



Whiting Petroleum Corp.

**Weld County, CO
Sec 25-T10N-R58W
Razor #25P-2416**

**Hz
APD**

Anticollision Report

27 May, 2015



WOG
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	300.00	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	89.98	88.37	55.719	CC, ES
Razor #25P-2413 - Hz - APD	15,756.19	15,722.97	992.95	690.89	3.287	SF
Razor #25P-2414 - Hz - APD	300.00	300.00	59.98	58.37	37.144	CC, ES
Razor #25P-2414 - Hz - APD	15,756.19	15,714.20	659.57	356.59	2.177	SF
Razor #25P-2415 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC, ES
Razor #25P-2415 - Hz - APD	15,756.19	15,631.67	338.20	42.00	1.142	Level 2, SF
Razor #25P-2445 - Hz - APD	300.00	300.00	102.56	100.95	63.509	CC, ES
Razor #25P-2445 - Hz - APD	15,756.19	15,902.83	1,161.26	859.69	3.851	SF
Razor #25P-2446 - Hz - APD	300.00	300.00	77.89	76.28	48.233	CC, ES
Razor #25P-2446 - Hz - APD	15,756.19	16,035.43	855.50	561.08	2.906	SF
Razor #25P-2447 - Hz - APD	300.00	300.00	58.44	56.82	36.186	CC, ES
Razor #25P-2447 - Hz - APD	15,756.19	15,740.36	495.06	191.24	1.629	SF
Razor #25P-2448 - Hz - APD	787.79	785.26	49.55	44.87	10.586	CC
Razor #25P-2448 - Hz - APD	1,000.00	997.28	50.35	44.21	8.200	ES
Razor #25P-2448 - Hz - APD	15,756.19	15,974.81	280.79	78.78	1.390	Level 3, SF

Offset Design													Offset Site Error:	0.00 usft				
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft				
Reference													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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
0.00	0.00	0.00	0.00	0.00	0.00	-90.65	-1.02	-89.98	89.98									
100.00	100.00	100.00	100.00	0.13	0.13	-90.65	-1.02	-89.98	89.98	89.72	0.27	337.839						
200.00	200.00	200.00	200.00	0.47	0.47	-90.65	-1.02	-89.98	89.98	89.04	0.94	95.661						
300.00	300.00	300.00	300.00	0.81	0.81	-90.65	-1.02	-89.98	89.98	88.37	1.61	55.719	CC, ES					
400.00	399.98	397.04	397.02	1.12	1.11	139.66	-1.58	-91.52	92.91	90.67	2.23	41.579						
500.00	499.84	493.56	493.41	1.43	1.42	140.47	-3.25	-96.12	101.68	98.82	2.86	35.546						
600.00	599.49	589.14	588.65	1.75	1.73	141.49	-6.00	-103.68	115.94	112.43	3.51	33.042						
700.00	699.11	683.74	682.60	2.08	2.06	141.94	-9.79	-114.09	133.60	129.44	4.16	32.100						
800.00	798.73	777.36	775.15	2.42	2.41	141.83	-14.59	-127.26	154.25	149.42	4.83	31.946						
900.00	898.35	874.89	871.35	2.78	2.79	141.56	-20.09	-142.39	176.31	170.82	5.49	32.095						
1,000.00	997.97	972.42	967.54	3.13	3.17	141.34	-25.60	-157.52	198.37	192.21	6.16	32.223						
1,100.00	1,097.59	1,069.96	1,063.74	3.49	3.57	141.17	-31.10	-172.64	220.43	213.61	6.83	32.292						
1,200.00	1,197.21	1,167.49	1,159.93	3.84	3.96	141.03	-36.61	-187.77	242.50	235.00	7.50	32.326						

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



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Reference Well:	Razor #25P-2416	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		
1,300.00	1,296.83	1,265.03	1,256.13	4.20	4.36	140.92	-42.11	-202.90	264.56	256.38	8.18	32.339		
1,400.00	1,396.45	1,362.56	1,352.33	4.56	4.76	140.82	-47.62	-218.02	286.63	277.76	8.86	32.339		
1,500.00	1,496.07	1,460.09	1,448.52	4.92	5.17	140.73	-53.13	-233.15	308.69	299.15	9.55	32.332		
1,600.00	1,595.69	1,557.63	1,544.72	5.28	5.57	140.66	-58.63	-248.28	330.76	320.53	10.24	32.312		
1,700.00	1,695.31	1,655.16	1,640.92	5.65	5.97	140.60	-64.14	-263.40	352.83	341.91	10.92	32.300		
1,800.00	1,794.93	1,752.70	1,737.11	6.01	6.38	140.54	-69.64	-278.53	374.90	363.28	11.61	32.282		
1,900.00	1,894.55	1,850.23	1,833.31	6.37	6.79	140.49	-75.15	-293.66	396.97	384.66	12.30	32.263		
2,000.00	1,994.17	1,947.76	1,929.51	6.73	7.19	140.45	-80.65	-308.79	419.03	406.04	13.00	32.244		
2,100.00	2,093.78	2,045.30	2,025.70	7.10	7.60	140.40	-86.16	-323.91	441.10	427.41	13.69	32.225		
2,200.00	2,193.40	2,142.83	2,121.90	7.46	8.01	140.37	-91.67	-339.04	463.17	448.79	14.38	32.207		
2,300.00	2,293.02	2,240.37	2,218.10	7.82	8.41	140.33	-97.17	-354.17	485.24	470.17	15.08	32.188		
2,400.00	2,392.64	2,337.90	2,314.29	8.19	8.82	140.30	-102.68	-369.29	507.31	491.54	15.77	32.171		
2,500.00	2,492.26	2,435.43	2,410.49	8.55	9.23	140.28	-108.18	-384.42	529.38	512.92	16.46	32.153		
2,600.00	2,591.88	2,532.97	2,506.68	8.91	9.64	140.25	-113.69	-399.55	551.45	534.29	17.16	32.137		
2,700.00	2,691.50	2,630.50	2,602.88	9.28	10.05	140.23	-119.19	-414.67	573.52	555.66	17.86	32.121		
2,800.00	2,791.12	2,728.04	2,699.08	9.64	10.46	140.21	-124.70	-429.80	595.59	577.04	18.55	32.106		
2,900.00	2,890.74	2,825.57	2,795.27	10.00	10.86	140.19	-130.21	-444.93	617.66	598.41	19.25	32.091		
3,000.00	2,990.36	2,923.10	2,891.47	10.37	11.27	140.17	-135.71	-460.06	639.73	619.78	19.94	32.077		
3,100.00	3,089.98	3,020.64	2,987.67	10.73	11.68	140.15	-141.22	-475.18	661.80	641.16	20.64	32.063		
3,200.00	3,189.60	3,118.17	3,083.86	11.10	12.09	140.13	-146.72	-490.31	683.87	662.53	21.34	32.050		
3,300.00	3,289.22	3,215.71	3,180.06	11.46	12.50	140.12	-152.23	-505.44	705.94	683.90	22.03	32.037		
3,400.00	3,388.84	3,313.24	3,276.26	11.82	12.91	140.10	-157.73	-520.56	728.01	705.28	22.73	32.025		
3,500.00	3,488.46	3,410.77	3,372.45	12.19	13.32	140.09	-163.24	-535.69	750.08	726.65	23.43	32.013		
3,600.00	3,588.08	3,508.31	3,468.65	12.55	13.73	140.08	-168.75	-550.82	772.15	748.02	24.13	32.002		
3,700.00	3,687.70	3,605.84	3,564.84	12.92	14.14	140.06	-174.25	-565.94	794.22	769.39	24.83	31.991		
3,800.00	3,787.32	3,703.38	3,661.04	13.28	14.55	140.05	-179.76	-581.07	816.29	790.76	25.52	31.981		
3,900.00	3,886.94	3,800.91	3,757.24	13.64	14.96	140.04	-185.26	-596.20	838.36	812.14	26.22	31.970		
4,000.00	3,986.55	3,898.44	3,853.43	14.01	15.37	140.03	-190.77	-611.32	860.43	833.51	26.92	31.961		
4,100.00	4,086.17	3,995.98	3,949.63	14.37	15.78	140.02	-196.27	-626.45	882.50	854.88	27.62	31.951		
4,200.00	4,185.79	4,093.51	4,045.83	14.74	16.19	140.01	-201.78	-641.58	904.57	876.25	28.32	31.942		
4,300.00	4,285.41	4,191.04	4,142.02	15.10	16.60	140.00	-207.29	-656.71	926.64	897.62	29.02	31.933		
4,400.00	4,385.16	4,288.85	4,238.49	15.41	17.01	140.20	-212.81	-671.87	947.40	917.69	29.72	31.882		
4,500.00	4,485.10	4,392.75	4,340.97	15.65	17.43	140.21	-218.65	-687.94	965.51	935.15	30.36	31.804		
4,600.00	4,585.10	4,538.22	4,485.12	15.93	17.83	-90.07	-225.31	-706.23	978.42	947.40	31.02	31.542		
4,700.00	4,685.10	4,685.39	4,631.76	16.19	18.20	-90.31	-229.49	-717.71	986.24	954.59	31.65	31.160		
4,800.00	4,785.10	4,833.42	4,779.70	16.46	18.55	-90.40	-231.09	-722.11	989.22	956.92	32.30	30.630		
4,900.00	4,885.10	4,938.81	4,885.10	16.73	18.81	-90.41	-231.11	-722.16	989.25	956.39	32.86	30.105		
5,000.00	4,985.10	5,038.81	4,985.10	17.00	19.06	-90.41	-231.11	-722.16	989.25	955.84	33.41	29.611		
5,099.99	5,085.09	5,139.28	5,085.29	17.27	19.31	-90.08	-225.51	-722.16	989.23	955.27	33.96	29.133		
5,109.50	5,094.59	5,148.70	5,094.60	17.29	19.34	-90.01	-224.05	-722.16	989.23	955.22	34.01	29.090		
5,200.00	5,184.46	5,237.18	5,180.23	17.53	19.53	-89.27	-202.20	-722.16	989.31	954.86	34.45	28.715		
5,300.00	5,280.15	5,332.63	5,267.01	17.77	19.71	-88.48	-162.79	-722.16	989.59	954.70	34.88	28.370		
5,400.00	5,368.63	5,425.94	5,343.52	17.97	19.85	-87.76	-109.60	-722.16	990.01	954.74	35.26	28.074		
5,500.00	5,446.65	5,517.45	5,408.17	18.15	19.95	-87.11	-45.00	-722.16	990.51	954.88	35.64	27.793		
5,600.00	5,511.36	5,607.49	5,459.81	18.30	20.01	-86.57	28.63	-722.17	991.04	954.99	36.05	27.492		
5,700.00	5,560.36	5,696.40	5,497.62	18.43	20.05	-86.14	108.97	-722.17	991.51	954.98	36.54	27.137		
5,800.00	5,591.87	5,784.48	5,521.08	18.65	20.08	-85.84	193.77	-722.17	991.88	954.74	37.13	26.710		
5,900.00	5,604.72	5,872.07	5,529.92	19.01	20.12	-85.68	280.80	-722.18	992.09	954.24	37.85	26.210		
6,000.00	5,605.00	5,970.78	5,530.00	19.48	20.26	-85.66	379.51	-722.18	992.12	953.34	38.77	25.587		
6,100.00	5,605.00	6,070.78	5,530.00	20.06	20.60	-85.66	479.51	-722.19	992.13	952.23	39.89	24.870		
6,200.00	5,605.00	6,170.78	5,530.00	20.72	21.14	-85.66	579.51	-722.19	992.13	950.94	41.19	24.086		
6,300.00	5,605.00	6,270.78	5,530.00	21.47	21.82	-85.66	679.51	-722.19	992.14	949.49	42.65	23.262		

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



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Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
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Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,400.00	5,605.00	6,370.78	5,530.00	22.29	22.59	-85.66	779.51	-722.20	992.15	947.89	44.26	22.417		
6,500.00	5,605.00	6,470.78	5,530.00	23.17	23.44	-85.66	879.51	-722.20	992.16	946.16	46.00	21.570		
6,600.00	5,605.00	6,570.78	5,530.00	24.11	24.35	-85.66	979.51	-722.21	992.17	944.32	47.85	20.734		
6,700.00	5,605.00	6,670.78	5,530.00	25.11	25.31	-85.66	1,079.51	-722.21	992.18	942.36	49.81	19.918		
6,800.00	5,605.00	6,770.78	5,530.00	26.14	26.33	-85.66	1,179.51	-722.21	992.19	940.32	51.86	19.130		
6,900.00	5,605.00	6,870.78	5,530.00	27.22	27.38	-85.66	1,279.51	-722.22	992.19	938.20	54.00	18.374		
7,000.00	5,605.00	6,970.78	5,530.00	28.33	28.47	-85.66	1,379.51	-722.22	992.20	936.00	56.20	17.653		
7,100.00	5,605.00	7,070.78	5,530.00	29.47	29.59	-85.66	1,479.51	-722.23	992.21	933.74	58.47	16.968		
7,200.00	5,605.00	7,170.78	5,530.00	30.64	30.75	-85.66	1,579.51	-722.23	992.22	931.42	60.80	16.319		
7,300.00	5,605.00	7,270.78	5,530.00	31.83	31.92	-85.66	1,679.51	-722.24	992.23	929.05	63.18	15.705		
7,400.00	5,605.00	7,370.78	5,530.00	33.05	33.13	-85.66	1,779.51	-722.24	992.24	926.63	65.60	15.125		
7,500.00	5,605.00	7,470.78	5,530.00	34.29	34.35	-85.66	1,879.51	-722.24	992.24	924.18	68.07	14.577		
7,600.00	5,605.00	7,570.78	5,530.00	35.54	35.59	-85.66	1,979.51	-722.25	992.25	921.69	70.57	14.061		
7,700.00	5,605.00	7,670.78	5,530.00	36.82	36.85	-85.66	2,079.51	-722.25	992.26	919.16	73.10	13.574		
7,800.00	5,605.00	7,770.78	5,530.00	38.10	38.12	-85.66	2,179.51	-722.26	992.27	916.61	75.66	13.115		
7,900.00	5,605.00	7,870.78	5,530.00	39.40	39.41	-85.66	2,279.51	-722.26	992.28	914.03	78.25	12.681		
8,000.00	5,605.00	7,970.78	5,530.00	40.71	40.70	-85.66	2,379.51	-722.27	992.29	911.43	80.86	12.272		
8,100.00	5,605.00	8,070.78	5,530.00	42.03	42.01	-85.67	2,479.51	-722.27	992.30	908.80	83.49	11.885		
8,200.00	5,605.00	8,170.78	5,530.00	43.36	43.33	-85.67	2,579.51	-722.27	992.30	906.16	86.14	11.519		
8,300.00	5,605.00	8,270.78	5,530.00	44.70	44.66	-85.67	2,679.51	-722.28	992.31	903.50	88.81	11.173		
8,400.00	5,605.00	8,370.78	5,530.00	46.05	46.00	-85.67	2,779.51	-722.28	992.32	900.82	91.50	10.845		
8,500.00	5,605.00	8,470.78	5,530.00	47.40	47.35	-85.67	2,879.51	-722.29	992.33	898.13	94.20	10.534		
8,600.00	5,605.00	8,570.78	5,530.00	48.76	48.70	-85.67	2,979.51	-722.29	992.34	895.42	96.92	10.239		
8,700.00	5,605.00	8,670.78	5,530.00	50.13	50.06	-85.67	3,079.51	-722.30	992.35	892.70	99.65	9.959		
8,800.00	5,605.00	8,770.78	5,530.00	51.50	51.43	-85.67	3,179.51	-722.30	992.35	889.97	102.38	9.692		
8,900.00	5,605.00	8,870.78	5,530.00	52.88	52.80	-85.67	3,279.51	-722.30	992.36	887.23	105.13	9.439		
9,000.00	5,605.00	8,970.78	5,530.00	54.27	54.17	-85.67	3,379.51	-722.31	992.37	884.48	107.89	9.198		
9,100.00	5,605.00	9,070.78	5,530.00	55.65	55.56	-85.67	3,479.51	-722.31	992.38	881.72	110.66	8.968		
9,200.00	5,605.00	9,170.78	5,530.00	57.05	56.94	-85.67	3,579.51	-722.32	992.39	878.95	113.44	8.748		
9,300.00	5,605.00	9,270.78	5,530.00	58.44	58.33	-85.67	3,679.51	-722.32	992.40	876.17	116.22	8.539		
9,400.00	5,605.00	9,370.78	5,530.00	59.84	59.73	-85.67	3,779.51	-722.33	992.41	873.39	119.02	8.338		
9,500.00	5,605.00	9,470.78	5,530.00	61.24	61.12	-85.67	3,879.51	-722.33	992.41	870.60	121.81	8.147		
9,600.00	5,605.00	9,570.78	5,530.00	62.65	62.52	-85.67	3,979.51	-722.33	992.42	867.80	124.62	7.964		
9,700.00	5,605.00	9,670.78	5,530.00	64.06	63.93	-85.67	4,079.51	-722.34	992.43	865.00	127.43	7.788		
9,800.00	5,605.00	9,770.78	5,530.00	65.47	65.34	-85.67	4,179.51	-722.34	992.44	862.19	130.25	7.620		
9,900.00	5,605.00	9,870.78	5,530.00	66.89	66.75	-85.67	4,279.51	-722.35	992.45	859.38	133.07	7.458		
10,000.00	5,605.00	9,970.78	5,530.00	68.30	68.16	-85.67	4,379.51	-722.35	992.46	856.56	135.90	7.303		
10,100.00	5,605.00	10,070.78	5,530.00	69.72	69.57	-85.67	4,479.51	-722.35	992.47	853.74	138.73	7.154		
10,200.00	5,605.00	10,170.78	5,530.00	71.14	70.99	-85.67	4,579.51	-722.36	992.47	850.91	141.56	7.011		
10,300.00	5,605.00	10,270.78	5,530.00	72.57	72.41	-85.67	4,679.51	-722.36	992.48	848.08	144.40	6.873		
10,400.00	5,605.00	10,370.78	5,530.00	73.99	73.83	-85.67	4,779.51	-722.37	992.49	845.25	147.24	6.740		
10,500.00	5,605.00	10,470.78	5,530.00	75.42	75.25	-85.67	4,879.51	-722.37	992.50	842.41	150.09	6.613		
10,600.00	5,605.00	10,570.78	5,530.00	76.85	76.68	-85.67	4,979.51	-722.38	992.51	839.57	152.94	6.490		
10,700.00	5,605.00	10,670.78	5,530.00	78.28	78.10	-85.67	5,079.51	-722.38	992.52	836.72	155.79	6.371		
10,800.00	5,605.00	10,770.78	5,530.00	79.71	79.53	-85.67	5,179.51	-722.38	992.52	833.88	158.65	6.256		
10,900.00	5,605.00	10,870.78	5,530.00	81.14	80.96	-85.67	5,279.51	-722.39	992.53	831.02	161.51	6.145		
11,000.00	5,605.00	10,970.78	5,530.00	82.58	82.39	-85.67	5,379.51	-722.39	992.54	828.17	164.37	6.038		
11,100.00	5,605.00	11,070.78	5,530.00	84.01	83.83	-85.67	5,479.51	-722.40	992.55	825.32	167.23	5.935		
11,200.00	5,605.00	11,170.78	5,530.00	85.45	85.26	-85.67	5,579.51	-722.40	992.56	822.46	170.10	5.835		
11,300.00	5,605.00	11,270.78	5,530.00	86.89	86.70	-85.67	5,679.51	-722.41	992.57	819.60	172.97	5.738		
11,400.00	5,605.00	11,370.78	5,530.00	88.33	88.13	-85.67	5,779.51	-722.41	992.58	816.73	175.84	5.645		
11,500.00	5,605.00	11,470.78	5,530.00	89.77	89.57	-85.67	5,879.51	-722.41	992.58	813.87	178.71	5.554		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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
11,600.00	5,605.00	11,570.78	5,530.00	91.21	91.01	-85.67	5,979.51	-722.42	992.59	811.00	181.59	5.466	
11,700.00	5,605.00	11,670.78	5,530.00	92.65	92.45	-85.67	6,079.51	-722.42	992.60	808.13	184.47	5.381	
11,800.00	5,605.00	11,770.78	5,530.00	94.09	93.89	-85.67	6,179.51	-722.43	992.61	805.26	187.35	5.298	
11,900.00	5,605.00	11,870.78	5,530.00	95.54	95.33	-85.67	6,279.51	-722.43	992.62	802.39	190.23	5.218	
12,000.00	5,605.00	11,970.78	5,530.00	96.98	96.77	-85.67	6,379.51	-722.44	992.63	799.52	193.11	5.140	
12,100.00	5,605.00	12,070.78	5,530.00	98.43	98.22	-85.67	6,479.51	-722.44	992.64	796.64	195.99	5.065	
12,200.00	5,605.00	12,170.78	5,530.00	99.88	99.66	-85.67	6,579.51	-722.44	992.64	793.76	198.88	4.991	
12,300.00	5,605.00	12,270.78	5,530.00	101.32	101.11	-85.67	6,679.51	-722.45	992.65	790.89	201.77	4.920	
12,400.00	5,605.00	12,370.78	5,530.00	102.77	102.55	-85.67	6,779.51	-722.45	992.66	788.01	204.65	4.850	
12,500.00	5,605.00	12,470.78	5,530.00	104.22	104.00	-85.67	6,879.51	-722.46	992.67	785.13	207.54	4.783	
12,600.00	5,605.00	12,570.78	5,530.00	105.67	105.45	-85.67	6,979.51	-722.46	992.68	782.24	210.43	4.717	
12,700.00	5,605.00	12,670.78	5,530.00	107.12	106.89	-85.67	7,079.51	-722.47	992.69	779.36	213.33	4.653	
12,800.00	5,605.00	12,770.78	5,530.00	108.57	108.34	-85.67	7,179.51	-722.47	992.69	776.47	216.22	4.591	
12,900.00	5,605.00	12,870.78	5,530.00	110.02	109.79	-85.67	7,279.51	-722.47	992.70	773.59	219.11	4.531	
13,000.00	5,605.00	12,970.78	5,530.00	111.47	111.24	-85.67	7,379.51	-722.48	992.71	770.70	222.01	4.471	
13,100.00	5,605.00	13,070.78	5,530.00	112.92	112.69	-85.67	7,479.51	-722.48	992.72	767.81	224.91	4.414	
13,200.00	5,605.00	13,170.78	5,530.00	114.37	114.14	-85.67	7,579.51	-722.49	992.73	764.92	227.80	4.358	
13,300.00	5,605.00	13,270.78	5,530.00	115.83	115.59	-85.67	7,679.51	-722.49	992.74	762.03	230.70	4.303	
13,400.00	5,605.00	13,370.78	5,530.00	117.28	117.05	-85.67	7,779.51	-722.49	992.75	759.14	233.60	4.250	
13,500.00	5,605.00	13,470.78	5,530.00	118.74	118.50	-85.67	7,879.51	-722.50	992.75	756.25	236.50	4.198	
13,600.00	5,605.00	13,570.78	5,530.00	120.19	119.95	-85.67	7,979.51	-722.50	992.76	753.36	239.40	4.147	
13,700.00	5,605.00	13,670.78	5,530.00	121.64	121.40	-85.67	8,079.51	-722.51	992.77	750.47	242.31	4.097	
13,800.00	5,605.00	13,770.78	5,530.00	123.10	122.86	-85.67	8,179.51	-722.51	992.78	747.57	245.21	4.049	
13,900.00	5,605.00	13,870.78	5,530.00	124.55	124.31	-85.67	8,279.51	-722.52	992.79	744.68	248.11	4.001	
14,000.00	5,605.00	13,970.78	5,530.00	126.01	125.77	-85.67	8,379.51	-722.52	992.80	741.78	251.02	3.955	
14,100.00	5,605.00	14,070.78	5,530.00	127.47	127.22	-85.67	8,479.51	-722.52	992.80	738.88	253.92	3.910	
14,200.00	5,605.00	14,170.78	5,530.00	128.92	128.68	-85.67	8,579.51	-722.53	992.81	735.99	256.83	3.866	
14,300.00	5,605.00	14,270.78	5,530.00	130.38	130.13	-85.67	8,679.51	-722.53	992.82	733.09	259.73	3.822	
14,400.00	5,605.00	14,370.78	5,530.00	131.84	131.59	-85.67	8,779.51	-722.54	992.83	730.19	262.64	3.780	
14,500.00	5,605.00	14,470.78	5,530.00	133.30	133.04	-85.67	8,879.51	-722.54	992.84	727.29	265.55	3.739	
14,600.00	5,605.00	14,570.78	5,530.00	134.75	134.50	-85.67	8,979.51	-722.55	992.85	724.39	268.46	3.698	
14,700.00	5,605.00	14,670.78	5,530.00	136.21	135.96	-85.67	9,079.51	-722.55	992.86	721.49	271.37	3.659	
14,800.00	5,605.00	14,770.78	5,530.00	137.67	137.41	-85.67	9,179.51	-722.55	992.86	718.59	274.27	3.620	
14,900.00	5,605.00	14,870.78	5,530.00	139.13	138.87	-85.67	9,279.51	-722.56	992.87	715.69	277.18	3.582	
15,000.00	5,605.00	14,970.78	5,530.00	140.59	140.33	-85.67	9,379.51	-722.56	992.88	712.79	280.10	3.545	
15,100.00	5,605.00	15,070.78	5,530.00	142.05	141.79	-85.67	9,479.51	-722.57	992.89	709.88	283.01	3.508	
15,200.00	5,605.00	15,170.78	5,530.00	143.51	143.25	-85.67	9,579.51	-722.57	992.90	706.98	285.92	3.473	
15,300.00	5,605.00	15,270.78	5,530.00	144.97	144.71	-85.67	9,679.51	-722.58	992.91	704.08	288.83	3.438	
15,400.00	5,605.00	15,370.78	5,530.00	146.43	146.16	-85.67	9,779.51	-722.58	992.92	701.17	291.74	3.403	
15,500.00	5,605.00	15,470.78	5,530.00	147.89	147.62	-85.67	9,879.51	-722.58	992.92	698.27	294.66	3.370	
15,600.00	5,605.00	15,570.78	5,530.00	149.35	149.08	-85.67	9,979.51	-722.59	992.93	695.36	297.57	3.337	
15,700.00	5,605.00	15,670.78	5,530.00	150.81	150.54	-85.67	10,079.51	-722.59	992.94	692.46	300.48	3.304	
15,729.80	5,605.00	15,700.58	5,530.00	151.24	150.98	-85.67	10,109.31	-722.59	992.94	691.59	301.35	3.295	
15,756.19	5,605.00	15,722.97	5,530.00	151.63	151.30	-85.67	10,131.70	-722.59	992.95	690.89	302.06	3.287 SF	

