	0.54	5,571.20	1,377.26	-347.83	1,391.53	0.44
7,587.00	89.71	1.20	5,572.66	1,466.24	-346.48	1,480.35	1.65
7,677.00	88.74	2.28	5,573.88	1,556.19	-343.75	1,570.08	1.61
7,763.00	88.52	359.84	5,575.94	1,642.14	-342.16	1,655.88	2.85
7,853.00	88.41	359.05	5,578.35	1,732.10	-343.03	1,745.79	0.89
7,942.00	92.84	2.41	5,577.38	1,821.06	-341.90	1,834.60	6.25
8,032.00	92.87	1.13	5,572.90	1,910.90	-339.12	1,924.23	1.42
8,121.00	91.97	1.49	5,569.14	1,999.80	-337.09	2,012.94	1.09
8,209.00	89.29	1.23	5,568.17	2,087.76	-335.00	2,100.72	3.06
8,298.00	87.22	359.67	5,570.88	2,176.71	-334.30	2,189.55	2.91
8,386.00	87.62	359.77	5,574.84	2,264.62	-334.73	2,277.39	0.47
8,475.00	87.75	358.64	5,578.44	2,353.53	-335.96	2,366.27	1.28

Design Report for Horsetail #30F-1943 - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
8,568.00	89.60	358.37	5,580.59	2,446.47	-338.39	2,459.23	2.01
8,659.00	90.52	357.46	5,580.49	2,537.41	-341.70	2,550.22	1.42
8,752.00	89.38	358.28	5,580.57	2,630.34	-345.16	2,643.22	1.51
8,844.00	90.03	359.93	5,581.05	2,722.33	-346.59	2,735.17	1.93
8,936.00	89.54	0.35	5,581.39	2,814.33	-346.37	2,827.07	0.70
9,028.00	90.59	358.78	5,581.29	2,906.32	-347.07	2,919.00	2.05
9,119.00	89.60	359.19	5,581.14	2,997.30	-348.68	3,009.96	1.18
9,212.00	91.29	0.07	5,580.41	3,090.29	-349.28	3,102.89	2.05
9,303.00	93.18	3.29	5,576.86	3,181.17	-346.62	3,193.55	4.10
9,396.00	92.47	1.25	5,572.28	3,273.98	-342.94	3,286.10	2.32
9,488.00	88.91	0.42	5,571.17	3,365.95	-341.60	3,377.91	3.97
9,580.00	88.95	0.90	5,572.89	3,457.92	-340.54	3,469.75	0.52
9,672.00	90.09	1.04	5,573.66	3,549.91	-338.98	3,561.57	1.25
9,764.00	92.59	1.46	5,571.51	3,641.85	-336.97	3,653.33	2.76
9,855.00	90.66	1.47	5,568.93	3,732.78	-334.65	3,744.06	2.12
9,947.00	90.43	0.60	5,568.05	3,824.76	-332.99	3,835.87	0.98
10,038.00	88.86	359.18	5,568.62	3,915.75	-333.16	3,926.78	2.33
10,130.00	89.32	358.50	5,570.08	4,007.72	-335.02	4,018.74	0.89
10,221.00	89.88	358.66	5,570.71	4,098.69	-337.28	4,109.72	0.64
10,313.00	90.83	358.98	5,570.14	4,190.67	-339.17	4,201.69	1.09
10,404.00	88.94	357.85	5,570.33	4,281.63	-341.69	4,292.67	2.42
10,496.00	89.35	357.37	5,571.70	4,373.54	-345.53	4,384.66	0.69
10,588.00	90.06	0.27	5,572.17	4,465.51	-347.42	4,476.62	3.25
10,679.00	90.28	359.14	5,571.90	4,556.50	-347.89	4,567.55	1.27
10,770.00	89.38	359.31	5,572.17	4,647.49	-349.12	4,658.50	1.01
10,862.00	89.63	0.91	5,572.97	4,739.49	-348.94	4,750.39	1.76
10,954.00	91.64	3.49	5,571.95	4,831.40	-345.41	4,842.05	3.55
11,046.00	90.71	3.31	5,570.06	4,923.22	-339.96	4,933.53	1.03
11,138.00	89.17	3.53	5,570.16	5,015.05	-334.47	5,025.03	1.69
11,230.00	89.01	2.18	5,571.62	5,106.92	-329.89	5,116.60	1.48
11,322.00	88.92	0.28	5,573.28	5,198.88	-327.91	5,208.38	2.07
11,413.00	88.80	358.24	5,575.09	5,289.85	-329.09	5,299.31	2.25
11,506.00	88.21	357.15	5,577.52	5,382.75	-332.83	5,392.27	1.33
11,597.00	88.80	357.80	5,579.89	5,473.63	-336.84	5,483.24	0.96
11,689.00	90.96	359.42	5,580.09	5,565.59	-339.07	5,575.21	2.93
11,781.00	91.11	359.13	5,578.42	5,657.57	-340.23	5,667.15	0.35
11,874.00	91.60	358.81	5,576.23	5,750.53	-341.90	5,760.09	0.63
11,966.00	93.40	358.38	5,572.21	5,842.41	-344.16	5,851.98	2.01
12,058.00	92.75	359.57	5,567.28	5,934.26	-345.80	5,943.81	1.47
12,150.00	90.96	358.94	5,564.30	6,026.20	-346.99	6,035.71	2.06
12,242.00	90.65	0.01	5,563.01	6,118.18	-347.84	6,127.64	1.21
12,334.00	90.08	1.08	5,562.42	6,210.17	-346.96	6,219.50	1.32
12,426.00	91.45	1.06	5,561.19	6,302.15	-345.24	6,311.30	1.49
12,518.00	89.27	1.19	5,560.61	6,394.12	-343.44	6,403.10	2.37
12,610.00	89.56	1.47	5,561.55	6,486.09	-341.30	6,494.88	0.44
12,701.00	90.76	1.20	5,561.30	6,577.07	-339.18	6,585.67	1.35
12,794.00	89.14	1.34	5,561.38	6,670.04	-337.12	6,678.45	1.75
12,885.00	90.52	1.88	5,561.65	6,761.00	-334.57	6,769.21	1.63
12,977.00	89.01	0.33	5,562.03	6,852.98	-332.79	6,861.01	2.35
13,068.00	90.73	0.85	5,562.23	6,943.97	-331.85	6,951.87	1.97

