

# Whiting Oil and Gas Corporation

Weld County, CO

Sec. 29-T10N-R58W

Razor #29H-2013

Plan A

Plan: Rev A0

## Sperry Drilling Services

## Proposal Report

11 June, 2014

Well Coordinates: 1,542,189.38 N, 3,447,538.78 E (40° 48' 37.77" N, 103° 52' 59.59" 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 #29H-2013  
KB 17' @ 4879.00usft (Original Well Elev)

N

True

API - US Survey Feet - Custom

## HALLIBURTON

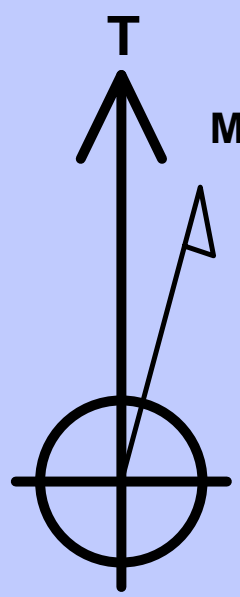
Project: Weld County, CO  
Site: Sec. 29-T10N-R58W  
Well: Razor #29H-2013  
Wellbore: Plan A  
Plan: Rev A0

# Whiting Oil and Gas Corporation

HALLIBURTON  
Sperry Drilling

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	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	344.10	699.84	6.71	-1.91	2.00	344.10	6.79	
4	5254.72	4.00	344.10	5243.46	312.28	-88.95	0.00	0.00	315.90	
5	6036.54	90.00	344.10	5728.00	812.00	-231.30	11.00	0.00	821.42	
6	6111.54	90.00	344.10	5728.00	884.13	-251.85	0.00	0.00	894.39	
7	6641.46	90.00	360.00	5728.00	1407.27	-324.92	3.00	90.00	1420.25	
8	12589.82	90.00	360.00	5728.00	7355.63	-325.17	0.00	0.00	7362.82	Razor 29H-2013 BHL



Azimuths to True North  
Magnetic Field  
Magnetic North: 8.05°  
Strength: 53032.0snT  
Dip Angle: 67.40°  
Date: 6/10/2014  
Model: BGGM2013

Plan: Rev A0 (Razor #29H-2013/Plan A)

