



Whiting Petroleum Corp.

Weld County, CO

Sec 25-T10N-R58W

Razor #25P-2414

Hz

APD

Anticollision Report

27 May, 2015



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	15,714.20	APD (Hz)	MWD+IFR1+MS+sag	Fixed:v2:crustal dec & 3-axis correction + sag	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 25-T10N-R58W						
Razor #25P-2413 - Hz - APD	300.00	300.00	30.01	28.39	18.582	CC
Razor #25P-2413 - Hz - APD	500.00	498.02	30.38	27.54	10.692	ES
Razor #25P-2413 - Hz - APD	15,714.20	15,722.97	338.95	42.52	1.143	Level 2, SF
Razor #25P-2415 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC, ES
Razor #25P-2415 - Hz - APD	15,714.20	15,629.64	338.20	42.04	1.142	Level 2, SF
Razor #25P-2416 - Hz - APD	300.00	300.00	59.98	58.37	37.144	CC, ES
Razor #25P-2416 - Hz - APD	15,714.20	15,753.13	659.56	356.62	2.177	SF
Razor #25P-2445 - Hz - APD	622.04	617.77	55.39	51.76	15.258	CC, ES
Razor #25P-2445 - Hz - APD	15,714.20	15,902.83	510.35	215.72	1.732	SF
Razor #25P-2446 - Hz - APD	610.63	608.56	49.29	45.72	13.813	CC
Razor #25P-2446 - Hz - APD	700.00	697.59	49.77	45.60	11.933	ES
Razor #25P-2446 - Hz - APD	15,714.20	16,035.43	280.79	80.87	1.405	Level 3, SF
Razor #25P-2447 - Hz - APD	300.00	300.00	59.22	57.60	36.669	CC
Razor #25P-2447 - Hz - APD	15,714.20	15,739.34	164.51	-139.05	0.542	Level 1, ES, SF
Razor #25P-2448 - Hz - APD	300.00	300.00	78.42	76.81	48.560	CC, ES
Razor #25P-2448 - Hz - APD	15,714.20	15,972.81	543.92	264.00	1.943	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																			
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore	Centre	Between	Between	Minimum	Separation														
Depth	Depth	Depth	Depth	Reference	Offset	Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor	Warning													
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)															
0.00	0.00	0.00	0.00	0.00	0.00	-91.93	-1.01	-29.99	30.01																	
100.00	100.00	100.00	100.00	0.13	0.13	-91.93	-1.01	-29.99	30.01	29.74	0.27	112.670														
200.00	200.00	200.00	200.00	0.47	0.47	-91.93	-1.01	-29.99	30.01	29.07	0.94	31.903														
300.00	300.00	300.00	300.00	0.81	0.81	-91.93	-1.01	-29.99	30.01	28.39	1.61	18.582	CC													
400.00	399.98	399.01	398.99	1.12	1.12	27.55	-1.60	-31.60	30.10	27.86	2.24	13.461														
500.00	499.84	498.02	497.87	1.43	1.43	28.99	-3.35	-36.42	30.38	27.54	2.84	10.692	ES													
600.00	599.49	597.02	596.49	1.76	1.76	30.92	-6.27	-44.45	31.27	27.79	3.48	8.998														
700.00	699.11	695.90	694.64	2.09	2.10	30.86	-10.35	-55.66	35.00	30.87	4.13	8.468														
800.00	798.73	794.69	792.24	2.44	2.47	29.11	-15.56	-69.96	41.88	37.07	4.81	8.712														
900.00	898.35	894.36	890.55	2.79	2.86	27.43	-21.19	-85.42	49.84	44.36	5.48	9.097														
1,000.00	997.97	994.03	988.86	3.15	3.26	26.21	-26.81	-100.88	57.82	51.67	6.15	9.398														
1,100.00	1,097.59	1,093.71	1,087.16	3.51	3.66	25.29	-32.44	-116.34	65.83	59.00	6.83	9.636														

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



WOG

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Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	1,197.21	1,193.38	1,185.47	3.86	4.07	24.57	-38.07	-131.80	73.85	66.34	7.51	9.830		
1,300.00	1,296.83	1,293.06	1,283.78	4.22	4.48	23.99	-43.69	-147.26	81.88	73.68	8.20	9.990		
1,400.00	1,396.45	1,392.73	1,382.08	4.58	4.89	23.51	-49.32	-162.72	89.92	81.04	8.88	10.125		
1,500.00	1,496.07	1,492.40	1,480.39	4.95	5.30	23.11	-54.95	-178.18	97.96	88.39	9.57	10.239		
1,600.00	1,595.69	1,592.08	1,578.70	5.31	5.71	22.77	-60.57	-193.64	106.00	95.75	10.25	10.338		
1,700.00	1,695.31	1,691.75	1,677.01	5.67	6.13	22.48	-66.20	-209.09	114.05	103.11	10.94	10.424		
1,800.00	1,794.93	1,791.43	1,775.31	6.03	6.54	22.23	-71.83	-224.55	122.10	110.47	11.63	10.499		
1,900.00	1,894.55	1,891.10	1,873.62	6.40	6.96	22.01	-77.45	-240.01	130.16	117.84	12.32	10.565		
2,000.00	1,994.17	1,990.77	1,971.93	6.76	7.37	21.81	-83.08	-255.47	138.21	125.20	13.01	10.624		
2,100.00	2,093.78	2,090.45	2,070.23	7.12	7.79	21.64	-88.71	-270.93	146.27	132.57	13.70	10.677		
2,200.00	2,193.40	2,190.12	2,168.54	7.49	8.20	21.49	-94.33	-286.39	154.33	139.94	14.39	10.725		
2,300.00	2,293.02	2,289.80	2,266.85	7.85	8.62	21.34	-99.96	-301.85	162.38	147.30	15.08	10.768		
2,400.00	2,392.64	2,389.47	2,365.15	8.21	9.04	21.22	-105.59	-317.31	170.44	154.67	15.77	10.808		
2,500.00	2,492.26	2,489.14	2,463.46	8.58	9.45	21.10	-111.21	-332.77	178.50	162.04	16.46	10.843		
2,600.00	2,591.88	2,588.82	2,561.77	8.94	9.87	21.00	-116.84	-348.22	186.56	169.41	17.15	10.876		
2,700.00	2,691.50	2,688.49	2,660.08	9.31	10.29	20.90	-122.47	-363.68	194.63	176.78	17.84	10.907		
2,800.00	2,791.12	2,788.17	2,758.38	9.67	10.71	20.81	-128.09	-379.14	202.69	184.15	18.54	10.935		
2,900.00	2,890.74	2,887.84	2,856.69	10.04	11.13	20.73	-133.72	-394.60	210.75	191.52	19.23	10.960		
3,000.00	2,990.36	2,987.51	2,955.00	10.40	11.54	20.65	-139.34	-410.06	218.81	198.89	19.92	10.985		
3,100.00	3,089.98	3,087.19	3,053.30	10.76	11.96	20.58	-144.97	-425.52	226.88	206.26	20.61	11.007		
3,200.00	3,189.60	3,186.86	3,151.61	11.13	12.38	20.52	-150.60	-440.98	234.94	213.64	21.30	11.028		
3,300.00	3,289.22	3,286.54	3,249.92	11.49	12.80	20.46	-156.22	-456.44	243.00	221.01	22.00	11.047		
3,400.00	3,388.84	3,386.21	3,348.23	11.86	13.22	20.40	-161.85	-471.90	251.07	228.38	22.69	11.066		
3,500.00	3,488.46	3,485.88	3,446.53	12.22	13.63	20.34	-167.48	-487.35	259.13	235.75	23.38	11.083		
3,600.00	3,588.08	3,585.56	3,544.84	12.59	14.05	20.29	-173.10	-502.81	267.20	243.12	24.07	11.099		
3,700.00	3,687.70	3,685.23	3,643.15	12.95	14.47	20.25	-178.73	-518.27	275.26	250.49	24.77	11.114		
3,800.00	3,787.32	3,784.91	3,741.45	13.32	14.89	20.20	-184.36	-533.73	283.33	257.87	25.46	11.129		
3,900.00	3,886.94	3,884.58	3,839.76	13.68	15.31	20.16	-189.98	-549.19	291.39	265.24	26.15	11.142		
4,000.00	3,986.55	3,984.25	3,938.07	14.05	15.73	20.12	-195.61	-564.65	299.46	272.61	26.84	11.155		
4,100.00	4,086.17	4,083.93	4,036.37	14.41	16.15	20.08	-201.24	-580.11	307.52	279.98	27.54	11.167		
4,200.00	4,185.79	4,183.60	4,134.68	14.78	16.56	20.04	-206.86	-595.57	315.59	287.36	28.23	11.179		
4,300.00	4,285.41	4,283.28	4,232.99	15.14	16.98	20.01	-212.49	-611.02	323.65	294.73	28.92	11.190		
4,400.00	4,385.03	4,383.97	4,332.30	15.51	17.40	19.98	-218.17	-626.63	331.71	302.09	29.62	11.200		
4,500.00	4,484.65	4,484.73	4,443.91	15.87	17.72	20.02	-223.66	-641.73	339.74	309.28	30.26	11.154		
4,600.00	4,584.27	4,609.83	4,556.39	16.24	18.01	20.22	-227.66	-652.71	339.51	308.60	30.91	10.984		
4,700.00	4,683.93	4,722.92	4,669.24	16.57	18.29	20.52	-230.14	-659.52	338.02	306.50	31.52	10.723		
4,800.00	4,783.78	4,835.88	4,782.17	16.82	18.55	20.76	-231.09	-662.14	335.53	303.49	32.05	10.471		
4,900.00	4,883.76	4,937.48	4,883.76	17.09	18.81	-98.14	-231.10	-662.17	333.93	301.37	32.56	10.256		
5,000.00	4,983.76	5,037.48	4,983.76	17.37	19.06	-98.14	-231.10	-662.17	333.93	300.80	33.13	10.079		
5,099.99	5,083.75	5,144.25	5,090.20	17.64	19.33	-97.06	-224.76	-662.17	333.15	299.41	33.74	9.873		
5,200.00	5,183.16	5,249.71	5,192.01	17.90	19.56	-94.30	-197.94	-662.17	331.53	297.19	34.34	9.653		
5,300.00	5,278.91	5,351.57	5,283.29	18.14	19.74	-91.42	-153.11	-662.17	330.67	295.75	34.92	9.470		
5,348.96	5,323.39	5,400.20	5,323.39	18.24	19.82	-90.00	-125.62	-662.17	330.57	295.38	35.19	9.395		
5,400.00	5,367.51	5,450.00	5,361.61	18.35	19.88	-88.53	-93.73	-662.18	330.68	295.22	35.46	9.326		
5,500.00	5,445.69	5,545.67	5,425.72	18.52	19.97	-85.73	-22.90	-662.18	331.51	295.55	35.96	9.218		
5,600.00	5,510.59	5,638.66	5,474.62	18.66	20.03	-83.13	56.05	-662.18	333.01	296.57	36.44	9.138		
5,700.00	5,559.82	5,729.47	5,508.11	18.75	20.06	-80.80	140.34	-662.19	334.95	298.01	36.93	9.069		
5,800.00	5,591.57	5,818.51	5,526.25	18.84	20.09	-78.81	227.39	-662.19	337.05	299.56	37.49	8.989		
5,900.00	5,604.67	5,909.76	5,530.00	19.18	20.16	-77.28	318.50	-662.19	338.90	300.70	38.20	8.871		
6,000.00	5,605.00	6,009.76	5,530.00	19.69	20.37	-77.22	418.49	-662.20	338.97	299.79	39.17	8.653		
6,100.00	5,605.00	6,109.76	5,530.00	20.29	20.79	-77.22	518.49	-662.20	338.97	298.64	40.33	8.404		
6,200.00	5,605.00	6,209.76	5,530.00	20.99	21.39	-77.22	618.49	-662.21	338.97	297.31	41.66	8.137		

