



Whiting Petroleum Corp.

Weld County, CO

Sec 25-T10N-R58W

Razor #25P-2448

Hz

APD

Anticollision Report

27 May, 2015



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference	APD		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,550.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	3.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	5/27/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,974.81	APD (Hz)	MWD+IFR1+MS+sag	Fixed:v2:crustal dec & 3-axis correction + sag	

Summary						
	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Site Name Offset Well - Wellbore - Design						
Sec 25-T10N-R58W						
Razor #25P-2413 - Hz - APD	300.00	300.00	102.93	101.31	63.735	CC, ES
Razor #25P-2413 - Hz - APD	15,974.81	15,722.97	878.39	590.51	3.051	SF
Razor #25P-2414 - Hz - APD	300.00	300.00	78.42	76.81	48.560	CC, ES
Razor #25P-2414 - Hz - APD	15,974.81	15,714.20	543.92	263.97	1.943	SF
Razor #25P-2415 - Hz - APD	300.00	300.00	58.36	56.74	36.135	CC
Razor #25P-2415 - Hz - APD	400.00	401.53	58.79	56.57	26.423	ES
Razor #25P-2415 - Hz - APD	15,974.81	15,631.67	343.90	168.70	1.963	SF
Razor #25P-2416 - Hz - APD	785.25	787.78	49.55	44.87	10.586	CC
Razor #25P-2416 - Hz - APD	1,000.00	1,002.34	50.37	44.21	8.180	ES
Razor #25P-2416 - Hz - APD	15,974.81	15,755.17	280.79	78.78	1.390	Level 3, SF
Razor #25P-2445 - Hz - APD	300.00	300.00	89.98	88.37	55.719	CC, ES
Razor #25P-2445 - Hz - APD	15,974.81	15,902.83	994.69	692.14	3.288	SF
Razor #25P-2446 - Hz - APD	300.00	300.00	59.99	58.38	37.149	CC, ES
Razor #25P-2446 - Hz - APD	15,974.81	16,035.43	659.56	355.08	2.166	SF
Razor #25P-2447 - Hz - APD	300.00	300.00	30.01	28.39	18.582	CC, ES
Razor #25P-2447 - Hz - APD	15,974.81	15,864.36	345.49	52.94	1.181	Level 2, SF

Offset Design												Sec 25-T10N-R58W - Razor #25P-2413 - Hz - APD		Offset Site Error:		0.00 usft	
Survey Program:												0-MWD+IFR1+MS+sag		Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Distance								Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)						
0.00	0.00	0.00	0.00	0.00	0.00	-61.84	48.57	-90.75	102.93								
100.00	100.00	100.00	100.00	0.13	0.13	-61.84	48.57	-90.75	102.93	102.66	0.27	386.445					
200.00	200.00	200.00	200.00	0.47	0.47	-61.84	48.57	-90.75	102.93	101.99	0.94	109.424					
300.00	300.00	300.00	300.00	0.81	0.81	-61.84	48.57	-90.75	102.93	101.31	1.61	63.735	CC, ES				
400.00	399.98	397.59	397.57	1.11	1.11	147.95	48.01	-92.31	105.55	103.32	2.23	47.310					
500.00	499.86	494.81	494.66	1.41	1.42	147.30	46.31	-96.97	113.03	110.20	2.84	39.858					
600.00	599.73	591.50	590.99	1.72	1.74	145.75	43.51	-104.67	123.22	119.75	3.47	35.532					
700.00	699.59	687.46	686.28	2.04	2.07	143.49	39.63	-115.33	135.89	131.77	4.12	32.964					
800.00	799.45	782.81	780.53	2.37	2.43	140.80	34.70	-128.88	151.23	146.43	4.80	31.528					
900.00	899.31	881.15	877.52	2.71	2.81	138.24	29.15	-144.13	167.93	162.45	5.47	30.675					
1,000.00	999.18	979.49	974.51	3.05	3.20	136.14	23.59	-159.38	184.90	178.75	6.15	30.049					
1,100.00	1,099.04	1,077.84	1,071.51	3.39	3.60	134.40	18.04	-174.63	202.07	195.23	6.84	29.560					

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



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Anticollision Report

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Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,200.00	1,198.90	1,176.18	1,168.50	3.73	4.00	132.93	12.49	-189.89	219.40	211.87	7.52	29.171		
1,300.00	1,298.77	1,274.52	1,265.50	4.08	4.40	131.67	6.94	-205.14	236.84	228.63	8.21	28.855		
1,400.00	1,398.63	1,372.87	1,362.49	4.42	4.81	130.59	1.39	-220.39	254.38	245.48	8.90	28.594		
1,500.00	1,498.49	1,471.21	1,459.49	4.77	5.21	129.64	-4.16	-235.64	272.00	262.41	9.59	28.375		
1,600.00	1,598.36	1,569.55	1,556.48	5.12	5.62	128.82	-9.71	-250.90	289.68	279.40	10.28	28.188		
1,700.00	1,698.22	1,667.90	1,653.48	5.46	6.03	128.08	-15.27	-266.15	307.41	296.44	10.97	28.030		
1,800.00	1,798.08	1,766.24	1,750.47	5.81	6.44	127.43	-20.82	-281.40	325.19	313.53	11.66	27.892		
1,900.00	1,897.94	1,864.58	1,847.47	6.16	6.85	126.84	-26.37	-296.65	343.00	330.65	12.35	27.771		
2,000.00	1,997.81	1,962.93	1,944.46	6.51	7.26	126.32	-31.92	-311.91	360.84	347.80	13.04	27.665		
2,100.00	2,097.67	2,061.27	2,041.46	6.85	7.67	125.84	-37.47	-327.16	378.71	364.98	13.74	27.571		
2,200.00	2,197.53	2,159.61	2,138.45	7.20	8.08	125.40	-43.02	-342.41	396.61	382.18	14.43	27.487		
2,300.00	2,297.40	2,257.96	2,235.45	7.55	8.49	125.01	-48.57	-357.66	414.52	399.40	15.12	27.412		
2,400.00	2,397.26	2,356.30	2,332.44	7.90	8.90	124.64	-54.13	-372.92	432.45	416.64	15.82	27.344		
2,500.00	2,497.12	2,454.64	2,429.43	8.25	9.31	124.31	-59.68	-388.17	450.40	433.89	16.51	27.282		
2,600.00	2,596.99	2,552.99	2,526.43	8.60	9.72	124.00	-65.23	-403.42	468.36	451.16	17.20	27.226		
2,700.00	2,696.85	2,651.33	2,623.42	8.95	10.13	123.71	-70.78	-418.67	486.34	468.44	17.90	27.174		
2,800.00	2,796.71	2,749.67	2,720.42	9.29	10.55	123.44	-76.33	-433.93	504.32	485.73	18.59	27.127		
2,900.00	2,896.57	2,848.02	2,817.41	9.64	10.96	123.19	-81.88	-449.18	522.31	503.03	19.29	27.083		
3,000.00	2,996.44	2,946.36	2,914.41	9.99	11.37	122.96	-87.43	-464.43	540.32	520.34	19.98	27.043		
3,100.00	3,096.30	3,044.70	3,011.40	10.34	11.78	122.75	-92.99	-479.68	558.33	537.65	20.67	27.006		
3,200.00	3,196.16	3,143.05	3,108.40	10.69	12.20	122.54	-98.54	-494.94	576.35	554.98	21.37	26.971		
3,300.00	3,296.03	3,241.39	3,205.39	11.04	12.61	122.35	-104.09	-510.19	594.37	572.31	22.06	26.939		
3,400.00	3,395.89	3,339.73	3,302.39	11.39	13.02	122.17	-109.64	-525.44	612.40	589.64	22.76	26.909		
3,500.00	3,495.75	3,438.08	3,399.38	11.74	13.43	122.00	-115.19	-540.69	630.44	606.99	23.45	26.880		
3,600.00	3,595.61	3,536.42	3,496.38	12.09	13.85	121.84	-120.74	-555.95	648.48	624.33	24.15	26.854		
3,700.00	3,695.48	3,634.76	3,593.37	12.44	14.26	121.69	-126.29	-571.20	666.53	641.68	24.84	26.829		
3,800.00	3,795.34	3,733.11	3,690.37	12.79	14.67	121.55	-131.85	-586.45	684.58	659.04	25.54	26.805		
3,900.00	3,895.20	3,831.45	3,787.36	13.14	15.09	121.41	-137.40	-601.70	702.63	676.40	26.23	26.783		
4,000.00	3,995.07	3,929.79	3,884.35	13.48	15.50	121.28	-142.95	-616.96	720.69	693.76	26.93	26.762		
4,100.00	4,094.93	4,028.14	3,981.35	13.83	15.91	121.16	-148.50	-632.21	738.75	711.13	27.63	26.742		
4,200.00	4,194.79	4,126.48	4,078.34	14.18	16.32	121.04	-154.05	-647.46	756.82	728.49	28.32	26.723		
4,300.00	4,294.73	4,224.94	4,175.46	14.48	16.74	121.12	-159.61	-662.73	774.00	745.00	29.00	26.691		
4,400.00	4,394.72	4,323.56	4,272.72	14.77	17.15	-89.15	-165.18	-678.03	789.65	760.01	29.64	26.640		
4,500.00	4,494.72	4,439.08	4,386.77	15.03	17.56	-89.62	-171.45	-695.28	804.63	774.38	30.24	26.605		
4,600.00	4,594.72	4,574.30	4,521.01	15.29	17.92	-90.02	-176.98	-710.47	815.86	785.03	30.83	26.459		
4,700.00	4,694.72	4,710.77	4,657.10	15.55	18.26	-90.25	-180.36	-719.75	822.67	791.23	31.44	26.170		
4,800.00	4,794.72	4,847.86	4,794.14	15.82	18.58	-90.33	-181.52	-722.92	824.99	792.94	32.05	25.738		
4,900.00	4,894.72	4,948.44	4,894.72	16.09	18.84	-90.33	-181.52	-722.92	824.99	792.99	32.60	25.303		
5,000.00	4,994.72	5,048.44	4,994.72	16.36	19.09	-90.33	-181.52	-722.92	824.99	791.84	33.15	24.885		
5,081.85	5,076.57	5,130.53	5,076.62	16.59	19.29	-90.03	-177.13	-722.92	824.98	791.38	33.60	24.551		
5,100.00	5,094.72	5,148.45	5,094.34	16.64	19.34	-89.84	-174.50	-722.92	824.98	791.28	33.70	24.478		
5,200.00	5,194.72	5,242.64	5,185.37	16.91	19.54	-88.20	-150.79	-722.93	825.44	791.21	34.24	24.110		
5,300.00	5,294.72	5,326.09	5,261.30	17.19	19.70	-85.82	-116.40	-722.93	827.86	793.12	34.74	23.831		
5,400.00	5,394.37	5,400.00	5,323.23	17.47	19.82	-82.81	-76.16	-722.93	833.35	798.12	35.23	23.654		
5,500.00	5,490.95	5,470.69	5,376.56	17.72	19.90	-79.87	-29.84	-722.93	840.77	805.11	35.66	23.578		
5,600.00	5,580.92	5,538.92	5,421.63	17.96	19.97	-77.19	21.32	-722.93	849.14	813.15	35.99	23.595		
5,700.00	5,660.98	5,600.00	5,456.01	18.20	20.01	-74.95	71.76	-722.93	857.62	821.40	36.21	23.683		
5,800.00	5,728.18	5,670.64	5,488.08	18.44	20.04	-72.90	134.64	-722.94	865.31	828.92	36.39	23.777		
5,900.00	5,780.06	5,734.97	5,509.66	18.73	20.06	-71.42	195.20	-722.94	871.65	835.06	36.59	23.823		
6,000.00	5,814.71	5,800.00	5,523.71	19.09	20.08	-70.41	258.65	-722.94	876.09	839.18	36.91	23.736		
6,100.00	5,830.85	5,862.12	5,529.66	19.51	20.12	-69.94	320.45	-722.95	878.31	840.87	37.43	23.464		
6,200.00	5,832.00	5,951.15	5,530.00	20.00	20.22	-69.89	409.48	-722.95	878.51	840.24	38.28	22.952		

