



Whiting Petroleum Corp.

Weld County, CO

Sec 25-T10N-R58W

Razor #25O-2411

Hz

APD

Anticollision Report

22 May, 2015



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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	5/22/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,657.65	APD (Hz)	MWD+IFR1+MS+sag	Fixed:v2:crustal dec & 3-axis correction + sag	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
			Between Centres (usft)	Between Ellipses (usft)		
Sec 25-T10N-R58W						
Razor #25O-2410 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC, ES
Razor #25O-2410 - Hz - APD	15,657.65	15,801.18	338.21	41.70	1.141	Level 2, SF
Razor #25O-2412 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC
Razor #25O-2412 - Hz - APD	15,657.65	15,751.25	338.20	-104.26	0.764	Level 1, ES, SF
Razor #25O-2443 - Hz - APD	300.00	300.00	58.43	56.82	36.184	CC
Razor #25O-2443 - Hz - APD	15,657.65	15,874.95	258.68	46.11	1.217	Level 2, ES, SF
Razor #25O-2444 - Hz - APD	1,027.96	1,024.65	37.92	31.68	6.081	CC
Razor #25O-2444 - Hz - APD	1,100.00	1,096.57	38.14	31.40	5.659	ES
Razor #25O-2444 - Hz - APD	15,657.65	16,004.18	344.26	168.65	1.960	SF

Offset Design Sec 25-T10N-R58W - Razor #25O-2410 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor
0.00	0.00	0.00	0.00	0.00	0.00	-90.00	0.00	-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	399.18	399.16	1.11	1.11	90.12	-1.10	-31.31	31.29	29.08	2.22	14.116	
500.00	499.84	498.25	498.09	1.41	1.42	92.98	-4.41	-35.24	35.26	32.45	2.81	12.564	
600.00	599.49	597.07	596.54	1.73	1.74	95.99	-9.89	-41.78	41.96	38.52	3.45	12.177	
700.00	699.11	696.72	695.64	2.04	2.07	97.14	-16.59	-49.76	50.01	45.90	4.11	12.154	
800.00	798.73	796.39	794.76	2.39	2.43	97.97	-23.28	-57.74	58.07	53.28	4.80	12.106	
900.00	898.35	896.06	893.89	2.74	2.78	98.60	-29.98	-65.72	66.14	60.65	5.49	12.043	
1,000.00	997.97	995.73	993.01	3.09	3.15	99.09	-36.68	-73.70	74.22	68.03	6.20	11.979	
1,100.00	1,097.59	1,095.40	1,092.14	3.45	3.51	99.48	-43.37	-81.68	82.30	75.40	6.91	11.918	
1,200.00	1,197.21	1,195.07	1,191.27	3.81	3.88	99.81	-50.07	-89.66	90.39	82.77	7.62	11.862	
1,300.00	1,296.83	1,294.74	1,290.39	4.17	4.25	100.08	-56.77	-97.65	98.48	90.14	8.34	11.812	
1,400.00	1,396.45	1,394.42	1,389.52	4.53	4.62	100.31	-63.46	-105.63	106.57	97.51	9.06	11.767	
1,500.00	1,496.07	1,494.09	1,488.64	4.89	4.99	100.51	-70.16	-113.61	114.66	104.88	9.78	11.726	
1,600.00	1,595.69	1,593.76	1,587.77	5.25	5.36	100.68	-76.86	-121.59	122.75	112.25	10.50	11.689	
1,700.00	1,695.31	1,693.43	1,686.89	5.62	5.73	100.83	-83.55	-129.57	130.84	119.62	11.23	11.656	

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



WOG

Anticollision Report

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Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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	
1,800.00	1,794.93	1,793.10	1,786.02	5.98	6.11	100.96	-90.25	-137.55	138.94	126.99	11.95	11.626	
1,900.00	1,894.55	1,892.77	1,885.14	6.35	6.48	101.08	-96.95	-145.53	147.03	134.35	12.68	11.598	
2,000.00	1,994.17	1,992.44	1,984.27	6.71	6.85	101.18	-103.65	-153.51	155.13	141.72	13.40	11.574	
2,100.00	2,093.78	2,092.12	2,083.39	7.08	7.22	101.28	-110.34	-161.49	163.22	149.09	14.13	11.551	
2,200.00	2,193.40	2,191.79	2,182.52	7.44	7.60	101.37	-117.04	-169.47	171.32	156.46	14.86	11.530	
2,300.00	2,293.02	2,291.46	2,281.65	7.81	7.97	101.44	-123.74	-177.46	179.41	163.83	15.59	11.510	
2,400.00	2,392.64	2,391.13	2,380.77	8.17	8.35	101.52	-130.43	-185.44	187.51	171.19	16.32	11.493	
2,500.00	2,492.26	2,490.80	2,479.90	8.54	8.72	101.58	-137.13	-193.42	195.61	178.56	17.04	11.476	
2,600.00	2,591.92	2,590.48	2,579.03	8.88	9.09	101.60	-143.83	-201.40	203.62	185.87	17.75	11.473	
2,700.00	2,691.78	2,690.15	2,678.15	9.14	9.47	100.87	-150.52	-209.38	211.04	192.67	18.36	11.492	
2,800.00	2,791.75	2,789.70	2,777.16	9.42	9.84	-79.70	-157.21	-217.35	217.92	198.92	19.00	11.468	
2,900.00	2,891.76	2,889.15	2,876.06	9.71	10.22	-81.75	-163.89	-225.31	224.76	205.13	19.63	11.451	
3,000.00	2,991.76	2,988.60	2,974.97	9.97	10.59	-83.67	-170.58	-233.28	231.87	211.65	20.22	11.467	
3,100.00	3,091.76	3,088.06	3,073.88	10.23	10.96	-85.47	-177.26	-241.24	239.23	218.42	20.82	11.493	
3,200.00	3,191.76	3,187.51	3,172.79	10.49	11.34	-87.17	-183.94	-249.21	246.81	225.40	21.41	11.526	
3,300.00	3,291.76	3,286.96	3,271.69	10.76	11.71	-88.77	-190.62	-257.17	254.60	232.58	22.01	11.566	
3,400.00	3,391.76	3,386.41	3,370.60	11.03	12.09	-90.27	-197.31	-265.13	262.57	239.95	22.62	11.610	
3,500.00	3,491.76	3,485.87	3,469.51	11.31	12.46	-91.68	-203.99	-273.10	270.70	247.48	23.22	11.658	
3,600.00	3,591.76	3,585.32	3,568.42	11.59	12.83	-93.01	-210.67	-281.06	279.00	255.17	23.83	11.709	
3,700.00	3,691.76	3,684.77	3,667.32	11.87	13.21	-94.26	-217.35	-289.02	287.43	262.99	24.44	11.761	
3,800.00	3,791.76	3,784.22	3,766.23	12.16	13.58	-95.44	-224.03	-296.99	295.99	270.94	25.05	11.815	
3,900.00	3,891.76	3,883.67	3,865.14	12.45	13.96	-96.55	-230.72	-304.95	304.67	279.01	25.67	11.870	
4,000.00	3,991.76	3,983.13	3,964.05	12.74	14.33	-97.60	-237.40	-312.91	313.46	287.18	26.29	11.925	
4,100.00	4,091.76	4,082.58	4,062.95	13.03	14.70	-98.60	-244.08	-320.88	322.35	295.44	26.91	11.980	
4,200.00	4,191.76	4,192.19	4,172.14	13.32	15.00	-99.47	-250.28	-328.26	329.91	302.44	27.47	12.009	
4,300.00	4,291.76	4,303.19	4,282.99	13.62	15.27	-99.95	-253.82	-332.49	334.20	306.17	28.04	11.919	
4,400.00	4,391.76	4,411.97	4,391.76	13.92	15.56	-100.06	-254.67	-333.49	335.23	306.59	28.64	11.704	
4,500.00	4,491.76	4,511.97	4,491.76	14.22	15.82	-100.06	-254.67	-333.49	335.23	306.02	29.21	11.477	
4,600.00	4,591.76	4,611.97	4,591.76	14.52	16.08	-100.06	-254.67	-333.49	335.23	305.45	29.78	11.257	
4,700.00	4,691.76	4,711.97	4,691.76	14.82	16.34	-100.06	-254.67	-333.49	335.23	304.87	30.36	11.043	
4,800.00	4,791.76	4,811.97	4,791.76	15.13	16.61	-100.06	-254.67	-333.49	335.23	304.29	30.94	10.836	
4,900.00	4,891.76	4,911.97	4,891.76	15.43	16.88	-100.06	-254.67	-333.49	335.23	303.71	31.52	10.635	
5,000.00	4,991.76	5,011.97	4,991.76	15.74	17.15	-100.06	-254.67	-333.49	335.23	303.12	32.11	10.441	
5,100.00	5,091.41	5,112.66	5,092.45	16.04	17.42	-101.04	-254.60	-333.49	336.42	303.78	32.64	10.308	
5,200.00	5,188.04	5,227.68	5,206.32	16.30	17.71	-103.20	-240.13	-333.49	339.14	306.06	33.08	10.253	
5,300.00	5,278.09	5,346.09	5,317.29	16.53	17.97	-104.82	-199.57	-333.49	341.49	308.07	33.42	10.219	
5,400.00	5,358.26	5,467.01	5,418.19	16.75	18.18	-105.80	-133.43	-333.49	343.04	309.33	33.70	10.178	
5,500.00	5,425.60	5,589.19	5,501.93	16.99	18.34	-106.08	-44.85	-333.48	343.50	309.47	34.03	10.093	
5,600.00	5,477.64	5,711.23	5,562.73	17.27	18.45	-105.66	60.65	-333.47	342.80	308.28	34.52	9.930	
5,700.00	5,512.46	5,831.73	5,597.11	17.61	18.57	-104.54	175.86	-333.47	341.06	305.81	35.25	9.675	
5,800.00	5,528.79	5,945.60	5,605.00	18.01	18.94	-102.97	289.27	-333.46	338.74	302.53	36.20	9.356	
5,856.71	5,531.56	6,002.24	5,605.00	18.27	19.19	-102.54	345.91	-333.46	338.12	301.37	36.75	9.200	
5,900.00	5,530.00	6,045.57	5,605.00	18.48	19.43	-102.80	389.25	-333.45	338.46	301.31	37.15	9.110	
6,000.00	5,530.00	6,145.57	5,605.00	19.06	20.03	-102.80	489.25	-333.45	338.46	300.18	38.28	8.841	
6,100.00	5,530.00	6,245.57	5,605.00	19.73	20.72	-102.80	589.25	-333.44	338.46	298.87	39.59	8.549	
6,200.00	5,530.00	6,345.57	5,605.00	20.48	21.48	-102.80	689.25	-333.44	338.46	297.40	41.06	8.244	
6,300.00	5,530.00	6,445.57	5,605.00	21.31	22.31	-102.80	789.25	-333.43	338.45	295.78	42.67	7.932	
6,400.00	5,530.00	6,545.57	5,605.00	22.21	23.21	-102.80	889.25	-333.42	338.45	294.04	44.41	7.621	
6,500.00	5,530.00	6,645.57	5,605.00	23.16	24.16	-102.80	989.25	-333.42	338.45	292.18	46.26	7.316	
6,600.00	5,530.00	6,745.57	5,605.00	24.17	25.16	-102.80	1,089.25	-333.41	338.45	290.23	48.22	7.019	
6,700.00	5,530.00	6,845.57	5,605.00	25.22	26.20	-102.80	1,189.25	-333.40	338.44	288.18	50.27	6.733	
6,800.00	5,530.00	6,945.57	5,605.00	26.32	27.28	-102.80	1,289.25	-333.40	338.44	286.05	52.39	6.460	