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	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	398.12	398.10	1.12	1.11	140.22	-0.82	-61.45	62.82	60.59	2.23	28.113		
500.00	499.84	495.77	495.62	1.43	1.42	140.78	-3.25	-65.83	71.31	68.46	2.86	24.950		
600.00	599.49	593.62	593.14	1.75	1.74	141.47	-7.13	-72.84	84.81	81.30	3.51	24.160		
700.00	699.11	692.59	691.73	2.08	2.07	142.04	-11.31	-80.39	99.11	94.97	4.15	23.885		
800.00	798.73	791.56	790.32	2.42	2.41	142.46	-15.50	-87.93	113.42	108.62	4.80	23.611		
900.00	898.35	890.53	888.91	2.78	2.76	142.79	-19.68	-95.48	127.73	122.27	5.47	23.359		
1,000.00	997.97	989.49	987.50	3.13	3.11	143.06	-23.86	-103.02	142.05	135.91	6.14	23.135		
1,100.00	1,097.59	1,088.46	1,086.10	3.49	3.46	143.27	-28.04	-110.57	156.37	149.55	6.82	22.940		
1,200.00	1,197.21	1,187.43	1,184.69	3.84	3.82	143.45	-32.22	-118.11	170.69	163.19	7.50	22.768		
1,300.00	1,296.83	1,286.40	1,283.28	4.20	4.18	143.60	-36.40	-125.65	185.01	176.83	8.18	22.618		
1,400.00	1,396.45	1,385.37	1,381.87	4.56	4.53	143.73	-40.59	-133.20	199.33	190.46	8.86	22.486		
1,500.00	1,496.07	1,484.33	1,480.46	4.92	4.89	143.84	-44.77	-140.74	213.65	204.10	9.55	22.369		
1,600.00	1,595.69	1,583.30	1,579.05	5.28	5.25	143.94	-48.95	-148.29	227.98	217.74	10.24	22.265		
1,700.00	1,695.31	1,682.27	1,677.64	5.65	5.61	144.02	-53.13	-155.83	242.30	231.37	10.93	22.172		
1,800.00	1,794.93	1,781.24	1,776.24	6.01	5.97	144.10	-57.31	-163.37	256.62	245.01	11.62	22.088		
1,900.00	1,894.55	1,880.21	1,874.83	6.37	6.32	144.17	-61.50	-170.92	270.95	258.64	12.31	22.012		
2,000.00	1,994.17	1,979.18	1,973.42	6.73	6.68	144.23	-65.68	-178.46	285.27	272.27	13.00	21.943		
2,100.00	2,093.78	2,078.14	2,072.01	7.10	7.04	144.29	-69.86	-186.01	299.60	285.91	13.69	21.881		
2,200.00	2,193.40	2,177.11	2,170.60	7.46	7.40	144.34	-74.04	-193.55	313.93	299.54	14.38	21.824		
2,300.00	2,293.02	2,276.08	2,269.19	7.82	7.76	144.38	-78.22	-201.10	328.25	313.17	15.08	21.771		
2,400.00	2,392.64	2,375.05	2,367.79	8.19	8.12	144.43	-82.40	-208.64	342.58	326.81	15.77	21.723		
2,500.00	2,492.26	2,474.02	2,466.38	8.55	8.48	144.47	-86.59	-216.18	356.90	340.44	16.46	21.678		
2,600.00	2,591.88	2,572.98	2,564.97	8.91	8.84	144.50	-90.77	-223.73	371.23	354.07	17.16	21.636		
2,700.00	2,691.50	2,671.95	2,663.56	9.28	9.20	144.54	-94.95	-231.27	385.56	367.71	17.85	21.598		
2,800.00	2,791.12	2,770.92	2,762.15	9.64	9.57	144.57	-99.13	-238.82	399.89	381.34	18.55	21.562		
2,900.00	2,890.74	2,869.89	2,860.74	10.00	9.93	144.59	-103.31	-246.36	414.21	394.97	19.24	21.528		
3,000.00	2,990.36	2,968.86	2,959.34	10.37	10.29	144.62	-107.49	-253.90	428.54	408.60	19.93	21.497		
3,100.00	3,089.98	3,067.82	3,057.93	10.73	10.65	144.65	-111.68	-261.45	442.87	422.24	20.63	21.467		
3,200.00	3,189.60	3,166.79	3,156.52	11.10	11.01	144.67	-115.86	-268.99	457.19	435.87	21.32	21.440		
3,300.00	3,289.22	3,265.76	3,255.11	11.46	11.37	144.69	-120.04	-276.54	471.52	449.50	22.02	21.414		
3,400.00	3,388.84	3,364.73	3,353.70	11.82	11.73	144.71	-124.22	-284.08	485.85	463.13	22.71	21.389		
3,500.00	3,488.46	3,463.70	3,452.29	12.19	12.09	144.73	-128.40	-291.63	500.18	476.77	23.41	21.366		
3,600.00	3,588.08	3,562.67	3,550.88	12.55	12.45	144.75	-132.59	-299.17	514.50	490.40	24.11	21.344		
3,700.00	3,687.70	3,661.63	3,649.48	12.92	12.81	144.77	-136.77	-306.71	528.83	504.03	24.80	21.323		
3,800.00	3,787.32	3,760.60	3,748.07	13.28	13.17	144.79	-140.95	-314.26	543.16	517.66	25.50	21.303		
3,900.00	3,886.94	3,859.57	3,846.66	13.64	13.53	144.80	-145.13	-321.80	557.49	531.29	26.19	21.284		
4,000.00	3,986.55	3,958.54	3,945.25	14.01	13.90	144.82	-149.31	-329.35	571.81	544.92	26.89	21.266		
4,100.00	4,086.17	4,057.51	4,043.84	14.37	14.26	144.83	-153.49	-336.89	586.14	558.56	27.58	21.249		
4,200.00	4,185.79	4,156.47	4,142.43	14.74	14.62	144.84	-157.68	-344.43	600.47	572.19	28.28	21.233		
4,300.00	4,285.41	4,255.44	4,241.02	15.10	14.98	144.86	-161.86	-351.98	614.80	585.82	28.98	21.217		
4,400.00	4,385.16	4,354.60	4,339.80	15.41	15.34	144.93	-166.05	-359.54	627.71	598.06	29.65	21.169		
4,500.00	4,485.10	4,454.04	4,438.87	15.65	15.70	144.78	-170.25	-367.12	637.79	607.53	30.26	21.075		
4,600.00	4,585.10	4,553.64	4,538.09	15.93	16.07	-85.58	-174.46	-374.71	645.41	614.51	30.90	20.888		
4,700.00	4,685.10	4,654.04	4,638.10	16.19	16.43	-86.00	-178.70	-382.36	652.71	621.20	31.51	20.713		
4,800.00	4,785.10	4,777.62	4,761.42	16.46	16.76	-86.38	-182.55	-389.30	658.11	626.00	32.11	20.495		
4,900.00	4,885.10	4,901.33	4,885.10	16.73	17.09	-86.50	-183.81	-391.59	659.89	627.17	32.72	20.168		
5,000.00	4,985.10	5,001.33	4,985.10	17.00	17.37	-86.50	-183.81	-391.59	659.89	626.61	33.28	19.827		
5,071.34	5,056.44	5,072.67	5,056.44	17.19	17.56	-86.51	-183.81	-391.59	659.89	626.22	33.67	19.597		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	5,085.09	5,100.37	5,084.13	17.27	17.64	-86.50	-183.81	-391.59	659.89	626.06	33.83	19.508		
5,200.00	5,184.46	5,194.12	5,177.37	17.53	17.88	-86.56	-175.40	-391.59	659.85	625.52	34.33	19.220		
5,300.00	5,280.15	5,287.18	5,266.96	17.77	18.11	-86.74	-150.67	-391.59	659.73	624.96	34.78	18.971		
5,400.00	5,368.63	5,380.66	5,351.09	17.97	18.31	-87.03	-110.20	-391.59	659.55	624.37	35.18	18.745		
5,500.00	5,446.65	5,474.77	5,427.12	18.15	18.48	-87.43	-54.95	-391.60	659.34	623.75	35.59	18.525		
5,600.00	5,511.36	5,569.71	5,492.49	18.30	18.62	-87.91	13.71	-391.60	659.12	623.07	36.04	18.287		
5,700.00	5,560.36	5,665.65	5,544.80	18.43	18.73	-88.48	93.97	-391.60	658.92	622.34	36.58	18.013		
5,800.00	5,591.87	5,762.77	5,581.88	18.65	18.80	-89.09	183.59	-391.61	658.78	621.54	37.24	17.692		
5,900.00	5,604.72	5,861.22	5,601.85	19.01	19.01	-89.75	279.84	-391.61	658.71	620.69	38.02	17.326		
5,927.31	5,605.50	5,888.38	5,604.13	19.13	19.13	-89.88	306.90	-391.61	658.71	620.44	38.26	17.215		
6,000.00	5,605.00	5,961.02	5,605.00	19.48	19.48	-90.00	379.52	-391.61	658.71	619.76	38.95	16.910		
6,100.00	5,605.00	6,061.02	5,605.00	20.06	20.06	-90.00	479.52	-391.62	658.72	618.64	40.08	16.434		
6,200.00	5,605.00	6,161.02	5,605.00	20.72	20.72	-90.00	579.52	-391.62	658.73	617.34	41.39	15.916		
6,300.00	5,605.00	6,261.02	5,605.00	21.47	21.45	-90.00	679.52	-391.63	658.74	615.88	42.86	15.371		
6,400.00	5,605.00	6,361.02	5,605.00	22.29	22.26	-90.00	779.52	-391.63	658.75	614.28	44.47	14.813		
6,500.00	5,605.00	6,461.02	5,605.00	23.17	23.13	-90.00	879.52	-391.64	658.76	612.54	46.22	14.254		
6,600.00	5,605.00	6,561.02	5,605.00	24.11	24.06	-90.00	979.52	-391.64	658.76	610.68	48.08	13.701		
6,700.00	5,605.00	6,661.02	5,605.00	25.11	25.04	-90.00	1,079.52	-391.65	658.77	608.73	50.05	13.163		
6,800.00	5,605.00	6,761.02	5,605.00	26.14	26.07	-90.00	1,179.52	-391.65	658.78	606.68	52.11	12.643		
6,900.00	5,605.00	6,861.02	5,605.00	27.22	27.14	-90.00	1,279.52	-391.65	658.79	604.54	54.25	12.144		
7,000.00	5,605.00	6,961.02	5,605.00	28.33	28.24	-90.00	1,379.52	-391.66	658.80	602.34	56.46	11.669		
7,100.00	5,605.00	7,061.02	5,605.00	29.47	29.38	-90.00	1,479.52	-391.66	658.81	600.07	58.74	11.216		
7,200.00	5,605.00	7,161.02	5,605.00	30.64	30.54	-90.00	1,579.52	-391.67	658.82	597.75	61.07	10.788		
7,300.00	5,605.00	7,261.02	5,605.00	31.83	31.73	-90.00	1,679.52	-391.67	658.82	595.37	63.46	10.382		
7,400.00	5,605.00	7,361.02	5,605.00	33.05	32.94	-90.00	1,779.52	-391.68	658.83	592.95	65.89	10.000		
7,500.00	5,605.00	7,461.02	5,605.00	34.29	34.17	-90.00	1,879.52	-391.68	658.84	590.49	68.36	9.638		
7,600.00	5,605.00	7,561.02	5,605.00	35.54	35.42	-90.00	1,979.52	-391.69	658.85	587.99	70.86	9.298		
7,700.00	5,605.00	7,661.02	5,605.00	36.82	36.69	-90.00	2,079.52	-391.69	658.86	585.46	73.40	8.976		
7,800.00	5,605.00	7,761.02	5,605.00	38.10	37.97	-90.00	2,179.52	-391.69	658.87	582.90	75.97	8.673		
7,900.00	5,605.00	7,861.02	5,605.00	39.40	39.27	-90.00	2,279.52	-391.70	658.88	580.31	78.56	8.386		
8,000.00	5,605.00	7,961.02	5,605.00	40.71	40.57	-90.00	2,379.52	-391.70	658.89	577.70	81.18	8.116		
8,100.00	5,605.00	8,061.02	5,605.00	42.03	41.89	-90.00	2,479.52	-391.71	658.89	575.07	83.82	7.861		
8,200.00	5,605.00	8,161.02	5,605.00	43.36	43.22	-90.00	2,579.52	-391.71	658.90	572.42	86.48	7.619		
8,300.00	5,605.00	8,261.02	5,605.00	44.70	44.56	-90.00	2,679.52	-391.72	658.91	569.75	89.16	7.390		
8,400.00	5,605.00	8,361.02	5,605.00	46.05	45.90	-90.00	2,779.52	-391.72	658.92	567.07	91.85	7.174		
8,500.00	5,605.00	8,461.02	5,605.00	47.40	47.25	-90.00	2,879.52	-391.73	658.93	564.37	94.56	6.968		
8,600.00	5,605.00	8,561.02	5,605.00	48.76	48.61	-90.00	2,979.52	-391.73	658.94	561.65	97.28	6.773		
8,700.00	5,605.00	8,661.02	5,605.00	50.13	49.98	-90.00	3,079.52	-391.73	658.95	558.93	100.02	6.588		
8,800.00	5,605.00	8,761.02	5,605.00	51.50	51.35	-90.00	3,179.52	-391.74	658.95	556.19	102.77	6.412		
8,900.00	5,605.00	8,861.02	5,605.00	52.88	52.73	-90.00	3,279.52	-391.74	658.96	553.44	105.52	6.245		
9,000.00	5,605.00	8,961.02	5,605.00	54.27	54.11	-90.00	3,379.52	-391.75	658.97	550.68	108.29	6.085		
9,100.00	5,605.00	9,061.02	5,605.00	55.65	55.49	-90.00	3,479.52	-391.75	658.98	547.92	111.06	5.933		
9,200.00	5,605.00	9,161.02	5,605.00	57.05	56.88	-90.00	3,579.52	-391.76	658.99	545.14	113.85	5.788		
9,300.00	5,605.00	9,261.02	5,605.00	58.44	58.28	-90.00	3,679.52	-391.76	659.00	542.36	116.64	5.650		
9,400.00	5,605.00	9,361.02	5,605.00	59.84	59.68	-90.00	3,779.52	-391.76	659.01	539.57	119.44	5.517		
9,500.00	5,605.00	9,461.02	5,605.00	61.24	61.08	-90.00	3,879.52	-391.77	659.02	536.77	122.25	5.391		
9,600.00	5,605.00	9,561.02	5,605.00	62.65	62.48	-90.00	3,979.52	-391.77	659.02	533.97	125.06	5.270		
9,700.00	5,605.00	9,661.02	5,605.00	64.06	63.89	-90.00	4,079.52	-391.78	659.03	531.16	127.88	5.154		
9,800.00	5,605.00	9,761.02	5,605.00	65.47	65.30	-90.00	4,179.52	-391.78	659.04	528.34	130.70	5.042		
9,900.00	5,605.00	9,861.02	5,605.00	66.89	66.72	-90.00	4,279.52	-391.79	659.05	525.52	133.53	4.936		
10,000.00	5,605.00	9,961.02	5,605.00	68.30	68.13	-90.00	4,379.52	-391.79	659.06	522.70	136.36	4.833		
10,100.00	5,605.00	10,061.02	5,605.00	69.72	69.55	-90.00	4,479.52	-391.80	659.07	519.87	139.20	4.735		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	10,161.02	5,605.00	71.14	70.97	-90.00	4,579.52	-391.80	659.08	517.03	142.04	4.640		
10,300.00	5,605.00	10,261.02	5,605.00	72.57	72.39	-90.00	4,679.52	-391.80	659.09	514.19	144.89	4.549		
10,400.00	5,605.00	10,361.02	5,605.00	73.99	73.82	-90.00	4,779.52	-391.81	659.09	511.35	147.74	4.461		
10,500.00	5,605.00	10,461.02	5,605.00	75.42	75.24	-90.00	4,879.52	-391.81	659.10	508.51	150.60	4.377		
10,600.00	5,605.00	10,561.02	5,605.00	76.85	76.67	-90.00	4,979.52	-391.82	659.11	505.66	153.45	4.295		
10,700.00	5,605.00	10,661.02	5,605.00	78.28	78.10	-90.00	5,079.52	-391.82	659.12	502.81	156.31	4.217		
10,800.00	5,605.00	10,761.02	5,605.00	79.71	79.53	-90.00	5,179.52	-391.83	659.13	499.95	159.18	4.141		
10,900.00	5,605.00	10,861.02	5,605.00	81.14	80.96	-90.00	5,279.52	-391.83	659.14	497.09	162.04	4.068		
11,000.00	5,605.00	10,961.02	5,605.00	82.58	82.40	-90.00	5,379.52	-391.84	659.15	494.23	164.91	3.997		
11,100.00	5,605.00	11,061.02	5,605.00	84.01	83.83	-90.00	5,479.52	-391.84	659.15	491.37	167.79	3.929		
11,200.00	5,605.00	11,161.02	5,605.00	85.45	85.27	-90.00	5,579.52	-391.84	659.16	488.50	170.66	3.862		
11,300.00	5,605.00	11,261.02	5,605.00	86.89	86.71	-90.00	5,679.52	-391.85	659.17	485.64	173.54	3.798		
11,400.00	5,605.00	11,361.02	5,605.00	88.33	88.14	-90.00	5,779.52	-391.85	659.18	482.77	176.41	3.737		
11,500.00	5,605.00	11,461.02	5,605.00	89.77	89.58	-90.00	5,879.52	-391.86	659.19	479.89	179.30	3.677		
11,600.00	5,605.00	11,561.02	5,605.00	91.21	91.02	-90.00	5,979.52	-391.86	659.20	477.02	182.18	3.618		
11,700.00	5,605.00	11,661.02	5,605.00	92.65	92.47	-90.00	6,079.52	-391.87	659.21	474.14	185.06	3.562		
11,800.00	5,605.00	11,761.02	5,605.00	94.09	93.91	-90.00	6,179.52	-391.87	659.22	471.27	187.95	3.507		
11,900.00	5,605.00	11,861.02	5,605.00	95.54	95.35	-90.00	6,279.52	-391.88	659.22	468.39	190.84	3.454		
12,000.00	5,605.00	11,961.02	5,605.00	96.98	96.80	-90.00	6,379.52	-391.88	659.23	465.51	193.73	3.403		
12,100.00	5,605.00	12,061.02	5,605.00	98.43	98.24	-90.00	6,479.52	-391.88	659.24	462.62	196.62	3.353		
12,200.00	5,605.00	12,161.02	5,605.00	99.88	99.69	-90.00	6,579.52	-391.89	659.25	459.74	199.51	3.304		
12,300.00	5,605.00	12,261.02	5,605.00	101.32	101.13	-90.00	6,679.52	-391.89	659.26	456.85	202.41	3.257		
12,400.00	5,605.00	12,361.02	5,605.00	102.77	102.58	-90.00	6,779.52	-391.90	659.27	453.97	205.30	3.211		
12,500.00	5,605.00	12,461.02	5,605.00	104.22	104.03	-90.00	6,879.52	-391.90	659.28	451.08	208.20	3.167		
12,600.00	5,605.00	12,561.02	5,605.00	105.67	105.48	-90.00	6,979.52	-391.91	659.29	448.19	211.10	3.123		
12,700.00	5,605.00	12,661.02	5,605.00	107.12	106.93	-90.00	7,079.52	-391.91	659.29	445.30	214.00	3.081		
12,800.00	5,605.00	12,761.02	5,605.00	108.57	108.38	-90.00	7,179.52	-391.92	659.30	442.40	216.90	3.040		
12,900.00	5,605.00	12,861.02	5,605.00	110.02	109.83	-90.00	7,279.52	-391.92	659.31	439.51	219.80	3.000		
13,000.00	5,605.00	12,961.02	5,605.00	111.47	111.28	-90.00	7,379.52	-391.92	659.32	436.62	222.70	2.961		
13,100.00	5,605.00	13,061.02	5,605.00	112.92	112.73	-90.00	7,479.52	-391.93	659.33	433.72	225.61	2.922		
13,200.00	5,605.00	13,161.02	5,605.00	114.37	114.18	-90.00	7,579.52	-391.93	659.34	430.82	228.51	2.885		
13,300.00	5,605.00	13,261.02	5,605.00	115.83	115.64	-90.00	7,679.52	-391.94	659.35	427.93	231.42	2.849		
13,400.00	5,605.00	13,361.02	5,605.00	117.28	117.09	-90.00	7,779.52	-391.94	659.35	425.03	234.33	2.814		
13,500.00	5,605.00	13,461.02	5,605.00	118.74	118.54	-90.00	7,879.52	-391.95	659.36	422.13	237.23	2.779		
13,600.00	5,605.00	13,561.02	5,605.00	120.19	120.00	-90.00	7,979.52	-391.95	659.37	419.23	240.14	2.746		
13,700.00	5,605.00	13,661.02	5,605.00	121.64	121.45	-90.00	8,079.52	-391.96	659.38	416.33	243.05	2.713		
13,800.00	5,605.00	13,761.02	5,605.00	123.10	122.91	-90.00	8,179.52	-391.96	659.39	413.43	245.96	2.681		
13,900.00	5,605.00	13,861.02	5,605.00	124.55	124.36	-90.00	8,279.52	-391.96	659.40	410.52	248.87	2.650		
14,000.00	5,605.00	13,961.02	5,605.00	126.01	125.82	-90.00	8,379.52	-391.97	659.41	407.62	251.79	2.619		
14,100.00	5,605.00	14,061.02	5,605.00	127.47	127.27	-90.00	8,479.52	-391.97	659.42	404.72	254.70	2.589		
14,200.00	5,605.00	14,161.02	5,605.00	128.92	128.73	-90.00	8,579.52	-391.98	659.42	401.81	257.61	2.560		
14,300.00	5,605.00	14,261.02	5,605.00	130.38	130.19	-90.00	8,679.52	-391.98	659.43	398.91	260.53	2.531		
14,400.00	5,605.00	14,361.02	5,605.00	131.84	131.64	-90.00	8,779.52	-391.99	659.44	396.00	263.44	2.503		
14,500.00	5,605.00	14,461.02	5,605.00	133.30	133.10	-90.00	8,879.52	-391.99	659.45	393.09	266.36	2.476		
14,600.00	5,605.00	14,561.02	5,605.00	134.75	134.56	-90.00	8,979.52	-391.99	659.46	390.19	269.27	2.449		
14,700.00	5,605.00	14,661.02	5,605.00	136.21	136.02	-90.00	9,079.52	-392.00	659.47	387.28	272.19	2.423		
14,800.00	5,605.00	14,761.02	5,605.00	137.67	137.48	-90.00	9,179.52	-392.00	659.48	384.37	275.11	2.397		
14,900.00	5,605.00	14,861.02	5,605.00	139.13	138.93	-90.00	9,279.52	-392.01	659.49	381.46	278.02	2.372		
15,000.00	5,605.00	14,961.02	5,605.00	140.59	140.39	-90.00	9,379.52	-392.01	659.49	378.55	280.94	2.347		
15,100.00	5,605.00	15,061.02	5,605.00	142.05	141.85	-90.00	9,479.52	-392.02	659.50	375.64	283.86	2.323		
15,200.00	5,605.00	15,161.02	5,605.00	143.51	143.31	-90.00	9,579.52	-392.02	659.51	372.73	286.78	2.300		
15,300.00	5,605.00	15,261.02	5,605.00	144.97	144.77	-90.00	9,679.52	-392.03	659.52	369.82	289.70	2.277		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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
15,400.00	5,605.00	15,361.02	5,605.00	146.43	146.23	-90.00	9,779.52	-392.03	659.53	366.91	292.62	2.254	
15,500.00	5,605.00	15,461.02	5,605.00	147.89	147.69	-90.00	9,879.52	-392.03	659.54	364.00	295.54	2.232	
15,600.00	5,605.00	15,561.02	5,605.00	149.35	149.15	-90.00	9,979.52	-392.04	659.55	361.08	298.46	2.210	
15,700.00	5,605.00	15,661.02	5,605.00	150.81	150.61	-90.00	10,079.52	-392.04	659.55	358.17	301.38	2.188	
15,730.26	5,605.00	15,691.28	5,605.00	151.25	151.05	-90.00	10,109.78	-392.04	659.56	357.29	302.27	2.182	
15,756.19	5,605.00	15,714.20	5,605.00	151.63	151.39	-90.00	10,132.71	-392.05	659.57	356.59	302.98	2.177 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-29.99	29.99					
100.00	100.00	100.00	100.00	0.13	0.13	-90.00	0.00	-29.99	29.99	29.73	0.27	112.606		
200.00	200.00	200.00	200.00	0.47	0.47	-90.00	0.00	-29.99	29.99	29.05	0.94	31.885		
300.00	300.00	300.00	300.00	0.81	0.81	-90.00	0.00	-29.99	29.99	28.38	1.61	18.572 CC, ES		
400.00	399.98	399.79	399.77	1.12	1.11	138.91	-1.71	-30.29	31.64	29.41	2.22	14.228		
500.00	499.84	499.47	499.31	1.43	1.41	136.37	-6.73	-31.18	36.60	33.78	2.82	12.974		
600.00	599.49	599.19	598.85	1.75	1.71	136.04	-12.73	-32.24	44.03	40.58	3.45	12.756		
700.00	699.11	698.89	698.36	2.08	2.03	136.17	-18.72	-33.29	51.77	47.67	4.10	12.621		
800.00	798.73	798.59	797.88	2.42	2.36	136.27	-24.72	-34.35	59.51	54.75	4.77	12.480		
900.00	898.35	898.29	897.39	2.78	2.70	136.35	-30.71	-35.41	67.26	61.81	5.45	12.351		
1,000.00	997.97	997.99	996.91	3.13	3.04	136.41	-36.70	-36.46	75.00	68.87	6.13	12.237		
1,100.00	1,097.59	1,097.69	1,096.42	3.49	3.39	136.46	-42.70	-37.52	82.75	75.93	6.82	12.137		
1,200.00	1,197.21	1,197.39	1,195.93	3.84	3.73	136.50	-48.69	-38.58	90.49	82.98	7.51	12.050		
1,300.00	1,296.83	1,297.09	1,295.45	4.20	4.08	136.54	-54.69	-39.64	98.23	90.03	8.20	11.974		
1,400.00	1,396.45	1,396.79	1,394.96	4.56	4.43	136.57	-60.68	-40.69	105.98	97.08	8.90	11.908		
1,500.00	1,496.07	1,496.49	1,494.47	4.92	4.78	136.59	-66.68	-41.75	113.72	104.12	9.60	11.849		
1,600.00	1,595.69	1,596.19	1,593.99	5.28	5.13	136.62	-72.67	-42.81	121.46	111.17	10.30	11.796		
1,700.00	1,695.31	1,695.89	1,693.50	5.65	5.48	136.63	-78.66	-43.86	129.21	118.21	11.00	11.749		
1,800.00	1,794.93	1,795.59	1,793.01	6.01	5.83	136.65	-84.66	-44.92	136.95	125.25	11.70	11.707		
1,900.00	1,894.55	1,895.29	1,892.53	6.37	6.18	136.67	-90.65	-45.98	144.70	132.30	12.40	11.670		
2,000.00	1,994.17	1,994.99	1,992.04	6.73	6.53	136.68	-96.65	-47.03	152.44	139.34	13.10	11.635		
2,100.00	2,093.78	2,094.69	2,091.56	7.10	6.88	136.69	-102.64	-48.09	160.18	146.38	13.80	11.604		
2,200.00	2,193.40	2,194.39	2,191.07	7.46	7.23	136.71	-108.63	-49.15	167.93	153.42	14.51	11.575		
2,300.00	2,293.02	2,294.09	2,290.58	7.82	7.58	136.72	-114.63	-50.20	175.67	160.46	15.21	11.549		
2,400.00	2,392.64	2,393.79	2,390.10	8.19	7.93	136.73	-120.62	-51.26	183.42	167.50	15.91	11.525		
2,500.00	2,492.26	2,493.48	2,489.61	8.55	8.29	136.74	-126.62	-52.32	191.16	174.54	16.62	11.503		
2,600.00	2,591.88	2,593.18	2,589.12	8.91	8.64	136.75	-132.61	-53.38	198.90	181.58	17.32	11.482		
2,700.00	2,691.50	2,692.88	2,688.64	9.28	8.99	136.75	-138.60	-54.43	206.65	188.62	18.03	11.463		
2,800.00	2,791.12	2,792.58	2,788.15	9.64	9.34	136.76	-144.60	-55.49	214.39	195.66	18.73	11.445		
2,900.00	2,890.74	2,892.28	2,887.67	10.00	9.69	136.76	-150.59	-56.55	222.14	202.70	19.44	11.429		
3,000.00	2,990.36	2,991.98	2,987.18	10.37	10.05	136.77	-156.59	-57.60	229.88	209.74	20.14	11.413		
3,100.00	3,089.98	3,091.68	3,086.69	10.73	10.40	136.78	-162.58	-58.66	237.63	216.78	20.85	11.399		
3,200.00	3,189.60	3,191.38	3,186.21	11.10	10.75	136.78	-168.57	-59.72	245.37	223.82	21.55	11.385		
3,300.00	3,289.22	3,291.08	3,285.72	11.46	11.10	136.79	-174.57	-60.77	253.11	230.86	22.26	11.372		
3,400.00	3,388.84	3,391.11	3,385.57	11.82	11.45	136.80	-180.54	-61.83	260.85	237.89	22.96	11.363		
3,500.00	3,488.46	3,492.92	3,487.29	12.19	11.71	137.30	-184.32	-62.49	268.07	244.51	23.57	11.375		
3,600.00	3,588.08	3,593.70	3,588.08	12.55	11.97	138.43	-184.88	-62.59	274.67	250.50	24.16	11.366		
3,700.00	3,687.70	3,693.32	3,687.70	12.92	12.22	139.61	-184.88	-62.59	281.26	256.49	24.76	11.359		
3,800.00	3,787.32	3,792.94	3,787.32	13.28	12.48	140.73	-184.88	-62.59	287.96	262.60	25.36	11.355		
3,900.00	3,886.94	3,892.56	3,886.94	13.64	12.74	141.80	-184.88	-62.59	294.77	268.81	25.96	11.354		
4,000.00	3,986.55	3,992.18	3,986.55	14.01	13.01	142.82	-184.88	-62.59	301.68	275.11	26.57	11.355		
4,100.00	4,086.17	4,091.80	4,086.17	14.37	13.28	143.80	-184.88	-62.59	308.67	281.50	27.18	11.359		
4,200.00	4,185.79	4,191.42	4,185.79	14.74	13.55	144.73	-184.88	-62.59	315.76	287.97	27.79	11.364		
4,300.00	4,285.41	4,291.04	4,285.41	15.10	13.83	145.62	-184.88	-62.59	322.92	294.53	28.40	11.371		
4,400.00	4,385.16	4,390.79	4,385.16	15.41	14.11	146.37	-184.88	-62.59	328.71	299.73	28.98	11.344		
4,500.00	4,485.10	4,490.73	4,485.10	15.65	14.39	146.74	-184.88	-62.59	331.62	302.12	29.50	11.242		
4,600.00	4,585.10	4,590.72	4,585.10	15.93	14.67	-83.21	-184.88	-62.59	331.99	301.93	30.06	11.044		
4,700.00	4,685.10	4,690.72	4,685.10	16.19	14.96	-83.21	-184.88	-62.59	331.99	301.38	30.61	10.845		
4,800.00	4,785.10	4,790.72	4,785.10	16.46	15.24	-83.21	-184.88	-62.59	331.99	300.82	31.17	10.651		
4,900.00	4,885.10	4,890.72	4,885.10	16.73	15.53	-83.21	-184.88	-62.59	331.99	300.26	31.73	10.462		
5,000.00	4,985.10	4,990.72	4,985.10	17.00	15.83	-83.21	-184.88	-62.59	331.99	299.69	32.30	10.279		
5,099.99	5,085.09	5,084.97	5,079.13	17.27	16.09	-82.41	-180.15	-62.59	332.63	299.80	32.83	10.131		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	5,184.46	5,175.41	5,167.25	17.53	16.33	-80.30	-160.30	-62.59	334.51	301.23	33.27	10.053		
5,300.00	5,280.15	5,264.28	5,249.22	17.77	16.55	-78.54	-126.25	-62.59	336.43	302.78	33.64	10.000		
5,400.00	5,368.63	5,350.00	5,321.70	17.97	16.75	-77.19	-80.67	-62.59	338.15	304.21	33.94	9.963		
5,500.00	5,446.65	5,438.72	5,387.81	18.15	16.96	-76.22	-21.65	-62.59	339.46	305.23	34.23	9.917		
5,600.00	5,511.36	5,524.97	5,441.58	18.30	17.19	-75.70	45.66	-62.58	340.21	305.65	34.56	9.844		
5,700.00	5,560.36	5,611.01	5,483.43	18.43	17.46	-75.63	120.72	-62.58	340.32	305.32	35.00	9.723		
5,800.00	5,591.87	5,700.00	5,513.13	18.65	17.78	-76.02	204.49	-62.58	339.79	304.16	35.62	9.538		
5,900.00	5,604.72	5,783.74	5,527.68	19.01	18.14	-76.81	286.86	-62.58	338.63	302.21	36.42	9.299		
5,999.74	5,606.37	5,876.23	5,530.00	19.48	18.60	-76.96	379.28	-62.57	338.40	301.08	37.32	9.066		
6,000.00	5,605.00	5,876.51	5,530.00	19.48	18.60	-77.18	379.56	-62.57	338.09	300.74	37.35	9.052		
6,100.00	5,605.00	5,976.51	5,530.00	20.06	19.19	-77.18	479.56	-62.57	338.10	299.62	38.47	8.788		
6,200.00	5,605.00	6,076.51	5,530.00	20.72	19.86	-77.18	579.56	-62.57	338.10	298.33	39.77	8.501		
6,300.00	5,605.00	6,176.51	5,530.00	21.47	20.62	-77.18	679.56	-62.56	338.10	296.87	41.23	8.200		
6,400.00	5,605.00	6,276.51	5,530.00	22.29	21.46	-77.18	779.56	-62.56	338.10	295.27	42.83	7.894		
6,500.00	5,605.00	6,376.51	5,530.00	23.17	22.36	-77.18	879.56	-62.56	338.10	293.54	44.56	7.587		
6,600.00	5,605.00	6,476.51	5,530.00	24.11	23.32	-77.18	979.56	-62.55	338.10	291.69	46.41	7.286		
6,700.00	5,605.00	6,576.51	5,530.00	25.11	24.33	-77.18	1,079.56	-62.55	338.10	289.75	48.35	6.992		
6,800.00	5,605.00	6,676.51	5,530.00	26.14	25.38	-77.18	1,179.56	-62.55	338.10	287.71	50.39	6.710		
6,900.00	5,605.00	6,776.51	5,530.00	27.22	26.48	-77.18	1,279.56	-62.55	338.10	285.60	52.50	6.440		
7,000.00	5,605.00	6,876.51	5,530.00	28.33	27.61	-77.18	1,379.56	-62.54	338.11	283.42	54.69	6.183		