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Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
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Reference Well:	Razor #25P-2414	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		
6,300.00	5,605.00	6,309.76	5,530.00	21.75	22.10	-77.22	718.49	-662.21	338.97	295.83	43.13	7.858		
6,400.00	5,605.00	6,409.76	5,530.00	22.59	22.91	-77.22	818.49	-662.22	338.97	294.22	44.75	7.575		
6,500.00	5,605.00	6,509.76	5,530.00	23.48	23.78	-77.22	918.49	-662.22	338.97	292.48	46.48	7.292		
6,600.00	5,605.00	6,609.76	5,530.00	24.43	24.72	-77.22	1,018.49	-662.23	338.97	290.64	48.33	7.014		
6,700.00	5,605.00	6,709.76	5,530.00	25.43	25.70	-77.22	1,118.49	-662.23	338.97	288.70	50.27	6.743		
6,800.00	5,605.00	6,809.76	5,530.00	26.48	26.73	-77.22	1,218.49	-662.23	338.97	286.67	52.30	6.481		
6,900.00	5,605.00	6,909.76	5,530.00	27.56	27.80	-77.22	1,318.49	-662.24	338.97	284.56	54.41	6.230		
7,000.00	5,605.00	7,009.76	5,530.00	28.68	28.90	-77.22	1,418.49	-662.24	338.97	282.39	56.58	5.991		
7,100.00	5,605.00	7,109.76	5,530.00	29.82	30.04	-77.22	1,518.49	-662.25	338.97	280.15	58.81	5.763		
7,200.00	5,605.00	7,209.76	5,530.00	31.00	31.20	-77.22	1,618.49	-662.25	338.97	277.86	61.10	5.548		
7,300.00	5,605.00	7,309.76	5,530.00	32.20	32.39	-77.22	1,718.49	-662.26	338.97	275.53	63.44	5.343		
7,400.00	5,605.00	7,409.76	5,530.00	33.42	33.60	-77.22	1,818.49	-662.26	338.97	273.15	65.82	5.150		
7,500.00	5,605.00	7,509.76	5,530.00	34.66	34.83	-77.22	1,918.49	-662.27	338.97	270.73	68.24	4.968		
7,600.00	5,605.00	7,609.76	5,530.00	35.91	36.08	-77.22	2,018.49	-662.27	338.97	268.28	70.69	4.795		
7,700.00	5,605.00	7,709.76	5,530.00	37.19	37.34	-77.22	2,118.49	-662.28	338.97	265.79	73.17	4.632		
7,800.00	5,605.00	7,809.76	5,530.00	38.47	38.62	-77.22	2,218.49	-662.28	338.97	263.28	75.68	4.479		
7,900.00	5,605.00	7,909.76	5,530.00	39.77	39.91	-77.22	2,318.49	-662.28	338.97	260.74	78.22	4.333		
8,000.00	5,605.00	8,009.76	5,530.00	41.09	41.21	-77.22	2,418.49	-662.29	338.96	258.18	80.78	4.196		
8,100.00	5,605.00	8,109.76	5,530.00	42.41	42.53	-77.22	2,518.49	-662.29	338.96	255.60	83.36	4.066		
8,200.00	5,605.00	8,209.76	5,530.00	43.74	43.85	-77.22	2,618.49	-662.30	338.96	253.00	85.96	3.943		
8,300.00	5,605.00	8,309.76	5,530.00	45.08	45.18	-77.22	2,718.49	-662.30	338.96	250.39	88.58	3.827		
8,400.00	5,605.00	8,409.76	5,530.00	46.43	46.53	-77.22	2,818.49	-662.31	338.96	247.75	91.21	3.716		
8,500.00	5,605.00	8,509.76	5,530.00	47.78	47.87	-77.22	2,918.49	-662.31	338.96	245.11	93.86	3.612		
8,600.00	5,605.00	8,609.76	5,530.00	49.14	49.23	-77.22	3,018.49	-662.32	338.96	242.45	96.52	3.512		
8,700.00	5,605.00	8,709.76	5,530.00	50.51	50.59	-77.22	3,118.49	-662.32	338.96	239.77	99.19	3.417		
8,800.00	5,605.00	8,809.76	5,530.00	51.88	51.96	-77.22	3,218.49	-662.32	338.96	237.09	101.87	3.327		
8,900.00	5,605.00	8,909.76	5,530.00	53.26	53.33	-77.22	3,318.49	-662.33	338.96	234.40	104.57	3.242		
9,000.00	5,605.00	9,009.76	5,530.00	54.65	54.71	-77.22	3,418.49	-662.33	338.96	231.69	107.27	3.160		
9,100.00	5,605.00	9,109.76	5,530.00	56.03	56.10	-77.22	3,518.49	-662.34	338.96	228.98	109.98	3.082		
9,200.00	5,605.00	9,209.76	5,530.00	57.43	57.48	-77.22	3,618.49	-662.34	338.96	226.26	112.70	3.008		
9,300.00	5,605.00	9,309.76	5,530.00	58.82	58.87	-77.22	3,718.49	-662.35	338.96	223.53	115.43	2.936		
9,400.00	5,605.00	9,409.76	5,530.00	60.22	60.27	-77.22	3,818.49	-662.35	338.96	220.79	118.17	2.868		
9,500.00	5,605.00	9,509.76	5,530.00	61.63	61.67	-77.22	3,918.49	-662.36	338.96	218.05	120.91	2.803		
9,600.00	5,605.00	9,609.76	5,530.00	63.03	63.07	-77.22	4,018.49	-662.36	338.96	215.30	123.66	2.741		
9,700.00	5,605.00	9,709.76	5,530.00	64.44	64.48	-77.22	4,118.49	-662.36	338.96	212.55	126.41	2.681		
9,800.00	5,605.00	9,809.76	5,530.00	65.85	65.88	-77.22	4,218.49	-662.37	338.96	209.79	129.17	2.624		
9,900.00	5,605.00	9,909.76	5,530.00	67.27	67.30	-77.22	4,318.49	-662.37	338.96	207.02	131.94	2.569		
10,000.00	5,605.00	10,009.76	5,530.00	68.68	68.71	-77.22	4,418.49	-662.38	338.96	204.25	134.71	2.516		
10,100.00	5,605.00	10,109.76	5,530.00	70.10	70.12	-77.22	4,518.49	-662.38	338.96	201.48	137.48	2.465		
10,200.00	5,605.00	10,209.76	5,530.00	71.52	71.54	-77.22	4,618.49	-662.39	338.96	198.70	140.26	2.417		
10,300.00	5,605.00	10,309.76	5,530.00	72.95	72.96	-77.22	4,718.49	-662.39	338.96	195.92	143.04	2.370		
10,400.00	5,605.00	10,409.76	5,530.00	74.37	74.38	-77.22	4,818.49	-662.40	338.96	193.13	145.83	2.324		
10,500.00	5,605.00	10,509.76	5,530.00	75.80	75.81	-77.22	4,918.49	-662.40	338.96	190.34	148.62	2.281		
10,600.00	5,605.00	10,609.76	5,530.00	77.23	77.23	-77.22	5,018.49	-662.41	338.96	187.55	151.41	2.239		
10,700.00	5,605.00	10,709.76	5,530.00	78.66	78.66	-77.22	5,118.49	-662.41	338.96	184.75	154.21	2.198		
10,800.00	5,605.00	10,809.76	5,530.00	80.09	80.09	-77.22	5,218.49	-662.41	338.96	181.95	157.01	2.159		
10,900.00	5,605.00	10,909.76	5,530.00	81.52	81.52	-77.22	5,318.49	-662.42	338.96	179.15	159.81	2.121		
11,000.00	5,605.00	11,009.76	5,530.00	82.96	82.95	-77.22	5,418.49	-662.42	338.96	176.35	162.61	2.084		
11,100.00	5,605.00	11,109.76	5,530.00	84.39	84.39	-77.22	5,518.49	-662.43	338.96	173.54	165.42	2.049		
11,200.00	5,605.00	11,209.76	5,530.00	85.83	85.82	-77.22	5,618.49	-662.43	338.96	170.73	168.23	2.015		
11,300.00	5,605.00	11,309.76	5,530.00	87.27	87.26	-77.22	5,718.49	-662.44	338.96	167.92	171.04	1.982		
11,400.00	5,605.00	11,409.76	5,530.00	88.71	88.69	-77.22	5,818.49	-662.44	338.96	165.10	173.86	1.950		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,605.00	11,509.76	5,530.00	90.15	90.13	-77.22	5,918.49	-662.45	338.96	162.29	176.67	1.919		
11,600.00	5,605.00	11,609.76	5,530.00	91.59	91.57	-77.22	6,018.49	-662.45	338.96	159.47	179.49	1.888		
11,700.00	5,605.00	11,709.76	5,530.00	93.03	93.01	-77.22	6,118.49	-662.45	338.96	156.65	182.31	1.859		
11,800.00	5,605.00	11,809.76	5,530.00	94.47	94.45	-77.22	6,218.49	-662.46	338.96	153.83	185.13	1.831		
11,900.00	5,605.00	11,909.76	5,530.00	95.92	95.89	-77.22	6,318.49	-662.46	338.96	151.00	187.96	1.803		
12,000.00	5,605.00	12,009.76	5,530.00	97.36	97.34	-77.22	6,418.49	-662.47	338.96	148.18	190.78	1.777		
12,100.00	5,605.00	12,109.76	5,530.00	98.81	98.78	-77.22	6,518.49	-662.47	338.96	145.35	193.61	1.751		
12,200.00	5,605.00	12,209.76	5,530.00	100.25	100.22	-77.22	6,618.49	-662.48	338.96	142.52	196.44	1.726		
12,300.00	5,605.00	12,309.76	5,530.00	101.70	101.67	-77.22	6,718.49	-662.48	338.96	139.69	199.27	1.701		
12,400.00	5,605.00	12,409.76	5,530.00	103.15	103.12	-77.22	6,818.49	-662.49	338.96	136.86	202.10	1.677		
12,500.00	5,605.00	12,509.76	5,530.00	104.60	104.56	-77.22	6,918.49	-662.49	338.96	134.03	204.93	1.654		
12,600.00	5,605.00	12,609.76	5,530.00	106.04	106.01	-77.22	7,018.49	-662.49	338.96	131.19	207.76	1.631		
12,700.00	5,605.00	12,709.76	5,530.00	107.49	107.46	-77.22	7,118.49	-662.50	338.96	128.36	210.60	1.609		
12,800.00	5,605.00	12,809.76	5,530.00	108.94	108.91	-77.22	7,218.49	-662.50	338.96	125.52	213.43	1.588		
12,900.00	5,605.00	12,909.76	5,530.00	110.39	110.36	-77.22	7,318.49	-662.51	338.96	122.68	216.27	1.567		
13,000.00	5,605.00	13,009.76	5,530.00	111.85	111.81	-77.22	7,418.49	-662.51	338.96	119.85	219.11	1.547		
13,100.00	5,605.00	13,109.76	5,530.00	113.30	113.26	-77.22	7,518.49	-662.52	338.96	117.01	221.95	1.527		
13,200.00	5,605.00	13,209.76	5,530.00	114.75	114.71	-77.22	7,618.49	-662.52	338.96	114.17	224.79	1.508		
13,300.00	5,605.00	13,309.76	5,530.00	116.20	116.16	-77.22	7,718.49	-662.53	338.96	111.32	227.63	1.489 Level 3		
13,400.00	5,605.00	13,409.76	5,530.00	117.66	117.61	-77.22	7,818.49	-662.53	338.96	108.48	230.47	1.471 Level 3		
13,500.00	5,605.00	13,509.76	5,530.00	119.11	119.06	-77.22	7,918.49	-662.54	338.96	105.64	233.32	1.453 Level 3		
13,600.00	5,605.00	13,609.76	5,530.00	120.56	120.52	-77.22	8,018.49	-662.54	338.95	102.79	236.16	1.435 Level 3		
13,700.00	5,605.00	13,709.76	5,530.00	122.02	121.97	-77.22	8,118.49	-662.54	338.95	99.95	239.01	1.418 Level 3		
13,800.00	5,605.00	13,809.76	5,530.00	123.47	123.42	-77.22	8,218.49	-662.55	338.95	97.10	241.85	1.402 Level 3		
13,900.00	5,605.00	13,909.76	5,530.00	124.93	124.88	-77.22	8,318.49	-662.55	338.95	94.26	244.70	1.385 Level 3		
14,000.00	5,605.00	14,009.76	5,530.00	126.39	126.33	-77.22	8,418.49	-662.56	338.95	91.41	247.54	1.369 Level 3		
14,100.00	5,605.00	14,109.76	5,530.00	127.84	127.79	-77.22	8,518.49	-662.56	338.95	88.56	250.39	1.354 Level 3		
14,200.00	5,605.00	14,209.76	5,530.00	129.30	129.24	-77.22	8,618.49	-662.57	338.95	85.71	253.24	1.338 Level 3		
14,300.00	5,605.00	14,309.76	5,530.00	130.75	130.70	-77.22	8,718.49	-662.57	338.95	82.86	256.09	1.324 Level 3		
14,400.00	5,605.00	14,409.76	5,530.00	132.21	132.16	-77.22	8,818.49	-662.58	338.95	80.01	258.94	1.309 Level 3		
14,500.00	5,605.00	14,509.76	5,530.00	133.67	133.61	-77.22	8,918.49	-662.58	338.95	77.16	261.79	1.295 Level 3		
14,600.00	5,605.00	14,609.76	5,530.00	135.13	135.07	-77.22	9,018.49	-662.58	338.95	74.31	264.64	1.281 Level 3		
14,700.00	5,605.00	14,709.76	5,530.00	136.59	136.53	-77.22	9,118.49	-662.59	338.95	71.46	267.49	1.267 Level 3		
14,800.00	5,605.00	14,809.76	5,530.00	138.04	137.98	-77.22	9,218.49	-662.59	338.95	68.61	270.35	1.254 Level 3		
14,900.00	5,605.00	14,909.76	5,530.00	139.50	139.44	-77.22	9,318.49	-662.60	338.95	65.75	273.20	1.241 Level 2		
15,000.00	5,605.00	15,009.76	5,530.00	140.96	140.90	-77.22	9,418.49	-662.60	338.95	62.90	276.05	1.228 Level 2		
15,100.00	5,605.00	15,109.76	5,530.00	142.42	142.36	-77.22	9,518.49	-662.61	338.95	60.05	278.91	1.215 Level 2		
15,200.00	5,605.00	15,209.76	5,530.00	143.88	143.82	-77.22	9,618.49	-662.61	338.95	57.19	281.76	1.203 Level 2		
15,300.00	5,605.00	15,309.76	5,530.00	145.34	145.27	-77.22	9,718.49	-662.62	338.95	54.34	284.62	1.191 Level 2		
15,400.00	5,605.00	15,409.76	5,530.00	146.80	146.73	-77.22	9,818.49	-662.62	338.95	51.48	287.47	1.179 Level 2		
15,500.00	5,605.00	15,509.76	5,530.00	148.26	148.19	-77.22	9,918.49	-662.62	338.95	48.62	290.33	1.167 Level 2		
15,600.00	5,605.00	15,609.76	5,530.00	149.72	149.65	-77.22	10,018.49	-662.63	338.95	45.77	293.18	1.156 Level 2		
15,700.00	5,605.00	15,709.76	5,530.00	151.18	151.11	-77.22	10,118.49	-662.63	338.95	42.91	296.04	1.145 Level 2		
15,713.21	5,605.00	15,722.97	5,530.00	151.37	151.30	-77.22	10,131.70	-662.63	338.95	42.53	296.42	1.143 Level 2		
15,714.20	5,605.00	15,722.97	5,530.00	151.39	151.30	-77.22	10,131.71	-662.63	338.95	42.52	296.43	1.143 Level 2, SF		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	89.99	0.00	29.99	29.99					
100.00	100.00	100.00	100.00	0.13	0.13	89.99	0.00	29.99	29.99	29.73	0.27	112.606		
200.00	200.00	200.00	200.00	0.47	0.47	89.99	0.00	29.99	29.99	29.05	0.94	31.885		
300.00	300.00	300.00	300.00	0.81	0.81	89.99	0.00	29.99	29.99	28.38	1.61	18.572 CC, ES		
400.00	399.98	400.16	400.14	1.12	1.11	-149.39	-1.72	29.69	31.23	29.00	2.23	14.019		
500.00	499.84	500.16	500.00	1.43	1.41	-145.40	-6.77	28.80	35.07	32.24	2.82	12.416		
600.00	599.49	599.95	599.61	1.76	1.71	-143.45	-12.77	27.74	41.44	37.98	3.46	11.983		
700.00	699.11	699.72	699.19	2.09	2.03	-142.37	-18.77	26.68	48.18	44.07	4.11	11.722		
800.00	798.73	799.48	798.77	2.44	2.37	-141.55	-24.77	25.62	54.94	50.17	4.78	11.497		
900.00	898.35	899.25	898.35	2.79	2.70	-140.92	-30.76	24.57	61.71	56.26	5.46	11.308		
1,000.00	997.97	999.02	997.93	3.15	3.05	-140.41	-36.76	23.51	68.49	62.35	6.14	11.150		
1,100.00	1,097.59	1,098.79	1,097.52	3.51	3.39	-139.99	-42.76	22.45	75.27	68.44	6.83	11.016		
1,200.00	1,197.21	1,198.56	1,197.10	3.86	3.74	-139.64	-48.76	21.39	82.05	74.53	7.53	10.903		
1,300.00	1,296.83	1,298.33	1,296.68	4.22	4.08	-139.34	-54.76	20.34	88.84	80.62	8.22	10.805		
1,400.00	1,396.45	1,398.10	1,396.26	4.58	4.43	-139.09	-60.76	19.28	95.63	86.71	8.92	10.721		
1,500.00	1,496.07	1,497.86	1,495.85	4.95	4.78	-138.87	-66.75	18.22	102.42	92.80	9.62	10.647		
1,600.00	1,595.69	1,597.63	1,595.43	5.31	5.13	-138.67	-72.75	17.16	109.21	98.89	10.32	10.583		
1,700.00	1,695.31	1,697.40	1,695.01	5.67	5.48	-138.50	-78.75	16.11	116.00	104.98	11.02	10.525		
1,800.00	1,794.93	1,797.17	1,794.59	6.03	5.83	-138.35	-84.75	15.05	122.79	111.07	11.72	10.474		
1,900.00	1,894.55	1,896.94	1,894.18	6.40	6.18	-138.21	-90.75	13.99	129.59	117.16	12.43	10.428		
2,000.00	1,994.17	1,996.71	1,993.76	6.76	6.53	-138.09	-96.74	12.93	136.38	123.25	13.13	10.387		
2,100.00	2,093.78	2,096.47	2,093.34	7.12	6.89	-137.98	-102.74	11.88	143.18	129.34	13.83	10.349		
2,200.00	2,193.40	2,196.24	2,192.92	7.49	7.24	-137.88	-108.74	10.82	149.97	135.43	14.54	10.315		
2,300.00	2,293.02	2,296.01	2,292.51	7.85	7.59	-137.79	-114.74	9.76	156.77	141.53	15.24	10.284		
2,400.00	2,392.64	2,395.78	2,392.09	8.21	7.94	-137.70	-120.74	8.70	163.57	147.62	15.95	10.255		
2,500.00	2,492.26	2,495.55	2,491.67	8.58	8.29	-137.63	-126.74	7.64	170.36	153.71	16.66	10.229		
2,600.00	2,591.88	2,595.32	2,591.25	8.94	8.65	-137.55	-132.73	6.59	177.16	159.80	17.36	10.204		
2,700.00	2,691.50	2,695.09	2,690.84	9.31	9.00	-137.49	-138.73	5.53	183.96	165.89	18.07	10.182		
2,800.00	2,791.12	2,794.85	2,790.42	9.67	9.35	-137.43	-144.73	4.47	190.75	171.98	18.77	10.161		
2,900.00	2,890.74	2,894.62	2,890.00	10.04	9.70	-137.37	-150.73	3.41	197.55	178.07	19.48	10.141		
3,000.00	2,990.36	2,994.39	2,989.58	10.40	10.06	-137.32	-156.73	2.36	204.35	184.16	20.19	10.123		
3,100.00	3,089.98	3,094.16	3,089.17	10.76	10.41	-137.27	-162.73	1.30	211.15	190.25	20.89	10.106		
3,200.00	3,189.60	3,193.93	3,188.75	11.13	10.76	-137.22	-168.72	0.24	217.95	196.35	21.60	10.090		
3,300.00	3,289.22	3,293.70	3,288.33	11.49	11.11	-137.17	-174.72	-0.82	224.74	202.44	22.31	10.075		
3,400.00	3,388.84	3,393.56	3,388.01	11.86	11.46	-137.15	-180.67	-1.86	231.54	208.53	23.00	10.065		
3,500.00	3,488.46	3,493.82	3,488.20	12.22	11.71	-137.69	-184.33	-2.51	238.19	214.58	23.61	10.089		
3,600.00	3,588.08	3,593.70	3,588.08	12.59	11.97	-138.93	-184.87	-2.61	244.74	220.54	24.20	10.113		
3,700.00	3,687.70	3,693.32	3,687.70	12.95	12.22	-140.24	-184.87	-2.61	251.38	226.59	24.79	10.140		
3,800.00	3,787.32	3,792.94	3,787.32	13.32	12.48	-141.47	-184.87	-2.61	258.15	232.77	25.39	10.169		
3,900.00	3,886.94	3,892.56	3,886.94	13.68	12.74	-142.64	-184.87	-2.61	265.04	239.05	25.98	10.200		
4,000.00	3,986.55	3,992.18	3,986.55	14.05	13.01	-143.76	-184.87	-2.61	272.03	245.44	26.58	10.233		
4,100.00	4,086.17	4,091.80	4,086.17	14.41	13.28	-144.81	-184.87	-2.61	279.11	251.92	27.19	10.266		
4,200.00	4,185.79	4,191.42	4,185.79	14.78	13.55	-145.82	-184.87	-2.61	286.29	258.49	27.79	10.301		
4,300.00	4,285.41	4,291.04	4,285.41	15.14	13.83	-146.77	-184.87	-2.61	293.55	265.14	28.40	10.336		
4,400.00	4,385.03	4,390.66	4,385.03	15.51	14.10	-147.68	-184.87	-2.61	300.88	271.87	29.01	10.371		
4,500.00	4,484.65	4,490.28	4,484.65	15.87	14.39	-148.54	-184.87	-2.61	308.29	278.66	29.63	10.406		
4,600.00	4,584.27	4,589.90	4,584.27	16.24	14.67	-149.37	-184.87	-2.61	315.77	285.52	30.24	10.441		
4,700.00	4,683.93	4,689.55	4,683.93	16.57	14.95	-150.15	-184.87	-2.61	322.93	292.08	30.84	10.470		
4,800.00	4,783.78	4,789.41	4,783.78	16.82	15.24	-150.65	-184.87	-2.61	327.48	296.10	31.37	10.438		
4,900.00	4,883.76	4,889.39	4,883.76	17.09	15.53	90.18	-184.87	-2.61	329.00	297.07	31.93	10.305		
5,000.00	4,983.76	4,989.39	4,983.76	17.37	15.82	90.18	-184.87	-2.61	329.00	296.49	32.51	10.121		
5,058.46	5,042.22	5,047.87	5,042.22	17.52	15.99	90.00	-183.82	-2.61	329.00	296.16	32.83	10.020		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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		
5,099.99	5,083.75	5,089.02	5,083.15	17.64	16.11	89.26	-179.59	-2.61	329.03	295.98	33.05	9.956		
5,200.00	5,183.16	5,185.94	5,177.25	17.90	16.36	86.85	-156.99	-2.61	329.51	296.00	33.51	9.834		
5,300.00	5,278.91	5,280.53	5,263.52	18.14	16.59	84.58	-118.53	-2.60	330.51	296.60	33.90	9.749		
5,400.00	5,367.51	5,373.12	5,339.88	18.35	16.80	82.52	-66.38	-2.60	331.87	297.61	34.25	9.688		
5,500.00	5,445.69	5,464.05	5,404.74	18.52	17.02	80.74	-2.82	-2.60	333.40	298.81	34.59	9.639		
5,600.00	5,510.59	5,553.65	5,456.90	18.66	17.27	79.28	69.90	-2.60	334.89	299.94	34.95	9.582		
5,700.00	5,559.82	5,642.24	5,495.48	18.75	17.56	78.19	149.53	-2.60	336.16	300.77	35.39	9.498		
5,800.00	5,591.57	5,730.13	5,519.89	18.84	17.91	77.48	233.86	-2.59	337.05	301.08	35.97	9.371		
5,900.00	5,604.67	5,817.64	5,529.78	19.18	18.30	77.17	320.70	-2.59	337.46	300.76	36.70	9.195		
6,000.00	5,605.00	5,915.44	5,530.00	19.69	18.82	77.16	418.50	-2.59	337.48	299.81	37.68	8.957		
6,100.00	5,605.00	6,015.44	5,530.00	20.29	19.44	77.16	518.50	-2.59	337.49	298.64	38.85	8.686		
6,200.00	5,605.00	6,115.44	5,530.00	20.99	20.15	77.16	618.50	-2.58	337.50	297.30	40.20	8.395		
6,300.00	5,605.00	6,215.44	5,530.00	21.75	20.94	77.16	718.50	-2.58	337.51	295.80	41.71	8.092		
6,400.00	5,605.00	6,315.44	5,530.00	22.59	21.80	77.16	818.50	-2.58	337.51	294.16	43.35	7.785		
6,500.00	5,605.00	6,415.44	5,530.00	23.48	22.72	77.16	918.50	-2.57	337.52	292.40	45.12	7.480		
6,600.00	5,605.00	6,515.44	5,530.00	24.43	23.70	77.16	1,018.50	-2.57	337.53	290.53	47.00	7.181		
6,700.00	5,605.00	6,615.44	5,530.00	25.43	24.73	77.16	1,118.50	-2.57	337.54	288.56	48.98	6.892		
6,800.00	5,605.00	6,715.44	5,530.00	26.48	25.80	77.16	1,218.50	-2.57	337.54	286.50	51.04	6.613		
6,900.00	5,605.00	6,815.44	5,530.00	27.56	26.91	77.16	1,318.50	-2.56	337.55	284.37	53.18	6.348		
7,000.00	5,605.00	6,915.44	5,530.00	28.68	28.05	77.16	1,418.50	-2.56	337.56	282.17	55.38	6.095		
7,100.00	5,605.00	7,015.44	5,530.00	29.82	29.23	77.16	1,518.50	-2.56	337.56	279.92	57.65	5.855		
7,200.00	5,605.00	7,115.44	5,530.00	31.00	30.42	77.16	1,618.50	-2.55	337.57	277.60	59.97	5.629		
7,300.00	5,605.00	7,215.44	5,530.00	32.20	31.65	77.16	1,718.50	-2.55	337.58	275.25	62.33	5.416		
7,400.00	5,605.00	7,315.44	5,530.00	33.42	32.89	77.16	1,818.50	-2.55	337.59	272.85	64.74	5.214		
7,500.00	5,605.00	7,415.44	5,530.00	34.66	34.15	77.16	1,918.50	-2.54	337.59	270.41	67.19	5.025		
7,600.00	5,605.00	7,515.44	5,530.00	35.91	35.42	77.16	2,018.50	-2.54	337.60	267.94	69.66	4.846		
7,700.00	5,605.00	7,615.44	5,530.00	37.19	36.71	77.16	2,118.50	-2.54	337.61	265.44	72.17	4.678		
7,800.00	5,605.00	7,715.44	5,530.00	38.47	38.02	77.16	2,218.50	-2.54	337.62	262.91	74.71	4.519		
7,900.00	5,605.00	7,815.44	5,530.00	39.77	39.33	77.17	2,318.50	-2.53	337.62	260.36	77.27	4.370		
8,000.00	5,605.00	7,915.44	5,530.00	41.09	40.66	77.17	2,418.50	-2.53	337.63	257.78	79.85	4.228		
8,100.00	5,605.00	8,015.44	5,530.00	42.41	42.00	77.17	2,518.50	-2.53	337.64	255.19	82.45	4.095		
8,200.00	5,605.00	8,115.44	5,530.00	43.74	43.34	77.17	2,618.50	-2.52	337.65	252.58	85.07	3.969		
8,300.00	5,605.00	8,215.44	5,530.00	45.08	44.70	77.17	2,718.50	-2.52	337.65	249.95	87.70	3.850		
8,400.00	5,605.00	8,315.44	5,530.00	46.43	46.06	77.17	2,818.50	-2.52	337.66	247.31	90.35	3.737		
8,500.00	5,605.00	8,415.44	5,530.00	47.78	47.42	77.17	2,918.50	-2.52	337.67	244.65	93.02	3.630		
8,600.00	5,605.00	8,515.44	5,530.00	49.14	48.80	77.17	3,018.50	-2.51	337.68	241.98	95.69	3.529		
8,700.00	5,605.00	8,615.44	5,530.00	50.51	50.17	77.17	3,118.50	-2.51	337.68	239.30	98.38	3.432		
8,800.00	5,605.00	8,715.44	5,530.00	51.88	51.56	77.17	3,218.50	-2.51	337.69	236.61	101.08	3.341		
8,900.00	5,605.00	8,815.44	5,530.00	53.26	52.95	77.17	3,318.50	-2.50	337.70	233.91	103.79	3.254		
9,000.00	5,605.00	8,915.44	5,530.00	54.65	54.34	77.17	3,418.50	-2.50	337.70	231.20	106.51	3.171		
9,100.00	5,605.00	9,015.44	5,530.00	56.03	55.74	77.17	3,518.50	-2.50	337.71	228.48	109.24	3.092		
9,200.00	5,605.00	9,115.44	5,530.00	57.43	57.14	77.17	3,618.50	-2.50	337.72	225.75	111.97	3.016		
9,300.00	5,605.00	9,215.44	5,530.00	58.82	58.54	77.17	3,718.50	-2.49	337.73	223.02	114.71	2.944		
9,400.00	5,605.00	9,315.44	5,530.00	60.22	59.95	77.17	3,818.50	-2.49	337.73	220.28	117.46	2.875		
9,500.00	5,605.00	9,415.44	5,530.00	61.63	61.36	77.17	3,918.50	-2.49	337.74	217.53	120.21	2.810		
9,600.00	5,605.00	9,515.44	5,530.00	63.03	62.77	77.17	4,018.50	-2.48	337.75	214.78	122.97	2.747		
9,700.00	5,605.00	9,615.44	5,530.00	64.44	64.19	77.17	4,118.50	-2.48	337.76	212.02	125.74	2.686		
9,800.00	5,605.00	9,715.44	5,530.00	65.85	65.61	77.17	4,218.50	-2.48	337.76	209.25	128.51	2.628		
9,900.00	5,605.00	9,815.44	5,530.00	67.27	67.03	77.17	4,318.50	-2.48	337.77	206.49	131.28	2.573		
10,000.00	5,605.00	9,915.44	5,530.00	68.68	68.45	77.17	4,418.50	-2.47	337.78	203.71	134.06	2.520		
10,100.00	5,605.00	10,015.44	5,530.00	70.10	69.88	77.17	4,518.50	-2.47	337.79	200.94	136.85	2.468		
10,200.00	5,605.00	10,115.44	5,530.00	71.52	71.30	77.17	4,618.50	-2.47	337.79	198.16	139.64	2.419		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,605.00	10,215.44	5,530.00	72.95	72.73	77.17	4,718.50	-2.46	337.80	195.37	142.43	2.372		
10,400.00	5,605.00	10,315.44	5,530.00	74.37	74.16	77.17	4,818.50	-2.46	337.81	192.58	145.22	2.326		
10,500.00	5,605.00	10,415.44	5,530.00	75.80	75.59	77.17	4,918.50	-2.46	337.82	189.79	148.02	2.282		
10,600.00	5,605.00	10,515.44	5,530.00	77.23	77.03	77.17	5,018.50	-2.45	337.82	187.00	150.82	2.240		
10,700.00	5,605.00	10,615.44	5,530.00	78.66	78.46	77.17	5,118.50	-2.45	337.83	184.20	153.63	2.199		
10,800.00	5,605.00	10,715.44	5,530.00	80.09	79.90	77.17	5,218.50	-2.45	337.84	181.40	156.44	2.160		
10,900.00	5,605.00	10,815.44	5,530.00	81.52	81.33	77.17	5,318.50	-2.45	337.85	178.60	159.25	2.122		
11,000.00	5,605.00	10,915.44	5,530.00	82.96	82.77	77.17	5,418.50	-2.44	337.85	175.79	162.06	2.085		
11,100.00	5,605.00	11,015.44	5,530.00	84.39	84.21	77.17	5,518.50	-2.44	337.86	172.99	164.87	2.049		
11,200.00	5,605.00	11,115.44	5,530.00	85.83	85.65	77.17	5,618.50	-2.44	337.87	170.18	167.69	2.015		
11,300.00	5,605.00	11,215.44	5,530.00	87.27	87.10	77.17	5,718.50	-2.43	337.87	167.36	170.51	1.982		
11,400.00	5,605.00	11,315.44	5,530.00	88.71	88.54	77.18	5,818.50	-2.43	337.88	164.55	173.33	1.949		
11,500.00	5,605.00	11,415.44	5,530.00	90.15	89.98	77.18	5,918.50	-2.43	337.89	161.73	176.16	1.918		
11,600.00	5,605.00	11,515.44	5,530.00	91.59	91.43	77.18	6,018.50	-2.43	337.90	158.92	178.98	1.888		
11,700.00	5,605.00	11,615.44	5,530.00	93.03	92.87	77.18	6,118.50	-2.42	337.90	156.10	181.81	1.859		
11,800.00	5,605.00	11,715.44	5,530.00	94.47	94.32	77.18	6,218.50	-2.42	337.91	153.27	184.64	1.830		
11,900.00	5,605.00	11,815.44	5,530.00	95.92	95.77	77.18	6,318.50	-2.42	337.92	150.45	187.47	1.803		
12,000.00	5,605.00	11,915.44	5,530.00	97.36	97.21	77.18	6,418.50	-2.41	337.93	147.63	190.30	1.776		
12,100.00	5,605.00	12,015.44	5,530.00	98.81	98.66	77.18	6,518.50	-2.41	337.93	144.80	193.13	1.750		
12,200.00	5,605.00	12,115.44	5,530.00	100.25	100.11	77.18	6,618.50	-2.41	337.94	141.97	195.97	1.724		
12,300.00	5,605.00	12,215.44	5,530.00	101.70	101.56	77.18	6,718.50	-2.41	337.95	139.14	198.80	1.700		
12,400.00	5,605.00	12,315.44	5,530.00	103.15	103.01	77.18	6,818.50	-2.40	337.96	136.31	201.64	1.676		
12,500.00	5,605.00	12,415.44	5,530.00	104.60	104.46	77.18	6,918.50	-2.40	337.96	133.48	204.48	1.653		
12,600.00	5,605.00	12,515.44	5,530.00	106.04	105.91	77.18	7,018.50	-2.40	337.97	130.65	207.32	1.630		
12,700.00	5,605.00	12,615.44	5,530.00	107.49	107.37	77.18	7,118.50	-2.39	337.98	127.82	210.16	1.608		
12,800.00	5,605.00	12,715.44	5,530.00	108.94	108.82	77.18	7,218.50	-2.39	337.99	124.98	213.00	1.587		
12,900.00	5,605.00	12,815.44	5,530.00	110.39	110.27	77.18	7,318.50	-2.39	337.99	122.15	215.85	1.566		
13,000.00	5,605.00	12,915.44	5,530.00	111.85	111.73	77.18	7,418.50	-2.39	338.00	119.31	218.69	1.546		
13,100.00	5,605.00	13,015.44	5,530.00	113.30	113.18	77.18	7,518.50	-2.38	338.01	116.47	221.54	1.526		
13,200.00	5,605.00	13,115.44	5,530.00	114.75	114.63	77.18	7,618.50	-2.38	338.02	113.63	224.38	1.506		
13,300.00	5,605.00	13,215.44	5,530.00	116.20	116.09	77.18	7,718.50	-2.38	338.02	110.79	227.23	1.488	Level 3	
13,400.00	5,605.00	13,315.44	5,530.00	117.66	117.54	77.18	7,818.50	-2.37	338.03	107.95	230.08	1.469	Level 3	
13,500.00	5,605.00	13,415.44	5,530.00	119.11	119.00	77.18	7,918.50	-2.37	338.04	105.11	232.92	1.451	Level 3	
13,600.00	5,605.00	13,515.44	5,530.00	120.56	120.46	77.18	8,018.50	-2.37	338.04	102.27	235.77	1.434	Level 3	
13,700.00	5,605.00	13,615.44	5,530.00	122.02	121.91	77.18	8,118.50	-2.36	338.05	99.43	238.62	1.417	Level 3	
13,800.00	5,605.00	13,715.44	5,530.00	123.47	123.37	77.18	8,218.50	-2.36	338.06	96.58	241.48	1.400	Level 3	
13,900.00	5,605.00	13,815.44	5,530.00	124.93	124.83	77.18	8,318.50	-2.36	338.07	93.74	244.33	1.384	Level 3	
14,000.00	5,605.00	13,915.44	5,530.00	126.39	126.28	77.18	8,418.50	-2.36	338.07	90.89	247.18	1.368	Level 3	
14,100.00	5,605.00	14,015.44	5,530.00	127.84	127.74	77.18	8,518.50	-2.35	338.08	88.05	250.03	1.352	Level 3	
14,200.00	5,605.00	14,115.44	5,530.00	129.30	129.20	77.18	8,618.50	-2.35	338.09	85.20	252.89	1.337	Level 3	
14,300.00	5,605.00	14,215.44	5,530.00	130.75	130.66	77.18	8,718.50	-2.35	338.10	82.36	255.74	1.322	Level 3	
14,400.00	5,605.00	14,315.44	5,530.00	132.21	132.12	77.18	8,818.50	-2.34	338.10	79.51	258.60	1.307	Level 3	
14,500.00	5,605.00	14,415.44	5,530.00	133.67	133.58	77.18	8,918.50	-2.34	338.11	76.66	261.45	1.293	Level 3	
14,600.00	5,605.00	14,515.44	5,530.00	135.13	135.04	77.18	9,018.50	-2.34	338.12	73.81	264.31	1.279	Level 3	
14,700.00	5,605.00	14,615.44	5,530.00	136.59	136.50	77.18	9,118.50	-2.34	338.13	70.96	267.16	1.266	Level 3	
14,800.00	5,605.00	14,715.44	5,530.00	138.04	137.96	77.18	9,218.50	-2.33	338.13	68.11	270.02	1.252	Level 3	
14,900.00	5,605.00	14,815.44	5,530.00	139.50	139.42	77.19	9,318.50	-2.33	338.14	65.26	272.88	1.239	Level 2	
15,000.00	5,605.00	14,915.44	5,530.00	140.96	140.88	77.19	9,418.50	-2.33	338.15	62.41	275.74	1.226	Level 2	
15,100.00	5,605.00	15,015.44	5,530.00	142.42	142.34	77.19	9,518.50	-2.32	338.16	59.56	278.60	1.214	Level 2	
15,200.00	5,605.00	15,115.44	5,530.00	143.88	143.80	77.19	9,618.50	-2.32	338.16	56.71	281.46	1.201	Level 2	
15,300.00	5,605.00	15,215.44	5,530.00	145.34	145.26	77.19	9,718.50	-2.32	338.17	53.85	284.32	1.189	Level 2	
15,400.00	5,605.00	15,315.44	5,530.00	146.80	146.72	77.19	9,818.50	-2.32	338.18	51.00	287.18	1.178	Level 2	

