

# Whiting Oil and Gas Corporation

Weld County, CO

Sec. 30-T10N-R58W

Razor #30I-1913

Plan A

Plan: Rev A0

## Sperry Drilling Services

## Proposal Report

27 May, 2014

Well Coordinates: 1,541,371.48 N, 3,442,524.48 E (40° 48' 30.59" N, 103° 54' 04.98" W)

Ground Level: 4,862.00 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 Razor #30I-1913

KB 17' @ 4879.00usft (TBD)

N

True

API - US Survey Feet - Custom

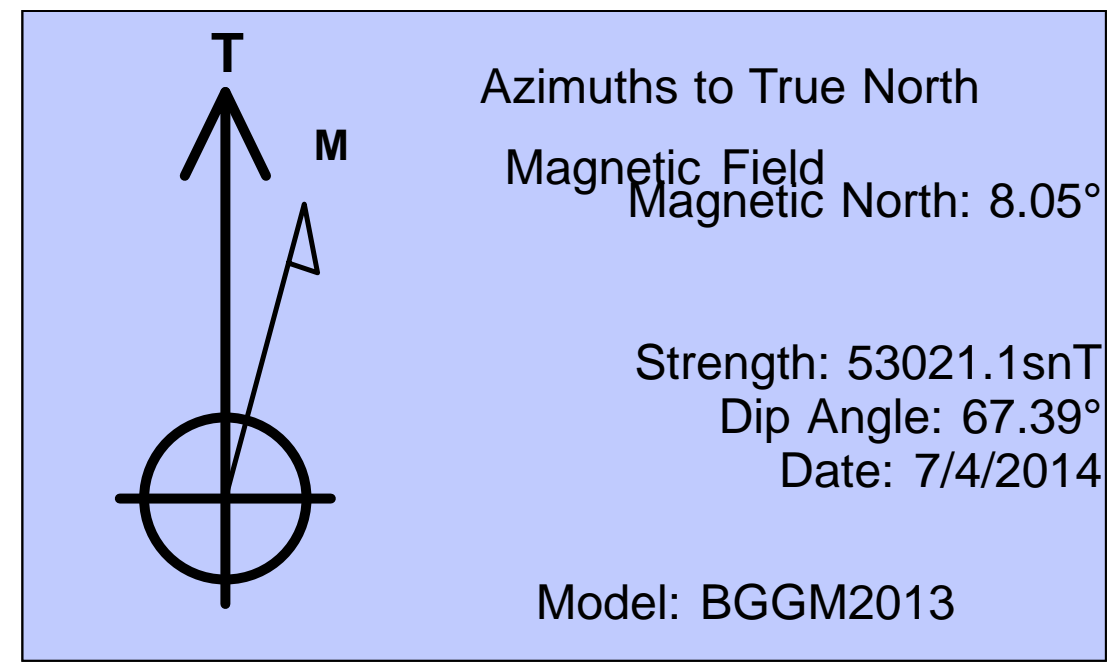
**HALLIBURTON**

Project: Weld County, CO  
Site: Sec. 30-T10N-R58W  
Well: Razor #301-1913  
Wellbore: Plan A  
Plan: Rev A0

Whiting Oil and Gas Corporation



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sect	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	338.00	699.84	6.47	-2.61	2.00	338.00	6.63	
4	5388.05	4.00	338.00	5376.47	309.68	-125.12	0.00	0.00	317.52	
5	6169.87	90.00	338.00	5861.00	791.45	-319.77	11.00	0.00	811.48	
6	6244.87	90.00	338.00	5861.00	860.98	-347.86	0.00	0.00	882.78	
7	6957.69	90.00	359.38	5861.00	1555.92	-486.82	3.00	90.00	1585.59	
8	13525.82	90.00	359.38	5861.00	8123.67	-557.35	0.00	0.00	8142.77	Razor 301-1913 BHL



