

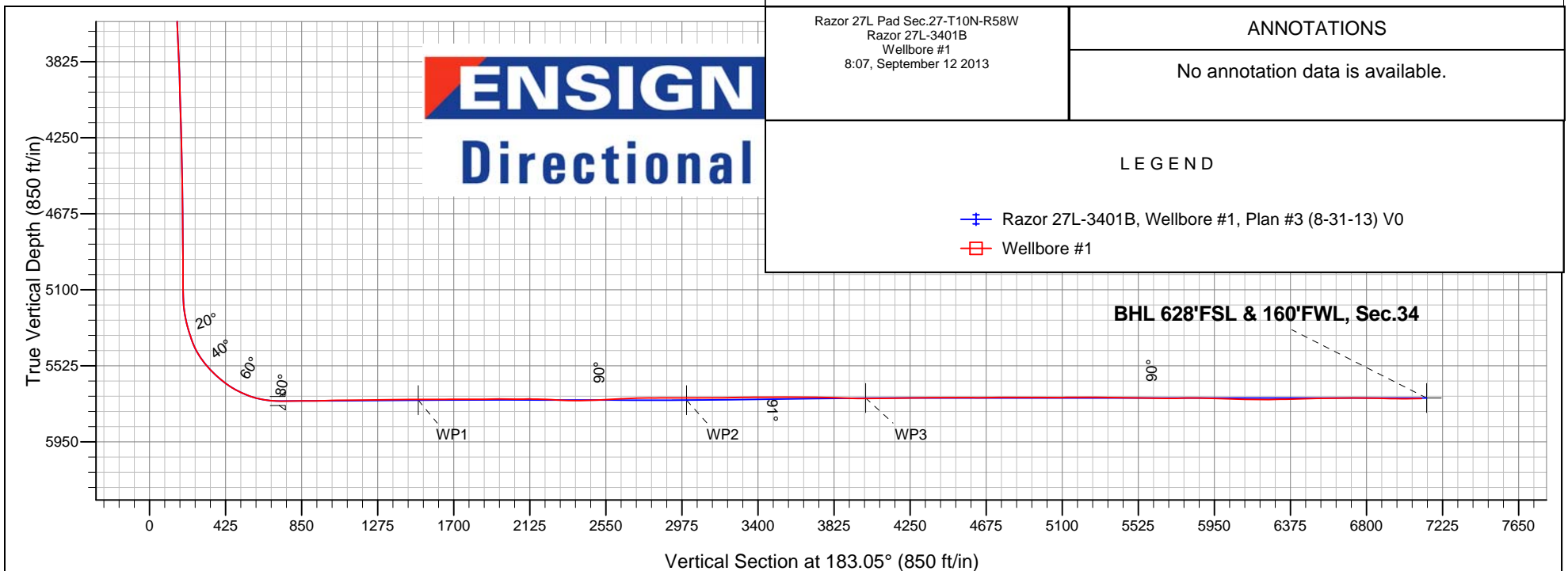
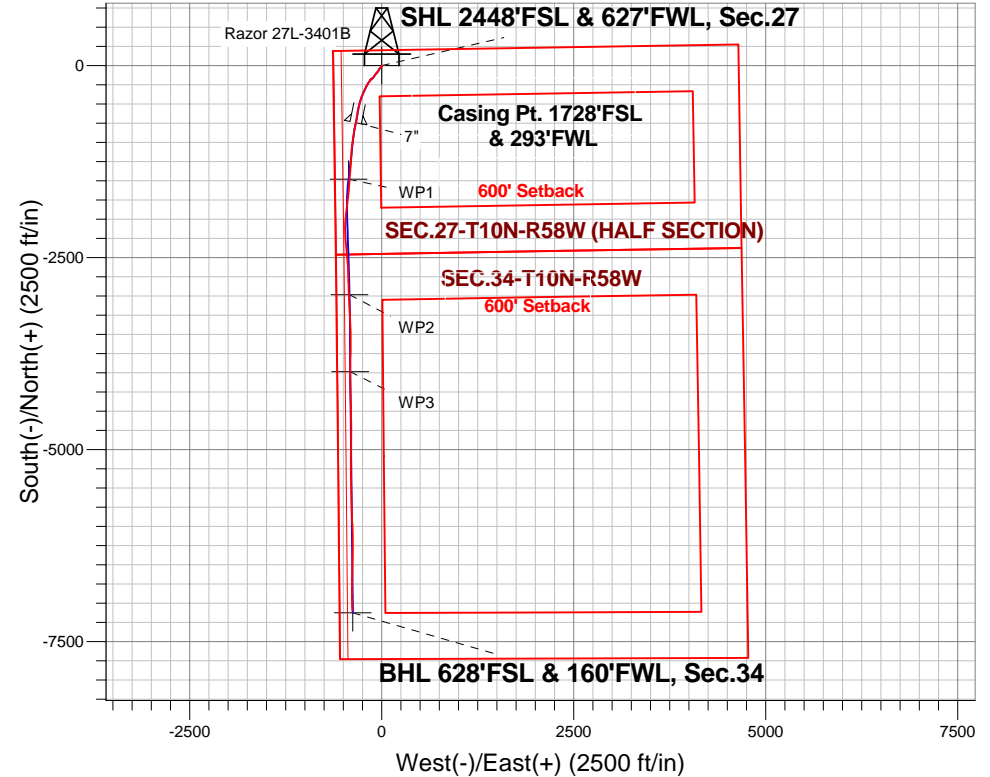
# Whiting Oil & Gas