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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						
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
15,500.00	5,605.00	15,415.44	5,530.00	148.26	148.18	77.19	9,918.50	-2.31	338.18	48.15	290.04	1.166	Level 2
15,600.00	5,605.00	15,515.44	5,530.00	149.72	149.64	77.19	10,018.50	-2.31	338.19	45.29	292.90	1.155	Level 2
15,700.00	5,605.00	15,615.44	5,530.00	151.18	151.11	77.19	10,118.50	-2.31	338.20	42.44	295.76	1.143	Level 2
15,714.20	5,605.00	15,629.64	5,530.00	151.39	151.31	77.19	10,132.70	-2.31	338.20	42.04	296.16	1.142	Level 2, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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		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	90.00	0.00	59.98	59.98							
100.00	100.00	100.00	100.00	0.13	0.13	90.00	0.00	59.98	59.98	59.72	0.27	225.212				
200.00	200.00	200.00	200.00	0.47	0.47	90.00	0.00	59.98	59.98	59.04	0.94	63.770				
300.00	300.00	300.00	300.00	0.81	0.81	90.00	0.00	59.98	59.98	58.37	1.61	37.144	CC, ES			
400.00	399.98	398.34	398.32	1.12	1.11	-150.75	-1.08	61.28	62.83	60.59	2.24	28.094				
500.00	499.84	496.21	496.05	1.43	1.41	-150.09	-4.31	65.13	71.34	68.48	2.86	24.934				
600.00	599.49	594.19	593.70	1.76	1.73	-149.32	-9.48	71.29	84.86	81.34	3.51	24.161				
700.00	699.11	693.16	692.30	2.09	2.05	-148.75	-15.02	77.89	99.16	95.00	4.15	23.886				
800.00	798.73	792.13	790.89	2.44	2.40	-148.33	-20.57	84.50	113.46	108.66	4.81	23.612				
900.00	898.35	891.09	889.48	2.79	2.74	-148.00	-26.11	91.11	127.77	122.31	5.47	23.360				
1,000.00	997.97	990.06	988.07	3.15	3.09	-147.74	-31.66	97.72	142.09	135.95	6.14	23.136				
1,100.00	1,097.59	1,089.03	1,086.66	3.51	3.45	-147.53	-37.20	104.32	156.41	149.59	6.82	22.941				
1,200.00	1,197.21	1,188.00	1,185.25	3.86	3.80	-147.35	-42.75	110.93	170.73	163.23	7.50	22.769				
1,300.00	1,296.83	1,286.97	1,283.84	4.22	4.16	-147.20	-48.29	117.54	185.05	176.87	8.18	22.619				
1,400.00	1,396.45	1,385.93	1,382.44	4.58	4.51	-147.07	-53.83	124.15	199.37	190.50	8.87	22.487				
1,500.00	1,496.07	1,484.90	1,481.03	4.95	4.87	-146.95	-59.38	130.75	213.69	204.14	9.55	22.369				
1,600.00	1,595.69	1,583.87	1,579.62	5.31	5.23	-146.86	-64.92	137.36	228.02	217.78	10.24	22.265				
1,700.00	1,695.31	1,682.84	1,678.21	5.67	5.58	-146.77	-70.47	143.97	242.34	231.41	10.93	22.172				
1,800.00	1,794.93	1,781.81	1,776.80	6.03	5.94	-146.69	-76.01	150.58	256.67	245.05	11.62	22.088				
1,900.00	1,894.55	1,880.77	1,875.39	6.40	6.30	-146.63	-81.56	157.19	270.99	258.68	12.31	22.012				
2,000.00	1,994.17	1,979.74	1,973.99	6.76	6.66	-146.56	-87.10	163.79	285.32	272.31	13.00	21.944				
2,100.00	2,093.78	2,078.71	2,072.58	7.12	7.02	-146.51	-92.65	170.40	299.64	285.95	13.69	21.881				
2,200.00	2,193.40	2,177.68	2,171.17	7.49	7.38	-146.46	-98.19	177.01	313.97	299.58	14.39	21.824				
2,300.00	2,293.02	2,276.65	2,269.76	7.85	7.74	-146.41	-103.73	183.62	328.29	313.21	15.08	21.771				
2,400.00	2,392.64	2,375.62	2,368.35	8.21	8.10	-146.37	-109.28	190.22	342.62	326.85	15.77	21.723				
2,500.00	2,492.26	2,474.58	2,466.94	8.58	8.46	-146.33	-114.82	196.83	356.95	340.48	16.47	21.678				
2,600.00	2,591.88	2,573.55	2,565.53	8.94	8.82	-146.29	-120.37	203.44	371.27	354.11	17.16	21.637				
2,700.00	2,691.50	2,672.52	2,664.13	9.31	9.18	-146.26	-125.91	210.05	385.60	367.75	17.85	21.598				
2,800.00	2,791.12	2,771.49	2,762.72	9.67	9.54	-146.23	-131.46	216.65	399.93	381.38	18.55	21.562				
2,900.00	2,890.74	2,870.46	2,861.31	10.04	9.90	-146.20	-137.00	223.26	414.25	395.01	19.24	21.529				
3,000.00	2,990.36	2,969.42	2,959.90	10.40	10.26	-146.17	-142.55	229.87	428.58	408.64	19.94	21.497				
3,100.00	3,089.98	3,068.39	3,058.49	10.76	10.62	-146.15	-148.09	236.48	442.91	422.28	20.63	21.468				
3,200.00	3,189.60	3,167.36	3,157.08	11.13	10.98	-146.13	-153.63	243.08	457.23	435.91	21.33	21.440				
3,300.00	3,289.22	3,266.33	3,255.68	11.49	11.34	-146.10	-159.18	249.69	471.56	449.54	22.02	21.414				
3,400.00	3,388.84	3,365.30	3,354.27	11.86	11.70	-146.08	-164.72	256.30	485.89	463.17	22.72	21.389				
3,500.00	3,488.46	3,464.27	3,452.86	12.22	12.06	-146.06	-170.27	262.91	500.22	476.80	23.41	21.366				
3,600.00	3,588.08	3,563.23	3,551.45	12.59	12.42	-146.04	-175.81	269.52	514.54	490.44	24.11	21.344				
3,700.00	3,687.70	3,662.20	3,650.04	12.95	12.78	-146.03	-181.36	276.12	528.87	504.07	24.80	21.323				
3,800.00	3,787.32	3,761.17	3,748.63	13.32	13.14	-146.01	-186.90	282.73	543.20	517.70	25.50	21.303				
3,900.00	3,886.94	3,860.14	3,847.23	13.68	13.50	-145.99	-192.45	289.34	557.53	531.33	26.19	21.284				
4,000.00	3,986.55	3,959.11	3,945.82	14.05	13.86	-145.98	-197.99	295.95	571.85	544.96	26.89	21.266				
4,100.00	4,086.17	4,058.07	4,044.41	14.41	14.22	-145.97	-203.53	302.55	586.18	558.60	27.59	21.249				
4,200.00	4,185.79	4,157.04	4,143.00	14.78	14.58	-145.95	-209.08	309.16	600.51	572.23	28.28	21.233				
4,300.00	4,285.41	4,256.01	4,241.59	15.14	14.94	-145.94	-214.62	315.77	614.84	585.86	28.98	21.217				
4,400.00	4,385.03	4,367.01	4,352.23	15.51	15.31	-145.97	-220.34	322.58	628.64	598.96	29.68	21.179				
4,500.00	4,484.65	4,468.33	4,473.43	15.87	15.63	-146.23	-223.67	326.55	639.36	609.01	30.35	21.067				
4,600.00	4,584.27	4,599.18	4,584.27	16.24	15.93	-146.67	-224.09	327.06	647.07	616.07	31.01	20.868				
4,700.00	4,683.93	4,698.83	4,683.93	16.57	16.19	-147.11	-224.09	327.06	654.02	622.40	31.62	20.687				
4,800.00	4,783.78	4,798.69	4,783.78	16.82	16.45	-147.40	-224.09	327.06	658.42	626.26	32.16	20.476				
4,900.00	4,883.76	4,898.67	4,883.76	17.09	16.72	93.50	-224.09	327.06	659.89	627.18	32.71	20.173				
5,000.00	4,983.76	4,998.67	4,983.76	17.37	16.99	93.50	-224.09	327.06	659.89	626.62	33.27	19.832				
5,099.99	5,083.75	5,098.66	5,083.75	17.64	17.27	93.50	-224.09	327.06	659.89	626.07	33.82	19.510				