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



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Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,300.00	5,832.00	6,051.15	5,530.00	20.59	20.52	-69.89	509.48	-722.95	878.51	839.18	39.33	22.335		
6,400.00	5,832.00	6,151.15	5,530.00	21.26	21.02	-69.89	609.48	-722.96	878.51	837.96	40.55	21.663		
6,500.00	5,832.00	6,251.15	5,530.00	22.02	21.68	-69.89	709.48	-722.96	878.51	836.59	41.92	20.956		
6,600.00	5,832.00	6,351.15	5,530.00	22.84	22.43	-69.89	809.48	-722.97	878.51	835.08	43.43	20.229		
6,700.00	5,832.00	6,451.15	5,530.00	23.73	23.27	-69.89	909.48	-722.97	878.51	833.45	45.06	19.498		
6,800.00	5,832.00	6,551.15	5,530.00	24.67	24.16	-69.89	1,009.48	-722.97	878.51	831.71	46.79	18.774		
6,900.00	5,832.00	6,651.15	5,530.00	25.66	25.12	-69.89	1,109.48	-722.98	878.50	829.88	48.63	18.066		
7,000.00	5,832.00	6,751.15	5,530.00	26.69	26.12	-69.89	1,209.48	-722.98	878.50	827.95	50.55	17.379		
7,100.00	5,832.00	6,851.15	5,530.00	27.77	27.17	-69.89	1,309.48	-722.99	878.50	825.95	52.55	16.717		
7,200.00	5,832.00	6,951.15	5,530.00	28.88	28.25	-69.89	1,409.48	-722.99	878.50	823.88	54.62	16.084		
7,300.00	5,832.00	7,051.15	5,530.00	30.02	29.37	-69.89	1,509.48	-723.00	878.50	821.75	56.75	15.480		
7,400.00	5,832.00	7,151.15	5,530.00	31.19	30.52	-69.89	1,609.48	-723.00	878.50	819.56	58.93	14.907		
7,500.00	5,832.00	7,251.15	5,530.00	32.38	31.69	-69.89	1,709.48	-723.00	878.50	817.33	61.17	14.362		
7,600.00	5,832.00	7,351.15	5,530.00	33.60	32.89	-69.89	1,809.48	-723.01	878.49	815.05	63.45	13.847		
7,700.00	5,832.00	7,451.15	5,530.00	34.84	34.11	-69.89	1,909.48	-723.01	878.49	812.73	65.76	13.359		
7,800.00	5,832.00	7,551.15	5,530.00	36.09	35.34	-69.89	2,009.48	-723.02	878.49	810.38	68.11	12.897		
7,900.00	5,832.00	7,651.15	5,530.00	37.36	36.60	-69.89	2,109.48	-723.02	878.49	807.99	70.50	12.461		
8,000.00	5,832.00	7,751.15	5,530.00	38.64	37.87	-69.89	2,209.48	-723.03	878.49	805.58	72.91	12.049		
8,100.00	5,832.00	7,851.15	5,530.00	39.94	39.15	-69.89	2,309.48	-723.03	878.49	803.14	75.35	11.659		
8,200.00	5,832.00	7,951.15	5,530.00	41.25	40.45	-69.89	2,409.48	-723.03	878.49	800.68	77.81	11.290		
8,300.00	5,832.00	8,051.15	5,530.00	42.57	41.76	-69.89	2,509.48	-723.04	878.49	798.19	80.29	10.941		
8,400.00	5,832.00	8,151.15	5,530.00	43.89	43.08	-69.89	2,609.48	-723.04	878.48	795.69	82.79	10.610		
8,500.00	5,832.00	8,251.15	5,530.00	45.23	44.40	-69.89	2,709.48	-723.05	878.48	793.17	85.31	10.297		
8,600.00	5,832.00	8,351.15	5,530.00	46.58	45.74	-69.89	2,809.48	-723.05	878.48	790.63	87.85	10.000		
8,700.00	5,832.00	8,451.15	5,530.00	47.93	47.08	-69.89	2,909.48	-723.06	878.48	788.08	90.40	9.718		
8,800.00	5,832.00	8,551.15	5,530.00	49.29	48.44	-69.89	3,009.48	-723.06	878.48	785.51	92.96	9.450		
8,900.00	5,832.00	8,651.15	5,530.00	50.66	49.79	-69.89	3,109.48	-723.06	878.48	782.94	95.54	9.195		
9,000.00	5,832.00	8,751.15	5,530.00	52.03	51.16	-69.89	3,209.48	-723.07	878.48	780.35	98.13	8.952		
9,100.00	5,832.00	8,851.15	5,530.00	53.40	52.53	-69.89	3,309.48	-723.07	878.47	777.75	100.73	8.721		
9,200.00	5,832.00	8,951.15	5,530.00	54.79	53.90	-69.89	3,409.48	-723.08	878.47	775.14	103.34	8.501		
9,300.00	5,832.00	9,051.15	5,530.00	56.17	55.28	-69.89	3,509.48	-723.08	878.47	772.52	105.95	8.291		
9,400.00	5,832.00	9,151.15	5,530.00	57.56	56.67	-69.89	3,609.48	-723.08	878.47	769.89	108.58	8.091		
9,500.00	5,832.00	9,251.15	5,530.00	58.96	58.06	-69.89	3,709.48	-723.09	878.47	767.26	111.21	7.899		
9,600.00	5,832.00	9,351.15	5,530.00	60.36	59.45	-69.89	3,809.48	-723.09	878.47	764.61	113.85	7.716		
9,700.00	5,832.00	9,451.15	5,530.00	61.76	60.85	-69.89	3,909.48	-723.10	878.47	761.97	116.50	7.540		
9,800.00	5,832.00	9,551.15	5,530.00	63.16	62.25	-69.89	4,009.48	-723.10	878.47	759.31	119.16	7.372		
9,900.00	5,832.00	9,651.15	5,530.00	64.57	63.65	-69.89	4,109.48	-723.11	878.46	756.65	121.82	7.211		
10,000.00	5,832.00	9,751.15	5,530.00	65.98	65.06	-69.89	4,209.48	-723.11	878.46	753.98	124.48	7.057		
10,100.00	5,832.00	9,851.15	5,530.00	67.40	66.47	-69.89	4,309.48	-723.11	878.46	751.31	127.15	6.909		
10,200.00	5,832.00	9,951.15	5,530.00	68.81	67.88	-69.89	4,409.48	-723.12	878.46	748.63	129.83	6.766		
10,300.00	5,832.00	10,051.15	5,530.00	70.23	69.29	-69.89	4,509.48	-723.12	878.46	745.95	132.51	6.630		
10,400.00	5,832.00	10,151.15	5,530.00	71.65	70.71	-69.89	4,609.48	-723.13	878.46	743.27	135.19	6.498		
10,500.00	5,832.00	10,251.15	5,530.00	73.07	72.13	-69.89	4,709.48	-723.13	878.46	740.58	137.88	6.371		
10,600.00	5,832.00	10,351.15	5,530.00	74.50	73.55	-69.89	4,809.48	-723.14	878.45	737.88	140.57	6.249		
10,700.00	5,832.00	10,451.15	5,530.00	75.92	74.97	-69.89	4,909.48	-723.14	878.45	735.19	143.27	6.132		
10,800.00	5,832.00	10,551.15	5,530.00	77.35	76.40	-69.89	5,009.48	-723.14	878.45	732.48	145.97	6.018		
10,900.00	5,832.00	10,651.15	5,530.00	78.78	77.82	-69.89	5,109.48	-723.15	878.45	729.78	148.67	5.909		
11,000.00	5,832.00	10,751.15	5,530.00	80.21	79.25	-69.89	5,209.48	-723.15	878.45	727.07	151.38	5.803		
11,100.00	5,832.00	10,851.15	5,530.00	81.64	80.68	-69.89	5,309.48	-723.16	878.45	724.36	154.08	5.701		
11,200.00	5,832.00	10,951.15	5,530.00	83.08	82.11	-69.89	5,409.48	-723.16	878.45	721.65	156.79	5.603		
11,300.00	5,832.00	11,051.15	5,530.00	84.51	83.55	-69.89	5,509.48	-723.17	878.45	718.94	159.51	5.507		
11,400.00	5,832.00	11,151.15	5,530.00	85.95	84.98	-69.89	5,609.48	-723.17	878.44	716.22	162.22	5.415		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
11,500.00	5,832.00	11,251.15	5,530.00	87.39	86.41	-69.89	5,709.48	-723.17	878.44	713.50	164.94	5.326		
11,600.00	5,832.00	11,351.15	5,530.00	88.82	87.85	-69.89	5,809.48	-723.18	878.44	710.78	167.66	5.239		
11,700.00	5,832.00	11,451.15	5,530.00	90.26	89.29	-69.89	5,909.48	-723.18	878.44	708.05	170.39	5.156		
11,800.00	5,832.00	11,551.15	5,530.00	91.70	90.73	-69.89	6,009.48	-723.19	878.44	705.33	173.11	5.074		
11,900.00	5,832.00	11,651.15	5,530.00	93.15	92.17	-69.89	6,109.48	-723.19	878.44	702.60	175.84	4.996		
12,000.00	5,832.00	11,751.15	5,530.00	94.59	93.61	-69.89	6,209.48	-723.19	878.44	699.87	178.57	4.919		
12,100.00	5,832.00	11,851.15	5,530.00	96.03	95.05	-69.89	6,309.48	-723.20	878.43	697.14	181.30	4.845		
12,200.00	5,832.00	11,951.15	5,530.00	97.48	96.49	-69.89	6,409.48	-723.20	878.43	694.40	184.03	4.773		
12,300.00	5,832.00	12,051.15	5,530.00	98.92	97.93	-69.89	6,509.48	-723.21	878.43	691.67	186.76	4.703		
12,400.00	5,832.00	12,151.15	5,530.00	100.37	99.38	-69.89	6,609.48	-723.21	878.43	688.93	189.50	4.636		
12,500.00	5,832.00	12,251.15	5,530.00	101.81	100.82	-69.89	6,709.48	-723.22	878.43	686.20	192.23	4.570		
12,600.00	5,832.00	12,351.15	5,530.00	103.26	102.27	-69.89	6,809.48	-723.22	878.43	683.46	194.97	4.505		
12,700.00	5,832.00	12,451.15	5,530.00	104.71	103.71	-69.89	6,909.48	-723.22	878.43	680.71	197.71	4.443		
12,800.00	5,832.00	12,551.15	5,530.00	106.16	105.16	-69.89	7,009.48	-723.23	878.43	677.97	200.45	4.382		
12,900.00	5,832.00	12,651.15	5,530.00	107.61	106.61	-69.89	7,109.48	-723.23	878.42	675.23	203.19	4.323		
13,000.00	5,832.00	12,751.15	5,530.00	109.06	108.06	-69.89	7,209.48	-723.24	878.42	672.49	205.94	4.265		
13,100.00	5,832.00	12,851.15	5,530.00	110.51	109.51	-69.89	7,309.48	-723.24	878.42	669.74	208.68	4.209		
13,200.00	5,832.00	12,951.15	5,530.00	111.96	110.96	-69.89	7,409.48	-723.25	878.42	666.99	211.43	4.155		
13,300.00	5,832.00	13,051.15	5,530.00	113.41	112.41	-69.89	7,509.48	-723.25	878.42	664.25	214.17	4.101		
13,400.00	5,832.00	13,151.15	5,530.00	114.86	113.86	-69.89	7,609.48	-723.25	878.42	661.50	216.92	4.049		
13,500.00	5,832.00	13,251.15	5,530.00	116.31	115.31	-69.89	7,709.48	-723.26	878.42	658.75	219.67	3.999		
13,600.00	5,832.00	13,351.15	5,530.00	117.77	116.76	-69.89	7,809.48	-723.26	878.41	656.00	222.42	3.949		
13,700.00	5,832.00	13,451.15	5,530.00	119.22	118.21	-69.89	7,909.48	-723.27	878.41	653.24	225.17	3.901		
13,800.00	5,832.00	13,551.15	5,530.00	120.67	119.67	-69.89	8,009.48	-723.27	878.41	650.49	227.92	3.854		
13,900.00	5,832.00	13,651.15	5,530.00	122.13	121.12	-69.89	8,109.48	-723.28	878.41	647.74	230.67	3.808		
14,000.00	5,832.00	13,751.15	5,530.00	123.58	122.57	-69.89	8,209.48	-723.28	878.41	644.98	233.43	3.763		
14,100.00	5,832.00	13,851.15	5,530.00	125.04	124.03	-69.89	8,309.48	-723.28	878.41	642.23	236.18	3.719		
14,200.00	5,832.00	13,951.15	5,530.00	126.49	125.48	-69.89	8,409.48	-723.29	878.41	639.47	238.93	3.676		
14,300.00	5,832.00	14,051.15	5,530.00	127.95	126.94	-69.89	8,509.48	-723.29	878.41	636.72	241.69	3.634		
14,400.00	5,832.00	14,151.15	5,530.00	129.41	128.39	-69.89	8,609.48	-723.30	878.40	633.96	244.44	3.593		
14,500.00	5,832.00	14,251.15	5,530.00	130.86	129.85	-69.89	8,709.48	-723.30	878.40	631.20	247.20	3.553		
14,600.00	5,832.00	14,351.15	5,530.00	132.32	131.30	-69.89	8,809.48	-723.31	878.40	628.44	249.96	3.514		
14,700.00	5,832.00	14,451.15	5,530.00	133.78	132.76	-69.89	8,909.48	-723.31	878.40	625.69	252.72	3.476		
14,800.00	5,832.00	14,551.15	5,530.00	135.23	134.21	-69.89	9,009.48	-723.31	878.40	622.93	255.47	3.438		
14,900.00	5,832.00	14,651.15	5,530.00	136.69	135.67	-69.89	9,109.48	-723.32	878.40	620.17	258.23	3.402		
15,000.00	5,832.00	14,751.15	5,530.00	138.15	137.13	-69.89	9,209.48	-723.32	878.40	617.40	260.99	3.366		
15,100.00	5,832.00	14,851.15	5,530.00	139.61	138.59	-69.89	9,309.48	-723.33	878.40	614.64	263.75	3.330		
15,200.00	5,832.00	14,951.15	5,530.00	141.07	140.04	-69.89	9,409.48	-723.33	878.39	611.88	266.51	3.296		
15,300.00	5,832.00	15,051.15	5,530.00	142.53	141.50	-69.89	9,509.48	-723.33	878.39	609.12	269.27	3.262		
15,400.00	5,832.00	15,151.15	5,530.00	143.99	142.96	-69.89	9,609.48	-723.34	878.39	606.36	272.04	3.229		
15,500.00	5,832.00	15,251.15	5,530.00	145.45	144.42	-69.89	9,709.48	-723.34	878.39	603.59	274.80	3.196		
15,600.00	5,832.00	15,351.15	5,530.00	146.91	145.88	-69.89	9,809.48	-723.35	878.39	600.83	277.56	3.165		
15,700.00	5,832.00	15,451.15	5,530.00	148.37	147.34	-69.89	9,909.48	-723.35	878.39	598.06	280.32	3.133		
15,800.00	5,832.00	15,551.15	5,530.00	149.83	148.80	-69.89	10,009.48	-723.36	878.39	595.30	283.09	3.103		
15,900.00	5,832.00	15,651.15	5,530.00	151.29	150.26	-69.89	10,109.48	-723.36	878.38	592.53	285.85	3.073		
15,953.99	5,832.00	15,705.14	5,530.00	152.07	151.04	-69.89	10,163.47	-723.36	878.38	591.04	287.34	3.057		
15,974.81	5,832.00	15,722.97	5,530.00	152.38	151.30	-69.89	10,181.29	-723.36	878.39	590.51	287.88	3.051 SF		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-50.78	49.59	-60.75	78.42					
100.00	100.00	100.00	100.00	0.13	0.13	-50.78	49.59	-60.75	78.42	78.15	0.27	294.430		
200.00	200.00	200.00	200.00	0.47	0.47	-50.78	49.59	-60.75	78.42	77.48	0.94	83.369		
300.00	300.00	300.00	300.00	0.81	0.81	-50.78	49.59	-60.75	78.42	76.81	1.61	48.560 CC, ES		
400.00	399.98	398.93	398.91	1.11	1.12	158.51	48.76	-62.25	80.70	78.47	2.23	36.157		
500.00	499.86	497.53	497.38	1.41	1.42	156.53	46.29	-66.71	87.19	84.36	2.83	30.784		
600.00	599.73	596.35	595.86	1.72	1.75	153.31	42.34	-73.82	95.55	92.08	3.47	27.570		
700.00	699.59	695.82	694.95	2.04	2.08	150.36	38.14	-81.40	104.41	100.29	4.12	25.370		
800.00	799.45	795.30	794.05	2.37	2.42	147.88	33.94	-88.99	113.50	108.72	4.78	23.750		
900.00	899.31	894.77	893.14	2.71	2.77	145.76	29.73	-96.57	122.77	117.32	5.45	22.524		
1,000.00	999.18	994.25	992.24	3.05	3.13	143.95	25.53	-104.15	132.18	126.05	6.13	21.570		
1,100.00	1,099.04	1,093.72	1,091.34	3.39	3.48	142.38	21.33	-111.74	141.70	134.90	6.81	20.812		
1,200.00	1,198.90	1,193.20	1,190.43	3.73	3.84	141.01	17.12	-119.32	151.32	143.83	7.49	20.196		
1,300.00	1,298.77	1,292.67	1,289.53	4.08	4.20	139.80	12.92	-126.90	161.02	152.84	8.18	19.688		
1,400.00	1,398.63	1,392.15	1,388.63	4.42	4.56	138.73	8.72	-134.48	170.78	161.91	8.87	19.262		
1,500.00	1,498.49	1,491.62	1,487.72	4.77	4.92	137.77	4.51	-142.07	180.59	171.03	9.55	18.901		
1,600.00	1,598.36	1,591.10	1,586.82	5.12	5.28	136.92	0.31	-149.65	190.44	180.20	10.24	18.591		
1,700.00	1,698.22	1,690.57	1,685.92	5.46	5.64	136.15	-3.89	-157.23	200.33	189.40	10.93	18.323		
1,800.00	1,798.08	1,790.05	1,785.01	5.81	6.00	135.45	-8.10	-164.82	210.26	198.63	11.62	18.088		
1,900.00	1,897.94	1,889.52	1,884.11	6.16	6.36	134.81	-12.30	-172.40	220.21	207.90	12.32	17.881		
2,000.00	1,997.81	1,989.00	1,983.21	6.51	6.72	134.23	-16.50	-179.98	230.19	217.18	13.01	17.697		
2,100.00	2,097.67	2,088.47	2,082.30	6.85	7.08	133.70	-20.70	-187.56	240.19	226.49	13.70	17.533		
2,200.00	2,197.53	2,187.95	2,181.40	7.20	7.44	133.21	-24.91	-195.15	250.21	235.82	14.39	17.386		
2,300.00	2,297.40	2,287.42	2,280.49	7.55	7.80	132.75	-29.11	-202.73	260.24	245.16	15.08	17.253		
2,400.00	2,397.26	2,386.90	2,379.59	7.90	8.17	132.34	-33.31	-210.31	270.29	254.52	15.78	17.133		
2,500.00	2,497.12	2,486.37	2,478.69	8.25	8.53	131.95	-37.52	-217.89	280.36	263.89	16.47	17.023		
2,600.00	2,596.99	2,585.85	2,577.78	8.60	8.89	131.58	-41.72	-225.48	290.43	273.27	17.16	16.923		
2,700.00	2,696.85	2,685.32	2,676.88	8.95	9.25	131.25	-45.92	-233.06	300.52	282.66	17.86	16.831		
2,800.00	2,796.71	2,784.80	2,775.98	9.29	9.62	130.93	-50.13	-240.64	310.61	292.07	18.55	16.746		
2,900.00	2,896.57	2,884.27	2,875.07	9.64	9.98	130.64	-54.33	-248.23	320.72	301.48	19.24	16.668		
3,000.00	2,996.44	2,983.75	2,974.17	9.99	10.34	130.36	-58.53	-255.81	330.83	310.90	19.94	16.595		
3,100.00	3,096.30	3,083.22	3,073.27	10.34	10.70	130.10	-62.74	-263.39	340.95	320.32	20.63	16.528		
3,200.00	3,196.16	3,182.70	3,172.36	10.69	11.07	129.85	-66.94	-270.97	351.08	329.75	21.32	16.465		
3,300.00	3,296.03	3,282.17	3,271.46	11.04	11.43	129.62	-71.14	-278.56	361.21	339.19	22.02	16.407		
3,400.00	3,395.89	3,381.65	3,370.56	11.39	11.79	129.40	-75.35	-286.14	371.35	348.64	22.71	16.352		
3,500.00	3,495.75	3,481.12	3,469.65	11.74	12.15	129.19	-79.55	-293.72	381.49	358.09	23.40	16.300		
3,600.00	3,595.61	3,580.60	3,568.75	12.09	12.52	128.99	-83.75	-301.31	391.64	367.54	24.10	16.252		
3,700.00	3,695.48	3,680.07	3,667.85	12.44	12.88	128.81	-87.96	-308.89	401.79	377.00	24.79	16.207		
3,800.00	3,795.34	3,779.55	3,766.94	12.79	13.24	128.63	-92.16	-316.47	411.95	386.46	25.49	16.164		
3,900.00	3,895.20	3,879.02	3,866.04	13.14	13.61	128.46	-96.36	-324.05	422.11	395.93	26.18	16.123		
4,000.00	3,995.07	3,978.50	3,965.13	13.48	13.97	128.30	-100.57	-331.64	432.27	405.40	26.87	16.085		
4,100.00	4,094.93	4,077.97	4,064.23	13.83	14.33	128.14	-104.77	-339.22	442.44	414.87	27.57	16.049		
4,200.00	4,194.79	4,177.45	4,163.33	14.18	14.69	128.00	-108.97	-346.80	452.61	424.34	28.26	16.014		
4,300.00	4,294.73	4,277.00	4,262.50	14.48	15.06	127.83	-113.18	-354.39	461.71	432.79	28.92	15.964		
4,400.00	4,394.72	4,376.61	4,361.73	14.77	15.42	-82.71	-117.39	-361.98	468.99	439.42	29.56	15.865		
4,500.00	4,494.72	4,476.23	4,460.97	15.03	15.78	-83.33	-121.60	-369.58	476.05	445.88	30.16	15.783		
4,600.00	4,594.72	4,575.85	4,560.22	15.29	16.15	-83.93	-125.81	-377.17	483.16	452.40	30.77	15.704		
4,700.00	4,694.72	4,679.66	4,663.64	15.55	16.51	-84.53	-130.12	-384.95	490.22	458.85	31.37	15.626		
4,800.00	4,794.72	4,796.06	4,779.84	15.82	16.81	-84.96	-133.31	-390.71	494.90	462.97	31.93	15.498		
4,900.00	4,894.72	4,910.96	4,894.72	16.09	17.12	-85.08	-134.22	-392.36	496.24	463.72	32.52	15.259		
5,000.00	4,994.72	5,010.96	4,994.72	16.36	17.40	-85.08	-134.22	-392.36	496.24	463.16	33.08	15.001		
5,062.72	5,057.45	5,073.68	5,057.45	16.53	17.56	-85.08	-134.22	-392.36	496.24	462.82	33.42	14.847		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,094.72	5,110.16	5,093.92	16.64	17.66	-85.07	-134.13	-392.36	496.25	462.63	33.62	14.759		
5,200.00	5,194.72	5,200.00	5,183.16	16.91	17.90	-83.99	-124.72	-392.36	497.28	463.14	34.15	14.564		
5,300.00	5,294.72	5,286.68	5,266.49	17.19	18.11	-81.32	-101.26	-392.36	500.94	466.29	34.65	14.456		
5,400.00	5,394.37	5,365.17	5,337.67	17.47	18.28	-77.51	-68.35	-392.36	507.95	472.82	35.12	14.461		
5,500.00	5,490.95	5,440.69	5,400.75	17.72	18.42	-74.01	-26.95	-392.36	516.20	480.71	35.49	14.546		
5,600.00	5,580.92	5,514.04	5,455.67	17.96	18.54	-71.01	21.59	-392.37	524.67	488.97	35.70	14.696		
5,700.00	5,660.98	5,585.79	5,502.28	18.20	18.64	-68.58	76.07	-392.37	532.47	496.69	35.78	14.882		
5,800.00	5,728.18	5,650.00	5,537.29	18.44	18.71	-66.85	129.84	-392.37	538.93	503.14	35.79	15.059		
5,900.00	5,780.06	5,726.23	5,569.90	18.73	18.77	-65.57	198.67	-392.37	543.34	507.47	35.88	15.145		
6,000.00	5,814.71	5,800.00	5,591.57	19.09	18.84	-65.00	269.12	-392.38	545.54	509.38	36.16	15.087		
6,100.00	5,830.85	5,864.94	5,602.25	19.51	19.03	-65.08	333.13	-392.38	545.21	508.51	36.70	14.854		
6,200.00	5,832.00	5,941.40	5,605.00	20.00	19.38	-65.34	409.49	-392.38	544.03	506.52	37.51	14.505		
6,300.00	5,832.00	6,041.40	5,605.00	20.59	19.94	-65.34	509.49	-392.39	544.03	505.50	38.52	14.122		
6,400.00	5,832.00	6,141.40	5,605.00	21.26	20.58	-65.34	609.49	-392.39	544.03	504.33	39.70	13.704		
6,500.00	5,832.00	6,241.40	5,605.00	22.02	21.30	-65.34	709.49	-392.40	544.02	503.00	41.02	13.262		
6,600.00	5,832.00	6,341.40	5,605.00	22.84	22.10	-65.34	809.49	-392.40	544.02	501.55	42.47	12.809		
6,700.00	5,832.00	6,441.40	5,605.00	23.73	22.96	-65.34	909.49	-392.40	544.02	499.98	44.04	12.352		
6,800.00	5,832.00	6,541.40	5,605.00	24.67	23.88	-65.34	1,009.49	-392.41	544.02	498.30	45.72	11.898		
6,900.00	5,832.00	6,641.40	5,605.00	25.66	24.85	-65.34	1,109.49	-392.41	544.02	496.52	47.50	11.454		
7,000.00	5,832.00	6,741.40	5,605.00	26.69	25.87	-65.34	1,209.49	-392.42	544.02	494.66	49.36	11.022		
7,100.00	5,832.00	6,841.40	5,605.00	27.77	26.93	-65.34	1,309.49	-392.42	544.02	492.73	51.29	10.607		
7,200.00	5,832.00	6,941.40	5,605.00	28.88	28.02	-65.34	1,409.49	-392.43	544.02	490.72	53.29	10.208		
7,300.00	5,832.00	7,041.40	5,605.00	30.02	29.15	-65.34	1,509.49	-392.43	544.02	488.66	55.36	9.828		
7,400.00	5,832.00	7,141.40	5,605.00	31.19	30.31	-65.34	1,609.49	-392.44	544.01	486.54	57.47	9.466		
7,500.00	5,832.00	7,241.40	5,605.00	32.38	31.50	-65.34	1,709.49	-392.44	544.01	484.38	59.64	9.122		
7,600.00	5,832.00	7,341.40	5,605.00	33.60	32.70	-65.34	1,809.49	-392.44	544.01	482.17	61.84	8.797		
7,700.00	5,832.00	7,441.40	5,605.00	34.84	33.93	-65.34	1,909.49	-392.45	544.01	479.92	64.09	8.488		
7,800.00	5,832.00	7,541.40	5,605.00	36.09	35.18	-65.34	2,009.49	-392.45	544.01	477.64	66.37	8.197		
7,900.00	5,832.00	7,641.40	5,605.00	37.36	36.44	-65.34	2,109.49	-392.46	544.01	475.33	68.68	7.921		
8,000.00	5,832.00	7,741.40	5,605.00	38.64	37.72	-65.34	2,209.49	-392.46	544.01	472.99	71.02	7.660		
8,100.00	5,832.00	7,841.40	5,605.00	39.94	39.01	-65.34	2,309.49	-392.47	544.01	470.62	73.39	7.413		
8,200.00	5,832.00	7,941.40	5,605.00	41.25	40.32	-65.34	2,409.49	-392.47	544.01	468.23	75.78	7.179		
8,300.00	5,832.00	8,041.40	5,605.00	42.57	41.63	-65.34	2,509.49	-392.48	544.00	465.82	78.18	6.958		
8,400.00	5,832.00	8,141.40	5,605.00	43.89	42.96	-65.34	2,609.49	-392.48	544.00	463.39	80.61	6.748		
8,500.00	5,832.00	8,241.40	5,605.00	45.23	44.29	-65.34	2,709.49	-392.48	544.00	460.94	83.06	6.550		
8,600.00	5,832.00	8,341.40	5,605.00	46.58	45.64	-65.34	2,809.49	-392.49	544.00	458.48	85.52	6.361		
8,700.00	5,832.00	8,441.40	5,605.00	47.93	46.99	-65.34	2,909.49	-392.49	544.00	456.00	88.00	6.182		
8,800.00	5,832.00	8,541.40	5,605.00	49.29	48.34	-65.34	3,009.49	-392.50	544.00	453.51	90.49	6.012		
8,900.00	5,832.00	8,641.40	5,605.00	50.66	49.71	-65.34	3,109.49	-392.50	544.00	451.01	92.99	5.850		
9,000.00	5,832.00	8,741.40	5,605.00	52.03	51.08	-65.34	3,209.49	-392.51	544.00	448.49	95.50	5.696		
9,100.00	5,832.00	8,841.40	5,605.00	53.40	52.45	-65.34	3,309.49	-392.51	544.00	445.97	98.03	5.550		
9,200.00	5,832.00	8,941.40	5,605.00	54.79	53.84	-65.34	3,409.49	-392.52	543.99	443.43	100.56	5.410		
9,300.00	5,832.00	9,041.40	5,605.00	56.17	55.22	-65.34	3,509.49	-392.52	543.99	440.89	103.10	5.276		
9,400.00	5,832.00	9,141.40	5,605.00	57.56	56.61	-65.34	3,609.49	-392.52	543.99	438.34	105.65	5.149		
9,500.00	5,832.00	9,241.40	5,605.00	58.96	58.00	-65.34	3,709.49	-392.53	543.99	435.78	108.21	5.027		
9,600.00	5,832.00	9,341.40	5,605.00	60.36	59.40	-65.34	3,809.49	-392.53	543.99	433.21	110.78	4.911		
9,700.00	5,832.00	9,441.40	5,605.00	61.76	60.80	-65.34	3,909.49	-392.54	543.99	430.64	113.35	4.799		
9,800.00	5,832.00	9,541.40	5,605.00	63.16	62.21	-65.34	4,009.49	-392.54	543.99	428.06	115.93	4.693		
9,900.00	5,832.00	9,641.40	5,605.00	64.57	63.61	-65.34	4,109.49	-392.55	543.99	425.47	118.51	4.590		
10,000.00	5,832.00	9,741.40	5,605.00	65.98	65.02	-65.34	4,209.49	-392.55	543.99	422.88	121.10	4.492		
10,100.00	5,832.00	9,841.40	5,605.00	67.40	66.44	-65.34	4,309.49	-392.56	543.98	420.29	123.70	4.398		
10,200.00	5,832.00	9,941.40	5,605.00	68.81	67.85	-65.34	4,409.49	-392.56	543.98	417.69	126.30	4.307		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	5,832.00	10,041.40	5,605.00	70.23	69.27	-65.34	4,509.49	-392.56	543.98	415.08	128.90	4.220		
10,400.00	5,832.00	10,141.40	5,605.00	71.65	70.69	-65.34	4,609.49	-392.57	543.98	412.47	131.51	4.136		
10,500.00	5,832.00	10,241.40	5,605.00	73.07	72.11	-65.34	4,709.49	-392.57	543.98	409.86	134.12	4.056		
10,600.00	5,832.00	10,341.40	5,605.00	74.50	73.54	-65.34	4,809.49	-392.58	543.98	407.24	136.74	3.978		
10,700.00	5,832.00	10,441.40	5,605.00	75.92	74.96	-65.34	4,909.49	-392.58	543.98	404.62	139.36	3.903		
10,800.00	5,832.00	10,541.40	5,605.00	77.35	76.39	-65.34	5,009.49	-392.59	543.98	402.00	141.98	3.831		
10,900.00	5,832.00	10,641.40	5,605.00	78.78	77.82	-65.34	5,109.49	-392.59	543.98	399.37	144.61	3.762		
11,000.00	5,832.00	10,741.40	5,605.00	80.21	79.25	-65.34	5,209.49	-392.59	543.97	396.74	147.24	3.695		
11,100.00	5,832.00	10,841.40	5,605.00	81.64	80.68	-65.34	5,309.49	-392.60	543.97	394.10	149.87	3.630		
11,200.00	5,832.00	10,941.40	5,605.00	83.08	82.12	-65.34	5,409.49	-392.60	543.97	391.47	152.50	3.567		
11,300.00	5,832.00	11,041.40	5,605.00	84.51	83.55	-65.34	5,509.49	-392.61	543.97	388.83	155.14	3.506		
11,400.00	5,832.00	11,141.40	5,605.00	85.95	84.99	-65.34	5,609.49	-392.61	543.97	386.19	157.78	3.448		
11,500.00	5,832.00	11,241.40	5,605.00	87.39	86.42	-65.34	5,709.49	-392.62	543.97	383.54	160.42	3.391		
11,600.00	5,832.00	11,341.40	5,605.00	88.82	87.86	-65.34	5,809.49	-392.62	543.97	380.90	163.07	3.336		
11,700.00	5,832.00	11,441.40	5,605.00	90.26	89.30	-65.34	5,909.49	-392.63	543.97	378.25	165.71	3.283		
11,800.00	5,832.00	11,541.40	5,605.00	91.70	90.74	-65.34	6,009.49	-392.63	543.96	375.60	168.36	3.231		
11,900.00	5,832.00	11,641.40	5,605.00	93.15	92.18	-65.34	6,109.49	-392.63	543.96	372.95	171.01	3.181		
12,000.00	5,832.00	11,741.40	5,605.00	94.59	93.63	-65.34	6,209.49	-392.64	543.96	370.30	173.67	3.132		
12,100.00	5,832.00	11,841.40	5,605.00	96.03	95.07	-65.34	6,309.49	-392.64	543.96	367.64	176.32	3.085		
12,200.00	5,832.00	11,941.40	5,605.00	97.48	96.51	-65.34	6,409.49	-392.65	543.96	364.98	178.98	3.039		
12,300.00	5,832.00	12,041.40	5,605.00	98.92	97.96	-65.34	6,509.49	-392.65	543.96	362.33	181.63	2.995		
12,400.00	5,832.00	12,141.40	5,605.00	100.37	99.40	-65.34	6,609.49	-392.66	543.96	359.67	184.29	2.952		
12,500.00	5,832.00	12,241.40	5,605.00	101.81	100.85	-65.33	6,709.49	-392.66	543.96	357.01	186.95	2.910		
12,600.00	5,832.00	12,341.40	5,605.00	103.26	102.30	-65.33	6,809.49	-392.67	543.96	354.34	189.61	2.869		
12,700.00	5,832.00	12,441.40	5,605.00	104.71	103.75	-65.33	6,909.49	-392.67	543.95	351.68	192.28	2.829		
12,800.00	5,832.00	12,541.40	5,605.00	106.16	105.19	-65.33	7,009.49	-392.67	543.95	349.01	194.94	2.790		
12,900.00	5,832.00	12,641.40	5,605.00	107.61	106.64	-65.33	7,109.49	-392.68	543.95	346.35	197.61	2.753		
13,000.00	5,832.00	12,741.40	5,605.00	109.06	108.09	-65.33	7,209.49	-392.68	543.95	343.68	200.27	2.716		
13,100.00	5,832.00	12,841.40	5,605.00	110.51	109.54	-65.33	7,309.49	-392.69	543.95	341.01	202.94	2.680		
13,200.00	5,832.00	12,941.40	5,605.00	111.96	111.00	-65.33	7,409.49	-392.69	543.95	338.34	205.61	2.646		
13,300.00	5,832.00	13,041.40	5,605.00	113.41	112.45	-65.33	7,509.49	-392.70	543.95	335.67	208.28	2.612		
13,400.00	5,832.00	13,141.40	5,605.00	114.86	113.90	-65.33	7,609.49	-392.70	543.95	333.00	210.95	2.579		
13,500.00	5,832.00	13,241.40	5,605.00	116.31	115.35	-65.33	7,709.49	-392.71	543.95	330.32	213.62	2.546		
13,600.00	5,832.00	13,341.40	5,605.00	117.77	116.80	-65.33	7,809.49	-392.71	543.94	327.65	216.30	2.515		
13,700.00	5,832.00	13,441.40	5,605.00	119.22	118.26	-65.33	7,909.49	-392.71	543.94	324.97	218.97	2.484		
13,800.00	5,832.00	13,541.40	5,605.00	120.67	119.71	-65.33	8,009.49	-392.72	543.94	322.30	221.64	2.454		
13,900.00	5,832.00	13,641.40	5,605.00	122.13	121.17	-65.33	8,109.49	-392.72	543.94	319.62	224.32	2.425		
14,000.00	5,832.00	13,741.40	5,605.00	123.58	122.62	-65.33	8,209.49	-392.73	543.94	316.95	227.00	2.396		
14,100.00	5,832.00	13,841.40	5,605.00	125.04	124.08	-65.33	8,309.49	-392.73	543.94	314.27	229.67	2.368		
14,200.00	5,832.00	13,941.40	5,605.00	126.49	125.53	-65.33	8,409.49	-392.74	543.94	311.59	232.35	2.341		
14,300.00	5,832.00	14,041.40	5,605.00	127.95	126.99	-65.33	8,509.49	-392.74	543.94	308.91	235.03	2.314		
14,400.00	5,832.00	14,141.40	5,605.00	129.41	128.44	-65.33	8,609.49	-392.75	543.94	306.23	237.71	2.288		
14,500.00	5,832.00	14,241.40	5,605.00	130.86	129.90	-65.33	8,709.49	-392.75	543.93	303.55	240.39	2.263		
14,600.00	5,832.00	14,341.40	5,605.00	132.32	131.36	-65.33	8,809.49	-392.75	543.93	300.87	243.07	2.238		
14,700.00	5,832.00	14,441.40	5,605.00	133.78	132.82	-65.33	8,909.49	-392.76	543.93	298.18	245.75	2.213		
14,800.00	5,832.00	14,541.40	5,605.00	135.23	134.27	-65.33	9,009.49	-392.76	543.93	295.50	248.43	2.189		
14,900.00	5,832.00	14,641.40	5,605.00	136.69	135.73	-65.33	9,109.49	-392.77	543.93	292.82	251.11	2.166		
15,000.00	5,832.00	14,741.40	5,605.00	138.15	137.19	-65.33	9,209.49	-392.77	543.93	290.13	253.80	2.143		
15,100.00	5,832.00	14,841.40	5,605.00	139.61	138.65	-65.33	9,309.49	-392.78	543.93	287.45	256.48	2.121		
15,200.00	5,832.00	14,941.40	5,605.00	141.07	140.11	-65.33	9,409.49	-392.78	543.93	284.76	259.16	2.099		
15,300.00	5,832.00	15,041.40	5,605.00	142.53	141.57	-65.33	9,509.49	-392.78	543.93	282.08	261.85	2.077		
15,400.00	5,832.00	15,141.40	5,605.00	143.99	143.02	-65.33	9,609.49	-392.79	543.92	279.39	264.53	2.056		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25P-2414 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,500.00	5,832.00	15,241.40	5,605.00	145.45	144.48	-65.33	9,709.49	-392.79	543.92	276.70	267.22	2.035	
15,600.00	5,832.00	15,341.40	5,605.00	146.91	145.94	-65.33	9,809.49	-392.80	543.92	274.02	269.90	2.015	
15,700.00	5,832.00	15,441.40	5,605.00	148.37	147.40	-65.33	9,909.49	-392.80	543.92	271.33	272.59	1.995	
15,800.00	5,832.00	15,541.40	5,605.00	149.83	148.86	-65.33	10,009.49	-392.81	543.92	268.64	275.28	1.976	
15,900.00	5,832.00	15,641.40	5,605.00	151.29	150.32	-65.33	10,109.49	-392.81	543.92	265.95	277.97	1.957	
15,954.30	5,832.00	15,695.70	5,605.00	152.08	151.12	-65.33	10,163.80	-392.81	543.92	264.49	279.42	1.947	
15,974.81	5,832.00	15,714.20	5,605.00	152.38	151.39	-65.33	10,182.30	-392.81	543.92	263.97	279.95	1.943 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-31.81	49.59	-30.76	58.36					
100.00	100.00	100.00	100.00	0.13	0.13	-31.81	49.59	-30.76	58.36	58.09	0.27	219.099		
200.00	200.00	200.00	200.00	0.47	0.47	-31.81	49.59	-30.76	58.36	57.42	0.94	62.039		
300.00	300.00	300.00	300.00	0.81	0.81	-31.81	49.59	-30.76	58.36	56.74	1.61	36.135 CC		
400.00	399.98	401.53	401.51	1.11	1.11	177.07	47.82	-31.07	58.79	56.57	2.22	26.423 ES		
500.00	499.86	502.56	502.40	1.41	1.42	173.90	42.67	-31.98	59.88	57.08	2.80	21.354		
600.00	599.73	602.48	602.14	1.72	1.72	170.29	36.66	-33.04	60.97	57.55	3.42	17.829		
700.00	699.59	702.40	701.87	2.04	2.04	166.82	30.66	-34.10	62.29	58.23	4.06	15.345		
800.00	799.45	802.32	801.61	2.37	2.37	163.50	24.65	-35.16	63.83	59.12	4.71	13.539		
900.00	899.31	902.25	901.34	2.71	2.71	160.35	18.64	-36.22	65.58	60.20	5.38	12.187		
1,000.00	999.18	1,002.17	1,001.08	3.05	3.06	157.38	12.63	-37.28	67.51	61.46	6.06	11.149		
1,100.00	1,099.04	1,102.09	1,100.81	3.39	3.40	154.57	6.63	-38.34	69.62	62.88	6.74	10.335		
1,200.00	1,198.90	1,202.01	1,200.55	3.73	3.75	151.94	0.62	-39.40	71.88	64.46	7.42	9.686		
1,300.00	1,298.77	1,301.93	1,300.28	4.08	4.10	149.47	-5.39	-40.46	74.29	66.18	8.11	9.160		
1,400.00	1,398.63	1,401.85	1,400.02	4.42	4.45	147.16	-11.40	-41.51	76.82	68.02	8.80	8.728		
1,500.00	1,498.49	1,501.77	1,499.75	4.77	4.80	145.00	-17.40	-42.57	79.47	69.98	9.50	8.370		
1,600.00	1,598.36	1,601.70	1,599.49	5.12	5.15	142.98	-23.41	-43.63	82.23	72.04	10.19	8.069		
1,700.00	1,698.22	1,701.62	1,699.22	5.46	5.50	141.09	-29.42	-44.69	85.08	74.19	10.89	7.814		
1,800.00	1,798.08	1,801.54	1,798.96	5.81	5.85	139.33	-35.42	-45.75	88.02	76.43	11.59	7.596		
1,900.00	1,897.94	1,901.46	1,898.69	6.16	6.20	137.69	-41.43	-46.81	91.03	78.75	12.29	7.410		
2,000.00	1,997.81	2,001.38	1,998.43	6.51	6.55	136.15	-47.44	-47.87	94.12	81.13	12.99	7.248		
2,100.00	2,097.67	2,101.30	2,098.16	6.85	6.90	134.71	-53.45	-48.93	97.27	83.58	13.69	7.107		
2,200.00	2,197.53	2,201.22	2,197.90	7.20	7.26	133.36	-59.45	-49.99	100.48	86.09	14.39	6.984		
2,300.00	2,297.40	2,301.15	2,297.63	7.55	7.61	132.09	-65.46	-51.05	103.74	88.65	15.09	6.875		
2,400.00	2,397.26	2,401.07	2,397.37	7.90	7.96	130.90	-71.47	-52.11	107.04	91.25	15.79	6.779		
