



Company: Whiting Oil & Gas
Field: Weld Co., CO
Location: Sec.26-T10N-R58W
Well: Razor Federal 26J-2310B
Borehole: Original Hole
Rig: Xtreme 18
Plan: Original Hole



WELL DETAILS: Razor Federal 26J-2310B

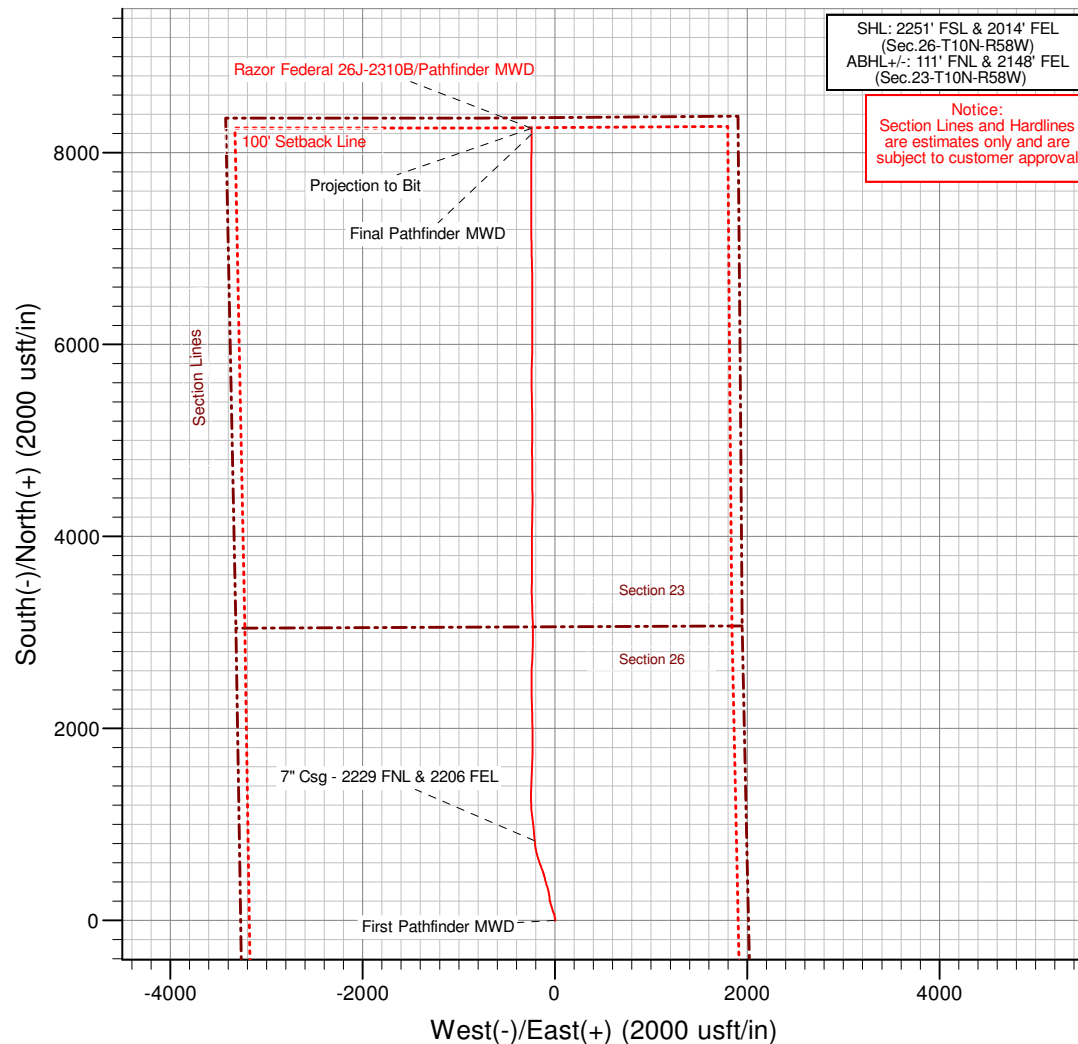
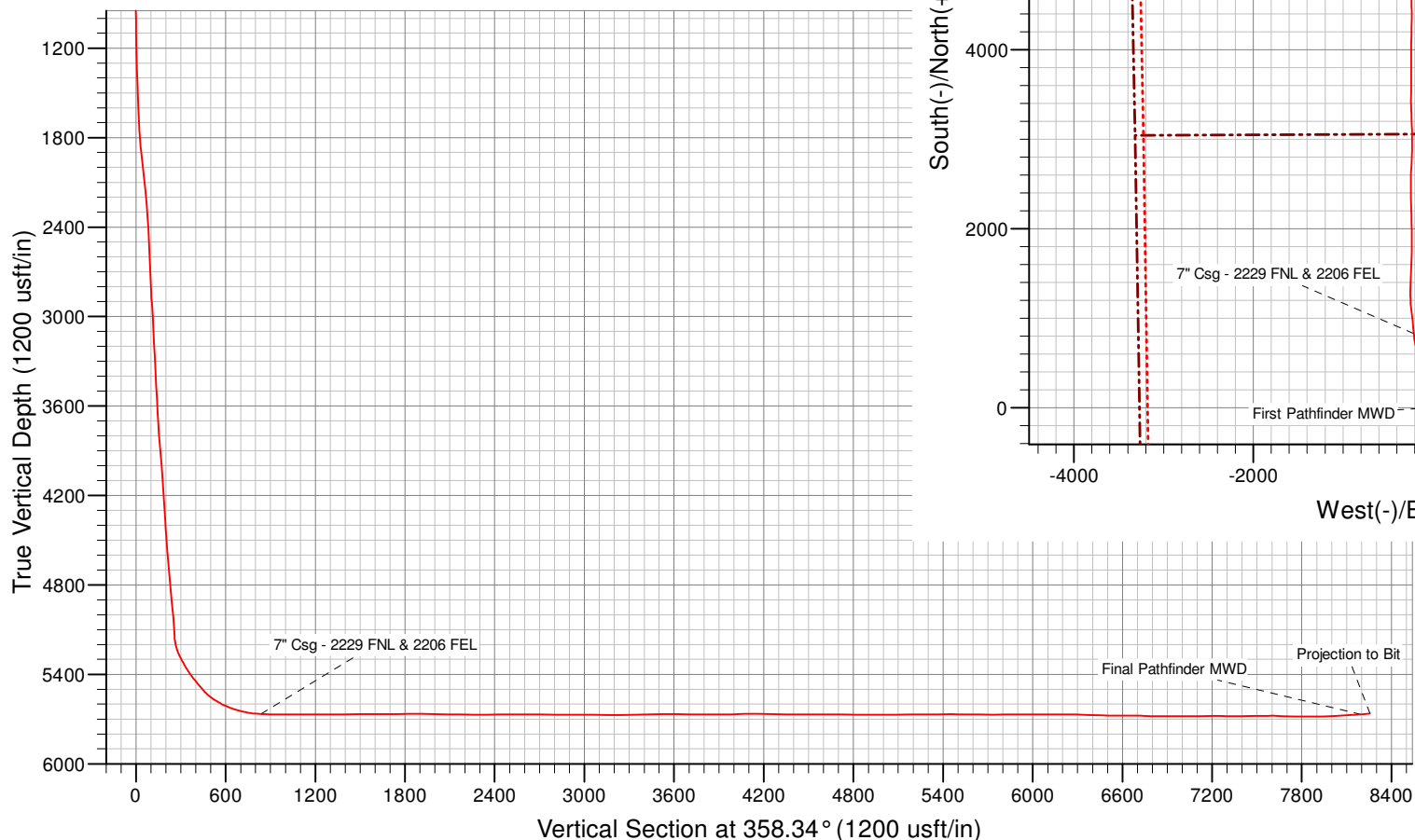
	GL 4726.00	KB @ 4743.00usft (Xtreme 18 KB 17')	
+N/-S	+E/-W	Northing	Easting
0.00	0.00	1541755.70	3462320.33
		Latitude	Longitude
		40° 48' 30.780 N	103° 49' 47.500 W

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape Point
PBHL Razor Federal 26J-2310B	5650.00	8263.60	-239.10	

