



Whiting Petroleum Corp.

Weld County, CO

Sec 25-T10N-R58W

Razor #25O-2410

Hz

APD

Anticollision Report

22 May, 2015



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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	15,801.18	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	Depth (usft)	Depth (usft)	Centres (usft)	Ellipses (usft)	Factor	
Sec 25-T10N-R58W						
Razor #25B-2449 - Hz - APD	10,375.24	5,745.44	494.57	403.00	5.401	CC
Razor #25B-2449 - Hz - APD	15,801.18	11,198.51	509.39	280.43	2.225	ES, SF
Razor #25B-2450 - Hz - APD	10,693.16	5,881.61	306.28	211.10	3.218	CC
Razor #25B-2450 - Hz - APD	15,801.18	10,987.68	337.13	106.13	1.459	Level 3, ES, SF
Razor #25B-2451 - Hz - APD	10,288.32	5,679.95	164.79	74.66	1.828	CC, ES
Razor #25B-2451 - Hz - APD	15,801.18	11,265.02	275.16	117.65	1.747	SF
Razor #25B-2549 - Hz - Hz	5,929.78	10,183.00	496.39	362.67	3.712	CC, ES, SF
Razor #25B-2550 - Hz - APD	5,889.79	10,560.57	274.54	187.34	3.148	CC, ES, SF
Razor #25B-2551 - Hz - Hz	5,957.04	10,211.38	198.00	129.49	2.890	CC, ES
Razor #25B-2551 - Hz - Hz	10,400.00	5,716.15	248.19	156.69	2.712	SF
Razor #25O-2411 - Hz - APD	300.00	300.00	29.99	28.38	18.572	CC, ES
Razor #25O-2411 - Hz - APD	15,801.18	15,655.61	338.20	41.72	1.141	Level 2, SF
Razor #25O-2412 - Hz - APD	300.00	300.00	59.98	58.37	37.144	CC, ES
Razor #25O-2412 - Hz - APD	15,801.18	15,749.21	659.56	205.62	1.453	Level 3, SF
Razor #25O-2443 - Hz - APD	996.76	993.77	49.02	42.83	7.927	CC
Razor #25O-2443 - Hz - APD	15,801.18	15,873.94	206.00	-46.18	0.817	Level 1, ES, SF
Razor #25O-2444 - Hz - APD	300.00	300.00	58.36	56.74	36.135	CC, ES
Razor #25O-2444 - Hz - APD	15,801.18	16,002.14	544.62	264.12	1.942	SF

Offset Design											Sec 25-T10N-R58W - Razor #25B-2449 - 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			
8,800.00	5,605.00	5,400.00	5,355.17	51.01	19.63	-59.63	4,542.73	-797.76	1,511.91	1,449.33	62.58	24.160			
8,900.00	5,605.00	5,400.00	5,355.17	52.39	19.63	-59.63	4,542.73	-797.76	1,419.88	1,356.09	63.78	22.261			
9,000.00	5,605.00	5,400.00	5,355.17	53.77	19.63	-59.63	4,542.73	-797.76	1,329.00	1,264.01	64.99	20.448			
9,100.00	5,605.00	5,400.00	5,355.17	55.16	19.63	-59.63	4,542.73	-797.76	1,239.53	1,173.33	66.21	18.722			
9,200.00	5,605.00	5,423.44	5,377.95	56.55	19.69	-61.63	4,548.24	-797.76	1,151.08	1,082.71	68.38	16.834			
9,300.00	5,605.00	5,432.59	5,386.76	57.95	19.71	-62.43	4,550.67	-797.76	1,064.82	994.83	69.99	15.214			
9,400.00	5,605.00	5,450.00	5,403.43	59.35	19.76	-63.97	4,555.71	-797.76	980.97	909.02	71.95	13.634			
9,500.00	5,605.00	5,450.00	5,403.43	60.75	19.76	-63.97	4,555.71	-797.76	899.94	826.72	73.22	12.290			
9,600.00	5,605.00	5,468.93	5,421.35	62.15	19.80	-65.67	4,561.83	-797.76	822.61	747.35	75.26	10.930			
9,700.00	5,605.00	5,485.27	5,436.62	63.56	19.84	-67.15	4,567.63	-797.76	750.00	672.80	77.20	9.715			

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-2410
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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-2410	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		
9,800.00	5,605.00	5,500.00	5,450.23	64.97	19.88	-68.50	4,573.27	-797.76	683.41	604.33	79.07	8.643		
9,900.00	5,605.00	5,528.00	5,475.63	66.39	19.94	-71.10	4,585.03	-797.76	624.32	542.92	81.40	7.670		
10,000.00	5,605.00	5,550.00	5,495.13	67.80	19.99	-73.14	4,595.22	-797.76	574.72	491.26	83.46	6.886		
10,100.00	5,605.00	5,591.74	5,530.86	69.22	20.07	-77.00	4,616.78	-797.76	536.26	450.28	85.98	6.237		
10,200.00	5,605.00	5,636.10	5,566.81	70.64	20.16	-81.02	4,642.74	-797.76	510.40	422.14	88.26	5.783		
10,300.00	5,605.00	5,692.63	5,609.20	72.07	20.25	-85.86	4,680.10	-797.77	497.19	406.87	90.33	5.504		
10,375.24	5,605.00	5,745.44	5,644.93	73.14	20.33	-89.99	4,718.96	-797.77	494.57	403.00	91.57	5.401 CC		
10,400.00	5,605.00	5,765.08	5,657.18	73.49	20.36	-91.41	4,734.30	-797.77	494.81	402.90	91.90	5.384		
10,500.00	5,605.00	5,857.02	5,706.49	74.92	20.47	-97.09	4,811.76	-797.77	499.40	406.56	92.84	5.379		
10,600.00	5,605.00	5,969.25	5,747.08	76.35	20.58	-101.66	4,916.17	-797.77	505.76	412.28	93.48	5.410		
10,700.00	5,605.00	6,095.94	5,764.90	77.78	20.77	-103.63	5,041.28	-797.78	508.92	414.20	94.73	5.372		
10,800.00	5,605.00	6,198.32	5,765.00	79.21	21.06	-103.64	5,143.66	-797.78	508.95	412.35	96.60	5.268		
10,900.00	5,605.00	6,298.32	5,765.00	80.64	21.52	-103.64	5,243.66	-797.78	508.96	410.39	98.57	5.164		
11,000.00	5,605.00	6,398.32	5,765.00	82.08	22.12	-103.64	5,343.66	-797.79	508.97	408.35	100.62	5.058		
11,100.00	5,605.00	6,498.32	5,765.00	83.51	22.82	-103.64	5,443.66	-797.79	508.98	406.23	102.75	4.954		
11,200.00	5,605.00	6,598.32	5,765.00	84.95	23.61	-103.64	5,543.66	-797.79	508.99	404.04	104.95	4.850		
11,300.00	5,605.00	6,698.32	5,765.00	86.39	24.47	-103.64	5,643.66	-797.79	509.00	401.79	107.21	4.748		
11,400.00	5,605.00	6,798.32	5,765.00	87.83	25.40	-103.64	5,743.66	-797.80	509.00	399.48	109.53	4.647		
11,500.00	5,605.00	6,898.32	5,765.00	89.27	26.37	-103.64	5,843.66	-797.80	509.01	397.12	111.90	4.549		
11,600.00	5,605.00	6,998.32	5,765.00	90.71	27.39	-103.64	5,943.66	-797.80	509.02	394.71	114.31	4.453		
11,700.00	5,605.00	7,098.32	5,765.00	92.15	28.44	-103.64	6,043.66	-797.81	509.03	392.27	116.76	4.359		
11,800.00	5,605.00	7,198.32	5,765.00	93.59	29.54	-103.63	6,143.66	-797.81	509.04	389.79	119.25	4.269		
11,900.00	5,605.00	7,298.32	5,765.00	95.04	30.66	-103.63	6,243.66	-797.81	509.05	387.27	121.78	4.180		
12,000.00	5,605.00	7,398.32	5,765.00	96.48	31.82	-103.63	6,343.66	-797.82	509.06	384.73	124.33	4.095		
12,100.00	5,605.00	7,498.32	5,765.00	97.93	32.99	-103.63	6,443.66	-797.82	509.07	382.17	126.90	4.012		
12,200.00	5,605.00	7,598.32	5,765.00	99.38	34.20	-103.63	6,543.66	-797.82	509.07	379.58	129.50	3.931		
12,300.00	5,605.00	7,698.32	5,765.00	100.82	35.42	-103.63	6,643.66	-797.82	509.08	376.97	132.11	3.853		
12,400.00	5,605.00	7,798.32	5,765.00	102.27	36.66	-103.63	6,743.66	-797.83	509.09	374.34	134.75	3.778		
12,500.00	5,605.00	7,898.32	5,765.00	103.72	37.91	-103.63	6,843.66	-797.83	509.10	371.70	137.40	3.705		
12,600.00	5,605.00	7,998.32	5,765.00	105.17	39.18	-103.63	6,943.66	-797.83	509.11	369.04	140.07	3.635		
12,700.00	5,605.00	8,098.32	5,765.00	106.62	40.47	-103.63	7,043.66	-797.84	509.12	366.37	142.75	3.567		
12,800.00	5,605.00	8,198.32	5,765.00	108.07	41.77	-103.63	7,143.66	-797.84	509.13	363.69	145.44	3.501		
12,900.00	5,605.00	8,298.32	5,765.00	109.52	43.07	-103.63	7,243.66	-797.84	509.14	360.99	148.15	3.437		
13,000.00	5,605.00	8,398.32	5,765.00	110.97	44.39	-103.63	7,343.66	-797.85	509.14	358.29	150.86	3.375		
13,100.00	5,605.00	8,498.32	5,765.00	112.42	45.72	-103.63	7,443.66	-797.85	509.15	355.57	153.58	3.315		
13,200.00	5,605.00	8,598.32	5,765.00	113.88	47.06	-103.63	7,543.66	-797.85	509.16	352.85	156.31	3.257		
13,300.00	5,605.00	8,698.32	5,765.00	115.33	48.40	-103.63	7,643.66	-797.85	509.17	350.12	159.05	3.201		
13,400.00	5,605.00	8,798.32	5,765.00	116.78	49.75	-103.63	7,743.66	-797.86	509.18	347.38	161.80	3.147		
13,500.00	5,605.00	8,898.32	5,765.00	118.24	51.11	-103.63	7,843.66	-797.86	509.19	344.64	164.55	3.094		
13,600.00	5,605.00	8,998.32	5,765.00	119.69	52.47	-103.63	7,943.66	-797.86	509.20	341.89	167.31	3.043		
13,700.00	5,605.00	9,098.32	5,765.00	121.14	53.84	-103.63	8,043.66	-797.87	509.21	339.13	170.08	2.994		
13,800.00	5,605.00	9,198.32	5,765.00	122.60	55.22	-103.63	8,143.66	-797.87	509.21	336.37	172.85	2.946		
13,900.00	5,605.00	9,298.32	5,765.00	124.06	56.60	-103.63	8,243.66	-797.87	509.22	333.60	175.62	2.900		
14,000.00	5,605.00	9,398.32	5,765.00	125.51	57.98	-103.63	8,343.66	-797.88	509.23	330.83	178.40	2.854		
14,100.00	5,605.00	9,498.32	5,765.00	126.97	59.37	-103.63	8,443.66	-797.88	509.24	328.06	181.18	2.811		
14,200.00	5,605.00	9,598.32	5,765.00	128.42	60.76	-103.63	8,543.66	-797.88	509.25	325.28	183.97	2.768		
14,300.00	5,605.00	9,698.32	5,765.00	129.88	62.16	-103.63	8,643.66	-797.88	509.26	322.50	186.76	2.727		
14,400.00	5,605.00	9,798.32	5,765.00	131.34	63.56	-103.63	8,743.66	-797.89	509.27	319.71	189.56	2.687		
14,500.00	5,605.00	9,898.32	5,765.00	132.80	64.96	-103.63	8,843.66	-797.89	509.28	316.92	192.35	2.648		
14,600.00	5,605.00	9,998.32	5,765.00	134.25	66.36	-103.63	8,943.66	-797.89	509.29	314.13	195.15	2.610		
14,700.00	5,605.00	10,098.32	5,765.00	135.71	67.77	-103.63	9,043.66	-797.90	509.29	311.34	197.96	2.573		
14,800.00	5,605.00	10,198.32	5,765.00	137.17	69.18	-103.63	9,143.66	-797.90	509.30	308.54	200.76	2.537		

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-2410
Project:	Weld County, CO	TVD Reference:	KBE @ 4738.00usft (Original Well Elev)
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Reference Well:	Razor #25O-2410	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 #25B-2449 - 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	
14,900.00	5,605.00	10,298.32	5,765.00	138.63	70.60	-103.63	9,243.66	-797.90	509.31	305.74	203.57	2.502	
15,000.00	5,605.00	10,398.32	5,765.00	140.09	72.01	-103.63	9,343.66	-797.91	509.32	302.94	206.38	2.468	
15,100.00	5,605.00	10,498.32	5,765.00	141.55	73.43	-103.63	9,443.66	-797.91	509.33	300.13	209.20	2.435	
15,200.00	5,605.00	10,598.32	5,765.00	143.01	74.85	-103.63	9,543.66	-797.91	509.34	297.32	212.01	2.402	
15,300.00	5,605.00	10,698.32	5,765.00	144.47	76.27	-103.63	9,643.66	-797.91	509.35	294.52	214.83	2.371	
15,400.00	5,605.00	10,798.32	5,765.00	145.93	77.70	-103.63	9,743.66	-797.92	509.36	291.71	217.65	2.340	
15,500.00	5,605.00	10,898.32	5,765.00	147.39	79.12	-103.63	9,843.66	-797.92	509.36	288.89	220.47	2.310	
15,600.00	5,605.00	10,998.32	5,765.00	148.85	80.55	-103.63	9,943.66	-797.92	509.37	286.08	223.29	2.281	
15,700.00	5,605.00	11,098.32	5,765.00	150.31	81.98	-103.63	10,043.66	-797.93	509.38	283.26	226.12	2.253	
15,799.97	5,605.00	11,198.29	5,765.00	151.77	83.41	-103.63	10,143.63	-797.93	509.39	280.45	228.94	2.225	
15,801.18	5,605.00	11,198.51	5,765.00	151.79	83.41	-103.63	10,143.85	-797.93	509.39	280.43	228.96	2.225 ES, SF	



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Reference Well:	Razor #25O-2410	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		
8,800.00	5,605.00	5,250.00	5,223.84	51.01	18.35	-35.02	4,558.12	-598.37	1,505.03	1,456.28	48.74	30.876		
8,900.00	5,605.00	5,250.00	5,223.84	52.39	18.35	-35.02	4,558.12	-598.37	1,411.46	1,361.85	49.61	28.453		
9,000.00	5,605.00	5,250.00	5,223.84	53.77	18.35	-35.02	4,558.12	-598.37	1,318.84	1,268.36	50.47	26.129		
9,100.00	5,605.00	5,250.00	5,223.84	55.16	18.35	-35.02	4,558.12	-598.37	1,227.38	1,176.03	51.35	23.904		
9,200.00	5,605.00	5,271.57	5,244.08	56.55	18.40	-36.36	4,565.57	-598.42	1,136.71	1,083.53	53.18	21.375		
9,300.00	5,605.00	5,300.00	5,270.25	57.95	18.47	-38.24	4,576.65	-598.48	1,047.87	992.44	55.43	18.904		
9,400.00	5,605.00	5,300.00	5,270.25	59.35	18.47	-38.24	4,576.65	-598.48	959.92	903.56	56.37	17.030		
9,500.00	5,605.00	5,300.00	5,270.25	60.75	18.47	-38.24	4,576.65	-598.48	874.56	817.26	57.30	15.262		
9,600.00	5,605.00	5,332.19	5,299.11	62.15	18.54	-40.49	4,590.90	-598.57	791.05	731.10	59.95	13.195		
9,700.00	5,605.00	5,350.00	5,314.68	63.56	18.58	-41.81	4,599.55	-598.62	710.89	648.96	61.93	11.479		
9,800.00	5,605.00	5,377.44	5,338.07	64.97	18.64	-43.91	4,613.90	-598.71	634.52	569.99	64.54	9.832		
9,900.00	5,605.00	5,400.00	5,356.71	66.39	18.69	-45.72	4,626.60	-598.79	563.12	496.18	66.94	8.412		
10,000.00	5,605.00	5,450.00	5,395.95	67.80	18.78	-49.90	4,657.55	-598.98	498.01	426.90	71.11	7.004		
10,100.00	5,605.00	5,478.49	5,416.93	69.22	18.83	-52.37	4,676.82	-599.10	440.37	366.36	74.00	5.951		
10,200.00	5,605.00	5,525.08	5,448.86	70.64	18.90	-56.48	4,710.72	-599.31	392.49	314.52	77.97	5.034		
10,300.00	5,605.00	5,580.12	5,482.51	72.07	18.97	-61.26	4,754.26	-599.57	355.62	273.43	82.20	4.326		
10,400.00	5,605.00	5,650.00	5,518.29	73.49	19.05	-66.88	4,814.21	-599.94	330.28	243.71	86.57	3.815		
10,500.00	5,605.00	5,718.46	5,545.26	74.92	19.11	-71.44	4,877.08	-600.33	315.20	225.12	90.08	3.499		
10,600.00	5,605.00	5,800.00	5,566.30	76.35	19.19	-75.19	4,955.77	-600.81	308.09	215.03	93.06	3.311		
10,693.16	5,605.00	5,881.61	5,574.82	77.68	19.40	-76.75	5,036.85	-601.31	306.28	211.10	95.18	3.218 CC		
10,700.00	5,605.00	5,887.64	5,574.94	77.78	19.42	-76.78	5,042.88	-601.35	306.29	210.98	95.31	3.214		
10,800.00	5,605.00	5,986.60	5,575.00	79.21	19.92	-76.81	5,141.84	-601.95	306.87	209.64	97.23	3.156		
10,900.00	5,605.00	6,086.60	5,575.00	80.64	20.54	-76.84	5,241.84	-602.57	307.48	208.23	99.25	3.098		
11,000.00	5,605.00	6,186.60	5,575.00	82.08	21.25	-76.87	5,341.83	-603.18	308.08	206.74	101.34	3.040		
11,100.00	5,605.00	6,286.60	5,575.00	83.51	22.04	-76.89	5,441.83	-603.79	308.68	205.17	103.51	2.982		
11,200.00	5,605.00	6,386.59	5,575.00	84.95	22.89	-76.92	5,541.82	-604.41	309.29	203.54	105.75	2.925		
11,300.00	5,605.00	6,486.59	5,575.00	86.39	23.80	-76.94	5,641.82	-605.02	309.89	201.84	108.05	2.868		
11,400.00	5,605.00	6,586.59	5,575.00	87.83	24.77	-76.97	5,741.82	-605.64	310.50	200.09	110.40	2.812		
11,500.00	5,605.00	6,686.59	5,575.00	89.27	25.78	-77.00	5,841.81	-606.25	311.10	198.29	112.81	2.758		
11,600.00	5,605.00	6,786.59	5,575.00	90.71	26.84	-77.02	5,941.81	-606.86	311.70	196.45	115.25	2.705		
11,700.00	5,605.00	6,886.58	5,575.00	92.15	27.93	-77.05	6,041.81	-607.48	312.31	194.57	117.74	2.653		
11,800.00	5,605.00	6,986.58	5,575.00	93.59	29.06	-77.07	6,141.80	-608.09	312.91	192.66	120.25	2.602		
11,900.00	5,605.00	7,086.58	5,575.00	95.04	30.21	-77.10	6,241.80	-608.70	313.52	190.71	122.80	2.553		
12,000.00	5,605.00	7,186.58	5,575.00	96.48	31.40	-77.12	6,341.79	-609.32	314.12	188.74	125.38	2.505		
12,100.00	5,605.00	7,286.58	5,575.00	97.93	32.60	-77.15	6,441.79	-609.93	314.72	186.75	127.98	2.459		
12,200.00	5,605.00	7,386.58	5,575.00	99.38	33.83	-77.17	6,541.79	-610.55	315.33	184.73	130.60	2.414		
12,300.00	5,605.00	7,486.57	5,575.00	100.82	35.07	-77.20	6,641.78	-611.16	315.93	182.69	133.24	2.371		
12,400.00	5,605.00	7,586.57	5,575.00	102.27	36.34	-77.22	6,741.78	-611.77	316.54	180.64	135.90	2.329		
12,500.00	5,605.00	7,686.57	5,575.00	103.72	37.61	-77.25	6,841.78	-612.39	317.14	178.57	138.58	2.289		
12,600.00	5,605.00	7,786.57	5,575.00	105.17	38.91	-77.27	6,941.77	-613.00	317.75	176.48	141.27	2.249		
12,700.00	5,605.00	7,886.57	5,575.00	106.62	40.21	-77.30	7,041.77	-613.61	318.35	174.38	143.97	2.211		
12,800.00	5,605.00	7,986.56	5,575.00	108.07	41.52	-77.32	7,141.76	-614.23	318.96	172.27	146.68	2.174		
12,900.00	5,605.00	8,086.56	5,575.00	109.52	42.85	-77.35	7,241.76	-614.84	319.56	170.15	149.41	2.139		
13,000.00	5,605.00	8,186.56	5,575.00	110.97	44.18	-77.37	7,341.76	-615.46	320.17	168.02	152.15	2.104		
13,100.00	5,605.00	8,286.56	5,575.00	112.42	45.53	-77.39	7,441.75	-616.07	320.77	165.88	154.89	2.071		
13,200.00	5,605.00	8,386.56	5,575.00	113.88	46.88	-77.42	7,541.75	-616.68	321.37	163.73	157.65	2.039		
13,300.00	5,605.00	8,486.55	5,575.00	115.33	48.23	-77.44	7,641.74	-617.30	321.98	161.57	160.41	2.007		
13,400.00	5,605.00	8,586.55	5,575.00	116.78	49.60	-77.47	7,741.74	-617.91	322.58	159.40	163.18	1.977		
13,500.00	5,605.00	8,686.55	5,575.00	118.24	50.97	-77.49	7,841.74	-618.52	323.19	157.23	165.96	1.947		
13,600.00	5,605.00	8,786.55	5,575.00	119.69	52.35	-77.51	7,941.73	-619.14	323.79	155.05	168.74	1.919		
13,700.00	5,605.00	8,886.55	5,575.00	121.14	53.73	-77.54	8,041.73	-619.75	324.40	152.87	171.53	1.891		
13,800.00	5,605.00	8,986.54	5,575.00	122.60	55.11	-77.56	8,141.73	-620.37	325.01	150.68	174.32	1.864		