2,500.00	2,497.12	2,500.99	2,497.10	8.25	8.31	129.79	-77.48	-53.17	110.39	93.90	16.49	6.694		
2,600.00	2,596.99	2,600.91	2,596.84	8.60	8.67	128.74	-83.48	-54.23	113.78	96.59	17.19	6.618		
2,700.00	2,696.85	2,700.83	2,696.57	8.95	9.02	127.75	-89.49	-55.29	117.21	99.31	17.90	6.550		
2,800.00	2,796.71	2,800.75	2,796.31	9.29	9.37	126.81	-95.50	-56.34	120.67	102.07	18.60	6.488		
2,900.00	2,896.57	2,900.67	2,896.04	9.64	9.72	125.93	-101.51	-57.40	124.16	104.86	19.30	6.433		
3,000.00	2,996.44	3,000.60	2,995.78	9.99	10.08	125.10	-107.51	-58.46	127.67	107.67	20.00	6.383		
3,100.00	3,096.30	3,100.52	3,095.51	10.34	10.43	124.31	-113.52	-59.52	131.21	110.51	20.70	6.338		
3,200.00	3,196.16	3,200.44	3,195.25	10.69	10.78	123.57	-119.53	-60.58	134.78	113.37	21.40	6.297		
3,300.00	3,296.03	3,300.36	3,294.98	11.04	11.14	122.86	-125.54	-61.64	138.37	116.26	22.11	6.259		
3,400.00	3,395.89	3,400.45	3,394.89	11.39	11.48	122.23	-131.44	-62.68	141.96	119.16	22.80	6.227		
3,500.00	3,495.75	3,501.06	3,495.44	11.74	11.73	122.63	-134.87	-63.29	145.22	121.82	23.40	6.207		
3,600.00	3,595.61	3,601.24	3,595.61	12.09	11.98	124.18	-135.29	-63.36	148.15	124.16	23.99	6.175		
3,700.00	3,695.48	3,701.10	3,695.48	12.44	12.24	125.82	-135.29	-63.36	151.16	126.57	24.59	6.148		
3,800.00	3,795.34	3,800.97	3,795.34	12.79	12.50	127.39	-135.29	-63.36	154.28	129.09	25.19	6.125		
3,900.00	3,895.20	3,900.83	3,895.20	13.14	12.77	128.90	-135.29	-63.36	157.52	131.73	25.79	6.108		
4,000.00	3,995.07	4,000.69	3,995.07	13.48	13.03	130.35	-135.29	-63.36	160.86	134.46	26.39	6.094		
4,100.00	4,094.93	4,100.56	4,094.93	13.83	13.30	131.74	-135.29	-63.36	164.30	137.30	27.00	6.085		
4,200.00	4,194.79	4,200.42	4,194.79	14.18	13.58	133.08	-135.29	-63.36	167.83	140.22	27.61	6.079		
4,300.00	4,294.73	4,300.35	4,294.73	14.48	13.85	133.97	-135.29	-63.36	170.23	142.06	28.18	6.041		
4,400.00	4,394.72	4,400.35	4,394.72	14.77	14.13	-75.92	-135.29	-63.36	170.54	141.79	28.75	5.933		
4,500.00	4,494.72	4,500.35	4,494.72	15.03	14.41	-75.92	-135.29	-63.36	170.54	141.25	29.29	5.823		
4,600.00	4,594.72	4,600.35	4,594.72	15.29	14.70	-75.92	-135.29	-63.36	170.54	140.70	29.83	5.716		
4,700.00	4,694.72	4,700.35	4,694.72	15.55	14.98	-75.92	-135.29	-63.36	170.54	140.15	30.39	5.612		
4,800.00	4,794.72	4,800.35	4,794.72	15.82	15.27	-75.92	-135.29	-63.36	170.54	139.60	30.94	5.511		
4,900.00	4,894.72	4,900.35	4,894.72	16.09	15.56	-75.92	-135.29	-63.36	170.54	139.03	31.50	5.413		
5,000.00	4,994.72	5,000.35	4,994.72	16.36	15.85	-75.92	-135.29	-63.36	170.54	138.47	32.07	5.318		
5,100.00	5,094.72	5,093.43	5,087.51	16.64	16.12	-74.01	-129.35	-63.36	172.23	139.63	32.60	5.284		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,194.72	5,180.80	5,172.38	16.91	16.35	-67.74	-109.04	-63.36	180.13	147.07	33.06	5.449		
5,300.00	5,294.72	5,259.52	5,244.99	17.19	16.54	-59.37	-78.83	-63.36	198.56	165.09	33.48	5.931		
5,400.00	5,394.37	5,330.52	5,305.90	17.47	16.70	-49.73	-42.47	-63.36	226.87	193.17	33.70	6.732		
5,500.00	5,490.95	5,400.00	5,360.20	17.72	16.87	-42.30	0.80	-63.36	256.20	222.74	33.46	7.656		
5,600.00	5,580.92	5,465.45	5,405.66	17.96	17.03	-37.13	47.84	-63.35	283.48	250.78	32.70	8.669		
5,700.00	5,660.98	5,530.67	5,444.73	18.20	17.20	-33.46	100.00	-63.35	306.96	275.44	31.52	9.739		
5,800.00	5,728.18	5,600.00	5,478.78	18.44	17.42	-30.88	160.33	-63.35	325.60	295.46	30.13	10.805		
5,900.00	5,780.06	5,650.00	5,498.21	18.73	17.59	-29.48	206.38	-63.35	338.71	309.86	28.84	11.743		
6,000.00	5,814.71	5,721.78	5,518.19	19.09	17.87	-28.62	275.27	-63.35	345.55	317.56	27.99	12.344		
6,100.00	5,830.85	5,784.88	5,527.79	19.51	18.15	-28.52	337.59	-63.35	346.39	318.53	27.86	12.435		
6,200.00	5,832.00	5,856.87	5,530.00	20.00	18.50	-28.70	409.52	-63.34	344.31	316.04	28.28	12.177		
6,300.00	5,832.00	5,956.87	5,530.00	20.59	19.07	-28.70	509.52	-63.34	344.31	315.51	28.79	11.957		
6,400.00	5,832.00	6,056.87	5,530.00	21.26	19.73	-28.70	609.52	-63.34	344.30	314.90	29.40	11.711		
6,500.00	5,832.00	6,156.87	5,530.00	22.02	20.47	-28.70	709.52	-63.33	344.30	314.21	30.09	11.443		
6,600.00	5,832.00	6,256.87	5,530.00	22.84	21.29	-28.70	809.52	-63.33	344.29	313.44	30.85	11.159		
6,700.00	5,832.00	6,356.87	5,530.00	23.73	22.18	-28.70	909.52	-63.33	344.29	312.60	31.69	10.864		
6,800.00	5,832.00	6,456.87	5,530.00	24.67	23.13	-28.70	1,009.52	-63.32	344.29	311.69	32.60	10.562		
6,900.00	5,832.00	6,556.87	5,530.00	25.66	24.13	-28.69	1,109.52	-63.32	344.28	310.72	33.56	10.258		
7,000.00	5,832.00	6,656.87	5,530.00	26.69	25.17	-28.69	1,209.52	-63.32	344.28	309.69	34.58	9.955		
7,100.00	5,832.00	6,756.87	5,530.00	27.77	26.26	-28.69	1,309.52	-63.31	344.27	308.62	35.66	9.655		
7,200.00	5,832.00	6,856.87	5,530.00	28.88	27.38	-28.69	1,409.52	-63.31	344.27	307.49	36.78	9.361		
7,300.00	5,832.00	6,956.87	5,530.00	30.02	28.54	-28.69	1,509.52	-63.31	344.26	306.32	37.94	9.074		
7,400.00	5,832.00	7,056.87	5,530.00	31.19	29.72	-28.69	1,609.52	-63.31	344.26	305.12	39.14	8.795		
7,500.00	5,832.00	7,156.87	5,530.00	32.38	30.93	-28.69	1,709.52	-63.30	344.26	303.88	40.38	8.526		
7,600.00	5,832.00	7,256.87	5,530.00	33.60	32.16	-28.69	1,809.52	-63.30	344.25	302.61	41.65	8.266		
7,700.00	5,832.00	7,356.87	5,530.00	34.84	33.41	-28.68	1,909.52	-63.30	344.25	301.30	42.94	8.016		
7,800.00	5,832.00	7,456.87	5,530.00	36.09	34.68	-28.68	2,009.52	-63.29	344.24	299.98	44.27	7.776		
7,900.00	5,832.00	7,556.87	5,530.00	37.36	35.96	-28.68	2,109.52	-63.29	344.24	298.62	45.62	7.546		
8,000.00	5,832.00	7,656.87	5,530.00	38.64	37.25	-28.68	2,209.52	-63.29	344.24	297.25	46.99	7.326		
8,100.00	5,832.00	7,756.87	5,530.00	39.94	38.56	-28.68	2,309.52	-63.28	344.23	295.85	48.38	7.115		
8,200.00	5,832.00	7,856.87	5,530.00	41.25	39.88	-28.68	2,409.52	-63.28	344.23	294.44	49.79	6.914		
8,300.00	5,832.00	7,956.87	5,530.00	42.57	41.21	-28.68	2,509.52	-63.28	344.22	293.01	51.21	6.721		
8,400.00	5,832.00	8,056.87	5,530.00	43.89	42.55	-28.68	2,609.52	-63.27	344.22	291.56	52.66	6.537		
8,500.00	5,832.00	8,156.87	5,530.00	45.23	43.90	-28.67	2,709.52	-63.27	344.21	290.10	54.11	6.361		
8,600.00	5,832.00	8,256.87	5,530.00	46.58	45.26	-28.67	2,809.52	-63.27	344.21	288.63	55.58	6.193		
8,700.00	5,832.00	8,356.87	5,530.00	47.93	46.62	-28.67	2,909.52	-63.26	344.21	287.14	57.07	6.032		
8,800.00	5,832.00	8,456.87	5,530.00	49.29	47.99	-28.67	3,009.52	-63.26	344.20	285.64	58.56	5.878		
8,900.00	5,832.00	8,556.87	5,530.00	50.66	49.37	-28.67	3,109.52	-63.26	344.20	284.13	60.07	5.730		
9,000.00	5,832.00	8,656.87	5,530.00	52.03	50.75	-28.67	3,209.52	-63.25	344.19	282.61	61.58	5.589		
9,100.00	5,832.00	8,756.87	5,530.00	53.40	52.13	-28.67	3,309.52	-63.25	344.19	281.09	63.10	5.454		
9,200.00	5,832.00	8,856.87	5,530.00	54.79	53.52	-28.67	3,409.52	-63.25	344.18	279.55	64.63	5.325		
9,300.00	5,832.00	8,956.87	5,530.00	56.17	54.92	-28.66	3,509.52	-63.25	344.18	278.01	66.17	5.201		
9,400.00	5,832.00	9,056.87	5,530.00	57.56	56.32	-28.66	3,609.52	-63.24	344.18	276.46	67.72	5.082		
9,500.00	5,832.00	9,156.87	5,530.00	58.96	57.72	-28.66	3,709.52	-63.24	344.17	274.90	69.27	4.968		
9,600.00	5,832.00	9,256.87	5,530.00	60.36	59.12	-28.66	3,809.52	-63.24	344.17	273.34	70.83	4.859		
9,700.00	5,832.00	9,356.87	5,530.00	61.76	60.53	-28.66	3,909.52	-63.23	344.16	271.77	72.40	4.754		
9,800.00	5,832.00	9,456.87	5,530.00	63.16	61.95	-28.66	4,009.52	-63.23	344.16	270.19	73.97	4.653		
9,900.00	5,832.00	9,556.87	5,530.00	64.57	63.36	-28.66	4,109.52	-63.23	344.15	268.61	75.54	4.556		
10,000.00	5,832.00	9,656.87	5,530.00	65.98	64.78	-28.65	4,209.52	-63.22	344.15	267.03	77.12	4.462		
10,100.00	5,832.00	9,756.87	5,530.00	67.40	66.20	-28.65	4,309.52	-63.22	344.15	265.44	78.71	4.372		
10,200.00	5,832.00	9,856.87	5,530.00	68.81	67.62	-28.65	4,409.52	-63.22	344.14	263.85	80.30	4.286		
10,300.00	5,832.00	9,956.87	5,530.00	70.23	69.04	-28.65	4,509.52	-63.21	344.14	262.25	81.89	4.202		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	5,832.00	10,056.87	5,530.00	71.65	70.47	-28.65	4,609.52	-63.21	344.13	260.65	83.49	4.122		
10,500.00	5,832.00	10,156.87	5,530.00	73.07	71.89	-28.65	4,709.52	-63.21	344.13	259.04	85.09	4.044		
10,600.00	5,832.00	10,256.87	5,530.00	74.50	73.32	-28.65	4,809.52	-63.20	344.13	257.43	86.69	3.970		
10,700.00	5,832.00	10,356.87	5,530.00	75.92	74.75	-28.65	4,909.52	-63.20	344.12	255.82	88.30	3.897		
10,800.00	5,832.00	10,456.87	5,530.00	77.35	76.19	-28.64	5,009.52	-63.20	344.12	254.21	89.91	3.827		
10,900.00	5,832.00	10,556.87	5,530.00	78.78	77.62	-28.64	5,109.52	-63.19	344.11	252.59	91.52	3.760		
11,000.00	5,832.00	10,656.87	5,530.00	80.21	79.06	-28.64	5,209.52	-63.19	344.11	250.97	93.14	3.695		
11,100.00	5,832.00	10,756.87	5,530.00	81.64	80.49	-28.64	5,309.52	-63.19	344.10	249.35	94.76	3.631		
11,200.00	5,832.00	10,856.87	5,530.00	83.08	81.93	-28.64	5,409.52	-63.19	344.10	247.72	96.38	3.570		
11,300.00	5,832.00	10,956.87	5,530.00	84.51	83.37	-28.64	5,509.52	-63.18	344.10	246.10	98.00	3.511		
11,400.00	5,832.00	11,056.87	5,530.00	85.95	84.81	-28.64	5,609.52	-63.18	344.09	244.47	99.62	3.454		
11,500.00	5,832.00	11,156.87	5,530.00	87.39	86.25	-28.64	5,709.52	-63.18	344.09	242.84	101.25	3.398		
11,600.00	5,832.00	11,256.87	5,530.00	88.82	87.69	-28.63	5,809.52	-63.17	344.08	241.20	102.88	3.345		
11,700.00	5,832.00	11,356.87	5,530.00	90.26	89.14	-28.63	5,909.52	-63.17	344.08	239.57	104.51	3.292		
11,800.00	5,832.00	11,456.87	5,530.00	91.70	90.58	-28.63	6,009.52	-63.17	344.07	237.93	106.14	3.242		
11,900.00	5,832.00	11,556.87	5,530.00	93.15	92.03	-28.63	6,109.52	-63.16	344.07	236.29	107.78	3.192		
12,000.00	5,832.00	11,656.87	5,530.00	94.59	93.47	-28.63	6,209.52	-63.16	344.07	234.65	109.41	3.145		
12,100.00	5,832.00	11,756.87	5,530.00	96.03	94.92	-28.63	6,309.52	-63.16	344.06	233.01	111.05	3.098		
12,200.00	5,832.00	11,856.87	5,530.00	97.48	96.36	-28.63	6,409.52	-63.15	344.06	231.37	112.69	3.053		
12,300.00	5,832.00	11,956.87	5,530.00	98.92	97.81	-28.63	6,509.52	-63.15	344.05	229.72	114.33	3.009		
12,400.00	5,832.00	12,056.87	5,530.00	100.37	99.26	-28.62	6,609.52	-63.15	344.05	228.08	115.97	2.967		
12,500.00	5,832.00	12,156.87	5,530.00	101.81	100.71	-28.62	6,709.52	-63.14	344.05	226.43	117.61	2.925		
12,600.00	5,832.00	12,256.87	5,530.00	103.26	102.16	-28.62	6,809.52	-63.14	344.04	224.78	119.26	2.885		
12,700.00	5,832.00	12,356.87	5,530.00	104.71	103.61	-28.62	6,909.52	-63.14	344.04	223.13	120.90	2.846		
12,800.00	5,832.00	12,456.87	5,530.00	106.16	105.06	-28.62	7,009.52	-63.13	344.03	221.48	122.55	2.807		
12,900.00	5,832.00	12,556.87	5,530.00	107.61	106.52	-28.62	7,109.52	-63.13	344.03	219.83	124.20	2.770		
13,000.00	5,832.00	12,656.87	5,530.00	109.06	107.97	-28.62	7,209.52	-63.13	344.02	218.18	125.85	2.734		
13,100.00	5,832.00	12,756.87	5,530.00	110.51	109.42	-28.61	7,309.52	-63.13	344.02	216.52	127.49	2.698		
13,200.00	5,832.00	12,856.87	5,530.00	111.96	110.87	-28.61	7,409.52	-63.12	344.02	214.87	129.15	2.664		
13,300.00	5,832.00	12,956.87	5,530.00	113.41	112.33	-28.61	7,509.52	-63.12	344.01	213.21	130.80	2.630		
13,400.00	5,832.00	13,056.87	5,530.00	114.86	113.78	-28.61	7,609.52	-63.12	344.01	211.56	132.45	2.597		
13,500.00	5,832.00	13,156.87	5,530.00	116.31	115.24	-28.61	7,709.52	-63.11	344.00	209.90	134.10	2.565		
13,600.00	5,832.00	13,256.87	5,530.00	117.77	116.69	-28.61	7,809.52	-63.11	344.00	208.24	135.76	2.534		
13,700.00	5,832.00	13,356.87	5,530.00	119.22	118.15	-28.61	7,909.52	-63.11	343.99	206.59	137.41	2.503		
13,800.00	5,832.00	13,456.87	5,530.00	120.67	119.60	-28.61	8,009.52	-63.10	343.99	204.93	139.06	2.474		
13,900.00	5,832.00	13,556.87	5,530.00	122.13	121.06	-28.60	8,109.52	-63.10	343.99	203.27	140.72	2.444		
14,000.00	5,832.00	13,656.87	5,530.00	123.58	122.52	-28.60	8,209.52	-63.10	343.98	201.60	142.38	2.416		
14,100.00	5,832.00	13,756.87	5,530.00	125.04	123.97	-28.60	8,309.52	-63.09	343.98	199.94	144.03	2.388		
14,200.00	5,832.00	13,856.87	5,530.00	126.49	125.43	-28.60	8,409.52	-63.09	343.97	198.28	145.69	2.361		
14,300.00	5,832.00	13,956.87	5,530.00	127.95	126.89	-28.60	8,509.52	-63.09	343.97	196.62	147.35	2.334		
14,400.00	5,832.00	14,056.87	5,530.00	129.41	128.35	-28.60	8,609.52	-63.08	343.97	194.96	149.01	2.308		
14,500.00	5,832.00	14,156.87	5,530.00	130.86	129.81	-28.60	8,709.52	-63.08	343.96	193.29	150.67	2.283		
14,600.00	5,832.00	14,256.87	5,530.00	132.32	131.26	-28.60	8,809.52	-63.08	343.96	191.63	152.33	2.258		
14,700.00	5,832.00	14,356.87	5,530.00	133.78	132.72	-28.59	8,909.52	-63.08	343.95	189.96	153.99	2.234		
14,800.00	5,832.00	14,456.87	5,530.00	135.23	134.18	-28.59	9,009.52	-63.07	343.95	188.30	155.65	2.210		
14,900.00	5,832.00	14,556.87	5,530.00	136.69	135.64	-28.59	9,109.52	-63.07	343.94	186.63	157.31	2.186		
15,000.00	5,832.00	14,656.87	5,530.00	138.15	137.10	-28.59	9,209.52	-63.07	343.94	184.97	158.97	2.163		
15,100.00	5,832.00	14,756.87	5,530.00	139.61	138.56	-28.59	9,309.52	-63.06	343.94	183.30	160.64	2.141		
15,200.00	5,832.00	14,856.87	5,530.00	141.07	140.02	-28.59	9,409.52	-63.06	343.93	181.63	162.30	2.119		
15,300.00	5,832.00	14,956.87	5,530.00	142.53	141.48	-28.59	9,509.52	-63.06	343.93	179.96	163.96	2.098		
15,400.00	5,832.00	15,056.87	5,530.00	143.99	142.94	-28.59	9,609.52	-63.05	343.92	178.30	165.63	2.076		
15,500.00	5,832.00	15,156.87	5,530.00	145.45	144.40	-28.58	9,709.52	-63.05	343.92	176.63	167.29	2.056		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25P-2415 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,600.00	5,832.00	15,256.87	5,530.00	146.91	145.87	-28.58	9,809.52	-63.05	343.91	174.96	168.96	2.036	
15,700.00	5,832.00	15,356.87	5,530.00	148.37	147.33	-28.58	9,909.52	-63.04	343.91	173.29	170.62	2.016	
15,800.00	5,832.00	15,456.87	5,530.00	149.83	148.79	-28.58	10,009.52	-63.04	343.91	171.62	172.28	1.996	
15,900.00	5,832.00	15,556.87	5,530.00	151.29	150.25	-28.58	10,109.52	-63.04	343.90	169.95	173.95	1.977	
15,974.81	5,832.00	15,631.67	5,530.00	152.38	151.34	-28.58	10,184.32	-63.03	343.90	168.70	175.20	1.963 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-0.89	49.59	-0.77	49.60					
100.00	100.00	100.00	100.00	0.13	0.13	-0.89	49.59	-0.77	49.60	49.33	0.27	186.209		
200.00	200.00	200.00	200.00	0.47	0.47	-0.89	49.59	-0.77	49.60	48.66	0.94	52.726		
300.00	300.00	300.00	300.00	0.81	0.81	-0.89	49.59	-0.77	49.60	47.98	1.61	30.711		
400.00	399.98	401.14	401.12	1.11	1.12	-150.32	48.44	0.60	49.97	47.74	2.23	22.393		
500.00	499.86	502.26	502.09	1.41	1.43	-148.42	45.00	4.70	50.74	47.91	2.83	17.960		
600.00	599.73	602.70	602.18	1.72	1.76	-144.08	39.63	11.10	50.16	46.71	3.46	14.515		
700.00	699.59	702.61	701.71	2.04	2.09	-139.29	34.03	17.77	49.68	45.57	4.11	12.089		
785.25	784.72	787.78	786.56	2.32	2.38	-135.15	29.26	23.46	49.55	44.87	4.68	10.586 CC		
800.00	799.45	802.52	801.24	2.37	2.43	-134.44	28.44	24.44	49.56	44.78	4.78	10.366		
900.00	899.31	902.43	900.77	2.71	2.78	-129.60	22.84	31.11	49.79	44.32	5.46	9.111		
1,000.00	999.18	1,002.34	1,000.30	3.05	3.14	-124.84	17.24	37.78	50.37	44.21	6.16	8.180 ES		
1,100.00	1,099.04	1,102.25	1,099.84	3.39	3.49	-120.21	11.64	44.45	51.29	44.43	6.86	7.479		
1,200.00	1,198.90	1,202.17	1,199.37	3.73	3.85	-115.78	6.05	51.12	52.53	44.97	7.56	6.947		
1,300.00	1,298.77	1,302.08	1,298.90	4.08	4.21	-111.58	0.45	57.79	54.07	45.80	8.27	6.538		
1,400.00	1,398.63	1,401.99	1,398.43	4.42	4.57	-107.63	-5.15	64.47	55.89	46.91	8.98	6.224		
1,500.00	1,498.49	1,501.90	1,497.96	4.77	4.93	-103.94	-10.74	71.14	57.95	48.26	9.69	5.981		
1,600.00	1,598.36	1,601.81	1,597.49	5.12	5.29	-100.52	-16.34	77.81	60.24	49.84	10.40	5.793		
1,700.00	1,698.22	1,701.72	1,697.02	5.46	5.65	-97.36	-21.94	84.48	62.73	51.62	11.11	5.648		
1,800.00	1,798.08	1,801.64	1,796.56	5.81	6.01	-94.45	-27.54	91.15	65.39	53.58	11.81	5.535		
1,900.00	1,897.94	1,901.55	1,896.09	6.16	6.38	-91.77	-33.13	97.82	68.21	55.69	12.52	5.448		
2,000.00	1,997.81	2,001.46	1,995.62	6.51	6.74	-89.31	-38.73	104.49	71.16	57.94	13.22	5.381		
2,100.00	2,097.67	2,101.37	2,095.15	6.85	7.10	-87.05	-44.33	111.16	74.24	60.31	13.93	5.330		
2,200.00	2,197.53	2,201.28	2,194.68	7.20	7.46	-84.97	-49.93	117.83	77.42	62.79	14.63	5.292		
2,300.00	2,297.40	2,301.19	2,294.21	7.55	7.83	-83.06	-55.52	124.50	80.69	65.36	15.33	5.264		
2,400.00	2,397.26	2,401.10	2,393.74	7.90	8.19	-81.30	-61.12	131.17	84.05	68.02	16.03	5.244		
2,500.00	2,497.12	2,501.02	2,493.28	8.25	8.55	-79.68	-66.72	137.84	87.48	70.76	16.73	5.230		
2,600.00	2,596.99	2,600.93	2,592.81	8.60	8.92	-78.18	-72.32	144.51	90.98	73.55	17.43	5.221		
2,700.00	2,696.85	2,700.84	2,692.34	8.95	9.28	-76.79	-77.91	151.18	94.53	76.41	18.12	5.216		
2,800.00	2,796.71	2,800.75	2,791.87	9.29	9.64	-75.50	-83.51	157.85	98.14	79.32	18.82	5.215		
2,900.00	2,896.57	2,900.66	2,891.40	9.64	10.01	-74.31	-89.11	164.52	101.79	82.27	19.52	5.216		
3,000.00	2,996.44	3,000.57	2,990.93	9.99	10.37	-73.19	-94.70	171.19	105.48	85.27	20.21	5.219		
3,100.00	3,096.30	3,100.49	3,090.46	10.34	10.73	-72.16	-100.30	177.87	109.21	88.31	20.91	5.224		
3,200.00	3,196.16	3,200.40	3,189.99	10.69	11.10	-71.19	-105.90	184.54	112.97	91.37	21.60	5.230		
3,300.00	3,296.03	3,300.31	3,289.53	11.04	11.46	-70.28	-111.50	191.21	116.77	94.47	22.30	5.237		
3,400.00	3,395.89	3,400.22	3,389.06	11.39	11.82	-69.44	-117.09	197.88	120.59	97.60	22.99	5.245		
3,500.00	3,495.75	3,500.13	3,488.59	11.74	12.19	-68.64	-122.69	204.55	124.43	100.75	23.68	5.254		
3,600.00	3,595.61	3,600.04	3,588.12	12.09	12.55	-67.89	-128.29	211.22	128.30	103.92	24.38	5.263		
3,700.00	3,695.48	3,699.96	3,687.65	12.44	12.92	-67.19	-133.89	217.89	132.19	107.12	25.07	5.273		
3,800.00	3,795.34	3,799.87	3,787.18	12.79	13.28	-66.52	-139.48	224.56	136.10	110.33	25.76	5.282		
3,900.00	3,895.20	3,899.78	3,886.71	13.14	13.64	-65.90	-145.08	231.23	140.02	113.56	26.46	5.292		
4,000.00	3,995.07	3,999.69	3,986.25	13.48	14.01	-65.30	-150.68	237.90	143.96	116.81	27.15	5.302		
4,100.00	4,094.93	4,099.60	4,085.78	13.83	14.37	-64.74	-156.27	244.57	147.91	120.07	27.84	5.312		
4,200.00	4,194.79	4,199.51	4,185.31	14.18	14.74	-64.21	-161.87	251.24	151.88	123.35	28.54	5.323		
4,300.00	4,294.73	4,299.35	4,284.77	14.48	15.10	-63.22	-167.47	257.91	156.64	127.48	29.16	5.372		
4,400.00	4,394.72	4,403.39	4,388.55	14.77	15.42	-62.34	-172.10	263.43	161.56	131.84	29.72	5.436		
4,500.00	4,494.72	4,507.80	4,492.90	15.03	15.68	-61.14	-174.31	266.06	164.04	133.81	30.22	5.427		
4,600.00	4,594.72	4,609.63	4,594.72	15.29	15.96	-60.21	-174.51	266.30	164.26	133.49	30.77	5.338		
4,700.00	4,694.72	4,709.63	4,694.72	15.55	16.22	-59.21	-174.51	266.30	164.26	132.96	31.30	5.248		
4,800.00	4,794.72	4,809.63	4,794.72	15.82	16.48	-58.21	-174.51	266.30	164.26	132.43	31.83	5.160		
4,900.00	4,894.72	4,909.63	4,894.72	16.09	16.75	-57.21	-174.51	266.30	164.26	131.89	32.37	5.074		
5,000.00	4,994.72	5,009.63	4,994.72	16.36	17.02	-56.21	-174.51	266.30	164.26	131.34	32.92	4.990		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,062.82	5,057.54	5,072.45	5,057.54	16.53	17.19	89.21	-174.51	266.30	164.26	131.00	33.26	4.938		
5,100.00	5,094.72	5,109.58	5,094.68	16.64	17.29	89.18	-174.40	266.30	164.26	130.80	33.47	4.908		
5,200.00	5,194.72	5,207.55	5,191.86	16.91	17.55	85.29	-163.25	266.30	164.83	130.76	34.07	4.838		
5,300.00	5,294.72	5,300.00	5,280.15	17.19	17.77	76.13	-136.22	266.30	169.81	135.09	34.71	4.892		
5,400.00	5,394.37	5,380.80	5,352.35	17.47	17.93	65.25	-100.14	266.31	183.39	148.14	35.25	5.202		
5,500.00	5,490.95	5,459.37	5,416.41	17.72	18.08	56.15	-54.76	266.31	201.57	166.19	35.39	5.696		
5,600.00	5,580.92	5,535.10	5,471.02	17.96	18.20	49.23	-2.39	266.31	221.07	186.11	34.96	6.324		
5,700.00	5,660.98	5,608.71	5,516.28	18.20	18.31	44.13	55.57	266.31	239.58	205.55	34.03	7.039		
5,800.00	5,728.18	5,680.73	5,552.23	18.44	18.40	40.50	117.91	266.31	255.57	222.72	32.84	7.781		
5,900.00	5,780.06	5,750.00	5,578.39	18.73	18.52	38.08	182.00	266.32	268.02	236.32	31.70	8.456		
6,000.00	5,814.71	5,821.79	5,596.29	19.09	18.72	36.56	251.47	266.32	276.29	245.36	30.93	8.933		
6,100.00	5,830.85	5,891.55	5,604.37	19.51	18.97	35.93	320.70	266.32	280.02	249.19	30.83	9.084		
6,200.00	5,832.00	5,980.37	5,605.00	20.00	19.38	35.90	409.51	266.33	280.22	248.87	31.35	8.939		
6,300.00	5,832.00	6,080.37	5,605.00	20.59	19.94	35.90	509.51	266.33	280.23	248.22	32.01	8.754		
6,400.00	5,832.00	6,180.37	5,605.00	21.26	20.59	35.90	609.51	266.34	280.23	247.46	32.77	8.551		
6,500.00	5,832.00	6,280.37	5,605.00	22.02	21.33	35.90	709.51	266.34	280.24	246.61	33.63	8.333		
6,600.00	5,832.00	6,380.37	5,605.00	22.84	22.13	35.90	809.51	266.34	280.24	245.67	34.58	8.105		
6,700.00	5,832.00	6,480.37	5,605.00	23.73	23.00	35.91	909.51	266.35	280.25	244.65	35.60	7.872		
6,800.00	5,832.00	6,580.37	5,605.00	24.67	23.93	35.91	1,009.51	266.35	280.26	243.56	36.70	7.636		
6,900.00	5,832.00	6,680.37	5,605.00	25.66	24.91	35.91	1,109.51	266.36	280.26	242.40	37.87	7.401		
7,000.00	5,832.00	6,780.37	5,605.00	26.69	25.94	35.91	1,209.51	266.36	280.27	241.17	39.10	7.169		
7,100.00	5,832.00	6,880.37	5,605.00	27.77	27.01	35.91	1,309.51	266.37	280.27	239.89	40.38	6.941		
7,200.00	5,832.00	6,980.37	5,605.00	28.88	28.11	35.91	1,409.51	266.37	280.28	238.57	41.71	6.719		
7,300.00	5,832.00	7,080.37	5,605.00	30.02	29.25	35.92	1,509.51	266.37	280.29	237.19	43.09	6.504		
7,400.00	5,832.00	7,180.37	5,605.00	31.19	30.41	35.92	1,609.51	266.38	280.29	235.77	44.52	6.296		
7,500.00	5,832.00	7,280.37	5,605.00	32.38	31.60	35.92	1,709.51	266.38	280.30	234.32	45.98	6.096		
7,600.00	5,832.00	7,380.37	5,605.00	33.60	32.81	35.92	1,809.51	266.39	280.30	232.83	47.47	5.904		
7,700.00	5,832.00	7,480.37	5,605.00	34.84	34.05	35.92	1,909.51	266.39	280.31	231.31	49.00	5.721		
7,800.00	5,832.00	7,580.37	5,605.00	36.09	35.30	35.92	2,009.51	266.40	280.31	229.76	50.55	5.545		
7,900.00	5,832.00	7,680.37	5,605.00	37.36	36.57	35.93	2,109.51	266.40	280.32	228.19	52.13	5.377		
8,000.00	5,832.00	7,780.37	5,605.00	38.64	37.85	35.93	2,209.51	266.40	280.33	226.59	53.74	5.216		
8,100.00	5,832.00	7,880.37	5,605.00	39.94	39.14	35.93	2,309.51	266.41	280.33	224.97	55.36	5.063		
8,200.00	5,832.00	7,980.37	5,605.00	41.25	40.45	35.93	2,409.51	266.41	280.34	223.33	57.01	4.917		
8,300.00	5,832.00	8,080.37	5,605.00	42.57	41.77	35.93	2,509.51	266.42	280.34	221.67	58.67	4.778		
8,400.00	5,832.00	8,180.37	5,605.00	43.89	43.10	35.93	2,609.51	266.42	280.35	220.00	60.35	4.645		
8,500.00	5,832.00	8,280.37	5,605.00	45.23	44.44	35.94	2,709.51	266.43	280.36	218.31	62.05	4.518		
8,600.00	5,832.00	8,380.37	5,605.00	46.58	45.78	35.94	2,809.51	266.43	280.36	216.60	63.76	4.397		
8,700.00	5,832.00	8,480.37	5,605.00	47.93	47.13	35.94	2,909.51	266.43	280.37	214.88	65.48	4.282		
8,800.00	5,832.00	8,580.37	5,605.00	49.29	48.50	35.94	3,009.51	266.44	280.37	213.16	67.22	4.171		
8,900.00	5,832.00	8,680.37	5,605.00	50.66	49.86	35.94	3,109.51	266.44	280.38	211.42	68.96	4.066		
9,000.00	5,832.00	8,780.37	5,605.00	52.03	51.23	35.94	3,209.51	266.45	280.38	209.67	70.72	3.965		
9,100.00	5,832.00	8,880.37	5,605.00	53.40	52.61	35.95	3,309.51	266.45	280.39	207.91	72.48	3.868		
9,200.00	5,832.00	8,980.37	5,605.00	54.79	53.99	35.95	3,409.51	266.46	280.40	206.14	74.26	3.776		
9,300.00	5,832.00	9,080.37	5,605.00	56.17	55.38	35.95	3,509.51	266.46	280.40	204.36	76.04	3.687		
9,400.00	5,832.00	9,180.37	5,605.00	57.56	56.77	35.95	3,609.51	266.46	280.41	202.58	77.83	3.603		
9,500.00	5,832.00	9,280.37	5,605.00	58.96	58.17	35.95	3,709.51	266.47	280.41	200.78	79.63	3.521		
9,600.00	5,832.00	9,380.37	5,605.00	60.36	59.57	35.95	3,809.51	266.47	280.42	198.99	81.43	3.444		
9,700.00	5,832.00	9,480.37	5,605.00	61.76	60.97	35.95	3,909.51	266.48	280.43	197.18	83.24	3.369		
9,800.00	5,832.00	9,580.37	5,605.00	63.16	62.37	35.96	4,009.51	266.48	280.43	195.37	85.06	3.297		
9,900.00	5,832.00	9,680.37	5,605.00	64.57	63.78	35.96	4,109.51	266.49	280.44	193.55	86.88	3.228		
10,000.00	5,832.00	9,780.37	5,605.00	65.98	65.19	35.96	4,209.51	266.49	280.44	191.73	88.71	3.161		
10,100.00	5,832.00	9,880.37	5,605.00	67.40	66.61	35.96	4,309.51	266.49	280.45	189.91	90.54	3.097		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	5,832.00	9,980.37	5,605.00	68.81	68.02	35.96	4,409.51	266.50	280.45	188.08	92.38	3.036	
10,300.00	5,832.00	10,080.37	5,605.00	70.23	69.44	35.96	4,509.51	266.50	280.46	186.24	94.22	2.977	
10,400.00	5,832.00	10,180.37	5,605.00	71.65	70.86	35.97	4,609.51	266.51	280.47	184.40	96.07	2.920	
10,500.00	5,832.00	10,280.37	5,605.00	73.07	72.29	35.97	4,709.51	266.51	280.47	182.56	97.91	2.864	
10,600.00	5,832.00	10,380.37	5,605.00	74.50	73.71	35.97	4,809.51	266.52	280.48	180.71	99.77	2.811	
10,700.00	5,832.00	10,480.37	5,605.00	75.92	75.14	35.97	4,909.51	266.52	280.48	178.86	101.62	2.760	
10,800.00	5,832.00	10,580.37	5,605.00	77.35	76.57	35.97	5,009.51	266.52	280.49	177.01	103.48	2.711	
10,900.00	5,832.00	10,680.37	5,605.00	78.78	78.00	35.97	5,109.51	266.53	280.50	175.15	105.35	2.663	
11,000.00	5,832.00	10,780.37	5,605.00	80.21	79.43	35.98	5,209.51	266.53	280.50	173.29	107.21	2.616	
11,100.00	5,832.00	10,880.37	5,605.00	81.64	80.86	35.98	5,309.51	266.54	280.51	171.43	109.08	2.572	
11,200.00	5,832.00	10,980.37	5,605.00	83.08	82.30	35.98	5,409.51	266.54	280.51	169.56	110.95	2.528	
11,300.00	5,832.00	11,080.37	5,605.00	84.51	83.73	35.98	5,509.51	266.55	280.52	167.70	112.82	2.486	
11,400.00	5,832.00	11,180.37	5,605.00	85.95	85.17	35.98	5,609.51	266.55	280.52	165.82	114.70	2.446	
11,500.00	5,832.00	11,280.37	5,605.00	87.39	86.61	35.98	5,709.51	266.55	280.53	163.95	116.58	2.406	
11,600.00	5,832.00	11,380.37	5,605.00	88.82	88.04	35.99	5,809.51	266.56	280.54	162.08	118.46	2.368	
11,700.00	5,832.00	11,480.37	5,605.00	90.26	89.48	35.99	5,909.51	266.56	280.54	160.20	120.34	2.331	
11,800.00	5,832.00	11,580.37	5,605.00	91.70	90.93	35.99	6,009.51	266.57	280.55	158.32	122.23	2.295	
11,900.00	5,832.00	11,680.37	5,605.00	93.15	92.37	35.99	6,109.51	266.57	280.55	156.44	124.11	2.260	
12,000.00	5,832.00	11,780.37	5,605.00	94.59	93.81	35.99	6,209.51	266.58	280.56	154.56	126.00	2.227	
12,100.00	5,832.00	11,880.37	5,605.00	96.03	95.25	35.99	6,309.51	266.58	280.57	152.67	127.89	2.194	
12,200.00	5,832.00	11,980.37	5,605.00	97.48	96.70	36.00	6,409.51	266.58	280.57	150.79	129.78	2.162	
12,300.00	5,832.00	12,080.37	5,605.00	98.92	98.14	36.00	6,509.51	266.59	280.58	148.90	131.68	2.131	
12,400.00	5,832.00	12,180.37	5,605.00	100.37	99.59	36.00	6,609.51	266.59	280.58	147.01	133.57	2.101	
12,500.00	5,832.00	12,280.37	5,605.00	101.81	101.04	36.00	6,709.51	266.60	280.59	145.12	135.47	2.071	
12,600.00	5,832.00	12,380.37	5,605.00	103.26	102.49	36.00	6,809.51	266.60	280.59	143.23	137.37	2.043	
12,700.00	5,832.00	12,480.37	5,605.00	104.71	103.93	36.00	6,909.51	266.60	280.60	141.33	139.27	2.015	
12,800.00	5,832.00	12,580.37	5,605.00	106.16	105.38	36.01	7,009.51	266.61	280.61	139.44	141.17	1.988	
12,900.00	5,832.00	12,680.37	5,605.00	107.61	106.83	36.01	7,109.51	266.61	280.61	137.54	143.07	1.961	
13,000.00	5,832.00	12,780.37	5,605.00	109.06	108.28	36.01	7,209.51	266.62	280.62	135.65	144.97	1.936	
13,100.00	5,832.00	12,880.37	5,605.00	110.51	109.73	36.01	7,309.51	266.62	280.62	133.75	146.88	1.911	
13,200.00	5,832.00	12,980.37	5,605.00	111.96	111.19	36.01	7,409.51	266.63	280.63	131.85	148.78	1.886	
13,300.00	5,832.00	13,080.37	5,605.00	113.41	112.64	36.01	7,509.51	266.63	280.64	129.95	150.69	1.862	
13,400.00	5,832.00	13,180.37	5,605.00	114.86	114.09	36.02	7,609.51	266.63	280.64	128.04	152.60	1.839	
13,500.00	5,832.00	13,280.37	5,605.00	116.31	115.54	36.02	7,709.51	266.64	280.65	126.14	154.51	1.816	
13,600.00	5,832.00	13,380.37	5,605.00	117.77	117.00	36.02	7,809.51	266.64	280.65	124.24	156.42	1.794	
13,700.00	5,832.00	13,480.37	5,605.00	119.22	118.45	36.02	7,909.51	266.65	280.66	122.33	158.33	1.773	
13,800.00	5,832.00	13,580.37	5,605.00	120.67	119.90	36.02	8,009.51	266.65	280.66	120.42	160.24	1.752	
13,900.00	5,832.00	13,680.37	5,605.00	122.13	121.36	36.02	8,109.51	266.66	280.67	118.52	162.15	1.731	
14,000.00	5,832.00	13,780.37	5,605.00	123.58	122.81	36.03	8,209.51	266.66	280.68	116.61	164.07	1.711	
14,100.00	5,832.00	13,880.37	5,605.00	125.04	124.27	36.03	8,309.51	266.66	280.68	114.70	165.98	1.691	
14,200.00	5,832.00	13,980.37	5,605.00	126.49	125.72	36.03	8,409.51	266.67	280.69	112.79	167.90	1.672	
14,300.00	5,832.00	14,080.37	5,605.00	127.95	127.18	36.03	8,509.51	266.67	280.69	110.88	169.81	1.653	
14,400.00	5,832.00	14,180.37	5,605.00	129.41	128.64	36.03	8,609.51	266.68	280.70	108.97	171.73	1.635	
14,500.00	5,832.00	14,280.37	5,605.00	130.86	130.09	36.03	8,709.51	266.68	280.71	107.06	173.65	1.617	
14,600.00	5,832.00	14,380.37	5,605.00	132.32	131.55	36.04	8,809.51	266.69	280.71	105.15	175.57	1.599	
14,700.00	5,832.00	14,480.37	5,605.00	133.78	133.01	36.04	8,909.51	266.69	280.72	103.23	177.49	1.582	
14,800.00	5,832.00	14,580.37	5,605.00	135.23	134.47	36.04	9,009.51	266.69	280.72	101.32	179.41	1.565	
14,900.00	5,832.00	14,680.37	5,605.00	136.69	135.93	36.04	9,109.51	266.70	280.73	99.40	181.33	1.548	
15,000.00	5,832.00	14,780.37	5,605.00	138.15	137.38	36.04	9,209.51	266.70	280.73	97.49	183.25	1.532	
15,100.00	5,832.00	14,880.37	5,605.00	139.61	138.84	36.04	9,309.51	266.71	280.74	95.57	185.17	1.516	
15,200.00	5,832.00	14,980.37	5,605.00	141.07	140.30	36.05	9,409.51	266.71	280.75	93.65	187.09	1.501	
15,300.00	5,832.00	15,080.37	5,605.00	142.53	141.76	36.05	9,509.51	266.72	280.75	91.74	189.02	1.485 Level 3	