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,900.00	5,530.00	7,045.57	5,605.00	27.44	28.40	-102.80	1,389.25	-333.39	338.44	283.86	54.58	6.201		
7,000.00	5,530.00	7,145.57	5,605.00	28.60	29.55	-102.80	1,489.25	-333.39	338.43	281.60	56.84	5.954		
7,100.00	5,530.00	7,245.57	5,605.00	29.79	30.73	-102.80	1,589.25	-333.38	338.43	279.29	59.15	5.722		
7,200.00	5,530.00	7,345.57	5,605.00	31.00	31.93	-102.80	1,689.25	-333.37	338.43	276.93	61.50	5.503		
7,300.00	5,530.00	7,445.57	5,605.00	32.24	33.15	-102.80	1,789.25	-333.37	338.43	274.52	63.90	5.296		
7,400.00	5,530.00	7,545.57	5,605.00	33.49	34.39	-102.80	1,889.25	-333.36	338.42	272.08	66.34	5.101		
7,500.00	5,530.00	7,645.57	5,605.00	34.76	35.65	-102.80	1,989.25	-333.36	338.42	269.60	68.82	4.918		
7,600.00	5,530.00	7,745.57	5,605.00	36.04	36.92	-102.80	2,089.25	-333.35	338.42	267.10	71.32	4.745		
7,700.00	5,530.00	7,845.57	5,605.00	37.34	38.21	-102.80	2,189.25	-333.34	338.42	264.56	73.85	4.582		
7,800.00	5,530.00	7,945.57	5,605.00	38.65	39.51	-102.80	2,289.25	-333.34	338.41	262.01	76.41	4.429		
7,900.00	5,530.00	8,045.57	5,605.00	39.98	40.83	-102.80	2,389.25	-333.33	338.41	259.42	78.99	4.284		
8,000.00	5,530.00	8,145.57	5,605.00	41.31	42.15	-102.80	2,489.25	-333.32	338.41	256.82	81.59	4.148		
8,100.00	5,530.00	8,245.57	5,605.00	42.65	43.48	-102.80	2,589.25	-333.32	338.41	254.20	84.20	4.019		
8,200.00	5,530.00	8,345.57	5,605.00	44.00	44.83	-102.80	2,689.25	-333.31	338.40	251.57	86.84	3.897		
8,300.00	5,530.00	8,445.57	5,605.00	45.36	46.17	-102.80	2,789.25	-333.31	338.40	248.91	89.49	3.782		
8,400.00	5,530.00	8,545.57	5,605.00	46.72	47.53	-102.81	2,889.25	-333.30	338.40	246.25	92.15	3.672		
8,500.00	5,530.00	8,645.57	5,605.00	48.09	48.89	-102.81	2,989.25	-333.29	338.39	243.57	94.83	3.569		
8,600.00	5,530.00	8,745.57	5,605.00	49.47	50.26	-102.81	3,089.25	-333.29	338.39	240.88	97.51	3.470		
8,700.00	5,530.00	8,845.57	5,605.00	50.85	51.64	-102.81	3,189.25	-333.28	338.39	238.18	100.21	3.377		
8,800.00	5,530.00	8,945.57	5,605.00	52.24	53.02	-102.81	3,289.25	-333.28	338.39	235.47	102.92	3.288		
8,900.00	5,530.00	9,045.57	5,605.00	53.63	54.40	-102.81	3,389.25	-333.27	338.38	232.75	105.64	3.203		
9,000.00	5,530.00	9,145.57	5,605.00	55.03	55.79	-102.81	3,489.25	-333.26	338.38	230.02	108.36	3.123		
9,100.00	5,530.00	9,245.57	5,605.00	56.43	57.19	-102.81	3,589.25	-333.26	338.38	227.28	111.10	3.046		
9,200.00	5,530.00	9,345.57	5,605.00	57.83	58.58	-102.81	3,689.25	-333.25	338.38	224.54	113.84	2.972		
9,300.00	5,530.00	9,445.57	5,605.00	59.23	59.98	-102.81	3,789.25	-333.24	338.37	221.79	116.59	2.902		
9,400.00	5,530.00	9,545.57	5,605.00	60.64	61.39	-102.81	3,889.25	-333.24	338.37	219.03	119.34	2.835		
9,500.00	5,530.00	9,645.57	5,605.00	62.06	62.80	-102.81	3,989.25	-333.23	338.37	216.27	122.10	2.771		
9,600.00	5,530.00	9,745.57	5,605.00	63.47	64.21	-102.81	4,089.25	-333.23	338.36	213.50	124.87	2.710		
9,700.00	5,530.00	9,845.57	5,605.00	64.89	65.62	-102.81	4,189.25	-333.22	338.36	210.73	127.64	2.651		
9,800.00	5,530.00	9,945.57	5,605.00	66.31	67.03	-102.81	4,289.25	-333.21	338.36	207.95	130.41	2.595		
9,900.00	5,530.00	10,045.57	5,605.00	67.73	68.45	-102.81	4,389.25	-333.21	338.36	205.16	133.19	2.540		
10,000.00	5,530.00	10,145.57	5,605.00	69.16	69.87	-102.81	4,489.25	-333.20	338.35	202.38	135.98	2.488		
10,100.00	5,530.00	10,245.57	5,605.00	70.58	71.29	-102.81	4,589.25	-333.20	338.35	199.59	138.76	2.438		
10,200.00	5,530.00	10,345.57	5,605.00	72.01	72.72	-102.81	4,689.25	-333.19	338.35	196.79	141.56	2.390		
10,300.00	5,530.00	10,445.57	5,605.00	73.44	74.14	-102.81	4,789.25	-333.18	338.35	193.99	144.35	2.344		
10,400.00	5,530.00	10,545.57	5,605.00	74.87	75.57	-102.81	4,889.25	-333.18	338.34	191.19	147.15	2.299		
10,500.00	5,530.00	10,645.57	5,605.00	76.30	77.00	-102.81	4,989.25	-333.17	338.34	188.39	149.95	2.256		
10,600.00	5,530.00	10,745.57	5,605.00	77.74	78.43	-102.81	5,089.25	-333.17	338.34	185.58	152.76	2.215		
10,700.00	5,530.00	10,845.57	5,605.00	79.17	79.86	-102.81	5,189.25	-333.16	338.33	182.77	155.56	2.175		
10,800.00	5,530.00	10,945.57	5,605.00	80.61	81.30	-102.81	5,289.25	-333.15	338.33	179.96	158.37	2.136		
10,900.00	5,530.00	11,045.57	5,605.00	82.05	82.73	-102.81	5,389.25	-333.15	338.33	177.14	161.19	2.099		
11,000.00	5,530.00	11,145.57	5,605.00	83.49	84.17	-102.81	5,489.25	-333.14	338.33	174.32	164.00	2.063		
11,100.00	5,530.00	11,245.57	5,605.00	84.93	85.61	-102.81	5,589.25	-333.13	338.32	171.50	166.82	2.028		
11,200.00	5,530.00	11,345.57	5,605.00	86.37	87.04	-102.81	5,689.25	-333.13	338.32	168.68	169.64	1.994		
11,300.00	5,530.00	11,445.57	5,605.00	87.81	88.48	-102.81	5,789.25	-333.12	338.32	165.86	172.46	1.962		
11,400.00	5,530.00	11,545.57	5,605.00	89.26	89.92	-102.81	5,889.25	-333.12	338.32	163.03	175.29	1.930		
11,500.00	5,530.00	11,645.57	5,605.00	90.70	91.37	-102.81	5,989.25	-333.11	338.31	160.20	178.11	1.899		
11,600.00	5,530.00	11,745.57	5,605.00	92.15	92.81	-102.81	6,089.25	-333.10	338.31	157.37	180.94	1.870		
11,700.00	5,530.00	11,845.57	5,605.00	93.59	94.25	-102.81	6,189.25	-333.10	338.31	154.54	183.77	1.841		
11,800.00	5,530.00	11,945.57	5,605.00	95.04	95.70	-102.81	6,289.25	-333.09	338.31	151.71	186.60	1.813		
11,900.00	5,530.00	12,045.57	5,605.00	96.49	97.14	-102.81	6,389.25	-333.09	338.30	148.87	189.43	1.786		
12,000.00	5,530.00	12,145.57	5,605.00	97.93	98.59	-102.81	6,489.25	-333.08	338.30	146.04	192.26	1.760		

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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		
12,100.00	5,530.00	12,245.57	5,605.00	99.38	100.04	-102.81	6,589.25	-333.07	338.30	143.20	195.10	1.734		
12,200.00	5,530.00	12,345.57	5,605.00	100.83	101.48	-102.81	6,689.25	-333.07	338.29	140.36	197.93	1.709		
12,300.00	5,530.00	12,445.57	5,605.00	102.28	102.93	-102.81	6,789.25	-333.06	338.29	137.52	200.77	1.685		
12,400.00	5,530.00	12,545.57	5,605.00	103.73	104.38	-102.81	6,889.25	-333.05	338.29	134.68	203.61	1.661		
12,500.00	5,530.00	12,645.57	5,605.00	105.19	105.83	-102.81	6,989.25	-333.05	338.29	131.84	206.45	1.639		
12,600.00	5,530.00	12,745.57	5,605.00	106.64	107.28	-102.81	7,089.25	-333.04	338.28	128.99	209.29	1.616		
12,700.00	5,530.00	12,845.57	5,605.00	108.09	108.73	-102.81	7,189.25	-333.04	338.28	126.15	212.13	1.595		
12,800.00	5,530.00	12,945.57	5,605.00	109.54	110.18	-102.81	7,289.25	-333.03	338.28	123.30	214.98	1.574		
12,900.00	5,530.00	13,045.57	5,605.00	111.00	111.63	-102.81	7,389.25	-333.02	338.28	120.45	217.82	1.553		
13,000.00	5,530.00	13,145.57	5,605.00	112.45	113.08	-102.81	7,489.25	-333.02	338.27	117.61	220.67	1.533		
13,100.00	5,530.00	13,245.57	5,605.00	113.91	114.54	-102.81	7,589.25	-333.01	338.27	114.76	223.51	1.513		
13,200.00	5,530.00	13,345.57	5,605.00	115.36	115.99	-102.81	7,689.25	-333.01	338.27	111.91	226.36	1.494 Level 3		
13,300.00	5,530.00	13,445.57	5,605.00	116.82	117.44	-102.81	7,789.25	-333.00	338.26	109.06	229.21	1.476 Level 3		
13,400.00	5,530.00	13,545.57	5,605.00	118.27	118.90	-102.81	7,889.25	-332.99	338.26	106.21	232.06	1.458 Level 3		
13,500.00	5,530.00	13,645.57	5,605.00	119.73	120.35	-102.81	7,989.25	-332.99	338.26	103.35	234.90	1.440 Level 3		
13,600.00	5,530.00	13,745.57	5,605.00	121.18	121.81	-102.81	8,089.25	-332.98	338.26	100.50	237.75	1.423 Level 3		
13,700.00	5,530.00	13,845.57	5,605.00	122.64	123.26	-102.81	8,189.25	-332.97	338.25	97.65	240.61	1.406 Level 3		
13,800.00	5,530.00	13,945.57	5,605.00	124.10	124.72	-102.81	8,289.25	-332.97	338.25	94.79	243.46	1.389 Level 3		
13,900.00	5,530.00	14,045.57	5,605.00	125.56	126.18	-102.81	8,389.25	-332.96	338.25	91.94	246.31	1.373 Level 3		
14,000.00	5,530.00	14,145.57	5,605.00	127.01	127.63	-102.81	8,489.25	-332.96	338.25	89.08	249.16	1.358 Level 3		
14,100.00	5,530.00	14,245.57	5,605.00	128.47	129.09	-102.81	8,589.25	-332.95	338.24	86.23	252.02	1.342 Level 3		
14,200.00	5,530.00	14,345.57	5,605.00	129.93	130.55	-102.81	8,689.25	-332.94	338.24	83.37	254.87	1.327 Level 3		
14,300.00	5,530.00	14,445.57	5,605.00	131.39	132.00	-102.81	8,789.25	-332.94	338.24	80.51	257.73	1.312 Level 3		
14,400.00	5,530.00	14,545.57	5,605.00	132.85	133.46	-102.81	8,889.25	-332.93	338.23	77.65	260.58	1.298 Level 3		
14,500.00	5,530.00	14,645.57	5,605.00	134.31	134.92	-102.81	8,989.25	-332.93	338.23	74.79	263.44	1.284 Level 3		
14,600.00	5,530.00	14,745.57	5,605.00	135.77	136.38	-102.81	9,089.25	-332.92	338.23	71.94	266.29	1.270 Level 3		
14,700.00	5,530.00	14,845.57	5,605.00	137.23	137.84	-102.81	9,189.25	-332.91	338.23	69.08	269.15	1.257 Level 3		
14,800.00	5,530.00	14,945.57	5,605.00	138.69	139.29	-102.81	9,289.25	-332.91	338.22	66.22	272.01	1.243 Level 2		
14,900.00	5,530.00	15,045.57	5,605.00	140.15	140.75	-102.81	9,389.25	-332.90	338.22	63.35	274.87	1.230 Level 2		
15,000.00	5,530.00	15,145.57	5,605.00	141.61	142.21	-102.81	9,489.25	-332.89	338.22	60.49	277.73	1.218 Level 2		
15,100.00	5,530.00	15,245.57	5,605.00	143.07	143.67	-102.81	9,589.25	-332.89	338.22	57.63	280.58	1.205 Level 2		
15,200.00	5,530.00	15,345.57	5,605.00	144.53	145.13	-102.81	9,689.25	-332.88	338.21	54.77	283.44	1.193 Level 2		
15,300.00	5,530.00	15,445.57	5,605.00	145.99	146.59	-102.81	9,789.25	-332.88	338.21	51.91	286.30	1.181 Level 2		
15,400.00	5,530.00	15,545.57	5,605.00	147.45	148.05	-102.81	9,889.25	-332.87	338.21	49.04	289.16	1.170 Level 2		
15,500.00	5,530.00	15,645.57	5,605.00	148.92	149.51	-102.81	9,989.25	-332.86	338.20	46.18	292.02	1.158 Level 2		
15,600.00	5,530.00	15,745.57	5,605.00	150.38	150.98	-102.81	10,089.25	-332.86	338.20	43.32	294.89	1.147 Level 2		
15,642.86	5,530.00	15,788.43	5,605.00	151.00	151.60	-102.81	10,132.11	-332.86	338.20	42.09	296.11	1.142 Level 2		
15,657.65	5,530.00	15,801.18	5,605.00	151.22	151.79	-102.81	10,144.85	-332.85	338.21	41.70	296.51	1.141 Level 2, SF		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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	
400.00	399.98	399.12	399.10	1.11	1.12	-92.33	-0.98	31.40	31.45	29.23	2.22	14.171	
500.00	499.84	498.09	497.93	1.41	1.42	-95.66	-3.93	35.60	35.90	33.09	2.82	12.743	
600.00	599.49	597.27	596.78	1.73	1.77	-99.52	-8.62	42.30	43.16	39.69	3.48	12.412	
700.00	699.11	696.94	696.06	2.04	2.15	-102.42	-13.60	49.41	50.99	46.82	4.17	12.239	
800.00	798.73	796.60	795.35	2.39	2.55	-104.54	-18.58	56.53	58.91	54.03	4.88	12.076	
900.00	898.35	896.27	894.63	2.74	2.95	-106.16	-23.56	63.64	66.90	61.29	5.61	11.933	
1,000.00	997.97	995.93	993.92	3.09	3.35	-107.44	-28.55	70.76	74.92	68.58	6.34	11.810	
1,100.00	1,097.59	1,095.60	1,093.20	3.45	3.76	-108.46	-33.53	77.87	82.97	75.89	7.09	11.706	
1,200.00	1,197.21	1,195.26	1,192.49	3.81	4.17	-109.31	-38.51	84.99	91.05	83.21	7.84	11.617	
1,300.00	1,296.83	1,294.93	1,291.78	4.17	4.59	-110.01	-43.49	92.11	99.14	90.55	8.59	11.541	
1,400.00	1,396.45	1,394.59	1,391.06	4.53	5.00	-110.61	-48.47	99.22	107.25	97.90	9.35	11.475	
1,500.00	1,496.07	1,494.26	1,490.35	4.89	5.42	-111.13	-53.46	106.34	115.36	105.26	10.10	11.418	
1,600.00	1,595.69	1,593.92	1,589.63	5.25	5.84	-111.58	-58.44	113.45	123.49	112.63	10.86	11.368	
1,700.00	1,695.31	1,693.59	1,688.92	5.62	6.25	-111.97	-63.42	120.57	131.62	120.00	11.62	11.324	
1,800.00	1,794.93	1,793.25	1,788.21	5.98	6.67	-112.32	-68.40	127.68	139.75	127.37	12.38	11.285	
1,900.00	1,894.55	1,892.92	1,887.49	6.35	7.09	-112.63	-73.39	134.80	147.89	134.75	13.15	11.250	
2,000.00	1,994.17	1,992.58	1,986.78	6.71	7.51	-112.90	-78.37	141.91	156.04	142.13	13.91	11.219	
2,100.00	2,093.78	2,092.25	2,086.06	7.08	7.93	-113.15	-83.35	149.03	164.18	149.51	14.67	11.191	
2,200.00	2,193.40	2,191.92	2,185.35	7.44	8.35	-113.38	-88.33	156.14	172.33	156.90	15.43	11.165	
2,300.00	2,293.02	2,291.58	2,284.64	7.81	8.77	-113.58	-93.32	163.26	180.49	164.29	16.20	11.142	
2,400.00	2,392.64	2,391.25	2,383.92	8.17	9.19	-113.77	-98.30	170.38	188.64	171.68	16.96	11.121	
2,500.00	2,492.26	2,490.91	2,483.21	8.54	9.61	-113.94	-103.28	177.49	196.80	179.07	17.73	11.102	
2,600.00	2,591.92	2,590.59	2,582.51	8.88	10.03	-114.06	-108.26	184.61	204.78	186.30	18.47	11.084	
2,700.00	2,691.78	2,690.32	2,681.86	9.14	10.45	-113.47	-113.25	191.73	211.53	192.39	19.15	11.048	
2,800.00	2,791.75	2,790.01	2,781.17	9.42	10.87	68.95	-118.23	198.84	216.99	197.16	19.83	10.943	
2,900.00	2,891.76	2,889.63	2,880.41	9.71	11.29	70.81	-123.21	205.96	221.99	201.51	20.48	10.840	
3,000.00	2,991.76	2,989.25	2,979.65	9.97	11.71	72.59	-128.19	213.07	227.21	206.12	21.09	10.772	
3,100.00	3,091.76	3,088.87	3,078.89	10.23	12.13	74.29	-133.17	220.18	232.64	210.94	21.70	10.719	
3,200.00	3,191.76	3,188.48	3,178.13	10.49	12.55	75.90	-138.15	227.29	238.27	215.95	22.32	10.677	
3,300.00	3,291.76	3,288.10	3,277.37	10.76	12.97	77.45	-143.13	234.41	244.08	221.15	22.93	10.644	
3,400.00	3,391.76	3,387.72	3,376.61	11.03	13.39	78.92	-148.11	241.52	250.05	226.50	23.55	10.618	
3,500.00	3,491.76	3,487.34	3,475.85	11.31	13.81	80.32	-153.09	248.63	256.19	232.02	24.17	10.600	
3,600.00	3,591.76	3,586.96	3,575.09	11.59	14.23	81.66	-158.07	255.74	262.47	237.68	24.79	10.587	
3,700.00	3,691.76	3,686.58	3,674.33	11.87	14.65	82.93	-163.05	262.86	268.88	243.47	25.41	10.581	
3,800.00	3,791.76	3,786.20	3,773.57	12.16	15.07	84.14	-168.03	269.97	275.43	249.39	26.04	10.579	
3,900.00	3,891.76	3,885.82	3,872.81	12.45	15.49	85.30	-173.01	277.08	282.09	255.43	26.66	10.581	
4,000.00	3,991.76	3,985.44	3,972.05	12.74	15.92	86.40	-177.99	284.19	288.86	261.57	27.29	10.587	
4,100.00	4,091.76	4,085.06	4,071.29	13.03	16.34	87.45	-182.97	291.30	295.73	267.81	27.91	10.595	
4,200.00	4,191.76	4,184.68	4,170.53	13.32	16.76	88.46	-187.95	298.42	302.69	274.15	28.54	10.606	
4,300.00	4,291.76	4,284.30	4,269.77	13.62	17.18	89.42	-192.93	305.53	309.75	280.58	29.17	10.619	
4,400.00	4,391.76	4,383.92	4,369.01	13.92	17.60	90.33	-197.91	312.64	316.89	287.08	29.80	10.633	
4,500.00	4,491.76	4,487.02	4,471.74	14.22	18.01	91.21	-202.93	319.81	323.92	293.49	30.43	10.646	
4,600.00	4,591.76	4,597.36	4,581.91	14.52	18.32	91.80	-206.41	324.78	328.52	297.52	30.99	10.600	
4,700.00	4,691.76	4,707.23	4,691.76	14.82	18.59	91.98	-207.47	326.29	329.91	298.32	31.58	10.445	
4,800.00	4,791.76	4,807.23	4,791.76	15.13	18.84	91.98	-207.47	326.29	329.91	297.75	32.16	10.258	
4,900.00	4,891.76	4,907.23	4,891.76	15.43	19.08	91.98	-207.47	326.29	329.91	297.19	32.72	10.082	
5,000.00	4,991.76	5,007.23	4,991.76	15.74	19.32	91.98	-207.47	326.29	329.91	296.62	33.29	9.911	
5,100.00	5,091.41	5,107.14	5,091.67	16.04	19.56	93.07	-207.41	326.29	330.19	296.41	33.78	9.774	