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-2410
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-2410	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 #25B-2450 - 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	
13,900.00	5,605.00	9,086.54	5,575.00	124.06	56.50	-77.58	8,241.72	-620.98	325.61	148.49	177.12	1.838	
14,000.00	5,605.00	9,186.54	5,575.00	125.51	57.90	-77.61	8,341.72	-621.59	326.22	146.29	179.93	1.813	
14,100.00	5,605.00	9,286.54	5,575.00	126.97	59.30	-77.63	8,441.71	-622.21	326.82	144.09	182.73	1.789	
14,200.00	5,605.00	9,386.54	5,575.00	128.42	60.70	-77.65	8,541.71	-622.82	327.43	141.88	185.55	1.765	
14,300.00	5,605.00	9,486.54	5,575.00	129.88	62.10	-77.68	8,641.71	-623.43	328.03	139.67	188.36	1.741	
14,400.00	5,605.00	9,586.53	5,575.00	131.34	63.51	-77.70	8,741.70	-624.05	328.64	137.45	191.18	1.719	
14,500.00	5,605.00	9,686.53	5,575.00	132.80	64.92	-77.72	8,841.70	-624.66	329.24	135.24	194.01	1.697	
14,600.00	5,605.00	9,786.53	5,575.00	134.25	66.33	-77.75	8,941.70	-625.28	329.85	133.01	196.83	1.676	
14,700.00	5,605.00	9,886.53	5,575.00	135.71	67.75	-77.77	9,041.69	-625.89	330.45	130.79	199.66	1.655	
14,800.00	5,605.00	9,986.53	5,575.00	137.17	69.17	-77.79	9,141.69	-626.50	331.06	128.56	202.50	1.635	
14,900.00	5,605.00	10,086.52	5,575.00	138.63	70.59	-77.81	9,241.68	-627.12	331.67	126.33	205.33	1.615	
15,000.00	5,605.00	10,186.52	5,575.00	140.09	72.01	-77.84	9,341.68	-627.73	332.27	124.10	208.17	1.596	
15,100.00	5,605.00	10,286.52	5,575.00	141.55	73.44	-77.86	9,441.68	-628.34	332.88	121.86	211.01	1.578	
15,200.00	5,605.00	10,386.52	5,575.00	143.01	74.86	-77.88	9,541.67	-628.96	333.48	119.63	213.86	1.559	
15,300.00	5,605.00	10,486.52	5,575.00	144.47	76.29	-77.90	9,641.67	-629.57	334.09	117.39	216.70	1.542	
15,400.00	5,605.00	10,586.51	5,575.00	145.93	77.72	-77.93	9,741.67	-630.19	334.70	115.14	219.55	1.524	
15,500.00	5,605.00	10,686.51	5,575.00	147.39	79.15	-77.95	9,841.66	-630.80	335.30	112.90	222.40	1.508	
15,600.00	5,605.00	10,786.51	5,575.00	148.85	80.59	-77.97	9,941.66	-631.41	335.91	110.65	225.25	1.491	Level 3
15,700.00	5,605.00	10,886.51	5,575.00	150.31	82.02	-77.99	10,041.65	-632.03	336.51	108.41	228.11	1.475	Level 3
15,799.97	5,605.00	10,986.47	5,575.00	151.77	83.46	-78.01	10,141.62	-632.64	337.12	106.16	230.96	1.460	Level 3
15,801.18	5,605.00	10,987.68	5,575.00	151.79	83.47	-78.02	10,142.83	-632.65	337.13	106.13	231.00	1.459	Level 3, ES, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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		
8,700.00	5,605.00	5,450.00	5,434.45	49.64	18.37	-38.05	4,544.26	-468.00	1,524.21	1,474.16	50.04	30.457		
8,800.00	5,605.00	5,450.00	5,434.45	51.01	18.37	-38.05	4,544.26	-468.00	1,425.87	1,374.91	50.95	27.985		
8,900.00	5,605.00	5,450.00	5,434.45	52.39	18.37	-38.05	4,544.26	-468.00	1,327.77	1,275.91	51.86	25.602		
9,000.00	5,605.00	5,450.00	5,434.45	53.77	18.37	-38.05	4,544.26	-468.00	1,229.98	1,177.21	52.78	23.305		
9,100.00	5,605.00	5,450.00	5,434.45	55.16	18.37	-38.05	4,544.26	-468.00	1,132.58	1,078.89	53.70	21.092		
9,200.00	5,605.00	5,450.00	5,434.45	56.55	18.37	-38.05	4,544.26	-468.00	1,035.68	981.06	54.62	18.961		
9,300.00	5,605.00	5,468.46	5,452.57	57.95	18.42	-40.57	4,547.78	-468.00	938.92	881.61	57.31	16.383		
9,400.00	5,605.00	5,476.51	5,460.43	59.35	18.44	-41.76	4,549.51	-468.00	842.96	783.85	59.11	14.261		
9,500.00	5,605.00	5,500.00	5,483.20	60.75	18.50	-45.52	4,555.27	-468.00	748.13	685.40	62.73	11.927		
9,600.00	5,605.00	5,500.00	5,483.20	62.15	18.50	-45.52	4,555.27	-468.00	653.74	589.97	63.78	10.251		
9,700.00	5,605.00	5,500.00	5,483.20	63.56	18.50	-45.52	4,555.27	-468.00	561.30	496.47	64.83	8.658		
9,800.00	5,605.00	5,524.94	5,507.07	64.97	18.57	-50.07	4,562.51	-468.00	470.74	401.67	69.07	6.816		
9,900.00	5,605.00	5,550.00	5,530.67	66.39	18.64	-55.25	4,570.91	-468.00	383.81	310.23	73.58	5.217		
10,000.00	5,605.00	5,567.07	5,546.50	67.80	18.68	-59.13	4,577.29	-468.00	302.37	225.27	77.10	3.922		
10,100.00	5,605.00	5,600.00	5,576.42	69.22	18.76	-67.40	4,591.03	-468.00	231.45	148.88	82.58	2.803		
10,200.00	5,605.00	5,635.26	5,607.43	70.64	18.84	-77.15	4,607.81	-468.00	180.78	93.45	87.33	2.070		
10,288.32	5,605.00	5,679.95	5,644.97	71.90	18.94	-89.99	4,632.03	-468.00	164.79	74.66	90.13	1.828 CC, ES		
10,300.00	5,605.00	5,686.83	5,650.56	72.07	18.96	-91.93	4,636.04	-468.00	165.07	74.84	90.23	1.829		
10,400.00	5,605.00	5,757.56	5,704.76	73.49	19.10	-109.93	4,681.39	-468.00	186.03	98.86	87.17	2.134		
10,500.00	5,605.00	5,855.88	5,768.88	74.92	19.25	-126.93	4,755.74	-468.00	224.14	145.72	78.42	2.858		
10,600.00	5,605.00	5,989.41	5,831.44	76.35	19.39	-138.52	4,873.30	-468.01	258.61	188.37	70.24	3.682		
10,700.00	5,605.00	6,153.94	5,864.48	77.78	19.84	-143.09	5,033.77	-468.01	274.65	207.25	67.41	4.075		
10,800.00	5,605.00	6,263.84	5,865.00	79.21	20.41	-143.16	5,143.67	-468.01	274.90	206.31	68.59	4.008		
10,900.00	5,605.00	6,363.84	5,865.00	80.64	21.01	-143.16	5,243.67	-468.02	274.91	205.04	69.87	3.935		
11,000.00	5,605.00	6,463.84	5,865.00	82.08	21.70	-143.15	5,343.67	-468.02	274.91	203.72	71.20	3.861		
11,100.00	5,605.00	6,563.84	5,865.00	83.51	22.46	-143.15	5,443.67	-468.02	274.92	202.34	72.58	3.788		
11,200.00	5,605.00	6,663.84	5,865.00	84.95	23.29	-143.15	5,543.67	-468.03	274.92	200.91	74.01	3.715		
11,300.00	5,605.00	6,763.84	5,865.00	86.39	24.18	-143.15	5,643.67	-468.03	274.93	199.45	75.48	3.642		
11,400.00	5,605.00	6,863.84	5,865.00	87.83	25.12	-143.15	5,743.67	-468.03	274.94	197.94	77.00	3.571		
11,500.00	5,605.00	6,963.84	5,865.00	89.27	26.11	-143.15	5,843.67	-468.03	274.94	196.40	78.55	3.500		
11,600.00	5,605.00	7,063.84	5,865.00	90.71	27.15	-143.15	5,943.67	-468.04	274.95	194.82	80.13	3.431		
11,700.00	5,605.00	7,163.84	5,865.00	92.15	28.22	-143.14	6,043.67	-468.04	274.95	193.21	81.74	3.364		
11,800.00	5,605.00	7,263.84	5,865.00	93.59	29.33	-143.14	6,143.67	-468.04	274.96	191.58	83.38	3.298		
11,900.00	5,605.00	7,363.84	5,865.00	95.04	30.46	-143.14	6,243.67	-468.04	274.96	189.92	85.04	3.233		
12,000.00	5,605.00	7,463.84	5,865.00	96.48	31.63	-143.14	6,343.67	-468.05	274.97	188.24	86.73	3.170		
12,100.00	5,605.00	7,563.84	5,865.00	97.93	32.82	-143.14	6,443.67	-468.05	274.97	186.53	88.44	3.109		
12,200.00	5,605.00	7,663.84	5,865.00	99.38	34.03	-143.14	6,543.67	-468.05	274.98	184.81	90.16	3.050		
12,300.00	5,605.00	7,763.84	5,865.00	100.82	35.26	-143.14	6,643.67	-468.05	274.98	183.08	91.90	2.992		
12,400.00	5,605.00	7,863.84	5,865.00	102.27	36.51	-143.13	6,743.67	-468.06	274.99	181.32	93.66	2.936		
12,500.00	5,605.00	7,963.84	5,865.00	103.72	37.78	-143.13	6,843.67	-468.06	274.99	179.56	95.43	2.882		
12,600.00	5,605.00	8,063.84	5,865.00	105.17	39.06	-143.13	6,943.67	-468.06	275.00	177.78	97.22	2.829		
12,700.00	5,605.00	8,163.84	5,865.00	106.62	40.35	-143.13	7,043.67	-468.07	275.00	175.99	99.01	2.777		
12,800.00	5,605.00	8,263.84	5,865.00	108.07	41.65	-143.13	7,143.67	-468.07	275.01	174.19	100.82	2.728		
12,900.00	5,605.00	8,363.84	5,865.00	109.52	42.97	-143.13	7,243.67	-468.07	275.01	172.38	102.64	2.680		
13,000.00	5,605.00	8,463.84	5,865.00	110.97	44.29	-143.13	7,343.67	-468.07	275.02	170.56	104.46	2.633		
13,100.00	5,605.00	8,563.84	5,865.00	112.42	45.63	-143.12	7,443.67	-468.08	275.02	168.73	106.29	2.587		
13,200.00	5,605.00	8,663.84	5,865.00	113.88	46.97	-143.12	7,543.67	-468.08	275.03	166.90	108.13	2.543		
13,300.00	5,605.00	8,763.84	5,865.00	115.33	48.32	-143.12	7,643.67	-468.08	275.03	165.05	109.98	2.501		
13,400.00	5,605.00	8,863.84	5,865.00	116.78	49.68	-143.12	7,743.67	-468.08	275.04	163.20	111.84	2.459		
13,500.00	5,605.00	8,963.84	5,865.00	118.24	51.04	-143.12	7,843.67	-468.09	275.04	161.35	113.70	2.419		
13,600.00	5,605.00	9,063.84	5,865.00	119.69	52.41	-143.12	7,943.67	-468.09	275.05	159.49	115.56	2.380		
13,700.00	5,605.00	9,163.84	5,865.00	121.14	53.78	-143.11	8,043.67	-468.09	275.06	157.62	117.43	2.342		

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-2410
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-2410	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	
13,800.00	5,605.00	9,263.84	5,865.00	122.60	55.16	-143.11	8,143.67	-468.10	275.06	155.75	119.31	2.305	
13,900.00	5,605.00	9,363.84	5,865.00	124.06	56.55	-143.11	8,243.67	-468.10	275.07	153.88	121.19	2.270	
14,000.00	5,605.00	9,463.84	5,865.00	125.51	57.94	-143.11	8,343.67	-468.10	275.07	152.00	123.07	2.235	
14,100.00	5,605.00	9,563.84	5,865.00	126.97	59.33	-143.11	8,443.67	-468.10	275.08	150.11	124.96	2.201	
14,200.00	5,605.00	9,663.84	5,865.00	128.42	60.73	-143.11	8,543.67	-468.11	275.08	148.23	126.85	2.168	
14,300.00	5,605.00	9,763.84	5,865.00	129.88	62.12	-143.11	8,643.67	-468.11	275.09	146.34	128.75	2.137	
14,400.00	5,605.00	9,863.84	5,865.00	131.34	63.53	-143.10	8,743.67	-468.11	275.09	144.44	130.65	2.106	
14,500.00	5,605.00	9,963.84	5,865.00	132.80	64.93	-143.10	8,843.67	-468.11	275.10	142.55	132.55	2.075	
14,600.00	5,605.00	10,063.84	5,865.00	134.25	66.34	-143.10	8,943.67	-468.12	275.10	140.65	134.45	2.046	
14,700.00	5,605.00	10,163.84	5,865.00	135.71	67.75	-143.10	9,043.67	-468.12	275.11	138.75	136.36	2.017	
14,800.00	5,605.00	10,263.84	5,865.00	137.17	69.17	-143.10	9,143.67	-468.12	275.11	136.84	138.27	1.990	
14,900.00	5,605.00	10,363.84	5,865.00	138.63	70.58	-143.10	9,243.67	-468.12	275.12	134.93	140.18	1.963	
15,000.00	5,605.00	10,463.84	5,865.00	140.09	72.00	-143.10	9,343.67	-468.13	275.12	133.02	142.10	1.936	
15,100.00	5,605.00	10,563.84	5,865.00	141.55	73.42	-143.09	9,443.67	-468.13	275.13	131.11	144.02	1.910	
15,200.00	5,605.00	10,663.84	5,865.00	143.01	74.85	-143.09	9,543.67	-468.13	275.13	129.20	145.94	1.885	
15,300.00	5,605.00	10,763.84	5,865.00	144.47	76.27	-143.09	9,643.67	-468.14	275.14	127.28	147.86	1.861	
15,400.00	5,605.00	10,863.84	5,865.00	145.93	77.70	-143.09	9,743.67	-468.14	275.14	125.36	149.78	1.837	
15,500.00	5,605.00	10,963.84	5,865.00	147.39	79.12	-143.09	9,843.67	-468.14	275.15	123.45	151.70	1.814	
15,600.00	5,605.00	11,063.84	5,865.00	148.85	80.55	-143.09	9,943.67	-468.14	275.15	121.52	153.63	1.791	
15,700.00	5,605.00	11,163.84	5,865.00	150.31	81.99	-143.09	10,043.67	-468.15	275.16	119.60	155.56	1.769	
15,799.97	5,605.00	11,263.81	5,865.00	151.77	83.42	-143.08	10,143.64	-468.15	275.16	117.68	157.49	1.747	
15,801.18	5,605.00	11,265.02	5,865.00	151.79	83.43	-143.08	10,144.85	-468.15	275.16	117.65	157.51	1.747 SF	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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: 505-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		
4,400.00	4,379.79	10,183.00	5,760.90	15.53	120.12	-42.56	269.82	-785.15	1,522.51	1,415.02	107.49	14.164		
4,500.00	4,479.79	10,183.00	5,760.90	15.79	120.12	-42.56	269.82	-785.15	1,434.88	1,327.13	107.75	13.317		
4,600.00	4,579.79	10,183.00	5,760.90	16.05	120.12	-42.56	269.82	-785.15	1,348.98	1,240.97	108.01	12.490		
4,700.00	4,679.79	10,183.00	5,760.90	16.31	120.12	-42.56	269.82	-785.15	1,265.15	1,156.88	108.27	11.685		
4,800.00	4,779.79	10,183.00	5,760.90	16.58	120.12	-42.56	269.82	-785.15	1,183.83	1,075.30	108.53	10.907		
4,900.00	4,879.79	10,183.00	5,760.90	16.84	120.12	-42.56	269.82	-785.15	1,105.58	996.78	108.80	10.161		
5,000.00	4,979.79	10,183.00	5,760.90	17.11	120.12	-42.56	269.82	-785.15	1,031.10	922.03	109.07	9.453		
5,099.99	5,079.78	10,183.00	5,760.90	17.39	120.12	-42.56	269.82	-785.15	961.27	851.92	109.34	8.791		
5,200.00	5,179.25	10,183.00	5,760.90	17.65	120.12	-49.78	269.82	-785.15	892.39	773.65	118.74	7.516		
5,300.00	5,275.22	10,183.00	5,760.90	17.88	120.12	-59.04	269.82	-785.15	820.40	692.41	127.99	6.410		
5,400.00	5,364.16	10,183.00	5,760.90	18.07	120.12	-69.61	269.82	-785.15	747.42	612.67	134.75	5.547		
5,500.00	5,442.82	10,183.00	5,760.90	18.23	120.12	-80.36	269.82	-785.15	676.24	538.58	137.66	4.912		
5,600.00	5,508.30	10,183.00	5,760.90	18.35	120.12	-89.92	269.82	-785.15	610.55	473.37	137.18	4.451		
5,700.00	5,558.19	10,183.00	5,760.90	18.44	120.12	-97.26	269.82	-785.15	555.11	419.88	135.23	4.105		
5,800.00	5,590.66	10,183.00	5,760.90	18.52	120.12	-101.96	269.82	-785.15	515.58	381.88	133.70	3.856		
5,900.00	5,604.52	10,183.00	5,760.90	18.75	120.12	-103.96	269.82	-785.15	497.33	363.76	133.57	3.723		
5,929.78	5,605.61	10,183.00	5,760.90	18.87	120.12	-103.98	269.82	-785.15	496.39	362.67	133.72	3.712 CC, ES, SF		
6,000.00	5,605.00	10,139.55	5,761.18	19.18	118.98	-104.00	313.19	-787.81	500.11	367.13	132.98	3.761		
6,100.00	5,605.00	10,038.16	5,761.82	19.74	116.31	-103.90	414.38	-794.00	506.19	375.28	130.91	3.867		
6,200.00	5,605.00	9,920.28	5,760.46	20.38	113.19	-103.59	532.10	-799.89	510.88	382.29	128.59	3.973		
6,300.00	5,605.00	9,811.70	5,759.44	21.11	110.37	-103.45	640.67	-801.15	511.75	385.18	126.57	4.043		
6,400.00	5,605.00	9,725.29	5,760.29	21.92	108.14	-103.51	727.06	-802.37	513.40	388.30	125.10	4.104		
6,500.00	5,605.00	9,632.55	5,762.63	22.78	105.74	-103.67	819.71	-805.83	517.61	394.12	123.49	4.192		
6,600.00	5,605.00	9,548.41	5,764.61	23.71	103.59	-103.77	903.70	-810.39	523.48	401.29	122.20	4.284		
6,700.00	5,605.00	9,459.30	5,767.49	24.69	101.31	-103.88	992.44	-817.90	532.42	411.61	120.81	4.407		
6,800.00	5,605.00	9,367.49	5,770.06	25.71	98.94	-103.91	1,083.76	-826.98	542.69	423.29	119.41	4.545		
6,900.00	5,605.00	9,259.62	5,770.77	26.78	96.11	-103.69	1,190.98	-838.77	553.52	435.81	117.71	4.703		
7,000.00	5,605.00	9,141.86	5,769.91	27.88	93.08	-103.37	1,308.34	-848.27	561.16	445.28	115.88	4.843		
7,100.00	5,605.00	9,050.56	5,770.83	29.02	90.81	-103.31	1,399.41	-854.71	568.25	453.53	114.73	4.953		
7,200.00	5,605.00	8,955.62	5,773.01	30.18	88.41	-103.35	1,494.03	-862.17	576.44	463.01	113.43	5.082		
7,300.00	5,605.00	8,859.23	5,774.39	31.37	85.94	-103.28	1,590.01	-870.86	585.54	473.44	112.11	5.223		
7,400.00	5,605.00	8,748.43	5,773.18	32.59	83.07	-102.96	1,700.38	-880.53	593.81	483.29	110.52	5.373		
7,500.00	5,605.00	8,635.44	5,772.30	33.82	80.19	-102.71	1,813.12	-887.94	600.04	491.13	108.91	5.509		
7,600.00	5,605.00	8,534.26	5,770.75	35.07	77.65	-102.46	1,914.15	-893.17	604.75	497.09	107.66	5.617		
7,700.00	5,605.00	8,421.94	5,769.36	36.34	74.79	-102.23	2,026.35	-898.20	608.90	502.81	106.09	5.740		
7,800.00	5,605.00	8,308.39	5,767.43	37.62	71.93	-102.01	2,139.86	-900.37	610.39	505.86	104.53	5.839		
7,900.00	5,605.00	8,206.85	5,766.49	38.92	69.42	-101.91	2,241.39	-901.21	611.02	507.73	103.29	5.915		
8,000.00	5,605.00	8,109.75	5,767.70	40.23	67.08	-102.02	2,338.48	-901.13	611.21	509.04	102.17	5.982		
8,100.00	5,605.00	8,025.59	5,770.78	41.55	65.07	-102.28	2,422.57	-902.26	613.31	512.01	101.30	6.054		
8,200.00	5,605.00	7,937.71	5,774.20	42.87	62.92	-102.52	2,510.31	-905.81	618.06	517.75	100.31	6.162		
8,300.00	5,605.00	7,843.73	5,775.77	44.21	60.64	-102.56	2,604.15	-910.68	623.51	524.28	99.23	6.284		
8,400.00	5,605.00	7,756.03	5,775.43	45.56	58.54	-102.39	2,691.55	-917.80	631.30	532.90	98.40	6.416		
8,500.00	5,605.00	7,652.20	5,775.39	46.91	56.14	-102.24	2,795.08	-925.73	638.74	541.49	97.25	6.568		
8,600.00	5,605.00	7,561.53	5,775.35	48.27	54.13	-102.09	2,885.41	-933.54	647.14	550.65	96.49	6.707		
8,700.00	5,605.00	7,462.81	5,775.69	49.64	51.92	-101.94	2,983.69	-942.85	656.45	560.97	95.48	6.875		
8,800.00	5,605.00	7,366.28	5,776.46	51.01	49.75	-101.85	3,079.81	-951.61	665.51	571.03	94.48	7.044		
8,900.00	5,605.00	7,266.96	5,775.14	52.39	47.60	-101.56	3,178.58	-962.00	675.49	581.94	93.55	7.220		
9,000.00	5,605.00	7,167.20	5,772.88	53.77	45.57	-101.20	3,277.81	-972.04	684.92	592.18	92.74	7.385		
9,100.00	5,605.00	7,066.53	5,771.65	55.16	43.53	-100.94	3,377.96	-982.15	694.56	602.72	91.83	7.563		
9,200.00	5,605.00	6,961.19	5,771.54	56.55	41.45	-100.78	3,482.85	-991.91	703.65	612.84	90.80	7.749		
9,300.00	5,605.00	6,860.20	5,771.82	57.95	39.59	-100.67	3,583.46	-1,000.65	712.21	622.21	90.00	7.913		
9,400.00	5,605.00	6,754.04	5,772.77	59.35	37.75	-100.62	3,689.27	-1,009.21	720.31	631.11	89.20	8.075		