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25P-2416 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.00	5,832.00	15,180.37	5,605.00	143.99	143.22	36.05	9,609.51	266.72	280.76	89.82	190.94	1.470	Level 3
15,500.00	5,832.00	15,280.37	5,605.00	145.45	144.68	36.05	9,709.51	266.72	280.76	87.90	192.86	1.456	Level 3
15,600.00	5,832.00	15,380.37	5,605.00	146.91	146.14	36.05	9,809.51	266.73	280.77	85.98	194.79	1.441	Level 3
15,700.00	5,832.00	15,480.37	5,605.00	148.37	147.60	36.05	9,909.51	266.73	280.78	84.06	196.71	1.427	Level 3
15,800.00	5,832.00	15,580.37	5,605.00	149.83	149.06	36.05	10,009.51	266.74	280.78	82.14	198.64	1.414	Level 3
15,900.00	5,832.00	15,680.37	5,605.00	151.29	150.52	36.06	10,109.51	266.74	280.79	80.22	200.57	1.400	Level 3
15,974.81	5,832.00	15,755.17	5,605.00	152.38	151.61	36.06	10,184.31	266.74	280.79	78.78	202.01	1.390	Level 3, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.65	-1.02	-89.98	89.98					
100.00	100.00	100.00	100.00	0.13	0.13	-90.65	-1.02	-89.98	89.98	89.72	0.27	337.840		
200.00	200.00	200.00	200.00	0.47	0.47	-90.65	-1.02	-89.98	89.98	89.04	0.94	95.661		
300.00	300.00	300.00	300.00	0.81	0.81	-90.65	-1.02	-89.98	89.98	88.37	1.61	55.719 CC, ES		
400.00	399.98	396.92	396.90	1.11	1.12	120.06	-1.30	-91.59	92.52	90.29	2.23	41.514		
500.00	499.86	493.41	493.27	1.41	1.43	121.82	-2.15	-96.40	99.96	97.12	2.84	35.221		
600.00	599.73	589.33	588.84	1.72	1.75	123.17	-3.55	-104.35	110.98	107.50	3.47	31.946		
700.00	699.59	684.49	683.34	2.04	2.08	123.91	-5.49	-115.35	125.26	121.13	4.13	30.362		
800.00	799.45	778.69	776.46	2.37	2.43	124.17	-7.94	-129.27	142.71	137.93	4.79	29.825		
900.00	899.31	872.94	869.15	2.71	2.80	124.10	-10.92	-146.12	163.19	157.74	5.46	29.909		
1,000.00	999.18	970.63	965.04	3.05	3.20	123.98	-14.15	-164.48	184.57	178.46	6.12	30.174		
1,100.00	1,099.04	1,068.31	1,060.93	3.39	3.61	123.88	-17.39	-182.84	205.96	199.18	6.78	30.377		
1,200.00	1,198.90	1,166.00	1,156.82	3.73	4.02	123.80	-20.63	-201.19	227.34	219.89	7.45	30.521		
1,300.00	1,298.77	1,263.69	1,252.72	4.08	4.44	123.73	-23.86	-219.55	248.72	240.60	8.12	30.627		
1,400.00	1,398.63	1,361.37	1,348.61	4.42	4.86	123.68	-27.10	-237.90	270.11	261.31	8.80	30.706		
1,500.00	1,498.49	1,459.06	1,444.50	4.77	5.29	123.63	-30.34	-256.26	291.49	282.02	9.47	30.766		
1,600.00	1,598.36	1,556.75	1,540.39	5.12	5.71	123.59	-33.57	-274.62	312.87	302.72	10.16	30.810		
1,700.00	1,698.22	1,654.43	1,636.28	5.46	6.13	123.55	-36.81	-292.97	334.26	323.42	10.84	30.847		
1,800.00	1,798.08	1,752.12	1,732.17	5.81	6.56	123.52	-40.05	-311.33	355.64	344.12	11.52	30.875		
1,900.00	1,897.94	1,849.81	1,828.07	6.16	6.99	123.49	-43.28	-329.69	377.03	364.82	12.20	30.897		
2,000.00	1,997.81	1,947.49	1,923.96	6.51	7.41	123.47	-46.52	-348.04	398.41	385.52	12.89	30.914		
2,100.00	2,097.67	2,045.18	2,019.85	6.85	7.84	123.44	-49.76	-366.40	419.80	406.22	13.57	30.928		
2,200.00	2,197.53	2,142.87	2,115.74	7.20	8.27	123.42	-52.99	-384.76	441.18	426.92	14.26	30.939		
2,300.00	2,297.40	2,240.55	2,211.63	7.55	8.70	123.40	-56.23	-403.11	462.57	447.62	14.95	30.948		
2,400.00	2,397.26	2,338.24	2,307.53	7.90	9.13	123.39	-59.47	-421.47	483.95	468.32	15.63	30.955		
2,500.00	2,497.12	2,435.93	2,403.42	8.25	9.56	123.37	-62.70	-439.82	505.33	489.01	16.32	30.960		
2,600.00	2,596.99	2,533.61	2,499.31	8.60	9.99	123.36	-65.94	-458.18	526.72	509.71	17.01	30.965		
2,700.00	2,696.85	2,631.30	2,595.20	8.95	10.42	123.35	-69.18	-476.54	548.10	530.40	17.70	30.968		
2,800.00	2,796.71	2,728.99	2,691.09	9.29	10.85	123.33	-72.41	-494.89	569.49	551.10	18.39	30.970		
2,900.00	2,896.57	2,826.67	2,786.98	9.64	11.28	123.32	-75.65	-513.25	590.87	571.80	19.08	30.972		
3,000.00	2,996.44	2,924.36	2,882.88	9.99	11.71	123.31	-78.89	-531.61	612.26	592.49	19.77	30.973		
3,100.00	3,096.30	3,022.05	2,978.77	10.34	12.14	123.30	-82.12	-549.96	633.64	613.19	20.46	30.974		
3,200.00	3,196.16	3,119.73	3,074.66	10.69	12.57	123.29	-85.36	-568.32	655.03	633.88	21.15	30.974		
3,300.00	3,296.03	3,217.42	3,170.55	11.04	13.00	123.28	-88.60	-586.67	676.41	654.57	21.84	30.974		
3,400.00	3,395.89	3,315.11	3,266.44	11.39	13.43	123.28	-91.83	-605.03	697.80	675.27	22.53	30.974		
3,500.00	3,495.75	3,412.79	3,362.34	11.74	13.87	123.27	-95.07	-623.39	719.18	695.96	23.22	30.974		
3,600.00	3,595.61	3,510.48	3,458.23	12.09	14.30	123.26	-98.31	-641.74	740.57	716.66	23.91	30.973		
3,700.00	3,695.48	3,608.17	3,554.12	12.44	14.73	123.25	-101.54	-660.10	761.95	737.35	24.60	30.972		
3,800.00	3,795.34	3,705.85	3,650.01	12.79	15.16	123.25	-104.78	-678.46	783.34	758.04	25.29	30.971		
3,900.00	3,895.20	3,803.54	3,745.90	13.14	15.59	123.24	-108.02	-696.81	804.72	778.74	25.98	30.969		
4,000.00	3,995.07	3,901.23	3,841.80	13.48	16.02	123.24	-111.25	-715.17	826.11	799.43	26.68	30.968		
4,100.00	4,094.93	3,998.91	3,937.69	13.83	16.45	123.23	-114.49	-733.53	847.49	820.12	27.37	30.966		
4,200.00	4,194.79	4,096.60	4,033.58	14.18	16.89	123.23	-117.72	-751.88	868.88	840.82	28.06	30.965		
4,300.00	4,294.73	4,194.47	4,129.65	14.48	17.32	123.47	-120.97	-770.27	889.32	860.58	28.74	30.941		
4,400.00	4,394.72	4,292.60	4,225.98	14.77	17.75	-86.62	-124.22	-788.71	908.13	878.74	29.39	30.901		
4,500.00	4,494.72	4,390.77	4,322.34	15.03	18.19	-86.90	-127.47	-807.16	926.72	896.74	29.99	30.905		
4,600.00	4,594.72	4,488.93	4,418.70	15.29	18.62	-87.16	-130.72	-825.60	945.33	914.75	30.59	30.907		
4,700.00	4,694.72	4,610.13	4,537.83	15.55	19.09	-87.46	-134.59	-847.55	963.40	932.17	31.23	30.848		
4,800.00	4,794.72	4,758.12	4,684.32	15.82	19.50	-87.72	-138.22	-868.12	977.20	945.33	31.87	30.664		
4,900.00	4,894.72	4,907.90	4,833.48	16.09	19.88	-87.89	-140.55	-881.34	985.96	953.45	32.52	30.323		
5,000.00	4,994.72	5,058.69	4,984.15	16.36	20.23	-87.96	-141.53	-886.87	989.61	956.43	33.18	29.828		
5,100.00	5,094.72	5,169.26	5,094.72	16.64	20.50	-87.96	-141.56	-887.04	989.72	955.96	33.76	29.316		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,194.72	5,269.26	5,194.72	16.91	20.75	-87.96	-141.56	-887.04	989.72	955.40	34.32	28.839		
5,300.00	5,294.72	5,363.12	5,288.26	17.19	20.99	-87.60	-135.35	-887.04	989.98	955.12	34.86	28.396		
5,400.00	5,394.37	5,452.88	5,375.33	17.47	21.20	-86.62	-113.99	-887.04	990.86	955.47	35.39	27.995		
5,500.00	5,490.95	5,540.40	5,455.47	17.72	21.39	-85.73	-79.08	-887.04	991.91	956.03	35.87	27.651		
5,600.00	5,580.92	5,626.17	5,527.27	17.96	21.54	-84.98	-32.33	-887.04	992.96	956.65	36.30	27.352		
5,700.00	5,660.98	5,710.62	5,589.53	18.20	21.67	-84.39	24.58	-887.05	993.89	957.17	36.72	27.067		
5,800.00	5,728.18	5,794.13	5,641.27	18.44	21.78	-83.98	90.02	-887.05	994.60	957.44	37.16	26.762		
5,900.00	5,780.06	5,877.08	5,681.67	18.73	21.87	-83.76	162.36	-887.06	995.00	957.31	37.68	26.403		
6,000.00	5,814.71	5,959.81	5,710.02	19.09	21.95	-83.73	239.99	-887.07	995.05	956.73	38.31	25.971		
6,100.00	5,830.85	6,042.66	5,725.75	19.51	22.05	-83.90	321.25	-887.07	994.74	955.67	39.07	25.460		
6,199.69	5,834.17	6,130.61	5,729.00	20.00	22.19	-83.93	409.07	-887.08	994.68	954.71	39.96	24.889		
6,200.00	5,832.00	6,130.97	5,729.00	20.00	22.20	-84.05	409.43	-887.08	994.45	954.48	39.97	24.880		
6,300.00	5,832.00	6,230.97	5,729.00	20.59	22.46	-84.05	509.43	-887.09	994.45	953.37	41.08	24.205		
6,400.00	5,832.00	6,330.97	5,729.00	21.26	22.84	-84.05	609.43	-887.10	994.46	952.08	42.37	23.470		
6,500.00	5,832.00	6,430.97	5,729.00	22.02	23.36	-84.05	709.43	-887.10	994.46	950.64	43.82	22.695		
6,600.00	5,832.00	6,530.97	5,729.00	22.84	24.00	-84.05	809.43	-887.11	994.46	949.05	45.41	21.901		
6,700.00	5,832.00	6,630.97	5,729.00	23.73	24.74	-84.05	909.43	-887.12	994.46	947.34	47.13	21.103		
6,800.00	5,832.00	6,730.97	5,729.00	24.67	25.56	-84.05	1,009.43	-887.13	994.47	945.51	48.96	20.313		
6,900.00	5,832.00	6,830.97	5,729.00	25.66	26.45	-84.05	1,109.43	-887.14	994.47	943.57	50.89	19.540		
7,000.00	5,832.00	6,930.97	5,729.00	26.69	27.39	-84.05	1,209.43	-887.14	994.47	941.55	52.92	18.792		
7,100.00	5,832.00	7,030.97	5,729.00	27.77	28.39	-84.05	1,309.43	-887.15	994.47	939.44	55.03	18.072		
7,200.00	5,832.00	7,130.97	5,729.00	28.88	29.43	-84.05	1,409.43	-887.16	994.48	937.27	57.21	17.383		
7,300.00	5,832.00	7,230.97	5,729.00	30.02	30.50	-84.05	1,509.43	-887.17	994.48	935.02	59.45	16.727		
7,400.00	5,832.00	7,330.97	5,729.00	31.19	31.61	-84.05	1,609.43	-887.18	994.48	932.72	61.76	16.103		
7,500.00	5,832.00	7,430.97	5,729.00	32.38	32.75	-84.05	1,709.43	-887.18	994.48	930.37	64.11	15.512		
7,600.00	5,832.00	7,530.97	5,729.00	33.60	33.92	-84.05	1,809.43	-887.19	994.49	927.98	66.51	14.952		
7,700.00	5,832.00	7,630.97	5,729.00	34.84	35.11	-84.05	1,909.43	-887.20	994.49	925.54	68.95	14.423		
7,800.00	5,832.00	7,730.97	5,729.00	36.09	36.32	-84.05	2,009.43	-887.21	994.49	923.06	71.43	13.923		
7,900.00	5,832.00	7,830.97	5,729.00	37.36	37.55	-84.05	2,109.43	-887.22	994.49	920.56	73.94	13.451		
8,000.00	5,832.00	7,930.97	5,729.00	38.64	38.79	-84.05	2,209.43	-887.23	994.50	918.02	76.48	13.004		
8,100.00	5,832.00	8,030.97	5,729.00	39.94	40.05	-84.05	2,309.43	-887.23	994.50	915.45	79.04	12.582		
8,200.00	5,832.00	8,130.97	5,729.00	41.25	41.33	-84.05	2,409.43	-887.24	994.50	912.87	81.63	12.182		
8,300.00	5,832.00	8,230.97	5,729.00	42.57	42.62	-84.05	2,509.43	-887.25	994.50	910.25	84.25	11.804		
8,400.00	5,832.00	8,330.97	5,729.00	43.89	43.92	-84.05	2,609.43	-887.26	994.50	907.62	86.88	11.447		
8,500.00	5,832.00	8,430.97	5,729.00	45.23	45.23	-84.05	2,709.43	-887.27	994.51	904.97	89.53	11.108		
8,600.00	5,832.00	8,530.97	5,729.00	46.58	46.54	-84.05	2,809.43	-887.27	994.51	902.31	92.20	10.786		
8,700.00	5,832.00	8,630.97	5,729.00	47.93	47.87	-84.05	2,909.43	-887.28	994.51	899.63	94.89	10.481		
8,800.00	5,832.00	8,730.97	5,729.00	49.29	49.21	-84.05	3,009.43	-887.29	994.51	896.93	97.58	10.191		
8,900.00	5,832.00	8,830.97	5,729.00	50.66	50.55	-84.05	3,109.43	-887.30	994.52	894.22	100.30	9.916		
9,000.00	5,832.00	8,930.97	5,729.00	52.03	51.90	-84.06	3,209.43	-887.31	994.52	891.50	103.02	9.654		
9,100.00	5,832.00	9,030.97	5,729.00	53.40	53.26	-84.06	3,309.43	-887.31	994.52	888.77	105.75	9.404		
9,200.00	5,832.00	9,130.97	5,729.00	54.79	54.62	-84.06	3,409.43	-887.32	994.52	886.03	108.50	9.166		
9,300.00	5,832.00	9,230.97	5,729.00	56.17	55.99	-84.06	3,509.43	-887.33	994.53	883.28	111.25	8.940		
9,400.00	5,832.00	9,330.97	5,729.00	57.56	57.37	-84.06	3,609.43	-887.34	994.53	880.52	114.01	8.723		
9,500.00	5,832.00	9,430.97	5,729.00	58.96	58.75	-84.06	3,709.43	-887.35	994.53	877.75	116.78	8.516		
9,600.00	5,832.00	9,530.97	5,729.00	60.36	60.13	-84.06	3,809.43	-887.35	994.53	874.97	119.56	8.318		
9,700.00	5,832.00	9,630.97	5,729.00	61.76	61.52	-84.06	3,909.43	-887.36	994.54	872.19	122.35	8.129		
9,800.00	5,832.00	9,730.97	5,729.00	63.16	62.91	-84.06	4,009.43	-887.37	994.54	869.40	125.14	7.948		
9,900.00	5,832.00	9,830.97	5,729.00	64.57	64.30	-84.06	4,109.43	-887.38	994.54	866.61	127.94	7.774		
10,000.00	5,832.00	9,930.97	5,729.00	65.98	65.70	-84.06	4,209.43	-887.39	994.54	863.80	130.74	7.607		
10,100.00	5,832.00	10,030.97	5,729.00	67.40	67.10	-84.06	4,309.43	-887.39	994.55	861.00	133.55	7.447		
10,200.00	5,832.00	10,130.97	5,729.00	68.81	68.50	-84.06	4,409.43	-887.40	994.55	858.19	136.36	7.293		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	5,832.00	10,230.97	5,729.00	70.23	69.91	-84.06	4,509.43	-887.41	994.55	855.37	139.18	7.146		
10,400.00	5,832.00	10,330.97	5,729.00	71.65	71.32	-84.06	4,609.43	-887.42	994.55	852.55	142.00	7.004		
10,500.00	5,832.00	10,430.97	5,729.00	73.07	72.73	-84.06	4,709.43	-887.43	994.56	849.72	144.83	6.867		
10,600.00	5,832.00	10,530.97	5,729.00	74.50	74.14	-84.06	4,809.43	-887.44	994.56	846.89	147.66	6.735		
10,700.00	5,832.00	10,630.97	5,729.00	75.92	75.56	-84.06	4,909.43	-887.44	994.56	844.06	150.50	6.608		
10,800.00	5,832.00	10,730.97	5,729.00	77.35	76.98	-84.06	5,009.43	-887.45	994.56	841.23	153.34	6.486		
10,900.00	5,832.00	10,830.97	5,729.00	78.78	78.40	-84.06	5,109.43	-887.46	994.57	838.39	156.18	6.368		
11,000.00	5,832.00	10,930.97	5,729.00	80.21	79.82	-84.06	5,209.43	-887.47	994.57	835.54	159.02	6.254		
11,100.00	5,832.00	11,030.97	5,729.00	81.64	81.24	-84.06	5,309.43	-887.48	994.57	832.70	161.87	6.144		
11,200.00	5,832.00	11,130.97	5,729.00	83.08	82.67	-84.06	5,409.43	-887.48	994.57	829.85	164.72	6.038		
11,300.00	5,832.00	11,230.97	5,729.00	84.51	84.10	-84.06	5,509.43	-887.49	994.57	827.00	167.58	5.935		
11,400.00	5,832.00	11,330.97	5,729.00	85.95	85.52	-84.06	5,609.43	-887.50	994.58	824.14	170.43	5.836		
11,500.00	5,832.00	11,430.97	5,729.00	87.39	86.95	-84.06	5,709.43	-887.51	994.58	821.29	173.29	5.739		
11,600.00	5,832.00	11,530.97	5,729.00	88.82	88.39	-84.06	5,809.43	-887.52	994.58	818.43	176.15	5.646		
11,700.00	5,832.00	11,630.97	5,729.00	90.26	89.82	-84.06	5,909.43	-887.52	994.58	815.57	179.02	5.556		
11,800.00	5,832.00	11,730.97	5,729.00	91.70	91.25	-84.06	6,009.43	-887.53	994.59	812.71	181.88	5.468		
11,900.00	5,832.00	11,830.97	5,729.00	93.15	92.69	-84.06	6,109.43	-887.54	994.59	809.84	184.75	5.383		
12,000.00	5,832.00	11,930.97	5,729.00	94.59	94.12	-84.06	6,209.43	-887.55	994.59	806.97	187.62	5.301		
12,100.00	5,832.00	12,030.97	5,729.00	96.03	95.56	-84.06	6,309.43	-887.56	994.59	804.11	190.49	5.221		
12,200.00	5,832.00	12,130.97	5,729.00	97.48	97.00	-84.06	6,409.43	-887.56	994.60	801.23	193.36	5.144		
12,300.00	5,832.00	12,230.97	5,729.00	98.92	98.44	-84.06	6,509.43	-887.57	994.60	798.36	196.24	5.068		
12,400.00	5,832.00	12,330.97	5,729.00	100.37	99.88	-84.06	6,609.43	-887.58	994.60	795.49	199.11	4.995		
12,500.00	5,832.00	12,430.97	5,729.00	101.81	101.32	-84.06	6,709.43	-887.59	994.60	792.61	201.99	4.924		
12,600.00	5,832.00	12,530.97	5,729.00	103.26	102.76	-84.06	6,809.43	-887.60	994.61	789.74	204.87	4.855		
12,700.00	5,832.00	12,630.97	5,729.00	104.71	104.20	-84.06	6,909.43	-887.60	994.61	786.86	207.75	4.788		
12,800.00	5,832.00	12,730.97	5,729.00	106.16	105.65	-84.06	7,009.43	-887.61	994.61	783.98	210.63	4.722		
12,900.00	5,832.00	12,830.97	5,729.00	107.61	107.09	-84.06	7,109.43	-887.62	994.61	781.10	213.51	4.658		
13,000.00	5,832.00	12,930.97	5,729.00	109.06	108.54	-84.06	7,209.43	-887.63	994.62	778.22	216.40	4.596		
13,100.00	5,832.00	13,030.97	5,729.00	110.51	109.98	-84.06	7,309.43	-887.64	994.62	775.34	219.28	4.536		
13,200.00	5,832.00	13,130.97	5,729.00	111.96	111.43	-84.06	7,409.43	-887.64	994.62	772.45	222.17	4.477		
13,300.00	5,832.00	13,230.97	5,729.00	113.41	112.88	-84.06	7,509.43	-887.65	994.62	769.57	225.06	4.419		
13,400.00	5,832.00	13,330.97	5,729.00	114.86	114.32	-84.06	7,609.43	-887.66	994.63	766.68	227.95	4.363		
13,500.00	5,832.00	13,430.97	5,729.00	116.31	115.77	-84.06	7,709.43	-887.67	994.63	763.79	230.84	4.309		
13,600.00	5,832.00	13,530.97	5,729.00	117.77	117.22	-84.06	7,809.43	-887.68	994.63	760.90	233.73	4.256		
13,700.00	5,832.00	13,630.97	5,729.00	119.22	118.67	-84.06	7,909.43	-887.69	994.63	758.01	236.62	4.204		
13,800.00	5,832.00	13,730.97	5,729.00	120.67	120.12	-84.06	8,009.43	-887.69	994.64	755.12	239.51	4.153		
13,900.00	5,832.00	13,830.97	5,729.00	122.13	121.57	-84.06	8,109.43	-887.70	994.64	752.23	242.40	4.103		
14,000.00	5,832.00	13,930.97	5,729.00	123.58	123.02	-84.06	8,209.43	-887.71	994.64	749.34	245.30	4.055		
14,100.00	5,832.00	14,030.97	5,729.00	125.04	124.47	-84.06	8,309.43	-887.72	994.64	746.45	248.19	4.008		
14,200.00	5,832.00	14,130.97	5,729.00	126.49	125.92	-84.06	8,409.43	-887.73	994.64	743.56	251.09	3.961		
14,300.00	5,832.00	14,230.97	5,729.00	127.95	127.38	-84.06	8,509.43	-887.73	994.65	740.66	253.99	3.916		
14,400.00	5,832.00	14,330.97	5,729.00	129.41	128.83	-84.06	8,609.43	-887.74	994.65	737.77	256.88	3.872		
14,500.00	5,832.00	14,430.97	5,729.00	130.86	130.28	-84.06	8,709.43	-887.75	994.65	734.87	259.78	3.829		
14,600.00	5,832.00	14,530.97	5,729.00	132.32	131.74	-84.06	8,809.43	-887.76	994.65	731.97	262.68	3.787		
14,700.00	5,832.00	14,630.97	5,729.00	133.78	133.19	-84.06	8,909.43	-887.77	994.66	729.08	265.58	3.745		
14,800.00	5,832.00	14,730.97	5,729.00	135.23	134.65	-84.06	9,009.43	-887.77	994.66	726.18	268.48	3.705		
14,900.00	5,832.00	14,830.97	5,729.00	136.69	136.10	-84.06	9,109.43	-887.78	994.66	723.28	271.38	3.665		
15,000.00	5,832.00	14,930.97	5,729.00	138.15	137.55	-84.06	9,209.43	-887.79	994.66	720.38	274.28	3.626		
15,100.00	5,832.00	15,030.97	5,729.00	139.61	139.01	-84.06	9,309.43	-887.80	994.67	717.48	277.18	3.588		
15,200.00	5,832.00	15,130.97	5,729.00	141.07	140.47	-84.06	9,409.43	-887.81	994.67	714.58	280.09	3.551		
15,300.00	5,832.00	15,230.97	5,729.00	142.53	141.92	-84.06	9,509.43	-887.81	994.67	711.68	282.99	3.515		
15,400.00	5,832.00	15,330.97	5,729.00	143.99	143.38	-84.06	9,609.43	-887.82	994.67	708.78	285.89	3.479		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25P-2445 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,500.00	5,832.00	15,430.97	5,729.00	145.45	144.84	-84.06	9,709.43	-887.83	994.68	705.88	288.80	3.444	
15,600.00	5,832.00	15,530.97	5,729.00	146.91	146.29	-84.06	9,809.43	-887.84	994.68	702.98	291.70	3.410	
15,700.00	5,832.00	15,630.97	5,729.00	148.37	147.75	-84.06	9,909.43	-887.85	994.68	700.07	294.61	3.376	
15,800.00	5,832.00	15,730.97	5,729.00	149.83	149.21	-84.06	10,009.43	-887.85	994.68	697.17	297.51	3.343	
15,900.00	5,832.00	15,830.97	5,729.00	151.29	150.67	-84.06	10,109.43	-887.86	994.69	694.27	300.42	3.311	
15,942.97	5,832.00	15,873.94	5,729.00	151.91	151.29	-84.06	10,152.41	-887.87	994.69	693.02	301.67	3.297	
15,974.81	5,832.00	15,902.83	5,729.00	152.38	151.71	-84.06	10,181.30	-887.87	994.69	692.14	302.55	3.288 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.97	-1.02	-59.98	59.99					
100.00	100.00	100.00	100.00	0.13	0.13	-90.97	-1.02	-59.98	59.99	59.73	0.27	225.245		
200.00	200.00	200.00	200.00	0.47	0.47	-90.97	-1.02	-59.98	59.99	59.05	0.94	63.779		
300.00	300.00	300.00	300.00	0.81	0.81	-90.97	-1.02	-59.98	59.99	58.38	1.61	37.149 CC, ES		
400.00	399.98	398.03	398.01	1.11	1.12	119.78	-1.67	-61.53	62.43	60.21	2.23	28.030		
500.00	499.86	495.70	495.55	1.41	1.42	121.49	-3.63	-66.14	69.57	66.74	2.83	24.555		
600.00	599.73	592.85	592.34	1.72	1.74	122.13	-6.86	-73.75	80.05	76.58	3.47	23.073		
700.00	699.59	690.45	689.28	2.04	2.08	121.81	-11.29	-84.18	93.32	89.19	4.13	22.603		
800.00	799.45	789.49	787.58	2.37	2.43	121.44	-16.00	-95.29	107.12	102.34	4.78	22.399		
900.00	899.31	888.53	885.88	2.71	2.80	121.15	-20.72	-106.40	120.93	115.48	5.45	22.207		
1,000.00	999.18	987.57	984.19	3.05	3.17	120.92	-25.43	-117.51	134.73	128.62	6.12	22.032		
1,100.00	1,099.04	1,086.61	1,082.49	3.39	3.54	120.73	-30.15	-128.62	148.54	141.75	6.79	21.875		
1,200.00	1,198.90	1,185.65	1,180.79	3.73	3.92	120.57	-34.87	-139.73	162.35	154.88	7.47	21.736		
1,300.00	1,298.77	1,284.70	1,279.09	4.08	4.29	120.44	-39.58	-150.84	176.17	168.01	8.15	21.613		
1,400.00	1,398.63	1,383.74	1,377.40	4.42	4.67	120.33	-44.30	-161.95	189.98	181.14	8.83	21.504		
1,500.00	1,498.49	1,482.78	1,475.70	4.77	5.05	120.23	-49.01	-173.06	203.79	194.27	9.52	21.407		
1,600.00	1,598.36	1,581.82	1,574.00	5.12	5.43	120.15	-53.73	-184.17	217.60	207.40	10.21	21.320		
1,700.00	1,698.22	1,680.86	1,672.30	5.46	5.81	120.07	-58.45	-195.28	231.42	220.52	10.89	21.242		
1,800.00	1,798.08	1,779.90	1,770.61	5.81	6.18	120.01	-63.16	-206.39	245.23	233.65	11.58	21.172		
1,900.00	1,897.94	1,878.94	1,868.91	6.16	6.56	119.95	-67.88	-217.51	259.05	246.78	12.27	21.109		
2,000.00	1,997.81	1,977.98	1,967.21	6.51	6.94	119.90	-72.60	-228.62	272.86	259.90	12.96	21.051		
2,100.00	2,097.67	2,077.02	2,065.52	6.85	7.33	119.85	-77.31	-239.73	286.68	273.02	13.65	20.998		
2,200.00	2,197.53	2,176.06	2,163.82	7.20	7.71	119.80	-82.03	-250.84	300.49	286.15	14.34	20.950		
2,300.00	2,297.40	2,275.10	2,262.12	7.55	8.09	119.76	-86.74	-261.95	314.31	299.27	15.03	20.906		
2,400.00	2,397.26	2,374.14	2,360.42	7.90	8.47	119.73	-91.46	-273.06	328.12	312.40	15.73	20.865		
2,500.00	2,497.12	2,473.19	2,458.73	8.25	8.85	119.69	-96.18	-284.17	341.94	325.52	16.42	20.827		
2,600.00	2,596.99	2,572.23	2,557.03	8.60	9.23	119.66	-100.89	-295.28	355.75	338.64	17.11	20.792		
2,700.00	2,696.85	2,671.27	2,655.33	8.95	9.61	119.64	-105.61	-306.39	369.57	351.77	17.80	20.759		
2,800.00	2,796.71	2,770.31	2,753.63	9.29	9.99	119.61	-110.32	-317.50	383.39	364.89	18.50	20.728		
2,900.00	2,896.57	2,869.35	2,851.94	9.64	10.38	119.58	-115.04	-328.61	397.20	378.01	19.19	20.700		
3,000.00	2,996.44	2,968.39	2,950.24	9.99	10.76	119.56	-119.76	-339.72	411.02	391.14	19.88	20.673		
3,100.00	3,096.30	3,067.43	3,048.54	10.34	11.14	119.54	-124.47	-350.83	424.83	404.26	20.57	20.648		
3,200.00	3,196.16	3,166.47	3,146.84	10.69	11.52	119.52	-129.19	-361.94	438.65	417.38	21.27	20.625		
3,300.00	3,296.03	3,265.51	3,245.15	11.04	11.90	119.50	-133.90	-373.05	452.47	430.50	21.96	20.602		
3,400.00	3,395.89	3,364.55	3,343.45	11.39	12.29	119.48	-138.62	-384.16	466.28	443.63	22.66	20.581		
3,500.00	3,495.75	3,463.59	3,441.75	11.74	12.67	119.47	-143.34	-395.27	480.10	456.75	23.35	20.561		
3,600.00	3,595.61	3,562.64	3,540.05	12.09	13.05	119.45	-148.05	-406.38	493.92	469.87	24.04	20.543		
3,700.00	3,695.48	3,661.68	3,638.36	12.44	13.43	119.44	-152.77	-417.50	507.73	482.99	24.74	20.525		
3,800.00	3,795.34	3,760.72	3,736.66	12.79	13.81	119.42	-157.49	-428.61	521.55	496.12	25.43	20.508		
3,900.00	3,895.20	3,859.76	3,834.96	13.14	14.20	119.41	-162.20	-439.72	535.36	509.24	26.13	20.492		
4,000.00	3,995.07	3,958.80	3,933.27	13.48	14.58	119.40	-166.92	-450.83	549.18	522.36	26.82	20.476		
4,100.00	4,094.93	4,057.84	4,031.57	13.83	14.96	119.38	-171.63	-461.94	563.00	535.48	27.51	20.462		
4,200.00	4,194.79	4,156.88	4,129.87	14.18	15.34	119.37	-176.35	-473.05	576.81	548.60	28.21	20.448		
4,300.00	4,294.73	4,256.02	4,228.27	14.48	15.73	119.44	-181.07	-484.17	589.78	560.91	28.87	20.427		
4,400.00	4,394.72	4,355.26	4,326.77	14.77	16.11	-90.87	-185.80	-495.30	601.28	571.77	29.51	20.375		
4,500.00	4,494.72	4,454.52	4,425.29	15.03	16.49	-91.30	-190.52	-506.44	612.60	582.49	30.11	20.347		
4,600.00	4,594.72	4,553.77	4,523.80	15.29	16.88	-91.71	-195.25	-517.57	623.95	593.24	30.71	20.319		
4,700.00	4,694.72	4,653.03	4,622.32	15.55	17.26	-92.11	-199.98	-528.71	635.33	604.02	31.31	20.291		
4,800.00	4,794.72	4,755.58	4,724.11	15.82	17.65	-92.50	-204.84	-540.17	646.71	614.79	31.92	20.261		
4,900.00	4,894.72	4,882.13	4,850.09	16.09	18.00	-92.87	-209.51	-551.18	655.58	623.06	32.52	20.159		
5,000.00	4,994.72	5,009.50	4,977.28	16.36	18.31	-93.06	-212.02	-557.08	660.31	627.20	33.11	19.943		
5,100.00	5,094.72	5,126.95	5,094.72	16.64	18.61	-93.09	-212.46	-558.12	661.14	627.43	33.71	19.613		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,194.72	5,226.95	5,194.72	16.91	18.87	-93.09	-212.46	-558.12	661.14	626.88	34.26	19.297		
5,300.00	5,294.72	5,326.95	5,294.72	17.19	19.14	-93.09	-212.46	-558.12	661.14	626.32	34.82	18.988		
5,400.00	5,394.37	5,433.07	5,400.40	17.47	19.41	-93.05	-204.75	-558.12	661.11	625.75	35.37	18.693		
5,500.00	5,490.95	5,540.12	5,503.24	17.72	19.66	-92.89	-175.74	-558.12	661.01	625.15	35.86	18.431		
5,600.00	5,580.92	5,646.58	5,597.52	17.96	19.86	-92.61	-126.66	-558.12	660.86	624.54	36.32	18.194		
5,700.00	5,660.98	5,752.19	5,679.26	18.20	20.02	-92.24	-60.09	-558.12	660.67	623.89	36.78	17.962		
5,800.00	5,728.18	5,856.72	5,745.33	18.44	20.13	-91.78	20.70	-558.12	660.48	623.20	37.28	17.715		
5,900.00	5,780.06	5,960.03	5,793.51	18.73	20.19	-91.26	111.89	-558.12	660.32	622.44	37.87	17.435		
6,000.00	5,814.71	6,062.02	5,822.52	19.09	20.21	-90.69	209.50	-558.12	660.20	621.62	38.58	17.114		
6,100.00	5,830.85	6,162.67	5,832.00	19.51	20.26	-90.10	309.54	-558.12	660.15	620.75	39.40	16.757		
6,200.00	5,832.00	6,262.65	5,832.00	20.00	20.56	-90.00	409.52	-558.12	660.14	619.78	40.36	16.356		
6,300.00	5,832.00	6,362.65	5,832.00	20.59	21.11	-90.00	509.52	-558.12	660.13	618.63	41.51	15.904		
6,400.00	5,832.00	6,462.65	5,832.00	21.26	21.76	-90.00	609.52	-558.12	660.13	617.30	42.83	15.414		
6,500.00	5,832.00	6,562.65	5,832.00	22.02	22.50	-90.00	709.52	-558.12	660.12	615.82	44.30	14.901		
6,600.00	5,832.00	6,662.65	5,832.00	22.84	23.30	-90.00	809.52	-558.12	660.12	614.20	45.92	14.377		
6,700.00	5,832.00	6,762.65	5,832.00	23.73	24.16	-90.00	909.52	-558.12	660.11	612.45	47.66	13.851		
6,800.00	5,832.00	6,862.65	5,832.00	24.67	25.08	-90.00	1,009.52	-558.12	660.10	610.59	49.52	13.331		
6,900.00	5,832.00	6,962.65	5,832.00	25.66	26.05	-90.00	1,109.52	-558.12	660.10	608.62	51.47	12.824		
7,000.00	5,832.00	7,062.65	5,832.00	26.69	27.06	-90.00	1,209.52	-558.12	660.09	606.57	53.52	12.333		
7,100.00	5,832.00	7,162.65	5,832.00	27.77	28.12	-90.00	1,309.52	-558.11	660.09	604.44	55.65	11.861		
7,200.00	5,832.00	7,262.65	5,832.00	28.88	29.20	-90.00	1,409.52	-558.11	660.08	602.23	57.85	11.410		
7,300.00	5,832.00	7,362.65	5,832.00	30.02	30.32	-90.00	1,509.52	-558.11	660.07	599.96	60.12	10.980		
7,400.00	5,832.00	7,462.65	5,832.00	31.19	31.47	-90.00	1,609.52	-558.11	660.07	597.63	62.44	10.572		
7,500.00	5,832.00	7,562.65	5,832.00	32.38	32.65	-90.00	1,709.52	-558.11	660.06	595.26	64.81	10.185		