7,100.00	5,605.00	6,976.51	5,530.00	29.47	28.77	-77.18	1,479.56	-62.54	338.11	281.17	56.93	5.939		
7,200.00	5,605.00	7,076.51	5,530.00	30.64	29.96	-77.18	1,579.56	-62.54	338.11	278.87	59.23	5.708		
7,300.00	5,605.00	7,176.51	5,530.00	31.83	31.17	-77.18	1,679.56	-62.53	338.11	276.53	61.58	5.490		
7,400.00	5,605.00	7,276.51	5,530.00	33.05	32.40	-77.18	1,779.56	-62.53	338.11	274.13	63.98	5.285		
7,500.00	5,605.00	7,376.51	5,530.00	34.29	33.66	-77.18	1,879.56	-62.53	338.11	271.70	66.41	5.092		
7,600.00	5,605.00	7,476.51	5,530.00	35.54	34.93	-77.18	1,979.56	-62.52	338.11	269.24	68.87	4.909		
7,700.00	5,605.00	7,576.51	5,530.00	36.82	36.21	-77.18	2,079.56	-62.52	338.11	266.74	71.37	4.738		
7,800.00	5,605.00	7,676.51	5,530.00	38.10	37.51	-77.18	2,179.56	-62.52	338.11	264.22	73.89	4.576		
7,900.00	5,605.00	7,776.51	5,530.00	39.40	38.82	-77.18	2,279.56	-62.51	338.12	261.67	76.44	4.423		
8,000.00	5,605.00	7,876.51	5,530.00	40.71	40.14	-77.18	2,379.56	-62.51	338.12	259.10	79.01	4.279		
8,100.00	5,605.00	7,976.51	5,530.00	42.03	41.48	-77.18	2,479.56	-62.51	338.12	256.51	81.61	4.143		
8,200.00	5,605.00	8,076.51	5,530.00	43.36	42.82	-77.18	2,579.56	-62.50	338.12	253.90	84.22	4.015		
8,300.00	5,605.00	8,176.51	5,530.00	44.70	44.17	-77.18	2,679.56	-62.50	338.12	251.27	86.85	3.893		
8,400.00	5,605.00	8,276.51	5,530.00	46.05	45.53	-77.18	2,779.56	-62.50	338.12	248.63	89.49	3.778		
8,500.00	5,605.00	8,376.51	5,530.00	47.40	46.89	-77.18	2,879.56	-62.49	338.12	245.97	92.15	3.669		
8,600.00	5,605.00	8,476.51	5,530.00	48.76	48.26	-77.18	2,979.56	-62.49	338.12	243.31	94.82	3.566		
8,700.00	5,605.00	8,576.51	5,530.00	50.13	49.64	-77.18	3,079.56	-62.49	338.12	240.62	97.50	3.468		
8,800.00	5,605.00	8,676.51	5,530.00	51.50	51.02	-77.18	3,179.56	-62.49	338.13	237.93	100.19	3.375		
8,900.00	5,605.00	8,776.51	5,530.00	52.88	52.41	-77.18	3,279.56	-62.48	338.13	235.23	102.90	3.286		
9,000.00	5,605.00	8,876.51	5,530.00	54.27	53.80	-77.18	3,379.56	-62.48	338.13	232.52	105.61	3.202		
9,100.00	5,605.00	8,976.51	5,530.00	55.65	55.19	-77.18	3,479.56	-62.48	338.13	229.80	108.33	3.121		
9,200.00	5,605.00	9,076.51	5,530.00	57.05	56.59	-77.18	3,579.56	-62.47	338.13	227.07	111.06	3.045		
9,300.00	5,605.00	9,176.51	5,530.00	58.44	57.99	-77.18	3,679.56	-62.47	338.13	224.34	113.79	2.971		
9,400.00	5,605.00	9,276.51	5,530.00	59.84	59.40	-77.18	3,779.56	-62.47	338.13	221.59	116.54	2.901		
9,500.00	5,605.00	9,376.51	5,530.00	61.24	60.81	-77.18	3,879.56	-62.46	338.13	218.85	119.29	2.835		
9,600.00	5,605.00	9,476.51	5,530.00	62.65	62.22	-77.18	3,979.56	-62.46	338.13	216.09	122.04	2.771		
9,700.00	5,605.00	9,576.51	5,530.00	64.06	63.64	-77.18	4,079.56	-62.46	338.13	213.33	124.80	2.709		
9,800.00	5,605.00	9,676.51	5,530.00	65.47	65.05	-77.18	4,179.56	-62.45	338.14	210.57	127.57	2.651		
9,900.00	5,605.00	9,776.51	5,530.00	66.89	66.47	-77.18	4,279.56	-62.45	338.14	207.80	130.34	2.594		
10,000.00	5,605.00	9,876.51	5,530.00	68.30	67.90	-77.18	4,379.56	-62.45	338.14	205.02	133.12	2.540		
10,100.00	5,605.00	9,976.51	5,530.00	69.72	69.32	-77.18	4,479.56	-62.44	338.14	202.24	135.90	2.488		
10,200.00	5,605.00	10,076.51	5,530.00	71.14	70.75	-77.18	4,579.56	-62.44	338.14	199.46	138.68	2.438		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	10,176.51	5,530.00	72.57	72.17	-77.18	4,679.56	-62.44	338.14	196.67	141.47	2.390		
10,400.00	5,605.00	10,276.51	5,530.00	73.99	73.60	-77.18	4,779.56	-62.43	338.14	193.88	144.26	2.344		
10,500.00	5,605.00	10,376.51	5,530.00	75.42	75.04	-77.18	4,879.56	-62.43	338.14	191.09	147.05	2.299		
10,600.00	5,605.00	10,476.51	5,530.00	76.85	76.47	-77.18	4,979.56	-62.43	338.14	188.29	149.85	2.257		
10,700.00	5,605.00	10,576.51	5,530.00	78.28	77.90	-77.18	5,079.56	-62.43	338.15	185.49	152.65	2.215		
10,800.00	5,605.00	10,676.51	5,530.00	79.71	79.34	-77.19	5,179.56	-62.42	338.15	182.69	155.46	2.175		
10,900.00	5,605.00	10,776.51	5,530.00	81.14	80.77	-77.19	5,279.56	-62.42	338.15	179.88	158.26	2.137		
11,000.00	5,605.00	10,876.51	5,530.00	82.58	82.21	-77.19	5,379.56	-62.42	338.15	177.08	161.07	2.099		
11,100.00	5,605.00	10,976.51	5,530.00	84.01	83.65	-77.19	5,479.56	-62.41	338.15	174.27	163.88	2.063		
11,200.00	5,605.00	11,076.51	5,530.00	85.45	85.09	-77.19	5,579.56	-62.41	338.15	171.45	166.70	2.029		
11,300.00	5,605.00	11,176.51	5,530.00	86.89	86.53	-77.19	5,679.56	-62.41	338.15	168.64	169.51	1.995		
11,400.00	5,605.00	11,276.51	5,530.00	88.33	87.98	-77.19	5,779.56	-62.40	338.15	165.82	172.33	1.962		
11,500.00	5,605.00	11,376.51	5,530.00	89.77	89.42	-77.19	5,879.56	-62.40	338.15	163.00	175.15	1.931		
11,600.00	5,605.00	11,476.51	5,530.00	91.21	90.86	-77.19	5,979.56	-62.40	338.16	160.18	177.97	1.900		
11,700.00	5,605.00	11,576.51	5,530.00	92.65	92.31	-77.19	6,079.56	-62.39	338.16	157.36	180.80	1.870		
11,800.00	5,605.00	11,676.51	5,530.00	94.09	93.75	-77.19	6,179.56	-62.39	338.16	154.54	183.62	1.842		
11,900.00	5,605.00	11,776.51	5,530.00	95.54	95.20	-77.19	6,279.56	-62.39	338.16	151.71	186.45	1.814		
12,000.00	5,605.00	11,876.51	5,530.00	96.98	96.65	-77.19	6,379.56	-62.38	338.16	148.88	189.28	1.787		
12,100.00	5,605.00	11,976.51	5,530.00	98.43	98.10	-77.19	6,479.56	-62.38	338.16	146.05	192.11	1.760		
12,200.00	5,605.00	12,076.51	5,530.00	99.88	99.55	-77.19	6,579.56	-62.38	338.16	143.22	194.94	1.735		
12,300.00	5,605.00	12,176.51	5,530.00	101.32	101.00	-77.19	6,679.56	-62.37	338.16	140.39	197.77	1.710		
12,400.00	5,605.00	12,276.51	5,530.00	102.77	102.45	-77.19	6,779.56	-62.37	338.16	137.56	200.60	1.686		
12,500.00	5,605.00	12,376.51	5,530.00	104.22	103.90	-77.19	6,879.56	-62.37	338.17	134.73	203.44	1.662		
12,600.00	5,605.00	12,476.51	5,530.00	105.67	105.35	-77.19	6,979.56	-62.37	338.17	131.89	206.28	1.639		
12,700.00	5,605.00	12,576.51	5,530.00	107.12	106.80	-77.19	7,079.56	-62.36	338.17	129.05	209.11	1.617		
12,800.00	5,605.00	12,676.51	5,530.00	108.57	108.25	-77.19	7,179.56	-62.36	338.17	126.22	211.95	1.595		
12,900.00	5,605.00	12,776.51	5,530.00	110.02	109.71	-77.19	7,279.56	-62.36	338.17	123.38	214.79	1.574		
13,000.00	5,605.00	12,876.51	5,530.00	111.47	111.16	-77.19	7,379.56	-62.35	338.17	120.54	217.63	1.554		
13,100.00	5,605.00	12,976.51	5,530.00	112.92	112.61	-77.19	7,479.56	-62.35	338.17	117.70	220.47	1.534		
13,200.00	5,605.00	13,076.51	5,530.00	114.37	114.07	-77.19	7,579.56	-62.35	338.17	114.86	223.32	1.514		
13,300.00	5,605.00	13,176.51	5,530.00	115.83	115.52	-77.19	7,679.56	-62.34	338.17	112.01	226.16	1.495	Level 3	
13,400.00	5,605.00	13,276.51	5,530.00	117.28	116.98	-77.19	7,779.56	-62.34	338.18	109.17	229.01	1.477	Level 3	
13,500.00	5,605.00	13,376.51	5,530.00	118.74	118.43	-77.19	7,879.56	-62.34	338.18	106.33	231.85	1.459	Level 3	
13,600.00	5,605.00	13,476.51	5,530.00	120.19	119.89	-77.19	7,979.56	-62.33	338.18	103.48	234.70	1.441	Level 3	
13,700.00	5,605.00	13,576.51	5,530.00	121.64	121.35	-77.19	8,079.56	-62.33	338.18	100.63	237.54	1.424	Level 3	
13,800.00	5,605.00	13,676.51	5,530.00	123.10	122.80	-77.19	8,179.56	-62.33	338.18	97.79	240.39	1.407	Level 3	
13,900.00	5,605.00	13,776.51	5,530.00	124.55	124.26	-77.19	8,279.56	-62.32	338.18	94.94	243.24	1.390	Level 3	
14,000.00	5,605.00	13,876.51	5,530.00	126.01	125.72	-77.19	8,379.56	-62.32	338.18	92.09	246.09	1.374	Level 3	
14,100.00	5,605.00	13,976.51	5,530.00	127.47	127.18	-77.19	8,479.56	-62.32	338.18	89.24	248.94	1.358	Level 3	
14,200.00	5,605.00	14,076.51	5,530.00	128.92	128.63	-77.19	8,579.56	-62.32	338.18	86.39	251.79	1.343	Level 3	
14,300.00	5,605.00	14,176.51	5,530.00	130.38	130.09	-77.19	8,679.56	-62.31	338.19	83.54	254.64	1.328	Level 3	
14,400.00	5,605.00	14,276.51	5,530.00	131.84	131.55	-77.19	8,779.56	-62.31	338.19	80.69	257.49	1.313	Level 3	
14,500.00	5,605.00	14,376.51	5,530.00	133.30	133.01	-77.19	8,879.56	-62.31	338.19	77.84	260.34	1.299	Level 3	
14,600.00	5,605.00	14,476.51	5,530.00	134.75	134.47	-77.19	8,979.56	-62.30	338.19	74.99	263.20	1.285	Level 3	
14,700.00	5,605.00	14,576.51	5,530.00	136.21	135.93	-77.19	9,079.56	-62.30	338.19	72.14	266.05	1.271	Level 3	
14,800.00	5,605.00	14,676.51	5,530.00	137.67	137.39	-77.19	9,179.56	-62.30	338.19	69.29	268.90	1.258	Level 3	
14,900.00	5,605.00	14,776.51	5,530.00	139.13	138.85	-77.19	9,279.56	-62.29	338.19	66.43	271.76	1.244	Level 2	
15,000.00	5,605.00	14,876.51	5,530.00	140.59	140.31	-77.19	9,379.56	-62.29	338.19	63.58	274.61	1.232	Level 2	
15,100.00	5,605.00	14,976.51	5,530.00	142.05	141.77	-77.19	9,479.56	-62.29	338.19	60.72	277.47	1.219	Level 2	
15,200.00	5,605.00	15,076.51	5,530.00	143.51	143.23	-77.19	9,579.56	-62.28	338.20	57.87	280.33	1.206	Level 2	
15,300.00	5,605.00	15,176.51	5,530.00	144.97	144.69	-77.19	9,679.56	-62.28	338.20	55.01	283.18	1.194	Level 2	
15,400.00	5,605.00	15,276.51	5,530.00	146.43	146.15	-77.19	9,779.56	-62.28	338.20	52.16	286.04	1.182	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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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		
15,500.00	5,605.00	15,376.51	5,530.00	147.89	147.61	-77.19	9,879.56	-62.27	338.20	49.30	288.90	1.171	Level 2	
15,600.00	5,605.00	15,476.51	5,530.00	149.35	149.08	-77.19	9,979.56	-62.27	338.20	46.45	291.75	1.159	Level 2	
15,700.00	5,605.00	15,576.51	5,530.00	150.81	150.54	-77.19	10,079.56	-62.27	338.20	43.59	294.61	1.148	Level 2	
15,731.46	5,605.00	15,607.97	5,530.00	151.27	151.00	-77.19	10,111.02	-62.27	338.20	42.69	295.51	1.144	Level 2	
15,756.19	5,605.00	15,631.67	5,530.00	151.63	151.34	-77.19	10,134.73	-62.27	338.20	42.00	296.20	1.142	Level 2, SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	-119.57	-50.61	-89.21	102.56					
100.00	100.00	100.00	100.00	0.13	0.13	-119.57	-50.61	-89.21	102.56	102.30	0.27	385.070		
200.00	200.00	200.00	200.00	0.47	0.47	-119.57	-50.61	-89.21	102.56	101.62	0.94	109.034		
300.00	300.00	300.00	300.00	0.81	0.81	-119.57	-50.61	-89.21	102.56	100.95	1.61	63.509 CC, ES		
400.00	399.98	396.64	396.63	1.12	1.11	-111.56	-50.89	-90.81	104.78	102.55	2.23	46.961		
500.00	499.84	492.73	492.59	1.43	1.42	114.63	-51.73	-95.59	111.68	108.83	2.85	39.185		
600.00	599.49	587.79	587.31	1.75	1.74	118.86	-53.11	-103.43	123.60	120.10	3.50	35.305		
700.00	699.11	681.81	680.68	2.08	2.07	122.71	-55.02	-114.23	139.60	135.44	4.16	33.551		
800.00	798.73	774.67	772.50	2.42	2.41	125.82	-57.42	-127.85	159.34	154.51	4.82	33.029		
900.00	898.35	867.21	863.52	2.78	2.78	128.29	-60.32	-144.28	182.55	177.05	5.50	33.215		
1,000.00	997.97	963.93	958.47	3.13	3.17	130.29	-63.52	-162.45	207.08	200.92	6.15	33.659		
1,100.00	1,097.59	1,060.65	1,053.41	3.49	3.58	131.87	-66.73	-180.63	231.79	224.98	6.81	34.045		
1,200.00	1,197.21	1,157.37	1,148.35	3.84	3.99	133.14	-69.93	-198.80	256.64	249.17	7.47	34.357		
1,300.00	1,296.83	1,254.09	1,243.30	4.20	4.40	134.19	-73.13	-216.98	281.59	273.45	8.14	34.612		
1,400.00	1,396.45	1,350.81	1,338.24	4.56	4.82	135.07	-76.34	-235.15	306.61	297.81	8.80	34.823		
1,500.00	1,496.07	1,447.53	1,433.18	4.92	5.24	135.82	-79.54	-253.33	331.69	322.22	9.48	35.000		
1,600.00	1,595.69	1,544.25	1,528.13	5.28	5.65	136.46	-82.75	-271.50	356.82	346.66	10.15	35.144		
1,700.00	1,695.31	1,640.97	1,623.07	5.65	6.08	137.02	-85.95	-289.68	381.98	371.15	10.83	35.273		
1,800.00	1,794.93	1,737.69	1,718.01	6.01	6.50	137.50	-89.16	-307.85	407.17	395.66	11.51	35.383		
1,900.00	1,894.55	1,834.41	1,812.95	6.37	6.92	137.94	-92.36	-326.02	432.39	420.20	12.19	35.478		
2,000.00	1,994.17	1,931.13	1,907.90	6.73	7.34	138.32	-95.57	-344.20	457.62	444.76	12.87	35.561		
2,100.00	2,093.78	2,027.85	2,002.84	7.10	7.77	138.66	-98.77	-362.37	482.88	469.33	13.55	35.634		
2,200.00	2,193.40	2,124.57	2,097.78	7.46	8.19	138.97	-101.98	-380.55	508.15	493.91	14.23	35.699		
2,300.00	2,293.02	2,221.29	2,192.73	7.82	8.62	139.25	-105.18	-398.72	533.43	518.51	14.92	35.756		
2,400.00	2,392.64	2,318.01	2,287.67	8.19	9.04	139.51	-108.39	-416.90	558.72	543.12	15.60	35.807		
2,500.00	2,492.26	2,414.74	2,382.61	8.55	9.47	139.74	-111.59	-435.07	584.02	567.73	16.29	35.853		
2,600.00	2,591.88	2,511.46	2,477.56	8.91	9.89	139.95	-114.79	-453.25	609.33	592.35	16.98	35.895		
2,700.00	2,691.50	2,608.18	2,572.50	9.28	10.32	140.15	-118.00	-471.42	634.65	616.98	17.66	35.933		
2,800.00	2,791.12	2,704.90	2,667.44	9.64	10.74	140.33	-121.20	-489.60	659.97	641.62	18.35	35.967		
2,900.00	2,890.74	2,801.62	2,762.39	10.00	11.17	140.50	-124.41	-507.77	685.30	666.26	19.04	35.998		
3,000.00	2,990.36	2,898.34	2,857.33	10.37	11.60	140.66	-127.61	-525.95	710.63	690.91	19.73	36.026		
3,100.00	3,089.98	2,995.06	2,952.27	10.73	12.02	140.80	-130.82	-544.12	735.97	715.56	20.41	36.052		
3,200.00	3,189.60	3,091.78	3,047.22	11.10	12.45	140.94	-134.02	-562.30	761.31	740.21	21.10	36.076		
3,300.00	3,289.22	3,188.50	3,142.16	11.46	12.88	141.06	-137.23	-580.47	786.66	764.87	21.79	36.098		
3,400.00	3,388.84	3,285.22	3,237.10	11.82	13.30	141.18	-140.43	-598.65	812.01	789.53	22.48	36.119		
3,500.00	3,488.46	3,381.94	3,332.05	12.19	13.73	141.29	-143.64	-616.82	837.36	814.19	23.17	36.137		
3,600.00	3,588.08	3,478.66	3,426.99	12.55	14.16	141.40	-146.84	-634.99	862.72	838.86	23.86	36.155		
3,700.00	3,687.70	3,575.38	3,521.93	12.92	14.58	141.50	-150.05	-653.17	888.08	863.53	24.55	36.171		
3,800.00	3,787.32	3,672.10	3,616.88	13.28	15.01	141.59	-153.25	-671.34	913.44	888.20	25.24	36.186		
3,900.00	3,886.94	3,768.82	3,711.82	13.64	15.44	141.68	-156.46	-689.52	938.80	912.87	25.93	36.199		
4,000.00	3,986.55	3,865.54	3,806.76	14.01	15.86	141.76	-159.66	-707.69	964.17	937.54	26.63	36.212		
4,100.00	4,086.17	3,962.26	3,901.71	14.37	16.29	141.84	-162.86	-725.87	989.53	962.22	27.32	36.224		
4,200.00	4,185.79	4,058.98	3,996.65	14.74	16.72	141.92	-166.07	-744.04	1,014.90	986.89	28.01	36.235		
4,300.00	4,285.41	4,155.70	4,091.59	15.10	17.15	141.99	-169.27	-762.22	1,040.27	1,011.57	28.70	36.246		
4,400.00	4,385.16	4,252.76	4,186.87	15.41	17.58	142.30	-172.49	-780.46	1,064.31	1,034.91	29.40	36.201		
4,500.00	4,485.10	4,350.43	4,282.75	15.65	18.01	142.46	-175.73	-798.81	1,085.66	1,055.62	30.04	36.146		
4,600.00	4,585.10	4,448.54	4,379.05	15.93	18.44	-87.62	-178.98	-817.25	1,104.64	1,073.96	30.68	36.007		
4,700.00	4,685.10	4,550.87	4,479.51	16.19	18.89	-87.83	-182.36	-836.46	1,123.29	1,091.99	31.30	35.892		
4,800.00	4,785.10	4,711.78	4,638.33	16.46	19.38	-88.11	-186.82	-861.71	1,138.90	1,106.90	32.00	35.595		
4,900.00	4,885.10	4,875.11	4,800.77	16.73	19.80	-88.28	-189.75	-878.33	1,149.02	1,116.34	32.68	35.158		
5,000.00	4,985.10	5,039.86	4,965.32	17.00	20.19	-88.36	-191.07	-885.83	1,153.55	1,120.17	33.38	34.560		
5,099.99	5,085.09	5,159.63	5,085.09	17.27	20.48	-88.37	-191.15	-886.27	1,153.81	1,119.82	33.99	33.950		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	5,184.46	5,259.01	5,184.46	17.53	20.73	-88.87	-191.15	-886.27	1,153.57	1,119.05	34.52	33.417		
5,298.15	5,278.43	5,353.15	5,278.40	17.76	20.96	-90.00	-186.38	-886.27	1,153.34	1,118.36	34.98	32.969		
5,300.00	5,280.15	5,354.95	5,280.18	17.77	20.97	-90.02	-186.14	-886.27	1,153.34	1,118.35	34.99	32.961		
5,400.00	5,368.63	5,454.29	5,376.66	17.97	21.20	-91.20	-163.13	-886.27	1,153.61	1,118.19	35.42	32.569		
5,500.00	5,446.65	5,558.75	5,471.46	18.15	21.42	-92.37	-119.68	-886.27	1,154.40	1,118.56	35.84	32.213		
5,600.00	5,511.36	5,668.95	5,559.96	18.30	21.61	-93.49	-54.35	-886.28	1,155.61	1,119.33	36.28	31.856		
5,700.00	5,560.36	5,785.27	5,636.29	18.43	21.77	-94.50	33.10	-886.28	1,157.07	1,120.28	36.79	31.452		
5,800.00	5,591.87	5,907.61	5,693.56	18.65	21.90	-95.35	140.89	-886.29	1,158.53	1,121.11	37.43	30.956		
5,900.00	5,604.72	6,035.19	5,724.86	19.01	22.04	-95.97	264.23	-886.30	1,159.74	1,121.51	38.23	30.337		
6,000.00	5,605.00	6,150.58	5,729.00	19.48	22.24	-96.14	379.46	-886.31	1,160.05	1,120.85	39.20	29.593		
6,100.00	5,605.00	6,250.58	5,729.00	20.06	22.52	-96.14	479.46	-886.32	1,160.07	1,119.76	40.31	28.781		
6,200.00	5,605.00	6,350.58	5,729.00	20.72	22.94	-96.14	579.46	-886.33	1,160.08	1,118.49	41.59	27.892		
6,300.00	5,605.00	6,450.58	5,729.00	21.47	23.48	-96.14	679.46	-886.34	1,160.09	1,117.05	43.04	26.956		
6,400.00	5,605.00	6,550.58	5,729.00	22.29	24.14	-96.14	779.46	-886.34	1,160.10	1,115.48	44.63	25.995		
6,500.00	5,605.00	6,650.58	5,729.00	23.17	24.89	-96.14	879.46	-886.35	1,160.12	1,113.77	46.35	25.029		
6,600.00	5,605.00	6,750.58	5,729.00	24.11	25.73	-96.14	979.46	-886.36	1,160.13	1,111.94	48.19	24.075		
6,700.00	5,605.00	6,850.58	5,729.00	25.11	26.63	-96.14	1,079.46	-886.37	1,160.14	1,110.01	50.13	23.142		
6,800.00	5,605.00	6,950.58	5,729.00	26.14	27.58	-96.14	1,179.46	-886.38	1,160.15	1,107.99	52.17	22.240		
6,900.00	5,605.00	7,050.58	5,729.00	27.22	28.59	-96.14	1,279.46	-886.39	1,160.17	1,105.88	54.28	21.373		
7,000.00	5,605.00	7,150.58	5,729.00	28.33	29.64	-96.14	1,379.46	-886.39	1,160.18	1,103.71	56.47	20.544		
7,100.00	5,605.00	7,250.58	5,729.00	29.47	30.72	-96.14	1,479.46	-886.40	1,160.19	1,101.46	58.73	19.756		
7,200.00	5,605.00	7,350.58	5,729.00	30.64	31.83	-96.13	1,579.46	-886.41	1,160.20	1,099.16	61.04	19.008		
7,300.00	5,605.00	7,450.58	5,729.00	31.83	32.98	-96.13	1,679.46	-886.42	1,160.21	1,096.81	63.40	18.300		
7,400.00	5,605.00	7,550.58	5,729.00	33.05	34.15	-96.13	1,779.46	-886.43	1,160.23	1,094.42	65.81	17.630		
7,500.00	5,605.00	7,650.58	5,729.00	34.29	35.34	-96.13	1,879.46	-886.43	1,160.24	1,091.98	68.26	16.998		
7,600.00	5,605.00	7,750.58	5,729.00	35.54	36.56	-96.13	1,979.46	-886.44	1,160.25	1,089.51	70.74	16.401		
7,700.00	5,605.00	7,850.58	5,729.00	36.82	37.79	-96.13	2,079.46	-886.45	1,160.26	1,087.00	73.26	15.837		
7,800.00	5,605.00	7,950.58	5,729.00	38.10	39.04	-96.13	2,179.46	-886.46	1,160.28	1,084.47	75.81	15.305		
7,900.00	5,605.00	8,050.58	5,729.00	39.40	40.30	-96.13	2,279.46	-886.47	1,160.29	1,081.90	78.38	14.803		
8,000.00	5,605.00	8,150.58	5,729.00	40.71	41.58	-96.13	2,379.46	-886.47	1,160.30	1,079.32	80.98	14.328		
8,100.00	5,605.00	8,250.58	5,729.00	42.03	42.87	-96.13	2,479.46	-886.48	1,160.31	1,076.71	83.60	13.879		
8,200.00	5,605.00	8,350.58	5,729.00	43.36	44.17	-96.13	2,579.46	-886.49	1,160.33	1,074.08	86.24	13.454		
8,300.00	5,605.00	8,450.58	5,729.00	44.70	45.48	-96.13	2,679.46	-886.50	1,160.34	1,071.44	88.90	13.052		
8,400.00	5,605.00	8,550.58	5,729.00	46.05	46.80	-96.13	2,779.46	-886.51	1,160.35	1,068.77	91.58	12.671		
8,500.00	5,605.00	8,650.58	5,729.00	47.40	48.13	-96.13	2,879.46	-886.51	1,160.36	1,066.09	94.27	12.309		
8,600.00	5,605.00	8,750.58	5,729.00	48.76	49.47	-96.13	2,979.46	-886.52	1,160.37	1,063.40	96.97	11.966		
8,700.00	5,605.00	8,850.58	5,729.00	50.13	50.82	-96.13	3,079.46	-886.53	1,160.39	1,060.70	99.69	11.640		
8,800.00	5,605.00	8,950.58	5,729.00	51.50	52.17	-96.13	3,179.46	-886.54	1,160.40	1,057.98	102.42	11.330		
8,900.00	5,605.00	9,050.58	5,729.00	52.88	53.53	-96.13	3,279.46	-886.55	1,160.41	1,055.25	105.16	11.035		
9,000.00	5,605.00	9,150.58	5,729.00	54.27	54.89	-96.13	3,379.46	-886.55	1,160.42	1,052.52	107.91	10.754		
9,100.00	5,605.00	9,250.58	5,729.00	55.65	56.26	-96.13	3,479.46	-886.56	1,160.44	1,049.77	110.66	10.486		
9,200.00	5,605.00	9,350.58	5,729.00	57.05	57.64	-96.13	3,579.46	-886.57	1,160.45	1,047.02	113.43	10.230		
9,300.00	5,605.00	9,450.58	5,729.00	58.44	59.02	-96.13	3,679.46	-886.58	1,160.46	1,044.25	116.21	9.986		
9,400.00	5,605.00	9,550.58	5,729.00	59.84	60.40	-96.13	3,779.46	-886.59	1,160.47	1,041.48	118.99	9.753		
9,500.00	5,605.00	9,650.58	5,729.00	61.24	61.79	-96.13	3,879.46	-886.60	1,160.48	1,038.71	121.78	9.529		
9,600.00	5,605.00	9,750.58	5,729.00	62.65	63.18	-96.13	3,979.46	-886.60	1,160.50	1,035.92	124.58	9.316		
9,700.00	5,605.00	9,850.58	5,729.00	64.06	64.57	-96.13	4,079.46	-886.61	1,160.51	1,033.13	127.38	9.111		
9,800.00	5,605.00	9,950.58	5,729.00	65.47	65.97	-96.13	4,179.46	-886.62	1,160.52	1,030.34	130.18	8.914		
9,900.00	5,605.00	10,050.58	5,729.00	66.89	67.37	-96.13	4,279.46	-886.63	1,160.53	1,027.54	133.00	8.726		
10,000.00	5,605.00	10,150.58	5,729.00	68.30	68.78	-96.13	4,379.46	-886.64	1,160.55	1,024.73	135.82	8.545		
10,100.00	5,605.00	10,250.58	5,729.00	69.72	70.18	-96.13	4,479.46	-886.64	1,160.56	1,021.92	138.64	8.371		
10,200.00	5,605.00	10,350.58	5,729.00	71.14	71.59	-96.13	4,579.46	-886.65	1,160.57	1,019.11	141.46	8.204		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	10,450.58	5,729.00	72.57	73.01	-96.13	4,679.46	-886.66	1,160.58	1,016.29	144.30	8.043		
10,400.00	5,605.00	10,550.58	5,729.00	73.99	74.42	-96.13	4,779.46	-886.67	1,160.60	1,013.47	147.13	7.888		
10,500.00	5,605.00	10,650.58	5,729.00	75.42	75.84	-96.13	4,879.46	-886.68	1,160.61	1,010.64	149.97	7.739		
10,600.00	5,605.00	10,750.58	5,729.00	76.85	77.26	-96.13	4,979.46	-886.68	1,160.62	1,007.81	152.81	7.595		
10,700.00	5,605.00	10,850.58	5,729.00	78.28	78.68	-96.13	5,079.46	-886.69	1,160.63	1,004.98	155.66	7.456		
10,800.00	5,605.00	10,950.58	5,729.00	79.71	80.10	-96.13	5,179.46	-886.70	1,160.64	1,002.14	158.50	7.323		
10,900.00	5,605.00	11,050.58	5,729.00	81.14	81.52	-96.13	5,279.46	-886.71	1,160.66	999.30	161.35	7.193		
11,000.00	5,605.00	11,150.58	5,729.00	82.58	82.95	-96.13	5,379.46	-886.72	1,160.67	996.46	164.21	7.068		
11,100.00	5,605.00	11,250.58	5,729.00	84.01	84.38	-96.13	5,479.46	-886.72	1,160.68	993.62	167.06	6.948		
11,200.00	5,605.00	11,350.58	5,729.00	85.45	85.80	-96.13	5,579.46	-886.73	1,160.69	990.77	169.92	6.831		
11,300.00	5,605.00	11,450.58	5,729.00	86.89	87.23	-96.13	5,679.46	-886.74	1,160.71	987.92	172.78	6.718		
11,400.00	5,605.00	11,550.58	5,729.00	88.33	88.67	-96.13	5,779.46	-886.75	1,160.72	985.07	175.65	6.608		
11,500.00	5,605.00	11,650.58	5,729.00	89.77	90.10	-96.13	5,879.46	-886.76	1,160.73	982.22	178.51	6.502		
11,600.00	5,605.00	11,750.58	5,729.00	91.21	91.53	-96.13	5,979.46	-886.76	1,160.74	979.36	181.38	6.399		
11,700.00	5,605.00	11,850.58	5,729.00	92.65	92.97	-96.13	6,079.46	-886.77	1,160.75	976.50	184.25	6.300		
11,800.00	5,605.00	11,950.58	5,729.00	94.09	94.40	-96.13	6,179.46	-886.78	1,160.77	973.64	187.12	6.203		
11,900.00	5,605.00	12,050.58	5,729.00	95.54	95.84	-96.13	6,279.46	-886.79	1,160.78	970.78	190.00	6.109		
12,000.00	5,605.00	12,150.58	5,729.00	96.98	97.28	-96.13	6,379.46	-886.80	1,160.79	967.92	192.87	6.018		
12,100.00	5,605.00	12,250.58	5,729.00	98.43	98.72	-96.13	6,479.46	-886.81	1,160.80	965.06	195.75	5.930		
12,200.00	5,605.00	12,350.58	5,729.00	99.88	100.16	-96.13	6,579.46	-886.81	1,160.82	962.19	198.63	5.844		
12,300.00	5,605.00	12,450.58	5,729.00	101.32	101.60	-96.13	6,679.46	-886.82	1,160.83	959.32	201.51	5.761		
12,400.00	5,605.00	12,550.58	5,729.00	102.77	103.04	-96.13	6,779.46	-886.83	1,160.84	956.45	204.39	5.680		
12,500.00	5,605.00	12,650.58	5,729.00	104.22	104.49	-96.13	6,879.46	-886.84	1,160.85	953.58	207.27	5.601		
12,600.00	5,605.00	12,750.58	5,729.00	105.67	105.93	-96.13	6,979.46	-886.85	1,160.87	950.71	210.15	5.524		
12,700.00	5,605.00	12,850.58	5,729.00	107.12	107.37	-96.13	7,079.46	-886.85	1,160.88	947.84	213.04	5.449		
12,800.00	5,605.00	12,950.58	5,729.00	108.57	108.82	-96.13	7,179.46	-886.86	1,160.89	944.97	215.92	5.376		
12,900.00	5,605.00	13,050.58	5,729.00	110.02	110.27	-96.13	7,279.46	-886.87	1,160.90	942.09	218.81	5.305		
13,000.00	5,605.00	13,150.58	5,729.00	111.47	111.71	-96.13	7,379.46	-886.88	1,160.91	939.21	221.70	5.236		