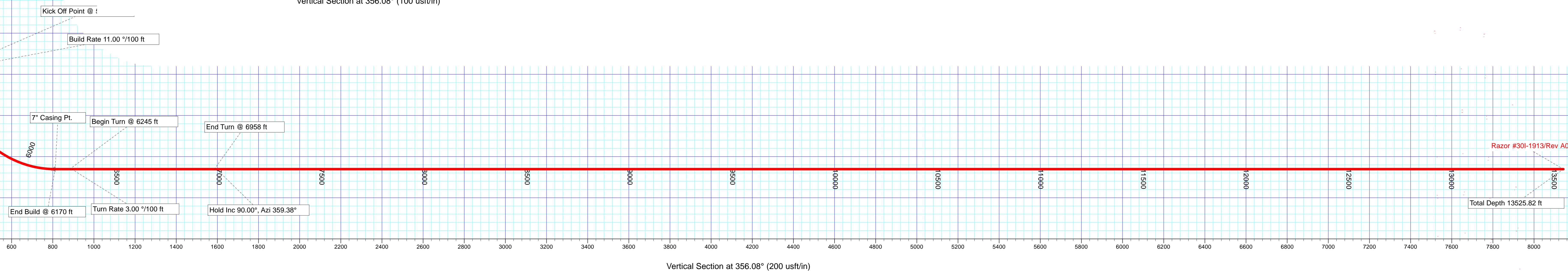
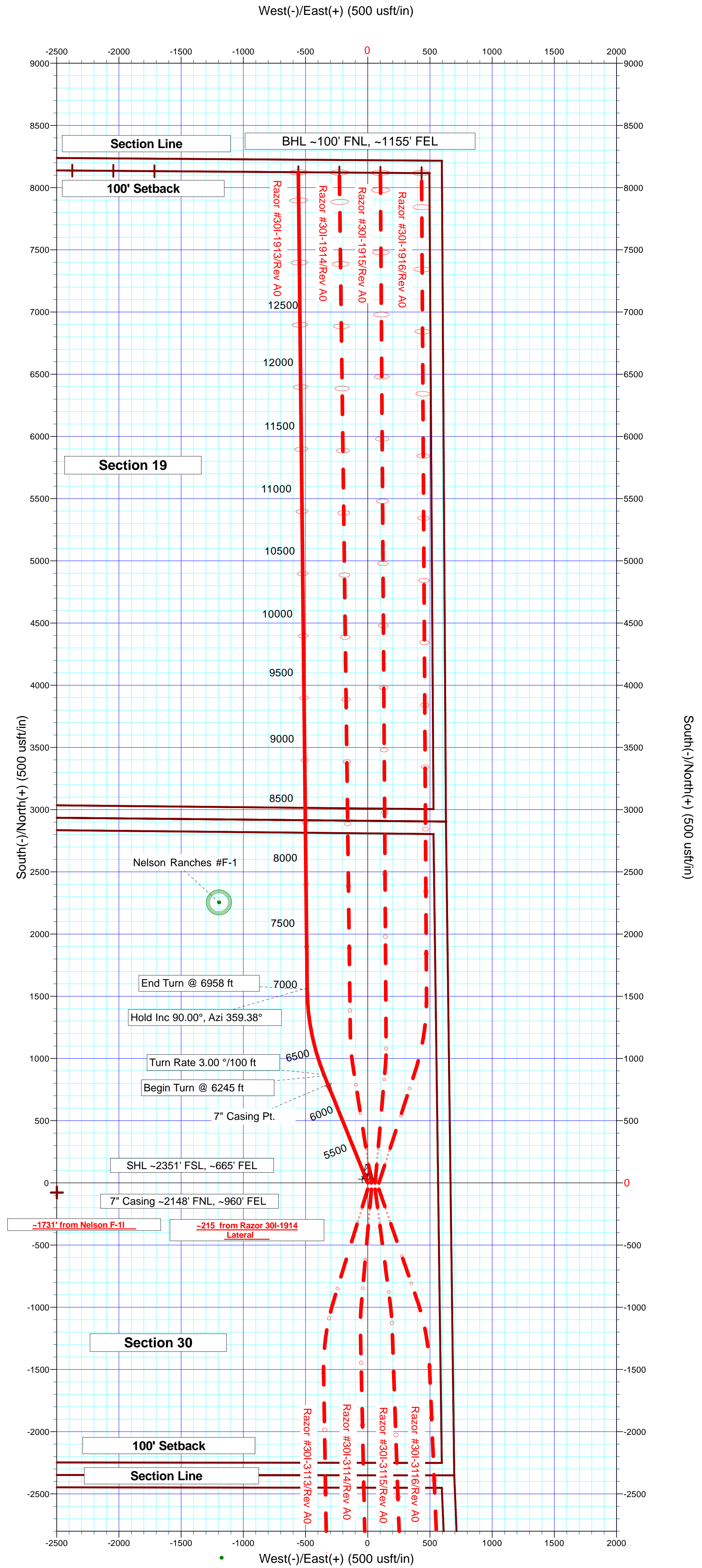