7,600.00	5,832.00	7,662.65	5,832.00	33.60	33.84	-90.00	1,809.52	-558.11	660.06	592.83	67.22	9.819		
7,700.00	5,832.00	7,762.65	5,832.00	34.84	35.06	-90.00	1,909.52	-558.11	660.05	590.37	69.68	9.472		
7,800.00	5,832.00	7,862.65	5,832.00	36.09	36.30	-90.00	2,009.52	-558.11	660.05	587.87	72.17	9.145		
7,900.00	5,832.00	7,962.65	5,832.00	37.36	37.55	-90.00	2,109.52	-558.11	660.04	585.34	74.70	8.836		
8,000.00	5,832.00	8,062.65	5,832.00	38.64	38.82	-90.00	2,209.52	-558.11	660.03	582.78	77.26	8.543		
8,100.00	5,832.00	8,162.65	5,832.00	39.94	40.10	-90.00	2,309.52	-558.11	660.03	580.19	79.84	8.267		
8,200.00	5,832.00	8,262.65	5,832.00	41.25	41.39	-90.00	2,409.52	-558.11	660.02	577.58	82.45	8.005		
8,300.00	5,832.00	8,362.65	5,832.00	42.57	42.70	-90.00	2,509.52	-558.11	660.02	574.94	85.07	7.758		
8,400.00	5,832.00	8,462.65	5,832.00	43.89	44.02	-90.00	2,609.52	-558.11	660.01	572.29	87.72	7.524		
8,500.00	5,832.00	8,562.65	5,832.00	45.23	45.34	-90.00	2,709.52	-558.11	660.00	569.61	90.39	7.302		
8,600.00	5,832.00	8,662.65	5,832.00	46.58	46.68	-90.00	2,809.52	-558.11	660.00	566.92	93.07	7.091		
8,700.00	5,832.00	8,762.65	5,832.00	47.93	48.02	-90.00	2,909.52	-558.11	659.99	564.22	95.77	6.891		
8,800.00	5,832.00	8,862.65	5,832.00	49.29	49.37	-90.00	3,009.52	-558.11	659.99	561.50	98.49	6.701		
8,900.00	5,832.00	8,962.65	5,832.00	50.66	50.72	-90.00	3,109.52	-558.11	659.98	558.77	101.21	6.521		
9,000.00	5,832.00	9,062.65	5,832.00	52.03	52.09	-90.00	3,209.52	-558.11	659.97	556.02	103.95	6.349		
9,100.00	5,832.00	9,162.65	5,832.00	53.40	53.45	-90.00	3,309.52	-558.11	659.97	553.27	106.70	6.185		
9,200.00	5,832.00	9,262.65	5,832.00	54.79	54.83	-90.00	3,409.52	-558.11	659.96	550.51	109.46	6.029		
9,300.00	5,832.00	9,362.65	5,832.00	56.17	56.21	-90.00	3,509.52	-558.11	659.96	547.73	112.22	5.881		
9,400.00	5,832.00	9,462.65	5,832.00	57.56	57.59	-90.00	3,609.52	-558.11	659.95	544.95	115.00	5.739		
9,500.00	5,832.00	9,562.65	5,832.00	58.96	58.98	-90.00	3,709.52	-558.11	659.94	542.16	117.79	5.603		
9,600.00	5,832.00	9,662.65	5,832.00	60.36	60.37	-90.00	3,809.52	-558.11	659.94	539.36	120.58	5.473		
9,700.00	5,832.00	9,762.65	5,832.00	61.76	61.76	-90.00	3,909.52	-558.11	659.93	536.55	123.38	5.349		
9,800.00	5,832.00	9,862.65	5,832.00	63.16	63.16	-90.00	4,009.52	-558.11	659.93	533.74	126.18	5.230		
9,900.00	5,832.00	9,962.65	5,832.00	64.57	64.56	-90.00	4,109.52	-558.11	659.92	530.92	129.00	5.116		
10,000.00	5,832.00	10,062.65	5,832.00	65.98	65.97	-90.00	4,209.52	-558.11	659.91	528.10	131.81	5.006		
10,100.00	5,832.00	10,162.65	5,832.00	67.40	67.37	-90.00	4,309.52	-558.11	659.91	525.27	134.64	4.901		
10,200.00	5,832.00	10,262.65	5,832.00	68.81	68.78	-90.00	4,409.52	-558.11	659.90	522.44	137.47	4.800		
10,300.00	5,832.00	10,362.65	5,832.00	70.23	70.20	-90.00	4,509.52	-558.11	659.90	519.60	140.30	4.703		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	5,832.00	10,462.65	5,832.00	71.65	71.61	-90.00	4,609.52	-558.11	659.89	516.75	143.14	4.610		
10,500.00	5,832.00	10,562.65	5,832.00	73.07	73.03	-90.00	4,709.52	-558.10	659.88	513.91	145.98	4.520		
10,600.00	5,832.00	10,662.65	5,832.00	74.50	74.45	-90.00	4,809.52	-558.10	659.88	511.06	148.82	4.434		
10,700.00	5,832.00	10,762.65	5,832.00	75.92	75.87	-90.00	4,909.52	-558.10	659.87	508.20	151.67	4.351		
10,800.00	5,832.00	10,862.65	5,832.00	77.35	77.29	-90.00	5,009.52	-558.10	659.87	505.34	154.53	4.270		
10,900.00	5,832.00	10,962.65	5,832.00	78.78	78.72	-90.00	5,109.52	-558.10	659.86	502.48	157.38	4.193		
11,000.00	5,832.00	11,062.65	5,832.00	80.21	80.15	-90.00	5,209.52	-558.10	659.86	499.61	160.24	4.118		
11,100.00	5,832.00	11,162.65	5,832.00	81.64	81.57	-90.00	5,309.52	-558.10	659.85	496.75	163.10	4.046		
11,200.00	5,832.00	11,262.65	5,832.00	83.08	83.00	-90.00	5,409.52	-558.10	659.84	493.87	165.97	3.976		
11,300.00	5,832.00	11,362.65	5,832.00	84.51	84.43	-90.00	5,509.52	-558.10	659.84	491.00	168.84	3.908		
11,400.00	5,832.00	11,462.65	5,832.00	85.95	85.87	-90.00	5,609.52	-558.10	659.83	488.12	171.71	3.843		
11,500.00	5,832.00	11,562.65	5,832.00	87.39	87.30	-90.00	5,709.52	-558.10	659.83	485.24	174.58	3.779		
11,600.00	5,832.00	11,662.65	5,832.00	88.82	88.74	-90.00	5,809.52	-558.10	659.82	482.36	177.46	3.718		
11,700.00	5,832.00	11,762.65	5,832.00	90.26	90.17	-90.00	5,909.52	-558.10	659.81	479.48	180.33	3.659		
11,800.00	5,832.00	11,862.65	5,832.00	91.70	91.61	-90.00	6,009.52	-558.10	659.81	476.60	183.21	3.601		
11,900.00	5,832.00	11,962.65	5,832.00	93.15	93.05	-90.00	6,109.52	-558.10	659.80	473.71	186.09	3.546		
12,000.00	5,832.00	12,062.65	5,832.00	94.59	94.49	-90.00	6,209.52	-558.10	659.80	470.82	188.98	3.491		
12,100.00	5,832.00	12,162.65	5,832.00	96.03	95.93	-90.00	6,309.52	-558.10	659.79	467.93	191.86	3.439		
12,200.00	5,832.00	12,262.65	5,832.00	97.48	97.37	-90.00	6,409.52	-558.10	659.78	465.03	194.75	3.388		
12,300.00	5,832.00	12,362.65	5,832.00	98.92	98.81	-90.00	6,509.52	-558.10	659.78	462.14	197.64	3.338		
12,400.00	5,832.00	12,462.65	5,832.00	100.37	100.26	-90.00	6,609.52	-558.10	659.77	459.24	200.53	3.290		
12,500.00	5,832.00	12,562.65	5,832.00	101.81	101.70	-90.00	6,709.52	-558.10	659.77	456.35	203.42	3.243		
12,600.00	5,832.00	12,662.65	5,832.00	103.26	103.14	-90.00	6,809.52	-558.10	659.76	453.45	206.31	3.198		
12,700.00	5,832.00	12,762.65	5,832.00	104.71	104.59	-90.00	6,909.52	-558.10	659.75	450.55	209.21	3.154		
12,800.00	5,832.00	12,862.65	5,832.00	106.16	106.04	-90.00	7,009.52	-558.10	659.75	447.64	212.10	3.110		
12,900.00	5,832.00	12,962.65	5,832.00	107.61	107.48	-90.00	7,109.52	-558.10	659.74	444.74	215.00	3.069		
13,000.00	5,832.00	13,062.65	5,832.00	109.06	108.93	-90.00	7,209.52	-558.10	659.74	441.84	217.90	3.028		
13,100.00	5,832.00	13,162.65	5,832.00	110.51	110.38	-90.00	7,309.52	-558.10	659.73	438.93	220.80	2.988		
13,200.00	5,832.00	13,262.65	5,832.00	111.96	111.83	-90.00	7,409.52	-558.10	659.72	436.02	223.70	2.949		
13,300.00	5,832.00	13,362.65	5,832.00	113.41	113.28	-90.00	7,509.52	-558.10	659.72	433.12	226.60	2.911		
13,400.00	5,832.00	13,462.65	5,832.00	114.86	114.73	-90.00	7,609.52	-558.10	659.71	430.21	229.50	2.875		
13,500.00	5,832.00	13,562.65	5,832.00	116.31	116.18	-90.00	7,709.52	-558.10	659.71	427.30	232.41	2.839		
13,600.00	5,832.00	13,662.65	5,832.00	117.77	117.63	-90.00	7,809.52	-558.10	659.70	424.39	235.31	2.803		
13,700.00	5,832.00	13,762.65	5,832.00	119.22	119.08	-90.00	7,909.52	-558.10	659.69	421.48	238.22	2.769		
13,800.00	5,832.00	13,862.65	5,832.00	120.67	120.53	-90.00	8,009.52	-558.10	659.69	418.56	241.13	2.736		
13,900.00	5,832.00	13,962.65	5,832.00	122.13	121.98	-90.00	8,109.52	-558.09	659.68	415.65	244.03	2.703		
14,000.00	5,832.00	14,062.65	5,832.00	123.58	123.44	-90.00	8,209.52	-558.09	659.68	412.73	246.94	2.671		
14,100.00	5,832.00	14,162.65	5,832.00	125.04	124.89	-90.00	8,309.52	-558.09	659.67	409.82	249.85	2.640		
14,200.00	5,832.00	14,262.65	5,832.00	126.49	126.34	-90.00	8,409.52	-558.09	659.67	406.90	252.76	2.610		
14,300.00	5,832.00	14,362.65	5,832.00	127.95	127.80	-90.00	8,509.52	-558.09	659.66	403.99	255.67	2.580		
14,400.00	5,832.00	14,462.65	5,832.00	129.41	129.25	-90.00	8,609.52	-558.09	659.65	401.07	258.58	2.551		
14,500.00	5,832.00	14,562.65	5,832.00	130.86	130.71	-90.00	8,709.52	-558.09	659.65	398.15	261.50	2.523		
14,600.00	5,832.00	14,662.65	5,832.00	132.32	132.16	-90.00	8,809.52	-558.09	659.64	395.23	264.41	2.495		
14,700.00	5,832.00	14,762.65	5,832.00	133.78	133.62	-90.00	8,909.52	-558.09	659.64	392.31	267.32	2.468		
14,800.00	5,832.00	14,862.65	5,832.00	135.23	135.07	-90.00	9,009.52	-558.09	659.63	389.39	270.24	2.441		
14,900.00	5,832.00	14,962.65	5,832.00	136.69	136.53	-90.00	9,109.52	-558.09	659.62	386.47	273.15	2.415		
15,000.00	5,832.00	15,062.65	5,832.00	138.15	137.99	-90.00	9,209.52	-558.09	659.62	383.55	276.07	2.389		
15,100.00	5,832.00	15,162.65	5,832.00	139.61	139.44	-90.00	9,309.52	-558.09	659.61	380.63	278.98	2.364		
15,200.00	5,832.00	15,262.65	5,832.00	141.07	140.90	-90.00	9,409.52	-558.09	659.61	377.70	281.90	2.340		
15,300.00	5,832.00	15,362.65	5,832.00	142.53	142.36	-90.00	9,509.52	-558.09	659.60	374.78	284.82	2.316		
15,400.00	5,832.00	15,462.65	5,832.00	143.99	143.82	-90.00	9,609.52	-558.09	659.59	371.86	287.74	2.292		
15,500.00	5,832.00	15,562.65	5,832.00	145.45	145.28	-90.00	9,709.52	-558.09	659.59	368.93	290.65	2.269		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25P-2446 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,600.00	5,832.00	15,662.65	5,832.00	146.91	146.73	-90.00	9,809.52	-558.09	659.58	366.01	293.57	2.247	
15,700.00	5,832.00	15,762.65	5,832.00	148.37	148.19	-90.00	9,909.52	-558.09	659.58	363.08	296.49	2.225	
15,800.00	5,832.00	15,862.65	5,832.00	149.83	149.65	-90.00	10,009.52	-558.09	659.57	360.16	299.41	2.203	
15,900.00	5,832.00	15,962.65	5,832.00	151.29	151.11	-90.00	10,109.52	-558.09	659.56	357.23	302.33	2.182	
15,954.92	5,832.00	16,017.57	5,832.00	152.09	151.91	-90.00	10,164.44	-558.09	659.56	355.62	303.94	2.170	
15,974.81	5,832.00	16,035.43	5,832.00	152.38	152.17	-90.00	10,182.30	-558.09	659.56	355.08	304.49	2.166 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-91.94	-1.02	-29.99	30.01					
100.00	100.00	100.00	100.00	0.13	0.13	-91.94	-1.02	-29.99	30.01	29.74	0.27	112.671		
200.00	200.00	200.00	200.00	0.47	0.47	-91.94	-1.02	-29.99	30.01	29.07	0.94	31.903		
300.00	300.00	300.00	300.00	0.81	0.81	-91.94	-1.02	-29.99	30.01	28.39	1.61	18.582 CC, ES		
400.00	399.98	399.13	399.11	1.11	1.11	118.86	-2.12	-31.31	32.20	29.97	2.22	14.475		
500.00	499.86	498.23	498.07	1.41	1.42	120.30	-5.36	-35.17	38.49	35.66	2.83	13.613		
600.00	599.73	597.96	597.62	1.72	1.73	121.00	-9.28	-39.84	45.78	42.33	3.45	13.276		
700.00	699.59	697.69	697.17	2.04	2.06	121.51	-13.19	-44.50	53.08	48.99	4.09	12.971		
800.00	799.45	797.42	796.71	2.37	2.39	121.90	-17.10	-49.16	60.39	55.64	4.75	12.712		
900.00	899.31	897.15	896.26	2.71	2.73	122.21	-21.02	-53.83	67.69	62.28	5.42	12.496		
1,000.00	999.18	996.89	995.80	3.05	3.08	122.45	-24.93	-58.49	75.00	68.91	6.09	12.315		
1,100.00	1,099.04	1,096.62	1,095.35	3.39	3.42	122.65	-28.84	-63.16	82.31	75.54	6.77	12.163		
1,200.00	1,198.90	1,196.35	1,194.90	3.73	3.77	122.82	-32.76	-67.82	89.62	82.17	7.45	12.034		
1,300.00	1,298.77	1,296.08	1,294.44	4.08	4.12	122.96	-36.67	-72.48	96.93	88.80	8.13	11.923		
1,400.00	1,398.63	1,395.82	1,393.99	4.42	4.46	123.09	-40.58	-77.15	104.24	95.43	8.81	11.827		
1,500.00	1,498.49	1,495.55	1,493.54	4.77	4.81	123.19	-44.50	-81.81	111.55	102.05	9.50	11.743		
1,600.00	1,598.36	1,595.28	1,593.08	5.12	5.16	123.29	-48.41	-86.48	118.86	108.68	10.19	11.669		
1,700.00	1,698.22	1,695.01	1,692.63	5.46	5.51	123.37	-52.33	-91.14	126.17	115.30	10.87	11.604		
1,800.00	1,798.08	1,794.74	1,792.17	5.81	5.86	123.44	-56.24	-95.80	133.49	121.92	11.56	11.545		
1,900.00	1,897.94	1,894.48	1,891.72	6.16	6.21	123.51	-60.15	-100.47	140.80	128.55	12.25	11.493		
2,000.00	1,997.81	1,994.21	1,991.27	6.51	6.56	123.57	-64.07	-105.13	148.11	135.17	12.94	11.446		
2,100.00	2,097.67	2,093.94	2,090.81	6.85	6.91	123.62	-67.98	-109.80	155.42	141.79	13.63	11.403		
2,200.00	2,197.53	2,193.67	2,190.36	7.20	7.26	123.67	-71.89	-114.46	162.74	148.42	14.32	11.364		
2,300.00	2,297.40	2,293.40	2,289.90	7.55	7.61	123.72	-75.81	-119.13	170.05	155.04	15.01	11.328		
2,400.00	2,397.26	2,393.14	2,389.45	7.90	7.96	123.76	-79.72	-123.79	177.36	161.66	15.70	11.296		
2,500.00	2,497.12	2,492.87	2,489.00	8.25	8.32	123.79	-83.63	-128.45	184.68	168.28	16.39	11.265		
2,600.00	2,596.99	2,592.60	2,588.54	8.60	8.67	123.83	-87.55	-133.12	191.99	174.90	17.08	11.238		
2,700.00	2,696.85	2,692.33	2,688.09	8.95	9.02	123.86	-91.46	-137.78	199.30	181.53	17.78	11.212		
2,800.00	2,796.71	2,792.07	2,787.64	9.29	9.37	123.89	-95.38	-142.45	206.62	188.15	18.47	11.188		
2,900.00	2,896.57	2,891.80	2,887.18	9.64	9.72	123.92	-99.29	-147.11	213.93	194.77	19.16	11.166		
3,000.00	2,996.44	2,991.53	2,986.73	9.99	10.07	123.95	-103.20	-151.77	221.24	201.39	19.85	11.145		
3,100.00	3,096.30	3,091.26	3,086.27	10.34	10.42	123.97	-107.12	-156.44	228.56	208.01	20.54	11.125		
3,200.00	3,196.16	3,190.99	3,185.82	10.69	10.78	123.99	-111.03	-161.10	235.87	214.63	21.24	11.107		
3,300.00	3,296.03	3,290.73	3,285.37	11.04	11.13	124.02	-114.94	-165.77	243.18	221.25	21.93	11.090		
3,400.00	3,395.89	3,390.46	3,384.91	11.39	11.48	124.04	-118.86	-170.43	250.50	227.87	22.62	11.074		
3,500.00	3,495.75	3,490.19	3,484.46	11.74	11.83	124.06	-122.77	-175.09	257.81	234.50	23.31	11.059		
3,600.00	3,595.61	3,589.92	3,584.00	12.09	12.18	124.07	-126.68	-179.76	265.12	241.12	24.01	11.044		
3,700.00	3,695.48	3,689.66	3,683.55	12.44	12.53	124.09	-130.60	-184.42	272.44	247.74	24.70	11.031		
3,800.00	3,795.34	3,789.39	3,783.10	12.79	12.89	124.11	-134.51	-189.09	279.75	254.36	25.39	11.018		
3,900.00	3,895.20	3,889.12	3,882.64	13.14	13.24	124.12	-138.42	-193.75	287.06	260.98	26.08	11.005		
4,000.00	3,995.07	3,988.85	3,982.19	13.48	13.59	124.14	-142.34	-198.41	294.38	267.60	26.78	10.994		
4,100.00	4,094.93	4,088.58	4,081.74	13.83	13.94	124.15	-146.25	-203.08	301.69	274.22	27.47	10.983		
4,200.00	4,194.79	4,188.32	4,181.28	14.18	14.29	124.16	-150.17	-207.74	309.00	280.84	28.16	10.972		
4,300.00	4,294.73	4,288.10	4,280.88	14.48	14.64	124.02	-154.08	-212.41	315.34	286.53	28.82	10.944		
4,400.00	4,394.72	4,387.92	4,380.51	14.77	15.00	-86.63	-158.00	-217.08	320.00	290.55	29.45	10.866		
4,500.00	4,494.72	4,487.73	4,480.14	15.03	15.35	-87.37	-161.91	-221.74	324.47	294.42	30.05	10.797		
4,600.00	4,594.72	4,591.05	4,583.28	15.29	15.69	-88.08	-165.78	-226.35	328.79	298.14	30.65	10.728		
4,700.00	4,694.72	4,700.42	4,692.60	15.55	15.97	-88.43	-167.73	-228.67	330.86	299.67	31.19	10.609		
4,800.00	4,794.72	4,802.54	4,794.72	15.82	16.26	-88.45	-167.79	-228.75	330.93	299.18	31.75	10.423		
4,900.00	4,894.72	4,902.54	4,894.72	16.09	16.52	-88.45	-167.79	-228.75	330.93	298.64	32.29	10.249		
5,000.00	4,994.72	5,002.54	4,994.72	16.36	16.79	-88.45	-167.79	-228.75	330.93	298.10	32.83	10.080		
5,100.00	5,094.72	5,102.54	5,094.72	16.64	17.07	-88.45	-167.79	-228.75	330.93	297.55	33.38	9.914		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,194.72	5,202.54	5,194.72	16.91	17.34	-88.45	-167.79	-228.75	330.93	297.00	33.93	9.753		
5,210.82	5,205.54	5,213.36	5,205.54	16.94	17.37	-88.45	-167.79	-228.75	330.93	296.94	33.99	9.736		
5,300.00	5,294.72	5,300.00	5,291.82	17.19	17.60	-87.28	-161.03	-228.75	331.19	296.72	34.48	9.606		
5,400.00	5,394.37	5,394.09	5,382.82	17.47	17.84	-84.15	-137.63	-228.75	332.59	297.60	34.99	9.505		
5,500.00	5,490.95	5,485.06	5,465.42	17.72	18.06	-81.24	-99.81	-228.75	334.81	299.37	35.44	9.447		
5,600.00	5,580.92	5,573.75	5,538.45	17.96	18.25	-78.66	-49.66	-228.75	337.51	301.70	35.81	9.425		
5,700.00	5,660.98	5,660.62	5,600.72	18.20	18.42	-76.50	10.76	-228.74	340.32	304.20	36.12	9.422		
5,800.00	5,728.18	5,746.08	5,651.36	18.44	18.58	-74.79	79.49	-228.74	342.88	306.47	36.41	9.417		
5,900.00	5,780.06	5,830.52	5,689.71	18.73	18.76	-73.57	154.61	-228.74	344.91	308.15	36.76	9.382		
6,000.00	5,814.71	5,914.31	5,715.28	19.09	19.04	-72.85	234.31	-228.73	346.17	308.92	37.25	9.293		
6,100.00	5,830.85	6,000.00	5,727.88	19.51	19.39	-72.64	318.97	-228.73	346.54	308.60	37.94	9.133		
6,150.40	5,833.36	6,040.94	5,729.00	19.76	19.58	-72.50	359.89	-228.73	346.83	308.48	38.34	9.045		
6,200.00	5,832.00	6,090.58	5,729.00	20.00	19.84	-72.70	409.53	-228.73	346.42	307.58	38.84	8.919		
6,300.00	5,832.00	6,190.58	5,729.00	20.59	20.42	-72.70	509.53	-228.72	346.41	306.45	39.95	8.670		
6,400.00	5,832.00	6,290.58	5,729.00	21.26	21.09	-72.70	609.53	-228.72	346.40	305.17	41.23	8.401		
6,500.00	5,832.00	6,390.58	5,729.00	22.02	21.85	-72.70	709.53	-228.71	346.39	303.73	42.66	8.120		
6,600.00	5,832.00	6,490.58	5,729.00	22.84	22.67	-72.70	809.53	-228.71	346.38	302.16	44.22	7.833		
6,700.00	5,832.00	6,590.58	5,729.00	23.73	23.55	-72.70	909.53	-228.70	346.37	300.47	45.90	7.546		
6,800.00	5,832.00	6,690.58	5,729.00	24.67	24.49	-72.70	1,009.53	-228.70	346.36	298.67	47.69	7.263		
6,900.00	5,832.00	6,790.58	5,729.00	25.66	25.49	-72.70	1,109.53	-228.70	346.35	296.77	49.58	6.986		
7,000.00	5,832.00	6,890.58	5,729.00	26.69	26.52	-72.70	1,209.53	-228.69	346.34	294.79	51.55	6.718		
7,100.00	5,832.00	6,990.58	5,729.00	27.77	27.60	-72.70	1,309.53	-228.69	346.33	292.73	53.60	6.461		
7,200.00	5,832.00	7,090.58	5,729.00	28.88	28.71	-72.70	1,409.53	-228.68	346.32	290.60	55.72	6.216		
7,300.00	5,832.00	7,190.58	5,729.00	30.02	29.85	-72.70	1,509.53	-228.68	346.31	288.42	57.90	5.982		
7,400.00	5,832.00	7,290.58	5,729.00	31.19	31.02	-72.70	1,609.53	-228.67	346.30	286.17	60.13	5.759		
7,500.00	5,832.00	7,390.58	5,729.00	32.38	32.21	-72.70	1,709.53	-228.67	346.29	283.88	62.41	5.549		
7,600.00	5,832.00	7,490.58	5,729.00	33.60	33.43	-72.70	1,809.53	-228.67	346.28	281.55	64.73	5.349		
7,700.00	5,832.00	7,590.58	5,729.00	34.84	34.67	-72.69	1,909.53	-228.66	346.27	279.18	67.09	5.161		
7,800.00	5,832.00	7,690.58	5,729.00	36.09	35.92	-72.69	2,009.53	-228.66	346.26	276.77	69.49	4.983		
7,900.00	5,832.00	7,790.58	5,729.00	37.36	37.19	-72.69	2,109.53	-228.65	346.26	274.34	71.92	4.815		
8,000.00	5,832.00	7,890.58	5,729.00	38.64	38.47	-72.69	2,209.53	-228.65	346.25	271.87	74.37	4.655		
8,100.00	5,832.00	7,990.58	5,729.00	39.94	39.77	-72.69	2,309.53	-228.64	346.24	269.38	76.86	4.505		
8,200.00	5,832.00	8,090.58	5,729.00	41.25	41.08	-72.69	2,409.53	-228.64	346.23	266.87	79.36	4.363		
8,300.00	5,832.00	8,190.58	5,729.00	42.57	42.40	-72.69	2,509.53	-228.64	346.22	264.33	81.89	4.228		
8,400.00	5,832.00	8,290.58	5,729.00	43.89	43.73	-72.69	2,609.53	-228.63	346.21	261.78	84.43	4.101		
8,500.00	5,832.00	8,390.58	5,729.00	45.23	45.07	-72.69	2,709.53	-228.63	346.20	259.21	86.99	3.980		
8,600.00	5,832.00	8,490.58	5,729.00	46.58	46.41	-72.69	2,809.53	-228.62	346.19	256.62	89.57	3.865		
8,700.00	5,832.00	8,590.58	5,729.00	47.93	47.77	-72.69	2,909.53	-228.62	346.18	254.02	92.16	3.756		
8,800.00	5,832.00	8,690.58	5,729.00	49.29	49.13	-72.69	3,009.53	-228.61	346.17	251.40	94.77	3.653		
8,900.00	5,832.00	8,790.58	5,729.00	50.66	50.49	-72.69	3,109.53	-228.61	346.16	248.78	97.38	3.555		
9,000.00	5,832.00	8,890.58	5,729.00	52.03	51.87	-72.69	3,209.53	-228.61	346.15	246.14	100.01	3.461		
9,100.00	5,832.00	8,990.58	5,729.00	53.40	53.24	-72.69	3,309.53	-228.60	346.14	243.49	102.65	3.372		
9,200.00	5,832.00	9,090.58	5,729.00	54.79	54.63	-72.69	3,409.53	-228.60	346.13	240.83	105.30	3.287		
9,300.00	5,832.00	9,190.58	5,729.00	56.17	56.01	-72.69	3,509.53	-228.59	346.12	238.16	107.96	3.206		
9,400.00	5,832.00	9,290.58	5,729.00	57.56	57.40	-72.69	3,609.53	-228.59	346.11	235.49	110.63	3.129		
9,500.00	5,832.00	9,390.58	5,729.00	58.96	58.80	-72.69	3,709.53	-228.58	346.10	232.80	113.30	3.055		
9,600.00	5,832.00	9,490.58	5,729.00	60.36	60.20	-72.69	3,809.53	-228.58	346.09	230.11	115.98	2.984		
9,700.00	5,832.00	9,590.58	5,729.00	61.76	61.60	-72.69	3,909.53	-228.58	346.08	227.41	118.67	2.916		
9,800.00	5,832.00	9,690.58	5,729.00	63.16	63.01	-72.68	4,009.53	-228.57	346.08	224.71	121.37	2.851		
9,900.00	5,832.00	9,790.58	5,729.00	64.57	64.41	-72.68	4,109.53	-228.57	346.07	222.00	124.07	2.789		
10,000.00	5,832.00	9,890.58	5,729.00	65.98	65.83	-72.68	4,209.53	-228.56	346.06	219.28	126.77	2.730		
10,100.00	5,832.00	9,990.58	5,729.00	67.40	67.24	-72.68	4,309.53	-228.56	346.05	216.56	129.48	2.673		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	5,832.00	10,090.58	5,729.00	68.81	68.66	-72.68	4,409.53	-228.56	346.04	213.84	132.20	2.618		
10,300.00	5,832.00	10,190.58	5,729.00	70.23	70.07	-72.68	4,509.53	-228.55	346.03	211.11	134.92	2.565		
10,400.00	5,832.00	10,290.58	5,729.00	71.65	71.49	-72.68	4,609.53	-228.55	346.02	208.38	137.64	2.514		
10,500.00	5,832.00	10,390.58	5,729.00	73.07	72.92	-72.68	4,709.53	-228.54	346.01	205.64	140.37	2.465		
10,600.00	5,832.00	10,490.58	5,729.00	74.50	74.34	-72.68	4,809.53	-228.54	346.00	202.90	143.10	2.418		
10,700.00	5,832.00	10,590.58	5,729.00	75.92	75.77	-72.68	4,909.53	-228.53	345.99	200.15	145.84	2.372		
10,800.00	5,832.00	10,690.58	5,729.00	77.35	77.20	-72.68	5,009.53	-228.53	345.98	197.40	148.58	2.329		
10,900.00	5,832.00	10,790.58	5,729.00	78.78	78.63	-72.68	5,109.53	-228.53	345.97	194.65	151.32	2.286		
11,000.00	5,832.00	10,890.58	5,729.00	80.21	80.06	-72.68	5,209.53	-228.52	345.96	191.90	154.07	2.246		
11,100.00	5,832.00	10,990.58	5,729.00	81.64	81.49	-72.68	5,309.53	-228.52	345.95	189.14	156.81	2.206		
11,200.00	5,832.00	11,090.58	5,729.00	83.08	82.92	-72.68	5,409.53	-228.51	345.94	186.38	159.57	2.168		
11,300.00	5,832.00	11,190.58	5,729.00	84.51	84.36	-72.68	5,509.53	-228.51	345.93	183.61	162.32	2.131		
11,400.00	5,832.00	11,290.58	5,729.00	85.95	85.80	-72.68	5,609.53	-228.50	345.92	180.85	165.07	2.096		
11,500.00	5,832.00	11,390.58	5,729.00	87.39	87.23	-72.68	5,709.53	-228.50	345.91	178.08	167.83	2.061		
11,600.00	5,832.00	11,490.58	5,729.00	88.82	88.67	-72.68	5,809.53	-228.50	345.91	175.31	170.59	2.028		
11,700.00	5,832.00	11,590.58	5,729.00	90.26	90.11	-72.68	5,909.53	-228.49	345.90	172.54	173.36	1.995		
11,800.00	5,832.00	11,690.58	5,729.00	91.70	91.55	-72.67	6,009.53	-228.49	345.89	169.77	176.12	1.964		
11,900.00	5,832.00	11,790.58	5,729.00	93.15	92.99	-72.67	6,109.53	-228.48	345.88	166.99	178.89	1.934		
12,000.00	5,832.00	11,890.58	5,729.00	94.59	94.44	-72.67	6,209.53	-228.48	345.87	164.21	181.65	1.904		
12,100.00	5,832.00	11,990.58	5,729.00	96.03	95.88	-72.67	6,309.53	-228.47	345.86	161.43	184.42	1.875		
12,200.00	5,832.00	12,090.58	5,729.00	97.48	97.33	-72.67	6,409.53	-228.47	345.85	158.65	187.20	1.848		
12,300.00	5,832.00	12,190.58	5,729.00	98.92	98.77	-72.67	6,509.53	-228.47	345.84	155.87	189.97	1.821		
12,400.00	5,832.00	12,290.58	5,729.00	100.37	100.22	-72.67	6,609.53	-228.46	345.83	153.09	192.74	1.794		
12,500.00	5,832.00	12,390.58	5,729.00	101.81	101.66	-72.67	6,709.53	-228.46	345.82	150.30	195.52	1.769		
12,600.00	5,832.00	12,490.58	5,729.00	103.26	103.11	-72.67	6,809.53	-228.45	345.81	147.51	198.30	1.744		
12,700.00	5,832.00	12,590.58	5,729.00	104.71	104.56	-72.67	6,909.53	-228.45	345.80	144.73	201.08	1.720		
12,800.00	5,832.00	12,690.58	5,729.00	106.16	106.01	-72.67	7,009.53	-228.44	345.79	141.94	203.86	1.696		
12,900.00	5,832.00	12,790.58	5,729.00	107.61	107.46	-72.67	7,109.53	-228.44	345.78	139.15	206.64	1.673		
13,000.00	5,832.00	12,890.58	5,729.00	109.06	108.91	-72.67	7,209.53	-228.44	345.77	136.35	209.42	1.651		
13,100.00	5,832.00	12,990.58	5,729.00	110.51	110.36	-72.67	7,309.53	-228.43	345.76	133.56	212.20	1.629		
13,200.00	5,832.00	13,090.58	5,729.00	111.96	111.81	-72.67	7,409.53	-228.43	345.75	130.77	214.99	1.608		
13,300.00	5,832.00	13,190.58	5,729.00	113.41	113.26	-72.67	7,509.53	-228.42	345.74	127.97	217.77	1.588		
13,400.00	5,832.00	13,290.58	5,729.00	114.86	114.71	-72.67	7,609.53	-228.42	345.73	125.17	220.56	1.568		
13,500.00	5,832.00	13,390.58	5,729.00	116.31	116.17	-72.67	7,709.53	-228.41	345.73	122.38	223.35	1.548		
13,600.00	5,832.00	13,490.58	5,729.00	117.77	117.62	-72.67	7,809.53	-228.41	345.72	119.58	226.14	1.529		
13,700.00	5,832.00	13,590.58	5,729.00	119.22	119.07	-72.67	7,909.53	-228.41	345.71	116.78	228.93	1.510		
13,800.00	5,832.00	13,690.58	5,729.00	120.67	120.53	-72.67	8,009.53	-228.40	345.70	113.98	231.72	1.492 Level 3		
13,900.00	5,832.00	13,790.58	5,729.00	122.13	121.98	-72.66	8,109.53	-228.40	345.69	111.18	234.51	1.474 Level 3		
14,000.00	5,832.00	13,890.58	5,729.00	123.58	123.44	-72.66	8,209.53	-228.39	345.68	108.38	237.30	1.457 Level 3		
14,100.00	5,832.00	13,990.58	5,729.00	125.04	124.89	-72.66	8,309.53	-228.39	345.67	105.58	240.09	1.440 Level 3		
14,200.00	5,832.00	14,090.58	5,729.00	126.49	126.35	-72.66	8,409.53	-228.38	345.66	102.77	242.89	1.423 Level 3		
14,300.00	5,832.00	14,190.58	5,729.00	127.95	127.80	-72.66	8,509.53	-228.38	345.65	99.97	245.68	1.407 Level 3		
14,400.00	5,832.00	14,290.58	5,729.00	129.41	129.26	-72.66	8,609.53	-228.38	345.64	97.17	248.47	1.391 Level 3		
14,500.00	5,832.00	14,390.58	5,729.00	130.86	130.72	-72.66	8,709.53	-228.37	345.63	94.36	251.27	1.376 Level 3		
14,600.00	5,832.00	14,490.58	5,729.00	132.32	132.17	-72.66	8,809.53	-228.37	345.62	91.56	254.07	1.360 Level 3		
14,700.00	5,832.00	14,590.58	5,729.00	133.78	133.63	-72.66	8,909.53	-228.36	345.61	88.75	256.86	1.346 Level 3		
14,800.00	5,832.00	14,690.58	5,729.00	135.23	135.09	-72.66	9,009.53	-228.36	345.60	85.94	259.66	1.331 Level 3		
14,900.00	5,832.00	14,790.58	5,729.00	136.69	136.55	-72.66	9,109.53	-228.35	345.59	83.13	262.46	1.317 Level 3		
15,000.00	5,832.00	14,890.58	5,729.00	138.15	138.00	-72.66	9,209.53	-228.35	345.58	80.33	265.26	1.303 Level 3		
15,100.00	5,832.00	14,990.58	5,729.00	139.61	139.46	-72.66	9,309.53	-228.35	345.57	77.52	268.06	1.289 Level 3		
15,200.00	5,832.00	15,090.58	5,729.00	141.07	140.92	-72.66	9,409.53	-228.34	345.56	74.71	270.86	1.276 Level 3		
15,300.00	5,832.00	15,190.58	5,729.00	142.53	142.38	-72.66	9,509.53	-228.34	345.55	71.90	273.66	1.263 Level 3		