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,183.16	5,206.95	5,191.27	17.90	17.55	93.43	-212.96	327.06	659.84	625.48	34.36	19.202		
5,300.00	5,278.91	5,314.88	5,293.85	18.14	17.80	93.23	-180.01	327.06	659.71	624.87	34.84	18.937		
5,400.00	5,367.51	5,422.07	5,386.86	18.35	18.01	92.89	-127.09	327.06	659.51	624.24	35.27	18.698		
5,500.00	5,445.69	5,528.23	5,466.38	18.52	18.19	92.45	-57.05	327.06	659.28	623.57	35.71	18.461		
5,600.00	5,510.59	5,633.11	5,529.42	18.66	18.34	91.91	26.55	327.07	659.05	622.84	36.21	18.202		
5,700.00	5,559.82	5,736.56	5,573.99	18.75	18.50	91.31	119.72	327.07	658.86	622.06	36.80	17.903		
5,800.00	5,591.57	5,838.51	5,599.07	18.84	18.77	90.66	218.36	327.07	658.74	621.22	37.52	17.557		
5,887.14	5,604.06	5,926.08	5,605.00	19.13	19.12	90.08	305.64	327.08	658.71	620.46	38.25	17.222		
5,900.00	5,604.67	5,938.93	5,605.00	19.18	19.18	90.03	318.49	327.08	658.71	620.34	38.36	17.170		
6,000.00	5,605.00	6,038.93	5,605.00	19.69	19.70	90.00	418.48	327.08	658.71	619.34	39.37	16.730		
6,100.00	5,605.00	6,138.93	5,605.00	20.29	20.32	90.00	518.48	327.09	658.72	618.15	40.57	16.236		
6,200.00	5,605.00	6,238.93	5,605.00	20.99	21.02	90.00	618.48	327.09	658.73	616.79	41.94	15.706		
6,300.00	5,605.00	6,338.93	5,605.00	21.75	21.79	90.00	718.48	327.09	658.74	615.27	43.47	15.154		
6,400.00	5,605.00	6,438.93	5,605.00	22.59	22.64	90.00	818.48	327.10	658.75	613.61	45.14	14.595		
6,500.00	5,605.00	6,538.93	5,605.00	23.48	23.54	90.00	918.48	327.10	658.76	611.83	46.93	14.037		
6,600.00	5,605.00	6,638.93	5,605.00	24.43	24.50	90.00	1,018.48	327.11	658.77	609.93	48.83	13.490		
6,700.00	5,605.00	6,738.93	5,605.00	25.43	25.51	90.00	1,118.48	327.11	658.78	607.94	50.84	12.958		
6,800.00	5,605.00	6,838.93	5,605.00	26.48	26.56	90.00	1,218.48	327.11	658.78	605.85	52.93	12.446		
6,900.00	5,605.00	6,938.93	5,605.00	27.56	27.65	90.00	1,318.48	327.12	658.79	603.69	55.10	11.956		
7,000.00	5,605.00	7,038.93	5,605.00	28.68	28.77	90.00	1,418.48	327.12	658.80	601.46	57.34	11.490		
7,100.00	5,605.00	7,138.93	5,605.00	29.82	29.93	90.00	1,518.48	327.13	658.81	599.17	59.64	11.047		
7,200.00	5,605.00	7,238.93	5,605.00	31.00	31.10	90.00	1,618.48	327.13	658.82	596.83	61.99	10.627		
7,300.00	5,605.00	7,338.93	5,605.00	32.20	32.31	90.00	1,718.48	327.13	658.83	594.43	64.40	10.231		
7,400.00	5,605.00	7,438.93	5,605.00	33.42	33.53	90.00	1,818.48	327.14	658.84	591.99	66.84	9.856		
7,500.00	5,605.00	7,538.93	5,605.00	34.66	34.78	90.00	1,918.48	327.14	658.85	589.52	69.33	9.503		
7,600.00	5,605.00	7,638.93	5,605.00	35.91	36.04	90.00	2,018.48	327.15	658.85	587.01	71.85	9.170		
7,700.00	5,605.00	7,738.93	5,605.00	37.19	37.32	90.00	2,118.48	327.15	658.86	584.46	74.40	8.856		
7,800.00	5,605.00	7,838.93	5,605.00	38.47	38.61	90.00	2,218.48	327.15	658.87	581.89	76.98	8.559		
7,900.00	5,605.00	7,938.93	5,605.00	39.77	39.91	90.00	2,318.48	327.16	658.88	579.30	79.58	8.279		
8,000.00	5,605.00	8,038.93	5,605.00	41.09	41.22	90.00	2,418.48	327.16	658.89	576.68	82.21	8.015		
8,100.00	5,605.00	8,138.93	5,605.00	42.41	42.55	90.00	2,518.48	327.17	658.90	574.04	84.86	7.765		
8,200.00	5,605.00	8,238.93	5,605.00	43.74	43.88	90.00	2,618.48	327.17	658.91	571.38	87.52	7.528		
8,300.00	5,605.00	8,338.93	5,605.00	45.08	45.22	90.00	2,718.48	327.18	658.91	568.71	90.21	7.304		
8,400.00	5,605.00	8,438.93	5,605.00	46.43	46.57	90.00	2,818.48	327.18	658.92	566.02	92.91	7.092		
8,500.00	5,605.00	8,538.93	5,605.00	47.78	47.93	90.00	2,918.48	327.18	658.93	563.31	95.62	6.891		
8,600.00	5,605.00	8,638.93	5,605.00	49.14	49.29	90.00	3,018.48	327.19	658.94	560.59	98.35	6.700		
8,700.00	5,605.00	8,738.93	5,605.00	50.51	50.66	90.00	3,118.48	327.19	658.95	557.86	101.09	6.519		
8,800.00	5,605.00	8,838.93	5,605.00	51.88	52.04	90.00	3,218.48	327.20	658.96	555.12	103.84	6.346		
8,900.00	5,605.00	8,938.93	5,605.00	53.26	53.42	90.00	3,318.48	327.20	658.97	552.37	106.60	6.182		
9,000.00	5,605.00	9,038.93	5,605.00	54.65	54.81	90.00	3,418.48	327.20	658.98	549.61	109.37	6.025		
9,100.00	5,605.00	9,138.93	5,605.00	56.03	56.20	90.00	3,518.48	327.21	658.98	546.84	112.15	5.876		
9,200.00	5,605.00	9,238.93	5,605.00	57.43	57.59	90.00	3,618.48	327.21	658.99	544.06	114.94	5.734		
9,300.00	5,605.00	9,338.93	5,605.00	58.82	58.99	90.00	3,718.48	327.22	659.00	541.27	117.73	5.598		
9,400.00	5,605.00	9,438.93	5,605.00	60.22	60.39	90.00	3,818.48	327.22	659.01	538.48	120.53	5.467		
9,500.00	5,605.00	9,538.93	5,605.00	61.63	61.79	90.00	3,918.48	327.22	659.02	535.68	123.34	5.343		
9,600.00	5,605.00	9,638.93	5,605.00	63.03	63.20	90.00	4,018.48	327.23	659.03	532.87	126.16	5.224		
9,700.00	5,605.00	9,738.93	5,605.00	64.44	64.61	90.00	4,118.48	327.23	659.04	530.06	128.98	5.110		
9,800.00	5,605.00	9,838.93	5,605.00	65.85	66.02	90.00	4,218.48	327.24	659.05	527.24	131.80	5.000		
9,900.00	5,605.00	9,938.93	5,605.00	67.27	67.44	90.00	4,318.48	327.24	659.05	524.42	134.63	4.895		
10,000.00	5,605.00	10,038.93	5,605.00	68.68	68.86	90.00	4,418.48	327.24	659.06	521.59	137.47	4.794		
10,100.00	5,605.00	10,138.93	5,605.00	70.10	70.28	90.00	4,518.48	327.25	659.07	518.76	140.31	4.697		
10,200.00	5,605.00	10,238.93	5,605.00	71.52	71.70	90.00	4,618.48	327.25	659.08	515.93	143.15	4.604		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,605.00	10,338.93	5,605.00	72.95	73.12	90.00	4,718.48	327.26	659.09	513.09	146.00	4.514		
10,400.00	5,605.00	10,438.93	5,605.00	74.37	74.55	90.00	4,818.48	327.26	659.10	510.24	148.85	4.428		
10,500.00	5,605.00	10,538.93	5,605.00	75.80	75.97	90.00	4,918.48	327.26	659.11	507.40	151.71	4.345		
10,600.00	5,605.00	10,638.93	5,605.00	77.23	77.40	90.00	5,018.48	327.27	659.11	504.55	154.57	4.264		
10,700.00	5,605.00	10,738.93	5,605.00	78.66	78.83	90.00	5,118.48	327.27	659.12	501.69	157.43	4.187		
10,800.00	5,605.00	10,838.93	5,605.00	80.09	80.27	90.00	5,218.48	327.28	659.13	498.84	160.29	4.112		
10,900.00	5,605.00	10,938.93	5,605.00	81.52	81.70	90.00	5,318.48	327.28	659.14	495.98	163.16	4.040		
11,000.00	5,605.00	11,038.93	5,605.00	82.96	83.14	90.00	5,418.48	327.28	659.15	493.12	166.03	3.970		
11,100.00	5,605.00	11,138.93	5,605.00	84.39	84.57	90.00	5,518.48	327.29	659.16	490.25	168.90	3.903		
11,200.00	5,605.00	11,238.93	5,605.00	85.83	86.01	90.00	5,618.48	327.29	659.17	487.39	171.78	3.837		
11,300.00	5,605.00	11,338.93	5,605.00	87.27	87.45	90.00	5,718.48	327.30	659.18	484.52	174.66	3.774		
11,400.00	5,605.00	11,438.93	5,605.00	88.71	88.89	90.00	5,818.48	327.30	659.18	481.65	177.54	3.713		
11,500.00	5,605.00	11,538.93	5,605.00	90.15	90.33	90.00	5,918.48	327.30	659.19	478.77	180.42	3.654		
11,600.00	5,605.00	11,638.93	5,605.00	91.59	91.77	90.00	6,018.48	327.31	659.20	475.90	183.30	3.596		
11,700.00	5,605.00	11,738.93	5,605.00	93.03	93.21	90.00	6,118.48	327.31	659.21	473.02	186.19	3.541		
11,800.00	5,605.00	11,838.93	5,605.00	94.47	94.66	90.00	6,218.48	327.32	659.22	470.14	189.07	3.487		
11,900.00	5,605.00	11,938.93	5,605.00	95.92	96.10	90.00	6,318.48	327.32	659.23	467.26	191.96	3.434		
12,000.00	5,605.00	12,038.93	5,605.00	97.36	97.55	90.00	6,418.48	327.32	659.24	464.38	194.85	3.383		
12,100.00	5,605.00	12,138.93	5,605.00	98.81	98.99	90.00	6,518.48	327.33	659.25	461.50	197.75	3.334		
12,200.00	5,605.00	12,238.93	5,605.00	100.25	100.44	90.00	6,618.48	327.33	659.25	458.61	200.64	3.286		
12,300.00	5,605.00	12,338.93	5,605.00	101.70	101.89	90.00	6,718.48	327.34	659.26	455.73	203.53	3.239		
12,400.00	5,605.00	12,438.93	5,605.00	103.15	103.33	90.00	6,818.48	327.34	659.27	452.84	206.43	3.194		
12,500.00	5,605.00	12,538.93	5,605.00	104.60	104.78	90.00	6,918.48	327.34	659.28	449.95	209.33	3.149		
12,600.00	5,605.00	12,638.93	5,605.00	106.04	106.23	90.00	7,018.48	327.35	659.29	447.06	212.23	3.107		
12,700.00	5,605.00	12,738.93	5,605.00	107.49	107.68	90.00	7,118.48	327.35	659.30	444.17	215.13	3.065		
12,800.00	5,605.00	12,838.93	5,605.00	108.94	109.13	90.00	7,218.48	327.36	659.31	441.28	218.03	3.024		
12,900.00	5,605.00	12,938.93	5,605.00	110.39	110.58	90.00	7,318.48	327.36	659.31	438.38	220.93	2.984		
13,000.00	5,605.00	13,038.93	5,605.00	111.85	112.04	90.00	7,418.48	327.36	659.32	435.49	223.84	2.946		
13,100.00	5,605.00	13,138.93	5,605.00	113.30	113.49	90.00	7,518.48	327.37	659.33	432.59	226.74	2.908		
13,200.00	5,605.00	13,238.93	5,605.00	114.75	114.94	90.00	7,618.48	327.37	659.34	429.70	229.65	2.871		
13,300.00	5,605.00	13,338.93	5,605.00	116.20	116.39	90.00	7,718.48	327.38	659.35	426.80	232.55	2.835		
13,400.00	5,605.00	13,438.93	5,605.00	117.66	117.85	90.00	7,818.48	327.38	659.36	423.90	235.46	2.800		
13,500.00	5,605.00	13,538.93	5,605.00	119.11	119.30	90.00	7,918.48	327.38	659.37	421.00	238.37	2.766		
13,600.00	5,605.00	13,638.93	5,605.00	120.56	120.76	90.00	8,018.48	327.39	659.38	418.10	241.28	2.733		
13,700.00	5,605.00	13,738.93	5,605.00	122.02	122.21	90.00	8,118.48	327.39	659.38	415.20	244.19	2.700		
13,800.00	5,605.00	13,838.93	5,605.00	123.47	123.67	90.00	8,218.48	327.40	659.39	412.30	247.10	2.669		
13,900.00	5,605.00	13,938.93	5,605.00	124.93	125.12	90.00	8,318.48	327.40	659.40	409.39	250.01	2.638		
14,000.00	5,605.00	14,038.93	5,605.00	126.39	126.58	90.00	8,418.48	327.40	659.41	406.49	252.92	2.607		
14,100.00	5,605.00	14,138.93	5,605.00	127.84	128.03	90.00	8,518.48	327.41	659.42	403.58	255.83	2.578		
14,200.00	5,605.00	14,238.93	5,605.00	129.30	129.49	90.00	8,618.48	327.41	659.43	400.68	258.75	2.549		
14,300.00	5,605.00	14,338.93	5,605.00	130.75	130.95	90.00	8,718.48	327.42	659.44	397.77	261.66	2.520		
14,400.00	5,605.00	14,438.93	5,605.00	132.21	132.41	90.00	8,818.48	327.42	659.45	394.87	264.58	2.492		
14,500.00	5,605.00	14,538.93	5,605.00	133.67	133.86	90.00	8,918.48	327.42	659.45	391.96	267.49	2.465		
14,600.00	5,605.00	14,638.93	5,605.00	135.13	135.32	90.00	9,018.48	327.43	659.46	389.05	270.41	2.439		
14,700.00	5,605.00	14,738.93	5,605.00	136.59	136.78	90.00	9,118.48	327.43	659.47	386.15	273.33	2.413		
14,800.00	5,605.00	14,838.93	5,605.00	138.04	138.24	90.00	9,218.48	327.44	659.48	383.24	276.24	2.387		
14,900.00	5,605.00	14,938.93	5,605.00	139.50	139.70	90.00	9,318.48	327.44	659.49	380.33	279.16	2.362		
15,000.00	5,605.00	15,038.93	5,605.00	140.96	141.16	90.00	9,418.48	327.44	659.50	377.42	282.08	2.338		
15,100.00	5,605.00	15,138.93	5,605.00	142.42	142.62	90.00	9,518.48	327.45	659.51	374.51	285.00	2.314		
15,200.00	5,605.00	15,238.93	5,605.00	143.88	144.07	90.00	9,618.48	327.45	659.51	371.60	287.92	2.291		
15,300.00	5,605.00	15,338.93	5,605.00	145.34	145.53	90.00	9,718.48	327.46	659.52	368.69	290.84	2.268		
15,400.00	5,605.00	15,438.93	5,605.00	146.80	146.99	90.00	9,818.48	327.46	659.53	365.77	293.76	2.245		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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			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	5,605.00	15,538.93	5,605.00	148.26	148.46	90.00	9,918.48	327.46	659.54	362.86	296.68	2.223	
15,600.00	5,605.00	15,638.93	5,605.00	149.72	149.92	90.00	10,018.48	327.47	659.55	359.95	299.60	2.201	
15,700.00	5,605.00	15,738.93	5,605.00	151.18	151.38	90.00	10,118.48	327.47	659.56	357.04	302.52	2.180	
15,714.20	5,605.00	15,753.13	5,605.00	151.39	151.58	90.00	10,132.68	327.47	659.56	356.62	302.94	2.177 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	-149.99	-50.60	-29.22	58.43					
100.00	100.00	100.00	100.00	0.13	0.13	-149.99	-50.60	-29.22	58.43	58.17	0.27	219.392		
200.00	200.00	200.00	200.00	0.47	0.47	-149.99	-50.60	-29.22	58.43	57.49	0.94	62.122		
300.00	300.00	300.00	300.00	0.81	0.81	-149.99	-50.60	-29.22	58.43	56.82	1.61	36.184		
400.00	399.98	398.70	398.68	1.12	1.12	-30.59	-50.90	-30.90	58.05	55.81	2.24	25.906		
500.00	499.84	497.39	497.23	1.43	1.44	-29.34	-51.78	-35.92	56.91	54.05	2.85	19.946		
600.00	599.49	596.03	595.51	1.76	1.77	-26.93	-53.26	-44.27	55.46	51.97	3.49	15.902		
622.04	621.45	617.77	617.12	1.83	1.84	-26.09	-53.66	-46.56	55.39	51.76	3.63	15.258	CC, ES	
700.00	699.11	694.53	693.29	2.09	2.11	-22.21	-55.31	-55.94	56.26	52.12	4.14	13.598		
800.00	798.73	792.66	790.24	2.44	2.48	-15.76	-57.94	-70.84	60.24	55.44	4.80	12.560		
900.00	898.35	891.03	886.91	2.79	2.87	-8.88	-61.10	-88.77	67.65	62.19	5.46	12.388		
1,000.00	997.97	990.39	984.44	3.15	3.28	-3.19	-64.39	-107.44	76.39	70.27	6.12	12.479		
1,100.00	1,097.59	1,089.76	1,081.98	3.51	3.70	1.30	-67.69	-126.11	85.73	78.95	6.78	12.636		
1,200.00	1,197.21	1,189.12	1,179.51	3.86	4.12	4.90	-70.98	-144.78	95.49	88.04	7.45	12.814		
1,300.00	1,296.83	1,288.48	1,277.05	4.22	4.55	7.82	-74.27	-163.45	105.56	97.43	8.12	12.993		
1,400.00	1,396.45	1,387.84	1,374.59	4.58	4.98	10.23	-77.56	-182.12	115.84	107.04	8.80	13.164		
1,500.00	1,496.07	1,487.20	1,472.12	4.95	5.41	12.24	-80.85	-200.79	126.30	116.82	9.48	13.323		
1,600.00	1,595.69	1,586.56	1,569.66	5.31	5.84	13.95	-84.15	-219.47	136.89	126.73	10.16	13.471		
1,700.00	1,695.31	1,685.92	1,667.19	5.67	6.27	15.40	-87.44	-238.14	147.58	136.74	10.85	13.604		
1,800.00	1,794.93	1,785.29	1,764.73	6.03	6.70	16.67	-90.73	-256.81	158.36	146.82	11.54	13.727		
1,900.00	1,894.55	1,884.65	1,862.27	6.40	7.14	17.77	-94.02	-275.48	169.20	156.97	12.23	13.839		
2,000.00	1,994.17	1,984.01	1,959.80	6.76	7.57	18.73	-97.32	-294.15	180.09	167.17	12.92	13.941		
2,100.00	2,093.78	2,083.37	2,057.34	7.12	8.01	19.59	-100.61	-312.82	191.03	177.42	13.61	14.034		
2,200.00	2,193.40	2,182.73	2,154.87	7.49	8.45	20.35	-103.90	-331.49	202.01	187.70	14.31	14.120		
2,300.00	2,293.02	2,282.09	2,252.41	7.85	8.88	21.04	-107.19	-350.16	213.02	198.01	15.00	14.199		
2,400.00	2,392.64	2,381.46	2,349.95	8.21	9.32	21.66	-110.48	-368.83	224.05	208.35	15.70	14.272		
2,500.00	2,492.26	2,480.82	2,447.48	8.58	9.76	22.22	-113.78	-387.51	235.11	218.71	16.40	14.339		
2,600.00	2,591.88	2,580.18	2,545.02	8.94	10.19	22.73	-117.07	-406.18	246.19	229.09	17.10	14.401		
2,700.00	2,691.50	2,679.54	2,642.55	9.31	10.63	23.19	-120.36	-424.85	257.29	239.49	17.79	14.459		
2,800.00	2,791.12	2,778.90	2,740.09	9.67	11.07	23.62	-123.65	-443.52	268.40	249.90	18.49	14.512		
2,900.00	2,890.74	2,878.26	2,837.63	10.04	11.51	24.01	-126.95	-462.19	279.52	260.33	19.19	14.562		
3,000.00	2,990.36	2,977.63	2,935.16	10.40	11.95	24.38	-130.24	-480.86	290.66	270.77	19.90	14.609		
3,100.00	3,089.98	3,076.99	3,032.70	10.76	12.38	24.71	-133.53	-499.53	301.81	281.21	20.60	14.653		
3,200.00	3,189.60	3,176.35	3,130.23	11.13	12.82	25.02	-136.82	-518.20	312.97	291.67	21.30	14.694		
3,300.00	3,289.22	3,275.71	3,227.77	11.49	13.26	25.32	-140.11	-536.87	324.14	302.13	22.00	14.733		
3,400.00	3,388.84	3,375.07	3,325.31	11.86	13.70	25.59	-143.41	-555.54	335.31	312.61	22.70	14.769		
3,500.00	3,488.46	3,474.43	3,422.84	12.22	14.14	25.84	-146.70	-574.22	346.49	323.08	23.41	14.803		
3,600.00	3,588.08	3,573.80	3,520.38	12.59	14.58	26.08	-149.99	-592.89	357.68	333.57	24.11	14.836		
3,700.00	3,687.70	3,673.16	3,617.91	12.95	15.02	26.30	-153.28	-611.56	368.87	344.06	24.81	14.866		
3,800.00	3,787.32	3,772.52	3,715.45	13.32	15.45	26.51	-156.58	-630.23	380.07	354.55	25.52	14.895		
3,900.00	3,886.94	3,871.88	3,812.99	13.68	15.89	26.71	-159.87	-648.90	391.27	365.05	26.22	14.923		
4,000.00	3,986.55	3,971.24	3,910.52	14.05	16.33	26.90	-163.16	-667.57	402.48	375.56	26.92	14.949		
4,100.00	4,086.17	4,070.60	4,008.06	14.41	16.77	27.08	-166.45	-686.24	413.69	386.06	27.63	14.973		
4,200.00	4,185.79	4,169.96	4,105.60	14.78	17.21	27.24	-169.74	-704.91	424.91	396.58	28.33	14.997		
4,300.00	4,285.41	4,269.33	4,203.13	15.14	17.65	27.40	-173.04	-723.58	436.13	407.09	29.04	15.019		
4,400.00	4,385.03	4,368.69	4,300.67	15.51	18.09	27.55	-176.33	-742.26	447.35	417.61	29.74	15.041		
4,500.00	4,484.65	4,468.05	4,398.20	15.87	18.53	27.70	-179.62	-760.93	458.57	428.13	30.45	15.061		
4,600.00	4,584.27	4,572.71	4,500.97	16.24	18.97	27.85	-183.06	-780.41	469.65	438.49	31.16	15.074		
4,700.00	4,683.93	4,691.80	4,618.54	16.57	19.33	28.08	-186.35	-799.07	478.10	446.30	31.80	15.035		
4,800.00	4,783.78	4,811.39	4,737.29	16.82	19.64	28.23	-188.79	-812.95	485.14	452.82	32.32	15.010		
4,900.00	4,883.76	4,931.40	4,856.94	17.09	19.94	-90.77	-190.38	-821.96	491.13	458.28	32.85	14.952		
5,000.00	4,983.76	5,051.79	4,977.25	17.37	20.22	-90.84	-191.10	-826.03	494.52	461.07	33.45	14.784		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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		
5,099.99	5,083.75	5,158.29	5,083.75	17.64	20.48	-90.85	-191.14	-826.28	494.73	460.71	34.02	14.542		
5,200.00	5,183.16	5,257.70	5,183.16	17.90	20.72	-91.91	-191.14	-826.28	494.96	460.46	34.50	14.347		
5,300.00	5,278.91	5,359.60	5,284.78	18.14	20.98	-94.48	-185.47	-826.28	496.28	461.42	34.86	14.236		
5,400.00	5,367.51	5,467.65	5,389.25	18.35	21.23	-97.03	-158.64	-826.28	498.62	463.44	35.18	14.174		
5,500.00	5,445.69	5,581.48	5,490.82	18.52	21.46	-99.37	-107.76	-826.29	501.62	466.16	35.47	14.144		
5,600.00	5,510.59	5,701.13	5,583.01	18.66	21.66	-101.36	-31.90	-826.29	504.81	469.05	35.76	14.117		
5,700.00	5,559.82	5,826.07	5,658.18	18.75	21.81	-102.89	67.52	-826.30	507.62	471.48	36.14	14.047		
5,800.00	5,591.57	5,955.03	5,708.72	18.84	21.95	-103.82	185.81	-826.31	509.49	472.81	36.67	13.892		
5,900.00	5,604.67	6,086.07	5,728.79	19.18	22.12	-104.09	314.95	-826.32	510.04	472.59	37.45	13.618		
5,964.85	5,606.23	6,154.42	5,729.00	19.51	22.25	-103.94	383.30	-826.33	509.70	471.62	38.09	13.383		
6,000.00	5,605.00	6,189.59	5,729.00	19.69	22.33	-104.07	418.47	-826.33	510.00	471.61	38.39	13.284		
6,100.00	5,605.00	6,289.59	5,729.00	20.29	22.67	-104.07	518.47	-826.34	510.01	470.49	39.51	12.907		
6,200.00	5,605.00	6,389.59	5,729.00	20.99	23.13	-104.07	618.47	-826.35	510.01	469.20	40.80	12.499		
6,300.00	5,605.00	6,489.59	5,729.00	21.75	23.72	-104.07	718.47	-826.36	510.01	467.76	42.25	12.071		
6,400.00	5,605.00	6,589.59	5,729.00	22.59	24.42	-104.07	818.47	-826.37	510.02	466.18	43.84	11.634		
6,500.00	5,605.00	6,689.59	5,729.00	23.48	25.21	-104.07	918.47	-826.37	510.02	464.47	45.55	11.196		
6,600.00	5,605.00	6,789.59	5,729.00	24.43	26.07	-104.07	1,018.47	-826.38	510.02	462.65	47.38	10.765		
6,700.00	5,605.00	6,889.59	5,729.00	25.43	26.99	-104.07	1,118.47	-826.39	510.03	460.73	49.30	10.345		
6,800.00	5,605.00	6,989.59	5,729.00	26.48	27.97	-104.07	1,218.47	-826.40	510.03	458.72	51.31	9.939		
6,900.00	5,605.00	7,089.59	5,729.00	27.56	28.99	-104.07	1,318.47	-826.41	510.03	456.63	53.40	9.550		
7,000.00	5,605.00	7,189.59	5,729.00	28.68	30.05	-104.07	1,418.47	-826.42	510.04	454.47	55.56	9.179		
7,100.00	5,605.00	7,289.59	5,729.00	29.82	31.15	-104.07	1,518.47	-826.42	510.04	452.25	57.79	8.826		
7,200.00	5,605.00	7,389.59	5,729.00	31.00	32.28	-104.07	1,618.47	-826.43	510.04	449.98	60.06	8.492		
7,300.00	5,605.00	7,489.59	5,729.00	32.20	33.43	-104.07	1,718.47	-826.44	510.05	447.66	62.39	8.175		
7,400.00	5,605.00	7,589.59	5,729.00	33.42	34.61	-104.07	1,818.47	-826.45	510.05	445.29	64.76	7.876		
7,500.00	5,605.00	7,689.59	5,729.00	34.66	35.81	-104.07	1,918.47	-826.46	510.06	442.89	67.17	7.594		
7,600.00	5,605.00	7,789.59	5,729.00	35.91	37.03	-104.07	2,018.47	-826.46	510.06	440.45	69.61	7.327		
7,700.00	5,605.00	7,889.59	5,729.00	37.19	38.27	-104.07	2,118.47	-826.47	510.06	437.98	72.08	7.076		
7,800.00	5,605.00	7,989.59	5,729.00	38.47	39.53	-104.07	2,218.47	-826.48	510.07	435.48	74.59	6.838		
7,900.00	5,605.00	8,089.59	5,729.00	39.77	40.80	-104.07	2,318.47	-826.49	510.07	432.95	77.12	6.614		
8,000.00	5,605.00	8,189.59	5,729.00	41.09	42.08	-104.07	2,418.47	-826.50	510.07	430.41	79.67	6.403		
8,100.00	5,605.00	8,289.59	5,729.00	42.41	43.38	-104.07	2,518.47	-826.51	510.08	427.84	82.24	6.202		
8,200.00	5,605.00	8,389.59	5,729.00	43.74	44.68	-104.07	2,618.47	-826.51	510.08	425.25	84.83	6.013		
8,300.00	5,605.00	8,489.59	5,729.00	45.08	46.00	-104.07	2,718.47	-826.52	510.08	422.64	87.44	5.834		
8,400.00	5,605.00	8,589.59	5,729.00	46.43	47.32	-104.07	2,818.47	-826.53	510.09	420.02	90.06	5.664		
8,500.00	5,605.00	8,689.59	5,729.00	47.78	48.66	-104.07	2,918.47	-826.54	510.09	417.39	92.70	5.502		
8,600.00	5,605.00	8,789.59	5,729.00	49.14	50.00	-104.07	3,018.47	-826.55	510.09	414.74	95.36	5.349		
8,700.00	5,605.00	8,889.59	5,729.00	50.51	51.34	-104.07	3,118.47	-826.56	510.10	412.08	98.02	5.204		