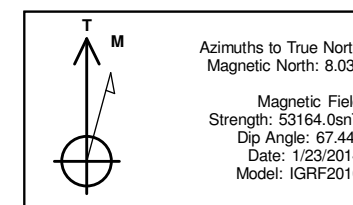
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Tie Into Surface
136.00	136.00	0.70	203.05	-0.76	-0.33	-0.75	0.83	First Pathfinder MWD
5666.02	6013.80	86.90	354.56	830.33	-210.20	836.06	869.44	7" Csg - 2229 FNL & 2206 FEL
5667.74	13381.00	94.88	0.49	8193.12	-242.44	8196.71	8235.50	Final Pathfinder MWD
5662.63	13441.00	94.88	0.49	8252.90	-241.93	8256.45	8295.28	Projection to Bit



SHL: 2251' FSL & 2014' FEL
(Sec.26-T10N-R58W)
ABHL+/-: 111' FNL & 2148' FEL
(Sec.23-T10N-R58W)

Notice:
Section Lines and Hardlines
are estimates only and are
subject to customer approval





Whiting Oil & Gas

Weld Co., CO

Sec.26-T10N-R58W

Razor Federal 26J-2310B

Original Hole

Survey: Pathfinder MWD

Standard Survey Report

12 June, 2014



Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor Federal 26J-2310B
Project:	Weld Co., CO	TVD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Site:	Sec.26-T10N-R58W	MD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Well:	Razor Federal 26J-2310B	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Project	Weld Co., CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec.26-T10N-R58W				
Site Position:		Northing:	1,541,755.70 usft	Latitude:	40° 48' 30.780 N
From:	Lat/Long	Easting:	3,462,320.33 usft	Longitude:	103° 49' 47.500 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.08 °

Well	Razor Federal 26J-2310B					
Well Position	+N/-S	0.00 usft	Northing:	1,541,755.70 usft	Latitude:	40° 48' 30.780 N
	+E/-W	0.00 usft	Easting:	3,462,320.33 usft	Longitude:	103° 49' 47.500 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	4,743.00 usft	Ground Level:	4,726.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/23/2014	8.03	67.44	53,164

Design	Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	358.34	

Survey Program	Date	6/12/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
136.00	13,441.00	Pathfinder MWD (Original Hole)	Pathfinder	Pathfinder MWD	

Survey									
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tie Into Surface									
136.00	0.70	203.05	136.00	-0.76	-0.33	-0.75	0.51	0.51	0.00
First Pathfinder MWD									
228.00	0.70	191.62	227.99	-1.83	-0.66	-1.81	0.15	0.00	-12.42
320.00	0.44	77.72	319.99	-2.31	-0.43	-2.29	1.05	-0.28	-123.80
412.00	0.26	63.22	411.99	-2.14	0.10	-2.14	0.22	-0.20	-15.76
504.00	0.35	91.87	503.98	-2.05	0.57	-2.07	0.19	0.10	31.14
589.00	0.26	56.45	588.98	-1.96	0.99	-1.98	0.24	-0.11	-41.67
674.00	0.35	78.77	673.98	-1.80	1.41	-1.84	0.17	0.11	26.26



Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor Federal 26J-2310B
Project:	Weld Co., CO	TVD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Site:	Sec.26-T10N-R58W	MD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Well:	Razor Federal 26J-2310B	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Survey									
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)
759.00	0.35	76.31	758.98	-1.69	1.91	-1.74	0.02	0.00	-2.89
844.00	0.35	56.45	843.98	-1.48	2.38	-1.55	0.14	0.00	-23.36
929.00	0.26	35.62	928.98	-1.18	2.71	-1.26	0.17	-0.11	-24.51
1,015.00	0.79	17.25	1,014.97	-0.46	3.00	-0.54	0.64	0.62	-21.36
1,100.00	0.88	5.91	1,099.96	0.75	3.24	0.66	0.22	0.11	-13.34
1,185.00	1.32	9.07	1,184.95	2.37	3.46	2.27	0.52	0.52	3.72
1,271.00	1.67	2.31	1,270.92	4.60	3.67	4.49	0.46	0.41	-7.86
1,356.00	1.93	6.61	1,355.88	7.26	3.89	7.14	0.34	0.31	5.06
1,441.00	2.11	356.86	1,440.82	10.24	3.96	10.12	0.46	0.21	-11.47
1,515.00	2.29	344.90	1,514.77	13.03	3.50	12.92	0.66	0.24	-16.16
1,617.00	2.46	339.37	1,616.68	17.05	2.20	16.98	0.28	0.17	-5.42
1,708.00	2.46	351.32	1,707.60	20.80	1.22	20.76	0.56	0.00	13.13
1,800.00	4.22	357.21	1,799.44	26.14	0.76	26.11	1.95	1.91	6.40
1,892.00	6.33	348.07	1,891.05	34.48	-0.46	34.48	2.46	2.29	-9.93
1,984.00	5.89	347.98	1,982.52	44.06	-2.49	44.12	0.48	-0.48	-0.10
2,077.00	5.89	349.39	2,075.03	53.42	-4.36	53.52	0.16	0.00	1.52
2,170.00	6.24	336.29	2,167.52	62.74	-7.27	62.92	1.53	0.38	-14.09
2,262.00	5.28	343.15	2,259.05	71.37	-10.51	71.64	1.28	-1.04	7.46
2,355.00	4.40	336.12	2,351.72	78.72	-13.19	79.07	1.14	-0.95	-7.56
2,447.00	2.64	336.55	2,443.54	83.90	-15.47	84.31	1.91	-1.91	0.47
2,539.00	2.64	334.01	2,535.45	87.74	-17.24	88.21	0.13	0.00	-2.76
2,631.00	2.46	338.67	2,627.36	91.49	-18.88	92.00	0.30	-0.20	5.07
2,723.00	2.64	346.05	2,719.26	95.38	-20.11	95.92	0.41	0.20	8.02
2,815.00	2.90	323.55	2,811.16	99.31	-22.01	99.91	1.21	0.28	-24.46
2,907.00	4.13	353.96	2,902.99	104.48	-23.74	105.12	2.38	1.34	33.05
2,999.00	3.52	345.87	2,994.79	110.51	-24.78	111.18	0.88	-0.66	-8.79
3,092.00	2.99	346.66	3,087.64	115.64	-26.03	116.35	0.57	-0.57	0.85
3,184.00	2.73	343.67	3,179.52	120.08	-27.20	120.81	0.33	-0.28	-3.25
3,277.00	2.99	340.25	3,272.41	124.49	-28.64	125.26	0.33	0.28	-3.68
3,367.00	3.08	340.59	3,362.28	128.98	-30.24	129.80	0.10	0.10	0.38
3,460.00	3.25	341.32	3,455.14	133.83	-31.92	134.70	0.19	0.18	0.78
3,551.00	3.43	339.18	3,545.98	138.82	-33.71	139.73	0.24	0.20	-2.35
3,644.00	3.17	342.93	3,638.83	143.88	-35.45	144.84	0.36	-0.28	4.03
3,737.00	3.25	345.37	3,731.68	148.89	-36.87	149.89	0.17	0.09	2.62
3,829.00	4.92	344.49	3,823.45	155.21	-38.59	156.26	1.82	1.82	-0.96
3,921.00	4.84	345.19	3,915.11	162.76	-40.63	163.87	0.11	-0.09	0.76
4,013.00	4.40	342.13	4,006.81	169.88	-42.71	171.04	0.55	-0.48	-3.33
4,105.00	4.22	346.99	4,098.55	176.53	-44.55	177.75	0.44	-0.20	5.28
4,197.00	3.61	349.16	4,190.34	182.67	-45.86	183.92	0.68	-0.66	2.36
4,290.00	4.04	340.39	4,283.13	188.64	-47.51	189.93	0.78	0.46	-9.43
4,382.00	3.61	337.07	4,374.93	194.36	-49.73	195.71	0.53	-0.47	-3.61
4,475.00	4.84	343.72	4,467.67	200.82	-51.97	202.24	1.42	1.32	7.15
4,566.00	3.96	342.57	4,558.40	207.50	-53.99	208.98	0.97	-0.97	-1.26



