

Whiting Oil and Gas Corporation

Weld County, CO

Sec. 30-T10N-R57W

Horsetail #30F-1941

Plan B

Plan: Rev B0

Sperry Drilling Services

Proposal Report

05 December, 2013

Well Coordinates: 1,542,707.51 N, 3,471,489.14 E (40° 48' 38.46" N, 103° 47' 48.05" W)

Ground Level: 4,781.70 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-1941

KB 22 ft @ 4803.70usft (Frontier 26)

N

True

API - US Survey Feet - Custom

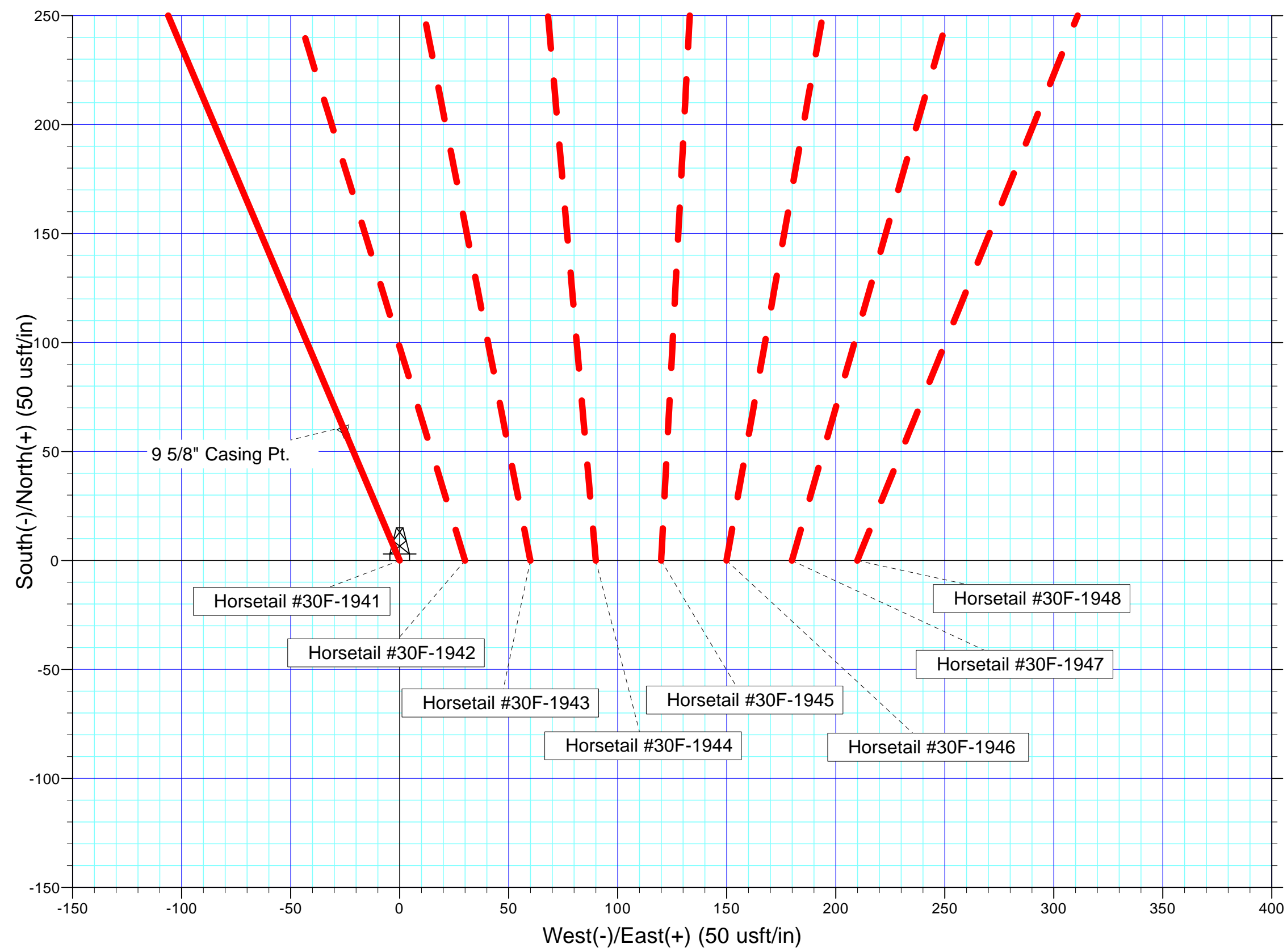
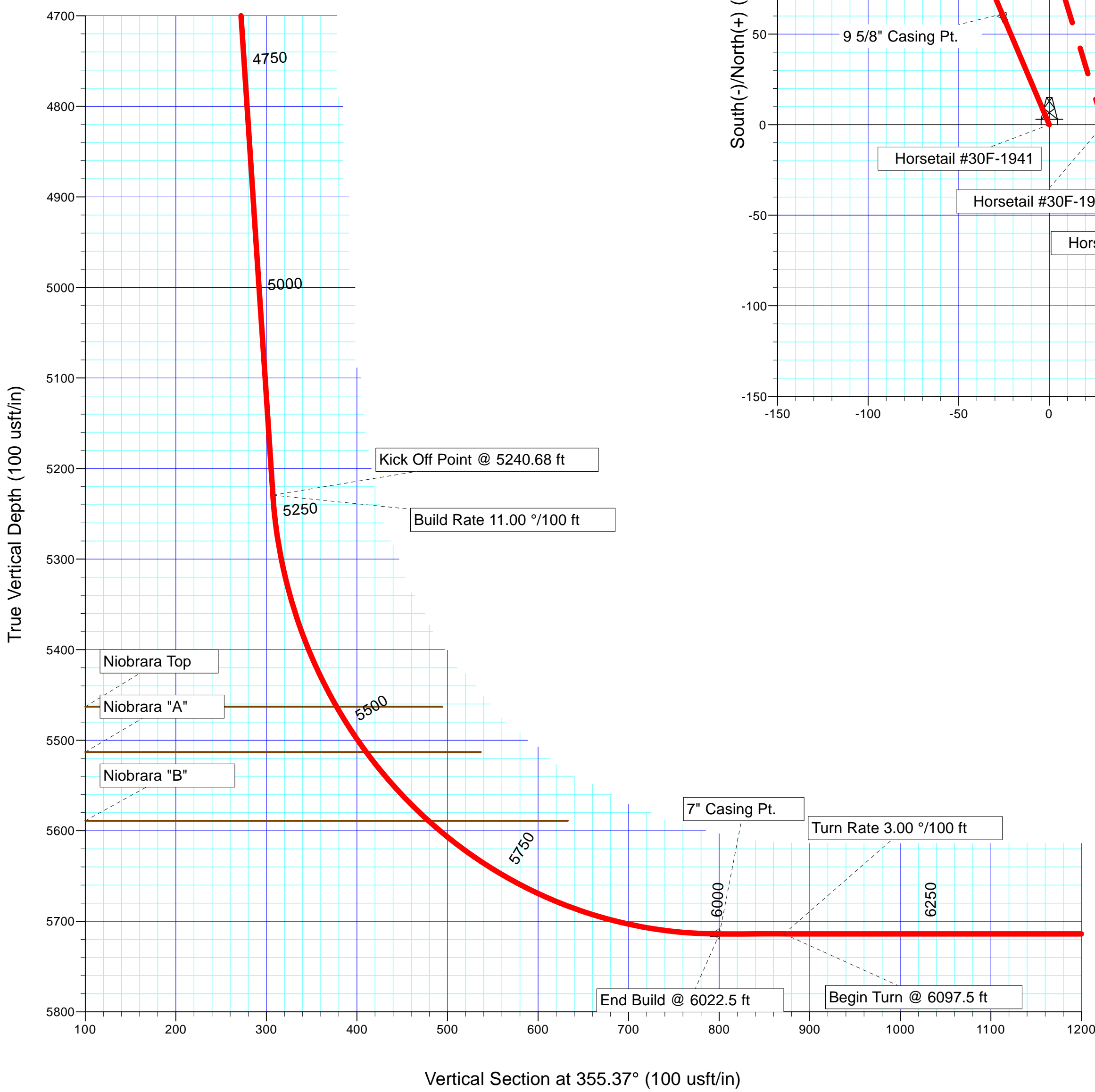
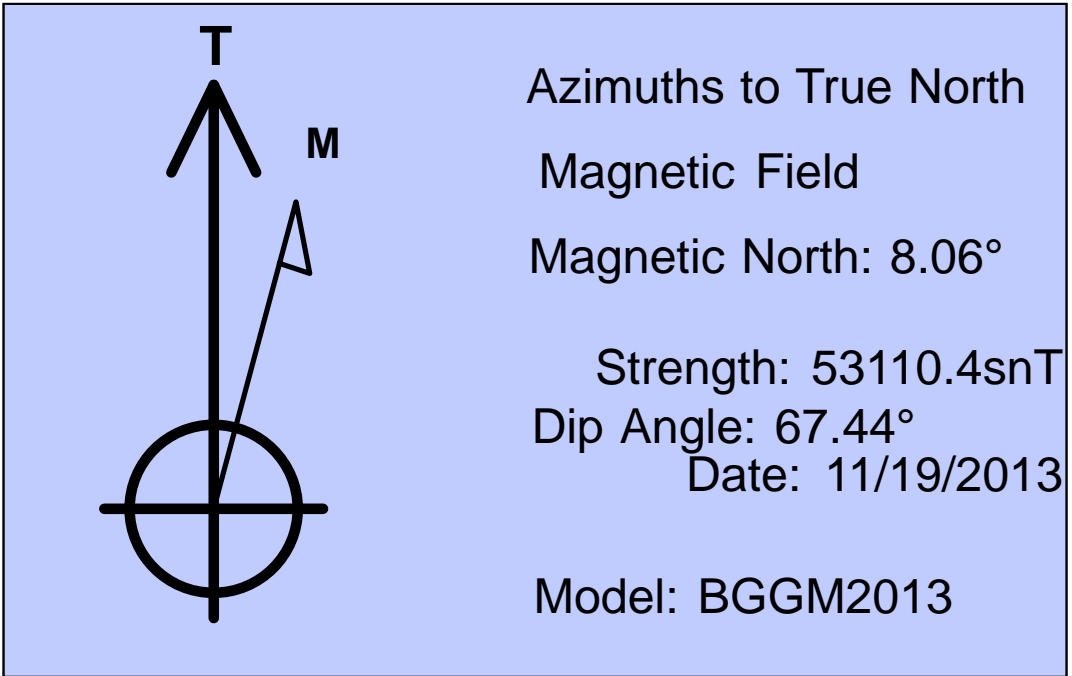
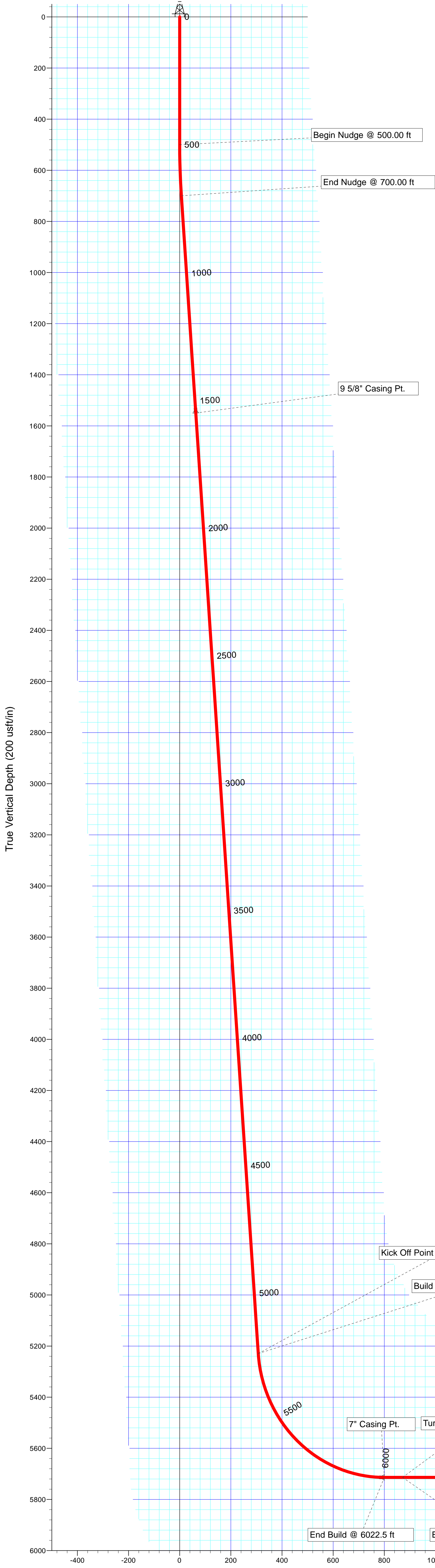
HALLIBURTON