13,100.00	5,605.00	13,250.58	5,729.00	112.92	113.16	-96.13	7,479.46	-886.89	1,160.93	936.34	224.59	5.169		
13,200.00	5,605.00	13,350.58	5,729.00	114.37	114.61	-96.13	7,579.46	-886.89	1,160.94	933.46	227.48	5.103		
13,300.00	5,605.00	13,450.58	5,729.00	115.83	116.06	-96.13	7,679.46	-886.90	1,160.95	930.58	230.37	5.039		
13,400.00	5,605.00	13,550.58	5,729.00	117.28	117.50	-96.13	7,779.46	-886.91	1,160.96	927.70	233.26	4.977		
13,500.00	5,605.00	13,650.58	5,729.00	118.74	118.95	-96.13	7,879.46	-886.92	1,160.98	924.82	236.16	4.916		
13,600.00	5,605.00	13,750.58	5,729.00	120.19	120.40	-96.13	7,979.46	-886.93	1,160.99	921.94	239.05	4.857		
13,700.00	5,605.00	13,850.58	5,729.00	121.64	121.85	-96.13	8,079.46	-886.93	1,161.00	919.05	241.95	4.799		
13,800.00	5,605.00	13,950.58	5,729.00	123.10	123.31	-96.13	8,179.46	-886.94	1,161.01	916.17	244.84	4.742		
13,900.00	5,605.00	14,050.58	5,729.00	124.55	124.76	-96.13	8,279.46	-886.95	1,161.02	913.29	247.74	4.686		
14,000.00	5,605.00	14,150.58	5,729.00	126.01	126.21	-96.13	8,379.46	-886.96	1,161.04	910.40	250.64	4.632		
14,100.00	5,605.00	14,250.58	5,729.00	127.47	127.66	-96.13	8,479.46	-886.97	1,161.05	907.51	253.53	4.579		
14,200.00	5,605.00	14,350.58	5,729.00	128.92	129.11	-96.13	8,579.46	-886.97	1,161.06	904.63	256.43	4.528		
14,300.00	5,605.00	14,450.58	5,729.00	130.38	130.57	-96.13	8,679.46	-886.98	1,161.07	901.74	259.33	4.477		
14,400.00	5,605.00	14,550.58	5,729.00	131.84	132.02	-96.13	8,779.46	-886.99	1,161.09	898.85	262.23	4.428		
14,500.00	5,605.00	14,650.58	5,729.00	133.30	133.48	-96.13	8,879.46	-887.00	1,161.10	895.96	265.13	4.379		
14,600.00	5,605.00	14,750.58	5,729.00	134.75	134.93	-96.13	8,979.46	-887.01	1,161.11	893.07	268.04	4.332		
14,700.00	5,605.00	14,850.58	5,729.00	136.21	136.39	-96.13	9,079.46	-887.02	1,161.12	890.18	270.94	4.286		
14,800.00	5,605.00	14,950.58	5,729.00	137.67	137.84	-96.13	9,179.46	-887.02	1,161.14	887.29	273.84	4.240		
14,900.00	5,605.00	15,050.58	5,729.00	139.13	139.30	-96.13	9,279.46	-887.03	1,161.15	884.40	276.74	4.196		
15,000.00	5,605.00	15,150.58	5,729.00	140.59	140.75	-96.13	9,379.46	-887.04	1,161.16	881.51	279.65	4.152		
15,100.00	5,605.00	15,250.58	5,729.00	142.05	142.21	-96.13	9,479.46	-887.05	1,161.17	878.62	282.55	4.110		
15,200.00	5,605.00	15,350.58	5,729.00	143.51	143.66	-96.13	9,579.46	-887.06	1,161.18	875.73	285.46	4.068		
15,300.00	5,605.00	15,450.58	5,729.00	144.97	145.12	-96.13	9,679.46	-887.06	1,161.20	872.83	288.36	4.027		
15,400.00	5,605.00	15,550.58	5,729.00	146.43	146.58	-96.13	9,779.46	-887.07	1,161.21	869.94	291.27	3.987		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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
15,500.00	5,605.00	15,650.58	5,729.00	147.89	148.04	-96.13	9,879.46	-887.08	1,161.22	867.05	294.17	3.947	
15,600.00	5,605.00	15,750.58	5,729.00	149.35	149.49	-96.13	9,979.46	-887.09	1,161.23	864.15	297.08	3.909	
15,700.00	5,605.00	15,850.58	5,729.00	150.81	150.95	-96.13	10,079.46	-887.10	1,161.25	861.26	299.99	3.871	
15,729.32	5,605.00	15,879.91	5,729.00	151.24	151.38	-96.13	10,108.78	-887.10	1,161.25	860.41	300.84	3.860	
15,756.19	5,605.00	15,902.83	5,729.00	151.63	151.71	-96.13	10,131.71	-887.10	1,161.26	859.69	301.57	3.851 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	-130.52	-50.61	-59.22	77.89					
100.00	100.00	100.00	100.00	0.13	0.13	-130.52	-50.61	-59.22	77.89	77.63	0.27	292.453		
200.00	200.00	200.00	200.00	0.47	0.47	-130.52	-50.61	-59.22	77.89	76.95	0.94	82.809		
300.00	300.00	300.00	300.00	0.81	0.81	-130.52	-50.61	-59.22	77.89	76.28	1.61	48.233	CC, ES	
400.00	399.98	397.39	397.37	1.12	1.11	101.01	-51.25	-60.74	79.83	77.61	2.23	35.829		
500.00	499.84	494.28	494.13	1.43	1.42	105.12	-53.18	-65.28	85.97	83.13	2.84	30.263		
600.00	599.49	590.24	589.74	1.75	1.74	110.59	-56.35	-72.74	96.90	93.40	3.49	27.754		
700.00	699.11	686.63	685.48	2.08	2.06	115.28	-60.69	-82.98	111.84	107.68	4.16	26.877		
800.00	798.73	785.02	783.15	2.42	2.42	118.93	-65.38	-94.02	128.01	123.19	4.82	26.576		
900.00	898.35	883.42	880.81	2.78	2.78	121.76	-70.06	-105.06	144.58	139.10	5.48	26.393		
1,000.00	997.97	981.81	978.47	3.13	3.15	124.00	-74.75	-116.10	161.42	155.27	6.15	26.265		
1,100.00	1,097.59	1,080.21	1,076.13	3.49	3.52	125.82	-79.44	-127.13	178.46	171.64	6.82	26.171		
1,200.00	1,197.21	1,178.60	1,173.79	3.84	3.89	127.32	-84.12	-138.17	195.64	188.14	7.50	26.100		
1,300.00	1,296.83	1,277.00	1,271.45	4.20	4.26	128.58	-88.81	-149.21	212.93	204.75	8.18	26.044		
1,400.00	1,396.45	1,375.39	1,369.11	4.56	4.64	129.65	-93.49	-160.25	230.30	221.45	8.86	25.999		
1,500.00	1,496.07	1,473.79	1,466.78	4.92	5.01	130.57	-98.18	-171.29	247.75	238.20	9.54	25.962		
1,600.00	1,595.69	1,572.18	1,564.44	5.28	5.39	131.36	-102.86	-182.32	265.24	255.01	10.23	25.929		
1,700.00	1,695.31	1,670.58	1,662.10	5.65	5.77	132.06	-107.55	-193.36	282.78	271.86	10.92	25.903		
1,800.00	1,794.93	1,768.97	1,759.76	6.01	6.14	132.68	-112.23	-204.40	300.36	288.75	11.61	25.880		
1,900.00	1,894.55	1,867.36	1,857.42	6.37	6.52	133.23	-116.92	-215.44	317.96	305.67	12.30	25.860		
2,000.00	1,994.17	1,965.76	1,955.08	6.73	6.90	133.72	-121.60	-226.48	335.59	322.61	12.99	25.843		
2,100.00	2,093.78	2,064.15	2,052.74	7.10	7.28	134.16	-126.29	-237.51	353.25	339.57	13.68	25.827		
2,200.00	2,193.40	2,162.55	2,150.40	7.46	7.65	134.57	-130.97	-248.55	370.92	356.55	14.37	25.813		
2,300.00	2,293.02	2,260.94	2,248.07	7.82	8.03	134.93	-135.66	-259.59	388.61	373.54	15.06	25.800		
2,400.00	2,392.64	2,359.34	2,345.73	8.19	8.41	135.26	-140.34	-270.63	406.31	390.55	15.76	25.789		
2,500.00	2,492.26	2,457.73	2,443.39	8.55	8.79	135.57	-145.03	-281.67	424.02	407.57	16.45	25.778		
2,600.00	2,591.88	2,556.13	2,541.05	8.91	9.17	135.85	-149.72	-292.70	441.74	424.60	17.14	25.769		
2,700.00	2,691.50	2,654.52	2,638.71	9.28	9.55	136.11	-154.40	-303.74	459.48	441.64	17.84	25.760		
2,800.00	2,791.12	2,752.92	2,736.37	9.64	9.93	136.34	-159.09	-314.78	477.22	458.69	18.53	25.752		
2,900.00	2,890.74	2,851.31	2,834.03	10.00	10.31	136.57	-163.77	-325.82	494.97	475.74	19.23	25.744		
3,000.00	2,990.36	2,949.71	2,931.69	10.37	10.69	136.77	-168.46	-336.86	512.72	492.80	19.92	25.737		
3,100.00	3,089.98	3,048.10	3,029.36	10.73	11.07	136.97	-173.14	-347.89	530.49	509.87	20.62	25.731		
3,200.00	3,189.60	3,146.50	3,127.02	11.10	11.44	137.15	-177.83	-358.93	548.25	526.94	21.31	25.724		
3,300.00	3,289.22	3,244.89	3,224.68	11.46	11.82	137.32	-182.51	-369.97	566.03	544.02	22.01	25.719		
3,400.00	3,388.84	3,343.29	3,322.34	11.82	12.20	137.48	-187.20	-381.01	583.80	561.10	22.70	25.713		
3,500.00	3,488.46	3,441.68	3,420.00	12.19	12.58	137.62	-191.88	-392.05	601.58	578.18	23.40	25.708		
3,600.00	3,588.08	3,540.07	3,517.66	12.55	12.96	137.77	-196.57	-403.08	619.37	595.27	24.10	25.703		
3,700.00	3,687.70	3,638.47	3,615.32	12.92	13.34	137.90	-201.25	-414.12	637.16	612.36	24.79	25.698		
3,800.00	3,787.32	3,736.86	3,712.98	13.28	13.72	138.02	-205.94	-425.16	654.95	629.46	25.49	25.694		
3,900.00	3,886.94	3,835.26	3,810.65	13.64	14.10	138.14	-210.63	-436.20	672.74	646.56	26.19	25.690		
4,000.00	3,986.55	3,933.65	3,908.31	14.01	14.48	138.26	-215.31	-447.24	690.54	663.66	26.88	25.686		
4,100.00	4,086.17	4,032.05	4,005.97	14.37	14.86	138.36	-220.00	-458.28	708.34	680.76	27.58	25.682		
4,200.00	4,185.79	4,130.44	4,103.63	14.74	15.24	138.47	-224.68	-469.31	726.14	697.86	28.28	25.678		
4,300.00	4,285.41	4,228.84	4,201.29	15.10	15.62	138.56	-229.37	-480.35	743.94	714.97	28.98	25.674		
4,400.00	4,385.16	4,327.46	4,299.18	15.41	16.00	138.79	-234.06	-491.41	760.46	730.80	29.66	25.641		
4,500.00	4,485.10	4,426.46	4,397.44	15.65	16.38	138.81	-238.78	-502.52	774.38	744.11	30.27	25.579		
4,600.00	4,585.10	4,525.68	4,495.92	15.93	16.77	-91.42	-243.50	-513.65	786.04	755.13	30.91	25.431		
4,700.00	4,685.10	4,624.94	4,594.44	16.19	17.15	-91.75	-248.23	-524.79	797.40	765.88	31.52	25.300		
4,800.00	4,785.10	4,724.19	4,692.95	16.46	17.53	-92.06	-252.95	-535.92	808.78	776.65	32.13	25.172		
4,900.00	4,885.10	4,853.97	4,822.01	16.73	17.92	-92.40	-258.25	-548.40	818.63	785.86	32.77	24.984		
5,000.00	4,985.10	4,990.47	4,958.27	17.00	18.26	-92.59	-261.38	-555.76	824.11	790.73	33.38	24.690		
5,099.99	5,085.09	5,117.31	5,085.09	17.27	18.58	-92.64	-262.05	-557.35	825.29	791.29	34.00	24.272		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	5,184.46	5,216.69	5,184.46	17.53	18.85	-93.25	-262.05	-557.35	825.80	791.28	34.52	23.921		
5,300.00	5,280.15	5,312.37	5,280.15	17.77	19.10	-94.90	-262.05	-557.35	827.94	792.96	34.98	23.668		
5,400.00	5,368.63	5,418.02	5,385.54	17.97	19.37	-97.42	-256.71	-557.35	832.88	797.49	35.40	23.531		
5,500.00	5,446.65	5,543.02	5,505.94	18.15	19.66	-100.10	-224.25	-557.35	839.53	803.77	35.76	23.479		
5,600.00	5,511.36	5,685.16	5,628.92	18.30	19.93	-102.57	-153.87	-557.35	846.65	810.58	36.07	23.469		
5,700.00	5,560.36	5,845.45	5,739.00	18.43	20.12	-104.52	-38.22	-557.35	852.63	816.18	36.45	23.393		
5,800.00	5,591.87	6,019.90	5,812.86	18.65	20.20	-105.53	118.92	-557.35	855.76	818.69	37.07	23.086		
5,900.00	5,604.72	6,182.28	5,832.00	19.01	20.29	-105.40	279.56	-557.35	855.20	817.19	38.00	22.503		
5,944.97	5,605.87	6,227.23	5,832.00	19.22	20.41	-105.34	324.51	-557.35	854.89	816.48	38.42	22.254		
6,000.00	5,605.00	6,282.27	5,832.00	19.48	20.65	-105.39	379.55	-557.35	855.12	816.21	38.92	21.972		
6,100.00	5,605.00	6,382.27	5,832.00	20.06	21.23	-105.39	479.55	-557.35	855.13	815.11	40.02	21.368		
6,200.00	5,605.00	6,482.27	5,832.00	20.72	21.90	-105.39	579.55	-557.35	855.13	813.85	41.29	20.712		
6,300.00	5,605.00	6,582.27	5,832.00	21.47	22.65	-105.39	679.55	-557.35	855.14	812.43	42.71	20.023		
6,400.00	5,605.00	6,682.27	5,832.00	22.29	23.46	-105.39	779.55	-557.35	855.14	810.87	44.27	19.318		
6,500.00	5,605.00	6,782.27	5,832.00	23.17	24.34	-105.39	879.55	-557.35	855.14	809.19	45.95	18.610		
6,600.00	5,605.00	6,882.27	5,832.00	24.11	25.27	-105.39	979.55	-557.35	855.15	807.40	47.75	17.910		
6,700.00	5,605.00	6,982.27	5,832.00	25.11	26.24	-105.39	1,079.55	-557.35	855.15	805.51	49.64	17.227		
6,800.00	5,605.00	7,082.27	5,832.00	26.14	27.26	-105.39	1,179.55	-557.35	855.16	803.53	51.62	16.565		
6,900.00	5,605.00	7,182.27	5,832.00	27.22	28.32	-105.39	1,279.55	-557.35	855.16	801.47	53.69	15.929		
7,000.00	5,605.00	7,282.27	5,832.00	28.33	29.42	-105.39	1,379.55	-557.35	855.16	799.35	55.82	15.321		
7,100.00	5,605.00	7,382.27	5,832.00	29.47	30.55	-105.39	1,479.55	-557.35	855.17	797.16	58.01	14.742		
7,200.00	5,605.00	7,482.27	5,832.00	30.64	31.70	-105.39	1,579.55	-557.34	855.17	794.91	60.26	14.192		
7,300.00	5,605.00	7,582.27	5,832.00	31.83	32.88	-105.39	1,679.55	-557.34	855.17	792.62	62.56	13.670		
7,400.00	5,605.00	7,682.27	5,832.00	33.05	34.08	-105.39	1,779.55	-557.34	855.18	790.28	64.90	13.177		
7,500.00	5,605.00	7,782.27	5,832.00	34.29	35.30	-105.39	1,879.55	-557.34	855.18	787.90	67.28	12.711		
7,600.00	5,605.00	7,882.27	5,832.00	35.54	36.54	-105.39	1,979.55	-557.34	855.19	785.49	69.70	12.270		
7,700.00	5,605.00	7,982.27	5,832.00	36.82	37.80	-105.39	2,079.55	-557.34	855.19	783.04	72.15	11.853		
7,800.00	5,605.00	8,082.27	5,832.00	38.10	39.07	-105.39	2,179.55	-557.34	855.19	780.57	74.63	11.460		
7,900.00	5,605.00	8,182.27	5,832.00	39.40	40.35	-105.39	2,279.55	-557.34	855.20	778.07	77.13	11.088		
8,000.00	5,605.00	8,282.27	5,832.00	40.71	41.65	-105.39	2,379.55	-557.34	855.20	775.54	79.66	10.736		
8,100.00	5,605.00	8,382.27	5,832.00	42.03	42.96	-105.39	2,479.55	-557.34	855.21	773.00	82.21	10.403		
8,200.00	5,605.00	8,482.27	5,832.00	43.36	44.27	-105.39	2,579.55	-557.34	855.21	770.43	84.77	10.088		
8,300.00	5,605.00	8,582.27	5,832.00	44.70	45.60	-105.39	2,679.55	-557.34	855.21	767.85	87.36	9.789		
8,400.00	5,605.00	8,682.27	5,832.00	46.05	46.94	-105.39	2,779.55	-557.34	855.22	765.25	89.96	9.506		
8,500.00	5,605.00	8,782.27	5,832.00	47.40	48.28	-105.39	2,879.55	-557.34	855.22	762.64	92.58	9.238		
8,600.00	5,605.00	8,882.27	5,832.00	48.76	49.63	-105.39	2,979.55	-557.34	855.22	760.01	95.21	8.982		
8,700.00	5,605.00	8,982.27	5,832.00	50.13	50.99	-105.39	3,079.55	-557.34	855.23	757.37	97.85	8.740		
8,800.00	5,605.00	9,082.27	5,832.00	51.50	52.35	-105.39	3,179.55	-557.34	855.23	754.72	100.51	8.509		
8,900.00	5,605.00	9,182.27	5,832.00	52.88	53.72	-105.39	3,279.55	-557.34	855.24	752.06	103.17	8.289		
9,000.00	5,605.00	9,282.27	5,832.00	54.27	55.10	-105.39	3,379.55	-557.34	855.24	749.39	105.85	8.080		
9,100.00	5,605.00	9,382.27	5,832.00	55.65	56.48	-105.39	3,479.55	-557.34	855.24	746.71	108.53	7.880		
9,200.00	5,605.00	9,482.27	5,832.00	57.05	57.86	-105.39	3,579.55	-557.34	855.25	744.02	111.23	7.689		
9,300.00	5,605.00	9,582.27	5,832.00	58.44	59.25	-105.39	3,679.55	-557.34	855.25	741.32	113.93	7.507		
9,400.00	5,605.00	9,682.27	5,832.00	59.84	60.64	-105.39	3,779.55	-557.34	855.26	738.62	116.64	7.333		
9,500.00	5,605.00	9,782.27	5,832.00	61.24	62.04	-105.39	3,879.55	-557.34	855.26	735.91	119.35	7.166		
9,600.00	5,605.00	9,882.27	5,832.00	62.65	63.44	-105.39	3,979.55	-557.34	855.26	733.19	122.07	7.006		
9,700.00	5,605.00	9,982.27	5,832.00	64.06	64.84	-105.39	4,079.55	-557.34	855.27	730.47	124.80	6.853		
9,800.00	5,605.00	10,082.27	5,832.00	65.47	66.24	-105.39	4,179.55	-557.34	855.27	727.74	127.53	6.706		
9,900.00	5,605.00	10,182.27	5,832.00	66.89	67.65	-105.39	4,279.55	-557.34	855.27	725.01	130.27	6.565		
10,000.00	5,605.00	10,282.27	5,832.00	68.30	69.06	-105.39	4,379.55	-557.34	855.28	722.27	133.01	6.430		
10,100.00	5,605.00	10,382.27	5,832.00	69.72	70.48	-105.39	4,479.55	-557.34	855.28	719.52	135.76	6.300		
10,200.00	5,605.00	10,482.27	5,832.00	71.14	71.89	-105.39	4,579.55	-557.34	855.29	716.78	138.51	6.175		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	10,582.27	5,832.00	72.57	73.31	-105.39	4,679.55	-557.34	855.29	714.02	141.27	6.054		
10,400.00	5,605.00	10,682.27	5,832.00	73.99	74.73	-105.39	4,779.55	-557.34	855.29	711.27	144.03	5.938		
10,500.00	5,605.00	10,782.27	5,832.00	75.42	76.15	-105.39	4,879.55	-557.34	855.30	708.51	146.79	5.827		
10,600.00	5,605.00	10,882.27	5,832.00	76.85	77.57	-105.39	4,979.55	-557.34	855.30	705.75	149.55	5.719		
10,700.00	5,605.00	10,982.27	5,832.00	78.28	79.00	-105.39	5,079.55	-557.33	855.31	702.98	152.32	5.615		
10,800.00	5,605.00	11,082.27	5,832.00	79.71	80.43	-105.39	5,179.55	-557.33	855.31	700.21	155.10	5.515		
10,900.00	5,605.00	11,182.27	5,832.00	81.14	81.85	-105.39	5,279.55	-557.33	855.31	697.44	157.87	5.418		
11,000.00	5,605.00	11,282.27	5,832.00	82.58	83.28	-105.39	5,379.55	-557.33	855.32	694.67	160.65	5.324		
11,100.00	5,605.00	11,382.27	5,832.00	84.01	84.72	-105.39	5,479.55	-557.33	855.32	691.89	163.43	5.233		
11,200.00	5,605.00	11,482.27	5,832.00	85.45	86.15	-105.39	5,579.55	-557.33	855.32	689.11	166.22	5.146		
11,300.00	5,605.00	11,582.27	5,832.00	86.89	87.58	-105.39	5,679.55	-557.33	855.33	686.33	169.00	5.061		
11,400.00	5,605.00	11,682.27	5,832.00	88.33	89.02	-105.39	5,779.55	-557.33	855.33	683.54	171.79	4.979		
11,500.00	5,605.00	11,782.27	5,832.00	89.77	90.45	-105.39	5,879.55	-557.33	855.34	680.76	174.58	4.899		
11,600.00	5,605.00	11,882.27	5,832.00	91.21	91.89	-105.39	5,979.55	-557.33	855.34	677.97	177.37	4.822		
11,700.00	5,605.00	11,982.27	5,832.00	92.65	93.33	-105.39	6,079.55	-557.33	855.34	675.18	180.17	4.748		
11,800.00	5,605.00	12,082.27	5,832.00	94.09	94.77	-105.39	6,179.55	-557.33	855.35	672.38	182.96	4.675		
11,900.00	5,605.00	12,182.27	5,832.00	95.54	96.21	-105.39	6,279.55	-557.33	855.35	669.59	185.76	4.605		
12,000.00	5,605.00	12,282.27	5,832.00	96.98	97.65	-105.39	6,379.55	-557.33	855.35	666.80	188.56	4.536		
12,100.00	5,605.00	12,382.27	5,832.00	98.43	99.10	-105.39	6,479.55	-557.33	855.36	664.00	191.36	4.470		
12,200.00	5,605.00	12,482.27	5,832.00	99.88	100.54	-105.39	6,579.55	-557.33	855.36	661.20	194.16	4.405		
12,300.00	5,605.00	12,582.27	5,832.00	101.32	101.98	-105.39	6,679.55	-557.33	855.37	658.40	196.97	4.343		
12,400.00	5,605.00	12,682.27	5,832.00	102.77	103.43	-105.39	6,779.55	-557.33	855.37	655.60	199.77	4.282		
12,500.00	5,605.00	12,782.27	5,832.00	104.22	104.87	-105.39	6,879.55	-557.33	855.37	652.79	202.58	4.222		
12,600.00	5,605.00	12,882.27	5,832.00	105.67	106.32	-105.39	6,979.55	-557.33	855.38	649.99	205.39	4.165		
12,700.00	5,605.00	12,982.27	5,832.00	107.12	107.77	-105.39	7,079.55	-557.33	855.38	647.18	208.20	4.109		
12,800.00	5,605.00	13,082.27	5,832.00	108.57	109.21	-105.39	7,179.55	-557.33	855.39	644.38	211.01	4.054		
12,900.00	5,605.00	13,182.27	5,832.00	110.02	110.66	-105.39	7,279.55	-557.33	855.39	641.57	213.82	4.001		
13,000.00	5,605.00	13,282.27	5,832.00	111.47	112.11	-105.39	7,379.55	-557.33	855.39	638.76	216.63	3.949		
13,100.00	5,605.00	13,382.27	5,832.00	112.92	113.56	-105.39	7,479.55	-557.33	855.40	635.95	219.45	3.898		
13,200.00	5,605.00	13,482.27	5,832.00	114.37	115.01	-105.39	7,579.55	-557.33	855.40	633.14	222.26	3.849		
13,300.00	5,605.00	13,582.27	5,832.00	115.83	116.46	-105.39	7,679.55	-557.33	855.40	630.33	225.08	3.800		
13,400.00	5,605.00	13,682.27	5,832.00	117.28	117.91	-105.39	7,779.55	-557.33	855.41	627.51	227.89	3.754		
13,500.00	5,605.00	13,782.27	5,832.00	118.74	119.36	-105.39	7,879.55	-557.33	855.41	624.70	230.71	3.708		
13,600.00	5,605.00	13,882.27	5,832.00	120.19	120.82	-105.39	7,979.55	-557.33	855.42	621.89	233.53	3.663		
13,700.00	5,605.00	13,982.27	5,832.00	121.64	122.27	-105.39	8,079.55	-557.33	855.42	619.07	236.35	3.619		
13,800.00	5,605.00	14,082.27	5,832.00	123.10	123.72	-105.39	8,179.55	-557.33	855.42	616.25	239.17	3.577		
13,900.00	5,605.00	14,182.27	5,832.00	124.55	125.18	-105.39	8,279.55	-557.33	855.43	613.44	241.99	3.535		
14,000.00	5,605.00	14,282.27	5,832.00	126.01	126.63	-105.39	8,379.55	-557.33	855.43	610.62	244.81	3.494		
14,100.00	5,605.00	14,382.27	5,832.00	127.47	128.08	-105.39	8,479.55	-557.32	855.44	607.80	247.64	3.454		
14,200.00	5,605.00	14,482.27	5,832.00	128.92	129.54	-105.39	8,579.55	-557.32	855.44	604.98	250.46	3.415		
14,300.00	5,605.00	14,582.27	5,832.00	130.38	130.99	-105.39	8,679.55	-557.32	855.44	602.16	253.28	3.377		
14,400.00	5,605.00	14,682.27	5,832.00	131.84	132.45	-105.39	8,779.55	-557.32	855.45	599.34	256.11	3.340		
14,500.00	5,605.00	14,782.27	5,832.00	133.30	133.90	-105.39	8,879.55	-557.32	855.45	596.52	258.93	3.304		
14,600.00	5,605.00	14,882.27	5,832.00	134.75	135.36	-105.39	8,979.55	-557.32	855.45	593.69	261.76	3.268		
14,700.00	5,605.00	14,982.27	5,832.00	136.21	136.82	-105.39	9,079.55	-557.32	855.46	590.87	264.59	3.233		
14,800.00	5,605.00	15,082.27	5,832.00	137.67	138.27	-105.39	9,179.55	-557.32	855.46	588.05	267.41	3.199		
14,900.00	5,605.00	15,182.27	5,832.00	139.13	139.73	-105.39	9,279.55	-557.32	855.47	585.22	270.24	3.166		
15,000.00	5,605.00	15,282.27	5,832.00	140.59	141.19	-105.39	9,379.55	-557.32	855.47	582.40	273.07	3.133		
15,100.00	5,605.00	15,382.27	5,832.00	142.05	142.65	-105.39	9,479.55	-557.32	855.47	579.58	275.90	3.101		
15,200.00	5,605.00	15,482.27	5,832.00	143.51	144.10	-105.39	9,579.55	-557.32	855.48	576.75	278.73	3.069		
15,300.00	5,605.00	15,582.27	5,832.00	144.97	145.56	-105.39	9,679.55	-557.32	855.48	573.92	281.56	3.038		
15,400.00	5,605.00	15,682.27	5,832.00	146.43	147.02	-105.39	9,779.55	-557.32	855.49	571.10	284.39	3.008		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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
15,500.00	5,605.00	15,782.27	5,832.00	147.89	148.48	-105.39	9,879.55	-557.32	855.49	568.27	287.22	2.979	
15,600.00	5,605.00	15,882.27	5,832.00	149.35	149.94	-105.39	9,979.55	-557.32	855.49	565.44	290.05	2.949	
15,700.00	5,605.00	15,982.27	5,832.00	150.81	151.40	-105.39	10,079.55	-557.32	855.50	562.62	292.88	2.921	
15,730.51	5,605.00	16,012.78	5,832.00	151.25	151.84	-105.39	10,110.06	-557.32	855.50	561.75	293.75	2.912	
15,756.19	5,605.00	16,035.43	5,832.00	151.63	152.17	-105.39	10,132.71	-557.32	855.50	561.08	294.43	2.906 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	-150.00	-50.61	-29.22	58.44					
100.00	100.00	100.00	100.00	0.13	0.13	-150.00	-50.61	-29.22	58.44	58.17	0.27	219.405		
200.00	200.00	200.00	200.00	0.47	0.47	-150.00	-50.61	-29.22	58.44	57.50	0.94	62.126		
300.00	300.00	300.00	300.00	0.81	0.81	-150.00	-50.61	-29.22	58.44	56.82	1.61	36.186	CC, ES	
400.00	399.98	398.05	398.03	1.12	1.11	82.14	-51.68	-30.51	59.79	57.56	2.22	26.884		
500.00	499.84	496.15	496.00	1.43	1.42	87.97	-54.87	-34.31	64.23	61.40	2.83	22.697		
600.00	599.49	595.53	595.19	1.75	1.72	95.64	-58.77	-38.95	70.57	67.11	3.46	20.371		
700.00	699.11	694.87	694.35	2.08	2.05	102.32	-62.67	-43.60	78.07	73.96	4.12	18.954		
800.00	798.73	794.21	793.51	2.42	2.38	107.78	-66.57	-48.24	86.45	81.67	4.78	18.069		
900.00	898.35	893.55	892.66	2.78	2.72	112.25	-70.47	-52.89	95.47	90.01	5.46	17.494		
1,000.00	997.97	992.89	991.82	3.13	3.06	115.93	-74.36	-57.54	104.96	98.83	6.13	17.110		
1,100.00	1,097.59	1,092.23	1,090.97	3.49	3.41	118.99	-78.26	-62.18	114.82	108.00	6.82	16.846		
1,200.00	1,197.21	1,191.58	1,190.13	3.84	3.75	121.57	-82.16	-66.83	124.94	117.45	7.50	16.662		
1,300.00	1,296.83	1,290.92	1,289.29	4.20	4.10	123.75	-86.06	-71.47	135.29	127.10	8.18	16.530		
1,400.00	1,396.45	1,390.26	1,388.44	4.56	4.44	125.63	-89.96	-76.12	145.79	136.92	8.87	16.435		
1,500.00	1,496.07	1,489.60	1,487.60	4.92	4.79	127.25	-93.86	-80.77	156.44	146.88	9.56	16.366		
1,600.00	1,595.69	1,588.94	1,586.75	5.28	5.14	128.66	-97.75	-85.41	167.18	156.94	10.25	16.315		
1,700.00	1,695.31	1,688.28	1,685.91	5.65	5.49	129.90	-101.65	-90.06	178.02	167.09	10.94	16.277		
1,800.00	1,794.93	1,787.62	1,785.07	6.01	5.84	131.00	-105.55	-94.70	188.93	177.31	11.63	16.249		
1,900.00	1,894.55	1,886.96	1,884.22	6.37	6.18	131.98	-109.45	-99.35	199.91	187.59	12.32	16.229		
2,000.00	1,994.17	1,986.31	1,983.38	6.73	6.53	132.86	-113.35	-103.99	210.93	197.92	13.01	16.214		
2,100.00	2,093.78	2,085.65	2,082.53	7.10	6.88	133.65	-117.24	-108.64	222.00	208.30	13.70	16.204		
2,200.00	2,193.40	2,184.99	2,181.69	7.46	7.23	134.36	-121.14	-113.29	233.11	218.71	14.39	16.196		
2,300.00	2,293.02	2,284.33	2,280.85	7.82	7.58	135.01	-125.04	-117.93	244.25	229.16	15.08	16.192		
2,400.00	2,392.64	2,383.67	2,380.00	8.19	7.93	135.61	-128.94	-122.58	255.41	239.64	15.78	16.189		
2,500.00	2,492.26	2,483.01	2,479.16	8.55	8.28	136.15	-132.84	-127.22	266.61	250.14	16.47	16.187		
2,600.00	2,591.88	2,582.35	2,578.31	8.91	8.63	136.65	-136.74	-131.87	277.82	260.66	17.16	16.187		
2,700.00	2,691.50	2,681.70	2,677.47	9.28	8.98	137.11	-140.63	-136.51	289.05	271.20	17.86	16.188		
2,800.00	2,791.12	2,781.04	2,776.63	9.64	9.33	137.54	-144.53	-141.16	300.30	281.75	18.55	16.190		
2,900.00	2,890.74	2,880.38	2,875.78	10.00	9.68	137.93	-148.43	-145.81	311.57	292.33	19.24	16.192		
3,000.00	2,990.36	2,979.72	2,974.94	10.37	10.03	138.30	-152.33	-150.45	322.85	302.91	19.94	16.194		
3,100.00	3,089.98	3,079.06	3,074.09	10.73	10.38	138.64	-156.23	-155.10	334.14	313.51	20.63	16.197		
3,200.00	3,189.60	3,178.40	3,173.25	11.10	10.73	138.96	-160.13	-159.74	345.44	324.12	21.32	16.200		
3,300.00	3,289.22	3,277.74	3,272.41	11.46	11.08	139.26	-164.02	-164.39	356.75	334.74	22.02	16.204		
3,400.00	3,388.84	3,377.08	3,371.56	11.82	11.43	139.54	-167.92	-169.04	368.07	345.36	22.71	16.207		
3,500.00	3,488.46	3,476.43	3,470.72	12.19	11.78	139.81	-171.82	-173.68	379.40	356.00	23.40	16.211		