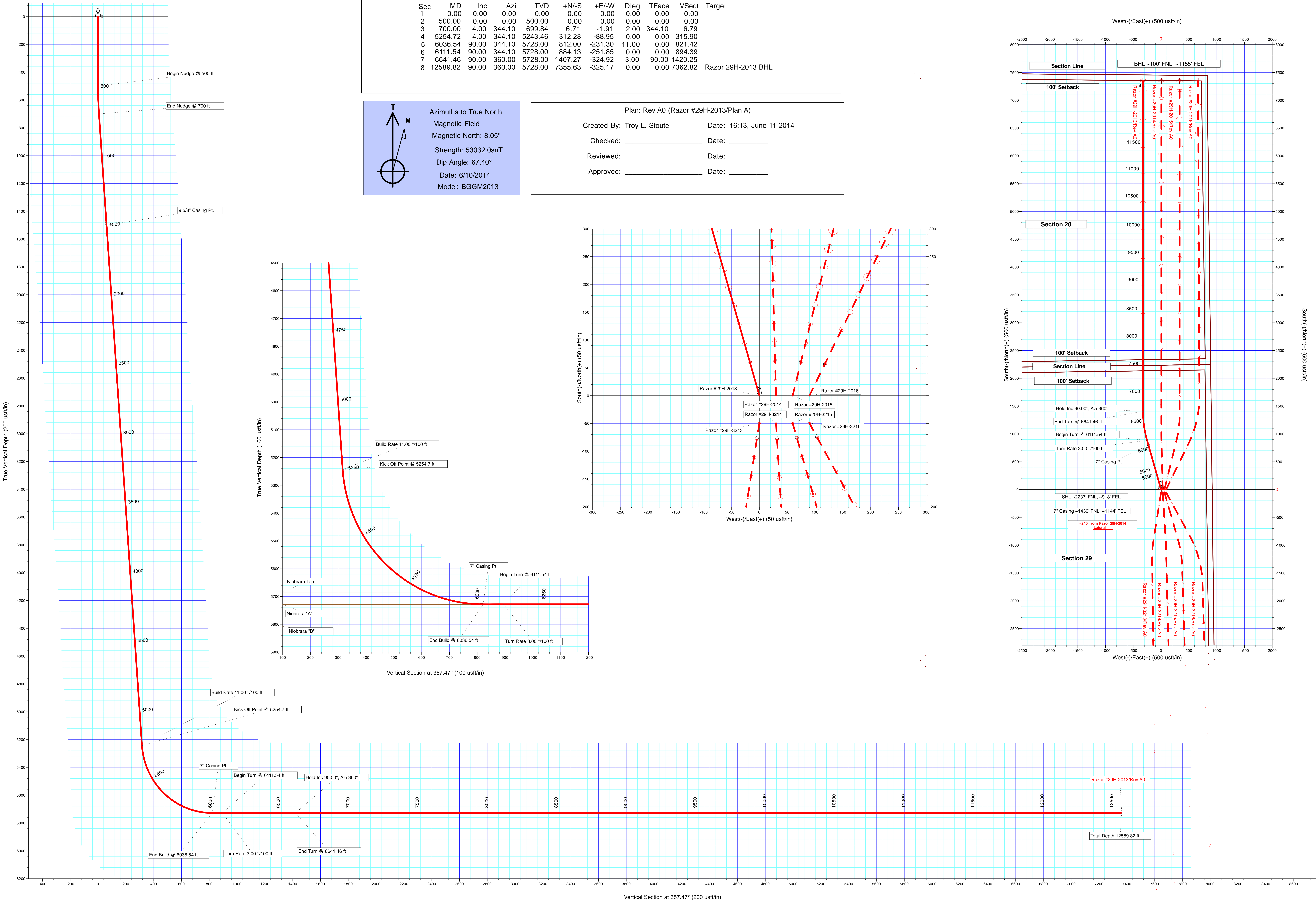
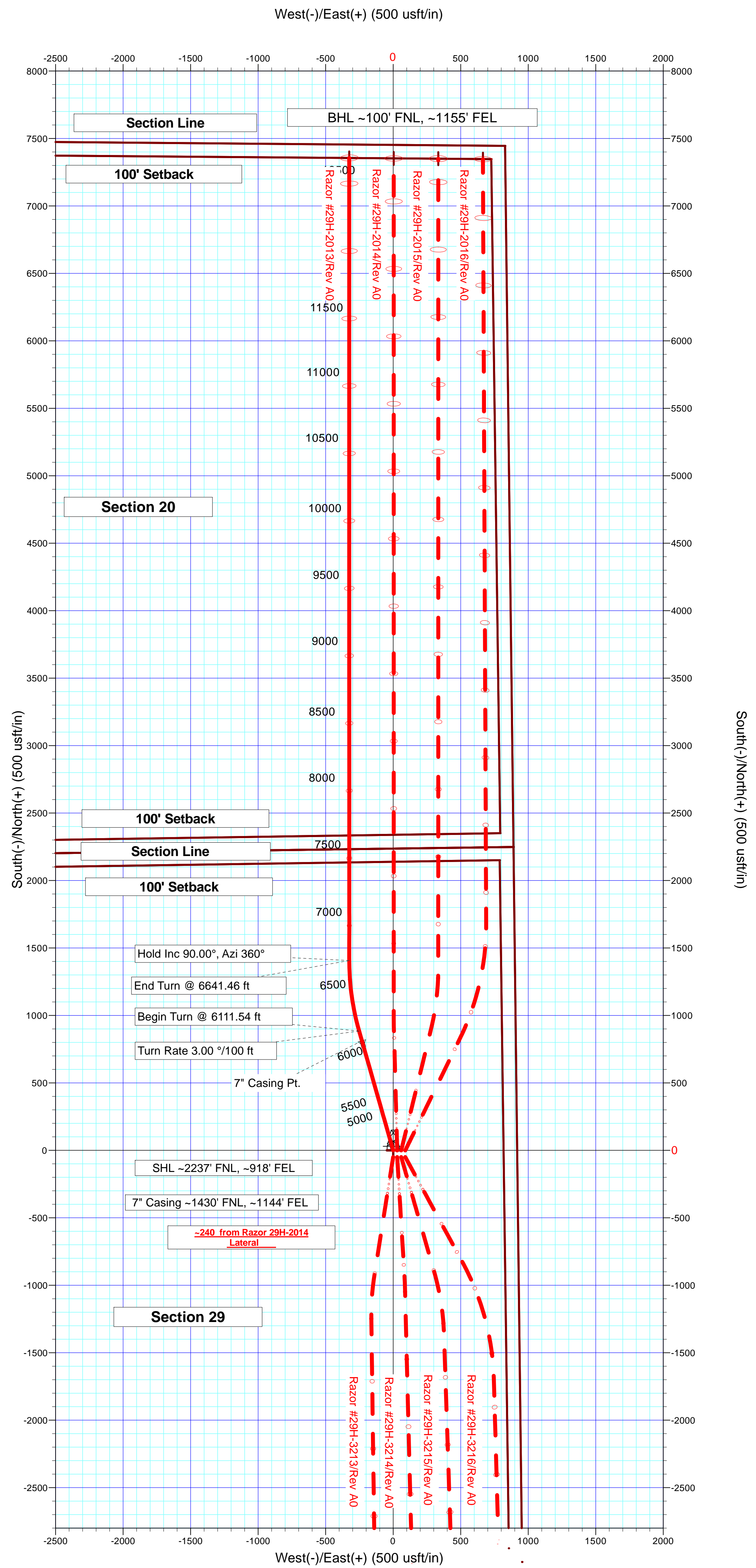