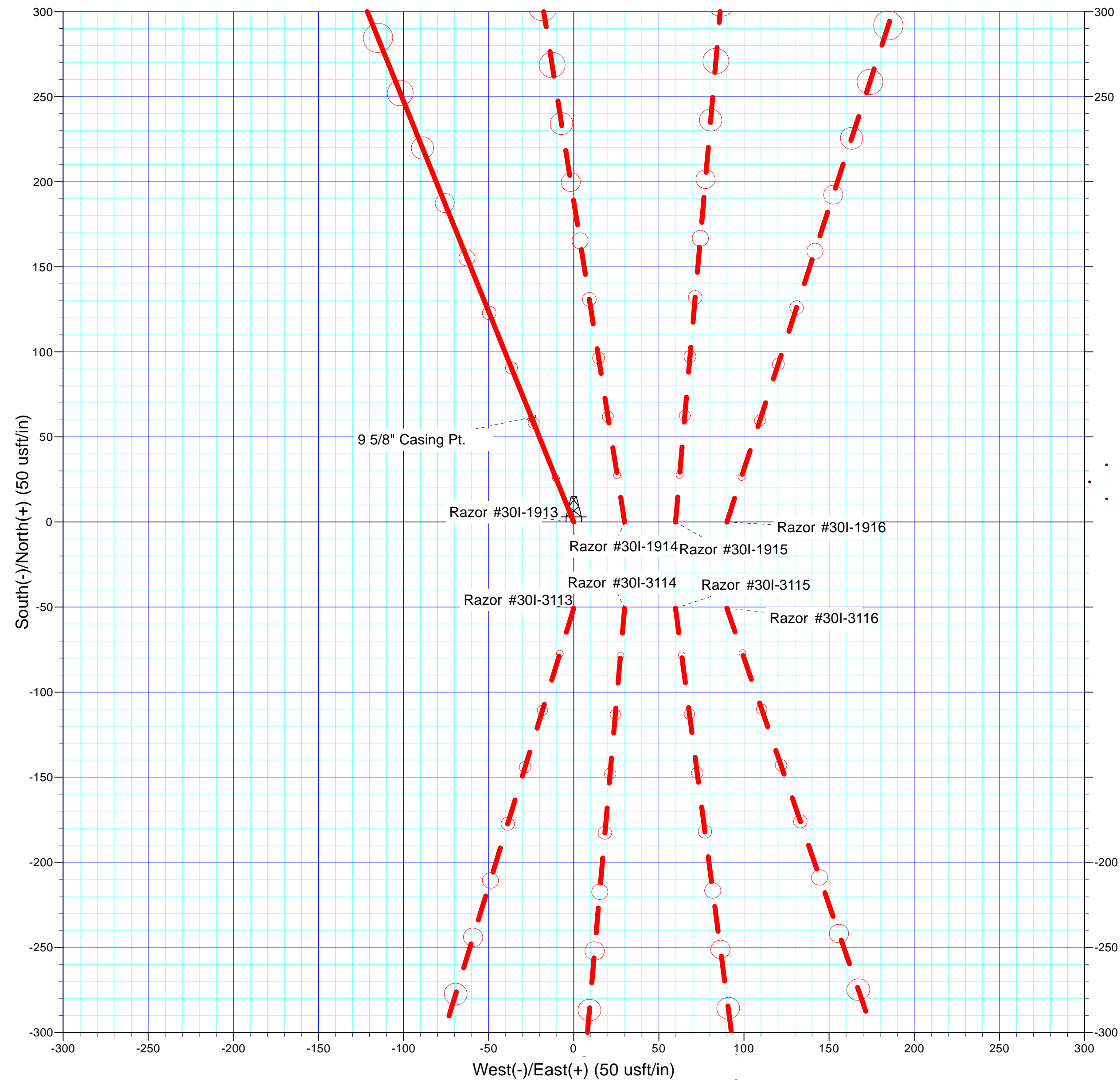
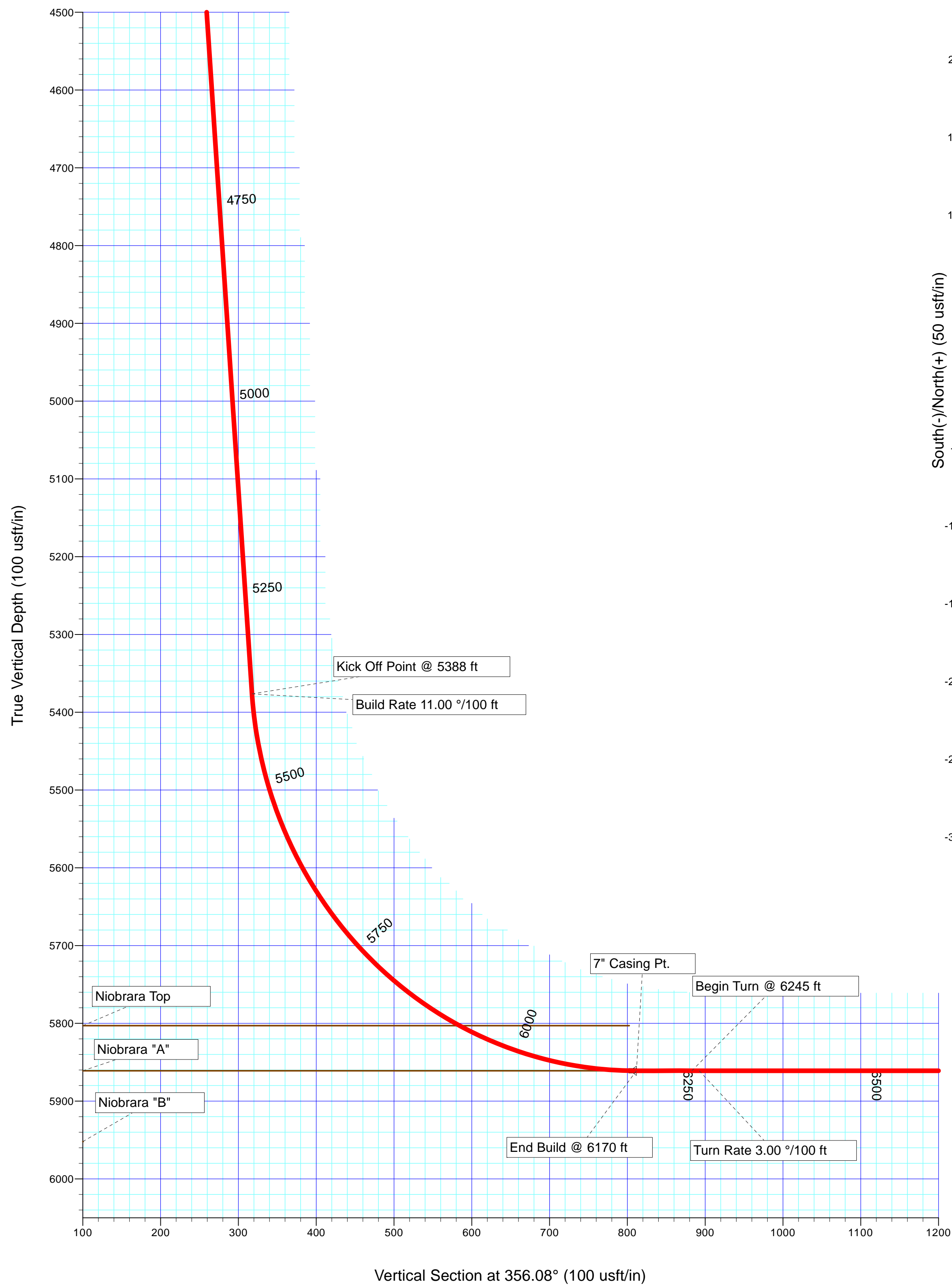