Well Name: **Razor 27L-3401B**

Surface Location: Razor 27L Pad Sec.27-T10N-R58W  
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone  
 Ground Elevation: 4754.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1541728.28 3454394.34 40.808881 -103.858489  
 Cade 21 RKB-17.3' WELL @ 4771.3ft (Cade 21 RKB-17.3')

## FINAL SURVEY

Projected Bottom Hole Location  
 12445' MD 5708' TVD 7096' S & 384' W of SHL  
 90.8 degree Incl @ 178.1 degree AZM



Razor 27L Pad Sec.27-T10N-R58W  
 Razor 27L-3401B  
 Wellbore #1  
 8:07, September 12 2013

### ANNOTATIONS

No annotation data is available.

### LEGEND

- Razor 27L-3401B, Wellbore #1, Plan #3 (8-31-13) V0
- Wellbore #1



## **Whiting Oil & Gas**

**SEC.27-T10N-R58W**

**Razor 27L Pad Sec.27-T10N-R58W**

**Razor 27L-3401B**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**12 September, 2013**



<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Razor 27L-3401B
<b>Project:</b>	SEC.27-T10N-R58W	<b>TVD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Site:</b>	Razor 27L Pad Sec.27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Well:</b>	Razor 27L-3401B	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
440.0	0.79	172.74	440.0	-5.2	2.7	5.0	0.79	-0.41	44.68	
480.0	0.74	196.26	479.9	-5.7	2.7	5.6	0.79	-0.14	58.81	
520.0	0.81	219.28	519.9	-6.2	2.4	6.0	0.79	0.18	57.55	
560.0	0.98	236.28	559.9	-6.6	2.0	6.5	0.79	0.44	42.50	
600.0	1.03	231.53	599.9	-7.0	1.4	6.9	0.24	0.12	-11.88	
640.0	1.08	225.74	639.9	-7.5	0.8	7.4	0.29	0.11	-14.48	
680.0	1.18	228.69	679.9	-8.0	0.3	8.0	0.29	0.26	7.38	
720.0	1.34	236.74	719.9	-8.6	-0.4	8.6	0.60	0.41	20.11	
760.0	1.51	242.22	759.9	-9.1	-1.3	9.1	0.53	0.41	13.69	
800.0	1.55	242.96	799.9	-9.6	-2.2	9.7	0.12	0.11	1.86	
840.0	1.59	243.66	839.9	-10.0	-3.2	10.2	0.12	0.11	1.76	
880.0	1.57	242.45	879.9	-10.5	-4.2	10.7	0.11	-0.07	-3.05	
920.0	1.52	240.67	919.8	-11.1	-5.2	11.3	0.16	-0.10	-4.45	
960.0	1.75	234.46	959.8	-11.6	-6.1	11.9	0.72	0.57	-15.51	
1,000.0	2.38	226.83	999.8	-12.5	-7.2	12.9	1.71	1.57	-19.08	
1,040.0	3.02	222.55	1,039.8	-13.9	-8.5	14.3	1.68	1.61	-10.70	
1,080.0	3.49	221.66	1,079.7	-15.6	-10.0	16.1	1.16	1.16	-2.21	
1,120.0	3.95	220.99	1,119.6	-17.5	-11.7	18.1	1.16	1.16	-1.69	