Design Report for Horsetail #30F-1943 - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
13,160.00	88.18	358.83	5,563.11	7,035.95	-332.11	7,043.77	3.54
13,251.00	89.26	359.38	5,565.14	7,126.92	-333.53	7,134.71	1.33
13,344.00	88.15	356.89	5,567.24	7,219.84	-336.56	7,227.67	2.93
13,435.00	90.71	358.64	5,568.15	7,310.75	-340.10	7,318.65	3.41
13,526.00	91.23	358.84	5,566.61	7,401.72	-342.11	7,409.61	0.61
13,619.00	91.57	359.50	5,564.34	7,494.68	-343.45	7,502.54	0.80
13,659.00	91.37	359.49	5,563.31	7,534.66	-343.80	7,542.50	0.50
Final Sperry MWD Survey @ 13659.00 ft							
13,702.00	91.37	359.49	5,562.28	7,577.65	-344.19	7,585.46	0.00
Straight Line Projection to TD @ 13702.00 ft ~45' FNL ~1645' FWL							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
139.00	138.99	0.75	-0.90	First Sperry MWD Survey @ 139.00 ft
13,659.00	5,563.31	7,534.66	-343.80	Final Sperry MWD Survey @ 13659.00 ft
13,702.00	5,562.28	7,577.65	-344.19	Straight Line Projection to TD @ 13702.00 ft ~45' FNL ~1645' FWL

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
Target	Horsetail #30F-1943_Rev C0_BHL Tgt	357.42	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
139.00	1,559.00	Surface_Sperry MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
1,614.00	5,961.00	Vertical & Build_Sperry MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
6,095.00	13,659.00	Lateral_Sperry MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
13,702.00	13,702.00	Projection to Bit_BLIND	BLIND

