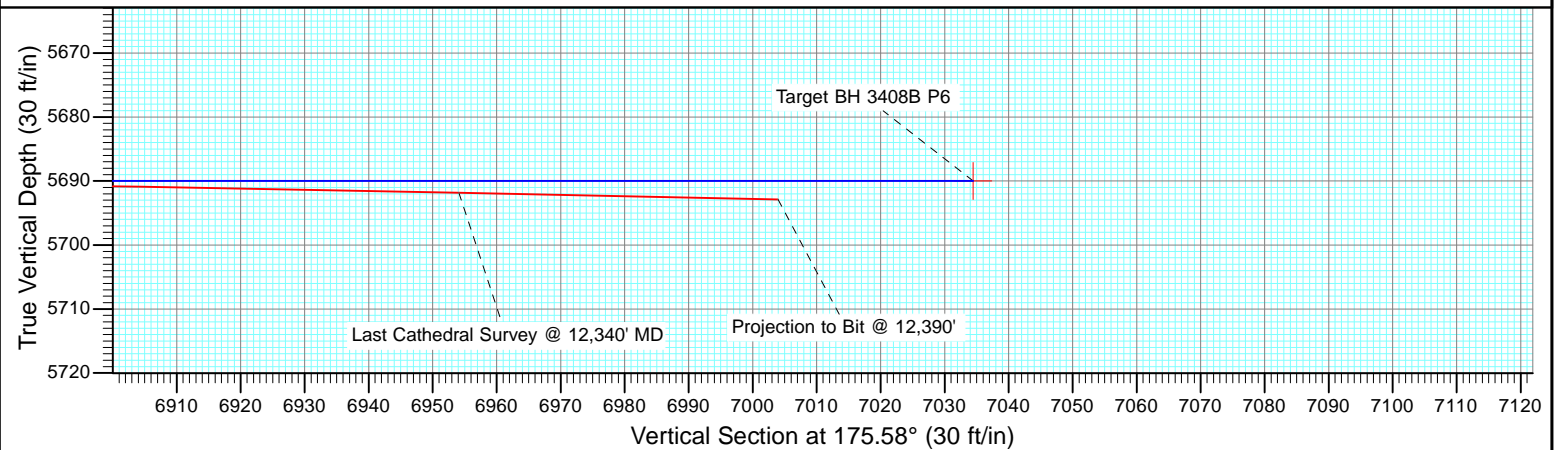