Project: Weld County, CO
Site: Sec. 30-T10N-R57W
Well: Horsetail #30F-1941
Wellbore: Plan B
Plan: Rev B0

Whiting Oil and Gas Corporation



SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00		
3	700.00	4.00	337.00	699.84	6.42	-2.73	2.00	337.00	6.62		
4	5240.68	4.00	337.00	5229.46	297.99	-126.49	0.00	0.00	307.22		
5	6022.50	90.00	337.00	5714.00	776.28	-329.51	11.00	0.00	800.34		
6	6097.50	90.00	337.00	5714.00	845.32	-358.82	0.00	0.00	871.51		
7	6832.60	90.00	359.05	5714.00	1560.00	-510.38	3.00	90.00	1596.09		
8	12796.18	90.00	359.05	5714.00	7522.76	-608.94	0.00	0.00	7547.37	Horsetail 30F-1941_Rev B0_BHL Tgt	



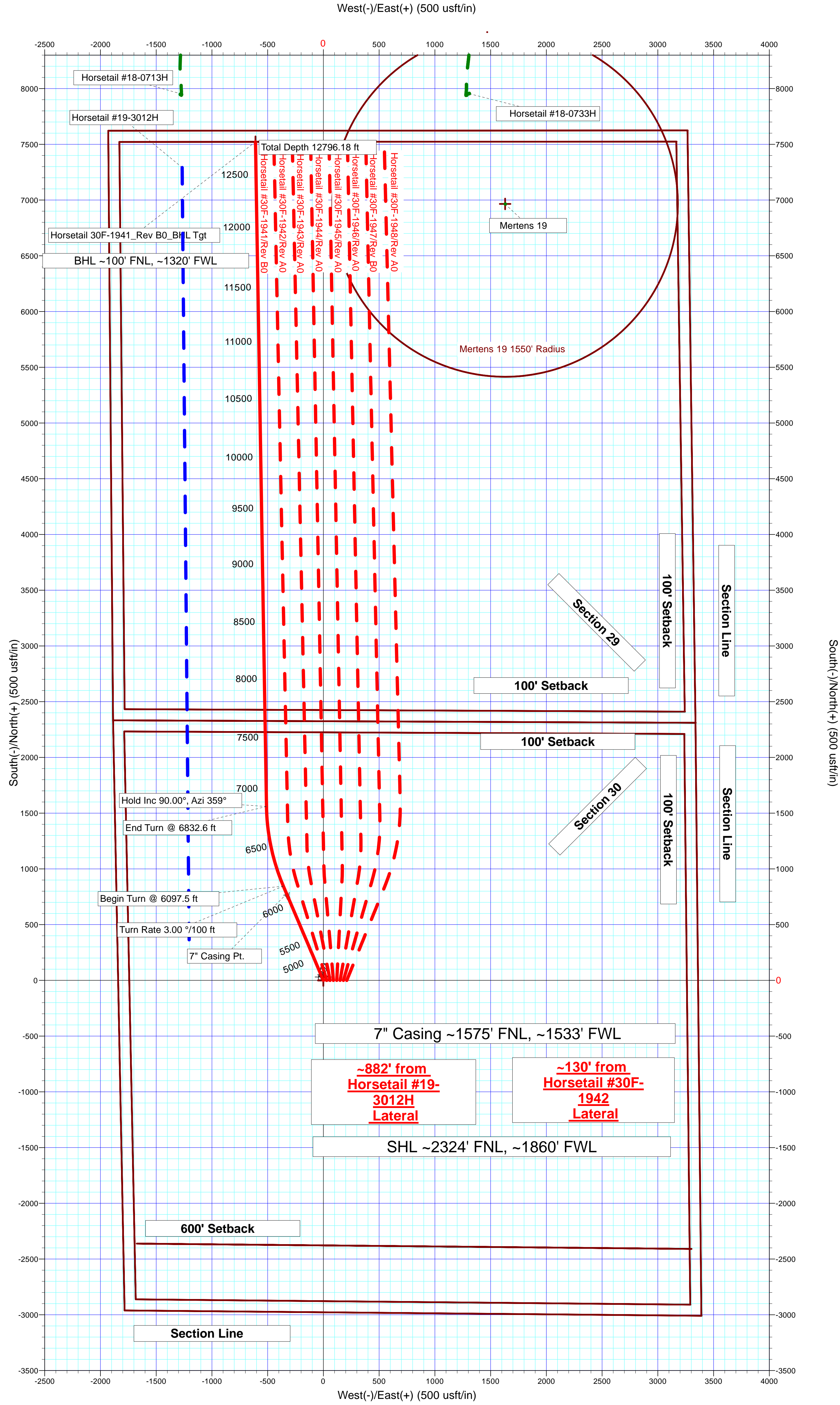
Plan: Rev B0 (Horsetail #30F-1941/Plan B)

