



Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Razor #27I-2216B
Company:	Whiting Petroleum Corporation	TVD Reference:	HZ @ 4773.3ft
Project:	Weld County, CO	MD Reference:	HZ @ 4773.3ft
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Stk #1		
Design:	Plan #1a		

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 #27I-2216B					
Well Position	+N/-S	0.0 ft	Northing:	1,541,741.25 ft	Latitude:	40.808706
	+E/-W	0.0 ft	Easting:	3,458,363.48 ft	Longitude:	-103.844178
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,756.5 ft

Wellbore	Stk #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/23/2013	8.07	67.44	53,189

Design	Plan #1a				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	11,300.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	2.62	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
11,300.0	88.91	358.78	5,713.9	6,036.8	385.7	0.00	0.00	0.00	0.00	
11,449.2	87.00	6.00	5,719.2	6,185.7	391.9	5.00	-1.28	4.84	104.96	
11,459.2	87.00	6.00	5,719.7	6,195.6	393.0	0.00	0.00	0.00	0.00	
11,860.2	90.48	358.77	5,728.5	6,595.8	409.6	2.00	0.87	-1.80	-64.37	
13,465.4	90.48	358.77	5,715.0	8,200.6	375.3	0.00	0.00	0.00	0.00	2216B PBHL P7 (100'

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Wellbore:	Stk #1		
Design:	Plan #1a		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
11,300.0	88.91	358.78	5,713.9	6,036.8	385.7	6,048.1	0.00	0.00	Sidetrack Point @ 11,300' MD (191' FEL, 2250'
11,400.0	87.63	3.62	5,716.9	6,136.7	387.8	6,148.0	5.00	-1.29	
11,449.2	87.00	6.00	5,719.2	6,185.7	391.9	6,197.2	5.00	-1.27	EOD; Inc=87°
11,459.2	87.00	6.00	5,719.7	6,195.6	393.0	6,207.1	0.00	0.00	Start build/turn @ 11,459' MD
11,500.0	87.35	5.26	5,721.7	6,236.1	397.0	6,247.8	2.00	0.87	
11,600.0	88.22	3.46	5,725.6	6,335.8	404.6	6,347.6	2.00	0.87	
11,700.0	89.09	1.66	5,727.9	6,435.6	409.0	6,447.6	2.00	0.87	
11,800.0	89.96	359.86	5,728.8	6,535.6	410.4	6,547.6	2.00	0.87	
11,860.2	90.48	358.77	5,728.5	6,595.8	409.6	6,607.6	2.00	0.87	
11,860.2	90.48	358.77	5,728.5	6,595.9	409.6	6,607.7	0.00	0.00	End of turn @ 11,860' MD
11,900.0	90.48	358.77	5,728.2	6,635.6	408.8	6,647.4	0.00	0.00	
12,000.0	90.48	358.77	5,727.3	6,735.6	406.6	6,747.1	0.00	0.00	
12,100.0	90.48	358.77	5,726.5	6,835.6	404.5	6,846.9	0.00	0.00	
12,200.0	90.48	358.77	5,725.7	6,935.5	402.4	6,946.7	0.00	0.00	
12,300.0	90.48	358.77	5,724.8	7,035.5	400.2	7,046.4	0.00	0.00	
12,400.0	90.48	358.77	5,724.0	7,135.5	398.1	7,146.2	0.00	0.00	
12,500.0	90.48	358.77	5,723.1	7,235.5	395.9	7,246.0	0.00	0.00	
12,600.0	90.48	358.77	5,722.3	7,335.4	393.8	7,345.8	0.00	0.00	
12,700.0	90.48	358.77	5,721.4	7,435.4	391.7	7,445.5	0.00	0.00	
12,800.0	90.48	358.77	5,720.6	7,535.4	389.5	7,545.3	0.00	0.00	
12,900.0	90.48	358.77	5,719.8	7,635.3	387.4	7,645.1	0.00	0.00	
13,000.0	90.48	358.77	5,718.9	7,735.3	385.3	7,744.8	0.00	0.00	
13,100.0	90.48	358.77	5,718.1	7,835.3	383.1	7,844.6	0.00	0.00	
13,200.0	90.48	358.77	5,717.2	7,935.3	381.0	7,944.4	0.00	0.00	
13,300.0	90.48	358.77	5,716.4	8,035.2	378.8	8,044.2	0.00	0.00	
13,400.0	90.48	358.77	5,715.6	8,135.2	376.7	8,143.9	0.00	0.00	
13,465.4	90.48	358.77	5,715.0	8,200.6	375.3	8,209.2	0.00	0.00	TD at 13465.4

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
2216B BHL P7 (100' FNI) - plan hits target center - Point	0.00	0.00	5,715.0	8,200.6	375.3	1,549,947.45	3,458,585.56	40.831214	-103.842822
2216B TGT 2000 VS - plan misses target center by 4052.0ft at 11300.0ft MD (5713.9 TVD, 6036.8 N, 385.7 E) - Point	0.00	0.00	5,692.0	1,984.9	375.3	1,543,732.81	3,458,701.61	40.814154	-103.842822
2216B PBHL P7 (100' FI) - plan hits target center - Point	0.00	0.00	5,715.0	8,200.6	375.3	1,549,947.43	3,458,585.60	40.831214	-103.842822
2216B TGT 3300 VS - plan misses target center by 2750.5ft at 11300.0ft MD (5713.9 TVD, 6036.8 N, 385.7 E) - Point	0.00	0.00	5,700.0	3,286.3	375.3	1,545,033.99	3,458,677.31	40.817726	-103.842822

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Project:	Weld County, CO	MD Reference:	HZ @ 4773.3ft
Site:	S27-T10N-R58W	North Reference:	True
Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Stk #1		
Design:	Plan #1a		

Casing Points					
	Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		
	6,090.0	5,685.0	7"		

Plan Annotations					
	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	11,300.0	5,713.9	6,036.8	385.7	Sidetrack Point @ 11,300' MD (191' FEL, 2250' FNL)
	11,449.2	5,719.2	6,185.7	391.9	EOD; Inc=87°
	11,459.2	5,719.7	6,195.6	393.0	Start build/turn @ 11,459' MD
	11,860.2	5,728.5	6,595.9	409.6	End of turn @ 11,860' MD
	13,465.4	5,715.0	8,200.6	375.3	TD at 13465.4



WHITING PETROLEUM CORPORATION

Whiting Petroleum Corporation

Weld County, CO

S27-T10N-R58W

Razor #27I-2216B

Stk #1

Plan #1a

Anticollision Report

23 October, 2013



CATHEDRAL

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Reference	Plan #1a		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	Systematic Ellipse
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 55,000.1ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program		Date	10/23/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
138.0	11,300.0	Survey #1 (HZ)	ISCWSA MWD	MWD - ISCWSA	
11,300.0	13,464.5	Plan #1a (Stk #1)	ISCWSA MWD	MWD - ISCWSA	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
S27-T10N-R58W						
Razor #27I-2213A - HZ - Plan #4	676.2	675.4	73.8	71.1	27.337	CC
Razor #27I-2213A - HZ - Plan #4	719.0	718.0	73.8	70.9	25.465	ES
Razor #27I-2213A - HZ - Plan #4	13,000.0	13,114.5	996.1	713.6	3.525	SF
Razor #27I-2214B - HZ - FINAL	150.8	150.5	65.9	65.6	201.386	CC
Razor #27I-2214B - HZ - FINAL	168.0	167.5	66.0	65.6	164.355	ES
Razor #27I-2214B - HZ - FINAL	13,465.4	13,470.0	676.2	383.5	2.310	SF
Razor #27I-2215A - HZ - Plan #3	1,391.1	1,387.8	25.4	19.9	4.634	CC, ES
Razor #27I-2215A - HZ - Plan #3	12,966.4	13,026.3	343.3	75.6	1.282	Level 3, SF
Razor #27I-2216B - HZ - SURVEYS	11,300.0	11,300.0	0.0	0.0	10,000.000	CC, ES
Razor #27I-2216B - HZ - SURVEYS	11,360.8	11,360.7	2.7	1.0	1.554	SF
Razor #27I-2216B - Stk #1 - Plan #1	11,459.2	11,459.2	0.0	-2.3	0.000	Level 1, CC, SF
Razor #27I-2216B - Stk #1 - Plan #1	13,465.4	13,465.4	0.0	-78.0	0.001	Level 1, ES
Razor #27I-3413A - HZ - Plan #3	505.8	505.4	94.1	92.1	48.995	CC
Razor #27I-3413A - HZ - Plan #3	536.0	535.5	94.1	92.1	45.793	ES
Razor #27I-3413A - HZ - Plan #3	5,119.0	5,103.7	311.5	289.3	14.021	SF
Razor #27I-3414B - HZ - HZ	355.3	355.2	31.4	30.3	29.103	CC, ES
Razor #27I-3414B - HZ - HZ	3,474.0	3,465.8	220.1	205.9	15.460	SF
Razor #27I-3415A - HZ - Plan #3	1,128.8	1,126.3	50.6	45.8	10.450	CC, ES
Razor #27I-3415A - HZ - Plan #3	1,451.0	1,447.5	56.6	50.3	8.999	SF
Razor #27I-3416B - HZ - Plan #5	603.0	601.3	32.1	29.8	13.702	CC, ES
Razor #27I-3416B - HZ - Plan #5	811.0	807.5	39.9	36.6	12.185	SF
Razor #27J-2211A - HZ - Plan #3	377.3	387.4	1,219.6	1,218.2	885.044	CC, ES
Razor #27J-2211A - HZ - Plan #3	13,100.0	13,134.3	1,657.1	1,369.6	5.764	SF
Razor #27J-2212B - HZ - Plan #3	5,837.4	6,323.9	1,226.6	1,189.6	33.177	CC
Razor #27J-2212B - HZ - Plan #3	13,000.0	13,248.7	1,321.7	1,035.8	4.622	ES
Razor #27J-2212B - HZ - Plan #3	13,100.0	13,248.7	1,327.9	1,040.1	4.614	SF