1,160.0	4.16	221.07	1,159.5	-19.7	-13.6	20.4	0.52	0.52	0.20	
1,200.0	4.24	221.45	1,199.4	-21.9	-15.5	22.7	0.22	0.21	0.96	
1,240.0	4.35	221.46	1,239.3	-24.1	-17.5	25.0	0.28	0.28	0.03	
1,280.0	4.52	220.77	1,279.2	-26.5	-19.6	27.5	0.44	0.42	-1.73	
1,320.0	4.69	220.13	1,319.0	-28.9	-21.6	30.0	0.44	0.42	-1.60	
1,360.0	4.58	218.31	1,358.9	-31.4	-23.7	32.6	0.47	-0.29	-4.54	
1,400.0	4.45	216.33	1,398.8	-33.9	-25.6	35.2	0.50	-0.32	-4.97	
1,440.0	4.51	214.75	1,438.7	-36.4	-27.4	37.8	0.35	0.16	-3.94	
1,480.0	4.71	213.58	1,478.5	-39.1	-29.2	40.6	0.53	0.48	-2.93	
1,520.0	4.90	212.50	1,518.4	-41.9	-31.0	43.5	0.53	0.48	-2.70	
1,560.0	5.00	212.50	1,558.2	-44.8	-32.9	46.5	0.26	0.26	0.00	
1,600.0	5.11	212.50	1,598.1	-47.8	-34.8	49.6	0.26	0.26	0.00	
1,640.0	5.18	212.33	1,637.9	-50.8	-36.7	52.7	0.19	0.19	-0.42	
1,680.0	4.92	209.95	1,677.8	-53.8	-38.5	55.8	0.83	-0.64	-5.95	
1,720.0	4.68	207.32	1,717.6	-56.8	-40.1	58.8	0.83	-0.62	-6.59	
1,760.0	4.43	205.22	1,757.5	-59.6	-41.5	61.7	0.75	-0.63	-5.24	
1,800.0	4.17	203.29	1,797.4	-62.4	-42.8	64.5	0.73	-0.63	-4.82	
1,840.0	3.96	202.26	1,837.3	-65.0	-43.8	67.2	0.56	-0.53	-2.58	
1,880.0	3.83	203.86	1,877.2	-67.5	-44.9	69.8	0.42	-0.32	4.00	
1,920.0	3.71	205.57	1,917.1	-69.9	-46.0	72.2	0.42	-0.31	4.27	
1,960.0	3.54	205.88	1,957.0	-72.1	-47.1	74.5	0.42	-0.42	0.79	
2,000.0	3.37	206.10	1,997.0	-74.3	-48.2	76.8	0.43	-0.43	0.54	
2,040.0	3.22	213.06	2,036.9	-76.3	-49.3	78.8	1.07	-0.37	17.39	
2,080.0	3.21	225.39	2,076.8	-78.1	-50.7	80.6	1.73	-0.04	30.83	
2,120.0	3.31	234.24	2,116.8	-79.5	-52.4	82.2	1.28	0.24	22.13	
2,160.0	3.34	230.49	2,156.7	-80.9	-54.3	83.7	0.55	0.09	-9.38	
2,200.0	3.39	226.83	2,196.6	-82.4	-56.0	85.3	0.55	0.12	-9.15	
2,240.0	3.29	223.59	2,236.6	-84.1	-57.7	87.0	0.54	-0.25	-8.10	
2,280.0	3.16	220.18	2,276.5	-85.8	-59.2	88.8	0.57	-0.31	-8.51	
2,320.0	3.10	217.56	2,316.4	-87.5	-60.5	90.6	0.39	-0.16	-6.57	
2,360.0	3.10	216.12	2,356.4	-89.2	-61.8	92.4	0.19	0.00	-3.58	
2,400.0	3.08	215.38	2,396.3	-91.0	-63.1	94.2	0.11	-0.05	-1.86	
2,440.0	2.82	223.91	2,436.3	-92.5	-64.4	95.8	1.27	-0.65	21.34	
2,480.0	2.63	233.91	2,476.2	-93.8	-65.8	97.2	1.27	-0.46	24.98	
2,520.0	3.22	231.48	2,516.2	-95.0	-67.4	98.4	1.49	1.46	-6.07	
2,560.0	4.06	227.11	2,556.1	-96.6	-69.3	100.2	2.23	2.12	-10.93	