Created By: Troy L. Stoute Date: 13:14, December 05 2013

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____



Plan Report for Horsetail #30F-1941 - Rev B0

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)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 500.00 ft										
600.00	2.00	337.00	599.98	1.61	-0.68	1.66	2.00	2.00	0.00	337.00
700.00	4.00	337.00	699.84	6.42	-2.73	6.62	2.00	2.00	0.00	0.00
End Nudge @ 700.00 ft										
800.00	4.00	337.00	799.59	12.84	-5.45	13.24	0.00	0.00	0.00	0.00
900.00	4.00	337.00	899.35	19.27	-8.18	19.86	0.00	0.00	0.00	0.00
1,000.00	4.00	337.00	999.11	25.69	-10.90	26.48	0.00	0.00	0.00	0.00
1,100.00	4.00	337.00	1,098.86	32.11	-13.63	33.10	0.00	0.00	0.00	0.00
1,200.00	4.00	337.00	1,198.62	38.53	-16.35	39.72	0.00	0.00	0.00	0.00
1,300.00	4.00	337.00	1,298.38	44.95	-19.08	46.34	0.00	0.00	0.00	0.00
1,400.00	4.00	337.00	1,398.13	51.37	-21.81	52.96	0.00	0.00	0.00	0.00
1,500.00	4.00	337.00	1,497.89	57.79	-24.53	59.58	0.00	0.00	0.00	0.00
1,552.24	4.00	337.00	1,550.00	61.15	-25.96	63.04	0.00	0.00	0.00	0.00
9 5/8" Casing Pt.										
1,600.00	4.00	337.00	1,597.65	64.21	-27.26	66.20	0.00	0.00	0.00	0.00
1,700.00	4.00	337.00	1,697.40	70.63	-29.98	72.82	0.00	0.00	0.00	0.00
1,800.00	4.00	337.00	1,797.16	77.06	-32.71	79.44	0.00	0.00	0.00	0.00
1,900.00	4.00	337.00	1,896.91	83.48	-35.43	86.06	0.00	0.00	0.00	0.00
2,000.00	4.00	337.00	1,996.67	89.90	-38.16	92.68	0.00	0.00	0.00	0.00
2,100.00	4.00	337.00	2,096.43	96.32	-40.89	99.30	0.00	0.00	0.00	0.00
2,200.00	4.00	337.00	2,196.18	102.74	-43.61	105.92	0.00	0.00	0.00	0.00
2,300.00	4.00	337.00	2,295.94	109.16	-46.34	112.54	0.00	0.00	0.00	0.00
2,400.00	4.00	337.00	2,395.70	115.58	-49.06	119.16	0.00	0.00	0.00	0.00
2,500.00	4.00	337.00	2,495.45	122.00	-51.79	125.78	0.00	0.00	0.00	0.00
2,600.00	4.00	337.00	2,595.21	128.42	-54.51	132.40	0.00	0.00	0.00	0.00
2,700.00	4.00	337.00	2,694.97	134.85	-57.24	139.02	0.00	0.00	0.00	0.00
2,800.00	4.00	337.00	2,794.72	141.27	-59.96	145.64	0.00	0.00	0.00	0.00
2,900.00	4.00	337.00	2,894.48	147.69	-62.69	152.26	0.00	0.00	0.00	0.00
3,000.00	4.00	337.00	2,994.23	154.11	-65.42	158.88	0.00	0.00	0.00	0.00
3,100.00	4.00	337.00	3,093.99	160.53	-68.14	165.51	0.00	0.00	0.00	0.00
3,200.00	4.00	337.00	3,193.75	166.95	-70.87	172.13	0.00	0.00	0.00	0.00
3,300.00	4.00	337.00	3,293.50	173.37	-73.59	178.75	0.00	0.00	0.00	0.00
3,400.00	4.00	337.00	3,393.26	179.79	-76.32	185.37	0.00	0.00	0.00	0.00
3,500.00	4.00	337.00	3,493.02	186.22	-79.04	191.99	0.00	0.00	0.00	0.00
3,600.00	4.00	337.00	3,592.77	192.64	-81.77	198.61	0.00	0.00	0.00	0.00
3,700.00	4.00	337.00	3,692.53	199.06	-84.49	205.23	0.00	0.00	0.00	0.00
3,800.00	4.00	337.00	3,792.29	205.48	-87.22	211.85	0.00	0.00	0.00	0.00
3,900.00	4.00	337.00	3,892.04	211.90	-89.95	218.47	0.00	0.00	0.00	0.00
4,000.00	4.00	337.00	3,991.80	218.32	-92.67	225.09	0.00	0.00	0.00	0.00
4,100.00	4.00	337.00	4,091.56	224.74	-95.40	231.71	0.00	0.00	0.00	0.00
4,200.00	4.00	337.00	4,191.31	231.16	-98.12	238.33	0.00	0.00	0.00	0.00
4,300.00	4.00	337.00	4,291.07	237.58	-100.85	244.95	0.00	0.00	0.00	0.00
4,400.00	4.00	337.00	4,390.82	244.01	-103.57	251.57	0.00	0.00	0.00	0.00
4,500.00	4.00	337.00	4,490.58	250.43	-106.30	258.19	0.00	0.00	0.00	0.00
4,600.00	4.00	337.00	4,590.34	256.85	-109.03	264.81	0.00	0.00	0.00	0.00
4,700.00	4.00	337.00	4,690.09	263.27	-111.75	271.43	0.00	0.00	0.00	0.00
4,800.00	4.00	337.00	4,789.85	269.69	-114.48	278.05	0.00	0.00	0.00	0.00
4,900.00	4.00	337.00	4,889.61	276.11	-117.20	284.67	0.00	0.00	0.00	0.00
5,000.00	4.00	337.00	4,989.36	282.53	-119.93	291.29	0.00	0.00	0.00	0.00
5,100.00	4.00	337.00	5,089.12	288.95	-122.65	297.91	0.00	0.00	0.00	0.00
5,200.00	4.00	337.00	5,188.88	295.37	-125.38	304.53	0.00	0.00	0.00	0.00
5,240.68	4.00	337.00	5,229.46	297.99	-126.49	307.22	0.00	0.00	0.00	0.00