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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													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	5,188.04	5,211.14	5,194.81	16.30	19.74	95.47	-195.57	326.29	331.25	297.14	34.11	9.711		
5,300.00	5,278.09	5,318.21	5,296.37	16.53	19.81	97.69	-162.27	326.29	332.75	298.44	34.31	9.698		
5,400.00	5,358.26	5,428.28	5,391.43	16.75	19.81	99.63	-107.16	326.29	334.47	299.99	34.48	9.701		
5,500.00	5,425.60	5,541.08	5,474.61	16.99	19.78	101.18	-31.32	326.30	336.13	301.37	34.76	9.671		
5,600.00	5,477.64	5,656.06	5,540.62	17.27	19.74	102.28	62.55	326.30	337.45	302.10	35.35	9.545		
5,700.00	5,512.46	5,772.51	5,584.87	17.61	20.07	102.87	170.00	326.30	338.21	301.78	36.43	9.284		
5,800.00	5,528.79	5,889.51	5,604.24	18.01	21.46	102.91	285.14	326.31	338.26	300.21	38.05	8.890		
5,899.87	5,532.20	5,993.42	5,605.00	18.48	23.04	102.45	389.03	326.31	337.66	297.62	40.03	8.434		
5,900.00	5,530.00	5,993.60	5,605.00	18.48	23.05	102.81	389.21	326.31	338.14	298.15	39.98	8.457		
6,000.00	5,530.00	6,093.60	5,605.00	19.06	24.80	102.81	489.21	326.32	338.14	295.91	42.23	8.007		
6,100.00	5,530.00	6,193.60	5,605.00	19.73	26.73	102.81	589.21	326.32	338.14	293.37	44.77	7.553		
6,200.00	5,530.00	6,293.60	5,605.00	20.48	28.82	102.81	689.21	326.32	338.14	290.59	47.55	7.112		
6,300.00	5,530.00	6,393.60	5,605.00	21.31	31.03	102.81	789.21	326.33	338.14	287.61	50.53	6.692		
6,400.00	5,530.00	6,493.60	5,605.00	22.21	33.34	102.81	889.21	326.33	338.14	284.47	53.68	6.300		
6,500.00	5,530.00	6,593.60	5,605.00	23.16	35.73	102.81	989.21	326.34	338.14	281.18	56.96	5.936		
6,600.00	5,530.00	6,693.60	5,605.00	24.17	38.18	102.81	1,089.21	326.34	338.14	277.78	60.36	5.602		
6,700.00	5,530.00	6,793.60	5,605.00	25.22	40.69	102.81	1,189.21	326.34	338.14	274.28	63.87	5.295		
6,800.00	5,530.00	6,893.60	5,605.00	26.32	43.24	102.81	1,289.21	326.35	338.14	270.65	67.49	5.010		
6,900.00	5,530.00	6,993.60	5,605.00	27.44	45.84	102.81	1,389.21	326.35	338.14	266.92	71.22	4.748		
7,000.00	5,530.00	7,093.60	5,605.00	28.60	48.46	102.81	1,489.21	326.36	338.14	263.13	75.01	4.508		
7,100.00	5,530.00	7,193.60	5,605.00	29.79	51.11	102.81	1,589.21	326.36	338.15	259.29	78.86	4.288		
7,200.00	5,530.00	7,293.60	5,605.00	31.00	53.79	102.81	1,689.21	326.36	338.15	255.40	82.75	4.086		
7,300.00	5,530.00	7,393.60	5,605.00	32.24	56.48	102.81	1,789.21	326.37	338.15	251.47	86.68	3.901		
7,400.00	5,530.00	7,493.60	5,605.00	33.49	59.19	102.81	1,889.21	326.37	338.15	247.50	90.65	3.730		
7,500.00	5,530.00	7,593.60	5,605.00	34.76	61.92	102.81	1,989.21	326.38	338.15	243.50	94.64	3.573		
7,600.00	5,530.00	7,693.60	5,605.00	36.04	64.66	102.81	2,089.21	326.38	338.15	239.48	98.67	3.427		
7,700.00	5,530.00	7,793.60	5,605.00	37.34	67.41	102.81	2,189.21	326.38	338.15	235.43	102.72	3.292		
7,800.00	5,530.00	7,893.60	5,605.00	38.65	70.17	102.81	2,289.21	326.39	338.15	231.36	106.79	3.167		
7,900.00	5,530.00	7,993.60	5,605.00	39.98	72.94	102.81	2,389.21	326.39	338.15	227.27	110.88	3.050		
8,000.00	5,530.00	8,093.60	5,605.00	41.31	75.72	102.81	2,489.21	326.40	338.15	223.17	114.98	2.941		
8,100.00	5,530.00	8,193.60	5,605.00	42.65	78.51	102.81	2,589.21	326.40	338.15	219.05	119.10	2.839		
8,200.00	5,530.00	8,293.60	5,605.00	44.00	81.30	102.81	2,689.21	326.40	338.15	214.91	123.24	2.744		
8,300.00	5,530.00	8,393.60	5,605.00	45.36	84.10	102.81	2,789.21	326.41	338.15	210.76	127.39	2.654		
8,400.00	5,530.00	8,493.60	5,605.00	46.72	86.90	102.81	2,889.21	326.41	338.15	206.60	131.55	2.571		
8,500.00	5,530.00	8,593.60	5,605.00	48.09	89.71	102.81	2,989.21	326.42	338.15	202.43	135.72	2.492		
8,600.00	5,530.00	8,693.60	5,605.00	49.47	92.53	102.81	3,089.21	326.42	338.16	198.25	139.90	2.417		
8,700.00	5,530.00	8,793.60	5,605.00	50.85	95.34	102.81	3,189.21	326.42	338.16	194.06	144.09	2.347		
8,800.00	5,530.00	8,893.60	5,605.00	52.24	98.16	102.81	3,289.21	326.43	338.16	189.87	148.29	2.280		
8,900.00	5,530.00	8,993.60	5,605.00	53.63	100.99	102.81	3,389.21	326.43	338.16	185.66	152.50	2.217		
9,000.00	5,530.00	9,093.60	5,605.00	55.03	103.81	102.81	3,489.21	326.44	338.16	181.45	156.71	2.158		
9,100.00	5,530.00	9,193.60	5,605.00	56.43	106.64	102.81	3,589.21	326.44	338.16	177.23	160.93	2.101		
9,200.00	5,530.00	9,293.60	5,605.00	57.83	109.48	102.81	3,689.21	326.45	338.16	173.01	165.15	2.048		
9,300.00	5,530.00	9,393.60	5,605.00	59.23	112.31	102.81	3,789.21	326.45	338.16	168.78	169.38	1.996		
9,400.00	5,530.00	9,493.60	5,605.00	60.64	115.15	102.81	3,889.21	326.45	338.16	164.54	173.62	1.948		
9,500.00	5,530.00	9,593.60	5,605.00	62.06	117.99	102.81	3,989.21	326.46	338.16	160.31	177.86	1.901		
9,600.00	5,530.00	9,693.60	5,605.00	63.47	120.83	102.81	4,089.21	326.46	338.16	156.06	182.10	1.857		
9,700.00	5,530.00	9,793.60	5,605.00	64.89	123.67	102.81	4,189.21	326.47	338.16	151.81	186.35	1.815		
9,800.00	5,530.00	9,893.60	5,605.00	66.31	126.52	102.81	4,289.21	326.47	338.16	147.56	190.60	1.774		
9,900.00	5,530.00	9,993.60	5,605.00	67.73	129.36	102.81	4,389.21	326.47	338.16	143.31	194.86	1.735		
10,000.00	5,530.00	10,093.60	5,605.00	69.16	132.21	102.81	4,489.21	326.48	338.16	139.05	199.11	1.698		
10,100.00	5,530.00	10,193.60	5,605.00	70.58	135.06	102.81	4,589.21	326.48	338.16	134.79	203.38	1.663		
10,200.00	5,530.00	10,293.60	5,605.00	72.01	137.91	102.81	4,689.21	326.49	338.17	130.52	207.64	1.629		