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-2213A - HZ - Plan #4													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
0.0	0.0	-0.3	-0.3	0.0	0.0	-23.49	75.8	-32.9	82.6					
138.0	138.0	137.7	137.7	0.1	0.2	4.46	75.8	-32.9	81.7	81.4	0.32	257.003		
168.0	168.0	167.7	167.7	0.2	0.2	-9.25	75.8	-32.9	81.3	80.8	0.45	182.456		
259.0	259.0	258.7	258.7	0.4	0.5	-1.43	75.8	-32.9	79.9	79.0	0.84	94.899		
353.0	353.0	352.7	352.7	0.6	0.7	-1.96	75.8	-32.9	78.2	76.9	1.25	62.709		
445.0	444.9	444.6	444.6	0.8	0.9	-54.22	75.8	-32.9	76.4	74.8	1.65	46.471		
536.0	535.8	535.5	535.5	1.0	1.1	-76.16	75.8	-32.9	74.7	72.7	2.05	36.410		
627.0	626.6	626.3	626.3	1.2	1.3	-88.42	75.8	-32.9	73.8	71.4	2.47	29.890		
676.2	675.7	675.4	675.4	1.3	1.4	-90.00	75.8	-32.9	73.8	71.1	2.70	27.337 CC		
719.0	718.3	718.0	718.0	1.4	1.5	-91.48	75.8	-32.9	73.8	70.9	2.90	25.465 ES		
811.0	810.0	809.7	809.7	1.6	1.7	-101.09	75.8	-32.9	74.7	71.3	3.34	22.380		
902.0	900.6	900.4	900.4	1.9	1.9	-101.28	75.8	-32.9	76.2	72.4	3.76	20.246		
993.0	991.3	991.0	991.0	2.1	2.1	-94.10	75.8	-32.9	77.2	73.0	4.18	18.453		
1,085.0	1,083.0	1,080.7	1,080.7	2.3	2.3	-98.92	76.8	-33.5	79.2	74.6	4.62	17.162		
1,176.0	1,173.6	1,169.2	1,169.1	2.6	2.5	-108.82	80.1	-35.6	84.6	79.6	5.04	16.790		
1,268.0	1,265.3	1,260.1	1,259.8	2.8	2.7	-104.79	85.3	-38.8	91.9	86.4	5.45	16.849		
1,360.0	1,357.1	1,351.8	1,351.3	3.0	2.9	-108.66	90.8	-42.2	99.0	93.1	5.88	16.843		
1,451.0	1,447.8	1,443.8	1,443.0	3.2	3.1	-121.08	95.9	-45.4	106.4	100.1	6.28	16.928		
1,580.0	1,576.5	1,576.3	1,575.5	3.5	3.4	-127.91	99.5	-47.5	114.9	108.0	6.83	16.826		
1,645.0	1,641.3	1,641.8	1,641.0	3.7	3.5	-132.39	99.5	-47.6	118.2	111.1	7.10	16.653		
1,736.0	1,732.1	1,732.6	1,731.8	3.9	3.7	-105.38	99.5	-47.6	121.2	113.8	7.48	16.198		
1,827.0	1,822.9	1,823.5	1,822.7	4.1	3.9	-101.24	99.5	-47.6	122.4	114.6	7.88	15.540		
1,919.0	1,914.8	1,915.3	1,914.5	4.3	4.1	-123.39	99.5	-47.6	124.7	116.4	8.28	15.054		
2,011.0	2,006.6	2,007.1	2,006.3	4.6	4.3	-127.52	99.5	-47.6	128.1	119.5	8.68	14.758		
2,102.0	2,097.4	2,097.9	2,097.1	4.8	4.5	-128.06	99.5	-47.6	131.6	122.5	9.08	14.494		
2,194.0	2,189.3	2,189.8	2,189.0	5.0	4.7	-128.84	99.5	-47.6	134.9	125.4	9.47	14.236		
2,286.0	2,281.1	2,281.6	2,280.8	5.2	4.9	-128.75	99.5	-47.6	137.9	128.1	9.87	13.975		
2,377.0	2,372.0	2,372.5	2,371.7	5.4	5.1	-148.14	99.5	-47.6	142.0	131.7	10.26	13.844		
2,468.0	2,462.8	2,463.3	2,462.5	5.6	5.3	-149.34	99.5	-47.6	147.0	136.3	10.65	13.795		
2,559.0	2,553.6	2,554.1	2,553.3	5.8	5.5	-144.19	99.5	-47.6	151.5	140.5	11.04	13.720		
2,651.0	2,645.4	2,646.0	2,645.2	6.0	5.7	-140.46	99.5	-47.6	156.0	144.5	11.44	13.631		
2,742.0	2,736.3	2,736.8	2,736.0	6.3	5.9	-134.53	99.5	-47.6	160.1	148.3	11.84	13.527		
2,833.0	2,827.1	2,827.6	2,826.8	6.5	6.1	-163.66	99.5	-47.6	164.9	152.7	12.22	13.488		
2,924.0	2,917.9	2,918.4	2,917.6	6.7	6.3	-160.05	99.5	-47.6	170.2	157.5	12.62	13.486		
3,015.0	3,008.8	3,009.3	3,008.5	6.9	6.5	-132.23	99.5	-47.6	174.3	161.3	13.02	13.390		
3,107.0	3,100.7	3,101.2	3,100.4	7.1	6.7	-132.28	99.5	-47.6	177.5	164.1	13.41	13.230		
3,198.0	3,191.5	3,192.0	3,191.2	7.3	6.9	-149.60	99.5	-47.6	181.7	167.9	13.80	13.165		
3,290.0	3,283.3	3,283.8	3,283.0	7.5	7.1	-140.28	99.5	-47.6	186.7	172.5	14.20	13.143		
3,382.0	3,375.1	3,375.6	3,374.8	7.8	7.3	-135.06	99.5	-47.6	191.3	176.7	14.61	13.102		
3,474.0	3,466.9	3,467.4	3,466.6	8.0	7.6	-158.42	99.5	-47.6	196.5	181.5	15.00	13.101		
3,565.0	3,557.7	3,558.2	3,557.4	8.2	7.8	-164.66	99.5	-47.6	202.0	186.6	15.39	13.124		
3,657.0	3,649.5	3,650.0	3,649.2	8.4	8.0	-162.22	99.5	-47.6	207.6	191.8	15.79	13.149		
3,748.0	3,740.3	3,740.8	3,740.0	8.6	8.2	-150.18	99.5	-47.6	213.3	197.1	16.18	13.179		
3,840.0	3,832.1	3,832.6	3,831.8	8.8	8.4	-148.94	99.5	-47.6	218.8	202.2	16.59	13.187		
3,932.0	3,923.9	3,924.4	3,923.6	9.1	8.6	-160.29	99.5	-47.6	223.8	206.8	16.99	13.175		
4,024.0	4,015.7	4,016.2	4,015.4	9.3	8.8	-142.73	99.5	-47.6	229.3	211.9	17.38	13.191		
4,115.0	4,106.4	4,106.9	4,106.1	9.5	9.0	-160.61	99.5	-47.6	235.6	217.8	17.77	13.254		
4,206.0	4,197.2	4,197.7	4,196.9	9.7	9.2	-158.36	99.5	-47.6	241.6	223.4	18.18	13.291		
4,297.0	4,288.0	4,288.5	4,287.7	9.9	9.4	-156.07	99.5	-47.6	246.8	228.2	18.58	13.286		
4,388.0	4,378.9	4,379.4	4,378.6	10.2	9.6	-117.91	99.5	-47.6	250.1	231.1	18.98	13.180		
4,479.0	4,469.8	4,470.3	4,469.5	10.4	9.8	-135.76	99.5	-47.6	252.8	233.4	19.37	13.051		
4,570.0	4,560.6	4,561.1	4,560.3	10.6	10.0	-167.63	99.5	-47.6	257.7	238.0	19.75	13.050		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-2213A - HZ - Plan #4												Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
4,661.0	4,651.4	4,651.9	4,651.1	10.8	10.2	-170.79	99.5	-47.6	263.6	243.4	20.15	13.081	
4,753.0	4,743.2	4,743.7	4,742.9	11.0	10.4	-156.32	99.5	-47.6	269.3	248.7	20.55	13.105	
4,844.0	4,834.0	4,834.6	4,833.8	11.2	10.6	-158.01	99.5	-47.6	274.5	253.6	20.95	13.104	
4,936.0	4,925.9	4,926.5	4,925.6	11.4	10.8	-162.25	99.5	-47.6	278.7	257.4	21.35	13.054	
5,027.0	5,016.9	5,017.4	5,016.6	11.6	11.0	-166.65	99.5	-47.6	282.2	260.4	21.75	12.975	
5,119.0	5,108.8	5,109.0	5,108.2	11.8	11.2	156.89	99.6	-47.6	284.2	262.1	22.14	12.835	
5,210.0	5,199.7	5,192.9	5,191.7	12.0	11.4	-125.38	105.9	-51.5	288.4	265.9	22.54	12.797	
5,240.0	5,229.4	5,220.1	5,218.4	12.1	11.5	-124.84	110.4	-54.3	291.8	269.2	22.65	12.885	
5,271.0	5,259.7	5,250.0	5,247.3	12.2	11.6	-121.65	116.7	-58.2	296.7	273.9	22.77	13.029	
5,301.0	5,288.6	5,274.7	5,270.9	12.3	11.6	-114.92	122.9	-62.0	302.2	279.2	22.94	13.169	
5,331.0	5,317.1	5,300.0	5,294.7	12.4	11.7	-112.82	130.3	-66.6	308.0	284.9	23.11	13.327	
5,362.0	5,346.1	5,328.3	5,320.7	12.6	11.8	-113.44	139.7	-72.4	315.0	291.7	23.27	13.537	
5,393.0	5,374.4	5,355.0	5,344.6	12.7	11.9	-114.44	149.7	-78.5	323.3	299.9	23.41	13.811	
5,423.0	5,401.2	5,380.2	5,366.7	12.8	11.9	-115.43	160.1	-84.9	332.7	309.1	23.56	14.118	
5,453.0	5,427.3	5,405.0	5,387.8	13.0	12.0	-113.47	171.1	-91.8	343.0	319.2	23.80	14.410	
5,484.0	5,453.4	5,430.3	5,408.7	13.2	12.1	-109.35	183.3	-99.3	354.2	330.0	24.16	14.661	
5,514.0	5,477.6	5,454.4	5,428.0	13.4	12.2	-107.54	195.7	-106.9	365.4	340.9	24.47	14.934	
5,545.0	5,501.7	5,479.2	5,447.0	13.6	12.3	-105.00	209.2	-115.2	377.4	352.6	24.85	15.190	
5,575.0	5,524.1	5,500.0	5,462.4	13.8	12.4	-102.11	221.1	-122.6	389.2	363.9	25.23	15.422	
5,605.0	5,545.5	5,526.4	5,481.0	14.0	12.6	-101.83	237.0	-132.4	401.3	375.7	25.61	15.668	
5,636.0	5,566.3	5,550.0	5,496.9	14.3	12.7	-101.09	251.8	-141.5	415.0	388.9	26.04	15.936	
5,666.0	5,585.2	5,572.5	5,511.4	14.6	12.9	-100.78	266.6	-150.6	429.2	402.8	26.47	16.219	
5,697.0	5,603.3	5,595.0	5,525.0	14.9	13.0	-99.95	281.8	-160.0	445.1	418.1	26.95	16.517	
5,728.0	5,620.1	5,616.9	5,537.5	15.2	13.2	-99.09	297.1	-169.4	462.0	434.5	27.44	16.834	
5,758.0	5,635.0	5,637.6	5,548.6	15.5	13.4	-97.36	311.9	-178.6	479.0	451.0	27.97	17.122	
5,788.0	5,648.3	5,657.9	5,558.8	15.9	13.5	-95.04	326.8	-187.8	496.5	467.9	28.53	17.402	
5,819.0	5,660.0	5,678.5	5,568.5	16.2	13.7	-92.42	342.3	-197.3	515.0	485.9	29.10	17.696	
5,849.0	5,669.4	5,700.0	5,577.9	16.6	13.9	-89.74	358.8	-207.5	533.1	503.5	29.63	17.992	
5,880.0	5,676.9	5,718.0	5,585.1	17.0	14.1	-87.15	372.8	-216.2	552.1	522.0	30.13	18.327	
5,910.0	5,682.0	5,737.1	5,592.0	17.4	14.3	-84.35	388.0	-225.5	570.6	540.0	30.56	18.673	
5,940.0	5,685.0	5,756.0	5,598.3	17.8	14.5	-82.64	403.1	-234.9	589.1	558.1	31.00	19.003	
5,971.0	5,686.4	5,775.4	5,604.1	18.3	14.8	-80.80	418.9	-244.6	608.4	577.0	31.45	19.348	
6,002.0	5,686.7	5,795.0	5,609.2	18.7	15.0	-80.94	435.0	-254.5	627.8	595.7	32.05	19.589	
6,032.0	5,686.5	5,814.3	5,613.6	19.1	15.2	-81.07	451.0	-264.4	646.4	613.7	32.65	19.799	
6,054.0	5,686.0	5,828.8	5,616.4	19.5	15.4	-81.21	463.1	-271.9	660.0	626.9	33.10	19.937	
6,141.0	5,683.0	5,888.2	5,623.7	20.7	16.2	-82.03	513.3	-302.8	713.2	678.2	35.01	20.371	
6,236.0	5,680.4	5,983.8	5,624.9	22.1	17.6	-84.58	595.1	-352.2	770.4	732.9	37.48	20.556	
6,331.0	5,679.6	6,120.0	5,624.9	23.4	19.7	-85.30	715.6	-415.7	822.2	781.8	40.45	20.328	
6,426.0	5,680.2	6,270.3	5,624.9	24.8	22.1	-86.58	853.4	-475.6	866.6	822.6	43.95	19.719	
6,520.0	5,682.9	6,431.4	5,624.9	26.1	24.7	-86.80	1,005.7	-527.6	903.3	855.7	47.64	18.962	
6,615.0	5,686.0	6,605.6	5,624.9	27.6	27.6	-86.61	1,174.9	-569.1	931.7	879.7	52.00	17.916	
6,688.0	5,688.1	6,745.8	5,624.9	28.7	29.9	-86.36	1,313.3	-591.3	946.9	891.5	55.41	17.090	
6,783.0	5,689.7	6,933.5	5,624.9	30.3	32.9	-86.18	1,500.4	-604.9	959.0	898.9	60.07	15.964	
6,878.0	5,691.3	7,051.1	5,624.9	31.8	34.7	-86.12	1,618.0	-605.5	964.0	900.4	63.61	15.154	
6,973.0	5,692.7	7,146.0	5,624.9	33.4	36.2	-86.00	1,712.9	-605.5	966.7	899.8	66.91	14.447	
7,068.0	5,692.7	7,241.0	5,624.9	35.0	37.7	-85.97	1,807.9	-605.4	969.8	900.0	69.80	13.893	
7,162.0	5,692.7	7,334.8	5,624.9	36.5	39.2	-86.05	1,901.7	-605.4	975.2	902.5	72.76	13.403	
7,257.0	5,693.5	7,429.5	5,624.9	38.0	40.7	-86.04	1,996.4	-605.4	982.6	906.9	75.65	12.989	
7,352.0	5,693.6	7,524.1	5,624.9	39.6	42.3	-85.99	2,091.0	-605.4	991.1	912.3	78.83	12.574	
7,447.0	5,694.4	7,619.0	5,624.9	41.2	43.8	-86.04	2,185.9	-605.4	996.4	913.7	82.70	12.049	
7,542.0	5,697.1	7,713.9	5,624.9	42.8	45.4	-85.90	2,280.8	-605.4	998.2	912.3	85.91	11.620	
7,637.0	5,699.7	7,808.9	5,624.8	44.4	47.1	-85.71	2,375.8	-605.4	998.8	909.5	89.29	11.186	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2213A - HZ - Plan #4												Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
7,731.0	5,700.2	7,902.9	5,624.8	46.0	48.7	-85.69	2,469.8	-605.4	997.7	905.1	92.64	10.770	
7,826.0	5,699.7	7,997.8	5,624.8	47.6	50.3	-85.71	2,564.7	-605.4	995.2	899.2	96.04	10.362	
7,921.0	5,700.2	8,092.8	5,624.8	49.2	52.0	-85.62	2,659.7	-605.4	991.7	892.3	99.34	9.982	
8,015.0	5,700.4	8,186.7	5,624.8	50.8	53.6	-85.65	2,753.6	-605.4	988.6	885.9	102.63	9.632	
8,110.0	5,699.2	8,281.7	5,624.8	52.5	55.3	-85.70	2,848.6	-605.4	987.0	881.0	105.93	9.318	
8,205.0	5,698.9	8,376.6	5,624.8	54.1	57.0	-85.67	2,943.5	-605.4	984.6	875.2	109.35	9.003	
8,300.0	5,698.7	8,471.5	5,624.8	55.7	58.7	-85.73	3,038.5	-605.3	980.5	867.7	112.76	8.695	
8,395.0	5,697.9	8,566.5	5,624.8	57.4	60.4	-85.72	3,133.4	-605.3	977.0	860.9	116.12	8.414	
8,466.6	5,697.9	8,638.1	5,624.8	58.6	61.7	-85.72	3,205.0	-605.3	975.8	857.3	118.55	8.231	
8,489.0	5,697.9	8,660.5	5,624.8	58.9	62.1	-85.72	3,227.4	-605.3	976.0	856.7	119.29	8.182	
8,581.0	5,698.5	8,752.5	5,624.8	60.5	63.8	-85.71	3,319.4	-605.3	977.2	854.7	122.49	7.977	
8,673.0	5,699.9	8,844.4	5,624.8	62.1	65.4	-85.65	3,411.3	-605.3	979.3	853.7	125.64	7.794	
8,764.0	5,701.7	8,935.4	5,624.8	63.6	67.1	-85.55	3,502.3	-605.3	981.6	852.6	128.94	7.612	
8,856.0	5,701.9	9,027.4	5,624.8	65.3	68.7	-85.50	3,594.3	-605.3	983.7	851.5	132.21	7.441	
8,948.0	5,700.7	9,119.3	5,624.8	66.8	70.4	-85.58	3,686.2	-605.3	986.3	850.8	135.51	7.278	
9,039.0	5,699.4	9,210.2	5,624.8	68.4	72.1	-85.64	3,777.1	-605.3	989.7	851.1	138.59	7.141	
9,130.0	5,699.6	9,301.2	5,624.8	70.0	73.8	-85.69	3,868.1	-605.3	991.9	849.6	142.23	6.974	
9,221.0	5,702.5	9,392.1	5,624.8	71.6	75.4	-85.49	3,959.0	-605.3	991.5	846.0	145.50	6.814	
9,313.0	5,705.5	9,484.0	5,624.8	73.2	77.1	-85.28	4,050.9	-605.3	989.0	840.2	148.81	6.647	
9,405.0	5,707.2	9,575.9	5,624.8	74.8	78.8	-85.14	4,142.8	-605.3	984.1	832.1	152.06	6.472	
9,496.0	5,707.0	9,666.8	5,624.8	76.4	80.5	-85.23	4,233.7	-605.2	980.4	824.9	155.46	6.306	
9,588.0	5,705.5	9,758.8	5,624.8	78.0	82.2	-85.30	4,325.7	-605.2	978.7	819.9	158.80	6.163	
9,680.0	5,705.1	9,850.8	5,624.8	79.6	83.9	-85.30	4,417.7	-605.2	977.5	815.4	162.09	6.031	
9,724.2	5,705.5	9,895.0	5,624.8	80.4	84.8	-85.28	4,461.9	-605.2	977.4	813.7	163.65	5.972	
9,771.0	5,706.4	9,941.7	5,624.8	81.2	85.6	-85.24	4,508.7	-605.2	977.5	812.2	165.29	5.914	
9,862.0	5,709.5	10,032.7	5,624.8	82.8	87.3	-85.12	4,599.6	-605.2	979.2	810.8	168.38	5.815	
9,953.0	5,711.5	10,123.6	5,624.8	84.4	89.0	-84.95	4,690.5	-605.2	981.0	809.1	171.81	5.709	
10,045.0	5,710.5	10,215.6	5,624.8	86.0	90.7	-85.02	4,782.5	-605.2	980.6	805.3	175.28	5.595	
10,143.1	5,709.0	10,313.7	5,624.8	87.8	92.6	-85.09	4,880.6	-605.2	979.9	801.0	178.82	5.479	
10,158.0	5,708.8	10,328.6	5,624.8	88.0	92.8	-85.10	4,895.5	-605.2	979.9	800.5	179.36	5.463	
10,249.0	5,707.2	10,419.6	5,624.8	89.6	94.5	-85.19	4,986.5	-605.2	980.1	797.3	182.70	5.364	
10,340.0	5,705.5	10,510.6	5,624.8	91.2	96.2	-85.29	5,077.5	-605.2	980.5	794.5	186.00	5.272	
10,431.0	5,703.7	10,601.6	5,624.8	92.9	98.0	-85.40	5,168.5	-605.2	981.1	791.7	189.39	5.180	
10,523.0	5,701.6	10,693.5	5,624.8	94.5	99.7	-85.53	5,260.4	-605.2	981.3	788.5	192.81	5.090	
10,614.0	5,700.1	10,784.5	5,624.8	96.1	101.4	-85.61	5,351.4	-605.2	982.4	786.4	196.03	5.011	
10,706.0	5,700.4	10,876.5	5,624.8	97.7	103.1	-85.62	5,443.4	-605.1	983.9	784.5	199.46	4.933	
10,798.0	5,701.2	10,968.4	5,624.8	99.3	104.8	-85.59	5,535.3	-605.1	987.4	785.3	202.15	4.885	
10,890.0	5,701.8	11,060.3	5,624.8	101.0	106.6	-85.59	5,627.2	-605.1	992.7	787.0	205.70	4.826	
10,981.0	5,702.8	11,151.2	5,624.8	102.6	108.3	-85.54	5,718.1	-605.1	996.1	786.8	209.33	4.759	
11,073.0	5,705.3	11,243.1	5,624.8	104.2	110.0	-85.36	5,810.1	-605.1	996.8	784.0	212.83	4.684	
11,164.0	5,708.5	11,334.1	5,624.8	105.8	111.7	-85.17	5,901.0	-605.1	995.9	779.8	216.11	4.609	
11,256.0	5,712.3	11,426.0	5,624.8	107.4	113.5	-84.95	5,992.9	-605.1	995.3	775.9	219.40	4.537	
11,300.0	5,713.9	11,470.0	5,624.8	108.2	114.3	-84.85	6,036.9	-605.1	994.8	773.8	221.00	4.501	
11,322.7	5,714.3	11,492.7	5,624.8	108.6	114.7	-84.85	6,059.6	-605.1	994.6	772.8	221.79	4.484	
11,400.0	5,716.9	11,569.9	5,624.8	110.0	116.2	-84.86	6,136.8	-605.1	997.1	773.3	223.86	4.454	
11,449.2	5,719.2	11,618.9	5,624.8	110.8	117.1	-84.90	6,185.8	-605.1	1,001.4	776.8	224.65	4.458	
11,459.2	5,719.7	11,628.8	5,624.8	111.0	117.3	-84.87	6,195.7	-605.1	1,002.5	777.5	225.00	4.456	
11,500.0	5,721.7	11,669.3	5,624.8	111.7	118.1	-84.71	6,236.2	-605.1	1,006.7	779.9	226.79	4.439	
11,600.0	5,725.6	11,768.9	5,624.8	113.5	119.9	-84.41	6,335.9	-605.1	1,014.6	783.6	231.06	4.391	
11,700.0	5,727.9	11,868.8	5,624.8	115.3	121.8	-84.23	6,435.7	-605.1	1,019.3	784.2	235.15	4.335	
11,800.0	5,728.8	11,968.8	5,624.7	117.1	123.7	-84.17	6,535.7	-605.1	1,020.7	781.6	239.05	4.270	
11,860.2	5,728.5	12,029.0	5,624.7	118.2	124.9	-84.19	6,595.9	-605.1	1,020.0	778.7	241.30	4.227	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2213A - HZ - Plan #4													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
11,900.0	5,728.2	12,068.8	5,624.7	118.9	125.6	-84.20	6,635.7	-605.1	1,019.1	776.3	242.77	4.198		
12,000.0	5,727.3	12,168.8	5,624.7	120.7	127.5	-84.23	6,735.7	-605.0	1,016.8	770.4	246.47	4.126		
12,100.0	5,726.5	12,268.7	5,624.7	122.5	129.4	-84.27	6,835.6	-605.0	1,014.6	764.5	250.17	4.056		
12,200.0	5,725.7	12,368.7	5,624.7	124.3	131.3	-84.30	6,935.6	-605.0	1,012.4	758.5	253.87	3.988		
12,300.0	5,724.8	12,468.7	5,624.7	126.1	133.2	-84.34	7,035.6	-605.0	1,010.2	752.6	257.58	3.922		
12,400.0	5,724.0	12,568.6	5,624.7	127.9	135.1	-84.38	7,135.6	-605.0	1,008.0	746.7	261.29	3.858		
12,500.0	5,723.1	12,668.6	5,624.7	129.7	137.0	-84.41	7,235.5	-605.0	1,005.7	740.7	265.01	3.795		
12,600.0	5,722.3	12,768.6	5,624.7	131.6	138.9	-84.45	7,335.5	-605.0	1,003.5	734.8	268.73	3.734		
12,700.0	5,721.4	12,868.6	5,624.7	133.4	140.8	-84.48	7,435.5	-605.0	1,001.3	728.9	272.45	3.675		
12,800.0	5,720.6	12,968.5	5,624.7	135.2	142.7	-84.52	7,535.5	-605.0	999.1	722.9	276.18	3.618		
12,900.0	5,719.8	13,068.5	5,624.7	137.0	144.6	-84.56	7,635.4	-605.0	996.9	717.0	279.91	3.561		
12,968.1	5,719.2	13,114.5	5,624.7	138.3	145.4	-84.57	7,681.4	-605.0	995.6	713.6	281.99	3.531		
13,000.0	5,718.9	13,114.5	5,624.7	138.8	145.4	-84.57	7,681.4	-605.0	996.1	713.6	282.57	3.525 SF		
13,100.0	5,718.1	13,114.5	5,624.7	140.7	145.4	-84.57	7,681.4	-605.0	1,004.3	719.9	284.39	3.531		
13,200.0	5,717.2	13,114.5	5,624.7	142.5	145.4	-84.57	7,681.4	-605.0	1,022.3	736.0	286.22	3.572		
13,300.0	5,716.4	13,114.5	5,624.7	144.3	145.4	-84.57	7,681.4	-605.0	1,049.5	761.4	288.05	3.643		
13,400.0	5,715.6	13,114.5	5,624.7	146.2	145.4	-84.57	7,681.4	-605.0	1,085.3	795.4	289.88	3.744		
13,465.4	5,715.0	13,114.5	5,624.7	147.2	145.4	-84.57	7,681.4	-605.0	1,112.9	822.0	290.90	3.826		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-2214B - HZ - FINAL													Offset Site Error:	0.0 ft
Survey Program: 138-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	0.0	-66.2	66.2					
138.0	138.0	137.8	137.8	0.1	0.1	-62.46	0.4	-66.4	65.9	65.7	0.27	241.890		
150.8	150.8	150.5	150.5	0.2	0.2	-67.91	0.5	-66.4	65.9	65.6	0.33	201.386 CC		
168.0	168.0	167.5	167.5	0.2	0.2	-76.23	0.7	-66.6	66.0	65.6	0.40	164.355 ES		
259.0	259.0	257.3	257.2	0.4	0.4	-67.72	2.7	-67.8	66.8	66.0	0.80	83.787		
353.0	353.0	348.8	348.6	0.6	0.6	-67.29	5.5	-71.8	70.3	69.1	1.20	58.348		
445.0	444.9	440.7	440.3	0.8	0.8	-118.10	8.2	-77.5	76.4	74.8	1.60	47.609		
536.0	535.8	531.1	530.5	1.0	1.0	-137.33	10.8	-83.0	85.1	83.0	2.01	42.250		
627.0	626.6	621.5	620.7	1.2	1.3	-145.51	13.4	-88.5	95.9	93.4	2.42	39.652		
719.0	718.3	713.4	712.4	1.4	1.5	-143.81	16.2	-93.9	107.0	104.1	2.82	37.973		
811.0	810.0	804.8	803.6	1.6	1.7	-148.27	19.0	-98.9	118.3	115.0	3.23	36.667		
902.0	900.6	895.0	893.7	1.9	1.9	-143.30	21.8	-103.8	129.5	125.9	3.62	35.757		
993.0	991.3	985.6	984.1	2.1	2.1	-131.38	24.5	-108.7	139.9	135.9	4.02	34.822		
1,085.0	1,083.0	1,075.9	1,074.2	2.3	2.3	-131.87	27.3	-113.9	150.4	146.0	4.44	33.901		
1,176.0	1,173.6	1,165.4	1,163.4	2.6	2.5	-138.42	30.7	-119.6	161.8	156.9	4.86	33.314		
1,268.0	1,265.3	1,256.9	1,254.6	2.8	2.8	-132.27	35.0	-125.7	172.8	167.5	5.28	32.750		
1,360.0	1,357.1	1,348.0	1,345.4	3.0	3.0	-134.66	39.2	-131.8	183.1	177.4	5.69	32.161		
1,451.0	1,447.8	1,438.6	1,435.8	3.2	3.2	-145.84	43.1	-137.9	193.7	187.6	6.10	31.751		
1,580.0	1,576.5	1,569.2	1,566.1	3.5	3.5	-149.91	47.5	-145.7	209.0	202.3	6.67	31.311		
1,645.0	1,641.3	1,635.1	1,631.8	3.7	3.7	-152.66	49.2	-148.9	216.4	209.5	6.96	31.091		
1,736.0	1,732.1	1,720.2	1,716.8	3.9	3.9	-123.42	51.3	-153.3	225.4	218.1	7.35	30.655		
1,827.0	1,822.9	1,805.4	1,801.6	4.1	4.1	-117.24	53.5	-160.8	235.8	228.1	7.75	30.445		
1,919.0	1,914.8	1,896.7	1,892.5	4.3	4.3	-137.45	55.3	-169.2	247.5	239.3	8.15	30.356		
2,011.0	2,006.6	1,991.9	1,987.3	4.6	4.6	-139.73	56.9	-177.8	260.1	251.5	8.57	30.350		
2,102.0	2,097.4	2,086.1	2,081.3	4.8	4.8	-138.41	59.7	-183.9	269.8	260.8	8.98	30.059		
2,194.0	2,189.3	2,177.0	2,171.9	5.0	5.0	-137.48	62.2	-189.9	279.5	270.1	9.38	29.801		
2,286.0	2,281.1	2,269.0	2,263.8	5.2	5.2	-135.96	64.1	-195.7	288.6	278.8	9.78	29.506		
2,377.0	2,372.0	2,359.7	2,354.3	5.4	5.5	-154.11	65.7	-201.4	298.5	288.3	10.17	29.353		
2,468.0	2,462.8	2,451.0	2,445.3	5.6	5.7	-154.23	67.0	-206.9	309.0	298.4	10.57	29.236		
2,559.0	2,553.6	2,541.2	2,535.4	5.8	5.9	-148.01	68.4	-212.1	318.8	307.9	10.96	29.081		
2,651.0	2,645.4	2,631.9	2,625.9	6.0	6.1	-142.87	71.5	-217.9	328.9	317.5	11.37	28.931		
2,742.0	2,736.3	2,722.8	2,716.6	6.3	6.3	-135.54	74.6	-223.6	338.4	326.7	11.78	28.739		
2,833.0	2,827.1	2,814.1	2,807.6	6.5	6.6	-163.61	77.5	-229.4	348.5	336.4	12.17	28.637		
2,924.0	2,917.9	2,906.7	2,900.0	6.7	6.8	-159.07	80.8	-234.6	358.5	345.9	12.57	28.511		
3,015.0	3,008.8	2,998.2	2,991.4	6.9	7.0	-130.18	83.8	-239.6	367.1	354.1	12.99	28.267		
3,107.0	3,100.7	3,093.8	3,086.8	7.1	7.2	-129.17	86.6	-243.8	373.9	360.5	13.40	27.895		
3,198.0	3,191.5	3,184.2	3,177.1	7.3	7.4	-145.47	89.6	-247.5	381.3	367.5	13.79	27.651		
3,290.0	3,283.3	3,275.4	3,268.1	7.5	7.6	-135.07	92.9	-251.5	389.5	375.3	14.20	27.425		
3,382.0	3,375.1	3,366.9	3,359.5	7.8	7.8	-128.65	96.3	-255.5	397.4	382.7	14.62	27.182		
3,474.0	3,466.9	3,458.7	3,451.1	8.0	8.1	-151.06	99.8	-259.5	405.6	390.6	15.02	27.003		
3,565.0	3,557.7	3,548.9	3,541.1	8.2	8.3	-156.61	103.1	-263.4	414.4	399.0	15.42	26.878		
3,657.0	3,649.5	3,639.7	3,631.8	8.4	8.5	-153.60	105.8	-267.5	423.5	407.7	15.82	26.773		
3,748.0	3,740.3	3,728.6	3,720.6	8.6	8.7	-141.00	107.4	-271.6	432.7	416.5	16.21	26.685		
3,840.0	3,832.1	3,817.7	3,809.6	8.8	8.9	-139.28	108.1	-276.0	442.0	425.3	16.62	26.595		
3,932.0	3,923.9	3,899.8	3,891.5	9.1	9.1	-150.09	110.1	-281.2	452.1	435.1	17.00	26.586		
4,024.0	4,015.7	4,001.3	3,992.6	9.3	9.3	-131.56	114.3	-288.5	463.0	445.6	17.44	26.555		
4,115.0	4,106.4	4,117.5	4,108.8	9.5	9.6	-149.29	114.3	-291.0	470.4	452.6	17.87	26.326		
4,206.0	4,197.2	4,205.1	4,196.4	9.7	9.7	-146.92	114.2	-290.8	475.7	457.5	18.26	26.061		
4,297.0	4,288.0	4,298.3	4,289.6	9.9	9.9	-144.53	114.1	-290.7	480.3	461.7	18.65	25.761		
4,388.0	4,378.9	4,388.9	4,380.2	10.2	10.1	-106.17	114.0	-290.4	482.8	463.7	19.05	25.347		
4,479.0	4,469.8	4,477.3	4,468.6	10.4	10.2	-123.73	113.7	-290.4	484.6	465.2	19.42	24.962		
4,570.0	4,560.6	4,567.6	4,558.9	10.6	10.4	-155.50	113.0	-290.6	489.2	469.5	19.77	24.749		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-2214B - HZ - FINAL													Offset Site Error: 0.0 ft			
Survey Program: 138-ISCWSA MWD															Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor				
4,661.0	4,651.4	4,659.5	4,650.8	10.8	10.6	-158.79	112.1	-290.6	495.0	474.8	20.15	24.559				
4,753.0	4,743.2	4,753.0	4,744.3	11.0	10.7	-144.43	111.0	-290.4	500.2	479.6	20.54	24.352				
4,844.0	4,834.0	4,842.5	4,833.8	11.2	10.9	-146.12	110.2	-290.1	504.7	483.8	20.92	24.122				
4,936.0	4,925.9	4,933.9	4,925.2	11.4	11.1	-150.43	109.1	-290.0	508.7	487.3	21.31	23.872				
5,027.0	5,016.9	5,026.6	5,017.8	11.6	11.3	-154.94	108.1	-289.8	511.8	490.2	21.68	23.606				
5,119.0	5,108.8	5,139.5	5,130.7	11.8	11.5	168.78	110.2	-288.3	512.3	490.2	22.11	23.166				
5,210.0	5,199.7	5,306.1	5,291.5	12.0	11.8	-111.93	147.9	-273.6	501.5	478.8	22.78	22.015				
5,240.0	5,229.4	5,346.4	5,328.1	12.1	12.0	-111.62	164.0	-268.5	497.3	474.3	22.98	21.642				
5,271.0	5,259.7	5,386.1	5,362.7	12.2	12.1	-108.64	182.7	-263.2	493.0	469.8	23.22	21.229				
5,301.0	5,288.6	5,419.0	5,390.3	12.3	12.2	-102.31	200.1	-258.8	488.7	465.2	23.50	20.799				
5,331.0	5,317.1	5,453.8	5,417.9	12.4	12.3	-99.97	220.6	-254.1	484.0	460.2	23.80	20.337				
5,362.0	5,346.1	5,479.4	5,437.6	12.6	12.5	-101.07	236.7	-250.7	479.4	455.3	24.04	19.938				
5,393.0	5,374.4	5,501.0	5,453.8	12.7	12.6	-102.77	250.8	-248.3	476.2	452.0	24.27	19.626				
5,423.0	5,401.2	5,520.4	5,468.0	12.8	12.7	-104.11	264.0	-246.7	474.7	450.2	24.49	19.379				
5,453.0	5,427.3	5,542.1	5,483.1	13.0	12.8	-102.83	279.4	-245.2	474.2	449.4	24.80	19.120				
5,483.4	5,452.8	5,564.0	5,498.1	13.2	12.9	-99.77	295.3	-244.2	474.1	448.9	25.17	18.835				
5,484.0	5,453.4	5,564.0	5,498.1	13.2	12.9	-99.73	295.3	-244.2	474.1	448.9	25.18	18.832				
5,514.0	5,477.6	5,584.7	5,512.0	13.4	13.1	-98.83	310.7	-243.6	474.5	448.9	25.52	18.589				
5,545.0	5,501.7	5,605.0	5,525.1	13.6	13.2	-96.96	326.1	-243.5	475.5	449.6	25.92	18.342				
5,575.0	5,524.1	5,627.0	5,538.5	13.8	13.4	-94.98	343.6	-243.9	476.7	450.4	26.35	18.094				
5,605.0	5,545.5	5,649.7	5,551.5	14.0	13.6	-95.05	362.2	-244.8	478.5	451.7	26.79	17.863				
5,636.0	5,566.3	5,674.7	5,565.1	14.3	13.8	-95.22	383.1	-246.0	481.3	454.1	27.28	17.645				
5,666.0	5,585.2	5,700.6	5,578.7	14.6	14.0	-95.37	405.1	-247.5	485.2	457.4	27.79	17.456				
5,697.0	5,603.3	5,733.2	5,594.6	14.9	14.4	-95.43	433.5	-249.5	490.0	461.6	28.40	17.254				
5,728.0	5,620.1	5,762.4	5,608.5	15.2	14.6	-95.20	459.1	-251.2	495.6	466.6	28.99	17.092				
5,758.0	5,635.0	5,786.0	5,619.7	15.5	14.9	-94.66	479.8	-252.8	501.6	472.1	29.55	16.973				
5,788.0	5,648.3	5,808.1	5,630.0	15.9	15.1	-93.93	499.4	-254.6	508.3	478.2	30.14	16.864				
5,819.0	5,660.0	5,832.5	5,640.6	16.2	15.4	-93.08	521.1	-256.8	515.8	485.0	30.80	16.749				
5,849.0	5,669.4	5,856.8	5,650.2	16.6	15.7	-92.15	543.3	-259.3	523.5	492.0	31.47	16.634				
5,880.0	5,676.9	5,882.3	5,658.5	17.0	16.0	-91.35	567.2	-262.2	531.7	499.6	32.18	16.526				
5,910.0	5,682.0	5,908.1	5,665.7	17.4	16.3	-90.31	591.9	-265.2	539.9	507.0	32.92	16.403				
5,940.0	5,685.0	5,931.6	5,671.7	17.8	16.7	-89.85	614.4	-268.1	548.3	514.7	33.61	16.316				
5,971.0	5,686.4	5,956.2	5,677.9	18.3	17.0	-89.36	638.0	-271.4	557.5	523.1	34.34	16.233				
6,002.0	5,686.7	5,982.5	5,684.6	18.7	17.3	-89.78	663.2	-275.1	566.7	531.6	35.11	16.144				
6,032.0	5,686.5	6,014.0	5,692.2	19.1	17.7	-90.33	693.4	-279.6	575.6	539.6	35.94	16.013				
6,054.0	5,686.0	6,061.9	5,701.5	19.5	18.4	-91.23	740.0	-285.1	581.3	544.4	36.89	15.760				
6,141.0	5,683.0	6,184.7	5,707.2	20.7	20.2	-91.96	862.3	-291.2	596.2	556.3	39.95	14.923				
6,236.0	5,680.4	6,300.8	5,706.6	22.1	21.8	-92.43	978.4	-293.9	608.8	565.9	42.86	14.204				
6,331.0	5,679.6	6,387.8	5,706.3	23.4	23.2	-92.45	1,065.4	-294.1	618.0	572.4	45.59	13.555				
6,426.0	5,680.2	6,485.6	5,705.1	24.8	24.7	-92.38	1,163.1	-295.1	626.1	577.6	48.49	12.910				
6,520.0	5,682.9	6,578.6	5,705.3	26.1	26.0	-92.19	1,256.2	-295.7	633.2	582.0	51.20	12.369				
6,615.0	5,686.0	6,675.4	5,705.4	27.6	27.5	-91.83	1,353.0	-296.2	639.4	585.2	54.20	11.796				
6,688.0	5,688.1	6,747.4	5,705.6	28.7	28.6	-91.65	1,425.0	-296.5	643.2	586.7	56.52	11.381				
6,783.0	5,689.7	6,836.8	5,707.3	30.3	30.0	-91.61	1,514.3	-297.2	649.1	589.6	59.49	10.910				
6,878.0	5,691.3	6,927.9	5,709.5	31.8	31.5	-91.67	1,605.4	-298.7	655.3	592.8	62.55	10.477				
6,973.0	5,692.7	7,022.1	5,711.9	33.4	33.1	-91.68	1,699.5	-300.5	659.8	594.1	65.69	10.045				
7,068.0	5,692.7	7,128.3	5,716.1	35.0	34.8	-91.99	1,805.7	-302.0	664.4	595.4	69.01	9.627				
7,162.0	5,692.7	7,225.4	5,718.7	36.5	36.4	-92.26	1,902.7	-301.7	669.6	597.5	72.09	9.289				
7,257.0	5,693.5	7,323.3	5,721.3	38.0	38.1	-92.40	2,000.6	-301.3	676.6	601.5	75.18	9.000				
7,352.0	5,693.6	7,451.3	5,721.9	39.6	40.3	-92.37	2,128.5	-297.5	682.5	603.6	78.95	8.645				
7,447.0	5,694.4	7,539.8	5,721.8	41.2	41.7	-92.27	2,216.9	-293.1	683.0	600.8	82.19	8.310				
7,542.0	5,697.1	7,642.9	5,721.9	42.8	43.5	-92.01	2,319.9	-287.8	679.6	594.1	85.52	7.947				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-2214B - HZ - FINAL													Offset Site Error:	0.0 ft
Survey Program: 138-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Separation Factor		
7,637.0	5,699.7	7,742.9	5,721.7	44.4	45.2	-91.80	2,419.6	-281.4	673.8	585.0	88.78	7.590		
7,731.0	5,700.2	7,821.0	5,721.7	46.0	46.5	-91.87	2,497.6	-277.1	667.6	575.8	91.75	7.276		
7,826.0	5,699.7	7,896.5	5,722.1	47.6	47.8	-91.95	2,573.1	-275.0	662.4	567.8	94.60	7.002		
7,921.0	5,700.2	7,979.5	5,722.5	49.2	49.2	-91.91	2,656.1	-274.8	658.7	561.0	97.66	6.745		
8,015.0	5,700.4	8,066.8	5,721.1	50.8	50.7	-91.81	2,743.3	-275.8	656.6	555.7	100.87	6.509		
8,050.1	5,700.0	8,100.0	5,720.6	51.4	51.3	-91.80	2,776.6	-276.4	656.4	554.3	102.11	6.428		
8,110.0	5,699.2	8,157.5	5,719.7	52.5	52.3	-91.78	2,834.0	-277.6	656.9	552.7	104.22	6.304		
8,205.0	5,698.9	8,244.3	5,718.8	54.1	53.9	-91.73	2,920.8	-280.0	657.1	550.0	107.16	6.132		
8,272.7	5,699.0	8,308.4	5,718.6	55.3	55.0	-91.71	2,984.8	-282.5	656.8	547.2	109.54	5.996		
8,300.0	5,698.7	8,336.9	5,718.2	55.7	55.5	-91.71	3,013.3	-283.6	656.8	546.2	110.55	5.941		
8,395.0	5,697.9	8,430.0	5,715.5	57.4	57.2	-91.53	3,106.3	-287.2	657.0	543.1	113.90	5.768		
8,489.0	5,697.9	8,534.6	5,712.2	58.9	59.0	-91.24	3,210.8	-291.2	659.5	542.0	117.48	5.614		
8,581.0	5,698.5	8,643.5	5,711.0	60.5	60.8	-91.10	3,319.6	-292.5	661.8	540.9	120.88	5.475		
8,673.0	5,699.9	8,736.2	5,711.9	62.1	62.4	-91.06	3,412.3	-292.4	663.6	539.6	124.04	5.350		
8,764.0	5,701.7	8,827.2	5,712.3	63.6	64.1	-90.94	3,503.4	-292.2	665.6	538.3	127.25	5.230		
8,856.0	5,701.9	8,915.9	5,712.7	65.3	65.6	-90.90	3,592.0	-292.3	667.8	537.3	130.45	5.119		