Plan Report for Horsetail #30F-1941 - Rev B0

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)	Toolface Azimuth (°)
Build Rate 11.00 °/100 ft - Kick Off Point @ 5240.68 ft										
5,300.00	10.52	337.00	5,288.27	304.88	-129.42	314.33	11.00	11.00	0.00	0.00
5,400.00	21.52	337.00	5,384.24	330.26	-140.19	340.49	11.00	11.00	0.00	0.00
5,488.01	31.21	337.00	5,463.00	366.19	-155.44	377.54	11.00	11.00	0.00	0.00
Niobrara Top										
5,500.00	32.52	337.00	5,473.18	372.02	-157.91	383.55	11.00	11.00	0.00	0.00
5,548.75	37.89	337.00	5,513.00	397.88	-168.89	410.21	11.00	11.00	0.00	0.00
Niobrara "A"										
5,600.00	43.52	337.00	5,551.83	428.63	-181.94	441.92	11.00	11.00	0.00	0.00
5,654.01	49.47	337.00	5,589.00	464.68	-197.25	479.08	11.00	11.00	0.00	0.00
Niobrara "B"										
5,700.00	54.52	337.00	5,617.31	498.03	-211.40	513.46	11.00	11.00	0.00	0.00
5,800.00	65.52	337.00	5,667.19	577.64	-245.19	595.54	11.00	11.00	0.00	0.00
5,900.00	76.52	337.00	5,699.66	664.56	-282.09	685.15	11.00	11.00	0.00	0.00
6,000.00	87.52	337.00	5,713.51	755.58	-320.72	778.99	11.00	11.00	0.00	0.00
6,022.50	90.00	337.00	5,714.00	776.28	-329.51	800.34	11.00	11.00	0.00	0.00
End Build @ 6022.5 ft - 7" Casing Pt.										
6,097.50	90.00	337.00	5,714.00	845.32	-358.82	871.51	0.00	0.00	0.00	0.00
Turn Rate 3.00 °/100 ft - Begin Turn @ 6097.5 ft										
6,100.00	90.00	337.07	5,714.00	847.62	-359.79	873.89	3.00	0.00	3.00	90.00
6,200.00	90.00	340.07	5,714.00	940.70	-396.32	969.61	3.00	0.00	3.00	90.00
6,300.00	90.00	343.07	5,714.00	1,035.56	-427.92	1,066.71	3.00	0.00	3.00	90.00
6,400.00	90.00	346.07	5,714.00	1,131.95	-454.51	1,164.93	3.00	0.00	3.00	90.00
6,500.00	90.00	349.07	5,714.00	1,229.60	-476.03	1,263.99	3.00	0.00	3.00	90.00
6,600.00	90.00	352.07	5,714.00	1,328.24	-492.40	1,363.63	3.00	0.00	3.00	90.00
6,700.00	90.00	355.07	5,714.00	1,427.60	-503.59	1,463.57	3.00	0.00	3.00	90.00
6,800.00	90.00	358.07	5,714.00	1,527.41	-509.56	1,563.54	3.00	0.00	3.00	90.00
6,832.60	90.00	359.05	5,714.00	1,560.00	-510.38	1,596.09	3.00	0.00	3.00	90.00
Hold Inc 90.00°, Azi 359° - End Turn @ 6832.6 ft										
6,900.00	90.00	359.05	5,714.00	1,627.39	-511.49	1,663.35	0.00	0.00	0.00	90.00
7,000.00	90.00	359.05	5,714.00	1,727.37	-513.15	1,763.14	0.00	0.00	0.00	0.00
7,100.00	90.00	359.05	5,714.00	1,827.36	-514.80	1,862.94	0.00	0.00	0.00	0.00
7,200.00	90.00	359.05	5,714.00	1,927.34	-516.45	1,962.73	0.00	0.00	0.00	0.00
7,300.00	90.00	359.05	5,714.00	2,027.33	-518.11	2,062.52	0.00	0.00	0.00	0.00
7,400.00	90.00	359.05	5,714.00	2,127.32	-519.76	2,162.32	0.00	0.00	0.00	0.00
7,500.00	90.00	359.05	5,714.00	2,227.30	-521.41	2,262.11	0.00	0.00	0.00	0.00
7,600.00	90.00	359.05	5,714.00	2,327.29	-523.06	2,361.91	0.00	0.00	0.00	0.00
7,700.00	90.00	359.05	5,714.00	2,427.28	-524.72	2,461.70	0.00	0.00	0.00	0.00
7,800.00	90.00	359.05	5,714.00	2,527.26	-526.37	2,561.49	0.00	0.00	0.00	0.00
7,900.00	90.00	359.05	5,714.00	2,627.25	-528.02	2,661.29	0.00	0.00	0.00	0.00
8,000.00	90.00	359.05	5,714.00	2,727.24	-529.68	2,761.08	0.00	0.00	0.00	0.00
8,100.00	90.00	359.05	5,714.00	2,827.22	-531.33	2,860.87	0.00	0.00	0.00	0.00
8,200.00	90.00	359.05	5,714.00	2,927.21	-532.98	2,960.67	0.00	0.00	0.00	0.00
8,300.00	90.00	359.05	5,714.00	3,027.19	-534.63	3,060.46	0.00	0.00	0.00	0.00
8,400.00	90.00	359.05	5,714.00	3,127.18	-536.29	3,160.25	0.00	0.00	0.00	0.00
8,500.00	90.00	359.05	5,714.00	3,227.17	-537.94	3,260.05	0.00	0.00	0.00	0.00
8,600.00	90.00	359.05	5,714.00	3,327.15	-539.59	3,359.84	0.00	0.00	0.00	0.00
8,700.00	90.00	359.05	5,714.00	3,427.14	-541.24	3,459.64	0.00	0.00	0.00	0.00
8,800.00	90.00	359.05	5,714.00	3,527.13	-542.90	3,559.43	0.00	0.00	0.00	0.00
8,900.00	90.00	359.05	5,714.00	3,627.11	-544.55	3,659.22	0.00	0.00	0.00	0.00
9,000.00	90.00	359.05	5,714.00	3,727.10	-546.20	3,759.02	0.00	0.00	0.00	0.00
9,100.00	90.00	359.05	5,714.00	3,827.09	-547.86	3,858.81	0.00	0.00	0.00	0.00
9,200.00	90.00	359.05	5,714.00	3,927.07	-549.51	3,958.60	0.00	0.00	0.00	0.00
9,300.00	90.00	359.05	5,714.00	4,027.06	-551.16	4,058.40	0.00	0.00	0.00	0.00
9,400.00	90.00	359.05	5,714.00	4,127.04	-552.81	4,158.19	0.00	0.00	0.00	0.00
9,500.00	90.00	359.05	5,714.00	4,227.03	-554.47	4,257.99	0.00	0.00	0.00	0.00
9,600.00	90.00	359.05	5,714.00	4,327.02	-556.12	4,357.78	0.00	0.00	0.00	0.00
9,700.00	90.00	359.05	5,714.00	4,427.00	-557.77	4,457.57	0.00	0.00	0.00	0.00