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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													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	5,530.00	10,393.60	5,605.00	73.44	140.76	102.81	4,789.21	326.49	338.17	126.26	211.91	1.596		
10,400.00	5,530.00	10,493.60	5,605.00	74.87	143.61	102.81	4,889.21	326.49	338.17	121.99	216.18	1.564		
10,500.00	5,530.00	10,593.60	5,605.00	76.30	146.47	102.81	4,989.21	326.50	338.17	117.71	220.45	1.534		
10,600.00	5,530.00	10,693.60	5,605.00	77.74	149.32	102.81	5,089.21	326.50	338.17	113.44	224.73	1.505		
10,700.00	5,530.00	10,793.60	5,605.00	79.17	152.18	102.81	5,189.21	326.51	338.17	109.16	229.01	1.477	Level 3	
10,800.00	5,530.00	10,893.60	5,605.00	80.61	155.03	102.81	5,289.21	326.51	338.17	104.88	233.29	1.450	Level 3	
10,900.00	5,530.00	10,993.60	5,605.00	82.05	157.89	102.81	5,389.21	326.51	338.17	100.60	237.57	1.423	Level 3	
11,000.00	5,530.00	11,093.60	5,605.00	83.49	160.75	102.81	5,489.21	326.52	338.17	96.32	241.85	1.398	Level 3	
11,100.00	5,530.00	11,193.60	5,605.00	84.93	163.61	102.81	5,589.21	326.52	338.17	92.04	246.14	1.374	Level 3	
11,200.00	5,530.00	11,293.60	5,605.00	86.37	166.47	102.81	5,689.21	326.53	338.17	87.75	250.42	1.350	Level 3	
11,300.00	5,530.00	11,393.60	5,605.00	87.81	169.33	102.81	5,789.21	326.53	338.17	83.46	254.71	1.328	Level 3	
11,400.00	5,530.00	11,493.60	5,605.00	89.26	172.19	102.81	5,889.21	326.53	338.17	79.17	259.00	1.306	Level 3	
11,500.00	5,530.00	11,593.60	5,605.00	90.70	175.05	102.81	5,989.21	326.54	338.17	74.88	263.29	1.284	Level 3	
11,600.00	5,530.00	11,693.60	5,605.00	92.15	177.92	102.81	6,089.21	326.54	338.17	70.59	267.59	1.264	Level 3	
11,700.00	5,530.00	11,793.60	5,605.00	93.59	180.78	102.81	6,189.21	326.55	338.18	66.30	271.88	1.244	Level 2	
11,800.00	5,530.00	11,893.60	5,605.00	95.04	183.64	102.81	6,289.21	326.55	338.18	62.00	276.18	1.224	Level 2	
11,900.00	5,530.00	11,993.60	5,605.00	96.49	186.51	102.81	6,389.21	326.55	338.18	57.70	280.47	1.206	Level 2	
12,000.00	5,530.00	12,093.60	5,605.00	97.93	189.37	102.81	6,489.21	326.56	338.18	53.41	284.77	1.188	Level 2	
12,100.00	5,530.00	12,193.60	5,605.00	99.38	192.24	102.81	6,589.21	326.56	338.18	49.11	289.07	1.170	Level 2	
12,200.00	5,530.00	12,293.60	5,605.00	100.83	195.10	102.81	6,689.21	326.57	338.18	44.81	293.37	1.153	Level 2	
12,300.00	5,530.00	12,393.60	5,605.00	102.28	197.97	102.81	6,789.21	326.57	338.18	40.51	297.67	1.136	Level 2	
12,400.00	5,530.00	12,493.60	5,605.00	103.73	200.83	102.81	6,889.21	326.57	338.18	36.21	301.97	1.120	Level 2	
12,500.00	5,530.00	12,593.60	5,605.00	105.19	203.70	102.81	6,989.21	326.58	338.18	31.91	306.27	1.104	Level 2	
12,600.00	5,530.00	12,693.60	5,605.00	106.64	206.57	102.81	7,089.21	326.58	338.18	27.60	310.58	1.089	Level 2	
12,700.00	5,530.00	12,793.60	5,605.00	108.09	209.43	102.81	7,189.21	326.59	338.18	23.30	314.88	1.074	Level 2	
12,800.00	5,530.00	12,893.60	5,605.00	109.54	212.30	102.81	7,289.21	326.59	338.18	19.00	319.19	1.060	Level 2	
12,900.00	5,530.00	12,993.60	5,605.00	111.00	215.17	102.81	7,389.21	326.59	338.18	14.69	323.49	1.045	Level 2	
13,000.00	5,530.00	13,093.60	5,605.00	112.45	218.04	102.81	7,489.21	326.60	338.18	10.38	327.80	1.032	Level 2	
13,100.00	5,530.00	13,193.60	5,605.00	113.91	220.91	102.81	7,589.21	326.60	338.18	6.08	332.11	1.018	Level 2	
13,200.00	5,530.00	13,293.60	5,605.00	115.36	223.78	102.81	7,689.21	326.61	338.18	1.77	336.42	1.005	Level 2	
13,300.00	5,530.00	13,393.60	5,605.00	116.82	226.65	102.81	7,789.21	326.61	338.19	-2.54	340.72	0.993	Level 1	
13,400.00	5,530.00	13,493.60	5,605.00	118.27	229.52	102.81	7,889.21	326.61	338.19	-6.85	345.03	0.980	Level 1	
13,500.00	5,530.00	13,593.60	5,605.00	119.73	232.39	102.81	7,989.21	326.62	338.19	-11.16	349.34	0.968	Level 1	
13,600.00	5,530.00	13,693.60	5,605.00	121.18	235.26	102.81	8,089.21	326.62	338.19	-15.47	353.66	0.956	Level 1	
13,700.00	5,530.00	13,793.60	5,605.00	122.64	238.13	102.81	8,189.21	326.63	338.19	-19.78	357.97	0.945	Level 1	
13,800.00	5,530.00	13,893.60	5,605.00	124.10	241.00	102.81	8,289.21	326.63	338.19	-24.09	362.28	0.934	Level 1	
13,900.00	5,530.00	13,993.60	5,605.00	125.56	243.87	102.81	8,389.21	326.63	338.19	-28.40	366.59	0.923	Level 1	
14,000.00	5,530.00	14,093.60	5,605.00	127.01	246.74	102.81	8,489.21	326.64	338.19	-32.71	370.90	0.912	Level 1	
14,100.00	5,530.00	14,193.60	5,605.00	128.47	249.61	102.81	8,589.21	326.64	338.19	-37.03	375.22	0.901	Level 1	
14,200.00	5,530.00	14,293.60	5,605.00	129.93	252.48	102.81	8,689.21	326.65	338.19	-41.34	379.53	0.891	Level 1	
14,300.00	5,530.00	14,393.60	5,605.00	131.39	255.35	102.81	8,789.21	326.65	338.19	-45.65	383.85	0.881	Level 1	
14,400.00	5,530.00	14,493.60	5,605.00	132.85	258.22	102.81	8,889.21	326.65	338.19	-49.97	388.16	0.871	Level 1	
14,500.00	5,530.00	14,593.60	5,605.00	134.31	261.10	102.81	8,989.21	326.66	338.19	-54.28	392.48	0.862	Level 1	
14,600.00	5,530.00	14,693.60	5,605.00	135.77	263.97	102.81	9,089.21	326.66	338.19	-58.60	396.79	0.852	Level 1	
14,700.00	5,530.00	14,793.60	5,605.00	137.23	266.84	102.81	9,189.21	326.67	338.19	-62.91	401.11	0.843	Level 1	
14,800.00	5,530.00	14,893.60	5,605.00	138.69	269.71	102.81	9,289.21	326.67	338.20	-67.23	405.42	0.834	Level 1	
14,900.00	5,530.00	14,993.60	5,605.00	140.15	272.59	102.81	9,389.21	326.67	338.20	-71.55	409.74	0.825	Level 1	
15,000.00	5,530.00	15,093.60	5,605.00	141.61	275.46	102.81	9,489.21	326.68	338.20	-75.86	414.06	0.817	Level 1	
15,100.00	5,530.00	15,193.60	5,605.00	143.07	278.33	102.81	9,589.21	326.68	338.20	-80.18	418.38	0.808	Level 1	
15,200.00	5,530.00	15,293.60	5,605.00	144.53	281.21	102.81	9,689.21	326.69	338.20	-84.50	422.69	0.800	Level 1	
15,300.00	5,530.00	15,393.60	5,605.00	145.99	284.08	102.81	9,789.21	326.69	338.20	-88.81	427.01	0.792	Level 1	
15,400.00	5,530.00	15,493.60	5,605.00	147.45	286.95	102.81	9,889.21	326.69	338.20	-93.13	431.33	0.784	Level 1	