8,948.0	5,700.7	8,994.7	5,713.6	66.8	67.0	-91.06	3,670.8	-293.2	671.6	538.2	133.44	5.033		
9,039.0	5,699.4	9,091.9	5,714.8	68.4	68.7	-91.25	3,768.0	-295.3	677.2	540.5	136.67	4.955		
9,130.0	5,699.6	9,197.0	5,714.4	70.0	70.6	-91.24	3,873.1	-295.3	679.3	539.2	140.15	4.847		
9,221.0	5,702.5	9,276.7	5,713.8	71.6	72.0	-90.94	3,952.8	-295.1	678.4	535.3	143.13	4.740		
9,313.0	5,705.5	9,360.8	5,714.6	73.2	73.5	-90.74	4,036.9	-296.4	677.2	531.1	146.05	4.637		
9,405.0	5,707.2	9,470.0	5,715.0	74.8	75.5	-90.60	4,146.1	-297.7	673.2	523.7	149.45	4.504		
9,496.0	5,707.0	9,584.8	5,713.6	76.4	77.5	-90.64	4,260.8	-294.5	666.8	513.3	153.48	4.344		
9,588.0	5,705.5	9,669.7	5,712.7	78.0	79.0	-90.65	4,345.7	-291.5	662.0	505.4	156.59	4.227		
9,680.0	5,705.1	9,757.2	5,711.9	79.6	80.5	-90.58	4,433.1	-289.2	658.4	498.6	159.80	4.120		
9,771.0	5,706.4	9,843.5	5,711.3	81.2	82.1	-90.41	4,519.4	-287.4	656.4	493.5	162.96	4.028		
9,803.4	5,707.3	9,873.3	5,711.1	81.8	82.6	-90.33	4,549.1	-287.0	656.3	492.2	164.07	4.000		
9,862.0	5,709.5	9,927.1	5,710.6	82.8	83.6	-90.15	4,603.0	-286.5	656.9	490.8	166.05	3.956		
9,953.0	5,711.5	10,020.4	5,709.6	84.4	85.2	-89.84	4,696.2	-285.9	657.8	488.5	169.28	3.886		
10,045.0	5,710.5	10,115.7	5,709.6	86.0	86.8	-89.95	4,791.6	-284.8	656.5	484.0	172.49	3.806		
10,158.0	5,708.8	10,229.3	5,710.5	88.0	88.8	-90.15	4,905.1	-283.3	654.4	477.9	176.53	3.707		
10,249.0	5,707.2	10,323.1	5,711.0	89.6	90.5	-90.36	4,999.0	-281.5	653.1	473.3	179.80	3.632		
10,340.0	5,705.5	10,412.2	5,713.8	91.2	92.0	-90.74	5,088.0	-280.0	652.2	469.2	182.97	3.565		
10,431.0	5,703.7	10,504.3	5,717.6	92.9	93.6	-91.23	5,180.0	-278.3	651.3	465.2	186.16	3.499		
10,523.0	5,701.6	10,593.0	5,721.8	94.5	95.2	-91.80	5,268.6	-276.8	650.3	461.0	189.33	3.435		
10,548.0	5,701.0	10,616.0	5,723.0	95.0	95.6	-91.94	5,291.5	-276.5	650.2	460.0	190.17	3.419		
10,614.0	5,700.1	10,677.0	5,726.3	96.1	96.7	-92.29	5,352.4	-276.0	650.9	458.5	192.40	3.383		
10,706.0	5,700.4	10,764.3	5,730.1	97.7	98.2	-92.62	5,439.6	-276.1	652.6	457.1	195.53	3.338		
10,798.0	5,701.2	10,853.9	5,733.5	99.3	99.8	-92.85	5,529.2	-276.6	656.7	458.3	198.46	3.309		
10,890.0	5,701.8	10,943.6	5,734.1	101.0	101.4	-92.83	5,618.9	-277.5	663.0	461.2	201.80	3.285		
10,981.0	5,702.8	11,030.5	5,732.9	102.6	103.0	-92.61	5,705.7	-279.0	667.7	462.6	205.12	3.255		
11,073.0	5,705.3	11,148.8	5,732.5	104.2	105.1	-92.26	5,824.0	-277.8	667.0	458.2	208.78	3.195		
11,164.0	5,708.5	11,230.6	5,733.5	105.8	106.5	-92.12	5,905.8	-276.8	664.6	452.7	211.86	3.137		
11,256.0	5,712.3	11,328.4	5,734.9	107.4	108.3	-91.88	6,003.6	-276.0	662.8	447.5	215.29	3.079		
11,300.0	5,713.9	11,388.7	5,735.7	108.2	109.3	-91.83	6,063.9	-274.2	660.9	443.8	217.07	3.044		
11,386.9	5,716.4	11,482.0	5,737.7	109.7	110.9	-91.86	6,157.1	-269.5	657.8	437.6	220.19	2.987		
11,400.0	5,716.9	11,496.0	5,738.1	110.0	111.2	-91.88	6,171.0	-268.7	657.8	437.2	220.56	2.982		
11,449.2	5,719.2	11,534.2	5,739.4	110.8	111.8	-91.96	6,209.2	-267.0	659.7	438.2	221.46	2.979		
11,459.2	5,719.7	11,542.0	5,739.6	111.0	112.0	-91.95	6,216.9	-266.8	660.4	438.6	221.78	2.978		
11,500.0	5,721.7	11,574.0	5,740.7	111.7	112.5	-91.83	6,248.9	-265.9	663.3	440.0	223.29	2.970		
11,600.0	5,725.6	11,655.3	5,743.5	113.5	114.0	-91.66	6,330.2	-265.4	670.3	443.3	226.97	2.953		
11,700.0	5,727.9	11,751.4	5,748.4	115.3	115.7	-91.77	6,426.2	-266.5	675.9	445.2	230.68	2.930		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2214B - HZ - FINAL													Offset Site Error:	0.0 ft
Survey Program: 138-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
11,800.0	5,728.8	11,839.5	5,753.9	117.1	117.3	-92.12	6,514.0	-268.3	679.5	445.4	234.01	2.903		
11,860.2	5,728.5	11,894.0	5,756.8	118.2	118.3	-92.37	6,568.4	-270.2	680.9	445.0	235.94	2.886		
11,900.0	5,728.2	11,930.3	5,758.1	118.9	118.9	-92.51	6,604.6	-271.7	681.8	444.5	237.30	2.873		
12,000.0	5,727.3	12,014.7	5,760.6	120.7	120.5	-92.76	6,688.9	-276.3	685.3	444.8	240.58	2.849		
12,100.0	5,726.5	12,126.0	5,763.6	122.5	122.5	-93.07	6,799.9	-283.2	689.6	445.3	244.31	2.823		
12,200.0	5,725.7	12,240.1	5,767.5	124.3	124.4	-93.46	6,913.8	-288.2	692.2	444.2	248.02	2.791		
12,300.0	5,724.8	12,364.9	5,771.8	126.1	126.6	-93.92	7,038.6	-288.6	690.5	438.6	251.89	2.741		
12,400.0	5,724.0	12,458.4	5,776.2	127.9	128.3	-94.36	7,131.9	-288.2	688.3	433.0	255.22	2.697		
12,500.0	5,723.1	12,556.8	5,778.7	129.7	130.0	-94.65	7,230.4	-288.8	687.0	428.3	258.70	2.656		
12,600.0	5,722.3	12,650.7	5,778.5	131.6	131.7	-94.71	7,324.2	-289.8	686.0	423.8	262.18	2.617		
12,700.0	5,721.4	12,749.0	5,779.0	133.4	133.5	-94.81	7,422.5	-291.6	685.8	420.1	265.73	2.581		
12,800.0	5,720.6	12,848.3	5,780.2	135.2	135.2	-94.99	7,521.8	-293.4	685.7	416.4	269.25	2.547		
12,900.0	5,719.8	12,960.2	5,780.5	137.0	137.2	-95.09	7,633.7	-294.7	684.8	411.8	273.02	2.508		
13,000.0	5,718.9	13,073.0	5,778.8	138.8	139.2	-95.06	7,746.4	-293.9	681.9	405.0	276.85	2.463		
13,100.0	5,718.1	13,171.4	5,776.5	140.7	141.0	-94.96	7,844.8	-292.3	678.0	397.5	280.46	2.418		
13,200.0	5,717.2	13,259.4	5,773.5	142.5	142.5	-94.79	7,932.7	-292.1	675.4	391.5	283.91	2.379		
13,300.0	5,716.4	13,349.6	5,769.2	144.3	144.2	-94.49	8,022.8	-293.6	674.6	387.1	287.46	2.347		
13,330.5	5,716.1	13,378.6	5,767.4	144.9	144.7	-94.36	8,051.8	-294.3	674.5	386.0	288.59	2.337		
13,400.0	5,715.6	13,445.9	5,762.4	146.2	145.9	-93.98	8,118.9	-296.2	674.7	383.5	291.19	2.317		
13,465.4	5,715.0	13,470.0	5,760.6	147.2	146.3	-93.84	8,142.9	-296.9	676.2	383.5	292.68	2.310 SF		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-2215A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: O-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
0.0	0.0	-0.3	-0.3	0.0	0.0	23.98	74.7	33.2	81.7					
138.0	138.0	137.7	137.7	0.1	0.2	52.42	74.7	33.2	81.1	80.8	0.35	232.998		
168.0	168.0	167.7	167.7	0.2	0.3	38.92	74.7	33.2	80.9	80.4	0.46	174.922		
259.0	259.0	258.7	258.7	0.4	0.4	47.53	74.7	33.2	79.9	79.0	0.81	98.243		
353.0	353.0	352.7	352.7	0.6	0.6	47.95	74.7	33.2	78.7	77.5	1.17	67.137		
445.0	444.9	444.6	444.6	0.8	0.7	-2.98	74.7	33.2	76.6	75.1	1.52	50.257		
536.0	535.8	535.5	535.5	1.0	0.9	-22.64	74.7	33.2	72.1	70.2	1.88	38.332		
627.0	626.6	626.3	626.3	1.2	1.1	-32.41	74.7	33.2	66.2	64.0	2.24	29.581		
719.0	718.3	718.0	718.0	1.4	1.2	-33.49	74.7	33.2	60.3	57.7	2.60	23.162		
811.0	810.0	809.7	809.7	1.6	1.4	-41.98	74.7	33.2	54.3	51.3	2.98	18.218		
902.0	900.6	900.4	900.4	1.9	1.5	-42.17	74.7	33.2	48.5	45.1	3.35	14.471		
993.0	991.3	991.0	991.0	2.1	1.7	-35.32	74.7	33.2	42.6	38.8	3.72	11.441		
1,085.0	1,083.0	1,082.7	1,082.7	2.3	1.9	-42.18	74.7	33.2	36.2	32.0	4.12	8.786		
1,176.0	1,173.6	1,173.3	1,173.3	2.6	2.0	-58.93	74.7	33.2	30.8	26.3	4.53	6.808		
1,268.0	1,265.3	1,265.0	1,265.0	2.8	2.2	-65.31	74.7	33.2	27.4	22.5	4.94	5.556		
1,360.0	1,357.1	1,356.8	1,356.8	3.0	2.3	-81.34	74.7	33.2	25.5	20.2	5.34	4.781		
1,391.1	1,388.1	1,387.8	1,387.8	3.1	2.4	-90.00	74.7	33.2	25.4	19.9	5.47	4.634 CC, ES		
1,451.0	1,447.8	1,447.5	1,447.5	3.2	2.5	-106.72	74.7	33.2	26.0	20.2	5.72	4.541		
1,580.0	1,576.5	1,576.2	1,576.2	3.5	2.7	-127.87	74.7	33.2	30.4	24.2	6.20	4.897		
1,645.0	1,641.3	1,641.0	1,641.0	3.7	2.8	-137.10	74.7	33.2	33.8	27.4	6.44	5.249		
1,736.0	1,732.1	1,731.8	1,731.8	3.9	3.0	-115.12	74.7	33.2	37.5	30.7	6.76	5.542		
1,827.0	1,822.9	1,822.7	1,822.7	4.1	3.2	-115.53	74.7	33.2	39.7	32.6	7.08	5.607		
1,919.0	1,914.8	1,914.5	1,914.5	4.3	3.3	-141.30	74.7	33.2	43.3	35.8	7.40	5.842		
2,011.0	2,006.6	2,006.3	2,006.3	4.6	3.5	-147.59	74.7	33.2	48.1	40.4	7.74	6.221		
2,102.0	2,097.4	2,097.1	2,097.1	4.8	3.6	-149.48	74.7	33.2	52.9	44.8	8.07	6.552		
2,194.0	2,189.3	2,189.0	2,189.0	5.0	3.8	-151.21	74.7	33.2	57.5	49.1	8.41	6.834		
2,286.0	2,281.1	2,280.8	2,280.8	5.2	4.0	-151.75	74.7	33.2	61.8	53.0	8.76	7.058		
2,377.0	2,372.0	2,371.7	2,371.7	5.4	4.1	-171.17	74.7	33.2	66.9	57.8	9.10	7.353		
2,468.0	2,462.8	2,462.5	2,462.5	5.6	4.3	-171.87	74.7	33.2	72.6	63.2	9.45	7.687		
2,559.0	2,553.6	2,553.3	2,553.3	5.8	4.4	-166.35	74.7	33.2	78.0	68.2	9.80	7.963		
2,651.0	2,645.4	2,645.2	2,645.2	6.0	4.6	-162.41	74.7	33.2	83.4	73.3	10.15	8.220		
2,742.0	2,736.3	2,736.0	2,736.0	6.3	4.7	-156.42	74.7	33.2	88.7	78.2	10.49	8.449		
2,833.0	2,827.1	2,826.8	2,826.8	6.5	4.9	174.87	74.7	33.2	94.1	83.3	10.84	8.683		
2,924.0	2,917.9	2,917.6	2,917.6	6.7	5.1	179.25	74.7	33.2	99.7	88.5	11.19	8.905		
3,015.0	3,008.8	3,008.5	3,008.5	6.9	5.2	-152.61	74.7	33.2	104.5	92.9	11.55	9.050		
3,107.0	3,100.7	3,100.4	3,100.4	7.1	5.4	-152.68	74.7	33.2	108.7	96.8	11.90	9.135		
3,198.0	3,191.5	3,191.2	3,191.2	7.3	5.5	-169.81	74.7	33.2	113.8	101.5	12.24	9.293		
3,290.0	3,283.3	3,283.0	3,283.0	7.5	5.7	-160.16	74.7	33.2	119.7	107.1	12.60	9.497		
3,382.0	3,375.1	3,374.8	3,374.8	7.8	5.9	-154.78	74.7	33.2	125.5	112.5	12.96	9.687		
3,474.0	3,466.9	3,466.6	3,466.6	8.0	6.0	-177.82	74.7	33.2	131.5	118.2	13.31	9.882		
3,565.0	3,557.7	3,557.4	3,557.4	8.2	6.2	176.49	74.7	33.2	137.3	123.6	13.66	10.051		
3,657.0	3,649.5	3,649.2	3,649.2	8.4	6.3	179.48	74.7	33.2	143.2	129.1	14.02	10.214		
3,748.0	3,740.3	3,740.0	3,740.0	8.6	6.5	-168.05	74.7	33.2	149.4	135.0	14.38	10.387		
3,840.0	3,832.1	3,831.8	3,831.8	8.8	6.7	-166.47	74.7	33.2	155.5	140.8	14.73	10.561		
3,932.0	3,923.9	3,923.6	3,923.6	9.1	6.8	-177.49	74.7	33.2	161.1	146.0	15.08	10.678		
4,024.0	4,015.7	4,015.4	4,015.4	9.3	7.0	-159.63	74.7	33.2	167.2	151.8	15.46	10.819		
4,115.0	4,106.4	4,106.1	4,106.1	9.5	7.1	-177.17	74.7	33.2	174.2	158.4	15.81	11.020		
4,206.0	4,197.2	4,196.9	4,196.9	9.7	7.3	-174.52	74.7	33.2	180.6	164.5	16.15	11.189		
4,297.0	4,288.0	4,287.7	4,287.7	9.9	7.5	-171.92	74.7	33.2	186.2	169.7	16.50	11.287		
4,388.0	4,378.9	4,378.6	4,378.6	10.2	7.6	-133.63	74.7	33.2	190.2	173.3	16.85	11.283		
4,479.0	4,469.8	4,469.5	4,469.5	10.4	7.8	-151.47	74.7	33.2	193.7	176.5	17.20	11.257		
4,570.0	4,560.6	4,560.3	4,560.3	10.6	7.9	176.88	74.7	33.2	199.1	181.5	17.56	11.334		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-2215A - HZ - Plan #3												Offset Site Error:	0.0 ft
Survey Program: O-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance		Total		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis		
4,661.0	4,651.4	4,651.1	4,651.1	10.8	8.1	174.11	74.7	33.2	205.0	187.1	17.90	11.450	
4,753.0	4,743.2	4,742.9	4,742.9	11.0	8.2	-171.12	74.7	33.2	211.0	192.7	18.27	11.545	
4,844.0	4,834.0	4,833.8	4,833.8	11.2	8.4	-172.55	74.7	33.2	216.6	198.0	18.62	11.636	
4,936.0	4,925.9	4,925.6	4,925.6	11.4	8.6	-176.57	74.7	33.2	221.1	202.1	18.97	11.652	
5,027.0	5,016.9	5,016.6	5,016.6	11.6	8.7	179.20	74.7	33.2	224.7	205.3	19.33	11.625	
5,119.0	5,108.8	5,108.5	5,108.5	11.8	8.9	142.87	74.7	33.2	226.7	207.0	19.67	11.522	
5,210.0	5,199.7	5,233.3	5,232.1	12.0	9.1	-138.57	89.5	33.8	223.6	203.5	20.15	11.098	
5,240.0	5,229.4	5,273.4	5,270.7	12.1	9.2	-137.74	100.5	34.2	221.6	201.2	20.45	10.838	
5,271.0	5,259.7	5,314.4	5,309.1	12.2	9.3	-134.17	114.7	34.7	219.8	199.1	20.70	10.621	
5,301.0	5,288.6	5,353.5	5,344.6	12.3	9.4	-127.12	131.1	35.3	217.6	196.7	20.90	10.413	
5,331.0	5,317.1	5,391.9	5,378.2	12.4	9.5	-124.19	149.7	36.0	214.7	193.6	21.12	10.165	
5,362.0	5,346.1	5,430.8	5,410.6	12.6	9.6	-124.01	171.1	36.8	211.4	190.0	21.41	9.873	
5,393.0	5,374.4	5,468.8	5,440.8	12.7	9.8	-124.08	194.2	37.7	208.5	186.7	21.73	9.591	
5,423.0	5,401.2	5,504.7	5,467.7	12.8	10.0	-123.58	218.0	38.6	206.1	184.0	22.07	9.336	
5,453.0	5,427.3	5,539.7	5,492.2	13.0	10.2	-120.46	242.9	39.5	203.9	181.5	22.46	9.081	
5,484.0	5,453.4	5,575.1	5,515.2	13.2	10.4	-115.45	269.7	40.5	201.6	178.7	22.89	8.807	
5,514.0	5,477.6	5,608.5	5,535.3	13.4	10.6	-112.60	296.5	41.5	199.3	175.9	23.37	8.528	
5,545.0	5,501.7	5,642.3	5,553.7	13.6	10.9	-108.52	324.7	42.6	196.9	173.1	23.89	8.245	
5,575.0	5,524.1	5,674.2	5,569.5	13.8	11.2	-104.56	352.4	43.6	194.4	170.0	24.41	7.966	
5,605.0	5,545.5	5,705.3	5,583.1	14.0	11.5	-102.45	380.3	44.7	192.2	167.2	25.02	7.682	
5,636.0	5,566.3	5,736.6	5,595.2	14.3	11.8	-100.47	409.3	45.8	190.9	165.2	25.71	7.425	
5,654.2	5,577.9	5,754.8	5,601.4	14.5	12.0	-99.20	426.3	46.4	190.7	164.6	26.12	7.302	
5,666.0	5,585.2	5,766.3	5,605.0	14.6	12.1	-98.32	437.3	46.8	190.8	164.4	26.38	7.233	
5,697.0	5,603.3	5,796.3	5,613.3	14.9	12.4	-96.20	466.1	47.9	192.0	165.0	27.08	7.091	
5,728.0	5,620.1	5,825.6	5,619.8	15.2	12.8	-93.48	494.6	49.0	194.6	166.8	27.72	7.020	
5,758.0	5,635.0	5,853.3	5,624.4	15.5	13.1	-90.50	521.9	50.0	197.9	169.6	28.36	6.980	
5,788.0	5,648.3	5,880.6	5,627.5	15.9	13.4	-87.45	549.0	51.0	202.1	173.0	29.03	6.960	
5,819.0	5,660.0	5,908.3	5,629.3	16.2	13.8	-84.37	576.6	52.1	206.9	177.2	29.66	6.975	
5,849.0	5,669.4	5,934.7	5,629.6	16.6	14.1	-81.55	603.0	53.0	211.9	181.7	30.22	7.013	
5,880.0	5,676.9	5,961.5	5,629.6	17.0	14.5	-79.33	629.8	53.7	217.5	186.7	30.78	7.064	
5,910.0	5,682.0	5,987.8	5,629.6	17.4	14.9	-77.52	656.1	54.1	222.9	191.6	31.32	7.117	
5,940.0	5,685.0	6,016.0	5,629.6	17.8	15.2	-76.54	684.3	54.1	228.2	196.2	31.98	7.137	
5,971.0	5,686.4	6,046.6	5,629.6	18.3	15.7	-75.94	714.8	54.1	233.5	200.8	32.72	7.136	
6,002.0	5,686.7	6,077.2	5,629.6	18.7	16.1	-76.04	745.4	54.1	238.4	204.8	33.57	7.101	
6,032.0	5,686.5	6,106.8	5,629.6	19.1	16.5	-76.26	775.1	54.1	242.7	208.3	34.40	7.055	
6,054.0	5,686.0	6,128.6	5,629.6	19.5	16.8	-76.48	796.9	54.1	245.7	210.6	35.04	7.010	
6,141.0	5,683.0	6,214.8	5,629.6	20.7	18.1	-77.67	883.1	54.1	255.6	218.0	37.65	6.789	
6,236.0	5,680.4	6,309.3	5,629.6	22.1	19.6	-78.90	977.5	54.1	265.1	224.6	40.52	6.542	
6,331.0	5,679.6	6,403.8	5,629.6	23.4	21.0	-79.46	1,072.1	54.1	273.6	230.3	43.31	6.318	
6,426.0	5,680.2	6,498.6	5,629.6	24.8	22.5	-79.73	1,166.8	54.1	280.8	234.7	46.17	6.082	
6,520.0	5,682.9	6,592.3	5,629.6	26.1	24.0	-79.51	1,260.6	54.1	287.9	238.9	48.99	5.877	
6,615.0	5,686.0	6,687.1	5,629.6	27.6	25.6	-79.07	1,355.3	54.1	294.1	242.3	51.78	5.680	
6,688.0	5,688.1	6,759.9	5,629.6	28.7	26.8	-78.80	1,428.2	54.1	298.0	244.0	54.09	5.510	
6,783.0	5,689.7	6,854.8	5,629.6	30.3	28.3	-78.65	1,523.1	54.2	303.4	246.3	57.13	5.311	
6,878.0	5,691.3	6,949.7	5,629.6	31.8	29.9	-78.55	1,617.9	54.2	308.3	248.1	60.16	5.124	
6,973.0	5,692.7	7,044.6	5,629.6	33.4	31.5	-78.36	1,712.9	54.2	311.1	248.1	63.07	4.933	
7,068.0	5,692.7	7,139.6	5,629.6	35.0	33.1	-78.43	1,807.8	54.2	314.1	247.8	66.37	4.733	
7,162.0	5,692.7	7,233.4	5,629.6	36.5	34.7	-78.67	1,901.7	54.2	319.5	250.0	69.50	4.597	
7,257.0	5,693.5	7,328.1	5,629.6	38.0	36.3	-78.77	1,996.4	54.2	326.8	254.2	72.64	4.499	
7,352.0	5,693.6	7,422.7	5,629.6	39.6	37.9	-78.96	2,091.0	54.2	335.3	259.4	75.83	4.421	
7,447.0	5,694.4	7,517.5	5,629.6	41.2	39.5	-79.11	2,185.8	54.2	340.5	261.7	78.84	4.319	
7,542.0	5,697.1	7,612.5	5,629.6	42.8	41.1	-78.73	2,280.8	54.2	342.7	260.8	81.90	4.184	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2215A - HZ - Plan #3												Offset Site Error:	0.0 ft
Survey Program: O-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
7,637.0	5,699.7	7,707.4	5,629.6	44.4	42.7	-78.28	2,375.7	54.2	343.6	258.8	84.76	4.054	
7,731.0	5,700.2	7,801.4	5,629.6	46.0	44.4	-78.16	2,469.7	54.2	342.6	254.7	87.83	3.900	
7,826.0	5,699.7	7,896.4	5,629.6	47.6	46.0	-78.15	2,564.7	54.2	340.0	249.2	90.88	3.742	
7,921.0	5,700.2	7,991.3	5,629.6	49.2	47.6	-77.91	2,659.6	54.2	336.6	242.6	94.01	3.581	
8,015.0	5,700.4	8,085.3	5,629.6	50.8	49.2	-77.82	2,753.6	54.2	333.6	236.4	97.19	3.433	
8,110.0	5,699.2	8,180.3	5,629.6	52.5	50.9	-77.96	2,848.5	54.2	331.9	231.2	100.66	3.297	
8,205.0	5,698.9	8,275.2	5,629.6	54.1	52.5	-77.87	2,943.5	54.2	329.5	226.0	103.48	3.184	
8,300.0	5,698.7	8,370.1	5,629.6	55.7	54.2	-77.83	3,038.4	54.2	325.5	218.7	106.74	3.049	
8,395.0	5,697.9	8,465.1	5,629.6	57.4	55.8	-77.80	3,133.3	54.2	322.0	211.8	110.15	2.923	
8,466.6	5,697.9	8,536.6	5,629.6	58.6	57.0	-77.76	3,204.9	54.3	320.8	207.8	112.98	2.840	
8,489.0	5,697.9	8,559.0	5,629.6	58.9	57.4	-77.77	3,227.3	54.3	320.9	207.1	113.83	2.819	
8,581.0	5,698.5	8,651.0	5,629.6	60.5	59.0	-77.73	3,319.3	54.3	322.2	205.2	117.03	2.753	
8,673.0	5,699.9	8,743.0	5,629.6	62.1	60.6	-77.57	3,411.3	54.3	324.5	204.3	120.19	2.700	
8,764.0	5,701.7	8,834.0	5,629.6	63.6	62.2	-77.35	3,502.2	54.3	327.0	203.8	123.17	2.655	
8,856.0	5,701.9	8,925.9	5,629.6	65.3	63.8	-77.34	3,594.2	54.3	329.1	202.7	126.38	2.604	
8,948.0	5,700.7	9,017.9	5,629.6	66.8	65.4	-77.65	3,686.2	54.3	331.4	201.7	129.75	2.554	
9,039.0	5,699.4	9,108.8	5,629.6	68.4	67.0	-77.96	3,777.1	54.3	334.7	201.5	133.16	2.513	
9,130.0	5,699.6	9,199.8	5,629.6	70.0	68.5	-78.06	3,868.0	54.3	336.8	200.7	136.07	2.475	
9,221.0	5,702.5	9,290.7	5,629.6	71.6	70.1	-77.53	3,959.0	54.3	336.8	197.9	138.91	2.424	
9,313.0	5,705.5	9,382.6	5,629.6	73.2	71.7	-76.90	4,050.9	54.3	334.8	193.6	141.25	2.370	
9,405.0	5,707.2	9,474.5	5,629.7	74.8	73.3	-76.39	4,142.7	54.3	330.3	186.4	143.86	2.296	
9,496.0	5,707.0	9,565.4	5,629.7	76.4	74.9	-76.37	4,233.6	54.3	326.6	179.0	147.67	2.212	
9,588.0	5,705.5	9,657.3	5,629.7	78.0	76.5	-76.56	4,325.6	54.3	324.7	173.7	151.03	2.150	
9,680.0	5,705.1	9,749.3	5,629.7	79.6	78.1	-76.57	4,417.6	54.3	323.5	169.1	154.41	2.095	
9,712.8	5,705.3	9,782.1	5,629.7	80.2	78.7	-76.52	4,450.4	54.3	323.4	167.8	155.63	2.078	
9,771.0	5,706.4	9,840.3	5,629.7	81.2	79.7	-76.36	4,508.6	54.3	323.7	166.1	157.60	2.054	
9,862.0	5,709.5	9,931.2	5,629.7	82.8	81.3	-75.94	4,599.5	54.3	325.9	165.2	160.64	2.029	
9,953.0	5,711.5	10,022.2	5,629.7	84.4	82.8	-75.61	4,690.5	54.3	327.9	164.5	163.34	2.007	
10,045.0	5,710.5	10,114.2	5,629.7	86.0	84.5	-75.77	4,782.5	54.3	327.4	161.0	166.40	1.968	
10,155.7	5,708.8	10,224.9	5,629.7	88.0	86.4	-76.01	4,893.1	54.4	326.4	155.7	170.68	1.912	
10,158.0	5,708.8	10,227.2	5,629.7	88.0	86.4	-76.02	4,895.5	54.4	326.4	155.6	170.77	1.911	
10,249.0	5,707.2	10,318.2	5,629.7	89.6	88.0	-76.30	4,986.4	54.4	326.3	152.2	174.14	1.874	
10,270.7	5,706.8	10,339.9	5,629.7	90.0	88.4	-76.39	5,008.1	54.4	326.3	151.3	175.04	1.864	
10,340.0	5,705.5	10,409.1	5,629.7	91.2	89.6	-76.62	5,077.4	54.4	326.5	148.9	177.66	1.838	
10,431.0	5,703.7	10,500.1	5,629.7	92.9	91.2	-76.95	5,168.4	54.4	326.8	145.8	181.04	1.805	
10,523.0	5,701.6	10,592.1	5,629.7	94.5	92.8	-77.34	5,260.4	54.4	326.7	142.2	184.57	1.770	
10,531.1	5,701.4	10,600.2	5,629.7	94.7	92.9	-77.37	5,268.4	54.4	326.7	141.8	184.95	1.767	
10,614.0	5,700.1	10,683.1	5,629.7	96.1	94.4	-77.62	5,351.4	54.4	327.6	139.4	188.20	1.741	
10,706.0	5,700.4	10,775.1	5,629.7	97.7	96.0	-77.65	5,443.3	54.4	329.1	137.7	191.37	1.720	
10,798.0	5,701.2	10,867.0	5,629.7	99.3	97.6	-77.63	5,535.3	54.4	332.7	137.9	194.75	1.708	
10,890.0	5,701.8	10,958.8	5,629.7	101.0	99.2	-77.73	5,627.1	54.4	338.0	139.9	198.02	1.707	
10,981.0	5,702.8	11,049.8	5,629.7	102.6	100.8	-77.70	5,718.0	54.4	341.4	140.4	201.06	1.698	
11,073.0	5,705.3	11,141.7	5,629.7	104.2	102.4	-77.28	5,810.0	54.4	342.4	138.7	203.69	1.681	
11,164.0	5,708.5	11,232.7	5,629.7	105.8	104.0	-76.71	5,900.9	54.4	342.1	135.7	206.39	1.657	
11,216.2	5,710.4	11,284.8	5,629.7	106.7	104.9	-76.38	5,953.1	54.4	341.9	133.9	208.04	1.644	
11,256.0	5,712.3	11,324.6	5,629.7	107.4	105.6	-76.07	5,992.8	54.4	342.0	132.8	209.18	1.635	
11,300.0	5,713.9	11,368.5	5,629.7	108.2	106.3	-75.77	6,036.8	54.4	341.7	131.6	210.16	1.626	
11,318.3	5,714.2	11,386.8	5,629.7	108.5	106.7	-75.72	6,055.1	54.4	341.6	130.6	211.03	1.619	
11,400.0	5,716.9	11,468.4	5,629.7	110.0	108.1	-75.51	6,136.7	54.4	344.5	130.6	213.96	1.610	
11,449.2	5,719.2	11,517.4	5,629.7	110.8	108.9	-75.43	6,185.7	54.4	349.1	133.9	215.20	1.622	
11,459.2	5,719.7	11,527.4	5,629.7	111.0	109.1	-75.39	6,195.7	54.4	350.2	134.7	215.50	1.625	
11,500.0	5,721.7	11,567.9	5,629.7	111.7	109.8	-75.19	6,236.2	54.4	354.6	137.8	216.85	1.635	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2215A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
11,600.0	5,725.6	11,667.5	5,629.7	113.5	111.6	-74.81	6,335.8	54.4	362.9	142.8	220.12	1.649		
11,700.0	5,727.9	11,767.4	5,629.7	115.3	113.3	-74.58	6,435.7	54.4	367.9	144.6	223.30	1.647		
11,800.0	5,728.8	11,867.4	5,629.7	117.1	115.1	-74.49	6,535.6	54.5	369.4	143.0	226.39	1.632		
11,860.2	5,728.5	11,927.5	5,629.7	118.2	116.1	-74.50	6,595.8	54.5	368.6	140.4	228.19	1.615		
11,900.0	5,728.2	11,967.4	5,629.7	118.9	116.8	-74.52	6,635.6	54.5	367.7	138.1	229.61	1.601		
12,000.0	5,727.3	12,067.3	5,629.7	120.7	118.6	-74.55	6,735.6	54.5	365.4	132.2	233.17	1.567		
12,100.0	5,726.5	12,167.3	5,629.7	122.5	120.3	-74.59	6,835.6	54.5	363.1	126.4	236.74	1.534		
12,200.0	5,725.7	12,267.3	5,629.7	124.3	122.1	-74.63	6,935.6	54.5	360.8	120.5	240.30	1.501		
12,300.0	5,724.8	12,367.2	5,629.7	126.1	123.8	-74.67	7,035.5	54.5	358.5	114.6	243.88	1.470	Level 3	
12,400.0	5,724.0	12,467.2	5,629.7	127.9	125.6	-74.71	7,135.5	54.5	356.2	108.8	247.46	1.440	Level 3	
12,500.0	5,723.1	12,567.2	5,629.7	129.7	127.3	-74.75	7,235.5	54.5	353.9	102.9	251.05	1.410	Level 3	
12,600.0	5,722.3	12,667.2	5,629.7	131.6	129.1	-74.79	7,335.4	54.5	351.6	97.0	254.64	1.381	Level 3	
12,700.0	5,721.4	12,767.1	5,629.7	133.4	130.8	-74.83	7,435.4	54.5	349.3	91.1	258.23	1.353	Level 3	
12,800.0	5,720.6	12,867.1	5,629.7	135.2	132.5	-74.87	7,535.4	54.5	347.1	85.2	261.83	1.326	Level 3	
12,900.0	5,719.8	12,967.1	5,629.7	137.0	134.3	-74.92	7,635.4	54.5	344.8	79.3	265.44	1.299	Level 3	
12,966.4	5,719.2	13,026.3	5,629.7	138.2	135.3	-74.94	7,694.5	54.5	343.3	75.6	267.74	1.282	Level 3, SF	
13,000.0	5,718.9	13,026.3	5,629.7	138.8	135.3	-74.94	7,694.5	54.5	344.9	76.6	268.33	1.285	Level 3	
13,100.0	5,718.1	13,026.3	5,629.7	140.7	135.3	-74.94	7,694.5	54.5	368.2	98.0	270.20	1.363	Level 3	
13,200.0	5,717.2	13,026.3	5,629.7	142.5	135.3	-74.94	7,694.5	54.5	414.9	142.8	272.07	1.525		
13,300.0	5,716.4	13,026.3	5,629.7	144.3	135.3	-74.94	7,694.5	54.5	478.2	204.3	273.95	1.746		
13,400.0	5,715.6	13,026.3	5,629.7	146.2	135.3	-74.94	7,694.5	54.5	552.5	276.7	275.82	2.003		
13,465.4	5,715.0	13,026.3	5,629.7	147.2	135.3	-74.94	7,694.5	54.5	605.2	328.3	276.87	2.186		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2216B - HZ - SURVEYS													Offset Site Error:	0.0 ft
Survey Program: 138-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis			
11,300.0	5,713.9	11,300.0	5,713.9	0.0	0.0	0.00	6,036.8	385.7	0.0	0.0	0.00	N/A CC, ES		
11,360.8	5,715.4	11,360.7	5,713.7	1.1	1.1	-49.70	6,097.4	383.9	2.7	1.0	1.74	1.554 SF		
11,400.0	5,716.9	11,399.7	5,713.0	1.8	1.8	-54.21	6,136.4	382.5	6.6	3.6	3.00	2.200		
11,449.2	5,719.2	11,448.4	5,712.2	2.6	2.7	-58.85	6,185.1	380.5	13.4	8.8	4.63	2.892		
11,459.2	5,719.7	11,458.3	5,712.1	2.8	2.8	-59.59	6,195.0	380.1	15.0	10.0	4.97	3.017		
11,500.0	5,721.7	11,498.6	5,711.6	3.5	3.6	-61.70	6,235.2	378.3	21.3	14.9	6.35	3.346		
11,600.0	5,725.6	11,597.8	5,711.0	5.3	5.3	-64.72	6,334.3	373.7	34.2	24.4	9.77	3.501		
11,700.0	5,727.9	11,697.4	5,710.4	7.1	7.1	-66.27	6,433.8	369.3	43.5	30.3	13.19	3.298		
11,800.0	5,728.8	11,798.7	5,709.0	8.9	8.9	-65.63	6,535.1	366.7	47.9	31.5	16.46	2.912		
11,860.2	5,728.5	11,858.8	5,707.6	10.0	9.9	-64.08	6,595.1	366.6	47.9	29.6	18.25	2.623		
11,900.0	5,728.2	11,898.4	5,706.6	10.7	10.6	-63.09	6,634.7	366.4	47.6	28.2	19.42	2.450		
11,912.4	5,728.1	11,910.6	5,706.4	11.0	10.9	-62.86	6,646.9	366.2	47.6	27.8	19.79	2.403		
12,000.0	5,727.3	11,997.0	5,706.0	12.5	12.4	-64.09	6,733.2	362.7	48.9	26.1	22.82	2.142		
12,100.0	5,726.5	12,097.5	5,706.0	14.3	14.2	-65.98	6,833.7	358.4	50.5	24.0	26.44	1.909		
12,200.0	5,725.7	12,196.5	5,703.6	16.1	16.0	-65.44	6,932.6	354.2	53.0	23.4	29.65	1.789		
12,300.0	5,724.8	12,297.4	5,693.3	17.9	17.7	-56.05	7,032.8	353.4	56.5	25.8	30.64	1.843		
12,400.0	5,724.0	12,395.9	5,673.1	19.7	19.4	-33.32	7,128.5	364.7	61.3	36.0	25.27	2.425		
12,500.0	5,723.1	12,432.0	5,665.0	21.6	20.0	-25.28	7,163.3	369.7	96.3	72.8	23.42	4.110		
12,600.0	5,722.3	12,432.0	5,665.0	23.4	20.0	-25.28	7,163.3	369.7	183.0	158.5	24.44	7.486		
12,700.0	5,721.4	12,432.0	5,665.0	25.2	20.0	-25.28	7,163.3	369.7	278.7	253.3	25.46	10.948		
12,800.0	5,720.6	12,432.0	5,665.0	27.0	20.0	-25.28	7,163.3	369.7	376.7	350.2	26.50	14.217		
12,900.0	5,719.8	12,432.0	5,665.0	28.9	20.0	-25.28	7,163.3	369.7	475.5	448.0	27.56	17.256		
13,000.0	5,718.9	12,432.0	5,665.0	30.7	20.0	-25.28	7,163.3	369.7	574.7	546.1	28.62	20.084		
13,100.0	5,718.1	12,432.0	5,665.0	32.5	20.0	-25.28	7,163.3	369.7	674.2	644.5	29.68	22.716		
13,200.0	5,717.2	12,432.0	5,665.0	34.3	20.0	-25.28	7,163.3	369.7	773.8	743.1	30.74	25.171		
13,300.0	5,716.4	12,432.0	5,665.0	36.2	20.0	-25.28	7,163.3	369.7	873.5	841.7	31.81	27.463		
13,400.0	5,715.6	12,432.0	5,665.0	38.0	20.0	-25.28	7,163.3	369.7	973.2	940.4	32.87	29.609		
13,465.4	5,715.0	12,432.0	5,665.0	39.0	20.0	-25.28	7,163.3	369.7	1,038.5	1,005.1	33.37	31.122		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-2216B - Stk #1 - Plan #1											Offset Site Error: 0.0 ft		
Survey Program: 138-ISCWSA MWD, 11300-ISCWSA MWD											Offset Well Error: 0.0 ft		
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
11,300.0	5,713.9	11,300.0	5,713.9	0.0	0.0	0.00	6,036.8	385.7	0.0	0.0	0.00	N/A	
11,400.0	5,716.9	11,400.0	5,716.9	1.8	1.8	0.00	6,136.7	387.8	0.0	-1.5	1.46	0.000 Level 1	
11,449.2	5,719.2	11,449.2	5,719.2	2.6	2.6	0.00	6,185.7	391.9	0.0	-2.2	2.18	0.000 Level 1	
11,459.2	5,719.7	11,459.2	5,719.7	2.8	2.8	0.00	6,195.6	393.0	0.0	-2.3	2.33	0.000 Level 1, CC, SF	
11,480.8	5,720.8	11,480.8	5,720.8	3.2	3.2	-154.36	6,217.1	395.1	0.0	-3.7	3.66	0.000 Level 1	
11,500.0	5,721.7	11,500.0	5,721.7	3.5	3.5	-154.34	6,236.1	397.0	0.0	-4.1	4.05	0.000 Level 1	
11,600.0	5,725.6	11,600.0	5,725.6	5.3	5.3	-154.27	6,335.8	404.6	0.0	-6.1	6.09	0.000 Level 1	
11,700.0	5,727.9	11,700.0	5,727.9	7.1	7.1	-154.23	6,435.6	409.0	0.0	-8.1	8.14	0.000 Level 1	
11,800.0	5,728.8	11,800.0	5,728.8	8.9	8.9	-154.21	6,535.6	410.4	0.0	-10.2	10.20	0.000 Level 1	
11,860.2	5,728.5	11,860.2	5,728.5	10.0	10.0	-154.22	6,595.8	409.6	0.0	-11.4	11.44	0.000 Level 1	
11,900.0	5,728.2	11,900.0	5,728.2	10.7	10.7	-133.36	6,635.6	408.8	0.0	-16.7	16.74	0.000 Level 1	
12,000.0	5,727.3	12,000.0	5,727.4	12.5	12.5	-110.82	6,735.6	406.6	0.0	-23.7	23.69	0.000 Level 1	
12,100.0	5,726.5	12,100.0	5,726.5	14.3	14.3	-102.79	6,835.6	404.5	0.0	-28.0	28.05	0.000 Level 1	
12,200.0	5,725.7	12,200.0	5,725.7	16.1	16.1	-98.84	6,935.5	402.4	0.0	-31.9	31.92	0.000 Level 1	
12,300.0	5,724.8	12,300.0	5,724.8	17.9	17.9	-96.52	7,035.5	400.2	0.0	-35.6	35.66	0.000 Level 1	
12,400.0	5,724.0	12,400.0	5,724.0	19.7	19.7	-94.99	7,135.5	398.1	0.0	-39.3	39.35	0.000 Level 1	
12,500.0	5,723.1	12,500.0	5,723.1	21.6	21.6	-93.91	7,235.5	395.9	0.0	-43.0	43.02	0.000 Level 1	
12,600.0	5,722.3	12,600.0	5,722.3	23.4	23.4	-93.11	7,335.4	393.8	0.0	-46.7	46.68	0.000 Level 1	
12,700.0	5,721.4	12,700.0	5,721.5	25.2	25.2	-92.49	7,435.4	391.6	0.0	-50.3	50.33	0.000 Level 1	
12,800.0	5,720.6	12,800.0	5,720.6	27.0	27.0	-92.00	7,535.4	389.5	0.0	-54.0	53.99	0.000 Level 1	
12,900.0	5,719.8	12,900.0	5,719.8	28.9	28.9	-91.59	7,635.3	387.4	0.0	-57.6	57.65	0.000 Level 1	
13,000.0	5,718.9	13,000.0	5,718.9	30.7	30.7	-91.26	7,735.3	385.2	0.0	-61.3	61.31	0.000 Level 1	
13,100.0	5,718.1	13,100.0	5,718.1	32.5	32.5	-90.98	7,835.3	383.1	0.0	-64.9	64.98	0.000 Level 1	
13,200.0	5,717.2	13,200.0	5,717.2	34.3	34.3	-90.74	7,935.3	380.9	0.0	-68.6	68.65	0.001 Level 1	
13,300.0	5,716.4	13,300.0	5,716.4	36.2	36.2	-90.53	8,035.2	378.8	0.0	-72.3	72.33	0.001 Level 1	
13,400.0	5,715.6	13,400.0	5,715.6	38.0	38.0	-90.35	8,135.2	376.7	0.0	-76.0	76.00	0.001 Level 1	
13,465.4	5,715.0	13,465.4	5,715.0	39.0	39.0	-90.24	8,200.6	375.3	0.0	-78.0	78.05	0.001 Level 1, ES	