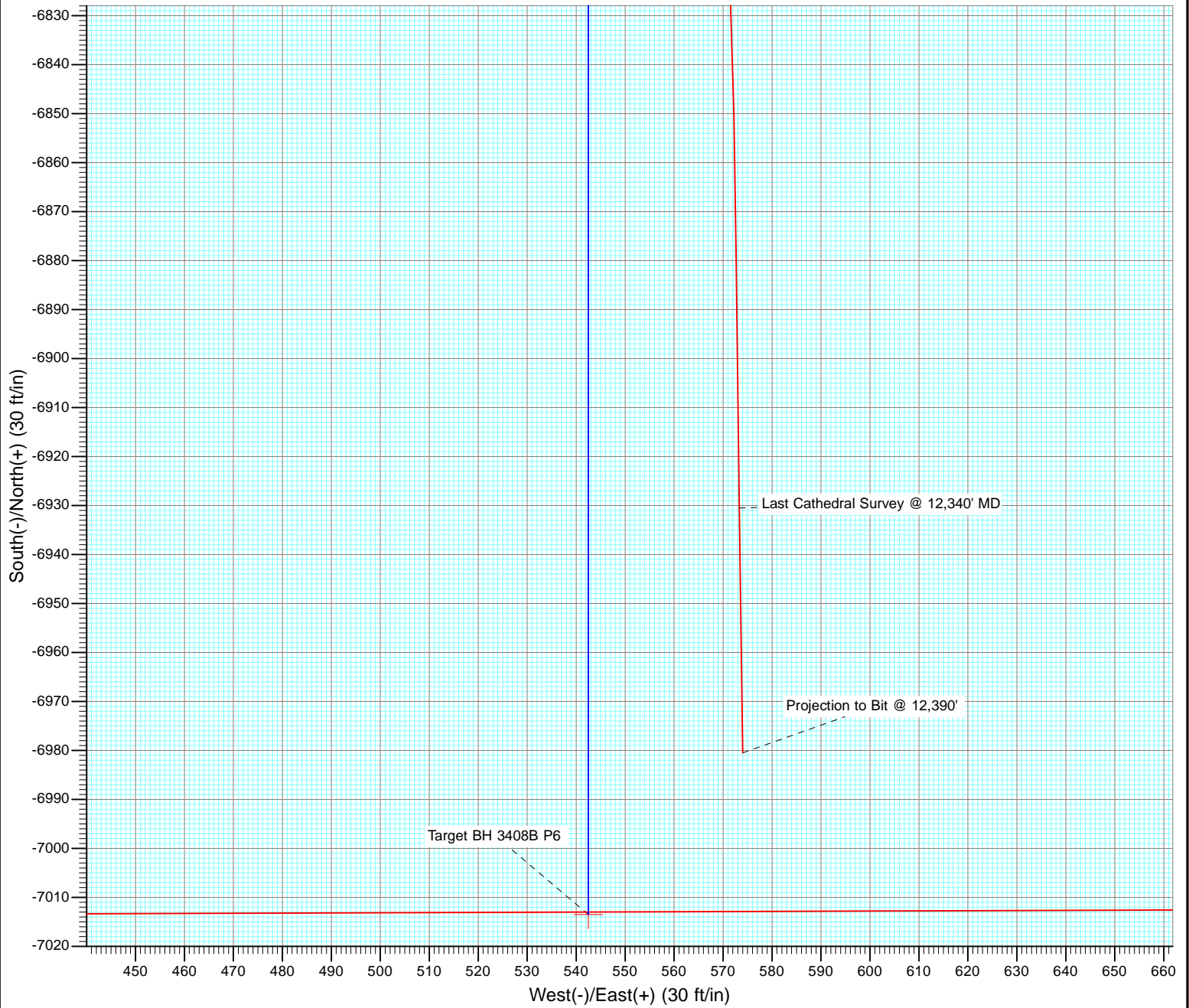