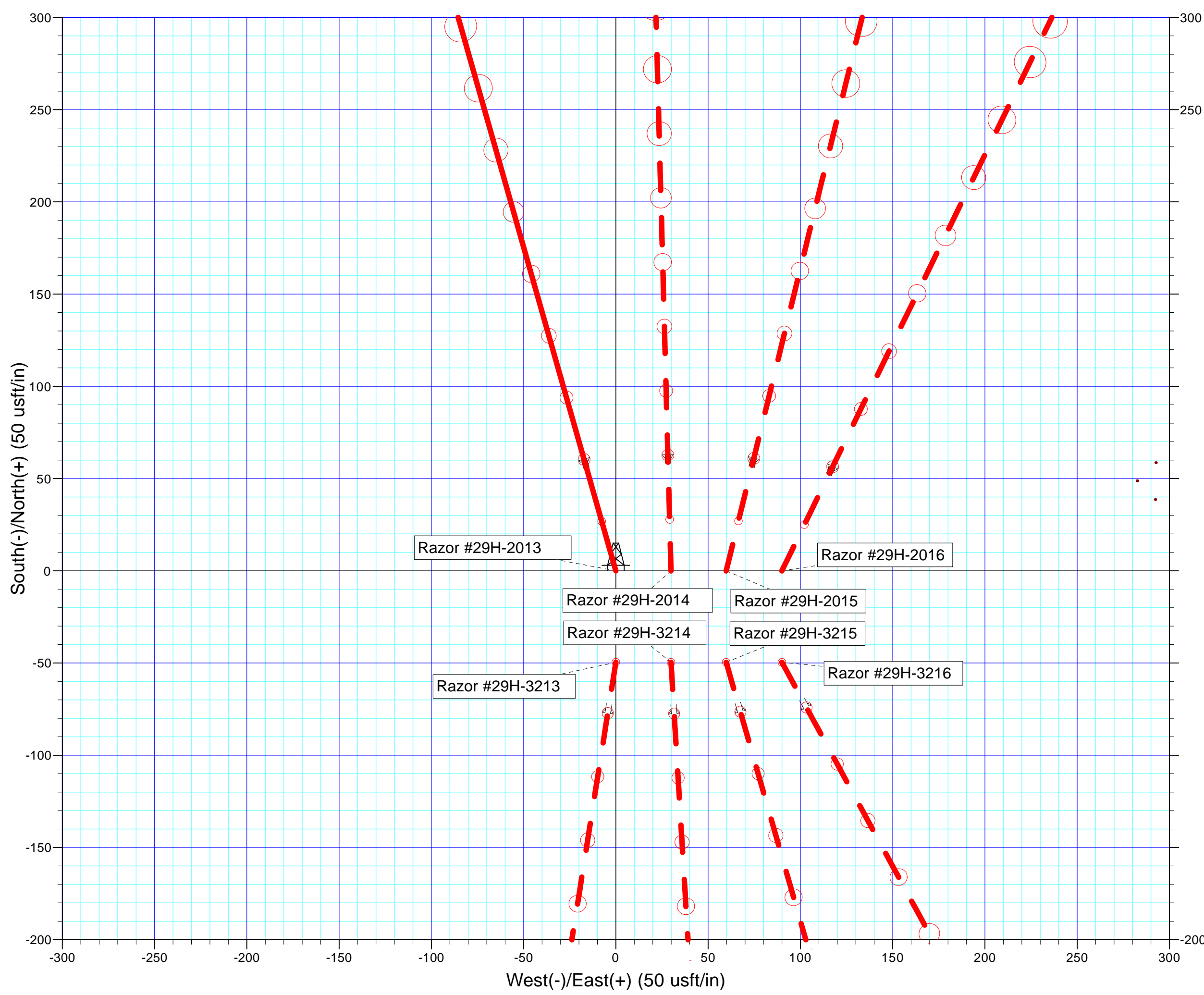
Created By: Troy L. Stoute