8,800.00	5,605.00	8,989.59	5,729.00	51.88	52.70	-104.07	3,218.47	-826.56	510.10	409.41	100.70	5.066		
8,900.00	5,605.00	9,089.59	5,729.00	53.26	54.06	-104.07	3,318.47	-826.57	510.10	406.72	103.38	4.934		
9,000.00	5,605.00	9,189.59	5,729.00	54.65	55.43	-104.07	3,418.47	-826.58	510.11	404.03	106.08	4.809		
9,100.00	5,605.00	9,289.59	5,729.00	56.03	56.80	-104.07	3,518.47	-826.59	510.11	401.33	108.78	4.689		
9,200.00	5,605.00	9,389.59	5,729.00	57.43	58.17	-104.07	3,618.47	-826.60	510.12	398.62	111.49	4.575		
9,300.00	5,605.00	9,489.59	5,729.00	58.82	59.56	-104.07	3,718.47	-826.61	510.12	395.90	114.21	4.466		
9,400.00	5,605.00	9,589.59	5,729.00	60.22	60.94	-104.07	3,818.47	-826.61	510.12	393.18	116.94	4.362		
9,500.00	5,605.00	9,689.59	5,729.00	61.63	62.33	-104.07	3,918.47	-826.62	510.13	390.45	119.68	4.263		
9,600.00	5,605.00	9,789.59	5,729.00	63.03	63.72	-104.07	4,018.47	-826.63	510.13	387.71	122.42	4.167		
9,700.00	5,605.00	9,889.59	5,729.00	64.44	65.12	-104.07	4,118.47	-826.64	510.13	384.97	125.16	4.076		
9,800.00	5,605.00	9,989.59	5,729.00	65.85	66.52	-104.07	4,218.47	-826.65	510.14	382.22	127.91	3.988		
9,900.00	5,605.00	10,089.59	5,729.00	67.27	67.92	-104.07	4,318.47	-826.66	510.14	379.47	130.67	3.904		
10,000.00	5,605.00	10,189.59	5,729.00	68.68	69.33	-104.07	4,418.47	-826.66	510.14	376.71	133.43	3.823		
10,100.00	5,605.00	10,289.59	5,729.00	70.10	70.73	-104.07	4,518.47	-826.67	510.15	373.95	136.20	3.746		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,605.00	10,389.59	5,729.00	71.52	72.14	-104.07	4,618.47	-826.68	510.15	371.19	138.97	3.671		
10,300.00	5,605.00	10,489.59	5,729.00	72.95	73.56	-104.07	4,718.47	-826.69	510.15	368.42	141.74	3.599		
10,400.00	5,605.00	10,589.59	5,729.00	74.37	74.97	-104.07	4,818.47	-826.70	510.16	365.64	144.52	3.530		
10,500.00	5,605.00	10,689.59	5,729.00	75.80	76.39	-104.07	4,918.47	-826.71	510.16	362.86	147.30	3.463		
10,600.00	5,605.00	10,789.59	5,729.00	77.23	77.81	-104.07	5,018.47	-826.71	510.16	360.08	150.08	3.399		
10,700.00	5,605.00	10,889.59	5,729.00	78.66	79.23	-104.07	5,118.47	-826.72	510.17	357.30	152.87	3.337		
10,800.00	5,605.00	10,989.59	5,729.00	80.09	80.65	-104.07	5,218.47	-826.73	510.17	354.51	155.66	3.277		
10,900.00	5,605.00	11,089.59	5,729.00	81.52	82.08	-104.07	5,318.47	-826.74	510.18	351.72	158.45	3.220		
11,000.00	5,605.00	11,189.59	5,729.00	82.96	83.50	-104.07	5,418.47	-826.75	510.18	348.93	161.25	3.164		
11,100.00	5,605.00	11,289.59	5,729.00	84.39	84.93	-104.07	5,518.47	-826.76	510.18	346.14	164.05	3.110		
11,200.00	5,605.00	11,389.59	5,729.00	85.83	86.36	-104.07	5,618.47	-826.76	510.19	343.34	166.85	3.058		
11,300.00	5,605.00	11,489.59	5,729.00	87.27	87.79	-104.07	5,718.47	-826.77	510.19	340.54	169.65	3.007		
11,400.00	5,605.00	11,589.59	5,729.00	88.71	89.22	-104.07	5,818.47	-826.78	510.19	337.74	172.46	2.958		
11,500.00	5,605.00	11,689.59	5,729.00	90.15	90.66	-104.07	5,918.47	-826.79	510.20	334.93	175.26	2.911		
11,600.00	5,605.00	11,789.59	5,729.00	91.59	92.09	-104.07	6,018.47	-826.80	510.20	332.13	178.07	2.865		
11,700.00	5,605.00	11,889.59	5,729.00	93.03	93.53	-104.07	6,118.47	-826.81	510.20	329.32	180.88	2.821		
11,800.00	5,605.00	11,989.59	5,729.00	94.47	94.97	-104.07	6,218.47	-826.81	510.21	326.51	183.70	2.777		
11,900.00	5,605.00	12,089.59	5,729.00	95.92	96.40	-104.07	6,318.47	-826.82	510.21	323.70	186.51	2.736		
12,000.00	5,605.00	12,189.59	5,729.00	97.36	97.84	-104.07	6,418.47	-826.83	510.21	320.89	189.33	2.695		
12,100.00	5,605.00	12,289.59	5,729.00	98.81	99.28	-104.06	6,518.47	-826.84	510.22	318.07	192.14	2.655		
12,200.00	5,605.00	12,389.59	5,729.00	100.25	100.72	-104.06	6,618.47	-826.85	510.22	315.26	194.96	2.617		
12,300.00	5,605.00	12,489.59	5,729.00	101.70	102.16	-104.06	6,718.47	-826.86	510.23	312.44	197.78	2.580		
12,400.00	5,605.00	12,589.59	5,729.00	103.15	103.61	-104.06	6,818.47	-826.86	510.23	309.62	200.61	2.543		
12,500.00	5,605.00	12,689.59	5,729.00	104.60	105.05	-104.06	6,918.47	-826.87	510.23	306.80	203.43	2.508		
12,600.00	5,605.00	12,789.59	5,729.00	106.04	106.49	-104.06	7,018.47	-826.88	510.24	303.98	206.25	2.474		
12,700.00	5,605.00	12,889.59	5,729.00	107.49	107.94	-104.06	7,118.47	-826.89	510.24	301.16	209.08	2.440		
12,800.00	5,605.00	12,989.59	5,729.00	108.94	109.38	-104.06	7,218.47	-826.90	510.24	298.34	211.91	2.408		
12,900.00	5,605.00	13,089.59	5,729.00	110.39	110.83	-104.06	7,318.47	-826.91	510.25	295.51	214.73	2.376		
13,000.00	5,605.00	13,189.59	5,729.00	111.85	112.28	-104.06	7,418.47	-826.91	510.25	292.69	217.56	2.345		
13,100.00	5,605.00	13,289.59	5,729.00	113.30	113.72	-104.06	7,518.47	-826.92	510.25	289.86	220.39	2.315		
13,200.00	5,605.00	13,389.59	5,729.00	114.75	115.17	-104.06	7,618.47	-826.93	510.26	287.03	223.22	2.286		
13,300.00	5,605.00	13,489.59	5,729.00	116.20	116.62	-104.06	7,718.47	-826.94	510.26	284.20	226.06	2.257		
13,400.00	5,605.00	13,589.59	5,729.00	117.66	118.07	-104.06	7,818.47	-826.95	510.26	281.37	228.89	2.229		
13,500.00	5,605.00	13,689.59	5,729.00	119.11	119.52	-104.06	7,918.47	-826.96	510.27	278.54	231.72	2.202		
13,600.00	5,605.00	13,789.59	5,729.00	120.56	120.97	-104.06	8,018.47	-826.96	510.27	275.71	234.56	2.175		
13,700.00	5,605.00	13,889.59	5,729.00	122.02	122.42	-104.06	8,118.47	-826.97	510.27	272.88	237.39	2.149		
13,800.00	5,605.00	13,989.59	5,729.00	123.47	123.87	-104.06	8,218.47	-826.98	510.28	270.05	240.23	2.124		
13,900.00	5,605.00	14,089.59	5,729.00	124.93	125.32	-104.06	8,318.47	-826.99	510.28	267.21	243.07	2.099		
14,000.00	5,605.00	14,189.59	5,729.00	126.39	126.78	-104.06	8,418.47	-827.00	510.29	264.38	245.91	2.075		
14,100.00	5,605.00	14,289.59	5,729.00	127.84	128.23	-104.06	8,518.47	-827.01	510.29	261.55	248.74	2.051		
14,200.00	5,605.00	14,389.59	5,729.00	129.30	129.68	-104.06	8,618.47	-827.01	510.29	258.71	251.58	2.028		
14,300.00	5,605.00	14,489.59	5,729.00	130.75	131.14	-104.06	8,718.47	-827.02	510.30	255.87	254.42	2.006		
14,400.00	5,605.00	14,589.59	5,729.00	132.21	132.59	-104.06	8,818.47	-827.03	510.30	253.04	257.26	1.984		
14,500.00	5,605.00	14,689.59	5,729.00	133.67	134.04	-104.06	8,918.47	-827.04	510.30	250.20	260.10	1.962		
14,600.00	5,605.00	14,789.59	5,729.00	135.13	135.50	-104.06	9,018.47	-827.05	510.31	247.36	262.95	1.941		
14,700.00	5,605.00	14,889.59	5,729.00	136.59	136.95	-104.06	9,118.47	-827.06	510.31	244.52	265.79	1.920		
14,800.00	5,605.00	14,989.59	5,729.00	138.04	138.41	-104.06	9,218.47	-827.06	510.31	241.68	268.63	1.900		
14,900.00	5,605.00	15,089.59	5,729.00	139.50	139.86	-104.06	9,318.47	-827.07	510.32	238.84	271.48	1.880		
15,000.00	5,605.00	15,189.59	5,729.00	140.96	141.32	-104.06	9,418.47	-827.08	510.32	236.00	274.32	1.860		
15,100.00	5,605.00	15,289.59	5,729.00	142.42	142.78	-104.06	9,518.47	-827.09	510.32	233.16	277.16	1.841		
15,200.00	5,605.00	15,389.59	5,729.00	143.88	144.23	-104.06	9,618.47	-827.10	510.33	230.32	280.01	1.823		
15,300.00	5,605.00	15,489.59	5,729.00	145.34	145.69	-104.06	9,718.47	-827.11	510.33	227.48	282.85	1.804		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	
15,400.00	5,605.00	15,589.59	5,729.00	146.80	147.15	-104.06	9,818.47	-827.11	510.34	224.63	285.70	1.786	
15,500.00	5,605.00	15,689.59	5,729.00	148.26	148.60	-104.06	9,918.47	-827.12	510.34	221.79	288.55	1.769	
15,600.00	5,605.00	15,789.59	5,729.00	149.72	150.06	-104.06	10,018.47	-827.13	510.34	218.95	291.39	1.751	
15,700.00	5,605.00	15,889.59	5,729.00	151.18	151.52	-104.06	10,118.47	-827.14	510.35	216.10	294.24	1.734	
15,703.42	5,605.00	15,893.01	5,729.00	151.23	151.57	-104.06	10,121.89	-827.14	510.35	216.01	294.34	1.734	
15,714.20	5,605.00	15,902.83	5,729.00	151.39	151.71	-104.06	10,131.71	-827.14	510.35	215.72	294.63	1.732 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	179.13	-50.60	0.77	50.61					
100.00	100.00	100.00	100.00	0.13	0.13	179.13	-50.60	0.77	50.61	50.34	0.27	190.008		
200.00	200.00	200.00	200.00	0.47	0.47	179.13	-50.60	0.77	50.61	49.67	0.94	53.802		
300.00	300.00	300.00	300.00	0.81	0.81	179.13	-50.60	0.77	50.61	48.99	1.61	31.338		
400.00	399.98	399.34	399.32	1.12	1.12	-61.80	-51.28	-0.82	50.44	48.20	2.24	22.555		
500.00	499.84	498.68	498.52	1.43	1.43	-61.58	-53.29	-5.57	49.93	47.08	2.85	17.535		
600.00	599.49	598.01	597.47	1.76	1.76	-60.75	-56.65	-13.49	49.30	45.80	3.50	14.097		
610.63	610.08	608.56	607.97	1.79	1.80	-60.49	-57.09	-14.51	49.29	45.72	3.57	13.813 CC		
700.00	699.11	697.59	696.36	2.09	2.10	-57.11	-61.21	-24.23	49.77	45.60	4.17	11.933 ES		
800.00	798.73	797.52	795.55	2.44	2.46	-53.08	-65.97	-35.44	50.69	45.83	4.85	10.441		
900.00	898.35	897.46	894.74	2.79	2.83	-49.21	-70.73	-46.65	51.84	46.31	5.54	9.361		
1,000.00	997.97	997.39	993.93	3.15	3.21	-45.52	-75.49	-57.86	53.23	47.01	6.22	8.557		
1,100.00	1,097.59	1,097.32	1,093.12	3.51	3.58	-42.03	-80.25	-69.07	54.82	47.92	6.90	7.947		
1,200.00	1,197.21	1,197.26	1,192.31	3.86	3.96	-38.76	-85.01	-80.28	56.60	49.03	7.57	7.475		
1,300.00	1,296.83	1,297.19	1,291.50	4.22	4.34	-35.69	-89.76	-91.49	58.56	50.32	8.24	7.103		
1,400.00	1,396.45	1,397.12	1,390.68	4.58	4.72	-32.82	-94.52	-102.70	60.67	51.76	8.91	6.808		
1,500.00	1,496.07	1,497.06	1,489.87	4.95	5.10	-30.16	-99.28	-113.91	62.93	53.35	9.58	6.569		
1,600.00	1,595.69	1,596.99	1,589.06	5.31	5.48	-27.68	-104.04	-125.12	65.31	55.07	10.24	6.375		
1,700.00	1,695.31	1,696.92	1,688.25	5.67	5.87	-25.39	-108.80	-136.33	67.81	56.90	10.91	6.215		
1,800.00	1,794.93	1,796.86	1,787.44	6.03	6.25	-23.26	-113.56	-147.54	70.40	58.83	11.57	6.083		
1,900.00	1,894.55	1,896.79	1,886.63	6.40	6.63	-21.28	-118.32	-158.75	73.09	60.85	12.24	5.972		
2,000.00	1,994.17	1,996.72	1,985.81	6.76	7.02	-19.45	-123.07	-169.96	75.86	62.95	12.90	5.878		
2,100.00	2,093.78	2,096.66	2,085.00	7.12	7.40	-17.74	-127.83	-181.17	78.70	65.13	13.57	5.799		
2,200.00	2,193.40	2,196.59	2,184.19	7.49	7.79	-16.16	-132.59	-192.39	81.60	67.36	14.24	5.731		
2,300.00	2,293.02	2,296.52	2,283.38	7.85	8.17	-14.68	-137.35	-203.60	84.56	69.66	14.91	5.673		
2,400.00	2,392.64	2,396.46	2,382.57	8.21	8.55	-13.31	-142.11	-214.81	87.58	72.00	15.57	5.623		
2,500.00	2,492.26	2,496.39	2,481.76	8.58	8.94	-12.03	-146.87	-226.02	90.64	74.40	16.24	5.580		
2,600.00	2,591.88	2,596.32	2,580.94	8.94	9.32	-10.83	-151.63	-237.23	93.74	76.83	16.91	5.542		
2,700.00	2,691.50	2,696.25	2,680.13	9.31	9.71	-9.71	-156.38	-248.44	96.89	79.30	17.59	5.509		
2,800.00	2,791.12	2,796.19	2,779.32	9.67	10.09	-8.66	-161.14	-259.65	100.06	81.80	18.26	5.480		
2,900.00	2,890.74	2,896.12	2,878.51	10.04	10.48	-7.68	-165.90	-270.86	103.27	84.34	18.93	5.454		
3,000.00	2,990.36	2,996.05	2,977.70	10.40	10.86	-6.75	-170.66	-282.07	106.51	86.90	19.61	5.432		
3,100.00	3,089.98	3,095.99	3,076.89	10.76	11.25	-5.88	-175.42	-293.28	109.77	89.49	20.28	5.412		
3,200.00	3,189.60	3,195.92	3,176.07	11.13	11.64	-5.06	-180.18	-304.49	113.06	92.10	20.96	5.394		
3,300.00	3,289.22	3,295.85	3,275.26	11.49	12.02	-4.29	-184.94	-315.70	116.37	94.73	21.64	5.378		
3,400.00	3,388.84	3,395.79	3,374.45	11.86	12.41	-3.56	-189.70	-326.91	119.70	97.38	22.32	5.363		
3,500.00	3,488.46	3,495.72	3,473.64	12.22	12.79	-2.87	-194.45	-338.12	123.04	100.05	23.00	5.351		
3,600.00	3,588.08	3,595.65	3,572.83	12.59	13.18	-2.21	-199.21	-349.33	126.41	102.73	23.68	5.339		
3,700.00	3,687.70	3,695.59	3,672.02	12.95	13.56	-1.59	-203.97	-360.55	129.79	105.43	24.36	5.329		
3,800.00	3,787.32	3,795.52	3,771.20	13.32	13.95	-1.00	-208.73	-371.76	133.18	108.14	25.04	5.319		
3,900.00	3,886.94	3,895.45	3,870.39	13.68	14.33	-0.44	-213.49	-382.97	136.59	110.87	25.72	5.311		
4,000.00	3,986.55	3,995.39	3,969.58	14.05	14.72	0.09	-218.25	-394.18	140.01	113.61	26.40	5.303		
4,100.00	4,086.17	4,095.32	4,068.77	14.41	15.11	0.60	-223.01	-405.39	143.44	116.36	27.08	5.296		
4,200.00	4,185.79	4,195.25	4,167.96	14.78	15.49	1.08	-227.76	-416.60	146.88	119.12	27.76	5.290		
4,300.00	4,285.41	4,295.19	4,267.15	15.14	15.88	1.54	-232.52	-427.81	150.33	121.88	28.45	5.284		
4,400.00	4,385.03	4,395.12	4,366.33	15.51	16.26	1.98	-237.28	-439.02	153.79	124.66	29.13	5.279		
4,500.00	4,484.65	4,495.05	4,465.52	15.87	16.65	2.40	-242.04	-450.23	157.26	127.45	29.82	5.274		
4,600.00	4,584.27	4,594.99	4,564.71	16.24	17.04	2.80	-246.80	-461.44	160.74	130.24	30.50	5.270		
4,700.00	4,683.93	4,694.90	4,663.88	16.57	17.42	3.18	-251.56	-472.65	164.66	133.50	31.16	5.285		
4,800.00	4,783.78	4,798.12	4,766.40	16.82	17.78	3.49	-256.24	-483.69	171.08	139.36	31.72	5.394		
4,900.00	4,883.76	4,904.36	4,872.27	17.09	18.05	-115.34	-259.70	-491.83	177.66	145.43	32.23	5.512		
5,000.00	4,983.76	5,010.96	4,978.74	17.37	18.31	-115.28	-261.62	-496.36	182.28	149.47	32.81	5.556		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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		
5,099.99	5,083.75	5,115.98	5,083.75	17.64	18.58	-115.27	-262.05	-497.36	183.30	149.91	33.39	5.490		
5,200.00	5,183.16	5,215.38	5,183.16	17.90	18.84	-117.46	-262.05	-497.36	187.55	153.86	33.69	5.567		
5,300.00	5,278.91	5,311.14	5,278.91	18.14	19.09	-122.99	-262.05	-497.36	202.33	168.66	33.67	6.010		
5,400.00	5,367.51	5,424.54	5,391.98	18.35	19.39	-130.98	-255.73	-497.36	228.77	195.63	33.14	6.903		
5,500.00	5,445.69	5,565.14	5,526.27	18.52	19.71	-137.96	-215.54	-497.36	255.99	223.92	32.07	7.983		
5,600.00	5,510.59	5,726.00	5,660.27	18.66	19.99	-142.71	-127.71	-497.36	278.09	247.41	30.68	9.064		
5,700.00	5,559.82	5,904.18	5,769.71	18.75	20.16	-145.12	11.81	-497.36	290.35	260.91	29.44	9.862		
5,800.00	5,591.57	6,089.03	5,826.96	18.84	20.22	-145.01	186.55	-497.36	289.77	260.81	28.97	10.004		
5,900.00	5,604.67	6,221.23	5,832.00	19.18	20.38	-143.89	318.51	-497.36	281.33	252.02	29.31	9.599		
5,945.99	5,605.93	6,267.20	5,832.00	19.41	20.58	-143.75	364.48	-497.36	280.31	250.73	29.58	9.476		
6,000.00	5,605.00	6,321.23	5,832.00	19.69	20.86	-143.87	418.51	-497.36	281.06	251.21	29.85	9.417		
6,100.00	5,605.00	6,421.23	5,832.00	20.29	21.48	-143.87	518.51	-497.36	281.06	250.56	30.50	9.215		
6,200.00	5,605.00	6,521.23	5,832.00	20.99	22.18	-143.87	618.51	-497.36	281.06	249.80	31.26	8.992		
6,300.00	5,605.00	6,621.23	5,832.00	21.75	22.96	-143.87	718.51	-497.36	281.05	248.94	32.12	8.751		
6,400.00	5,605.00	6,721.23	5,832.00	22.59	23.80	-143.87	818.51	-497.36	281.05	247.98	33.07	8.499		
6,500.00	5,605.00	6,821.23	5,832.00	23.48	24.69	-143.87	918.51	-497.36	281.05	246.94	34.10	8.241		
6,600.00	5,605.00	6,921.23	5,832.00	24.43	25.64	-143.87	1,018.51	-497.36	281.05	245.83	35.22	7.980		
6,700.00	5,605.00	7,021.23	5,832.00	25.43	26.64	-143.87	1,118.51	-497.36	281.04	244.64	36.40	7.721		
6,800.00	5,605.00	7,121.23	5,832.00	26.48	27.67	-143.87	1,218.51	-497.36	281.04	243.39	37.65	7.465		
6,900.00	5,605.00	7,221.23	5,832.00	27.56	28.75	-143.87	1,318.51	-497.36	281.04	242.09	38.95	7.215		
7,000.00	5,605.00	7,321.23	5,832.00	28.68	29.85	-143.87	1,418.51	-497.36	281.03	240.73	40.31	6.973		
7,100.00	5,605.00	7,421.23	5,832.00	29.82	30.99	-143.88	1,518.51	-497.36	281.03	239.32	41.71	6.738		
7,200.00	5,605.00	7,521.23	5,832.00	31.00	32.16	-143.88	1,618.51	-497.36	281.03	237.88	43.15	6.513		
7,300.00	5,605.00	7,621.23	5,832.00	32.20	33.34	-143.88	1,718.51	-497.36	281.03	236.39	44.63	6.296		
7,400.00	5,605.00	7,721.23	5,832.00	33.42	34.55	-143.88	1,818.51	-497.36	281.02	234.87	46.15	6.089		
7,500.00	5,605.00	7,821.23	5,832.00	34.66	35.78	-143.88	1,918.51	-497.36	281.02	233.32	47.70	5.892		
7,600.00	5,605.00	7,921.23	5,832.00	35.91	37.03	-143.88	2,018.51	-497.36	281.02	231.74	49.27	5.703		
7,700.00	5,605.00	8,021.23	5,832.00	37.19	38.29	-143.88	2,118.51	-497.36	281.01	230.14	50.88	5.524		
7,800.00	5,605.00	8,121.23	5,832.00	38.47	39.57	-143.88	2,218.51	-497.36	281.01	228.51	52.50	5.353		
7,900.00	5,605.00	8,221.23	5,832.00	39.77	40.86	-143.88	2,318.51	-497.36	281.01	226.86	54.14	5.190		
8,000.00	5,605.00	8,321.23	5,832.00	41.09	42.16	-143.88	2,418.51	-497.36	281.01	225.20	55.81	5.035		
8,100.00	5,605.00	8,421.23	5,832.00	42.41	43.47	-143.88	2,518.51	-497.36	281.00	223.51	57.49	4.888		
8,200.00	5,605.00	8,521.23	5,832.00	43.74	44.79	-143.88	2,618.51	-497.36	281.00	221.81	59.19	4.747		
8,300.00	5,605.00	8,621.23	5,832.00	45.08	46.12	-143.88	2,718.51	-497.36	281.00	220.10	60.90	4.614		
8,400.00	5,605.00	8,721.23	5,832.00	46.43	47.46	-143.89	2,818.51	-497.36	281.00	218.37	62.63	4.487		
8,500.00	5,605.00	8,821.23	5,832.00	47.78	48.81	-143.89	2,918.51	-497.36	280.99	216.62	64.37	4.365		
8,600.00	5,605.00	8,921.23	5,832.00	49.14	50.16	-143.89	3,018.51	-497.36	280.99	214.87	66.12	4.250		
8,700.00	5,605.00	9,021.23	5,832.00	50.51	51.52	-143.89	3,118.51	-497.36	280.99	213.11	67.88	4.140		
8,800.00	5,605.00	9,121.23	5,832.00	51.88	52.89	-143.89	3,218.51	-497.36	280.98	211.34	69.65	4.034		
8,900.00	5,605.00	9,221.23	5,832.00	53.26	54.26	-143.89	3,318.51	-497.36	280.98	209.55	71.43	3.934		
9,000.00	5,605.00	9,321.23	5,832.00	54.65	55.63	-143.89	3,418.51	-497.36	280.98	207.76	73.22	3.838		
9,100.00	5,605.00	9,421.23	5,832.00	56.03	57.02	-143.89	3,518.51	-497.36	280.98	205.96	75.01	3.746		
9,200.00	5,605.00	9,521.23	5,832.00	57.43	58.40	-143.89	3,618.51	-497.36	280.97	204.16	76.81	3.658		
9,300.00	5,605.00	9,621.23	5,832.00	58.82	59.79	-143.89	3,718.51	-497.36	280.97	202.35	78.62	3.574		
9,400.00	5,605.00	9,721.23	5,832.00	60.22	61.18	-143.89	3,818.51	-497.36	280.97	200.53	80.44	3.493		
9,500.00	5,605.00	9,821.23	5,832.00	61.63	62.58	-143.89	3,918.51	-497.36	280.96	198.70	82.26	3.416		
9,600.00	5,605.00	9,921.23	5,832.00	63.03	63.98	-143.89	4,018.51	-497.36	280.96	196.87	84.09	3.341		
9,700.00	5,605.00	10,021.23	5,832.00	64.44	65.38	-143.90	4,118.51	-497.36	280.96	195.04	85.92	3.270		
9,800.00	5,605.00	10,121.23	5,832.00	65.85	66.79	-143.90	4,218.51	-497.36	280.96	193.20	87.76	3.202		
9,900.00	5,605.00	10,221.23	5,832.00	67.27	68.20	-143.90	4,318.51	-497.36	280.95	191.36	89.60	3.136		
10,000.00	5,605.00	10,321.23	5,832.00	68.68	69.61	-143.90	4,418.51	-497.36	280.95	189.51	91.44	3.072		
10,100.00	5,605.00	10,421.23	5,832.00	70.10	71.03	-143.90	4,518.51	-497.36	280.95	187.66	93.29	3.012		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,605.00	10,521.23	5,832.00	71.52	72.44	-143.90	4,618.51	-497.36	280.95	185.80	95.14	2.953	
10,300.00	5,605.00	10,621.23	5,832.00	72.95	73.86	-143.90	4,718.51	-497.36	280.94	183.94	97.00	2.896	
10,400.00	5,605.00	10,721.23	5,832.00	74.37	75.28	-143.90	4,818.51	-497.36	280.94	182.08	98.86	2.842	
10,500.00	5,605.00	10,821.23	5,832.00	75.80	76.70	-143.90	4,918.51	-497.36	280.94	180.21	100.72	2.789	
10,600.00	5,605.00	10,921.23	5,832.00	77.23	78.13	-143.90	5,018.51	-497.36	280.93	178.35	102.59	2.738	
10,700.00	5,605.00	11,021.23	5,832.00	78.66	79.55	-143.90	5,118.51	-497.36	280.93	176.47	104.46	2.689	
10,800.00	5,605.00	11,121.23	5,832.00	80.09	80.98	-143.90	5,218.51	-497.36	280.93	174.60	106.33	2.642	
10,900.00	5,605.00	11,221.23	5,832.00	81.52	82.41	-143.90	5,318.51	-497.36	280.93	172.72	108.20	2.596	
11,000.00	5,605.00	11,321.23	5,832.00	82.96	83.84	-143.91	5,418.51	-497.36	280.92	170.84	110.08	2.552	
11,100.00	5,605.00	11,421.23	5,832.00	84.39	85.27	-143.91	5,518.51	-497.36	280.92	168.96	111.96	2.509	
11,200.00	5,605.00	11,521.23	5,832.00	85.83	86.71	-143.91	5,618.51	-497.36	280.92	167.08	113.84	2.468	
11,300.00	5,605.00	11,621.23	5,832.00	87.27	88.14	-143.91	5,718.51	-497.36	280.91	165.20	115.72	2.428	
11,400.00	5,605.00	11,721.23	5,832.00	88.71	89.58	-143.91	5,818.51	-497.36	280.91	163.31	117.60	2.389	
11,500.00	5,605.00	11,821.23	5,832.00	90.15	91.01	-143.91	5,918.51	-497.36	280.91	161.42	119.49	2.351	
11,600.00	5,605.00	11,921.23	5,832.00	91.59	92.45	-143.91	6,018.51	-497.36	280.91	159.53	121.38	2.314	
11,700.00	5,605.00	12,021.23	5,832.00	93.03	93.89	-143.91	6,118.51	-497.36	280.90	157.64	123.27	2.279	
11,800.00	5,605.00	12,121.23	5,832.00	94.47	95.33	-143.91	6,218.51	-497.36	280.90	155.74	125.16	2.244	
11,900.00	5,605.00	12,221.23	5,832.00	95.92	96.77	-143.91	6,318.51	-497.36	280.90	153.85	127.05	2.211	
12,000.00	5,605.00	12,321.23	5,832.00	97.36	98.21	-143.91	6,418.51	-497.36	280.90	151.95	128.94	2.178	
12,100.00	5,605.00	12,421.23	5,832.00	98.81	99.66	-143.91	6,518.51	-497.36	280.89	150.05	130.84	2.147	
12,200.00	5,605.00	12,521.23	5,832.00	100.25	101.10	-143.91	6,618.51	-497.36	280.89	148.15	132.74	2.116	