Project: Weld County, CO
Site: S27-T10N-R58W
Well: Razor #27K-3408B
Wellbore: HZ
Design: FINAL



Cathedral Energy Services

Survey Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27K-3408B
Project:	Weld County, CO	TVD Reference:	16.8' RKB @ 4765.8ft
Site:	S27-T10N-R58W	MD Reference:	16.8' RKB @ 4765.8ft
Well:	Razor #27K-3408B	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

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

Site		S27-T10N-R58W			
Site Position:		Northing:	1,541,650.73 ft	Latitude:	40.808594
From:	Lat/Long	Easting:	3,455,691.89 ft	Longitude:	-103.853833
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	1.06 °

Well		Razor #27K-3408B				
Well Position	+N/-S	0.0 ft	Northing:	1,541,652.54 ft	Latitude:	40.808594
	+E/-W	0.0 ft	Easting:	3,455,790.15 ft	Longitude:	-103.853478
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,749.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/1/2013	8.15	67.46	53,248

Design	FINAL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	175.58	

Survey Program	Date	9/19/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
164.0	12,390.0	Survey #1 (HZ)	ISCWSA MWD	MWD - ISCWSA	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
164.0	0.40	256.40	164.0	-0.1	-0.6	0.1	0.24	0.24		
255.0	0.90	200.40	255.0	-0.9	-1.1	0.8	0.83	0.55		
350.0	1.40	180.70	350.0	-2.7	-1.4	2.6	0.66	0.53		
442.0	1.10	191.50	442.0	-4.7	-1.6	4.6	0.41	-0.33		
533.0	0.20	57.10	532.9	-5.5	-1.6	5.4	1.37	-0.99		
624.0	0.50	48.40	623.9	-5.1	-1.2	5.0	0.33	0.33		
716.0	1.00	40.10	715.9	-4.3	-0.4	4.2	0.55	0.54		
807.0	1.80	34.00	806.9	-2.5	0.9	2.5	0.89	0.88		
899.0	1.50	38.20	898.9	-0.3	2.5	0.5	0.35	-0.33		
990.0	1.50	80.20	989.8	0.8	4.4	-0.5	1.18	0.00		
1,081.0	1.90	107.20	1,080.8	0.6	7.0	0.0	0.97	0.44		
1,172.0	2.10	128.60	1,171.8	-0.9	9.8	1.7	0.84	0.22		