Date: 16:13, June 11 2014

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

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

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



**Plan Report for Razor #29H-2013 - 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	344.10	599.98	1.68	-0.48	1.70	2.00	2.00	0.00	344.10
700.00	4.00	344.10	699.84	6.71	-1.91	6.79	2.00	2.00	0.00	0.00
<b>End Nudge @ 700 ft</b>										
800.00	4.00	344.10	799.59	13.42	-3.82	13.58	0.00	0.00	0.00	0.00
900.00	4.00	344.10	899.35	20.13	-5.73	20.36	0.00	0.00	0.00	0.00
1,000.00	4.00	344.10	999.11	26.84	-7.64	27.15	0.00	0.00	0.00	0.00
1,100.00	4.00	344.10	1,098.86	33.55	-9.56	33.94	0.00	0.00	0.00	0.00
1,200.00	4.00	344.10	1,198.62	40.26	-11.47	40.72	0.00	0.00	0.00	0.00
1,300.00	4.00	344.10	1,298.38	46.96	-13.38	47.51	0.00	0.00	0.00	0.00
1,400.00	4.00	344.10	1,398.13	53.67	-15.29	54.30	0.00	0.00	0.00	0.00
1,436.96	4.00	344.10	1,435.00	56.15	-16.00	56.80	0.00	0.00	0.00	0.00
<b>Pierre</b>										
1,500.00	4.00	344.10	1,497.89	60.38	-17.20	61.08	0.00	0.00	0.00	0.00
1,502.12	4.00	344.10	1,500.00	60.52	-17.24	61.23	0.00	0.00	0.00	0.00
<b>9 5/8" Casing Pt.</b>										
1,600.00	4.00	344.10	1,597.65	67.09	-19.11	67.87	0.00	0.00	0.00	0.00
1,700.00	4.00	344.10	1,697.40	73.80	-21.02	74.66	0.00	0.00	0.00	0.00
1,800.00	4.00	344.10	1,797.16	80.51	-22.93	81.44	0.00	0.00	0.00	0.00
1,900.00	4.00	344.10	1,896.91	87.22	-24.84	88.23	0.00	0.00	0.00	0.00
2,000.00	4.00	344.10	1,996.67	93.93	-26.76	95.02	0.00	0.00	0.00	0.00
2,100.00	4.00	344.10	2,096.43	100.63	-28.67	101.80	0.00	0.00	0.00	0.00
2,200.00	4.00	344.10	2,196.18	107.34	-30.58	108.59	0.00	0.00	0.00	0.00
2,300.00	4.00	344.10	2,295.94	114.05	-32.49	115.38	0.00	0.00	0.00	0.00
2,400.00	4.00	344.10	2,395.70	120.76	-34.40	122.16	0.00	0.00	0.00	0.00
2,500.00	4.00	344.10	2,495.45	127.47	-36.31	128.95	0.00	0.00	0.00	0.00
2,600.00	4.00	344.10	2,595.21	134.18	-38.22	135.74	0.00	0.00	0.00	0.00
2,700.00	4.00	344.10	2,694.97	140.89	-40.13	142.52	0.00	0.00	0.00	0.00
2,800.00	4.00	344.10	2,794.72	147.60	-42.04	149.31	0.00	0.00	0.00	0.00
2,900.00	4.00	344.10	2,894.48	154.30	-43.95	156.10	0.00	0.00	0.00	0.00
3,000.00	4.00	344.10	2,994.23	161.01	-45.87	162.88	0.00	0.00	0.00	0.00
3,100.00	4.00	344.10	3,093.99	167.72	-47.78	169.67	0.00	0.00	0.00	0.00
3,200.00	4.00	344.10	3,193.75	174.43	-49.69	176.45	0.00	0.00	0.00	0.00
3,300.00	4.00	344.10	3,293.50	181.14	-51.60	183.24	0.00	0.00	0.00	0.00
3,400.00	4.00	344.10	3,393.26	187.85	-53.51	190.03	0.00	0.00	0.00	0.00
3,500.00	4.00	344.10	3,493.02	194.56	-55.42	196.81	0.00	0.00	0.00	0.00
3,600.00	4.00	344.10	3,592.77	201.27	-57.33	203.60	0.00	0.00	0.00	0.00
3,700.00	4.00	344.10	3,692.53	207.97	-59.24	210.39	0.00	0.00	0.00	0.00
3,800.00	4.00	344.10	3,792.29	214.68	-61.15	217.17	0.00	0.00	0.00	0.00
3,900.00	4.00	344.10	3,892.04	221.39	-63.07	223.96	0.00	0.00	0.00	0.00
4,000.00	4.00	344.10	3,991.80	228.10	-64.98	230.75	0.00	0.00	0.00	0.00
4,100.00	4.00	344.10	4,091.56	234.81	-66.89	237.53	0.00	0.00	0.00	0.00
4,200.00	4.00	344.10	4,191.31	241.52	-68.80	244.32	0.00	0.00	0.00	0.00
4,300.00	4.00	344.10	4,291.07	248.23	-70.71	251.11	0.00	0.00	0.00	0.00
4,400.00	4.00	344.10	4,390.82	254.94	-72.62	257.89	0.00	0.00	0.00	0.00
4,500.00	4.00	344.10	4,490.58	261.64	-74.53	264.68	0.00	0.00	0.00	0.00
4,600.00	4.00	344.10	4,590.34	268.35	-76.44	271.47	0.00	0.00	0.00	0.00
4,700.00	4.00	344.10	4,690.09	275.06	-78.35	278.25	0.00	0.00	0.00	0.00
4,800.00	4.00	344.10	4,789.85	281.77	-80.26	285.04	0.00	0.00	0.00	0.00
4,900.00	4.00	344.10	4,889.61	288.48	-82.18	291.83	0.00	0.00	0.00	0.00
5,000.00	4.00	344.10	4,989.36	295.19	-84.09	298.61	0.00	0.00	0.00	0.00
5,100.00	4.00	344.10	5,089.12	301.90	-86.00	305.40	0.00	0.00	0.00	0.00
5,200.00	4.00	344.10	5,188.88	308.61	-87.91	312.19	0.00	0.00	0.00	0.00
5,254.70	4.00	344.10	5,243.44	312.28	-88.95	315.90	0.00	0.00	0.00	0.00
<b>Build Rate 11.00 °/100 ft - Kick Off Point @ 5254.7 ft</b>										
5,254.72	4.00	344.10	5,243.46	312.28	-88.95	315.90	0.00	0.00	0.00	0.00