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-2410
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-2410	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: 505-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	
9,500.00	5,605.00	6,647.22	5,775.42	60.75	36.03	-100.72	3,795.83	-1,016.13	727.13	638.61	88.52	8.214	
9,600.00	5,605.00	6,521.75	5,782.52	62.15	34.00	-101.18	3,920.94	-1,022.02	733.04	645.77	87.27	8.400	
9,700.00	5,605.00	6,376.59	5,787.62	63.56	31.75	-101.59	4,065.98	-1,021.16	733.19	647.40	85.79	8.546	
9,800.00	5,605.00	6,256.71	5,787.52	64.97	30.11	-101.68	4,185.68	-1,014.74	727.77	642.61	85.16	8.545	
9,900.00	5,605.00	6,132.34	5,780.12	66.39	28.73	-101.22	4,309.57	-1,007.36	720.88	635.85	85.03	8.478	
10,000.00	5,605.00	6,058.23	5,769.11	67.80	28.15	-100.42	4,382.67	-1,003.03	712.61	626.76	85.85	8.301	
10,100.00	5,605.00	5,954.93	5,738.70	69.22	27.68	-97.98	4,481.19	-1,004.33	708.96	621.88	87.09	8.141	
10,200.00	5,605.00	5,818.00	5,674.20	70.64	27.28	-92.78	4,601.64	-1,000.15	700.16	611.26	88.91	7.875	
10,290.55	5,605.00	5,774.12	5,644.95	71.93	27.20	-90.37	4,634.26	-999.50	696.31	605.97	90.34	7.708	
10,300.00	5,605.00	5,769.78	5,641.79	72.07	27.20	-90.11	4,637.23	-999.53	696.35	605.87	90.48	7.696	
10,400.00	5,605.00	5,727.00	5,608.86	73.49	27.18	-87.41	4,664.49	-1,000.69	702.68	610.74	91.94	7.643	
10,500.00	5,605.00	5,708.33	5,593.79	74.92	27.20	-86.18	4,675.43	-1,001.94	720.23	626.90	93.33	7.717	
10,600.00	5,605.00	5,673.31	5,564.92	76.35	27.25	-83.86	4,694.92	-1,005.48	748.86	654.26	94.59	7.917	
10,700.00	5,605.00	5,537.91	5,450.55	77.78	27.35	-74.96	4,766.68	-1,009.92	782.46	688.09	94.38	8.291	
10,800.00	5,605.00	5,513.00	5,427.99	79.21	27.30	-73.23	4,777.05	-1,008.00	822.38	727.12	95.26	8.633	
10,900.00	5,605.00	5,494.35	5,410.67	80.64	27.26	-71.91	4,783.77	-1,006.36	871.07	774.88	96.19	9.055	
11,000.00	5,605.00	5,483.00	5,399.96	82.08	27.23	-71.10	4,787.39	-1,005.37	927.56	830.29	97.26	9.536	
11,100.00	5,605.00	5,483.00	5,399.96	83.51	27.23	-71.10	4,787.39	-1,005.37	990.77	892.14	98.63	10.045	
11,200.00	5,605.00	5,465.77	5,383.48	84.95	27.19	-69.86	4,792.19	-1,003.93	1,059.16	959.68	99.48	10.646	
11,300.00	5,605.00	5,452.00	5,370.13	86.39	27.15	-68.88	4,795.43	-1,002.86	1,132.33	1,031.93	100.40	11.278	
11,400.00	5,605.00	5,452.00	5,370.13	87.83	27.15	-68.88	4,795.43	-1,002.86	1,209.06	1,107.31	101.75	11.882	
11,500.00	5,605.00	5,452.00	5,370.13	89.27	27.15	-68.88	4,795.43	-1,002.86	1,288.98	1,185.88	103.11	12.502	
11,600.00	5,605.00	5,452.00	5,370.13	90.71	27.15	-68.88	4,795.43	-1,002.86	1,371.54	1,267.08	104.46	13.130	
11,700.00	5,605.00	5,452.00	5,370.13	92.15	27.15	-68.88	4,795.43	-1,002.86	1,456.29	1,350.48	105.82	13.762	
11,800.00	5,605.00	5,436.59	5,355.06	93.59	27.11	-67.78	4,798.43	-1,001.77	1,542.47	1,435.87	106.60	14.470	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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 #25B-2550 - 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				
4,200.00	4,179.92	10,560.57	5,575.00	15.02	70.21	109.71	237.85	-569.17	1,465.61	1,417.17	48.44	30.256				
4,300.00	4,279.80	10,560.57	5,575.00	15.26	70.21	105.41	237.85	-569.17	1,374.18	1,321.68	52.50	26.174				
4,400.00	4,379.79	10,560.57	5,575.00	15.53	70.21	-28.34	237.85	-569.17	1,283.62	1,227.53	56.09	22.886				
4,500.00	4,479.79	10,560.57	5,575.00	15.79	70.21	-28.34	237.85	-569.17	1,194.42	1,138.07	56.35	21.197				
4,600.00	4,579.79	10,560.57	5,575.00	16.05	70.21	-28.34	237.85	-569.17	1,107.07	1,050.45	56.61	19.556				
4,700.00	4,679.79	10,560.57	5,575.00	16.31	70.21	-28.34	237.85	-569.17	1,022.03	965.16	56.88	17.969				
4,800.00	4,779.79	10,560.57	5,575.00	16.58	70.21	-28.34	237.85	-569.17	939.95	882.81	57.14	16.449				
4,900.00	4,879.79	10,560.57	5,575.00	16.84	70.21	-28.34	237.85	-569.17	861.66	804.25	57.42	15.007				
5,000.00	4,979.79	10,560.57	5,575.00	17.11	70.21	-28.34	237.85	-569.17	788.30	730.61	57.69	13.665				
5,099.99	5,079.78	10,560.57	5,575.00	17.39	70.21	-28.34	237.85	-569.17	721.38	663.41	57.96	12.445				
5,200.00	5,179.25	10,560.57	5,575.00	17.65	70.21	-32.90	237.85	-569.17	656.63	593.82	62.81	10.454				
5,300.00	5,275.22	10,560.57	5,575.00	17.88	70.21	-38.92	237.85	-569.17	588.38	520.18	68.20	8.627				
5,400.00	5,364.16	10,560.57	5,575.00	18.07	70.21	-46.23	237.85	-569.17	518.22	444.58	73.65	7.037				
5,500.00	5,442.82	10,560.57	5,575.00	18.23	70.21	-54.46	237.85	-569.17	448.46	369.80	78.67	5.701				
5,600.00	5,508.30	10,560.57	5,575.00	18.35	70.21	-62.68	237.85	-569.17	382.56	299.89	82.67	4.628				
5,700.00	5,558.19	10,560.57	5,575.00	18.44	70.21	-69.61	237.85	-569.17	325.99	240.69	85.31	3.821				
5,800.00	5,590.66	10,560.57	5,575.00	18.52	70.21	-74.08	237.85	-569.17	286.97	200.26	86.71	3.309				
5,889.79	5,603.98	10,560.57	5,575.00	18.72	70.21	-75.42	237.85	-569.17	274.54	187.34	87.20	3.148	CC, ES, SF			
5,900.00	5,604.52	10,560.57	5,575.00	18.75	70.21	-75.40	237.85	-569.17	274.71	187.49	87.21	3.150				
6,000.00	5,605.00	10,460.74	5,575.00	19.18	68.80	-75.36	337.64	-571.42	277.01	190.80	86.21	3.213				
6,100.00	5,605.00	10,360.77	5,575.00	19.74	67.38	-75.48	437.59	-573.67	279.20	193.80	85.40	3.269				
6,200.00	5,605.00	10,260.80	5,575.00	20.38	65.97	-75.59	537.54	-575.92	281.38	196.72	84.67	3.323				
6,300.00	5,605.00	10,160.82	5,575.00	21.11	64.56	-75.71	637.49	-578.17	283.57	199.55	84.02	3.375				
6,400.00	5,605.00	10,060.85	5,575.00	21.92	63.15	-75.82	737.44	-580.42	285.76	202.31	83.45	3.424				
6,500.00	5,605.00	9,960.87	5,575.00	22.78	61.75	-75.93	837.39	-582.67	287.95	205.00	82.95	3.471				
6,600.00	5,605.00	9,860.90	5,575.00	23.71	60.35	-76.04	937.34	-584.92	290.14	207.64	82.50	3.517				
6,700.00	5,605.00	9,760.92	5,575.00	24.69	58.95	-76.14	1,037.28	-587.17	292.33	210.22	82.11	3.560				
6,800.00	5,605.00	9,660.95	5,575.00	25.71	57.56	-76.25	1,137.23	-589.42	294.52	212.75	81.77	3.602				
6,900.00	5,605.00	9,560.97	5,575.00	26.78	56.17	-76.35	1,237.18	-591.68	296.71	215.24	81.47	3.642				
7,000.00	5,605.00	9,461.00	5,575.00	27.88	54.79	-76.45	1,337.13	-593.93	298.91	217.69	81.21	3.680				
7,100.00	5,605.00	9,361.03	5,575.00	29.02	53.41	-76.55	1,437.08	-596.18	301.10	220.11	80.99	3.718				
7,200.00	5,605.00	9,261.05	5,575.00	30.18	52.04	-76.65	1,537.03	-598.43	303.30	222.49	80.80	3.754				
7,300.00	5,605.00	9,161.08	5,575.00	31.37	50.67	-76.75	1,636.98	-600.68	305.49	224.85	80.65	3.788				
7,400.00	5,605.00	9,061.10	5,575.00	32.59	49.31	-76.85	1,736.93	-602.93	307.69	227.18	80.51	3.822				
7,500.00	5,605.00	8,961.13	5,575.00	33.82	47.95	-76.94	1,836.88	-605.18	309.89	229.48	80.41	3.854				
7,600.00	5,605.00	8,861.15	5,575.00	35.07	46.60	-77.04	1,936.83	-607.43	312.09	231.76	80.33	3.885				
7,700.00	5,605.00	8,761.18	5,575.00	36.34	45.26	-77.13	2,036.78	-609.68	314.29	234.01	80.28	3.915				
7,800.00	5,605.00	8,661.20	5,575.00	37.62	43.93	-77.22	2,136.73	-611.93	316.49	236.25	80.24	3.944				
7,900.00	5,605.00	8,561.23	5,575.00	38.92	42.61	-77.31	2,236.68	-614.18	318.69	238.46	80.23	3.972				
8,000.00	5,605.00	8,461.25	5,575.00	40.23	41.30	-77.40	2,336.62	-616.43	320.89	240.65	80.24	3.999				
8,100.00	5,605.00	8,361.28	5,575.00	41.55	40.00	-77.48	2,436.57	-618.68	323.10	242.82	80.27	4.025				
8,200.00	5,605.00	8,261.31	5,575.00	42.87	38.71	-77.57	2,536.52	-620.93	325.30	244.97	80.33	4.050				
8,300.00	5,605.00	8,161.33	5,575.00	44.21	37.43	-77.66	2,636.47	-623.18	327.50	247.10	80.40	4.073				
8,400.00	5,605.00	8,061.36	5,575.00	45.56	36.17	-77.74	2,736.42	-625.43	329.71	249.21	80.50	4.096				
8,500.00	5,605.00	7,961.38	5,575.00	46.91	34.93	-77.82	2,836.37	-627.68	331.92	251.29	80.62	4.117				
8,600.00	5,605.00	7,861.41	5,575.00	48.27	33.71	-77.90	2,936.32	-629.93	334.12	253.35	80.77	4.137				
8,700.00	5,605.00	7,761.43	5,575.00	49.64	32.50	-77.98	3,036.27	-632.18	336.33	255.39	80.94	4.155				
8,800.00	5,605.00	7,661.46	5,575.00	51.01	31.32	-78.06	3,136.22	-634.43	338.54	257.40	81.14	4.172				
8,900.00	5,605.00	7,561.48	5,575.00	52.39	30.16	-78.14	3,236.17	-636.68	340.75	259.37	81.37	4.187				
9,000.00	5,605.00	7,461.51	5,575.00	53.77	29.03	-78.22	3,336.12	-638.93	342.95	261.32	81.64	4.201				
9,100.00	5,605.00	7,361.53	5,575.00	55.16	27.94	-78.30	3,436.07	-641.18	345.16	263.23	81.94	4.213				
9,200.00	5,605.00	7,261.56	5,575.00	56.55	26.87	-78.37	3,536.01	-643.43	347.38	265.10	82.28	4.222				

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-2410
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-2410	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		
9,300.00	5,605.00	7,161.59	5,575.00	57.95	25.85	-78.45	3,635.96	-645.69	349.59	266.93	82.66	4.229		
9,400.00	5,605.00	7,061.61	5,575.00	59.35	24.87	-78.52	3,735.91	-647.94	351.80	268.71	83.09	4.234		
9,500.00	5,605.00	6,961.64	5,575.00	60.75	23.93	-78.59	3,835.86	-650.19	354.01	270.43	83.58	4.236		
9,600.00	5,605.00	6,861.66	5,575.00	62.15	23.05	-78.66	3,935.81	-652.44	356.22	272.10	84.12	4.235		
9,700.00	5,605.00	6,761.69	5,575.00	63.56	22.23	-78.74	4,035.76	-654.69	358.44	273.70	84.73	4.230		
9,800.00	5,605.00	6,661.71	5,575.00	64.97	21.47	-78.81	4,135.71	-656.94	360.65	275.24	85.41	4.222		
9,900.00	5,605.00	6,561.74	5,575.00	66.39	20.78	-78.87	4,235.66	-659.19	362.86	276.69	86.18	4.211		
10,000.00	5,605.00	6,461.76	5,575.00	67.80	20.16	-78.94	4,335.61	-661.44	365.08	278.06	87.02	4.195		
10,100.00	5,605.00	6,361.79	5,575.00	69.22	19.64	-79.01	4,435.56	-663.69	367.29	279.33	87.97	4.175		
10,200.00	5,605.00	6,261.81	5,575.00	70.64	19.45	-79.08	4,535.51	-665.94	369.51	280.50	89.01	4.151		
10,300.00	5,605.00	6,161.84	5,575.00	72.07	19.56	-79.14	4,635.46	-668.19	371.73	281.57	90.16	4.123		
10,400.00	5,605.00	6,061.87	5,575.00	73.49	19.71	-79.21	4,735.41	-670.44	373.94	282.53	91.41	4.091		
10,500.00	5,605.00	5,962.31	5,574.99	74.92	19.89	-79.27	4,834.94	-672.68	376.16	283.39	92.78	4.055		
10,600.00	5,605.00	5,875.09	5,567.19	76.35	20.07	-78.17	4,921.68	-674.63	380.15	286.18	93.97	4.045		
10,700.00	5,605.00	5,792.67	5,546.62	77.78	20.24	-75.23	5,001.38	-676.43	388.30	293.68	94.62	4.104		
10,800.00	5,605.00	5,718.29	5,517.48	79.21	20.39	-71.21	5,069.73	-677.97	402.74	308.12	94.62	4.256		
10,900.00	5,605.00	5,650.00	5,482.39	80.64	20.52	-66.62	5,128.25	-679.28	425.71	331.81	93.90	4.534		
11,000.00	5,605.00	5,600.00	5,452.00	82.08	20.60	-62.89	5,167.92	-680.18	458.56	365.41	93.15	4.923		
11,100.00	5,605.00	5,550.00	5,417.95	83.51	20.67	-59.00	5,204.49	-681.00	501.52	409.61	91.91	5.457		
11,200.00	5,605.00	5,511.17	5,389.18	84.95	20.71	-55.94	5,230.55	-681.59	553.81	462.90	90.91	6.092		
11,300.00	5,605.00	5,477.55	5,362.76	86.39	20.75	-53.32	5,251.32	-682.06	614.15	524.13	90.02	6.822		
11,400.00	5,605.00	5,450.00	5,340.14	87.83	20.77	-51.21	5,267.05	-682.41	681.14	591.76	89.38	7.620		
11,500.00	5,605.00	5,424.46	5,318.46	89.27	20.78	-49.29	5,280.54	-682.71	753.54	664.75	88.79	8.487		
11,600.00	5,605.00	5,400.00	5,297.10	90.71	20.79	-47.51	5,292.45	-682.98	830.31	742.09	88.22	9.412		
11,700.00	5,605.00	5,400.00	5,297.10	92.15	20.79	-47.51	5,292.45	-682.98	910.86	821.53	89.33	10.197		
11,800.00	5,605.00	5,368.95	5,269.22	93.59	20.80	-45.33	5,306.10	-683.29	993.61	905.41	88.20	11.265		
11,900.00	5,605.00	5,350.00	5,251.82	95.04	20.80	-44.05	5,313.61	-683.46	1,079.01	991.10	87.92	12.273		
12,000.00	5,605.00	5,350.00	5,251.82	96.48	20.80	-44.05	5,313.61	-683.46	1,166.31	1,077.33	88.98	13.107		
12,100.00	5,605.00	5,331.16	5,234.27	97.93	20.79	-42.81	5,320.44	-683.61	1,255.05	1,166.39	88.66	14.156		
12,200.00	5,605.00	5,321.17	5,224.86	99.38	20.78	-42.17	5,323.81	-683.69	1,345.16	1,256.18	88.97	15.119		
12,300.00	5,605.00	5,300.00	5,204.73	100.82	20.78	-40.85	5,330.34	-683.84	1,436.55	1,348.09	88.46	16.240		
12,400.00	5,605.00	5,300.00	5,204.73	102.27	20.78	-40.85	5,330.34	-683.84	1,528.51	1,439.03	89.48	17.083		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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: 413-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		
4,400.00	4,379.79	10,245.00	5,833.68	15.53	119.56	-5.48	270.09	-353.81	1,513.29	1,470.10	43.19	35.040		
4,500.00	4,479.79	10,245.00	5,833.68	15.79	119.56	-5.48	270.09	-353.81	1,419.98	1,376.52	43.46	32.676		
4,600.00	4,579.79	10,245.00	5,833.68	16.05	119.56	-5.48	270.09	-353.81	1,327.64	1,283.92	43.73	30.362		
4,700.00	4,679.79	10,245.00	5,833.68	16.31	119.56	-5.48	270.09	-353.81	1,236.50	1,192.50	44.00	28.102		
4,800.00	4,779.79	10,245.00	5,833.68	16.58	119.56	-5.48	270.09	-353.81	1,146.84	1,102.56	44.28	25.901		
4,900.00	4,879.79	10,245.00	5,833.68	16.84	119.56	-5.48	270.09	-353.81	1,059.03	1,014.47	44.56	23.769		
5,000.00	4,979.79	10,245.00	5,833.68	17.11	119.56	-5.48	270.09	-353.81	973.57	928.73	44.84	21.714		
5,099.99	5,079.78	10,245.00	5,833.68	17.39	119.56	-5.48	270.09	-353.81	891.15	846.03	45.12	19.751		
5,200.00	5,179.25	10,245.00	5,833.68	17.65	119.56	-7.28	270.09	-353.81	807.46	757.73	49.73	16.237		
5,300.00	5,275.22	10,245.00	5,833.68	17.88	119.56	-10.86	270.09	-353.81	717.43	659.17	58.26	12.314		
5,400.00	5,364.16	10,245.00	5,833.68	18.07	119.56	-19.75	270.09	-353.81	622.34	548.17	74.17	8.391		
5,500.00	5,442.82	10,245.00	5,833.68	18.23	119.56	-57.64	270.09	-353.81	523.92	401.10	122.82	4.266		
5,600.00	5,508.30	10,245.00	5,833.68	18.35	119.56	-139.25	270.09	-353.81	424.71	328.34	96.37	4.407		
5,700.00	5,558.19	10,245.00	5,833.68	18.44	119.56	-158.45	270.09	-353.81	329.32	256.83	72.49	4.543		
5,800.00	5,590.66	10,245.00	5,833.68	18.52	119.56	-163.75	270.09	-353.81	247.67	178.85	68.82	3.599		
5,900.00	5,604.52	10,245.00	5,833.68	18.75	119.56	-165.34	270.09	-353.81	201.93	133.23	68.70	2.939		
5,957.04	5,606.28	10,211.38	5,833.16	18.99	118.67	-165.27	303.71	-353.78	198.00	129.49	68.51	2.890 CC, ES		
6,000.00	5,605.00	10,170.14	5,832.67	19.18	117.61	-165.35	344.95	-353.71	198.73	130.68	68.05	2.920		
6,031.62	5,605.00	10,139.79	5,832.59	19.36	116.83	-165.37	375.29	-353.63	198.63	130.92	67.71	2.934		
6,100.00	5,605.00	10,074.07	5,833.10	19.74	115.15	-165.45	441.01	-353.47	199.10	132.16	66.93	2.974		
6,200.00	5,605.00	9,976.20	5,833.03	20.38	112.67	-165.67	538.87	-353.17	200.93	135.20	65.73	3.057		
6,300.00	5,605.00	9,879.82	5,838.42	21.11	110.18	-165.96	635.18	-352.97	204.29	139.77	64.53	3.166		
6,400.00	5,605.00	9,778.60	5,842.76	21.92	107.47	-166.32	736.31	-352.69	208.39	145.16	63.23	3.296		
6,500.00	5,605.00	9,674.14	5,844.29	22.78	104.74	-166.01	840.73	-354.24	210.14	147.70	62.44	3.365		
6,600.00	5,605.00	9,579.14	5,846.54	23.71	102.29	-165.80	935.70	-355.59	212.78	151.06	61.72	3.447		
6,700.00	5,605.00	9,477.43	5,850.82	24.69	99.58	-165.96	1,037.31	-356.04	216.99	156.34	60.65	3.578		
6,800.00	5,605.00	9,366.32	5,850.82	25.71	96.61	-165.58	1,148.40	-357.50	217.31	157.43	59.88	3.629		
6,900.00	5,605.00	9,265.72	5,847.39	26.78	94.03	-164.99	1,248.93	-358.93	214.37	154.92	59.45	3.606		
7,000.00	5,605.00	9,167.96	5,845.24	27.88	91.60	-164.61	1,346.66	-359.80	212.48	153.57	58.91	3.607		
7,035.22	5,605.00	9,135.72	5,844.77	28.28	90.78	-164.42	1,378.89	-360.39	212.16	153.36	58.80	3.608		
7,100.00	5,605.00	9,079.33	5,845.17	29.02	89.33	-163.77	1,435.21	-363.01	213.44	154.57	58.87	3.626		
7,200.00	5,605.00	8,978.64	5,846.95	30.18	86.66	-161.53	1,535.44	-372.38	217.92	158.04	59.88	3.639		
7,300.00	5,605.00	8,876.14	5,847.55	31.37	84.01	-159.56	1,637.57	-380.59	221.15	160.38	60.77	3.639		
7,400.00	5,605.00	8,784.07	5,849.30	32.59	81.64	-158.00	1,729.32	-387.76	225.75	164.26	61.49	3.671		
7,500.00	5,605.00	8,685.31	5,850.38	33.82	79.05	-154.85	1,827.03	-401.96	232.56	168.81	63.75	3.648		
7,600.00	5,605.00	8,581.29	5,851.05	35.07	76.30	-152.00	1,930.17	-415.38	238.96	173.24	65.72	3.636		
7,700.00	5,605.00	8,479.66	5,850.39	36.34	73.66	-149.43	2,031.08	-427.41	244.21	176.73	67.48	3.619		
7,800.00	5,605.00	8,378.46	5,850.18	37.62	71.05	-147.37	2,131.75	-437.65	249.37	180.65	68.72	3.629		
7,900.00	5,605.00	8,276.24	5,852.21	38.92	68.34	-146.71	2,233.82	-442.44	253.58	185.16	68.42	3.706		
8,000.00	5,605.00	8,166.96	5,852.61	40.23	65.46	-145.91	2,343.00	-446.96	256.24	188.10	68.14	3.760		
8,100.00	5,605.00	8,062.88	5,848.50	41.55	62.89	-144.56	2,446.91	-451.43	255.43	186.84	68.59	3.724		
8,158.57	5,605.00	8,007.47	5,846.72	42.32	61.59	-144.00	2,502.25	-453.22	255.01	186.26	68.75	3.709		
8,200.00	5,605.00	7,968.60	5,846.01	42.87	60.69	-143.67	2,541.09	-454.52	255.22	186.42	68.80	3.710		
8,300.00	5,605.00	7,870.56	5,845.23	44.21	58.29	-142.95	2,639.07	-457.94	256.68	187.98	68.70	3.736		
8,400.00	5,605.00	7,769.66	5,844.19	45.56	55.77	-142.09	2,739.88	-462.00	258.30	189.64	68.67	3.762		
8,500.00	5,605.00	7,668.84	5,843.67	46.91	53.25	-141.53	2,840.66	-464.81	259.63	191.32	68.31	3.801		
8,600.00	5,605.00	7,568.58	5,843.45	48.27	50.71	-141.17	2,940.90	-466.74	260.67	192.91	67.76	3.847		
8,700.00	5,605.00	7,468.71	5,842.76	49.64	48.21	-140.60	3,040.73	-469.51	261.89	194.47	67.41	3.885		
8,800.00	5,605.00	7,372.05	5,841.53	51.01	45.84	-139.86	3,137.32	-472.90	263.17	195.86	67.31	3.910		
8,900.00	5,605.00	7,275.01	5,839.24	52.39	43.53	-138.23	3,233.99	-480.88	266.77	198.72	68.05	3.920		
9,000.00	5,605.00	7,178.80	5,836.61	53.77	41.43	-136.55	3,329.81	-489.17	270.64	201.69	68.95	3.925		
9,100.00	5,605.00	7,083.63	5,838.32	55.16	39.36	-135.76	3,424.72	-496.00	276.89	207.86	69.03	4.011		