Cathedral Energy Services

Survey Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27K-3408B
Project:	Weld County, CO	TVD Reference:	16.8' RKB @ 4765.8ft
Site:	S27-T10N-R58W	MD Reference:	16.8' RKB @ 4765.8ft
Well:	Razor #27K-3408B	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,263.0	2.10	145.40	1,262.7	-3.3	12.0	4.3	0.67	0.00	
1,354.0	2.60	151.80	1,353.6	-6.5	13.9	7.6	0.62	0.55	
1,445.0	2.40	152.60	1,444.5	-10.0	15.8	11.2	0.22	-0.22	
1,543.0	2.30	153.80	1,542.4	-13.6	17.6	14.9	0.11	-0.10	
1,668.0	2.50	151.90	1,667.3	-18.3	20.0	19.8	0.17	0.16	
1,759.0	2.70	154.00	1,758.2	-22.0	21.9	23.6	0.24	0.22	
1,850.0	3.10	145.50	1,849.1	-25.9	24.2	27.7	0.64	0.44	
1,942.0	3.30	138.80	1,941.0	-30.0	27.4	32.0	0.46	0.22	
2,032.0	2.50	159.30	2,030.9	-33.7	29.8	35.9	1.44	-0.89	
2,124.0	2.70	162.00	2,122.8	-37.7	31.1	40.0	0.25	0.22	
2,215.0	2.50	167.90	2,213.7	-41.7	32.2	44.0	0.37	-0.22	
2,306.0	2.70	153.60	2,304.6	-45.5	33.6	48.0	0.74	0.22	
2,397.0	2.50	149.90	2,395.5	-49.2	35.5	51.7	0.29	-0.22	
2,489.0	2.60	135.50	2,487.4	-52.4	38.0	55.1	0.70	0.11	
2,580.0	2.90	134.40	2,578.3	-55.5	41.1	58.5	0.33	0.33	
2,671.0	2.00	142.20	2,669.2	-58.3	43.7	61.5	1.05	-0.99	
2,762.0	1.80	149.30	2,760.2	-60.8	45.4	64.1	0.34	-0.22	
2,854.0	0.60	71.30	2,852.1	-61.9	46.6	65.3	1.93	-1.30	
2,945.0	1.10	48.20	2,943.1	-61.2	47.7	64.7	0.66	0.55	
3,037.0	2.10	114.20	3,035.1	-61.3	49.9	64.9	2.10	1.09	
3,128.0	2.70	135.90	3,126.0	-63.5	52.9	67.4	1.19	0.66	
3,220.0	3.10	135.30	3,217.9	-66.8	56.2	70.9	0.44	0.43	
3,312.0	2.80	163.80	3,309.8	-70.7	58.5	75.0	1.61	-0.33	
3,404.0	2.80	164.20	3,401.7	-75.1	59.8	79.4	0.02	0.00	
3,496.0	3.00	164.20	3,493.6	-79.5	61.1	84.0	0.22	0.22	
3,587.0	1.40	180.60	3,584.5	-82.9	61.7	87.4	1.87	-1.76	
3,679.0	1.50	186.10	3,676.5	-85.3	61.5	89.8	0.19	0.11	
3,771.0	2.00	163.90	3,768.4	-88.0	61.9	92.5	0.91	0.54	
3,862.0	2.00	149.00	3,859.4	-90.9	63.1	95.5	0.57	0.00	
3,954.0	2.00	168.70	3,951.3	-93.8	64.3	98.5	0.74	0.00	
4,045.0	2.10	168.10	4,042.3	-97.0	64.9	101.7	0.11	0.11	
4,137.0	2.00	170.70	4,134.2	-100.3	65.5	105.0	0.15	-0.11	
4,229.0	1.90	161.30	4,226.1	-103.3	66.3	108.1	0.36	-0.11	
4,320.0	1.50	152.60	4,317.1	-105.8	67.3	110.6	0.52	-0.44	
4,411.0	1.20	130.90	4,408.1	-107.5	68.6	112.4	0.65	-0.33	
4,502.0	0.70	94.40	4,499.1	-108.1	69.9	113.2	0.84	-0.55	
4,594.0	2.50	145.50	4,591.0	-109.8	71.5	115.0	2.32	1.96	
4,686.0	2.30	139.50	4,682.9	-112.9	73.9	118.2	0.35	-0.22	
4,777.0	2.50	135.60	4,773.9	-115.7	76.5	121.2	0.28	0.22	
4,869.0	2.50	170.40	4,865.8	-119.1	78.2	124.8	1.62	0.00	
4,961.0	2.20	165.70	4,957.7	-122.8	79.0	128.5	0.39	-0.33	
5,053.0	2.10	168.40	5,049.6	-126.1	79.7	131.9	0.15	-0.11	
5,145.0	6.90	149.30	5,141.3	-132.6	82.9	138.6	5.39	5.22	
5,175.0	10.90	146.10	5,171.0	-136.5	85.4	142.6	13.43	13.33	
5,206.0	14.80	141.20	5,201.2	-142.0	89.5	148.5	13.05	12.58	
5,236.0	17.90	139.30	5,230.0	-148.5	94.9	155.3	10.48	10.33	
5,266.0	20.60	140.40	5,258.3	-156.0	101.3	163.4	9.08	9.00	
5,297.0	22.50	143.60	5,287.1	-165.0	108.3	172.9	7.20	6.13	
5,327.0	23.90	146.60	5,314.7	-174.7	115.1	183.1	6.11	4.67	
5,358.0	25.50	149.70	5,342.9	-185.7	121.9	194.5	6.64	5.16	
5,388.0	27.90	151.40	5,369.7	-197.4	128.5	206.8	8.39	8.00	
5,418.0	30.60	153.10	5,395.8	-210.4	135.3	220.2	9.42	9.00	
5,449.0	33.80	154.60	5,422.1	-225.2	142.6	235.6	10.64	10.32	