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,606.00	1,597.93	9 5/8"	9-5/8	13-1/2
5,993.00	5,558.37	7" Casing Pt. ~203' FML ~2452' FNL ~1575' FWL	7	8-3/4

Design Report for Horsetail #30F-1943 - 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
Horsetail #30F_SL	0.00	0.00	0.00	0.05	-59.98	1,542,707.50	3,471,489.15	40° 48' 38.460 N	103° 47' 48.050 W
- actual wellpath misses target center by 59.98usft at 0.39usft MD (0.39 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	2,310.76	3,337.76	1,545,081.96	3,474,781.91	
Point 2				0.00	2,319.65	673.60	1,545,039.67	3,472,118.06	
Point 3				0.00	2,332.83	-1,886.76	1,545,003.66	3,469,557.91	
Point 4				0.00	-320.64	-1,856.24	1,542,351.26	3,469,639.40	
Point 5				0.00	-2,961.00	-1,783.35	1,539,712.77	3,469,763.00	
Point 6				0.00	-2,993.48	730.50	1,539,728.59	3,472,277.02	
Point 7				0.00	-3,008.56	3,390.81	1,539,764.62	3,474,937.14	
Point 8				0.00	-348.90	3,364.14	1,542,423.29	3,474,859.38	
Point 9				0.00	2,310.76	3,337.76	1,545,081.96	3,474,781.91	
Point 10				0.00	4,959.13	3,301.97	1,547,729.17	3,474,695.26	
Point 11				0.00	7,625.00	3,266.19	1,550,393.87	3,474,608.27	
Point 12				0.00	7,622.97	609.53	1,550,340.81	3,471,952.13	
Point 13				0.00	7,621.94	-1,929.53	1,550,291.00	3,469,413.55	
Point 14				0.00	4,974.29	-1,907.32	1,547,644.25	3,469,486.61	
Point 15				0.00	2,332.83	-1,886.76	1,545,003.66	3,469,557.91	
Horsetail #30F_Mid-Sect	0.00	0.00	0.00	0.05	-59.98	1,542,707.50	3,471,489.15	40° 48' 38.460 N	103° 47' 48.050 W
- actual wellpath misses target center by 59.98usft at 0.39usft MD (0.39 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	-220.64	-1,856.24	1,542,451.24	3,469,637.48	
Point 2				0.00	-248.90	3,364.14	1,542,523.27	3,474,857.46	
Mertens 19 100' radius	0.00	0.00	0.00	6,971.25	1,430.73	1,549,706.08	3,472,845.67	40° 49' 47.341 N	103° 47' 28.658 W
- actual wellpath misses target center by 5834.89usft at 13068.00usft MD (5562.23 TVD, 6943.97 N, -331.85 E)									
- Circle (radius 100.00)									
Horsetail #30F_Mid-Sect	0.00	0.00	0.00	0.05	-59.98	1,542,707.50	3,471,489.15	40° 48' 38.460 N	103° 47' 48.050 W
- actual wellpath misses target center by 59.98usft at 0.39usft MD (0.39 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	-320.64	-1,856.24	1,542,351.26	3,469,639.40	
Point 2				0.00	-348.90	3,364.14	1,542,423.29	3,474,859.38	
Horsetail #30F_SB	0.00	0.00	0.00	0.05	-59.98	1,542,707.50	3,471,489.15	40° 48' 38.460 N	103° 47' 48.050 W
- actual wellpath misses target center by 59.98usft at 0.39usft MD (0.39 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	2,332.83	-1,786.76	1,545,005.58	3,469,657.89	
Point 2				0.00	-320.64	-1,756.24	1,542,353.18	3,469,739.38	
Point 3				0.00	-2,861.00	-1,683.35	1,539,814.68	3,469,861.06	
Point 4				0.00	-2,893.48	730.50	1,539,828.57	3,472,275.10	
Point 5				0.00	-2,908.56	3,290.81	1,539,862.68	3,474,835.24	
Point 6				0.00	-348.90	3,264.14	1,542,421.36	3,474,759.40	
Point 7				0.00	2,310.76	3,237.76	1,545,080.04	3,474,681.93	
Point 8				0.00	4,959.13	3,201.97	1,547,727.25	3,474,595.27	
Point 9				0.00	7,525.00	3,166.19	1,550,291.97	3,474,510.21	
Point 10				0.00	7,522.97	609.53	1,550,240.82	3,471,954.05	
Point 11				0.00	7,521.94	-1,829.53	1,550,192.94	3,469,515.45	
Point 12				0.00	4,974.29	-1,807.32	1,547,646.17	3,469,586.59	
Point 13				0.00	2,332.83	-1,786.76	1,545,005.58	3,469,657.89	
Horsetail 19N-1924M	0.00	0.00	-6.70	2,979.46	612.78	1,545,699.29	3,472,104.55	40° 49' 7.899 N	103° 47' 39.300 W
- actual wellpath misses target center by 3041.84usft at 5.47usft MD (5.47 TVD, 0.00 N, 0.00 E)									
- Circle (radius 100.00)									
Horsetail #30F-1943_F	0.00	0.00	5,559.00	7,522.86	-339.00	1,550,223.59	3,471,065.66	40° 49' 52.792 N	103° 47' 51.680 W
- actual wellpath misses target center by 6.57usft at 13647.27usft MD (5563.60 TVD, 7522.94 N, -343.70 E)									
- Point									