## Plan Report for Razor #29H-2013 - 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 (°)
5,300.00	8.98	344.10	5,288.44	317.20	-90.36	320.88	11.00	11.00	0.00	0.00
5,400.00	19.98	344.10	5,385.11	341.21	-97.20	345.17	11.00	11.00	0.00	0.00
5,500.00	30.98	344.10	5,475.25	382.52	-108.96	386.96	11.00	11.00	0.00	0.00
5,600.00	41.98	344.10	5,555.53	439.61	-125.23	444.72	11.00	11.00	0.00	0.00
5,700.00	52.98	344.10	5,623.01	510.39	-145.39	516.31	11.00	11.00	0.00	0.00
5,800.00	63.98	344.10	5,675.21	592.25	-168.71	599.12	11.00	11.00	0.00	0.00
5,820.91	66.28	344.10	5,684.00	610.49	-173.90	617.58	11.00	11.00	0.00	0.00
<b>Niobrara Top</b>										
5,900.00	74.98	344.10	5,710.21	682.18	-194.33	690.10	11.00	11.00	0.00	0.00
6,000.00	85.98	344.10	5,726.72	776.89	-221.30	785.90	11.00	11.00	0.00	0.00
6,036.54	90.00	344.10	5,728.00	812.00	-231.30	821.42	11.00	11.00	0.00	0.00
<b>End Build @ 6036.54 ft - Niobrara "A" - 7" Casing Pt.</b>										
6,100.00	90.00	344.10	5,728.00	873.03	-248.69	883.16	0.00	0.00	0.00	0.00
6,111.54	90.00	344.10	5,728.00	884.13	-251.85	894.39	0.00	0.00	0.00	0.00
<b>Begin Turn @ 6111.54 ft - Turn Rate 3.00 °/100 ft</b>										
6,200.00	90.00	346.75	5,728.00	969.74	-274.11	980.90	3.00	0.00	3.00	90.00
6,300.00	90.00	349.75	5,728.00	1,067.63	-294.46	1,079.60	3.00	0.00	3.00	90.00
6,400.00	90.00	352.75	5,728.00	1,166.46	-309.67	1,179.00	3.00	0.00	3.00	90.00
6,500.00	90.00	355.75	5,728.00	1,265.95	-319.68	1,278.83	3.00	0.00	3.00	90.00
6,600.00	90.00	358.75	5,728.00	1,365.82	-324.47	1,378.82	3.00	0.00	3.00	90.00
6,641.46	90.00	360.00	5,728.00	1,407.28	-324.92	1,420.25	3.00	0.00	3.00	90.00
<b>Hold Inc 90.00°, Azi 360° - End Turn @ 6641.46 ft</b>										
6,700.00	90.00	360.00	5,728.00	1,465.82	-324.92	1,478.74	0.00	0.00	0.00	0.00
6,800.00	90.00	360.00	5,728.00	1,565.82	-324.93	1,578.64	0.00	0.00	0.00	0.00
6,900.00	90.00	360.00	5,728.00	1,665.82	-324.93	1,678.54	0.00	0.00	0.00	0.00
7,000.00	90.00	360.00	5,728.00	1,765.82	-324.93	1,778.44	0.00	0.00	0.00	0.00
7,100.00	90.00	360.00	5,728.00	1,865.82	-324.94	1,878.35	0.00	0.00	0.00	0.00
7,200.00	90.00	360.00	5,728.00	1,965.82	-324.94	1,978.25	0.00	0.00	0.00	0.00
7,300.00	90.00	360.00	5,728.00	2,065.82	-324.95	2,078.15	0.00	0.00	0.00	0.00
7,400.00	90.00	360.00	5,728.00	2,165.82	-324.95	2,178.05	0.00	0.00	0.00	0.00