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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Survey									
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)
4,658.00	4.92	358.67	4,650.13	214.48	-55.03	215.98	1.70	1.04	17.50
4,750.00	5.54	358.82	4,741.75	222.86	-55.21	224.37	0.67	0.67	0.16
4,843.00	5.28	2.03	4,834.33	231.63	-55.15	233.13	0.43	-0.28	3.45
4,935.00	5.10	353.10	4,925.96	239.92	-55.49	241.42	0.90	-0.20	-9.71
5,027.00	4.31	349.23	5,017.65	247.37	-56.63	248.91	0.92	-0.86	-4.21
5,119.00	3.96	349.10	5,109.41	253.89	-57.88	255.46	0.38	-0.38	-0.14
5,150.00	4.04	349.20	5,140.33	256.01	-58.29	257.59	0.26	0.26	0.32
5,181.00	6.60	353.31	5,171.20	258.86	-58.70	260.44	8.34	8.26	13.26
5,212.00	11.78	352.88	5,201.79	263.77	-59.30	265.37	16.71	16.71	-1.39
5,243.00	18.03	351.84	5,231.73	271.66	-60.37	273.30	20.18	20.16	-3.35
5,274.00	23.74	348.34	5,260.68	282.53	-62.32	284.22	18.85	18.42	-11.29
5,305.00	26.91	346.24	5,288.70	295.46	-65.25	297.23	10.63	10.23	-6.77
5,336.00	29.81	344.47	5,315.98	309.70	-68.98	311.57	9.74	9.35	-5.71
5,366.00	31.57	343.64	5,341.77	324.43	-73.19	326.41	6.03	5.87	-2.77
5,396.00	33.24	342.86	5,367.10	339.82	-77.82	341.93	5.74	5.57	-2.60
5,427.00	36.32	343.69	5,392.56	356.75	-82.91	359.00	10.05	9.94	2.68
5,458.00	37.37	343.54	5,417.37	374.59	-88.15	376.98	3.40	3.39	-0.48
5,489.00	39.39	344.38	5,441.67	393.08	-93.47	395.62	6.73	6.52	2.71
5,519.00	40.27	346.17	5,464.71	411.67	-98.35	414.34	4.82	2.93	5.97
5,549.00	40.98	346.43	5,487.48	430.64	-102.97	433.44	2.43	2.37	0.87
5,580.00	42.82	346.17	5,510.55	450.76	-107.88	453.69	5.96	5.94	-0.84
5,611.00	47.84	343.40	5,532.34	472.01	-113.68	475.10	17.39	16.19	-8.94
5,642.00	53.55	341.48	5,551.97	494.87	-120.93	498.16	19.03	18.42	-6.19
5,673.00	58.30	339.55	5,569.33	519.06	-129.50	522.59	16.17	15.32	-6.23
5,703.00	61.03	339.71	5,584.48	543.33	-138.52	547.11	9.11	9.10	0.53
5,733.00	63.66	338.82	5,598.41	568.18	-147.92	572.22	9.15	8.77	-2.97
5,763.00	66.74	340.41	5,610.99	593.71	-157.40	598.01	11.34	10.27	5.30
5,794.00	69.20	342.13	5,622.62	620.92	-166.63	625.48	9.46	7.94	5.55
5,824.00	71.67	342.81	5,632.66	647.87	-175.14	652.67	8.51	8.23	2.27
5,854.00	75.10	344.29	5,641.24	675.44	-183.28	680.46	12.37	11.43	4.93
5,885.00	77.47	346.23	5,648.59	704.56	-190.93	709.79	9.77	7.65	6.26
5,915.00	78.61	347.91	5,654.81	733.16	-197.50	738.57	6.67	3.80	5.60
5,945.00	81.51	351.49	5,659.99	762.23	-202.78	767.78	15.22	9.67	11.93
5,976.00	85.47	354.38	5,663.50	792.79	-206.56	798.43	15.78	12.77	9.32
6,013.80	86.90	354.56	5,666.02	830.33	-210.20	836.06	3.81	3.78	0.47
7" Csg - 2229 FNL & 2206 FEL - 7" Csg									
6,069.00	88.99	354.82	5,668.00	885.25	-215.30	891.11	3.81	3.78	0.47
6,153.00	89.43	353.68	5,669.15	968.82	-223.72	974.88	1.45	0.52	-1.36
6,238.00	89.69	353.61	5,669.81	1,053.29	-233.13	1,059.60	0.32	0.31	-0.08
6,321.00	90.31	354.57	5,669.81	1,135.85	-241.67	1,142.37	1.38	0.75	1.16
6,407.00	89.78	357.43	5,669.74	1,221.63	-247.67	1,228.28	3.38	-0.62	3.33
6,492.00	90.48	0.48	5,669.55	1,306.61	-249.22	1,313.27	3.68	0.82	3.59
6,579.00	90.92	2.86	5,668.48	1,393.56	-246.69	1,400.11	2.78	0.51	2.74
6,667.00	90.66	2.62	5,667.27	1,481.45	-242.48	1,487.84	0.40	-0.30	-0.27