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-2410
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-2410	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: 413-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	
9,200.00	5,605.00	6,978.21	5,840.25	56.55	36.91	-134.95	3,529.84	-503.49	283.22	214.40	68.82	4.115	
9,300.00	5,605.00	6,870.44	5,838.84	57.95	34.56	-133.81	3,637.39	-510.12	286.72	217.77	68.95	4.158	
9,400.00	5,605.00	6,768.87	5,837.92	59.35	32.53	-133.20	3,738.89	-513.59	288.57	219.72	68.86	4.191	
9,500.00	5,605.00	6,671.03	5,837.74	60.75	30.65	-132.77	3,836.69	-516.60	290.69	221.95	68.74	4.229	
9,600.00	5,605.00	6,570.65	5,837.58	62.15	28.83	-132.33	3,937.02	-519.68	292.86	224.18	68.67	4.264	
9,700.00	5,605.00	6,472.93	5,837.55	63.56	27.00	-131.83	4,034.66	-523.49	295.73	227.09	68.64	4.308	
9,800.00	5,605.00	6,369.19	5,836.81	64.97	25.15	-131.18	4,138.31	-527.74	298.34	229.64	68.70	4.343	
9,900.00	5,605.00	6,262.91	5,833.84	66.39	23.52	-130.30	4,244.49	-531.34	299.09	229.92	69.17	4.324	
10,000.00	5,605.00	6,151.00	5,827.05	67.80	22.08	-128.91	4,356.11	-534.43	297.40	227.24	70.17	4.239	
10,100.00	5,605.00	6,010.07	5,797.88	69.22	20.91	-123.75	4,493.52	-538.93	287.82	213.59	74.23	3.877	
10,200.00	5,605.00	5,901.10	5,750.69	70.64	20.59	-114.65	4,591.52	-543.49	268.68	187.64	81.04	3.315	
10,300.00	5,605.00	5,794.89	5,686.68	72.07	20.58	-100.63	4,675.78	-549.70	252.84	164.49	88.35	2.862	
10,376.05	5,605.00	5,732.70	5,642.73	73.15	20.62	-90.54	4,719.74	-550.78	247.59	156.47	91.11	2.717	
10,400.00	5,605.00	5,716.15	5,630.58	73.49	20.63	-87.73	4,730.96	-550.87	248.19	156.69	91.50	2.712 SF	
10,500.00	5,605.00	5,659.03	5,586.34	74.92	20.69	-77.70	4,767.05	-551.16	265.11	173.22	91.88	2.885	
10,600.00	5,605.00	5,604.00	5,541.45	76.35	20.76	-68.26	4,798.88	-551.40	303.92	213.50	90.42	3.361	
10,700.00	5,605.00	5,551.24	5,497.94	77.78	20.87	-60.20	4,828.71	-551.96	358.32	270.68	87.65	4.088	
10,800.00	5,605.00	5,493.90	5,450.97	79.21	21.01	-52.81	4,861.58	-552.87	421.68	337.84	83.84	5.030	
10,900.00	5,605.00	5,465.89	5,427.65	80.64	21.08	-49.65	4,877.06	-553.66	492.36	409.87	82.49	5.969	
11,000.00	5,605.00	5,450.00	5,413.84	82.08	21.11	-47.93	4,884.91	-554.20	569.93	487.79	82.14	6.938	
11,100.00	5,605.00	5,434.40	5,399.83	83.51	21.12	-46.27	4,891.75	-554.67	652.49	570.75	81.75	7.982	
11,200.00	5,605.00	5,420.00	5,386.52	84.95	21.14	-44.76	4,897.24	-554.96	738.74	657.34	81.41	9.075	
11,300.00	5,605.00	5,420.00	5,386.52	86.39	21.14	-44.76	4,897.24	-554.96	827.67	745.19	82.48	10.035	
11,400.00	5,605.00	5,420.00	5,386.52	87.83	21.14	-44.76	4,897.24	-554.96	918.87	835.32	83.55	10.998	
11,500.00	5,605.00	5,420.00	5,386.52	89.27	21.14	-44.76	4,897.24	-554.96	1,011.74	927.12	84.62	11.956	
11,600.00	5,605.00	5,420.00	5,386.52	90.71	21.14	-44.76	4,897.24	-554.96	1,105.85	1,020.16	85.69	12.905	
11,700.00	5,605.00	5,420.00	5,386.52	92.15	21.14	-44.76	4,897.24	-554.96	1,200.91	1,114.15	86.77	13.841	
11,800.00	5,605.00	5,380.11	5,348.40	93.59	21.12	-40.82	4,908.89	-555.39	1,293.67	1,210.16	83.51	15.490	
11,900.00	5,605.00	5,375.73	5,344.13	95.04	21.12	-40.41	4,909.88	-555.42	1,389.41	1,305.34	84.06	16.528	
12,000.00	5,605.00	5,371.83	5,340.32	96.48	21.12	-40.05	4,910.70	-555.44	1,485.64	1,400.99	84.65	17.549	



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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	400.00	399.98	1.12	1.11	-138.84	-1.74	29.96	31.30	29.08	2.22	14.084		
500.00	499.84	499.87	499.71	1.43	1.41	-135.89	-6.97	29.87	35.30	32.49	2.82	12.541		
600.00	599.45	599.57	599.07	1.75	1.73	-132.79	-15.22	29.73	42.06	38.61	3.46	12.166		
700.00	698.90	699.24	698.36	2.09	2.04	-131.65	-23.91	29.58	50.11	45.99	4.12	12.163		
800.00	798.36	798.92	797.65	2.44	2.38	-130.82	-32.59	29.42	58.18	53.37	4.80	12.112		
900.00	897.81	898.59	896.94	2.80	2.73	-130.20	-41.28	29.27	66.25	60.75	5.50	12.048		
1,000.00	997.26	998.26	996.24	3.16	3.08	-129.71	-49.96	29.12	74.32	68.12	6.20	11.983		
1,100.00	1,096.71	1,097.93	1,095.53	3.53	3.44	-129.31	-58.65	28.97	82.41	75.49	6.91	11.922		
1,200.00	1,196.17	1,197.60	1,194.82	3.90	3.80	-128.99	-67.33	28.82	90.49	82.87	7.63	11.865		
1,300.00	1,295.62	1,297.27	1,294.11	4.27	4.16	-128.72	-76.02	28.67	98.58	90.24	8.34	11.815		
1,400.00	1,395.07	1,396.94	1,393.40	4.64	4.52	-128.49	-84.70	28.51	106.67	97.61	9.06	11.769		
1,500.00	1,494.52	1,496.62	1,492.70	5.01	4.88	-128.29	-93.39	28.36	114.76	104.97	9.79	11.728		
1,600.00	1,593.97	1,596.29	1,591.99	5.38	5.24	-128.12	-102.08	28.21	122.85	112.34	10.51	11.691		
1,700.00	1,693.43	1,695.96	1,691.28	5.76	5.60	-127.97	-110.76	28.06	130.94	119.71	11.23	11.658		
1,800.00	1,792.88	1,795.63	1,790.57	6.13	5.97	-127.84	-119.45	27.91	139.04	127.08	11.96	11.627		
1,900.00	1,892.33	1,895.30	1,889.86	6.51	6.33	-127.72	-128.13	27.76	147.13	134.45	12.68	11.600		
2,000.00	1,991.78	1,994.97	1,989.16	6.88	6.69	-127.62	-136.82	27.60	155.23	141.82	13.41	11.575		
2,100.00	2,091.23	2,094.64	2,088.45	7.25	7.06	-127.52	-145.50	27.45	163.32	149.19	14.14	11.552		
2,200.00	2,190.69	2,194.32	2,187.74	7.63	7.42	-127.44	-154.19	27.30	171.42	156.55	14.87	11.531		
2,300.00	2,290.14	2,293.99	2,287.03	8.00	7.79	-127.36	-162.88	27.15	179.52	163.92	15.59	11.512		
2,400.00	2,389.59	2,393.66	2,386.33	8.38	8.15	-127.29	-171.56	27.00	187.61	171.29	16.32	11.494		
2,500.00	2,489.04	2,493.33	2,485.62	8.75	8.52	-127.22	-180.25	26.85	195.71	178.66	17.05	11.477		
2,600.00	2,588.50	2,593.62	2,585.56	9.13	8.86	-127.25	-188.66	26.70	203.74	185.98	17.76	11.472		
2,700.00	2,687.95	2,694.72	2,686.50	9.51	9.12	-128.08	-194.15	26.60	211.20	192.82	18.38	11.491		
2,800.00	2,787.40	2,795.59	2,787.35	9.88	9.41	-129.76	-196.08	26.57	218.12	199.10	19.02	11.469		
2,900.00	2,886.85	2,895.10	2,886.85	10.26	9.70	-131.80	-196.08	26.57	224.97	205.33	19.65	11.451		
3,000.00	2,986.30	2,994.55	2,986.30	10.63	9.95	-133.72	-196.08	26.57	232.09	211.85	20.24	11.467		
3,100.00	3,085.76	3,094.00	3,085.76	11.01	10.21	-135.53	-196.08	26.57	239.45	218.62	20.84	11.492		
3,200.00	3,185.21	3,193.45	3,185.21	11.38	10.48	-137.22	-196.08	26.57	247.04	225.61	21.43	11.525		
3,300.00	3,284.66	3,292.91	3,284.66	11.76	10.74	-138.81	-196.08	26.57	254.83	232.80	22.04	11.565		
3,400.00	3,384.11	3,392.36	3,384.11	12.14	11.01	-140.31	-196.08	26.57	262.81	240.17	22.64	11.609		
3,500.00	3,483.57	3,491.81	3,483.57	12.51	11.29	-141.72	-196.08	26.57	270.95	247.70	23.25	11.656		
3,600.00	3,583.02	3,591.26	3,583.02	12.89	11.57	-143.05	-196.08	26.57	279.25	255.39	23.85	11.706		
3,700.00	3,682.47	3,690.71	3,682.47	13.26	11.85	-144.29	-196.08	26.57	287.68	263.22	24.47	11.758		
3,800.00	3,781.92	3,790.17	3,781.92	13.64	12.13	-145.47	-196.08	26.57	296.25	271.17	25.08	11.812		
3,900.00	3,881.37	3,889.62	3,881.37	14.02	12.42	-146.58	-196.08	26.57	304.93	279.24	25.70	11.866		
4,000.00	3,980.83	3,989.07	3,980.83	14.39	12.70	-147.63	-196.08	26.57	313.73	287.41	26.32	11.921		
4,100.00	4,080.28	4,088.53	4,080.28	14.76	12.99	-148.63	-196.08	26.57	322.60	295.67	26.94	11.977		
4,200.00	4,179.92	4,188.17	4,179.92	15.02	13.29	-149.46	-196.08	26.57	329.79	302.31	27.47	12.003		
4,300.00	4,279.80	4,288.05	4,279.80	15.26	13.58	-149.93	-196.08	26.57	334.00	305.99	28.01	11.924		
4,400.00	4,379.79	4,388.03	4,379.79	15.53	13.88	79.94	-196.08	26.57	335.23	306.65	28.57	11.732		
4,500.00	4,479.79	4,488.03	4,479.79	15.79	14.18	79.94	-196.08	26.57	335.23	306.09	29.14	11.504		
4,600.00	4,579.79	4,588.03	4,579.79	16.05	14.48	79.94	-196.08	26.57	335.23	305.52	29.71	11.283		
4,700.00	4,679.79	4,688.03	4,679.79	16.31	14.79	79.94	-196.08	26.57	335.23	304.94	30.29	11.068		
4,800.00	4,779.79	4,788.03	4,779.79	16.58	15.09	79.94	-196.08	26.57	335.23	304.36	30.87	10.861		
4,900.00	4,879.79	4,888.03	4,879.79	16.84	15.40	79.94	-196.08	26.57	335.23	303.78	31.45	10.659		
5,000.00	4,979.79	4,988.03	4,979.79	17.11	15.70	79.94	-196.08	26.57	335.23	303.19	32.04	10.464		
5,099.99	5,079.78	5,080.57	5,072.17	17.39	15.98	79.29	-192.26	26.57	336.01	303.42	32.58	10.312		

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-2410
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-2410	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	5,179.25	5,168.27	5,157.92	17.65	16.22	77.32	-174.38	26.57	338.40	305.40	33.01	10.253		
5,300.00	5,275.22	5,254.65	5,238.28	17.88	16.42	75.77	-142.97	26.57	340.58	307.25	33.33	10.218		
5,400.00	5,364.16	5,340.08	5,311.58	18.07	16.62	74.68	-99.28	26.57	342.26	308.68	33.58	10.193		
5,500.00	5,442.82	5,424.91	5,376.34	18.23	16.81	74.06	-44.62	26.57	343.27	309.47	33.80	10.157		
5,600.00	5,508.30	5,509.49	5,431.23	18.35	17.01	73.93	19.60	26.58	343.49	309.42	34.06	10.084		
5,700.00	5,558.19	5,594.14	5,475.05	18.44	17.25	74.28	91.92	26.58	342.90	308.44	34.46	9.952		
5,800.00	5,590.66	5,679.21	5,506.71	18.52	17.53	75.12	170.77	26.58	341.55	306.52	35.03	9.749		
5,900.00	5,604.52	5,765.03	5,525.24	18.75	17.86	76.43	254.47	26.58	339.61	303.80	35.82	9.482		
6,000.00	5,605.00	5,854.44	5,530.00	19.18	18.26	77.20	343.66	26.59	338.47	301.77	36.70	9.223		
6,100.00	5,605.00	5,954.44	5,530.00	19.74	18.79	77.20	443.66	26.59	338.46	300.72	37.75	8.967		
6,200.00	5,605.00	6,054.44	5,530.00	20.38	19.42	77.20	543.66	26.59	338.46	299.49	38.97	8.684		
6,300.00	5,605.00	6,154.44	5,530.00	21.11	20.14	77.20	643.66	26.60	338.46	298.09	40.37	8.384		
6,400.00	5,605.00	6,254.44	5,530.00	21.92	20.93	77.20	743.66	26.60	338.46	296.54	41.92	8.074		
6,500.00	5,605.00	6,354.44	5,530.00	22.78	21.80	77.20	843.66	26.60	338.45	294.85	43.60	7.762		
6,600.00	5,605.00	6,454.44	5,530.00	23.71	22.73	77.20	943.66	26.61	338.45	293.04	45.41	7.454		
6,700.00	5,605.00	6,554.44	5,530.00	24.69	23.71	77.20	1,043.66	26.61	338.45	291.13	47.32	7.153		
6,800.00	5,605.00	6,654.44	5,530.00	25.71	24.74	77.20	1,143.66	26.61	338.44	289.12	49.32	6.862		
6,900.00	5,605.00	6,754.44	5,530.00	26.78	25.82	77.20	1,243.66	26.62	338.44	287.03	51.41	6.583		
7,000.00	5,605.00	6,854.44	5,530.00	27.88	26.93	77.20	1,343.66	26.62	338.44	284.86	53.57	6.317		
7,100.00	5,605.00	6,954.44	5,530.00	29.02	28.08	77.20	1,443.66	26.62	338.44	282.63	55.80	6.065		
7,200.00	5,605.00	7,054.44	5,530.00	30.18	29.25	77.20	1,543.66	26.63	338.43	280.35	58.09	5.826		
7,300.00	5,605.00	7,154.44	5,530.00	31.37	30.45	77.20	1,643.66	26.63	338.43	278.01	60.42	5.601		
7,400.00	5,605.00	7,254.44	5,530.00	32.59	31.67	77.20	1,743.66	26.63	338.43	275.62	62.81	5.388		
7,500.00	5,605.00	7,354.44	5,530.00	33.82	32.92	77.20	1,843.66	26.64	338.43	273.20	65.23	5.188		
7,600.00	5,605.00	7,454.44	5,530.00	35.07	34.18	77.20	1,943.66	26.64	338.42	270.74	67.69	5.000		
7,700.00	5,605.00	7,554.44	5,530.00	36.34	35.46	77.20	2,043.66	26.64	338.42	268.24	70.18	4.822		
7,800.00	5,605.00	7,654.44	5,530.00	37.62	36.75	77.20	2,143.66	26.65	338.42	265.72	72.70	4.655		
7,900.00	5,605.00	7,754.44	5,530.00	38.92	38.06	77.20	2,243.66	26.65	338.41	263.17	75.24	4.498		
8,000.00	5,605.00	7,854.44	5,530.00	40.23	39.37	77.20	2,343.66	26.65	338.41	260.60	77.81	4.349		
8,100.00	5,605.00	7,954.44	5,530.00	41.55	40.70	77.20	2,443.66	26.66	338.41	258.01	80.40	4.209		
8,200.00	5,605.00	8,054.44	5,530.00	42.87	42.04	77.20	2,543.66	26.66	338.41	255.40	83.01	4.077		
8,300.00	5,605.00	8,154.44	5,530.00	44.21	43.39	77.20	2,643.66	26.66	338.40	252.77	85.63	3.952		
8,400.00	5,605.00	8,254.44	5,530.00	45.56	44.74	77.20	2,743.66	26.67	338.40	250.12	88.28	3.833		
8,500.00	5,605.00	8,354.44	5,530.00	46.91	46.10	77.20	2,843.66	26.67	338.40	247.46	90.93	3.721		
8,600.00	5,605.00	8,454.44	5,530.00	48.27	47.47	77.19	2,943.66	26.67	338.40	244.79	93.60	3.615		
8,700.00	5,605.00	8,554.44	5,530.00	49.64	48.84	77.19	3,043.66	26.67	338.39	242.11	96.29	3.514		
8,800.00	5,605.00	8,654.44	5,530.00	51.01	50.22	77.19	3,143.66	26.68	338.39	239.41	98.98	3.419		
8,900.00	5,605.00	8,754.44	5,530.00	52.39	51.61	77.19	3,243.66	26.68	338.39	236.70	101.68	3.328		
9,000.00	5,605.00	8,854.44	5,530.00	53.77	53.00	77.19	3,343.66	26.68	338.38	233.99	104.40	3.241		
9,100.00	5,605.00	8,954.44	5,530.00	55.16	54.39	77.19	3,443.66	26.69	338.38	231.26	107.12	3.159		
9,200.00	5,605.00	9,054.44	5,530.00	56.55	55.79	77.19	3,543.66	26.69	338.38	228.53	109.85	3.080		
9,300.00	5,605.00	9,154.44	5,530.00	57.95	57.19	77.19	3,643.66	26.69	338.38	225.79	112.59	3.005		
9,400.00	5,605.00	9,254.44	5,530.00	59.35	58.59	77.19	3,743.66	26.70	338.37	223.04	115.33	2.934		
9,500.00	5,605.00	9,354.44	5,530.00	60.75	60.00	77.19	3,843.66	26.70	338.37	220.29	118.08	2.866		
9,600.00	5,605.00	9,454.44	5,530.00	62.15	61.41	77.19	3,943.66	26.70	338.37	217.53	120.84	2.800		
9,700.00	5,605.00	9,554.44	5,530.00	63.56	62.83	77.19	4,043.66	26.71	338.37	214.76	123.60	2.737		
9,800.00	5,605.00	9,654.44	5,530.00	64.97	64.24	77.19	4,143.66	26.71	338.36	211.99	126.37	2.677		
9,900.00	5,605.00	9,754.44	5,530.00	66.39	65.66	77.19	4,243.66	26.71	338.36	209.21	129.15	2.620		
10,000.00	5,605.00	9,854.44	5,530.00	67.80	67.08	77.19	4,343.66	26.72	338.36	206.43	131.92	2.565		
10,100.00	5,605.00	9,954.44	5,530.00	69.22	68.51	77.19	4,443.66	26.72	338.36	203.65	134.71	2.512		
10,200.00	5,605.00	10,054.44	5,530.00	70.64	69.93	77.19	4,543.66	26.72	338.35	200.86	137.49	2.461		
10,300.00	5,605.00	10,154.44	5,530.00	72.07	71.36	77.19	4,643.66	26.73	338.35	198.07	140.28	2.412		