3,600.00	3,588.08	3,575.77	3,569.87	12.55	12.13	140.06	-175.72	-178.33	390.74	366.64	24.10	16.214		
3,700.00	3,687.70	3,675.11	3,669.03	12.92	12.48	140.30	-179.62	-182.97	402.09	377.29	24.79	16.218		
3,800.00	3,787.32	3,774.45	3,768.19	13.28	12.83	140.52	-183.52	-187.62	413.44	387.95	25.49	16.222		
3,900.00	3,886.94	3,873.79	3,867.34	13.64	13.18	140.73	-187.41	-192.26	424.79	398.61	26.18	16.225		
4,000.00	3,986.55	3,973.13	3,966.50	14.01	13.53	140.93	-191.31	-196.91	436.15	409.28	26.88	16.229		
4,100.00	4,086.17	4,072.47	4,065.65	14.37	13.88	141.12	-195.21	-201.56	447.52	419.95	27.57	16.232		
4,200.00	4,185.79	4,171.81	4,164.81	14.74	14.23	141.30	-199.11	-206.20	458.89	430.63	28.26	16.236		
4,300.00	4,285.41	4,271.15	4,263.97	15.10	14.59	141.47	-203.01	-210.85	470.27	441.31	28.96	16.239		
4,400.00	4,385.16	4,370.65	4,363.27	15.41	14.94	141.63	-206.91	-215.50	480.29	450.66	29.62	16.213		
4,500.00	4,485.10	4,470.36	4,462.80	15.65	15.29	141.50	-210.82	-220.16	487.58	457.36	30.23	16.131		
4,600.00	4,585.10	4,573.17	4,565.42	15.93	15.64	-88.92	-214.80	-224.90	492.45	461.60	30.86	15.960		
4,700.00	4,685.10	4,688.08	4,680.27	16.19	15.94	-89.20	-217.23	-227.80	494.94	463.52	31.42	15.751		
4,800.00	4,785.10	4,792.91	4,785.10	16.46	16.23	-89.22	-217.38	-227.98	495.10	463.11	31.99	15.477		
4,900.00	4,885.10	4,892.91	4,885.10	16.73	16.50	-89.22	-217.38	-227.98	495.10	462.57	32.53	15.220		
5,000.00	4,985.10	4,992.91	4,985.10	17.00	16.77	-89.22	-217.38	-227.98	495.10	462.02	33.07	14.969		
5,099.99	5,085.09	5,092.89	5,085.07	17.27	17.04	-89.23	-217.38	-227.98	495.10	461.48	33.62	14.725		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	5,184.46	5,191.64	5,183.21	17.53	17.30	-89.24	-207.87	-227.98	495.10	460.95	34.14	14.501		
5,300.00	5,280.15	5,290.42	5,277.84	17.77	17.55	-89.28	-180.03	-227.98	495.09	460.48	34.61	14.305		
5,400.00	5,368.63	5,389.30	5,365.59	17.97	17.78	-89.35	-134.79	-227.98	495.08	460.04	35.05	14.126		
5,500.00	5,446.65	5,488.30	5,443.32	18.15	17.98	-89.44	-73.72	-227.98	495.08	459.59	35.49	13.950		
5,600.00	5,511.36	5,587.46	5,508.21	18.30	18.17	-89.55	1.06	-227.97	495.07	459.09	35.98	13.759		
5,700.00	5,560.36	5,686.82	5,557.86	18.43	18.37	-89.68	86.96	-227.97	495.06	458.49	36.57	13.538		
5,800.00	5,591.87	5,786.40	5,590.38	18.65	18.68	-89.82	180.92	-227.96	495.06	457.78	37.28	13.280		
5,900.00	5,604.72	5,886.22	5,604.45	19.01	19.11	-89.97	279.59	-227.96	495.05	456.94	38.12	12.988		
5,940.91	5,605.80	5,927.12	5,605.00	19.20	19.31	-89.91	320.47	-227.96	495.05	456.54	38.51	12.854		
6,000.00	5,605.00	5,986.22	5,605.00	19.48	19.63	-90.00	379.57	-227.96	495.05	455.95	39.11	12.659		
6,100.00	5,605.00	6,086.22	5,605.00	20.06	20.25	-90.00	479.57	-227.95	495.05	454.76	40.29	12.287		
6,200.00	5,605.00	6,186.22	5,605.00	20.72	20.95	-90.00	579.57	-227.95	495.05	453.40	41.65	11.886		
6,300.00	5,605.00	6,286.22	5,605.00	21.47	21.72	-90.00	679.57	-227.94	495.05	451.88	43.17	11.468		
6,400.00	5,605.00	6,386.22	5,605.00	22.29	22.57	-90.00	779.57	-227.94	495.05	450.23	44.83	11.043		
6,500.00	5,605.00	6,486.22	5,605.00	23.17	23.48	-90.00	879.57	-227.93	495.05	448.44	46.61	10.620		
6,600.00	5,605.00	6,586.22	5,605.00	24.11	24.44	-90.00	979.57	-227.93	495.05	446.54	48.51	10.205		
6,700.00	5,605.00	6,686.22	5,605.00	25.11	25.46	-90.00	1,079.57	-227.93	495.05	444.54	50.51	9.801		
6,800.00	5,605.00	6,786.22	5,605.00	26.14	26.51	-90.00	1,179.57	-227.92	495.05	442.45	52.60	9.412		
6,900.00	5,605.00	6,886.22	5,605.00	27.22	27.60	-90.00	1,279.57	-227.92	495.05	440.29	54.77	9.039		
7,000.00	5,605.00	6,986.22	5,605.00	28.33	28.73	-90.00	1,379.57	-227.91	495.05	438.05	57.00	8.684		
7,100.00	5,605.00	7,086.22	5,605.00	29.47	29.89	-90.00	1,479.57	-227.91	495.05	435.75	59.30	8.348		
7,200.00	5,605.00	7,186.22	5,605.00	30.64	31.07	-90.00	1,579.57	-227.90	495.05	433.40	61.66	8.029		
7,300.00	5,605.00	7,286.22	5,605.00	31.83	32.28	-90.00	1,679.57	-227.90	495.05	431.00	64.06	7.728		
7,400.00	5,605.00	7,386.22	5,605.00	33.05	33.50	-90.00	1,779.57	-227.90	495.05	428.55	66.50	7.444		
7,500.00	5,605.00	7,486.22	5,605.00	34.29	34.75	-90.00	1,879.57	-227.89	495.05	426.07	68.99	7.176		
7,600.00	5,605.00	7,586.22	5,605.00	35.54	36.02	-90.00	1,979.57	-227.89	495.05	423.55	71.51	6.923		
7,700.00	5,605.00	7,686.22	5,605.00	36.82	37.29	-90.00	2,079.57	-227.88	495.05	421.00	74.06	6.685		
7,800.00	5,605.00	7,786.22	5,605.00	38.10	38.59	-90.00	2,179.57	-227.88	495.05	418.42	76.64	6.460		
7,900.00	5,605.00	7,886.22	5,605.00	39.40	39.89	-90.00	2,279.57	-227.87	495.05	415.81	79.24	6.247		
8,000.00	5,605.00	7,986.22	5,605.00	40.71	41.21	-90.00	2,379.57	-227.87	495.05	413.18	81.87	6.047		
8,100.00	5,605.00	8,086.22	5,605.00	42.03	42.54	-90.00	2,479.57	-227.87	495.05	410.54	84.52	5.857		
8,200.00	5,605.00	8,186.22	5,605.00	43.36	43.87	-90.00	2,579.57	-227.86	495.05	407.87	87.18	5.678		
8,300.00	5,605.00	8,286.22	5,605.00	44.70	45.22	-90.00	2,679.57	-227.86	495.05	405.19	89.87	5.509		
8,400.00	5,605.00	8,386.22	5,605.00	46.05	46.57	-90.00	2,779.57	-227.85	495.05	402.49	92.57	5.348		
8,500.00	5,605.00	8,486.22	5,605.00	47.40	47.93	-90.00	2,879.57	-227.85	495.05	399.77	95.28	5.196		
8,600.00	5,605.00	8,586.22	5,605.00	48.76	49.29	-90.00	2,979.57	-227.85	495.05	397.04	98.01	5.051		
8,700.00	5,605.00	8,686.22	5,605.00	50.13	50.66	-90.00	3,079.57	-227.84	495.05	394.30	100.75	4.914		
8,800.00	5,605.00	8,786.22	5,605.00	51.50	52.04	-90.00	3,179.57	-227.84	495.05	391.55	103.50	4.783		
8,900.00	5,605.00	8,886.22	5,605.00	52.88	53.42	-90.00	3,279.57	-227.83	495.05	388.79	106.26	4.659		
9,000.00	5,605.00	8,986.22	5,605.00	54.27	54.81	-90.00	3,379.57	-227.83	495.05	386.02	109.03	4.540		
9,100.00	5,605.00	9,086.22	5,605.00	55.65	56.20	-90.00	3,479.57	-227.82	495.05	383.24	111.81	4.428		
9,200.00	5,605.00	9,186.22	5,605.00	57.05	57.60	-90.00	3,579.57	-227.82	495.05	380.45	114.60	4.320		
9,300.00	5,605.00	9,286.22	5,605.00	58.44	58.99	-90.00	3,679.57	-227.82	495.05	377.66	117.40	4.217		
9,400.00	5,605.00	9,386.22	5,605.00	59.84	60.40	-90.00	3,779.57	-227.81	495.05	374.86	120.20	4.119		
9,500.00	5,605.00	9,486.22	5,605.00	61.24	61.80	-90.00	3,879.57	-227.81	495.05	372.05	123.01	4.025		
9,600.00	5,605.00	9,586.22	5,605.00	62.65	63.21	-90.00	3,979.57	-227.80	495.05	369.23	125.82	3.935		
9,700.00	5,605.00	9,686.22	5,605.00	64.06	64.62	-90.00	4,079.57	-227.80	495.05	366.41	128.64	3.848		
9,800.00	5,605.00	9,786.22	5,605.00	65.47	66.03	-90.00	4,179.57	-227.79	495.05	363.58	131.47	3.766		
9,900.00	5,605.00	9,886.22	5,605.00	66.89	67.45	-90.00	4,279.57	-227.79	495.05	360.75	134.30	3.686		
10,000.00	5,605.00	9,986.22	5,605.00	68.30	68.87	-90.00	4,379.57	-227.79	495.05	357.92	137.14	3.610		
10,100.00	5,605.00	10,086.22	5,605.00	69.72	70.29	-90.00	4,479.57	-227.78	495.05	355.08	139.98	3.537		
10,200.00	5,605.00	10,186.22	5,605.00	71.14	71.71	-90.00	4,579.57	-227.78	495.05	352.23	142.82	3.466		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	10,286.22	5,605.00	72.57	73.14	-90.00	4,679.57	-227.77	495.05	349.38	145.67	3.398		
10,400.00	5,605.00	10,386.22	5,605.00	73.99	74.56	-90.00	4,779.57	-227.77	495.05	346.53	148.52	3.333		
10,500.00	5,605.00	10,486.22	5,605.00	75.42	75.99	-90.00	4,879.57	-227.76	495.05	343.67	151.38	3.270		
10,600.00	5,605.00	10,586.22	5,605.00	76.85	77.42	-90.00	4,979.57	-227.76	495.05	340.82	154.24	3.210		
10,700.00	5,605.00	10,686.22	5,605.00	78.28	78.85	-90.00	5,079.57	-227.76	495.05	337.95	157.10	3.151		
10,800.00	5,605.00	10,786.22	5,605.00	79.71	80.29	-90.00	5,179.57	-227.75	495.05	335.09	159.96	3.095		
10,900.00	5,605.00	10,886.22	5,605.00	81.14	81.72	-90.00	5,279.57	-227.75	495.05	332.22	162.83	3.040		
11,000.00	5,605.00	10,986.22	5,605.00	82.58	83.16	-90.00	5,379.57	-227.74	495.05	329.35	165.70	2.988		
11,100.00	5,605.00	11,086.22	5,605.00	84.01	84.59	-90.00	5,479.57	-227.74	495.05	326.48	168.58	2.937		
11,200.00	5,605.00	11,186.22	5,605.00	85.45	86.03	-90.00	5,579.57	-227.73	495.05	323.60	171.45	2.887		
11,300.00	5,605.00	11,286.22	5,605.00	86.89	87.47	-90.00	5,679.57	-227.73	495.05	320.72	174.33	2.840		
11,400.00	5,605.00	11,386.22	5,605.00	88.33	88.91	-90.00	5,779.57	-227.73	495.05	317.84	177.21	2.794		
11,500.00	5,605.00	11,486.22	5,605.00	89.77	90.35	-90.00	5,879.57	-227.72	495.05	314.96	180.09	2.749		
11,600.00	5,605.00	11,586.22	5,605.00	91.21	91.79	-90.00	5,979.57	-227.72	495.05	312.08	182.98	2.706		
11,700.00	5,605.00	11,686.22	5,605.00	92.65	93.24	-90.00	6,079.57	-227.71	495.05	309.19	185.86	2.664		
11,800.00	5,605.00	11,786.22	5,605.00	94.09	94.68	-90.00	6,179.57	-227.71	495.05	306.30	188.75	2.623		
11,900.00	5,605.00	11,886.22	5,605.00	95.54	96.13	-90.00	6,279.57	-227.70	495.05	303.42	191.64	2.583		
12,000.00	5,605.00	11,986.22	5,605.00	96.98	97.57	-90.00	6,379.57	-227.70	495.05	300.52	194.53	2.545		
12,100.00	5,605.00	12,086.22	5,605.00	98.43	99.02	-90.00	6,479.57	-227.70	495.05	297.63	197.42	2.508		
12,200.00	5,605.00	12,186.22	5,605.00	99.88	100.47	-90.00	6,579.57	-227.69	495.05	294.74	200.31	2.471		
12,300.00	5,605.00	12,286.22	5,605.00	101.32	101.91	-90.00	6,679.57	-227.69	495.05	291.84	203.21	2.436		
12,400.00	5,605.00	12,386.22	5,605.00	102.77	103.36	-90.00	6,779.57	-227.68	495.05	288.95	206.11	2.402		
12,500.00	5,605.00	12,486.22	5,605.00	104.22	104.81	-90.00	6,879.57	-227.68	495.05	286.05	209.00	2.369		
12,600.00	5,605.00	12,586.22	5,605.00	105.67	106.26	-90.00	6,979.57	-227.67	495.05	283.15	211.90	2.336		
12,700.00	5,605.00	12,686.22	5,605.00	107.12	107.71	-90.00	7,079.57	-227.67	495.05	280.25	214.80	2.305		
12,800.00	5,605.00	12,786.22	5,605.00	108.57	109.16	-90.00	7,179.57	-227.67	495.05	277.35	217.71	2.274		
12,900.00	5,605.00	12,886.22	5,605.00	110.02	110.61	-90.00	7,279.57	-227.66	495.05	274.44	220.61	2.244		
13,000.00	5,605.00	12,986.22	5,605.00	111.47	112.07	-90.00	7,379.57	-227.66	495.05	271.54	223.51	2.215		
13,100.00	5,605.00	13,086.22	5,605.00	112.92	113.52	-90.00	7,479.57	-227.65	495.05	268.64	226.42	2.186		
13,200.00	5,605.00	13,186.22	5,605.00	114.37	114.97	-90.00	7,579.57	-227.65	495.05	265.73	229.32	2.159		
13,300.00	5,605.00	13,286.22	5,605.00	115.83	116.43	-90.00	7,679.57	-227.64	495.05	262.82	232.23	2.132		
13,400.00	5,605.00	13,386.22	5,605.00	117.28	117.88	-90.00	7,779.57	-227.64	495.05	259.92	235.14	2.105		
13,500.00	5,605.00	13,486.22	5,605.00	118.74	119.33	-90.00	7,879.57	-227.64	495.05	257.01	238.05	2.080		
13,600.00	5,605.00	13,586.22	5,605.00	120.19	120.79	-90.00	7,979.57	-227.63	495.05	254.10	240.96	2.055		
13,700.00	5,605.00	13,686.22	5,605.00	121.64	122.24	-90.00	8,079.57	-227.63	495.05	251.19	243.87	2.030		
13,800.00	5,605.00	13,786.22	5,605.00	123.10	123.70	-90.00	8,179.57	-227.62	495.05	248.28	246.78	2.006		
13,900.00	5,605.00	13,886.22	5,605.00	124.55	125.15	-90.00	8,279.57	-227.62	495.05	245.37	249.69	1.983		
14,000.00	5,605.00	13,986.22	5,605.00	126.01	126.61	-90.00	8,379.57	-227.62	495.05	242.45	252.60	1.960		
14,100.00	5,605.00	14,086.22	5,605.00	127.47	128.07	-90.00	8,479.57	-227.61	495.05	239.54	255.51	1.937		
14,200.00	5,605.00	14,186.22	5,605.00	128.92	129.52	-90.00	8,579.57	-227.61	495.05	236.63	258.43	1.916		
14,300.00	5,605.00	14,286.22	5,605.00	130.38	130.98	-90.00	8,679.57	-227.60	495.05	233.71	261.34	1.894		
14,400.00	5,605.00	14,386.22	5,605.00	131.84	132.44	-90.00	8,779.57	-227.60	495.05	230.80	264.26	1.873		
14,500.00	5,605.00	14,486.22	5,605.00	133.30	133.90	-90.00	8,879.57	-227.59	495.05	227.88	267.17	1.853		
14,600.00	5,605.00	14,586.22	5,605.00	134.75	135.36	-90.00	8,979.57	-227.59	495.05	224.96	270.09	1.833		
14,700.00	5,605.00	14,686.22	5,605.00	136.21	136.81	-90.00	9,079.57	-227.59	495.05	222.05	273.01	1.813		
14,800.00	5,605.00	14,786.22	5,605.00	137.67	138.27	-90.00	9,179.57	-227.58	495.05	219.13	275.92	1.794		
14,900.00	5,605.00	14,886.22	5,605.00	139.13	139.73	-90.00	9,279.57	-227.58	495.05	216.21	278.84	1.775		
15,000.00	5,605.00	14,986.22	5,605.00	140.59	141.19	-90.00	9,379.57	-227.57	495.05	213.29	281.76	1.757		
15,100.00	5,605.00	15,086.22	5,605.00	142.05	142.65	-90.00	9,479.57	-227.57	495.05	210.37	284.68	1.739		
15,200.00	5,605.00	15,186.22	5,605.00	143.51	144.11	-90.00	9,579.57	-227.56	495.05	207.45	287.60	1.721		
15,300.00	5,605.00	15,286.22	5,605.00	144.97	145.57	-90.00	9,679.57	-227.56	495.05	204.53	290.52	1.704		
15,400.00	5,605.00	15,386.22	5,605.00	146.43	147.03	-90.00	9,779.57	-227.56	495.05	201.61	293.44	1.687		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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
15,500.00	5,605.00	15,486.22	5,605.00	147.89	148.49	-90.00	9,879.57	-227.55	495.05	198.69	296.36	1.670	
15,600.00	5,605.00	15,586.22	5,605.00	149.35	149.95	-90.00	9,979.57	-227.55	495.05	195.77	299.28	1.654	
15,700.00	5,605.00	15,686.22	5,605.00	150.81	151.41	-90.00	10,079.57	-227.54	495.05	192.85	302.20	1.638	
15,731.20	5,605.00	15,717.42	5,605.00	151.26	151.87	-90.00	10,110.77	-227.54	495.05	191.94	303.11	1.633	
15,756.19	5,605.00	15,740.36	5,605.00	151.63	152.20	-90.00	10,133.72	-227.54	495.06	191.24	303.81	1.629 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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	179.11	-49.59	0.77	49.60					
100.00	100.00	100.00	100.00	0.13	0.13	179.11	-49.59	0.77	49.60	49.33	0.27	186.209		
200.00	200.00	200.00	200.00	0.47	0.47	179.11	-49.59	0.77	49.60	48.66	0.94	52.726		
300.00	300.00	300.00	300.00	0.81	0.81	179.11	-49.59	0.77	49.60	47.98	1.61	30.711		
400.00	399.98	398.51	398.49	1.12	1.11	49.65	-51.06	1.62	49.96	47.74	2.22	22.488		
500.00	499.84	497.71	497.57	1.43	1.41	51.47	-55.15	3.98	50.74	47.92	2.81	18.048		
600.00	599.49	597.63	597.36	1.75	1.71	55.76	-59.68	6.60	50.18	46.74	3.44	14.591		
700.00	699.11	697.54	697.14	2.08	2.03	60.55	-64.21	9.21	49.69	45.60	4.09	12.142		
787.79	786.57	785.26	784.73	2.38	2.32	64.80	-68.19	11.51	49.55	44.87	4.68	10.586 CC		
800.00	798.73	797.46	796.91	2.42	2.36	65.40	-68.74	11.82	49.56	44.79	4.76	10.403		
900.00	898.35	897.37	896.69	2.78	2.70	70.24	-73.27	14.44	49.78	44.33	5.45	9.138		
1,000.00	997.97	997.28	996.46	3.13	3.04	75.00	-77.80	17.05	50.35	44.21	6.14	8.200 ES		
1,100.00	1,097.59	1,097.19	1,096.24	3.49	3.38	79.63	-82.32	19.67	51.26	44.42	6.84	7.494		
1,200.00	1,197.21	1,197.10	1,196.01	3.84	3.72	84.06	-86.85	22.28	52.50	44.95	7.54	6.958		
1,300.00	1,296.83	1,297.01	1,295.79	4.20	4.07	88.27	-91.38	24.90	54.03	45.78	8.25	6.547		
1,400.00	1,396.45	1,396.93	1,395.56	4.56	4.41	92.23	-95.91	27.51	55.84	46.88	8.96	6.231		
1,500.00	1,496.07	1,496.84	1,495.33	4.92	4.76	95.92	-100.44	30.13	57.90	48.23	9.67	5.987		
1,600.00	1,595.69	1,596.75	1,595.11	5.28	5.11	99.35	-104.97	32.74	60.18	49.80	10.38	5.797		
1,700.00	1,695.31	1,696.66	1,694.88	5.65	5.45	102.52	-109.49	35.35	62.66	51.57	11.09	5.651		
1,800.00	1,794.93	1,796.57	1,794.66	6.01	5.80	105.43	-114.02	37.97	65.32	53.52	11.80	5.538		
1,900.00	1,894.55	1,896.48	1,894.43	6.37	6.15	108.12	-118.55	40.58	68.13	55.63	12.50	5.450		
2,000.00	1,994.17	1,996.40	1,994.21	6.73	6.49	110.58	-123.08	43.20	71.09	57.88	13.21	5.383		
2,100.00	2,093.78	2,096.31	2,093.98	7.10	6.84	112.85	-127.61	45.81	74.16	60.25	13.91	5.332		
2,200.00	2,193.40	2,196.22	2,193.76	7.46	7.19	114.93	-132.14	48.43	77.34	62.73	14.61	5.293		
2,300.00	2,293.02	2,296.13	2,293.53	7.82	7.54	116.85	-136.67	51.04	80.61	65.30	15.31	5.265		
2,400.00	2,392.64	2,396.04	2,393.31	8.19	7.89	118.61	-141.19	53.66	83.97	67.95	16.01	5.244		
2,500.00	2,492.26	2,495.95	2,493.08	8.55	8.23	120.24	-145.72	56.27	87.40	70.69	16.71	5.230		
2,600.00	2,591.88	2,595.86	2,592.86	8.91	8.58	121.74	-150.25	58.89	90.89	73.48	17.41	5.221		
2,700.00	2,691.50	2,695.78	2,692.63	9.28	8.93	123.13	-154.78	61.50	94.44	76.34	18.10	5.216		
2,800.00	2,791.12	2,795.69	2,792.40	9.64	9.28	124.42	-159.31	64.11	98.05	79.25	18.80	5.215		
2,900.00	2,890.74	2,895.60	2,892.18	10.00	9.63	125.62	-163.84	66.73	101.70	82.20	19.50	5.216		
3,000.00	2,990.36	2,995.51	2,991.95	10.37	9.98	126.73	-168.36	69.34	105.39	85.20	20.19	5.219		
3,100.00	3,089.98	3,095.42	3,091.73	10.73	10.33	127.77	-172.89	71.96	109.12	88.23	20.89	5.224		
3,200.00	3,189.60	3,195.33	3,191.50	11.10	10.67	128.74	-177.42	74.57	112.88	91.30	21.58	5.230		
3,300.00	3,289.22	3,295.25	3,291.28	11.46	11.02	129.65	-181.95	77.19	116.67	94.39	22.28	5.237		
3,400.00	3,388.84	3,395.16	3,391.05	11.82	11.37	130.50	-186.48	79.80	120.49	97.52	22.97	5.245		
3,500.00	3,488.46	3,495.07	3,490.83	12.19	11.72	131.30	-191.01	82.42	124.33	100.67	23.66	5.254		
3,600.00	3,588.08	3,594.98	3,590.60	12.55	12.07	132.05	-195.53	85.03	128.20	103.84	24.36	5.263		
3,700.00	3,687.70	3,694.89	3,690.38	12.92	12.42	132.75	-200.06	87.64	132.09	107.04	25.05	5.273		
3,800.00	3,787.32	3,794.80	3,790.15	13.28	12.77	133.42	-204.59	90.26	136.00	110.25	25.74	5.282		
3,900.00	3,886.94	3,894.72	3,889.93	13.64	13.12	134.04	-209.12	92.87	139.92	113.48	26.44	5.292		
4,000.00	3,986.55	3,994.63	3,989.70	14.01	13.47	134.64	-213.65	95.49	143.86	116.73	27.13	5.302		
4,100.00	4,086.17	4,094.54	4,089.48	14.37	13.82	135.20	-218.18	98.10	147.81	119.99	27.82	5.312		
4,200.00	4,185.79	4,194.45	4,189.25	14.74	14.16	135.73	-222.71	100.72	151.78	123.26	28.52	5.323		
4,300.00	4,285.41	4,292.11	4,286.84	15.10	14.46	136.71	-225.85	102.53	156.44	127.29	29.15	5.367		
4,400.00	4,385.16	4,390.44	4,385.16	15.41	14.74	138.26	-226.36	102.83	161.31	131.61	29.70	5.431		
4,500.00	4,485.10	4,490.37	4,485.10	15.65	15.00	139.11	-226.36	102.83	163.93	133.75	30.19	5.431		
4,600.00	4,585.10	4,590.37	4,585.10	15.93	15.26	-90.79	-226.36	102.83	164.26	133.54	30.72	5.347		
4,700.00	4,685.10	4,690.37	4,685.10	16.19	15.53	-90.79	-226.36	102.83	164.26	133.01	31.25	5.257		
4,800.00	4,785.10	4,790.37	4,785.10	16.46	15.79	-90.79	-226.36	102.83	164.26	132.48	31.78	5.168		
4,900.00	4,885.10	4,890.37	4,885.10	16.73	16.06	-90.79	-226.36	102.83	164.26	131.94	32.32	5.082		
5,000.00	4,985.10	4,990.37	4,985.10	17.00	16.34	-90.79	-226.36	102.83	164.26	131.40	32.87	4.998		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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		
5,066.34	5,051.44	5,056.71	5,051.44	17.18	16.52	-90.80	-226.36	102.83	164.26	131.03	33.23	4.943		
5,099.99	5,085.09	5,090.36	5,085.09	17.27	16.61	-90.79	-226.36	102.83	164.26	130.85	33.42	4.916		
5,110.16	5,095.26	5,100.54	5,095.26	17.30	16.64	-90.83	-226.36	102.83	164.26	130.79	33.47	4.908		
5,200.00	5,184.46	5,189.74	5,184.46	17.53	16.88	-94.11	-226.36	102.83	164.69	130.67	34.02	4.841		
5,300.00	5,280.15	5,285.42	5,280.15	17.77	17.15	-102.88	-226.36	102.83	169.18	134.56	34.62	4.887		
5,400.00	5,368.63	5,385.00	5,379.53	17.97	17.43	-114.51	-221.85	102.82	184.04	149.23	34.81	5.287		
5,500.00	5,446.65	5,498.48	5,489.52	18.15	17.72	-124.83	-194.86	102.82	206.52	172.28	34.24	6.031		
5,600.00	5,511.36	5,626.42	5,603.16	18.30	18.03	-132.94	-136.79	102.82	231.94	198.87	33.06	7.015		
5,700.00	5,560.36	5,771.44	5,710.46	18.43	18.37	-138.88	-39.92	102.81	255.57	223.84	31.73	8.056		
5,800.00	5,591.87	5,933.70	5,793.74	18.65	18.84	-142.63	98.57	102.81	272.87	242.06	30.81	8.857		
5,900.00	5,604.72	6,108.06	5,831.33	19.01	19.55	-144.09	267.99	102.80	280.14	249.28	30.86	9.078		
6,000.00	5,605.00	6,219.62	5,832.00	19.48	20.12	-144.10	379.54	102.79	280.22	248.75	31.47	8.904		
6,100.00	5,605.00	6,319.62	5,832.00	20.06	20.72	-144.10	479.54	102.79	280.23	248.08	32.15	8.716		
6,200.00	5,605.00	6,419.62	5,832.00	20.72	21.41	-144.10	579.54	102.78	280.23	247.30	32.93	8.509		
6,300.00	5,605.00	6,519.62	5,832.00	21.47	22.18	-144.10	679.54	102.77	280.24	246.43	33.81	8.289		
6,400.00	5,605.00	6,619.62	5,832.00	22.29	23.01	-144.10	779.54	102.77	280.25	245.48	34.77	8.060		
6,500.00	5,605.00	6,719.62	5,832.00	23.17	23.91	-144.09	879.54	102.76	280.25	244.44	35.81	7.826		
6,600.00	5,605.00	6,819.62	5,832.00	24.11	24.86	-144.09	979.54	102.76	280.26	243.33	36.92	7.590		
6,700.00	5,605.00	6,919.62	5,832.00	25.11	25.86	-144.09	1,079.54	102.75	280.26	242.16	38.10	7.355		
6,800.00	5,605.00	7,019.62	5,832.00	26.14	26.91	-144.09	1,179.54	102.75	280.27	240.93	39.34	7.124		
6,900.00	5,605.00	7,119.62	5,832.00	27.22	27.99	-144.09	1,279.54	102.74	280.28	239.64	40.64	6.897		
7,000.00	5,605.00	7,219.62	5,832.00	28.33	29.10	-144.09	1,379.54	102.73	280.28	238.30	41.98	6.676		
7,100.00	5,605.00	7,319.62	5,832.00	29.47	30.25	-144.08	1,479.54	102.73	280.29	236.92	43.37	6.463		
7,200.00	5,605.00	7,419.62	5,832.00	30.64	31.42	-144.08	1,579.54	102.72	280.29	235.49	44.80	6.256		
7,300.00	5,605.00	7,519.62	5,832.00	31.83	32.62	-144.08	1,679.54	102.72	280.30	234.03	46.27	6.058		
7,400.00	5,605.00	7,619.62	5,832.00	33.05	33.84	-144.08	1,779.54	102.71	280.30	232.53	47.77	5.868		
7,500.00	5,605.00	7,719.62	5,832.00	34.29	35.08	-144.08	1,879.54	102.71	280.31	231.01	49.30	5.685		
7,600.00	5,605.00	7,819.62	5,832.00	35.54	36.34	-144.08	1,979.54	102.70	280.32	229.45	50.86	5.511		
7,700.00	5,605.00	7,919.62	5,832.00	36.82	37.61	-144.07	2,079.54	102.69	280.32	227.87	52.45	5.345		
7,800.00	5,605.00	8,019.62	5,832.00	38.10	38.90	-144.07	2,179.54	102.69	280.33	226.27	54.06	5.186		
7,900.00	5,605.00	8,119.62	5,832.00	39.40	40.19	-144.07	2,279.54	102.68	280.33	224.65	55.69	5.034		
8,000.00	5,605.00	8,219.62	5,832.00	40.71	41.51	-144.07	2,379.54	102.68	280.34	223.00	57.34	4.889		
8,100.00	5,605.00	8,319.62	5,832.00	42.03	42.83	-144.07	2,479.54	102.67	280.34	221.34	59.00	4.751		
8,200.00	5,605.00	8,419.62	5,832.00	43.36	44.16	-144.07	2,579.54	102.67	280.35	219.66	60.69	4.620		
8,300.00	5,605.00	8,519.62	5,832.00	44.70	45.50	-144.06	2,679.54	102.66	280.36	217.97	62.38	4.494		
8,400.00	5,605.00	8,619.62	5,832.00	46.05	46.84	-144.06	2,779.54	102.66	280.36	216.27	64.10	4.374		
8,500.00	5,605.00	8,719.62	5,832.00	47.40	48.20	-144.06	2,879.54	102.65	280.37	214.55	65.82	4.259		
8,600.00	5,605.00	8,819.62	5,832.00	48.76	49.56	-144.06	2,979.54	102.64	280.37	212.81	67.56	4.150		
8,700.00	5,605.00	8,919.62	5,832.00	50.13	50.92	-144.06	3,079.54	102.64	280.38	211.07	69.31	4.045		
8,800.00	5,605.00	9,019.62	5,832.00	51.50	52.30	-144.06	3,179.54	102.63	280.39	209.32	71.07	3.945		
8,900.00	5,605.00	9,119.62	5,832.00	52.88	53.68	-144.05	3,279.54	102.63	280.39	207.56	72.83	3.850		
9,000.00	5,605.00	9,219.62	5,832.00	54.27	55.06	-144.05	3,379.54	102.62	280.40	205.79	74.61	3.758		
9,100.00	5,605.00	9,319.62	5,832.00	55.65	56.45	-144.05	3,479.54	102.62	280.40	204.01	76.39	3.671		
9,200.00	5,605.00	9,419.62	5,832.00	57.05	57.84	-144.05	3,579.54	102.61	280.41	202.22	78.18	3.586		
9,300.00	5,605.00	9,519.62	5,832.00	58.44	59.23	-144.05	3,679.54	102.60	280.41	200.43	79.98	3.506		
9,400.00	5,605.00	9,619.62	5,832.00	59.84	60.63	-144.05	3,779.54	102.60	280.42	198.63	81.79	3.429		
9,500.00	5,605.00	9,719.62	5,832.00	61.24	62.03	-144.04	3,879.54	102.59	280.43	196.83	83.60	3.354		
9,600.00	5,605.00	9,819.62	5,832.00	62.65	63.44	-144.04	3,979.54	102.59	280.43	195.01	85.42	3.283		
9,700.00	5,605.00	9,919.62	5,832.00	64.06	64.85	-144.04	4,079.54	102.58	280.44	193.20	87.24	3.214		
9,800.00	5,605.00	10,019.62	5,832.00	65.47	66.26	-144.04	4,179.54	102.58	280.44	191.37	89.07	3.149		
9,900.00	5,605.00	10,119.62	5,832.00	66.89	67.67	-144.04	4,279.54	102.57	280.45	189.55	90.90	3.085		
10,000.00	5,605.00	10,219.62	5,832.00	68.30	69.09	-144.04	4,379.54	102.56	280.46	187.72	92.74	3.024		