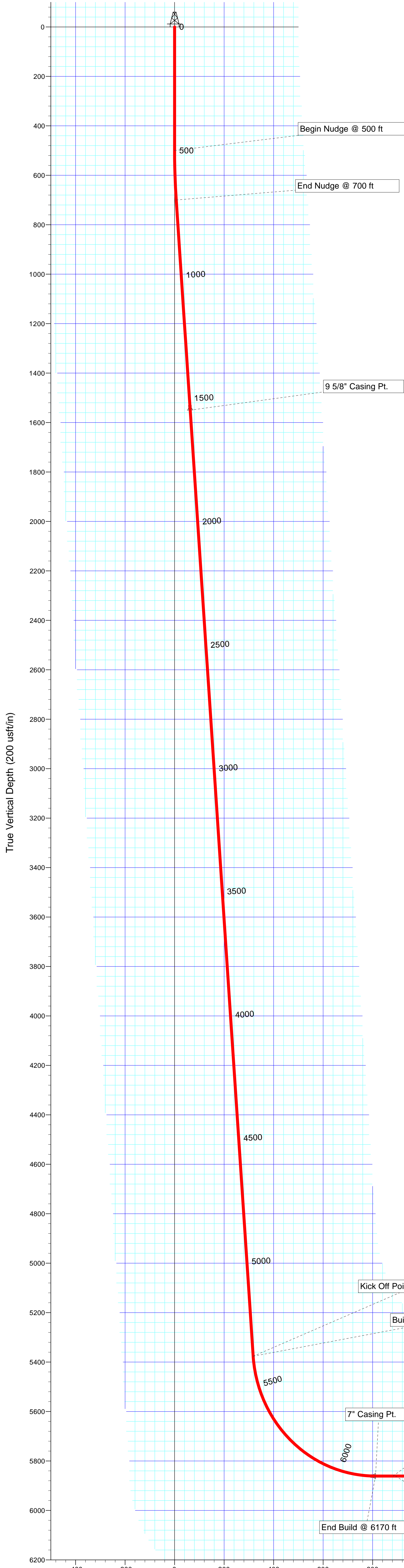
Plan: Rev A0 (Razor #301-1913/Plan A)