7,500.00	90.00	360.00	5,728.00	2,265.82	-324.96	2,277.96	0.00	0.00	0.00	0.00
7,600.00	90.00	360.00	5,728.00	2,365.82	-324.96	2,377.86	0.00	0.00	0.00	0.00
7,700.00	90.00	360.00	5,728.00	2,465.82	-324.96	2,477.76	0.00	0.00	0.00	0.00
7,800.00	90.00	360.00	5,728.00	2,565.82	-324.97	2,577.66	0.00	0.00	0.00	0.00
7,900.00	90.00	360.00	5,728.00	2,665.82	-324.97	2,677.57	0.00	0.00	0.00	0.00
8,000.00	90.00	360.00	5,728.00	2,765.82	-324.98	2,777.47	0.00	0.00	0.00	0.00
8,100.00	90.00	360.00	5,728.00	2,865.82	-324.98	2,877.37	0.00	0.00	0.00	0.00
8,200.00	90.00	360.00	5,728.00	2,965.82	-324.99	2,977.27	0.00	0.00	0.00	0.00
8,300.00	90.00	360.00	5,728.00	3,065.82	-324.99	3,077.18	0.00	0.00	0.00	0.00
8,400.00	90.00	360.00	5,728.00	3,165.82	-324.99	3,177.08	0.00	0.00	0.00	0.00
8,500.00	90.00	360.00	5,728.00	3,265.82	-325.00	3,276.98	0.00	0.00	0.00	0.00
8,600.00	90.00	360.00	5,728.00	3,365.82	-325.00	3,376.88	0.00	0.00	0.00	0.00
8,700.00	90.00	360.00	5,728.00	3,465.82	-325.01	3,476.79	0.00	0.00	0.00	0.00
8,800.00	90.00	360.00	5,728.00	3,565.82	-325.01	3,576.69	0.00	0.00	0.00	0.00
8,900.00	90.00	360.00	5,728.00	3,665.82	-325.01	3,676.59	0.00	0.00	0.00	0.00
9,000.00	90.00	360.00	5,728.00	3,765.82	-325.02	3,776.50	0.00	0.00	0.00	0.00
9,100.00	90.00	360.00	5,728.00	3,865.82	-325.02	3,876.40	0.00	0.00	0.00	0.00
9,200.00	90.00	360.00	5,728.00	3,965.82	-325.03	3,976.30	0.00	0.00	0.00	0.00
9,300.00	90.00	360.00	5,728.00	4,065.82	-325.03	4,076.20	0.00	0.00	0.00	0.00
9,400.00	90.00	360.00	5,728.00	4,165.82	-325.04	4,176.11	0.00	0.00	0.00	0.00
9,500.00	90.00	360.00	5,728.00	4,265.82	-325.04	4,276.01	0.00	0.00	0.00	0.00
9,600.00	90.00	360.00	5,728.00	4,365.82	-325.04	4,375.91	0.00	0.00	0.00	0.00
9,700.00	90.00	360.00	5,728.00	4,465.82	-325.05	4,475.81	0.00	0.00	0.00	0.00
9,800.00	90.00	360.00	5,728.00	4,565.82	-325.05	4,575.72	0.00	0.00	0.00	0.00
9,900.00	90.00	360.00	5,728.00	4,665.82	-325.06	4,675.62	0.00	0.00	0.00	0.00
10,000.00	90.00	360.00	5,728.00	4,765.82	-325.06	4,775.52	0.00	0.00	0.00	0.00
10,100.00	90.00	360.00	5,728.00	4,865.82	-325.06	4,875.42	0.00	0.00	0.00	0.00
10,200.00	90.00	360.00	5,728.00	4,965.82	-325.07	4,975.33	0.00	0.00	0.00	0.00
10,300.00	90.00	360.00	5,728.00	5,065.82	-325.07	5,075.23	0.00	0.00	0.00	0.00