Design Report for Horsetail #30F-1943 - Actual Field Surveys

Directional Difficulty Index

Average Dogleg over Survey:	2.07 °/100usft	Maximum Dogleg over Survey:	18.87 °/100usft at 5,148.00 usft
Net Tortousity applicable to Plans:	1.17 °/100usft	Directional Difficulty Index:	6.806

Audit Info

North Reference Sheet for Sec. 30-T10N-R57W (Horsetail #30F Pad) - Horsetail #30F-1943 - Plan C

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

Vertical Depths are relative to KB 17 ft @ 4797.00usft (Xtreme 18). Northing and Easting are relative to Horsetail #30F-1943

Coordinate System is US State Plane 1983, Colorado Northern 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:40° 47' 0.000 N°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 1.00000455

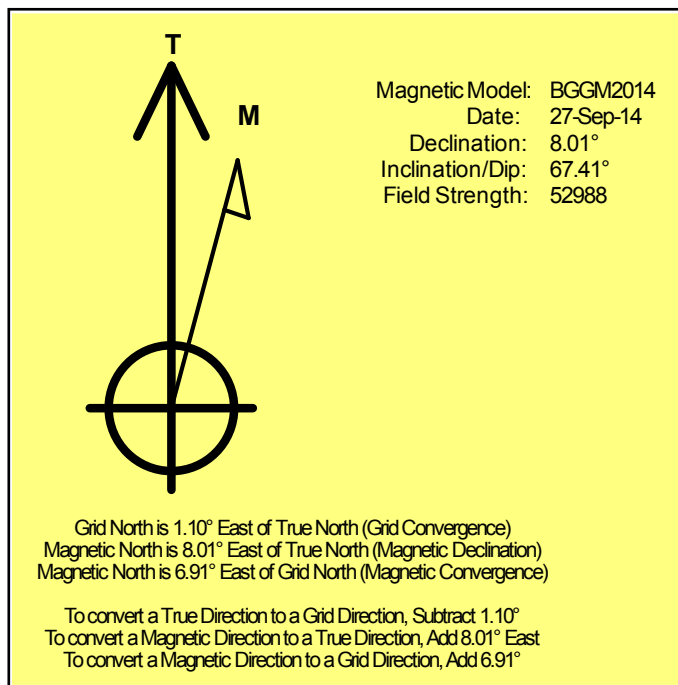
Grid Coordinates of Well: 1,542,708.60 usft N, 3,471,549.11 usft E