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



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25O-2412 - HZ - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												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	5,530.00	15,593.60	5,605.00	148.92	289.83	102.81	9,989.21	326.70	338.20	-97.45	435.65	0.776	Level 1
15,600.00	5,530.00	15,693.60	5,605.00	150.38	292.70	102.81	10,089.21	326.70	338.20	-101.77	439.97	0.769	Level 1
15,657.65	5,530.00	15,751.25	5,605.00	151.22	294.36	102.81	10,146.86	326.70	338.20	-104.26	442.46	0.764	Level 1, ES, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-149.99	-50.60	-29.22	58.43					
100.00	100.00	100.00	100.00	0.13	0.13	-149.99	-50.60	-29.22	58.43	58.17	0.27	219.392		
200.00	200.00	200.00	200.00	0.47	0.47	-149.99	-50.60	-29.22	58.43	57.49	0.94	62.122		
300.00	300.00	300.00	300.00	0.81	0.81	-149.99	-50.60	-29.22	58.43	56.82	1.61	36.184 CC		
400.00	399.98	398.02	398.00	1.11	1.11	30.10	-51.89	-30.30	58.60	56.39	2.22	26.456		
500.00	499.84	495.96	495.81	1.41	1.41	33.33	-55.73	-33.53	59.24	56.45	2.79	21.217		
600.00	599.49	595.74	595.34	1.73	1.72	38.37	-61.06	-38.00	59.49	56.09	3.41	17.465		
700.00	699.11	695.59	694.95	2.04	2.04	43.62	-66.40	-42.48	59.89	55.84	4.05	14.795		
800.00	798.73	795.44	794.55	2.39	2.38	48.76	-71.74	-46.96	60.78	56.07	4.71	12.910		
900.00	898.35	895.29	894.16	2.74	2.73	53.71	-77.07	-51.43	62.14	56.76	5.38	11.544		
1,000.00	997.97	995.14	993.77	3.09	3.07	58.41	-82.41	-55.91	63.95	57.88	6.07	10.534		
1,100.00	1,097.59	1,094.98	1,093.37	3.45	3.42	62.83	-87.74	-60.39	66.16	59.40	6.77	9.776		
1,200.00	1,197.21	1,194.83	1,192.98	3.81	3.77	66.95	-93.08	-64.86	68.74	61.27	7.47	9.200		
1,300.00	1,296.83	1,294.68	1,292.59	4.17	4.12	70.74	-98.41	-69.34	71.65	63.47	8.18	8.757		
1,400.00	1,396.45	1,394.53	1,392.19	4.53	4.48	74.23	-103.75	-73.82	74.85	65.96	8.90	8.413		
1,500.00	1,496.07	1,494.38	1,491.80	4.89	4.83	77.42	-109.08	-78.30	78.31	68.69	9.62	8.144		
1,600.00	1,595.69	1,594.23	1,591.40	5.25	5.18	80.33	-114.42	-82.77	81.98	71.65	10.34	7.932		
1,700.00	1,695.31	1,694.08	1,691.01	5.62	5.54	82.99	-119.76	-87.25	85.85	74.80	11.06	7.765		
1,800.00	1,794.93	1,793.93	1,790.62	5.98	5.89	85.42	-125.09	-91.73	89.89	78.11	11.78	7.631		
1,900.00	1,894.55	1,893.78	1,890.22	6.35	6.25	87.63	-130.43	-96.20	94.08	81.58	12.50	7.525		
2,000.00	1,994.17	1,993.63	1,989.83	6.71	6.60	89.65	-135.76	-100.68	98.39	85.17	13.23	7.440		
2,100.00	2,093.78	2,093.48	2,089.43	7.08	6.96	91.50	-141.10	-105.16	102.82	88.87	13.95	7.372		
2,200.00	2,193.40	2,193.33	2,189.04	7.44	7.31	93.20	-146.43	-109.64	107.34	92.67	14.67	7.317		
2,300.00	2,293.02	2,293.18	2,288.65	7.81	7.67	94.75	-151.77	-114.11	111.95	96.56	15.39	7.273		
2,400.00	2,392.64	2,393.03	2,388.25	8.17	8.02	96.19	-157.10	-118.59	116.64	100.52	16.12	7.238		
2,500.00	2,492.26	2,492.87	2,487.86	8.54	8.38	97.51	-162.44	-123.07	121.39	104.56	16.84	7.210		
2,600.00	2,591.92	2,592.74	2,587.48	8.88	8.73	98.58	-167.78	-127.54	126.14	108.61	17.53	7.195		
2,700.00	2,691.78	2,692.63	2,687.13	9.14	9.09	98.29	-173.12	-132.02	130.45	112.31	18.14	7.191		
2,800.00	2,791.75	2,792.46	2,786.72	9.42	9.45	-82.45	-178.45	-136.50	134.34	115.56	18.78	7.155		
2,900.00	2,891.76	2,892.22	2,886.23	9.71	9.80	-84.89	-183.78	-140.97	138.21	118.81	19.40	7.123		
3,000.00	2,991.76	2,991.98	2,985.74	9.97	10.16	-87.19	-189.11	-145.45	142.32	122.33	19.99	7.118		
3,100.00	3,091.76	3,091.73	3,085.26	10.23	10.51	-89.36	-194.44	-149.92	146.65	126.06	20.59	7.123		
3,200.00	3,191.76	3,191.49	3,184.77	10.49	10.87	-91.40	-199.77	-154.39	151.18	129.99	21.19	7.135		
3,300.00	3,291.76	3,291.25	3,284.29	10.76	11.23	-93.32	-205.10	-158.86	155.88	134.10	21.79	7.155		
3,400.00	3,391.76	3,391.00	3,383.80	11.03	11.58	-95.13	-210.43	-163.34	160.75	138.37	22.39	7.180		
3,500.00	3,491.76	3,494.73	3,487.36	11.31	11.90	-96.52	-214.78	-166.98	164.68	141.72	22.97	7.171		
3,600.00	3,591.76	3,599.11	3,591.72	11.59	12.20	-96.98	-216.26	-168.23	166.03	142.49	23.54	7.053		
3,700.00	3,691.76	3,699.14	3,691.76	11.87	12.48	-96.98	-216.26	-168.23	166.03	141.92	24.11	6.885		
3,800.00	3,791.76	3,799.14	3,791.76	12.16	12.75	-96.98	-216.26	-168.23	166.03	141.37	24.67	6.731		
3,900.00	3,891.76	3,899.14	3,891.76	12.45	13.01	-96.98	-216.26	-168.23	166.03	140.81	25.22	6.583		
4,000.00	3,991.76	3,999.14	3,991.76	12.74	13.28	-96.98	-216.26	-168.23	166.03	140.25	25.78	6.439		
4,100.00	4,091.76	4,099.14	4,091.76	13.03	13.55	-96.98	-216.26	-168.23	166.03	139.68	26.35	6.301		
4,200.00	4,191.76	4,199.14	4,191.76	13.32	13.83	-96.98	-216.26	-168.23	166.03	139.11	26.92	6.167		
4,300.00	4,291.76	4,299.14	4,291.76	13.62	14.10	-96.98	-216.26	-168.23	166.03	138.53	27.50	6.037		
4,400.00	4,391.76	4,399.14	4,391.76	13.92	14.38	-96.98	-216.26	-168.23	166.03	137.95	28.08	5.912		
4,500.00	4,491.76	4,499.14	4,491.76	14.22	14.67	-96.98	-216.26	-168.23	166.03	137.37	28.67	5.792		
4,600.00	4,591.76	4,599.14	4,591.76	14.52	14.95	-96.98	-216.26	-168.23	166.03	136.78	29.26	5.675		
4,700.00	4,691.76	4,699.14	4,691.76	14.82	15.24	-96.98	-216.26	-168.23	166.03	136.18	29.85	5.562		
4,800.00	4,791.76	4,799.14	4,791.76	15.13	15.53	-96.98	-216.26	-168.23	166.03	135.59	30.45	5.453		
4,900.00	4,891.76	4,899.14	4,891.76	15.43	15.82	-96.98	-216.26	-168.23	166.03	134.99	31.05	5.348		
5,000.00	4,991.76	4,999.14	4,991.76	15.74	16.11	-96.98	-216.26	-168.23	166.03	134.39	31.65	5.246		
5,100.00	5,091.41	5,098.80	5,091.41	16.04	16.40	-99.10	-216.26	-168.23	166.96	134.75	32.21	5.184		

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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	5,188.04	5,195.43	5,188.04	16.30	16.69	-106.47	-216.26	-168.23	172.77	140.18	32.59	5.301		
5,300.00	5,278.09	5,300.33	5,292.56	16.53	17.00	-116.71	-209.37	-168.23	187.44	154.84	32.59	5.751		
5,400.00	5,358.26	5,418.09	5,405.63	16.75	17.31	-125.50	-177.36	-168.23	206.81	174.72	32.09	6.446		
5,500.00	5,425.60	5,548.40	5,518.81	16.99	17.63	-132.28	-113.46	-168.23	227.12	195.93	31.18	7.284		
5,600.00	5,477.64	5,692.02	5,620.89	17.27	17.93	-137.05	-13.09	-168.23	244.63	214.43	30.20	8.101		
5,700.00	5,512.46	5,847.22	5,695.97	17.61	18.30	-139.79	122.09	-168.23	256.04	226.46	29.58	8.657		
5,800.00	5,528.79	6,008.77	5,728.40	18.01	18.94	-140.48	279.69	-168.23	259.05	229.29	29.76	8.705		
5,899.94	5,532.20	6,118.21	5,729.00	18.48	19.49	-140.05	389.12	-168.23	256.71	226.23	30.47	8.424		
5,900.00	5,530.00	6,118.31	5,729.00	18.48	19.49	-140.36	389.22	-168.23	258.40	228.00	30.40	8.500		
6,000.00	5,530.00	6,218.31	5,729.00	19.06	20.10	-140.36	489.22	-168.24	258.40	227.28	31.12	8.305		
6,100.00	5,530.00	6,318.31	5,729.00	19.73	20.79	-140.36	589.22	-168.24	258.40	226.45	31.95	8.088		
6,200.00	5,530.00	6,418.31	5,729.00	20.48	21.56	-140.36	689.22	-168.24	258.41	225.52	32.89	7.857		
6,300.00	5,530.00	6,518.31	5,729.00	21.31	22.40	-140.36	789.22	-168.24	258.41	224.48	33.93	7.617		
6,400.00	5,530.00	6,618.31	5,729.00	22.21	23.30	-140.36	889.22	-168.24	258.41	223.36	35.06	7.371		
6,500.00	5,530.00	6,718.31	5,729.00	23.16	24.26	-140.36	989.22	-168.24	258.41	222.15	36.27	7.125		
6,600.00	5,530.00	6,818.31	5,729.00	24.17	25.27	-140.36	1,089.22	-168.24	258.42	220.87	37.55	6.882		
6,700.00	5,530.00	6,918.31	5,729.00	25.22	26.32	-140.36	1,189.22	-168.24	258.42	219.52	38.90	6.643		
6,800.00	5,530.00	7,018.31	5,729.00	26.32	27.41	-140.36	1,289.22	-168.24	258.42	218.11	40.31	6.410		
6,900.00	5,530.00	7,118.31	5,729.00	27.44	28.53	-140.36	1,389.22	-168.25	258.43	216.65	41.78	6.186		
7,000.00	5,530.00	7,218.31	5,729.00	28.60	29.69	-140.36	1,489.22	-168.25	258.43	215.14	43.29	5.970		
7,100.00	5,530.00	7,318.31	5,729.00	29.79	30.87	-140.36	1,589.22	-168.25	258.43	213.58	44.85	5.763		
7,200.00	5,530.00	7,418.31	5,729.00	31.00	32.08	-140.35	1,689.22	-168.25	258.43	211.99	46.44	5.565		
7,300.00	5,530.00	7,518.31	5,729.00	32.24	33.30	-140.35	1,789.22	-168.25	258.44	210.36	48.07	5.376		
7,400.00	5,530.00	7,618.31	5,729.00	33.49	34.55	-140.35	1,889.22	-168.25	258.44	208.71	49.73	5.196		
7,500.00	5,530.00	7,718.31	5,729.00	34.76	35.81	-140.35	1,989.22	-168.25	258.44	207.02	51.43	5.026		
7,600.00	5,530.00	7,818.31	5,729.00	36.04	37.09	-140.35	2,089.22	-168.25	258.45	205.30	53.14	4.863		
7,700.00	5,530.00	7,918.31	5,729.00	37.34	38.38	-140.35	2,189.22	-168.26	258.45	203.57	54.88	4.709		
7,800.00	5,530.00	8,018.31	5,729.00	38.65	39.69	-140.35	2,289.22	-168.26	258.45	201.81	56.64	4.563		
7,900.00	5,530.00	8,118.31	5,729.00	39.98	41.00	-140.35	2,389.22	-168.26	258.45	200.03	58.43	4.424		
8,000.00	5,530.00	8,218.31	5,729.00	41.31	42.33	-140.35	2,489.22	-168.26	258.46	198.23	60.22	4.292		
8,100.00	5,530.00	8,318.31	5,729.00	42.65	43.67	-140.35	2,589.22	-168.26	258.46	196.42	62.04	4.166		
8,200.00	5,530.00	8,418.31	5,729.00	44.00	45.01	-140.35	2,689.22	-168.26	258.46	194.59	63.87	4.047		
8,300.00	5,530.00	8,518.31	5,729.00	45.36	46.36	-140.35	2,789.22	-168.26	258.47	192.75	65.71	3.933		
8,400.00	5,530.00	8,618.31	5,729.00	46.72	47.72	-140.35	2,889.22	-168.26	258.47	190.90	67.57	3.825		
8,500.00	5,530.00	8,718.31	5,729.00	48.09	49.09	-140.34	2,989.22	-168.26	258.47	189.04	69.44	3.722		
8,600.00	5,530.00	8,818.31	5,729.00	49.47	50.46	-140.34	3,089.22	-168.27	258.47	187.16	71.31	3.625		
8,700.00	5,530.00	8,918.31	5,729.00	50.85	51.84	-140.34	3,189.22	-168.27	258.48	185.28	73.20	3.531		
8,800.00	5,530.00	9,018.31	5,729.00	52.24	53.22	-140.34	3,289.22	-168.27	258.48	183.38	75.10	3.442		
8,900.00	5,530.00	9,118.31	5,729.00	53.63	54.60	-140.34	3,389.22	-168.27	258.48	181.48	77.00	3.357		
9,000.00	5,530.00	9,218.31	5,729.00	55.03	55.99	-140.34	3,489.22	-168.27	258.49	179.57	78.91	3.276		
9,100.00	5,530.00	9,318.31	5,729.00	56.43	57.39	-140.34	3,589.22	-168.27	258.49	177.66	80.83	3.198		
9,200.00	5,530.00	9,418.31	5,729.00	57.83	58.79	-140.34	3,689.22	-168.27	258.49	175.73	82.76	3.123		
9,300.00	5,530.00	9,518.31	5,729.00	59.23	60.19	-140.34	3,789.22	-168.27	258.49	173.80	84.69	3.052		
9,400.00	5,530.00	9,618.31	5,729.00	60.64	61.60	-140.34	3,889.22	-168.28	258.50	171.87	86.63	2.984		
9,500.00	5,530.00	9,718.31	5,729.00	62.06	63.01	-140.34	3,989.22	-168.28	258.50	169.92	88.58	2.918		
9,600.00	5,530.00	9,818.31	5,729.00	63.47	64.42	-140.34	4,089.22	-168.28	258.50	167.98	90.53	2.856		
9,700.00	5,530.00	9,918.31	5,729.00	64.89	65.83	-140.34	4,189.22	-168.28	258.51	166.03	92.48	2.795		
9,800.00	5,530.00	10,018.31	5,729.00	66.31	67.25	-140.33	4,289.22	-168.28	258.51	164.07	94.44	2.737		
9,900.00	5,530.00	10,118.31	5,729.00	67.73	68.67	-140.33	4,389.22	-168.28	258.51	162.11	96.40	2.682		
10,000.00	5,530.00	10,218.31	5,729.00	69.16	70.09	-140.33	4,489.22	-168.28	258.52	160.15	98.37	2.628		
10,100.00	5,530.00	10,318.31	5,729.00	70.58	71.51	-140.33	4,589.22	-168.28	258.52	158.18	100.34	2.576		
10,200.00	5,530.00	10,418.31	5,729.00	72.01	72.94	-140.33	4,689.22	-168.28	258.52	156.21	102.31	2.527		