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-2410
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-2410	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	5,605.00	10,254.44	5,530.00	73.49	72.79	77.19	4,743.66	26.73	338.35	195.27	143.08	2.365		
10,500.00	5,605.00	10,354.44	5,530.00	74.92	74.22	77.19	4,843.66	26.73	338.34	192.47	145.87	2.319		
10,600.00	5,605.00	10,454.44	5,530.00	76.35	75.65	77.19	4,943.66	26.74	338.34	189.67	148.68	2.276		
10,700.00	5,605.00	10,554.44	5,530.00	77.78	77.08	77.19	5,043.66	26.74	338.34	186.86	151.48	2.234		
10,800.00	5,605.00	10,654.44	5,530.00	79.21	78.52	77.19	5,143.66	26.74	338.34	184.05	154.28	2.193		
10,900.00	5,605.00	10,754.44	5,530.00	80.64	79.96	77.19	5,243.66	26.75	338.33	181.24	157.09	2.154		
11,000.00	5,605.00	10,854.44	5,530.00	82.08	81.39	77.19	5,343.66	26.75	338.33	178.42	159.91	2.116		
11,100.00	5,605.00	10,954.44	5,530.00	83.51	82.83	77.19	5,443.66	26.75	338.33	175.61	162.72	2.079		
11,200.00	5,605.00	11,054.44	5,530.00	84.95	84.27	77.19	5,543.66	26.76	338.33	172.79	165.54	2.044		
11,300.00	5,605.00	11,154.44	5,530.00	86.39	85.71	77.19	5,643.66	26.76	338.32	169.97	168.35	2.010		
11,400.00	5,605.00	11,254.44	5,530.00	87.83	87.16	77.19	5,743.66	26.76	338.32	167.14	171.18	1.976		
11,500.00	5,605.00	11,354.44	5,530.00	89.27	88.60	77.19	5,843.66	26.77	338.32	164.32	174.00	1.944		
11,600.00	5,605.00	11,454.44	5,530.00	90.71	90.04	77.19	5,943.66	26.77	338.31	161.49	176.82	1.913		
11,700.00	5,605.00	11,554.44	5,530.00	92.15	91.49	77.19	6,043.66	26.77	338.31	158.66	179.65	1.883		
11,800.00	5,605.00	11,654.44	5,530.00	93.59	92.93	77.19	6,143.66	26.78	338.31	155.83	182.48	1.854		
11,900.00	5,605.00	11,754.44	5,530.00	95.04	94.38	77.19	6,243.66	26.78	338.31	153.00	185.31	1.826		
12,000.00	5,605.00	11,854.44	5,530.00	96.48	95.83	77.19	6,343.66	26.78	338.30	150.17	188.14	1.798		
12,100.00	5,605.00	11,954.44	5,530.00	97.93	97.27	77.19	6,443.66	26.79	338.30	147.33	190.97	1.771		
12,200.00	5,605.00	12,054.44	5,530.00	99.38	98.72	77.19	6,543.66	26.79	338.30	144.49	193.81	1.746		
12,300.00	5,605.00	12,154.44	5,530.00	100.82	100.17	77.19	6,643.66	26.79	338.30	141.65	196.64	1.720		
12,400.00	5,605.00	12,254.44	5,530.00	102.27	101.62	77.19	6,743.66	26.79	338.29	138.81	199.48	1.696		
12,500.00	5,605.00	12,354.44	5,530.00	103.72	103.07	77.19	6,843.66	26.80	338.29	135.97	202.32	1.672		
12,600.00	5,605.00	12,454.44	5,530.00	105.17	104.52	77.19	6,943.66	26.80	338.29	133.13	205.16	1.649		
12,700.00	5,605.00	12,554.44	5,530.00	106.62	105.98	77.19	7,043.66	26.80	338.28	130.29	208.00	1.626		
12,800.00	5,605.00	12,654.44	5,530.00	108.07	107.43	77.19	7,143.66	26.81	338.28	127.44	210.84	1.604		
12,900.00	5,605.00	12,754.44	5,530.00	109.52	108.88	77.19	7,243.66	26.81	338.28	124.60	213.68	1.583		
13,000.00	5,605.00	12,854.44	5,530.00	110.97	110.33	77.19	7,343.66	26.81	338.28	121.75	216.52	1.562		
13,100.00	5,605.00	12,954.44	5,530.00	112.42	111.79	77.19	7,443.66	26.82	338.27	118.90	219.37	1.542		
13,200.00	5,605.00	13,054.44	5,530.00	113.88	113.24	77.19	7,543.66	26.82	338.27	116.06	222.21	1.522		
13,300.00	5,605.00	13,154.44	5,530.00	115.33	114.70	77.19	7,643.66	26.82	338.27	113.21	225.06	1.503		
13,400.00	5,605.00	13,254.44	5,530.00	116.78	116.15	77.19	7,743.66	26.83	338.27	110.36	227.91	1.484	Level 3	
13,500.00	5,605.00	13,354.44	5,530.00	118.24	117.61	77.19	7,843.66	26.83	338.26	107.51	230.76	1.466	Level 3	
13,600.00	5,605.00	13,454.44	5,530.00	119.69	119.06	77.19	7,943.66	26.83	338.26	104.65	233.61	1.448	Level 3	
13,700.00	5,605.00	13,554.44	5,530.00	121.14	120.52	77.19	8,043.66	26.84	338.26	101.80	236.46	1.431	Level 3	
13,800.00	5,605.00	13,654.44	5,530.00	122.60	121.98	77.19	8,143.66	26.84	338.25	98.95	239.31	1.413	Level 3	
13,900.00	5,605.00	13,754.44	5,530.00	124.06	123.43	77.19	8,243.66	26.84	338.25	96.09	242.16	1.397	Level 3	
14,000.00	5,605.00	13,854.44	5,530.00	125.51	124.89	77.19	8,343.66	26.85	338.25	93.24	245.01	1.381	Level 3	
14,100.00	5,605.00	13,954.44	5,530.00	126.97	126.35	77.19	8,443.66	26.85	338.25	90.38	247.86	1.365	Level 3	
14,200.00	5,605.00	14,054.44	5,530.00	128.42	127.81	77.19	8,543.66	26.85	338.24	87.53	250.72	1.349	Level 3	
14,300.00	5,605.00	14,154.44	5,530.00	129.88	129.27	77.19	8,643.66	26.86	338.24	84.67	253.57	1.334	Level 3	
14,400.00	5,605.00	14,254.44	5,530.00	131.34	130.72	77.19	8,743.66	26.86	338.24	81.81	256.42	1.319	Level 3	
14,500.00	5,605.00	14,354.44	5,530.00	132.80	132.18	77.19	8,843.66	26.86	338.24	78.96	259.28	1.305	Level 3	
14,600.00	5,605.00	14,454.44	5,530.00	134.25	133.64	77.19	8,943.66	26.87	338.23	76.10	262.14	1.290	Level 3	
14,700.00	5,605.00	14,554.44	5,530.00	135.71	135.10	77.19	9,043.66	26.87	338.23	73.24	264.99	1.276	Level 3	
14,800.00	5,605.00	14,654.44	5,530.00	137.17	136.56	77.19	9,143.66	26.87	338.23	70.38	267.85	1.263	Level 3	
14,900.00	5,605.00	14,754.44	5,530.00	138.63	138.02	77.19	9,243.66	26.88	338.23	67.52	270.71	1.249	Level 2	
15,000.00	5,605.00	14,854.44	5,530.00	140.09	139.48	77.19	9,343.66	26.88	338.22	64.66	273.56	1.236	Level 2	
15,100.00	5,605.00	14,954.44	5,530.00	141.55	140.94	77.19	9,443.66	26.88	338.22	61.80	276.42	1.224	Level 2	
15,200.00	5,605.00	15,054.44	5,530.00	143.01	142.40	77.19	9,543.66	26.89	338.22	58.94	279.28	1.211	Level 2	
15,300.00	5,605.00	15,154.44	5,530.00	144.47	143.87	77.19	9,643.66	26.89	338.21	56.07	282.14	1.199	Level 2	
15,400.00	5,605.00	15,254.44	5,530.00	145.93	145.33	77.19	9,743.66	26.89	338.21	53.21	285.00	1.187	Level 2	
15,500.00	5,605.00	15,354.44	5,530.00	147.39	146.79	77.19	9,843.66	26.90	338.21	50.35	287.86	1.175	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-2410
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-2410	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,600.00	5,605.00	15,454.44	5,530.00	148.85	148.25	77.19	9,943.66	26.90	338.21	47.49	290.72	1.163	Level 2
15,700.00	5,605.00	15,554.44	5,530.00	150.31	149.71	77.19	10,043.66	26.90	338.20	44.62	293.58	1.152	Level 2
15,799.97	5,605.00	15,654.41	5,530.00	151.77	151.17	77.19	10,143.63	26.91	338.20	41.76	296.44	1.141	Level 2
15,801.18	5,605.00	15,655.61	5,530.00	151.79	151.19	77.19	10,144.84	26.91	338.20	41.72	296.48	1.141	Level 2, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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		
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	398.24	398.22	1.12	1.11	-140.09	-0.97	61.36	62.73	60.49	2.23	28.094		
500.00	499.84	496.04	495.89	1.43	1.42	-140.31	-3.85	65.48	70.94	68.08	2.86	24.840		
600.00	599.45	593.99	593.51	1.75	1.76	-140.69	-8.45	72.06	84.30	80.77	3.53	23.892		
700.00	698.90	692.83	691.97	2.09	2.14	-141.56	-13.39	79.11	99.44	95.26	4.19	23.754		
800.00	798.36	791.67	790.43	2.44	2.53	-142.20	-18.33	86.17	114.60	109.73	4.86	23.556		
900.00	897.81	890.51	888.89	2.80	2.92	-142.68	-23.27	93.22	129.76	124.21	5.56	23.349		
1,000.00	997.26	989.34	987.36	3.16	3.33	-143.07	-28.22	100.28	144.94	138.68	6.26	23.155		
1,100.00	1,096.71	1,088.18	1,085.82	3.53	3.73	-143.38	-33.16	107.34	160.11	153.15	6.97	22.979		
1,200.00	1,196.17	1,187.02	1,184.28	3.90	4.14	-143.64	-38.10	114.39	175.30	167.62	7.68	22.822		
1,300.00	1,295.62	1,285.86	1,282.74	4.27	4.55	-143.86	-43.04	121.45	190.48	182.08	8.40	22.682		
1,400.00	1,395.07	1,384.70	1,381.20	4.64	4.96	-144.05	-47.98	128.51	205.67	196.55	9.12	22.557		
1,500.00	1,494.52	1,483.53	1,479.67	5.01	5.37	-144.21	-52.92	135.56	220.86	211.02	9.84	22.446		
1,600.00	1,593.97	1,582.37	1,578.13	5.38	5.79	-144.34	-57.86	142.62	236.05	225.49	10.56	22.347		
1,700.00	1,693.43	1,681.21	1,676.59	5.76	6.20	-144.47	-62.80	149.68	251.24	239.95	11.29	22.258		
1,800.00	1,792.88	1,780.05	1,775.05	6.13	6.62	-144.58	-67.74	156.73	266.43	254.42	12.01	22.178		
1,900.00	1,892.33	1,878.89	1,873.51	6.51	7.03	-144.67	-72.68	163.79	281.63	268.89	12.74	22.105		
2,000.00	1,991.78	1,977.72	1,971.97	6.88	7.45	-144.76	-77.63	170.85	296.82	283.35	13.47	22.039		
2,100.00	2,091.23	2,076.56	2,070.44	7.25	7.86	-144.84	-82.57	177.90	312.02	297.82	14.20	21.979		
2,200.00	2,190.69	2,175.40	2,168.90	7.63	8.28	-144.91	-87.51	184.96	327.21	312.29	14.93	21.924		
2,300.00	2,290.14	2,274.24	2,267.36	8.00	8.69	-144.97	-92.45	192.01	342.41	326.75	15.65	21.873		
2,400.00	2,389.59	2,373.08	2,365.82	8.38	9.11	-145.03	-97.39	199.07	357.61	341.22	16.38	21.826		
2,500.00	2,489.04	2,471.91	2,464.28	8.75	9.53	-145.09	-102.33	206.13	372.80	355.69	17.11	21.783		
2,600.00	2,588.50	2,570.75	2,562.75	9.13	9.94	-145.14	-107.27	213.18	388.00	370.15	17.85	21.743		
2,700.00	2,687.95	2,669.59	2,661.21	9.51	10.36	-145.18	-112.21	220.24	403.20	384.62	18.58	21.705		
2,800.00	2,787.40	2,768.43	2,759.67	9.88	10.78	-145.23	-117.15	227.30	418.39	399.09	19.31	21.671		
2,900.00	2,886.85	2,867.27	2,858.13	10.26	11.19	-145.27	-122.09	234.35	433.59	413.55	20.04	21.638		
3,000.00	2,986.30	2,966.10	2,956.59	10.63	11.61	-145.30	-127.03	241.41	448.79	428.02	20.77	21.608		
3,100.00	3,085.76	3,064.94	3,055.05	11.01	12.03	-145.34	-131.98	248.47	463.99	442.49	21.50	21.580		
3,200.00	3,185.21	3,163.78	3,153.52	11.38	12.45	-145.37	-136.92	255.52	479.19	456.95	22.23	21.553		
3,300.00	3,284.66	3,262.62	3,251.98	11.76	12.86	-145.40	-141.86	262.58	494.39	471.42	22.96	21.528		
3,400.00	3,384.11	3,361.46	3,350.44	12.14	13.28	-145.43	-146.80	269.64	509.58	485.89	23.70	21.504		
3,500.00	3,483.57	3,460.29	3,448.90	12.51	13.70	-145.46	-151.74	276.69	524.78	500.35	24.43	21.482		
3,600.00	3,583.02	3,559.13	3,547.36	12.89	14.11	-145.48	-156.68	283.75	539.98	514.82	25.16	21.461		
3,700.00	3,682.47	3,657.97	3,645.83	13.26	14.53	-145.51	-161.62	290.80	555.18	529.29	25.89	21.440		
3,800.00	3,781.92	3,756.81	3,744.29	13.64	14.95	-145.53	-166.56	297.86	570.38	543.75	26.63	21.421		
3,900.00	3,881.37	3,855.65	3,842.75	14.02	15.37	-145.55	-171.50	304.92	585.58	558.22	27.36	21.403		
4,000.00	3,980.83	3,954.48	3,941.21	14.39	15.78	-145.57	-176.44	311.97	600.78	572.69	28.09	21.386		
4,100.00	4,080.28	4,053.32	4,039.68	14.76	16.20	-145.61	-181.38	319.03	615.96	587.14	28.83	21.369		
4,200.00	4,179.92	4,152.40	4,138.37	15.02	16.62	-145.67	-186.34	326.10	629.45	599.94	29.51	21.332		
4,300.00	4,279.80	4,251.79	4,237.38	15.26	17.04	-145.73	-191.31	333.20	640.08	609.92	30.17	21.218		
4,400.00	4,379.79	4,351.36	4,336.58	15.53	17.46	84.82	-196.28	340.31	647.89	617.06	30.83	21.013		
4,500.00	4,479.79	4,451.19	4,436.02	15.79	17.88	85.31	-201.27	347.44	654.59	623.12	31.47	20.803		
4,600.00	4,579.79	4,572.48	4,557.04	16.05	18.25	85.75	-205.84	353.96	659.66	627.59	32.06	20.573		
4,700.00	4,679.79	4,694.23	4,678.75	16.31	18.56	85.91	-207.46	356.28	661.46	628.81	32.65	20.258		
4,800.00	4,779.79	4,795.26	4,779.79	16.58	18.81	85.91	-207.47	356.28	661.47	628.27	33.20	19.927		
4,900.00	4,879.79	4,895.26	4,879.79	16.84	19.05	85.91	-207.47	356.28	661.47	627.75	33.72	19.615		
5,000.00	4,979.79	4,995.26	4,979.79	17.11	19.29	85.91	-207.47	356.28	661.47	627.21	34.25	19.312		
5,099.99	5,079.78	5,095.25	5,079.78	17.39	19.53	85.91	-207.47	356.28	661.47	626.68	34.79	19.014		

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-2410
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-2410	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	5,179.25	5,187.34	5,171.45	17.65	19.71	85.97	-200.10	356.28	661.42	626.19	35.23	18.775		
5,300.00	5,275.22	5,279.29	5,260.27	17.88	19.80	86.17	-176.78	356.28	661.26	625.73	35.52	18.614		
5,400.00	5,364.16	5,371.69	5,344.01	18.07	19.82	86.50	-138.01	356.28	661.01	625.24	35.78	18.477		
5,500.00	5,442.82	5,464.78	5,420.12	18.23	19.81	86.95	-84.62	356.29	660.71	624.68	36.04	18.334		
5,600.00	5,508.30	5,558.79	5,486.10	18.35	19.77	87.51	-17.85	356.29	660.40	623.97	36.44	18.125		
5,700.00	5,558.19	5,653.92	5,539.59	18.44	19.75	88.16	60.68	356.29	660.12	623.02	37.10	17.795		
5,800.00	5,590.66	5,750.00	5,578.21	18.52	19.91	88.87	148.50	356.29	659.90	621.79	38.11	17.316		
5,900.00	5,604.52	5,848.39	5,600.39	18.75	20.92	89.64	244.21	356.30	659.78	620.25	39.53	16.692		
5,969.82	5,606.48	5,917.83	5,605.00	19.05	21.87	89.87	313.44	356.30	659.77	618.99	40.78	16.180		
6,000.00	5,605.00	5,948.04	5,605.00	19.18	22.33	90.00	343.65	356.30	659.77	618.39	41.38	15.944		
6,100.00	5,605.00	6,048.04	5,605.00	19.74	23.99	90.00	443.65	356.31	659.76	616.14	43.62	15.124		
6,200.00	5,605.00	6,148.04	5,605.00	20.38	25.84	90.00	543.65	356.31	659.76	613.59	46.17	14.289		
6,300.00	5,605.00	6,248.04	5,605.00	21.11	27.86	90.00	643.65	356.31	659.76	610.77	48.99	13.468		
6,400.00	5,605.00	6,348.04	5,605.00	21.92	30.02	90.00	743.65	356.32	659.76	607.74	52.02	12.683		
6,500.00	5,605.00	6,448.04	5,605.00	22.78	32.28	90.00	843.65	356.32	659.76	604.52	55.23	11.945		
6,600.00	5,605.00	6,548.04	5,605.00	23.71	34.63	90.00	943.65	356.33	659.75	601.15	58.60	11.258		
6,700.00	5,605.00	6,648.04	5,605.00	24.69	37.06	90.00	1,043.65	356.33	659.75	597.66	62.10	10.625		
6,800.00	5,605.00	6,748.04	5,605.00	25.71	39.54	90.00	1,143.65	356.33	659.75	594.05	65.70	10.042		
6,900.00	5,605.00	6,848.04	5,605.00	26.78	42.08	90.00	1,243.65	356.34	659.75	590.36	69.39	9.508		
7,000.00	5,605.00	6,948.04	5,605.00	27.88	44.65	90.00	1,343.65	356.34	659.75	586.59	73.16	9.018		
7,100.00	5,605.00	7,048.04	5,605.00	29.02	47.26	90.00	1,443.65	356.35	659.74	582.75	77.00	8.568		
7,200.00	5,605.00	7,148.04	5,605.00	30.18	49.90	90.00	1,543.65	356.35	659.74	578.85	80.89	8.156		
7,300.00	5,605.00	7,248.04	5,605.00	31.37	52.57	90.00	1,643.65	356.35	659.74	574.90	84.84	7.776		
7,400.00	5,605.00	7,348.04	5,605.00	32.59	55.25	90.00	1,743.65	356.36	659.74	570.91	88.83	7.427		
7,500.00	5,605.00	7,448.04	5,605.00	33.82	57.96	90.00	1,843.65	356.36	659.73	566.88	92.85	7.105		
7,600.00	5,605.00	7,548.04	5,605.00	35.07	60.68	90.00	1,943.65	356.36	659.73	562.82	96.91	6.807		
7,700.00	5,605.00	7,648.04	5,605.00	36.34	63.41	90.00	2,043.65	356.37	659.73	558.73	101.01	6.532		
7,800.00	5,605.00	7,748.04	5,605.00	37.62	66.16	90.00	2,143.65	356.37	659.73	554.61	105.12	6.276		
7,900.00	5,605.00	7,848.04	5,605.00	38.92	68.92	90.00	2,243.65	356.38	659.73	550.46	109.26	6.038		
8,000.00	5,605.00	7,948.04	5,605.00	40.23	71.68	90.00	2,343.65	356.38	659.72	546.30	113.43	5.816		
8,100.00	5,605.00	8,048.04	5,605.00	41.55	74.46	90.00	2,443.65	356.38	659.72	542.12	117.61	5.610		
8,200.00	5,605.00	8,148.04	5,605.00	42.87	77.24	90.00	2,543.65	356.39	659.72	537.92	121.80	5.416		
8,300.00	5,605.00	8,248.04	5,605.00	44.21	80.03	90.00	2,643.65	356.39	659.72	533.70	126.02	5.235		
8,400.00	5,605.00	8,348.04	5,605.00	45.56	82.83	90.00	2,743.65	356.40	659.72	529.47	130.25	5.065		
8,500.00	5,605.00	8,448.04	5,605.00	46.91	85.63	90.00	2,843.65	356.40	659.71	525.23	134.49	4.905		
8,600.00	5,605.00	8,548.04	5,605.00	48.27	88.43	90.00	2,943.65	356.40	659.71	520.97	138.74	4.755		
8,700.00	5,605.00	8,648.04	5,605.00	49.64	91.24	90.00	3,043.65	356.41	659.71	516.71	143.00	4.613		
8,800.00	5,605.00	8,748.04	5,605.00	51.01	94.06	90.00	3,143.65	356.41	659.71	512.43	147.27	4.480		
8,900.00	5,605.00	8,848.04	5,605.00	52.39	96.88	90.00	3,243.65	356.42	659.71	508.15	151.55	4.353		
9,000.00	5,605.00	8,948.04	5,605.00	53.77	99.70	90.00	3,343.65	356.42	659.70	503.86	155.84	4.233		
9,100.00	5,605.00	9,048.04	5,605.00	55.16	102.53	90.00	3,443.65	356.42	659.70	499.56	160.14	4.120		
9,200.00	5,605.00	9,148.04	5,605.00	56.55	105.35	90.00	3,543.65	356.43	659.70	495.26	164.44	4.012		
9,300.00	5,605.00	9,248.04	5,605.00	57.95	108.19	90.00	3,643.65	356.43	659.70	490.94	168.75	3.909		
9,400.00	5,605.00	9,348.04	5,605.00	59.35	111.02	90.00	3,743.65	356.44	659.69	486.63	173.07	3.812		
9,500.00	5,605.00	9,448.04	5,605.00	60.75	113.86	90.00	3,843.65	356.44	659.69	482.30	177.39	3.719		
9,600.00	5,605.00	9,548.04	5,605.00	62.15	116.69	90.00	3,943.65	356.44	659.69	477.97	181.72	3.630		
9,700.00	5,605.00	9,648.04	5,605.00	63.56	119.53	90.00	4,043.65	356.45	659.69	473.64	186.05	3.546		
9,800.00	5,605.00	9,748.04	5,605.00	64.97	122.38	90.00	4,143.65	356.45	659.69	469.30	190.39	3.465		
9,900.00	5,605.00	9,848.04	5,605.00	66.39	125.22	90.00	4,243.65	356.45	659.68	464.96	194.73	3.388		
10,000.00	5,605.00	9,948.04	5,605.00	67.80	128.07	90.00	4,343.65	356.46	659.68	460.61	199.07	3.314		
10,100.00	5,605.00	10,048.04	5,605.00	69.22	130.91	90.00	4,443.65	356.46	659.68	456.26	203.42	3.243		
10,200.00	5,605.00	10,148.04	5,605.00	70.64	133.76	90.00	4,543.65	356.47	659.68	451.91	207.77	3.175		