12,300.00	5,605.00	12,621.23	5,832.00	101.70	102.55	-143.92	6,718.51	-497.36	280.89	146.25	134.63	2.086	
12,400.00	5,605.00	12,721.23	5,832.00	103.15	103.99	-143.92	6,818.51	-497.36	280.88	144.35	136.53	2.057	
12,500.00	5,605.00	12,821.23	5,832.00	104.60	105.44	-143.92	6,918.51	-497.36	280.88	142.45	138.43	2.029	
12,600.00	5,605.00	12,921.23	5,832.00	106.04	106.88	-143.92	7,018.51	-497.36	280.88	140.54	140.34	2.001	
12,700.00	5,605.00	13,021.23	5,832.00	107.49	108.33	-143.92	7,118.51	-497.36	280.88	138.64	142.24	1.975	
12,800.00	5,605.00	13,121.23	5,832.00	108.94	109.78	-143.92	7,218.51	-497.36	280.87	136.73	144.14	1.949	
12,900.00	5,605.00	13,221.23	5,832.00	110.39	111.23	-143.92	7,318.51	-497.36	280.87	134.82	146.05	1.923	
13,000.00	5,605.00	13,321.23	5,832.00	111.85	112.68	-143.92	7,418.51	-497.36	280.87	132.92	147.95	1.898	
13,100.00	5,605.00	13,421.23	5,832.00	113.30	114.13	-143.92	7,518.51	-497.36	280.86	131.01	149.86	1.874	
13,200.00	5,605.00	13,521.23	5,832.00	114.75	115.58	-143.92	7,618.51	-497.36	280.86	129.10	151.77	1.851	
13,300.00	5,605.00	13,621.23	5,832.00	116.20	117.03	-143.92	7,718.51	-497.36	280.86	127.19	153.67	1.828	
13,400.00	5,605.00	13,721.23	5,832.00	117.66	118.48	-143.92	7,818.51	-497.36	280.86	125.27	155.58	1.805	
13,500.00	5,605.00	13,821.23	5,832.00	119.11	119.93	-143.93	7,918.51	-497.36	280.85	123.36	157.49	1.783	
13,600.00	5,605.00	13,921.23	5,832.00	120.56	121.38	-143.93	8,018.51	-497.36	280.85	121.45	159.40	1.762	
13,700.00	5,605.00	14,021.23	5,832.00	122.02	122.83	-143.93	8,118.51	-497.36	280.85	119.54	161.31	1.741	
13,800.00	5,605.00	14,121.23	5,832.00	123.47	124.29	-143.93	8,218.51	-497.36	280.85	117.62	163.22	1.721	
13,900.00	5,605.00	14,221.23	5,832.00	124.93	125.74	-143.93	8,318.51	-497.36	280.84	115.71	165.14	1.701	
14,000.00	5,605.00	14,321.23	5,832.00	126.39	127.20	-143.93	8,418.51	-497.36	280.84	113.79	167.05	1.681	
14,100.00	5,605.00	14,421.23	5,832.00	127.84	128.65	-143.93	8,518.51	-497.36	280.84	111.87	168.96	1.662	
14,200.00	5,605.00	14,521.23	5,832.00	129.30	130.11	-143.93	8,618.51	-497.36	280.83	109.96	170.88	1.643	
14,300.00	5,605.00	14,621.23	5,832.00	130.75	131.56	-143.93	8,718.51	-497.36	280.83	108.04	172.79	1.625	
14,400.00	5,605.00	14,721.23	5,832.00	132.21	133.02	-143.93	8,818.51	-497.36	280.83	106.12	174.71	1.607	
14,500.00	5,605.00	14,821.23	5,832.00	133.67	134.47	-143.93	8,918.51	-497.36	280.83	104.20	176.62	1.590	
14,600.00	5,605.00	14,921.23	5,832.00	135.13	135.93	-143.93	9,018.51	-497.36	280.82	102.28	178.54	1.573	
14,700.00	5,605.00	15,021.23	5,832.00	136.59	137.38	-143.93	9,118.51	-497.36	280.82	100.37	180.46	1.556	
14,800.00	5,605.00	15,121.23	5,832.00	138.04	138.84	-143.94	9,218.51	-497.36	280.82	98.45	182.37	1.540	
14,900.00	5,605.00	15,221.23	5,832.00	139.50	140.30	-143.94	9,318.51	-497.36	280.81	96.52	184.29	1.524	
15,000.00	5,605.00	15,321.23	5,832.00	140.96	141.76	-143.94	9,418.51	-497.36	280.81	94.60	186.21	1.508	
15,100.00	5,605.00	15,421.23	5,832.00	142.42	143.21	-143.94	9,518.51	-497.36	280.81	92.68	188.13	1.493 Level 3	
15,200.00	5,605.00	15,521.23	5,832.00	143.88	144.67	-143.94	9,618.51	-497.36	280.81	90.76	190.05	1.478 Level 3	
15,300.00	5,605.00	15,621.23	5,832.00	145.34	146.13	-143.94	9,718.51	-497.36	280.80	88.84	191.96	1.463 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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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						
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
15,400.00	5,605.00	15,721.23	5,832.00	146.80	147.59	-143.94	9,818.51	-497.36	280.80	86.92	193.88	1.448	Level 3
15,500.00	5,605.00	15,821.23	5,832.00	148.26	149.05	-143.94	9,918.51	-497.36	280.80	84.99	195.80	1.434	Level 3
15,600.00	5,605.00	15,921.23	5,832.00	149.72	150.51	-143.94	10,018.51	-497.36	280.80	83.07	197.72	1.420	Level 3
15,700.00	5,605.00	16,021.23	5,832.00	151.18	151.97	-143.94	10,118.51	-497.36	280.79	81.15	199.65	1.406	Level 3
15,714.20	5,605.00	16,035.43	5,832.00	151.39	152.17	-143.94	10,132.71	-497.36	280.79	80.87	199.92	1.405	Level 3, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	148.70	-50.60	30.76	59.22					
100.00	100.00	100.00	100.00	0.13	0.13	148.70	-50.60	30.76	59.22	58.95	0.27	222.337		
200.00	200.00	200.00	200.00	0.47	0.47	148.70	-50.60	30.76	59.22	58.28	0.94	62.956		
300.00	300.00	300.00	300.00	0.81	0.81	148.70	-50.60	30.76	59.22	57.60	1.61	36.669 CC		
400.00	399.98	399.69	399.67	1.12	1.12	-92.31	-51.72	29.43	59.55	57.32	2.23	26.702		
500.00	499.84	499.44	499.29	1.43	1.43	-92.46	-55.00	25.52	60.54	57.70	2.84	21.351		
600.00	599.49	599.41	599.07	1.76	1.73	-94.52	-58.92	20.85	61.84	58.36	3.48	17.754		
700.00	699.11	699.37	698.84	2.09	2.06	-96.90	-62.84	16.18	63.27	59.12	4.15	15.229		
800.00	798.73	799.32	798.61	2.44	2.40	-99.17	-66.76	11.50	64.81	59.97	4.84	13.391		
900.00	898.35	899.28	898.38	2.79	2.74	-101.34	-70.69	6.83	66.44	60.91	5.53	12.009		
1,000.00	997.97	999.23	998.15	3.15	3.08	-103.39	-74.61	2.15	68.16	61.93	6.23	10.941		
1,100.00	1,097.59	1,099.19	1,097.92	3.51	3.43	-105.35	-78.53	-2.52	69.97	63.04	6.93	10.094		
1,200.00	1,197.21	1,199.15	1,197.69	3.86	3.78	-107.20	-82.45	-7.20	71.85	64.22	7.63	9.411		
1,300.00	1,296.83	1,299.10	1,297.46	4.22	4.13	-108.96	-86.38	-11.87	73.81	65.47	8.34	8.850		
1,400.00	1,396.45	1,399.06	1,397.23	4.58	4.47	-110.62	-90.30	-16.55	75.83	66.78	9.04	8.383		
1,500.00	1,496.07	1,499.01	1,496.99	4.95	4.82	-112.20	-94.22	-21.22	77.91	68.16	9.75	7.990		
1,600.00	1,595.69	1,598.97	1,596.76	5.31	5.17	-113.69	-98.14	-25.90	80.05	69.59	10.46	7.655		
1,700.00	1,695.31	1,698.93	1,696.53	5.67	5.52	-115.11	-102.07	-30.57	82.24	71.07	11.16	7.368		
1,800.00	1,794.93	1,798.88	1,796.30	6.03	5.87	-116.45	-105.99	-35.24	84.47	72.61	11.87	7.118		
1,900.00	1,894.55	1,898.84	1,896.07	6.40	6.23	-117.72	-109.91	-39.92	86.75	74.18	12.57	6.901		
2,000.00	1,994.17	1,998.79	1,995.84	6.76	6.58	-118.92	-113.83	-44.59	89.07	75.80	13.28	6.709		
2,100.00	2,093.78	2,098.75	2,095.61	7.12	6.93	-120.07	-117.76	-49.27	91.43	77.45	13.98	6.540		
2,200.00	2,193.40	2,198.71	2,195.38	7.49	7.28	-121.15	-121.68	-53.94	93.83	79.14	14.68	6.390		
2,300.00	2,293.02	2,298.66	2,295.15	7.85	7.63	-122.19	-125.60	-58.62	96.25	80.86	15.39	6.256		
2,400.00	2,392.64	2,398.62	2,394.92	8.21	7.98	-123.17	-129.52	-63.29	98.70	82.62	16.09	6.135		
2,500.00	2,492.26	2,498.57	2,494.69	8.58	8.34	-124.10	-133.44	-67.97	101.19	84.40	16.79	6.027		
2,600.00	2,591.88	2,598.53	2,594.46	8.94	8.69	-124.99	-137.37	-72.64	103.69	86.20	17.49	5.929		
2,700.00	2,691.50	2,698.49	2,694.23	9.31	9.04	-125.83	-141.29	-77.31	106.23	88.03	18.19	5.839		
2,800.00	2,791.12	2,798.44	2,794.00	9.67	9.39	-126.64	-145.21	-81.99	108.78	89.89	18.89	5.758		
2,900.00	2,890.74	2,898.40	2,893.77	10.04	9.74	-127.41	-149.13	-86.66	111.35	91.76	19.59	5.684		
3,000.00	2,990.36	2,998.35	2,993.54	10.40	10.10	-128.14	-153.06	-91.34	113.95	93.66	20.29	5.616		
3,100.00	3,089.98	3,098.31	3,093.31	10.76	10.45	-128.84	-156.98	-96.01	116.56	95.57	20.99	5.553		
3,200.00	3,189.60	3,198.27	3,193.08	11.13	10.80	-129.52	-160.90	-100.69	119.18	97.50	21.69	5.496		
3,300.00	3,289.22	3,298.22	3,292.85	11.49	11.15	-130.16	-164.82	-105.36	121.83	99.44	22.39	5.442		
3,400.00	3,388.84	3,398.18	3,392.62	11.86	11.51	-130.77	-168.75	-110.04	124.49	101.40	23.08	5.393		
3,500.00	3,488.46	3,498.13	3,492.39	12.22	11.86	-131.36	-172.67	-114.71	127.16	103.38	23.78	5.347		
3,600.00	3,588.08	3,598.09	3,592.15	12.59	12.21	-131.92	-176.59	-119.39	129.84	105.36	24.48	5.304		
3,700.00	3,687.70	3,698.04	3,691.92	12.95	12.56	-132.47	-180.51	-124.06	132.54	107.36	25.17	5.265		
3,800.00	3,787.32	3,798.00	3,791.69	13.32	12.92	-132.99	-184.44	-128.73	135.25	109.37	25.87	5.228		
3,900.00	3,886.94	3,897.96	3,891.46	13.68	13.27	-133.48	-188.36	-133.41	137.96	111.40	26.57	5.193		
4,000.00	3,986.55	3,997.91	3,991.23	14.05	13.62	-133.96	-192.28	-138.08	140.69	113.43	27.26	5.161		
4,100.00	4,086.17	4,097.87	4,091.00	14.41	13.97	-134.43	-196.20	-142.76	143.43	115.47	27.96	5.130		
4,200.00	4,185.79	4,197.82	4,190.77	14.78	14.33	-134.87	-200.13	-147.43	146.18	117.52	28.65	5.101		
4,300.00	4,285.41	4,297.78	4,290.54	15.14	14.68	-135.30	-204.05	-152.11	148.93	119.58	29.35	5.074		
4,400.00	4,385.03	4,397.74	4,390.31	15.51	15.03	-135.71	-207.97	-156.78	151.70	121.65	30.04	5.049		
4,500.00	4,484.65	4,497.69	4,490.08	15.87	15.38	-136.11	-211.89	-161.46	154.47	123.73	30.74	5.025		
4,600.00	4,584.27	4,596.17	4,588.40	16.24	15.71	-136.60	-215.52	-165.78	157.47	126.07	31.40	5.014		
4,700.00	4,683.93	4,692.83	4,685.02	16.57	15.95	-137.80	-217.26	-167.86	161.89	129.95	31.94	5.068		
4,800.00	4,783.78	4,791.60	4,783.78	16.82	16.23	-139.00	-217.38	-168.00	165.70	133.26	32.43	5.109		
4,900.00	4,883.76	4,891.58	4,883.76	17.09	16.50	101.59	-217.38	-168.00	167.02	134.07	32.95	5.069		
5,000.00	4,983.76	4,991.58	4,983.76	17.37	16.76	101.59	-217.38	-168.00	167.02	133.51	33.51	4.985		
5,099.99	5,083.75	5,091.57	5,083.75	17.64	17.04	101.59	-217.38	-168.00	167.02	132.97	34.05	4.905		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,183.16	5,198.39	5,189.84	17.90	17.32	101.38	-206.54	-168.00	166.89	132.30	34.59	4.825		
5,300.00	5,278.91	5,304.93	5,291.22	18.14	17.58	100.72	-174.44	-167.99	166.52	131.49	35.03	4.754		
5,400.00	5,367.51	5,410.88	5,383.50	18.35	17.82	99.65	-122.75	-167.99	165.97	130.55	35.41	4.687		
5,500.00	5,445.69	5,515.99	5,462.86	18.52	18.03	98.21	-54.10	-167.99	165.32	129.51	35.81	4.617		
5,600.00	5,510.59	5,620.09	5,526.31	18.66	18.23	96.45	28.21	-167.99	164.67	128.38	36.29	4.538		
5,700.00	5,559.82	5,723.02	5,571.75	18.75	18.47	94.45	120.38	-167.98	164.13	127.23	36.90	4.448		
5,800.00	5,591.57	5,824.72	5,598.01	18.84	18.84	92.28	218.46	-167.98	163.78	126.14	37.64	4.352		
5,898.77	5,604.63	5,923.92	5,605.00	19.18	19.30	90.13	317.28	-167.97	163.65	125.18	38.47	4.254		
5,900.00	5,604.67	5,925.15	5,605.00	19.18	19.30	90.12	318.51	-167.97	163.65	125.17	38.49	4.252		
6,000.00	5,605.00	6,025.14	5,605.00	19.69	19.86	90.00	418.50	-167.97	163.66	124.13	39.53	4.140		
6,100.00	5,605.00	6,125.14	5,605.00	20.29	20.51	90.00	518.50	-167.97	163.67	122.90	40.77	4.014		
6,200.00	5,605.00	6,225.14	5,605.00	20.99	21.24	90.00	618.50	-167.96	163.68	121.50	42.18	3.880		
6,300.00	5,605.00	6,325.14	5,605.00	21.75	22.05	90.00	718.50	-167.96	163.69	119.95	43.74	3.742		
6,400.00	5,605.00	6,425.14	5,605.00	22.59	22.92	90.00	818.50	-167.95	163.70	118.26	45.44	3.602		
6,500.00	5,605.00	6,525.14	5,605.00	23.48	23.85	90.00	918.50	-167.95	163.71	116.44	47.26	3.464		
6,600.00	5,605.00	6,625.14	5,605.00	24.43	24.83	90.00	1,018.50	-167.95	163.71	114.52	49.19	3.328		
6,700.00	5,605.00	6,725.14	5,605.00	25.43	25.86	90.00	1,118.50	-167.94	163.72	112.51	51.22	3.197		
6,800.00	5,605.00	6,825.14	5,605.00	26.48	26.93	90.00	1,218.50	-167.94	163.73	110.40	53.33	3.070		
6,900.00	5,605.00	6,925.14	5,605.00	27.56	28.04	90.00	1,318.50	-167.93	163.74	108.22	55.52	2.949		
7,000.00	5,605.00	7,025.14	5,605.00	28.68	29.18	90.00	1,418.50	-167.93	163.75	105.98	57.77	2.834		
7,100.00	5,605.00	7,125.14	5,605.00	29.82	30.34	90.00	1,518.50	-167.93	163.76	103.67	60.09	2.725		
7,200.00	5,605.00	7,225.14	5,605.00	31.00	31.54	90.00	1,618.50	-167.92	163.77	101.31	62.45	2.622		
7,300.00	5,605.00	7,325.14	5,605.00	32.20	32.75	90.00	1,718.50	-167.92	163.78	98.91	64.87	2.525		
7,400.00	5,605.00	7,425.14	5,605.00	33.42	33.99	90.00	1,818.50	-167.91	163.78	96.46	67.32	2.433		
7,500.00	5,605.00	7,525.14	5,605.00	34.66	35.24	90.00	1,918.50	-167.91	163.79	93.97	69.82	2.346		
7,600.00	5,605.00	7,625.14	5,605.00	35.91	36.51	90.00	2,018.50	-167.91	163.80	91.45	72.35	2.264		
7,700.00	5,605.00	7,725.14	5,605.00	37.19	37.80	90.00	2,118.50	-167.90	163.81	88.90	74.91	2.187		
7,800.00	5,605.00	7,825.14	5,605.00	38.47	39.09	90.00	2,218.50	-167.90	163.82	86.33	77.49	2.114		
7,900.00	5,605.00	7,925.14	5,605.00	39.77	40.40	90.00	2,318.50	-167.89	163.83	83.72	80.10	2.045		
8,000.00	5,605.00	8,025.14	5,605.00	41.09	41.72	90.00	2,418.50	-167.89	163.84	81.10	82.74	1.980		
8,100.00	5,605.00	8,125.14	5,605.00	42.41	43.06	90.00	2,518.50	-167.89	163.84	78.46	85.39	1.919		
8,200.00	5,605.00	8,225.14	5,605.00	43.74	44.39	90.00	2,618.50	-167.88	163.85	75.79	88.06	1.861		
8,300.00	5,605.00	8,325.14	5,605.00	45.08	45.74	90.00	2,718.50	-167.88	163.86	73.11	90.75	1.806		
8,400.00	5,605.00	8,425.14	5,605.00	46.43	47.10	90.00	2,818.50	-167.87	163.87	70.42	93.45	1.754		
8,500.00	5,605.00	8,525.14	5,605.00	47.78	48.46	90.00	2,918.50	-167.87	163.88	67.71	96.17	1.704		
8,600.00	5,605.00	8,625.14	5,605.00	49.14	49.83	90.00	3,018.50	-167.87	163.89	64.99	98.90	1.657		
8,700.00	5,605.00	8,725.14	5,605.00	50.51	51.20	90.00	3,118.50	-167.86	163.90	62.25	101.64	1.612		
8,800.00	5,605.00	8,825.14	5,605.00	51.88	52.58	90.00	3,218.50	-167.86	163.91	59.51	104.40	1.570		
8,900.00	5,605.00	8,925.14	5,605.00	53.26	53.96	90.00	3,318.50	-167.85	163.91	56.75	107.16	1.530		
9,000.00	5,605.00	9,025.14	5,605.00	54.65	55.35	90.00	3,418.50	-167.85	163.92	53.99	109.93	1.491 Level 3		
9,100.00	5,605.00	9,125.14	5,605.00	56.03	56.74	90.00	3,518.50	-167.85	163.93	51.22	112.72	1.454 Level 3		
9,200.00	5,605.00	9,225.14	5,605.00	57.43	58.14	90.00	3,618.50	-167.84	163.94	48.43	115.51	1.419 Level 3		
9,300.00	5,605.00	9,325.14	5,605.00	58.82	59.54	90.00	3,718.50	-167.84	163.95	45.65	118.30	1.386 Level 3		
9,400.00	5,605.00	9,425.14	5,605.00	60.22	60.94	90.00	3,818.50	-167.83	163.96	42.85	121.11	1.354 Level 3		
9,500.00	5,605.00	9,525.14	5,605.00	61.63	62.35	90.00	3,918.50	-167.83	163.97	40.05	123.92	1.323 Level 3		
9,600.00	5,605.00	9,625.14	5,605.00	63.03	63.76	90.00	4,018.50	-167.83	163.97	37.24	126.73	1.294 Level 3		
9,700.00	5,605.00	9,725.14	5,605.00	64.44	65.17	90.00	4,118.50	-167.82	163.98	34.43	129.56	1.266 Level 3		
9,800.00	5,605.00	9,825.14	5,605.00	65.85	66.59	90.00	4,218.50	-167.82	163.99	31.61	132.38	1.239 Level 2		
9,900.00	5,605.00	9,925.14	5,605.00	67.27	68.00	90.00	4,318.50	-167.81	164.00	28.78	135.22	1.213 Level 2		
10,000.00	5,605.00	10,025.14	5,605.00	68.68	69.42	90.00	4,418.50	-167.81	164.01	25.96	138.05	1.188 Level 2		
10,100.00	5,605.00	10,125.14	5,605.00	70.10	70.84	90.00	4,518.50	-167.81	164.02	23.12	140.89	1.164 Level 2		
10,200.00	5,605.00	10,225.14	5,605.00	71.52	72.27	90.00	4,618.50	-167.80	164.03	20.29	143.74	1.141 Level 2		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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
10,300.00	5,605.00	10,325.14	5,605.00	72.95	73.69	90.00	4,718.50	-167.80	164.04	17.45	146.59	1.119	Level 2
10,400.00	5,605.00	10,425.14	5,605.00	74.37	75.12	90.00	4,818.50	-167.79	164.04	14.60	149.44	1.098	Level 2
10,500.00	5,605.00	10,525.14	5,605.00	75.80	76.55	90.00	4,918.50	-167.79	164.05	11.75	152.30	1.077	Level 2
10,600.00	5,605.00	10,625.14	5,605.00	77.23	77.98	90.00	5,018.50	-167.79	164.06	8.90	155.16	1.057	Level 2
10,700.00	5,605.00	10,725.14	5,605.00	78.66	79.41	90.00	5,118.50	-167.78	164.07	6.05	158.02	1.038	Level 2
10,800.00	5,605.00	10,825.14	5,605.00	80.09	80.85	90.00	5,218.50	-167.78	164.08	3.19	160.89	1.020	Level 2
10,900.00	5,605.00	10,925.14	5,605.00	81.52	82.28	90.00	5,318.50	-167.77	164.09	0.33	163.76	1.002	Level 2
11,000.00	5,605.00	11,025.14	5,605.00	82.96	83.72	90.00	5,418.50	-167.77	164.10	-2.53	166.63	0.985	Level 1
11,100.00	5,605.00	11,125.14	5,605.00	84.39	85.15	90.00	5,518.50	-167.77	164.10	-5.40	169.50	0.968	Level 1
11,200.00	5,605.00	11,225.14	5,605.00	85.83	86.59	90.00	5,618.50	-167.76	164.11	-8.26	172.38	0.952	Level 1
11,300.00	5,605.00	11,325.14	5,605.00	87.27	88.03	90.00	5,718.50	-167.76	164.12	-11.13	175.25	0.936	Level 1
11,400.00	5,605.00	11,425.14	5,605.00	88.71	89.47	90.00	5,818.50	-167.75	164.13	-14.00	178.14	0.921	Level 1
11,500.00	5,605.00	11,525.14	5,605.00	90.15	90.91	90.00	5,918.50	-167.75	164.14	-16.88	181.02	0.907	Level 1
11,600.00	5,605.00	11,625.14	5,605.00	91.59	92.36	90.00	6,018.50	-167.75	164.15	-19.75	183.90	0.893	Level 1
11,700.00	5,605.00	11,725.14	5,605.00	93.03	93.80	90.00	6,118.50	-167.74	164.16	-22.63	186.79	0.879	Level 1
11,800.00	5,605.00	11,825.14	5,605.00	94.47	95.24	90.00	6,218.50	-167.74	164.17	-25.51	189.68	0.866	Level 1
11,900.00	5,605.00	11,925.14	5,605.00	95.92	96.69	90.00	6,318.50	-167.73	164.17	-28.39	192.57	0.853	Level 1
12,000.00	5,605.00	12,025.14	5,605.00	97.36	98.14	90.00	6,418.50	-167.73	164.18	-31.27	195.46	0.840	Level 1
12,100.00	5,605.00	12,125.14	5,605.00	98.81	99.58	90.00	6,518.50	-167.73	164.19	-34.16	198.35	0.828	Level 1
12,200.00	5,605.00	12,225.14	5,605.00	100.25	101.03	90.00	6,618.50	-167.72	164.20	-37.04	201.24	0.816	Level 1
12,300.00	5,605.00	12,325.14	5,605.00	101.70	102.48	90.00	6,718.50	-167.72	164.21	-39.93	204.14	0.804	Level 1
12,400.00	5,605.00	12,425.14	5,605.00	103.15	103.93	90.00	6,818.50	-167.71	164.22	-42.82	207.04	0.793	Level 1
12,500.00	5,605.00	12,525.14	5,605.00	104.60	105.38	90.00	6,918.50	-167.71	164.23	-45.71	209.93	0.782	Level 1
12,600.00	5,605.00	12,625.14	5,605.00	106.04	106.83	90.00	7,018.50	-167.71	164.24	-48.60	212.83	0.772	Level 1
12,700.00	5,605.00	12,725.14	5,605.00	107.49	108.28	90.00	7,118.50	-167.70	164.24	-51.49	215.73	0.761	Level 1
12,800.00	5,605.00	12,825.14	5,605.00	108.94	109.73	90.00	7,218.50	-167.70	164.25	-54.38	218.64	0.751	Level 1
12,900.00	5,605.00	12,925.14	5,605.00	110.39	111.18	90.00	7,318.50	-167.69	164.26	-57.28	221.54	0.741	Level 1
13,000.00	5,605.00	13,025.14	5,605.00	111.85	112.63	90.00	7,418.50	-167.69	164.27	-60.17	224.44	0.732	Level 1
13,100.00	5,605.00	13,125.14	5,605.00	113.30	114.08	90.00	7,518.50	-167.69	164.28	-63.07	227.35	0.723	Level 1
13,200.00	5,605.00	13,225.14	5,605.00	114.75	115.54	90.00	7,618.50	-167.68	164.29	-65.97	230.25	0.714	Level 1
13,300.00	5,605.00	13,325.14	5,605.00	116.20	116.99	90.00	7,718.50	-167.68	164.30	-68.86	233.16	0.705	Level 1
13,400.00	5,605.00	13,425.14	5,605.00	117.66	118.45	90.00	7,818.50	-167.67	164.30	-71.76	236.07	0.696	Level 1
13,500.00	5,605.00	13,525.14	5,605.00	119.11	119.90	90.00	7,918.50	-167.67	164.31	-74.66	238.98	0.688	Level 1
13,600.00	5,605.00	13,625.14	5,605.00	120.56	121.35	90.00	8,018.50	-167.67	164.32	-77.56	241.89	0.679	Level 1
13,700.00	5,605.00	13,725.14	5,605.00	122.02	122.81	90.00	8,118.50	-167.66	164.33	-80.47	244.80	0.671	Level 1
13,800.00	5,605.00	13,825.14	5,605.00	123.47	124.27	90.00	8,218.50	-167.66	164.34	-83.37	247.71	0.663	Level 1
13,900.00	5,605.00	13,925.14	5,605.00	124.93	125.72	90.00	8,318.50	-167.65	164.35	-86.27	250.62	0.656	Level 1
14,000.00	5,605.00	14,025.14	5,605.00	126.39	127.18	90.00	8,418.50	-167.65	164.36	-89.18	253.53	0.648	Level 1
14,100.00	5,605.00	14,125.14	5,605.00	127.84	128.63	90.00	8,518.50	-167.65	164.37	-92.08	256.45	0.641	Level 1
14,200.00	5,605.00	14,225.14	5,605.00	129.30	130.09	90.00	8,618.50	-167.64	164.37	-94.99	259.36	0.634	Level 1
14,300.00	5,605.00	14,325.14	5,605.00	130.75	131.55	90.00	8,718.50	-167.64	164.38	-97.89	262.27	0.627	Level 1
14,400.00	5,605.00	14,425.14	5,605.00	132.21	133.01	90.00	8,818.50	-167.63	164.39	-100.80	265.19	0.620	Level 1
14,500.00	5,605.00	14,525.14	5,605.00	133.67	134.47	90.00	8,918.50	-167.63	164.40	-103.71	268.11	0.613	Level 1
14,600.00	5,605.00	14,625.14	5,605.00	135.13	135.92	90.00	9,018.50	-167.63	164.41	-106.61	271.02	0.607	Level 1
14,700.00	5,605.00	14,725.14	5,605.00	136.59	137.38	90.00	9,118.50	-167.62	164.42	-109.52	273.94	0.600	Level 1
14,800.00	5,605.00	14,825.14	5,605.00	138.04	138.84	90.00	9,218.50	-167.62	164.43	-112.43	276.86	0.594	Level 1
14,900.00	5,605.00	14,925.14	5,605.00	139.50	140.30	90.00	9,318.50	-167.61	164.43	-115.34	279.77	0.588	Level 1
15,000.00	5,605.00	15,025.14	5,605.00	140.96	141.76	90.00	9,418.50	-167.61	164.44	-118.25	282.69	0.582	Level 1
15,100.00	5,605.00	15,125.14	5,605.00	142.42	143.22	90.00	9,518.50	-167.61	164.45	-121.16	285.61	0.576	Level 1
15,200.00	5,605.00	15,225.14	5,605.00	143.88	144.68	90.00	9,618.50	-167.60	164.46	-124.07	288.53	0.570	Level 1
15,300.00	5,605.00	15,325.14	5,605.00	145.34	146.14	90.00	9,718.50	-167.60	164.47	-126.98	291.45	0.564	Level 1
15,400.00	5,605.00	15,425.14	5,605.00	146.80	147.60	90.00	9,818.50	-167.59	164.48	-129.89	294.37	0.559	Level 1