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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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		
10,100.00	5,605.00	10,319.62	5,832.00	69.72	70.51	-144.03	4,479.54	102.56	280.46	185.88	94.58	2.965		
10,200.00	5,605.00	10,419.62	5,832.00	71.14	71.93	-144.03	4,579.54	102.55	280.47	184.04	96.43	2.909		
10,300.00	5,605.00	10,519.62	5,832.00	72.57	73.35	-144.03	4,679.54	102.55	280.47	182.20	98.28	2.854		
10,400.00	5,605.00	10,619.62	5,832.00	73.99	74.78	-144.03	4,779.54	102.54	280.48	180.35	100.13	2.801		
10,500.00	5,605.00	10,719.62	5,832.00	75.42	76.20	-144.03	4,879.54	102.54	280.48	178.50	101.99	2.750		
10,600.00	5,605.00	10,819.62	5,832.00	76.85	77.63	-144.03	4,979.54	102.53	280.49	176.64	103.85	2.701		
10,700.00	5,605.00	10,919.62	5,832.00	78.28	79.06	-144.03	5,079.54	102.53	280.50	174.79	105.71	2.653		
10,800.00	5,605.00	11,019.62	5,832.00	79.71	80.49	-144.02	5,179.54	102.52	280.50	172.92	107.58	2.607		
10,900.00	5,605.00	11,119.62	5,832.00	81.14	81.92	-144.02	5,279.54	102.51	280.51	171.06	109.45	2.563		
11,000.00	5,605.00	11,219.62	5,832.00	82.58	83.36	-144.02	5,379.54	102.51	280.51	169.20	111.32	2.520		
11,100.00	5,605.00	11,319.62	5,832.00	84.01	84.79	-144.02	5,479.54	102.50	280.52	167.33	113.19	2.478		
11,200.00	5,605.00	11,419.62	5,832.00	85.45	86.23	-144.02	5,579.54	102.50	280.53	165.46	115.07	2.438		
11,300.00	5,605.00	11,519.62	5,832.00	86.89	87.67	-144.02	5,679.54	102.49	280.53	163.58	116.95	2.399		
11,400.00	5,605.00	11,619.62	5,832.00	88.33	89.11	-144.01	5,779.54	102.49	280.54	161.71	118.83	2.361		
11,500.00	5,605.00	11,719.62	5,832.00	89.77	90.55	-144.01	5,879.54	102.48	280.54	159.83	120.71	2.324		
11,600.00	5,605.00	11,819.62	5,832.00	91.21	91.99	-144.01	5,979.54	102.47	280.55	157.95	122.60	2.288		
11,700.00	5,605.00	11,919.62	5,832.00	92.65	93.43	-144.01	6,079.54	102.47	280.55	156.07	124.48	2.254		
11,800.00	5,605.00	12,019.62	5,832.00	94.09	94.87	-144.01	6,179.54	102.46	280.56	154.19	126.37	2.220		
11,900.00	5,605.00	12,119.62	5,832.00	95.54	96.32	-144.01	6,279.54	102.46	280.57	152.30	128.26	2.187		
12,000.00	5,605.00	12,219.62	5,832.00	96.98	97.76	-144.00	6,379.54	102.45	280.57	150.42	130.15	2.156		
12,100.00	5,605.00	12,319.62	5,832.00	98.43	99.20	-144.00	6,479.54	102.45	280.58	148.53	132.05	2.125		
12,200.00	5,605.00	12,419.62	5,832.00	99.88	100.65	-144.00	6,579.54	102.44	280.58	146.64	133.94	2.095		
12,300.00	5,605.00	12,519.62	5,832.00	101.32	102.10	-144.00	6,679.54	102.43	280.59	144.75	135.84	2.066		
12,400.00	5,605.00	12,619.62	5,832.00	102.77	103.54	-144.00	6,779.54	102.43	280.60	142.86	137.74	2.037		
12,500.00	5,605.00	12,719.62	5,832.00	104.22	104.99	-144.00	6,879.54	102.42	280.60	140.96	139.64	2.009		
12,600.00	5,605.00	12,819.62	5,832.00	105.67	106.44	-143.99	6,979.54	102.42	280.61	139.07	141.54	1.983		
12,700.00	5,605.00	12,919.62	5,832.00	107.12	107.89	-143.99	7,079.54	102.41	280.61	137.17	143.44	1.956		
12,800.00	5,605.00	13,019.62	5,832.00	108.57	109.34	-143.99	7,179.54	102.41	280.62	135.27	145.35	1.931		
12,900.00	5,605.00	13,119.62	5,832.00	110.02	110.79	-143.99	7,279.54	102.40	280.62	133.37	147.25	1.906		
13,000.00	5,605.00	13,219.62	5,832.00	111.47	112.24	-143.99	7,379.54	102.40	280.63	131.47	149.16	1.881		
13,100.00	5,605.00	13,319.62	5,832.00	112.92	113.69	-143.99	7,479.54	102.39	280.64	129.57	151.06	1.858		
13,200.00	5,605.00	13,419.62	5,832.00	114.37	115.15	-143.98	7,579.54	102.38	280.64	127.67	152.97	1.835		
13,300.00	5,605.00	13,519.62	5,832.00	115.83	116.60	-143.98	7,679.54	102.38	280.65	125.77	154.88	1.812		
13,400.00	5,605.00	13,619.62	5,832.00	117.28	118.05	-143.98	7,779.54	102.37	280.65	123.86	156.79	1.790		
13,500.00	5,605.00	13,719.62	5,832.00	118.74	119.51	-143.98	7,879.54	102.37	280.66	121.96	158.70	1.768		
13,600.00	5,605.00	13,819.62	5,832.00	120.19	120.96	-143.98	7,979.54	102.36	280.67	120.05	160.62	1.747		
13,700.00	5,605.00	13,919.62	5,832.00	121.64	122.41	-143.98	8,079.54	102.36	280.67	118.14	162.53	1.727		
13,800.00	5,605.00	14,019.62	5,832.00	123.10	123.87	-143.97	8,179.54	102.35	280.68	116.24	164.44	1.707		
13,900.00	5,605.00	14,119.62	5,832.00	124.55	125.32	-143.97	8,279.54	102.34	280.68	114.33	166.36	1.687		
14,000.00	5,605.00	14,219.62	5,832.00	126.01	126.78	-143.97	8,379.54	102.34	280.69	112.42	168.27	1.668		
14,100.00	5,605.00	14,319.62	5,832.00	127.47	128.24	-143.97	8,479.54	102.33	280.69	110.51	170.19	1.649		
14,200.00	5,605.00	14,419.62	5,832.00	128.92	129.69	-143.97	8,579.54	102.33	280.70	108.59	172.11	1.631		
14,300.00	5,605.00	14,519.62	5,832.00	130.38	131.15	-143.97	8,679.54	102.32	280.71	106.68	174.02	1.613		
14,400.00	5,605.00	14,619.62	5,832.00	131.84	132.61	-143.96	8,779.54	102.32	280.71	104.77	175.94	1.595		
14,500.00	5,605.00	14,719.62	5,832.00	133.30	134.06	-143.96	8,879.54	102.31	280.72	102.86	177.86	1.578		
14,600.00	5,605.00	14,819.62	5,832.00	134.75	135.52	-143.96	8,979.54	102.30	280.72	100.94	179.78	1.561		
14,700.00	5,605.00	14,919.62	5,832.00	136.21	136.98	-143.96	9,079.54	102.30	280.73	99.03	181.70	1.545		
14,800.00	5,605.00	15,019.62	5,832.00	137.67	138.44	-143.96	9,179.54	102.29	280.74	97.11	183.62	1.529		
14,900.00	5,605.00	15,119.62	5,832.00	139.13	139.90	-143.96	9,279.54	102.29	280.74	95.19	185.55	1.513		
15,000.00	5,605.00	15,219.62	5,832.00	140.59	141.35	-143.95	9,379.54	102.28	280.75	93.28	187.47	1.498	Level 3	
15,100.00	5,605.00	15,319.62	5,832.00	142.05	142.81	-143.95	9,479.54	102.28	280.75	91.36	189.39	1.482	Level 3	
15,200.00	5,605.00	15,419.62	5,832.00	143.51	144.27	-143.95	9,579.54	102.27	280.76	89.44	191.32	1.468	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-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	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