Created By: Troy L. Stoute      Date: 13:08, May 27 2014

Checked: \_\_\_\_\_      Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_      Date: \_\_\_\_\_

Approved: \_\_\_\_\_      Date: \_\_\_\_\_



**Plan Report for Razor #30I-1913 - Rev A0**

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
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 500 ft</b>										
600.00	2.00	338.00	599.98	1.62	-0.65	1.66	2.00	2.00	0.00	338.00
700.00	4.00	338.00	699.84	6.47	-2.61	6.63	2.00	2.00	0.00	0.00
<b>End Nudge @ 700 ft</b>										
800.00	4.00	338.00	799.59	12.94	-5.23	13.27	0.00	0.00	0.00	0.00
900.00	4.00	338.00	899.35	19.41	-7.84	19.90	0.00	0.00	0.00	0.00
1,000.00	4.00	338.00	999.11	25.87	-10.45	26.53	0.00	0.00	0.00	0.00
1,100.00	4.00	338.00	1,098.86	32.34	-13.07	33.16	0.00	0.00	0.00	0.00
1,200.00	4.00	338.00	1,198.62	38.81	-15.68	39.79	0.00	0.00	0.00	0.00
1,300.00	4.00	338.00	1,298.38	45.28	-18.29	46.42	0.00	0.00	0.00	0.00
1,400.00	4.00	338.00	1,398.13	51.74	-20.91	53.05	0.00	0.00	0.00	0.00
1,484.07	4.00	338.00	1,482.00	57.18	-23.10	58.63	0.00	0.00	0.00	0.00
<b>Pierre</b>										
1,500.00	4.00	338.00	1,497.89	58.21	-23.52	59.69	0.00	0.00	0.00	0.00
1,552.24	4.00	338.00	1,550.00	61.59	-24.88	63.15	0.00	0.00	0.00	0.00
<b>9 5/8" Casing Pt.</b>										
1,600.00	4.00	338.00	1,597.65	64.68	-26.13	66.32	0.00	0.00	0.00	0.00
1,700.00	4.00	338.00	1,697.40	71.15	-28.75	72.95	0.00	0.00	0.00	0.00
1,800.00	4.00	338.00	1,797.16	77.62	-31.36	79.58	0.00	0.00	0.00	0.00
1,900.00	4.00	338.00	1,896.91	84.08	-33.97	86.21	0.00	0.00	0.00	0.00
2,000.00	4.00	338.00	1,996.67	90.55	-36.58	92.84	0.00	0.00	0.00	0.00
2,100.00	4.00	338.00	2,096.43	97.02	-39.20	99.47	0.00	0.00	0.00	0.00
2,200.00	4.00	338.00	2,196.18	103.49	-41.81	106.11	0.00	0.00	0.00	0.00
2,300.00	4.00	338.00	2,295.94	109.95	-44.42	112.74	0.00	0.00	0.00	0.00
2,400.00	4.00	338.00	2,395.70	116.42	-47.04	119.37	0.00	0.00	0.00	0.00
2,500.00	4.00	338.00	2,495.45	122.89	-49.65	126.00	0.00	0.00	0.00	0.00
2,600.00	4.00	338.00	2,595.21	129.36	-52.26	132.63	0.00	0.00	0.00	0.00
2,700.00	4.00	338.00	2,694.97	135.82	-54.88	139.26	0.00	0.00	0.00	0.00
2,800.00	4.00	338.00	2,794.72	142.29	-57.49	145.89	0.00	0.00	0.00	0.00
2,900.00	4.00	338.00	2,894.48	148.76	-60.10	152.52	0.00	0.00	0.00	0.00
3,000.00	4.00	338.00	2,994.23	155.23	-62.72	159.16	0.00	0.00	0.00	0.00
3,100.00	4.00	338.00	3,093.99	161.70	-65.33	165.79	0.00	0.00	0.00	0.00
3,200.00	4.00	338.00	3,193.75	168.16	-67.94	172.42	0.00	0.00	0.00	0.00
3,300.00	4.00	338.00	3,293.50	174.63	-70.56	179.05	0.00	0.00	0.00	0.00
3,400.00	4.00	338.00	3,393.26	181.10	-73.17	185.68	0.00	0.00	0.00	0.00
3,500.00	4.00	338.00	3,493.02	187.57	-75.78	192.31	0.00	0.00	0.00	0.00
3,600.00	4.00	338.00	3,592.77	194.03	-78.39	198.94	0.00	0.00	0.00	0.00
3,700.00	4.00	338.00	3,692.53	200.50	-81.01	205.58	0.00	0.00	0.00	0.00
3,800.00	4.00	338.00	3,792.29	206.97	-83.62	212.21	0.00	0.00	0.00	0.00
3,900.00	4.00	338.00	3,892.04	213.44	-86.23	218.84	0.00	0.00	0.00	0.00
4,000.00	4.00	338.00	3,991.80	219.90	-88.85	225.47	0.00	0.00	0.00	0.00
4,100.00	4.00	338.00	4,091.56	226.37	-91.46	232.10	0.00	0.00	0.00	0.00
4,200.00	4.00	338.00	4,191.31	232.84	-94.07	238.73	0.00	0.00	0.00	0.00
4,300.00	4.00	338.00	4,291.07	239.31	-96.69	245.36	0.00	0.00	0.00	0.00
4,400.00	4.00	338.00	4,390.82	245.78	-99.30	252.00	0.00	0.00	0.00	0.00
4,500.00	4.00	338.00	4,490.58	252.24	-101.91	258.63	0.00	0.00	0.00	0.00
4,600.00	4.00	338.00	4,590.34	258.71	-104.53	265.26	0.00	0.00	0.00	0.00
4,700.00	4.00	338.00	4,690.09	265.18	-107.14	271.89	0.00	0.00	0.00	0.00
4,800.00	4.00	338.00	4,789.85	271.65	-109.75	278.52	0.00	0.00	0.00	0.00
4,900.00	4.00	338.00	4,889.61	278.11	-112.37	285.15	0.00	0.00	0.00	0.00
5,000.00	4.00	338.00	4,989.36	284.58	-114.98	291.78	0.00	0.00	0.00	0.00
5,100.00	4.00	338.00	5,089.12	291.05	-117.59	298.42	0.00	0.00	0.00	0.00
5,200.00	4.00	338.00	5,188.88	297.52	-120.20	305.05	0.00	0.00	0.00	0.00
5,300.00	4.00	338.00	5,288.63	303.98	-122.82	311.68	0.00	0.00	0.00	0.00
5,388.00	4.00	338.00	5,376.42	309.68	-125.12	317.51	0.00	0.00	0.00	0.00
<b>Kick Off Point @ 5388 ft - Build Rate 11.00 °/100 ft</b>										