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3413A - HZ - Plan #3												Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Between Centres (ft)	Between Ellipses (ft)					
0.0	0.0	-0.3	-0.3	0.0	0.0	-41.53	74.7	-66.2	99.8				
138.0	138.0	137.7	137.7	0.1	0.2	-13.76	74.7	-66.2	98.9	98.5	0.32	311.242	
168.0	168.0	167.7	167.7	0.2	0.2	-27.54	74.7	-66.2	98.5	98.0	0.45	221.194	
259.0	259.0	258.7	258.7	0.4	0.5	-19.97	74.7	-66.2	97.2	96.3	0.84	115.470	
353.0	353.0	352.7	352.7	0.6	0.7	-20.83	74.7	-66.2	95.6	94.3	1.25	76.659	
445.0	444.9	444.6	444.6	0.8	0.9	-73.19	74.7	-66.2	94.4	92.7	1.65	57.333	
505.8	505.7	505.4	505.4	0.9	1.0	-90.00	74.7	-66.2	94.1	92.1	1.92	48.995 CC	
536.0	535.8	535.5	535.5	1.0	1.1	-94.62	74.7	-66.2	94.1	92.1	2.06	45.793 ES	
627.0	626.6	626.3	626.3	1.2	1.3	-105.75	74.7	-66.2	95.3	92.9	2.48	38.509	
719.0	718.3	718.0	718.0	1.4	1.5	-107.37	74.7	-66.2	97.3	94.4	2.90	33.542	
811.0	810.0	809.7	809.7	1.6	1.7	-115.25	74.7	-66.2	100.1	96.8	3.34	30.023	
902.0	900.6	900.4	900.4	1.9	1.9	-113.63	74.7	-66.2	103.4	99.6	3.76	27.517	
993.0	991.3	991.0	991.0	2.1	2.1	-104.77	74.7	-66.2	105.9	101.7	4.17	25.368	
1,085.0	1,083.0	1,082.7	1,082.7	2.3	2.3	-108.34	74.7	-66.2	108.2	103.6	4.61	23.494	
1,176.0	1,173.6	1,173.3	1,173.3	2.6	2.5	-118.11	74.7	-66.2	111.5	106.5	5.03	22.175	
1,268.0	1,265.3	1,265.0	1,265.0	2.8	2.7	-115.14	74.7	-66.2	114.8	109.4	5.44	21.110	
1,360.0	1,357.1	1,356.8	1,356.8	3.0	2.9	-120.39	74.7	-66.2	117.9	112.0	5.85	20.149	
1,451.0	1,447.8	1,447.5	1,447.5	3.2	3.1	-134.03	74.7	-66.2	121.7	115.5	6.26	19.458	
1,580.0	1,576.5	1,576.2	1,576.2	3.5	3.4	-141.02	74.7	-66.2	128.7	121.9	6.83	18.853	
1,645.0	1,641.3	1,641.0	1,641.0	3.7	3.6	-144.95	74.7	-66.2	132.7	125.6	7.11	18.658	
1,736.0	1,732.1	1,731.8	1,731.8	3.9	3.8	-117.32	74.7	-66.2	136.8	129.3	7.51	18.207	
1,827.0	1,822.9	1,822.7	1,822.7	4.1	4.0	-112.76	74.7	-66.2	139.0	131.1	7.91	17.577	
1,919.0	1,914.8	1,914.5	1,914.5	4.3	4.2	-134.41	74.7	-66.2	142.2	133.9	8.31	17.111	
2,011.0	2,006.6	2,006.3	2,006.3	4.6	4.4	-137.97	74.7	-66.2	146.5	137.8	8.71	16.818	
2,102.0	2,097.4	2,097.1	2,097.1	4.8	4.6	-138.01	74.7	-66.2	150.7	141.6	9.11	16.545	
2,194.0	2,189.3	2,189.0	2,189.0	5.0	4.8	-138.34	74.7	-66.2	154.6	145.1	9.50	16.268	
2,286.0	2,281.1	2,280.8	2,280.8	5.2	5.0	-137.84	74.7	-66.2	158.3	148.4	9.90	15.983	
2,377.0	2,372.0	2,371.7	2,371.7	5.4	5.2	-156.82	74.7	-66.2	162.8	152.5	10.29	15.820	
2,468.0	2,462.8	2,462.5	2,462.5	5.6	5.4	-157.61	74.7	-66.2	168.2	157.5	10.69	15.732	
2,559.0	2,553.6	2,553.3	2,553.3	5.8	5.6	-152.08	74.7	-66.2	173.1	162.0	11.08	15.619	
2,651.0	2,645.4	2,645.2	2,645.2	6.0	5.8	-147.99	74.7	-66.2	178.0	166.5	11.48	15.499	
2,742.0	2,736.3	2,736.0	2,736.0	6.3	6.0	-141.71	74.7	-66.2	182.6	170.7	11.88	15.369	
2,833.0	2,827.1	2,826.8	2,826.8	6.5	6.2	-170.54	74.7	-66.2	187.6	175.4	12.27	15.293	
2,924.0	2,917.9	2,917.6	2,917.6	6.7	6.4	-166.67	74.7	-66.2	193.1	180.4	12.67	15.246	
3,015.0	3,008.8	3,008.5	3,008.5	6.9	6.6	-138.59	74.7	-66.2	197.5	184.4	13.07	15.116	
3,107.0	3,100.7	3,100.4	3,100.4	7.1	6.8	-138.40	74.7	-66.2	201.0	187.6	13.47	14.930	
3,198.0	3,191.5	3,191.2	3,191.2	7.3	7.0	-155.48	74.7	-66.2	205.6	191.7	13.85	14.839	
3,290.0	3,283.3	3,283.0	3,283.0	7.5	7.2	-145.88	74.7	-66.2	210.9	196.6	14.26	14.790	
3,382.0	3,375.1	3,374.8	3,374.8	7.8	7.5	-140.39	74.7	-66.2	215.9	201.3	14.66	14.728	
3,474.0	3,466.9	3,466.6	3,466.6	8.0	7.7	-163.51	74.7	-66.2	221.4	206.3	15.06	14.701	
3,565.0	3,557.7	3,557.4	3,557.4	8.2	7.9	-169.57	74.7	-66.2	227.0	211.6	15.45	14.691	
3,657.0	3,649.5	3,649.2	3,649.2	8.4	8.1	-166.96	74.7	-66.2	232.8	216.9	15.85	14.683	
3,748.0	3,740.3	3,740.0	3,740.0	8.6	8.3	-154.73	74.7	-66.2	238.6	222.4	16.25	14.686	
3,840.0	3,832.1	3,831.8	3,831.8	8.8	8.5	-153.30	74.7	-66.2	244.3	227.7	16.66	14.670	
3,932.0	3,923.9	3,923.6	3,923.6	9.1	8.7	-164.50	74.7	-66.2	249.5	232.5	17.06	14.630	
4,024.0	4,015.7	4,015.4	4,015.4	9.3	8.9	-146.76	74.7	-66.2	255.2	237.8	17.45	14.625	
4,115.0	4,106.4	4,106.1	4,106.1	9.5	9.1	-164.47	74.7	-66.2	261.7	243.9	17.84	14.667	
4,206.0	4,197.2	4,196.9	4,196.9	9.7	9.3	-162.07	74.7	-66.2	267.9	249.6	18.25	14.679	
4,297.0	4,288.0	4,287.7	4,287.7	9.9	9.5	-159.66	74.7	-66.2	273.2	254.6	18.65	14.649	
4,388.0	4,378.9	4,378.6	4,378.6	10.2	9.7	-121.39	74.7	-66.2	276.7	257.6	19.05	14.522	
4,479.0	4,469.8	4,469.5	4,469.5	10.4	9.9	-139.13	74.7	-66.2	279.6	260.1	19.45	14.376	
4,570.0	4,560.6	4,560.3	4,560.3	10.6	10.1	-170.90	74.7	-66.2	284.6	264.8	19.83	14.355	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3413A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
4,661.0	4,651.4	4,651.1	4,651.1	10.8	10.3	-173.96	74.7	-66.2	290.5	270.3	20.23	14.362		
4,753.0	4,743.2	4,742.9	4,742.9	11.0	10.5	-159.41	74.7	-66.2	296.3	275.7	20.63	14.365		
4,844.0	4,834.0	4,833.8	4,833.8	11.2	10.7	-161.00	74.7	-66.2	301.7	280.7	21.03	14.344		
4,936.0	4,925.9	4,925.6	4,925.6	11.4	10.9	-165.16	74.7	-66.2	306.0	284.5	21.44	14.273		
5,027.0	5,016.9	5,016.6	5,016.6	11.6	11.1	-169.51	74.7	-66.2	309.5	287.6	21.83	14.174		
5,119.0	5,108.8	5,103.7	5,103.7	11.8	11.3	154.05	74.7	-66.2	311.5	289.3	22.22	14.021 SF		
5,210.0	5,199.7	5,169.9	5,169.7	12.0	11.5	-129.83	70.7	-67.6	319.2	296.6	22.53	14.168		
5,240.0	5,229.4	5,189.7	5,189.3	12.1	11.5	-130.17	68.0	-68.5	325.1	302.5	22.57	14.401		
5,271.0	5,259.7	5,209.1	5,208.4	12.2	11.5	-128.02	64.7	-69.7	333.4	310.8	22.62	14.743		
5,301.0	5,288.6	5,226.7	5,225.6	12.3	11.6	-122.15	61.1	-71.0	343.1	320.4	22.71	15.109		
5,331.0	5,317.1	5,250.0	5,248.1	12.4	11.6	-121.69	55.5	-73.0	354.3	331.5	22.79	15.546		
5,362.0	5,346.1	5,259.2	5,256.9	12.6	11.6	-122.93	53.0	-73.9	367.3	344.5	22.80	16.112		
5,393.0	5,374.4	5,273.7	5,270.7	12.7	11.7	-124.97	48.8	-75.3	382.7	360.0	22.76	16.818		
5,423.0	5,401.2	5,286.4	5,282.7	12.8	11.7	-127.17	44.8	-76.7	399.7	377.0	22.71	17.597		
5,453.0	5,427.3	5,300.0	5,295.4	13.0	11.7	-125.97	40.2	-78.4	418.3	395.5	22.77	18.368		
5,484.0	5,453.4	5,300.0	5,295.4	13.2	11.7	-120.32	40.2	-78.4	438.8	415.7	23.09	19.007		
5,514.0	5,477.6	5,317.1	5,311.2	13.4	11.7	-119.08	34.1	-80.6	459.6	436.4	23.23	19.784		
5,545.0	5,501.7	5,325.0	5,318.4	13.6	11.8	-115.98	31.0	-81.6	482.2	458.7	23.55	20.475		
5,575.0	5,524.1	5,331.6	5,324.4	13.8	11.8	-111.51	28.5	-82.5	504.9	480.9	24.00	21.037		
5,605.0	5,545.5	5,337.1	5,329.4	14.0	11.8	-110.52	26.2	-83.3	528.4	504.1	24.30	21.749		
5,636.0	5,566.3	5,350.0	5,340.9	14.3	11.8	-108.84	20.8	-85.2	554.0	529.3	24.70	22.426		
5,666.0	5,585.2	5,350.0	5,340.9	14.6	11.8	-106.20	20.8	-85.2	579.6	554.4	25.22	22.986		
5,697.0	5,603.3	5,350.0	5,340.9	14.9	11.8	-101.01	20.8	-85.2	607.0	581.0	25.95	23.388		
5,728.0	5,620.1	5,350.0	5,340.9	15.2	11.8	-96.39	20.8	-85.2	635.1	608.6	26.56	23.916		
5,758.0	5,635.0	5,350.0	5,340.9	15.5	11.8	-89.05	20.8	-85.2	662.8	635.7	27.07	24.482		
5,788.0	5,648.3	5,350.0	5,340.9	15.9	11.8	-79.61	20.8	-85.2	690.7	663.5	27.13	25.462		
5,819.0	5,660.0	5,350.0	5,340.9	16.2	11.8	-69.55	20.8	-85.2	719.5	693.1	26.43	27.222		
5,849.0	5,669.4	5,350.0	5,340.9	16.6	11.8	-60.31	20.8	-85.2	747.3	722.3	25.06	29.816		
5,880.0	5,676.9	5,350.0	5,340.9	17.0	11.8	-51.76	20.8	-85.2	775.8	752.6	23.19	33.459		
5,910.0	5,682.0	5,350.0	5,340.9	17.4	11.8	-45.54	20.8	-85.2	803.0	781.6	21.41	37.506		
5,940.0	5,685.0	5,350.0	5,340.9	17.8	11.8	-40.41	20.8	-85.2	829.8	810.0	19.82	41.857		
5,971.0	5,686.4	5,332.4	5,325.2	18.3	11.8	-35.18	28.1	-82.7	856.7	838.7	17.99	47.609		
6,002.0	5,686.7	5,327.7	5,320.8	18.7	11.8	-34.35	30.0	-82.0	883.5	865.6	17.90	49.372		
6,032.0	5,686.5	5,323.1	5,316.7	19.1	11.7	-34.29	31.8	-81.4	909.4	891.4	18.06	50.360		
6,054.0	5,686.0	5,319.8	5,313.6	19.5	11.7	-34.00	33.1	-80.9	928.4	910.2	18.11	51.271		
6,141.0	5,683.0	5,300.0	5,295.4	20.7	11.7	-33.84	40.2	-78.4	1,003.4	984.7	18.70	53.646		
6,236.0	5,680.4	5,300.0	5,295.4	22.1	11.7	-36.81	40.2	-78.4	1,086.6	1,065.7	20.89	52.016		
6,331.0	5,679.6	5,300.0	5,295.4	23.4	11.7	-38.60	40.2	-78.4	1,171.9	1,149.4	22.50	52.094		
6,426.0	5,680.2	5,275.6	5,272.5	24.8	11.7	-40.77	48.2	-75.5	1,257.8	1,233.4	24.45	51.435		
6,520.0	5,682.9	5,268.1	5,265.3	26.1	11.6	-40.40	50.5	-74.7	1,344.6	1,319.3	25.34	53.055		
6,615.0	5,686.0	5,250.0	5,248.1	27.6	11.6	-42.15	55.5	-73.0	1,433.2	1,406.1	27.07	52.950		
6,688.0	5,688.1	5,250.0	5,248.1	28.7	11.6	-40.19	55.5	-73.0	1,501.2	1,474.2	27.03	55.547		
6,783.0	5,689.7	5,250.0	5,248.1	30.3	11.6	-39.16	55.5	-73.0	1,590.2	1,562.6	27.61	57.592		
6,878.0	5,691.3	5,250.0	5,248.1	31.8	11.6	-41.35	55.5	-73.0	1,679.8	1,650.0	29.80	56.376		
6,973.0	5,692.7	5,250.0	5,248.1	33.4	11.6	-43.76	55.5	-73.0	1,769.4	1,737.5	31.94	55.392		
7,068.0	5,692.7	5,250.0	5,248.1	35.0	11.6	-36.69	55.5	-73.0	1,859.4	1,829.8	29.54	62.944		
7,162.0	5,692.7	5,229.6	5,228.4	36.5	11.6	-35.47	60.4	-71.2	1,948.8	1,918.8	30.00	64.952		
7,257.0	5,693.5	5,225.3	5,224.2	38.0	11.6	-31.03	61.4	-70.9	2,040.3	2,011.7	28.55	71.463		
7,352.0	5,693.6	5,221.1	5,220.1	39.6	11.6	-28.49	62.3	-70.6	2,132.0	2,104.0	27.98	76.206		
7,447.0	5,694.4	5,200.0	5,199.5	41.2	11.5	-43.31	66.3	-69.1	2,224.0	2,186.4	37.66	59.057		
7,542.0	5,697.1	5,200.0	5,199.5	42.8	11.5	-45.08	66.3	-69.1	2,315.6	2,275.7	39.91	58.017		
7,637.0	5,699.7	5,200.0	5,199.5	44.4	11.5	-46.49	66.3	-69.1	2,407.2	2,365.4	41.75	57.663		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3413A - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
7,731.0	5,700.2	5,200.0	5,199.5	46.0	11.5	-43.82	66.3	-69.1	2,497.4	2,456.1	41.27	60.518		
7,826.0	5,699.7	5,200.0	5,199.5	47.6	11.5	-47.10	66.3	-69.1	2,588.4	2,544.0	44.39	58.303		
7,921.0	5,700.2	5,200.0	5,199.5	49.2	11.5	-49.91	66.3	-69.1	2,679.6	2,632.1	47.45	56.467		
8,015.0	5,700.4	5,200.0	5,199.5	50.8	11.5	-44.76	66.3	-69.1	2,770.1	2,724.7	45.48	60.909		
8,110.0	5,699.2	5,200.0	5,199.5	52.5	11.5	-40.12	66.3	-69.1	2,861.9	2,818.2	43.72	65.458		
8,205.0	5,698.9	5,200.0	5,199.5	54.1	11.5	-51.05	66.3	-69.1	2,953.9	2,901.7	52.24	56.541		
8,300.0	5,698.7	5,200.0	5,199.5	55.7	11.5	-45.52	66.3	-69.1	3,045.8	2,995.9	49.86	61.093		
8,395.0	5,697.9	5,200.0	5,199.5	57.4	11.5	-47.28	66.3	-69.1	3,137.9	3,085.3	52.61	59.647		
8,489.0	5,697.9	5,200.0	5,199.5	58.9	11.5	-39.03	66.3	-69.1	3,229.7	3,181.7	48.02	67.250		
8,581.0	5,698.5	5,200.0	5,199.5	60.5	11.5	-40.15	66.3	-69.1	3,320.0	3,269.8	50.19	66.150		
8,673.0	5,699.9	5,200.0	5,199.5	62.1	11.5	-38.51	66.3	-69.1	3,410.6	3,360.5	50.13	68.036		
8,764.0	5,701.7	5,200.0	5,199.5	63.6	11.5	-40.82	66.3	-69.1	3,500.4	3,447.3	53.15	65.857		
8,856.0	5,701.9	5,200.0	5,199.5	65.3	11.5	-32.09	66.3	-69.1	3,591.0	3,544.4	46.61	77.040		
8,948.0	5,700.7	5,200.0	5,199.5	66.8	11.5	-31.92	66.3	-69.1	3,681.6	3,634.0	47.53	77.458		
9,039.0	5,699.4	5,177.8	5,177.5	68.4	11.5	-24.79	69.7	-67.9	3,770.7	3,728.6	42.11	89.538		
9,130.0	5,699.6	5,176.3	5,176.1	70.0	11.5	-45.51	69.9	-67.8	3,860.5	3,798.6	61.83	62.440		
9,221.0	5,702.5	5,175.2	5,175.0	71.6	11.5	-54.88	70.1	-67.8	3,950.3	3,879.6	70.65	55.912		
9,313.0	5,705.5	5,174.2	5,174.0	73.2	11.5	-54.08	70.2	-67.8	4,040.9	3,969.9	71.02	56.899		
9,405.0	5,707.2	5,173.1	5,172.9	74.8	11.5	-56.68	70.4	-67.7	4,131.1	4,056.9	74.18	55.686		
9,496.0	5,707.0	5,150.0	5,149.9	76.4	11.4	-38.45	72.8	-66.8	4,220.8	4,160.9	59.89	70.474		
9,588.0	5,705.5	5,150.0	5,149.9	78.0	11.4	-40.09	72.8	-66.8	4,311.1	4,248.4	62.78	68.674		
9,680.0	5,705.1	5,150.0	5,149.9	79.6	11.4	-40.82	72.8	-66.8	4,401.7	4,336.8	64.92	67.803		
9,771.0	5,706.4	5,150.0	5,149.9	81.2	11.4	-42.67	72.8	-66.8	4,491.7	4,423.5	68.21	65.847		
9,862.0	5,709.5	5,150.0	5,149.9	82.8	11.4	-42.07	72.8	-66.8	4,582.1	4,513.0	69.09	66.323		
9,953.0	5,711.5	5,150.0	5,149.9	84.4	11.4	-34.61	72.8	-66.8	4,672.3	4,610.4	61.95	75.417		
10,045.0	5,710.5	5,150.0	5,149.9	86.0	11.4	-38.14	72.8	-66.8	4,763.1	4,696.5	66.63	71.490		
10,158.0	5,708.8	5,150.0	5,149.9	88.0	11.4	-34.29	72.8	-66.8	4,874.6	4,810.6	63.99	76.181		
10,249.0	5,707.2	5,150.0	5,149.9	89.6	11.4	-32.21	72.8	-66.8	4,964.5	4,901.9	62.61	79.292		
10,340.0	5,705.5	5,150.0	5,149.9	91.2	11.4	-31.37	72.8	-66.8	5,054.4	4,991.6	62.81	80.475		
10,431.0	5,703.7	5,150.0	5,149.9	92.9	11.4	-31.68	72.8	-66.8	5,144.4	5,080.3	64.13	80.223		
10,523.0	5,701.6	5,150.0	5,149.9	94.5	11.4	-31.90	72.8	-66.8	5,235.3	5,169.9	65.43	80.017		
10,614.0	5,700.1	5,150.0	5,149.9	96.1	11.4	-28.71	72.8	-66.8	5,325.4	5,262.5	62.90	84.669		
10,706.0	5,700.4	5,150.0	5,149.9	97.7	11.4	-38.58	72.8	-66.8	5,416.8	5,340.7	76.11	71.169		
10,798.0	5,701.2	5,150.0	5,149.9	99.3	11.4	-10.07	72.8	-66.8	5,508.3	5,463.0	45.30	121.609		
10,890.0	5,701.8	5,150.0	5,149.9	101.0	11.4	-18.66	72.8	-66.8	5,599.9	5,545.8	54.03	103.635		
10,981.0	5,702.8	5,150.0	5,149.9	102.6	11.4	-34.04	72.8	-66.8	5,690.4	5,616.5	73.90	77.000		
11,073.0	5,705.3	5,150.0	5,149.9	104.2	11.4	-59.09	72.8	-66.8	5,781.9	5,678.3	103.64	55.789		
11,164.0	5,708.5	5,150.0	5,149.9	105.8	11.4	-53.74	72.8	-66.8	5,872.4	5,772.6	99.81	58.836		
11,256.0	5,712.3	5,150.0	5,149.9	107.4	11.4	-63.50	72.8	-66.8	5,963.9	5,853.3	110.58	53.931		
11,300.0	5,713.9	5,150.0	5,149.9	108.2	11.4	-52.12	72.8	-66.8	6,007.7	5,907.7	100.01	60.069		
11,400.0	5,716.9	5,150.0	5,149.9	110.0	11.4	-12.77	72.8	-66.8	6,107.3	6,054.7	52.62	116.071		
11,449.2	5,719.2	5,150.0	5,149.9	110.8	11.4	36.44	72.8	-66.8	6,156.5	6,074.0	82.43	74.688		
11,459.2	5,719.7	5,150.0	5,149.9	111.0	11.4	36.44	72.8	-66.8	6,166.5	6,083.9	82.55	74.701		
11,500.0	5,721.7	5,150.0	5,149.9	111.7	11.4	19.95	72.8	-66.8	6,207.2	6,145.5	61.66	100.670		
11,600.0	5,725.6	5,150.0	5,149.9	113.5	11.4	-13.68	72.8	-66.8	6,307.0	6,251.9	55.08	114.502		
11,700.0	5,727.9	5,150.0	5,149.9	115.3	11.4	-31.46	72.8	-66.8	6,406.7	6,327.9	78.90	81.204		
11,800.0	5,728.8	5,150.0	5,149.9	117.1	11.4	-40.67	72.8	-66.8	6,506.2	6,413.4	92.83	70.090		
11,860.2	5,728.5	5,150.0	5,149.9	118.2	11.4	-44.21	72.8	-66.8	6,565.9	6,467.7	98.20	66.864		
11,900.0	5,728.2	5,150.0	5,149.9	118.9	11.4	-44.21	72.8	-66.8	6,605.4	6,506.6	98.77	66.878		
12,000.0	5,727.3	5,150.0	5,149.9	120.7	11.4	-44.21	72.8	-66.8	6,704.5	6,604.3	100.19	66.918		
12,100.0	5,726.5	5,150.0	5,149.9	122.5	11.4	-44.21	72.8	-66.8	6,803.6	6,702.0	101.62	66.955		
12,200.0	5,725.7	5,150.0	5,149.9	124.3	11.4	-44.21	72.8	-66.8	6,902.8	6,799.8	103.04	66.990		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3413A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
12,300.0	5,724.8	5,150.0	5,149.9	126.1	11.4	-44.21	72.8	-66.8	7,002.0	6,897.5	104.47	67.022		
12,400.0	5,724.0	5,150.0	5,149.9	127.9	11.4	-44.21	72.8	-66.8	7,101.2	6,995.3	105.90	67.053		
12,500.0	5,723.1	5,150.0	5,149.9	129.7	11.4	-44.21	72.8	-66.8	7,200.5	7,093.1	107.34	67.082		
12,600.0	5,722.3	5,150.0	5,149.9	131.6	11.4	-44.21	72.8	-66.8	7,299.7	7,190.9	108.77	67.108		
12,700.0	5,721.4	5,150.0	5,149.9	133.4	11.4	-44.21	72.8	-66.8	7,399.0	7,288.8	110.21	67.133		
12,800.0	5,720.6	5,150.0	5,149.9	135.2	11.4	-44.21	72.8	-66.8	7,498.3	7,386.6	111.65	67.157		
12,900.0	5,719.8	5,150.0	5,149.9	137.0	11.4	-44.21	72.8	-66.8	7,597.6	7,484.5	113.10	67.179		
13,000.0	5,718.9	5,150.0	5,149.9	138.8	11.4	-44.21	72.8	-66.8	7,696.9	7,582.4	114.54	67.199		
13,100.0	5,718.1	5,150.0	5,149.9	140.7	11.4	-44.21	72.8	-66.8	7,796.3	7,680.3	115.98	67.218		
13,200.0	5,717.2	5,150.0	5,149.9	142.5	11.4	-44.21	72.8	-66.8	7,895.6	7,778.2	117.43	67.236		
13,300.0	5,716.4	5,150.0	5,149.9	144.3	11.4	-44.21	72.8	-66.8	7,995.0	7,876.1	118.88	67.253		
13,400.0	5,715.6	5,150.0	5,149.9	146.2	11.4	-44.21	72.8	-66.8	8,094.4	7,974.1	120.33	67.268		
13,465.4	5,715.0	5,150.0	5,149.9	147.2	11.4	-44.21	72.8	-66.8	8,159.4	8,038.3	121.10	67.378		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3414B - HZ - HZ													Offset Site Error: 0.0 ft	
Survey Program: 257-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-89.99	0.0	-32.9	32.9					
138.0	138.0	138.0	138.0	0.1	0.1	-63.90	-0.2	-32.9	32.4	32.1	0.28	114.878		
168.0	168.0	168.0	168.0	0.2	0.2	-78.40	-0.3	-32.8	32.3	31.9	0.38	85.885		
259.0	259.0	259.0	259.0	0.4	0.3	-73.63	-0.6	-32.6	31.7	31.1	0.67	47.642		
353.0	353.0	352.9	352.9	0.6	0.5	-78.47	-1.3	-32.6	31.4	30.3	1.07	29.363		
355.3	355.3	355.2	355.2	0.6	0.5	-80.74	-1.3	-32.6	31.4	30.3	1.08	29.103	CC, ES	
445.0	444.9	444.9	444.9	0.8	0.7	-134.44	-2.0	-32.6	32.5	31.0	1.45	22.405		
536.0	535.8	535.6	535.6	1.0	0.8	-157.57	-2.5	-32.9	36.9	35.0	1.84	20.010		
627.0	626.6	626.3	626.3	1.2	1.0	-167.99	-3.0	-33.3	43.8	41.6	2.23	19.610		
719.0	718.3	718.0	718.0	1.4	1.2	-167.75	-3.5	-33.7	51.3	48.6	2.63	19.495		
811.0	810.0	809.4	809.4	1.6	1.4	-173.38	-4.3	-34.1	59.5	56.4	3.03	19.616		
902.0	900.6	900.3	900.2	1.9	1.6	-169.27	-5.0	-34.5	67.9	64.4	3.41	19.888		
993.0	991.3	990.6	990.6	2.1	1.8	-158.48	-5.8	-34.8	75.8	72.1	3.79	20.019		
1,085.0	1,083.0	1,082.1	1,082.0	2.3	2.0	-160.32	-6.8	-35.4	84.5	80.3	4.18	20.195		
1,176.0	1,173.6	1,172.0	1,172.0	2.6	2.2	-167.83	-7.8	-36.3	93.7	89.2	4.57	20.533		
1,268.0	1,265.3	1,263.4	1,263.4	2.8	2.4	-162.58	-8.7	-37.6	102.5	97.5	4.95	20.716		
1,360.0	1,357.1	1,355.9	1,355.8	3.0	2.6	-165.52	-8.8	-39.3	110.2	104.9	5.33	20.673		
1,451.0	1,447.8	1,446.3	1,446.2	3.2	2.8	-176.34	-8.0	-41.2	117.6	111.9	5.71	20.588		
1,580.0	1,576.5	1,578.0	1,577.8	3.5	3.0	-179.07	-5.4	-43.3	127.3	121.0	6.27	20.316		
1,645.0	1,641.3	1,642.6	1,642.5	3.7	3.2	179.00	-3.8	-43.6	131.7	125.2	6.54	20.131		
1,736.0	1,732.1	1,735.6	1,735.4	3.9	3.4	-151.27	-1.6	-43.5	136.3	129.3	6.93	19.658		
1,827.0	1,822.9	1,827.9	1,827.7	4.1	3.5	-145.68	0.4	-41.4	137.8	130.5	7.31	18.848		
1,919.0	1,914.8	1,919.5	1,919.2	4.3	3.7	-166.09	2.8	-39.2	139.8	132.1	7.70	18.167		
2,011.0	2,006.6	2,010.8	2,010.5	4.6	3.9	-168.20	5.0	-37.5	143.0	134.9	8.09	17.678		
2,102.0	2,097.4	2,101.4	2,101.1	4.8	4.1	-166.94	7.0	-36.0	146.0	137.6	8.47	17.235		
2,194.0	2,189.3	2,193.0	2,192.6	5.0	4.3	-166.13	8.9	-34.6	149.0	140.1	8.86	16.810		
2,286.0	2,281.1	2,281.7	2,281.3	5.2	4.5	-164.83	9.8	-33.6	152.3	143.1	9.25	16.477		
2,377.0	2,372.0	2,371.1	2,370.7	5.4	4.7	176.60	8.5	-33.5	158.3	148.7	9.62	16.448		
2,468.0	2,462.8	2,462.0	2,461.6	5.6	4.9	176.32	7.2	-33.4	164.7	154.7	10.01	16.464		
2,559.0	2,553.6	2,553.1	2,552.7	5.8	5.1	-177.63	6.2	-33.4	170.8	160.4	10.39	16.447		
2,651.0	2,645.4	2,645.4	2,645.0	6.0	5.3	-173.15	5.0	-33.0	176.8	166.0	10.77	16.414		
2,742.0	2,736.3	2,736.3	2,735.9	6.3	5.5	-166.44	4.2	-32.6	182.5	171.3	11.15	16.366		
2,833.0	2,827.1	2,827.5	2,827.1	6.5	5.6	165.16	3.4	-32.2	188.2	176.7	11.53	16.317		
2,924.0	2,917.9	2,918.4	2,917.9	6.7	5.8	169.44	2.7	-31.5	193.6	181.6	11.92	16.244		
3,015.0	3,008.8	3,010.1	3,009.6	6.9	6.0	-162.06	2.3	-31.1	198.4	186.1	12.30	16.126		
3,107.0	3,100.7	3,105.2	3,104.7	7.1	6.2	-161.44	2.8	-30.2	201.9	189.2	12.70	15.902		
3,198.0	3,191.5	3,196.9	3,196.4	7.3	6.4	-177.98	4.2	-28.5	205.0	191.9	13.08	15.675		
3,290.0	3,283.3	3,286.5	3,285.9	7.5	6.6	-167.63	5.7	-27.4	209.2	195.7	13.46	15.538		
3,382.0	3,375.1	3,377.8	3,377.3	7.8	6.8	-161.11	7.6	-27.9	214.4	200.6	13.86	15.478		
3,474.0	3,466.9	3,465.8	3,465.3	8.0	7.0	176.64	8.9	-28.3	220.1	205.9	14.24	15.460	SF	
3,565.0	3,557.7	3,554.8	3,554.2	8.2	7.2	170.83	7.3	-28.8	227.3	212.7	14.62	15.548		
3,657.0	3,649.5	3,646.5	3,645.9	8.4	7.4	173.63	5.5	-29.0	234.4	219.4	15.00	15.622		
3,748.0	3,740.3	3,735.9	3,735.3	8.6	7.5	-173.92	3.5	-29.5	242.2	226.9	15.38	15.748		
3,840.0	3,832.1	3,827.2	3,826.5	8.8	7.7	-172.36	1.0	-30.1	250.6	234.8	15.78	15.885		
3,932.0	3,923.9	3,919.2	3,918.5	9.1	7.9	176.54	-1.3	-30.7	258.1	242.0	16.17	15.968		
4,024.0	4,015.7	4,011.7	4,011.0	9.3	8.1	-165.53	-3.5	-31.2	266.2	249.7	16.54	16.092		
4,115.0	4,106.4	4,102.9	4,102.2	9.5	8.3	176.94	-5.4	-31.4	274.8	257.8	16.93	16.229		
4,206.0	4,197.2	4,193.4	4,192.7	9.7	8.5	179.44	-7.7	-31.3	282.6	265.3	17.32	16.316		
4,297.0	4,288.0	4,286.4	4,285.7	9.9	8.7	-178.12	-9.8	-31.1	289.5	271.8	17.71	16.345		
4,388.0	4,378.9	4,378.5	4,377.7	10.2	8.9	-139.60	-10.3	-31.2	293.9	275.8	18.10	16.236		
4,479.0	4,469.8	4,468.5	4,467.7	10.4	9.1	-157.08	-10.5	-31.7	298.2	279.7	18.48	16.131		
4,570.0	4,560.6	4,558.0	4,557.2	10.6	9.3	171.49	-10.9	-32.4	304.5	285.6	18.86	16.146		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3414B - HZ - HZ													Offset Site Error: 0.0 ft	
Survey Program: 257-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
4,661.0	4,651.4	4,646.9	4,646.1	10.8	9.5	168.84	-11.5	-33.6	311.6	292.3	19.24	16.192		
4,753.0	4,743.2	4,737.5	4,736.7	11.0	9.6	-176.17	-12.3	-35.2	319.3	299.7	19.63	16.271		
4,844.0	4,834.0	4,828.6	4,827.8	11.2	9.8	-177.41	-13.5	-36.6	326.9	306.9	20.02	16.329		
4,936.0	4,925.9	4,920.7	4,919.8	11.4	10.0	178.67	-14.6	-37.9	333.0	312.6	20.41	16.317		
5,027.0	5,016.9	5,011.9	5,011.0	11.6	10.2	174.50	-15.7	-39.1	338.3	317.5	20.80	16.267		
5,119.0	5,108.8	5,092.8	5,091.9	11.8	10.4	138.03	-17.6	-40.0	342.6	321.4	21.15	16.195		
5,210.0	5,199.7	5,159.6	5,158.2	12.0	10.5	-146.08	-25.5	-40.0	354.0	332.5	21.47	16.488		