Cathedral Energy Services

Survey Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27K-3408B
Project:	Weld County, CO	TVD Reference:	16.8' RKB @ 4765.8ft
Site:	S27-T10N-R58W	MD Reference:	16.8' RKB @ 4765.8ft
Well:	Razor #27K-3408B	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
5,480.0	37.10	156.50	5,447.3	-241.6	150.0	252.5	11.22	10.65	
5,510.0	40.20	156.50	5,470.7	-258.8	157.5	270.2	10.33	10.33	
5,541.0	42.30	154.20	5,494.0	-277.4	166.0	289.3	8.35	6.77	
5,571.0	44.40	153.00	5,515.9	-295.8	175.2	308.4	7.52	7.00	
5,601.0	45.70	152.60	5,537.1	-314.7	184.9	328.0	4.43	4.33	
5,632.0	48.70	151.80	5,558.1	-334.8	195.5	348.9	9.86	9.68	
5,662.0	51.70	151.60	5,577.3	-355.1	206.4	370.0	10.01	10.00	
5,693.0	53.10	151.80	5,596.2	-376.7	218.1	392.4	4.54	4.52	
5,723.0	54.70	151.60	5,613.9	-398.1	229.6	414.6	5.36	5.33	
5,754.0	57.00	152.60	5,631.3	-420.7	241.6	438.1	7.88	7.42	
5,784.0	60.40	153.70	5,646.9	-443.6	253.1	461.8	11.76	11.33	
5,814.0	65.10	153.90	5,660.6	-467.5	264.9	486.6	15.68	15.67	
5,845.0	69.40	154.10	5,672.6	-493.2	277.4	513.1	13.88	13.87	
5,875.0	73.80	153.80	5,682.1	-518.8	289.9	539.6	14.70	14.67	
5,906.0	77.70	153.30	5,689.7	-545.7	303.3	567.4	12.68	12.58	
5,936.0	79.40	153.50	5,695.7	-572.0	316.5	594.7	5.70	5.67	
5,967.0	80.90	153.80	5,701.0	-599.3	330.0	623.0	4.93	4.84	
6,009.0	85.20	154.10	5,706.0	-636.8	348.3	661.8	10.26	10.24	
6,111.0	90.20	152.10	5,710.1	-727.6	394.4	755.9	5.28	4.90	
6,206.0	90.60	157.60	5,709.5	-813.6	434.8	844.7	5.80	0.42	
6,301.0	91.50	162.70	5,707.7	-902.9	467.0	936.2	5.45	0.95	
6,396.0	89.60	167.20	5,706.8	-994.6	491.7	1,029.6	5.14	-2.00	
6,491.0	91.00	170.30	5,706.3	-1,087.8	510.2	1,123.9	3.58	1.47	
6,585.0	88.80	174.00	5,706.5	-1,180.9	523.1	1,217.7	4.58	-2.34	
6,680.0	90.70	177.80	5,706.9	-1,275.6	529.8	1,312.7	4.47	2.00	
6,775.0	89.50	182.40	5,706.7	-1,370.6	529.7	1,407.3	5.00	-1.26	
6,870.0	90.10	182.40	5,707.1	-1,465.5	525.7	1,501.7	0.63	0.63	
6,965.0	90.00	182.40	5,707.0	-1,560.4	521.7	1,596.0	0.11	-0.11	
7,060.0	89.40	182.10	5,707.5	-1,655.3	518.0	1,690.4	0.71	-0.63	
7,154.0	92.00	181.40	5,706.3	-1,749.3	515.1	1,783.8	2.86	2.77	
7,249.0	92.10	181.40	5,702.9	-1,844.2	512.8	1,878.2	0.11	0.11	
7,344.0	91.60	179.80	5,699.9	-1,939.1	511.8	1,972.8	1.76	-0.53	
7,439.0	89.40	178.90	5,699.0	-2,034.1	512.9	2,067.6	2.50	-2.32	
7,533.0	90.00	179.60	5,699.5	-2,128.1	514.1	2,161.4	0.98	0.64	
7,625.0	89.50	179.40	5,699.9	-2,220.1	514.9	2,253.2	0.59	-0.54	
7,717.0	89.80	179.00	5,700.5	-2,312.1	516.2	2,345.0	0.54	0.33	
7,808.0	89.10	178.60	5,701.4	-2,403.1	518.1	2,435.9	0.89	-0.77	
7,900.0	89.00	177.90	5,702.9	-2,495.0	520.9	2,527.8	0.77	-0.11	
7,991.0	88.70	177.30	5,704.7	-2,585.9	524.7	2,618.7	0.74	-0.33	
8,083.0	88.30	176.90	5,707.1	-2,677.8	529.4	2,710.6	0.61	-0.43	
8,174.0	87.90	177.10	5,710.1	-2,768.6	534.1	2,801.5	0.49	-0.44	
8,265.0	89.60	179.10	5,712.1	-2,859.5	537.2	2,892.4	2.88	1.87	
8,356.0	91.00	179.40	5,711.7	-2,950.5	538.3	2,983.2	1.57	1.54	
8,447.0	90.90	178.50	5,710.1	-3,041.5	540.0	3,074.1	0.99	-0.11	
8,538.0	93.20	180.60	5,706.9	-3,132.4	540.7	3,164.8	3.42	2.53	
8,630.0	93.80	180.30	5,701.3	-3,224.2	540.0	3,256.3	0.73	0.65	
8,720.0	92.50	182.00	5,696.3	-3,314.1	538.2	3,345.7	2.38	-1.44	
8,812.0	90.00	182.60	5,694.3	-3,406.0	534.5	3,437.0	2.79	-2.72	
8,903.0	88.30	183.10	5,695.7	-3,496.8	530.0	3,527.3	1.95	-1.87	
8,994.0	88.00	182.50	5,698.6	-3,587.7	525.5	3,617.5	0.74	-0.33	
9,085.0	88.80	179.80	5,701.2	-3,678.6	523.7	3,708.0	3.09	0.88	
9,176.0	89.00	178.00	5,702.9	-3,769.6	525.5	3,798.9	1.99	0.22	
9,268.0	89.30	175.60	5,704.3	-3,861.4	530.6	3,890.8	2.63	0.33	