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	
15,500.00	5,605.00	15,525.14	5,605.00	148.26	149.06	90.00	9,918.50	-167.59	164.49	-132.81	297.29	0.553 Level 1	
15,600.00	5,605.00	15,625.14	5,605.00	149.72	150.52	90.00	10,018.50	-167.59	164.50	-135.72	300.22	0.548 Level 1	
15,700.00	5,605.00	15,725.14	5,605.00	151.18	151.98	90.00	10,118.50	-167.58	164.50	-138.63	303.14	0.543 Level 1	
15,714.20	5,605.00	15,739.34	5,605.00	151.39	152.19	90.00	10,132.70	-167.58	164.51	-139.05	303.55	0.542 Level 1, ES, SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	129.22	-49.59	60.75	78.42					
100.00	100.00	100.00	100.00	0.13	0.13	129.22	-49.59	60.75	78.42	78.15	0.27	294.430		
200.00	200.00	200.00	200.00	0.47	0.47	129.22	-49.59	60.75	78.42	77.48	0.94	83.369		
300.00	300.00	300.00	300.00	0.81	0.81	129.22	-49.59	60.75	78.42	76.81	1.61	48.560 CC, ES		
400.00	399.98	397.45	397.43	1.12	1.10	-112.44	-51.02	61.58	80.66	78.44	2.22	36.281		
500.00	499.84	495.79	495.66	1.43	1.40	-114.34	-55.06	63.92	87.13	84.29	2.83	30.751		
600.00	599.49	595.30	595.03	1.76	1.70	-117.55	-59.57	66.52	95.50	92.04	3.46	27.569		
700.00	699.11	694.77	694.37	2.09	2.02	-120.50	-64.08	69.12	104.36	100.24	4.11	25.367		
800.00	798.73	794.25	793.71	2.44	2.35	-122.98	-68.59	71.73	113.45	108.67	4.78	23.750		
900.00	898.35	893.72	893.05	2.79	2.69	-125.09	-73.10	74.33	122.72	117.27	5.45	22.524		
1,000.00	997.97	993.20	992.39	3.15	3.03	-126.91	-77.61	76.93	132.13	126.00	6.13	21.571		
1,100.00	1,097.59	1,092.67	1,091.73	3.51	3.37	-128.48	-82.12	79.53	141.65	134.85	6.81	20.813		
1,200.00	1,197.21	1,192.15	1,191.06	3.86	3.71	-129.86	-86.62	82.14	151.27	143.78	7.49	20.197		
1,300.00	1,296.83	1,291.62	1,290.40	4.22	4.05	-131.06	-91.13	84.74	160.97	152.79	8.18	19.689		
1,400.00	1,396.45	1,391.10	1,389.74	4.58	4.39	-132.14	-95.64	87.34	170.72	161.86	8.86	19.264		
1,500.00	1,496.07	1,490.57	1,489.08	4.95	4.74	-133.09	-100.15	89.95	180.53	170.98	9.55	18.902		
1,600.00	1,595.69	1,590.05	1,588.42	5.31	5.08	-133.95	-104.66	92.55	190.39	180.15	10.24	18.592		
1,700.00	1,695.31	1,689.52	1,687.76	5.67	5.43	-134.72	-109.17	95.15	200.28	189.35	10.93	18.324		
1,800.00	1,794.93	1,789.00	1,787.10	6.03	5.77	-135.42	-113.68	97.76	210.21	198.59	11.62	18.089		
1,900.00	1,894.55	1,888.47	1,886.43	6.40	6.12	-136.06	-118.18	100.36	220.16	207.85	12.31	17.882		
2,000.00	1,994.17	1,987.95	1,985.77	6.76	6.46	-136.64	-122.69	102.96	230.14	217.13	13.00	17.698		
2,100.00	2,093.78	2,087.42	2,085.11	7.12	6.81	-137.17	-127.20	105.57	240.14	226.44	13.70	17.534		
2,200.00	2,193.40	2,186.90	2,184.45	7.49	7.16	-137.66	-131.71	108.17	250.16	235.77	14.39	17.387		
2,300.00	2,293.02	2,286.37	2,283.79	7.85	7.50	-138.11	-136.22	110.77	260.19	245.11	15.08	17.254		
2,400.00	2,392.64	2,385.85	2,383.13	8.21	7.85	-138.53	-140.73	113.37	270.24	254.47	15.77	17.134		
2,500.00	2,492.26	2,485.32	2,482.47	8.58	8.20	-138.92	-145.24	115.98	280.30	263.84	16.47	17.024		
2,600.00	2,591.88	2,584.80	2,581.80	8.94	8.54	-139.28	-149.74	118.58	290.38	273.22	17.16	16.924		
2,700.00	2,691.50	2,684.27	2,681.14	9.31	8.89	-139.62	-154.25	121.18	300.47	282.61	17.85	16.832		
2,800.00	2,791.12	2,783.75	2,780.48	9.67	9.24	-139.94	-158.76	123.79	310.56	292.02	18.54	16.747		
2,900.00	2,890.74	2,883.22	2,879.82	10.04	9.58	-140.23	-163.27	126.39	320.67	301.43	19.24	16.669		
3,000.00	2,990.36	2,982.70	2,979.16	10.40	9.93	-140.51	-167.78	128.99	330.78	310.85	19.93	16.596		
3,100.00	3,089.98	3,082.17	3,078.50	10.76	10.28	-140.77	-172.29	131.60	340.90	320.27	20.62	16.529		
3,200.00	3,189.60	3,181.65	3,177.84	11.13	10.63	-141.02	-176.80	134.20	351.02	329.71	21.32	16.466		
3,300.00	3,289.22	3,281.12	3,277.18	11.49	10.97	-141.25	-181.30	136.80	361.16	339.14	22.01	16.407		
3,400.00	3,388.84	3,380.60	3,376.51	11.86	11.32	-141.47	-185.81	139.41	371.29	348.59	22.71	16.352		
3,500.00	3,488.46	3,480.07	3,475.85	12.22	11.67	-141.68	-190.32	142.01	381.44	358.04	23.40	16.301		
3,600.00	3,588.08	3,579.55	3,575.19	12.59	12.02	-141.87	-194.83	144.61	391.58	367.49	24.09	16.253		
3,700.00	3,687.70	3,679.02	3,674.53	12.95	12.36	-142.06	-199.34	147.21	401.74	376.95	24.79	16.207		
3,800.00	3,787.32	3,778.50	3,773.87	13.32	12.71	-142.24	-203.85	149.82	411.89	386.41	25.48	16.164		
3,900.00	3,886.94	3,877.97	3,873.21	13.68	13.06	-142.41	-208.36	152.42	422.05	395.88	26.18	16.124		
4,000.00	3,986.55	3,977.45	3,972.55	14.05	13.41	-142.57	-212.87	155.02	432.22	405.35	26.87	16.085		
4,100.00	4,086.17	4,076.92	4,071.88	14.41	13.75	-142.72	-217.37	157.63	442.38	414.82	27.56	16.049		
4,200.00	4,185.79	4,176.40	4,171.22	14.78	14.10	-142.87	-221.88	160.23	452.55	424.29	28.26	16.015		
4,300.00	4,285.41	4,274.19	4,268.92	15.14	14.44	-143.15	-225.70	162.43	462.04	433.10	28.94	15.966		
4,400.00	4,385.03	4,370.31	4,365.03	15.51	14.74	-143.75	-226.35	162.81	469.47	439.88	29.59	15.865		
4,500.00	4,484.65	4,469.93	4,464.65	15.87	15.00	-144.37	-226.35	162.81	476.53	446.34	30.20	15.781		
4,600.00	4,584.27	4,569.55	4,564.27	16.24	15.26	-144.97	-226.35	162.81	483.65	452.85	30.80	15.702		
4,700.00	4,683.93	4,669.20	4,663.93	16.57	15.52	-145.56	-226.35	162.81	490.47	459.07	31.39	15.623		
4,800.00	4,783.78	4,769.06	4,763.78	16.82	15.79	-145.95	-226.35	162.81	494.79	462.88	31.92	15.502		
4,900.00	4,883.76	4,869.04	4,863.76	17.09	16.06	94.92	-226.35	162.81	496.24	463.78	32.46	15.288		
5,000.00	4,983.76	4,969.04	4,963.76	17.37	16.33	94.92	-226.35	162.81	496.24	463.22	33.02	15.028		
5,099.99	5,083.75	5,069.03	5,063.75	17.64	16.61	94.92	-226.35	162.81	496.24	462.67	33.57	14.784		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,183.16	5,188.43	5,183.16	17.90	16.88	95.90	-226.35	162.81	497.15	463.03	34.11	14.573		
5,300.00	5,278.91	5,284.19	5,278.91	18.14	17.15	98.57	-226.35	162.81	500.90	466.28	34.62	14.469		
5,400.00	5,367.51	5,390.35	5,384.83	18.35	17.44	102.66	-221.11	162.81	509.34	474.29	35.05	14.532		
5,500.00	5,445.69	5,516.78	5,506.60	18.52	17.76	106.94	-188.29	162.81	520.37	485.03	35.34	14.727		
5,600.00	5,510.59	5,660.69	5,630.88	18.66	18.11	110.75	-116.66	162.80	531.83	496.35	35.47	14.992		
5,700.00	5,559.82	5,822.80	5,741.44	18.75	18.50	113.63	1.02	162.80	541.08	505.45	35.63	15.185		
5,800.00	5,591.57	5,998.55	5,814.34	18.84	19.08	114.99	160.02	162.79	545.54	509.40	36.13	15.098		
5,900.00	5,604.67	6,158.61	5,832.00	19.18	19.79	114.68	318.54	162.78	544.17	507.04	37.13	14.656		
5,945.97	5,605.93	6,204.57	5,832.00	19.41	20.03	114.57	364.50	162.78	543.64	506.07	37.57	14.471		
6,000.00	5,605.00	6,258.61	5,832.00	19.69	20.35	114.66	418.54	162.77	544.03	505.94	38.08	14.285		
6,100.00	5,605.00	6,358.61	5,832.00	20.29	20.99	114.66	518.54	162.77	544.03	504.83	39.19	13.880		
6,200.00	5,605.00	6,458.61	5,832.00	20.99	21.71	114.66	618.54	162.76	544.02	503.57	40.46	13.447		
6,300.00	5,605.00	6,558.61	5,832.00	21.75	22.50	114.66	718.54	162.75	544.02	502.17	41.86	12.997		
6,400.00	5,605.00	6,658.61	5,832.00	22.59	23.36	114.66	818.54	162.75	544.02	500.64	43.38	12.541		
6,500.00	5,605.00	6,758.61	5,832.00	23.48	24.28	114.66	918.54	162.74	544.02	499.01	45.02	12.085		
6,600.00	5,605.00	6,858.61	5,832.00	24.43	25.25	114.66	1,018.54	162.74	544.02	497.27	46.75	11.636		
6,700.00	5,605.00	6,958.61	5,832.00	25.43	26.27	114.66	1,118.54	162.73	544.02	495.44	48.58	11.199		
6,800.00	5,605.00	7,058.61	5,832.00	26.48	27.33	114.66	1,218.54	162.73	544.02	493.54	50.48	10.777		
6,900.00	5,605.00	7,158.61	5,832.00	27.56	28.42	114.66	1,318.54	162.72	544.02	491.56	52.46	10.371		
7,000.00	5,605.00	7,258.61	5,832.00	28.68	29.55	114.66	1,418.54	162.71	544.02	489.52	54.49	9.983		
7,100.00	5,605.00	7,358.61	5,832.00	29.82	30.71	114.66	1,518.54	162.71	544.01	487.43	56.59	9.613		
7,200.00	5,605.00	7,458.61	5,832.00	31.00	31.89	114.66	1,618.54	162.70	544.01	485.28	58.73	9.262		
7,300.00	5,605.00	7,558.61	5,832.00	32.20	33.10	114.66	1,718.54	162.70	544.01	483.09	60.92	8.929		
7,400.00	5,605.00	7,658.61	5,832.00	33.42	34.32	114.66	1,818.54	162.69	544.01	480.86	63.16	8.614		
7,500.00	5,605.00	7,758.61	5,832.00	34.66	35.57	114.66	1,918.54	162.68	544.01	478.59	65.42	8.315		
7,600.00	5,605.00	7,858.61	5,832.00	35.91	36.83	114.66	2,018.54	162.68	544.01	476.29	67.72	8.033		
7,700.00	5,605.00	7,958.61	5,832.00	37.19	38.11	114.66	2,118.54	162.67	544.01	473.96	70.05	7.766		
7,800.00	5,605.00	8,058.61	5,832.00	38.47	39.40	114.66	2,218.54	162.67	544.01	471.60	72.41	7.513		
7,900.00	5,605.00	8,158.61	5,832.00	39.77	40.70	114.66	2,318.54	162.66	544.01	469.22	74.78	7.274		
8,000.00	5,605.00	8,258.61	5,832.00	41.09	42.02	114.66	2,418.54	162.65	544.00	466.82	77.19	7.048		
8,100.00	5,605.00	8,358.61	5,832.00	42.41	43.34	114.66	2,518.54	162.65	544.00	464.40	79.61	6.834		
8,200.00	5,605.00	8,458.61	5,832.00	43.74	44.68	114.66	2,618.54	162.64	544.00	461.96	82.04	6.631		
8,300.00	5,605.00	8,558.61	5,832.00	45.08	46.02	114.66	2,718.54	162.64	544.00	459.50	84.50	6.438		
8,400.00	5,605.00	8,658.61	5,832.00	46.43	47.37	114.66	2,818.54	162.63	544.00	457.03	86.97	6.255		
8,500.00	5,605.00	8,758.61	5,832.00	47.78	48.73	114.66	2,918.54	162.62	544.00	454.54	89.45	6.081		
8,600.00	5,605.00	8,858.61	5,832.00	49.14	50.09	114.66	3,018.54	162.62	544.00	452.05	91.95	5.916		
8,700.00	5,605.00	8,958.61	5,832.00	50.51	51.46	114.66	3,118.54	162.61	544.00	449.54	94.46	5.759		
8,800.00	5,605.00	9,058.61	5,832.00	51.88	52.83	114.66	3,218.54	162.61	544.00	447.02	96.98	5.609		
8,900.00	5,605.00	9,158.61	5,832.00	53.26	54.21	114.66	3,318.54	162.60	543.99	444.49	99.51	5.467		
9,000.00	5,605.00	9,258.61	5,832.00	54.65	55.60	114.66	3,418.54	162.60	543.99	441.95	102.05	5.331		
9,100.00	5,605.00	9,358.61	5,832.00	56.03	56.99	114.66	3,518.54	162.59	543.99	439.40	104.60	5.201		
9,200.00	5,605.00	9,458.61	5,832.00	57.43	58.38	114.66	3,618.54	162.58	543.99	436.84	107.15	5.077		
9,300.00	5,605.00	9,558.61	5,832.00	58.82	59.78	114.66	3,718.54	162.58	543.99	434.28	109.71	4.958		
9,400.00	5,605.00	9,658.61	5,832.00	60.22	61.18	114.66	3,818.54	162.57	543.99	431.71	112.28	4.845		
9,500.00	5,605.00	9,758.61	5,832.00	61.63	62.58	114.66	3,918.54	162.57	543.99	429.13	114.86	4.736		
9,600.00	5,605.00	9,858.61	5,832.00	63.03	63.99	114.66	4,018.54	162.56	543.99	426.55	117.44	4.632		
9,700.00	5,605.00	9,958.61	5,832.00	64.44	65.40	114.66	4,118.54	162.55	543.99	423.96	120.03	4.532		
9,800.00	5,605.00	10,058.61	5,832.00	65.85	66.81	114.66	4,218.54	162.55	543.98	421.36	122.62	4.436		
9,900.00	5,605.00	10,158.61	5,832.00	67.27	68.23	114.66	4,318.54	162.54	543.98	418.76	125.22	4.344		
10,000.00	5,605.00	10,258.61	5,832.00	68.68	69.64	114.66	4,418.54	162.54	543.98	416.16	127.82	4.256		
10,100.00	5,605.00	10,358.61	5,832.00	70.10	71.06	114.66	4,518.54	162.53	543.98	413.55	130.43	4.171		
10,200.00	5,605.00	10,458.61	5,832.00	71.52	72.48	114.66	4,618.54	162.52	543.98	410.94	133.04	4.089		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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	5,605.00	10,558.61	5,832.00	72.95	73.91	114.66	4,718.54	162.52	543.98	408.32	135.65	4.010		
10,400.00	5,605.00	10,658.61	5,832.00	74.37	75.33	114.66	4,818.54	162.51	543.98	405.71	138.27	3.934		
10,500.00	5,605.00	10,758.61	5,832.00	75.80	76.76	114.66	4,918.54	162.51	543.98	403.08	140.89	3.861		
10,600.00	5,605.00	10,858.61	5,832.00	77.23	78.19	114.66	5,018.54	162.50	543.98	400.46	143.52	3.790		
10,700.00	5,605.00	10,958.61	5,832.00	78.66	79.62	114.66	5,118.54	162.50	543.97	397.83	146.15	3.722		
10,800.00	5,605.00	11,058.61	5,832.00	80.09	81.05	114.66	5,218.54	162.49	543.97	395.19	148.78	3.656		
10,900.00	5,605.00	11,158.61	5,832.00	81.52	82.48	114.66	5,318.54	162.48	543.97	392.56	151.41	3.593		
11,000.00	5,605.00	11,258.61	5,832.00	82.96	83.92	114.66	5,418.54	162.48	543.97	389.92	154.05	3.531		
11,100.00	5,605.00	11,358.61	5,832.00	84.39	85.35	114.66	5,518.54	162.47	543.97	387.28	156.69	3.472		
11,200.00	5,605.00	11,458.61	5,832.00	85.83	86.79	114.66	5,618.54	162.47	543.97	384.64	159.33	3.414		
11,300.00	5,605.00	11,558.61	5,832.00	87.27	88.23	114.66	5,718.54	162.46	543.97	381.99	161.97	3.358		
11,400.00	5,605.00	11,658.61	5,832.00	88.71	89.67	114.66	5,818.54	162.45	543.97	379.35	164.62	3.304		
11,500.00	5,605.00	11,758.61	5,832.00	90.15	91.11	114.66	5,918.54	162.45	543.97	376.70	167.27	3.252		
11,600.00	5,605.00	11,858.61	5,832.00	91.59	92.55	114.66	6,018.54	162.44	543.96	374.05	169.92	3.201		
11,700.00	5,605.00	11,958.61	5,832.00	93.03	93.99	114.66	6,118.54	162.44	543.96	371.40	172.57	3.152		
11,800.00	5,605.00	12,058.61	5,832.00	94.47	95.43	114.66	6,218.54	162.43	543.96	368.74	175.22	3.104		
11,900.00	5,605.00	12,158.61	5,832.00	95.92	96.88	114.66	6,318.54	162.42	543.96	366.08	177.88	3.058		
12,000.00	5,605.00	12,258.61	5,832.00	97.36	98.32	114.66	6,418.54	162.42	543.96	363.43	180.53	3.013		
12,100.00	5,605.00	12,358.61	5,832.00	98.81	99.77	114.66	6,518.54	162.41	543.96	360.77	183.19	2.969		
12,200.00	5,605.00	12,458.61	5,832.00	100.25	101.21	114.67	6,618.54	162.41	543.96	358.11	185.85	2.927		
12,300.00	5,605.00	12,558.61	5,832.00	101.70	102.66	114.67	6,718.54	162.40	543.96	355.44	188.51	2.886		
12,400.00	5,605.00	12,658.61	5,832.00	103.15	104.11	114.67	6,818.54	162.39	543.96	352.78	191.17	2.845		
12,500.00	5,605.00	12,758.61	5,832.00	104.60	105.56	114.67	6,918.54	162.39	543.95	350.12	193.84	2.806		
12,600.00	5,605.00	12,858.61	5,832.00	106.04	107.01	114.67	7,018.54	162.38	543.95	347.45	196.50	2.768		
12,700.00	5,605.00	12,958.61	5,832.00	107.49	108.46	114.67	7,118.54	162.38	543.95	344.78	199.17	2.731		
12,800.00	5,605.00	13,058.61	5,832.00	108.94	109.91	114.67	7,218.54	162.37	543.95	342.11	201.84	2.695		
12,900.00	5,605.00	13,158.61	5,832.00	110.39	111.36	114.67	7,318.54	162.37	543.95	339.44	204.50	2.660		
13,000.00	5,605.00	13,258.61	5,832.00	111.85	112.81	114.67	7,418.54	162.36	543.95	336.77	207.17	2.626		
13,100.00	5,605.00	13,358.61	5,832.00	113.30	114.26	114.67	7,518.54	162.35	543.95	334.10	209.84	2.592		
13,200.00	5,605.00	13,458.61	5,832.00	114.75	115.71	114.67	7,618.54	162.35	543.95	331.43	212.52	2.560		
13,300.00	5,605.00	13,558.61	5,832.00	116.20	117.17	114.67	7,718.54	162.34	543.95	328.76	215.19	2.528		
13,400.00	5,605.00	13,658.61	5,832.00	117.66	118.62	114.67	7,818.54	162.34	543.94	326.08	217.86	2.497		
13,500.00	5,605.00	13,758.61	5,832.00	119.11	120.07	114.67	7,918.54	162.33	543.94	323.41	220.54	2.466		
13,600.00	5,605.00	13,858.61	5,832.00	120.56	121.53	114.67	8,018.54	162.32	543.94	320.73	223.21	2.437		
13,700.00	5,605.00	13,958.61	5,832.00	122.02	122.98	114.67	8,118.54	162.32	543.94	318.05	225.89	2.408		
13,800.00	5,605.00	14,058.61	5,832.00	123.47	124.44	114.67	8,218.54	162.31	543.94	315.38	228.56	2.380		
13,900.00	5,605.00	14,158.61	5,832.00	124.93	125.89	114.67	8,318.54	162.31	543.94	312.70	231.24	2.352		
14,000.00	5,605.00	14,258.61	5,832.00	126.39	127.35	114.67	8,418.54	162.30	543.94	310.02	233.92	2.325		
14,100.00	5,605.00	14,358.61	5,832.00	127.84	128.80	114.67	8,518.54	162.29	543.94	307.34	236.60	2.299		
14,200.00	5,605.00	14,458.61	5,832.00	129.30	130.26	114.67	8,618.54	162.29	543.94	304.66	239.28	2.273		
14,300.00	5,605.00	14,558.61	5,832.00	130.75	131.72	114.67	8,718.54	162.28	543.93	301.98	241.96	2.248		
14,400.00	5,605.00	14,658.61	5,832.00	132.21	133.17	114.67	8,818.54	162.28	543.93	299.29	244.64	2.223		
14,500.00	5,605.00	14,758.61	5,832.00	133.67	134.63	114.67	8,918.54	162.27	543.93	296.61	247.32	2.199		
14,600.00	5,605.00	14,858.61	5,832.00	135.13	136.09	114.67	9,018.54	162.27	543.93	293.93	250.00	2.176		
14,700.00	5,605.00	14,958.61	5,832.00	136.59	137.55	114.67	9,118.54	162.26	543.93	291.24	252.69	2.153		
14,800.00	5,605.00	15,058.61	5,832.00	138.04	139.01	114.67	9,218.54	162.25	543.93	288.56	255.37	2.130		
14,900.00	5,605.00	15,158.61	5,832.00	139.50	140.46	114.67	9,318.54	162.25	543.93	285.87	258.05	2.108		
15,000.00	5,605.00	15,258.61	5,832.00	140.96	141.92	114.67	9,418.54	162.24	543.93	283.19	260.74	2.086		
15,100.00	5,605.00	15,358.61	5,832.00	142.42	143.38	114.67	9,518.54	162.24	543.93	280.50	263.42	2.065		
15,200.00	5,605.00	15,458.61	5,832.00	143.88	144.84	114.67	9,618.54	162.23	543.92	277.82	266.11	2.044		
15,300.00	5,605.00	15,558.61	5,832.00	145.34	146.30	114.67	9,718.54	162.22	543.92	275.13	268.79	2.024		
15,400.00	5,605.00	15,658.61	5,832.00	146.80	147.76	114.67	9,818.54	162.22	543.92	272.44	271.48	2.004		