5,240.0	5,229.4	5,180.3	5,178.5	12.1	10.6	-146.55	-29.7	-39.7	361.3	339.8	21.47	16.826		
5,271.0	5,259.7	5,210.7	5,208.1	12.2	10.7	-144.92	-36.3	-39.0	370.9	349.4	21.47	17.276		
5,301.0	5,288.6	5,235.2	5,232.0	12.3	10.7	-139.26	-41.7	-38.2	381.5	360.0	21.50	17.747		
5,331.0	5,317.1	5,253.5	5,249.8	12.4	10.7	-138.27	-46.2	-37.6	393.3	371.8	21.52	18.276		
5,362.0	5,346.1	5,267.0	5,262.7	12.6	10.8	-139.96	-49.8	-37.0	407.3	385.9	21.40	19.033		
5,393.0	5,374.4	5,283.1	5,278.1	12.7	10.8	-142.39	-54.7	-36.2	423.7	402.5	21.19	19.993		
5,423.0	5,401.2	5,297.0	5,291.1	12.8	10.9	-144.98	-59.4	-35.5	441.6	420.6	21.01	21.022		
5,453.0	5,427.3	5,306.3	5,299.8	13.0	10.9	-143.50	-62.8	-35.1	461.2	440.3	20.90	22.067		
5,484.0	5,453.4	5,317.8	5,310.4	13.2	10.9	-138.98	-67.0	-34.5	482.9	461.9	20.96	23.032		
5,514.0	5,477.6	5,328.0	5,319.8	13.4	10.9	-137.07	-71.0	-34.1	505.1	484.1	20.93	24.131		
5,545.0	5,501.7	5,343.5	5,334.1	13.6	11.0	-134.58	-77.0	-33.4	529.0	507.9	21.08	25.094		
5,575.0	5,524.1	5,358.2	5,347.6	13.8	11.0	-130.80	-82.7	-32.8	552.8	531.5	21.36	25.886		
5,605.0	5,545.5	5,371.9	5,360.3	14.0	11.1	-131.36	-87.9	-32.3	577.4	556.1	21.33	27.074		
5,636.0	5,566.3	5,384.5	5,372.0	14.3	11.1	-130.49	-92.7	-31.8	603.9	582.5	21.41	28.203		
5,666.0	5,585.2	5,389.0	5,376.1	14.6	11.1	-129.59	-94.4	-31.6	630.5	608.9	21.62	29.163		
5,697.0	5,603.3	5,397.2	5,383.7	14.9	11.1	-127.57	-97.5	-31.2	658.9	636.8	22.03	29.906		
5,728.0	5,620.1	5,400.8	5,387.0	15.2	11.1	-124.50	-98.9	-31.1	688.0	665.2	22.73	30.266		
5,758.0	5,635.0	5,403.3	5,389.4	15.5	11.2	-117.09	-99.8	-31.0	716.6	692.4	24.16	29.659		
5,788.0	5,648.3	5,404.7	5,390.6	15.9	11.2	-104.53	-100.3	-30.9	745.6	719.5	26.06	28.605		
5,819.0	5,660.0	5,404.7	5,390.6	16.2	11.2	-87.47	-100.4	-30.9	775.7	748.6	27.17	28.547		
5,849.0	5,669.4	5,403.4	5,389.4	16.6	11.2	-69.69	-99.9	-31.0	804.9	778.8	26.12	30.815		
5,880.0	5,676.9	5,400.8	5,387.1	17.0	11.1	-53.78	-98.9	-31.1	835.0	811.8	23.21	35.976		
5,910.0	5,682.0	5,397.2	5,383.6	17.4	11.1	-43.37	-97.5	-31.2	863.8	843.5	20.30	42.544		
5,940.0	5,685.0	5,389.0	5,376.1	17.8	11.1	-35.26	-94.4	-31.6	892.2	874.6	17.65	50.551		
5,971.0	5,686.4	5,383.8	5,371.3	18.3	11.1	-30.30	-92.4	-31.8	921.2	905.3	15.87	58.043		
6,002.0	5,686.7	5,368.8	5,357.4	18.7	11.1	-28.99	-86.7	-32.4	949.8	934.2	15.54	61.102		
6,032.0	5,686.5	5,353.5	5,343.3	19.1	11.0	-28.79	-80.9	-33.0	977.2	961.5	15.61	62.591		
6,054.0	5,686.0	5,342.1	5,332.8	19.5	11.0	-28.29	-76.4	-33.5	997.1	981.6	15.55	64.131		
6,141.0	5,683.0	5,317.4	5,310.1	20.7	10.9	-28.95	-66.9	-34.5	1,075.3	1,058.9	16.39	65.616		
6,236.0	5,680.4	5,297.0	5,291.1	22.1	10.9	-31.20	-59.4	-35.5	1,161.5	1,143.3	18.20	63.829		
6,331.0	5,679.6	5,297.0	5,291.1	23.4	10.9	-33.40	-59.4	-35.5	1,249.0	1,229.1	19.91	62.736		
6,426.0	5,680.2	5,284.4	5,279.2	24.8	10.8	-37.18	-55.1	-36.2	1,337.3	1,314.8	22.50	59.425		
6,520.0	5,682.9	5,267.0	5,262.7	26.1	10.8	-36.19	-49.8	-37.0	1,426.0	1,403.0	23.07	61.823		
6,615.0	5,686.0	5,267.0	5,262.7	27.6	10.8	-40.02	-49.8	-37.0	1,515.9	1,490.2	25.67	59.052		
6,688.0	5,688.1	5,267.0	5,262.7	28.7	10.8	-37.75	-49.8	-37.0	1,585.1	1,559.6	25.47	62.236		
6,783.0	5,689.7	5,267.0	5,262.7	30.3	10.8	-36.63	-49.8	-37.0	1,675.5	1,649.5	25.97	64.509		
6,878.0	5,691.3	5,267.0	5,262.7	31.8	10.8	-39.15	-49.8	-37.0	1,766.3	1,738.0	28.27	62.472		
6,973.0	5,692.7	5,250.8	5,247.1	33.4	10.7	-41.09	-45.5	-37.7	1,856.8	1,826.6	30.13	61.616		
7,068.0	5,692.7	5,237.0	5,233.8	35.0	10.7	-32.50	-42.2	-38.2	1,947.6	1,920.7	26.87	72.495		
7,162.0	5,692.7	5,237.0	5,233.8	36.5	10.7	-32.31	-42.2	-38.2	2,038.0	2,010.2	27.86	73.155		
7,257.0	5,693.5	5,237.0	5,233.8	38.0	10.7	-27.51	-42.2	-38.2	2,130.1	2,103.9	26.21	81.278		
7,352.0	5,693.6	5,221.9	5,219.0	39.6	10.7	-24.53	-38.7	-38.6	2,222.4	2,197.0	25.37	87.597		
7,447.0	5,694.4	5,206.0	5,203.6	41.2	10.6	-41.46	-35.2	-39.1	2,314.5	2,278.4	36.09	64.129		
7,542.0	5,697.1	5,195.0	5,192.8	42.8	10.6	-42.62	-32.8	-39.4	2,406.6	2,368.6	37.96	63.404		
7,637.0	5,699.7	5,176.5	5,174.8	44.4	10.6	-43.32	-28.8	-39.8	2,498.5	2,459.2	39.33	63.535		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3414B - HZ - HZ													Offset Site Error: 0.0 ft	
Survey Program: 257-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
7,731.0	5,700.2	5,176.0	5,174.3	46.0	10.6	-40.77	-28.7	-39.8	2,589.0	2,550.2	38.84	66.662		
7,826.0	5,699.7	5,176.0	5,174.3	47.6	10.6	-44.30	-28.7	-39.8	2,680.3	2,638.2	42.10	63.661		
7,921.0	5,700.2	5,176.0	5,174.3	49.2	10.6	-47.12	-28.7	-39.8	2,771.8	2,726.7	45.13	61.416		
8,015.0	5,700.4	5,176.0	5,174.3	50.8	10.6	-41.88	-28.7	-39.8	2,862.6	2,819.5	43.02	66.543		
8,110.0	5,699.2	5,176.0	5,174.3	52.5	10.6	-36.95	-28.7	-39.8	2,954.5	2,913.6	40.98	72.099		
8,205.0	5,698.9	5,160.5	5,159.1	54.1	10.5	-47.52	-25.7	-40.0	3,046.4	2,997.1	49.26	61.845		
8,300.0	5,698.7	5,145.0	5,143.8	55.7	10.5	-41.31	-23.1	-40.1	3,138.6	3,092.5	46.16	67.994		
8,395.0	5,697.9	5,145.0	5,143.8	57.4	10.5	-42.82	-23.1	-40.1	3,230.7	3,182.0	48.70	66.335		
8,489.0	5,697.9	5,145.0	5,143.8	58.9	10.5	-34.01	-23.1	-40.1	3,322.5	3,279.0	43.45	76.476		
8,581.0	5,698.5	5,145.0	5,143.8	60.5	10.5	-34.77	-23.1	-40.1	3,412.8	3,367.5	45.25	75.420		
8,673.0	5,699.9	5,145.0	5,143.8	62.1	10.5	-32.75	-23.1	-40.1	3,503.4	3,458.6	44.77	78.248		
8,764.0	5,701.7	5,145.0	5,143.8	63.6	10.5	-35.20	-23.1	-40.1	3,593.1	3,545.2	47.84	75.099		
8,856.0	5,701.9	5,145.0	5,143.8	65.3	10.5	-27.31	-23.1	-40.1	3,683.6	3,641.7	41.95	87.801		
8,948.0	5,700.7	5,145.0	5,143.8	66.8	10.5	-27.08	-23.1	-40.1	3,774.1	3,731.3	42.74	88.294		
9,039.0	5,699.4	5,145.0	5,143.8	68.4	10.5	-20.94	-23.1	-40.1	3,863.7	3,825.1	38.57	100.167		
9,130.0	5,699.6	5,145.0	5,143.8	70.0	10.5	-41.84	-23.1	-40.1	3,953.4	3,895.4	58.04	68.117		
9,221.0	5,702.5	5,145.0	5,143.8	71.6	10.5	-51.32	-23.1	-40.1	4,043.3	3,976.1	67.23	60.146		
9,313.0	5,705.5	5,145.0	5,143.8	73.2	10.5	-51.35	-23.1	-40.1	4,134.0	4,065.8	68.16	60.652		
9,405.0	5,707.2	5,145.0	5,143.8	74.8	10.5	-54.30	-23.1	-40.1	4,224.3	4,152.6	71.64	58.965		
9,496.0	5,707.0	5,145.0	5,143.8	76.4	10.5	-36.70	-23.1	-40.1	4,313.6	4,255.9	57.66	74.816		
9,588.0	5,705.5	5,145.0	5,143.8	78.0	10.5	-38.33	-23.1	-40.1	4,404.0	4,343.5	60.50	72.793		
9,680.0	5,705.1	5,145.0	5,143.8	79.6	10.5	-38.88	-23.1	-40.1	4,494.7	4,432.3	62.44	71.987		
9,771.0	5,706.4	5,145.0	5,143.8	81.2	10.5	-40.47	-23.1	-40.1	4,584.8	4,519.3	65.45	70.052		
9,862.0	5,709.5	5,145.0	5,143.8	82.8	10.5	-39.17	-23.1	-40.1	4,675.2	4,609.6	65.57	71.297		
9,953.0	5,711.5	5,145.0	5,143.8	84.4	10.5	-32.41	-23.1	-40.1	4,765.5	4,706.4	59.12	80.613		
10,045.0	5,710.5	5,145.0	5,143.8	86.0	10.5	-36.36	-23.1	-40.1	4,856.4	4,792.2	64.19	75.656		
10,158.0	5,708.8	5,145.0	5,143.8	88.0	10.5	-32.22	-23.1	-40.1	4,968.0	4,906.8	61.21	81.161		
10,249.0	5,707.2	5,145.0	5,143.8	89.6	10.5	-30.20	-23.1	-40.1	5,057.9	4,998.0	59.89	84.456		
10,340.0	5,705.5	5,145.0	5,143.8	91.2	10.5	-29.20	-23.1	-40.1	5,147.9	5,088.0	59.89	85.961		
10,431.0	5,703.7	5,145.0	5,143.8	92.9	10.5	-29.65	-23.1	-40.1	5,237.9	5,176.6	61.31	85.427		
10,523.0	5,701.6	5,145.0	5,143.8	94.5	10.5	-29.89	-23.1	-40.1	5,328.9	5,266.3	62.62	85.099		
10,614.0	5,700.1	5,145.0	5,143.8	96.1	10.5	-26.21	-23.1	-40.1	5,419.1	5,359.5	59.55	91.004		
10,706.0	5,700.4	5,145.0	5,143.8	97.7	10.5	-36.22	-23.1	-40.1	5,510.5	5,437.7	72.75	75.748		
10,798.0	5,701.2	5,145.0	5,143.8	99.3	10.5	-6.46	-23.1	-40.1	5,602.0	5,558.8	43.23	129.599		
10,890.0	5,701.8	5,145.0	5,143.8	101.0	10.5	-15.21	-23.1	-40.1	5,693.6	5,643.3	50.24	113.319		
10,981.0	5,702.8	5,145.0	5,143.8	102.6	10.5	-31.35	-23.1	-40.1	5,784.2	5,714.2	70.00	82.625		
11,073.0	5,705.3	5,145.0	5,143.8	104.2	10.5	-57.62	-23.1	-40.1	5,875.7	5,774.2	101.51	57.882		
11,164.0	5,708.5	5,145.0	5,143.8	105.8	10.5	-52.11	-23.1	-40.1	5,966.2	5,868.9	97.37	61.273		
11,256.0	5,712.3	5,145.0	5,143.8	107.4	10.5	-62.15	-23.1	-40.1	6,057.8	5,949.2	108.65	55.758		
11,300.0	5,713.9	5,145.0	5,143.8	108.2	10.5	-50.62	-23.1	-40.1	6,101.6	6,003.9	97.64	62.488		
11,400.0	5,716.9	5,145.0	5,143.8	110.0	10.5	-6.92	-23.1	-40.1	6,201.2	6,153.1	48.11	128.894		
11,449.2	5,719.2	5,145.0	5,143.8	110.8	10.5	41.37	-23.1	-40.1	6,250.4	6,162.3	88.11	70.939		
11,459.2	5,719.7	5,145.0	5,143.8	111.0	10.5	41.37	-23.1	-40.1	6,260.4	6,172.2	88.24	70.949		
11,500.0	5,721.7	5,145.0	5,143.8	111.7	10.5	25.81	-23.1	-40.1	6,301.1	6,232.4	68.65	91.785		
11,600.0	5,725.6	5,145.0	5,143.8	113.5	10.5	-8.89	-23.1	-40.1	6,400.9	6,350.2	50.76	126.113		
11,700.0	5,727.9	5,145.0	5,143.8	115.3	10.5	-28.56	-23.1	-40.1	6,500.7	6,426.3	74.38	87.393		
11,800.0	5,728.8	5,145.0	5,143.8	117.1	10.5	-38.81	-23.1	-40.1	6,600.2	6,510.5	89.68	73.598		
11,860.2	5,728.5	5,145.0	5,143.8	118.2	10.5	-42.71	-23.1	-40.1	6,659.9	6,564.4	95.57	69.685		
11,900.0	5,728.2	5,145.0	5,143.8	118.9	10.5	-42.71	-23.1	-40.1	6,699.4	6,603.3	96.13	69.691		
12,000.0	5,727.3	5,145.0	5,143.8	120.7	10.5	-42.71	-23.1	-40.1	6,798.6	6,701.0	97.52	69.711		
12,100.0	5,726.5	5,145.0	5,143.8	122.5	10.5	-42.71	-23.1	-40.1	6,897.8	6,798.8	98.92	69.729		
12,200.0	5,725.7	5,145.0	5,143.8	124.3	10.5	-42.71	-23.1	-40.1	6,997.0	6,896.6	100.32	69.746		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3414B - HZ - HZ													Offset Site Error:	0.0 ft
Survey Program: 257-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
12,300.0	5,724.8	5,145.0	5,143.8	126.1	10.5	-42.71	-23.1	-40.1	7,096.2	6,994.5	101.72	69.760		
12,400.0	5,724.0	5,145.0	5,143.8	127.9	10.5	-42.71	-23.1	-40.1	7,195.5	7,092.3	103.13	69.773		
12,500.0	5,723.1	5,145.0	5,143.8	129.7	10.5	-42.71	-23.1	-40.1	7,294.7	7,190.2	104.53	69.784		
12,600.0	5,722.3	5,145.0	5,143.8	131.6	10.5	-42.71	-23.1	-40.1	7,394.0	7,288.1	105.94	69.794		
12,700.0	5,721.4	5,145.0	5,143.8	133.4	10.5	-42.71	-23.1	-40.1	7,493.3	7,386.0	107.35	69.803		
12,800.0	5,720.6	5,102.6	5,101.7	135.2	10.4	-40.90	-18.4	-40.1	7,591.2	7,485.4	105.85	71.715		
12,900.0	5,719.8	5,101.9	5,100.9	137.0	10.4	-40.87	-18.3	-40.1	7,690.5	7,583.3	107.18	71.753		
13,000.0	5,718.9	5,101.2	5,100.2	138.8	10.4	-40.84	-18.2	-40.1	7,789.8	7,681.3	108.51	71.788		
13,100.0	5,718.1	5,100.5	5,099.5	140.7	10.4	-40.81	-18.2	-40.1	7,889.2	7,779.3	109.84	71.822		
13,200.0	5,717.2	5,099.8	5,098.9	142.5	10.4	-40.78	-18.1	-40.1	7,988.5	7,877.3	111.18	71.854		
13,300.0	5,716.4	5,099.1	5,098.2	144.3	10.4	-40.75	-18.1	-40.1	8,087.9	7,975.4	112.51	71.885		
13,400.0	5,715.6	5,098.5	5,097.6	146.2	10.4	-40.72	-18.0	-40.1	8,187.2	8,073.4	113.85	71.914		
13,465.4	5,715.0	5,098.1	5,097.2	147.2	10.4	-40.71	-18.0	-40.1	8,252.3	8,137.7	114.54	72.046		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3415A - HZ - Plan #3												Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	-0.3	-0.3	0.0	0.0	0.00	74.7	0.0	74.7				
138.0	138.0	137.7	137.7	0.1	0.2	28.25	74.7	0.0	73.8	73.5	0.32	232.649	
168.0	168.0	167.7	167.7	0.2	0.2	14.66	74.7	0.0	73.5	73.0	0.45	164.866	
259.0	259.0	258.7	258.7	0.4	0.5	22.94	74.7	0.0	72.1	71.3	0.84	85.701	
353.0	353.0	352.7	352.7	0.6	0.7	22.98	74.7	0.0	70.5	69.3	1.25	56.590	
445.0	444.9	444.6	444.6	0.8	0.9	-28.68	74.7	0.0	68.5	66.8	1.65	41.586	
536.0	535.8	535.5	535.5	1.0	1.1	-50.08	74.7	0.0	65.0	63.0	2.05	31.675	
627.0	626.6	626.3	626.3	1.2	1.3	-62.29	74.7	0.0	61.3	58.8	2.46	24.902	
719.0	718.3	718.0	718.0	1.4	1.5	-65.97	74.7	0.0	58.2	55.3	2.89	20.172	
811.0	810.0	809.7	809.7	1.6	1.7	-77.02	74.7	0.0	55.8	52.5	3.32	16.786	
902.0	900.6	900.4	900.4	1.9	1.9	-79.33	74.7	0.0	54.2	50.4	3.76	14.427	
993.0	991.3	991.0	991.0	2.1	2.1	-74.47	74.7	0.0	52.5	48.3	4.19	12.539	
1,085.0	1,083.0	1,082.7	1,082.7	2.3	2.3	-82.75	74.7	0.0	50.9	46.2	4.63	10.981	
1,128.8	1,126.5	1,126.3	1,126.3	2.4	2.4	-90.00	74.7	0.0	50.6	45.8	4.84	10.450	CC, ES
1,176.0	1,173.6	1,173.3	1,173.3	2.6	2.5	-97.86	74.7	0.0	50.9	45.8	5.07	10.045	
1,268.0	1,265.3	1,265.0	1,265.0	2.8	2.7	-99.59	74.7	0.0	52.0	46.6	5.48	9.496	
1,360.0	1,357.1	1,356.8	1,356.8	3.0	2.9	-108.87	74.7	0.0	53.7	47.8	5.89	9.112	
1,451.0	1,447.8	1,447.5	1,447.5	3.2	3.1	-125.97	74.7	0.0	56.6	50.3	6.29	8.999	SF
1,580.0	1,576.5	1,576.2	1,576.2	3.5	3.4	-136.82	74.7	0.0	62.9	56.0	6.85	9.181	
1,645.0	1,641.3	1,641.0	1,641.0	3.7	3.6	-142.31	74.7	0.0	66.7	59.6	7.13	9.359	
1,736.0	1,732.1	1,731.8	1,731.8	3.9	3.8	-116.54	74.7	0.0	70.7	63.1	7.52	9.397	
1,827.0	1,822.9	1,822.7	1,822.7	4.1	4.0	-113.77	74.7	0.0	72.9	65.0	7.90	9.221	
1,919.0	1,914.8	1,914.5	1,914.5	4.3	4.2	-137.01	74.7	0.0	76.2	67.9	8.29	9.189	
2,011.0	2,006.6	2,006.3	2,006.3	4.6	4.4	-141.78	74.7	0.0	80.8	72.1	8.69	9.299	
2,102.0	2,097.4	2,097.1	2,097.1	4.8	4.6	-142.73	74.7	0.0	85.2	76.1	9.07	9.388	
2,194.0	2,189.3	2,189.0	2,189.0	5.0	4.8	-143.81	74.7	0.0	89.4	79.9	9.46	9.449	
2,286.0	2,281.1	2,280.8	2,280.8	5.2	5.0	-143.92	74.7	0.0	93.4	83.5	9.85	9.474	
2,377.0	2,372.0	2,371.7	2,371.7	5.4	5.2	-163.27	74.7	0.0	98.2	88.0	10.24	9.589	
2,468.0	2,462.8	2,462.5	2,462.5	5.6	5.4	-164.20	74.7	0.0	103.8	93.1	10.64	9.756	
2,559.0	2,553.6	2,553.3	2,553.3	5.8	5.6	-158.83	74.7	0.0	108.9	97.9	11.03	9.880	
2,651.0	2,645.4	2,645.2	2,645.2	6.0	5.8	-154.95	74.7	0.0	114.1	102.7	11.42	9.989	
2,742.0	2,736.3	2,736.0	2,736.0	6.3	6.0	-148.94	74.7	0.0	119.1	107.3	11.82	10.076	
2,833.0	2,827.1	2,826.8	2,826.8	6.5	6.2	-177.83	74.7	0.0	124.4	112.2	12.21	10.189	
2,924.0	2,917.9	2,917.6	2,917.6	6.7	6.4	-173.80	74.7	0.0	129.9	117.3	12.60	10.309	
3,015.0	3,008.8	3,008.5	3,008.5	6.9	6.6	-145.78	74.7	0.0	134.6	121.6	13.00	10.350	
3,107.0	3,100.7	3,100.4	3,100.4	7.1	6.8	-145.80	74.7	0.0	138.5	125.1	13.40	10.335	
3,198.0	3,191.5	3,191.2	3,191.2	7.3	7.0	-162.99	74.7	0.0	143.4	129.6	13.79	10.398	
3,290.0	3,283.3	3,283.0	3,283.0	7.5	7.2	-153.46	74.7	0.0	149.0	134.8	14.19	10.500	
3,382.0	3,375.1	3,374.8	3,374.8	7.8	7.5	-148.11	74.7	0.0	154.5	139.9	14.59	10.591	
3,474.0	3,466.9	3,466.6	3,466.6	8.0	7.7	-171.27	74.7	0.0	160.3	145.3	14.99	10.697	
3,565.0	3,557.7	3,557.4	3,557.4	8.2	7.9	-177.19	74.7	0.0	166.1	150.7	15.38	10.796	
3,657.0	3,649.5	3,649.2	3,649.2	8.4	8.1	-174.43	74.7	0.0	171.9	156.1	15.78	10.892	
3,748.0	3,740.3	3,740.0	3,740.0	8.6	8.3	-162.12	74.7	0.0	178.0	161.8	16.18	11.003	
3,840.0	3,832.1	3,831.8	3,831.8	8.8	8.5	-160.67	74.7	0.0	184.0	167.4	16.58	11.095	
3,932.0	3,923.9	3,923.6	3,923.6	9.1	8.7	-171.81	74.7	0.0	189.4	172.5	16.99	11.152	
4,024.0	4,015.7	4,015.4	4,015.4	9.3	8.9	-154.05	74.7	0.0	195.4	178.1	17.38	11.246	
4,115.0	4,106.4	4,106.1	4,106.1	9.5	9.1	-171.71	74.7	0.0	202.3	184.5	17.77	11.379	
4,206.0	4,197.2	4,196.9	4,196.9	9.7	9.3	-169.21	74.7	0.0	208.6	190.4	18.18	11.474	
4,297.0	4,288.0	4,287.7	4,287.7	9.9	9.5	-166.72	74.7	0.0	214.1	195.5	18.58	11.523	
4,388.0	4,378.9	4,378.6	4,378.6	10.2	9.7	-128.46	74.7	0.0	217.9	198.9	18.98	11.476	
4,479.0	4,469.8	4,469.5	4,469.5	10.4	9.9	-146.29	74.7	0.0	221.1	201.7	19.38	11.412	
4,570.0	4,560.6	4,560.3	4,560.3	10.6	10.1	-178.01	74.7	0.0	226.4	206.7	19.76	11.459	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3415A - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
4,661.0	4,651.4	4,651.1	4,651.1	10.8	10.3	179.06	74.7	0.0	232.4	212.2	20.16	11.525		
4,753.0	4,743.2	4,742.9	4,742.9	11.0	10.5	-166.28	74.7	0.0	238.3	217.7	20.56	11.590		
4,844.0	4,834.0	4,833.8	4,833.8	11.2	10.7	-167.80	74.7	0.0	243.9	222.9	20.97	11.631		
4,936.0	4,925.9	4,925.6	4,925.6	11.4	10.9	-171.90	74.7	0.0	248.3	226.9	21.37	11.617		
5,027.0	5,016.9	5,016.6	5,016.6	11.6	11.1	-176.19	74.7	0.0	251.8	230.1	21.77	11.568		
5,119.0	5,108.8	5,108.5	5,108.5	11.8	11.4	147.43	74.7	0.0	253.8	231.7	22.16	11.453		
5,210.0	5,199.7	5,189.9	5,189.5	12.0	11.5	-137.59	68.8	2.2	259.1	236.6	22.48	11.525		
5,240.0	5,229.4	5,215.2	5,214.4	12.1	11.5	-138.92	64.6	3.9	263.6	241.1	22.49	11.718		
5,271.0	5,259.7	5,239.8	5,238.4	12.2	11.6	-137.92	59.4	5.8	270.5	248.0	22.49	12.030		
5,301.0	5,288.6	5,261.8	5,259.6	12.3	11.6	-133.22	53.8	8.0	279.0	256.5	22.52	12.389		
5,331.0	5,317.1	5,282.2	5,279.0	12.4	11.7	-133.33	47.9	10.2	289.0	266.5	22.53	12.825		
5,362.0	5,346.1	5,300.0	5,295.7	12.6	11.7	-136.17	42.2	12.4	301.4	279.0	22.41	13.451		
5,393.0	5,374.4	5,318.5	5,312.9	12.7	11.7	-139.65	35.7	14.8	316.4	294.3	22.18	14.270		
5,423.0	5,401.2	5,333.4	5,326.5	12.8	11.8	-142.99	30.1	17.0	333.3	311.3	21.96	15.180		
5,453.0	5,427.3	5,350.0	5,341.5	13.0	11.8	-143.03	23.4	19.5	352.1	330.3	21.78	16.165		
5,484.0	5,453.4	5,358.5	5,349.0	13.2	11.8	-138.80	19.8	20.9	373.1	351.3	21.81	17.105		
5,514.0	5,477.6	5,368.1	5,357.5	13.4	11.8	-137.40	15.6	22.5	395.0	373.3	21.72	18.188		
5,545.0	5,501.7	5,376.5	5,364.8	13.6	11.9	-134.53	11.8	24.0	419.0	397.1	21.88	19.147		
5,575.0	5,524.1	5,383.1	5,370.6	13.8	11.9	-129.97	8.7	25.1	443.1	420.9	22.22	19.940		
5,605.0	5,545.5	5,388.4	5,375.2	14.0	11.9	-129.57	6.2	26.1	468.3	446.0	22.29	21.007		
5,636.0	5,566.3	5,400.0	5,385.1	14.3	11.9	-128.84	0.5	28.2	495.7	473.3	22.37	22.158		
5,666.0	5,585.2	5,400.0	5,385.1	14.6	11.9	-126.68	0.5	28.2	522.9	500.2	22.77	22.962		
5,697.0	5,603.3	5,400.0	5,385.1	14.9	11.9	-121.64	0.5	28.2	552.0	528.3	23.68	23.309		
5,728.0	5,620.1	5,400.0	5,385.1	15.2	11.9	-116.03	0.5	28.2	581.7	556.9	24.76	23.490		
5,758.0	5,635.0	5,400.0	5,385.1	15.5	11.9	-104.85	0.5	28.2	610.8	584.4	26.41	23.129		
5,788.0	5,648.3	5,400.0	5,385.1	15.9	11.9	-88.00	0.5	28.2	640.1	612.5	27.53	23.250		
5,819.0	5,660.0	5,400.0	5,385.1	16.2	11.9	-69.14	0.5	28.2	670.4	643.9	26.48	25.317		
5,849.0	5,669.4	5,400.0	5,385.1	16.6	11.9	-53.52	0.5	28.2	699.6	676.0	23.64	29.597		
5,880.0	5,676.9	5,400.0	5,385.1	17.0	11.9	-40.96	0.5	28.2	729.6	709.5	20.10	36.296		
5,910.0	5,682.0	5,400.0	5,385.1	17.4	11.9	-34.05	0.5	28.2	758.2	740.6	17.62	43.035		
5,940.0	5,685.0	5,382.6	5,370.2	17.8	11.9	-27.49	8.9	25.1	786.0	770.9	15.15	51.886		
5,971.0	5,686.4	5,377.2	5,365.5	18.3	11.9	-24.09	11.4	24.1	814.5	800.7	13.78	59.097		
6,002.0	5,686.7	5,371.5	5,360.5	18.7	11.8	-23.77	14.0	23.1	842.6	828.8	13.81	61.034		
6,032.0	5,686.5	5,366.0	5,355.7	19.1	11.8	-24.42	16.5	22.2	869.8	855.6	14.20	61.268		
6,054.0	5,686.0	5,350.0	5,341.5	19.5	11.8	-24.19	23.4	19.5	889.8	875.5	14.22	62.559		
6,141.0	5,683.0	5,350.0	5,341.5	20.7	11.8	-26.14	23.4	19.5	967.8	952.2	15.57	62.141		
6,236.0	5,680.4	5,331.6	5,324.9	22.1	11.8	-28.65	30.8	16.7	1,054.1	1,036.6	17.51	60.196		
6,331.0	5,679.6	5,318.7	5,313.0	23.4	11.7	-30.43	35.7	14.9	1,141.7	1,122.6	19.04	59.970		
6,426.0	5,680.2	5,300.0	5,295.7	24.8	11.7	-33.92	42.2	12.4	1,230.2	1,208.7	21.56	57.070		
6,520.0	5,682.9	5,300.0	5,295.7	26.1	11.7	-33.93	42.2	12.4	1,318.9	1,296.3	22.54	58.517		
6,615.0	5,686.0	5,300.0	5,295.7	27.6	11.7	-38.04	42.2	12.4	1,409.1	1,383.8	25.32	55.653		
6,688.0	5,688.1	5,300.0	5,295.7	28.7	11.7	-35.69	42.2	12.4	1,478.6	1,453.6	25.00	59.138		
6,783.0	5,689.7	5,275.7	5,272.8	30.3	11.7	-33.33	49.9	9.4	1,568.7	1,543.9	24.81	63.219		
6,878.0	5,691.3	5,268.7	5,266.2	31.8	11.6	-35.46	51.9	8.7	1,659.4	1,632.5	26.92	61.640		
6,973.0	5,692.7	5,250.0	5,248.3	33.4	11.6	-37.68	56.9	6.8	1,750.3	1,721.3	28.94	60.484		
7,068.0	5,692.7	5,250.0	5,248.3	35.0	11.6	-29.79	56.9	6.8	1,841.0	1,815.2	25.80	71.342		
7,162.0	5,692.7	5,250.0	5,248.3	36.5	11.6	-29.38	56.9	6.8	1,931.4	1,904.8	26.64	72.509		
7,257.0	5,693.5	5,250.0	5,248.3	38.0	11.6	-24.40	56.9	6.8	2,023.6	1,998.8	24.79	81.640		
7,352.0	5,693.6	5,250.0	5,248.3	39.6	11.6	-22.16	56.9	6.8	2,116.0	2,091.6	24.33	86.977		
7,447.0	5,694.4	5,250.0	5,248.3	41.2	11.6	-40.94	56.9	6.8	2,208.3	2,171.9	36.40	60.676		
7,542.0	5,697.1	5,250.0	5,248.3	42.8	11.6	-42.93	56.9	6.8	2,300.8	2,262.0	38.77	59.339		
7,637.0	5,699.7	5,228.1	5,227.0	44.4	11.6	-43.49	62.0	4.8	2,392.8	2,352.7	40.08	59.704		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3415A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
7,731.0	5,700.2	5,224.3	5,223.4	46.0	11.6	-40.59	62.8	4.5	2,483.7	2,444.3	39.34	63.140		
7,826.0	5,699.7	5,220.5	5,219.6	47.6	11.6	-44.15	63.5	4.3	2,575.3	2,532.7	42.66	60.364		
7,921.0	5,700.2	5,200.0	5,199.5	49.2	11.5	-45.94	67.2	2.8	2,667.5	2,622.4	45.08	59.169		
8,015.0	5,700.4	5,200.0	5,199.5	50.8	11.5	-40.56	67.2	2.8	2,758.5	2,715.8	42.74	64.544		
8,110.0	5,699.2	5,200.0	5,199.5	52.5	11.5	-35.39	67.2	2.8	2,850.6	2,810.2	40.40	70.558		
8,205.0	5,698.9	5,200.0	5,199.5	54.1	11.5	-47.31	67.2	2.8	2,943.0	2,893.2	49.87	59.019		
8,300.0	5,698.7	5,200.0	5,199.5	55.7	11.5	-41.56	67.2	2.8	3,035.3	2,988.3	47.04	64.528		
8,395.0	5,697.9	5,200.0	5,199.5	57.4	11.5	-43.19	67.2	2.8	3,127.8	3,078.1	49.70	62.936		
8,489.0	5,697.9	5,200.0	5,199.5	58.9	11.5	-33.68	67.2	2.8	3,219.8	3,176.1	43.77	73.562		
8,581.0	5,698.5	5,200.0	5,199.5	60.5	11.5	-34.48	67.2	2.8	3,310.4	3,264.8	45.62	72.563		
8,673.0	5,699.9	5,200.0	5,199.5	62.1	11.5	-32.24	67.2	2.8	3,401.2	3,356.3	44.91	75.727		
8,764.0	5,701.7	5,200.0	5,199.5	63.6	11.5	-34.94	67.2	2.8	3,491.2	3,442.9	48.24	72.372		
8,856.0	5,701.9	5,200.0	5,199.5	65.3	11.5	-26.42	67.2	2.8	3,581.9	3,540.3	41.66	85.980		