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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	5,530.00	10,518.31	5,729.00	73.44	74.36	-140.33	4,789.22	-168.29	258.52	154.24	104.29	2.479		
10,400.00	5,530.00	10,618.31	5,729.00	74.87	75.79	-140.33	4,889.22	-168.29	258.53	152.26	106.27	2.433		
10,500.00	5,530.00	10,718.31	5,729.00	76.30	77.22	-140.33	4,989.22	-168.29	258.53	150.28	108.25	2.388		
10,600.00	5,530.00	10,818.31	5,729.00	77.74	78.65	-140.33	5,089.22	-168.29	258.53	148.29	110.24	2.345		
10,700.00	5,530.00	10,918.31	5,729.00	79.17	80.09	-140.33	5,189.22	-168.29	258.54	146.31	112.23	2.304		
10,800.00	5,530.00	11,018.31	5,729.00	80.61	81.52	-140.33	5,289.22	-168.29	258.54	144.32	114.22	2.264		
10,900.00	5,530.00	11,118.31	5,729.00	82.05	82.96	-140.33	5,389.22	-168.29	258.54	142.33	116.21	2.225		
11,000.00	5,530.00	11,218.31	5,729.00	83.49	84.39	-140.33	5,489.22	-168.29	258.54	140.33	118.21	2.187		
11,100.00	5,530.00	11,318.31	5,729.00	84.93	85.83	-140.32	5,589.22	-168.30	258.55	138.34	120.21	2.151		
11,200.00	5,530.00	11,418.31	5,729.00	86.37	87.27	-140.32	5,689.22	-168.30	258.55	136.34	122.21	2.116		
11,300.00	5,530.00	11,518.31	5,729.00	87.81	88.71	-140.32	5,789.22	-168.30	258.55	134.34	124.21	2.082		
11,400.00	5,530.00	11,618.31	5,729.00	89.26	90.15	-140.32	5,889.22	-168.30	258.56	132.34	126.21	2.049		
11,500.00	5,530.00	11,718.31	5,729.00	90.70	91.59	-140.32	5,989.22	-168.30	258.56	130.34	128.22	2.017		
11,600.00	5,530.00	11,818.31	5,729.00	92.15	93.04	-140.32	6,089.22	-168.30	258.56	128.33	130.23	1.985		
11,700.00	5,530.00	11,918.31	5,729.00	93.59	94.48	-140.32	6,189.22	-168.30	258.56	126.33	132.24	1.955		
11,800.00	5,530.00	12,018.31	5,729.00	95.04	95.93	-140.32	6,289.22	-168.30	258.57	124.32	134.25	1.926		
11,900.00	5,530.00	12,118.31	5,729.00	96.49	97.37	-140.32	6,389.22	-168.30	258.57	122.31	136.26	1.898		
12,000.00	5,530.00	12,218.31	5,729.00	97.93	98.82	-140.32	6,489.22	-168.31	258.57	120.30	138.28	1.870		
12,100.00	5,530.00	12,318.31	5,729.00	99.38	100.27	-140.32	6,589.22	-168.31	258.58	118.29	140.29	1.843		
12,200.00	5,530.00	12,418.31	5,729.00	100.83	101.71	-140.32	6,689.22	-168.31	258.58	116.27	142.31	1.817		
12,300.00	5,530.00	12,518.31	5,729.00	102.28	103.16	-140.31	6,789.22	-168.31	258.58	114.26	144.33	1.792		
12,400.00	5,530.00	12,618.31	5,729.00	103.73	104.61	-140.31	6,889.22	-168.31	258.58	112.24	146.34	1.767		
12,500.00	5,530.00	12,718.31	5,729.00	105.19	106.06	-140.31	6,989.22	-168.31	258.59	110.22	148.37	1.743		
12,600.00	5,530.00	12,818.31	5,729.00	106.64	107.51	-140.31	7,089.22	-168.31	258.59	108.20	150.39	1.720		
12,700.00	5,530.00	12,918.31	5,729.00	108.09	108.96	-140.31	7,189.22	-168.31	258.59	106.18	152.41	1.697		
12,800.00	5,530.00	13,018.31	5,729.00	109.54	110.42	-140.31	7,289.22	-168.32	258.60	104.16	154.43	1.674		
12,900.00	5,530.00	13,118.31	5,729.00	111.00	111.87	-140.31	7,389.22	-168.32	258.60	102.14	156.46	1.653		
13,000.00	5,530.00	13,218.31	5,729.00	112.45	113.32	-140.31	7,489.22	-168.32	258.60	100.12	158.48	1.632		
13,100.00	5,530.00	13,318.31	5,729.00	113.91	114.77	-140.31	7,589.22	-168.32	258.61	98.10	160.51	1.611		
13,200.00	5,530.00	13,418.31	5,729.00	115.36	116.23	-140.31	7,689.22	-168.32	258.61	96.07	162.54	1.591		
13,300.00	5,530.00	13,518.31	5,729.00	116.82	117.68	-140.31	7,789.22	-168.32	258.61	94.05	164.57	1.571		
13,400.00	5,530.00	13,618.31	5,729.00	118.27	119.14	-140.31	7,889.22	-168.32	258.61	92.02	166.59	1.552		
13,500.00	5,530.00	13,718.31	5,729.00	119.73	120.59	-140.31	7,989.22	-168.32	258.62	89.99	168.62	1.534		
13,600.00	5,530.00	13,818.31	5,729.00	121.18	122.05	-140.30	8,089.22	-168.32	258.62	87.96	170.65	1.515		
13,700.00	5,530.00	13,918.31	5,729.00	122.64	123.50	-140.30	8,189.22	-168.33	258.62	85.94	172.69	1.498 Level 3		
13,800.00	5,530.00	14,018.31	5,729.00	124.10	124.96	-140.30	8,289.22	-168.33	258.63	83.91	174.72	1.480 Level 3		
13,900.00	5,530.00	14,118.31	5,729.00	125.56	126.41	-140.30	8,389.22	-168.33	258.63	81.88	176.75	1.463 Level 3		
14,000.00	5,530.00	14,218.31	5,729.00	127.01	127.87	-140.30	8,489.22	-168.33	258.63	79.85	178.79	1.447 Level 3		
14,100.00	5,530.00	14,318.31	5,729.00	128.47	129.33	-140.30	8,589.22	-168.33	258.63	77.81	180.82	1.430 Level 3		
14,200.00	5,530.00	14,418.31	5,729.00	129.93	130.79	-140.30	8,689.22	-168.33	258.64	75.78	182.85	1.414 Level 3		
14,300.00	5,530.00	14,518.31	5,729.00	131.39	132.24	-140.30	8,789.22	-168.33	258.64	73.75	184.89	1.399 Level 3		
14,400.00	5,530.00	14,618.31	5,729.00	132.85	133.70	-140.30	8,889.22	-168.33	258.64	71.72	186.93	1.384 Level 3		
14,500.00	5,530.00	14,718.31	5,729.00	134.31	135.16	-140.30	8,989.22	-168.34	258.65	69.68	188.96	1.369 Level 3		
14,600.00	5,530.00	14,818.31	5,729.00	135.77	136.62	-140.30	9,089.22	-168.34	258.65	67.65	191.00	1.354 Level 3		
14,700.00	5,530.00	14,918.31	5,729.00	137.23	138.08	-140.30	9,189.22	-168.34	258.65	65.61	193.04	1.340 Level 3		
14,800.00	5,530.00	15,018.31	5,729.00	138.69	139.54	-140.30	9,289.22	-168.34	258.65	63.58	195.08	1.326 Level 3		
14,900.00	5,530.00	15,118.31	5,729.00	140.15	141.00	-140.29	9,389.22	-168.34	258.66	61.54	197.12	1.312 Level 3		
15,000.00	5,530.00	15,218.31	5,729.00	141.61	142.46	-140.29	9,489.22	-168.34	258.66	59.51	199.15	1.299 Level 3		
15,100.00	5,530.00	15,318.31	5,729.00	143.07	143.92	-140.29	9,589.22	-168.34	258.66	57.47	201.19	1.286 Level 3		
15,200.00	5,530.00	15,418.31	5,729.00	144.53	145.38	-140.29	9,689.22	-168.34	258.67	55.43	203.23	1.273 Level 3		
15,300.00	5,530.00	15,518.31	5,729.00	145.99	146.84	-140.29	9,789.22	-168.34	258.67	53.39	205.28	1.260 Level 3		
15,400.00	5,530.00	15,618.31	5,729.00	147.45	148.30	-140.29	9,889.22	-168.35	258.67	51.36	207.32	1.248 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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	Hz	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25O-2443 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,500.00	5,530.00	15,718.31	5,729.00	148.92	149.76	-140.29	9,989.22	-168.35	258.67	49.32	209.36	1.236	Level 2
15,600.00	5,530.00	15,818.31	5,729.00	150.38	151.22	-140.29	10,089.22	-168.35	258.68	47.28	211.40	1.224	Level 2
15,632.32	5,530.00	15,850.63	5,729.00	150.85	151.69	-140.29	10,121.54	-168.35	258.68	46.62	212.06	1.220	Level 2
15,657.65	5,530.00	15,874.95	5,729.00	151.22	152.05	-140.29	10,145.86	-168.35	258.68	46.11	212.57	1.217	Level 2, ES, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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	398.66	398.64	1.11	1.11	-3.20	-50.89	1.86	49.20	46.98	2.22	22.169	
500.00	499.84	497.55	497.40	1.41	1.42	-7.22	-54.74	5.09	48.11	45.31	2.80	17.187	
600.00	599.49	597.40	597.06	1.73	1.72	-12.85	-59.41	9.01	45.18	41.77	3.41	13.236	
700.00	699.11	697.23	696.71	2.04	2.05	-19.38	-64.08	12.92	42.34	38.29	4.05	10.463	
800.00	798.73	797.07	796.36	2.39	2.38	-26.73	-68.75	16.84	40.11	35.42	4.70	8.543	
900.00	898.35	896.90	896.01	2.74	2.72	-34.79	-73.41	20.76	38.63	33.27	5.36	7.206	
1,000.00	997.97	996.74	995.66	3.09	3.06	-43.31	-78.08	24.68	37.95	31.91	6.04	6.282	
1,027.96	1,025.83	1,024.65	1,023.52	3.19	3.16	-45.73	-79.39	25.77	37.92	31.68	6.24	6.081 CC	
1,100.00	1,097.59	1,096.57	1,095.30	3.45	3.41	-51.94	-82.75	28.60	38.14	31.40	6.74	5.659 ES	
1,200.00	1,197.21	1,196.41	1,194.95	3.81	3.75	-60.30	-87.42	32.51	39.18	31.73	7.45	5.259	
1,300.00	1,296.83	1,296.24	1,294.60	4.17	4.10	-68.07	-92.09	36.43	41.01	32.84	8.17	5.018	
1,400.00	1,396.45	1,396.08	1,394.25	4.53	4.45	-75.07	-96.76	40.35	43.52	34.62	8.90	4.891	
1,500.00	1,496.07	1,495.91	1,493.90	4.89	4.80	-81.23	-101.43	44.27	46.60	36.98	9.62	4.844	
1,600.00	1,595.69	1,595.75	1,593.55	5.25	5.14	-86.57	-106.10	48.18	50.15	39.81	10.34	4.849	
1,700.00	1,695.31	1,695.58	1,693.20	5.62	5.49	-91.17	-110.77	52.10	54.08	43.02	11.06	4.888	
1,800.00	1,794.93	1,795.42	1,792.85	5.98	5.84	-95.13	-115.43	56.02	58.31	46.53	11.78	4.950	
1,900.00	1,894.55	1,895.25	1,892.50	6.35	6.19	-98.53	-120.10	59.94	62.78	50.29	12.50	5.024	
2,000.00	1,994.17	1,995.09	1,992.15	6.71	6.54	-101.48	-124.77	63.85	67.45	54.24	13.21	5.106	
2,100.00	2,093.78	2,094.92	2,091.79	7.08	6.89	-104.04	-129.44	67.77	72.26	58.34	13.92	5.192	
2,200.00	2,193.40	2,194.76	2,191.44	7.44	7.25	-106.28	-134.11	71.69	77.21	62.58	14.63	5.278	
2,300.00	2,293.02	2,294.60	2,291.09	7.81	7.60	-108.24	-138.78	75.61	82.25	66.92	15.34	5.364	
2,400.00	2,392.64	2,394.43	2,390.74	8.17	7.95	-109.98	-143.45	79.52	87.39	71.34	16.04	5.447	
2,500.00	2,492.26	2,494.27	2,490.39	8.54	8.30	-111.52	-148.12	83.44	92.59	75.84	16.75	5.528	
2,600.00	2,591.92	2,594.12	2,590.05	8.88	8.65	-112.71	-152.79	87.36	97.68	80.25	17.43	5.604	
2,700.00	2,691.78	2,694.03	2,689.78	9.14	9.00	-112.24	-157.46	91.28	101.62	83.58	18.05	5.631	
2,800.00	2,791.75	2,793.90	2,789.47	9.42	9.35	71.00	-162.13	95.20	104.33	85.63	18.70	5.580	
2,900.00	2,891.76	2,893.72	2,889.10	9.71	9.70	74.06	-166.80	99.12	106.67	87.33	19.34	5.515	
3,000.00	2,991.76	2,993.53	2,988.72	9.97	10.06	76.98	-171.47	103.03	109.31	89.35	19.95	5.478	
3,100.00	3,091.76	3,093.34	3,088.35	10.23	10.41	79.75	-176.13	106.95	112.21	91.65	20.56	5.457	
3,200.00	3,191.76	3,193.16	3,187.98	10.49	10.76	82.38	-180.80	110.87	115.37	94.20	21.17	5.449	
3,300.00	3,291.76	3,292.97	3,287.61	10.76	11.11	84.87	-185.47	114.78	118.76	96.97	21.78	5.452	
3,400.00	3,391.76	3,392.78	3,387.23	11.03	11.46	87.21	-190.14	118.70	122.35	99.96	22.39	5.464	
3,500.00	3,491.76	3,492.60	3,486.86	11.31	11.81	89.42	-194.80	122.62	126.14	103.14	23.01	5.483	
3,600.00	3,591.76	3,592.41	3,586.49	11.59	12.16	91.49	-199.47	126.53	130.11	106.49	23.62	5.509	
3,700.00	3,691.76	3,692.22	3,686.11	11.87	12.52	93.44	-204.14	130.45	134.23	110.00	24.23	5.539	
3,800.00	3,791.76	3,792.04	3,785.74	12.16	12.87	95.28	-208.81	134.37	138.51	113.66	24.85	5.574	
3,900.00	3,891.76	3,891.85	3,885.37	12.45	13.22	97.00	-213.48	138.29	142.91	117.45	25.47	5.611	
4,000.00	3,991.76	3,991.66	3,985.00	12.74	13.57	98.61	-218.14	142.20	147.44	121.35	26.09	5.652	
4,100.00	4,091.76	4,091.48	4,084.62	13.03	13.92	100.13	-222.81	146.12	152.08	125.37	26.71	5.694	
4,200.00	4,191.76	4,191.29	4,184.25	13.32	14.27	101.56	-227.48	150.04	156.82	129.48	27.33	5.737	
4,300.00	4,291.76	4,291.10	4,283.88	13.62	14.63	102.91	-232.15	153.95	161.65	133.69	27.96	5.781	
4,400.00	4,391.76	4,390.92	4,383.51	13.92	14.98	104.17	-236.82	157.87	166.56	137.97	28.59	5.826	
4,500.00	4,491.76	4,495.40	4,487.87	14.22	15.30	105.12	-240.49	160.95	170.31	141.11	29.19	5.834	
4,600.00	4,591.76	4,599.29	4,591.76	14.52	15.59	105.33	-241.33	161.66	171.17	141.38	29.79	5.745	
4,700.00	4,691.76	4,699.29	4,691.76	14.82	15.85	105.33	-241.33	161.66	171.17	140.81	30.36	5.638	
4,800.00	4,791.76	4,799.29	4,791.76	15.13	16.11	105.33	-241.33	161.66	171.17	140.24	30.93	5.534	
4,900.00	4,891.76	4,899.29	4,891.76	15.43	16.38	105.33	-241.33	161.66	171.17	139.67	31.51	5.433	
5,000.00	4,991.76	4,999.29	4,991.76	15.74	16.65	105.33	-241.33	161.66	171.17	139.09	32.09	5.335	