Cathedral Energy Services

Survey Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27K-3408B
Project:	Weld County, CO	TVD Reference:	16.8' RKB @ 4765.8ft
Site:	S27-T10N-R58W	MD Reference:	16.8' RKB @ 4765.8ft
Well:	Razor #27K-3408B	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
9,360.0	91.00	178.00	5,704.0	-3,953.3	535.7	3,982.8	3.20	1.85	
9,451.0	89.60	176.30	5,703.5	-4,044.1	540.3	4,073.8	2.42	-1.54	
9,543.0	89.00	177.20	5,704.7	-4,136.0	545.5	4,165.7	1.18	-0.65	
9,635.0	90.00	179.60	5,705.5	-4,227.9	548.0	4,257.6	2.83	1.09	
9,727.0	89.30	179.30	5,706.0	-4,319.9	548.9	4,349.4	0.83	-0.76	
9,818.0	90.60	180.30	5,706.1	-4,410.9	549.2	4,440.1	1.80	1.43	
9,910.0	88.80	177.20	5,706.6	-4,502.9	551.3	4,532.0	3.90	-1.96	
10,002.0	89.10	176.60	5,708.3	-4,594.7	556.2	4,624.0	0.73	0.33	
10,094.0	90.10	177.30	5,708.9	-4,686.6	561.1	4,715.9	1.33	1.09	
10,185.0	91.50	180.20	5,707.7	-4,777.6	563.1	4,806.8	3.54	1.54	
10,277.0	91.30	180.90	5,705.4	-4,869.5	562.2	4,898.4	0.79	-0.22	
10,368.0	90.10	180.90	5,704.3	-4,960.5	560.8	4,989.0	1.32	-1.32	
10,460.0	90.30	182.70	5,704.0	-5,052.5	557.9	5,080.4	1.97	0.22	
10,551.0	91.30	182.50	5,702.7	-5,143.4	553.8	5,170.7	1.12	1.10	
10,643.0	91.60	183.30	5,700.4	-5,235.2	549.1	5,262.0	0.93	0.33	
10,734.0	92.40	183.40	5,697.2	-5,326.0	543.8	5,352.1	0.89	0.88	
10,826.0	88.40	182.70	5,696.6	-5,417.8	538.9	5,443.3	4.41	-4.35	
10,917.0	88.60	182.40	5,698.9	-5,508.7	534.9	5,533.6	0.40	0.22	
11,008.0	89.90	180.60	5,700.1	-5,599.7	532.5	5,624.1	2.44	1.43	
11,100.0	89.60	180.20	5,700.5	-5,691.7	531.8	5,715.7	0.54	-0.33	
11,192.0	89.30	180.50	5,701.4	-5,783.7	531.3	5,807.4	0.46	-0.33	
11,284.0	88.00	177.60	5,703.6	-5,875.6	532.8	5,899.2	3.45	-1.41	
11,376.0	89.80	176.30	5,705.3	-5,967.5	537.7	5,991.2	2.41	1.96	
11,467.0	91.20	178.90	5,704.6	-6,058.4	541.5	6,082.1	3.24	1.54	
11,559.0	91.50	178.80	5,702.4	-6,150.3	543.4	6,173.9	0.34	0.33	
11,651.0	91.70	178.00	5,699.8	-6,242.3	545.9	6,265.8	0.90	0.22	
11,742.0	91.40	178.20	5,697.4	-6,333.2	548.9	6,356.6	0.40	-0.33	
11,833.0	91.80	177.50	5,694.8	-6,424.1	552.4	6,447.5	0.89	0.44	
11,925.0	91.80	177.40	5,691.9	-6,515.9	556.4	6,539.4	0.11	0.00	
12,016.0	90.70	177.30	5,689.9	-6,606.8	560.6	6,630.4	1.21	-1.21	
12,107.0	90.00	176.80	5,689.4	-6,697.7	565.3	6,721.3	0.95	-0.77	
12,199.0	89.50	177.30	5,689.8	-6,789.6	570.1	6,813.3	0.77	-0.54	
12,290.0	89.10	179.40	5,690.9	-6,880.5	572.7	6,904.2	2.35	-0.44	
12,340.0	88.80	179.20	5,691.8	-6,930.5	573.3	6,954.1	0.72	-0.60	Last Cathedral Survey @ 12,340' MD
12,390.0	88.80	179.20	5,692.9	-6,980.5	574.0	7,004.0	0.00	0.00	Projection to Bit @ 12,390' - TD - 620' FSL, 2508