8,948.0	5,700.7	5,200.0	5,199.5	66.8	11.5	-26.15	67.2	2.8	3,672.6	3,630.2	42.40	86.610		
9,039.0	5,699.4	5,200.0	5,199.5	68.4	11.5	-19.46	67.2	2.8	3,762.4	3,724.8	37.68	99.859		
9,130.0	5,699.6	5,200.0	5,199.5	70.0	11.5	-42.25	67.2	2.8	3,852.4	3,793.3	59.11	65.177		
9,221.0	5,702.5	5,200.0	5,199.5	71.6	11.5	-52.71	67.2	2.8	3,942.5	3,873.3	69.11	57.042		
9,313.0	5,705.5	5,200.0	5,199.5	73.2	11.5	-52.41	67.2	2.8	4,033.3	3,963.5	69.82	57.767		
9,405.0	5,707.2	5,200.0	5,199.5	74.8	11.5	-55.48	67.2	2.8	4,123.8	4,050.4	73.38	56.196		
9,496.0	5,707.0	5,200.0	5,199.5	76.4	11.5	-36.62	67.2	2.8	4,213.3	4,155.1	58.21	72.385		
9,588.0	5,705.5	5,200.0	5,199.5	78.0	11.5	-38.38	67.2	2.8	4,304.0	4,242.8	61.20	70.326		
9,680.0	5,705.1	5,200.0	5,199.5	79.6	11.5	-38.98	67.2	2.8	4,394.9	4,331.7	63.20	69.537		
9,771.0	5,706.4	5,177.0	5,176.8	81.2	11.5	-39.28	70.5	1.6	4,484.6	4,419.7	64.89	69.115		
9,862.0	5,709.5	5,176.1	5,175.9	82.8	11.5	-37.41	70.6	1.5	4,575.1	4,510.7	64.36	71.088		
9,953.0	5,711.5	5,175.1	5,174.9	84.4	11.5	-30.86	70.7	1.5	4,665.5	4,607.5	57.94	80.520		
10,045.0	5,710.5	5,173.8	5,173.6	86.0	11.5	-35.18	70.9	1.4	4,756.4	4,693.0	63.46	74.949		
10,158.0	5,708.8	5,150.0	5,150.0	88.0	11.4	-29.80	73.2	0.6	4,868.6	4,809.7	58.94	82.602		
10,249.0	5,707.2	5,150.0	5,150.0	89.6	11.4	-27.89	73.2	0.6	4,958.6	4,900.9	57.68	85.972		
10,340.0	5,705.5	5,150.0	5,150.0	91.2	11.4	-26.72	73.2	0.6	5,048.6	4,991.2	57.44	87.902		
10,431.0	5,703.7	5,150.0	5,150.0	92.9	11.4	-27.31	73.2	0.6	5,138.7	5,079.7	59.00	87.101		
10,523.0	5,701.6	5,150.0	5,150.0	94.5	11.4	-27.60	73.2	0.6	5,229.7	5,169.4	60.31	86.714		
10,614.0	5,700.1	5,150.0	5,150.0	96.1	11.4	-23.40	73.2	0.6	5,319.9	5,263.3	56.60	93.998		
10,706.0	5,700.4	5,150.0	5,150.0	97.7	11.4	-33.37	73.2	0.6	5,411.3	5,341.5	69.77	77.561		
10,798.0	5,701.2	5,150.0	5,150.0	99.3	11.4	-2.79	73.2	0.6	5,502.8	5,460.7	42.10	130.704		
10,890.0	5,701.8	5,150.0	5,150.0	101.0	11.4	-11.53	73.2	0.6	5,594.4	5,547.4	47.08	118.829		
10,981.0	5,702.8	5,150.0	5,150.0	102.6	11.4	-28.20	73.2	0.6	5,685.0	5,618.6	66.42	85.598		
11,073.0	5,705.3	5,150.0	5,150.0	104.2	11.4	-55.52	73.2	0.6	5,776.6	5,676.4	100.28	57.607		
11,164.0	5,708.5	5,150.0	5,150.0	105.8	11.4	-49.92	73.2	0.6	5,867.2	5,771.5	95.70	61.308		
11,256.0	5,712.3	5,150.0	5,150.0	107.4	11.4	-60.09	73.2	0.6	5,958.8	5,851.1	107.67	55.345		
11,300.0	5,713.9	5,150.0	5,150.0	108.2	11.4	-48.64	73.2	0.6	6,002.6	5,906.5	96.09	62.469		
11,400.0	5,716.9	5,150.0	5,150.0	110.0	11.4	-0.73	73.2	0.6	6,102.2	6,055.8	46.43	131.425		
11,449.2	5,719.2	5,150.0	5,150.0	110.8	11.4	45.22	73.2	0.6	6,151.4	6,058.0	93.38	65.874		
11,459.2	5,719.7	5,150.0	5,150.0	111.0	11.4	45.22	73.2	0.6	6,161.4	6,067.9	93.52	65.886		
11,500.0	5,721.7	5,150.0	5,150.0	111.7	11.4	30.86	73.2	0.6	6,202.1	6,126.5	75.65	81.986		
11,600.0	5,725.6	5,150.0	5,150.0	113.5	11.4	-3.79	73.2	0.6	6,301.9	6,253.6	48.35	130.350		
11,700.0	5,727.9	5,150.0	5,150.0	115.3	11.4	-25.19	73.2	0.6	6,401.7	6,331.6	70.07	91.359		
11,800.0	5,728.8	5,150.0	5,150.0	117.1	11.4	-36.57	73.2	0.6	6,501.2	6,414.2	87.07	74.663		
11,860.2	5,728.5	5,150.0	5,150.0	118.2	11.4	-40.90	73.2	0.6	6,561.0	6,467.3	93.69	70.031		
11,900.0	5,728.2	5,150.0	5,150.0	118.9	11.4	-40.90	73.2	0.6	6,600.5	6,506.3	94.23	70.045		
12,000.0	5,727.3	5,150.0	5,150.0	120.7	11.4	-40.90	73.2	0.6	6,699.7	6,604.1	95.59	70.086		
12,100.0	5,726.5	5,150.0	5,150.0	122.5	11.4	-40.90	73.2	0.6	6,798.9	6,702.0	96.95	70.125		
12,200.0	5,725.7	5,150.0	5,150.0	124.3	11.4	-40.90	73.2	0.6	6,898.2	6,799.8	98.32	70.161		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3415A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
12,300.0	5,724.8	5,150.0	5,150.0	126.1	11.4	-40.90	73.2	0.6	6,997.4	6,897.7	99.69	70.195		
12,400.0	5,724.0	5,150.0	5,150.0	127.9	11.4	-40.90	73.2	0.6	7,096.7	6,995.7	101.06	70.226		
12,500.0	5,723.1	5,150.0	5,150.0	129.7	11.4	-40.90	73.2	0.6	7,196.0	7,093.6	102.43	70.256		
12,600.0	5,722.3	5,150.0	5,150.0	131.6	11.4	-40.90	73.2	0.6	7,295.4	7,191.6	103.80	70.283		
12,700.0	5,721.4	5,150.0	5,150.0	133.4	11.4	-40.90	73.2	0.6	7,394.7	7,289.5	105.17	70.309		
12,800.0	5,720.6	5,150.0	5,150.0	135.2	11.4	-40.90	73.2	0.6	7,494.1	7,387.5	106.55	70.333		
12,900.0	5,719.8	5,150.0	5,150.0	137.0	11.4	-40.90	73.2	0.6	7,593.5	7,485.5	107.93	70.356		
13,000.0	5,718.9	5,150.0	5,150.0	138.8	11.4	-40.90	73.2	0.6	7,692.9	7,583.5	109.31	70.377		
13,100.0	5,718.1	5,150.0	5,150.0	140.7	11.4	-40.90	73.2	0.6	7,792.3	7,681.6	110.69	70.397		
13,200.0	5,717.2	5,150.0	5,150.0	142.5	11.4	-40.90	73.2	0.6	7,891.7	7,779.6	112.07	70.415		
13,300.0	5,716.4	5,150.0	5,150.0	144.3	11.4	-40.90	73.2	0.6	7,991.1	7,877.7	113.46	70.433		
13,400.0	5,715.6	5,150.0	5,150.0	146.2	11.4	-40.90	73.2	0.6	8,090.6	7,975.8	114.84	70.449		
13,465.4	5,715.0	5,150.0	5,150.0	147.2	11.4	-40.90	73.2	0.6	8,155.6	8,040.1	115.57	70.569		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3416B - HZ - Plan #5													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
0.0	0.0	-0.3	-0.3	0.0	0.0	90.01	0.0	33.2	33.2					
138.0	138.0	137.7	137.7	0.1	0.2	119.36	0.0	33.2	33.7	33.4	0.32	106.680		
168.0	168.0	167.7	167.7	0.2	0.2	106.27	0.0	33.2	33.8	33.4	0.44	76.118		
259.0	259.0	258.7	258.7	0.4	0.5	116.38	0.0	33.2	34.4	33.5	0.84	40.865		
353.0	353.0	352.7	352.7	0.6	0.7	118.40	0.0	33.2	35.2	33.9	1.25	28.179		
445.0	444.9	444.6	444.6	0.8	0.9	70.57	0.0	33.2	35.0	33.4	1.65	21.231		
536.0	535.8	535.1	535.1	1.0	1.1	59.06	-0.1	33.4	33.0	30.9	2.06	16.045		
603.0	602.7	601.3	601.2	1.1	1.2	61.48	-0.9	34.8	32.1	29.8	2.35	13.702 CC, ES		
627.0	626.6	624.9	624.9	1.2	1.2	62.52	-1.4	35.6	32.2	29.8	2.45	13.170		
719.0	718.3	715.8	715.6	1.4	1.4	75.48	-4.1	40.2	35.2	32.3	2.85	12.331		
811.0	810.0	807.5	807.0	1.6	1.6	80.81	-7.3	45.8	39.9	36.6	3.27	12.185 SF		
902.0	900.6	898.1	897.5	1.9	1.8	93.71	-10.4	51.2	45.4	41.7	3.69	12.312		
993.0	991.3	988.7	987.9	2.1	2.1	111.66	-13.6	56.7	52.7	48.6	4.10	12.846		
1,085.0	1,083.0	1,080.2	1,079.1	2.3	2.3	116.27	-16.8	62.2	61.5	57.0	4.54	13.553		
1,176.0	1,173.6	1,170.7	1,169.4	2.6	2.5	113.81	-20.0	67.7	70.2	65.2	4.97	14.127		
1,268.0	1,265.3	1,262.3	1,260.8	2.8	2.7	122.10	-23.2	73.2	78.6	73.2	5.39	14.580		
1,360.0	1,357.1	1,353.9	1,352.2	3.0	3.0	120.71	-26.4	78.7	86.9	81.1	5.82	14.945		
1,451.0	1,447.8	1,444.6	1,442.6	3.2	3.2	110.53	-29.6	84.2	94.5	88.3	6.25	15.132		
1,580.0	1,576.5	1,573.2	1,570.9	3.5	3.5	108.04	-34.1	92.0	104.3	97.4	6.86	15.192		
1,645.0	1,641.3	1,638.0	1,635.5	3.7	3.7	106.36	-36.3	95.9	109.0	101.9	7.18	15.193		
1,736.0	1,732.1	1,728.7	1,726.0	3.9	3.9	136.32	-39.5	101.4	116.5	108.9	7.60	15.331		
1,827.0	1,822.9	1,819.3	1,816.4	4.1	4.2	142.34	-42.7	106.8	124.9	116.9	8.01	15.603		
1,919.0	1,914.8	1,910.9	1,907.8	4.3	4.4	122.35	-45.9	112.4	133.2	124.8	8.43	15.799		
2,011.0	2,006.6	2,002.6	1,999.2	4.6	4.6	120.74	-49.1	117.9	141.0	132.1	8.87	15.901		
2,102.0	2,097.4	2,093.3	2,089.7	4.8	4.9	122.28	-52.3	123.4	148.5	139.2	9.29	15.980		
2,194.0	2,189.3	2,185.0	2,181.2	5.0	5.1	123.28	-55.5	128.9	155.9	146.2	9.72	16.049		
2,286.0	2,281.1	2,276.7	2,272.7	5.2	5.3	124.86	-58.7	134.4	163.3	153.1	10.14	16.100		
2,377.0	2,372.0	2,367.4	2,363.2	5.4	5.6	106.93	-61.8	139.9	170.0	159.5	10.57	16.086		
2,468.0	2,462.8	2,458.2	2,453.7	5.6	5.8	107.33	-65.0	145.4	176.3	165.3	11.01	16.018		
2,559.0	2,553.6	2,549.0	2,544.3	5.8	6.0	113.82	-68.2	150.9	182.7	171.3	11.43	15.982		
2,651.0	2,645.4	2,640.7	2,635.8	6.0	6.3	118.98	-71.4	156.4	189.8	177.9	11.87	15.994		
2,742.0	2,736.3	2,731.4	2,726.3	6.3	6.5	126.35	-74.6	161.9	197.3	185.0	12.29	16.053		
2,833.0	2,827.1	2,822.1	2,816.8	6.5	6.8	98.43	-77.8	167.3	203.9	191.2	12.73	16.017		
2,924.0	2,917.9	2,913.0	2,907.4	6.7	7.0	102.90	-80.9	172.8	209.4	196.2	13.16	15.906		
3,015.0	3,008.8	3,003.7	2,997.9	6.9	7.2	131.60	-84.1	178.3	216.0	202.4	13.58	15.903		
3,107.0	3,100.7	3,095.4	3,089.4	7.1	7.5	132.44	-87.3	183.8	223.7	209.7	14.01	15.968		
3,198.0	3,191.5	3,186.1	3,179.9	7.3	7.7	116.05	-90.5	189.3	231.1	216.6	14.44	16.006		
3,290.0	3,283.3	3,277.8	3,271.3	7.5	7.9	126.63	-93.7	194.8	238.8	223.9	14.87	16.055		
3,382.0	3,375.1	3,369.4	3,362.7	7.8	8.2	133.16	-96.9	200.4	247.3	232.0	15.30	16.166		
3,474.0	3,466.9	3,461.0	3,454.1	8.0	8.4	111.03	-100.1	205.9	255.2	239.5	15.75	16.201		
3,565.0	3,557.7	3,551.8	3,544.7	8.2	8.7	105.55	-103.3	211.4	261.5	245.3	16.19	16.151		
3,657.0	3,649.5	3,643.6	3,636.2	8.4	8.9	108.66	-106.5	216.9	267.7	251.0	16.63	16.097		
3,748.0	3,740.3	3,734.3	3,726.7	8.6	9.1	121.54	-109.7	222.4	274.8	257.7	17.06	16.108		
3,840.0	3,832.1	3,826.0	3,818.2	8.8	9.4	123.83	-112.9	227.9	282.6	265.1	17.50	16.150		
3,932.0	3,923.9	3,917.7	3,909.7	9.1	9.6	113.20	-116.1	233.5	289.8	271.8	17.94	16.149		
4,024.0	4,015.7	4,009.3	4,001.1	9.3	9.9	131.53	-119.3	239.0	297.7	279.4	18.36	16.218		
4,115.0	4,106.4	4,099.9	4,091.5	9.5	10.1	114.80	-122.5	244.5	306.0	287.2	18.82	16.264		
4,206.0	4,197.2	4,190.6	4,182.0	9.7	10.3	117.86	-125.6	249.9	313.2	294.0	19.26	16.265		
4,297.0	4,288.0	4,281.4	4,272.5	9.9	10.6	120.73	-128.8	255.4	320.3	300.6	19.69	16.267		
4,388.0	4,378.9	4,372.0	4,362.9	10.2	10.8	159.36	-132.0	260.9	327.7	307.6	20.10	16.301		
4,479.0	4,469.8	4,462.6	4,453.3	10.4	11.0	141.76	-135.1	266.4	335.8	315.3	20.51	16.373		
4,570.0	4,560.6	4,553.3	4,543.8	10.6	11.3	110.37	-138.3	271.8	343.3	322.3	20.95	16.385		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3416B - HZ - Plan #5													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
4,661.0	4,651.4	4,644.1	4,634.3	10.8	11.5	107.67	-141.5	277.3	349.6	328.2	21.39	16.344		
4,753.0	4,743.2	4,735.8	4,725.8	11.0	11.8	122.56	-144.7	282.8	356.6	334.8	21.82	16.345		
4,844.0	4,834.0	4,826.5	4,816.3	11.2	12.0	121.45	-147.9	288.3	364.0	341.7	22.26	16.354		
4,936.0	4,925.9	4,920.1	4,909.7	11.4	12.2	117.48	-151.1	293.9	370.6	347.9	22.69	16.333		
5,027.0	5,016.9	5,019.9	5,009.4	11.6	12.4	113.33	-153.4	297.8	375.0	351.9	23.10	16.235		
5,119.0	5,108.8	5,119.1	5,108.5	11.8	12.6	77.16	-153.9	298.8	376.2	352.8	23.48	16.026		
5,120.9	5,110.8	5,121.0	5,110.5	11.8	12.6	89.98	-153.9	298.8	376.2	352.8	23.48	16.021		
5,210.0	5,199.7	5,200.0	5,189.4	12.0	12.8	154.03	-154.2	298.9	380.6	356.9	23.72	16.044		
5,240.0	5,229.4	5,215.6	5,205.0	12.1	12.8	153.52	-154.9	299.1	385.7	362.1	23.63	16.326		
5,271.0	5,259.7	5,232.7	5,222.0	12.2	12.8	155.66	-156.2	299.6	394.0	370.5	23.48	16.782		
5,301.0	5,288.6	5,250.0	5,239.3	12.3	12.9	161.78	-158.0	300.2	404.7	381.4	23.24	17.411		
5,331.0	5,317.1	5,263.7	5,252.8	12.4	12.9	163.29	-159.8	300.9	417.5	394.4	23.11	18.063		
5,362.0	5,346.1	5,278.6	5,267.5	12.6	13.0	161.02	-162.2	301.8	432.8	409.9	22.86	18.933		
5,393.0	5,374.4	5,300.0	5,288.5	12.7	13.1	157.90	-166.3	303.3	450.2	427.6	22.57	19.947		
5,423.0	5,401.2	5,300.0	5,288.5	12.8	13.1	154.64	-166.3	303.3	468.5	446.1	22.42	20.897		
5,453.0	5,427.3	5,316.7	5,304.6	13.0	13.1	154.90	-170.0	304.6	488.3	466.2	22.09	22.107		
5,484.0	5,453.4	5,327.6	5,315.2	13.2	13.2	157.77	-172.8	305.6	510.5	489.0	21.50	23.750		
5,514.0	5,477.6	5,337.1	5,324.3	13.4	13.2	157.07	-175.3	306.5	533.7	512.7	20.99	25.423		
5,545.0	5,501.7	5,350.0	5,336.6	13.6	13.2	158.95	-179.0	307.9	558.9	538.4	20.51	27.254		
5,575.0	5,524.1	5,350.0	5,336.6	13.8	13.2	160.25	-179.0	307.9	584.4	564.7	19.78	29.555		
5,605.0	5,545.5	5,350.0	5,336.6	14.0	13.2	156.58	-179.0	307.9	611.1	591.4	19.66	31.088		
5,636.0	5,566.3	5,365.5	5,351.2	14.3	13.3	150.51	-183.8	309.6	639.0	619.4	19.68	32.472		
5,666.0	5,585.2	5,370.2	5,355.6	14.6	13.3	144.26	-185.3	310.2	666.9	646.6	20.30	32.846		
5,697.0	5,603.3	5,374.1	5,359.3	14.9	13.4	133.30	-186.6	310.7	696.1	674.2	21.93	31.746		
5,728.0	5,620.1	5,377.2	5,362.2	15.2	13.4	125.71	-187.7	311.0	725.7	702.3	23.38	31.043		
5,758.0	5,635.0	5,379.5	5,364.3	15.5	13.4	115.66	-188.5	311.3	754.5	729.3	25.24	29.898		
5,788.0	5,648.3	5,381.0	5,365.7	15.9	13.4	101.40	-189.0	311.5	783.6	756.3	27.29	28.717		
5,819.0	5,660.0	5,381.7	5,366.3	16.2	13.4	83.85	-189.2	311.6	813.8	785.6	28.20	28.855		
5,849.0	5,669.4	5,381.5	5,366.1	16.6	13.4	65.91	-189.1	311.6	843.1	816.2	26.83	31.418		
5,880.0	5,676.9	5,380.4	5,365.1	17.0	13.4	52.07	-188.8	311.4	873.1	849.0	24.17	36.129		
5,910.0	5,682.0	5,378.6	5,363.4	17.4	13.4	39.37	-188.1	311.2	901.9	881.5	20.48	44.040		
5,940.0	5,685.0	5,376.1	5,361.1	17.8	13.4	34.64	-187.3	310.9	930.4	911.4	18.95	49.100		
5,971.0	5,686.4	5,373.0	5,358.3	18.3	13.4	29.37	-186.3	310.5	959.3	942.2	17.10	56.095		
6,002.0	5,686.7	5,369.7	5,355.1	18.7	13.3	27.35	-185.1	310.1	988.1	971.5	16.54	59.736		
6,032.0	5,686.5	5,366.4	5,352.0	19.1	13.3	24.34	-184.1	309.7	1,015.9	1,000.3	15.55	65.317		
6,054.0	5,686.0	5,350.0	5,336.6	19.5	13.2	21.96	-179.0	307.9	1,036.5	1,021.8	14.73	70.343		
6,141.0	5,683.0	5,350.0	5,336.6	20.7	13.2	17.23	-179.0	307.9	1,117.1	1,103.6	13.46	82.960		
6,236.0	5,680.4	5,350.0	5,336.6	22.1	13.2	17.64	-179.0	307.9	1,206.5	1,192.1	14.32	84.239		
6,331.0	5,679.6	5,350.0	5,336.6	23.4	13.2	14.19	-179.0	307.9	1,297.3	1,283.7	13.60	95.404		
6,426.0	5,680.2	5,329.7	5,317.2	24.8	13.2	11.34	-173.3	305.8	1,388.6	1,375.3	13.24	104.895		
6,520.0	5,682.9	5,323.9	5,311.6	26.1	13.1	13.17	-171.8	305.3	1,480.0	1,465.3	14.62	101.238		
6,615.0	5,686.0	5,318.6	5,306.5	27.6	13.1	5.43	-170.5	304.8	1,572.7	1,559.9	12.76	123.256		
6,688.0	5,688.1	5,300.0	5,288.5	28.7	13.1	6.77	-166.3	303.3	1,644.3	1,630.7	13.58	121.106		
6,783.0	5,689.7	5,300.0	5,288.5	30.3	13.1	6.46	-166.3	303.3	1,736.9	1,722.8	14.13	122.934		
6,878.0	5,691.3	5,300.0	5,288.5	31.8	13.1	3.90	-166.3	303.3	1,829.8	1,815.6	14.20	128.842		
6,973.0	5,692.7	5,300.0	5,288.5	33.4	13.1	-4.82	-166.3	303.3	1,922.9	1,908.5	14.38	133.679		
7,068.0	5,692.7	5,300.0	5,288.5	35.0	13.1	6.06	-166.3	303.3	2,015.9	1,999.9	16.00	125.974		
7,162.0	5,692.7	5,300.0	5,288.5	36.5	13.1	10.19	-166.3	303.3	2,108.0	2,089.8	18.17	116.036		
7,257.0	5,693.5	5,300.0	5,288.5	38.0	13.1	17.42	-166.3	303.3	2,201.4	2,179.0	22.34	98.553		
7,352.0	5,693.6	5,300.0	5,288.5	39.6	13.1	17.02	-166.3	303.3	2,294.7	2,271.8	22.90	100.217		
7,447.0	5,694.4	5,300.0	5,288.5	41.2	13.1	-7.16	-166.3	303.3	2,388.3	2,370.0	18.32	130.394		
7,542.0	5,697.1	5,300.0	5,288.5	42.8	13.1	-7.81	-166.3	303.3	2,482.4	2,463.1	19.25	128.944		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #271-3416B - HZ - Plan #5													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCWSA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
7,637.0	5,699.7	5,277.5	5,266.4	44.4	13.0	-16.13	-162.0	301.7	2,575.9	2,552.7	23.20	111.033		
7,731.0	5,700.2	5,274.8	5,263.7	46.0	13.0	-15.88	-161.6	301.5	2,668.6	2,644.9	23.70	112.618		
7,826.0	5,699.7	5,272.0	5,261.0	47.6	13.0	-22.49	-161.1	301.4	2,762.1	2,733.8	28.36	97.398		
7,921.0	5,700.2	5,250.0	5,239.3	49.2	12.9	-24.42	-158.0	300.2	2,856.2	2,825.6	30.60	93.352		
8,015.0	5,700.4	5,250.0	5,239.3	50.8	12.9	-18.18	-158.0	300.2	2,948.9	2,921.5	27.35	107.829		
8,110.0	5,699.2	5,250.0	5,239.3	52.5	12.9	-9.97	-158.0	300.2	3,042.5	3,018.5	23.99	126.847		
8,205.0	5,698.9	5,250.0	5,239.3	54.1	12.9	-27.49	-158.0	300.2	3,136.2	3,100.7	35.52	88.303		
8,300.0	5,698.7	5,250.0	5,239.3	55.7	12.9	-20.93	-158.0	300.2	3,230.0	3,198.4	31.61	102.173		
8,395.0	5,697.9	5,250.0	5,239.3	57.4	12.9	-21.20	-158.0	300.2	3,323.8	3,291.0	32.79	101.374		
8,489.0	5,697.9	5,250.0	5,239.3	58.9	12.9	-4.02	-158.0	300.2	3,416.9	3,391.6	25.28	135.149		
8,581.0	5,698.5	5,250.0	5,239.3	60.5	12.9	-1.96	-158.0	300.2	3,508.1	3,482.3	25.81	135.907		
8,673.0	5,699.9	5,250.0	5,239.3	62.1	12.9	4.21	-158.0	300.2	3,599.5	3,572.3	27.28	131.928		
8,764.0	5,701.7	5,250.0	5,239.3	63.6	12.9	-0.40	-158.0	300.2	3,690.0	3,662.8	27.17	135.793		
8,856.0	5,701.9	5,250.0	5,239.3	65.3	12.9	3.29	-158.0	300.2	3,781.3	3,753.0	28.30	133.633		
8,948.0	5,700.7	5,250.0	5,239.3	66.8	12.9	4.08	-158.0	300.2	3,872.5	3,843.3	29.19	132.659		
9,039.0	5,699.4	5,250.0	5,239.3	68.4	12.9	12.01	-158.0	300.2	3,962.7	3,929.0	33.69	117.637		
9,130.0	5,699.6	5,250.0	5,239.3	70.0	12.9	-13.32	-158.0	300.2	4,053.1	4,019.2	33.92	119.477		
9,221.0	5,702.5	5,250.0	5,239.3	71.6	12.9	-25.78	-158.0	300.2	4,143.8	4,098.7	45.10	91.889		
9,313.0	5,705.5	5,250.0	5,239.3	73.2	12.9	-35.14	-158.0	300.2	4,235.4	4,180.7	54.66	77.492		
9,405.0	5,707.2	5,250.0	5,239.3	74.8	12.9	-41.92	-158.0	300.2	4,326.7	4,264.6	62.14	69.633		
9,496.0	5,707.0	5,250.0	5,239.3	76.4	12.9	-14.83	-158.0	300.2	4,417.0	4,379.3	37.72	117.086		
9,588.0	5,705.5	5,250.0	5,239.3	78.0	12.9	-15.88	-158.0	300.2	4,508.3	4,469.0	39.32	114.647		
9,680.0	5,705.1	5,250.0	5,239.3	79.6	12.9	-12.62	-158.0	300.2	4,599.7	4,561.9	37.86	121.496		
9,771.0	5,706.4	5,250.0	5,239.3	81.2	12.9	-7.15	-158.0	300.2	4,690.4	4,654.6	35.75	131.193		
9,862.0	5,709.5	5,250.0	5,239.3	82.8	12.9	12.12	-158.0	300.2	4,781.2	4,740.7	40.46	118.180		
9,953.0	5,711.5	5,250.0	5,239.3	84.4	12.9	-3.44	-158.0	300.2	4,871.9	4,836.0	35.95	135.520		
10,045.0	5,710.5	5,250.0	5,239.3	86.0	12.9	-14.15	-158.0	300.2	4,963.4	4,921.6	41.81	118.727		
10,158.0	5,708.8	5,250.0	5,239.3	88.0	12.9	-5.72	-158.0	300.2	5,075.7	5,037.7	38.00	133.586		
10,249.0	5,707.2	5,250.0	5,239.3	89.6	12.9	-5.20	-158.0	300.2	5,166.1	5,127.7	38.48	134.270		
10,340.0	5,705.5	5,250.0	5,239.3	91.2	12.9	-1.77	-158.0	300.2	5,256.6	5,218.0	38.57	136.305		
10,431.0	5,703.7	5,250.0	5,239.3	92.9	12.9	-4.36	-158.0	300.2	5,347.1	5,307.5	39.60	135.020		
10,523.0	5,701.6	5,250.0	5,239.3	94.5	12.9	-5.19	-158.0	300.2	5,438.5	5,398.0	40.51	134.257		
10,614.0	5,700.1	5,250.0	5,239.3	96.1	12.9	5.82	-158.0	300.2	5,529.1	5,486.8	42.25	130.873		
10,706.0	5,700.4	5,250.0	5,239.3	97.7	12.9	-2.48	-158.0	300.2	5,620.8	5,579.4	41.40	135.767		
10,798.0	5,701.2	5,250.0	5,239.3	99.3	12.9	33.74	-158.0	300.2	5,712.5	5,640.5	71.96	79.379		
10,890.0	5,701.8	5,250.0	5,239.3	101.0	12.9	26.84	-158.0	300.2	5,804.2	5,739.5	64.61	89.831		
10,981.0	5,702.8	5,250.0	5,239.3	102.6	12.9	6.65	-158.0	300.2	5,894.9	5,849.4	45.47	129.636		
11,073.0	5,705.3	5,250.0	5,239.3	104.2	12.9	-36.79	-158.0	300.2	5,986.8	5,908.1	78.72	76.049		
11,164.0	5,708.5	5,250.0	5,239.3	105.8	12.9	-29.13	-158.0	300.2	6,077.7	6,008.0	69.65	87.260		
11,256.0	5,712.3	5,250.0	5,239.3	107.4	12.9	-42.94	-158.0	300.2	6,169.6	6,080.5	89.12	69.231		
11,300.0	5,713.9	5,250.0	5,239.3	108.2	12.9	-31.32	-158.0	300.2	6,213.5	6,139.6	73.96	84.007		
11,400.0	5,716.9	5,226.9	5,216.3	110.0	12.8	52.17	-155.7	299.4	6,312.9	6,211.7	101.18	62.391		
11,449.2	5,719.2	5,226.8	5,216.2	110.8	12.8	73.28	-155.7	299.4	6,362.0	6,243.4	118.58	53.650		
11,459.2	5,719.7	5,226.8	5,216.2	111.0	12.8	73.28	-155.7	299.4	6,371.9	6,253.2	118.75	53.658		
11,500.0	5,721.7	5,226.7	5,216.1	111.7	12.8	66.73	-155.7	299.4	6,412.5	6,297.0	115.56	55.490		
11,600.0	5,725.6	5,226.4	5,215.8	113.5	12.8	42.98	-155.7	299.4	6,512.2	6,418.9	93.32	69.780		
11,700.0	5,727.9	5,226.0	5,215.3	115.3	12.8	11.27	-155.6	299.4	6,612.1	6,557.6	54.42	121.496		
11,800.0	5,728.8	5,225.4	5,214.8	117.1	12.8	-14.07	-155.6	299.4	6,711.8	6,655.1	56.68	118.405		
11,860.2	5,728.5	5,225.1	5,214.4	118.2	12.8	-24.05	-155.6	299.4	6,771.8	6,702.2	69.54	97.374		
11,900.0	5,728.2	5,224.8	5,214.2	118.9	12.8	-24.04	-155.5	299.3	6,811.4	6,741.5	69.94	97.387		
12,000.0	5,727.3	5,224.2	5,213.6	120.7	12.8	-24.02	-155.5	299.3	6,911.0	6,840.1	70.94	97.424		
12,100.0	5,726.5	5,223.5	5,212.9	122.5	12.8	-24.00	-155.4	299.3	7,010.6	6,938.7	71.93	97.458		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27I-3416B - HZ - Plan #5												Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
12,200.0	5,725.7	5,200.0	5,189.4	124.3	12.8	-23.19	-154.2	298.9	7,110.7	7,039.0	71.74	99.125	
12,300.0	5,724.8	5,200.0	5,189.4	126.1	12.8	-23.19	-154.2	298.9	7,210.3	7,137.6	72.75	99.110	
12,400.0	5,724.0	5,200.0	5,189.4	127.9	12.8	-23.19	-154.2	298.9	7,309.9	7,236.1	73.77	99.094	
12,500.0	5,723.1	5,200.0	5,189.4	129.7	12.8	-23.19	-154.2	298.9	7,409.5	7,334.7	74.78	99.078	
12,600.0	5,722.3	5,200.0	5,189.4	131.6	12.8	-23.19	-154.2	298.9	7,509.1	7,433.3	75.80	99.061	
12,700.0	5,721.4	5,200.0	5,189.4	133.4	12.8	-23.19	-154.2	298.9	7,608.8	7,532.0	76.82	99.043	
12,800.0	5,720.6	5,200.0	5,189.4	135.2	12.8	-23.19	-154.2	298.9	7,708.4	7,630.6	77.84	99.025	
12,900.0	5,719.8	5,200.0	5,189.4	137.0	12.8	-23.19	-154.2	298.9	7,808.1	7,729.2	78.86	99.007	
13,000.0	5,718.9	5,200.0	5,189.4	138.8	12.8	-23.19	-154.2	298.9	7,907.7	7,827.8	79.89	98.988	
13,100.0	5,718.1	5,200.0	5,189.4	140.7	12.8	-23.19	-154.2	298.9	8,007.4	7,926.5	80.91	98.968	
13,200.0	5,717.2	5,200.0	5,189.4	142.5	12.8	-23.19	-154.2	298.9	8,107.1	8,025.1	81.93	98.949	
13,300.0	5,716.4	5,200.0	5,189.4	144.3	12.8	-23.19	-154.2	298.9	8,206.8	8,123.8	82.96	98.929	
13,400.0	5,715.6	5,200.0	5,189.4	146.2	12.8	-23.19	-154.2	298.9	8,306.4	8,222.5	83.98	98.909	
13,465.4	5,715.0	5,200.0	5,189.4	147.2	12.8	-23.19	-154.2	298.9	8,371.7	8,287.2	84.45	99.129	