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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Survey									
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)
6,751.00	89.87	1.78	5,666.88	1,565.38	-239.25	1,571.65	1.37	-0.94	-1.00
6,835.00	89.52	2.20	5,667.33	1,649.33	-236.34	1,655.48	0.65	-0.42	0.50
6,920.00	90.92	2.25	5,667.00	1,734.27	-233.04	1,740.28	1.65	1.65	0.06
6,979.35	90.56	1.27	5,666.24	1,793.58	-231.22	1,799.52	1.77	-0.61	-1.66
WP1									
7,005.00	90.40	0.84	5,666.02	1,819.23	-230.75	1,825.14	1.77	-0.61	-1.66
7,090.00	89.43	358.96	5,666.15	1,904.22	-230.89	1,910.10	2.49	-1.14	-2.21
7,175.00	89.60	358.89	5,666.87	1,989.20	-232.49	1,995.10	0.22	0.20	-0.08
7,260.00	88.72	358.69	5,668.11	2,074.17	-234.28	2,080.08	1.06	-1.04	-0.24
7,350.00	89.52	357.86	5,669.50	2,164.12	-236.99	2,170.07	1.28	0.89	-0.92
7,439.00	89.43	358.90	5,670.31	2,253.08	-239.51	2,259.07	1.17	-0.10	1.17
7,529.00	90.48	358.26	5,670.38	2,343.05	-241.74	2,349.06	1.37	1.17	-0.71
7,618.00	90.66	359.89	5,669.50	2,432.03	-243.18	2,438.05	1.84	0.20	1.83
7,708.00	89.69	0.56	5,669.22	2,522.03	-242.82	2,528.00	1.31	-1.08	0.74
7,798.00	89.87	2.89	5,669.57	2,611.98	-240.11	2,617.83	2.60	0.20	2.59
7,887.00	89.87	3.60	5,669.77	2,700.84	-235.08	2,706.51	0.80	0.00	0.80
7,976.00	88.90	1.71	5,670.73	2,789.73	-230.95	2,795.25	2.39	-1.09	-2.12
7,980.34	89.01	1.66	5,670.81	2,794.07	-230.83	2,799.58	2.76	2.53	-1.12
WP2									
8,063.00	91.10	0.74	5,670.73	2,876.71	-229.09	2,882.13	2.76	2.53	-1.11
8,152.00	89.52	359.95	5,670.24	2,965.70	-228.56	2,971.07	1.98	-1.78	-0.89
8,242.00	89.25	359.47	5,671.21	3,055.69	-229.01	3,061.04	0.61	-0.30	-0.53
8,334.00	88.99	357.73	5,672.62	3,147.65	-231.26	3,153.02	1.91	-0.28	-1.89
8,426.00	90.66	357.22	5,672.90	3,239.56	-235.31	3,245.01	1.90	1.82	-0.55
8,518.00	91.28	358.37	5,671.35	3,331.48	-238.85	3,336.99	1.42	0.67	1.25
8,610.00	91.28	359.63	5,669.29	3,423.44	-240.46	3,428.96	1.37	0.00	1.37
8,702.00	91.01	1.12	5,667.45	3,515.41	-239.86	3,520.88	1.65	-0.29	1.62
8,795.00	89.25	0.10	5,667.24	3,608.40	-238.87	3,613.80	2.19	-1.89	-1.10
8,886.00	88.64	0.21	5,668.92	3,699.39	-238.62	3,704.74	0.68	-0.67	0.12
8,978.00	90.31	359.95	5,669.76	3,791.38	-238.49	3,796.69	1.84	1.82	-0.28
9,070.00	89.96	359.77	5,669.54	3,883.38	-238.72	3,888.66	0.43	-0.38	-0.20
9,162.00	91.98	359.81	5,667.99	3,975.36	-239.05	3,980.61	2.20	2.20	0.04
9,254.00	90.57	0.39	5,665.94	4,067.33	-238.89	4,072.54	1.66	-1.53	0.63
9,347.00	89.60	1.52	5,665.80	4,160.32	-237.34	4,165.44	1.60	-1.04	1.22
9,440.00	89.16	1.92	5,666.81	4,253.27	-234.55	4,258.28	0.64	-0.47	0.43
9,532.00	88.99	359.41	5,668.29	4,345.25	-233.48	4,350.18	2.73	-0.18	-2.73
9,624.00	90.40	359.99	5,668.78	4,437.24	-233.97	4,442.15	1.66	1.53	0.63
9,717.00	89.16	358.96	5,669.14	4,530.23	-234.82	4,535.13	1.73	-1.33	-1.11
9,781.84	90.36	359.27	5,669.41	4,595.06	-235.82	4,599.96	1.91	1.85	0.47
WP3									
9,808.00	90.84	359.39	5,669.14	4,621.22	-236.13	4,626.12	1.91	1.85	0.47
9,900.00	88.72	359.52	5,669.49	4,713.21	-237.00	4,718.09	2.31	-2.30	0.14
9,992.00	89.52	359.39	5,670.91	4,805.19	-237.88	4,810.06	0.88	0.87	-0.14
10,084.00	91.01	359.91	5,670.48	4,897.19	-238.44	4,902.04	1.72	1.62	0.57



Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor Federal 26J-2310B
Project:	Weld Co., CO	TVD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Site:	Sec.26-T10N-R58W	MD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Well:	Razor Federal 26J-2310B	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Survey									
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)
10,177.00	89.34	1.42	5,670.20	4,990.18	-237.36	4,994.95	2.42	-1.80	1.62
10,270.00	90.22	0.11	5,670.55	5,083.16	-236.12	5,087.87	1.70	0.95	-1.41
10,363.00	90.75	359.79	5,669.77	5,176.16	-236.20	5,180.83	0.67	0.57	-0.34
10,455.00	90.13	359.08	5,669.06	5,268.15	-237.11	5,272.81	1.02	-0.67	-0.77
10,547.00	90.92	359.54	5,668.22	5,360.14	-238.21	5,364.79	0.99	0.86	0.50
10,638.00	90.04	358.70	5,667.45	5,451.12	-239.61	5,455.77	1.34	-0.97	-0.92
10,730.00	88.99	359.16	5,668.23	5,543.10	-241.33	5,547.76	1.25	-1.14	0.50
10,782.18	89.04	0.04	5,669.13	5,595.27	-241.69	5,599.92	1.70	0.10	1.70
WP4									
10,822.00	89.08	0.72	5,669.78	5,635.09	-241.43	5,639.71	1.70	0.10	1.70
10,915.00	90.57	0.85	5,670.07	5,728.08	-240.15	5,732.63	1.61	1.60	0.14
11,007.00	89.78	1.11	5,669.79	5,820.06	-238.58	5,824.53	0.90	-0.86	0.28
11,099.00	90.84	1.44	5,669.29	5,912.04	-236.53	5,916.40	1.21	1.15	0.36
11,191.00	90.22	359.85	5,668.44	6,004.02	-235.50	6,008.32	1.85	-0.67	-1.73
11,283.00	90.40	359.41	5,667.94	6,096.02	-236.09	6,100.30	0.52	0.20	-0.48
11,375.00	89.34	0.51	5,668.15	6,188.02	-236.15	6,192.26	1.66	-1.15	1.20
11,467.00	88.90	0.00	5,669.56	6,280.00	-235.75	6,284.19	0.73	-0.48	-0.55
11,560.00	87.49	359.47	5,672.49	6,372.95	-236.18	6,377.12	1.62	-1.52	-0.57
11,652.00	88.20	359.63	5,675.95	6,464.89	-236.90	6,469.03	0.79	0.77	0.17
11,744.00	90.22	0.24	5,677.22	6,556.87	-237.00	6,560.98	2.29	2.20	0.66
11,835.00	90.13	0.27	5,676.94	6,647.87	-236.60	6,651.93	0.10	-0.10	0.03
11,928.00	87.93	359.36	5,678.51	6,740.85	-236.90	6,744.88	2.56	-2.37	-0.98
12,020.00	89.43	359.26	5,680.63	6,832.82	-238.00	6,836.84	1.63	1.63	-0.11
12,112.00	89.43	358.16	5,681.55	6,924.79	-240.08	6,928.83	1.20	0.00	-1.20