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-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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-2448 - 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	5,605.00	15,758.61	5,832.00	148.26	149.22	114.67	9,918.54	162.21	543.92	269.75	274.17	1.984	
15,600.00	5,605.00	15,858.61	5,832.00	149.72	150.68	114.67	10,018.54	162.21	543.92	267.07	276.85	1.965	
15,700.00	5,605.00	15,958.61	5,832.00	151.18	152.14	114.67	10,118.54	162.20	543.92	264.38	279.54	1.946	
15,714.20	5,605.00	15,972.81	5,832.00	151.39	152.35	114.67	10,132.74	162.20	543.92	264.00	279.92	1.943 SF	



WOG

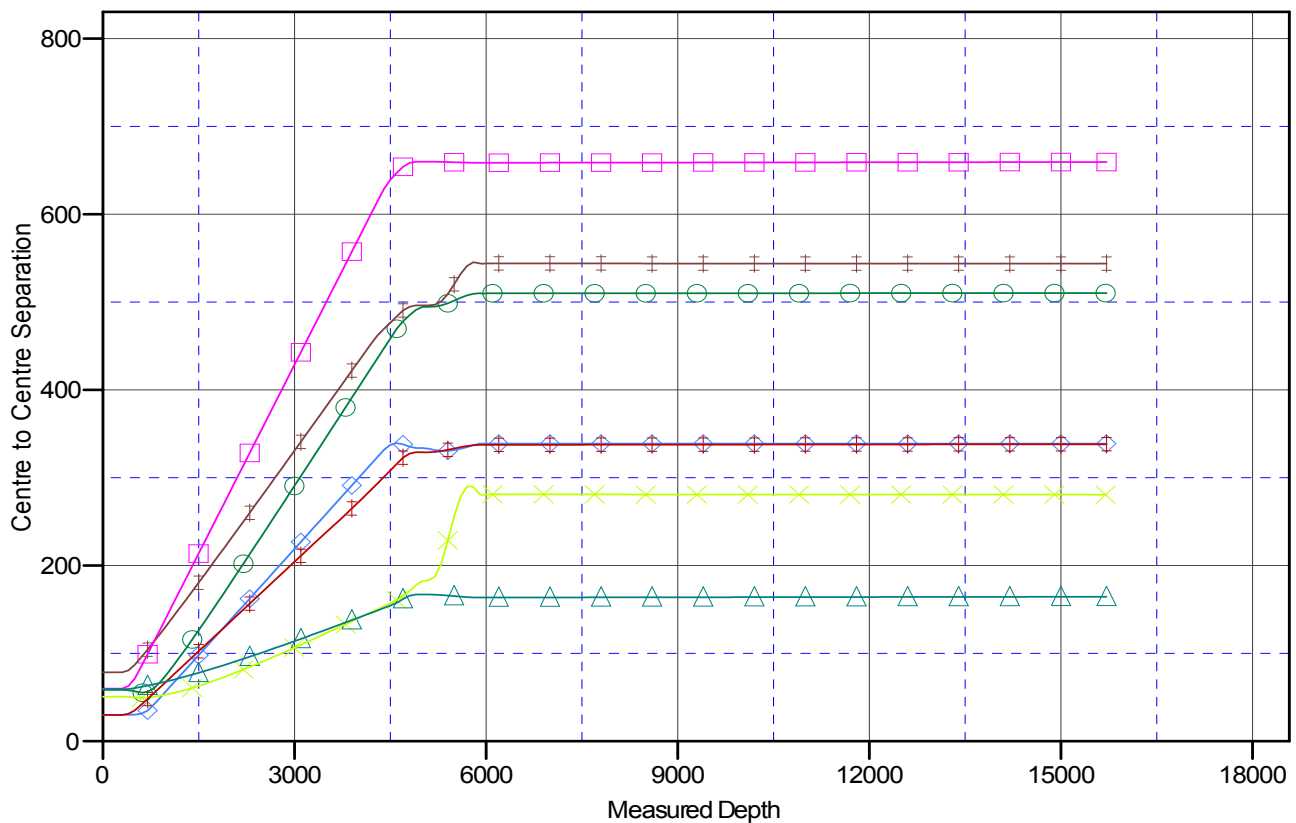
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2414
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2414	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
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25P-2414
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Ladder Plot



LEGEND

- Razor#25P-2448,HZ,APDV0
- Razor#25P-2416,HZ,APDV0
- Razor#25P-2445,HZ,APDV0
- Razor#25P-2413,HZ,APDV0
- Razor#25P-2446,HZ,APDV0
- Razor#25P-2415,HZ,APDV0
- Razor#25P-2447,HZ,APDV0



WOG

Anticollision Report

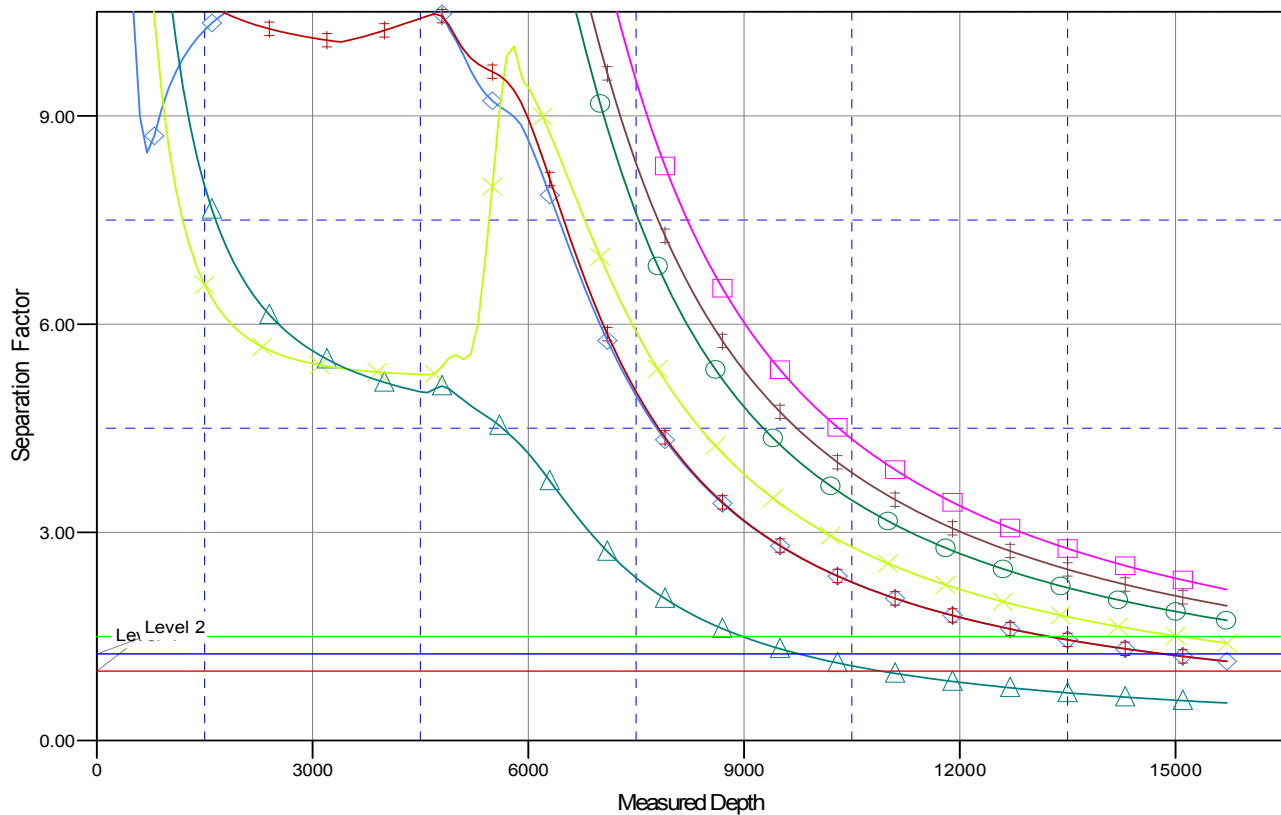
Company: Whiting Petroleum Corp.
Project: Weld County, CO
Reference Site: Sec 25-T10N-R58W
Site Error: 0.00 usft
Reference Well: Razor #25P-2414
Well Error: 0.00 usft
Reference Wellbore: Hz
Reference Design: APD

Local Co-ordinate Reference: Well Razor #25P-2414
TVD Reference: KBE @ 4762.00usft
MD Reference: KBE @ 4762.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: LandmarkEDM
Offset TVD Reference: Offset Datum

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

Coordinates are relative to: Razor #25P-2414
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Separation Factor Plot



LEGEND

● Razor#25P-2448,HZ,APDV0 ◆ Razor#25P-2413,HZ,APDV0 ▲ Razor#25P-2447,HZ,APDV0
■ Razor#25P-2416,HZ,APDV0 ✕ Razor#25P-2446,HZ,APDV0
● Razor#25P-2445,HZ,APDV0 ☆ Razor#25P-2415,HZ,APDV0