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2211A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	10.2	10.2	0.0	0.0	-90.95	-20.4	-1,221.1	1,221.3					
138.0	138.0	148.2	148.2	0.1	0.2	-63.10	-20.4	-1,221.1	1,220.8	1,220.5	0.34	3,599.052		
168.0	168.0	178.2	178.2	0.2	0.3	-76.81	-20.4	-1,221.1	1,220.7	1,220.2	0.47	2,607.484		
259.0	259.0	269.2	269.2	0.4	0.5	-68.98	-20.4	-1,221.1	1,220.3	1,219.4	0.86	1,410.847		
353.0	353.0	363.2	363.2	0.6	0.7	-69.55	-20.4	-1,221.1	1,219.7	1,218.4	1.27	958.689		
377.3	377.2	387.4	387.4	0.6	0.7	-90.00	-20.4	-1,221.1	1,219.6	1,218.2	1.38	885.044	CC, ES	
445.0	444.9	455.1	455.1	0.8	0.9	-120.93	-20.4	-1,221.1	1,220.2	1,218.5	1.67	728.672		
536.0	535.8	546.0	546.0	1.0	1.1	-139.64	-20.4	-1,221.1	1,223.4	1,221.3	2.09	585.603		
627.0	626.6	636.8	636.8	1.2	1.3	-147.02	-20.4	-1,221.1	1,228.8	1,226.3	2.50	491.738		
719.0	718.3	728.5	728.5	1.4	1.5	-144.79	-20.4	-1,221.1	1,234.6	1,231.7	2.91	423.987		
811.0	810.0	820.2	820.2	1.6	1.7	-148.77	-20.4	-1,221.1	1,241.0	1,237.7	3.33	372.644		
902.0	900.6	910.8	910.8	1.9	1.9	-143.37	-20.4	-1,221.1	1,247.4	1,243.7	3.74	333.698		
993.0	991.3	1,001.5	1,001.5	2.1	2.1	-130.80	-20.4	-1,221.1	1,253.0	1,248.8	4.15	302.169		
1,085.0	1,083.0	1,093.2	1,093.2	2.3	2.3	-130.46	-20.4	-1,221.1	1,258.3	1,253.8	4.57	275.168		
1,176.0	1,173.6	1,183.8	1,183.8	2.6	2.5	-136.55	-20.4	-1,221.1	1,264.1	1,259.1	4.99	253.231		
1,268.0	1,265.3	1,275.5	1,275.5	2.8	2.7	-130.53	-20.4	-1,221.1	1,269.1	1,263.7	5.40	234.847		
1,360.0	1,357.1	1,367.3	1,367.3	3.0	2.9	-133.14	-20.4	-1,221.1	1,273.5	1,267.7	5.82	218.844		
1,451.0	1,447.8	1,458.0	1,458.0	3.2	3.1	-144.54	-20.4	-1,221.1	1,278.3	1,272.1	6.23	205.205		
1,580.0	1,576.5	1,586.7	1,586.7	3.5	3.4	-148.86	-20.4	-1,221.1	1,286.2	1,279.4	6.81	188.933		
1,645.0	1,641.3	1,651.5	1,651.5	3.7	3.6	-151.58	-20.4	-1,221.1	1,290.6	1,283.5	7.10	181.790		
1,736.0	1,732.1	1,742.3	1,742.3	3.9	3.8	-122.28	-20.4	-1,221.1	1,295.1	1,287.6	7.51	172.518		
1,827.0	1,822.9	1,833.1	1,833.1	4.1	4.0	-115.98	-20.4	-1,221.1	1,297.6	1,289.7	7.91	164.037		
1,919.0	1,914.8	1,925.0	1,925.0	4.3	4.2	-135.95	-20.4	-1,221.1	1,301.0	1,292.7	8.32	156.319		
2,011.0	2,006.6	2,016.8	2,016.8	4.6	4.4	-138.04	-20.4	-1,221.1	1,305.4	1,296.6	8.74	149.430		
2,102.0	2,097.4	2,107.6	2,107.6	4.8	4.6	-136.81	-20.4	-1,221.1	1,309.5	1,300.3	9.14	143.284		
2,194.0	2,189.3	2,199.5	2,199.5	5.0	4.8	-135.98	-20.4	-1,221.1	1,313.3	1,303.8	9.55	137.576		
2,286.0	2,281.1	2,291.3	2,291.3	5.2	5.0	-134.43	-20.4	-1,221.1	1,316.8	1,306.8	9.95	132.297		
2,377.0	2,372.0	2,382.2	2,382.2	5.4	5.2	-152.55	-20.4	-1,221.1	1,321.2	1,310.8	10.35	127.628		
2,468.0	2,462.8	2,473.0	2,473.0	5.6	5.4	-152.68	-20.4	-1,221.1	1,326.3	1,315.5	10.76	123.313		
2,559.0	2,553.6	2,563.8	2,563.8	5.8	5.6	-146.49	-20.4	-1,221.1	1,331.0	1,319.9	11.16	119.300		
2,651.0	2,645.4	2,655.6	2,655.6	6.0	5.8	-141.63	-20.4	-1,221.1	1,335.6	1,324.0	11.57	115.481		
2,742.0	2,736.3	2,746.5	2,746.5	6.3	6.0	-134.48	-20.4	-1,221.1	1,339.7	1,327.8	11.97	111.903		
2,833.0	2,827.1	2,837.3	2,837.3	6.5	6.2	-162.73	-20.4	-1,221.1	1,344.5	1,332.1	12.37	108.696		
2,924.0	2,917.9	2,928.1	2,928.1	6.7	6.5	-158.61	-20.4	-1,221.1	1,349.7	1,336.9	12.77	105.706		
3,015.0	3,008.8	3,019.0	3,019.0	6.9	6.7	-130.02	-20.4	-1,221.1	1,353.8	1,340.6	13.18	102.743		
3,107.0	3,100.7	3,110.9	3,110.9	7.1	6.9	-129.08	-20.4	-1,221.1	1,356.8	1,343.2	13.59	99.867		
3,198.0	3,191.5	3,201.7	3,201.7	7.3	7.1	-145.50	-20.4	-1,221.1	1,360.8	1,346.8	13.98	97.305		
3,290.0	3,283.3	3,293.5	3,293.5	7.5	7.3	-135.27	-20.4	-1,221.1	1,365.5	1,351.1	14.40	94.829		
3,382.0	3,375.1	3,385.3	3,385.3	7.8	7.5	-128.95	-20.4	-1,221.1	1,369.7	1,354.9	14.82	92.450		
3,474.0	3,466.9	3,477.1	3,477.1	8.0	7.7	-151.44	-20.4	-1,221.1	1,374.4	1,359.2	15.22	90.291		
3,565.0	3,557.7	3,567.9	3,567.9	8.2	7.9	-157.26	-20.4	-1,221.1	1,379.7	1,364.0	15.62	88.321		
3,657.0	3,649.5	3,659.7	3,659.7	8.4	8.1	-154.45	-20.4	-1,221.1	1,385.0	1,369.0	16.03	86.425		
3,748.0	3,740.3	3,750.5	3,750.5	8.6	8.3	-141.86	-20.4	-1,221.1	1,390.3	1,373.8	16.43	84.607		
3,840.0	3,832.1	3,842.3	3,842.3	8.8	8.5	-139.94	-20.4	-1,221.1	1,395.2	1,378.3	16.85	82.811		
3,932.0	3,923.9	3,934.1	3,934.1	9.1	8.7	-150.79	-20.4	-1,221.1	1,399.8	1,382.5	17.25	81.127		
4,024.0	4,015.7	4,025.9	4,025.9	9.3	8.9	-132.60	-20.4	-1,221.1	1,404.7	1,387.0	17.66	79.517		
4,115.0	4,106.4	4,116.6	4,116.6	9.5	9.1	-149.80	-20.4	-1,221.1	1,410.2	1,392.1	18.07	78.054		
4,206.0	4,197.2	4,207.4	4,207.4	9.7	9.3	-147.16	-20.4	-1,221.1	1,415.7	1,397.2	18.48	76.613		
4,297.0	4,288.0	4,298.2	4,298.2	9.9	9.5	-144.49	-20.4	-1,221.1	1,420.4	1,401.5	18.89	75.209		
4,388.0	4,378.9	4,389.1	4,389.1	10.2	9.7	-105.86	-20.4	-1,221.1	1,423.1	1,403.8	19.29	73.763		
4,479.0	4,469.8	4,480.0	4,480.0	10.4	9.9	-123.09	-20.4	-1,221.1	1,424.9	1,405.2	19.70	72.341		
4,570.0	4,560.6	4,570.8	4,570.8	10.6	10.1	-154.51	-20.4	-1,221.1	1,429.2	1,409.1	20.09	71.153		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2211A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: O-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
4,661.0	4,651.4	4,661.6	4,661.6	10.8	10.3	-157.53	-20.4	-1,221.1	1,434.6	1,414.1	20.49	70.016		
4,753.0	4,743.2	4,753.4	4,753.4	11.0	10.6	-142.82	-20.4	-1,221.1	1,439.8	1,418.9	20.90	68.892		
4,844.0	4,834.0	4,844.2	4,844.2	11.2	10.8	-144.18	-20.4	-1,221.1	1,444.4	1,423.1	21.31	67.784		
4,936.0	4,925.9	4,936.1	4,936.1	11.4	11.0	-148.20	-20.4	-1,221.1	1,448.1	1,426.4	21.72	66.684		
5,027.0	5,016.9	5,027.1	5,027.1	11.6	11.2	-152.48	-20.4	-1,221.1	1,451.2	1,429.1	22.11	65.626		
5,119.0	5,108.8	5,119.0	5,119.0	11.8	11.4	171.08	-20.4	-1,221.1	1,453.1	1,430.6	22.51	64.560		
5,210.0	5,199.7	5,230.4	5,230.1	12.0	11.6	-112.09	-13.5	-1,221.6	1,454.7	1,431.8	22.96	63.360		
5,240.0	5,229.4	5,269.7	5,268.5	12.1	11.7	-112.13	-5.8	-1,222.2	1,455.8	1,432.7	23.11	62.986		
5,271.0	5,259.7	5,310.0	5,307.3	12.2	11.8	-109.56	5.2	-1,223.0	1,457.4	1,434.1	23.29	62.585		
5,301.0	5,288.6	5,348.7	5,343.6	12.3	11.9	-103.47	18.5	-1,224.0	1,458.9	1,435.4	23.49	62.107		
5,331.0	5,317.1	5,387.0	5,378.5	12.4	12.0	-101.80	34.3	-1,225.2	1,459.9	1,436.3	23.70	61.611		
5,362.0	5,346.1	5,426.1	5,412.8	12.6	12.1	-103.04	53.0	-1,226.6	1,461.3	1,437.3	23.91	61.106		
5,393.0	5,374.4	5,464.6	5,445.1	12.7	12.2	-104.69	73.8	-1,228.1	1,463.2	1,439.1	24.14	60.615		
5,423.0	5,401.2	5,501.1	5,474.3	12.8	12.3	-106.11	95.8	-1,229.7	1,465.8	1,441.5	24.38	60.136		
5,453.0	5,427.3	5,536.9	5,501.2	13.0	12.4	-104.90	119.2	-1,231.5	1,468.9	1,444.2	24.68	59.522		
5,484.0	5,453.4	5,573.2	5,526.9	13.2	12.6	-101.79	144.8	-1,233.4	1,471.8	1,446.8	25.05	58.746		
5,514.0	5,477.6	5,607.8	5,549.6	13.4	12.8	-100.85	170.8	-1,235.3	1,474.5	1,449.1	25.42	57.999		
5,545.0	5,501.7	5,642.8	5,570.8	13.6	12.9	-98.97	198.6	-1,237.4	1,477.1	1,451.3	25.85	57.135		
5,575.0	5,524.1	5,676.1	5,589.2	13.8	13.2	-97.04	226.2	-1,239.4	1,479.3	1,453.0	26.30	56.238		
5,605.0	5,545.5	5,708.6	5,605.4	14.0	13.4	-97.24	254.3	-1,241.5	1,481.5	1,454.7	26.78	55.330		
5,636.0	5,566.3	5,741.5	5,620.0	14.3	13.6	-97.53	283.7	-1,243.7	1,484.4	1,457.1	27.31	54.359		
5,666.0	5,585.2	5,772.6	5,632.0	14.6	13.9	-97.77	312.3	-1,245.8	1,488.0	1,460.2	27.86	53.418		
5,697.0	5,603.3	5,804.0	5,642.4	14.9	14.1	-97.98	341.8	-1,248.0	1,492.7	1,464.3	28.45	52.461		
5,728.0	5,620.1	5,834.6	5,650.8	15.2	14.4	-97.67	371.2	-1,250.2	1,498.2	1,469.2	29.09	51.506		
5,758.0	5,635.0	5,863.5	5,657.2	15.5	14.7	-96.90	399.3	-1,252.3	1,504.1	1,474.4	29.74	50.579		
5,788.0	5,648.3	5,891.9	5,661.9	15.9	15.0	-95.86	427.3	-1,254.3	1,510.4	1,479.9	30.42	49.653		
5,819.0	5,660.0	5,920.9	5,665.1	16.2	15.3	-94.62	455.9	-1,256.5	1,517.1	1,486.0	31.15	48.706		
5,849.0	5,669.4	5,948.6	5,666.6	16.6	15.7	-93.31	483.5	-1,258.5	1,523.9	1,492.0	31.87	47.820		
5,880.0	5,676.9	6,030.8	5,666.9	17.0	16.6	-91.72	565.6	-1,263.5	1,530.8	1,497.6	33.22	46.075		
5,910.0	5,682.0	6,120.2	5,666.9	17.4	17.7	-90.22	654.9	-1,264.9	1,535.9	1,501.2	34.68	44.290		
5,940.0	5,685.0	6,149.6	5,666.9	17.8	18.1	-89.65	684.4	-1,264.9	1,540.7	1,505.3	35.47	43.435		
5,971.0	5,686.4	6,180.2	5,666.9	18.3	18.5	-89.03	714.9	-1,264.9	1,545.8	1,509.5	36.30	42.585		
6,002.0	5,686.7	6,210.8	5,666.9	18.7	18.9	-88.88	745.5	-1,264.9	1,550.8	1,513.7	37.15	41.743		
6,032.0	5,686.5	6,240.4	5,666.9	19.1	19.3	-88.76	775.2	-1,264.9	1,555.4	1,517.4	38.00	40.927		
6,054.0	5,686.0	6,262.2	5,666.9	19.5	19.6	-88.71	797.0	-1,264.9	1,558.5	1,519.8	38.63	40.341		
6,141.0	5,683.0	6,348.4	5,666.9	20.7	20.9	-88.74	883.2	-1,264.9	1,569.3	1,528.1	41.19	38.101		
6,236.0	5,680.4	6,442.9	5,666.9	22.1	22.3	-89.08	977.6	-1,264.9	1,579.4	1,535.5	43.97	35.924		
6,331.0	5,679.6	6,537.4	5,666.9	23.4	23.9	-89.13	1,072.2	-1,264.9	1,588.3	1,541.5	46.79	33.944		
6,426.0	5,680.2	6,632.2	5,666.9	24.8	25.4	-89.24	1,166.9	-1,264.9	1,595.5	1,545.8	49.72	32.090		
6,520.0	5,682.9	6,725.9	5,666.9	26.1	27.0	-89.20	1,260.7	-1,264.9	1,602.2	1,549.6	52.65	30.429		
6,615.0	5,686.0	6,820.7	5,666.9	27.6	28.6	-89.04	1,355.4	-1,264.9	1,608.0	1,552.3	55.67	28.882		
6,688.0	5,688.1	6,893.5	5,666.9	28.7	29.9	-88.95	1,428.3	-1,264.9	1,611.6	1,553.5	58.12	27.727		
6,783.0	5,689.7	6,988.4	5,666.9	30.3	31.5	-88.87	1,523.2	-1,264.9	1,616.8	1,555.5	61.34	26.356		
6,878.0	5,691.3	7,083.3	5,666.9	31.8	33.2	-88.83	1,618.0	-1,264.9	1,621.5	1,556.9	64.55	25.118		
6,973.0	5,692.7	7,178.2	5,666.9	33.4	34.9	-88.74	1,713.0	-1,264.9	1,624.1	1,556.4	67.71	23.987		
7,068.0	5,692.7	7,273.1	5,666.9	35.0	36.6	-88.70	1,807.9	-1,264.8	1,627.2	1,556.1	71.12	22.880		
7,162.0	5,692.7	7,367.0	5,666.9	36.5	38.3	-88.77	1,901.8	-1,264.8	1,632.7	1,558.4	74.33	21.964		
7,257.0	5,693.5	7,461.7	5,666.9	38.0	40.0	-88.75	1,996.5	-1,264.8	1,640.0	1,562.4	77.58	21.140		
7,352.0	5,693.6	7,556.3	5,666.9	39.6	41.7	-88.67	2,091.1	-1,264.8	1,648.6	1,567.7	80.89	20.380		
7,447.0	5,694.4	7,651.1	5,666.9	41.2	43.4	-88.72	2,185.9	-1,264.8	1,653.8	1,569.7	84.14	19.656		
7,542.0	5,697.1	7,746.1	5,666.9	42.8	45.2	-88.64	2,280.9	-1,264.8	1,655.5	1,568.1	87.46	18.929		
7,637.0	5,699.7	7,841.0	5,666.9	44.4	46.9	-88.50	2,375.8	-1,264.8	1,656.0	1,565.3	90.68	18.263		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #271-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #271-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2211A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
7,731.0	5,700.2	7,935.0	5,666.9	46.0	48.7	-88.50	2,469.8	-1,264.8	1,654.9	1,560.8	94.02	17.601		
7,826.0	5,699.7	8,030.0	5,666.9	47.6	50.4	-88.51	2,564.8	-1,264.8	1,652.4	1,555.1	97.29	16.984		
7,921.0	5,700.2	8,124.9	5,666.9	49.2	52.2	-88.46	2,659.7	-1,264.8	1,648.8	1,548.1	100.66	16.380		
8,015.0	5,700.4	8,218.9	5,666.9	50.8	54.0	-88.50	2,753.6	-1,264.8	1,645.7	1,541.6	104.11	15.807		
8,110.0	5,699.2	8,313.8	5,666.9	52.5	55.7	-88.52	2,848.6	-1,264.8	1,644.2	1,536.5	107.70	15.266		
8,205.0	5,698.9	8,408.8	5,666.9	54.1	57.5	-88.50	2,943.6	-1,264.8	1,641.7	1,531.0	110.76	14.823		
8,300.0	5,698.7	8,503.7	5,666.9	55.7	59.3	-88.57	3,038.5	-1,264.8	1,637.7	1,523.4	114.30	14.328		
8,395.0	5,697.9	8,598.6	5,666.9	57.4	61.1	-88.55	3,133.4	-1,264.8	1,634.2	1,516.5	117.77	13.876		
8,466.6	5,697.9	8,670.2	5,666.9	58.6	62.4	-88.55	3,205.0	-1,264.8	1,633.1	1,512.5	120.57	13.544		
8,489.0	5,697.9	8,692.6	5,666.9	58.9	62.8	-88.55	3,227.4	-1,264.8	1,633.2	1,511.7	121.43	13.450		
8,581.0	5,698.5	8,784.6	5,666.9	60.5	64.6	-88.55	3,319.4	-1,264.7	1,634.4	1,509.6	124.74	13.102		
8,673.0	5,699.9	8,876.6	5,666.9	62.1	66.3	-88.52	3,411.4	-1,264.7	1,636.4	1,508.4	128.07	12.778		
8,764.0	5,701.7	8,967.5	5,666.9	63.6	68.0	-88.45	3,502.3	-1,264.7	1,638.6	1,507.3	131.33	12.477		
8,856.0	5,701.9	9,059.5	5,666.9	65.3	69.8	-88.40	3,594.3	-1,264.7	1,640.8	1,506.1	134.71	12.180		
8,948.0	5,700.7	9,151.5	5,666.9	66.8	71.5	-88.45	3,686.2	-1,264.7	1,643.4	1,505.3	138.06	11.904		
9,039.0	5,699.4	9,242.4	5,666.9	68.4	73.2	-88.47	3,777.2	-1,264.7	1,646.9	1,505.6	141.36	11.651		
9,130.0	5,699.6	9,333.4	5,666.9	70.0	74.9	-88.51	3,868.1	-1,264.7	1,649.1	1,504.5	144.54	11.409		
9,221.0	5,702.5	9,424.3	5,666.9	71.6	76.7	-88.38	3,959.1	-1,264.7	1,648.5	1,500.7	147.77	11.155		
9,313.0	5,705.5	9,516.2	5,666.9	73.2	78.4	-88.25	4,051.0	-1,264.7	1,645.9	1,495.1	150.79	10.915		
9,405.0	5,707.2	9,608.1	5,666.9	74.8	80.1	-88.17	4,142.8	-1,264.7	1,640.9	1,487.0	153.90	10.662		
9,496.0	5,707.0	9,699.0	5,666.9	76.4	81.9	-88.26	4,233.7	-1,264.7	1,637.2	1,479.4	157.80	10.375		
9,588.0	5,705.5	9,790.9	5,666.9	78.0	83.6	-88.30	4,325.7	-1,264.7	1,635.5	1,474.4	161.16	10.148		
9,680.0	5,705.1	9,882.9	5,666.9	79.6	85.3	-88.30	4,417.7	-1,264.7	1,634.4	1,469.8	164.59	9.930		
9,729.2	5,705.6	9,932.1	5,666.9	80.5	86.3	-88.29	4,466.9	-1,264.7	1,634.2	1,467.8	166.42	9.820		
9,771.0	5,706.4	9,973.9	5,666.9	81.2	87.1	-88.27	4,508.7	-1,264.7	1,634.3	1,466.4	167.97	9.730		
9,862.0	5,709.5	10,064.8	5,667.0	82.8	88.8	-88.22	4,599.6	-1,264.7	1,635.9	1,464.5	171.34	9.548		
9,953.0	5,711.5	10,155.8	5,667.0	84.4	90.5	-88.08	4,690.6	-1,264.7	1,637.5	1,462.9	174.61	9.378		
10,045.0	5,710.5	10,247.8	5,667.0	86.0	92.3	-88.13	4,782.6	-1,264.6	1,637.2	1,459.4	177.86	9.205		
10,138.6	5,709.1	10,341.3	5,667.0	87.7	94.1	-88.17	4,876.1	-1,264.6	1,636.5	1,455.1	181.40	9.022		
10,158.0	5,708.8	10,360.8	5,667.0	88.0	94.4	-88.17	4,895.6	-1,264.6	1,636.6	1,454.4	182.13	8.985		
10,249.0	5,707.2	10,451.8	5,667.0	89.6	96.2	-88.23	4,986.5	-1,264.6	1,636.8	1,451.3	185.48	8.825		
10,340.0	5,705.5	10,542.7	5,667.0	91.2	97.9	-88.29	5,077.5	-1,264.6	1,637.4	1,448.5	188.86	8.670		
10,431.0	5,703.7	10,633.7	5,667.0	92.9	99.6	-88.35	5,168.5	-1,264.6	1,638.1	1,445.9	192.20	8.523		
10,523.0	5,701.6	10,725.7	5,667.0	94.5	101.4	-88.43	5,260.5	-1,264.6	1,638.4	1,442.8	195.60	8.376		
10,614.0	5,700.1	10,816.7	5,667.0	96.1	103.1	-88.47	5,351.4	-1,264.6	1,639.5	1,440.5	199.03	8.238		
10,706.0	5,700.4	10,908.7	5,667.0	97.7	104.9	-88.48	5,443.4	-1,264.6	1,641.1	1,438.7	202.36	8.110		
10,798.0	5,701.2	11,000.6	5,667.0	99.3	106.6	-88.47	5,535.4	-1,264.6	1,644.5	1,438.9	205.62	7.998		
10,890.0	5,701.8	11,092.4	5,667.0	101.0	108.4	-88.46	5,627.2	-1,264.6	1,649.8	1,440.8	209.06	7.892		
10,981.0	5,702.8	11,183.4	5,667.0	102.6	110.1	-88.42	5,718.1	-1,264.6	1,653.2	1,440.7	212.44	7.782		
11,073.0	5,705.3	11,275.3	5,667.0	104.2	111.9	-88.29	5,810.1	-1,264.6	1,653.7	1,438.1	215.64	7.669		
11,164.0	5,708.5	11,366.2	5,667.0	105.8	113.6	-88.19	5,901.0	-1,264.6	1,652.7	1,433.7	218.98	7.547		
11,256.0	5,712.3	11,458.2	5,667.0	107.4	115.4	-88.05	5,992.9	-1,264.6	1,651.9	1,429.5	222.38	7.428		
11,300.0	5,713.9	11,502.1	5,667.0	108.2	116.2	-88.00	6,036.9	-1,264.6	1,651.3	1,427.4	223.87	7.376		
11,324.3	5,714.4	11,526.4	5,667.0	108.6	116.7	-88.00	6,061.2	-1,264.6	1,651.0	1,426.1	224.94	7.340		
11,400.0	5,716.9	11,602.0	5,667.0	110.0	118.1	-88.06	6,136.8	-1,264.6	1,653.4	1,425.8	227.65	7.263		
11,449.2	5,719.2	11,651.0	5,667.0	110.8	119.0	-88.15	6,185.8	-1,264.5	1,657.7	1,428.8	228.89	7.242		
11,459.2	5,719.7	11,661.0	5,667.0	111.0	119.2	-88.13	6,195.7	-1,264.5	1,658.7	1,429.5	229.25	7.235		
11,500.0	5,721.7	11,701.5	5,667.0	111.7	120.0	-88.00	6,236.3	-1,264.5	1,662.8	1,431.8	230.94	7.200		
11,600.0	5,725.6	11,801.1	5,667.0	113.5	121.9	-87.74	6,335.9	-1,264.5	1,670.5	1,435.6	234.96	7.110		
11,700.0	5,727.9	11,901.0	5,667.0	115.3	123.8	-87.59	6,435.8	-1,264.5	1,675.1	1,436.3	238.78	7.015		
11,800.0	5,728.8	12,001.0	5,667.0	117.1	125.7	-87.54	6,535.7	-1,264.5	1,676.4	1,434.0	242.38	6.916		
11,860.2	5,728.5	12,061.1	5,667.0	118.2	126.9	-87.56	6,595.9	-1,264.5	1,675.7	1,431.2	244.45	6.855		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2211A - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
11,900.0	5,728.2	12,100.9	5,667.0	118.9	127.6	-87.57	6,635.7	-1,264.5	1,674.8	1,428.9	245.93	6.810		
12,000.0	5,727.3	12,200.9	5,667.0	120.7	129.5	-87.59	6,735.7	-1,264.5	1,672.6	1,423.0	249.64	6.700		
12,100.0	5,726.5	12,300.9	5,667.0	122.5	131.5	-87.62	6,835.7	-1,264.5	1,670.5	1,417.1	253.36	6.593		
12,200.0	5,725.7	12,400.9	5,667.0	124.3	133.4	-87.64	6,935.6	-1,264.5	1,668.3	1,411.2	257.07	6.490		
12,300.0	5,724.8	12,500.8	5,667.0	126.1	135.3	-87.67	7,035.6	-1,264.5	1,666.1	1,405.3	260.79	6.389		
12,400.0	5,724.0	12,600.8	5,667.0	127.9	137.2	-87.70	7,135.6	-1,264.5	1,663.9	1,399.4	264.52	6.290		
12,500.0	5,723.1	12,700.8	5,667.0	129.7	139.1	-87.72	7,235.6	-1,264.5	1,661.8	1,393.5	268.25	6.195		
12,600.0	5,722.3	12,800.8	5,667.0	131.6	141.0	-87.75	7,335.5	-1,264.5	1,659.6	1,387.6	271.98	6.102		
12,700.0	5,721.4	12,900.7	5,667.0	133.4	142.9	-87.77	7,435.5	-1,264.5	1,657.4	1,381.7	275.72	6.011		
12,800.0	5,720.6	13,000.7	5,667.0	135.2	144.8	-87.80	7,535.5	-1,264.5	1,655.2	1,375.8	279.45	5.923		
12,900.0	5,719.8	13,100.7	5,667.0	137.0	146.8	-87.83	7,635.5	-1,264.5	1,653.0	1,369.8	283.20	5.837		
12,969.6	5,719.2	13,134.3	5,667.0	138.3	147.4	-87.84	7,669.1	-1,264.4	1,651.9	1,366.8	285.11	5.794		
13,000.0	5,718.9	13,134.3	5,667.0	138.8	147.4	-87.84	7,669.1	-1,264.4	1,652.2	1,366.5	285.67	5.784		
13,100.0	5,718.1	13,134.3	5,667.0	140.7	147.4	-87.84	7,669.1	-1,264.4	1,657.1	1,369.6	287.50	5.764 SF		
13,200.0	5,717.2	13,134.3	5,667.0	142.5	147.4	-87.84	7,669.1	-1,264.4	1,667.9	1,378.6	289.33	5.765		
13,300.0	5,716.4	13,134.3	5,667.0	144.3	147.4	-87.84	7,669.1	-1,264.4	1,684.6	1,393.5	291.17	5.786		
13,400.0	5,715.6	13,134.3	5,667.0	146.2	147.4	-87.84	7,669.1	-1,264.4	1,707.1	1,414.1	293.01	5.826		
13,465.4	5,715.0	13,134.3	5,667.0	147.2	147.4	-87.84	7,669.1	-1,264.4	1,724.7	1,430.7	294.03	5.866		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #3													Offset Site Error: 0.0 ft	
Survey Program: 0-ISCSWA MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
0.0	0.0	7.2	7.2	0.0	0.0	-94.35	-95.4	-1,254.1	1,257.7					
138.0	138.0	145.2	145.2	0.1	0.2	-66.49	-95.4	-1,254.1	1,257.3	1,257.0	0.33	3,782.298		
168.0	168.0	175.2	175.2	0.2	0.3	-80.21	-95.4	-1,254.1	1,257.2	1,256.7	0.46	2,724.490		