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 #25O-2410
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-2410	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
10,300.00	5,605.00	10,248.04	5,605.00	72.07	136.61	90.00	4,643.65	356.47	659.68	447.55	212.12	3.110	
10,400.00	5,605.00	10,348.04	5,605.00	73.49	139.46	90.00	4,743.65	356.47	659.67	443.19	216.48	3.047	
10,500.00	5,605.00	10,448.04	5,605.00	74.92	142.31	90.00	4,843.65	356.48	659.67	438.83	220.84	2.987	
10,600.00	5,605.00	10,548.04	5,605.00	76.35	145.17	90.00	4,943.65	356.48	659.67	434.46	225.20	2.929	
10,700.00	5,605.00	10,648.04	5,605.00	77.78	148.02	90.00	5,043.65	356.49	659.67	430.10	229.57	2.873	
10,800.00	5,605.00	10,748.04	5,605.00	79.21	150.88	90.00	5,143.65	356.49	659.67	425.73	233.94	2.820	
10,900.00	5,605.00	10,848.04	5,605.00	80.64	153.73	90.00	5,243.65	356.49	659.66	421.35	238.31	2.768	
11,000.00	5,605.00	10,948.04	5,605.00	82.08	156.59	90.00	5,343.65	356.50	659.66	416.98	242.68	2.718	
11,100.00	5,605.00	11,048.04	5,605.00	83.51	159.45	90.00	5,443.65	356.50	659.66	412.60	247.06	2.670	
11,200.00	5,605.00	11,148.04	5,605.00	84.95	162.31	90.00	5,543.65	356.51	659.66	408.22	251.43	2.624	
11,300.00	5,605.00	11,248.04	5,605.00	86.39	165.17	90.00	5,643.65	356.51	659.65	403.84	255.81	2.579	
11,400.00	5,605.00	11,348.04	5,605.00	87.83	168.03	90.00	5,743.65	356.51	659.65	399.46	260.19	2.535	
11,500.00	5,605.00	11,448.04	5,605.00	89.27	170.89	90.00	5,843.65	356.52	659.65	395.08	264.57	2.493	
11,600.00	5,605.00	11,548.04	5,605.00	90.71	173.75	90.00	5,943.65	356.52	659.65	390.69	268.96	2.453	
11,700.00	5,605.00	11,648.04	5,605.00	92.15	176.61	90.00	6,043.65	356.52	659.65	386.30	273.34	2.413	
11,800.00	5,605.00	11,748.04	5,605.00	93.59	179.47	90.00	6,143.65	356.53	659.64	381.92	277.73	2.375	
11,900.00	5,605.00	11,848.04	5,605.00	95.04	182.34	90.00	6,243.65	356.53	659.64	377.53	282.12	2.338	
12,000.00	5,605.00	11,948.04	5,605.00	96.48	185.20	90.00	6,343.65	356.54	659.64	373.14	286.50	2.302	
12,100.00	5,605.00	12,048.04	5,605.00	97.93	188.07	90.00	6,443.65	356.54	659.64	368.74	290.90	2.268	
12,200.00	5,605.00	12,148.04	5,605.00	99.38	190.93	90.00	6,543.65	356.54	659.64	364.35	295.29	2.234	
12,300.00	5,605.00	12,248.04	5,605.00	100.82	193.80	90.00	6,643.65	356.55	659.63	359.95	299.68	2.201	
12,400.00	5,605.00	12,348.04	5,605.00	102.27	196.66	90.00	6,743.65	356.55	659.63	355.56	304.07	2.169	
12,500.00	5,605.00	12,448.04	5,605.00	103.72	199.53	90.00	6,843.65	356.56	659.63	351.16	308.47	2.138	
12,600.00	5,605.00	12,548.04	5,605.00	105.17	202.39	90.00	6,943.65	356.56	659.63	346.76	312.86	2.108	
12,700.00	5,605.00	12,648.04	5,605.00	106.62	205.26	90.00	7,043.65	356.56	659.63	342.36	317.26	2.079	
12,800.00	5,605.00	12,748.04	5,605.00	108.07	208.13	90.00	7,143.65	356.57	659.62	337.97	321.66	2.051	
12,900.00	5,605.00	12,848.04	5,605.00	109.52	211.00	90.00	7,243.65	356.57	659.62	333.56	326.06	2.023	
13,000.00	5,605.00	12,948.04	5,605.00	110.97	213.86	90.00	7,343.65	356.58	659.62	329.16	330.46	1.996	
13,100.00	5,605.00	13,048.04	5,605.00	112.42	216.73	90.00	7,443.65	356.58	659.62	324.76	334.86	1.970	
13,200.00	5,605.00	13,148.04	5,605.00	113.88	219.60	90.00	7,543.65	356.58	659.61	320.36	339.26	1.944	
13,300.00	5,605.00	13,248.04	5,605.00	115.33	222.47	90.00	7,643.65	356.59	659.61	315.95	343.66	1.919	
13,400.00	5,605.00	13,348.04	5,605.00	116.78	225.34	90.00	7,743.65	356.59	659.61	311.55	348.06	1.895	
13,500.00	5,605.00	13,448.04	5,605.00	118.24	228.21	90.00	7,843.65	356.60	659.61	307.14	352.46	1.871	
13,600.00	5,605.00	13,548.04	5,605.00	119.69	231.08	90.00	7,943.65	356.60	659.61	302.74	356.87	1.848	
13,700.00	5,605.00	13,648.04	5,605.00	121.14	233.95	90.00	8,043.65	356.60	659.60	298.33	361.27	1.826	
13,800.00	5,605.00	13,748.04	5,605.00	122.60	236.82	90.00	8,143.65	356.61	659.60	293.92	365.68	1.804	
13,900.00	5,605.00	13,848.04	5,605.00	124.06	239.69	90.00	8,243.65	356.61	659.60	289.52	370.08	1.782	
14,000.00	5,605.00	13,948.04	5,605.00	125.51	242.56	90.00	8,343.65	356.61	659.60	285.11	374.49	1.761	
14,100.00	5,605.00	14,048.04	5,605.00	126.97	245.43	90.00	8,443.65	356.62	659.60	280.70	378.90	1.741	
14,200.00	5,605.00	14,148.04	5,605.00	128.42	248.30	90.00	8,543.65	356.62	659.59	276.29	383.30	1.721	
14,300.00	5,605.00	14,248.04	5,605.00	129.88	251.17	90.00	8,643.65	356.63	659.59	271.88	387.71	1.701	
14,400.00	5,605.00	14,348.04	5,605.00	131.34	254.04	90.00	8,743.65	356.63	659.59	267.47	392.12	1.682	
14,500.00	5,605.00	14,448.04	5,605.00	132.80	256.92	90.00	8,843.65	356.63	659.59	263.06	396.53	1.663	
14,600.00	5,605.00	14,548.04	5,605.00	134.25	259.79	90.00	8,943.65	356.64	659.58	258.65	400.94	1.645	
14,700.00	5,605.00	14,648.04	5,605.00	135.71	262.66	90.00	9,043.65	356.64	659.58	254.23	405.35	1.627	
14,800.00	5,605.00	14,748.04	5,605.00	137.17	265.53	90.00	9,143.65	356.65	659.58	249.82	409.76	1.610	
14,900.00	5,605.00	14,848.04	5,605.00	138.63	268.41	90.00	9,243.65	356.65	659.58	245.41	414.17	1.593	
15,000.00	5,605.00	14,948.04	5,605.00	140.09	271.28	90.00	9,343.65	356.65	659.58	241.00	418.58	1.576	
15,100.00	5,605.00	15,048.04	5,605.00	141.55	274.15	90.00	9,443.65	356.66	659.57	236.58	422.99	1.559	
15,200.00	5,605.00	15,148.04	5,605.00	143.01	277.02	90.00	9,543.65	356.66	659.57	232.17	427.40	1.543	
15,300.00	5,605.00	15,248.04	5,605.00	144.47	279.90	90.00	9,643.65	356.67	659.57	227.75	431.82	1.527	
15,400.00	5,605.00	15,348.04	5,605.00	145.93	282.77	90.00	9,743.65	356.67	659.57	223.34	436.23	1.512	

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-2410
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-2410	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						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	5,605.00	15,448.04	5,605.00	147.39	285.64	90.00	9,843.65	356.67	659.57	218.92	440.64	1.497	Level 3
15,600.00	5,605.00	15,548.04	5,605.00	148.85	288.52	90.00	9,943.65	356.68	659.56	214.51	445.06	1.482	Level 3
15,700.00	5,605.00	15,648.04	5,605.00	150.31	291.39	90.00	10,043.65	356.68	659.56	210.09	449.47	1.467	Level 3
15,799.97	5,605.00	15,748.00	5,605.00	151.77	294.26	90.00	10,143.62	356.68	659.56	205.68	453.88	1.453	Level 3
15,801.18	5,605.00	15,749.21	5,605.00	151.79	294.30	90.00	10,144.83	356.68	659.56	205.62	453.94	1.453	Level 3, SF



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	179.13	-50.60	0.77	50.61					
100.00	100.00	100.00	100.00	0.13	0.13	179.13	-50.60	0.77	50.61	50.34	0.27	190.008		
200.00	200.00	200.00	200.00	0.47	0.47	179.13	-50.60	0.77	50.61	49.67	0.94	53.802		
300.00	300.00	300.00	300.00	0.81	0.81	179.13	-50.60	0.77	50.61	48.99	1.61	31.338		
400.00	399.98	398.68	398.66	1.12	1.11	-51.12	-51.90	-0.32	50.81	48.59	2.22	22.848		
500.00	499.84	497.36	497.20	1.43	1.41	-51.86	-55.81	-3.60	51.42	48.60	2.82	18.257		
600.00	599.45	597.29	596.89	1.75	1.72	-54.32	-61.15	-8.08	51.28	47.82	3.45	14.858		
700.00	698.90	697.22	696.58	2.09	2.05	-58.45	-66.49	-12.56	50.29	46.18	4.11	12.225		
800.00	798.36	797.15	796.26	2.44	2.39	-62.73	-71.83	-17.04	49.58	44.78	4.80	10.335		
900.00	897.81	897.08	895.95	2.80	2.73	-67.10	-77.17	-21.52	49.15	43.66	5.50	8.943		
996.76	994.04	993.77	992.40	3.15	3.07	-71.38	-82.33	-25.86	49.02	42.83	6.18	7.927 CC		
1,000.00	997.26	997.01	995.63	3.16	3.08	-71.52	-82.51	-26.00	49.02	42.81	6.21	7.897		
1,100.00	1,096.71	1,096.93	1,095.32	3.53	3.43	-75.95	-87.85	-30.48	49.17	42.25	6.93	7.100		
1,200.00	1,196.17	1,196.86	1,195.00	3.90	3.78	-80.31	-93.19	-34.96	49.62	41.97	7.65	6.485		
1,300.00	1,295.62	1,296.79	1,294.69	4.27	4.13	-84.58	-98.53	-39.44	50.35	41.97	8.38	6.008		
1,400.00	1,395.07	1,396.72	1,394.37	4.64	4.48	-88.70	-103.87	-43.92	51.35	42.24	9.11	5.636		
1,500.00	1,494.52	1,496.65	1,494.06	5.01	4.84	-92.65	-109.21	-48.40	52.60	42.76	9.84	5.345		
1,600.00	1,593.97	1,596.57	1,593.74	5.38	5.19	-96.39	-114.55	-52.89	54.10	43.53	10.57	5.117		
1,700.00	1,693.43	1,696.50	1,693.42	5.76	5.54	-99.92	-119.89	-57.37	55.81	44.51	11.30	4.940		
1,800.00	1,792.88	1,796.43	1,793.11	6.13	5.90	-103.23	-125.23	-61.85	57.72	45.70	12.02	4.802		
1,900.00	1,892.33	1,896.36	1,892.79	6.51	6.25	-106.32	-130.56	-66.33	59.81	47.07	12.74	4.694		
2,000.00	1,991.78	1,996.29	1,992.48	6.88	6.61	-109.19	-135.90	-70.81	62.06	48.60	13.46	4.612		
2,100.00	2,091.23	2,096.21	2,092.16	7.25	6.97	-111.86	-141.24	-75.29	64.46	50.29	14.17	4.549		
2,200.00	2,190.69	2,196.14	2,191.85	7.63	7.32	-114.32	-146.58	-79.77	66.98	52.10	14.88	4.502		
2,300.00	2,290.14	2,296.07	2,291.53	8.00	7.68	-116.61	-151.92	-84.25	69.62	54.04	15.59	4.467		
2,400.00	2,389.59	2,396.00	2,391.22	8.38	8.03	-118.72	-157.26	-88.73	72.37	56.08	16.29	4.443		
2,500.00	2,489.04	2,495.93	2,490.90	8.75	8.39	-120.68	-162.60	-93.21	75.20	58.21	16.99	4.426		
2,600.00	2,588.50	2,595.85	2,590.59	9.13	8.75	-122.50	-167.94	-97.69	78.12	60.43	17.69	4.416		
2,700.00	2,687.95	2,695.78	2,690.27	9.51	9.10	-124.18	-173.28	-102.17	81.11	62.72	18.39	4.411		
2,800.00	2,787.40	2,795.71	2,789.96	9.88	9.46	-125.74	-178.62	-106.65	84.16	65.07	19.09	4.410		
2,900.00	2,886.85	2,895.64	2,889.64	10.26	9.81	-127.19	-183.96	-111.13	87.27	67.49	19.78	4.412		
3,000.00	2,986.30	2,995.57	2,989.32	10.63	10.17	-128.54	-189.30	-115.61	90.44	69.96	20.48	4.417		
3,100.00	3,085.76	3,095.49	3,089.01	11.01	10.53	-129.80	-194.64	-120.09	93.65	72.48	21.17	4.424		
3,200.00	3,185.21	3,195.42	3,188.69	11.38	10.88	-130.98	-199.98	-124.58	96.90	75.04	21.86	4.432		
3,300.00	3,284.66	3,295.35	3,288.38	11.76	11.24	-132.07	-205.32	-129.06	100.19	77.64	22.56	4.442		
3,400.00	3,384.11	3,395.28	3,388.06	12.14	11.60	-133.10	-210.66	-133.54	103.52	80.27	23.25	4.453		
3,500.00	3,483.57	3,493.22	3,485.86	12.51	11.90	-134.71	-214.74	-136.96	107.75	83.88	23.87	4.515		
3,600.00	3,583.02	3,590.63	3,583.25	12.89	12.17	-137.55	-216.25	-138.22	114.11	89.68	24.43	4.670		
3,700.00	3,682.47	3,689.86	3,682.47	13.26	12.46	-140.84	-216.26	-138.23	122.03	97.04	24.99	4.883		
3,800.00	3,781.92	3,789.31	3,781.92	13.64	12.72	-143.74	-216.26	-138.23	130.32	104.79	25.53	5.104		
3,900.00	3,881.37	3,888.76	3,881.37	14.02	12.98	-146.28	-216.26	-138.23	138.90	112.82	26.08	5.326		
4,000.00	3,980.83	3,988.22	3,980.83	14.39	13.25	-148.53	-216.26	-138.23	147.73	121.08	26.64	5.545		
4,100.00	4,080.28	4,087.67	4,080.28	14.76	13.52	-150.53	-216.26	-138.23	156.73	129.53	27.21	5.761		
4,200.00	4,179.92	4,187.31	4,179.92	15.02	13.79	-152.04	-216.26	-138.23	164.08	136.38	27.70	5.924		
4,300.00	4,279.80	4,287.19	4,279.80	15.26	14.07	-152.85	-216.26	-138.23	168.41	140.21	28.20	5.973		
4,400.00	4,379.79	4,387.17	4,379.79	15.53	14.35	76.92	-216.26	-138.23	169.67	140.94	28.73	5.905		
4,500.00	4,479.79	4,487.17	4,479.79	15.79	14.63	76.92	-216.26	-138.23	169.67	140.38	29.29	5.794		
4,600.00	4,579.79	4,587.17	4,579.79	16.05	14.92	76.92	-216.26	-138.23	169.67	139.83	29.84	5.685		
4,700.00	4,679.79	4,687.17	4,679.79	16.31	15.20	76.92	-216.26	-138.23	169.67	139.26	30.41	5.580		
4,800.00	4,779.79	4,787.17	4,779.79	16.58	15.49	76.92	-216.26	-138.23	169.67	138.69	30.98	5.478		
4,900.00	4,879.79	4,887.17	4,879.79	16.84	15.78	76.92	-216.26	-138.23	169.67	138.12	31.55	5.378		
5,000.00	4,979.79	4,987.17	4,979.79	17.11	16.08	76.92	-216.26	-138.23	169.67	137.55	32.12	5.282		

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-2410
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-2410	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	5,079.78	5,087.16	5,079.78	17.39	16.37	76.92	-216.26	-138.23	169.67	136.97	32.70	5.188		
5,200.00	5,179.25	5,186.64	5,179.25	17.65	16.66	79.99	-216.26	-138.23	167.90	134.61	33.30	5.042		
5,300.00	5,275.22	5,281.98	5,274.41	17.88	16.94	87.85	-212.03	-138.23	165.39	131.37	34.01	4.862		
5,325.95	5,299.11	5,306.97	5,299.12	17.93	17.01	90.00	-208.25	-138.23	165.26	131.07	34.20	4.833		
5,400.00	5,364.16	5,380.00	5,369.89	18.07	17.21	96.16	-190.51	-138.23	166.29	131.63	34.66	4.798		
5,500.00	5,442.82	5,483.01	5,464.02	18.23	17.48	104.21	-149.07	-138.24	170.80	135.78	35.02	4.878		
5,600.00	5,508.30	5,591.70	5,552.45	18.35	17.73	111.48	-86.22	-138.24	178.24	143.27	34.97	5.097		
5,700.00	5,558.19	5,706.53	5,629.58	18.44	17.96	117.62	-1.47	-138.24	187.33	152.72	34.61	5.413		
5,800.00	5,590.66	5,827.58	5,688.75	18.52	18.24	122.42	103.83	-138.24	196.48	162.24	34.24	5.738		
5,900.00	5,604.52	5,954.26	5,722.95	18.75	18.70	125.79	225.48	-138.24	204.11	169.89	34.21	5.966		
6,000.00	5,605.00	6,072.77	5,729.00	19.18	19.25	126.89	343.68	-138.24	206.58	171.78	34.80	5.936		
6,100.00	5,605.00	6,172.77	5,729.00	19.74	19.81	126.89	443.68	-138.24	206.57	170.89	35.68	5.789		
6,200.00	5,605.00	6,272.77	5,729.00	20.38	20.47	126.89	543.68	-138.24	206.56	169.87	36.70	5.629		
6,300.00	5,605.00	6,372.77	5,729.00	21.11	21.20	126.89	643.68	-138.25	206.56	168.71	37.85	5.458		
6,400.00	5,605.00	6,472.77	5,729.00	21.92	22.01	126.89	743.68	-138.25	206.55	167.44	39.11	5.281		
6,500.00	5,605.00	6,572.77	5,729.00	22.78	22.89	126.89	843.68	-138.25	206.55	166.06	40.49	5.101		
6,600.00	5,605.00	6,672.77	5,729.00	23.71	23.82	126.89	943.68	-138.25	206.54	164.58	41.96	4.923		
6,700.00	5,605.00	6,772.77	5,729.00	24.69	24.80	126.90	1,043.68	-138.25	206.53	163.02	43.52	4.746		
6,800.00	5,605.00	6,872.77	5,729.00	25.71	25.84	126.90	1,143.68	-138.25	206.53	161.38	45.15	4.574		
6,900.00	5,605.00	6,972.77	5,729.00	26.78	26.91	126.90	1,243.68	-138.25	206.52	159.67	46.86	4.408		
7,000.00	5,605.00	7,072.77	5,729.00	27.88	28.02	126.90	1,343.68	-138.25	206.52	157.90	48.62	4.247		
7,100.00	5,605.00	7,172.77	5,729.00	29.02	29.16	126.90	1,443.68	-138.26	206.51	156.07	50.45	4.094		
7,200.00	5,605.00	7,272.77	5,729.00	30.18	30.33	126.90	1,543.68	-138.26	206.51	154.19	52.32	3.947		
7,300.00	5,605.00	7,372.77	5,729.00	31.37	31.52	126.90	1,643.68	-138.26	206.50	152.26	54.24	3.807		
7,400.00	5,605.00	7,472.77	5,729.00	32.59	32.74	126.90	1,743.68	-138.26	206.49	150.30	56.19	3.675		
7,500.00	5,605.00	7,572.77	5,729.00	33.82	33.98	126.91	1,843.68	-138.26	206.49	148.30	58.19	3.549		
7,600.00	5,605.00	7,672.77	5,729.00	35.07	35.23	126.91	1,943.68	-138.26	206.48	146.27	60.21	3.429		
7,700.00	5,605.00	7,772.77	5,729.00	36.34	36.51	126.91	2,043.68	-138.26	206.48	144.21	62.27	3.316		
7,800.00	5,605.00	7,872.77	5,729.00	37.62	37.79	126.91	2,143.68	-138.26	206.47	142.12	64.35	3.208		
7,900.00	5,605.00	7,972.77	5,729.00	38.92	39.09	126.91	2,243.68	-138.27	206.46	140.01	66.46	3.107		
8,000.00	5,605.00	8,072.77	5,729.00	40.23	40.40	126.91	2,343.68	-138.27	206.46	137.87	68.59	3.010		
8,100.00	5,605.00	8,172.77	5,729.00	41.55	41.72	126.91	2,443.68	-138.27	206.45	135.72	70.73	2.919		
8,200.00	5,605.00	8,272.77	5,729.00	42.87	43.06	126.91	2,543.68	-138.27	206.45	133.55	72.90	2.832		
8,300.00	5,605.00	8,372.77	5,729.00	44.21	44.40	126.92	2,643.68	-138.27	206.44	131.36	75.08	2.750		
8,400.00	5,605.00	8,472.77	5,729.00	45.56	45.75	126.92	2,743.68	-138.27	206.44	129.16	77.28	2.671		
8,500.00	5,605.00	8,572.77	5,729.00	46.91	47.10	126.92	2,843.68	-138.27	206.43	126.94	79.49	2.597		
8,600.00	5,605.00	8,672.77	5,729.00	48.27	48.46	126.92	2,943.68	-138.28	206.42	124.71	81.71	2.526		
8,700.00	5,605.00	8,772.77	5,729.00	49.64	49.83	126.92	3,043.68	-138.28	206.42	122.47	83.95	2.459		
8,800.00	5,605.00	8,872.77	5,729.00	51.01	51.21	126.92	3,143.68	-138.28	206.41	120.22	86.20	2.395		
8,900.00	5,605.00	8,972.77	5,729.00	52.39	52.59	126.92	3,243.68	-138.28	206.41	117.95	88.45	2.334		
9,000.00	5,605.00	9,072.77	5,729.00	53.77	53.97	126.92	3,343.68	-138.28	206.40	115.68	90.72	2.275		
9,100.00	5,605.00	9,172.77	5,729.00	55.16	55.36	126.93	3,443.68	-138.28	206.39	113.40	92.99	2.219		
9,200.00	5,605.00	9,272.77	5,729.00	56.55	56.75	126.93	3,543.68	-138.28	206.39	111.11	95.27	2.166		
9,300.00	5,605.00	9,372.77	5,729.00	57.95	58.15	126.93	3,643.68	-138.28	206.38	108.82	97.56	2.115		
9,400.00	5,605.00	9,472.77	5,729.00	59.35	59.55	126.93	3,743.68	-138.29	206.38	106.52	99.86	2.067		
9,500.00	5,605.00	9,572.77	5,729.00	60.75	60.96	126.93	3,843.68	-138.29	206.37	104.21	102.16	2.020		
9,600.00	5,605.00	9,672.77	5,729.00	62.15	62.36	126.93	3,943.68	-138.29	206.37	101.89	104.47	1.975		
9,700.00	5,605.00	9,772.77	5,729.00	63.56	63.77	126.93	4,043.68	-138.29	206.36	99.57	106.78	1.932		
9,800.00	5,605.00	9,872.77	5,729.00	64.97	65.19	126.93	4,143.68	-138.29	206.35	97.25	109.10	1.891		
9,900.00	5,605.00	9,972.77	5,729.00	66.39	66.60	126.93	4,243.68	-138.29	206.35	94.92	111.43	1.852		
10,000.00	5,605.00	10,072.77	5,729.00	67.80	68.02	126.94	4,343.68	-138.29	206.34	92.59	113.76	1.814		
10,100.00	5,605.00	10,172.77	5,729.00	69.22	69.44	126.94	4,443.68	-138.29	206.34	90.25	116.09	1.777		