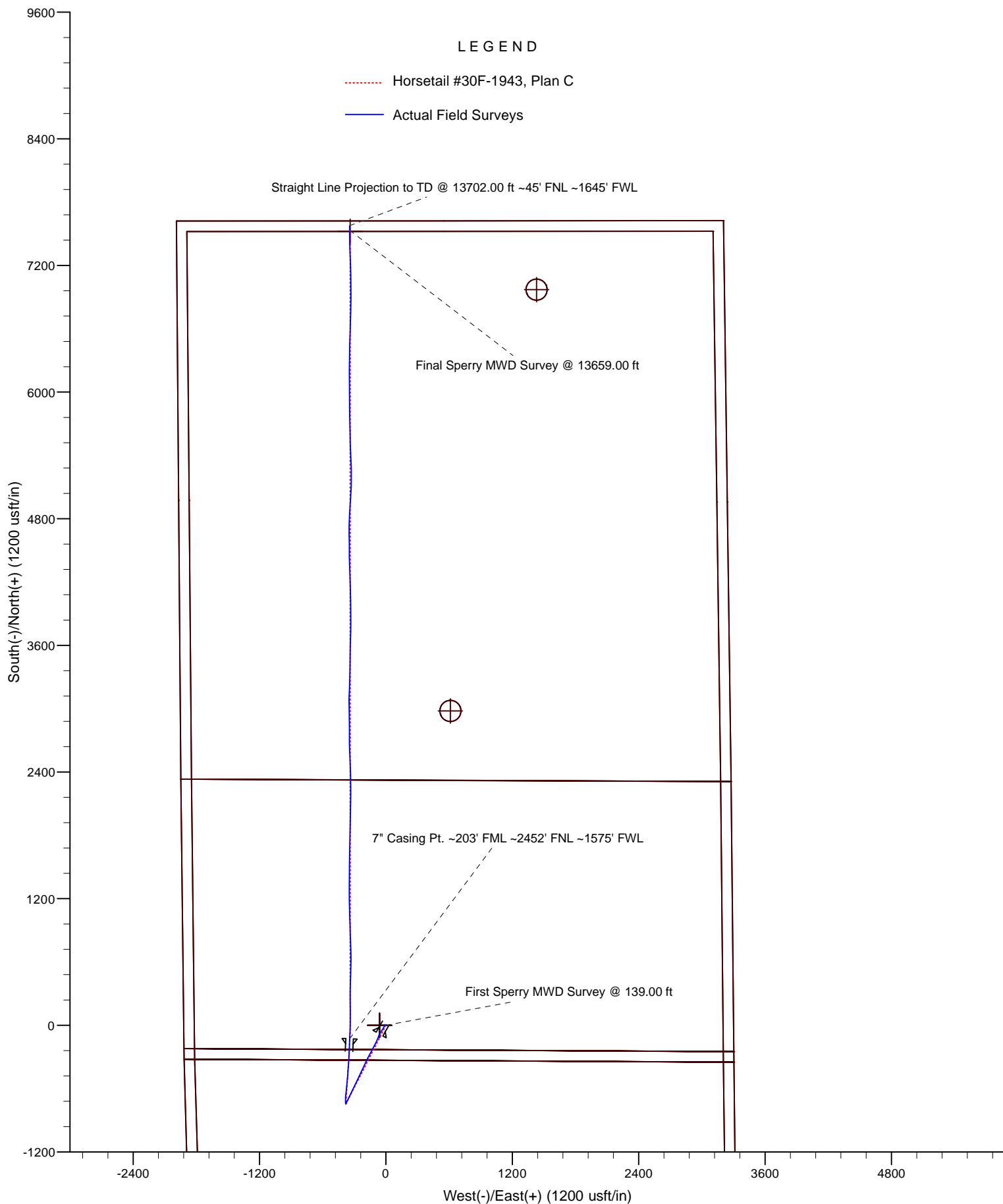
Geographical Coordinates of Well: 40° 48' 38.46" N, 103° 47' 47.27" W

Grid Convergence at Surface is: 1.10°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,702.00usft the Bottom Hole Displacement is 7,585.46usft in the Direction of 357.40° (True).

Magnetic Convergence at surface is: -6.91° (27 September 2014, , BGGM2014)





Project: Weld County, CO
Site: Sec. 30-T10N-R57W (Horsetail #30F Pad)
Well: Horsetail #30F-1943

Whiting Oil and Gas Corporation