**Plan Report for Razor #29H-2013 - 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 (°)
10,400.00	90.00	360.00	5,728.00	5,165.82	-325.08	5,175.13	0.00	0.00	0.00	0.00
10,500.00	90.00	360.00	5,728.00	5,265.82	-325.08	5,275.03	0.00	0.00	0.00	0.00
10,600.00	90.00	360.00	5,728.00	5,365.82	-325.09	5,374.94	0.00	0.00	0.00	0.00
10,700.00	90.00	360.00	5,728.00	5,465.82	-325.09	5,474.84	0.00	0.00	0.00	0.00
10,800.00	90.00	360.00	5,728.00	5,565.82	-325.09	5,574.74	0.00	0.00	0.00	0.00
10,900.00	90.00	360.00	5,728.00	5,665.82	-325.10	5,674.65	0.00	0.00	0.00	0.00
11,000.00	90.00	360.00	5,728.00	5,765.82	-325.10	5,774.55	0.00	0.00	0.00	0.00
11,100.00	90.00	360.00	5,728.00	5,865.82	-325.11	5,874.45	0.00	0.00	0.00	0.00
11,200.00	90.00	360.00	5,728.00	5,965.82	-325.11	5,974.35	0.00	0.00	0.00	0.00
11,300.00	90.00	360.00	5,728.00	6,065.82	-325.12	6,074.26	0.00	0.00	0.00	0.00
11,400.00	90.00	360.00	5,728.00	6,165.82	-325.12	6,174.16	0.00	0.00	0.00	0.00
11,500.00	90.00	360.00	5,728.00	6,265.82	-325.12	6,274.06	0.00	0.00	0.00	0.00
11,600.00	90.00	360.00	5,728.00	6,365.82	-325.13	6,373.96	0.00	0.00	0.00	0.00
11,700.00	90.00	360.00	5,728.00	6,465.82	-325.13	6,473.87	0.00	0.00	0.00	0.00
11,800.00	90.00	360.00	5,728.00	6,565.82	-325.14	6,573.77	0.00	0.00	0.00	0.00
11,900.00	90.00	360.00	5,728.00	6,665.82	-325.14	6,673.67	0.00	0.00	0.00	0.00
12,000.00	90.00	360.00	5,728.00	6,765.82	-325.14	6,773.57	0.00	0.00	0.00	0.00
12,100.00	90.00	360.00	5,728.00	6,865.82	-325.15	6,873.48	0.00	0.00	0.00	0.00
12,200.00	90.00	360.00	5,728.00	6,965.82	-325.15	6,973.38	0.00	0.00	0.00	0.00
12,300.00	90.00	360.00	5,728.00	7,065.82	-325.16	7,073.28	0.00	0.00	0.00	0.00
12,400.00	90.00	360.00	5,728.00	7,165.82	-325.16	7,173.18	0.00	0.00	0.00	0.00
12,500.00	90.00	360.00	5,728.00	7,265.82	-325.17	7,273.09	0.00	0.00	0.00	0.00
12,589.80	90.00	360.00	5,728.00	7,355.62	-325.17	7,362.80	0.00	0.00	0.00	0.00
<b>Total Depth 12589.82 ft</b>										
12,589.82	90.00	360.00	5,728.00	7,355.63	-325.17	7,362.82	0.00	0.00	0.00	0.00