<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Razor 27L-3401B
<b>Project:</b>	SEC.27-T10N-R58W	<b>TVD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Site:</b>	Razor 27L Pad Sec.27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Well:</b>	Razor 27L-3401B	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

#### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,600.0	4.52	224.90	2,596.0	-98.8	-71.5	102.4	1.22	1.15	-5.52
2,640.0	4.31	224.04	2,635.9	-101.0	-73.7	104.7	0.55	-0.53	-2.14
2,680.0	4.10	223.10	2,675.7	-103.1	-75.7	107.0	0.55	-0.52	-2.36
2,720.0	4.10	222.05	2,715.6	-105.2	-77.7	109.2	0.19	0.00	-2.63
2,760.0	4.10	220.99	2,755.5	-107.3	-79.6	111.4	0.19	0.00	-2.63
2,800.0	4.02	219.33	2,795.4	-109.5	-81.4	113.7	0.36	-0.20	-4.16
2,840.0	3.89	217.19	2,835.3	-111.7	-83.1	115.9	0.49	-0.32	-5.34
2,880.0	3.78	215.45	2,875.3	-113.8	-84.7	118.2	0.41	-0.28	-4.36
2,920.0	3.69	215.24	2,915.2	-116.0	-86.2	120.4	0.22	-0.21	-0.52
2,960.0	3.61	215.02	2,955.1	-118.0	-87.7	122.5	0.22	-0.21	-0.55
3,000.0	3.56	213.81	2,995.0	-120.1	-89.1	124.7	0.22	-0.12	-3.03
3,040.0	3.52	212.45	3,034.9	-122.2	-90.4	126.8	0.23	-0.10	-3.39
3,080.0	3.45	212.67	3,074.9	-124.2	-91.7	128.9	0.17	-0.16	0.53
3,120.0	3.37	214.38	3,114.8	-126.2	-93.0	131.0	0.33	-0.21	4.28
3,160.0	3.27	215.67	3,154.7	-128.1	-94.4	132.9	0.30	-0.24	3.23
3,200.0	3.10	214.05	3,194.7	-129.9	-95.6	134.8	0.48	-0.42	-4.06
3,240.0	2.94	212.24	3,234.6	-131.7	-96.8	136.7	0.48	-0.42	-4.53
3,280.0	2.99	208.39	3,274.6	-133.5	-97.8	138.5	0.51	0.13	-9.61
3,320.0	3.12	204.29	3,314.5	-135.4	-98.8	140.4	0.63	0.32	-10.24
3,360.0	3.20	204.66	3,354.4	-137.4	-99.6	142.5	0.22	0.21	0.92
3,400.0	3.23	211.26	3,394.4	-139.4	-100.7	144.5	0.93	0.08	16.50
3,440.0	3.30	217.53	3,434.3	-141.3	-102.0	146.5	0.91	0.17	15.67
3,480.0	3.17	218.64	3,474.2	-143.0	-103.4	148.3	0.35	-0.32	2.79
3,520.0	3.04	219.85	3,514.2	-144.7	-104.7	150.1	0.35	-0.31	3.02
3,560.0	3.03	219.71	3,554.1	-146.3	-106.1	151.8	0.05	-0.04	-0.35
3,600.0	3.07	218.83	3,594.1	-148.0	-107.4	153.5	0.16	0.11	-2.21
3,640.0	3.08	217.67	3,634.0	-149.7	-108.8	155.2	0.16	0.02	-2.89
3,680.0	2.99	215.68	3,674.0	-151.4	-110.0	157.0	0.34	-0.22	-4.99
3,720.0	2.91	213.56	3,713.9	-153.1	-111.2	158.7	0.34	-0.21	-5.28
3,760.0	3.02	214.56	3,753.9	-154.8	-112.4	160.5	0.30	0.27	2.48
3,800.0	3.14	215.71	3,793.8	-156.5	-113.6	162.3	0.35	0.32	2.88
3,840.0	3.08	219.74	3,833.7	-158.3	-114.9	164.2	0.57	-0.14	10.08
3,880.0	2.91	226.85	3,873.7	-159.8	-116.4	165.8	1.03	-0.44	17.76
3,920.0	2.81	233.64	3,913.6	-161.1	-117.9	167.1	0.88	-0.25	16.99
3,960.0	2.85	235.57	3,953.6	-162.2	-119.5	168.3	0.26	0.10	4.81
4,000.0	2.89	237.43	3,993.5	-163.3	-121.2	169.5	0.26	0.11	4.67
4,040.0	2.93	238.42	4,033.5	-164.4	-122.9	170.7	0.16	0.11	2.47
4,080.0	2.98	239.18	4,073.4	-165.4	-124.7	171.8	0.14	0.11	1.89
4,120.0	2.96	238.62	4,113.4	-166.5	-126.4	173.0	0.08	-0.03	-1.39
4,160.0	2.88	236.22	4,153.3	-167.6	-128.2	174.2	0.37	-0.21	-6.01
4,200.0	2.77	233.57	4,193.3	-168.7	-129.8	175.4	0.43	-0.28	-6.61
4,240.0	2.10	227.51	4,233.2	-169.8	-131.1	176.5	1.78	-1.66	-15.15
4,280.0	1.48	216.14	4,273.2	-170.7	-131.9	177.5	1.78	-1.55	-28.42
4,320.0	1.30	212.61	4,313.2	-171.5	-132.4	178.3	0.51	-0.46	-8.83
4,360.0	1.30	216.20	4,353.2	-172.3	-133.0	179.1	0.20	0.00	8.96
4,400.0	1.34	220.10	4,393.2	-173.0	-133.5	179.8	0.24	0.10	9.76
4,440.0	1.46	224.26	4,433.2	-173.7	-134.2	180.6	0.40	0.31	10.41
4,480.0	1.59	227.76	4,473.2	-174.4	-134.9	181.4	0.40	0.33	8.74
4,520.0	1.51	233.15	4,513.1	-175.1	-135.8	182.1	0.41	-0.20	13.47
4,560.0	1.43	239.38	4,553.1	-175.7	-136.6	182.7	0.45	-0.20	15.58
4,600.0	1.33	240.38	4,593.1	-176.2	-137.5	183.2	0.27	-0.26	2.49
4,640.0	1.20	236.08	4,633.1	-176.6	-138.2	183.7	0.40	-0.32	-10.75
4,680.0	1.08	232.35	4,673.1	-177.1	-138.9	184.2	0.34	-0.29	-9.32
4,720.0	1.00	235.80	4,713.1	-177.5	-139.4	184.7	0.27	-0.22	8.64

<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Razor 27L-3401B
<b>Project:</b>	SEC.27-T10N-R58W	<b>TVD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Site:</b>	Razor 27L Pad Sec.27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Well:</b>	Razor 27L-3401B	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

#### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,760.0	0.92	239.89	4,753.1	-177.9	-140.0	185.1	0.27	-0.21	10.23
4,800.0	0.87	238.90	4,793.1	-178.2	-140.5	185.4	0.13	-0.13	-2.47
4,840.0	0.82	236.31	4,833.1	-178.5	-141.0	185.7	0.14	-0.10	-6.48
4,880.0	0.76	236.61	4,873.1	-178.8	-141.5	186.1	0.15	-0.15	0.75
4,920.0	0.68	241.95	4,913.1	-179.1	-141.9	186.4	0.27	-0.22	13.35
4,960.0	0.60	248.93	4,953.1	-179.3	-142.3	186.6	0.27	-0.19	17.45
5,000.0	0.58	259.96	4,993.1	-179.4	-142.7	186.7	0.29	-0.04	27.56
5,040.0	0.59	271.09	5,033.1	-179.4	-143.1	186.8	0.29	0.02	27.84
5,080.0	0.76	265.43	5,073.1	-179.4	-143.6	186.8	0.46	0.43	-14.17
5,120.0	1.14	246.90	5,113.1	-179.5	-144.2	186.9	1.21	0.95	-46.33
5,160.0	3.64	219.88	5,153.0	-180.7	-145.3	188.1	6.69	6.25	-67.54
5,200.0	6.61	220.30	5,192.9	-183.4	-147.6	191.0	7.42	7.42	1.05
5,240.0	10.30	216.07	5,232.4	-187.9	-151.2	195.7	9.34	9.22	-10.59
5,280.0	14.21	212.90	5,271.5	-195.0	-156.0	203.0	9.92	9.78	-7.93
5,320.0	17.51	212.36	5,310.0	-204.3	-161.9	212.6	8.26	8.25	-1.34
5,360.0	20.35	212.85	5,347.8	-215.2	-168.9	223.9	7.10	7.09	1.23
5,400.0	23.00	212.90	5,385.0	-227.6	-176.9	236.7	6.63	6.63	0.12
5,440.0	27.28	211.21	5,421.2	-241.9	-185.9	251.5	10.84	10.70	-4.22
5,480.0	32.81	208.16	5,455.8	-259.3	-195.9	269.3	14.35	13.84	-7.62
5,520.0	38.23	205.74	5,488.3	-280.1	-206.3	290.6	13.99	13.54	-6.05
5,560.0	41.77	205.29	5,518.9	-303.3	-217.4	314.5	8.89	8.86	-1.12
5,600.0	45.43	204.74	5,547.9	-328.3	-229.1	340.0	9.20	9.15	-1.39
5,640.0	49.20	203.48	5,575.0	-355.2	-241.1	367.5	9.70	9.42	-3.15
5,680.0	51.35	202.94	5,600.4	-383.5	-253.2	396.4	5.46	5.36	-1.35
5,720.0	54.16	199.55	5,624.8	-413.1	-264.7	426.6	9.74	7.03	-8.47
5,760.0	59.85	197.61	5,646.4	-445.0	-275.5	459.0	14.81	14.24	-4.86
5,800.0	63.60	196.06	5,665.3	-478.7	-285.5	493.2	9.95	9.36	-3.86
5,840.0	66.56	194.50	5,682.1	-513.7	-295.2	528.7	8.22	7.41	-3.91
5,880.0	71.35	192.13	5,696.5	-550.0	-303.8	565.4	13.19	11.98	-5.93
5,920.0	76.23	190.08	5,707.6	-587.7	-311.1	603.4	13.15	12.20	-5.11
5,960.0	81.02	188.83	5,715.5	-626.4	-317.5	642.4	12.35	11.96	-3.12
6,000.0	85.40	190.20	5,720.2	-665.6	-323.9	681.9	11.47	10.95	3.42
6,040.0	89.02	191.20	5,722.1	-704.8	-331.4	721.5	9.38	9.04	2.51
6,078.0	90.00	191.45	5,722.3	-742.1	-338.9	759.1	2.68	2.60	0.65
7"									
6,080.0	90.02	191.46	5,722.3	-744.1	-339.3	761.0	0.92	0.89	0.22
6,120.0	90.03	191.04	5,722.2	-783.3	-347.1	800.6	1.05	0.02	-1.05
6,160.0	90.37	190.28	5,722.1	-822.6	-354.6	840.2	2.07	0.84	-1.89
6,200.0	90.60	189.36	5,721.7	-862.0	-361.4	880.0	2.38	0.58	-2.31
6,240.0	90.88	188.64	5,721.2	-901.5	-367.6	919.8	1.93	0.70	-1.80
6,280.0	91.72	188.42	5,720.3	-941.0	-373.6	959.6	2.16	2.09	-0.54
6,320.0	92.06	188.10	5,718.9	-980.6	-379.3	999.4	1.18	0.86	-0.81
6,360.0	91.53	187.58	5,717.6	-1,020.2	-384.8	1,039.2	1.86	-1.33	-1.30
6,400.0	91.30	186.70	5,716.6	-1,059.9	-389.8	1,079.1	2.27	-0.57	-2.20
6,440.0	90.59	184.87	5,715.9	-1,099.7	-393.7	1,119.0	4.90	-1.77	-4.56
6,480.0	89.59	184.48	5,716.0	-1,139.5	-397.0	1,159.0	2.68	-2.49	-0.98
6,520.0	89.66	183.81	5,716.3	-1,179.4	-399.9	1,199.0	1.69	0.16	-1.68
6,560.0	90.44	183.69	5,716.3	-1,219.4	-402.5	1,239.0	1.99	1.97	-0.30
6,600.0	90.93	183.35	5,715.7	-1,259.3	-404.9	1,279.0	1.47	1.21	-0.83
6,640.0	90.67	183.00	5,715.2	-1,299.2	-407.1	1,319.0	1.10	-0.64	-0.89
6,680.0	90.72	182.84	5,714.7	-1,339.2	-409.2	1,359.0	0.43	0.13	-0.41
6,720.0	90.84	182.55	5,714.2	-1,379.1	-411.0	1,399.0	0.78	0.30	-0.73
6,760.0	91.30	183.38	5,713.4	-1,419.0	-413.0	1,439.0	2.38	1.16	2.08
6,800.0	91.07	184.59	5,712.5	-1,458.9	-415.8	1,479.0	3.09	-0.58	3.03