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-2410
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-2410	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	10,272.77	5,729.00	70.64	70.86	126.94	4,543.68	-138.30	206.33	87.90	118.43	1.742		
10,300.00	5,605.00	10,372.77	5,729.00	72.07	72.29	126.94	4,643.68	-138.30	206.32	85.56	120.77	1.708		
10,400.00	5,605.00	10,472.77	5,729.00	73.49	73.71	126.94	4,743.68	-138.30	206.32	83.21	123.11	1.676		
10,500.00	5,605.00	10,572.77	5,729.00	74.92	75.14	126.94	4,843.68	-138.30	206.31	80.85	125.46	1.644		
10,600.00	5,605.00	10,672.77	5,729.00	76.35	76.57	126.94	4,943.68	-138.30	206.31	78.50	127.81	1.614		
10,700.00	5,605.00	10,772.77	5,729.00	77.78	78.00	126.94	5,043.68	-138.30	206.30	76.14	130.16	1.585		
10,800.00	5,605.00	10,872.77	5,729.00	79.21	79.43	126.95	5,143.68	-138.30	206.29	73.77	132.52	1.557		
10,900.00	5,605.00	10,972.77	5,729.00	80.64	80.87	126.95	5,243.68	-138.31	206.29	71.41	134.88	1.529		
11,000.00	5,605.00	11,072.77	5,729.00	82.08	82.30	126.95	5,343.68	-138.31	206.28	69.04	137.24	1.503		
11,100.00	5,605.00	11,172.77	5,729.00	83.51	83.74	126.95	5,443.68	-138.31	206.28	66.67	139.61	1.478 Level 3		
11,200.00	5,605.00	11,272.77	5,729.00	84.95	85.18	126.95	5,543.68	-138.31	206.27	64.30	141.97	1.453 Level 3		
11,300.00	5,605.00	11,372.77	5,729.00	86.39	86.61	126.95	5,643.68	-138.31	206.27	61.92	144.34	1.429 Level 3		
11,400.00	5,605.00	11,472.77	5,729.00	87.83	88.05	126.95	5,743.68	-138.31	206.26	59.55	146.71	1.406 Level 3		
11,500.00	5,605.00	11,572.77	5,729.00	89.27	89.50	126.95	5,843.68	-138.31	206.25	57.17	149.09	1.383 Level 3		
11,600.00	5,605.00	11,672.77	5,729.00	90.71	90.94	126.96	5,943.68	-138.31	206.25	54.79	151.46	1.362 Level 3		
11,700.00	5,605.00	11,772.77	5,729.00	92.15	92.38	126.96	6,043.68	-138.32	206.24	52.41	153.84	1.341 Level 3		
11,800.00	5,605.00	11,872.77	5,729.00	93.59	93.82	126.96	6,143.68	-138.32	206.24	50.02	156.22	1.320 Level 3		
11,900.00	5,605.00	11,972.77	5,729.00	95.04	95.27	126.96	6,243.68	-138.32	206.23	47.64	158.59	1.300 Level 3		
12,000.00	5,605.00	12,072.77	5,729.00	96.48	96.71	126.96	6,343.68	-138.32	206.22	45.25	160.98	1.281 Level 3		
12,100.00	5,605.00	12,172.77	5,729.00	97.93	98.16	126.96	6,443.68	-138.32	206.22	42.86	163.36	1.262 Level 3		
12,200.00	5,605.00	12,272.77	5,729.00	99.38	99.61	126.96	6,543.68	-138.32	206.21	40.47	165.74	1.244 Level 2		
12,300.00	5,605.00	12,372.77	5,729.00	100.82	101.06	126.96	6,643.68	-138.32	206.21	38.08	168.13	1.226 Level 2		
12,400.00	5,605.00	12,472.77	5,729.00	102.27	102.50	126.97	6,743.68	-138.32	206.20	35.69	170.52	1.209 Level 2		
12,500.00	5,605.00	12,572.77	5,729.00	103.72	103.95	126.97	6,843.68	-138.33	206.20	33.29	172.90	1.193 Level 2		
12,600.00	5,605.00	12,672.77	5,729.00	105.17	105.40	126.97	6,943.68	-138.33	206.19	30.90	175.29	1.176 Level 2		
12,700.00	5,605.00	12,772.77	5,729.00	106.62	106.85	126.97	7,043.68	-138.33	206.18	28.50	177.68	1.160 Level 2		
12,800.00	5,605.00	12,872.77	5,729.00	108.07	108.30	126.97	7,143.68	-138.33	206.18	26.10	180.07	1.145 Level 2		
12,900.00	5,605.00	12,972.77	5,729.00	109.52	109.75	126.97	7,243.68	-138.33	206.17	23.70	182.47	1.130 Level 2		
13,000.00	5,605.00	13,072.77	5,729.00	110.97	111.21	126.97	7,343.68	-138.33	206.17	21.31	184.86	1.115 Level 2		
13,100.00	5,605.00	13,172.77	5,729.00	112.42	112.66	126.97	7,443.68	-138.33	206.16	18.91	187.26	1.101 Level 2		
13,200.00	5,605.00	13,272.77	5,729.00	113.88	114.11	126.98	7,543.68	-138.34	206.15	16.50	189.65	1.087 Level 2		
13,300.00	5,605.00	13,372.77	5,729.00	115.33	115.57	126.98	7,643.68	-138.34	206.15	14.10	192.05	1.073 Level 2		
13,400.00	5,605.00	13,472.77	5,729.00	116.78	117.02	126.98	7,743.68	-138.34	206.14	11.70	194.44	1.060 Level 2		
13,500.00	5,605.00	13,572.77	5,729.00	118.24	118.47	126.98	7,843.68	-138.34	206.14	9.30	196.84	1.047 Level 2		
13,600.00	5,605.00	13,672.77	5,729.00	119.69	119.93	126.98	7,943.68	-138.34	206.13	6.89	199.24	1.035 Level 2		
13,700.00	5,605.00	13,772.77	5,729.00	121.14	121.38	126.98	8,043.68	-138.34	206.13	4.49	201.64	1.022 Level 2		
13,800.00	5,605.00	13,872.77	5,729.00	122.60	122.84	126.98	8,143.68	-138.34	206.12	2.08	204.04	1.010 Level 2		
13,900.00	5,605.00	13,972.77	5,729.00	124.06	124.29	126.98	8,243.68	-138.34	206.11	-0.33	206.44	0.998 Level 1		
14,000.00	5,605.00	14,072.77	5,729.00	125.51	125.75	126.99	8,343.68	-138.35	206.11	-2.73	208.84	0.987 Level 1		
14,100.00	5,605.00	14,172.77	5,729.00	126.97	127.21	126.99	8,443.68	-138.35	206.10	-5.14	211.24	0.976 Level 1		
14,200.00	5,605.00	14,272.77	5,729.00	128.42	128.66	126.99	8,543.68	-138.35	206.10	-7.55	213.65	0.965 Level 1		
14,300.00	5,605.00	14,372.77	5,729.00	129.88	130.12	126.99	8,643.68	-138.35	206.09	-9.96	216.05	0.954 Level 1		
14,400.00	5,605.00	14,472.77	5,729.00	131.34	131.58	126.99	8,743.68	-138.35	206.08	-12.37	218.45	0.943 Level 1		
14,500.00	5,605.00	14,572.77	5,729.00	132.80	133.04	126.99	8,843.68	-138.35	206.08	-14.78	220.86	0.933 Level 1		
14,600.00	5,605.00	14,672.77	5,729.00	134.25	134.50	126.99	8,943.68	-138.35	206.07	-17.19	223.26	0.923 Level 1		
14,700.00	5,605.00	14,772.77	5,729.00	135.71	135.95	126.99	9,043.68	-138.35	206.07	-19.60	225.67	0.913 Level 1		
14,800.00	5,605.00	14,872.77	5,729.00	137.17	137.41	126.99	9,143.68	-138.36	206.06	-22.01	228.07	0.903 Level 1		
14,900.00	5,605.00	14,972.77	5,729.00	138.63	138.87	127.00	9,243.68	-138.36	206.06	-24.43	230.48	0.894 Level 1		
15,000.00	5,605.00	15,072.77	5,729.00	140.09	140.33	127.00	9,343.68	-138.36	206.05	-26.84	232.89	0.885 Level 1		
15,100.00	5,605.00	15,172.77	5,729.00	141.55	141.79	127.00	9,443.68	-138.36	206.04	-29.25	235.29	0.876 Level 1		
15,200.00	5,605.00	15,272.77	5,729.00	143.01	143.25	127.00	9,543.68	-138.36	206.04	-31.66	237.70	0.867 Level 1		
15,300.00	5,605.00	15,372.77	5,729.00	144.47	144.71	127.00	9,643.68	-138.36	206.03	-34.08	240.11	0.858 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-2410
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-2410	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								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
15,400.00	5,605.00	15,472.77	5,729.00	145.93	146.17	127.00	9,743.68	-138.36	206.03	-36.49	242.52	0.850	Level 1		
15,500.00	5,605.00	15,572.77	5,729.00	147.39	147.63	127.00	9,843.68	-138.37	206.02	-38.91	244.93	0.841	Level 1		
15,600.00	5,605.00	15,672.77	5,729.00	148.85	149.09	127.00	9,943.68	-138.37	206.01	-41.32	247.34	0.833	Level 1		
15,700.00	5,605.00	15,772.77	5,729.00	150.31	150.55	127.01	10,043.68	-138.37	206.01	-43.74	249.75	0.825	Level 1		
15,799.97	5,605.00	15,872.73	5,729.00	151.77	152.01	127.01	10,143.64	-138.37	206.00	-46.15	252.16	0.817	Level 1		
15,801.18	5,605.00	15,873.94	5,729.00	151.79	152.03	127.01	10,144.85	-138.37	206.00	-46.18	252.19	0.817	Level 1, ES, SF		



WOG

Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	3.00 sigma
Reference Wellbore	HZ	Database:	LandmarkEDM
Reference Design:	APD	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+IFR1+MS+sag													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	148.19	-49.59	30.76	58.36					
100.00	100.00	100.00	100.00	0.13	0.13	148.19	-49.59	30.76	58.36	58.09	0.27	219.099		
200.00	200.00	200.00	200.00	0.47	0.47	148.19	-49.59	30.76	58.36	57.42	0.94	62.039		
300.00	300.00	300.00	300.00	0.81	0.81	148.19	-49.59	30.76	58.36	56.74	1.61	36.135 CC, ES		
400.00	399.98	397.97	397.95	1.12	1.11	-83.63	-50.87	31.84	59.83	57.61	2.22	26.941		
500.00	499.84	496.05	495.90	1.43	1.41	-88.57	-54.67	35.02	64.52	61.70	2.82	22.851		
600.00	599.45	595.48	595.14	1.75	1.71	-95.59	-59.32	38.92	70.98	67.52	3.46	20.529		
700.00	698.90	694.74	694.22	2.09	2.04	-102.70	-63.96	42.82	78.71	74.59	4.12	19.116		
800.00	798.36	794.01	793.31	2.44	2.37	-108.48	-68.60	46.71	87.44	82.65	4.79	18.254		
900.00	897.81	893.28	892.39	2.80	2.71	-113.18	-73.24	50.61	96.89	91.42	5.47	17.710		
1,000.00	997.26	992.54	991.47	3.16	3.05	-117.03	-77.89	54.51	106.87	100.72	6.16	17.360		
1,100.00	1,096.71	1,091.81	1,090.55	3.53	3.39	-120.21	-82.53	58.40	117.25	110.41	6.85	17.130		
1,200.00	1,196.17	1,191.08	1,189.63	3.90	3.73	-122.87	-87.17	62.30	127.93	120.40	7.54	16.976		
1,300.00	1,295.62	1,290.34	1,288.71	4.27	4.08	-125.12	-91.81	66.19	138.85	130.62	8.23	16.873		
1,400.00	1,395.07	1,389.61	1,387.79	4.64	4.42	-127.04	-96.46	70.09	149.94	141.02	8.92	16.805		
1,500.00	1,494.52	1,488.88	1,486.88	5.01	4.77	-128.69	-101.10	73.98	161.17	151.56	9.62	16.759		
1,600.00	1,593.97	1,588.14	1,585.96	5.38	5.12	-130.12	-105.74	77.88	172.53	162.21	10.31	16.729		
1,700.00	1,693.43	1,687.41	1,685.04	5.76	5.47	-131.38	-110.38	81.77	183.97	172.96	11.01	16.711		
1,800.00	1,792.88	1,786.68	1,784.12	6.13	5.81	-132.49	-115.03	85.67	195.49	183.79	11.71	16.701		
1,900.00	1,892.33	1,885.94	1,883.20	6.51	6.16	-133.48	-119.67	89.56	207.08	194.68	12.40	16.697		
2,000.00	1,991.78	1,985.21	1,982.28	6.88	6.51	-134.36	-124.31	93.46	218.72	205.62	13.10	16.697		
2,100.00	2,091.23	2,084.48	2,081.37	7.25	6.86	-135.16	-128.95	97.35	230.41	216.61	13.80	16.700		
2,200.00	2,190.69	2,183.74	2,180.45	7.63	7.21	-135.87	-133.59	101.25	242.14	227.64	14.49	16.705		
2,300.00	2,290.14	2,283.01	2,279.53	8.00	7.56	-136.52	-138.24	105.14	253.90	238.70	15.19	16.712		
2,400.00	2,389.59	2,382.28	2,378.61	8.38	7.90	-137.12	-142.88	109.04	265.69	249.80	15.89	16.719		
2,500.00	2,489.04	2,481.54	2,477.69	8.75	8.25	-137.66	-147.52	112.94	277.50	260.91	16.59	16.728		
2,600.00	2,588.50	2,580.81	2,576.77	9.13	8.60	-138.16	-152.16	116.83	289.34	272.05	17.29	16.737		
2,700.00	2,687.95	2,680.08	2,675.85	9.51	8.95	-138.61	-156.81	120.73	301.20	283.21	17.99	16.746		
2,800.00	2,787.40	2,779.34	2,774.94	9.88	9.30	-139.04	-161.45	124.62	313.07	294.39	18.69	16.755		
2,900.00	2,886.85	2,878.61	2,874.02	10.26	9.65	-139.43	-166.09	128.52	324.96	305.58	19.38	16.765		
3,000.00	2,986.30	2,977.88	2,973.10	10.63	10.00	-139.80	-170.73	132.41	336.87	316.79	20.08	16.774		
3,100.00	3,085.76	3,077.14	3,072.18	11.01	10.35	-140.14	-175.38	136.31	348.79	328.01	20.78	16.783		
3,200.00	3,185.21	3,176.41	3,171.26	11.38	10.70	-140.45	-180.02	140.20	360.72	339.24	21.48	16.792		
3,300.00	3,284.66	3,275.68	3,270.34	11.76	11.05	-140.75	-184.66	144.10	372.66	350.48	22.18	16.801		
3,400.00	3,384.11	3,374.94	3,369.43	12.14	11.40	-141.03	-189.30	147.99	384.61	361.73	22.88	16.810		
3,500.00	3,483.57	3,474.21	3,468.51	12.51	11.75	-141.29	-193.94	151.89	396.56	372.98	23.58	16.818		
3,600.00	3,583.02	3,573.48	3,567.59	12.89	12.10	-141.54	-198.59	155.78	408.53	384.25	24.28	16.827		
3,700.00	3,682.47	3,672.74	3,666.67	13.26	12.45	-141.77	-203.23	159.68	420.50	395.52	24.98	16.835		
3,800.00	3,781.92	3,772.01	3,765.75	13.64	12.80	-141.99	-207.87	163.58	432.48	406.80	25.68	16.842		
3,900.00	3,881.37	3,871.28	3,864.83	14.02	13.15	-142.20	-212.51	167.47	444.46	418.08	26.38	16.850		
4,000.00	3,980.83	3,970.54	3,963.91	14.39	13.50	-142.40	-217.16	171.37	456.45	429.37	27.08	16.857		
4,100.00	4,080.28	4,069.81	4,063.00	14.76	13.85	-142.60	-221.80	175.26	468.43	440.66	27.77	16.866		
4,200.00	4,179.92	4,169.27	4,162.27	15.02	14.20	-142.75	-226.45	179.16	478.78	450.38	28.39	16.863		
4,300.00	4,279.80	4,268.96	4,261.77	15.26	14.55	-142.82	-231.11	183.08	486.36	457.35	29.00	16.770		
4,400.00	4,379.79	4,368.76	4,361.39	15.53	14.90	87.79	-235.78	186.99	491.20	461.57	29.63	16.577		
4,500.00	4,479.79	4,476.80	4,469.28	15.79	15.24	88.30	-240.04	190.57	494.40	464.16	30.24	16.349		
4,600.00	4,579.79	4,587.32	4,579.79	16.05	15.56	88.46	-241.33	191.65	495.33	464.51	30.83	16.069		
4,700.00	4,679.79	4,687.32	4,679.79	16.31	15.82	88.46	-241.33	191.65	495.33	463.97	31.36	15.796		
4,800.00	4,779.79	4,787.32	4,779.79	16.58	16.08	88.46	-241.33	191.65	495.33	463.44	31.89	15.531		
4,900.00	4,879.79	4,887.32	4,879.79	16.84	16.35	88.46	-241.33	191.65	495.33	462.90	32.43	15.273		
5,000.00	4,979.79	4,987.32	4,979.79	17.11	16.62	88.46	-241.33	191.65	495.33	462.36	32.98	15.021		
5,099.99	5,079.78	5,087.31	5,079.78	17.39	16.89	88.46	-241.33	191.65	495.33	461.81	33.53	14.775		