12,204.00	90.66	358.97	5,681.48	7,016.75	-242.38	7,020.83	1.60	1.34	0.88
12,296.00	91.01	357.93	5,680.14	7,108.71	-244.87	7,112.82	1.19	0.38	-1.13
12,389.00	90.13	359.36	5,679.21	7,201.68	-247.07	7,205.81	1.81	-0.95	1.54
12,482.00	89.08	0.17	5,679.85	7,294.67	-247.45	7,298.78	1.43	-1.13	0.87
12,574.00	90.57	0.65	5,680.13	7,386.67	-246.79	7,390.71	1.70	1.62	0.52
12,583.77	90.56	0.63	5,680.04	7,396.44	-246.68	7,400.48	0.22	-0.10	-0.20
WP5									
12,666.00	90.48	0.47	5,679.29	7,478.66	-245.89	7,482.64	0.22	-0.10	-0.20
12,758.00	90.57	1.02	5,678.45	7,570.65	-244.69	7,574.56	0.61	0.10	0.60
12,850.00	87.93	359.70	5,679.65	7,662.63	-244.12	7,666.48	3.21	-2.87	-1.43
12,941.00	88.81	359.43	5,682.24	7,753.58	-244.81	7,757.42	1.01	0.97	-0.30
13,032.00	89.96	0.45	5,683.22	7,844.58	-244.90	7,848.38	1.69	1.26	1.12
13,123.00	91.45	0.42	5,682.10	7,935.56	-244.21	7,939.31	1.64	1.64	-0.03
13,214.00	92.77	0.61	5,678.75	8,026.50	-243.39	8,030.18	1.47	1.45	0.21
13,305.00	93.83	0.10	5,673.51	8,117.34	-242.83	8,120.97	1.29	1.16	-0.56
13,381.00	94.88	0.49	5,667.74	8,193.12	-242.44	8,196.71	1.47	1.38	0.51
Final Pathfinder MWD									
13,441.00	94.88	0.49	5,662.63	8,252.90	-241.93	8,256.45	0.00	0.00	0.00
Projection to Bit - PBHL Razor Federal 26J-2310B									



Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor Federal 26J-2310B
Project:	Weld Co., CO	TVD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Site:	Sec.26-T10N-R58W	MD Reference:	KB @ 4743.00usft (Xtreme 18 KB 17')
Well:	Razor Federal 26J-2310B	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 5000.1 Single User Db

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
6,013.80	5,666.02	7" Csg	7	7-1/2	

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
0.00	0.00	0.00	0.00	Tie Into Surface	
136.00	136.00	-0.76	-0.33	First Pathfinder MWD	
6,013.80	5,666.02	830.33	-210.20	7" Csg - 2229 FNL & 2206 FEL	
13,381.00	5,667.74	8,193.12	-242.44	Final Pathfinder MWD	
13,441.00	5,662.63	8,252.90	-241.93	Projection to Bit	

Checked By: _____	Approved By: _____	Date: _____
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