<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Razor 27L-3401B
<b>Project:</b>	SEC.27-T10N-R58W	<b>TVD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Site:</b>	Razor 27L Pad Sec.27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Well:</b>	Razor 27L-3401B	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,822.2	90.24	184.62	5,712.2	-1,481.1	-417.6	1,501.2	3.74	-3.74	0.12
<b>WP1</b>									
6,840.0	89.57	184.64	5,712.2	-1,498.8	-419.2	1,518.9	3.74	-3.74	0.12
6,880.0	89.39	184.23	5,712.7	-1,538.7	-422.2	1,558.9	1.13	-0.45	-1.03
6,920.0	90.10	185.47	5,712.8	-1,578.5	-425.5	1,598.9	3.58	1.77	3.11
6,960.0	90.47	187.05	5,712.6	-1,618.3	-429.9	1,638.9	4.05	0.91	3.94
7,000.0	90.69	187.68	5,712.2	-1,658.0	-435.1	1,678.7	1.68	0.55	1.59
7,040.0	90.06	186.98	5,712.0	-1,697.6	-440.2	1,718.6	2.35	-1.57	-1.75
7,080.0	90.39	186.71	5,711.8	-1,737.3	-445.0	1,758.5	1.07	0.84	-0.67
7,120.0	89.61	186.35	5,711.6	-1,777.1	-449.5	1,798.5	2.16	-1.96	-0.90
7,160.0	89.70	187.00	5,712.0	-1,816.8	-454.1	1,838.4	1.64	0.23	1.62
7,200.0	91.05	186.87	5,711.7	-1,856.5	-459.0	1,878.3	3.40	3.39	-0.32
7,240.0	91.08	185.86	5,710.8	-1,896.2	-463.5	1,918.2	2.52	0.05	-2.52
7,280.0	89.73	184.90	5,710.5	-1,936.1	-467.2	1,958.2	4.13	-3.36	-2.41
7,320.0	89.31	183.47	5,710.9	-1,976.0	-470.1	1,998.2	3.72	-1.05	-3.57
7,360.0	89.89	183.35	5,711.2	-2,015.9	-472.4	2,038.1	1.46	1.44	-0.28
7,400.0	90.76	183.74	5,710.9	-2,055.8	-475.0	2,078.1	2.39	2.18	0.97
7,440.0	90.10	182.63	5,710.5	-2,095.7	-477.3	2,118.1	3.23	-1.64	-2.79
7,480.0	88.87	180.98	5,710.8	-2,135.7	-478.6	2,158.1	5.14	-3.08	-4.12
7,520.0	87.62	178.91	5,712.1	-2,175.7	-478.5	2,198.0	6.04	-3.12	-5.17
7,560.0	86.82	176.82	5,714.1	-2,215.6	-477.1	2,237.8	5.60	-2.02	-5.23
7,600.0	86.93	175.79	5,716.3	-2,255.5	-474.4	2,277.5	2.58	0.28	-2.57
7,640.0	88.07	175.27	5,718.0	-2,295.3	-471.3	2,317.1	3.13	2.84	-1.32
7,680.0	88.92	174.15	5,719.1	-2,335.1	-467.6	2,356.7	3.52	2.14	-2.80
7,720.0	90.16	173.90	5,719.4	-2,374.9	-463.4	2,396.2	3.16	3.10	-0.62
7,760.0	91.33	173.30	5,718.9	-2,414.6	-458.9	2,435.6	3.28	2.92	-1.50
7,800.0	92.49	173.63	5,717.6	-2,454.3	-454.3	2,475.0	3.02	2.90	0.82
7,840.0	93.15	174.49	5,715.5	-2,494.1	-450.1	2,514.5	2.70	1.65	2.15
7,880.0	93.58	175.72	5,713.2	-2,533.9	-446.7	2,554.0	3.25	1.08	3.07
7,920.0	93.26	176.83	5,710.7	-2,573.7	-444.1	2,593.7	2.90	-0.81	2.79
7,960.0	92.52	177.56	5,708.7	-2,613.6	-442.2	2,633.4	2.59	-1.85	1.82
8,000.0	91.54	177.88	5,707.3	-2,653.5	-440.6	2,673.2	2.58	-2.45	0.80
8,040.0	90.87	177.66	5,706.5	-2,693.5	-439.1	2,713.0	1.75	-1.66	-0.55
8,080.0	90.19	177.67	5,706.1	-2,733.5	-437.4	2,752.9	1.72	-1.72	0.04
8,120.0	90.83	178.30	5,705.8	-2,773.4	-436.0	2,792.7	2.24	1.60	1.57
8,160.0	91.41	178.53	5,704.9	-2,813.4	-434.9	2,832.5	1.56	1.45	0.56
8,200.0	90.39	178.92	5,704.3	-2,853.4	-434.0	2,872.4	2.73	-2.55	0.98
8,240.0	89.07	178.35	5,704.4	-2,893.4	-433.1	2,912.3	3.60	-3.30	-1.44
8,280.0	90.17	177.90	5,704.8	-2,933.4	-431.8	2,952.2	2.98	2.76	-1.12
8,320.0	90.69	177.33	5,704.3	-2,973.3	-430.2	2,992.0	1.92	1.29	-1.42
8,329.5	90.37	177.19	5,704.2	-2,982.8	-429.8	3,001.4	3.72	-3.39	-1.53
<b>WP2</b>									
8,360.0	89.33	176.72	5,704.2	-3,013.3	-428.1	3,031.8	3.72	-3.39	-1.53
8,400.0	90.02	176.79	5,704.6	-3,053.2	-425.8	3,071.5	1.72	1.71	0.18
8,440.0	90.94	176.74	5,704.1	-3,093.1	-423.5	3,111.3	2.31	2.31	-0.13
8,480.0	90.27	176.59	5,703.6	-3,133.1	-421.2	3,151.0	1.71	-1.66	-0.38
8,520.0	89.70	176.70	5,703.7	-3,173.0	-418.9	3,190.8	1.46	-1.44	0.28
8,560.0	90.47	176.94	5,703.6	-3,212.9	-416.7	3,230.5	2.03	1.94	0.60
8,600.0	91.26	176.62	5,703.0	-3,252.9	-414.4	3,270.3	2.12	1.96	-0.80
8,640.0	91.32	176.95	5,702.0	-3,292.8	-412.1	3,310.0	0.84	0.15	0.83
8,680.0	90.82	177.70	5,701.2	-3,332.7	-410.3	3,349.8	2.25	-1.25	1.87
8,720.0	90.10	178.06	5,701.0	-3,372.7	-408.7	3,389.7	2.02	-1.81	0.90
8,760.0	89.68	179.29	5,701.0	-3,412.7	-407.8	3,429.5	3.24	-1.05	3.06
8,800.0	89.91	179.17	5,701.2	-3,452.7	-407.3	3,469.5	0.65	0.57	-0.30