Cathedral Energy Services

Survey Report

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27K-3408B
Project:	Weld County, CO	TVD Reference:	16.8' RKB @ 4765.8ft
Site:	S27-T10N-R58W	MD Reference:	16.8' RKB @ 4765.8ft
Well:	Razor #27K-3408B	North Reference:	True
Wellbore:	HZ	Survey Calculation Method:	Minimum Curvature
Design:	FINAL	Database:	USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Razor #27K-3408B WP6	0.00	0.00	5,705.0	-3,459.0	534.4	1,538,204.10	3,456,388.72	40.799100	-103.851548
- actual wellpath misses target center by 10.5ft at 8865.1ft MD (5694.8 TVD, -3459.0 N, 532.0 E)									
- Point									
Target BH 3408B	0.00	1.07	5,753.3	-7,013.5	542.5	1,534,650.33	3,456,462.75	40.789344	-103.851519
- actual wellpath misses target center by 75.7ft at 12390.0ft MD (5692.9 TVD, -6980.5 N, 574.0 E)									
- Point									
Target BH 3408B P6	0.00	1.07	5,690.0	-7,013.5	542.5	1,534,650.33	3,456,462.75	40.789344	-103.851519
- actual wellpath misses target center by 45.7ft at 12390.0ft MD (5692.9 TVD, -6980.5 N, 574.0 E)									
- Point									
Razor #27K-3408B WP2	0.00	0.00	5,705.0	-1,409.6	512.8	1,540,252.67	3,456,329.00	40.804725	-103.851626
- actual wellpath misses target center by 15.4ft at 6814.7ft MD (5707.0 TVD, -1410.3 N, 528.0 E)									
- Point									
Razor #27K-3408B WP1	0.00	0.00	5,705.0	-901.9	431.9	1,540,758.78	3,456,238.69	40.806118	-103.851918
- actual wellpath misses target center by 33.4ft at 6288.2ft MD (5708.1 TVD, -890.7 N, 463.1 E)									
- Point									
Target BH 3408B P5	0.00	1.07	5,715.0	-7,013.5	542.5	1,534,650.33	3,456,462.75	40.789344	-103.851519
- actual wellpath misses target center by 50.7ft at 12390.0ft MD (5692.9 TVD, -6980.5 N, 574.0 E)									
- Point									
PBHL 3408B	0.00	1.07	5,753.3	-7,513.4	547.7	1,534,150.64	3,456,477.30	40.787972	-103.851500
- actual wellpath misses target center by 536.9ft at 12390.0ft MD (5692.9 TVD, -6980.5 N, 574.0 E)									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name		
(ft)	(ft)		Casing Diameter (in)	Hole Diameter (in)
6,045.0	5,708.5	7" - 1648' FSL, 2374' FWL		

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	Comment
12,340.0	5,691.8	-6,930.5	573.3	Last Cathedral Survey @ 12,340' MD
12,390.0	5,692.9	-6,980.5	574.0	Projection to Bit @ 12,390'
12,390.0	5,692.9	-6,980.5	574.0	TD - 620' FSL, 2508' FWL

Checked By: _____ Approved By: _____ Date: _____