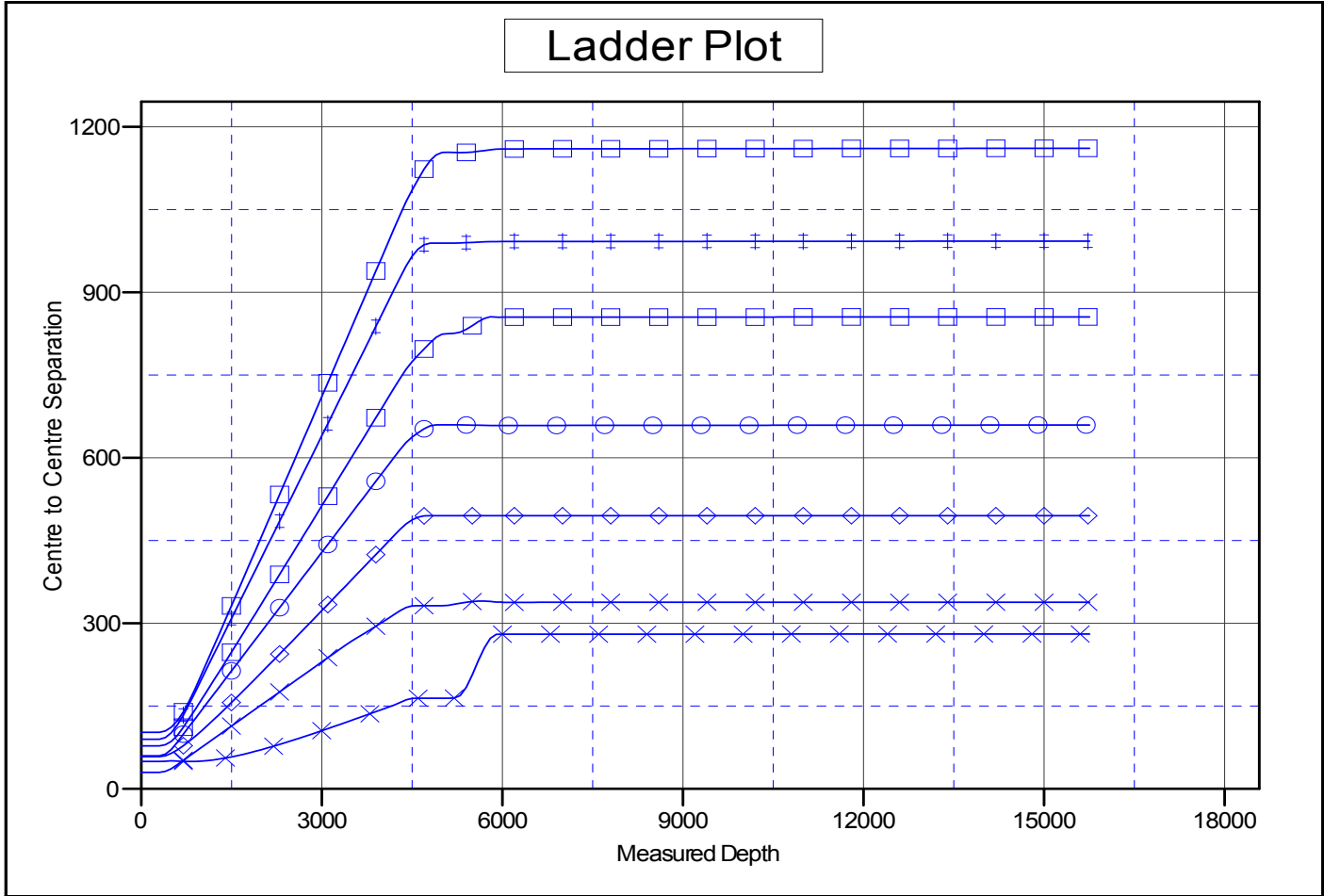
Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,300.00	5,605.00	15,519.62	5,832.00	144.97	145.73	-143.95	9,679.54	102.27	280.76	87.52	193.24	1.453	Level 3	
15,400.00	5,605.00	15,619.62	5,832.00	146.43	147.19	-143.95	9,779.54	102.26	280.77	85.60	195.17	1.439	Level 3	
15,500.00	5,605.00	15,719.62	5,832.00	147.89	148.65	-143.95	9,879.54	102.25	280.78	83.68	197.09	1.425	Level 3	
15,600.00	5,605.00	15,819.62	5,832.00	149.35	150.11	-143.94	9,979.54	102.25	280.78	81.76	199.02	1.411	Level 3	
15,700.00	5,605.00	15,919.62	5,832.00	150.81	151.57	-143.94	10,079.54	102.24	280.79	79.84	200.95	1.397	Level 3	
15,731.09	5,605.00	15,950.71	5,832.00	151.26	152.03	-143.94	10,110.63	102.24	280.79	79.25	201.54	1.393	Level 3	
15,756.19	5,605.00	15,974.81	5,832.00	151.63	152.38	-143.94	10,134.73	102.24	280.79	78.78	202.02	1.390	Level 3, SF	