<b>Company:</b>	Whiting Oil & Gas	<b>Local Co-ordinate Reference:</b>	Well Razor 27L-3401B
<b>Project:</b>	SEC.27-T10N-R58W	<b>TVD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Site:</b>	Razor 27L Pad Sec.27-T10N-R58W	<b>MD Reference:</b>	WELL @ 4771.3ft (Cade 21 RKB-17.3')
<b>Well:</b>	Razor 27L-3401B	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	Landmark

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,840.0	91.02	179.68	5,700.8	-3,492.7	-407.0	3,509.4	3.06	2.77	1.29
8,880.0	91.00	179.97	5,700.1	-3,532.7	-406.7	3,549.3	0.73	-0.05	0.73
8,920.0	90.32	180.39	5,699.6	-3,572.7	-406.9	3,589.3	1.99	-1.69	1.05
8,960.0	89.49	180.55	5,699.8	-3,612.7	-407.2	3,629.2	2.11	-2.07	0.38
9,000.0	89.91	181.02	5,699.9	-3,652.7	-407.8	3,669.2	1.58	1.05	1.18
9,040.0	88.92	180.93	5,700.2	-3,692.7	-408.5	3,709.2	2.49	-2.48	-0.23
9,080.0	87.82	180.74	5,701.4	-3,732.6	-409.1	3,749.1	2.78	-2.74	-0.47
9,120.0	88.10	180.70	5,702.9	-3,772.6	-409.6	3,789.0	0.71	0.70	-0.10
9,160.0	88.86	180.50	5,704.0	-3,812.6	-410.0	3,829.0	1.98	1.91	-0.50
9,200.0	88.40	180.22	5,704.9	-3,852.6	-410.3	3,868.9	1.36	-1.16	-0.70
9,240.0	88.40	180.52	5,706.0	-3,892.6	-410.5	3,908.9	0.75	0.00	0.75
9,280.0	88.75	180.56	5,707.0	-3,932.5	-410.9	3,948.8	0.89	0.89	0.10
9,320.0	89.60	180.70	5,707.6	-3,972.5	-411.3	3,988.8	2.14	2.11	0.35
9,331.6	89.64	180.47	5,707.7	-3,984.2	-411.5	4,000.4	1.99	0.33	-1.96
<b>WP3</b>									
9,360.0	89.73	179.92	5,707.9	-4,012.5	-411.5	4,028.7	1.99	0.33	-1.96
9,400.0	90.71	180.37	5,707.8	-4,052.5	-411.6	4,068.7	2.69	2.44	1.15
9,440.0	91.44	180.06	5,707.0	-4,092.5	-411.8	4,108.6	1.98	1.82	-0.77
9,480.0	91.02	179.43	5,706.1	-4,132.5	-411.6	4,148.6	1.89	-1.05	-1.58
9,520.0	90.91	178.95	5,705.4	-4,172.5	-411.1	4,188.5	1.23	-0.28	-1.20
9,560.0	91.02	179.04	5,704.8	-4,212.5	-410.3	4,228.3	0.35	0.28	0.21
9,600.0	91.00	179.32	5,704.1	-4,252.5	-409.7	4,268.3	0.70	-0.05	0.70
9,640.0	90.88	179.23	5,703.4	-4,292.5	-409.3	4,308.2	0.37	-0.29	-0.23
9,680.0	90.35	178.31	5,703.0	-4,332.5	-408.4	4,348.0	2.66	-1.33	-2.30