**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	6.71	-1.91	End Nudge @ 700 ft
5,254.70	5,243.44	312.28	-88.95	Build Rate 11.00 °/100 ft
5,254.70	5,243.44	312.28	-88.95	Kick Off Point @ 5254.7 ft
6,036.54	5,728.00	812.00	-231.30	End Build @ 6036.54 ft
6,111.54	5,728.00	884.13	-251.85	Begin Turn @ 6111.54 ft
6,111.54	5,728.00	884.13	-251.85	Turn Rate 3.00 °/100 ft
6,641.46	5,728.00	1,407.28	-324.92	Hold Inc 90.00°, Azi 360°
6,641.46	5,728.00	1,407.28	-324.92	End Turn @ 6641.46 ft
12,589.80	5,728.00	7,355.62	-325.17	Total Depth 12589.82 ft

**Vertical Section Information**

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/-S (usft)	+E/-W (usft)	
Target	Razor 29H-2013 BHL	357.47	Slot	0.00	0.00	0.00

**Survey tool program**

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	1,500.00	Rev A0	MWD+IFR1+MS+sag
1,500.00	6,036.54	Rev A0	MWD+IFR1+MS+sag
6,036.54	12,589.82	Rev A0	MWD+IFR1+MS+sag

**Plan Report for Razor #29H-2013 - Rev A0****Casing Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,502.12	1,500.00	9 5/8" Casing Pt.	9-5/8	13-1/2
6,036.54	5,728.00	7" Casing Pt.	7	8-3/4

**Formation Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,436.96	1,435.00	Pierre		0.00	
5,820.91	5,684.00	Niobrara Top		0.00	
6,036.54	5,728.00	Niobrara "A"		0.00	

**Targets associated with this wellbore**

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Razor Section 32 Lines	0.00	0.00	0.00	Polygon
Razor Section 20 Lines	0.00	0.00	0.00	Polygon
Razor Section 29 Lines	0.00	0.00	0.00	Polygon
Razor Section 32 100' Setback	0.00	0.00	0.00	Polygon
Razor Section 29 100' Setback	0.00	0.00	0.00	Polygon
Razor Section 20 100' Setback	0.00	0.00	0.00	Polygon
Razor 29H-2013 BHL	5,728.00	7,355.63	-325.17	Point

**Directional Difficulty Index**

Average Dogleg over Survey:	0.84 °/100usft	Maximum Dogleg over Survey:	11.00 °/100usft at 6,036.54 usft
Net Tortousity applicable to Plans:	0.84 °/100usft	Directional Difficulty Index:	6.419

**Audit Info**

**North Reference Sheet for Sec. 29-T10N-R58W - Razor #29H-2013 - 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 (Original Well Elev). Northing and Easting are relative to Razor #29H-2013

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: 1.00000452

Grid Coordinates of Well: 1,542,189.38 usft N, 3,447,538.78 usft E

Geographical Coordinates of Well: 40° 48' 37.77" N, 103° 52' 59.59" W

Grid Convergence at Surface is: 1.04°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,589.82usft the Bottom Hole Displacement is 7,362.82usft in the Direction of 357.47° (True).

Magnetic Convergence at surface is: -7.00° (10 June 2014, , BGGM2013)