Plan Report for Horsetail #30F-1941 - Rev B0

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)	Toolface Azimuth (°)
9,800.00	90.00	359.05	5,714.00	4,526.99	-559.42	4,557.37	0.00	0.00	0.00	0.00
9,900.00	90.00	359.05	5,714.00	4,626.98	-561.08	4,657.16	0.00	0.00	0.00	0.00
10,000.00	90.00	359.05	5,714.00	4,726.96	-562.73	4,756.95	0.00	0.00	0.00	0.00
10,100.00	90.00	359.05	5,714.00	4,826.95	-564.38	4,856.75	0.00	0.00	0.00	0.00
10,200.00	90.00	359.05	5,714.00	4,926.94	-566.04	4,956.54	0.00	0.00	0.00	0.00
10,300.00	90.00	359.05	5,714.00	5,026.92	-567.69	5,056.34	0.00	0.00	0.00	0.00
10,400.00	90.00	359.05	5,714.00	5,126.91	-569.34	5,156.13	0.00	0.00	0.00	0.00
10,500.00	90.00	359.05	5,714.00	5,226.89	-570.99	5,255.92	0.00	0.00	0.00	0.00
10,600.00	90.00	359.05	5,714.00	5,326.88	-572.65	5,355.72	0.00	0.00	0.00	0.00
10,700.00	90.00	359.05	5,714.00	5,426.87	-574.30	5,455.51	0.00	0.00	0.00	0.00
10,800.00	90.00	359.05	5,714.00	5,526.85	-575.95	5,555.30	0.00	0.00	0.00	0.00
10,900.00	90.00	359.05	5,714.00	5,626.84	-577.61	5,655.10	0.00	0.00	0.00	0.00
11,000.00	90.00	359.05	5,714.00	5,726.83	-579.26	5,754.89	0.00	0.00	0.00	0.00
11,100.00	90.00	359.05	5,714.00	5,826.81	-580.91	5,854.69	0.00	0.00	0.00	0.00
11,200.00	90.00	359.05	5,714.00	5,926.80	-582.56	5,954.48	0.00	0.00	0.00	0.00
11,300.00	90.00	359.05	5,714.00	6,026.78	-584.22	6,054.27	0.00	0.00	0.00	0.00
11,400.00	90.00	359.05	5,714.00	6,126.77	-585.87	6,154.07	0.00	0.00	0.00	0.00
11,500.00	90.00	359.05	5,714.00	6,226.76	-587.52	6,253.86	0.00	0.00	0.00	0.00
11,600.00	90.00	359.05	5,714.00	6,326.74	-589.17	6,353.65	0.00	0.00	0.00	0.00
11,700.00	90.00	359.05	5,714.00	6,426.73	-590.83	6,453.45	0.00	0.00	0.00	0.00
11,800.00	90.00	359.05	5,714.00	6,526.72	-592.48	6,553.24	0.00	0.00	0.00	0.00
11,900.00	90.00	359.05	5,714.00	6,626.70	-594.13	6,653.03	0.00	0.00	0.00	0.00
12,000.00	90.00	359.05	5,714.00	6,726.69	-595.79	6,752.83	0.00	0.00	0.00	0.00
12,100.00	90.00	359.05	5,714.00	6,826.68	-597.44	6,852.62	0.00	0.00	0.00	0.00
12,200.00	90.00	359.05	5,714.00	6,926.66	-599.09	6,952.42	0.00	0.00	0.00	0.00
12,300.00	90.00	359.05	5,714.00	7,026.65	-600.74	7,052.21	0.00	0.00	0.00	0.00
12,400.00	90.00	359.05	5,714.00	7,126.63	-602.40	7,152.00	0.00	0.00	0.00	0.00
12,500.00	90.00	359.05	5,714.00	7,226.62	-604.05	7,251.80	0.00	0.00	0.00	0.00
12,600.00	90.00	359.05	5,714.00	7,326.61	-605.70	7,351.59	0.00	0.00	0.00	0.00
12,700.00	90.00	359.05	5,714.00	7,426.59	-607.35	7,451.38	0.00	0.00	0.00	0.00
12,796.18	90.00	359.05	5,714.00	7,522.76	-608.94	7,547.37	0.00	0.00	0.00	0.00
Total Depth 12796.18 ft										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.00	500.00	0.00	0.00	Begin Nudge @ 500.00 ft
700.00	699.84	6.42	-2.73	End Nudge @ 700.00 ft
5,240.68	5,229.46	297.99	-126.49	Build Rate 11.00 °/100 ft
5,240.68	5,229.46	297.99	-126.49	Kick Off Point @ 5240.68 ft
6,022.50	5,714.00	776.28	-329.51	End Build @ 6022.5 ft
6,097.50	5,714.00	845.32	-358.82	Turn Rate 3.00 °/100 ft
6,097.50	5,714.00	845.32	-358.82	Begin Turn @ 6097.5 ft
6,832.60	5,714.00	1,560.00	-510.38	Hold Inc 90.00°, Azi 359°
6,832.60	5,714.00	1,560.00	-510.38	End Turn @ 6832.6 ft
12,796.18	5,714.00	7,522.76	-608.94	Total Depth 12796.18 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
Target	Horsetail 30F-1941_Rev B0_BHL Tgt	355.37	Slot	0.00	0.00	5,714.00