9,720.0	89.20	177.70	5,703.1	-4,372.4	-407.0	4,387.9	3.25	-2.88	-1.52
9,760.0	89.72	178.10	5,703.5	-4,412.4	-405.6	4,427.7	1.65	1.31	1.00
9,800.0	90.95	177.98	5,703.3	-4,452.4	-404.2	4,467.6	3.09	3.07	-0.31
9,840.0	91.21	178.09	5,702.4	-4,492.4	-402.8	4,507.4	0.69	0.64	0.27
9,880.0	89.74	177.99	5,702.1	-4,532.3	-401.4	4,547.3	3.67	-3.66	-0.24
9,920.0	89.20	178.35	5,702.5	-4,572.3	-400.2	4,587.1	1.63	-1.35	0.90
9,960.0	90.01	178.72	5,702.9	-4,612.3	-399.1	4,627.0	2.22	2.02	0.93
10,000.0	90.89	178.98	5,702.6	-4,652.3	-398.4	4,666.9	2.30	2.21	0.65
10,040.0	90.37	178.92	5,702.0	-4,692.3	-397.6	4,706.8	1.30	-1.29	-0.16
10,080.0	89.42	179.59	5,702.2	-4,732.3	-397.0	4,746.7	2.92	-2.39	1.68
10,120.0	90.20	181.10	5,702.4	-4,772.3	-397.2	4,786.6	4.25	1.95	3.78
10,160.0	90.86	180.56	5,702.0	-4,812.3	-397.7	4,826.6	2.13	1.65	-1.35
10,200.0	91.06	180.95	5,701.3	-4,852.2	-398.2	4,866.5	1.09	0.50	0.96
10,240.0	90.02	180.92	5,700.8	-4,892.2	-398.9	4,906.5	2.61	-2.61	-0.06
10,280.0	88.50	180.79	5,701.4	-4,932.2	-399.5	4,946.5	3.80	-3.79	-0.32
10,320.0	88.77	180.73	5,702.5	-4,972.2	-400.1	4,986.4	0.69	0.67	-0.16
10,360.0	89.25	180.65	5,703.1	-5,012.2	-400.5	5,026.4	1.23	1.21	-0.19
10,400.0	90.88	181.13	5,703.1	-5,052.2	-401.2	5,066.4	4.25	4.07	1.20
10,440.0	91.31	180.79	5,702.3	-5,092.2	-401.8	5,106.3	1.37	1.07	-0.86
10,480.0	90.61	180.75	5,701.5	-5,132.2	-402.4	5,146.3	1.76	-1.76	-0.10
10,520.0	89.61	180.69	5,701.5	-5,172.2	-402.8	5,186.3	2.50	-2.50	-0.15
10,560.0	89.77	180.20	5,701.7	-5,212.2	-403.2	5,226.2	1.29	0.40	-1.23
10,600.0	89.44	179.35	5,701.9	-5,252.2	-403.0	5,266.2	2.28	-0.81	-2.13
10,640.0	89.67	179.10	5,702.3	-5,292.2	-402.4	5,306.1	0.85	0.58	-0.62
10,680.0	90.65	179.08	5,702.1	-5,332.1	-401.8	5,346.0	2.45	2.45	-0.06
10,720.0	89.86	179.00	5,701.8	-5,372.1	-401.1	5,385.9	2.00	-1.99	-0.19
10,760.0	88.38	178.83	5,702.4	-5,412.1	-400.4	5,425.8	3.73	-3.71	-0.42
10,800.0	88.39	179.00	5,703.6	-5,452.1	-399.6	5,465.6	0.42	0.03	0.42
10,840.0	88.96	178.74	5,704.5	-5,492.1	-398.9	5,505.5	1.56	1.42	-0.65
10,880.0	88.75	178.71	5,705.3	-5,532.1	-397.9	5,545.4	0.53	-0.52	-0.08