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-2410
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-2410	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	5,179.25	5,186.79	5,179.25	17.65	17.16	89.48	-241.33	191.65	495.17	461.11	34.07	14.535		
5,222.59	5,201.36	5,208.90	5,201.36	17.70	17.22	90.00	-241.33	191.65	495.15	460.97	34.18	14.485		
5,300.00	5,275.22	5,282.76	5,275.22	17.88	17.42	92.47	-241.33	191.65	495.68	461.10	34.58	14.334		
5,400.00	5,364.16	5,379.43	5,371.76	18.07	17.69	96.76	-237.79	191.65	499.43	464.40	35.03	14.256		
5,500.00	5,442.82	5,487.86	5,477.37	18.23	17.96	101.21	-214.09	191.65	506.84	471.48	35.36	14.332		
5,600.00	5,508.30	5,609.48	5,587.06	18.35	18.25	105.50	-162.24	191.66	516.99	481.44	35.55	14.543		
5,700.00	5,558.19	5,747.30	5,693.00	18.44	18.54	109.41	-74.70	191.66	528.19	492.55	35.64	14.819		
5,800.00	5,590.66	5,902.86	5,780.32	18.52	18.90	112.56	53.34	191.67	538.06	502.22	35.84	15.013		
5,900.00	5,604.52	6,073.46	5,828.15	18.75	19.50	114.40	216.31	191.68	543.99	507.56	36.43	14.932		
6,000.00	5,605.00	6,200.96	5,832.00	19.18	20.08	114.63	343.65	191.68	544.70	507.37	37.33	14.593		
6,100.00	5,605.00	6,300.96	5,832.00	19.74	20.65	114.63	443.65	191.69	544.70	506.37	38.33	14.210		
6,200.00	5,605.00	6,400.96	5,832.00	20.38	21.31	114.63	543.65	191.69	544.70	505.20	39.50	13.791		
6,300.00	5,605.00	6,500.96	5,832.00	21.11	22.05	114.63	643.65	191.70	544.70	503.89	40.81	13.347		
6,400.00	5,605.00	6,600.96	5,832.00	21.92	22.86	114.63	743.65	191.70	544.70	502.44	42.26	12.890		
6,500.00	5,605.00	6,700.96	5,832.00	22.78	23.73	114.63	843.65	191.71	544.70	500.87	43.82	12.430		
6,600.00	5,605.00	6,800.96	5,832.00	23.71	24.66	114.63	943.65	191.71	544.69	499.20	45.50	11.972		
6,700.00	5,605.00	6,900.96	5,832.00	24.69	25.64	114.63	1,043.65	191.72	544.69	497.43	47.27	11.524		
6,800.00	5,605.00	7,000.96	5,832.00	25.71	26.66	114.63	1,143.65	191.72	544.69	495.57	49.12	11.089		
6,900.00	5,605.00	7,100.96	5,832.00	26.78	27.73	114.63	1,243.65	191.73	544.69	493.64	51.05	10.669		
7,000.00	5,605.00	7,200.96	5,832.00	27.88	28.83	114.63	1,343.65	191.73	544.69	491.64	53.05	10.267		
7,100.00	5,605.00	7,300.96	5,832.00	29.02	29.96	114.63	1,443.65	191.74	544.69	489.58	55.12	9.883		
7,200.00	5,605.00	7,400.96	5,832.00	30.18	31.12	114.63	1,543.65	191.74	544.69	487.46	57.23	9.518		
7,300.00	5,605.00	7,500.96	5,832.00	31.37	32.31	114.63	1,643.65	191.75	544.69	485.29	59.39	9.171		
7,400.00	5,605.00	7,600.96	5,832.00	32.59	33.52	114.63	1,743.65	191.75	544.69	483.09	61.60	8.842		
7,500.00	5,605.00	7,700.96	5,832.00	33.82	34.75	114.63	1,843.65	191.76	544.69	480.84	63.85	8.531		
7,600.00	5,605.00	7,800.96	5,832.00	35.07	35.99	114.63	1,943.65	191.76	544.69	478.56	66.13	8.237		
7,700.00	5,605.00	7,900.96	5,832.00	36.34	37.26	114.63	2,043.65	191.77	544.69	476.25	68.44	7.959		
7,800.00	5,605.00	8,000.96	5,832.00	37.62	38.54	114.63	2,143.65	191.77	544.68	473.91	70.78	7.696		
7,900.00	5,605.00	8,100.96	5,832.00	38.92	39.83	114.63	2,243.65	191.78	544.68	471.54	73.14	7.447		
8,000.00	5,605.00	8,200.96	5,832.00	40.23	41.13	114.63	2,343.65	191.78	544.68	469.15	75.53	7.211		
8,100.00	5,605.00	8,300.96	5,832.00	41.55	42.45	114.63	2,443.65	191.79	544.68	466.74	77.94	6.988		
8,200.00	5,605.00	8,400.96	5,832.00	42.87	43.77	114.63	2,543.65	191.79	544.68	464.31	80.37	6.777		
8,300.00	5,605.00	8,500.96	5,832.00	44.21	45.10	114.63	2,643.65	191.80	544.68	461.86	82.82	6.577		
8,400.00	5,605.00	8,600.96	5,832.00	45.56	46.45	114.63	2,743.65	191.80	544.68	459.40	85.28	6.387		
8,500.00	5,605.00	8,700.96	5,832.00	46.91	47.80	114.63	2,843.65	191.81	544.68	456.92	87.76	6.207		
8,600.00	5,605.00	8,800.96	5,832.00	48.27	49.15	114.63	2,943.65	191.81	544.68	454.43	90.25	6.035		
8,700.00	5,605.00	8,900.96	5,832.00	49.64	50.52	114.63	3,043.65	191.82	544.68	451.93	92.75	5.873		
8,800.00	5,605.00	9,000.96	5,832.00	51.01	51.89	114.63	3,143.65	191.82	544.68	449.41	95.26	5.718		
8,900.00	5,605.00	9,100.96	5,832.00	52.39	53.26	114.63	3,243.65	191.83	544.67	446.89	97.79	5.570		
9,000.00	5,605.00	9,200.96	5,832.00	53.77	54.64	114.63	3,343.65	191.83	544.67	444.35	100.32	5.429		
9,100.00	5,605.00	9,300.96	5,832.00	55.16	56.02	114.63	3,443.65	191.84	544.67	441.81	102.87	5.295		
9,200.00	5,605.00	9,400.96	5,832.00	56.55	57.41	114.63	3,543.65	191.84	544.67	439.26	105.42	5.167		
9,300.00	5,605.00	9,500.96	5,832.00	57.95	58.81	114.63	3,643.65	191.85	544.67	436.70	107.98	5.044		
9,400.00	5,605.00	9,600.96	5,832.00	59.35	60.20	114.63	3,743.65	191.85	544.67	434.13	110.54	4.927		
9,500.00	5,605.00	9,700.96	5,832.00	60.75	61.60	114.63	3,843.65	191.86	544.67	431.55	113.12	4.815		
9,600.00	5,605.00	9,800.96	5,832.00	62.15	63.00	114.63	3,943.65	191.87	544.67	428.97	115.69	4.708		
9,700.00	5,605.00	9,900.96	5,832.00	63.56	64.41	114.63	4,043.65	191.87	544.67	426.39	118.28	4.605		
9,800.00	5,605.00	10,000.96	5,832.00	64.97	65.82	114.63	4,143.65	191.88	544.67	423.80	120.87	4.506		
9,900.00	5,605.00	10,100.96	5,832.00	66.39	67.23	114.63	4,243.65	191.88	544.67	421.20	123.47	4.411		
10,000.00	5,605.00	10,200.96	5,832.00	67.80	68.65	114.63	4,343.65	191.89	544.67	418.60	126.07	4.320		
10,100.00	5,605.00	10,300.96	5,832.00	69.22	70.06	114.63	4,443.65	191.89	544.66	415.99	128.67	4.233		
10,200.00	5,605.00	10,400.96	5,832.00	70.64	71.48	114.63	4,543.65	191.90	544.66	413.38	131.28	4.149		

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-2410
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-2410	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	10,500.96	5,832.00	72.07	72.90	114.63	4,643.65	191.90	544.66	410.77	133.89	4.068		
10,400.00	5,605.00	10,600.96	5,832.00	73.49	74.33	114.63	4,743.65	191.91	544.66	408.15	136.51	3.990		
10,500.00	5,605.00	10,700.96	5,832.00	74.92	75.75	114.63	4,843.65	191.91	544.66	405.53	139.13	3.915		
10,600.00	5,605.00	10,800.96	5,832.00	76.35	77.18	114.63	4,943.65	191.92	544.66	402.90	141.76	3.842		
10,700.00	5,605.00	10,900.96	5,832.00	77.78	78.61	114.63	5,043.65	191.92	544.66	400.28	144.38	3.772		
10,800.00	5,605.00	11,000.96	5,832.00	79.21	80.04	114.63	5,143.65	191.93	544.66	397.65	147.01	3.705		
10,900.00	5,605.00	11,100.96	5,832.00	80.64	81.47	114.63	5,243.65	191.93	544.66	395.01	149.65	3.640		
11,000.00	5,605.00	11,200.96	5,832.00	82.08	82.90	114.63	5,343.65	191.94	544.66	392.37	152.28	3.577		
11,100.00	5,605.00	11,300.96	5,832.00	83.51	84.33	114.63	5,443.65	191.94	544.66	389.74	154.92	3.516		
11,200.00	5,605.00	11,400.96	5,832.00	84.95	85.77	114.63	5,543.65	191.95	544.66	387.09	157.56	3.457		
11,300.00	5,605.00	11,500.96	5,832.00	86.39	87.21	114.63	5,643.65	191.95	544.65	384.45	160.20	3.400		
11,400.00	5,605.00	11,600.96	5,832.00	87.83	88.64	114.63	5,743.65	191.96	544.65	381.80	162.85	3.345		
11,500.00	5,605.00	11,700.96	5,832.00	89.27	90.08	114.63	5,843.65	191.96	544.65	379.16	165.50	3.291		
11,600.00	5,605.00	11,800.96	5,832.00	90.71	91.52	114.63	5,943.65	191.97	544.65	376.51	168.15	3.239		
11,700.00	5,605.00	11,900.96	5,832.00	92.15	92.96	114.63	6,043.65	191.97	544.65	373.85	170.80	3.189		
11,800.00	5,605.00	12,000.96	5,832.00	93.59	94.40	114.63	6,143.65	191.98	544.65	371.20	173.45	3.140		
11,900.00	5,605.00	12,100.96	5,832.00	95.04	95.85	114.63	6,243.65	191.98	544.65	368.54	176.11	3.093		
12,000.00	5,605.00	12,200.96	5,832.00	96.48	97.29	114.63	6,343.65	191.99	544.65	365.89	178.76	3.047		
12,100.00	5,605.00	12,300.96	5,832.00	97.93	98.74	114.63	6,443.65	191.99	544.65	363.23	181.42	3.002		
12,200.00	5,605.00	12,400.96	5,832.00	99.38	100.18	114.63	6,543.65	192.00	544.65	360.57	184.08	2.959		
12,300.00	5,605.00	12,500.96	5,832.00	100.82	101.63	114.63	6,643.65	192.00	544.65	357.91	186.74	2.917		
12,400.00	5,605.00	12,600.96	5,832.00	102.27	103.07	114.63	6,743.65	192.01	544.64	355.24	189.40	2.876		
12,500.00	5,605.00	12,700.96	5,832.00	103.72	104.52	114.63	6,843.65	192.01	544.64	352.58	192.07	2.836		
12,600.00	5,605.00	12,800.96	5,832.00	105.17	105.97	114.63	6,943.65	192.02	544.64	349.91	194.73	2.797		
12,700.00	5,605.00	12,900.96	5,832.00	106.62	107.42	114.63	7,043.65	192.02	544.64	347.24	197.40	2.759		
12,800.00	5,605.00	13,000.96	5,832.00	108.07	108.87	114.63	7,143.65	192.03	544.64	344.58	200.07	2.722		
12,900.00	5,605.00	13,100.96	5,832.00	109.52	110.32	114.63	7,243.65	192.03	544.64	341.91	202.73	2.686		
13,000.00	5,605.00	13,200.96	5,832.00	110.97	111.77	114.63	7,343.65	192.04	544.64	339.24	205.40	2.652		
13,100.00	5,605.00	13,300.96	5,832.00	112.42	113.22	114.63	7,443.65	192.04	544.64	336.56	208.07	2.618		
13,200.00	5,605.00	13,400.96	5,832.00	113.88	114.67	114.63	7,543.65	192.05	544.64	333.89	210.75	2.584		
13,300.00	5,605.00	13,500.96	5,832.00	115.33	116.12	114.63	7,643.65	192.05	544.64	331.22	213.42	2.552		
13,400.00	5,605.00	13,600.96	5,832.00	116.78	117.57	114.63	7,743.65	192.06	544.64	328.54	216.09	2.520		
13,500.00	5,605.00	13,700.96	5,832.00	118.24	119.03	114.63	7,843.65	192.06	544.64	325.87	218.77	2.490		
13,600.00	5,605.00	13,800.96	5,832.00	119.69	120.48	114.63	7,943.65	192.07	544.63	323.19	221.44	2.459		
13,700.00	5,605.00	13,900.96	5,832.00	121.14	121.93	114.63	8,043.65	192.07	544.63	320.52	224.12	2.430		
13,800.00	5,605.00	14,000.96	5,832.00	122.60	123.39	114.63	8,143.65	192.08	544.63	317.84	226.79	2.401		
13,900.00	5,605.00	14,100.96	5,832.00	124.06	124.84	114.63	8,243.65	192.08	544.63	315.16	229.47	2.373		
14,000.00	5,605.00	14,200.96	5,832.00	125.51	126.30	114.63	8,343.65	192.09	544.63	312.48	232.15	2.346		
14,100.00	5,605.00	14,300.96	5,832.00	126.97	127.75	114.63	8,443.65	192.09	544.63	309.80	234.83	2.319		
14,200.00	5,605.00	14,400.96	5,832.00	128.42	129.21	114.63	8,543.65	192.10	544.63	307.12	237.51	2.293		
14,300.00	5,605.00	14,500.96	5,832.00	129.88	130.67	114.63	8,643.65	192.10	544.63	304.44	240.19	2.267		
14,400.00	5,605.00	14,600.96	5,832.00	131.34	132.12	114.63	8,743.65	192.11	544.63	301.76	242.87	2.242		
14,500.00	5,605.00	14,700.96	5,832.00	132.80	133.58	114.63	8,843.65	192.11	544.63	299.07	245.55	2.218		
14,600.00	5,605.00	14,800.96	5,832.00	134.25	135.04	114.63	8,943.65	192.12	544.63	296.39	248.24	2.194		
14,700.00	5,605.00	14,900.96	5,832.00	135.71	136.49	114.63	9,043.65	192.12	544.62	293.71	250.92	2.171		
14,800.00	5,605.00	15,000.96	5,832.00	137.17	137.95	114.63	9,143.65	192.13	544.62	291.02	253.60	2.148		
14,900.00	5,605.00	15,100.96	5,832.00	138.63	139.41	114.63	9,243.65	192.13	544.62	288.34	256.29	2.125		
15,000.00	5,605.00	15,200.96	5,832.00	140.09	140.87	114.63	9,343.65	192.14	544.62	285.65	258.97	2.103		
15,100.00	5,605.00	15,300.96	5,832.00	141.55	142.33	114.63	9,443.65	192.14	544.62	282.96	261.66	2.081		
15,200.00	5,605.00	15,400.96	5,832.00	143.01	143.79	114.63	9,543.65	192.15	544.62	280.28	264.34	2.060		
15,300.00	5,605.00	15,500.96	5,832.00	144.47	145.25	114.63	9,643.65	192.15	544.62	277.59	267.03	2.040		
15,400.00	5,605.00	15,600.96	5,832.00	145.93	146.71	114.63	9,743.65	192.16	544.62	274.90	269.72	2.019		

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-2410
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-2410	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	
15,500.00	5,605.00	15,700.96	5,832.00	147.39	148.17	114.63	9,843.65	192.16	544.62	272.22	272.40	1.999	
15,600.00	5,605.00	15,800.96	5,832.00	148.85	149.63	114.63	9,943.65	192.17	544.62	269.53	275.09	1.980	
15,700.00	5,605.00	15,900.96	5,832.00	150.31	151.09	114.63	10,043.65	192.17	544.62	266.84	277.78	1.961	
15,799.97	5,605.00	16,000.93	5,832.00	151.77	152.55	114.63	10,143.62	192.18	544.62	264.15	280.47	1.942	
15,801.18	5,605.00	16,002.14	5,832.00	151.79	152.56	114.63	10,144.83	192.18	544.62	264.12	280.50	1.942 SF	



WOG

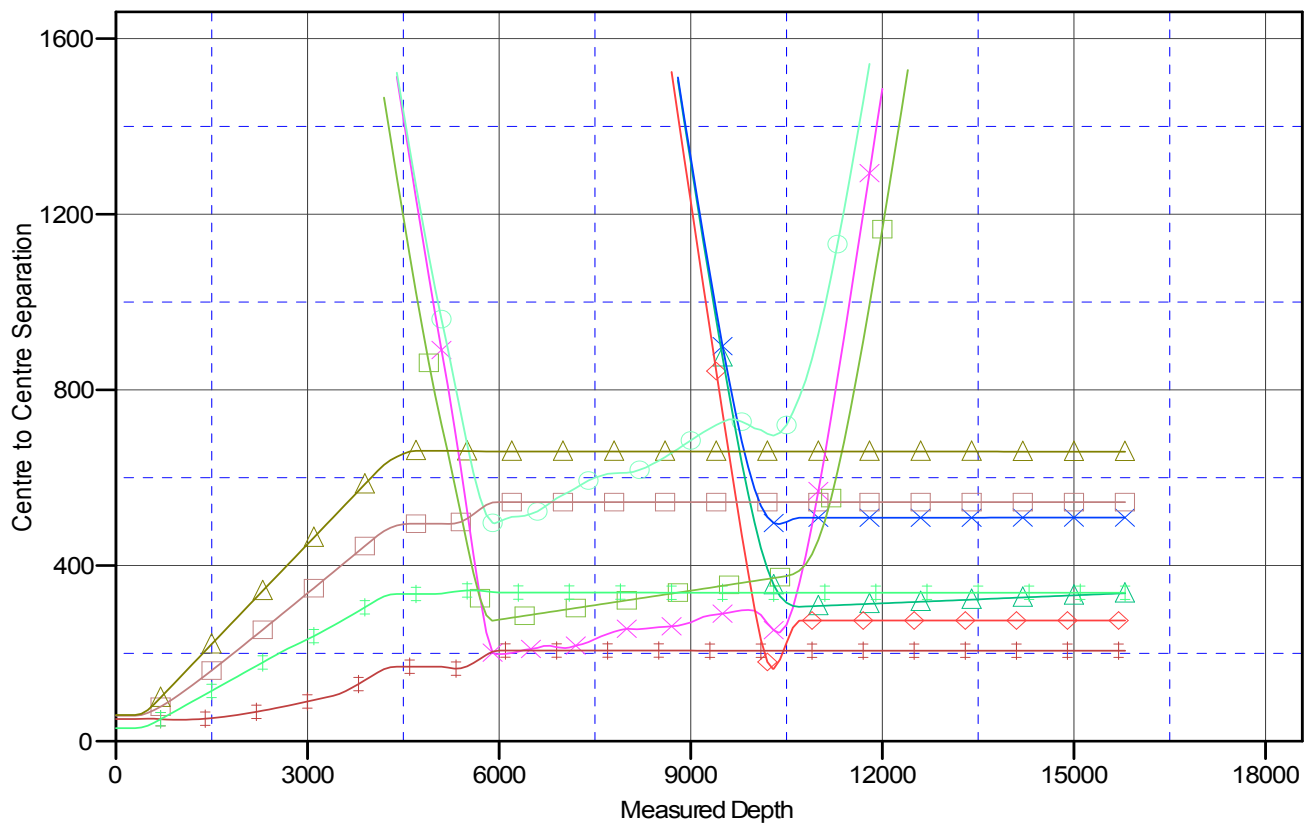
Anticollision Report

Company:	Whiting Petroleum Corp.	Local Co-ordinate Reference:	Well Razor #25O-2410
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-2410	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-2410
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Ladder Plot



LEGEND

- Razor #25B-2551, Hz, HzV0
- Razor #25B-2550, Hz, APDV0
- Razor #25O-2412, Hz, APDV0
- Razor #25B-2450, Hz, APDV0
- Razor #25B-2549, Hz, HzV0
- Razor #25O-2411, Hz, APDV0
- Razor #25B-2451, Hz, APDV0
- Razor #25O-2444, Hz, APDV0
- Razor #25B-2449, Hz, APDV0
- Razor #25O-2443, Hz, APDV0



WOG

Anticollision Report

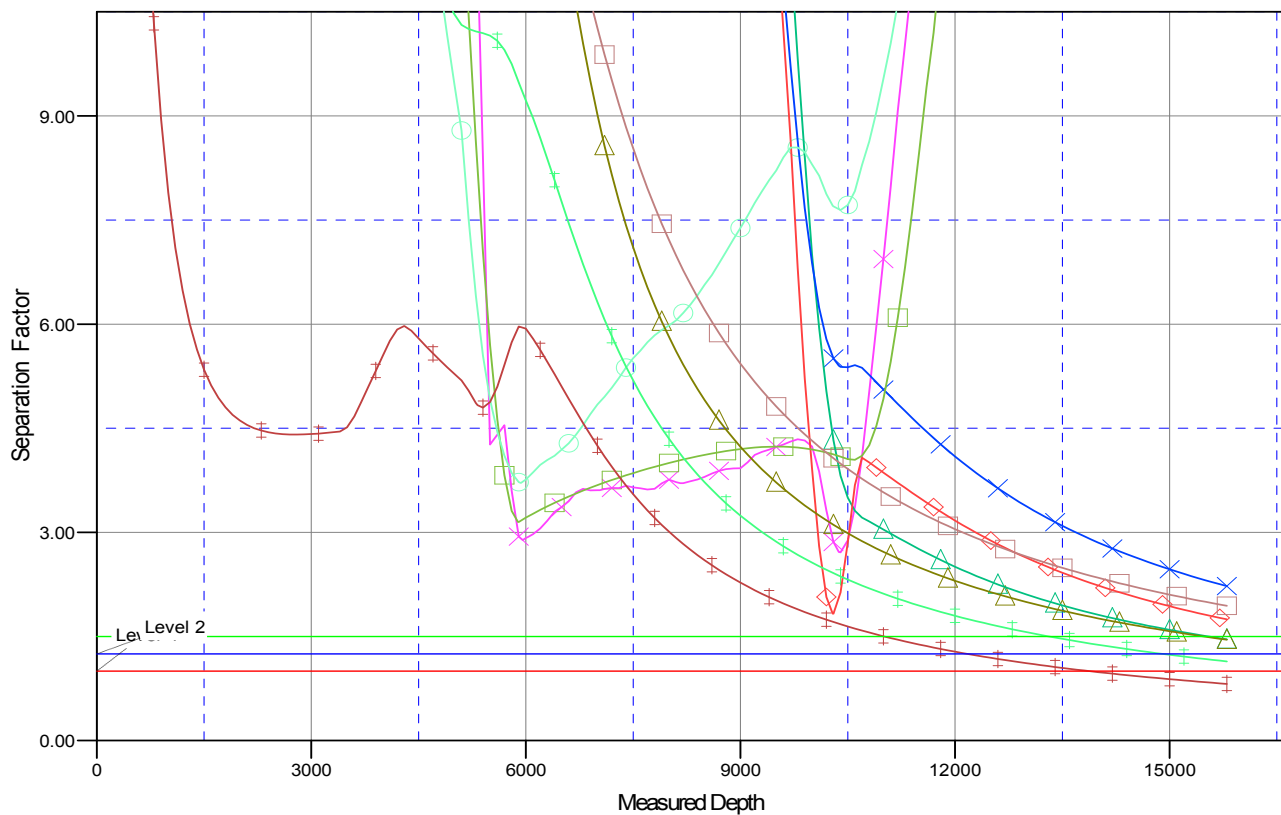
Company: Whiting Petroleum Corp.
Project: Weld County, CO
Reference Site: Sec 25-T10N-R58W
Site Error: 0.00 usft
Reference Well: Razor #25O-2410
Well Error: 0.00 usft
Reference Wellbore: Hz
Reference Design: APD

Local Co-ordinate Reference: Well Razor #25O-2410
TVD Reference: KBE @ 4738.00usft (Original Well Elev)
MD Reference: KBE @ 4738.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Output errors are at 3.00 sigma
Database: LandmarkEDM
Offset TVD Reference: Offset Datum

Reference Depths are relative to KBE @ 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-2410
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 1.09°

Separation Factor Plot



LEGEND

- Razor #25B-2551, Hz, Hz V0
- Razor #25B-2450, Hz, APD V0
- Razor #25B-2451, Hz, APD V0
- Razor #25B-2449, Hz, APD V0
- Razor #25B-2550, Hz, APD V0
- Razor #25B-2549, Hz, Hz V0
- Razor #25B-2444, Hz, APD V0
- Razor #25B-2443, Hz, APD V0
- Razor #25O-2412, Hz, APD V0
- Razor #25O-2411, Hz, APD V0