Plan Report for Horsetail #30F-1941 - Rev B0**Survey tool program**

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	1,550.00	Rev B0	MWD+IFR1+MS+sag
1,550.00	6,022.50	Rev B0	MWD+IFR1+MS+sag
6,022.50	12,796.18	Rev B0	MWD+IFR1+MS+sag

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,552.24	1,550.00	9 5/8" Casing Pt.	9-5/8	13-1/2
6,022.50	5,714.00	7" Casing Pt.	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,488.01	5,463.00	Niobrara Top		0.00	
5,548.75	5,513.00	Niobrara "A"		0.00	
5,654.01	5,589.00	Niobrara "B"		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Horsetail 30F 100' Section 19 Setback	0.00	-0.11	-0.12	Polygon
Mertens 19 1550' radius	0.00	6,965.00	1,630.17	Circle
Horsetail 30F 600' FSL	0.00	-0.11	-0.12	Polygon
Horsetail 30F Section 19 Lines	0.00	-0.11	-0.12	Polygon
Horsetail 30F Section 30 Lines	0.00	-0.11	-0.12	Polygon
Horsetail 30F 100' Section 30 Setback	0.00	-0.11	-0.12	Polygon
Horsetail 30F-1941_Rev A0_BHL Tgt	5,513.00	7,522.60	-608.82	Point
Horsetail #29E-3201A_Rev A0_BHL Tgt	5,524.50	-7,719.73	3,787.44	Point
Horsetail 30F-1941_Rev B0_BHL Tgt	5,714.00	7,522.76	-608.94	Point

Directional Difficulty Index

Average Dogleg over Survey:	0.88 °/100usft	Maximum Dogleg over Survey:	11.00 °/100usft at 6,022.50 usft
Net Tortousity applicable to Plans:	0.88 °/100usft	Directional Difficulty Index:	6.456

Audit Info

North Reference Sheet for Sec. 30-T10N-R57W - Horsetail #30F-1941 - Plan B

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

Vertical Depths are relative to KB 22 ft @ 4803.70usft (Frontier 26). Northing and Easting are relative to Horsetail #30F-1941

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 -105.50°, 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: 1,542,707.51 usft N, 3,471,489.14 usft E

Geographical Coordinates of Well: 40° 48' 38.46" N, 103° 47' 48.05" W

Grid Convergence at Surface is: 1.10°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,796.18usft

the Bottom Hole Displacement is 7,547.37usft in the Direction of 355.37° (True).

Magnetic Convergence at surface is: -6.96° (19 November 2013, , BGGM2013)