**Plan Report for Razor #30I-1913 - Rev A0**

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 (°)
5,388.05	4.00	338.00	5,376.47	309.68	-125.12	317.52	0.00	0.00	0.00	0.00
5,400.00	5.31	338.00	5,388.38	310.58	-125.48	318.44	11.00	11.00	0.00	0.00
5,500.00	16.31	338.00	5,486.45	327.95	-132.50	336.25	11.00	11.00	0.00	0.00
5,600.00	27.31	338.00	5,579.15	362.35	-146.40	371.52	11.00	11.00	0.00	0.00
5,700.00	38.31	338.00	5,663.06	412.52	-166.67	422.96	11.00	11.00	0.00	0.00
5,800.00	49.31	338.00	5,735.11	476.61	-192.56	488.68	11.00	11.00	0.00	0.00
5,900.00	60.31	338.00	5,792.64	552.27	-223.13	566.25	11.00	11.00	0.00	0.00
5,921.71	62.70	338.00	5,803.00	569.97	-230.28	584.39	11.00	11.00	0.00	0.00
<b>Niobrara Top</b>										
6,000.00	71.31	338.00	5,833.55	636.72	-257.25	652.84	11.00	11.00	0.00	0.00
6,100.00	82.31	338.00	5,856.33	726.86	-293.67	745.26	11.00	11.00	0.00	0.00
6,167.74	89.77	338.00	5,861.00	789.47	-318.97	809.46	11.00	11.00	0.00	0.00
<b>Niobrara "A"</b>										
6,169.87	90.00	338.00	5,861.00	791.45	-319.77	811.48	11.00	11.00	0.00	0.00
6,170.00	90.00	338.00	5,861.00	791.57	-319.81	811.60	0.00	0.00	0.00	0.00
<b>End Build @ 6170 ft - 7" Casing Pt.</b>										
6,200.00	90.00	338.00	5,861.00	819.38	-331.05	840.12	0.00	0.00	0.00	0.00
6,244.87	90.00	338.00	5,861.00	860.98	-347.86	882.78	0.00	0.00	0.00	0.00
6,245.00	90.00	338.00	5,861.00	861.11	-347.91	882.90	0.00	0.00	0.00	0.00
<b>Begin Turn @ 6245 ft</b>										
6,255.00	90.00	338.30	5,861.00	870.39	-351.63	892.42	3.04	0.00	3.04	90.00
<b>Turn Rate 3.00 °/100 ft</b>										
6,300.00	90.00	339.65	5,861.00	912.39	-367.77	935.43	3.00	0.00	3.00	90.00
6,400.00	90.00	342.65	5,861.00	1,007.02	-400.07	1,032.04	3.00	0.00	3.00	90.00
6,500.00	90.00	345.65	5,861.00	1,103.21	-427.37	1,129.88	3.00	0.00	3.00	90.00
6,600.00	90.00	348.65	5,861.00	1,200.70	-449.60	1,228.65	3.00	0.00	3.00	90.00
6,700.00	90.00	351.65	5,861.00	1,299.21	-466.70	1,328.11	3.00	0.00	3.00	90.00
6,800.00	90.00	354.65	5,861.00	1,398.49	-478.62	1,427.97	3.00	0.00	3.00	90.00
6,900.00	90.00	357.65	5,861.00	1,498.25	-485.33	1,527.96	3.00	0.00	3.00	90.00
6,957.69	90.00	359.38	5,861.00	1,555.92	-486.82	1,585.59	3.00	0.00	3.00	90.00
6,958.00	90.00	359.38	5,861.00	1,556.23	-486.82	1,585.90	0.00	0.00	0.00	0.00
<b>End Turn @ 6958 ft</b>										
6,968.00	90.00	359.38	5,861.00	1,566.23	-486.93	1,595.89	0.00	0.00	0.00	0.00
<b>Hold Inc 90.00°, Azi 359.38°</b>										
7,000.00	90.00	359.38	5,861.00	1,598.23	-487.27	1,627.83	0.00	0.00	0.00	0.00
7,100.00	90.00	359.38	5,861.00	1,698.22	-488.35	1,727.66	0.00	0.00	0.00	0.00
7,200.00	90.00	359.38	5,861.00	1,798.22	-489.42	1,827.50	0.00	0.00	0.00	0.00
7,300.00	90.00	359.38	5,861.00	1,898.21	-490.49	1,927.33	0.00	0.00	0.00	0.00
7,400.00	90.00	359.38	5,861.00	1,998.20	-491.57	2,027.16	0.00	0.00	0.00	0.00
7,500.00	90.00	359.38	5,861.00	2,098.20	-492.64	2,127.00	0.00	0.00	0.00	0.00
7,600.00	90.00	359.38	5,861.00	2,198.19	-493.72	2,226.83	0.00	0.00	0.00	0.00
7,700.00	90.00	359.38	5,861.00	2,298.19	-494.79	2,326.66	0.00	0.00	0.00	0.00
7,800.00	90.00	359.38	5,861.00	2,398.18	-495.86	2,426.50	0.00	0.00	0.00	0.00
7,900.00	90.00	359.38	5,861.00	2,498.18	-496.94	2,526.33	0.00	0.00	0.00	0.00
8,000.00	90.00	359.38	5,861.00	2,598.17	-498.01	2,626.16	0.00	0.00	0.00	0.00
8,100.00	90.00	359.38	5,861.00	2,698.16	-499.09	2,726.00	0.00	0.00	0.00	0.00
8,200.00	90.00	359.38	5,861.00	2,798.16	-500.16	2,825.83	0.00	0.00	0.00	0.00
8,300.00	90.00	359.38	5,861.00	2,898.15	-501.23	2,925.66	0.00	0.00	0.00	0.00
8,400.00	90.00	359.38	5,861.00	2,998.15	-502.31	3,025.50	0.00	0.00	0.00	0.00
8,500.00	90.00	359.38	5,861.00	3,098.14	-503.38	3,125.33	0.00	0.00	0.00	0.00
8,600.00	90.00	359.38	5,861.00	3,198.14	-504.46	3,225.16	0.00	0.00	0.00	0.00
8,700.00	90.00	359.38	5,861.00	3,298.13	-505.53	3,325.00	0.00	0.00	0.00	0.00
8,800.00	90.00	359.38	5,861.00	3,398.12	-506.60	3,424.83	0.00	0.00	0.00	0.00
8,900.00	90.00	359.38	5,861.00	3,498.12	-507.68	3,524.66	0.00	0.00	0.00	0.00
9,000.00	90.00	359.38	5,861.00	3,598.11	-508.75	3,624.50	0.00	0.00	0.00	0.00
9,100.00	90.00	359.38	5,861.00	3,698.11	-509.82	3,724.33	0.00	0.00	0.00	0.00
9,200.00	90.00	359.38	5,861.00	3,798.10	-510.90	3,824.16	0.00	0.00	0.00	0.00
9,300.00	90.00	359.38	5,861.00	3,898.09	-511.97	3,924.00	0.00	0.00	0.00	0.00
9,400.00	90.00	359.38	5,861.00	3,998.09	-513.05	4,023.83	0.00	0.00	0.00	0.00