WOG Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 4762.00usft (Original Well Ele) Coordinates are relative to: Razor #25P-2416
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is 105° 30' 0.000 W Grid Convergence at Surface is: 1.10°



LEGEND

- ✕ Razor#25P-2448,HZ,APDV0 ▣ Razor#25P-2446,HZ,APDV0 ◆ Razor#25P-2447,HZ,APDV0
- ▢ Razor#25P-2445,HZ,APDV0 ✕ Razor#25P-2415,HZ,APDV0
- ✦ Razor#25P-2413,HZ,APDV0 ○ Razor#25P-2414,HZ,APDV0

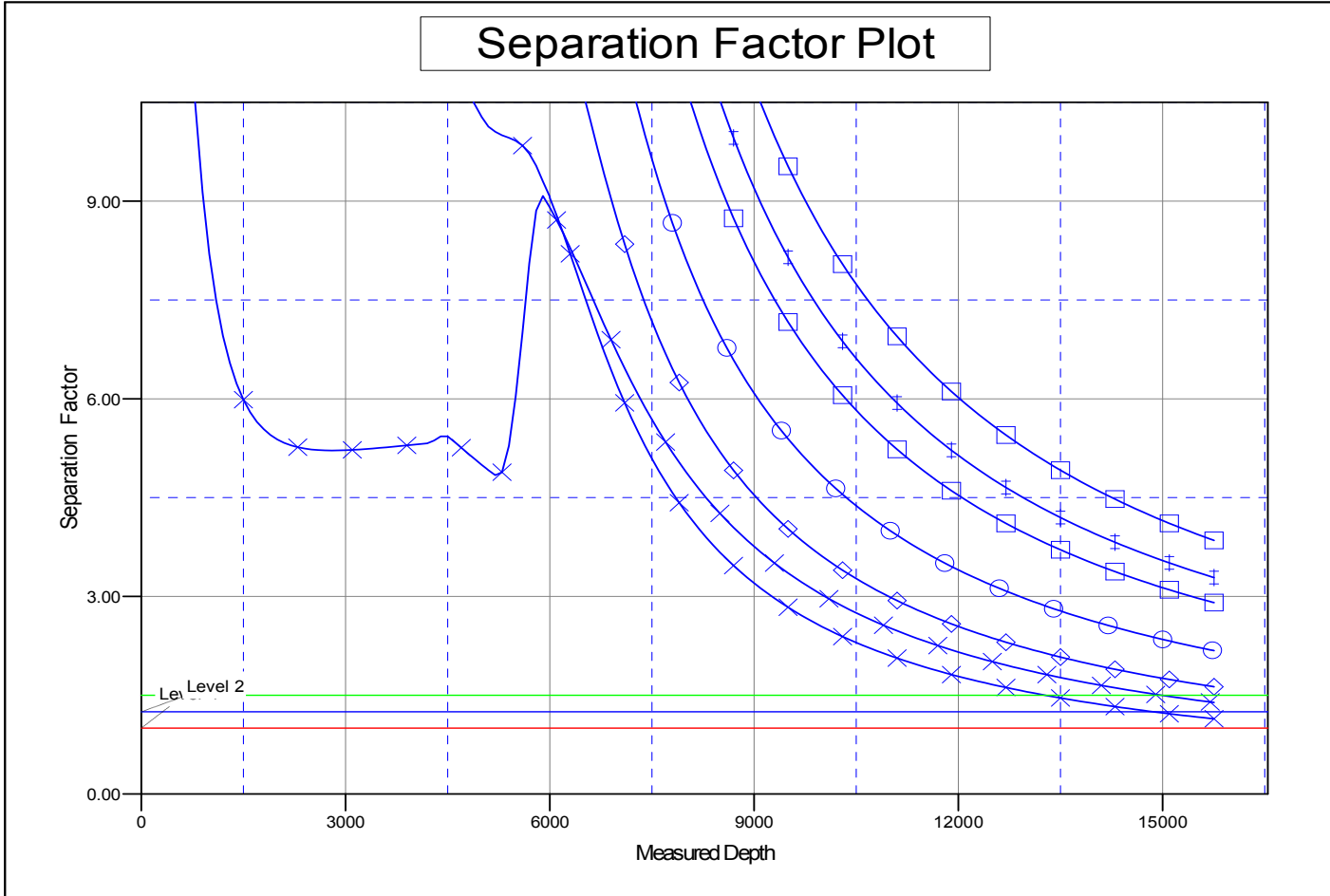
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



WOG Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25P-2416
Project:	Weld County, CO	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 4762.00usft (Original Well Ele) Coordinates are relative to: Razor #25P-2416
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is 105° 30' 0.000 W Grid Convergence at Surface is: 1.10°



LEGEND

- ✕ Razor#25P-2448,HZ,APDV0 ▣ Razor#25P-2446,HZ,APDV0 ◆ Razor#25P-2447,HZ,APDV0
- ▢ Razor#25P-2445,HZ,APDV0 ✕ Razor#25P-2415,HZ,APDV0
- ✦ Razor#25P-2413,HZ,APDV0 ⊙ Razor#25P-2414,HZ,APDV0

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