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25P-2447 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,400.00	5,832.00	15,290.58	5,729.00	143.99	143.84	-72.66	9,609.53	-228.33	345.55	69.09	276.46	1.250	Level 2
15,500.00	5,832.00	15,390.58	5,729.00	145.45	145.30	-72.66	9,709.53	-228.33	345.54	66.28	279.26	1.237	Level 2
15,600.00	5,832.00	15,490.58	5,729.00	146.91	146.76	-72.66	9,809.53	-228.33	345.53	63.47	282.06	1.225	Level 2
15,700.00	5,832.00	15,590.58	5,729.00	148.37	148.22	-72.66	9,909.53	-228.32	345.52	60.66	284.86	1.213	Level 2
15,800.00	5,832.00	15,690.58	5,729.00	149.83	149.68	-72.66	10,009.53	-228.32	345.51	57.84	287.66	1.201	Level 2
15,900.00	5,832.00	15,790.58	5,729.00	151.29	151.14	-72.65	10,109.53	-228.31	345.50	55.03	290.47	1.189	Level 2
15,950.71	5,832.00	15,841.29	5,729.00	152.03	151.88	-72.65	10,160.24	-228.31	345.49	53.61	291.89	1.184	Level 2
15,974.81	5,832.00	15,864.36	5,729.00	152.38	152.22	-72.65	10,183.31	-228.31	345.49	52.94	292.55	1.181	Level 2, SF