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,091.41	5,098.95	5,091.41	16.04	16.92	107.21	-241.33	161.66	173.02	140.42	32.59	5.309		
5,200.00	5,188.04	5,195.58	5,188.04	16.30	17.18	113.64	-241.33	161.66	182.13	149.28	32.85	5.544		
5,300.00	5,278.09	5,285.63	5,278.09	16.53	17.43	121.91	-241.33	161.66	204.12	171.45	32.68	6.247		
5,400.00	5,358.26	5,390.14	5,382.38	16.75	17.72	131.45	-236.44	161.66	241.55	209.70	31.85	7.585		
5,500.00	5,425.60	5,529.22	5,516.00	16.99	18.06	140.35	-199.35	161.66	282.98	252.56	30.41	9.304		
5,600.00	5,477.64	5,704.10	5,662.33	17.27	18.45	147.03	-105.12	161.67	319.82	290.98	28.84	11.088		
5,700.00	5,512.46	5,920.50	5,787.71	17.61	18.95	150.95	69.35	161.68	343.15	315.40	27.75	12.364		
5,800.00	5,528.79	6,146.56	5,832.00	18.01	19.82	151.38	289.25	161.69	345.24	317.42	27.83	12.407		
5,856.69	5,531.56	6,203.18	5,832.00	18.27	20.10	151.20	345.87	161.69	342.81	314.71	28.10	12.199		
5,900.00	5,530.00	6,246.53	5,832.00	18.48	20.34	151.34	389.22	161.69	344.18	315.89	28.29	12.166		
6,000.00	5,530.00	6,346.53	5,832.00	19.06	20.95	151.34	489.22	161.70	344.18	315.35	28.83	11.940		
6,100.00	5,530.00	6,446.53	5,832.00	19.73	21.65	151.33	589.22	161.70	344.18	314.73	29.45	11.687		
6,200.00	5,530.00	6,546.53	5,832.00	20.48	22.42	151.33	689.22	161.71	344.18	314.02	30.16	11.413		
6,300.00	5,530.00	6,646.53	5,832.00	21.31	23.25	151.33	789.22	161.71	344.18	313.24	30.94	11.124		
6,400.00	5,530.00	6,746.53	5,832.00	22.21	24.15	151.33	889.22	161.72	344.18	312.39	31.79	10.825		
6,500.00	5,530.00	6,846.53	5,832.00	23.16	25.10	151.33	989.22	161.72	344.18	311.47	32.71	10.521		
6,600.00	5,530.00	6,946.53	5,832.00	24.17	26.10	151.33	1,089.22	161.73	344.18	310.49	33.69	10.215		
6,700.00	5,530.00	7,046.53	5,832.00	25.22	27.15	151.33	1,189.22	161.73	344.19	309.46	34.73	9.911		
6,800.00	5,530.00	7,146.53	5,832.00	26.32	28.23	151.33	1,289.22	161.74	344.19	308.37	35.81	9.611		
6,900.00	5,530.00	7,246.53	5,832.00	27.44	29.34	151.33	1,389.22	161.74	344.19	307.24	36.94	9.317		
7,000.00	5,530.00	7,346.53	5,832.00	28.60	30.49	151.33	1,489.22	161.75	344.19	306.07	38.12	9.030		
7,100.00	5,530.00	7,446.53	5,832.00	29.79	31.66	151.33	1,589.22	161.76	344.19	304.86	39.33	8.752		
7,200.00	5,530.00	7,546.53	5,832.00	31.00	32.86	151.33	1,689.22	161.76	344.19	303.62	40.57	8.484		
7,300.00	5,530.00	7,646.53	5,832.00	32.24	34.08	151.33	1,789.22	161.77	344.19	302.34	41.85	8.225		
7,400.00	5,530.00	7,746.53	5,832.00	33.49	35.31	151.33	1,889.22	161.77	344.19	301.04	43.15	7.976		
7,500.00	5,530.00	7,846.53	5,832.00	34.76	36.57	151.33	1,989.22	161.78	344.19	299.71	44.48	7.737		
7,600.00	5,530.00	7,946.53	5,832.00	36.04	37.84	151.33	2,089.22	161.78	344.19	298.35	45.84	7.509		
7,700.00	5,530.00	8,046.53	5,832.00	37.34	39.12	151.33	2,189.22	161.79	344.19	296.98	47.22	7.290		
7,800.00	5,530.00	8,146.53	5,832.00	38.65	40.42	151.33	2,289.22	161.79	344.19	295.58	48.62	7.080		
7,900.00	5,530.00	8,246.53	5,832.00	39.98	41.73	151.33	2,389.22	161.80	344.20	294.17	50.03	6.880		
8,000.00	5,530.00	8,346.53	5,832.00	41.31	43.05	151.33	2,489.22	161.80	344.20	292.73	51.46	6.688		
8,100.00	5,530.00	8,446.53	5,832.00	42.65	44.38	151.33	2,589.22	161.81	344.20	291.29	52.91	6.505		
8,200.00	5,530.00	8,546.53	5,832.00	44.00	45.72	151.33	2,689.22	161.81	344.20	289.83	54.37	6.330		
8,300.00	5,530.00	8,646.53	5,832.00	45.36	47.06	151.33	2,789.22	161.82	344.20	288.35	55.85	6.163		
8,400.00	5,530.00	8,746.53	5,832.00	46.72	48.41	151.33	2,889.22	161.82	344.20	286.86	57.34	6.003		
8,500.00	5,530.00	8,846.53	5,832.00	48.09	49.77	151.33	2,989.22	161.83	344.20	285.37	58.83	5.850		
8,600.00	5,530.00	8,946.53	5,832.00	49.47	51.14	151.33	3,089.22	161.83	344.20	283.86	60.34	5.704		
8,700.00	5,530.00	9,046.53	5,832.00	50.85	52.51	151.33	3,189.22	161.84	344.20	282.34	61.86	5.564		
8,800.00	5,530.00	9,146.53	5,832.00	52.24	53.89	151.33	3,289.22	161.84	344.20	280.81	63.39	5.430		
8,900.00	5,530.00	9,246.53	5,832.00	53.63	55.27	151.33	3,389.22	161.85	344.20	279.28	64.92	5.302		
9,000.00	5,530.00	9,346.53	5,832.00	55.03	56.66	151.33	3,489.22	161.85	344.21	277.74	66.47	5.179		
9,100.00	5,530.00	9,446.53	5,832.00	56.43	58.05	151.33	3,589.22	161.86	344.21	276.19	68.02	5.060		
9,200.00	5,530.00	9,546.53	5,832.00	57.83	59.44	151.33	3,689.22	161.86	344.21	274.63	69.58	4.947		
9,300.00	5,530.00	9,646.53	5,832.00	59.23	60.84	151.33	3,789.22	161.87	344.21	273.07	71.14	4.839		
9,400.00	5,530.00	9,746.53	5,832.00	60.64	62.24	151.33	3,889.22	161.87	344.21	271.50	72.71	4.734		
9,500.00	5,530.00	9,846.53	5,832.00	62.06	63.65	151.33	3,989.22	161.88	344.21	269.93	74.28	4.634		
9,600.00	5,530.00	9,946.53	5,832.00	63.47	65.05	151.33	4,089.22	161.89	344.21	268.35	75.86	4.537		
9,700.00	5,530.00	10,046.53	5,832.00	64.89	66.46	151.33	4,189.22	161.89	344.21	266.76	77.45	4.444		
9,800.00	5,530.00	10,146.53	5,832.00	66.31	67.88	151.32	4,289.22	161.90	344.21	265.18	79.04	4.355		
9,900.00	5,530.00	10,246.53	5,832.00	67.73	69.29	151.32	4,389.22	161.90	344.21	263.58	80.63	4.269		
10,000.00	5,530.00	10,346.53	5,832.00	69.16	70.71	151.32	4,489.22	161.91	344.21	261.99	82.23	4.186		
10,100.00	5,530.00	10,446.53	5,832.00	70.58	72.13	151.32	4,589.22	161.91	344.22	260.39	83.83	4.106		