**Plan Report for Razor #30I-1913 - Rev A0**

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 (°)
9,500.00	90.00	359.38	5,861.00	4,098.08	-514.12	4,123.66	0.00	0.00	0.00	0.00
9,600.00	90.00	359.38	5,861.00	4,198.08	-515.19	4,223.50	0.00	0.00	0.00	0.00
9,700.00	90.00	359.38	5,861.00	4,298.07	-516.27	4,323.33	0.00	0.00	0.00	0.00
9,800.00	90.00	359.38	5,861.00	4,398.07	-517.34	4,423.16	0.00	0.00	0.00	0.00
9,900.00	90.00	359.38	5,861.00	4,498.06	-518.42	4,523.00	0.00	0.00	0.00	0.00
10,000.00	90.00	359.38	5,861.00	4,598.05	-519.49	4,622.83	0.00	0.00	0.00	0.00
10,100.00	90.00	359.38	5,861.00	4,698.05	-520.56	4,722.66	0.00	0.00	0.00	0.00
10,200.00	90.00	359.38	5,861.00	4,798.04	-521.64	4,822.49	0.00	0.00	0.00	0.00
10,300.00	90.00	359.38	5,861.00	4,898.04	-522.71	4,922.33	0.00	0.00	0.00	0.00
10,400.00	90.00	359.38	5,861.00	4,998.03	-523.79	5,022.16	0.00	0.00	0.00	0.00
10,500.00	90.00	359.38	5,861.00	5,098.03	-524.86	5,121.99	0.00	0.00	0.00	0.00
10,600.00	90.00	359.38	5,861.00	5,198.02	-525.93	5,221.83	0.00	0.00	0.00	0.00
10,700.00	90.00	359.38	5,861.00	5,298.01	-527.01	5,321.66	0.00	0.00	0.00	0.00
10,800.00	90.00	359.38	5,861.00	5,398.01	-528.08	5,421.49	0.00	0.00	0.00	0.00
10,900.00	90.00	359.38	5,861.00	5,498.00	-529.15	5,521.33	0.00	0.00	0.00	0.00
11,000.00	90.00	359.38	5,861.00	5,598.00	-530.23	5,621.16	0.00	0.00	0.00	0.00
11,100.00	90.00	359.38	5,861.00	5,697.99	-531.30	5,720.99	0.00	0.00	0.00	0.00
11,200.00	90.00	359.38	5,861.00	5,797.99	-532.38	5,820.83	0.00	0.00	0.00	0.00
11,300.00	90.00	359.38	5,861.00	5,897.98	-533.45	5,920.66	0.00	0.00	0.00	0.00
11,400.00	90.00	359.38	5,861.00	5,997.97	-534.52	6,020.49	0.00	0.00	0.00	0.00
11,500.00	90.00	359.38	5,861.00	6,097.97	-535.60	6,120.33	0.00	0.00	0.00	0.00
11,600.00	90.00	359.38	5,861.00	6,197.96	-536.67	6,220.16	0.00	0.00	0.00	0.00
11,700.00	90.00	359.38	5,861.00	6,297.96	-537.75	6,319.99	0.00	0.00	0.00	0.00
11,800.00	90.00	359.38	5,861.00	6,397.95	-538.82	6,419.83	0.00	0.00	0.00	0.00
11,900.00	90.00	359.38	5,861.00	6,497.94	-539.89	6,519.66	0.00	0.00	0.00	0.00
12,000.00	90.00	359.38	5,861.00	6,597.94	-540.97	6,619.49	0.00	0.00	0.00	0.00
12,100.00	90.00	359.38	5,861.00	6,697.93	-542.04	6,719.33	0.00	0.00	0.00	0.00
12,200.00	90.00	359.38	5,861.00	6,797.93	-543.12	6,819.16	0.00	0.00	0.00	0.00
12,300.00	90.00	359.38	5,861.00	6,897.92	-544.19	6,918.99	0.00	0.00	0.00	0.00
12,400.00	90.00	359.38	5,861.00	6,997.92	-545.26	7,018.83	0.00	0.00	0.00	0.00
12,500.00	90.00	359.38	5,861.00	7,097.91	-546.34	7,118.66	0.00	0.00	0.00	0.00
12,600.00	90.00	359.38	5,861.00	7,197.90	-547.41	7,218.49	0.00	0.00	0.00	0.00
12,700.00	90.00	359.38	5,861.00	7,297.90	-548.48	7,318.33	0.00	0.00	0.00	0.00
12,800.00	90.00	359.38	5,861.00	7,397.89	-549.56	7,418.16	0.00	0.00	0.00	0.00
12,900.00	90.00	359.38	5,861.00	7,497.89	-550.63	7,517.99	0.00	0.00	0.00	0.00
13,000.00	90.00	359.38	5,861.00	7,597.88	-551.71	7,617.83	0.00	0.00	0.00	0.00
13,100.00	90.00	359.38	5,861.00	7,697.88	-552.78	7,717.66	0.00	0.00	0.00	0.00
13,200.00	90.00	359.38	5,861.00	7,797.87	-553.85	7,817.49	0.00	0.00	0.00	0.00
13,300.00	90.00	359.38	5,861.00	7,897.86	-554.93	7,917.32	0.00	0.00	0.00	0.00
13,400.00	90.00	359.38	5,861.00	7,997.86	-556.00	8,017.16	0.00	0.00	0.00	0.00
13,500.00	90.00	359.38	5,861.00	8,097.85	-557.08	8,116.99	0.00	0.00	0.00	0.00
13,525.80	90.00	359.38	5,861.00	8,123.65	-557.35	8,142.75	0.00	0.00	0.00	0.00
<b>Total Depth 13525.82 ft</b>										
13,525.82	90.00	359.38	5,861.00	8,123.67	-557.35	8,142.77	0.00	0.00	0.00	0.00