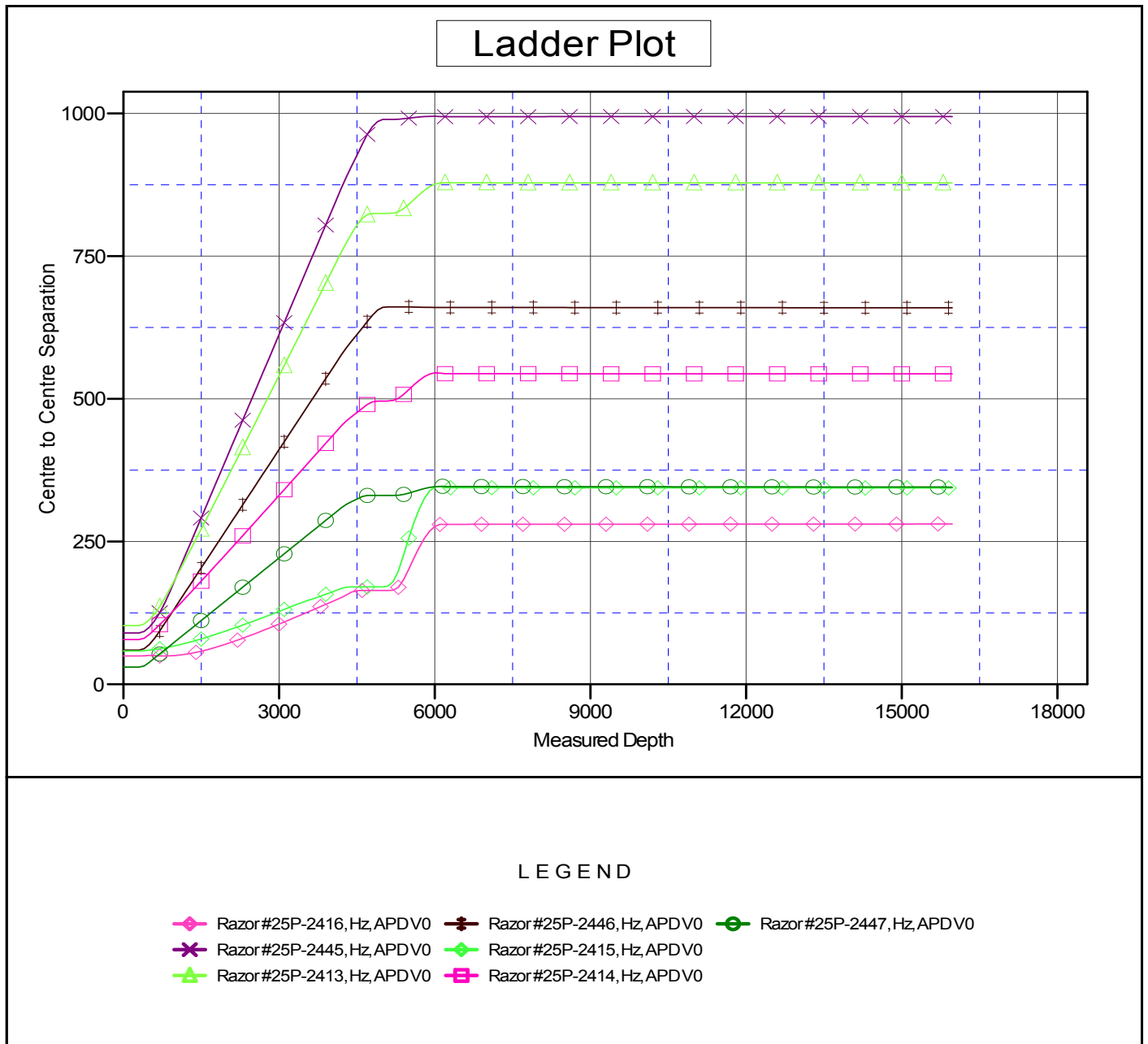
WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 4762.00usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25P-2448
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.10°