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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	5,530.00	10,546.53	5,832.00	72.01	73.55	151.32	4,689.22	161.92	344.22	258.78	85.44	4.029		
10,300.00	5,530.00	10,646.53	5,832.00	73.44	74.98	151.32	4,789.22	161.92	344.22	257.17	87.04	3.955		
10,400.00	5,530.00	10,746.53	5,832.00	74.87	76.40	151.32	4,889.22	161.93	344.22	255.56	88.66	3.883		
10,500.00	5,530.00	10,846.53	5,832.00	76.30	77.83	151.32	4,989.22	161.93	344.22	253.95	90.27	3.813		
10,600.00	5,530.00	10,946.53	5,832.00	77.74	79.26	151.32	5,089.22	161.94	344.22	252.33	91.89	3.746		
10,700.00	5,530.00	11,046.53	5,832.00	79.17	80.69	151.32	5,189.22	161.94	344.22	250.71	93.51	3.681		
10,800.00	5,530.00	11,146.53	5,832.00	80.61	82.12	151.32	5,289.22	161.95	344.22	249.09	95.13	3.618		
10,900.00	5,530.00	11,246.53	5,832.00	82.05	83.55	151.32	5,389.22	161.95	344.22	247.47	96.76	3.558		
11,000.00	5,530.00	11,346.53	5,832.00	83.49	84.99	151.32	5,489.22	161.96	344.22	245.84	98.38	3.499		
11,100.00	5,530.00	11,446.53	5,832.00	84.93	86.42	151.32	5,589.22	161.96	344.22	244.21	100.01	3.442		
11,200.00	5,530.00	11,546.53	5,832.00	86.37	87.86	151.32	5,689.22	161.97	344.22	242.58	101.65	3.387		
11,300.00	5,530.00	11,646.53	5,832.00	87.81	89.30	151.32	5,789.22	161.97	344.23	240.95	103.28	3.333		
11,400.00	5,530.00	11,746.53	5,832.00	89.26	90.74	151.32	5,889.22	161.98	344.23	239.31	104.92	3.281		
11,500.00	5,530.00	11,846.53	5,832.00	90.70	92.18	151.32	5,989.22	161.98	344.23	237.67	106.55	3.231		
11,600.00	5,530.00	11,946.53	5,832.00	92.15	93.62	151.32	6,089.22	161.99	344.23	236.04	108.19	3.182		
11,700.00	5,530.00	12,046.53	5,832.00	93.59	95.06	151.32	6,189.22	161.99	344.23	234.39	109.83	3.134		
11,800.00	5,530.00	12,146.53	5,832.00	95.04	96.51	151.32	6,289.22	162.00	344.23	232.75	111.48	3.088		
11,900.00	5,530.00	12,246.53	5,832.00	96.49	97.95	151.32	6,389.22	162.00	344.23	231.11	113.12	3.043		
12,000.00	5,530.00	12,346.53	5,832.00	97.93	99.39	151.32	6,489.22	162.01	344.23	229.46	114.77	2.999		
12,100.00	5,530.00	12,446.53	5,832.00	99.38	100.84	151.32	6,589.22	162.01	344.23	227.82	116.41	2.957		
12,200.00	5,530.00	12,546.53	5,832.00	100.83	102.29	151.32	6,689.22	162.02	344.23	226.17	118.06	2.916		
12,300.00	5,530.00	12,646.53	5,832.00	102.28	103.73	151.32	6,789.22	162.03	344.23	224.52	119.71	2.875		
12,400.00	5,530.00	12,746.53	5,832.00	103.73	105.18	151.32	6,889.22	162.03	344.24	222.87	121.36	2.836		
12,500.00	5,530.00	12,846.53	5,832.00	105.19	106.63	151.32	6,989.22	162.04	344.24	221.22	123.02	2.798		
12,600.00	5,530.00	12,946.53	5,832.00	106.64	108.08	151.32	7,089.22	162.04	344.24	219.57	124.67	2.761		
12,700.00	5,530.00	13,046.53	5,832.00	108.09	109.53	151.32	7,189.22	162.05	344.24	217.91	126.32	2.725		
12,800.00	5,530.00	13,146.53	5,832.00	109.54	110.98	151.32	7,289.22	162.05	344.24	216.26	127.98	2.690		
12,900.00	5,530.00	13,246.53	5,832.00	111.00	112.43	151.32	7,389.22	162.06	344.24	214.60	129.64	2.655		
13,000.00	5,530.00	13,346.53	5,832.00	112.45	113.88	151.32	7,489.22	162.06	344.24	212.95	131.29	2.622		
13,100.00	5,530.00	13,446.53	5,832.00	113.91	115.33	151.32	7,589.22	162.07	344.24	211.29	132.95	2.589		
13,200.00	5,530.00	13,546.53	5,832.00	115.36	116.78	151.32	7,689.22	162.07	344.24	209.63	134.61	2.557		
13,300.00	5,530.00	13,646.53	5,832.00	116.82	118.24	151.32	7,789.22	162.08	344.24	207.97	136.27	2.526		
13,400.00	5,530.00	13,746.53	5,832.00	118.27	119.69	151.32	7,889.22	162.08	344.24	206.31	137.93	2.496		
13,500.00	5,530.00	13,846.53	5,832.00	119.73	121.14	151.32	7,989.22	162.09	344.24	204.65	139.60	2.466		
13,600.00	5,530.00	13,946.53	5,832.00	121.18	122.60	151.31	8,089.22	162.09	344.25	202.99	141.26	2.437		
13,700.00	5,530.00	14,046.53	5,832.00	122.64	124.05	151.31	8,189.22	162.10	344.25	201.32	142.92	2.409		
13,800.00	5,530.00	14,146.53	5,832.00	124.10	125.51	151.31	8,289.22	162.10	344.25	199.66	144.59	2.381		
13,900.00	5,530.00	14,246.53	5,832.00	125.56	126.96	151.31	8,389.22	162.11	344.25	198.00	146.25	2.354		
14,000.00	5,530.00	14,346.53	5,832.00	127.01	128.42	151.31	8,489.22	162.11	344.25	196.33	147.92	2.327		
14,100.00	5,530.00	14,446.53	5,832.00	128.47	129.87	151.31	8,589.22	162.12	344.25	194.67	149.59	2.301		
14,200.00	5,530.00	14,546.53	5,832.00	129.93	131.33	151.31	8,689.22	162.12	344.25	193.00	151.25	2.276		
14,300.00	5,530.00	14,646.53	5,832.00	131.39	132.79	151.31	8,789.22	162.13	344.25	191.33	152.92	2.251		
14,400.00	5,530.00	14,746.53	5,832.00	132.85	134.24	151.31	8,889.22	162.13	344.25	189.66	154.59	2.227		
14,500.00	5,530.00	14,846.53	5,832.00	134.31	135.70	151.31	8,989.22	162.14	344.25	188.00	156.26	2.203		
14,600.00	5,530.00	14,946.53	5,832.00	135.77	137.16	151.31	9,089.22	162.14	344.25	186.33	157.93	2.180		
14,700.00	5,530.00	15,046.53	5,832.00	137.23	138.62	151.31	9,189.22	162.15	344.26	184.66	159.60	2.157		
14,800.00	5,530.00	15,146.53	5,832.00	138.69	140.08	151.31	9,289.22	162.15	344.26	182.99	161.27	2.135		
14,900.00	5,530.00	15,246.53	5,832.00	140.15	141.53	151.31	9,389.22	162.16	344.26	181.32	162.94	2.113		
15,000.00	5,530.00	15,346.53	5,832.00	141.61	142.99	151.31	9,489.22	162.17	344.26	179.65	164.61	2.091		
15,100.00	5,530.00	15,446.53	5,832.00	143.07	144.45	151.31	9,589.22	162.17	344.26	177.98	166.28	2.070		
15,200.00	5,530.00	15,546.53	5,832.00	144.53	145.91	151.31	9,689.22	162.18	344.26	176.31	167.95	2.050		
15,300.00	5,530.00	15,646.53	5,832.00	145.99	147.37	151.31	9,789.22	162.18	344.26	174.63	169.63	2.030		

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 #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design Sec 25-T10N-R58W - Razor #25O-2444 - Hz - APD												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,400.00	5,530.00	15,746.53	5,832.00	147.45	148.83	151.31	9,889.22	162.19	344.26	172.96	171.30	2.010	
15,500.00	5,530.00	15,846.53	5,832.00	148.92	150.29	151.31	9,989.22	162.19	344.26	171.29	172.97	1.990	
15,600.00	5,530.00	15,946.53	5,832.00	150.38	151.75	151.31	10,089.22	162.20	344.26	169.61	174.65	1.971	
15,657.65	5,530.00	16,004.18	5,832.00	151.22	152.59	151.31	10,146.86	162.20	344.26	168.65	175.61	1.960 SF	



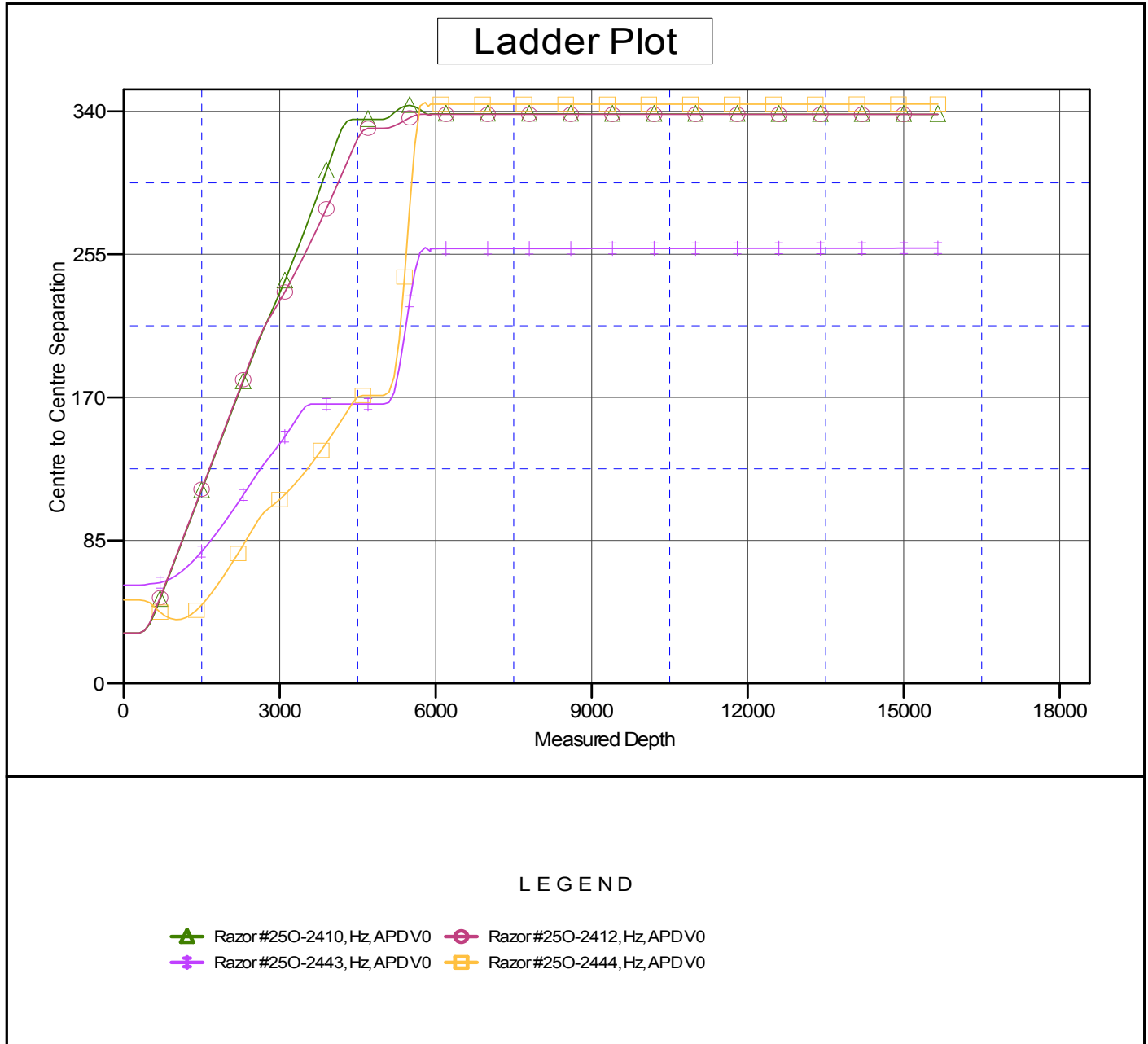
WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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 @ 4738.00usft (Original Well Ele)
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.00W

Coordinates are relative to: Razor #25O-2411
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°





WOG

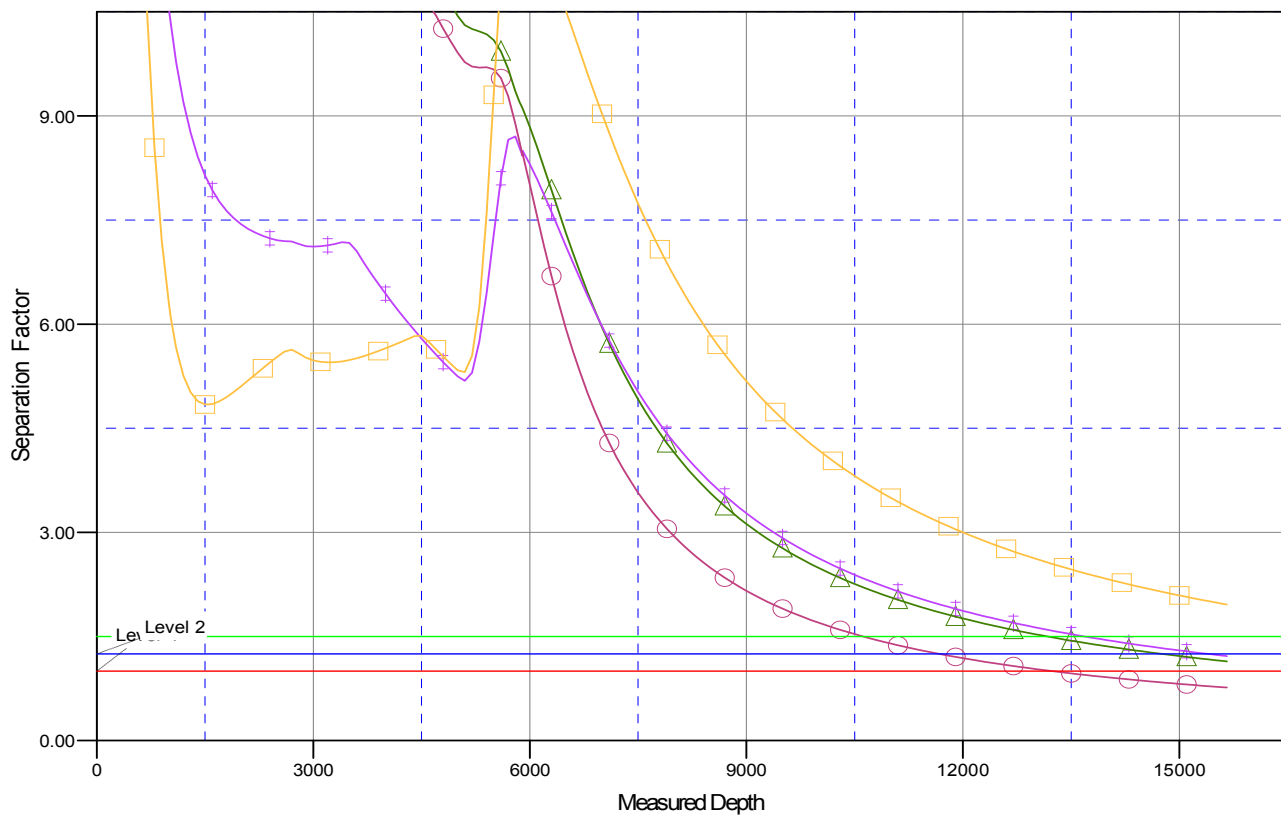
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2411
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
Reference Site:	Sec 25-T10N-R58W	MD Reference:	KBE @ 4738.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Razor #25O-2411	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 @ 4738.00usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Razor #25O-2411
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Separation Factor Plot



LEGEND

- ▲ Razor #25O-2410, Hz, APDV0
- Razor #25O-2412, Hz, APDV0
- + Razor #25O-2443, Hz, APDV0
- Razor #25O-2444, Hz, APDV0