259.0	259.0	266.2	266.2	0.4	0.5	-72.37	-95.4	-1,254.1	1,256.8	1,256.0	0.86	1,464.480		
353.0	353.0	360.2	360.2	0.6	0.7	-72.95	-95.4	-1,254.1	1,256.3	1,255.0	1.27	992.662		
372.8	372.7	380.0	380.0	0.6	0.7	-90.00	-95.4	-1,254.1	1,256.3	1,254.9	1.35	929.281		
445.0	444.9	452.1	452.1	0.8	0.9	-124.32	-95.4	-1,254.1	1,256.9	1,255.3	1.67	753.526		
536.0	535.8	543.0	543.0	1.0	1.1	-143.01	-95.4	-1,254.1	1,260.4	1,258.3	2.08	605.131		
627.0	626.6	633.8	633.8	1.2	1.3	-150.38	-95.4	-1,254.1	1,265.9	1,263.5	2.49	508.145		
719.0	718.3	725.5	725.5	1.4	1.5	-148.13	-95.4	-1,254.1	1,272.0	1,269.1	2.90	438.161		
811.0	810.0	817.2	817.2	1.6	1.7	-152.09	-95.4	-1,254.1	1,278.6	1,275.3	3.32	385.143		
902.0	900.6	907.9	907.9	1.9	1.9	-146.66	-95.4	-1,254.1	1,285.3	1,281.6	3.73	344.940		
993.0	991.3	998.5	998.5	2.1	2.1	-134.07	-95.4	-1,254.1	1,291.2	1,287.0	4.13	312.408		
1,085.0	1,083.0	1,090.2	1,090.2	2.3	2.3	-133.70	-95.4	-1,254.1	1,296.8	1,292.3	4.56	284.567		
1,176.0	1,173.6	1,180.8	1,180.8	2.6	2.5	-139.77	-95.4	-1,254.1	1,302.9	1,297.9	4.97	261.944		
1,268.0	1,265.3	1,272.5	1,272.5	2.8	2.7	-133.73	-95.4	-1,254.1	1,308.2	1,302.9	5.38	242.956		
1,360.0	1,357.1	1,364.3	1,364.3	3.0	2.9	-136.33	-95.4	-1,254.1	1,312.9	1,307.1	5.80	226.420		
1,451.0	1,447.8	1,455.0	1,455.0	3.2	3.1	-147.71	-95.4	-1,254.1	1,317.9	1,311.7	6.21	212.316		
1,580.0	1,576.5	1,637.7	1,637.7	3.5	3.5	-152.02	-93.3	-1,251.5	1,324.4	1,317.5	6.89	192.117		
1,645.0	1,641.3	1,727.1	1,726.9	3.7	3.7	-154.62	-89.8	-1,247.2	1,325.4	1,318.2	7.23	183.306		
1,736.0	1,732.1	1,818.1	1,817.7	3.9	3.9	-125.20	-85.8	-1,242.2	1,324.7	1,317.1	7.63	173.538		
1,827.0	1,822.9	1,909.1	1,908.4	4.1	4.1	-118.76	-81.9	-1,237.3	1,322.0	1,314.0	8.03	164.598		
1,919.0	1,914.8	2,001.1	2,000.2	4.3	4.4	-138.56	-77.8	-1,232.3	1,320.2	1,311.7	8.44	156.429		
2,011.0	2,006.6	2,093.1	2,091.9	4.6	4.6	-140.47	-73.8	-1,227.3	1,319.3	1,310.4	8.85	149.056		
2,102.0	2,097.4	2,184.0	2,182.7	4.8	4.8	-139.08	-69.8	-1,222.4	1,318.1	1,308.9	9.25	142.443		
2,194.0	2,189.3	2,276.0	2,274.5	5.0	5.0	-138.09	-65.8	-1,217.4	1,316.7	1,307.0	9.66	136.278		
2,286.0	2,281.1	2,368.0	2,366.2	5.2	5.2	-136.39	-61.7	-1,212.4	1,314.8	1,304.7	10.07	130.562		
2,369.4	2,364.3	2,451.4	2,449.4	5.4	5.4	-153.21	-58.1	-1,207.9	1,313.9	1,303.4	10.44	125.865		
2,377.0	2,372.0	2,459.0	2,457.0	5.4	5.4	-154.33	-57.8	-1,207.4	1,313.9	1,303.4	10.47	125.462		
2,468.0	2,462.8	2,550.0	2,547.8	5.6	5.7	-154.30	-53.8	-1,202.5	1,313.7	1,302.8	10.88	120.748		
2,559.0	2,553.6	2,641.0	2,638.5	5.8	5.9	-147.98	-49.8	-1,197.6	1,313.1	1,301.8	11.28	116.359		
2,651.0	2,645.4	2,733.0	2,730.3	6.0	6.1	-142.98	-45.7	-1,192.6	1,312.3	1,300.6	11.70	112.181		
2,742.0	2,736.3	2,824.0	2,821.1	6.3	6.3	-135.71	-41.8	-1,187.6	1,311.1	1,299.0	12.11	108.272		
2,826.5	2,820.6	2,908.5	2,905.4	6.5	6.5	-161.79	-38.0	-1,183.0	1,310.5	1,298.1	12.49	104.958		
2,833.0	2,827.1	2,915.0	2,911.9	6.5	6.6	-163.73	-37.8	-1,182.7	1,310.5	1,298.0	12.52	104.715		
2,924.0	2,917.9	3,006.0	3,002.6	6.7	6.8	-159.46	-33.8	-1,177.8	1,310.4	1,297.5	12.92	101.419		
3,015.0	3,008.8	3,097.0	3,093.4	6.9	7.0	-130.79	-29.8	-1,172.8	1,309.1	1,295.8	13.33	98.194		
3,107.0	3,100.7	3,188.9	3,185.1	7.1	7.2	-129.70	-25.8	-1,167.8	1,306.8	1,293.0	13.75	95.044		
3,198.0	3,191.5	3,279.9	3,275.9	7.3	7.5	-145.98	-21.8	-1,162.9	1,305.4	1,291.2	14.16	92.195		
3,290.0	3,283.3	3,371.9	3,367.7	7.5	7.7	-135.63	-17.7	-1,157.9	1,304.7	1,290.1	14.58	89.483		
3,378.6	3,371.7	3,443.6	3,439.2	7.7	7.9	-129.41	-14.8	-1,154.3	1,303.9	1,289.0	14.94	87.287		
3,382.0	3,375.1	3,446.1	3,441.7	7.8	7.9	-129.20	-14.7	-1,154.2	1,303.9	1,289.0	14.95	87.212		
3,474.0	3,466.9	3,500.0	3,495.6	8.0	8.0	-151.53	-13.2	-1,152.3	1,305.5	1,290.2	15.27	85.510		
3,565.0	3,557.7	3,577.9	3,573.5	8.2	8.1	-157.29	-12.2	-1,151.0	1,309.1	1,293.5	15.60	83.910		
3,657.0	3,649.5	3,661.2	3,656.7	8.4	8.3	-154.48	-12.1	-1,150.9	1,314.4	1,298.4	15.96	82.355		
3,748.0	3,740.3	3,752.0	3,747.5	8.6	8.5	-141.89	-12.1	-1,150.9	1,319.6	1,303.3	16.35	80.706		
3,840.0	3,832.1	3,843.7	3,839.3	8.8	8.7	-139.98	-12.1	-1,150.9	1,324.6	1,307.8	16.76	79.044		
3,932.0	3,923.9	3,935.6	3,931.1	9.1	8.8	-150.84	-12.1	-1,150.9	1,329.2	1,312.0	17.16	77.472		
4,024.0	4,015.7	4,027.4	4,022.9	9.3	9.0	-132.66	-12.1	-1,150.9	1,334.0	1,316.5	17.56	75.961		
4,115.0	4,106.4	4,118.1	4,113.6	9.5	9.2	-149.87	-12.1	-1,150.9	1,339.6	1,321.6	17.96	74.586		
4,206.0	4,197.2	4,208.8	4,204.4	9.7	9.4	-147.23	-12.1	-1,150.9	1,345.1	1,326.7	18.36	73.252		
4,297.0	4,288.0	4,299.7	4,295.2	9.9	9.6	-144.57	-12.1	-1,150.9	1,349.7	1,331.0	18.76	71.940		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total Uncertainty Axis	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
4,388.0	4,378.9	4,390.6	4,386.1	10.2	9.8	-105.95	-12.1	-1,150.9	1,352.4	1,333.3	19.15	70.609		
4,479.0	4,469.8	4,481.5	4,477.0	10.4	10.0	-123.18	-12.1	-1,150.9	1,354.3	1,334.8	19.56	69.245		
4,570.0	4,560.6	4,572.3	4,567.8	10.6	10.2	-154.62	-12.1	-1,150.9	1,358.6	1,338.6	19.95	68.100		
4,661.0	4,651.4	4,663.1	4,658.6	10.8	10.4	-157.64	-12.1	-1,150.9	1,364.0	1,343.7	20.35	67.037		
4,753.0	4,743.2	4,754.9	4,750.4	11.0	10.6	-142.93	-12.1	-1,150.9	1,369.2	1,348.4	20.75	65.979		
4,844.0	4,834.0	4,845.7	4,841.3	11.2	10.8	-144.30	-12.1	-1,150.9	1,373.8	1,352.6	21.15	64.942		
4,936.0	4,925.9	4,937.6	4,933.1	11.4	11.0	-148.32	-12.1	-1,150.9	1,377.5	1,356.0	21.55	63.908		
5,027.0	5,016.9	5,028.5	5,024.1	11.6	11.2	-152.60	-12.1	-1,150.9	1,380.6	1,358.7	21.95	62.907		
5,119.0	5,108.8	5,120.5	5,116.0	11.8	11.4	170.95	-12.1	-1,150.9	1,382.5	1,360.2	22.33	61.907		
5,210.0	5,199.7	6,100.0	5,753.4	12.0	17.7	-90.90	532.2	-996.6	1,365.7	1,336.1	29.58	46.173		
5,240.0	5,229.4	6,100.0	5,753.4	12.1	17.7	-93.10	532.2	-996.6	1,354.0	1,324.4	29.59	45.752		
5,271.0	5,259.7	6,100.0	5,753.4	12.2	17.7	-92.34	532.2	-996.6	1,342.5	1,312.9	29.63	45.302		
5,301.0	5,288.6	6,100.0	5,753.4	12.3	17.7	-87.82	532.2	-996.6	1,331.5	1,301.8	29.67	44.880		
5,331.0	5,317.1	6,100.0	5,753.4	12.4	17.7	-87.17	532.2	-996.6	1,320.5	1,290.8	29.74	44.403		
5,362.0	5,346.1	6,122.6	5,753.4	12.6	18.0	-88.98	554.1	-991.1	1,309.5	1,279.3	30.17	43.411		
5,393.0	5,374.4	6,130.2	5,753.4	12.7	18.1	-91.94	561.4	-989.3	1,299.6	1,269.2	30.39	42.761		
5,423.0	5,401.2	6,138.4	5,753.4	12.8	18.2	-94.15	569.4	-987.4	1,291.1	1,260.4	30.65	42.118		
5,453.0	5,427.3	6,147.3	5,753.4	13.0	18.3	-93.96	578.1	-985.3	1,283.3	1,252.4	30.91	41.521		
5,484.0	5,453.4	6,157.4	5,753.4	13.2	18.4	-92.01	587.9	-983.1	1,275.5	1,244.4	31.16	40.936		
5,514.0	5,477.6	6,168.0	5,753.4	13.4	18.5	-92.16	598.3	-980.7	1,268.1	1,236.7	31.46	40.307		
5,545.0	5,501.7	6,179.7	5,753.4	13.6	18.7	-91.02	609.7	-978.2	1,260.7	1,228.9	31.78	39.674		
5,575.0	5,524.1	6,200.0	5,753.4	13.8	18.9	-89.80	629.6	-974.1	1,253.5	1,221.3	32.19	38.941		
5,605.0	5,545.5	6,200.0	5,753.4	14.0	18.9	-91.08	629.6	-974.1	1,246.6	1,214.2	32.45	38.413		
5,636.0	5,566.3	6,200.0	5,753.4	14.3	18.9	-92.83	629.6	-974.1	1,240.8	1,208.0	32.76	37.879		
5,666.0	5,585.2	6,232.3	5,753.4	14.6	19.3	-93.17	661.3	-967.9	1,235.8	1,202.2	33.57	36.816		
5,697.0	5,603.3	6,247.6	5,753.4	14.9	19.5	-94.31	676.3	-965.1	1,232.1	1,197.9	34.16	36.064		
5,728.0	5,620.1	6,263.5	5,753.4	15.2	19.8	-94.60	692.0	-962.4	1,229.5	1,194.8	34.75	35.378		
5,758.0	5,635.0	6,279.4	5,753.4	15.5	20.0	-94.60	707.6	-959.8	1,227.9	1,192.6	35.34	34.751		
5,788.0	5,648.3	6,300.0	5,753.4	15.9	20.2	-94.39	728.0	-956.6	1,227.0	1,191.0	36.00	34.085		
5,812.6	5,657.8	6,300.0	5,753.4	16.1	20.2	-94.43	728.0	-956.6	1,226.7	1,190.4	36.30	33.789		
5,819.0	5,660.0	6,300.0	5,753.4	16.2	20.2	-94.43	728.0	-956.6	1,226.7	1,190.3	36.39	33.714		
5,837.4	5,666.0	6,323.9	5,753.4	16.5	20.6	-94.01	751.6	-953.3	1,226.6	1,189.6	36.97	33.177 CC		
5,849.0	5,669.4	6,330.6	5,753.4	16.6	20.7	-93.88	758.3	-952.3	1,226.7	1,189.5	37.22	32.958		
5,880.0	5,676.9	6,348.9	5,753.4	17.0	20.9	-93.69	776.5	-950.0	1,227.3	1,189.4	37.93	32.357		
5,910.0	5,682.0	6,366.9	5,753.4	17.4	21.2	-93.28	794.3	-947.9	1,228.3	1,189.7	38.57	31.845		
5,940.0	5,685.0	6,400.0	5,753.4	17.8	21.6	-93.05	827.3	-944.4	1,229.8	1,190.3	39.50	31.132		
5,971.0	5,686.4	6,400.0	5,753.4	18.3	21.6	-92.85	827.3	-944.4	1,231.6	1,191.7	39.95	30.830		
6,002.0	5,686.7	6,422.6	5,753.4	18.7	21.9	-92.77	849.8	-942.3	1,233.8	1,193.1	40.70	30.317		
6,032.0	5,686.5	6,440.8	5,753.4	19.1	22.2	-92.71	867.9	-940.9	1,236.0	1,194.6	41.34	29.901		
6,054.0	5,686.0	6,454.1	5,753.4	19.5	22.4	-92.69	881.2	-939.9	1,237.6	1,195.7	41.83	29.587		
6,141.0	5,683.0	6,500.0	5,753.4	20.7	23.1	-92.72	927.0	-937.4	1,243.9	1,200.2	43.66	28.488		
6,236.0	5,680.4	6,564.0	5,753.4	22.1	24.0	-92.98	991.0	-935.6	1,251.7	1,205.9	45.88	27.284		
6,331.0	5,679.6	6,645.3	5,753.4	23.4	25.2	-93.00	1,072.2	-935.5	1,260.4	1,212.1	48.33	26.082		
6,426.0	5,680.2	6,740.0	5,753.3	24.8	26.7	-93.07	1,166.9	-935.5	1,267.6	1,216.5	51.07	24.822		
6,520.0	5,682.9	6,833.7	5,753.3	26.1	28.2	-92.99	1,260.7	-935.5	1,274.2	1,220.2	53.96	23.615		
6,615.0	5,686.0	6,928.5	5,753.3	27.6	29.8	-92.78	1,355.4	-935.5	1,279.7	1,223.0	56.75	22.551		
6,688.0	5,688.1	7,001.4	5,753.3	28.7	31.0	-92.67	1,428.3	-935.4	1,283.2	1,224.0	59.20	21.674		
6,783.0	5,689.7	7,096.2	5,753.3	30.3	32.6	-92.55	1,523.2	-935.4	1,288.3	1,225.9	62.37	20.656		
6,878.0	5,691.3	7,191.1	5,753.3	31.8	34.2	-92.48	1,618.0	-935.4	1,292.8	1,227.4	65.46	19.751		
6,973.0	5,692.7	7,286.0	5,753.3	33.4	35.8	-92.37	1,713.0	-935.4	1,295.4	1,227.0	68.39	18.940		
7,068.0	5,692.7	7,381.0	5,753.3	35.0	37.5	-92.33	1,807.9	-935.4	1,298.5	1,226.5	72.00	18.034		
7,162.0	5,692.7	7,474.8	5,753.3	36.5	39.1	-92.38	1,901.8	-935.4	1,303.9	1,228.7	75.22	17.336		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCWSA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning	
7,257.0	5,693.5	7,569.5	5,753.3	38.0	40.8	-92.35	1,996.5	-935.4	1,311.2	1,232.6	78.58	16.687		
7,352.0	5,693.6	7,664.1	5,753.3	39.6	42.5	-92.25	2,091.1	-935.4	1,319.8	1,237.9	81.90	16.114		
7,447.0	5,694.4	7,759.0	5,753.3	41.2	44.2	-92.26	2,185.9	-935.4	1,325.0	1,240.3	84.67	15.648		
7,542.0	5,697.1	7,853.9	5,753.3	42.8	45.9	-92.15	2,280.9	-935.4	1,326.5	1,238.5	87.98	15.078		
7,637.0	5,699.7	7,948.9	5,753.3	44.4	47.6	-91.99	2,375.8	-935.4	1,326.8	1,235.8	91.03	14.575		
7,731.0	5,700.2	8,042.9	5,753.3	46.0	49.4	-91.99	2,469.8	-935.3	1,325.6	1,231.3	94.34	14.052		
7,826.0	5,699.7	8,137.8	5,753.3	47.6	51.1	-92.02	2,564.8	-935.3	1,323.2	1,225.7	97.46	13.577		
7,921.0	5,700.2	8,232.8	5,753.3	49.2	52.8	-91.96	2,659.7	-935.3	1,319.6	1,218.8	100.80	13.092		
8,015.0	5,700.4	8,326.7	5,753.3	50.8	54.6	-92.01	2,753.7	-935.3	1,316.4	1,212.1	104.31	12.620		
8,110.0	5,699.2	8,421.7	5,753.3	52.5	56.3	-92.05	2,848.6	-935.3	1,315.0	1,206.9	108.04	12.171		
8,205.0	5,698.9	8,516.6	5,753.3	54.1	58.1	-92.03	2,943.6	-935.3	1,312.6	1,201.8	110.80	11.846		
8,300.0	5,698.7	8,611.5	5,753.3	55.7	59.8	-92.11	3,038.5	-935.3	1,308.5	1,194.1	114.40	11.438		
8,395.0	5,697.9	8,706.5	5,753.2	57.4	61.6	-92.11	3,133.4	-935.3	1,305.1	1,187.3	117.88	11.072		
8,466.6	5,697.9	8,778.1	5,753.2	58.6	62.9	-92.11	3,205.1	-935.3	1,304.0	1,183.1	120.89	10.786		
8,489.0	5,697.9	8,800.5	5,753.2	58.9	63.3	-92.11	3,227.4	-935.3	1,304.1	1,182.3	121.79	10.708		
8,581.0	5,698.5	8,892.5	5,753.2	60.5	65.1	-92.10	3,319.4	-935.3	1,305.2	1,180.1	125.12	10.432		
8,673.0	5,699.9	8,984.4	5,753.2	62.1	66.8	-92.05	3,411.4	-935.3	1,307.2	1,178.7	128.52	10.171		
8,764.0	5,701.7	9,075.4	5,753.2	63.6	68.5	-91.96	3,502.3	-935.2	1,309.3	1,177.5	131.73	9.939		
8,856.0	5,701.9	9,167.3	5,753.2	65.3	70.2	-91.91	3,594.3	-935.2	1,311.4	1,176.2	135.17	9.702		
8,948.0	5,700.7	9,259.3	5,753.2	66.8	71.9	-91.96	3,686.3	-935.2	1,314.1	1,175.6	138.51	9.487		
9,039.0	5,699.4	9,350.2	5,753.2	68.4	73.6	-91.98	3,777.2	-935.2	1,317.7	1,175.8	141.92	9.285		
9,130.0	5,699.6	9,441.2	5,753.2	70.0	75.3	-92.01	3,868.1	-935.2	1,319.8	1,175.1	144.77	9.117		
9,221.0	5,702.5	9,532.1	5,753.2	71.6	77.1	-91.85	3,959.1	-935.2	1,319.1	1,171.1	147.93	8.917		
9,313.0	5,705.5	9,624.0	5,753.2	73.2	78.8	-91.71	4,051.0	-935.2	1,316.3	1,165.6	150.77	8.731		
9,405.0	5,707.2	9,715.9	5,753.2	74.8	80.5	-91.63	4,142.8	-935.2	1,311.2	1,157.5	153.76	8.528		
9,496.0	5,707.0	9,806.8	5,753.2	76.4	82.2	-91.73	4,233.8	-935.2	1,307.5	1,149.5	157.96	8.277		
9,588.0	5,705.5	9,898.8	5,753.2	78.0	84.0	-91.79	4,325.7	-935.2	1,305.9	1,144.6	161.31	8.096		
9,680.0	5,705.1	9,990.8	5,753.2	79.6	85.7	-91.79	4,417.7	-935.2	1,304.8	1,140.0	164.78	7.918		
9,736.5	5,705.7	10,047.3	5,753.2	80.6	86.8	-91.77	4,474.2	-935.2	1,304.6	1,137.7	166.93	7.815		
9,771.0	5,706.4	10,081.7	5,753.2	81.2	87.4	-91.75	4,508.7	-935.1	1,304.7	1,136.4	168.23	7.755		
9,862.0	5,709.5	10,172.7	5,753.2	82.8	89.2	-91.66	4,599.6	-935.1	1,306.0	1,134.3	171.74	7.605		
9,953.0	5,711.5	10,263.6	5,753.2	84.4	90.9	-91.51	4,690.6	-935.1	1,307.5	1,132.6	174.93	7.475		
10,045.0	5,710.5	10,355.6	5,753.2	86.0	92.6	-91.57	4,782.6	-935.1	1,307.3	1,129.3	178.04	7.343		
10,133.6	5,709.1	10,444.2	5,753.2	87.6	94.3	-91.61	4,871.2	-935.1	1,306.7	1,125.2	181.47	7.201		
10,158.0	5,708.8	10,468.6	5,753.2	88.0	94.8	-91.63	4,895.6	-935.1	1,306.7	1,124.3	182.40	7.164		
10,249.0	5,707.2	10,559.6	5,753.2	89.6	96.5	-91.69	4,986.6	-935.1	1,307.1	1,121.3	185.74	7.037		
10,340.0	5,705.5	10,650.6	5,753.1	91.2	98.2	-91.76	5,077.5	-935.1	1,307.8	1,118.6	189.15	6.914		
10,431.0	5,703.7	10,741.5	5,753.1	92.9	99.9	-91.84	5,168.5	-935.1	1,308.5	1,116.1	192.44	6.800		
10,523.0	5,701.6	10,833.5	5,753.1	94.5	101.7	-91.94	5,260.5	-935.1	1,309.0	1,113.2	195.82	6.685		
10,614.0	5,700.1	10,924.5	5,753.1	96.1	103.4	-91.99	5,351.5	-935.1	1,310.2	1,110.9	199.34	6.573		
10,706.0	5,700.4	11,016.5	5,753.1	97.7	105.2	-92.00	5,443.4	-935.1	1,311.7	1,109.1	202.59	6.475		
10,798.0	5,701.2	11,108.4	5,753.1	99.3	106.9	-91.97	5,535.4	-935.1	1,315.1	1,109.0	206.18	6.379		
10,890.0	5,701.8	11,200.3	5,753.1	101.0	108.7	-91.94	5,627.2	-935.0	1,320.4	1,110.9	209.54	6.302		
10,981.0	5,702.8	11,291.2	5,753.1	102.6	110.4	-91.88	5,718.1	-935.0	1,323.7	1,111.0	212.75	6.222		
11,073.0	5,705.3	11,383.1	5,753.1	104.2	112.1	-91.73	5,810.1	-935.0	1,324.1	1,108.4	215.73	6.138		
11,164.0	5,708.5	11,474.1	5,753.1	105.8	113.9	-91.60	5,901.0	-935.0	1,322.9	1,103.8	219.10	6.038		
11,256.0	5,712.3	11,566.0	5,753.1	107.4	115.6	-91.43	5,993.0	-935.0	1,321.8	1,099.3	222.53	5.940		
11,300.0	5,713.9	11,610.0	5,753.1	108.2	116.4	-91.37	6,036.9	-935.0	1,321.1	1,097.1	223.98	5.898		
11,326.0	5,714.4	11,636.0	5,753.1	108.7	116.9	-91.37	6,062.9	-935.0	1,320.8	1,095.6	225.25	5.864		
11,400.0	5,716.9	11,709.9	5,753.1	110.0	118.4	-91.41	6,136.8	-935.0	1,323.1	1,094.8	228.29	5.796		
11,449.2	5,719.2	11,758.9	5,753.1	110.8	119.3	-91.47	6,185.8	-935.0	1,327.2	1,097.4	229.80	5.775		
11,459.2	5,719.7	11,768.8	5,753.1	111.0	119.5	-91.45	6,195.8	-935.0	1,328.2	1,098.0	230.17	5.771		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Offset Design S27-T10N-R58W - Razor #27J-2212B - HZ - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-ISCSWA MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor		
11,500.0	5,721.7	11,809.3	5,753.1	111.7	120.2	-91.29	6,236.3	-935.0	1,332.2	1,100.4	231.79	5.747		
11,600.0	5,725.6	11,908.9	5,753.1	113.5	122.1	-90.98	6,335.9	-935.0	1,339.7	1,104.1	235.64	5.685		
11,700.0	5,727.9	12,008.8	5,753.1	115.3	124.0	-90.79	6,435.8	-935.0	1,344.1	1,104.8	239.28	5.617		
11,800.0	5,728.8	12,108.8	5,753.1	117.1	126.0	-90.73	6,535.8	-935.0	1,345.4	1,102.7	242.71	5.543		
11,860.2	5,728.5	12,169.0	5,753.1	118.2	127.1	-90.75	6,595.9	-934.9	1,344.7	1,100.0	244.66	5.496		
11,900.0	5,728.2	12,208.8	5,753.1	118.9	127.9	-90.76	6,635.7	-934.9	1,343.8	1,097.7	246.14	5.460		
12,000.0	5,727.3	12,308.7	5,753.1	120.7	129.8	-90.80	6,735.7	-934.9	1,341.7	1,091.9	249.84	5.370		
12,100.0	5,726.5	12,408.7	5,753.1	122.5	131.7	-90.84	6,835.7	-934.9	1,339.6	1,086.0	253.55	5.283		
12,200.0	5,725.7	12,508.7	5,753.0	124.3	133.6	-90.87	6,935.7	-934.9	1,337.4	1,080.2	257.26	5.199		
12,300.0	5,724.8	12,608.7	5,753.0	126.1	135.5	-90.91	7,035.6	-934.9	1,335.3	1,074.3	260.98	5.117		
12,400.0	5,724.0	12,708.6	5,753.0	127.9	137.4	-90.95	7,135.6	-934.9	1,333.2	1,068.5	264.70	5.037		
12,500.0	5,723.1	12,808.6	5,753.0	129.7	139.3	-90.99	7,235.6	-934.9	1,331.0	1,062.6	268.42	4.959		
12,600.0	5,722.3	12,908.6	5,753.0	131.6	141.2	-91.03	7,335.6	-934.9	1,328.9	1,056.7	272.15	4.883		
12,700.0	5,721.4	13,008.6	5,753.0	133.4	143.1	-91.06	7,435.5	-934.9	1,326.8	1,050.9	275.88	4.809		
12,800.0	5,720.6	13,108.5	5,753.0	135.2	145.0	-91.10	7,535.5	-934.9	1,324.6	1,045.0	279.61	4.737		
12,900.0	5,719.8	13,208.5	5,753.0	137.0	146.9	-91.14	7,635.5	-934.8	1,322.5	1,039.2	283.34	4.667		
12,968.4	5,719.2	13,248.7	5,753.0	138.3	147.7	-91.15	7,675.7	-934.8	1,321.3	1,036.0	285.36	4.630		
13,000.0	5,718.9	13,248.7	5,753.0	138.8	147.7	-91.15	7,675.7	-934.8	1,321.7	1,035.8	285.94	4.622 ES		
13,100.0	5,718.1	13,248.7	5,753.0	140.7	147.7	-91.15	7,675.7	-934.8	1,327.9	1,040.1	287.77	4.614 SF		
13,200.0	5,717.2	13,248.7	5,753.0	142.5	147.7	-91.15	7,675.7	-934.8	1,341.5	1,051.8	289.68	4.631		
13,300.0	5,716.4	13,248.7	5,753.0	144.3	147.7	-91.15	7,675.7	-934.8	1,362.3	1,070.7	291.61	4.672		
13,400.0	5,715.6	13,248.7	5,753.0	146.2	147.7	-91.15	7,675.7	-934.8	1,390.0	1,096.5	293.55	4.735		
13,465.4	5,715.0	13,248.7	5,753.0	147.2	147.7	-91.15	7,675.7	-934.8	1,411.7	1,117.1	294.63	4.791		

Company:	Whiting Petroleum Corporation	Local Co-ordinate Reference:	Well Razor #27I-2216B
Project:	Weld County, CO	TVD Reference:	HZ @ 4773.3ft
Reference Site:	S27-T10N-R58W	MD Reference:	HZ @ 4773.3ft
Site Error:	0.0ft	North Reference:	True
Reference Well:	Razor #27I-2216B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Stk #1	Database:	USA EDM 5000 Multi Users DB
Reference Design:	Plan #1a	Offset TVD Reference:	Offset Datum

Reference Depths are relative to HZ @ 4773.3ft

Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Razor #27I-2216B

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 1.07°