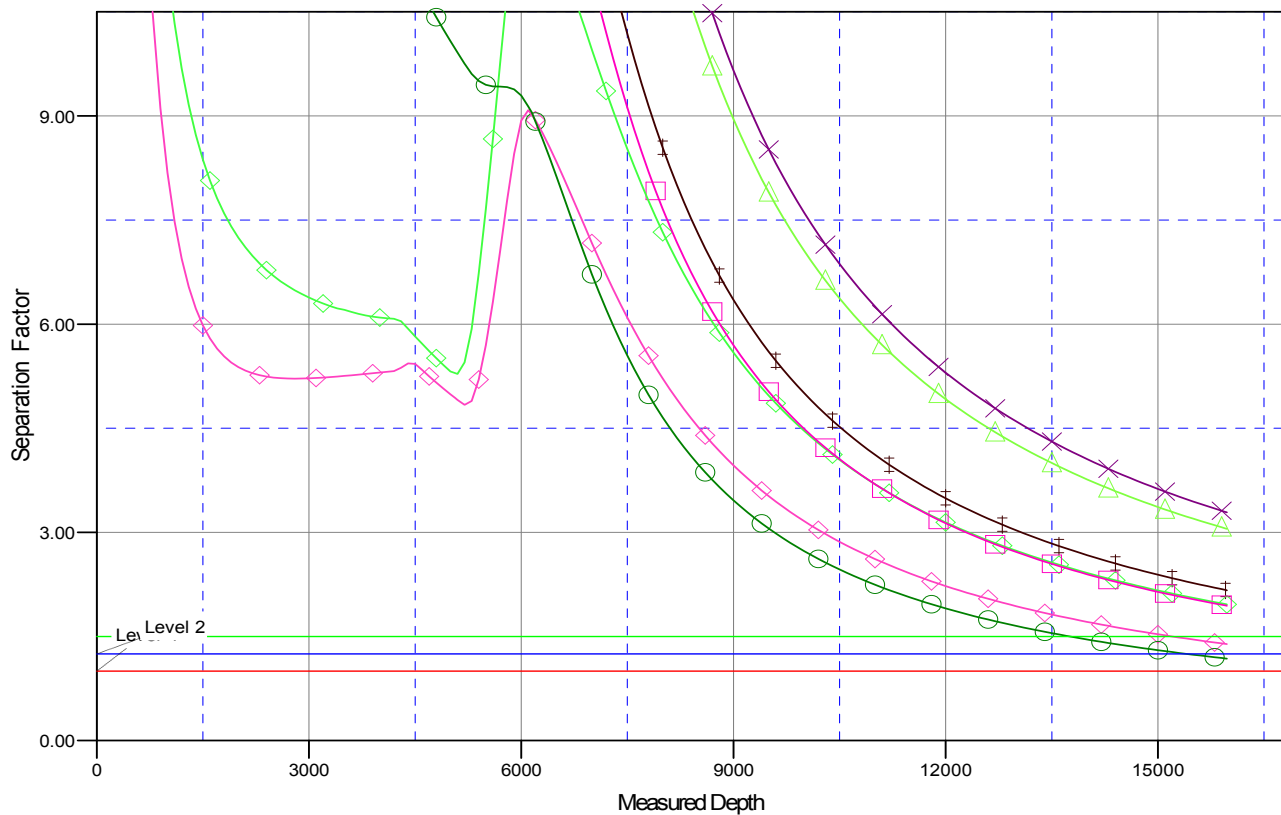
WOG
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2448
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2448	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 4762.00usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25P-2448
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.10°

Separation Factor Plot



LEGEND

- Razor#25P-2416,HZ,APDV0
- Razor#25P-2446,HZ,APDV0
- Razor#25P-2447,HZ,APDV0
- Razor#25P-2445,HZ,APDV0
- Razor#25P-2415,HZ,APDV0
- Razor#25P-2413,HZ,APDV0
- Razor#25P-2414,HZ,APDV0