**Plan Report for Razor #30I-1913 - Rev A0****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 ft
700.00	699.84	6.47	-2.61	End Nudge @ 700 ft
5,388.00	5,376.42	309.68	-125.12	Kick Off Point @ 5388 ft
5,388.00	5,376.42	309.68	-125.12	Build Rate 11.00 °/100 ft
6,170.00	5,861.00	791.57	-319.81	End Build @ 6170 ft
6,245.00	5,861.00	861.11	-347.91	Begin Turn @ 6245 ft
6,255.00	5,861.00	870.39	-351.63	Turn Rate 3.00 °/100 ft
6,958.00	5,861.00	1,556.23	-486.82	End Turn @ 6958 ft
6,968.00	5,861.00	1,566.23	-486.93	Hold Inc 90.00°, Azi 359.38°
13,525.80	5,861.00	8,123.65	-557.35	Total Depth 13525.82 ft

**Vertical Section Information**

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
Target	Razor 30I-1913 BHL	356.08	Slot	0.00	0.00	0.00

**Survey tool program**

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	1,550.00	Rev A0	MWD+IFR1+MS+sag
1,550.00	6,170.00	Rev A0	MWD+IFR1+MS+sag
6,170.00	13,525.82	Rev A0	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
6,170.00	5,861.00	7" Casing Pt.	7	8-3/4

**Formation Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,484.07	1,482.00	Pierre		0.00	
5,921.71	5,803.00	Niobrara Top		0.00	
6,167.74	5,861.00	Niobrara "A"		0.00	

## Plan Report for Razor #30I-1913 - Rev A0

### *Targets associated with this wellbore*

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Razor Fed Section 30 100' Setback	29.00	-77.85	-2,498.41	Polygon
Razor Fed Section 31 100' Setback	29.00	-77.85	-2,498.41	Polygon
Razor Fed Section 19	29.00	-77.85	-2,498.41	Polygon
Razor Fed Section 30	29.00	-77.85	-2,498.41	Polygon
Razor Fed Section 31	29.00	-77.85	-2,498.41	Polygon
Razor Fed Section 19 100' Setback	29.00	-77.85	-2,498.41	Polygon
Razor 30I-1913 BHL	5,861.00	8,123.67	-557.35	Point

### Directional Difficulty Index

Average Dogleg over Survey:	0.82 °/100usft	Maximum Dogleg over Survey:	11.00 °/100usft at 6,169.87 usft
Net Tortousity applicable to Plans:	0.82 °/100usft	Directional Difficulty Index:	6.416

### Audit Info

**North Reference Sheet for Sec. 30-T10N-R58W - Razor #30I-1913 - Plan A**

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' @ 4879.00usft (TBD). Northing and Easting are relative to Razor #30I-1913

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: 1.00000418

Grid Coordinates of Well: 1,541,371.48 usft N, 3,442,524.48 usft E

Geographical Coordinates of Well: 40° 48' 30.59" N, 103° 54' 04.98" W

Grid Convergence at Surface is: 1.03°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,525.82usft  
the Bottom Hole Displacement is 8,142.77usft in the Direction of 356.08° (True).

Magnetic Convergence at surface is: -7.02° ( 4 July 2014, , BGGM2013)

